Service Manual

Tektronix

2721A/2722A
Non-Interfering Sweep System

070-8756-00

Warning
The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to the Safety Summary prior to performing service.

Please check for change information at the rear of this manual.

First Printing September 1993

For further information, contact Tektronix, Inc., Corporate Offices, P. O. Box 1000, Wilsonville, OR 97070–1000. Phone: (503) 627–7111; TLX: 192825; TWX: (910) 467–8708; Cable: TEKWSGT.

WARRANTY

Tektronix warrants that this product, that it manufactures and sells, will be free from defects in materials and workmanship for a period of three (3) years from the date of shipment. If any such product proves defective during this warranty period, Tektronix, at its option, either will repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product.

In order to obtain service under this warranty, Customer must notify Tektronix of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. Customer shall be responsible for packaging and shipping the defective product to the service center designated by Tektronix, with shipping charges prepaid. Tektronix shall pay for the return of the product to Customer if the shipment is to a location within the country in which the Tektronix service center is located. Customer shall be responsible for paying all shipping charges, duties, taxes, and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. Tektronix shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than Tektronix representatives to install, repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; or c) to service a product that has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty of servicing the product.

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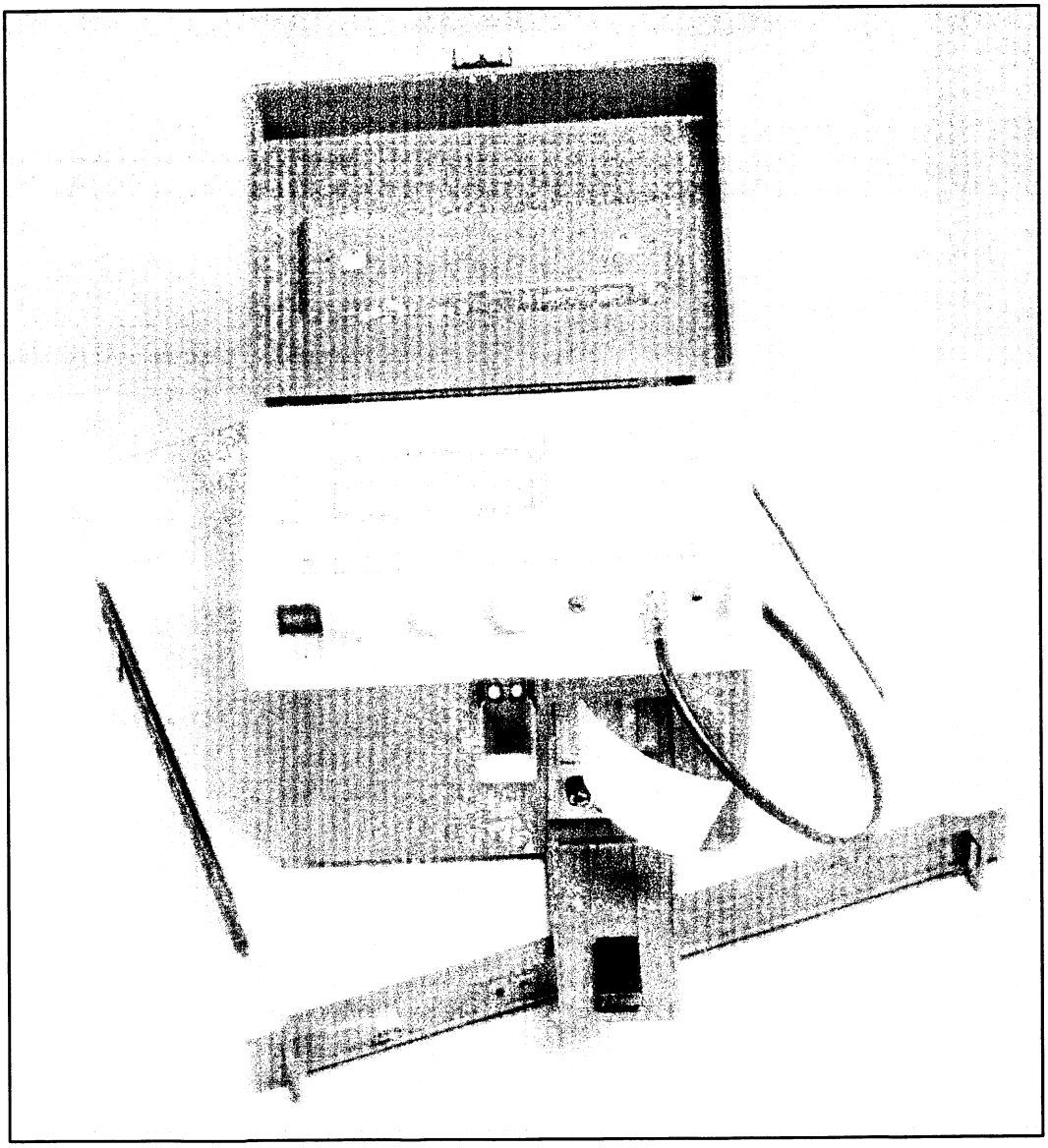

The 2721A/2722A Non–Interfering Sweep System

Standards Compliance

The 2721A/2722A Sweep System complies with the following safety standards:

- Underwriters Laboratories: UL1244 — Second Edition—*Standard for Electrical and Electronic Measuring and Testing Equipment*
- Canadian Standards Association: C22.2 No. 231 Series–M89—*CSA Safety Requirements for Electrical and Electronic Measuring and Testing Equipment*
- American National Standard: ANSI/ISA–S82–1988—*Safety Standard for Electrical and Electronic Test, Measuring, Controlling and Related Equipment*
- International Standard: IEC 348—Second Edition—*Safety Requirements for Electronic Measuring Apparatus*

The 2721A/2722A Sweep System complies with the following regulatory standards:

- U.S. EMI: FCC Rules, Part 15, Subpart J, Class A
- German EMI: VDE 0871.5 (Class B)—*Radio frequency Interference Suppression of Electrical Equipment and Systems*

Certificate of the Manufacturer/Importer

We hereby certify that the 2721A/2722A Non–Interfering Sweep System complies with the RF Interference Suppression requirements of Amtsbl.–Vfg 1046/1984.
The German Postal Service was notified that the equipment is being marketed.
The German Postal Service has the right to retest the series and to verify that it complies.

TEKTRONIX

Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daβ der/die/das 2721A/2722A Non–Interfering Sweep System in Übereinstimmung mit den Bestimmungen der Amtsblatt–Verfügung 1046/1984 funkentstört ist.
Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprufüng der Serie auf Einhalten der Bestimmungen eingeräumt.

TEKTRONIX

NOTICE to the user/operator:
The German Postal Service requires that this equipment, when used in a test setup, may only be operated if the requirements of Postal Regulation, Vfg. 1046/1984, Par. 2, Sect. 1.7.1 are complied with.

HINWEIS für den Benutzer/Betreiber:
Dies Gerät darf in Meβaufbauten nur betreiben werden, wenn die Voraussetzungen des Par. 2, Ziff. 1.7.1 der Vfg. 1046/1984 eingehalten werden.

NOTICE to the user/operator:
The German Postal Service requires that Systems assembled by the operator/user of this instrument must also comply with Postal Regulation, Vfg. 1046/1984, Par. 2, Sect. 1.

HINWEIS für den Benutzer/Betreiber:
Die vom betreiber zusammengestellte Anlage, innerhalb derer dies Gerät eingesetzt wird, muβ ebenfalls den Voraussetzungen nach Par. 2, Ziff. 1 der Vfg. 1046/1984 genugen.

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Safety Summary

The general safety information in this part of the summary is for both operating and servicing personnel. Specific warnings and cautions will be found throughout the manual where they apply, but may not appear in this summary.

Symbols and Terms

These Terms Appear in Manuals:

CAUTION. statements identify conditions or practices that could result in damage to the equipment or other property.

WARNING. statements identify conditions or practices that could result in personal injury or loss of life.

These Terms Appear on Equipment:

- *CAUTION* indicates a personal injury hazard not immediately accessible as one reads the marking, or a hazard to property, including the equipment itself. Refer to the manual for information.
- *DANGER* indicates a personal injury hazard immediately accessible as one reads the marking.

These Symbols Appear on Equipment:

DANGER
High Voltage

Protective ground
(earth) terminal

ATTENTION
Refer to
manual

Specific Precautions

Use the Proper Power Source

This product is intended to operate from a power source that will not apply more than 250 V rms between the supply conductors or between either supply conductor and ground. A protective-ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Ground the Product

This product is grounded through the grounding conductor of the power module power cord. To avoid electrical shock, plug the power cord into a properly wired receptacle before connecting to the product input or output terminals. A protective-ground connection by way of the grounding conductor in the power module power cord is essential for safe operation.

Danger May Arise from Loss of Ground

Upon loss of the protective-ground connection, all accessible conductive parts (including knobs and controls that may appear to be insulating) can render an electric shock.

Use the Proper Fuse

To avoid fire hazard, use only the fuse of correct type, voltage rating, and current rating as specified in the parts list for your product. Refer fuse replacement to qualified service personnel.

Do Not Operate in Explosive Atmospheres

To avoid explosion, do not operate this product in an explosive atmosphere.

Do Not Operate Without a Cabinet

To avoid personal injury, do not remove the product covers or panels. Do not operate the product without the covers and panels properly installed.

Servicing Safety Summary

For Qualified Service Personnel only. Refer also to the preceding Safety Summary.

Do Not Service Alone

Do not perform internal service or adjustment of this product unless another person capable of rendering first aid and resuscitation is present.

Use Care When Servicing With Power On

Dangerous voltages exist at several points in this product. To avoid personal injury, do not touch exposed connections or components while power is on. Disconnect power before removing protective panels, soldering, or replacing components.

Use the Proper Power Source

This product is intended to operate from a power source that will not apply more than 250 V rms between the supply conductors or between either supply conductor and ground. A protective-ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Preface

Two manuals document the 2721A/2722A Non-Interfering Sweep System: the User Manual, which is shipped with every product, and the Service Manual, which is purchased as an optional accessory.

The service manual is intended for qualified service technicians only.

Service Manual Overview

Introduction — The introduction contains a product description, options, accessories, and specifications.

Operating Information — This section provides minimal operating instructions necessary for service. (For detailed operational information, please refer to the 2721A/2722A User Manual.)

Theory of Operation — This section contains board-level block diagrams and circuit descriptions. (Also refer to the transmitter and receiver system-level block diagrams in the last section of the manual.)

Performance Verification — These procedures allow for comparing the receiver and transmitter performance to their specifications.

Adjustment Procedures — These procedures assist the technician in returning the receiver and transmitter performance to their specifications.

Maintenance and Replacement Procedures — These procedures include preventive maintenance, board removal and replacement, and troubleshooting information.

Hardware Interface Descriptions — This section details the connector pin assignments and functions.

Block Diagrams, Schematic Diagrams, Circuit Board Illustrations, and Replaceable Parts — The 2721A Transmitter information is followed by the 2722A Receiver information. Each contains an electrical parts list, a system level block diagram, schematic diagrams backed up with circuit board illustrations, and a mechanical parts list with exploded view diagrams of the product.

Introduction

The 2721A/2722A Non Interfering Sweep System offers cable television (CATV) providers a simple, yet comprehensive, tool for verifying and maintaining cable distribution performance from head end to subscriber drop. To do this, the 2721A/2722A Sweep System provides the following key measurements:

- Swept frequency response
- Automatic pilot level measurements
- Signal level measurements (SLM function)
- AC and DC voltage
- Ambient temperature (in degrees F or degrees C)

A key feature of the 2721A/2722A system is that swept frequency response measurements can be made at any time without interfering with subscriber reception of programming. Measurements can also be made on channels that have no carriers present. Another key feature is the ability to archive measurement results. This allows the user to build a historical database of cable system performance. Such historical data allows the user to spot and correct declining performance trends before noticeable picture impairment occurs. Archived frequency response data is also important for the proof-of-performance reports required by some regulating agencies.

The Sweep System consists of a transmitter and a receiver. Hardware needed to insert the Sweep System into the cable head end or local area network (couplers, pads, cables) must be provided by the user.

2721A Transmitter

The 2721A Transmitter inserts RF signals into an operating cable system or local area network (LAN) over a 5 to 600 MHz band of frequencies without interfering with the normal NTSC- , PAL-, or SECAM- (except SECAM-L) format video program material. In those cases where predefined "tuning" tables (from ROM) do not allow appropriate operation, the user may define tables which take into account unique frequency allocations as necessary.

The 2721A Transmitter is housed in a rack-mount configuration and receives power from conventional power lines via an external power pack. It is a programmable device that stores the locations of reserved frequencies and other parameters in non-volatile, random access memory (NVRAM). All operational parameters are entered into the 2721A Transmitter via an RS-232C serial interface using the 2722A Receiver's liquid crystal display and keypad as a terminal device.

Hardware controls and indicators on the 2721A Transmitter consist of:

- A rear panel on/off switch.
- Two front-panel LED indicators that show main power/error status operating modes.

2722A Receiver

The 2722A Receiver tracks RF signals generated by the 2721A Transmitter via a tunable FSK-format data carrier whose center frequency can be varied over a band of frequencies from 15 to 600 MHz. The received RF signals are processed to allow convenient monitoring of amplitude versus frequency over the entire frequency band. The receiver can also display the processed RF signals referenced to data points taken from within the network. Additional features include:

- Signal Level Meter mode
- AC/DC voltmeter
- Temperature measurement
- NVRAM storage of up to 63 waveforms
- 8 normalization reference waveforms
- Support for up to eight 2721A Transmitters (via unique transmitter ID)
- Printed copy of currently displayed data on the LCD (via optional YT-1 thermal printer)

The 2722A Receiver is housed in a portable package. It receives power from an internal lead-acid battery or via an external charger/power pack that connects to conventional power lines. The receiver is operated via menu-driven functions. Menus and functions are accessed or selected using three front panel knobs, eight soft keys, an alphanumeric keypad, and specialized entry keys.

Options

Power Supply

When one of the following power plug options is ordered with a transmitter or receiver, the product will be shipped with a 220V/240V, 50 Hz power supply in place of the standard power supply.

Option A1	Universal Europe (locking cord)
Option A2	United Kingdom
Option A3	Australia
Option A5	Swiss

2722A Receiver

In addition to power supply options, there are three options that can be ordered for use with the sweep system. All three options are for the 2722A Sweep Receiver:

Option 01	YT–1 Chart Recorder
Option 33	Nylon Carrying Case with Hand/Shoulder Strap
Option 35	Steel Safety Latch Hook

Standard Accessories

The following accessories are included with the sweep system:

2721A Transmitter

1 Power Supply, 120 V, 60 Hz, with Captive Power Plug
2 Precision Female-Female Type F Adapter
1 Rack Rails
1 2721A/2722A User Manual

2722A Receiver

1 Power Supply, 120 V, 60 Hz, with Captive Power Plug
1 Precision Female-Female Type F Adapter
1 RS-232C Cable
1 Voltmeter Lead Set
1 Download Software
1 2721A/2722A User Manual

Optional Accessories

Optional accessories and their part numbers are listed at the end of the Replaceable Mechanical Parts lists for the transmitter and the receiver.

Ordering

All listed options and accessories can be ordered with the transmitter or receiver. Accessories are also available through your nearest Tektronix field office or distributor.

Specifications

The following tables of electrical characteristics and features apply to the 2721A/2722A Sweep System after a warm-up period (60 minutes 2721A, 10 minutes 2722A) followed by a hardware calibration between the two instruments. In addition, some performance parameters depend on signals provided by the user. Parameters listed under "Performance Requirements" are guaranteed to the user.

Table 1–1: Electrical Characteristics

Characteristics	Performance Requirement	Supplemental Information
POWER		
Line Frequency	47.5 to 63 Hz	With 120 V/18 Vac transformer in accordance with UL and CSA ratings.
Line Voltages	90 to 132 Vac	
	180 Vac to 250 Vac	With 220 V/18 Vac transformer TUV approved for 50 Hz nominal operation.
Power Consumption		
2721A	60 VA maximum	47 VA typical, input to transformer.
	48 VA maximum	36 VA typical, AC input to instrument.
2722A	43 VA maximum	31 VA typical, input to transformer.
	30 VA maximum	20 VA typical, AC input to instrument.
		Battery: 23.5 W maximum, 17.7 W typical (2.2 A maximum at 10.7 V, 1.4 A typical at 12.6 V).
YT-1 printer		Typically 6 W additional load while printing.
Battery voltage (2722A only)	12 Vdc, nominal	Sealed, lead-acid battery; voltage measured at room temperature with backlight off.
Continuous runtime (2722A)	2.5 hours minimum	Under worst-case loading (does not include load from printer); 3.5 hours typical for a new battery.
Recharge time (2722A)	15 hours maximum	From "BATLO" threshold.
	24 hours maximum	From total discharge.
Input charge current (2722A)		0.5 A typical, with external transformer supplied.
Battery replacement (2722A)		Recommended when runtime is less than 2.5 hours typical after full charge.
NVRAM battery life		6 years minimum.
Weights & Dimensions (2721A)		
Weight		6.2 Kg (13.75 lbs)
Height		4.45 cm (1.75 in)
Width		48.3 cm (19 in)
Depth		48.3 cm (19 in)

Table 1–1: Electrical Characteristics (Cont.)

Characteristics	Performance Requirement	Supplemental Information
Weights & Dimensions (2722A) Weight (w/battery) Height Width Depth		 8.0 Kg (17.75 lbs) 27.9 cm (11 in) 22.8 cm (9 in) 22.8 cm (9 in)
Temperature 2721A 2722A 2721A 2722A	 15° C to 45° C 0° C to 50° C –20° C to 75° C –20° C to 60° C	 Operating Operating Non operating Non operating (to maintain backup battery life)
Humidity		<95% RH below 30° C <75% RH from 30° C to 40° C <45% RH above 40° C
Altitude		4,575 m (15,000 ft) operating 12,000 m (40,000 ft) non operating
Vibration		Resonant searches of 0.013 inches on all three axes for 15 minutes. Dwell for 10 minutes at major resonance or 33 Hz if none. Total vibration time is 75 minutes.
Shock		Three guillotine-type shocks of 60g, half sine, 11 ms duration in each direction along each major axis; total of 18 shocks.
EMI Conducted Emissions Conducted Susceptibility Radiated Emissions Radiated Susceptibility		 CE01, CE02 CS01, CS02, CS06 RE01, RE02 RS01, RS02, RS03
FCC Compliance		FCC Part 15, subpart J, Class A
VDE Compliance		VDE 0871, Class B

Table 1–2: 2721A Electrical Characteristics

Characteristics	Performance Requirement	Supplemental Information
Return Loss Output	 >16 dB, 75 Ω	 At the output terminal, with 6 dB pad and precision F-style connector. Over 15 – 600 MHz frequency range.
Input	>16 dB, 75 Ω	At the input terminal, with precision F-style connector. Over 15 – 600 MHz frequency range.

Table 1–2: 2721A Electrical Characteristics (Cont.)

Characteristics	Performance Requirement	Supplemental Information
Test pulse		
Duration	14 μsec ±0.333 μsec	Measured at 50% of amplitude.
Position	11.5 μsec ±4 μsec after midpoint of first post-equalizing pulse	±3 μsec allocated to Sync board. ±1 μsec allocated to Up/Down converters. Position specification for Std and RF Suppression modes only.
Frequency		
Range	5 MHz to 600 MHz	At frequency point nearest 600 MHz.
Accuracy	±5.0 KHz	At 25° C; frequency nearest 600 MHz.
Step size resolution	40 KHz	Test pulse frequency user-definable to +40 KHz, –0.
Amplitude		
Non-gated	+45 dBmV ±1.0 dB	Insertion level 6 dB below video carrier.
Gated	+33 dBmV ±1.0 dB	Insertion level 18 dB below video carrier.
		At 25° C when leveled at factory with 0 dB tilt. Tilted output available in 2, 4, 6, 8 dB slopes. Output amplitudes apply to maximum pulse frequency. Amplitude drift: ≤–0.07 dB/° C typical (0.1 dB/° C maximum), 15–45° C.
Spurious signals	<–11 dBmV (–60 dBm)	For frequencies ≤740 MHz, measured with pulse carrier on.
Out of band	≤+24 dBmV (–25 dBm)	For frequencies > 740 MHz.
TELEMETRY CARRIER		
Format		Frequency Shift Keyed (deviation = 170 kHz nominal).
Frequency		User selectable.
Range	15 MHz to 600 MHz	Measured with Sweep mode disabled, at point nearest 600 MHz.
Accuracy	±5.0 KHz at shift point	Sweep mode stopped.
Resolution	40 KHz	
Amplitude	+45 dBmV ±0.5 dB	At 25° C, 50 MHz.
	+45 dBmV ±3 dB	At 25° C, 15 MHz to 600 MHz.
		Amplitude drift: ≤–0.07 dB/° C typical (0.1 dB/° C maximum), 15 to 45° C.
RF INPUT SIGNALS		
Input NO DAMAGE	+16 dBmW (+65 dBmV)	Sum of total RF power.
Amplitude/ channel		
Video Carrier	0 dBmV to +10 dBmV	Measured at Sync tip, non-suppressed.
	+3 dBmV to +13 dBmV	For signals encoded using Oak Sigma format. Measured at Sync tip, non-suppressed.
Audio Carrier	–15 dBc ±3 dB	With respect to the video carrier, all AM modulation sources removed (scrambler sync timing signals).

Table 1–2: 2721A Electrical Characteristics (Cont.)

Characteristics	Performance Requirement	Supplemental Information
RF Input Signal Baseband Characteristics		
Video Modulation Formats	NTSC or PAL	SECAM guaranteed by design but not tested (not compatible with SECAM-L systems).
Recovered video S/N (base band and cable noise only)	30 dB	
Hum	3%	
Sync Amplitude		
NTSC	40 IRE ±10 IRE	
PAL/SECAM	300 mV ±75 mV	
Burst Amplitude		
NTSC	40 IRE ±10 IRE	
PAL/SECAM	300 mV ±75 mV	
SCRAMBLER PARAMETERS		
Video Sync Suppression	10 dB in supported modes	Over full range of all input signals.
Audio Modulation AM	+6 dB ±2 dB	Over full range of all input signals in supported modes as necessary to recover appropriate sync signals.

Table 1–3: 2721A Supported Scramblers

Scrambler	2721A Decode Mode
Zenith "Ztac" Baseband	STD (Standard)
Tocom Baseband	STD (Standard)
Hamlin RF	RF SUPP (RF Suppressed)
Eagle RF	RF SUPP (RF Suppressed)
Oak RF	RF SUPP (RF Suppressed)
Pioneer RF (non CUBE)	RF SUPP (RF Suppressed)
Jerrold RF (SSE,DSE)	RF SUPP (RF Suppressed)
Scientific Atlanta Hybrid (8500 series)	RF SUPP (RF Suppressed)
Scientific Atlanta 8656	PIR2 [1]
Videoway Hybrid	VID–WAY
Oak Sigma	OAK SIG
Other scrambling formats that either offset or suppress the vertical interval and do not AM modulate the aural carrier with sync recovery information	OTHER

1 This mode is present only in units with firmware version 3.2 and up.

Table 1–4: 2722A Electrical Characteristics

Characteristics	Performance Requirement	Supplemental Information
Input Return Loss	>14 dB, 75 Ω	At input terminal with precision F-style connector. 30 – 600 MHz frequency range.
RF INPUT SIGNALS		
Frequency		
Sweep Range	5 MHz to 600 MHz	Accuracy of pulse and SLM measurement degrades from 30 MHz to 5 MHz because of start spur presence.
Telemetry Range	15 MHz to 600 MHz	40 kHz resolution; will track 2721A Transmitter at frequency point nearest 600 MHz.
Conversion Resolution		
Accuracy	5 kHz	
Amplitude		
Input NO DAMAGE	+16 dBmW (+65 dBmV)	Sum of total RF power.
Attenuator Range	20 dB minimum	44 dB in 2 dB steps.
Preamp Gain	50 dB maximum attenuation	23 dB ±2 dB typical.
Hardware Calibration	15 dB minimum attenuation	Allowable attenuation range between 2721A and 2722A; maximum attenuation reduced by .5 dB for each dB of tilt. 10 dB P-P maximum error correction range.
Pulse Sensitivity		
Non-Gated mode	–5 dBmV	Mid-screen level corresponds to 50 dB of attenuation between 2721A and 2722A, pulse inserted 6 dB below video carrier.
Gated mode	–17 dBmV	Mid-screen level corresponds to 50 dB of attenuation between 2721A and 2722A, pulse inserted 18 dB below video carrier.
SLM Sensitivity		
Reference level range	+10 dBmV minimum +54 dBmV maximum	Preamp off, no attenuation. Preamp off, 44 dB of attenuation.
FSK receiver sensitivity	–5 dBmV minimum	Preamp off, 50 dB of attenuation between 2721A and 2722A at telemetry carrier frequency; 26 dB maximum internal attenuation.
Sweep Response Accuracy		
Peak-to-valley reading		
Normalized	±0.5 dB	At normalization temperature, 30 MHz to 600 MHz, ±1.5 dB when sweep trace is within 6 dB of bottom of screen in gated mode. For 0 dB tilt only.
	±1.0 dB	At normalization temperature when System Test Plan consists of channels with "other" selected as the "decode mode."

Table 1–4: 2722A Electrical Characteristics (Cont.)

Characteristics	Performance Requirement	Supplemental Information
Peak-to-valley reading Normalized (Continued)	±1.0 dB	For 0 to 50 °C, 30 MHz to 600 MHz, ±1.5 dB when sweep trace is within 6 dB of bottom of screen in gated mode. For 0 dB tilt only. For +8 dB reference level, P/V ≤ 2 dB.
Unnormalized	7 dB	From 30 MHz to 600 MHz.
Ref value	±0.5 dB	At normalization temperature and center screen.
	±1.0 dB	At normalization temperature when System Test Plan consists of channels with "other" selected as the decode mode.
	±1.5 dB	For 0 to 50 °C over entire screen with 2721A at normalization temperature.
SLM Accuracy	±2.0 dB maximum	Over the upper 40 dB of display range; preamp off, non-scrambled +3, –2 dB over lower 10 dB.
Resolution Sweep		0.2 dB in 20 dB full-screen mode. 0.1 dB in 10 dB full-screen mode.
SLM		1.0 dB in Quick Check level mode.
Spurious signals		With equivalent loading of 105 carriers at +10 dBmV.
Pulse channel	<–50 dBmV (–60 dBc)	Measured at 21.4 MHz with input video carriers at +10 dBmV.
Voltmeter Range	5 to 80 V ac and dc	AC measurement is True RMS over 40 to 63 Hz frequency range.
Accuracy AC volts (True RMS)	±1.5 V; 5 V to 35 V ±2.0 V; 35 V to 80 V	In LOW range. In HIGH range.
DC volts	±0.5 V; 5 V to 35 V ±1.5 V; 35 V to 80 V	In LOW range. In HIGH range.
Internal Battery volts Range Accuracy	 +7 to +15 V ±0.5 V	Measured across the battery terminals under full load.
External Temperature Probe	±2° C from 0° C to 50° C	When exposed to ambient air, with the Option Port door open at initial turn on.
Internal Temperature Probe		±3° C from 0° C to 70° C. For internal temperature compensation of SLM.

Operating Information

This section provides a brief introduction to the 2721A Sweep Transmitter and the 2722A Sweep Receiver. Procedures are also provided for basic instrument checkout and familiarization.

Preparing for Initial Operation

Place the instruments on a bench or other location with a convenient power source. The following discussions of powering up the 2721A Sweep Transmitter and 2722A Sweep Receiver are intended only to cover initial operational checks.

2721A Controls and Indicators

Before proceeding, make sure the power switches on the 2721A and 2722A are in the Off position.

The 2721A Sweep Transmitter's controls, connectors, and indicators are shown in Figure 2-1.

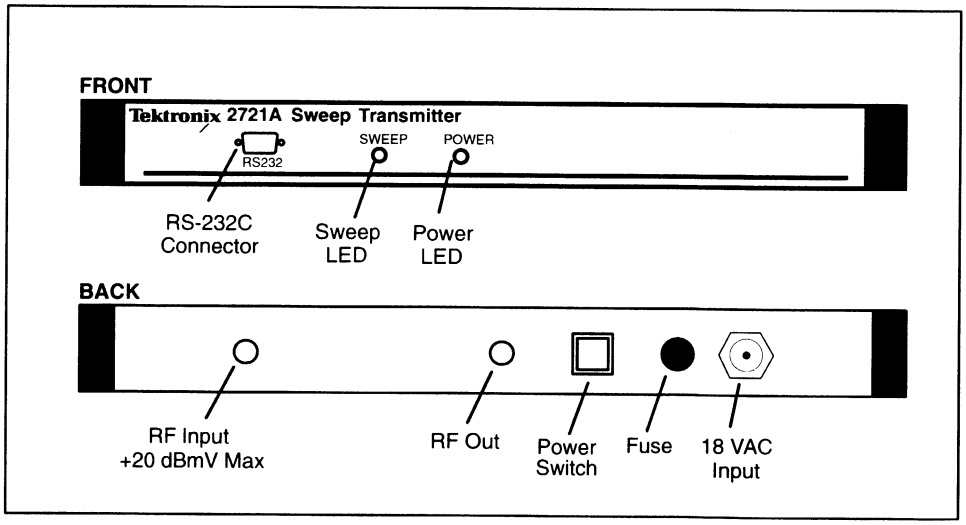

Figure 2-1: The 2721A controls and connectors.

2721A Front Panel

RS-232 Connector: Used to connect the 2721A Sweep Transmitter to a 2722A Sweep Receiver via an RS-232 cable. This connection is necessary for 2721A Sweep Transmitter configuration and downloading system operating information to the 2722A Sweep Receiver.

Power LED: When lit, indicates that the 2721A Sweep Transmitter is powered up. When flashing, indicates that sync was not detected on one or more channels.

Sweep LED: When flashing, indicates that the 2721A Sweep Transmitter is generating sweep test pulses. Will be off during transmitter configuration.

2721A Back Panel

RF Input: Provides an input connection for sampling the combined cable TV headend signal.

RF Out: Provides an output connection used for injecting sweep test pulses at the cable TV headend.

Power switch: Used to turn 2721A AC power on and off. This switch is located on the back panel because the 2721A sweep is non-interfering and can be left powered up and sweeping at all times.

Fuse holder: For the AC power fuse.

18 VAC Input: Connector for 18 VAC from the AC power transformer supplied with the 2721A Sweep Transmitter.

2721A Power-Up Check

Check the 2721A Sweep Transmitter AC power transformer and its AC power cord to make sure they are compatible with your power source. If either the AC power transformer or its AC power cord does not match your power source, contact your Tektronix representative for further instructions.

If the AC power transformer and AC power cord are compatible with your power source, proceed as follows:

1. Make sure the power switch on the back of the 2721A Sweep Transmitter is in the Off position.
2. Plug the 18 VAC transformer cord into the power jack on the back panel of the 2721A (see Figure 2-1).
3. Plug the AC transformer's AC power cord into your AC power source.
4. Switch the 2721A Sweep Transmitter's power switch to the On position.
5. Both the Power LED and Sweep LED on the 2721A front panel should be flashing. (If the Power LED does not light at all, contact your Tektronix representative for further instructions.)

In general, a flashing Power LED indicates a fault condition. In the case of the above 2721A power-up test, a video signal source has not been connected to the

2721A. As a result, there is no video sync for the 2721A to detect, and the Power LED flashes.

The flashing Sweep LED indicates that the 2721A Sweep Transmitter is sending sweep test pulses. If the Sweep LED is not flashing, the 2721A Sweep Transmitter may not be properly configured.

Other than verifying 2721A Sweep Transmitter power-up, no further operating checks can be done without an accompanying 2722A (or 2722) Sweep Receiver.

2722A Power-Up Check

The 2722A Sweep Receiver can be operated from AC power by using the factory-supplied AC power transformer. The 2722A can also be powered by its internal battery to allow convenient field operation. Before the 2722A can be operated without connection to AC power, the internal +12 VDC, lead-acid battery must be charged using the factory-supplied AC power transformer.

NOTE. *Charge the 2722A Sweep Receiver battery in a well-ventilated location away from any source of sparks or open flame. Also, make sure the four small vent holes in the base plate of the 2722A are not blocked or plugged.*

Verify that the transformer and its AC plug are compatible with the AC power source being used. If the transformer and its AC plug are not compatible with your AC power source, contact your Tektronix representative for further instructions.

If the transformer and its AC plug are compatible with your AC power source, connect the transformer's 18 VAC lead to the 2722A Sweep Receiver (see Figure 2-2). Then plug the transformer into your AC source to begin charging the receiver's internal battery. The initial charging time for a full charge is 15 hours.

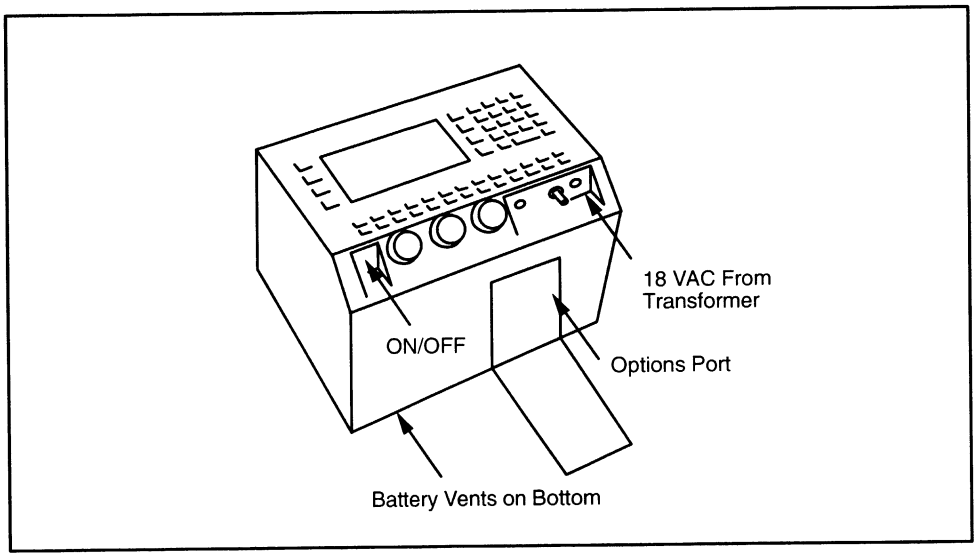

Figure 2-2: The 2722A Sweep Receiver.

***NOTE**. Charging of the 2722A Sweep Receiver's internal battery only takes place when the receiver's power switch is in the Off position.*

To verify 2722A power up, press the 2722A Sweep Receiver's power switch to the On position. You should see a display similar to that in Figure 2-3. Since no sweep is being received at this time, the display will be of the graticule and some readouts. The display may also contain messages regarding the receiver's configuration status.

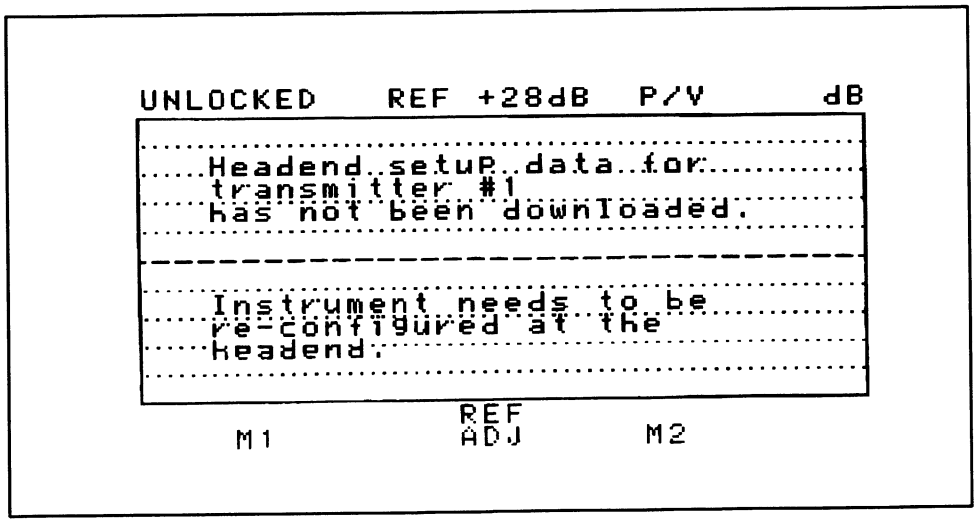

Figure 2-3: The 2722A Sweep Receiver display after initial power up.

2722A Controls and Indicators

The 2722A Sweep Receiver's front-panel controls and connectors are shown in Figure 2-4. The Options Port enclosure, which is shown in Figure 2-2, contains the fuses and RS-232 connector. Additionally, an optional Tektronix YT-1 Chart Recorder may be installed in the Options Port.

LCD display: Used to display setup menus and measurement results.

Menu keys: When in a sweep display, these keys are dedicated to selecting their labeled functions (DISP, STORE, SETUP, etc.). When a menu is displayed, these keys are used to select the menu item adjacent to each key.

Numeric keypad: Used to enter numeric data during setup procedures. Numeric entry is terminated by using one of the terminator keys (for example, MHz, CHAN, or dBmV).

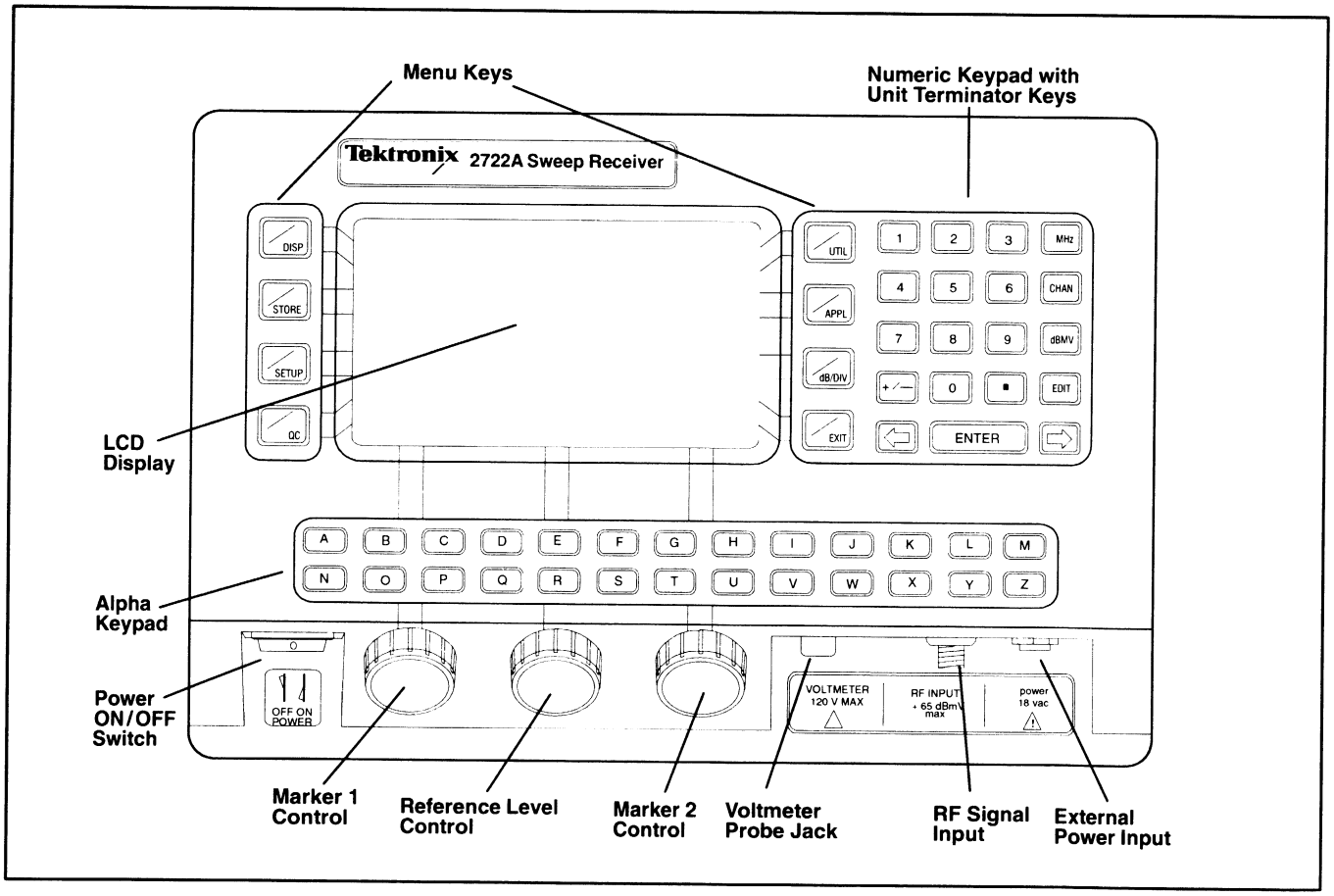

Figure 2-4: 2722A Sweep Receiver front panel.

Alpha keypad: Used to enter alphabetic data during setup procedures.

Power On/Off Switch: Turns instrument power on or Off.

Marker 1 control: Positions measurement marker M1 on the sweep display. Also used for some menu item selections and to select data entry fields.

Reference level control: Used to set the reference level on sweep and SLM displays. Used for some menu selections.

Marker 2 control: Positions measurement marker M2 on sweep displays and the single measurement marker on SLM displays.

Voltmeter probe jack: The voltmeter probe supplied with the 2722A Sweep Receiver is plugged into this jack for use in making voltmeter measurements.

RF signal input: The cable TV RF signal is attached to this input connector for making sweep and SLM measurements.

External power input: The 18 VAC plug from the AC transformer is plugged into this jack for charging the internal battery or for operation from AC power.

Fuse holders: The instrument's power fuses are located in the Options Port enclosure (see Figure 2-2).

RS-232 connector: This connector is located in the Options Port enclosure (see Figure 2-2). This connector is used to connect the 2722A Sweep Receiver to the 2721A Sweep Transmitter via an RS-232 cable. This connection is necessary for 2721A Sweep Transmitter configuration and for downloading System Operating Information to the 2722A Sweep Receiver.

YT-1 chart recorder: This optional printer, when installed in the options port, can be used to obtain hard copies of 2722A menu or measurement displays.

2722A Familiarization

To become familiar with the basic operation of the 2722A Sweep Receiver menus, perform the following steps:

1. If you have not already done so, press the 2722A power switch to the On position. (If the internal battery has not been charged, use the AC transformer to provide AC power to the 2722A.)
2. When powered up by itself, the 2722A should display a screen similar to that shown in Figure 2-5.

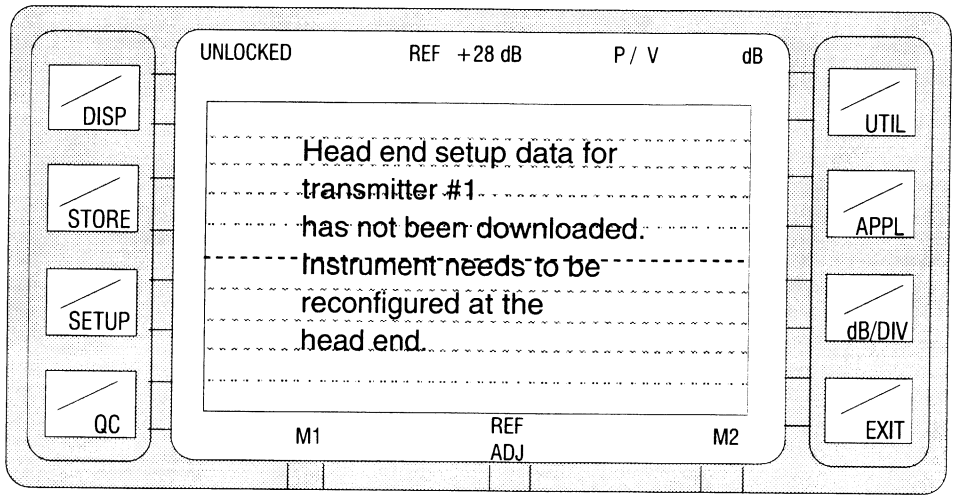

Figure 2-5: The 2722A display and menu keys.

3. Press the APPL menu key on the right side of the display. You should see the Application menu shown in Figure 2-6.

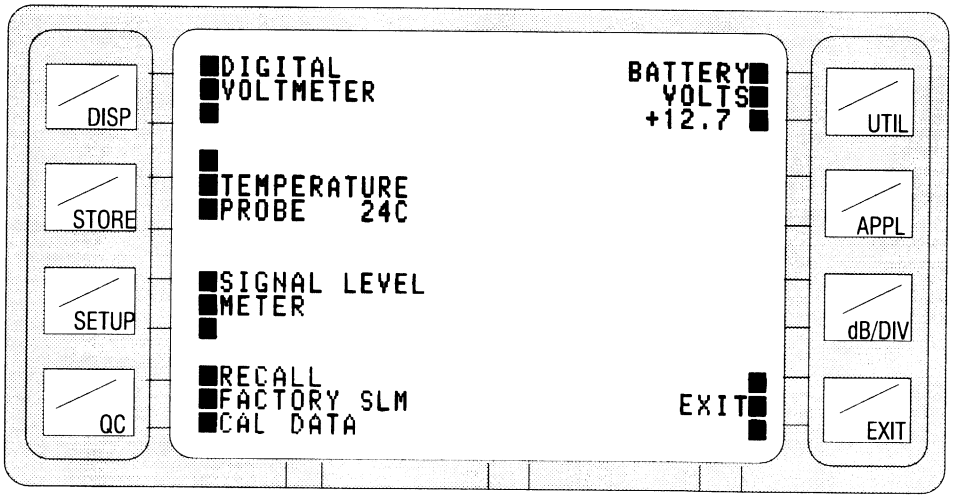

Figure 2-6: Application menu.

4. Press the key next to the DIGITAL VOLTMETER menu selection. This key is labelled as DISP, but it is a soft key now because its function has been redefined for selection of the DIGITAL VOLTMETER menu item.

5. After making the DIGITAL VOLTMETER selection from the menu in Figure 2-6, you should see the DIGITAL VOLTMETER display shown in Figure 2-7.

6. In order to make a measurement, you will need to press the AC VOLTS or DC VOLTS soft key. The measured voltage will then be displayed numeri-

cally under the selected soft key label (see Figure 2-8) and will be indicated graphically on the bar-chart scale.

Even though the voltmeter probe has not been attached in this procedure, a small residual voltage will appear on the measurement display. This is normal, and it has no effect on actual measurements made with the voltmeter attached to a voltage source.

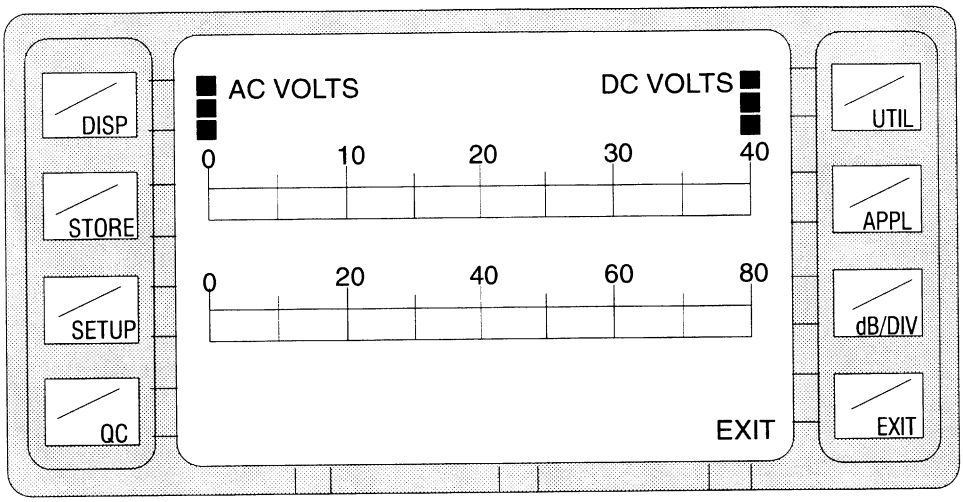

Figure 2-7: The Digital Voltmeter menu.

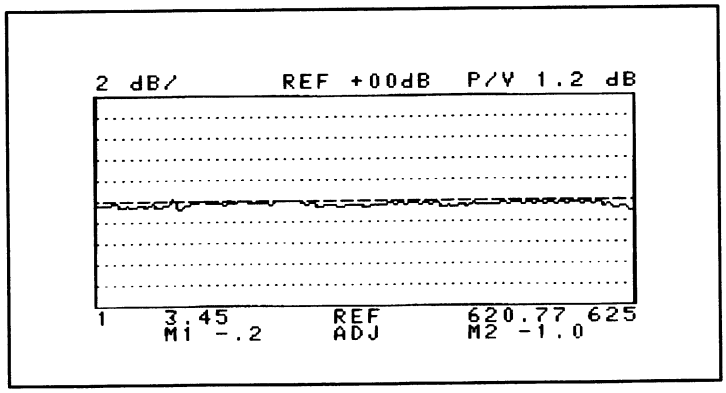

Figure 2-8: The Digital Voltmeter measurement display.

7. To leave the Digital Voltmeter display, press the EXIT key twice. This returns you to the initial power-up display (Figure 2-5).

Verifying System Operation

Connect the instruments in the "back-to-back" configuration as follows (see Figure 2-9):

1. Place the 2721A and 2722A next to each other on a bench. Make sure that each instrument is connected to a power source and that each instrument's power switch is in the Off position.

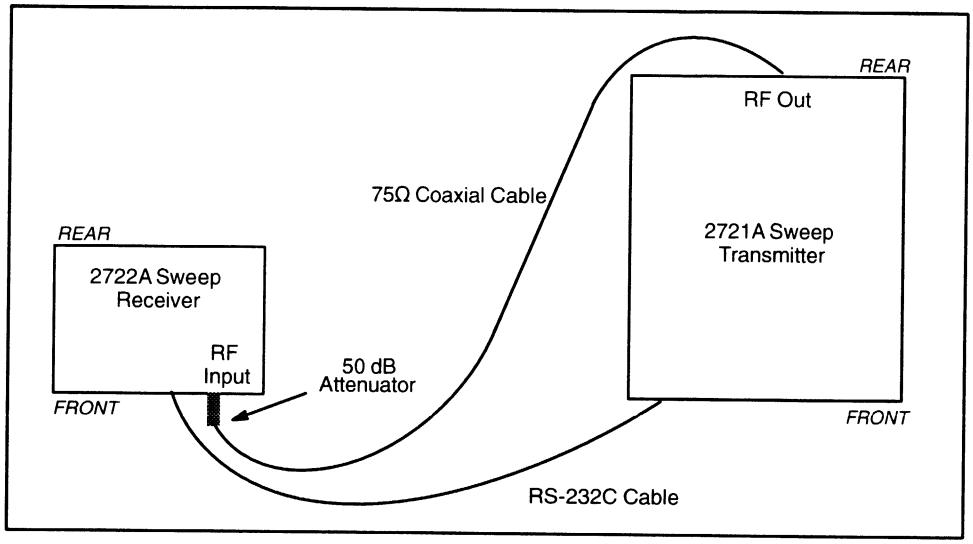

Figure 2-9: The "back-to-back" configuration.

2. Connect the supplied RS-232 cable between the 2721A and 2722A. The RS-232 connectors are located on the front panel of the 2721A Sweep Transmitter and in the Options Port enclosure of the 2722A Sweep Receiver.

3. Connect a short length (about three feet) of 75 Ω coaxial cable to the RF OUT connector on the back of the 2721A Sweep Transmitter. (If you are using coax with BNC connectors, use the BNC adapter, P/N 103-0310-00, available as an option with the 2721A Sweep Transmitter and 2722A Sweep Receiver.)

4. Connect the other end of the coax to a 50 dB attenuator, and connect the attenuator to the RF INPUT on the 2722A Sweep Receiver. The 50 dB attenuator is used to simulate worst-case cable TV system loss between the sweep insertion point and the sweep measurement point.

5. Check the connections. At this point, the 2721A and 2722A should be connected "back-to-back" with an RS-232 cable and a 75 Ω coaxial cable with a 50 dB pad inserted. This configuration is shown in Figure 2-9.

With the 2721A Sweep Transmitter and 2722A Sweep Receiver connected back-to-back, basic operation of the two instruments as a system can be verified.

To verify instrument operation and download System Operating Information from the 2721A to the 2722A, perform the following steps:

6. Power up the 2721A and then the 2722A by pressing their power switches to the On position.

7. Check the 2721A Sweep Transmitter's front-panel indicators. Both the Power and Sweep LEDs should be flashing.

8. Observe the 2722A Sweep Receiver's display. After completing the power-up cycle, you should see one of several possible displays. The possibilities include a sweep display or one of several message displays describing a System Operating Information conflict between the two instruments. For now, ignore the current 2722A display.

9. Press the UTIL menu button. You should now see a display of the Utility menu (see Figure 2-10).

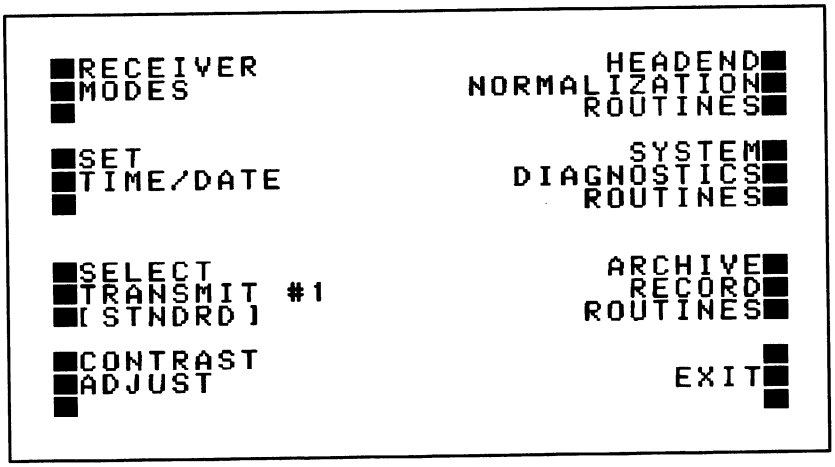

Figure 2-10: The Utility menu display.

10. Select Headend Normalization Routines from the Utility menu display by pressing the UTIL button. You should now see the menu display shown in Figure 2-11.

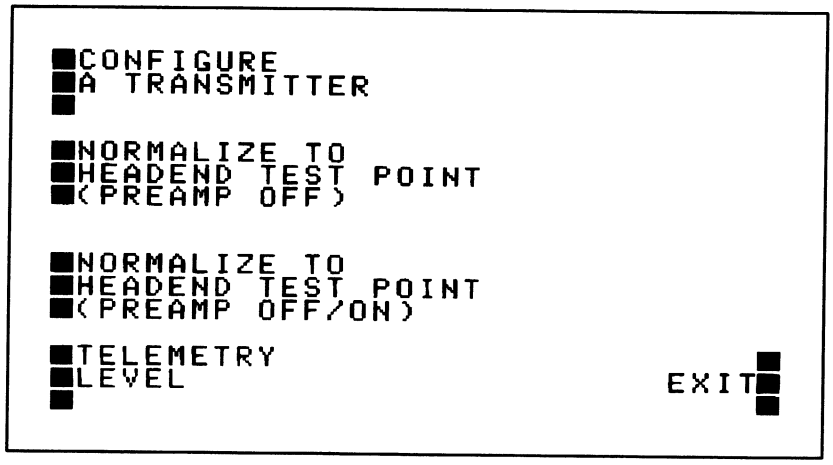

Figure 2-11: The Headend Normalization Routines menu.

11. Select Configure A Transmitter from the menu shown in Figure 2-11. You should now see the Configure A Transmitter menu shown in Figure 2-12.

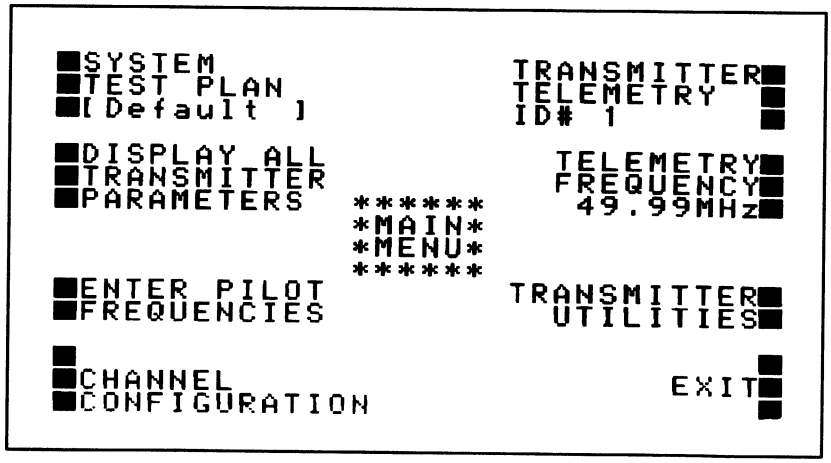

Figure 2-12: The Configure A Transmitter menu.

12. Press EXIT. When EXIT is pressed while in the Configure A Transmitter menu, the System Operating Information stored in the 2721A Sweep Transmitter is downloaded to the 2722A Sweep Receiver.

Again, it is possible that the 2722A will show either a sweep display or a message display. In either case, proceed to the next step.

13. Press the UTIL button to display the Utility menu.

14. Select Headend Normalization Routines from the Utility menu.

15. Select Normalize To Headend Test Point (preamp Off). You should now see the display shown in Figure 2-13. Selecting CONTINUE initiates 2722A sweep normalization.

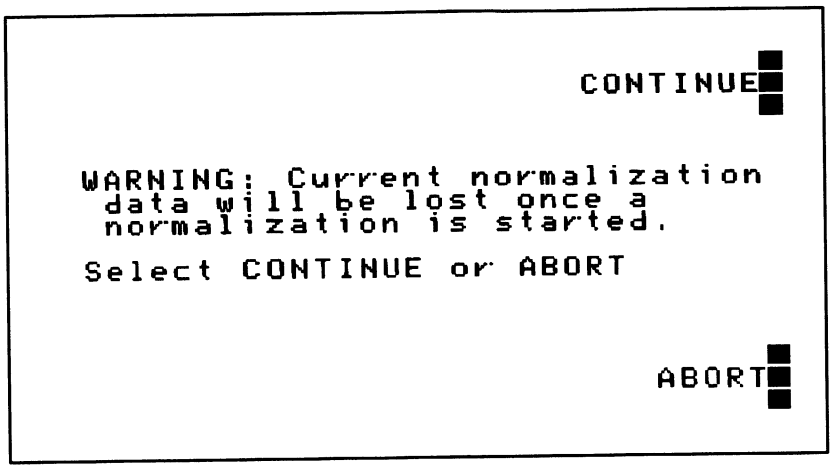

Figure 2-13: The Headend Normalization menu.

16. Select Continue. The display in Figure 2-14 will appear while normalization is taking place. Wait until the normalization is complete, as indicated by the display shown in Figure 2-15. (It may take several minutes for normalization to complete since the 2721A must sync to and sweep all channels.)

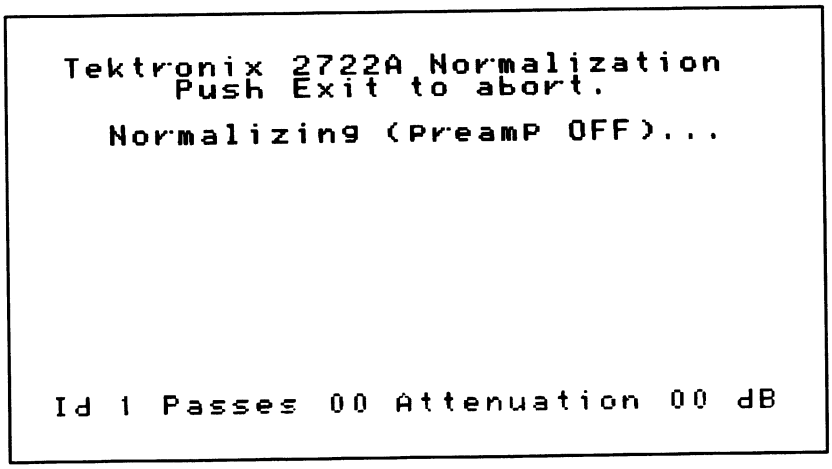

Figure 2-14: The 2722A sweep normalization cycle.

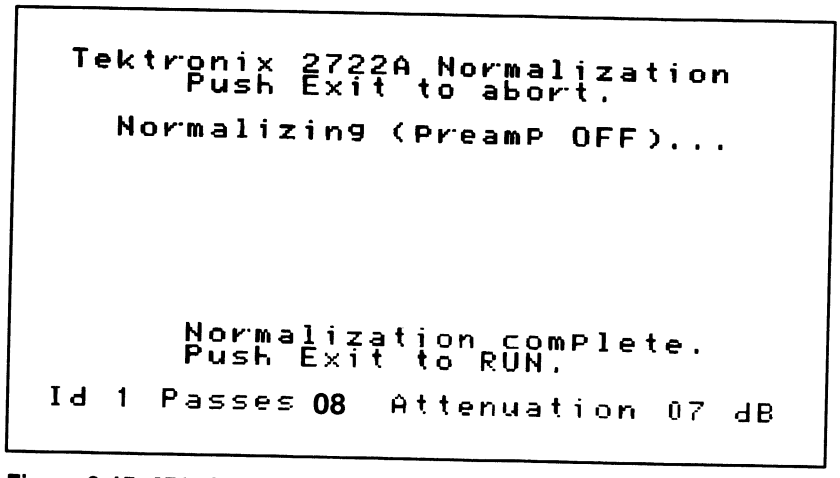

Figure 2-15: 2722A sweep normalization complete.

17. When the display shown in Figure 2-15 appears, press EXIT to return the 2722A to a sweep display. You should now see a calibrated sweep display such as shown in Figure 2-16.

This completes verification of operation of the 2721A Sweep Transmitter with the 2722A Sweep Receiver. The System Operating Information stored in the transmitter has been downloaded to the receiver, and the receiver's sweep display has been normalized to the transmitter in a "back-to-back" configuration.

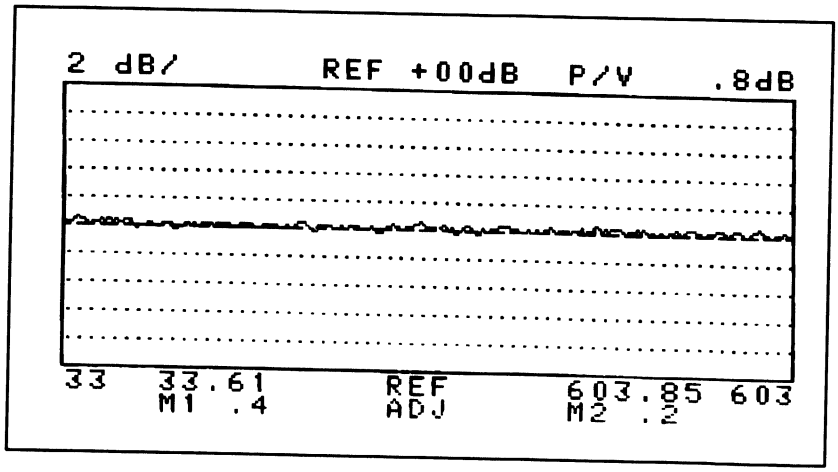

Figure 2-16: A normalized sweep display.

Theory of Operation

This section describes the sweep system circuitry. The transmitter and receiver descriptions below are followed by detailed discussions of each circuit module. Refer to the schematic drawings while reading the circuit module discussions in this section.

Transmitter

The 2721A Transmitter is a special-purpose CATV-band signal generator that transmits synchronized RF pulses into a CATV distribution system. The RF pulses are measured by a 2722A Receiver to characterize the system frequency response.

The transmitter has an RF input, an RF output, a power input, and an RS-232 interface. The RF input receives wide-band CATV signals which are used to trigger the RF output pulse. Transmitter RF output consists of two combined signals: an RF pulse that sweeps the CATV band and an FSK carrier that provides tuning and gating information to the receiver.

The transmitter receives AC power from an external step-down transformer, nominally 2.5 A_{rms} at 18 VAC input. The RS-232 interface is used to configure the transmitter to work in various CATV-system environments. Transmitter configuration selects which CATV channels are pulsed, what kind of television standard is used (for example, NTSC or PAL), what kinds of scramblers (if any) are used, and other selectable features. The transmitter is configured using a receiver as a terminal device. Configuration data stored in a transmitter can also be uploaded to the receiver.

The transmitter contains seven electrical circuit boards: power supply, microprocessor, serial filter, second LO, RF down converter, sync, and the RF up converter.

The power supply receives AC input power from the step-down transformer and converts the power to four different DC supplies: +20, +15, +5, and –15 V. Power from these supplies flow directly to the microprocessor board where it is distributed through the instrument. All four DC supplies are regulated. The two highest current supplies, +5 V and +15 V, are regulated by sensing the supply voltage on the microprocessor board to maintain accurate voltages at the main distribution point.

The microprocessor board has many functions. It generates control signals for all modules (except the serial filter). It is the instrument mother board, distributing serial, parallel, and power buses through the instrument. The microprocessor

communicates with the receiver via an RS-232 interface and stores configuration data in non-volatile memory.

The microprocessor's control functions are listed below:

Power supply. There is only one data signal from the microprocessor to the power supply, PWRDN. This is set by the microprocessor to always be active low (to enable the power supply).

Second LO. Serial data controls the second LO frequency by loading a count value into the phase lock. The LO frequency is set to 690.8 MHz.

RF down converter. As in the second LO, serial data loads count values into the two VCO synthesizers. In the RF down converter, the LO frequencies are continuously changed as the CATV band is swept.

Sync. Parallel-port data controls certain sync characteristics such as the scrambling modes. Other parallel-port functions include soft-pulse (overrides sync board-generated pulse) and pulse-amplitude level control. Two other control signals are used to format telemetry data for communication with the receiver over the CATV network.

RF up converter. The microprocessor tunes both synthesizers on the RF up converter. UC1, the pulse channel, sweeps and pulses the CATV band. UC2, the telemetry (FSK) channel, is set at one frequency during transmitter configuration. The FSK-carrier frequency generally is not changed.

Front panel. The front panel has no circuit board, but it does have two LEDs controlled by the microprocessor that indicate instrument state. The green Power LED is lit when power is on and flashes when the instrument is sweeping and a sync time-out occurs. The flashing LED indicates that vertical sync was not found, possibly because of wrong RF input power level, no vertical sync on a channel, or a sync error. The red Sweep LED flashes each time the transmitter sends a sweep pulse.

The serial filter reduces EMI radiation from the RS-232 cable used to configure the transmitter.

The second LO generates four output signals whose frequencies are 690.8 MHz, 48 MHz, 3 MHz, and 1.5 MHz. The first frequency is the true second LO at 690.8 MHz. The second LO signal is used in the RF up converter to generate IF signals in both pulse and FSK channels.

The second signal is the stable 48 MHz output used to generate the pulse signal on the RF up converter. The second LO module produces the other two signals, the 3 MHz reference and the 1.5 MHz microprocessor clock, by dividing a sample of the 48 MHz output. All tunable oscillators in the transmitter are phase locked to either the 48 MHz oscillator or its divided 3 MHz reference.

The RF down converter selects single CATV channels from wide-band RF input. The selected channel is down-converted to 10.7 MHz and used to detect the vertical interval. When the vertical interval is found (by the sync board) the transmitter pulses the CATV channel.

The RF down converter has two identical channels: DC1 and DC2. DC1 is tuned to CATV visual-carrier frequencies where vertical sync is normally detected. DC2 is tuned to the same channel as DC1, but to the audio carrier, color burst, or possibly other locations that help detect vertical sync in scrambled modes. Tuning is done fast enough to detect vertical sync on 100 channels in two or three seconds.

The sync board finds the vertical interval time on a CATV channel and signals the RF up converter to pulse the CATV channel. The RF inputs to the sync board are the DC1 and DC2 IFs at 10.7 MHz. These signals are bandpass-filtered on the sync board and detected. The detected signals are controlled and interpreted according to sync-mode data sent from the microprocessor.

When the vertical interval is found, PULSEGATE is asserted active low (for 14 µsec) signaling the RF up converter to turn on the pulse-channel output. The sync board is also used as an interface between the microprocessor and RF up converter modules. Telemetry (FSK) data and pulse-channel leveling data are formatted on the sync board.

The RF up converter generates and combines pulse and FSK signals which are inserted into the CATV distribution system. The pulse is generated by switching 48 MHz into a mixer where it is up-converted to 738.8 MHz. This signal is then down-converted to the CATV band by mixing it with a tunable LO. The FSK signal is generated by dividing 690.8 MHz by either 64 or 65, depending on the FSK logic state. The divided signal is close to 10.7 MHz in either case. 10.7 MHz is up-converted to 58.7 MHz (by mixing with 48 MHz) and then to 749.5 MHz (by mixing with 690.8 MHz). As in the pulse channel, this signal is then down-converted to the CATV band by mixing it with a tunable LO. The two channels are combined, amplified, and routed to the instrument's RF output port.

Receiver

The 2722A Receiver is a special-purpose CATV-band receiver. Its primary job is to accurately detect the RF pulses generated by a 2721A (or 2721) Transmitter. Differences in pulse-amplitude levels measured at various points in the CATV distribution system can be compared. Other useful functions included in the receiver are video-and-aural-carrier signal level meter, digital voltmeter, and temperature probe.

The receiver has an RF input, a voltage-probe input, an AC power input, an RS-232 interface, two display devices, and a user interface. The RF input receives wide band CATV with transmitter pulses and telemetry signals.

The voltage probe measures a DC or AC voltage with respect to the shielded conductor of the RF input. Both RF-input and voltage-probe connections must be made to make a voltage measurement.

The AC power input receives power from an external step-down transformer, nominally 1.5 A_{rms} at 18 VAC. The AC power input also supplies power to charge the instrument battery. The RS-232 interface is used to configure a transmitter, load information from an already configured transmitter to the receiver, and interface with a PC. The display devices are the LCD display and the optional YT-1 chart recorder. The user interface is the alphanumeric keypad and knobs.

There are eight modules in the receiver built on seven circuit boards: the power supply, microprocessor, second local oscillator (2^{nd} LO), attenuator, RF down converter, log board, option port, and front panel.

The power supply receives AC input power from the external step-down transformer or DC power from the on-board 12 V battery. Input power is converted to four DC outputs: +20 V, +15 V, +5 V, and –15 V. Power from these supplies flows to the microprocessor board where it is distributed throughout the instrument.

The 12 V battery is charged with the battery charger. With the AC input connected, full battery charge is supplied when the power switch is off, and only a small charging current flows when the power switch is on.

The receiver microprocessor has several functions. It interprets human interface input, controls the display devices, and generates control signals for all the modules. It is also the instrument mother board, distributing serial, parallel, and power buses through the instrument. The receiver microprocessor communicates with the transmitter or with a PC via RS-232, and it stores measurement and configuration data in non-volatile memory.

The microprocessor's control functions are listed below:

Power supply. Sends a signal to the microprocessor indicating when battery voltage is at lowest allowable. At lowest allowable voltage, the microprocessor sends a message to the LCD display and eventually asserts PWRDN, turning off the supply's power converter.

2^{nd} LO. Serial data controls the second LO frequency by loading a count value into the phaselock. The LO frequency is set to 670.4 MHz. (The 2^{nd} LO module is located on the log board.)

Attenuator. Serial data control relays that select the RF signal path (a preamp and five attenuators can be selected or bypassed). The attenuator module is located on the log board.

RF down converter. Like the 2^{nd} LO, serial data loads count values into the two VCO synthesizers. One LO frequency is continuously changed as the

CATV band is swept, while the other is fixed to receive telemetry information from the transmitter.

Log. All measurement data detected on the log module (signal level, temperature, and voltmeter) is sent to the microprocessor via a parallel bus. Telemetry data is sent serially. The microprocessor controls data acquisition on the log module.

Front panel. LCD-display and user-interface data are sent and received via parallel bus.

Option port interface. RS-232 data is routed to the microprocessor through the serial filter. The option-port parallel bus is connected directly to the microprocessor.

The 2nd LO generates three output signals whose frequencies are 670.4 MHz, 3 MHz, and 1.5 MHz (670.4 MHz is the true second local oscillator frequency). This second LO signal is used in the RF down converter to generate second IF signals in both channels. The 3 MHz REFERENCE and 1.5 MHz MICROPROCESSOR CLOCK are generated by dividing a sample of the internal 48 MHz crystal oscillator. All tunable oscillators in the transmitter are phase locked to either the 48 MHz oscillator or to its divided 3 MHz reference.

The attenuator sets the RF input signal level for subsequent conversion and demodulation. A 75 to 50 Ω minimum-loss pad matches the 75 Ω CATV environment with the 50 Ω circuits used in the receiver.

When selected, the preamp can lower the instrument's noise figure, but it causes distortion if there are large signals at the input. The variable attenuator follows the preamp. The attenuator sets signal level to the RF down converter input, having 0 to 44 dB of range.

The RF down converter receives wide-band CATV, selects two signals, and converts them to intermediate frequencies (IFs). One channel, DC1, is used for measuring sweep pulses and SLM carriers. The other channel, DC2, is used to receive the transmitter-generated telemetry (FSK) carrier. Both converters use VCOs to tune CATV-band signals into the IFs.

The log module contains all of the measurement detectors (sweep, SLM, voltmeter, and temperature) and the FSK decoder. Sweep measurements are made by detecting the peak signal level when the peak detector is enabled, then logging and digitizing the level. The peak detector is enabled only when the transmitter sends a pulse. This prevents the active video information from causing measurement error.

The SLM carriers are measured by a using a "receive-signal-strength-indicator" to demodulate and log the signal. The result is digitized and corrected.

Voltmeter measurements are made using an RMS-measuring IC.

External temperature measurements use a transducer that extends through a hole above the options port.

Decoded FSK information is used to tune DC1 VCO (on the RF down converter) and to gate the sweep-pulse detector on when a pulse is sent.

The option port interface contains the parallel-bus connection for the chart recorder, RS-232 interface, and instrument power fuses. The only option for the option port is the YT-1 chart recorder. The serial filter between the microprocessor and the RS-232 interface reduces EMI radiation from an RS-232 cable.

The front panel encodes knob and keypad entry and drives the LCD. The LCD driver is a separate circuit board included with the display device. LCD contrast and back-light is driven by the front panel board.

Front Panel

This section describes the operation of the receiver's front panel module. The front panel provides a user interface consisting of a keyboard matrix, soft keys, knobs, and a liquid crystal display.

Instrument settings are input via the 45-contact keyboard matrix, eight soft keys, and three knobs. Instrument state and data are displayed on a 256 x 128 pixel liquid crystal display. The module receives power and interacts with the microprocessor module via a ribbon-cable connector.

The four front panel board sections are:

Key encoding	Debounces switch closures from the keyboard matrix and soft keys, encodes them into 1.5 data bytes, and generates an interrupt to the microprocessor. The switches are implemented as gold-plated fingers on the bottom of the ECB. An elastomeric keypad is placed on top of the open switch contacts, and switch closure is made by pressing a carbon pad onto them.
Knob encoding	Detects the rotating direction of three mechanical shaft encoders, encodes them into a data nibble, and generates an interrupt to the microprocessor.
Display driver	A display controller, 16k x 8 display RAM, microprocessor interface, LCD contrast control, electroluminescent (EL) back-light control, and driving circuitry for an LCD module.
Microprocessor interface	Chip select decoding logic.

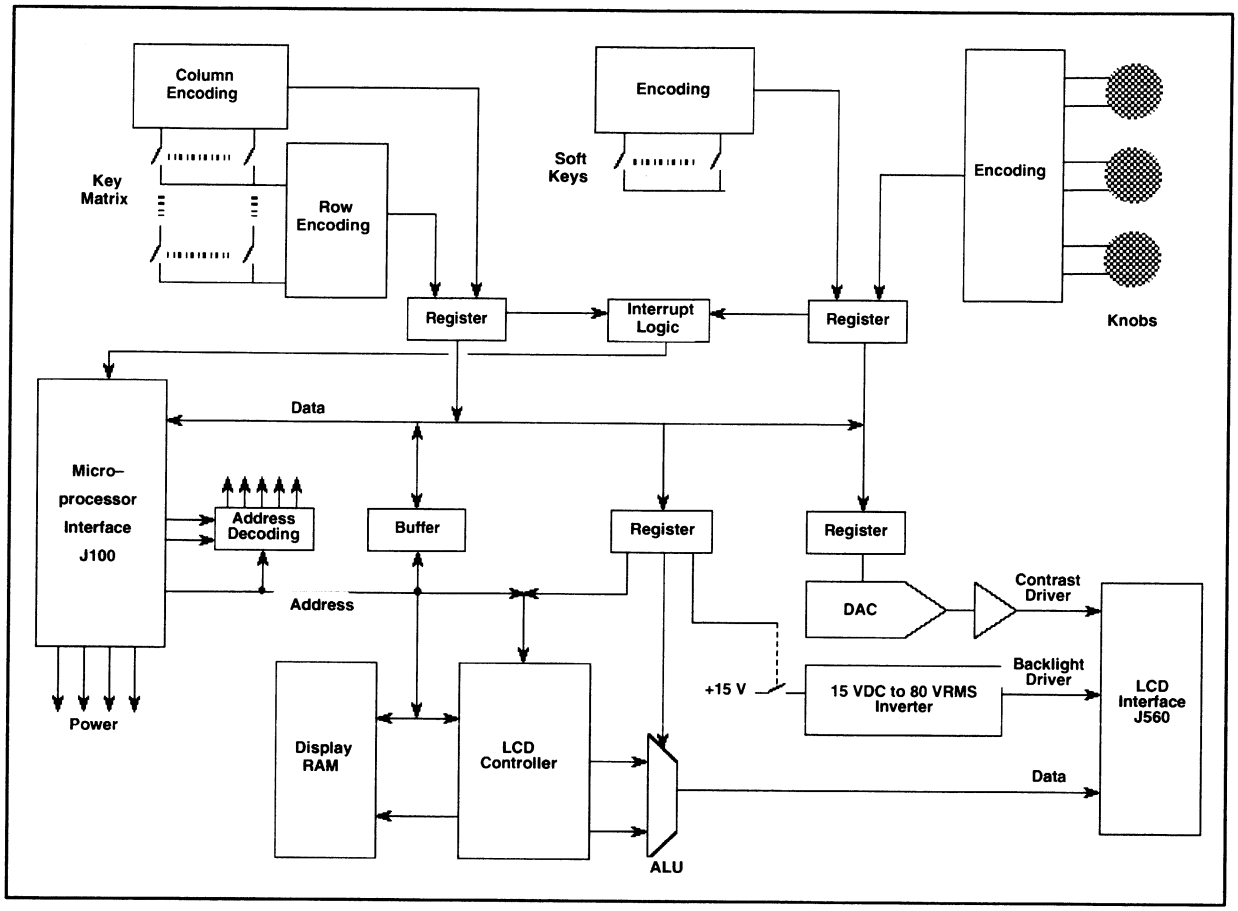

Figure 3-1: Front panel block.

Circuit Description

Following is a circuit description for the front panel module. Refer to the Front Panel Block diagram in Figure 3-1 and the individual schematic pages as you read this description.

Front Panel Switches

This circuit is divided into key switch matrix encoding and soft key encoding. Closure of any of the 45 alphanumeric or function keys is encoded into one data byte, which is read by the microprocessor. Since all key closures are sensed similarly, an example key closure — pressing the Z key — is explained below.

When the Z key is closed, Q502 is biased on by connecting R413 to its base. This forces buffer U610 pin 13 low and buffer U510 pin 11 low. Priority encoder U520 pin 13 is then driven active low by U510's pin 9 output. This causes a binary 100 to be encoded at U520 pins 6, 7, and 9 outputs. U520 pin 14 also gets asserted active low, which enables priority encoder U620 pin 5. U620 pin 12 is driven active low by U610 pin 7. This causes a binary 101 to be encoded at U620 pin 6, 7, and 9 outputs. U620 pin 14 also gets asserted active low.

U620 pin 14 asserts the active high INTRUP pulse via U561A, one-shot U560B, and U561B. The positive-going edge of INTRUP clocks the composite data byte 10000000 + 01010000 + 00000100 = 11010100 into register U530. The INTRUP pulse generates the (FPINT) interrupt to the microprocessor via U400A. The encoded data byte is available at U530 for the microprocessor to read during its interrupt service routine.

Should more than one key be pressed, priority encoders U520 and U620 ensure that only the key with highest priority is encoded.

Closure of any one of the soft keys (DISP, UTIL, STORE, APPL, SETUP, dB/DIV, QC, or EXIT) is encoded into one data nibble to be read by the microprocessor. The following paragraphs explain an example key closure - pressing the SETUP soft key.

With the SETUP key closed, buffer U290 pin 4 is driven low. This causes priority encoder U180 pin 11 to be asserted active low by U290 pin 16. This causes a binary 001 to be encoded at U180 outputs 6, 7, and 9, and also causes pin 14 to be asserted active low.

U180 pin 14 asserts the active high INTRUP pulse via U561A, U560B, and U561B, causing the soft key encoding A[0..2] to be clocked into register U540. Interrupt processing proceeds as explained earlier.

Front Panel Knobs

The rotating direction of three mechanical shaft encoders (called knobs) at J640, J650, and J670 is sensed, prioritized, and latched in this circuit. Debounce timing for the shaft encoders and switches is also provided here.

Since the encoding circuitry for the three knobs is the same, this description covers operating the Cursor B knob, connected at J640. When Cursor B rotates clockwise, a contact is first made from the A connection to the COM pin (U593A pin 1 goes low), then from the B pin to the COM pin (U593B pin 3 goes low).

When the B contact is closed while the A contact has already been closed, a 1 is clocked into U590A, causing (BCW) to be asserted active low. This causes priority encoder U580 pin 1 to go low, asserting a binary 011 encoding at outputs 6, 7, and 9. U580 pin 14 is also asserted low, causing the INTRUP line to go active high via one-shot U560A and U561B. The INTRUP both clocks the knob encoding into register U540, and clears the knob registers U590, U592, and U581. Interrupt processing proceeds as explained in the front panel switch discussion above.

Should more than one knob be turned simultaneously, priority encoder U580 ensures that only one knob is encoded at a time.

Front Panel Display

The LCD module display is driven by U110, an LCD controller. This device reads two planes of pixel data from two contiguous 4 k-byte blocks of data in

display RAM U120. Each set of pixel plane data is output as 4-bit parallel words, UD[0..3] and LD[0..3]. The data can be logically combined in ALU U200 with the opcode programmed into register U623. The resulting 4-bit words F[0..3] are sent to the LCD module via J560.

U430B, U431, and U421 generate additional timing signals for compatibility with the LCD module.

Bi-directional data buffer U210 and read/write logic U201 enable data to be written into display RAM. When the RAM is chip selected with the active low (DISRAM) signal, the display controller is disabled via its DIEN input.

The LCD contrast driver consists of data register U621, digital-to-analog converter (DAC) U622, and amplifier U320. The effective range for the LCD module's contrast voltage is approximately –4 to –17 V. This is adjusted by sending an unsigned byte to U621. DAC U622 then sinks a current at pin 4 proportional to that integer and the reference current going into pin 14, or about 0 to 2mA full scale. U320B then generates a voltage output of approximately +5.4 to +14.9 V, and U320A inverts that to generate V_{LCD}.

The LCD back-light driver consists of active switches Q220, Q230, and DC-to-AC voltage inverter U130. Asserting the LCDLIGHT bit high switches on Q220, which switches on Q230, sourcing approximately +15 V to the input of U130. U130 generates an approximate 80 V_{rms} AC, 400 Hz signal to drive the electroluminescent back-light supplied with the LCD module.

Front Panel Interface

U310 decodes the LCD controller chip select (FP1) and enables the read and write strobe selectors. U300 generates read strobes EN0 and EN1 for the switch and knob encoding registers. U312 generates write strobes (LBLI) and (LCON) for the LCD Cursors / Back-light and LCD Contrast registers. It also generates the INTERRUPT CLEAR for U400.

U400A interrupts the microprocessor module. An active high INTRUP signal clocks a 1 into U400A, causing the interrupt line (FPINT) to be set active low. At the completion of the interrupt service routine, further interrupts are enabled by clearing U400A with a write to 0x5e69.

U400B divides down the incoming 1.5 MHz PH2 clock by two to provide the CLK for the LCD controller.

Microprocessor

Used in both receiver and transmitter, the microprocessor board provides computer control and power supplies to the RF up converter and down converter, and interprets instrument control functions from the front panel and RS-232 interfaces. The board is populated differently depending on whether it is used in the transmitter or receiver (see Figure 3-2).

In the transmitter, the microprocessor board receives power from the power supply. In turn, it provides power and controls for the 2nd local oscillator, RF down converter, sync board, and RF up converter. It also supports the front-panel's sweep and power-indicator LEDs and an RS-232 serial interface for communicating with the receiver.

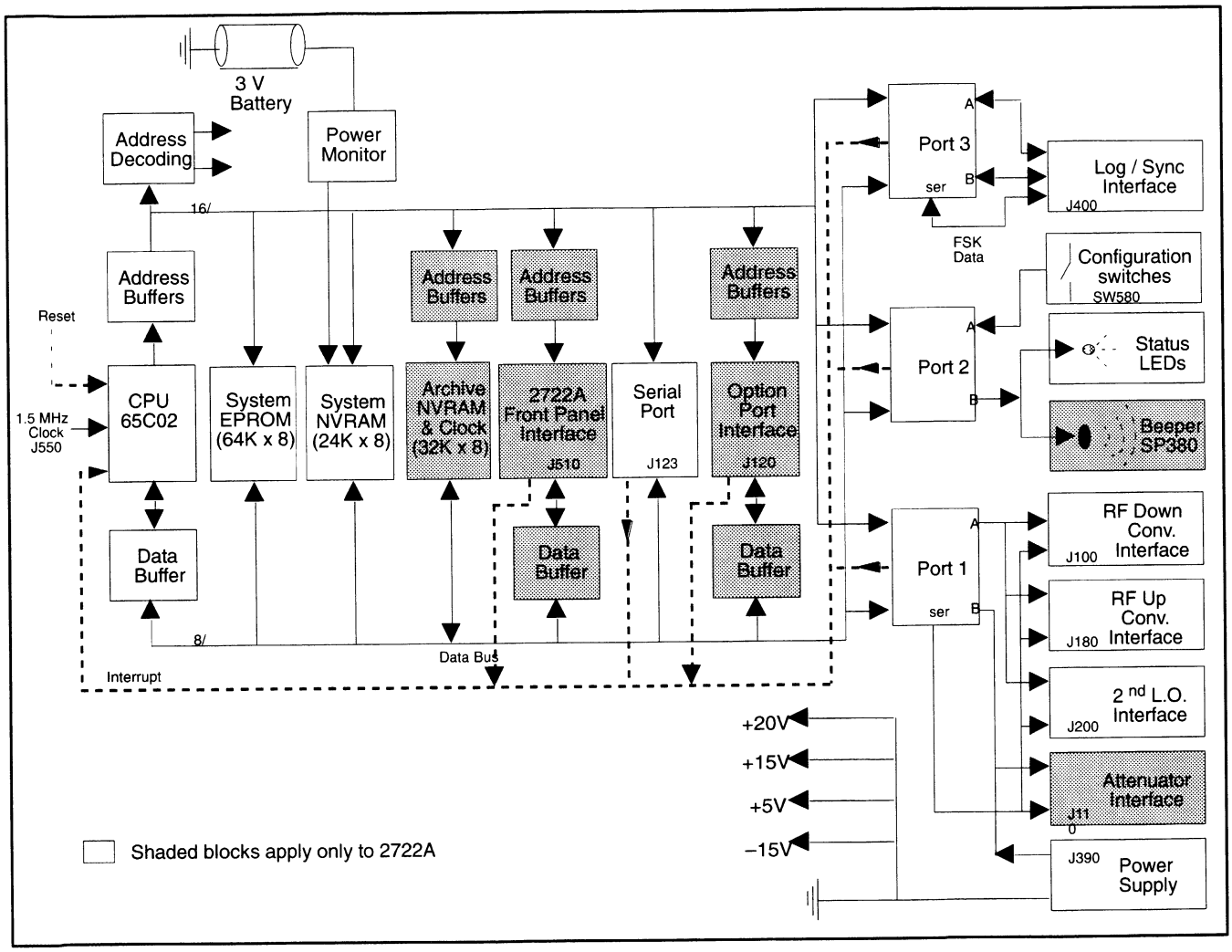

Figure 3-2: Microprocessor board block.

As in the transmitter, the receiver's microprocessor board receives power from the power supply. It provides power and controls for the attenuator, 2nd local oscillator, RF down converter, and log board. It also provides power to and communicates with the front panel for user input and display functions. The board's RS-232 serial interface provides a communications path with the transmitter, while a real-time clock provides a data time stamp. The option port interface supports an optional Tektronix strip-chart type printer.

The five major sections of the microprocessor board are:

Microprocessor — A 65C02 CPU, address and data buffering, address decoding, 64k bytes of EPROM, 24k bytes of battery backed system nonvolatile RAM (NVRAM), 32k bytes of battery backed archive NVRAM, real-time clock, and system reset.

Serial port — A 65C51 RS-232 controller, data receiver/transmitter, and connector J123. Instrument settings are configured via this port.

Front panel interface — In the transmitter, this consists of circuitry for flashing Power and Sweep LEDs via connector J520. In the receiver, this consists of data and address buffers and the J510 connector to read keypad, soft key, and knob codes, and write display information to the LCD controller on the front panel.

Ports — This section consists of three 65C22 versatile interface adapters (VIA): ports 1, 2, and 3. Each VIA consists of two 8-bit parallel ports, two 16-bit timers, a synchronous serial communications port, and interrupt logic.

The microprocessor uses port 1 for synchronous serial communications to control the RF down converter, RF up converter (transmitter only), attenuator (receiver only), and 2nd local oscillator. modules via J100, J180, J110, and J200, respectively.

The parallel ports generate serial data latch enable signals. Power supply status is communicated via this port and J390. On the receiver, the front panel interrupt is also handled via this port.

The microprocessor uses port 2 parallel ports to read the system configuration resistors, write to four system status LEDs, enable the beeper (receiver only), and to select which of the two pages of system EPROM are being addressed. On the receiver, the option port interrupt is also handled via this port.

On the receiver, the microprocessor uses port 3 parallel port for communication with and control of the log board. On the transmitter, port 3 controls and communicates with the sync board. Communication is via J400.

Option port interface (receiver only) — This section consists of address and data buffers to control an optional strip-chart type printer via J120. Interrupt handshaking and switchable +5 V and +15 V power sources are also provided. This port is used only in the receiver.

Circuit Description

Refer to the schematic pages as you read the following circuit description of the Microprocessor board.

Microprocessor

This circuit consists of the CPU, address and data buffers, address decoding, system memory, and reset. The heart of this circuit is U442, a 65C02 8-bit microprocessor with 64k of address space. U350 functions as a bi-directional data bus buffer for D[0..7], and U440, U441 function as address buffers for A[0..15]. The 1.5 MHz system clock is received from the 2nd local oscillator board via SMB connector J550 and U170A.

Programmable logic device (PLD) U592 generates the active-low system read and write strobes (OE), (WE) by gating the U442 read/write signal R/WOUT and the bus clock, ∅2OUT. It buffers ∅2OUT and R/WOUT to generate the board clock PH2 and read/write strobe R/W. This PLD also generates separate read, write, and data buffer enable signals (FPRD), (FPWR), and (FPEN) for the receiver front-panel interface. In the case of a front-panel register or display RAM access, as indicated by chip selects (FP) or (DISRAM), the READY signal is pulled low for one clock cycle to provide extra access time to the front panel.

System RAM, I/O, display RAM, and system ROM chip selects are generated by PLD U593 based on the most significant address bits AA[9..15]. U593 also generates the write strobes for the archive RAM address registers, BSAD[0,1]. The (I/O) bank chip select signal enables U460, a 4-to-16 decoder, which generates individual I/O device chip selects on 32-byte boundaries.

System EPROM U360 is a 64k x 8 device. Since the total system address space is 64k, only 32k bytes of EPROM are accessible at a time. The PAGESEL bit selects which of two 32k byte pages are readable via PORT3B5 (see the Ports description above).

System NVRAM U260 is a 32k x 8 low power device. Because this device is a nonvolatile memory to store instrument setups, non-volatile controller U160 and 3 V Lithium battery BT280 are used to protect the integrity of the data when the system is powered off. The SYSRAM chip select only selects 0x0000 through 0x5dff, or 24,062 bytes, because the remaining 8.5k is reserved for I/O ports and display RAM.

During normal operation, U160 lets the CE chip enable input propagate to the CEO chip enable. This allows normal memory accesses and supplies the RAM with power from VCCO. But if the +5 V supply drops below +4.75 V, CEO output is inhibited, preventing a memory access, and U160 switches over to supply battery voltage from the +3 V battery (BT280).

If this condition happens during a memory bus cycle, U160 allows that cycle to finish, then inhibits all subsequent chip enable outputs. Two to 125 msec after the +5 V supply returns to normal, chip enable output is enabled and U160 switches back to supplying power from +5 V.

On the receiver, the archive NVRAM/real-time clock (U594) is a 32k x 8 module that includes its own 32 kHz clock crystal and Lithium battery for data retention when the main power supply is off. This device is accessed differently than the system NVRAM, since there is only port address space left in the system. Access is accomplished by first setting up 15 bits of address via two 8-bit ports: U595 at 0x5fa0 and U596 at 0x5fc0. Then data is read or written via the 8-bit port at 0x5fe0.

The system reset (RES) is generated by U591, which holds (RES) low for over 250 msec after power up. It also debounces manual reset, which is accomplished by shorting J552 pin 3 to pin 4. If the +5 V power supply drops below +4.5 V, (RES) is asserted low until 250 msec after the voltage returns to at least +4.5 V.

The active-low system interrupt (IRQ) is sent to U442 via a wired-OR connection with R441 as its pull-up.

Serial Port

This circuit consists of U320, a 65C51 asynchronous communications interface adapter, and U220, an RS-232 driver/receiver. U320 provides a program-controlled DTE interface for the transmitter or a DCE interface for the receiver. Crystal Y220 provides U320 with an internal baud-rate generating clock, providing 15 rates from 50 to 19,200 baud. U320 interfaces to the microprocessor via data bus D[0..7] and address bus A[0..1]. Note that U320 is connected to the wired-OR interrupt line (IRQ) to notify the microprocessor when the internal receive data register is full or the transmit data register is empty.

U220 level-translates the TTL outputs of U320 to RS-232-compatible ±9 V output swings at connector J123. This is accomplished from the +5 V supply and on-chip switched-capacitor DC-DC converters. U220 receives up to ±30 V RS-232 input levels from J123 and translates them to TTL for U320.

Jumpers W596, W597, W598, and W599 allow swapping the receive data RXD and transmit data TXD lines to connector J123, depending on the application. For the transmitter's DTE interface, W596 and W598 are not installed, leaving W597 and W599. For the receiver's DCE interface, W597 and W599 are not installed, leaving W596 and W598.

Receiver Front Panel Interface

In the receiver, the front panel interface consists of bidirectional data buffer U410, address registers U598 and U599, and connector J510. Display data is written and keypad, soft key, and knob codes are read via data bus FPD[0..7]. Address bus FPA[0..13] addresses the 8k byte display RAM. Note that the front panel interrupt (FPINT) may alert the microprocessor to a key closure or knob turn via Port 1's U250.

Transmitter Front Panel Interface

In the transmitter, the front panel interface consists of one-shot multivibrator U490B, port 2's U480, and connector J520. While FSK data clock CLKOUT is

active at port 3's U310, U590A re-synchronizes it to the system clock PH2 and triggers U490B pin 12 to pulse on-board LED DS590.

U490B pin 5 also pulses high, providing approximately 10 mA of current to J520 pin 2 to pulse the Sweep LED on the transmitter's front panel. Normally, U480 pin 18 sources approximately 10 mA of current to J520 pin 3 via R520 to light the transmitter's front panel Power LED. If the transmitter loses a sync signal, U480 pulses the Power LED.

Ports

This circuit utilizes three 65C22 Versatile Interface Adapters (VIA) as peripheral interfaces to the microprocessor. Each VIA consists of two 8-bit parallel I/O ports, a serial I/O port, two 16-bit internal timers, and interrupt handling circuitry. They interface to the microprocessor via data bus D[0..7], address bus A[0..3], chip selects (CS0), (CS1), (CS2), and the wired-OR interrupt line (INT).

Port 1. This port is a control interface to the RF down converter, RF up converter (transmitter only), attenuator (receiver only), 2nd local oscillator, and power supply. The VIA's serial I/O function is used for a 3-wire serial interface consisting of DATA, CLK, and parallel latch-enable signals, to send control information to these modules.

Port 1A (Table 3–1) provides the parallel latch-enable signals for the serial data sent to the RF down converter, RF up converter, and 2nd local oscillator modules via J100, J180, and J200, respectively. Port A control line CA2 is used to sense the front-panel interrupt (FPINT).

Table 3–1: Port 1A Configuration

Bit	Name	Type	Function
0	LOLE	O	2nd local oscillator
1	UC2LE	O	Up converter 2
2	UC1LE	O	Up converter 1
3	DC1LE	O	Down converter 1
4	(LOLD)	I	2nd local oscillator phase locked indicator, active low
5	N/C		
6	UC1GAIN	O	Up converter gain setting
7	DCRSVD	O	Reserved for future use on down converter

Port 1B (Table 3–2) provides the parallel latch-enable signals to the RF down converter and attenuator modules. It also provides the control interface to the power supply.

Table 3–2: Port 1B Configuration

Bit	Name	Type	Function
0	ATTNLE	O	Attenuator
1	DC2LE	O	Down converter 2
2	BATLO	I	TTL signal indicating battery state: BATLO=0: Battery voltage is less than 10.7 V BATLO=1: Battery voltage is greater than 10.7 V
3	(PWRON)	O	Active low TTL signal to control power supply state: (PWRDN)=0: Turn off power (PWRDN)=1: Turn on power
4	BATCHG	I	TTL signal indicating battery charger state: BATCHG=0: Charging to over-charge voltage (14.7 V) BATCHG=1: Charger is float state or off (i.e. no AC power)
5	(EXT)	I	Active low TTL signal indicating external AC power: (EXT)=0: AC power (EXT)=1: Battery power
6	reserved 1	I	reserved for future use
7	reserved 2	I	reserved for future use

Port B control CB2 is the 3-wire serial data line DATA, while control CB1 is the serial data clock line 3WCLK. U490A also drives the on-board LED DS480 to indicate that serial data transfer is in progress.

Port 2. This port reads and displays system status. Port 2A (Table 3–3) is a read-only port of the system configuration resistors. Port A control line CA2 connects the option port interrupt line (PRIRQ) via J590 and U590B.

Table 3–3: Port 2A Configuration

Bit	Name	Type	Function
0	PORT2A0	I	System Configuration LSB: 1 = 2721A/2722A operation 0 = 2721/2722 operation
1	PORT2A1	I	System Configuration: normally 1
2	PORT2A2	I	System Configuration: normally 1
3	PORT2A3	I	System Configuration: normally 1
4	PORT2A4	I	System Configuration: normally 1
5	PORT2A5	I	System Configuration: normally 1
6	PORT2A6	I	System Configuration: normally 1
7	PORT2A7	I	System Configuration MSB: normally 1

Port 2B (Table 3–4) is a write-only port that indicates system status. The least-significant nibble drives the system status LEDs. Tables 3-5 and 3–6 list status definitions.

Port 2B bit 4 enables a 1 to 4.2 kHz audio transducer (LS380) via R380, by pulsing on Q380 / R480 with a square wave at the desired frequency. The PAGESEL signal on bit 5 is connected to the system EPROM's address MSB. The POWERON signal is used in the transmitter: it remains on (high) under normal conditions, indicating that power is on. It flashes on and off to indicate a loss of Sync signal.

Port B control lines CB1 and CB2 are not used.

Table 3–4: Port 2B Configuration

Bit	Name	Type	Function
0	DS570	O	System status LED enable, LSB, active high
1	DS580	O	System status LED enable, active high
2	DS581	O	System status LED enable, active high
3	DS582	O	System status LED enable, MSB, active high
4	BEEPER	O	Beeper enable, active high
5	PAGESEL	O	System EPROM Address MSB: Used for page selection
6	reserved 1	O	reserved for future use
7	POWERON	O	Power LED source voltage

Table 3–5: Transmitter System Status LEDs

DS570 LSB	DS580	DS581	DS582 MSB	Status
0	0	0	0	Initialize at power up
0	0	0	1	Complete successful initialization or clearing of checksum error
0	0	1	0	Complete option port initialization
0	0	1	1	Not used
0	1	0	0	Complete flags initialization
0	1	0	1	Not used
0	1	1	0	Complete 3-wire serial interface initialization and valid configuration check
0	1	1	1	Invalid configuration
1	0	0	0	Complete VIA initialization
1	0	0	1	Not used
1	0	1	0	Not used
1	0	1	1	Not used
1	1	0	0	Complete serial-port initialization

Table 3–5: Transmitter System Status LEDs (Cont.)

DS570 LSB	DS580	DS581	DS582 MSB	Status
1	1	0	1	Not used
1	1	1	0	Complete sync board initialization
1	1	1	1	Checksum error

Table 3–6: Receiver System Status LEDs

DS570 LSB	DS580	DS581	DS582 MSB	Status
0	0	0	0	Not used
0	0	0	1	Complete power-up initialization
0	0	1	0	Complete option port and front panel initialization
0	0	1	1	Not used
0	1	0	0	Complete flags and data buffers initialization
0	1	0	1	Not used
0	1	1	0	Complete 3-wire serial interface initialization and valid configuration check
0	1	1	1	Not used
1	0	0	0	Complete VIA ports initialization
1	0	0	1	Not used
1	0	1	0	Completed front panel LCD display RAM and LCD controller initialization
1	0	1	1	Not used
1	1	0	0	Complete serial port initialization
1	1	0	1	Not used
1	1	1	0	Complete log board initialization
1	1	1	1	Not used

Port 3. In the receiver, this port communicates with and controls the log board, while in the transmitter, it communicates with and controls the sync board. It performs these functions via the two parallel ports. The serial I/O function of the VIA is used to communicate FSK data.

Port 3A (Table 3–7) is a bidirectional parallel data port L/SD[0..7] to and from the log and sync modules. Port A control CA2 is the input for the DATAFRM signal from the log board.

Table 3–7: Port 3A

Bit	Name	I/O	Function
0	L/SD0	I/O	Data, LSB
1	L/SD0	I/O	Data
2	L/SD0	I/O	Data
3	L/SD0	I/O	Data
4	L/SD0	I/O	Data
5	L/SD0	I/O	Data
6	L/SD0	I/O	Data
7	L/SD0	I/O	Data, MSB

Port 3B (Table 3–8) provides control lines to the log and sync modules.

Table 3–8: Port 3B

Bit	Name	I/O	Function
0	(L/SWR)	O	Write strobe, active low
1	(L/SRD)	O	Read strobe, active low
2	L/SEN1	O	A/D, D/A chip select (2722A) TTL, active low
		O	Address MSB (2721A), TTL
3	L/SEN0	O	Chip select 0 (2722A), TTL, active low
		O	Address LSB (2721A), TTL
4	L/SSIG1	O	Chip select 1 (2722A), TTL, active low
		O	FSK data valid (2721A), TTL
5	(DACK)	I	Unused (2722A)
		I	FSK data acknowledge (2721A), TTL, active low
6	N/C		
7	L/SSIG0		Unused (2722A)
		O	FSK 4XCLOCK (2721A), TTL

Port B control CB1 is the FSKCLK input and CB2 is the FSKDATA output.

Option Port Interface

This circuit provides bidirectional data PRD[0..7] via buffer U230 and address PRA[0..3] via buffer U330 to the port interface connector J120. U330 also buffers the read strobe (PROE), write strobe (PRWE), and chip select (OPCS).

The printer connected to J120 can assert a system interrupt (PRIRQ). This sets flip-flop U590B, which interrupts the microprocessor via U480. The flip-flop is then reset during the interrupt acknowledge cycle by resetting the RS-latch U571 with a write to 0x5f60. This asserts (WE) and (CS11) active low causing (INTACK) to be asserted. A read from 0x5f60 causes (INTACK) to be reset to its inactive state.

Both +5 V and +15 V power supplies to the port interface are on/off switchable by writing/reading to address 0x5f40. A write asserts (WE) and (PREN) active low, causing latch U570 pin 13 to be asserted high, which turns both supplies on. A read asserts (OE) and (PREN) active low, resetting latch U570.

When the power supplies are disabled, comparator U240 pins 2 and 6 are below the +2.5 V threshold set at pins 3 and 5. This leaves outputs 1 and 7 in an open-collector high-impedance state, which keeps the gates of Q240 and Q150 at a zero-bias level with respect to their sources. In this case the FETs are off, so the +15 VSW and +5 VSW supplies are at 0 volts.

When the power supplies are enabled, comparator U240 pins 2 and 6 are above the +2.5 V threshold, grounding outputs 1 and 7. This state biases the gates of Q240 to about –7 V gate-to-source, which causes the FETs to conduct, supplying approximately +15 V on the +15 VSW supply. It also biases Q150 to about –4.5 V gate-to-source, which causes it to conduct, supplying approximately +5 V on the +5 VSW supply.

Video Sync Board

The video sync board is the control for timing the transmitter's output pulses. Inputs to the sync board include the down-converted IF signals from the RF down converter and control/status information from the microprocessor board. Outputs from the sync board include the "generate pulse" command, the formatted FSK data to the telemetry transmitter, pulse-leveling information to the RF up converter, and control/status information to the microprocessor board.

The IF signals to the sync board contain the composite video and audio information from the cable signal input selected by the down converter. Two input channels are provided to the sync board that enable it to simultaneously decode two different narrow-band signals present in the entire signal. Using control information from the microprocessor board, the sync board determines where in the video signal to have the up converter fire the test pulse. Test pulse amplitude is adjusted by the microprocessor via a digital-to-analog converter on the sync board. This analog pulse-leveling information is sent to the up converter.

Circuit Description

Refer to the schematic pages as you read the following circuit description of the video sync board.

Input Channels

The input circuitry for the two input channels shown on the first page of the schematics is almost identical. This description explains the operation of the upper signal channel and notes the differences between upper and lower channels.

The input signal from the RF down converter enters the sync board via J320 (schematic page 1), where it goes through a 3 dB pad (upper channel only) and a gentle bandpass filter (to kill DC and the 691 MHz 2nd local oscillator frequency). L2 and C5 form a 50 — 330 Ω impedance match for FL1, a 280 kHz (at 10.7 MHz) ceramic filter. The output of this filter is connected to a 330 — 100 Ω impedance matching network. The input impedance of U8, the gain-controlled amplifier, is 100 Ω.

Forward Path Amplifiers

Channel 1 provides automatic gain control on the low-frequency part of a video signal, while channel 2 provides automatic gain control on auxiliary signal information (like audio). The difference between the two is the detector filter (R127, R12 on Ch1; R128, R50 on Ch2) and the thresholds on the gain-controlled amplifiers. The following describes channel 1 operation using video terms where appropriate.

U8 has two gain sections with each providing 0-40 dB of gain. The amplifier sections of U8 are cascaded with gain control voltage common to each amplifier. The bias setup on pins 16 and 9 controls how each amplifier responds to the control voltage (total cascaded gain is 80 dB).

The polarity of the gain control voltage is such that the higher the control voltage, the lower the gain. The nominal –19 dBm input signal requires 32 dB of gain to get the video to the AGC voltage.

The output of U8B feeds a 12 dB low-output-impedance amplifier (Q1 and associated circuits).

Video Demodulator and Sync Detector

The output from the amplifier formed by Q1 and associated components connects to the peak-to-peak detector formed by CR1 and its associated components. Demodulated video is present on the detector side of R1.

Channel 1 operates differently than Channel 2; the next paragraphs describe each amplifier.

Channel 1. Amplifier U1 buffers the detector and is set to a gain of 3. TP1 is demodulated video. The demodulated signal is connected to both the composite sync detector (R17/U7 page 2) and the control-loop error amplifier (R35/U110). The control loop maintains the signal peaks at 1.4 V. The composite sync

(CSync) detector depends on this value and declares sync whenever the signal is greater than the sync trip level of 1.3 V (R29/R30/R66). The output of the CSync section feeds the vertical sync (VSync) detector and the decoder PAL (U115). The VSync detector is formed by the VSync filter and U7B.

Channel 2. Amplifier U4 buffers the detector and is set to a gain of 3. TP2 is the demodulated auxiliary signal. The demodulated signal is connected to both the auxiliary detectors (U6 page 2) and the control loop error amplifier (R63/U10D). The control loop maintains signal peaks at 1.4 V. The auxiliary signals are fed to the on-board microcontroller (U26). These signals are used in modes other than Standard.

Gain Control Circuits

The control loop error amplifier (U11D) is a difference amplifier. The difference being amplified is the value of the video input signal and a threshold (1.4 volts). The output of the difference amplifier feeds the voltage-to-current (V-I) amplifier (U11C).

By converting the error voltage to an error current, the control circuit is independent of absolute DC voltage. The reason this is important will be made clear in the description of the following circuits.

Following the V-I converter is a peak hold/limiter circuit (CR10/C1). In this circuit, the larger the error (video bigger than reference), the more current flows to C1 to raise its voltage and lower the gain. When the video is smaller than the reference, a negative current flows (coming from the grounded part of CR2) and no current comes from C1.

The current flowing to C1 depends only on error magnitude; it is independent of the voltage on C1. Hold capacitor C1 is isolated from subsequent circuitry by amplifier U11B. The output of U11B is the gain-control voltage.

R82/Q5 is located on the C1 node. This transistor discharges the hold capacitor between channel tunes, since the amplitude of one channel is not always related closely to the amplitude of the previous one.

Channel 2 has an analog switch (U12) and another isolation amplifier (U10A) between the control voltage and the gain-controlled amplifier. These parts are reserved for future use.

Auxiliary Detectors

U6 forms the auxiliary detector section. Four levels are decoded from the input signal: HighTh at 3.361 V, UpperTh at 1.532 V, LowerTh at 1.247 V, and BurstTh at 0.189 V. When referenced to LowerTh, these levels are +8.6 dB, +1.8 dB, 0 dB, and –16 dB, respectively. These detectors are used to support PIR2 scrambling mode [2], and LowerTh is used in all scrambled modes.

[2] This mode is present only in units with firmware version 3.2 and up.

LowerTh is tripped by the descrambling pulses placed in the audio channel during RF scrambling because the AGC voltage in this channel is 1.4 V (the same voltage as channel 1).

The microcontroller, DAC, U27, auxiliary detectors, and U12A (the control signal analog switch shown on schematic 1) control the channel 2 gain voltage directly. The AGC loop is implemented in the firmware contained in U26. The microcontroller is used to a lesser degree in RF and Video Way scrambling modes.

Pulse Generation

Pulse generation is controlled by the decoder PLD (U115). This PLD detects the mode of operation, the control inputs, and the detector inputs and decides when to fire a pulse. The delay from detector signal happening to the Go output (to U116, the FSK PLD) is programmed internally and is mode dependent. The system microprocessor (versus the on-board microcontroller) can also fire a pulse at its discretion. It does this by inhibiting the sync board pulse mechanism via the Pulse Inhibit signal, activating the SoftPulse Gate Enable signal, then activating the SoftPulse signal.

This causes the decoder PLD to immediately (within 2 µsec) generate the Go pulse to the FSK PLD. The processor then removes the SoftPulse signal, then the SoftPulse Gate Enable signal.

The decoder PLD also provides the Vertical Status signal back to the microprocessor to let it know a pulse was fired. The decoder PLD also inhibits further pulsing until it is cleared by the PulseGateEnable Reset signal. The FSK PLD actually generates PulseGate to delay it with respect to the first bit of the outgoing encoded FSK data. TP4 is the negative-going pulse gate signal sent to the up converter.

FSK Data Encoder

The FSK encoder is implemented in U116, the FSK PLD. The FSK data originates from a shift register on the microprocessor board. The encoder circuitry provides a 2-byte handshake with the microprocessor, generates the shift clock, and encodes the serial binary data from the processor into pulse-width modulated data to drive the FSK modulator on the transmitter's RF up converter. The encoder encodes each 200 µsec bit from the microprocessor into four 50 µsec bits as follows: 0 = 1000; 1 = 1110.

The basic timing for the encoder is generated by dividing the 1.5 MHz clock provided by the microprocessor board by 75 (20 kHz). This is done inside the FSK PAL. The 20 kHz clock is four times the bit frequency of the data. Following are the data transfer steps.

1. The FSK PAL indicates it is ready to receive data by taking the Ready line (to the microprocessor) active (high).

2. The microprocessor loads its shift register and signals that it has placed valid data into the shift register by making DAV (data valid) active. One clock later, the FSK PAL pulls Ready inactive.

3. When the microprocessor sees Ready inactive, it removes DAV. It then allows the sync board to fire a pulse by taking Pulse Inhibit inactive (low).

4. Nothing more happens until the sync board fires a pulse. When this happens, the sync board transmits the FSK data. Once the first byte is complete, it signals the microprocessor it is ready for the second byte by taking Ready active again.

5. The microprocessor loads the second byte into its shift register and indicates it is valid by taking DAV active.

6. The sync board pulls Ready inactive and immediately sends the second FSK data byte. When it is done, it pulls Ready active.

Transmitter Leveling Circuitry

The DAC (U13) output covers the range of 0 to +1.25 V and is applied to a voltage-controlled current-source, U14. The current source output is sent to the transmitter's RF up converter via pin 3 of J390 to adjust the output level attenuator on the RF up converter.

Microprocessor Bus Interface Circuitry

U23 generates the chip-enable signals for the video sync board. U24 and U25 are the output ports (port 1 and port 2, the outputs to the video sync) used to control the various functions on the video sync board. U29 provides the input port function for board status information.

U23 decodes the 2-bit combination of L/SEN0 and L/SEN1 with the L/SWr signal and asserts an enable at the selected device. When L/SWR is deasserted, the data is transferred to the device.

U23 also decodes the 2-bit combination of L/SEN0 and L/SEN1 with the L/SRd signal and asserts an enable at the selected device. The device then places its data onto the data bus. When L/SRd is deasserted, the device removes its data from the data bus.

U24 (port 1) is a control register that holds control conditions for the sync board. Table 3-9 lists the bits and briefly describes the purpose of each.

Table 3–9: Port 1 (U24) Bit Description

Bit	Name	Type	Description
0	Start Conversion	Active low	Commands ADC to start a conversion. Not used
1			Open. Not used
2	Range	High Low	Input from 0 to 2.5 V. Not used Input from 0 to 1.25 V. Not used
3	Reset	Active low	Resets the ADC. Not used
4	Soft Pulse	Active low	Commands sync board to generate a test pulse
5	Soft Pulse Gate Enable	Active low	Enables soft pulse
6	Pulse Inhibit	Active high	Prevents the sync board from automatically generating a pulse. Does not inhibit a soft pulse
7	OnePulseReset	Active low	Re-enables the sync board to fire another pulse

U25 (port 2) is another control register. Table 3-10 lists the bits and briefly describes the purpose of each.

Table 3–10: Port 2 (U25) Bit Description

Bit	Name	Description
0	Mode0	Mode bit 0 (LS Bit)
1	Mode1	Mode bit 1
2	Mode2	Mode bit 2 (MS Bit)
3	PAL/NTSC	High = PAL/SECAM timing Low = NTSC timing
4	AGC_Reset	Active high. Resets the AGC peak hold circuits and U126 (microcontroller)
5	CalRelay	Passed to the up converter
6	FirstCh	Not used. Tells the microcontroller this is the first channel in the channel table
7	Reset	Active low. Resets all PLDs on the board

Bits 0 through 3 of port 2 are decoded to determine various sync board modes. Bit coding for these modes is described in Table 3-11.

Table 3–11: Mode Bit Coding on Sync Board

Bit 0	Bit 1	Bit 2	Mode	Function
0	0	0	0	Standard — use channel 1 only to find vertical interval.
0	0	1	1	RF Suppression — use pulse missing on channel 2 to control AGC on channel 1.
0	1	0	2	PIR2 [3] — Use missing pulse of given amplitude on channel 2 to control AGC on channel 1.
0	1	1	3	VideoWay — use pulse missing on channel 2 to control AGC on channel 1 (narrow VSync).
1	0	0	4	Oak Sigma — use channel 1 tuned to data frequency to determine position of pulse.
1	0	1	5	Other — Sync board not used; guard-band pulsing.
1	1	0	6	Unused.
1	1	1	7	Test — cause PULSE_GATE falling edge to align with first post-equalizer peak (TP1).

U29 is the status buffer. Table 3-12 lists the bits and briefly describes the purpose of each.

Table 3–12: Status Buffer (U29) Bit Description

Bit	Type	Description
0	ADC Interrupt	Active low; indicates the ADC has finished conversion.
1	Vertical Status	Indicates the sync board has fired a pulse.
2	Connected to ground	
3	Connected to ground	
4	Connected to ground	
5	Connected to ground	
6	Up converter revision	High if up converter is version A; low if non-A sync board.
7	Sync board revision	High if sync board is version A; low if non-A.

The digital-to-analog converter controls the output level of the RF up converter. The DAC drives a current source that feeds a current-dependent attenuator in the pulse output path on the RF up converter board. The analog-to-digital converter part of U13 is not used.

Miscellaneous Circuits

U30 and U21B form the vertical sync filter delay compensator. R110 provides an adjustment to compensate for the vertical sync filter delay differences caused by

[3] The PIR2 selection is present only in firmware version 3.2 and up.

variations within component tolerances. Over its temperature and component tolerance range, this filter could have delay differences approaching 6 µsec. It is desirable to have this delay be less than ±0.2 µsec about a nominal point. The filter delay compensator provides this adjustment.

Power Supply

The sweep system power supply is a general-purpose off-line power converter that generates four DC outputs over a wide input power range. It supplies 30 Watts of output power with tight regulation in a small package. It has good efficiency and low output noise as well. The built-in battery charger maintains the charge on the receiver's battery.

The same power supply is used in the transmitter and receiver, but the transmitter's power supply does not include battery charging capability. In the receiver, the power supply mounts to the power supply chassis vertically and adjacent to the battery. In the transmitter, the supply is located near the front panel.

Circuit Description

Refer to the block diagram (and Figure 3-3) while reading the following power supply description.

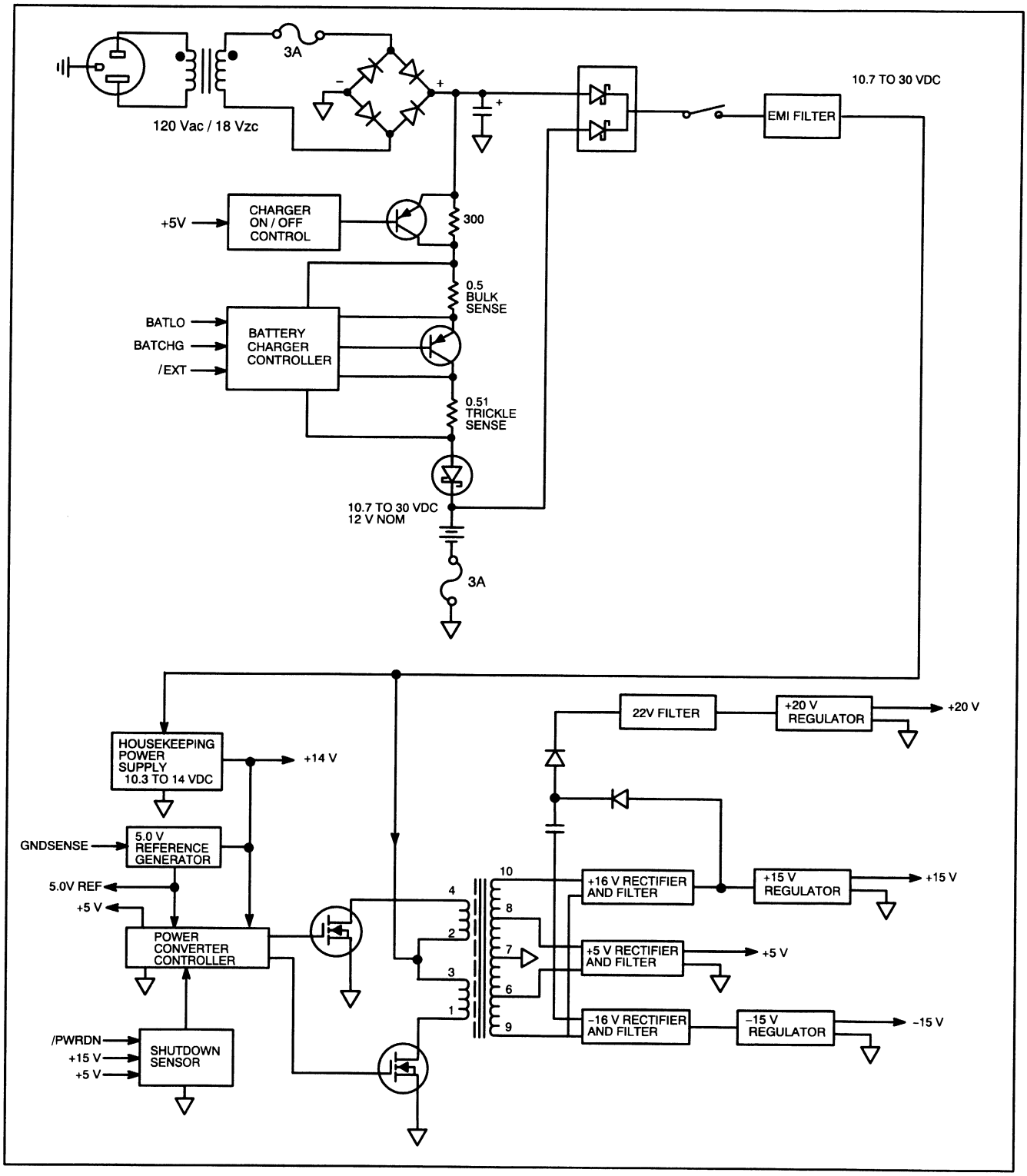

Figure 3-3: Power Supply block.

AC Input

Power from an external line transformer is delivered to the board through a four-pin connector. Current into the bridge rectifier can be up to 3 A_{rms} when the supply operates into a high load. Higher-than-expected currents are because of the bridge rectifier's low conduction time. A large 4400 µF capacitor keeps AC ripple at the rectifier output below 6 V peak-to-peak (normally, ripple is 2 V peak-to-peak).

Battery Charger

Rectified AC is used to charge the battery. A charger switch driver disables the charger when the power switch is closed. This is needed to keep the excess power dissipated in the charger from overheating the receiver. The charger switch driver detects the +5 V output and turns on a transistor switch when the output is low. Full charging current can be supplied to the battery in this case. When +5 V is high, about 10 mA leaks through the transistor switch, and about 25 mA flows through a 300 Ω bypass resistor. This lets the battery trickle charge when the supply is on but doesn't generate a significant amount of excess heat.

NOTE. *The battery charger controller is optimized for charging a Panasonic LCR 12V6.5P lead acid battery. Other batteries should not be used in the receiver unless charger threshold levels are reset to conform to the specifications of the new battery.*

Bulk charge current is set to 0.49 A by sensing the voltage across R461, a 0.51 Ω resistor. The battery does not have a full-current charge until the terminal voltage reaches 10.1 V. When the battery voltage is below this threshold, trickle-charge current turns on. A pair of op amps set the trickle charge current to about 0.25 A by setting the voltage across R462 to be equal to a reference voltage formed by a diode and two resistors. When the battery terminal voltage is above 10.1 V, U340, the three-state charger, controls battery-charging current.

The first charging state is called "bulk-charge" where 0.49 A of charge current flows into the battery while the terminal voltage increases. When the battery voltage reaches 14.7 V, the charger transitions to the second state, "over-charge", where battery terminal voltage is held constant and the charge current begins to taper.

After the charge current decreases to about 50 mA, the charger transitions to the third state: "float state". In this state, the charger holds the battery voltage constant at the float voltage of 13.7 V and continues supplying charge current. When the battery voltage decreases below 12.3 V, the charger returns to the bulk-charge state and again charges the battery to 14.7 V.

BATCHG is low in the bulk-charge state and high in the float state. The charger is temperature compensated and has different threshold voltages in environments other than 25° C.

Power Converter

Converter power is supplied either via the AC input or the battery. If both are connected, the rectified AC voltage is generally higher than the battery terminal voltage. CR760 forms a power gate which allows current to flow into the converter from the higher-voltage input and shuts off the lower (battery terminal) voltage input completely.

In normal operation, rectified AC is larger than battery voltage, so input power flows from the AC transformer while the battery input is completely shut off. When AC power is removed, the battery forward biases its power-gate diode and the AC power gate is off. Consequently, battery energy is not discharged into the two 2200 µF electrolytic capacitors.

The power converter is a push-pull square-wave converter using IRF530s as the primary switches. Outputs generated on the secondary are filtered and regulated. +5 V is the output that is fed back to regulate the duty cycle of the push-pull switches. +15 V and –15 V have discrete regulators that share one op-amp pair. +20 V is generated by adding the 5 V square wave to the DC input of the +15 V regulator. A three-terminal regulator is used to set the +20 V output.

+5 V is referenced to a precise 5.00 V generated by a 1404 voltage reference. +15 V and –15 V also use this reference in setting their output voltages.

The controller for the converter is shut down whenever +15 V, +5 V, or /PWRDN fall below their threshold voltage. This protects against hard short circuits. If +20 V falls below +15 V, the +15 V regulator turns off and the supply shuts down. After shutdown, toggling the ON/OFF switch is necessary to restore the outputs.

The protection circuit does not detect faults during the first 0.1 seconds after the power switch has been toggled so that all the supplies have a chance to reach steady state. The shutdown threshold for +5 V is 1.6 V, and the threshold for +15 V is 3.6 V. V_{IL} for /PWRDN is 1.5 V.

RF Up Converter

The function of the RF up converter is to generate and combine two signals: the sweep pulse and the FSK telemetry carrier. Both signals have up to +45 dBmV output into 75 Ω. Both are tunable over the 5-600 MHz band (the FSK carrier must tune only to 15 MHz). Tuning is microprocessor controlled. Both generators use frequency-agile Phase-Locked-Loop (PLL) VCOs to tune output signals. Sweep-pulse output amplitude is leveled to vary no more than ±0.5 dB.

Pulse-gating signals generated on the sync board switch the pulse on during the vertical retrace of the channel that is being pulsed. FSK data is formatted on the sync board and received by the up converter, where it is used to generate a 166 kHz frequency shifted carrier. This data is used for one-way communication between transmitter and receiver, where the transmitter talks and the receiver listens.

The current version of the RF up converter (the A version) can replace an earlier (non-A) transmitter RF up converter, but the earlier, non-A RF up converter should not be used in an A-version instrument.

The output signal amplitude has both pulse and FSK carriers set at +45 dBmV (in non-gated mode). In this case, both signals are set to be –6 dBc with respect to the nominal video carrier level (which can vary ±2 dB). The pulse amplitude can be reduced by 12 dB using the gated-receiver mode and also can be tilt-compensated to track video-carrier amplitude changes in tilted head ends. FSK carrier level is not effected by pulse reduction or tilt compensation.

Circuit Description

Following is a circuit description for the RF up converter module. Refer to individual schematic pages as you read this description.

Pulse Channel UC1

The 48 MHz reference signal is applied at a +15 dBm level at J990 and split in the resistive divider. Part of the 48 MHz signal is used as the RF signal in the pulse channel, and part of it is sent through a strip line to UC2, where it is used as the local oscillator in the first mixer (U911).

In UC1, the 48 MHz is buffered by a common-base amplifier (Q111). Two RF switches (U123, U124) following the amplifier provide a low-loss RF connection when ON and a double-isolated termination when OFF.

The RF switches are driven by the PULSEGATE signal from the sync board. Because the switches use ECL logic, a TTL-to-ECL translator (Q101, U122) drives PULSEGATE into the RF switches.

The PULSEGATE signal from the Sync board is an 8 µsec pulse that occurs during the vertical retrace interval of the TV channel being pulsed. When PULSEGATE goes low, the RF switches connect the buffer amp to the 48 MHz bandpass filter, and 48 MHz is coupled into the filter.

The 48 MHz filter has a nominal 850 kHz bandwidth and 12 dB of insertion loss. It shapes the pulse spectrum so RF pulse energy does not spill over into the audio or adjacent TV channels. In the time domain, the filter slows pulse rise and fall times.

The 48 MHz pulse travels through the filter and into the leveling circuit. A four-quadrant multiplier (U141) is used as a variable attenuator to adjust the 48 MHz drive level. As the RF up converter is tuned to each channel, the microprocessor sends a byte of data to a digital-to-analog converter (DAC) on the sync board.

The DAC output controls the amount of voltage developed across one of the multiplier's X inputs. The four-quadrant multiplier's gain is adjusted by changing the X-input amplitude, and the multiplier output has very little pulse overshoot. The rise and fall times of the 48 MHz pulse are consistent over the attenuation range.

The analog multiplier is actually the first mixer, since 48 MHz at a constant amplitude is mixed with a variable DC voltage to produce a 48 MHz variable-amplitude output. Symmetry between UC1 and UC2 is preserved by considering analog multiplication to be a mixer function.

The analog multiplier feeds a switched-gain step that sets the RF output level at either +45 dBmV or +33 dBmV (normal or gated mode, respectively).

The 12 dB gain step is implemented with a pin-diode attenuator. When UC1GAIN is low, U161 turns on CR161 and turns off CR162. The 12 dB attenuator is shunted, resulting in +45 dBmV output. When UC1GAIN is high, U161 turns off CR161 and turns on CR162. The 12 dB attenuator is switched into the signal path, resulting in +33 dBmV output.

The second local oscillator signal's frequency is 690.79 MHz and its input amplitude is about –2 dBm. This signal enters the RF up converter from the second local oscillator board through J960. A resistive divider (R190, R191, R192) splits the second signal.

Some of the power is routed to UC1, and some to UC2 through a strip line. The second local oscillator signal is amplified and applied to the local oscillator port of the second mixer (U901 in UC1 and U912 in UC2).

The IF output is amplified by a second-IF amp (U181) and filtered by a bandpass filter (FL901) to pass the 738.79 MHz pulse and reject all other mixer products. 738.79 MHz is then applied to the RF port of the third mixer (U902).

The UC1 third local oscillator signal is generated by U904, one of the up converter's PLL VCOs. This synthesizer is the same as is used on the RF down converter as well as synthesizer B in UC2.

As the transmitter software steps through the channel table, the microprocessor sends serial data to change the count value in the fractional-N synthesizer IC (U351). A divide-by-128/129 pre-scaler (U382) samples the local oscillator frequency and the phase of the divided frequency sample is compared to the phase of a divided 3 MHz reference in U351.

The op-amp integrator (U361) slews the voltage on the VCO tune input until the VCO (U904) locks to the 3 MHz reference according to the loaded count values. The local oscillator signal mixes with the 738.79 MHz pulse in the third mixer (U902) to produce a pulse in the 5 — 600 MHz range.

Since other large-amplitude spurs are produced in the third mixer, a 640 MHz low-pass filter (FL321) attenuates the out-of-band signals. The loudest of these is the third local oscillator frequency leaking through the mixer.

The first third-IF amplifier (U311) raises the small pulse amplitude to about –23 dBm (normal-mode). This is followed by a low-pass filter (with pads) to reject some of the strong local oscillator signal that leaks into the third IF.

The second third-IF amplifier (U331) raises the signal amplitude to –17 dBm and drives power combiner U903. UC1 (pulse) and UC2 (FSK) power are combined in U903 and fed into output-power amp U341. The output of U341 is the routed to the transmitter output at the rear of the chassis.

FSK Channel 2

The RF signal in the FSK channel is generated by tapping some of the 690.79 MHz second local oscillator signal and dividing its frequency with pre-scaler U211. Formatted FSK data drives the pre-scaler modulus control line which selects the divide ratio (modulus control line high divides it by 64, while modulus control line low divides it by 65).

The two possible pre-scaler output frequencies are 10.794 MHz and 10.628 MHz, having 166 kHz of frequency shift. The same frequency shift appears at the output as FSK data on the telemetry carrier.

NOTE. *Signals are converted in frequency through the UC2 IF chain, but the frequency shift is constant. For this discussion, assume that the RF frequency starts at 10.7 MHz with shifts 94 kHz above and 72 kHz below.*

The 10.7 MHz RF is amplified by Q211, filtered by FL221, and mixed with the 48 MHz first local oscillator in the first mixer, U911. The first IF is amplified and then filtered in a 58.7 MHz bandpass filter similar to the 48 MHz filter used in UC1. Another IF amplifier (U251) makes up for most of the signal loss in the filter. Since the 58.7 MHz bandpass filter does not attenuate signals above 700 MHz, a low-pass filter (C254, L252, C255) is added to the first IF.

The next frequency conversion is in the second mixer where second local oscillator at 690.79 MHz mixes with 58.7 MHz. The IF output is amplified by a second-IF amp (U261) and filtered by a bandpass filter (FL911) to pass the 749.49 MHz signal and reject other mixer products. 749.49 MHz is then applied to the RF port of the third mixer, U913.

The third local oscillator is generated by synthesizer B, one of the PLL VCOs on the RF up converter. This synthesizer is identical to synthesizer A (refer to that description, above).

The local oscillator signal mixes with the 749.49 MHz signal in the third mixer to produce the FSK signal in the 15 - 600 MHz range.

After first third-IF amplifier U411, a 640 MHz low-pass filter (FL421) attenuates the out-of-band signals, the loudest being the third local oscillator signal that leaks into the IF.

Second third-IF amplifier U431 raises the FSK signal amplitude to about –17 dBm. The FSK output at UC2, J920, is connected with a transmission line to the FSK input at UC1, J921. The FSK input at UC1 goes directly to power combiner U903, where FSK and pulse signals are combined in one signal. The

sum signal is fed into output power amplifier U341 as described in the pulse-channel description above.

RF Down Converter

The sweep system RF down converter is a two-channel double-conversion down-converter that is used in both the transmitter and receiver. In the transmitter it receives CATV video for test-pulse synchronization, while in the receiver, it receives CATV video and sweeper-generated test information for measurement. The description and specifications apply to the A-version sweep system, but the down converter can be used in A and non-A sweep systems. The IF is set differently, depending on whether the down converter is used in A or non-A sweep systems.

Tuning each channel independently, the RF down converter converts wide-band CATV broadcast to a single narrow-band IF on each channel. Input signals range from 5 - 600 MHz and IF output signals are centered at 21.4 MHz (DC1) and 10.7 MHz (DC2) in the receiver, and 10.7 MHz (both DC1 and DC2) in the transmitter. Fractional-N synthesizers tune down converter channels via microprocessor control.

Transmitter RF Down Converter Function

The RF down converter is used to select a single-channel signal from the CATV spectrum and convert its frequency to 10.7 MHz. The sync board receives the signal and detects the vertical interval where an RF pulse will be inserted. One down converter channel is used to detect vertical sync on unscrambled signals by tuning the video carriers. Scrambled channels require both down converters to be tuned to specific frequencies within the CATV channel. Tuning speed in the down converter is fast enough to sweep through 100 channels in a short time.

Receiver RF Down Converter Function

In swept mode, DC1 is tuned to the pulse-carrier frequency. The log board receives the pulses at 21.4 MHz and measures the pulse amplitude. DC2, the telemetry channel, receives data from the transmitter to tune DC1 to the pulse carrier frequency. It also receives the gating signal used in the log board detector.

The telemetry channel frequency is set by the user and does not change while measurements are taken. In SLM mode, the RF channel is swept across the CATV band, but telemetry data is not used.

Circuit Description

In the transmitter, wide-band RF is coupled into the RF down converter from the CATV transmission line somewhere after the last head end combiner. The characteristic impedance of CATV is 75 Ω, but the RF down converter is built out of 50 Ω parts. A 75 to 50 Ω minimum loss pad after the input of the RF down converter provides a good impedance match between CATV and the RF down converter front end.

The minimum loss pad is constructed with R11 and R12; the attenuation is 6.5 dB, slightly more than a true min-loss. Following the minimum loss pad, the transmitter and receiver have identical signal paths. The only physical differences between the transmitter and receiver RF down converters are the input connectors and 0-Ω jumper R13 used as a switch (transmitter = ON, receiver = OFF) and the matching pad. Some operational characteristics are also different, such as IF center frequencies, local oscillator frequencies, and gain adjustments.

The RF input signal is applied to the first low-noise 12 dB amplifier, U10. Power is split evenly between the two down-converter channels, DC1 and DC2. Both channels work in a similar way, so this circuit description concentrates on DC1.

A 640 MHz low-pass filter (FL1) limits the bandwidth of the incoming RF signal and helps isolate one channel's local oscillator from the other channel's mixer. This reduces the level of spurious signals caused by the mixing of local-oscillator harmonics.

RF power into the first converter is around –37 dBm/channel maximum (receiver top-of-screen in SLM mode) where the mixer has excellent distortion performance. RF mixes with the first local oscillator in the first converter (U4) to produce the first IF ($F_{LO1} - F_{RF} = F_{IF}$). In the receiver, the first and second IFs of DC1 are different from DC2.

Each channel has a separate tunable first local oscillator (U8 for DC1, U7 for DC2). The first local oscillator is tuned by loading a count value into fractional N synthesizer U30. A small sample of the VCO output is amplified, divided in frequency with a pre-scaler (U31), and fed back to the synthesizer IC. Both local oscillators are phase locked to the instrument's 3 MHz reference, and the tuning steps are 40 kHz.

Broad-band matching for the first-mixer IF port is provided by the next 12 dB RF amplifier (U140). This is followed with first IF bandpass filter FL3, a four-resonator bandpass filter. The filter is steep enough to provide more than 60 dB image rejection for DC1's second converter.

After the first bandpass, the IF signal is amplified in U230 and mixed with the second local oscillator in second converter U6. The second local oscillator is a fixed-frequency signal generated on the second local oscillator board (transmitter) or the log board (receiver).

The down-converter board receives this signal in the DC2 channel and splits it with a resistive power splitter (R181, R182, R183). Part of the local oscillator power is routed to DC1 local oscillator amplifier U210 via 50 Ω strip line, and part of the local oscillator power is also routed to DC2 local oscillator amplifier U200.

About 10 dBm of second local oscillator power is used to drive second converters U5 and U6. The second mixer IF is loaded by a diplexer network that has low high-frequency VSWR and matches the variable-gain IF amplifiers.

The IF amplifiers in DC1 and DC2 are identical (the DC1 reference designators are used in this discussion). PNP transistor Q252 sets the DC bias of NPN amplifier transistor Q251. Variable collector-to-base feedback through R6 controls the amplifier gain from about 17 to 28 dB.

The output pad (R271, R272, R273) has about 4.5 dB of attenuation, and was selected to center the amplifier gain for the nominal value needed. The output pad also keeps the reflection coefficient low over the total gain range of the amplifier (the amplifier output impedance goes low at minimum gain settings). Down converter gain is adjusted to 26 dB in the receiver and 20 dB in the transmitter.

Signals in DC1 and DC2 are isolated from each other with heavy shielding and decoupling.

2nd LO

The 2nd LO contains the 48 MHz frequency reference for the 2721A Sweep transmitter. From its 48 MHz crystal-based source, the board derives the 2nd LO and 3 MHz reference signals for the RF down and RF up converters and a 1.5 MHz clock for the microprocessor. Figure 3-4 shows the block diagram for the 2nd LO board.

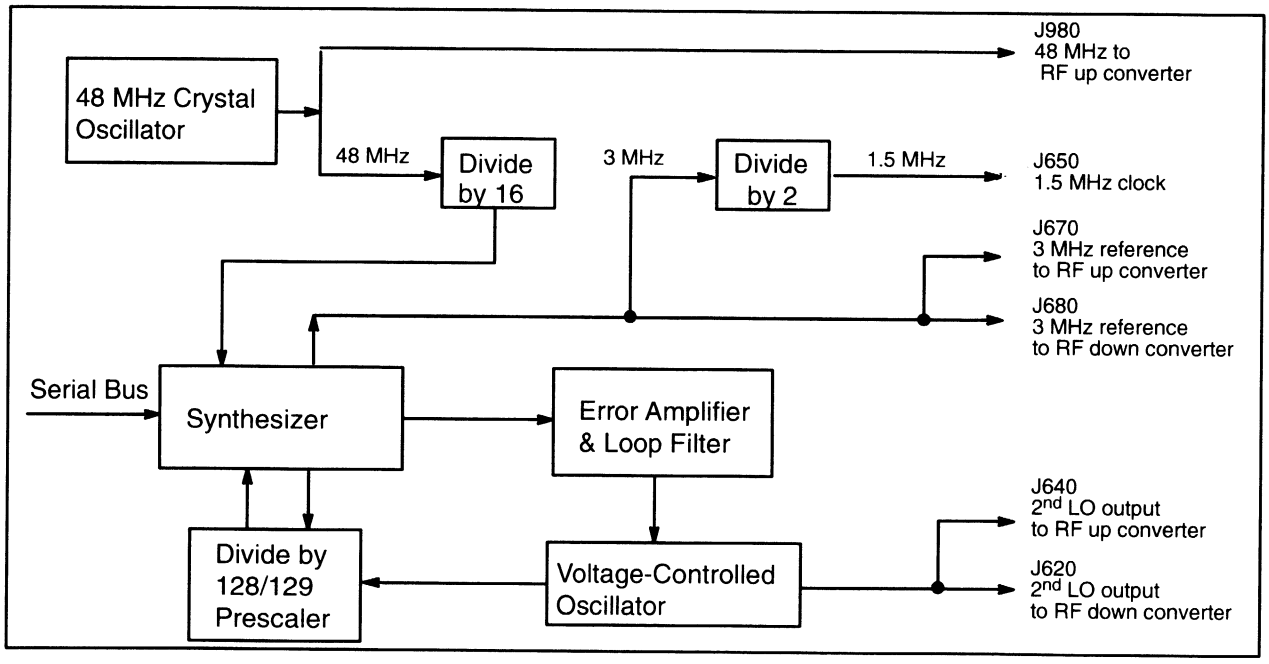

Figure 3-4: 2nd LO block.

48 MHz Oscillator

Q873, C1029, C1030, L794, L795 and Y1 form a modified 48 MHz Colpitts LC oscillator with improved stability because of the crystal in series with the feedback to the emitter. Varying the value of L795 provides small operating frequency changes around the crystal series resonance frequency. At the series resonant frequency, the crystal looks like a small resistor between the C1029/C1030 capacitive divider and the emitter of Q873. The circuit reduces to a Colpitts LC oscillator with enough feedback to start and maintain oscillation with this resistance in the feedback loop. The 48 MHz signal is routed to the reference divider U967 via the 16 dB attenuator formed by R1032 and R1033.

Reference and Clock Dividers

The reference and clock dividers consist of divide-by-16 prescaler U967 and D flip-flop U963A. The output of the 48 MHz oscillator is tapped and applied to the input of U967, where it is divided by 16. The 3 MHz output is used as the reference for the 2nd LO synthesizer U966. This 3 MHz reference appears as an output on pin 14 of U966, and is used to drive an inverter and a D flip-flop to produce the 3 MHz reference output for the RF down converter (J430), and the 1.5 MHz processor clock (J420).

2nd Local Oscillator Synthesizer

The 2nd LO synthesizer consists of dual modulus pre-scaler U968, synthesizer U966, error amplifier and loop filter U965B and associated components, and the voltage controlled oscillator.

The output frequency of the voltage controlled oscillator is determined by the capacitance of the varactor diode CR757 and the inductance of L808. Transistor Q874 is biased to look like a negative resistance at the oscillation frequency to overcome the real losses in the resonant circuit. The frequency of the VCO is tuned by the output of error amplifier U965B, which varies the capacitance of the varactor diode.

The output of the VCO is returned to synthesizer U966 via dual modulus pre-scaler U968. Synthesizer U966 compares the frequency of the prescaled VCO output to the 3 MHz reference and generates an error signal that is filtered, amplified, and used to control the frequency of the VCO. Dividers and control circuitry inside U966 allow the VCO output frequency to be varied in 10 kHz increments under processor control.

Log Board

Input Filter and IF Amplifiers

Input filter FL690 is a bandpass filter with a center frequency of 21.4 MHz and a 3 dB bandwidth of 300 kHz. For non-gated sweep mode this filter sets the final IF bandwidth to 300 kHz. The 300 kHz bandwidth minimizes noise entering the detector and allows the 8 µsec wide sweep pulse and the 4.7 µsec wide horizontal sync pulse (SLM mode) to reach > 99 percent of final amplitude. The input

and output impedance of the filter is 50 Ω, and the insertion loss is 8 dB maximum.

The band-limited 21.4 MHz IF output from FL690 is amplified by U956 and U955, a series of two cascaded non-inverting gain stages. The first gain stage (U956), has a fixed voltage gain of 40, set by feedback resistors R981 and R982. Capacitor C986 AC couples the gain setting resistors which reduces the DC gain to unity. R996 is used to isolate the input capacitance of U955 from the output of U956 for stability. The second gain stage (U955) uses a PIN diode switch to change the voltage gain between 11 (non-gated) and 43 (gated). This 12 dB gain difference (21 dB versus 33 dB) compensates for the difference in the inserted pulse amplitudes between non-gated and gated mode.

Peak-to-Peak Detector

Peak-to-peak detection of the IF signal is via a precision rectifier circuit consisting of U660, CR650, and associated components. The IF signal appearing at pin 1 of U660 also appears at pin 5 of U660 because of the negative feedback applied around U660. Since there is little drop across C660 at the IF, the IF signal also appears across R660. The peak detecting diodes are driven by the current flowing through R660. Successive positive half-cycles of the IF signal charge C651 through one side of CR650, while negative half-cycles charge C650 through the other. An attenuated envelope of the IF signal is developed across the series combination of C651 and C650. Since this signal contains a large common-mode component at the IF, a differential amplifier is used to extract the rectified voltage.

U550 provides a gain of approximately 6.6 for the voltage of interest. The efficiency of the rectifier circuit is about 25 percent, making the gain of the combination 1.6 V of output for every volt of peak-to-peak input.

Track and Hold (Gated Mode)

In gated mode the pulse is inserted 18 dB below the video carrier. This requires that the IF signal be selectively sampled only when the pulse is present to avoid measurement error when video is present. For this to occur, the transmitter must synchronize the firing of the pulse with the sending of the FSK data. Circuitry on the log board detects the arrival of the FSK data and generates a signal that is used to hold the IF signal after the pulse has had sufficient time to charge a noise reduction filter.

Track and hold amplifier U958 is driven through a 72 kHz low-pass filter, that reduces the overall IF bandwidth to approximately 60 kHz. U958 continuously tracks the peak-to-peak detected IF signal until the HOLD line goes high.

The signal that starts this gating process is DATAFRM. This signal is generated in the FSK receiver section of the log board and is used to trigger hold-off one-shot, U953A. The delay in the FSK receiver circuitry and the additional delay introduced by U953A allows the pulse to fully charge C991. U959A and associated components provide a voltage gain of 2, which matches the signal amplitudes of gated and non-gated modes.

Sweep Peak Detector (Non-gated Mode)

In non-gated mode the pulse is inserted 6 dB below the video carrier. At the standard frequency offsets from the carrier where the pulse is placed, the amplitude of the AM video is insignificant compared to the pulse amplitude. So the peak value of the signal is determined by the received pulse amplitude and no synchronization between pulse transmission and pulse measurement is required as it is in gated mode.

The peak value of the detected IF signal in non-gated mode is acquired by the precision peak detector circuit consisting of U640A, U640B, CR751, C750, Q740 and associated components. This circuit detects the maximum input voltage present at the non-inverting input of U640A, scales it by 2, and presents the result at the output of U640B. The circuit is reset by discharging C750 via Q740.

Log Amplifier

The log amplifier is designed around a matched NPN transistor pair (Q620). The log amp circuitry consists of Q620, U730 and associated components. Q620A of the matched NPN transistor pair is the logging device, which converts linear changes in the input current flowing through R641 to logarithmic changes in the output voltage at pin 1 of U730. Q620B is used to reduce temperature-dependent offsets resulting from base-emitter voltage changes of Q620A with temperature. The gain of the log amp can be changed from approximately .8 to 1.4 V/decade via variable feedback resistor R730.

Inverting amplifier U830A sums the output of the log amplifier with an offset signal from U830B and a processor generated compensation signal (VCOMP) from the DAC output of U790. U830A also scales this signal appropriately for digitization.

SLM Log Detector

Logarithmic IF signal detection is via the U480's Received Signal Strength Indicator (RSSI) function. RSSI output is a current proportional to the log of the input power. This output current is converted to a voltage by fixed resistor R1119 and variable resistor R340. R340 is adjusted to make a 50 dB change in input yield about a 2 V change in RSSI output voltage. Capacitors C2012 and C2013 band-limit RSSI output to respond to vertical sync pulse-width inputs.

An inter-stage 1-MHz wide band-pass filter (C2006, C2007, C2008 and L816) suppresses wide-band noise and stray signal pick-up.

SLM Peak Detector

The filtered RSSI output from U480 is applied to the input of a precision peak detector consisting of U961A, U961B, CR755, CR754, C1019, Q881 and associated components. The peak value of the RSSI output appearing on the non-inverting input of U961A, is held by capacitor C1019 and is buffered by voltage follower U961B. Hold capacitor C1019 is charged through CR755 and discharged through CR754. The discharge and release time constants of the reset circuit are determined by the passive network connected to the base of Q881.

This allows for a fast detector discharge and slow release time, minimizing overshoot when leaving the discharged state.

The output of the SLM peak detector drives inverting amplifier U430B. This amplifier offsets and inverts the peak detector output signal for digitization.

A to D Converter

Digitizer U790 is a high speed (2 µsec) 8-bit successive approximation data converter. Inverting amplifier U890B drives the analog input to the digitizer and provides zener diode clamping to prevent overdrive. The input to U890B (ADIN) is selected from one of seven sources by means of a bank of CMOS analog switches.

U790 also contains an 8-bit D-to-A converter which is used to compensate the sweep trace during normalization to establish a flattened measurement reference. The D-to-A output (VCOMP) is summed into the sweep measurement signal path via U830A.

The table below shows the voltage input, ADC output, and reference values for the various sources.

Source	Voltage Input	ADC Output (Bipolar)	Reference Value
Sweep (2 dB/DIV)	–1.96 V	0X9C	Bottom of screen
	+1.96 V	0X64	Top of screen
Sweep (1 dB/DIV)	–0.98 V	0X9C	Bottom of screen
	+0.98 V	0X64	Top of screen
SLM	–0.98 V	0X9C	Bottom of screen
	+0.98 V	0X64	Top of screen
Voltmeter (low range)	–1.25 V	0X80	0 V
	+1.25 V	0X7F	40 V
Voltmeter (high range)	–1.25 V	0X80	0 V
	+1.25 V	0X7F	80 V
Temperature sensors	–1.20 V	0X85	–30 °C
	0.0 V	0X00	30 °C
	+1.20 V	0X7B	90 °C

FSK Receiver

The 10.7 MHz telemetry channel IF output from the RF down converter is applied to the log board through SMB connector J390. The IF bandwidth is reduced from 7 MHz to 300 kHz by ceramic resonator filter FL380. The signal is then processed by FM IF detector IC U370, which amplifies and detects the signal via an internal multiplier and an external quadrature detection (tank)

circuit consisting of L360, C362, C371, C372, and C374. Capacitor C361 provides an AC return path to ground for the tank circuit.

The input to the quadrature detection circuit is the limited IF output from pin 9 of U370. The tank output signal is applied to pin 8 of U370. The quadrature detection circuit is adjusted for a nominal phase difference at 10.7 MHz of 90°. Any frequency change from 10.7 MHz results in a phase shift that is linearly proportional to the frequency change. An internal multiplier on U370 acts as a phase detector, resulting in a FM demodulated output appearing on pin 7 of U370.

The demodulated output from pin 7 of U370 is applied to a network that clamps the high output level of this waveform to 700 mV above the threshold of data comparator U340A. This ensures that valid FSK data transitions are always detected regardless of the DC output level from pin 7.

The RSSI output on U370 pin 5 is used to detect the telemetry carrier. This output is buffered by U350B and applied to threshold detector comparator U340B. When the telemetry carrier is present (when the level on U340 pin 9 exceeds the squelch level setting), the output of U340B is high. This turns on Q220, which lights LED DS220. When there is no telemetry carrier, or the telemetry carrier is of insufficient amplitude, the output of U340B is low. In this state, one-shots U230A and U230B (which generate the FSKCLK and DATAFRM signals) are held in their cleared state to prevent noise-generated FSK data from being sent to the microprocessor board.

Temperature Sensors

Two identical circuits perform internal and external temperature sensing functions on the log board. The difference between the two are their physical locations on the board. The internal temperature sensor is located near SLM log detector IC (U480) and is used to compensate the RSSI output for temperature-related drift. The external sensor is located on the backside of the board and extends into the options port where it samples the external ambient temperature.

For the internal temperature sensor, circuit operation is based on U3, a precision temperature transducer which functions as a temperature-dependent current source. U3's current output is internally calibrated to 1 µA/°C, with the absolute value being 298.2 µA at 25 °C. Op-amp U2A converts this temperature-dependent current to a voltage, which is scaled and offset to make a temperature input of –30 to +90 °C result in an approximate full-scale input to the digitizer.

AC/DC Voltmeter

The voltmeter circuit measures voltages from an external input (J240) up to 80 Vrms, and the internal battery voltage (J110). Selection between the two sources is controlled by the processor-generated VMSOURCE signal.

For external voltages, the voltmeter auto-ranges to optimize measurement resolution. The two available ranges, 5 to 40 V and 5 to 80 V, are selected by the VMRANGE control bit, which changes the attenuation of the high impedance

resistive input divider. The input divider is tapped to provide a signal used to determine the polarity of the input voltage for DC voltage measurements. This signal comes off the tap between R958 and R959, and is applied to threshold comparator U600A. The output of U600A is approximately –0.75 V for a positive input voltage, and +0.75 V for a negative input voltage.

This output is read by the digitizer before displaying the measured value for a DC voltage measurement.

The input from the selected source is buffered by voltage follower U600B and applied to a switchable low-pass/high-pass filter network consisting of C983, R956, R955, C982, U840D, and U610A. For external DC and battery inputs, the low-pass filter configuration is selected. For external AC inputs, the high-pass filter configuration is selected. The output from the filter network is applied to RMS-to-DC converter U400.

U400 drives non-inverting amplifier U972A, which scales and offsets the voltmeter signal for digitization. The processor selectively digitizes the voltmeter magnitude and sign information by alternately toggling the VM MAG and VM SIGN signals.

Attenuator (Sheet 6)

The attenuator section provides processor variable attenuation and preamplification of the RF input signal.

The RF input signal is applied to the attenuator via 75 Ω SMB connector J480. DC and low frequency power supply signals are blocked by 200 V capacitor C1089. The 75 Ω input is matched to the 50 Ω attenuator sections by a minimum-loss network consisting of R1069 and R1070. The insertion loss of this network is approximately 6.5 dB.

The attenuation of the input signal is varied by switching in and out fixed 50 Ω pi-pad attenuator sections using mechanical relays (a 22 dB preamplifier can similarly be switched in and out). The processor controls the state of these relays via a three-wire serial interface, which loads "serial-in parallel-out" shift register U970 on the log board. The outputs from the shift register drive PNP transistor switches that control the voltage on the relay coil. A LOW on a shift register output switches in the corresponding pi-pad attenuator.

Performance Verification

The procedures in this section may be used to determine whether the components of the sweep system need adjustment.

Equipment Required

Table 4-1 lists the equipment required to perform the performance verification procedures described in this section.

Table 4–1: Required test equipment

Equipment	Purpose
Tektronix 2712 spectrum analyzer with tracking generator option	Measuring RF levels, frequencies, and spurious response.
Tektronix TDS320 digital oscilloscope	Verifying sync pulse location.
Tektronix 1411 PAL signal generator	Supplies PAL signal to MVPI scrambler.
Tektronix TSG 1001 programmable signal generator with NTSC custom signal set	Supplies impaired video, Oak Sigma, and Video Way signals to NTSC video modulator; supplies 75% color bars to MVP scrambler.
Tektronix 2721A Transmitter with 18 VAC power transformer	Connect to receiver to verify correct operation.
Tektronix 2722A Receiver with RS-232 cable and 18 VAC power transformer	Controls transmitter via RS-232 interface.
Tektronix TM504 power supply with DM501A digital multi-meter and temperature probe	Voltage and temperature measurement and calibration.
Hewlett Packard HP438A power meter	Precise RF amplitude measurements.
Hewlett Packard HP8481D 50 Ω low power sensor	Used with HP438A power meter to verify proper log board operation.
Hewlett Packard HP8483A 75 Ω power sensor	Used with HP438A power meter.
Hewlett Packard HP8482A 50 Ω power sensor	Used with HP438A power meter.
Fluke 51501A voltage calibrator	DC and AC calibration of 2722A voltmeter.
Marconi 2022C signal generator	Test signals for instrument- and board-level procedures.
Trilithic BMA780 variable attenuator	Attenuates transmitter RF input signal.
Zenith ST1612 cable down converter	Demodulates transmitter video output for viewing sync pulse.
Jerrold MVP and MVP-I video scramblers	Provides MVPBB and RF suppressed video-signal encoding for NTSC and PAL standards.
Jerrold C6MPI PAL video modulator, ground switched for external IF input	Provides variable frequency PAL test-channel modulation.
Scientific Atlanta SA6350 NTSC video modulator with IF switch option and channel T11 output converter and local oscillator modules installed	Provides fixed frequency NTSC test-channel modulation.

Table 4–1: Required test equipment (Cont.)

Equipment	Purpose
Trilithic FP-75 fixed precision attenuator, 20 dB 75 Ω 30 MHz — 1 GHz BNC (2 each)	Setups and connections described in procedures.
Trilithic FP-75 fixed precision attenuator, 10 dB 75 Ω 30 MHz — 1 GHz BNC	Setups and connections described in procedures.
Trilithic ZM-57 DC 50 Ω to 75 Ω 1 GHz BNC to F style 5.7 dB minimum-loss pad	Setups and connections described in procedures.
Tektronix fixed precision attenuator, 20 dB, 50 Ω 2 W, SMA, part no. 015-1003-00	Setups and connections described in procedures.
Alan 1050 N style to BNC 5.7 dB 50 Ω to 75 Ω minimum-loss pad	Setups and connections described in procedures.
Miscellaneous attenuators, taps, cables, terminators: FAM F-style non-precision fixed attenuators; 3, 6, 10, 16, 20 dB Regal 5 — 600 MHz taps; 6, 9, 20 dB loss Coaxial cables; 50 Ω and 75 Ω for equipment connections 75 Ω terminators for equipment setups	Setups and connections described in procedures.

NOTE. *The HP 438A power meter is used for several measurements in this section. This meter is accurate only if it has been reference calibrated and zeroed. The power meter must be calibrated at the intervals specified by Hewlett Packard. It must also be calibrated immediately before starting a procedure where it is used, and thereafter, each time a power head is removed and installed.*

Figure 4-1 shows the equipment setup for the procedures described in this section.

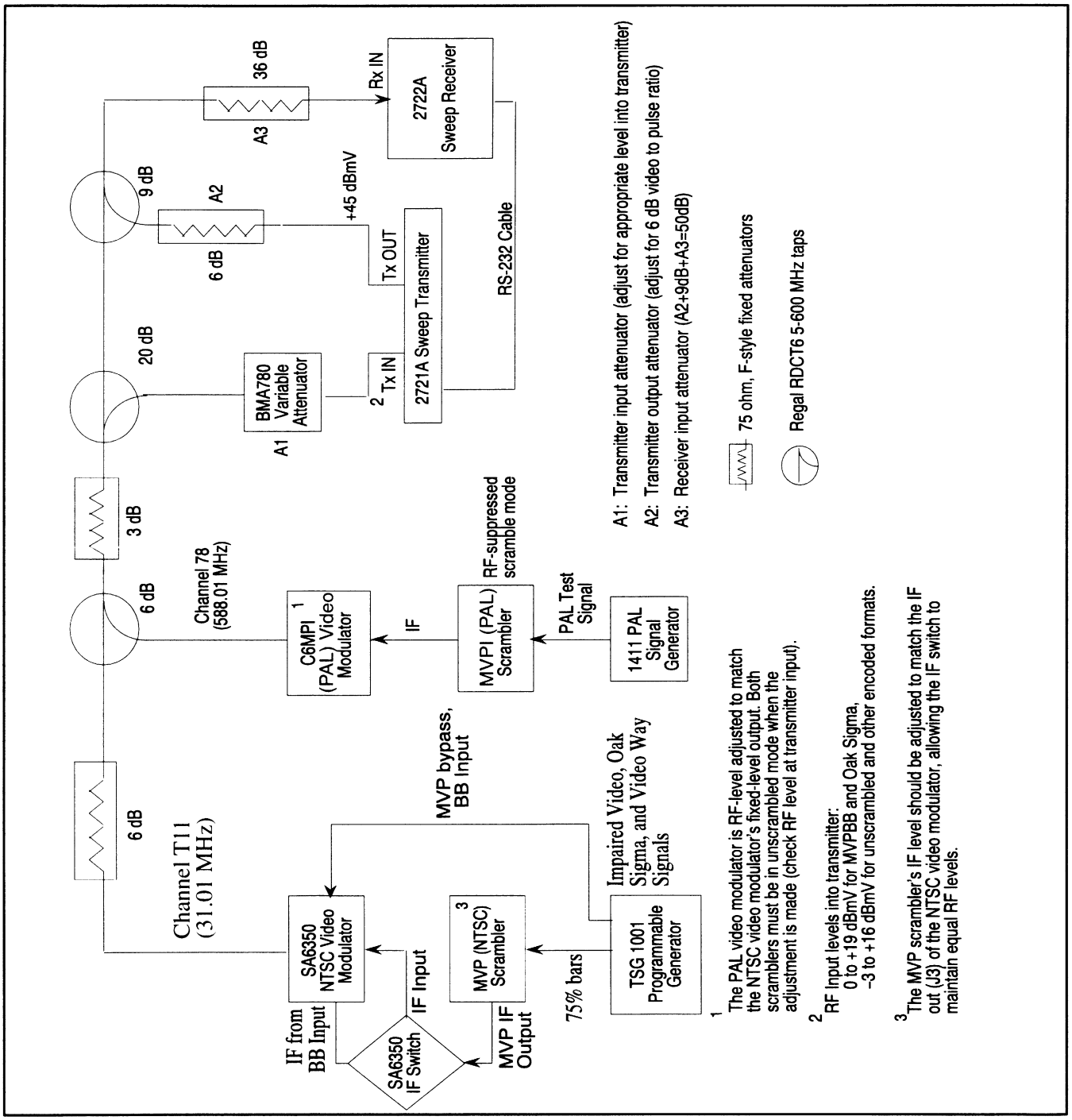

Figure 4-1: Transmitter test setup.

2722A Receiver Performance Verification

Temperature Measurement at Room Temperature

1. At cold turn on, check room temperature by placing a temperature probe near the outside temperature sensor at the top of the receivers printer compartment.
2. Press APPL to monitor and verify the accuracy of the external temperature.

Specification: External probe should read within ±2° C of room thermometer when exposed to ambient air with the option port door open.

Front Panel Tests

1. Press UTIL/APPL, enter password TEKTV, press STORE/DISP and then press all the alphabetic, numeric, and function keys except EXIT (the display should correspond to the pressed key).
2. Turn each of the three front knobs and check the message that appears on the screen for each knob.
3. Press EXIT to end this check.
4. Press STORE, observe the display, and check for missing pixels (the display should show vertical and horizontal bars one pixel wide spaced one pixel apart and the entire display should be dark).
5. Press SETUP and observe the display (it should be light, dark, and light).
6. Press QC to toggle the backlight on and off and observe the backlight on the display.
7. Press EXIT three times.
8. Press UTIL/DISP to enter the Receiver Modes menu and if necessary, press dB/DIV to toggle Auto Contrast on.
9. Press EXIT/EXIT/SETUP and check for the correct date and time in the display's upper right corner.
10. Press EXIT.

Equipment Setup

1. Connect a calibrated transmitter with leveled output to the receiver with an RS-232 cable.

2. With the same 75 Ω BNC cable used to calibrate the transmitter, connect the RF output of the transmitter, through two precision 20 dB fixed attenuators, to the RF input of the receiver (the attenuators are on the receiver side of the 75 Ω cable).

NOTE. *Some of the following procedures require selecting system test plans. These test plans must be created and stored in the transmitter before the tests are run. See the section Creating a System Test Plan for more information.*

Normalized Flatness at Screen Center, Gated Mode, Preamp Off

1. Press UTIL/UTIL/DISP/DISP to display the system test plans.
2. Select test plan SWEEPG with the left knob and press EXIT twice (test plan SWEEPG skips channel T6 and pulses channels T7 — 91 in gated mode).
3. Normalize the receiver to the head end test point (press UTIL/UTIL/SET-UP).
4. Check the receiver's attenuation readout in the bottom right hand corner (the readout should show between 33 and 41 dB).
5. Press EXIT once.
6. Press dB/DIV to set the scale factor to 1 dB/div.

Specification: The peak-to-valley (P/V) reading should be ≤ 1 dB and the trace should not deviate from center screen by more than 1 dB.

Normalized Flatness at Screen Center, Gated Mode, Preamp On

1. Turn the preamp on (press UTIL/DISP/DISP).
2. Press EXIT twice and check the P/V reading.

Specification: The P/V reading should be ≤ 1 dB and the trace should not deviate from center screen by more than 1 dB.

Normalized Flatness Away From Screen Center, Gated Mode, Preamp Off

1. Make sure the preamp is turned off (press UTIL/DISP/DISP/EXIT/EXIT).
2. Press dB/DIV to change to 2 dB/div.
3. Turn the center knob clockwise and position the trace above the center line to check reference levels of –2, –4, –6, and –8 dB.

4. Check the P/V reading for each level (see the specification below).
5. Turn the center knob counterclockwise and position the trace below the center line to check reference levels of +2, +4, +6, and +8 dB.
6. Check the P/V reading for each level.
7. Return the trace to screen center.

Specification: For reference levels of –2 to –8 dB, P/V ≤ 1 dB. For reference level of +2 dB, P/V ≤ 1 dB. For +4 to +6 dB reference levels, P/V ≤ 1.5 dB. For +8 dB reference level, P/V ≤ 2 dB.

Un-Normalized Flatness, Preamp Off

1. Press dB/DIV for a scale factor of 1 dB/div.
2. Press DISP and select Un-Normalized Data from the menu.
3. Press EXIT once and check the upper right hand corner of the display for the P/V reading specified below.

Specification: P/V reading ≤ 7 dB from 19.25 MHz to 607 MHz (the markers may have to be placed at approximately 19 MHz and 607 MHz to meet this specification).

Un-Normalized Flatness, Preamp On

1. Press UTIL/DISP/DISP to turn preamp on.
2. Press EXIT twice and check the P/V reading for the trace at center screen.

Specification: P/V reading ≤ 7 dB from 19.25 MHz to 607 MHz.

Normalized Flatness at Screen Center, Non-Gated Mode, Preamp Off

1. Press UTIL/UTIL/DISP/DISP to see system test plans and select test plan SWEEPNGT (test plan SWEEPNGT skips channel T6 and pulses channels 7 — 91 in non-gated mode with 8 dB of tilt).
2. Press EXIT twice.
3. With the external 40 dB attenuator connected, normalize the receiver in non-gated mode (press UTIL/UTIL/STORE to normalize to head-end test point with preamp off).
4. Check the attenuation readout at the bottom of the display for a reading of 11 to 19 dB.
5. Press EXIT/dB/DIV for 1 dB/div.

Specification: The P/V reading should be ≤ 1 dB, and the trace should not deviate from center screen by more than 1 dB.

Normalized Flatness Away From Screen Center, Non-Gated Mode, Preamp Off

1. Press UTIL/UTIL/DISP/DISP to see system test plans and select test plan SWEEPNG (channel T6 skipped, channels 7 — 91 pulsed, non-gated mode, 0 dB tilt).
2. Press EXIT twice.
3. With external attenuation at 40 dB, press UTIL/UTIL/SETUP to normalize to the head-end test point.
4. Press EXIT when normalization is complete.
5. Turn the center knob clockwise to position the trace above the center line and check reference levels of –2, –4, –6, and –8 dB (check P/V readings for each level).
6. Turn the center knob counterclockwise to position the trace below the center line and check reference levels of +2, +4, +6, and +8 dB (check the P/V readings for each level).
7. Return the trace to screen center.

Specification: P/V ≤ 1.0 dB, average ±0.5 dB from the center of the corresponding graticule line.

Normalized Flatness At Screen Center, Non-Gated Mode, Preamp On

1. Turn the preamp on (press UTIL/DISP/DISP).
2. Press EXIT twice.
3. Press dB/DIV to set a 1 dB/division scale factor.

Specification: The P/V reading should be ≤ 1 dB and the trace should not deviate from center screen by more than 1 dB.

Equipment Setup

1. Set the frequency of the Marconi signal generator to 50 MHz and the output level to –10.75 dBm.
2. Add a 50-to-75 Ω, 5.7 dB minimum loss pad to the output of the signal generator.
3. Connect the output of the signal generator, via a 75 Ω cable, to the input of a variable step attenuator set at 0 dB.

4. Connect the output of the variable step attenuator, via another 75 Ω cable, through a precision 30 dB attenuator to the receiver's RF input.

5. Check the –10.75 dBm output level of the signal generator with the HP438A power meter using a 75 Ω power sensor as shown in Figure 4-2.

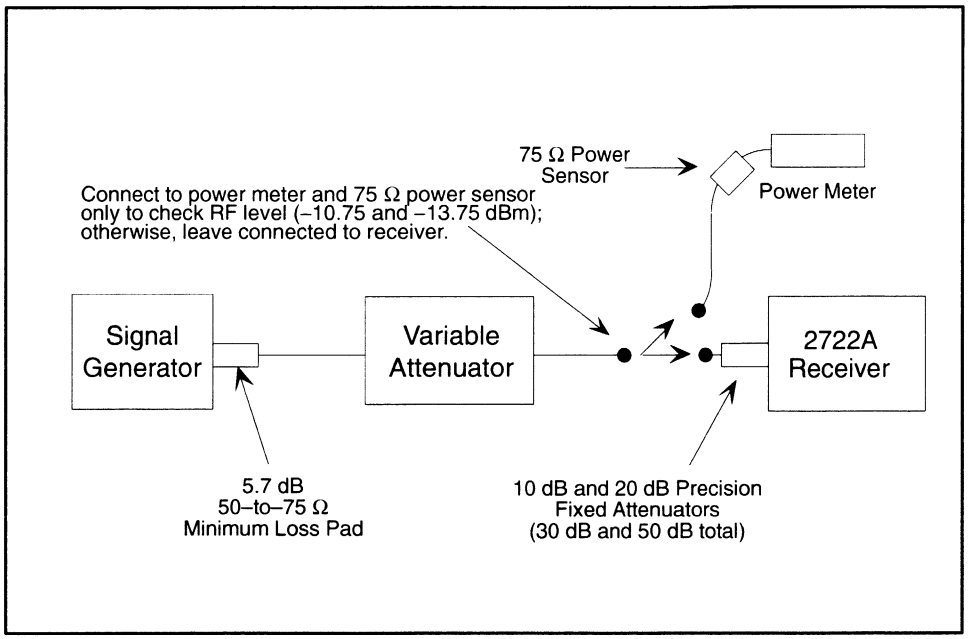

Figure 4-2: Setup for SLM test.

SLM Accuracy, Preamp Off

1. Download the transmitter system test plan SLM (which contains the custom channel table SLMTEST) by pressing UTIL/UTIL/DISP/DISP, selecting the plan, and pressing EXIT/EXIT.

2. Set probe loss to 0 (press SETUP, move the cursor to PROBE LOSS, press Edit, 0, Enter, and press EXIT).

3. Turn the preamp off (press UTIL/DISP/DISP/EXIT/EXIT).

4. Remove all internal attenuation from the receiver (turn the center knob fully clockwise), and activate SLM mode by pressing APPL/SETUP.

5. Apply an +8.0 dBmV 50 MHz signal to the receiver's RF input from a 75 Ω source through a variable and fixed attenuator (+8.0 dBmV = –40.75 dBm is an output level of –10.75 dBm from the Marconi signal generator plus 30 dB of fixed precision attenuation).

***NOTE**. The –10.75 dBm signal level must be verified using a power meter with the correct calibration factor-; see the table on HP power sensor.*

6. Tune the SLM marker to 50 MHz (turn the right knob) and check the amplitude reading for +8.0 dBmV.
7. Increase the variable attenuator to 40 dB in 10 dB steps, checking the video level for each step (see the specification).
8. Repeat the video-level checks for the remaining frequencies of 250 MHz and 600 MHz by changing the signal generator frequency and the calibration factor and frequency on the power meter.
9. Verify the –10.75 dBm output level and tune the SLM marker for each frequency.

Specification: Marker reading must be +8.0 dBmV ± 2.0 dB.

SLM Accuracy, Preamp On

1. Turn the preamp on by pressing EXIT/EXIT/UTIL/DISP/DISP/EXIT/EXIT.
2. Press APPL/SETUP to return to SLM mode.
3. Set the signal generator frequency to 50 MHz and the output level to –13.75 dBm.
4. Check the –13.75 dBm output level of the signal generator with the HP438A power meter using a 75 Ω power sensor as shown in Figure 4-2.
5. Apply a –15.0 dBmV, 50 MHz signal to the receiver's RF input from a 75 Ω signal source through a variable and fixed attenuator (–15 dBmV = –63.75 dBm, and is an output level of –13.75 dBm on the Marconi signal generator plus 50 dB of fixed precision attenuation).

***NOTE**. The –13.75 dBm signal generator output level must be verified with a power meter having the correct calibration factor and frequency (see the table on the HP power sensor).*

6. Tune the SLM marker to 50 MHz and check the video level (marker) reading.
7. Press EXIT twice.

Specification: Marker reading must be –15 dBmV ±2.0 dB.

Equipment Setup

1. Connect the RF output of the transmitter to the RF input of the receiver through a variable attenuator set to 78 dB.
2. Turn the preamp off by pressing UTIL/DISP/DISP/EXIT/EXIT.

FSK Receiver

1. Remove all internal attenuation by turning the center knob fully clockwise.
2. Download the default system test plan (press UTIL/UTIL/DISP/DISP, select the plan, and press EXIT twice).
3. Access the Tune RF Downconverters diagnostic menu (press UTIL/UTIL/DISP/dB/DIV/dB/DIV, enter the password, and press SETUP).
4. Tune DC1 to 601.25 MHz (press DISP, type 601.25, and press ENTER) and select Dynamic mode (press dB/DIV).

NOTE. *Ensure that the number of FSK errors is 0 when the menu is displayed. If it is not, exit the menu and re-enter it.*

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5. Let the instrument run for five minutes in this mode and record the number of errors.
6. Press EXIT four times.

Specification: No errors detected.

Thermal Printer Operation

1. If no printer is installed, use a test printer to verify operation.
2. Press the print chart button and examine the printout for alignment and clarity.
3. Print a second chart to test repeatability.
4. Remove the test printer, if necessary.

Voltmeter

CAUTION. *Before performing this procedure, disconnect the RS-232 cable from the receiver. Failure to do so can damage the RS-232 interface circuitry when AC voltages are measured.*

Equipment Setup

1. Disconnect the RS-232 cable from the receiver.
2. Attach a probe to the receiver's voltmeter input.
3. Attach the ground to the BNC ground at the RF input.
4. Use the voltage calibrator to generate the test voltages listed below in the specification.

Procedure

1. Press APPL/DISP to enter voltage measurements on the receiver.
2. Before each new voltage range measurement, press the appropriate DC or AC button.
3. Measure DC voltages of ±5 V, ±15 V, ±25 V, ±35 V, ±45 V, ±55 V, ±65 V, and ±75 V.

Specification: Measurement Accuracy is ±0.5 V from –35 to +35V; outside this voltage window, accuracy is ±1.5 V.

4. Measure sinusoidal AC voltages having RMS values of 5 V, 15 V, 25 V, 35 V, 45 V, 55 V, 65 V, and 75 V, all at 60 Hz.

Specification: AC voltages < 35 V : ±1.5 V
AC voltages > 35 V : ±2.0 V

5. Press EXIT twice.
6. Clear the voltage calibrator to 0 V when the procedure is complete.

2721A Transmitter Performance Verification

Transmitter NVRAM Check

1. Connect an RS-232 cable from the transmitter RS-232 port to the RS-232 port on the receiver.
2. With the same 75 Ω cable used to level the transmitter, connect the transmitter RF output to the receiver RF input through 50 dB of precision attenuation at the receiver.

WARNING. *Do not connect or remove the external power supplies while either instrument is switched on. Always switch the instruments off before removing or connecting an external power supply. Failure to do so can result in dangerous electrical shock or instrument damage.*

3. Power up both instruments. Verify that the green and red LEDs are flashing on the transmitter.
4. Press UTIL/UTIL/DISP/QC to enter the Channel Configuration menu.
5. Press UTIL to select STNDRD channel table, then press APPL and set # Lines to 525.
6. Press STORE to select Pulsed mode and press DISP to select STD channel decode.
7. Press SETUP to copy the information to the next channel until you complete the operation at channel 91.
8. Press EXIT/dB/DIV to enter the Transmitter Utilities menu.

CAUTION. *In the Transmitter Diagnostics menu, pressing DISP (Transmitter Leveling) deletes the transmitter leveling data entered at the factory, while pressing dB/DIV (Initialize System Parameters) erases transmitter configuration parameters. Do not press either of these buttons unless you intend to enter new transmitter leveling data or configuration parameters.*

9. Press STORE to set the gating mode to non-gated.
10. On the receiver, press EXIT to enter the Transmitter Configuration menu.
11. Check that the red LED on the transmitter is off, and the green LED is on (not flashing).
12. Press STORE (Display All Transmitter Parameters) and verify that the 2722A Receiver display matches Figure 4-3.

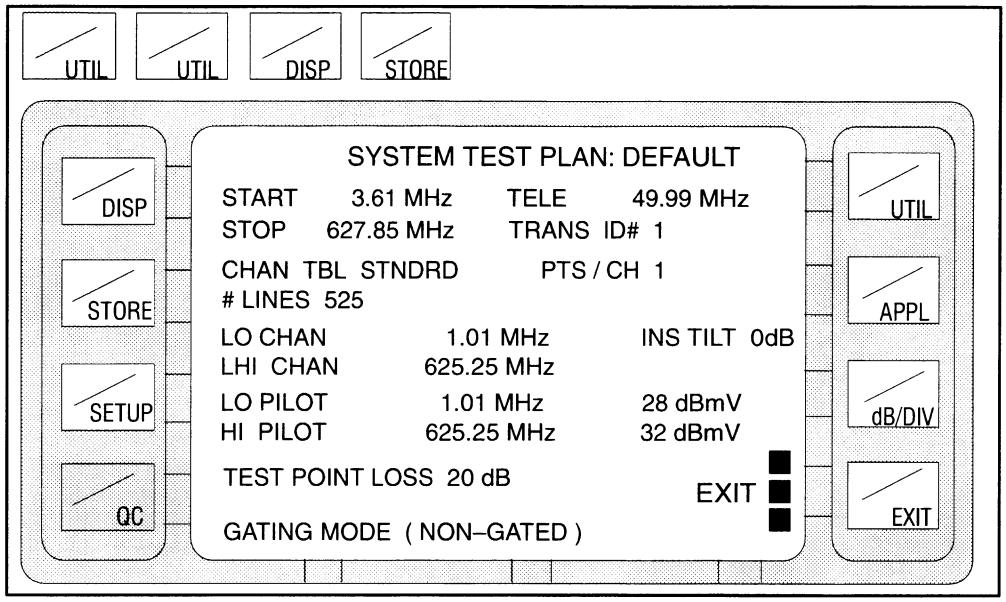

Figure 4-3: Display All Transmitter Parameters menu.

13. Press EXIT twice and check that the transmitter's red LED flashes.

Test Signal Flatness

1. Normalize the receiver by pressing UTIL/UTIL/STORE.
2. When normalization is complete, press EXIT to return to the sweep display and verify that the sweep trace is flat (0 dB tilt from low to high frequency).
3. Press the DISP button, select Un-normalized Response Data with the left knob, and press EXIT to return to the sweep trace.
4. Press [dB/DIV] to select a 1 dB/div vertical scale.

Specification: Response curve peak-to-valley variation is ≤ 7 dB. (The number appears next to P/V at the upper-right corner of the receiver's display; you may need to move the markers to approximately 19 MHz on the left and 607 MHz on the right with the left and right knobs.)

Tilted Table Verification

1. Press DISP and with the left knob select Main Reference to use normalized data.
2. Press EXIT to return to the sweep display (the trace should be centered on the screen and flat).

3. Load the 2 dB tilt table by pressing UTIL/UTIL/DISP/SETUP.
4. With the center knob, adjust the transmitter insertion tilt to 2 dB and press EXIT twice to return to the sweep display.
5. Verify that there is 2 dB of tilt in the frequency response (the low frequency is 2 dB down from the high frequency).
6. Repeat steps 3 to 5 for 4, 6, and 8 dB of tilt.
7. Reset the transmitter's insertion tilt for 0 dB.

FSK Data Check

1. On the receiver, enter the Transmitter Diagnostics menu by pressing UTIL/UTIL/DISP/dB/DIV/dB/DIV, entering the password TEKTV, and pressing Enter.

CAUTION. *In the Transmitter Diagnostics menu, pressing DISP (Transmitter Leveling) deletes the transmitter leveling data entered at the factory, while pressing dB/DIV (Initialize System Parameters) erases transmitter configuration parameters. Do not press either of these buttons unless you intend to enter new transmitter leveling data or configuration parameters.*

2. Now, press SETUP to display the Tune RF Down Converters menu.
3. Tune DC1 to 601.25 MHz and change tuning mode from static to dynamic.

NOTE. *The top of the display should read DATA: XXXX, ERRORS: 00. If the error count begins at 01 instead of 00, press EXIT once and press SETUP to re-enter the Tune RF Down Converters menu. The error count should now read 00.*

4. Let the data check run for at least ten minutes (a combined error count of 00 passes).

FSK Telemetry Signal Frequency Accuracy

1. On the receiver, press EXIT three times.
2. Connect the output of the transmitter to the input of a spectrum analyzer (use a 50/75 Ω 5.7 dB min-loss pad at the analyzer input).
3. Set the spectrum analyzer as shown in the following table.

Control	Setting
Center Frequency	55.302 MHz
Reference Level	0 dBm
Span	100 kHz
Resolution Bandwidth	30 kHz
Input Menu	6 (5.7 dB pad)

4. Press APPL to change the telemetry frequency on the receiver for the first frequency check:

Receiver Telemetry Frequency (MHz)	Spectrum Analyzer Center Frequency (MHz)[1]	Frequency Range (MHz)[2]
55.23	55.302	55.2995 ≤ x ≤ 55.3045
301.23	301.302	301.2995 ≤ x ≤ 301.3045
595.23	595.302	595.2995 ≤ x ≤ 595.3045

[1] Shift point (add 72 kHz)

[2] Shift point ±2.5 kHz

5. Verify the correct center frequency on the spectrum analyzer.
6. Press CTR MEAS/TRKG to count the signal and verify that the FSK telemetry signal frequency is within the range listed above.
7. Repeat steps 4 — 6 for telemetry frequencies of 301.23 MHz and 595.23 MHz.

FSK Telemetry Signal Amplitude Flatness

1. Connect an RF power meter with a 75 Ω sensor head to the RF output port of the transmitter.
2. Set the transmitter telemetry frequency by pressing APPL, entering 600 at the keypad, and pressing MHz.
3. Set the calibration factor of the power meter to match the calibration factor printed on the sensor for the selected measurement frequency.
4. Verify that the power meter reads between –0.75 and –6.75 dBm (+45 dBmV ±3 dB).
5. Repeat steps 2 — 4 for 500 MHz, 400 MHz, 300 MHz, 150 MHz, and 50 MHz (the specification for 50 MHz is –3.75 dBm ±0.5 dB).

NOTE. *The actual telemetry carrier frequency may be different than the value entered. Amplitude specifications are valid only at 25° C after the specified warm-up time.*

6. Reset the telemetry carrier to 52.47 MHz.

Specification: +45 dBmV ±0.5 dB at 25°C, 50 MHz.
+45 dBmV ±3 dB at 25°C, 15 to 600 MHz.

Spurious Response

NOTE. *To run this procedure, the transmitter must be leveled and have its FSK carrier set to –3.75 dBm at 50 MHz. A 50-to-75 Ω min-loss pad must be connected to the spectrum analyzer to match its input to the test equipment.*

In this procedure, a spectrum analyzer is used to test for spurs. The analyzer must be of sufficiently high performance that it does not give false indications of transmitter spurs.

1. Set the spectrum analyzer as shown in the following table.

Control	Setting
Center Frequency (CF)	300 MHz
Span	65 MHz/div
Ref. Level	Not lower than either transmitter output signal
Resolution Bandwidth	300 kHz or less
Video Filter	On

2. Connect the RF output of the transmitter to the input of the spectrum analyzer and press EXIT to start the transmitter sweep.
3. On the receiver, press UTIL/UTIL/DISP/dB/DIV/dB/DIV, enter the password "TEKTV" and press STORE to access the transmitter's Tune RF Up Converters menu (be sure Pulse Leveling mode is set to Auto, Gain is set to High, and Pulse is set to on).
4. Press STORE, enter 50, and press MHZ to tune UC2 to 50 MHz.
5. Set the UC1 frequency to 20 MHz by pressing DISP, entering 20, and pressing the MHz key.
6. Adjust the spectrum analyzer's reference level to place the 50 MHz trace close to the top of the screen.

7. Now, repeating step 5 and changing the frequency, step UC1 from 20 to 600 MHz in 20 MHz steps, looking for spurs at each step (only one sweep is needed per step if you time the step change with the end of the sweep).

NOTE. *The spur specification is –60 dBm. If the spectrum analyzer input menu has not been compensated for the 5.7 dB min-loss pad, test to –70.7 dBm. If you suspect a spur, set the spectrum analyzer's span/div to 100 kHz and resolution bandwidth to 30 kHz to check the spur specification with greater accuracy.*

---

8. Press EXIT four times to return to the sweep display.

Building a Custom Channel Table

This procedure describes building a custom channel table. Custom channel tables are used in the transmitter performance verification procedures Sync Board Sensitivity and Sweep Non-Interference. This procedure describes how to enter channels in the work buffer, edit them, and save the buffer to the user-configurable channel tables.

1. Press UTIL/UTIL/DISP/dB/DIV to enter the Transmitter Utilities menu.
2. Press SETUP (Customize Channel Tables).
3. Press DISP to edit the work buffer.
4. The work buffer is now displayed with the cursor located on the title.

NOTE. *To edit any location in the buffer, move the cursor (left knob) to the desired location, press the edit key, enter alphanumeric data, and press the Enter key.*

---

5. Edit the title of the work buffer to be QC5_5.
6. Press APPL (Insert Channel) twice to add a channel to the table.
7. Edit the channel number (tag) and frequency for the first line as shown in step 9.
8. Insert the next channel by pressing APPL (Insert Channel) once and edit as before.
9. Now, insert and edit the last two channels.

   Your work buffer should contain these custom channels:

Work Buffer: QC5 5			
T11	31.01	+4.5	NORM
T.1	31.05	+4.5	NORM

I5	76.97	+4.5	NORM
I.1	77.01	+4.5	NORM

10. Now, press EXIT twice to return to the Custom Channel Table menu (the new channel table title should be displayed in the work buffer).

11. Move the cursor to a location in the user configurable table list and press UTIL to store your work buffer there.

12. Repeat steps 3 through 11 for the following custom channel table (or copy QC5_5 to the work buffer and edit the work buffer to create custom channel table QC55 58 by editing the title and the last two channel entries before completing steps 10 and 11):

	Work Buffer: QC55 58		
T11	31.01	+4.5	NORM
T.1	31.05	+4.5	NORM
I5	426.97	+4.5	NORM
I.1	427.01	+4.5	NORM

13. Press EXIT three times to return to the sweep display.

Sync Board Sensitivity and Sweep Non-Interference

Set up the equipment as shown in Figure 4-4.

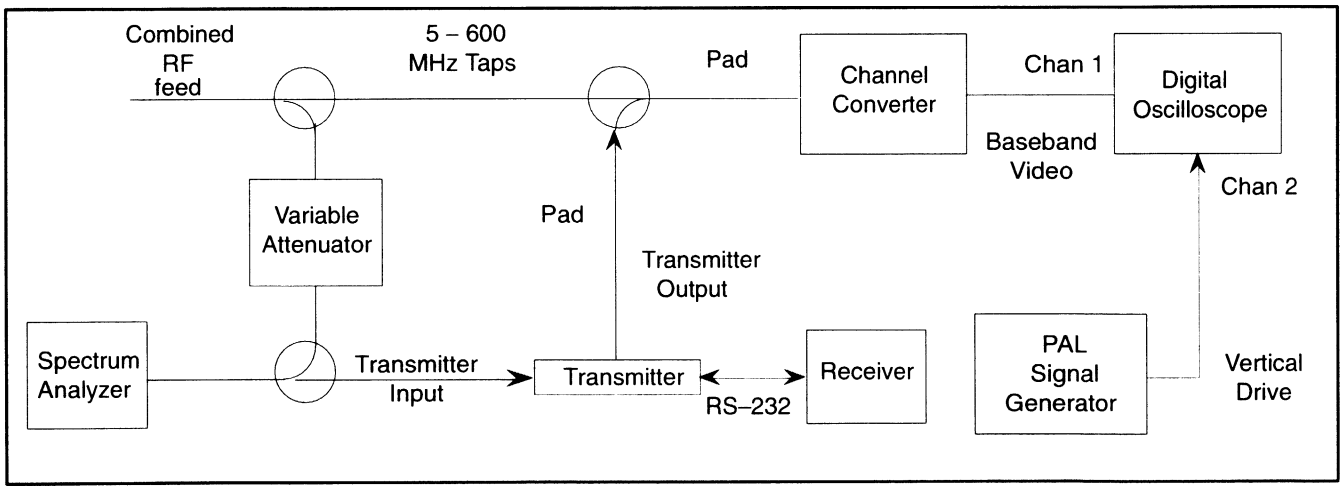

Figure 4-4: Transmitter sync board sensitivity procedure setup.

Channel 5 Sync Pulse Verification

1. Set the spectrum analyzer as shown:

Control	Setting
Center frequency (CF)	31.01 MHz
Span	1 MHz
Ref Level	–20 dBm
Vertical Scale	5 dB/div
Res. Bandwidth	Auto
Video Filter	On
Input Menu	2 (75 Ω, dBmV)

2. Set the Jerrold MVP scrambler to unscrambled (SBY) mode.
3. Set the Jerrold MVPI scrambler to unscrambled (L56) mode.
4. Select channel 5 on the PAL modulator.
5. On the TSG-1001 signal generator, select the impaired video signal.
6. Set the IF switch to MVP bypass.
7. On the set-top converter, select channel 5.
8. On the 2722A receiver:
   a. Select the custom channel table QC5_5 from the Channel Configuration menu (press UTIL/UTIL/DISP/QC and press UTIL to select a channel table).
   b. Press STORE to change the mode from pulsed to sync.
   c. Press SETUP three times to copy the sync mode to all four channels.
   d. Press APPL and set the number of lines to 625.
   e. Press EXIT/dB/DIV to enter the Transmitter Utilities menu.
   f. Press STORE to change gating mode to gated, then press EXIT twice.
9. On the digital oscilloscope:
   a. Set the vertical scale to 500 mV/div.
   b. Set the horizontal scale to 10 µs/div.
   c. Trigger on the channel 2 falling edge of the PAL signal generator's vertical drive output (or recall the stored gated setting).

10. Connect the variable attenuator output to the spectrum analyzer.

11. Adjust the attenuator for –3 and +16 dBmV and record the attenuator settings corresponding to these two input levels.

12. Connect the output of the attenuator to the transmitter RF input.

13. Check that the transmitter's red front-panel LED blinks (the system is sweeping) and that the green LED is solidly on, indicating that no channels are being skipped.

14. Use the oscilloscope's delayed sweep to view the modulated test pulse on line 7 of the demodulated video (channel 1).

15. Check for a pulse width of 14 µs ±0.333 µs measured at 50 percent of amplitude.

16. Check that the test pulse leading edge is 11.5 µs ±4.0 µs after the midpoint of the first post-equalizing pulse (check this for both input levels; –3 and +16 dBmV).

17. On the receiver, change the mode to non gated (press UTIL/UTIL/DISP/dB/div, then press STORE to change the mode).

18. Press EXIT twice.

19. Trigger the oscilloscope on channel 1 at –1 V and exit delayed sweep mode. On the oscilloscope, adjust the volts/div to view the enlarged test pulse.

20. Check that the test pulse leading edge is 11.5 µs ±4.0 µs from the midpoint of the first post-equalizing pulse (check this for both input levels; –3 and +16 dBmV).

21. Check also for no misfires (in other words, check that the test pulse does not disappear for one or more sweeps; the oscilloscope cannot trigger if this happens. Use the TDS-320 infinite persistence mode for two minutes to perform this check).

Specification: Test Pulse Duration 14 µsec at 50 % of amplitude. Test Pulse Position 11.5 µsec ±4 µsec after midpoint of first post-equalizing pulse.

Channel 58 Sync Pulse Verification

1. Set the receiver as described:

   a. Select custom channel table QC55_58 from the Channel Configuration menu (press UTIL/UTIL/DISP/QC, then UTIL to select a channel table).

   b. Press STORE to change sync mode from pulsed to sync. Press SETUP three times to copy the sync mode to all four channels.

c. Press APPL to set the number of lines to 625.

d. Set channels I55 and I.1 to RFSUPP decode mode (use the left knob to select a channel, then press DISP to select decode mode).

e. Press EXIT twice.

2. Set the Jerrold MVP scrambler to unscrambled (SBY) mode.

3. Set the Jerrold MVPI scrambler to RFSUPP scrambled mode.

4. Select channel 55 on the PAL modulator.

5. On the TSG-1001 signal generator, select 75% color bars.

6. Set the IF switch to MVP input.

7. On the set-top converter, select channel 58.

8. Check that the transmitter's red front-panel LED blinks (the system is sweeping) and that the green LED is solidly on, indicating that no channels are being skipped.

9. Adjust the oscilloscope's horizontal and vertical channel 1 controls to view the enlarged test pulse on line 7.

10. Check that the leading edge of the test pulse is 11.5 µs ±3.5 µs from the midpoint of the first post-equalizing pulse (check this for both input levels; –3 and +16 dBmV).

11. Check that there are no misfires; the oscilloscope cannot trigger if misfires occur. (A misfire is indicated when the test pulse disappears for one or more sweeps.)

12. Press UTIL/UTIL/DISP/QC to enter the Channel Configuration menu.[4] Set CH P1 and P55 to PIR2 decode mode. (Turn the left knob to select the channel and press DISP to select the decode mode.)

13. Press EXIT twice. Check the test pulse specifications again for both input levels.

14. On the receiver, change the mode to gated (press UTIL/UTIL/DISP/dB/div, then press STORE to change the mode).

15. Press EXIT twice.

16. Trigger the oscilloscope on channel 2 at –200 mV.

17. Use the delayed sweep to view the test pulse on line 7 of the video on channel 1.

[4] Perform steps 12 and 13 only for firmware version 3.2 and up.

18. Check the test pulse specifications again for both input levels (–3 and +16 dBmV).
19. Press UTIL/UTIL/DISP/QC to enter the Channel Configuration menu.[5] Set CH P1 and P55 to RFSUPP decode mode.
20. Press EXIT twice. Check the test pulse specifications again for both input levels.

Clear Transmitter Custom Channels

1. On the receiver, return to the Channel Configuration menu by pressing UTIL/UTIL/DISP/QC.
2. Press UTIL to select the channel table STNDRD.
3. Display the Customize Channel Table menu by pressing EXIT/dB/DIV/SET-UP.
4. Delete the two custom channel tables: QC5_5 and QC55_58.
5. Press EXIT three times to return to the sweep display.

Creating a System Test Plan

The test plans created using the steps listed here are stored in the transmitter and used to run receiver performance verification procedures. After creation and storage, these plans may be called up to test one or more receivers. To create a system test plan, connect the receiver to the transmitter with an RS-232 cable.

Test Plan SWEEPG

1. Press UTIL/UTIL/DISP/DISP to enter the system test plan menu.
2. Turn the left knob counterclockwise to place the arrow cursor in position 1.
3. Press SETUP to edit the name of the test plan.
4. Type SWEEPG and press the enter key.
5. Press EXIT/QC to enter the Channel Configuration menu, then press STORE to change the sync mode to Skip for channel T6.
6. Turn the left knob clockwise one click to select channel T7.
7. Press STORE to change the sync mode to Pulse.
8. Repeatedly press SETUP to copy the pulsed sync mode setting to the other standard channels (through channel 91).
9. Press EXIT/DISP to display the System Test Plan menu.

[5] Perform steps 19 and 20 only for firmware version 3.2 and up.

Test Plan SWEEPNG

1. Move the center knob to locate the asterisk (*) next to SWEEPG.
2. Turn the left knob to move the arrow cursor to a new test plan location.
3. Press dB/DIV to copy the source (*) to the new location.
4. Press UTIL to confirm.
5. Edit the current test plan name to read SWEEPNG.
6. Press EXIT/dB/DIV/STORE to change the mode to non gated.
7. Press EXIT/DISP to display the System Test Plan menu.

Test Plan SWEEPNGT

1. Move the center knob to locate the asterisk (*) next to SWEEPNG.
2. Use the left knob to move the arrow cursor to a new test plan location.
3. Press dB/DIV to copy the source (*) to the new location.
4. Press UTIL to confirm.
5. Edit the current test plan name to read SWEEPNGT.
6. Press EXIT/SETUP to display the pilot frequencies menu.
7. Turn the center knob clockwise to set the insertion tilt to 8 dB.
8. Press EXIT/DISP to display the System Test Plan menu.
9. Turn the left knob to select another test plan location.

Test Plan SLM

1. Press APPL if the current location is not a default test plan.
2. Edit the name by pressing SETUP and entering the plan name SLM.
3. Press ENTER and EXIT.
4. Press dB/DIV/SETUP to enter the Custom Channel Table menu.
5. Press DISP to edit the work buffer.
6. Press the edit key and enter the custom channel table name SLMTEST.
7. Press APPL twice to insert the first of three channels.
8. Turn the left knob to move the cursor to either the TAG or V-FREQ column.
9. Edit the channel tag and frequency for the first line of the channel table as shown below.
10. Press APPL to insert another channel in the table.

11. Edit the tag and frequency as before.

12. Insert and edit the last channel in the table.

    Your custom channel table should look like this:

	WORK BUFFER: SLMTEST		
TAG	V-FREQ	A-OFF	TEST PULSE
50	50.01	+4.5	NORM
250	250.01	+4 . 5	NORM
600	600.01	+4 . 5	NORM

13. Press EXIT twice.

14. Turn the left knob to move the arrow cursor to one of four locations in the user configurable table list (pick an empty one).

15. Press UTIL to store SLMTEST.

16. Press EXIT/EXIT/QC to enter the Channel Configuration menu.

17. Press UTIL to select the new custom channel table SLMTEST.

18. Press STORE to change the Sync mode to SYNC for channel 50.

19. Press SETUP twice to copy the sync mode to the other two channels.

20. Press EXIT/DISP to re-enter the System Test Plan menu.

21. Turn the left knob to move the cursor to a new or unused test plan.

The custom test plans are now in the transmitter's memory. Press EXIT twice to return to the sweep display.

Adjustment Procedures

Adjustment procedures are used after instrument repair or module exchange procedures, when certain adjustments may be needed to compensate system performance. Use these procedures when readjustment is needed.

Equipment Required

Table 5-1 lists the equipment required to perform the adjustment procedures described in this section.

Table 5–1: Required test equipment

Equipment	Purpose
Tektronix 2712 spectrum analyzer with tracking generator option	Measuring RF levels, frequencies, and spurious response.
Tektronix TDS320 digital oscilloscope	Verifying sync pulse location.
Tektronix 1411 PAL signal generator	Supplies PAL signal to MVPI scrambler.
Tektronix TSG 1001 programmable signal generator with NTSC custom signal set	Supplies impaired video, Oak Sigma, and Video Way signals to NTSC video modulator; supplies 75% color bars to MVP scrambler.
Tektronix 2721A transmitter with 18 VAC power transformer	Connect to receiver to verify correct operation.
Tektronix 2722A receiver with RS-232 cable and 18 VAC power transformer	Controls transmitter via RS-232 interface.
Tektronix TM504 power supply with DM501A digital multi-meter and temperature probe	Voltage and temperature measurement and calibration.
Hewlett Packard HP438A power meter	Precise amplitude measurements.
Hewlett Packard HP8481D 50 Ω low power sensor	Used with HP438A power meter to verify proper log board operation.
Hewlett Packard HP8482A 50 Ω power sensor	Used with HP438A power meter.
Hewlett Packard HP8483A 75 Ω power sensor	Used with HP438A power meter.
Fluke 51501A voltage calibrator	DC and AC calibration of 2722A voltmeter.
Marconi 2022C signal generator	Test signals for instrument- and board-level procedures.
Trilithic BMA780 variable attenuator	Attenuates transmitter RF input signal.
Zenith ST1612 cable down converter	Demodulates transmitter video output for viewing sync pulse.
Jerrold MVP and MVP-I video scramblers	Provides MVPBB and RF suppressed video-signal encoding for NTSC and PAL standards.
Jerrold C6MPI PAL video modulator, ground switched for external IF input	Provides variable frequency PAL test-channel modulation.

Table 5–1: Required test equipment (Cont.)

Equipment	Purpose
Scientific Atlanta SA6350 NTSC video modulator with IF switch option and channel T11 output converter and local oscillator modules installed	Provides fixed frequency NTSC test-channel modulation.
Trilithic FP-75 fixed precision attenuator, 20 dB 75 Ω 30 MHz - 1 GHz BNC (2 each)	Setups and connections described in procedures.
Trilithic FP-75 fixed precision attenuator, 10 dB 75 Ω 30 MHz - 1 GHz BNC	Setups and connections described in procedures.
Trilithic ZM-57 DC 50 Ω to 75 Ω 1 GHz BNC to F style 5.7 dB minimum loss pad	Setups and connections described in procedures.
Alan 1050 N style to BNC 5.7 dB 50 Ω to 75 Ω minimum loss pad	Setups and connections described in procedures.
Tektronix fixed precision attenuator, 20 dB 50 Ω 2 W, SMA, part no. 015-1003-00	Setups and connections described in procedures.
Miscellaneous attenuators, taps, cables, terminators: FAM F-style non-precision fixed attenuators; 3, 6, 10, 16, 20 dB Regal 5 - 600 MHz taps; 6, 9, 20 dB loss Coaxial cables; 50 Ω and 75 Ω for equipment connections 75 Ω terminators for equipment setups	Setups and connections described in procedures.

NOTE. *The HP438A power meter is used for several measurements in this section. This meter is accurate only if it has been reference calibrated and zeroed. The power meter must be reference calibrated and zeroed at the intervals specified by Hewlett Packard. It must also be reference calibrated and zeroed immediately before starting a procedure where it is used, and thereafter, each time a power head is removed and installed.*

Figure 5-1 shows the equipment setup for the adjustment procedures described in this section.

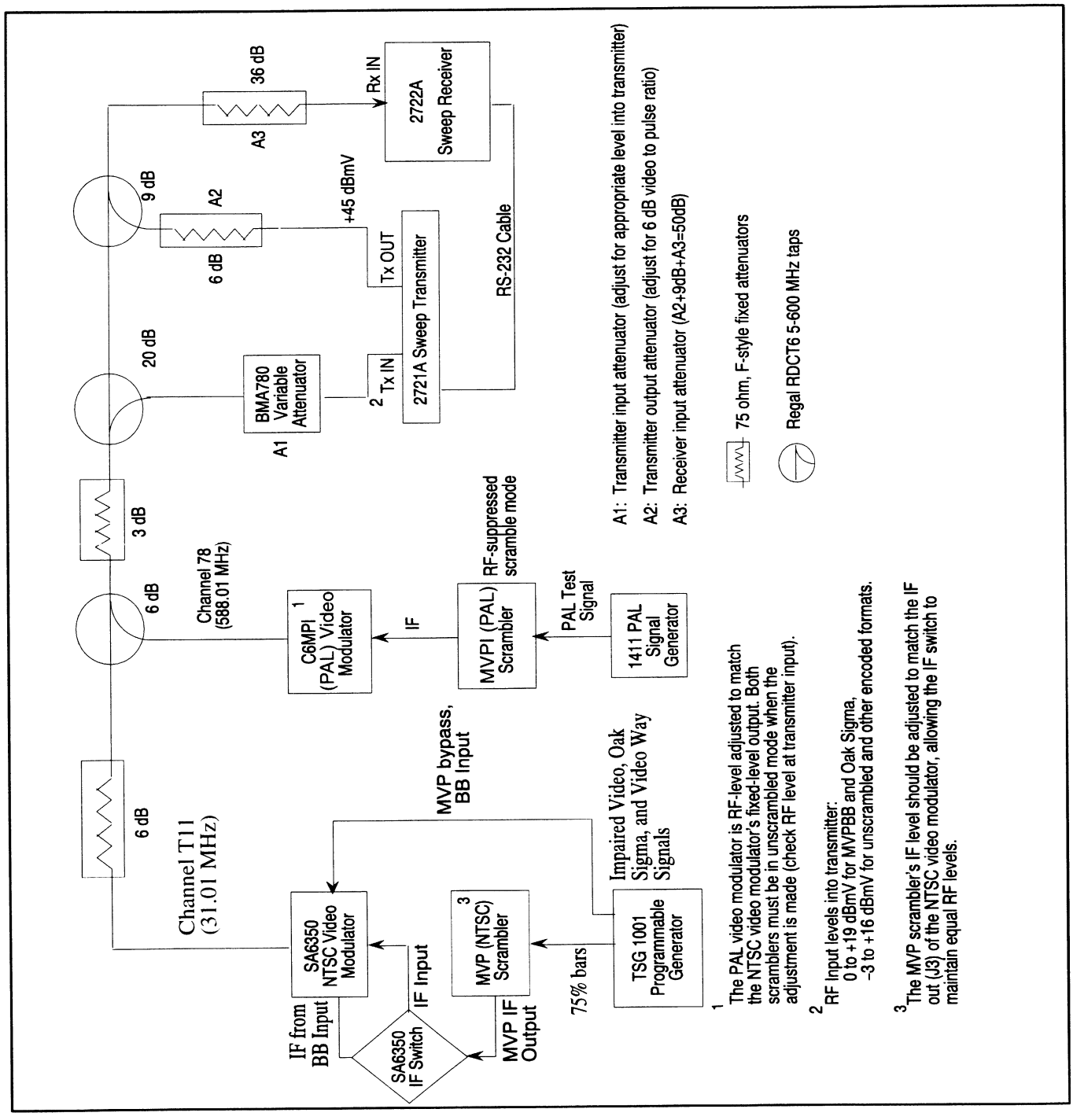

Figure 5-1: Transmitter Test Setup.

2722A Receiver Adjustment Procedures

This section contains receiver adjustment procedures. Performing these procedures requires removing the receiver from its case. See Removal and Replacement Procedures in Section 6 for more information.

Circuit Board Locations

Figure 5-2 shows the location of the receiver circuit boards.

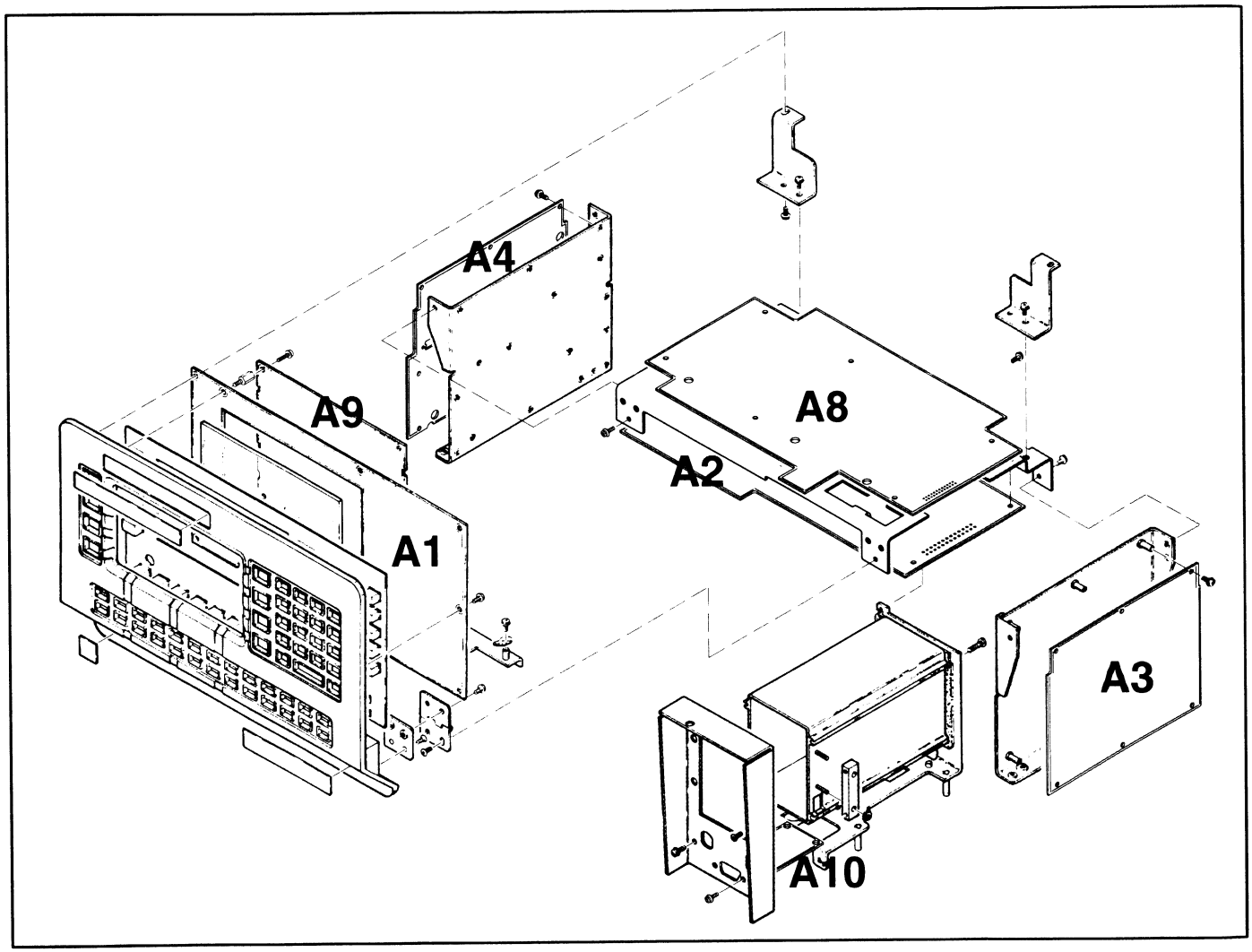

Figure 5-2: 2722A Receiver circuit board locations.

The features labeled in Figure 5-2 are:

A1	Front panel board
A2	Microprocessor board

A3	RF down converter
A4	Power supply
A8	Log board
A9	LCD driver board
A10	Option port (and printer compartment)

Power Supply

1. Connect AC power to the receiver and switch the power on.
2. Using a voltmeter, check all voltages on the power supply test points. These must be in the range listed:

   +20 V ±1V +15 V ±0.5 V +5 V ±0.25 V −15 V ±0.75 V

Log Board Second Local Oscillator (2nd LO)

Figure 5-3 shows the location of the test points and adjustments for the log board. This figure is used for this and other procedures in this section.

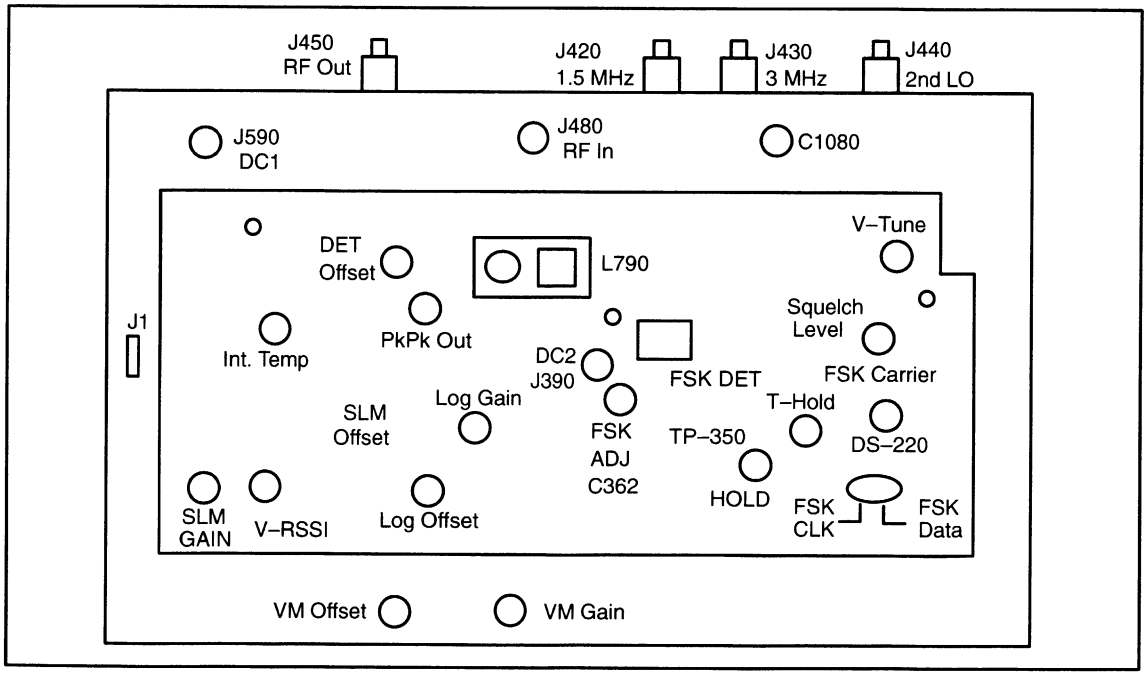

Figure 5-3: Log Board adjustments and test points.

1. Connect the spectrum analyzer to 2nd LO output J440 (see Figure 5-3).

NOTE. *The length of the cable connecting J440 to the spectrum analyzer should be as close as possible to the length of the cable connecting J440 to the RF down converter.*

2. Set the spectrum analyzer as follows:

Adjustment	Setting
Center frequency	670.4 MHz
Span	1 MHz
Ref Level	+4 dBm
Resolution bandwidth	300 kHz

3. If necessary, adjust C1080 (via the access hole above "Squelch Level" on the log board) for 9.5 V ± 0.25 V at the V_TUNE test point (place reflective tape over the access hole after performing the adjustment).

4. Use the spectrum analyzer to verify a 670.4 MHz ± 500 Hz signal frequency (adjust L790 if necessary).

5. Use a power meter and 50 Ω power sensor to verify that 2nd LO output power (at J440) is 0 dBm (+3 dBm ≥ x ≥ –1 dBm).

6. Set the spectrum analyzer's center frequency (CF) to 3 MHz and ref level to 20 dBm.

7. Connect the spectrum analyzer to the 3 MHz REF (J430) and verify that the fundamental (largest) frequency component is at 3 MHz ± 500 Hz.

8. Set the spectrum analyzer's center frequency to 1.5 MHz, connect it to the microprocessor CLK output (J420), and verify that the fundamental (largest) frequency component is at 1.5 MHz ± 500 Hz.

9. With an oscilloscope, verify that the output waveforms from J430 and J420 are square waves, with $V_{ol} < 0.3$ V and $V_{oh} > 4.0$ V.

10. Cycle receiver power and reconnect all cables.

RF Down Converter

1. Remove the cable at J941 (2nd LO) from the RF down converter board.

2. On the spectrum analyzer, press DEMOD/TG.

NOTE. *Check to see whether the tracking generator is on. If not, press key 4 to turn it on. Press DEMOD/TG again and check to see if the TG level is 0.0 dBm. If not, press menu key 5 and enter the TG level by pressing 0, ., 0, and –dBx. Press menu BKSP to exit.*

3. Set the spectrum analyzer as follows:

Adjustment	Setting
Center frequency	691.8 MHz
Span	5 MHz
Vertical scale	2 dB/div
Ref Level	–30 dBm
Video filter	On
Resolution bandwidth	Auto

4. Press APPL to turn on the spectrum analyzer's –3 dB bandwidth measurement.

NOTE. *If bandwidth mode is set to –3 dBm, press 0 to turn on bandwidth mode. If bandwidth mode is not set to –3 dBm, press 9 to display the setup table. Press 0, 3, –dBx, BKSP, and press 0 again to turn on bandwidth mode.*

5. Connect the spectrum analyzer TG output to the RF down converter input (J930).

6. Connect J1 (1st IF1 test port) to the input of the spectrum analyzer.

7. Press UTIL/APPL and enter the password TEKTV.

8. Press DISP/DISP and tune DC1 to 500 MHz (the local oscillator frequency around 1200 MHz) and DC2 to 400 MHz (the local oscillator frequency around 1100 MHz).

9. Set the spectrum analyzer's vertical scale to 1 dB/div and adjust the reference level so the signal is close to the top of the screen.

10. Observe the filter shape on the spectrum analyzer to see if it meets the specifications listed below.

11. If necessary, adjust the four tuning capacitors for peak signal, center, bandwidth, and shape.

Specification	Requirement
Bandwidth	7 to 10 MHz at 3 dB down point.
Center	3 dB points reasonably centered.
Peak	Peak amplitude at center frequency.
Shape	>40 dB of attenuation at CF —18 MHz, CF +22 MHz.

NOTE. *The tuned filter response should have at least 40 dB signal-to-noise when the spectrum analyzer is set as described. The peak of the filter should be above –57 dBm at the IF test port.*

12. Connect J2 (the 2nd IF2 test port) to the input of the spectrum analyzer.

13. Change the center frequency to 681.1 MHz and, with the spectrum analyzer's reference level set to –40 dBm, repeat steps 10 and 11 for the IF2 test port.

Set Gain

1. Set the frequency generator output to 100 MHz, level at –25 dBm (check the output with a power meter and 50 Ω power sensor, adjusting the frequency generator if necessary).

2. Add a precision 50 Ω, 20 dB attenuator to the frequency generator output and connect it to J930 with a 50 Ω coaxial cable using SMA connectors.

3. Set the spectrum analyzer as follows:

Specification	Requirement
Center frequency	21.4 MHz (DC1)
Span	10 kHz
Ref level	–20 dBm
Resolution bandwidth	30 kHz
Vertical scale	10 dB/div

4. Reconnect the 2nd LO to J941 (this connection was removed in step 1 of the RF down converter procedure).

5. Tune the receiver local oscillators for 100 MHz DC1 and DC2.

6. Connect DC1 output J910 to the input of the power meter.

7. Adjust R6 for –19.0 dBm ±0.10 dB output power as shown on the power meter.

8. Connect the DC1 output J910 to the input of the spectrum analyzer.
9. Check for FM noise on the output of DC1 (this shows as anything other than a smooth trace).
10. Set the spectrum analyzer as follows:

Specification	Requirement
Center frequency	10.7 MHz (DC2)
Span	10 kHz
Ref level	–20 dBm
Resolution bandwidth	30 kHz

11. Connect DC2 output J990 to the input of the power meter.
12. Adjust R5 for –19.0 dBm ± 0.10 dB output power as shown on the power meter.
13. Connect DC2 output J990 to the input of the spectrum analyzer.
14. Check for FM noise on the output of DC2 (this shows as anything other than a smooth trace).
15. Reconnect all cables and press EXIT four times.

Log Board Attenuator

1. Connect a 50 Ω power sensor head to the power meter.
2. Connect a 100 MHz, +4.5 dBm signal from the Marconi signal generator (check the output level with a power meter) through a 5.7 dB minimum loss pad to the input of a variable-step attenuator set for 10 dB of attenuation.
3. Connect the output of the step attenuator to RF input J480 on the log board.
4. Connect the power meter to RF output J450.
5. Remove all attenuation by rotating the center knob clockwise until the clicking stops.
6. Press UTIL/DISP and verify that the preamp is off, then press EXIT twice.
7. Adjust the amplitude of the input signal in 0.1 dB steps until the power meter reads –20 dBm.
8. Rotate the center knob counterclockwise one click at a time and note the reading on the power meter.

9. Verify that for each attenuator step, the reading drops by 2 dB ± 1 dB and that the cumulative error never exceeds 1 dB (when you reach –50 dBm, adjust the variable attenuator to 0 dB and continue until you reach –54 dBm on the power meter).

10. When the maximum attenuation has been set (the clicking has stopped), press UTIL/DISP and turn the preamp on (the power meter reading should increase 20 to 25 dB).

11. Turn the preamp off and change the input frequency to 600 MHz (note the power meter reading).

12. Turn the preamp on (the power meter reading should increase 20 to 25 dB).

13. Turn the preamp off and press EXIT twice.

14. Rotate the center knob clockwise to remove all attenuation and disconnect the power meter from J450.

15. Reconnect the log board RF output J450 to the downconverter.

Log Board FSK Receiver Adjustment

1. Connect the RF output of the transmitter to the RF input of the receiver through 50 dB of external attenuation (use fixed precision attenuators in the setup).

2. Connect the transmitter to the receiver with an RS-232 cable.

3. Download the System Operating Information to the receiver (press UTIL/ UTIL/DISP/dB/DIV, set to gated mode, and press EXIT twice).

4. Set the oscilloscope vertical scale to 500 mV/div with ground at the bottom of the screen and DC-coupled input (use the horizontal cursors: one at ground and the other at +2.5 V).

5. Set the horizontal scale for 500 µs/div and place the channel 1 probe on TP350 (FSK DET).

6. Adjust capacitor C362 (FSK ADJ) until the received FSK signal at TP350 (FSK DET) is centered about 2.5 V ± 0.25 V (the signal should be high and should drop low only when data is being received).

7. Monitor the waveform at TP3 (FSK DATA) with the oscilloscope set to 1 V/div.

8. Verify that the signal is low (< 0.5 V) when no data is present, but transitions between low and high (> –4.0 V) during data transmission.

9. Verify that the FSKCLK signal (at TP231) is a square wave with a 200 µs period and a 40 to 60 percent duty cycle.

NOTE. *The low level should be < 0.3 V and the high level should be > 4.0 V. There should be eight pulses for each byte sent, with two bytes of data visible for a total of 16 pulses.*

Squelch Adjustment

1. Ensure that the RF output of the transmitter is connected to the RF input of the receiver with 50 dB of attenuation.
2. Rotate the receiver's center knob counterclockwise until the clicking stops for maximum attenuation, then rotate the knob clockwise eight audible clicks (16 dB of attenuation).
3. Adjust SQUELCH LEVEL (R240) until LED DS220 just lights.
4. Verify correct calibration by rotating the center knob two clicks counter-clockwise (DS220 should go off).
5. Remove all attenuation by rotating the center knob clockwise until the clicking stops.

Log Adjustment

1. Set the Marconi generator to 21.4 MHz, an output amplitude of –55 dBm, and an amplitude step size of 8.0 dBm.
2. Connect the output of the Marconi generator to J590 (DC1) on the log board.
3. Enter the RF LOG CALIBRATION AIDS diagnostic menu (press UTIL/APPL, enter the password, and press DISP/APPL).
4. Press DISP to disable sweep centering.
5. Press STORE to zero the sweep calibration data.
6. Select gated mode by pressing UTIL.
7. Press EXIT four times to return to the sweep display.
8. Set the vertical scale to 2 dB/div.
9. Position marker M1 (left knob) one fourth of the screen from the left edge and M2 (right knob) one fourth of the screen from the right edge.
10. Ensure that the input level is –55 dBm and adjust LOG GAIN for marker readouts of 0 ± 0.2.
11. Increase the input signal amplitude to –47 dBm (press the up-arrow button on the generator).

12. Adjust LOG OFFSET for marker readouts of 8.0 ± 0.2.
13. Repeat steps 10 — 12 until the marker readouts are within specification.
14. Decrease the input signal amplitude to –63 dBm (press the down-arrow button on the generator with the signal at center screen).
15. Adjust DET OFFSET until marker readouts are –8 ± 0.2.
16. Repeat steps 10 through 15 until all marker readings are within specification.
17. Set the Marconi generator to –55 dBm and an amplitude step size of 2 dB.
18. Verify log calibration by changing the input amplitude in 2 dB steps from –63 dBm to –47 dBm and noting the marker amplitude readouts (the marker readings should be within ± 0.5).
19. Reconnect the down converter output to J590 on the log board.
20. Set the oscilloscope with a horizontal scale of 2 µs/div, channel 1 = 200 mV/div, channel 2 = 5 V/div and the trigger set for channel 1 positive edge.
21. Connect channel 1 to TP550 (PK PK OUT) and channel 2 to TP731 (HOLD).
22. Adjust T-HOLD (R990) to position the rising edge of HOLD at the peak of the pulse (± 1 µs).

Temperature Adjustment

1. Insert the temperature probe into the access hole on the log board marked "Int. Temp."
2. Enter the Set RF Log Offsets diagnostic menu by pressing UTIL/APPL, entering the password, and pressing DISP/STORE.
3. Press DISP to select Internal Temperature.
4. Adjust the left front-panel knob (OFFSET) until the reading matches the scope display.
5. Press STORE to select External Temperature.
6. Move the temperature probe next to the external temperature sensor at the top of the front printer compartment.
7. Adjust the left front-panel knob (OFFSET) until the reading matches the scope display.
8. Press EXIT four times.

Voltmeter

Using a voltage calibrator as a DC voltage source, connect a probe to the receiver's voltmeter input (use the BNC ground at the RF input).

Positive DC Voltages

1. Press UTIL/APPL and enter the password, then press DISP/STORE to display the Set RF Log Offsets diagnostic menu.
2. Press APPL to select EXTERNAL VOLTS.
3. Apply a 5.0 VDC signal to the voltmeter input.
4. Adjust VM OFFSET on log board for a reading of 5.0 V ± 0.2 V (see Figure 5-3).
5. Apply a 35.1 VDC signal to the voltmeter input.
6. Adjust VM GAIN on log board for a reading of 35.1 V ± 0.2 V (see Figure 5-3).
7. Repeat steps 3 through 6 until both readings meet specifications.
8. Verify the calibration accuracy with applied voltages of +24, +42, and +75 V (readings between 5 and 35 V should be within ± 0.5 V, and readings between 35 and 80 V should be within ± 1.5 V).

Negative DC Voltages

1. Apply a –5.0 VDC signal to the voltmeter input.
2. Adjust the left front-panel knob (OFFSET) for a reading of –5.0 V ±0.2 V.
3. Apply a –35.1 VDC signal to the voltmeter input.
4. Adjust the center front-panel knob (GAIN) for a reading of –35.1 V ±0.2 V.
5. Repeat steps 1 through 4 until both readings meet specifications.
6. Verify the calibration accuracy with applied voltages of –24, –42, and –75 V (readings between –5 V and –35 V should be within ±0.5 V, and readings between –35 V and –80 V should be within ± 1.5 V).

Battery Voltage Input

1. Press UTIL to select BATTERY VOLTS.
2. Apply a 3.0 VDC signal to pin #2 of the log board connector J1.
3. Adjust the left front-panel knob (OFFSET) for a reading of 3.0 V ±0.2 V.

4. Change the input voltage to +13.0 V.
5. Adjust the center front-panel knob (GAIN) for a reading of 13.0 V ± 0.2 V.
6. Repeat steps 2 through 5 until both readings meet specifications.
7. Press EXIT four times.

Signal Level Meter Calibration

1. Set the Marconi signal generator to 21.4 MHz and –19 dBm, with an amplitude step size of 30 dB.
2. Connect the output of the signal generator to J590 on the log board.
3. Press SETUP, select Probe Loss with the left knob, and edit for 0 dB.
4. Press EXIT.
5. Press APPL/SETUP to select Signal Level Meter mode.
6. Use the right front-panel knob to position the marker at center screen.
7. Verify that the reference level is 10.
8. Ensure that the input amplitude is –19 dBm and adjust SLM GAIN on the log board for a video level reading of +9.5.
9. Reduce the input amplitude to –49 dBm (press the down-arrow key on the signal generator).
10. Adjust SLM OFFSET on the log board for a video level reading of –20.5 ±0.5.

NOTE. *SLM OFFSET must be set exactly as specified in step 10, or the requirements of step 13 cannot be met.*

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11. Repeat steps 8 — 10 until both readings meet specifications.
12. Change the signal generator's amplitude step size to +50 dB.
13. Beginning with a –19 dBm level, reduce the input amplitude in 5 dB steps, verifying that the marker reading is within ± 0.5 dB of the ideal value for each step.
14. Press EXIT twice.

Normalization Procedure

1. Press UTIL/UTIL/DISP/QC to enter the Channel Configuration menu.

2. Press UTIL to select the standard (STNDRD) channel table and press APPL for the number of lines (525).

3. Press STORE (sync mode) to select PULSED and press DISP to select standard channel decode.

4. Press SETUP as many times as necessary to copy to the next channel in the sequence until channel 91 is pulsed, then press EXIT twice to return to the sweep display.

5. Press UTIL/UTIL/SETUP to normalize to headend test point.

6. After normalization is complete, press EXIT.

7. The sweep screen should appear with a peak-to-valley reading (P/V) of less than 1.0 dB.

8. Press UTIL/DISP/DISP to turn the preamp on.

9. Exit to the sweep display (press EXIT twice) and verify that the peak-to-valley reading is less than 1.0 dB.

10. Place the transmitter in non-gated mode (press UTIL/UTIL/DISP/db/DIV/ STORE/ EXIT/EXIT) and repeat steps 5 through 9.

Manual SLM Compensation Adjustment

1. Set up the receiver.

   a. Select the standard channel table by pressing UTIL/UTIL/DISP/QC to enter the channel configuration menu (press UTIL if not in the standard channel table).

   b. Press EXIT twice to return to the sweep display.

   c. Set the probe loss to 0 by pressing SETUP and moving the cursor (with the left knob) to PROBE LOSS (if probe loss is not zero, press the edit key, type 0, press the Enter key, and press EXIT).

   d. Go to the factory SLM leveling menu by pressing UTIL/APPL, entering the password, and pressing DISP/UTIL.

   e. Connect 30 dB of precision attenuation to the RF input of the receiver.

2. Zero the HP power meter.

   a. From the power meter's PWR REF input, connect a 50-to-75 Ω adapter and then connect a 75 Ω power head with cable from the sensor input to the 50-to-75 Ω adapter.

   b. Follow the power meter's instructions to zero the meter.

c. Enter the calibration factor constant for the appropriate frequency range as listed on the power head.

3. Verify the output amplitude of the Marconi signal generator.

   a. Set the desired channel frequency on the signal generator.

   b. Connect the output of the signal generator through a precision 50-to-75 Ω min-loss pad (5.7 dB) to the HP power head.

   c. Adjust the output amplitude of the signal generator for –10.25 dB as read on the HP power meter.

4. Set the channel and adjust the level reading to match the signal generator output.

   a. Connect the output of the signal generator to the 30 dB attenuator attached to the receiver.

   b. Use the left knob to select the appropriate channel for leveling.

   c. Use the center knob to adjust the RF level for +8.5 dBmV (–47.25 dB).

5. Repeat steps 3 and 4 for each channel in the standard channel table.

6. Press EXIT four times when testing is complete.

2721A Transmitter Adjustment Procedures

Figure 5-4 shows the location of the boards calibrated in the following procedures. For information on removing instrument covers to access circuit boards, see Removal and Replacement Procedures in Section 6.

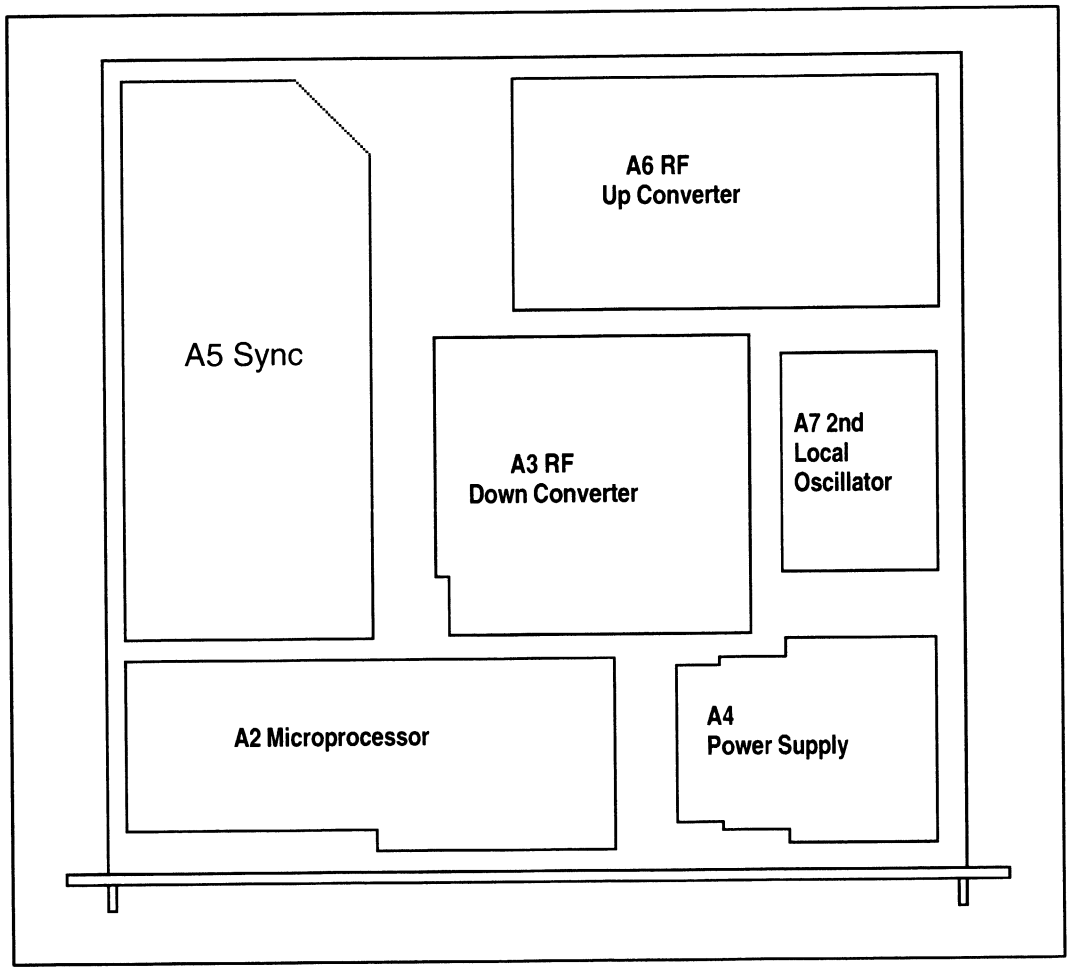

Figure 5-4: 2721A Transmitter circuit board locations.

Power Supply

Connect power to the transmitter and switch the power on.

Check voltages on the power supply test points. These must be in the range listed:

- +20 V ±1 V
- +15 V ±0.5 V
- +5 V ±0.25 V
- –15 V ±0.75 V

Second Local Oscillator (2nd LO)

NOTE. *The transmitter must be powered on for two hours before performing 2nd local oscillator calibration.*

The equipment setup for this procedure is shown in Figure 5-5.

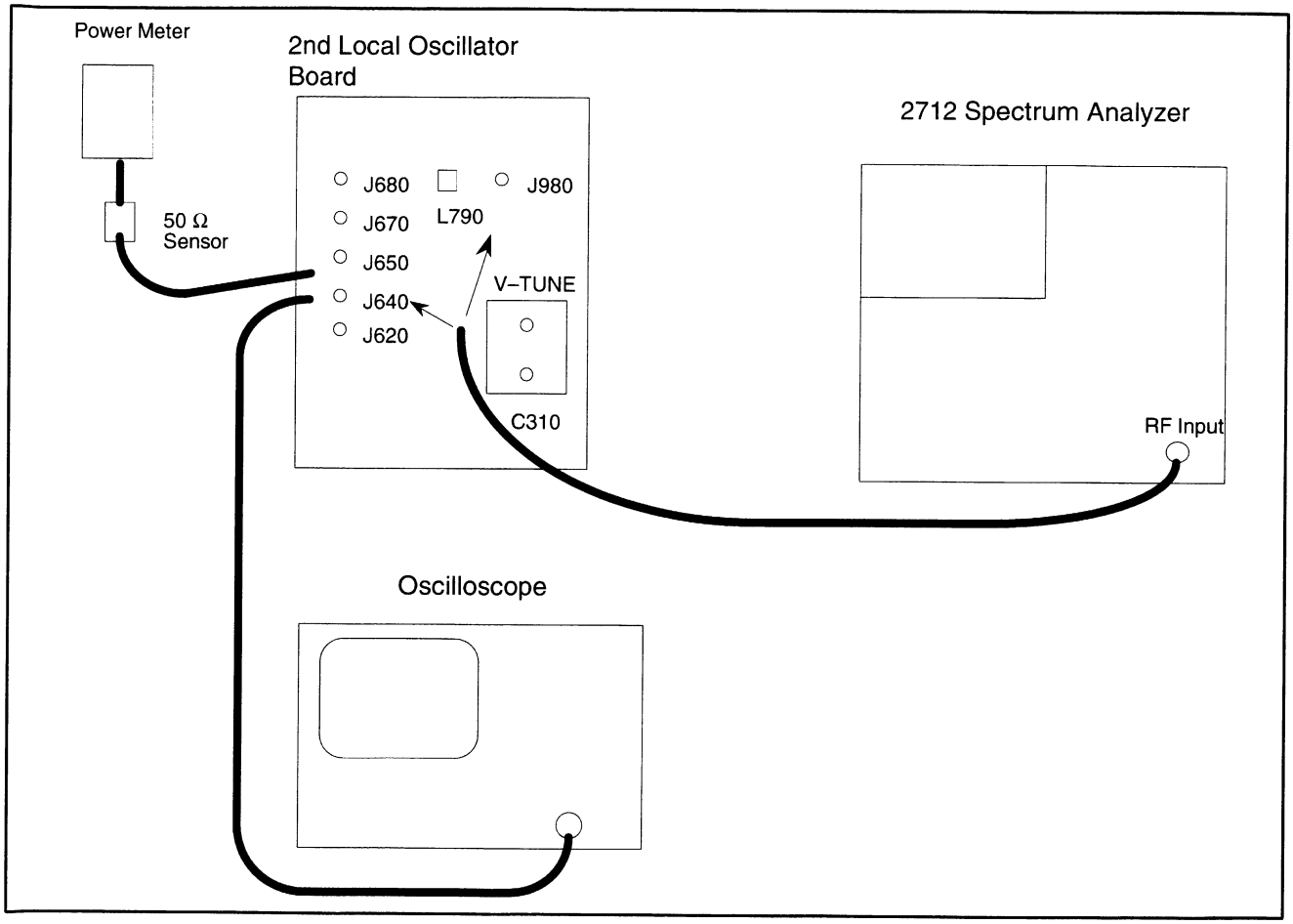

Figure 5-5: Setup for 2nd LO calibration procedure.

1. Place a voltmeter test lead at the V-TUNE test point and check for 9.5 ±0.25 V (adjust C310 if necessary).
2. With the spectrum analyzer, measure the frequency on the 2nd LO board at J640. This frequency should be 690.79 MHz ±500 Hz (be sure J620 is connected to the RF down converter).

3. Adjust L790 to the frequency, if necessary, and cycle the power several times to verify that the 2nd LO stays locked.
4. With the power meter and 50 Ω power sensor, verify that the 2nd LO output power level at J640 is 0.0 dBm +3/–1 dB.
5. With the spectrum analyzer, check at J980 for +15 dBm ±2 dBm of output power at 48 MHz ±500 Hz.
6. With the spectrum analyzer, check for 3 MHz ±500 Hz on J670 and J680, and 1.5 MHz ±500 Hz on J650.
7. With the oscilloscope, check for square-wave signals on J650, J670, and J680. These signals should have output levels of $V_{ol} < 0.3$ V and $V_{oh} > 4.0$ V.
8. Reconnect all cables.

Microprocessor

1. Connect an RS-232 cable between the transmitter and receiver.
2. Cycle the transmitter power.
3. Press UTIL/UTIL/DISP/SETUP.
4. Set LO CHAN to 9.61 MHz, HI CHAN to 603.85 MHz, LO PILOT to 31.01 MHz, and HI PILOT to 588.01 MHz.
5. Press EXIT/APPL to set the telemetry frequency to 52.47 MHz.
6. Press EXIT to return to the sweep display.

RF Down Converter

The equipment setup for this procedure is shown in Figure 5-6.

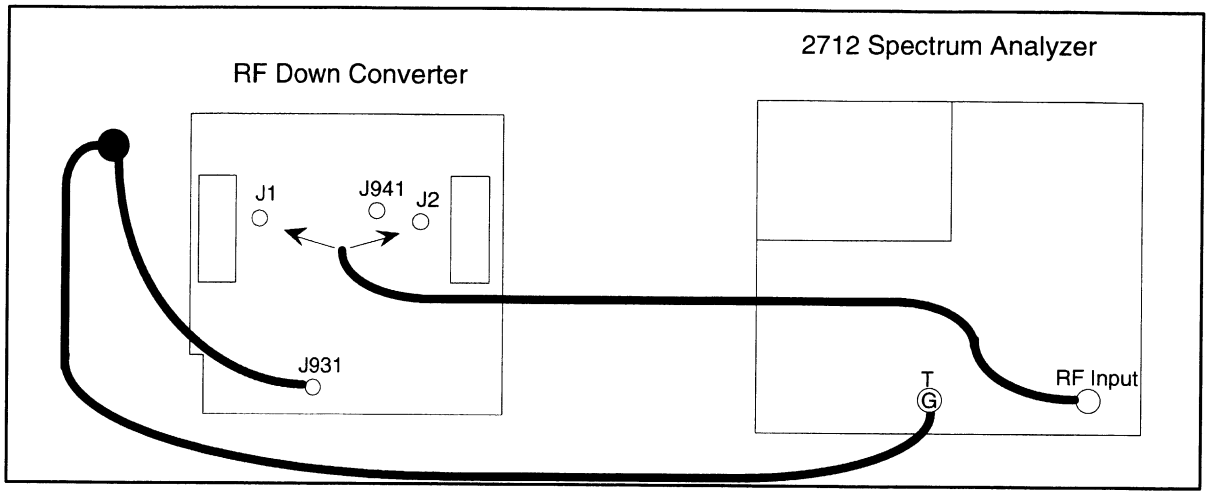

Figure 5-6: Setup for RF down converter calibration, steps 1 – 12.

1. Disconnect J941 from the RF down converter board.
2. On the spectrum analyzer, press DEM/TG and then press menu key 4 to turn on the tracking generator.
3. Press DEM/TG and then press menu key 5 to set the tracking generator fixed level to 0.0 dBm.
4. Set spectrum analyzer as follows:

Adjustment	Setting
Center frequency	701.5 MHz
Span	5 MHz
Vertical Scale	5 dB/div
Ref Level	–40 dBm
Video Filter	ON
Res BW	AUTO

5. Press the APPL menu key to turn on the –3 dB bandwidth measurement.

6. Connect the TG output to the transmitter's RF input on the rear panel (J931, the RF down converter input).

7. Connect J1, the first IF1 test port, to the input of the spectrum analyzer.

8. Press UTIL/UTIL/DISP/dB/div/dB/div and enter the password TEKTV.

9. Press SETUP and tune DC1 to 500 MHz (local oscillator frequency around 1200 MHz) and DC2 to 400 MHz (local oscillator frequency around 1100 MHz).

10. Observe the filter shape on the spectrum analyzer's display and compare it with the specifications below.

11. If necessary, adjust four tuning capacitors for peak signal, center, bandwidth, and shape.

Adjustment	Specification
Bandwidth	7 — 10 MHz at 3 dB down point.
Center	3 dB points reasonably centered.
Peak	Peak amplitude at center frequency.
Shape	>40 dB attenuation at –18 MHz and +22 MHz from center frequency (set vertical scale to 10 dB/div.)

NOTE. *The tuned filter response should have at least 40 dB of signal-to-noise when the spectrum analyzer is set as described. The peak of the filter should be above –57 dBm at the IF test port.*

12. Connect J2, the second IF2 test port, to the input of the spectrum analyzer and repeat steps 10 and 11 for test port F2.

13. Figure 5-7 shows the equipment setup for the remaining steps of this procedure.

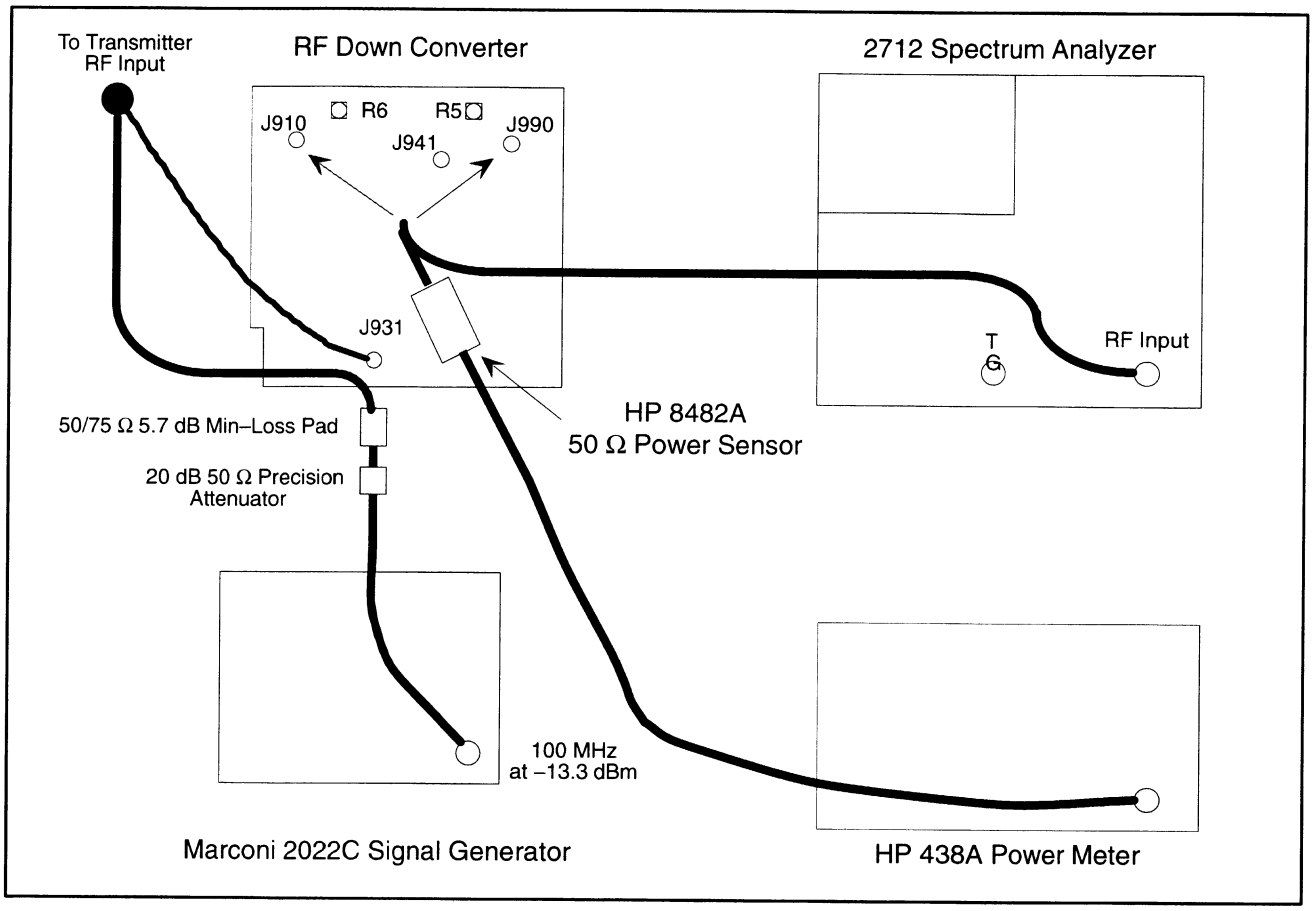

Figure 5-7: Setup for RF down converter calibration, steps 13 – 24.

14. Connect the HP power sensor to a 2-ft, 50 Ω cable and connect the cable to the signal generator output (set the signal generator output to 100 MHz and adjust the signal generator level for –13.3 dBm).

15. Connect a 20 dB 50 Ω precision attenuator to the frequency generator output.

16. Add a 50-to-75 Ω, 5.7 dB min-loss pad to the end of the 20 dB attenuator and connect the output of the generator and attenuators to the transmitter's RF input (at the rear panel) with a 75 Ω coaxial cable.

17. Set the spectrum analyzer as follows:

Adjustment	Setting
Center frequency	10.7 MHz
Span	50 kHz
Ref level	–10 dBm
Resolution bandwidth	3 kHz

18. Reconnect J620 on the 2nd LO board to J941 on the RF down converter board.

19. Tune the local oscillators to 100 MHz for DC1 and DC2.

20. Connect J910 output to the input of the power meter.

21. Adjust R6 for –19.0 dBm ±0.10 dBm as shown on the power meter.

22. Connect J910 output to the input of the spectrum analyzer and observe the trace for presence of unwanted FM noise.

NOTE. *A narrow filter must be selected to observe FM noise with the spectrum analyzer. With the spectrum analyzer's bandwidth set to 3 kHz, signal bandwidth should be less than 10 kHz.*

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23. Connect J990 output to the input of the power meter.

24. Adjust R5 for –19.0 dBm ±0.10 dBm as shown on the power meter.

25. Connect the J990 output to the input of the spectrum analyzer and observe the trace for presence of unwanted FM noise (see the note above).

26. Press EXIT four times to return to the receiver's sweep display.

Sync Board

Test Setup

1. Connect a 75 Ω step attenuator to an unscrambled RF test signal source and connect the output of the attenuator to the input of the spectrum analyzer.

2. Set the spectrum analyzer as follows:

Adjustment	Setting
Center frequency	31.01 MHz
Span	1 MHz
Ref level	0 dBm
Resolution bandwidth	Auto
Input menu	75 Ω dBmV

3. Set the Jerrold MVP scrambler to standby and set the IF switch on the NTSC modulator for MVP input.

4. Adjust the attenuator so the low-frequency channel output level is –3, 0, +16, +19, and +5 dBmV (leave the attenuator set for +5 dBmV).
5. Record the step attenuator values corresponding to the five output levels.
6. Now, remove the signal source from the spectrum analyzer and connect it to the transmitter RF input.

Figure 5-8 shows the sync board setup described above and used in the following sync board procedures.

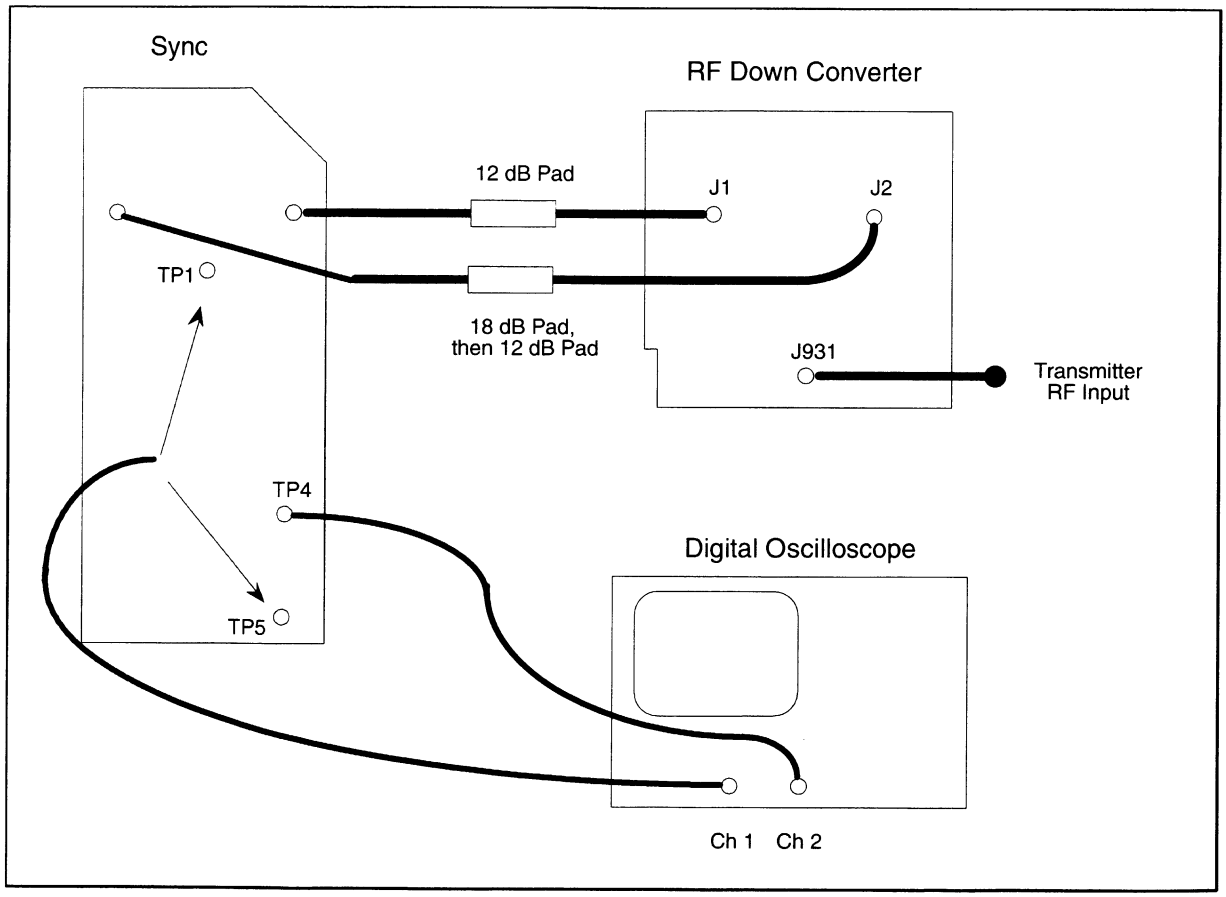

Figure 5-8: Setup for sync procedures.

Procedure

1. Connect the transmitter and receiver with an RS-232 cable.
2. Power on both transmitter and receiver.
3. On the receiver, press UTIL/UTIL/DISP/dB/DIV/dB/DIV, enter the password TEKTV, and press SETUP to enter the Tune RF Down Converters menu.

4. Now, press QC (decode mode) seven times to set the decoder to test mode.

5. Tune DC1 to the unscrambled, unimpaired low-frequency NTSC test channel T11 (DC1 is 31.01 MHz and DC2 is 35.51 MHz).

In the Tune RF Down Converter menu, DC1 is tuned to the video carrier (VC) frequency and DC2 is tuned to an offset frequency that depends on the decode mode used. For Oak Sigma mode DC2 is tuned to the video carrier and DC1 is tuned to the specified offset frequency (see the table below).

Mode	DC1	DC2	RF Input Limits
Standard (includes impaired video)	VC	+4.5 MHz	–3 to +16 dBmV
RF Suppressed	VC	+6.0 MHz	–3 to +16 dBmV
PIR2[1]	VC	+6.0 MHz	–3 to +16 dBmV
Video Way	VC	+4.5 MHz	–3 to +16 dBmV
Oak Sigma	+2.045 MHz	VC	0 to +19 dBmV

6. Set the oscilloscope channel 1 vertical scale to 500 mV/div.
7. Set the oscilloscope channel 2 vertical scale to 2 V/div.

8. Set the oscilloscope to 2 µs/div.

9. Connect the channel 1 oscilloscope probe to TP1 (VIDEO OUT) on the sync board.

10. Connect the channel 2 oscilloscope probe to TP4 (PULSE OUT) on the sync board.

11. Trigger on the falling edge of the channel 2 signal from TP4 on the sync board.

12. Set the trigger point to place the leading edge of the pulse at center screen.

13. Adjust R110 (VSync Filter Delay Cal) to make the peak of the first post-equalizing pulse coincident with the falling edge of the pulse at TP4.

Normal Operation and Maximum Input AGC Test (NTSC)

The tolerances in the checks listed below are for room temperature. For extended temperatures, see the instrument specifications.

1. Set the oscilloscope channel 1 vertical scale to 2 V/div.

2. Connect the channel 1 oscilloscope probe to TP5 (TELGATE) on the sync board.

[1] This mode is present only in units with firmware version 3.2 and up.

3. Trigger on the rising edge of the first channel.
4. Verify that the rising edge of channel 1 occurs 6.0 µsec ±350 ns before the falling edge of the second channel.
5. Trigger on the second channel falling edge.
6. Verify that pulse width on the second channel is 14 µsec ±0.35 µsec.
7. Now, set the oscilloscope channel 1 vertical scale to 500 mV/div.
8. Connect the oscilloscope channel 1 to TP1 on the sync board.
9. Place the oscilloscope's vertical cursors at 6 µsec and 12 µsec before the falling edge of the second channel.
10. For the standard, impaired video, Video Way, and Oak Sigma test signals, verify that the falling edge of the pulse is 9 µsec ±3 µsec from the peak of the first post-equalizing pulse and never occurs at any other time.
    a. Select 75% color bars on the programmable signal generator, select the MVP input with the IF switch, and set MVP to standby (non-scrambled) mode.
    b. Press QC (decode mode) to select the standard test mode.
    c. Check the pulse specifications for both output levels (+5 and +16 dBmV).
    d. On the programmable signal generator, press the impaired video button and select MVP bypass with the IF switch.
    e. Check the pulse specifications for both output levels (+5 and +16 dBmV).
    f. On the programmable signal generator, press the Video Way button.
    g. Press QC (decode mode) to select the VID-WAY test mode on the receiver.
    h. Check the pulse specifications for both output levels (+5 and +16 dBmV).
    i. Move the channel 1 probe from TP1 to TP2 and press the Oak Sigma button on the programmable signal generator.
    j. Tune DC1 to 33.05 MHz and DC2 to 31.01 MHz, then press QC (decode mode) to select the OAK SIG test mode on the receiver.
    k. Press dB/DIV to select Dynamic mode and set the oscilloscope for 5 µsec/div.

l. Check that the channel 2 pulse lies between the channel 1 first and second post-equalizing pulses with at least 4 µsec clearance on either side (check at both input levels: +5 and +19 dBmV).

NOTE. *The channel 1 trace is moving, so observe its extreme movements. Also observe the transmitter's green LED for a few seconds. Any blinking signifies a misfire.*

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m. Press dB/DIV to change the tuning mode to Static.

n. Move the channel 1 probe to TP1 and set channel 1 to 500 mV/div, channel 2 to 2 V/div, and the time to 2 µsec/div.

Normal Operation And Maximum Input AGC Test (PAL)

1. Press APPL (NTSC/PAL) for PAL operation.
2. Tune DC1 to 588.01 MHz and DC2 to 594.01 MHz (test channel 78 on the C6MP-I modulator).
3. Press QC (decode mode) to select RF suppression and place the MVP-I (PAL) scrambler in RF-suppressed scrambled mode.
4. Verify that the falling edge of the pulse is 9 µsec ±3 µs from the peak of the first post-equalizing pulse and never occurs at any other time (do this for +5 dBmV and +16 dBmV output levels).
5. Press QC to select PIR2 decode mode.[2]
6. Verify that the falling edge of the pulse is 9 µs ±3 µs from the peak of the first post-equalizing pulse and never occurs at any other time (do this for +5 dBmV and +16 dBmV output levels).[2]

Minimum Input AGC Test (PAL)

1. Set the variable attenuator for a –3 dBmV input level.
2. Insert a 12 dB test pad between the down converter and channel 1 on the sync board.
3. Insert an 18 dB test pad between the down converter and channel 2 on the sync board.
4. Verify that the falling edge of the pulse is 9 µsec from the peak of the first post-equalizing pulse and never occurs at another time.

[2] Perform this step only for units with firmware version 3.2 and up.

5. Press QC to select RFSUPP decode mode.[2] Verify the test pulse specification again for both output levels.[2]

Minimum Input AGC Test (NTSC)

1. Press APPL (NTSC/PAL) to select NTSC operation.
2. Tune RF down converter DC1 to 31.01 MHz and DC2 to 35.51 MHz (test channel T11 on the NTSC video modulator).
3. For the standard, impaired, Video Way, and Oak Sigma video test signals, verify that the falling edge of the pulse is 9 µsec ±3 µsec from the peak of the first post-equalizing pulse and never occurs at another time.
   a. Select the MVP input with the IF switch, press QC to select standard test mode, set MVP to non-scrambled mode, and select 75% colors bars on the programmable signal generator.
   b. Verify the pulse specifications for a –3 dBmV input level.
   c. Select MVP bypass with the IF switch and press the impaired video button on the programmable signal generator.
   d. Verify the pulse specifications for a –3 dBmV input level.
   e. Press the Video Way button on the programmable signal generator.
   f. On the receiver, press QC to select the VID-WAY test mode and verify the pulse specifications for a –3 dBmV input level.
   g. Move the oscilloscope channel 1 probe from TP1 to TP2 and set the oscilloscope to 5 µsec/div.
   h. Press the Oak Sigma button on the programmable signal generator, then on the receiver, press QC to select the Oak Sigma test mode.
   i. Tune DC1 to 33.05 MHz and DC2 to 31.01 MHz.
   j. Press dB/DIV to select Dynamic mode and verify the Oak Sigma specifications for a 0 dBmV input level [see step 10 L of the procedure Normal Operation and Maximum Input AGC Test (NTSC)].
   k. Press EXIT to display the transmitter's Diagnostics menu.

[2] Perform this step only for units with firmware version 3.2 and up.

RF Up Converter

Tune First IF Bandpass Filters

Figure 5-9 shows the setup for this procedure.

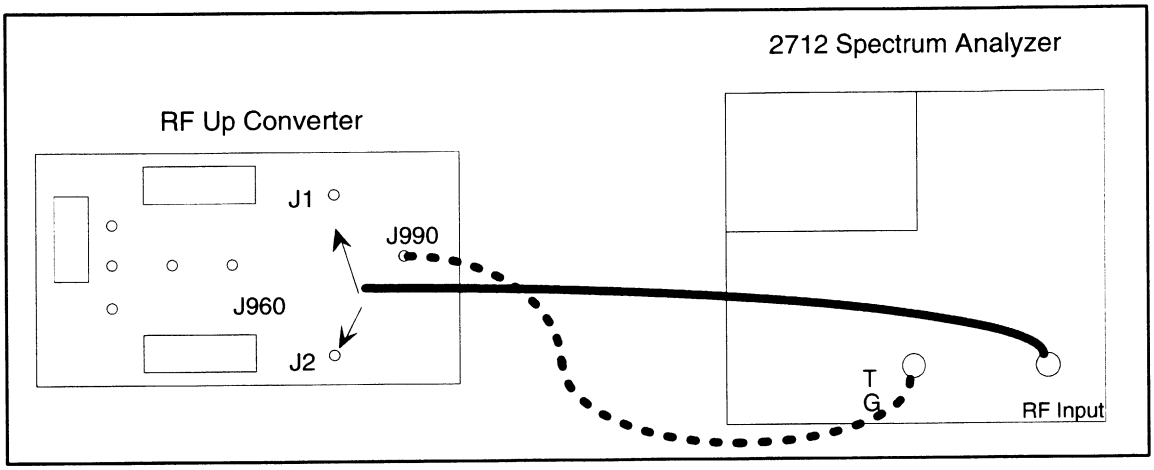


Figure 5-9: Setup for first IF bandpass tuning.

1. Set the spectrum analyzer as follows:

Control	Setting
Center frequency	48 MHz
Span	500 kHz
Vertical scale	5 dB/div
Reference level	–40 dBm
Video filter	ON
Resolution bandwidth	AUTO

2. Disconnect the J960 and J990 inputs from the 2nd LO board.
3. Connect the TG (tracking generator) output of the spectrum analyzer to J990 (48 MHz).
4. Connect the spectrum analyzer RF input to J1 (UC1 1st IF).
5. Power on the tracking generator with 0 dBm output power.
6. Enable spectrum analyzer bandwidth measurement by pressing the APPL menu key.

7. Set spectrum analyzer bandwidth mode to –3 dBc and press 0 to enable.
8. Press STORE, then press UTIL twice (transmitter pulse on).
9. Press APPL (gain high) and press QC to select leveling mode to manual.
10. Set level adjust to 0xFF by turning the receiver's center knob.
11. Rotate R960 (UC1 level) fully clockwise to get the largest 48 MHz amplitude.
12. Set the spectrum analyzer's vertical scale to 1 dB/div.
13. Adjust the reference level to place the signal close to top of screen (the peak of the signal should be above –45 dBm when the filter is tuned).
14. Check filter shape, center, and bandwidth to the following specifications:

Adjustment	Specification
Center frequency	48 MHz
Bandwidth	750 — 950 kHz (–3 dB) centered about 48 MHz 1.0 — 1.6 MHz (–10 dB) centered about 48 MHz
Shape	Filter shape should be smooth. Attenuation is less for frequencies above 50 MHz than for frequencies below 46 MHz.

15. If necessary, tune C901, C902, and C903 to center filter-peak amplitude at 48 MHz (it is best to tune the capacitors in this order: C901, C903, and C902, then fine adjust the capacitors for peak amplitude).
16. Now, set the spectrum analyzer as follows:

Control	Setting
Center frequency	58.7MHz
Span	1 MHz/div
Vertical scale	1 dB/div
Reference level	–50 dBm
Video filter	ON
Resolution bandwidth	AUTO

17. Connect the spectrum analyzer input to J2, (UC2 1st IF).
18. Adjust the reference level to place the signal close to top of screen (the peak of the signal should be above –45 dBm when the filter is tuned).

19. Check filter shape, center, and bandwidth to the following specifications:

Adjustment	Specification
Center frequency	58.7 MHz
Bandwidth	1.2 — 1.7 MHz (–3 dB) centered about 58.7 MHz 2.0 — 3.0 MHz (–10 dB) centered about 58.7 MHz
Shape	Filter shape should be smooth. Attenuation is less for frequencies above 62.7 MHz than for frequencies below 54.7 MHz.

20. If necessary, tune C911, C912, and C913 so the filter-peak amplitude is centered at 58.7 MHz (it is best to tune the capacitors in this order: C911, C913, and C912, then fine adjust the tuning capacitors for peak amplitude).

Tune Second IF Bandpass Filters

Figure 5-10 shows the setup for this procedure.

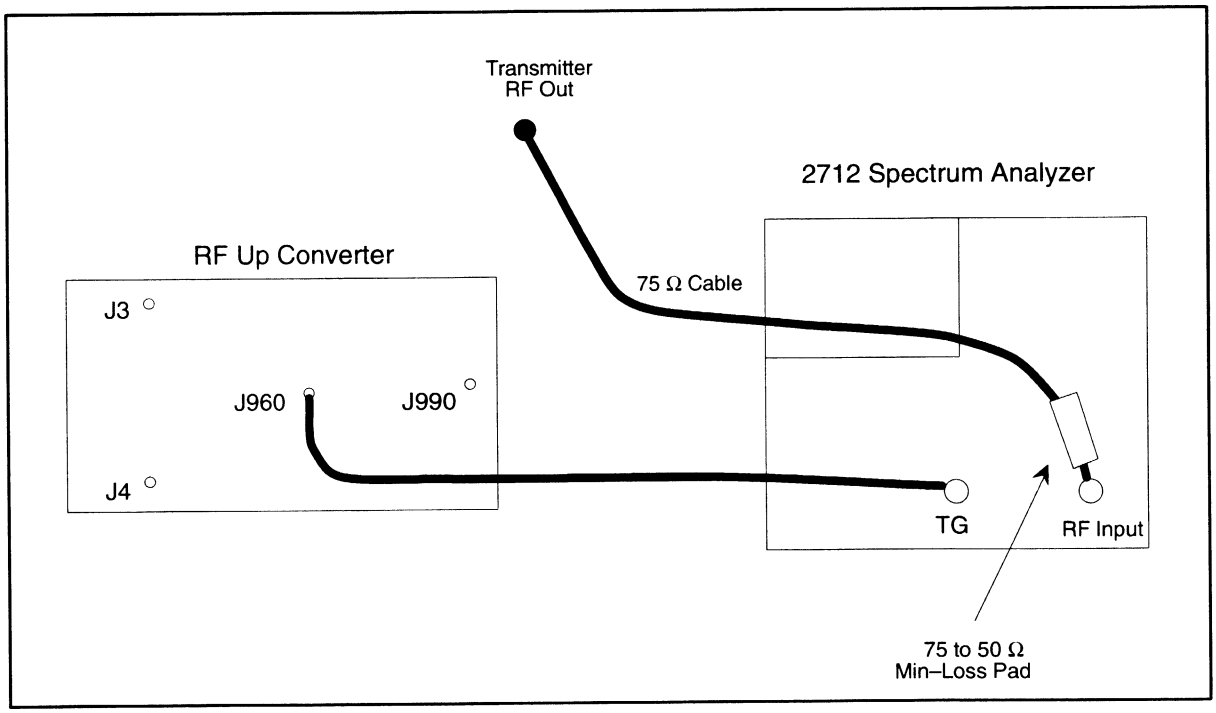


Figure 5-10: Setup for second IF bandpass tuning.

1. Connect the tracking generator to J960 (2nd LO), the input port of the RF up converter.

2. Connect the spectrum analyzer RF input to J3 (UC1 2nd IF).

3. Set the spectrum analyzer as follows:

Control	Setting
Center Frequency	738.8 MHz
Span	5 MHz/div
Vertical scale	5 dB/div
Reference level	–50 dBm
Video Filter	ON
Resolution bandwidth	AUTO
Bandwidth mode	ON, 3 dB

4. Tune both up converter local oscillators to 500 MHz (the local oscillator frequency around 1200 MHz).

5. Observe the UC1 second IF filter shape on the spectrum analyzer and compare it with the specifications below.

6. Reduce the span/div to 2 MHz/div and set the vertical scale to 1 dB/div.

7. Adjust the reference to place the signal close to top of screen.

8. If necessary, adjust the four tuning capacitors for peak signal, center, bandwidth, and shape.

9. Check filter shape, center, and bandwidth to the following specifications:

Adjustment	Specification
Bandwidth	3 dB at 7 — 10 MHz
Center	Peak amplitude at CF, 3 dB points reasonably centered
Shape	At –30 dB from peak, skirt is within 17 MHz of center frequency

NOTE. *Set the span to 5 MHz and vertical scale to 5 dB/division to check filter shape. The tuned-filter response should have 40 dB of signal-to-noise when the spectrum analyzer is set as described above. The peak of the filter should be above –60 dB at the IF test port.*

10. Connect the spectrum analyzer RF input to J4 (UC2 2nd IF).

11. Set the spectrum analyzer as follows:

Control	Setting
Center Frequency	749.5 MHz
Span	5 MHz/div
Vertical scale	5 dB/div
Reference level	–50 dBm
Video filter	ON
Resolution bandwidth	AUTO
Bandwidth mode	ON, 3 dB

12. Observe the UC2 second IF filter shape on the spectrum analyzer and compare it with the specifications below.

13. Reduce the span/div to 2 MHz/div and set the vertical scale to 1 dB/div.

14. Adjust the reference to place the signal close to the top of the screen.

15. If necessary, adjust the four tuning capacitors for peak signal, center, bandwidth, and shape, to the following specifications:

Adjustment	Specification
Bandwidth	3 dB at 7 — 10 MHz
Center	Peak amplitude at CF, 3 dB points reasonably centered
Shape	At –30 dB from peak, skirt is within 17 MHz of center frequency

NOTE. *Set the span and vertical scale to 5 dB/division to check filter shape. The tuned-filter response should have 40 dB of signal-to-noise when the spectrum analyzer is set as described above. The peak of the filter should be above –60 dB at the IF test port.*

Tuning Check, RF Output

Figure 5-11 shows the setup for this procedure.

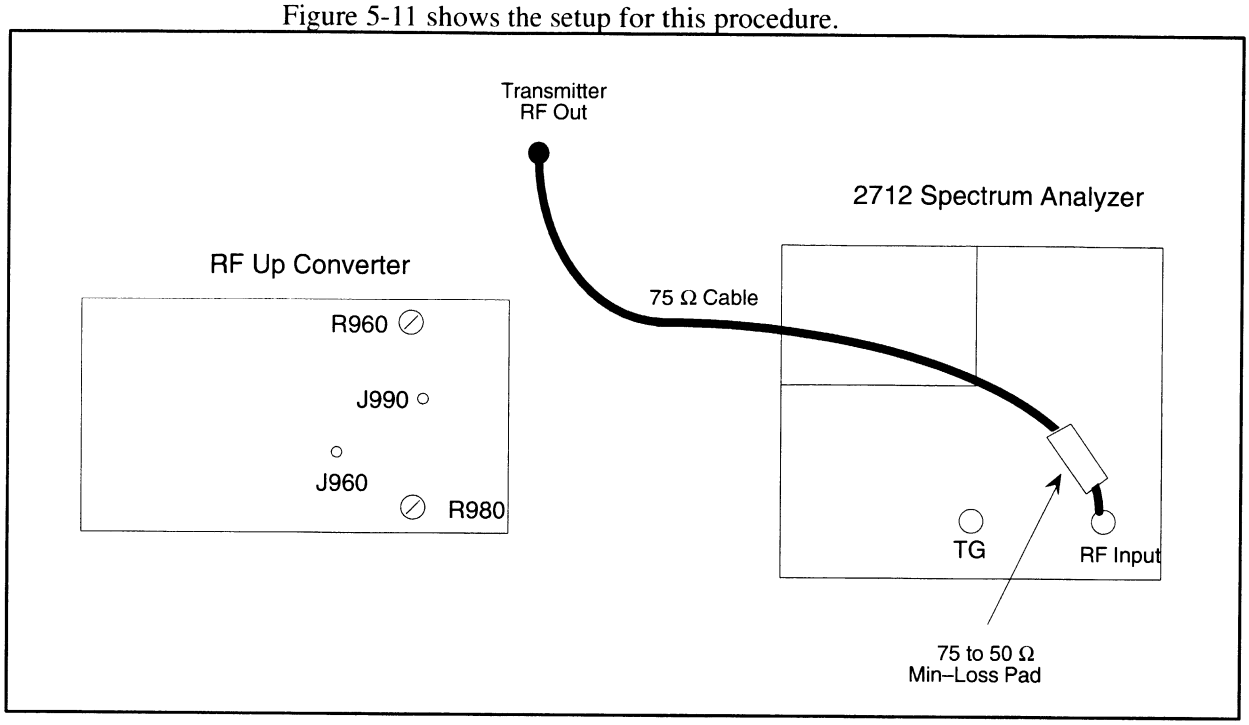


Figure 5-11: Setup for RF output tuning check.

1. Connect the 50 Ω side of a 75-to-50 Ω min-loss pad to the spectrum analyzer's RF input.
2. Connect a 75 Ω cable to the minimum-loss pad, and connect the cable to the transmitter's rear-panel RF output (see Figure 5-10).
3. Reconnect J990 (48 MHz) to the 2nd LO board.
4. Reconnect J960 (690.8 MHz) to the 2nd LO board.
5. Turn R980 (FSK LEVEL) fully clockwise for the highest FSK output level.
6. Turn R960 (UC1 LEVEL) fully clockwise for the highest pulse output level.
7. Set the spectrum analyzer as follows:

Control	Setting
Center Frequency	5 MHz
Span:	1 MHz
Reference level	+10 dBm
Vertical scale	10 dB/div
Resolution bandwidth	AUTO
Video filter	ON

NOTE. *For the following steps, the frequency of each tuned up converter need not be exact. These steps check to see that the RF up converter's first IF oscillator operates within its range without distortion (excessive FM).*

8. Set the UC2 frequency to 1 MHz.
9. Set the UC1 frequency to 5 MHz and check that the signal is at the correct frequency on the spectrum analyzer.
10. Change the spectrum analyzer center frequency to 625 MHz.
11. Set the UC1 frequency to 625 MHz and check that the signal is at the correct frequency on the spectrum analyzer.
12. Set the UC1 frequency to 2 MHz.
13. Change the spectrum analyzer center frequency to 5 MHz.
14. Set the UC2 frequency to 5 MHz and check that the signal is at the correct frequency on the spectrum analyzer.
15. Change the spectrum analyzer center frequency to 614 MHz.
16. Set the UC2 frequency to 614 MHz and check that the signal is at the correct frequency on the spectrum analyzer.
17. Set the UC1 frequency to 610 MHz.
18. Measure TP1 (UC1 TUNE) with a digital multimeter (the DC voltage must be less than 16.5 V after a 10-minute warm up).
19. Set the UC2 frequency to 600 MHz.
20. Measure TP2 (UC2 TUNE) with a digital multimeter (the DC voltage must be less than 16.5 V after a 10-minute warm up).

UC1 Amplitude Adjustments and Flatness Check

This procedure uses the receiver's Tune RF Up Converters mode to control the RF up converter.

Figure 5-12 shows the setup for this procedure.

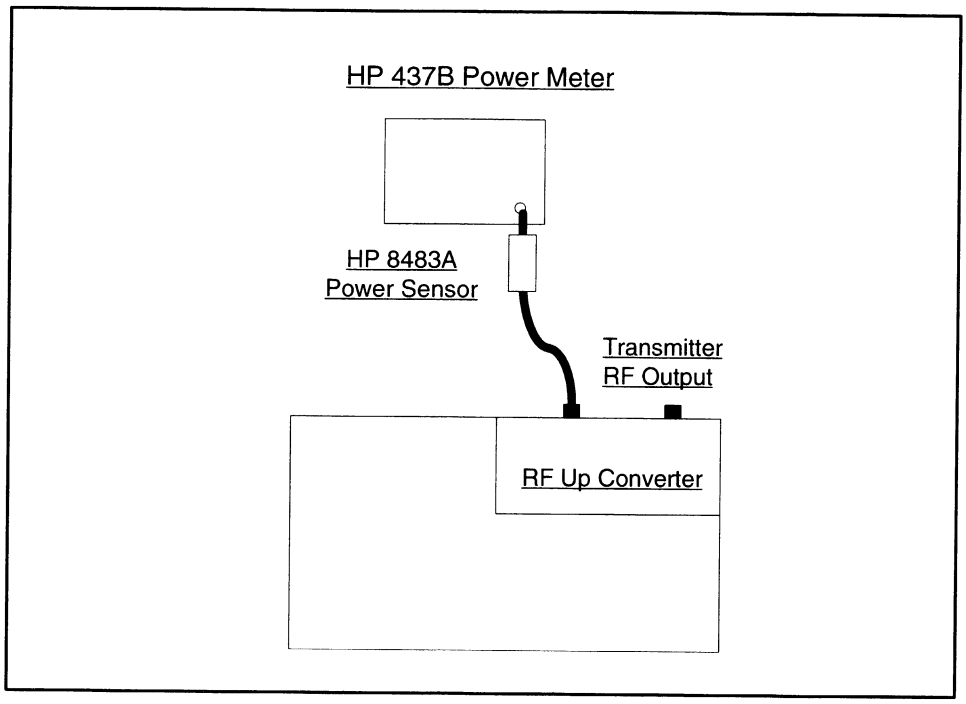


Figure 5-12: Setup for UC1 amplitude adjustment and flatness check.

1. Press UTIL to set the transmitter pulse on.
2. Press QC to set leveling mode to manual.
3. Turn the center knob to set level adjust to 0xFF.
4. Press APPL to set select gain to high.
5. Disconnect the 75-to-50 Ω minimum-loss pad from the transmitter and spectrum analyzer.
6. Connect a 75 Ω power meter and sensor to the transmitter's RF output on the rear panel.
7. Set the UC1 frequency to 50 MHz.
8. Note the level on the power meter. The level should be greater than +1 dBm and less than +10 dBm after a 10-minute warm up.

9. Set R960 (UC1 level) for a +1 dBm ±0.1 dBm RF output.

10. Turn the center knob to set the level adjust to 0x80 (the power meter level should drop 6 dB ±0.5 dB).

11. Press APPL to set select gain to low (the power meter level should drop between 11 and 12.5 dB).

12. Press APPL to select gain high.

13. Record the UC1 output amplitude at these frequencies: 15 MHz, 50 MHz, 100 MHz, 150 MHz, 200 MHz, 250 MHz, 300 MHz, 350 MHz, 400 MHz, 450 MHz, 500 MHz, 550 MHz, 600 MHz.

14. Compare the maximum and minimum output with the 50 MHz output (the extremes should not be more than ±3 dB from the 50 MHz output).

UC2 Amplitude Flatness Check

1. Press UTIL to select transmitter pulse off.

2. Set the UC2 frequency to 50 MHz.

3. Adjust R980 (FSK level) to make the RF output –3.75 dBm ±0.05 dB at 50 MHz.

4. Record the UC2 output amplitude at these frequencies: 15 MHz, 50 MHz, 100 MHz, 150 MHz, 200 MHz, 250 MHz, 300 MHz, 350 MHz, 400 MHz, 450 MHz, 500 MHz, 550 MHz, 600 MHz.

5. Compare the maximum and minimum output with the output at 50 MHz (the extremes should not be more than ±3 dB from the UC2 output at 50 MHz).

After performing these calibration procedures, the transmitter must be leveled. Use the following procedure to level the transmitter.

Manual Leveling Procedure

The transmitter leveling procedure ensures that the output of the 2721A transmitter has the same level (signal strength) at all frequencies in its operating range. The level adjust factor for each frequency and tilt listed in the tables is derived using this procedure and stored on the microprocessor board. This leveling procedure must be performed if you recalibrate or replace the up converter or replace the microprocessor.

1. On the RF up converter, turn R980 fully counterclockwise.

2. Install the top cover, apply power to the transmitter, and allow it to warm for two hours before performing the remaining steps of this procedure.

3. Connect an HP438A power meter and HP 8483A 75 Ω sensor to the output of the transmitter.
4. Connect receiver and transmitter with an RS-232 cable.
5. On the receiver, press UTIL/UTIL/DISP/dB/div/dB/div and enter the password TEKTV.
6. Press DISP/UTIL.
7. Press dB/DIV to select 0 dB tilt.
8. Note the reading on the power meter.
9. On the receiver, turn the left knob to select each channel and use the center knob to adjust the output level for each channel to match the numbers listed in Table 5-2.

NOTE. *In many cases, selecting Copy Level from the previous channel sets the level for the next channel correctly.*

10. Repeat steps 7, 8, and 9 for 2, 4, 6, and 8 dB of tilt.
11. Press EXIT four times to exit the leveling test.
12. Adjust R980 on the transmitter's RF up converter for –3.75 dBm.
13. Replace the top cover on the transmitter chassis.

Table 5–2: Output Level in Non-Tilted Mode

Frequency	Tilt				
(MHz)	0 dB	2 dB	4 dB	6 dB	8 dB
1.01	–3.75	–5.75	–7.75	–9.75	–11.75
7.01	–3.75	–5.73	–7.71	–9.69	–11.67
13.01	–3.75	–5.71	–7.67	–9.63	–11.60
19.01	–3.75	–5.69	–7.63	–9.58	–11.52
25.01	–3.75	–5.67	–7.60	–9.52	–11.44
31.01	–3.75	–5.65	–7.56	–9.46	–11.37
37.01	–3.75	–5.63	–7.52	–9.40	–11.29
43.01	–3.75	–5.62	–7.48	–9.35	–11.21
49.01	–3.75	–5.60	–7.44	–9.29	–11.13
55.25	–3.75	–5.58	–7.40	–9.23	–11.05
61.25	–3.75	–5.56	–7.36	–9.17	–10.98
67.25	–3.75	–5.54	–7.33	–9.11	–10.90

Table 5–2: Output Level in Non-Tilted Mode (Cont.)

Frequency (MHz)	Tilt				
	0 dB	2 dB	4 dB	6 dB	8 dB
73.25	–3.75	–5.52	–7.29	–9.06	–10.82
77.25	–3.75	–5.51	–7.26	–9.02	–10.77
83.25	–3.75	–5.49	–7.22	–8.96	–10.70
91.25	–3.75	–5.46	–7.17	–8.88	–10.59
97.25	–3.75	–5.44	–7.13	–8.82	–10.52
103.25	–3.75	–5.42	–7.09	–8.77	–10.44
109.25	–3.75	–5.40	–7.06	–8.71	–10.36
115.25	–3.75	–5.38	–7.02	–8.65	–10.29
121.25	–3.75	–5.36	–6.98	–8.59	–10.21
127.25	–3.75	–5.35	–6.94	–8.54	–10.13
133.25	–3.75	–5.33	–6.90	–8.48	–10.06
139.25	–3.75	–5.31	–6.86	–8.42	–9.98
145.25	–3.75	–5.29	–6.83	–8.36	–9.90
151.25	–3.75	–5.27	–6.79	–8.31	–9.82
157.25	–3.75	–5.25	–6.75	–8.25	–9.75
163.25	–3.75	–5.23	–6.71	–8.19	–9.67
169.25	–3.75	–5.21	–6.67	–8.13	–9.59
175.25	–3.75	–5.19	–6.63	–8.08	–9.52
181.25	–3.75	–5.17	–6.60	–8.02	–9.44
187.25	–3.75	–5.15	–6.56	–7.96	–9.36
193.25	–3.75	–5.13	–6.52	–7.90	–9.29
199.25	–3.75	–5.11	–6.48	–7.84	–9.21
205.25	–3.75	–5.10	–6.44	–7.79	–9.13
211.25	–3.75	–5.08	–6.40	–7.73	–9.06
217.25	–3.75	–5.06	–6.36	–7.67	–8.98
223.25	–3.75	–5.04	–6.33	–7.61	–8.90
229.25	–3.75	–5.02	–6.29	–7.56	–8.82
235.25	–3.75	–5.00	–6.25	–7.50	–8.75
241.25	–3.75	–4.98	–6.21	–7.44	–8.67
247.25	–3.75	–4.96	–6.17	–7.38	–8.59
253.25	–3.75	–4.94	–6.13	–7.33	–8.52
259.25	–3.75	–4.92	–6.10	–7.27	–8.44
265.25	–3.75	–4.90	–6.06	–7.21	–8.36
271.25	–3.75	–4.88	–6.02	–7.15	–8.29

Table 5–2: Output Level in Non-Tilted Mode (Cont.)

Frequency (MHz)	Tilt				
	0 dB	2 dB	4 dB	6 dB	8 dB
277.25	–3.75	–4.86	–5.98	–7.09	–8.21
283.25	–3.75	–4.85	–5.94	–7.04	–8.13
289.25	–3.75	–4.83	–5.90	–6.98	–8.06
295.25	–3.75	–4.81	–5.86	–6.92	–7.98
301.25	–3.75	–4.79	–5.83	–6.86	–7.90
307.25	–3.75	–4.77	–5.79	–6.81	–7.83
313.25	–3.75	–4.75	–5.75	–6.75	–7.75
319.25	–3.75	–4.73	–5.71	–6.69	–7.67
325.25	–3.75	–4.71	–5.67	–6.63	–7.59
331.25	–3.75	–4.69	–5.63	–6.58	–7.52
337.25	–3.75	–4.67	–5.60	–6.52	–7.44
343.25	–3.75	–4.65	–5.56	–6.46	–7.36
349.25	–3.75	–4.63	–5.52	–6.40	–7.29
355.25	–3.75	–4.62	–5.48	–6.35	–7.21
361.25	–3.75	–4.60	–5.44	–6.29	–7.13
367.25	–3.75	–4.58	–5.40	–6.23	–7.06
373.25	–3.75	–4.56	–5.36	–6.17	–6.98
379.25	–3.75	–4.54	–5.33	–6.11	–6.90
385.25	–3.75	–4.52	–5.29	–6.06	–6.83
391.25	–3.75	–4.50	–5.25	–6.00	–6.75
397.25	–3.75	–4.48	–5.21	–5.94	–6.67
403.25	–3.75	–4.46	–5.17	–5.88	–6.60
409.25	–3.75	–4.44	–5.13	–5.83	–6.52
415.25	–3.75	–4.42	–5.10	–5.77	–6.44
421.25	–3.75	–4.40	–5.06	–5.71	–6.36
427.25	–3.75	–4.38	–5.02	–5.65	–6.29
433.25	–3.75	–4.37	–4.98	–5.60	–6.21
439.25	–3.75	–4.35	–4.94	–5.54	–6.13
445.25	–3.75	–4.33	–4.90	–5.48	–6.06
451.25	–3.75	–4.31	–4.86	–5.42	–5.98
457.25	–3.75	–4.29	–4.83	–5.36	–5.90
463.25	–3.75	–4.27	–4.79	–5.31	–5.83
469.25	–3.75	–4.25	–4.75	–5.25	–5.75
475.25	–3.75	–4.23	–4.71	–5.19	–5.67

Table 5–2: Output Level in Non-Tilted Mode (Cont.)

Frequency (MHz)	Tilt				
	0 dB	2 dB	4 dB	6 dB	8 dB
481.25	–3.75	–4.21	–4.67	–5.13	–5.60
487.25	–3.75	–4.19	–4.63	–5.08	–5.52
493.25	–3.75	–4.17	–4.60	–5.02	–5.44
499.25	–3.75	–4.15	–4.56	–4.96	–5.36
505.25	–3.75	–4.13	–4.52	–4.90	–5.29
511.25	–3.75	–4.12	–4.48	–4.85	–5.21
517.25	–3.75	–4.10	–4.44	–4.79	–5.13
523.25	–3.75	–4.08	–4.40	–4.73	–5.06
529.25	–3.75	–4.06	–4.37	–4.67	–4.98
535.25	–3.75	–4.04	–4.33	–4.62	–4.90
541.25	–3.75	–4.02	–4.29	–4.56	–4.83
547.25	–3.75	–4.00	–4.25	–4.50	–4.75
553.25	–3.75	–3.98	–4.21	–4.44	–4.67
559.25	–3.75	–3.96	–4.17	–4.38	–4.60
565.25	–3.75	–3.94	–4.13	–4.33	–4.52
571.25	–3.75	–3.92	–4.10	–4.27	–4.44
577.25	–3.75	–3.90	–4.06	–4.21	–4.37
583.25	–3.75	–3.88	–4.02	–4.15	–4.29
589.25	–3.75	–3.87	–3.98	–4.10	–4.21
595.25	–3.75	–3.85	–3.94	–4.04	–4.13
601.25	–3.75	–3.83	–3.90	–3.98	–4.06
607.25	–3.75	–3.81	–3.87	–3.92	–3.98
613.25	–3.75	–3.79	–3.83	–3.87	–3.90
619.25	–3.75	–3.77	–3.79	–3.81	–3.83
625.25	–3.75	–3.75	–3.75	–3.75	–3.75

Maintenance and Replacement Procedures

Introduction

This section contains general procedures for the care and maintenance of the 2721A/2722A. It also contains troubleshooting information and descriptions of how to remove and replace circuit boards and other components, and how to obtain customer services when you need them. The material in this section is designed to guide you through board and module repair and replacement. If the instrument does not function properly, troubleshooting and corrective measures should be taken immediately to prevent additional problems.

CAUTION. *The following procedures should be performed only by qualified service personnel. Performing these procedures incorrectly could damage the instrument. Refer all repair and replacement procedures to a qualified service technician.*

Preventive Maintenance

Preventive maintenance consists of cleaning, visual inspection, performance checking, and, if needed, readjustment. The 2721A/2722A require little periodic maintenance. The preventive maintenance schedule established for the instruments should be based on the environment in which they are operated and the amount of use. Under average conditions, scheduled preventive maintenance should be performed every 12 months of operation.

CAUTION. *Cleaning and general care of the 2721A/2722A should be performed only when the instruments are powered off and the power cord removed from electrical mains.*

Tools Required

- Clean, non-abrasive cloth.
- Non-abrasive liquid glass cleaner.
- Isopropyl alcohol.
- Static-free vacuum cleaner with small brush attachment.

Cleaning

The instruments should be cleaned often enough to prevent dust or dirt from accumulating. Dirt acts as a thermal insulating blanket that prevents effective heat dissipation, and can provide high-resistance electrical leakage paths between conductors or components in a humid environment.

Exterior. Clean the dust from the outside of the instruments by wiping with a soft cloth. You may use a brush to remove dust from around control buttons, knobs, and connectors. Hardened dirt may be removed with a cloth dampened in water that contains a mild detergent or non-abrasive glass cleaner. Abrasive cleaners should not be used.

Display. Clean the display with a soft, lint-free cloth dampened with glass cleaner.

Interior. Use low-pressure dry air to remove accumulated dust and dirt (high-velocity air can damage some parts). Hardened dirt or grease may be removed with a cotton swab or pipe cleaner dampened with isopropyl alcohol. Abrasive cleaners should never be used. If the circuit board assemblies must be removed for cleaning, follow the instructions in the removal and replacement procedures of this section.

After cleaning, allow the interior to dry thoroughly before applying power to the instruments.

CAUTION. *Do not allow water to get inside any enclosed assembly or component. Do not clean any plastic materials with organic cleaning solvents, such as benzene, toluene, xylene, acetone, or similar compounds, because they may damage the plastic.*

Visual Inspection

After cleaning, carefully check the instruments for defective connections, damaged parts, and improperly seated components, integrated circuits, or circuit boards. The remedy for most visible defects is obvious; however, if heat-damaged parts are discovered, determine the cause of overheating before replacing the damaged part, to prevent additional damage.

Periodic checks of the components and integrated circuits are not recommended.

Static-Sensitive Components

This instrument contains electrical components that are susceptible to damage from static discharge. Static voltages 1 kV to 30 kV are common in unprotected

environments. Table 6–1 shows the relative static discharge susceptibility of various semiconductor classes.

Table 6–1: Static Susceptibility

Relative Susceptibility Levels[1]	Voltage
MOS and CMOS	100 — 500 V
ECL	200 — 500 V
Schottky Signal Diodes	250 V
Schottky TTL	500 V
HF Bipolar Transistors	400 — 600 V
JFETs	600 — 800 V
Linear microcircuits	400 — 1,000 V (est.)
Low-Power Schottky TTL	900 V
TTL	1,200 V

1 Voltage equivalent for levels (voltage discharged from a 100 pF capacitor through a 100 Ω resistance).

Observe the following precautions to avoid damage:

1. Minimize handling of static-sensitive components.
2. Transport and store static-sensitive components or assemblies in their original containers, on a metal rail, or on conductive foam. Label any package that contains static-sensitive components or assemblies.
3. Discharge the static voltage from your body, by wearing a wrist grounding strap, while handling these components. Servicing static-sensitive assemblies or components should be done only at a static-free work station by qualified personnel.
4. Nothing capable of generating or holding a static charge should be allowed on the work station surface.
5. Keep the component leads shorted together whenever possible.
6. Pick up the components by the body, never by the leads.
7. Do not slide the components over any surface.
8. Avoid handling components in areas that have a floor or work surface covering capable of generating a static charge.
9. Use a soldering iron that is connected to earth ground.
10. Use only special antistatic, suction, or wick-type desoldering tools.

Troubleshooting

The material contained here is general and is not intended to cover specific cases (these are covered later, in the section Troubleshooting the Instrument). Note that the manual itself is considered a troubleshooting aid, and as such a brief discussion of its contents is in order.

Troubleshooting Aids

Foldout Pages. The foldout pages at the back of the manual contain information that is useful in troubleshooting the instrument. Schematic diagrams and circuit board illustrations are found there.

Diagrams. Schematic diagrams are the most often used troubleshooting aids. The circuit number and electrical value of each component is shown on the diagram. The first page has definitions of the symbology used on the schematic diagrams. Refer to the Replaceable Electrical Parts list for a complete description of each component. Circuits that are mounted on circuit boards or assemblies are enclosed in a border, with the name and assembly number shown on the border.

NOTE. *Check the Change Information section in the rear of the manual for corrections and modifications to the instrument and the manual.*

Circuit Board Illustrations. Electrical components, connectors, and test points are identified on circuit board illustrations, which are located on the page facing the first schematic diagram for that board. Circuit board illustrations are assigned location grids along the left side and top, which are used with the parts locating charts to locate the components.

Parts Locating Charts. The parts locating charts are used in conjunction with the location grids on the board illustrations and on the schematics. There is one locator chart that shows all of the parts on the board. This locator chart shows which schematic the part is shown on, in addition to the board and schematic grid locations for that part. In addition, there are locator charts facing each schematic page that gives the board and schematic grid locations lists for only the parts depicted on that schematic page.

Assembly and Circuit Numbering. The circuit board assemblies are assigned assembly numbers.

Parts Lists. There are two separate parts lists in this manual. The list of Replaceable Electrical Parts precedes the schematic diagrams and circuit board illustrations. The list of Replaceable Mechanical Parts accompanied by exploded view drawings, follows the schematic diagrams and circuit board illustrations.

Replaceable Electrical Parts. This list is arranged by assembly as designated in ANSI Standard Y32.16-1975. The list begins with the part numbers for the major assemblies (etched circuit boards). Each circuit board is identified by an A# (Assembly Number). The circuit numbers of the individual components in the parts list are made up by combining the assembly number with the individual circuit number. EXAMPLE: R117 on Assembly (circuit board) A3 would be listed in the Replaceable Electrical Parts list as A3R117.

NOTE. *Always consult the parts list for part numbers and descriptions when ordering replacement parts. Some parts may have been replaced or have a different part number in an individual instrument. Also check the "Change Information" at the back of the manual for the most recent changes.*

Replaceable Mechanical Parts. This list is arranged so that it corresponds to the exploded view drawing for major instrument components.

Major Assembly Interconnection

Signals and power supply voltages are passed through the instrument by a system of interconnecting cables. The connector holders on these cables have numbers that identify terminal connectors; numerals used are from 2 up. A triangular key symbol is used to identify pin 1 on the circuit board to assist in aligning the correct pins on the mating connector.

General Troubleshooting Techniques

The following procedure is designed to assist in isolating problems, which in turn expedites repairs and minimizes down time.

1. Ensure that the malfunction actually exists. This is done by running the performance verification procedures to ensure that the instrument is operating as intended by Tektronix. The performance verification procedures are located in a separate section of this manual.
2. Determine and evaluate all trouble symptoms. This is accomplished by isolating the problem to a general area such as an assembly.

CAUTION. *Use extreme care when probing with meter leads or probes, because of the high component density and limited access within the instrument. The inadvertent movement of leads or a probe could cause a short circuit or transient voltage capable of destroying components.*

3. Determine the nature of the problem. Attempt to make the determination of whether the instrument is out of calibration or if there has been a component failure. Once the type of failure has been determined, identify the functional area most likely at fault.

4. Visually inspect the suspect assembly for obvious defects. Most commonly these will be broken or loose components, improperly seated components, overheated or burned components, chafed insulation, etc. In the case of overheated components, determine the cause of overheating and correct the cause before re-applying power.

5. Use successive electrical checks to locate the source of the problem. At times it may be necessary to change a calibration adjustment to determine if a circuit is operational, but since this can destroy instrument calibration, care should be exercised. Before changing an adjustment, note its position so that it can be returned to its original setting.

6. Determine the extent of the repair. If the necessary repair is complex, it may be advisable to contact your local Tektronix field office or representative before continuing. Repair of the 2721A/2722A system generally consists of replacing defective modules or isolating problems to specific circuits within modules and repairing the modules. If the repair is minor, see the parts list for replacement information.

7. Remove exchangeable defective modules and exchange them with the factory. If repair requires replacing a circuit board or other assembly, the removal and replacement procedures for the assemblies can be found in the section *Removal and Replacement Procedures*. Refer also to the information on obtaining replacement parts and exchanging defective modules with the factory.

Corrective Maintenance

NOTE. *No user repair should be attempted during the warranty period.*

Obtaining Replacement Parts

Replacement parts are available through the local Tektronix, Inc. field office or representative, or in the U.S. only, you may call the Tektronix Fast Parts Center at 1-800-848-5083 (1-503-690-3959 FAX). When you call for replacement parts, be ready to provide the information listed below.

Outside the U.S., contact your local Tektronix representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components, as they become available, and to improve circuit

performance. Therefore, it is important to include the following information when ordering parts:

- Part Number
- Instrument Type or Number
- Serial Number
- Modification or Option Number (if applicable)

If a part has been replaced with a new or improved part, the new part will be shipped (if it is a direct replacement). If the part is not directly replaceable, the local Tektronix field office or representative will contact the customer concerning any changes. After any repair, circuit readjustment may be required.

Servicing the 2721A/2722A Sweep System consists of isolating faults by performing troubleshooting functions and then replacing defective modules or parts. For information on troubleshooting the 2721A/2722A, see Troubleshooting the Instrument.

Exchanging 2721A/2722A Modules

Some instrument modules (listed in the table below) are available on an exchange basis. The phone number to call for a module exchange is (503) 627-7880. The FAX number is (503) 627-7882, or in the U.S. only, you may call the Fast Parts Center at 1-800-848-5083.

NOTE. *Module service and exchange should be performed only by qualified service personnel.*

If you call for a 2721A/2722A module exchange, you must supply the following information:

- Instrument serial number
- Firmware version number
- Module's complete part number

This ensures that you will receive the correct replacement. If the module you request is in stock, it will usually be sent to you the same day.

The following circuit boards are available through the module exchange system:

Instrument	Board Number	Description
2722A Receiver	A2	Microprocessor Board Assembly
2722A Receiver	A3	RF Down Converter Board Assembly
2722A Receiver	A4	Power Supply Board Assembly
2722A Receiver	A8	Log Amp Board Assembly
2721A Transmitter	A3	RF Down Converter Board Assembly
2721A Transmitter	A5	Sync Board Assembly
2721A Transmitter	A6	RF Up Converter Board Assembly

When you receive the replacement module you will also receive a shipping label. Use this shipping label to return the faulty module immediately to Tektronix via prepaid common-carrier freight. You may use the packaging material from the replacement module to prepare the faulty module for shipment. Ship the faulty module to:

Tektronix Inc.
TV Exchange, DS 58-725
Howard Vollum Industrial Park
Beaverton, Oregon 97077

Tektronix charges a standard fee for each out-of-warranty module exchanged. This fee will be quoted when you request the exchange module. If the faulty module is not received at the above address within 30 days of your request for an operating exchange module, the full catalog price of the module will be invoiced.

Your module is not eligible for exchange if:

- The module is damaged during repair attempts by personnel other than Tektronix representatives.
- The module is damaged through improper use or connection to incompatible equipment.
- The module has been modified by the customer.
- The module has been modified to the customer's specifications by Tektronix.

In these cases Tektronix invoices the full catalog price of a replacement module. Call your local Tektronix field office for further information.

NOTE. *If your 2722A receiver is fitted with the optional YT1 chart recorder and it has been found to be defective, you may have it repaired by sending it to an authorized Tektronix service center. You may also obtain an exchange YT1 chart recorder directly from Tektronix Beaverton (U.S. customers only).*

To obtain an exchange YT1 chart recorder, call 1-800-835-9433, extension 6630. (The Tektronix part number can be found in the 2722A Replaceable Mechanical Parts list, under Optional Accessories.) The standard Tektronix module exchange rules apply to YT1 chart recorder exchanges.

Customer Service Outside the U.S.

Customers outside the United States should contact their local Tektronix sales subsidiary or distributor for details on servicing the 2721A/2722A.

Removal and Replacement Procedures

This section describes removing and replacing the major sweep system receiver and transmitter modules. You may use these procedures to access circuit boards and other instrument modules for replacement or repair.

The 2722A receiver is a battery powered portable unit consisting of seven circuit boards, an LCD display, a keypad, and an option port interface housed in a plastic case with a hinged cover. The circuit boards, front panel bezel, option port interface, and battery are located and retained by an assembly of formed sheet-metal brackets. This assembly must first be removed from the plastic case before individual modules can be accessed for service.

Removing any instrument module from the receiver assembly for servicing consists of disconnecting cables and removing the fasteners holding the module in position. In all cases, module replacement is simply the reverse of the removal procedure.

The 2721A transmitter consists of a metal chassis that holds the instrument's six circuit boards. Transmitter circuit boards and other internal components are accessed for service by first removing a sheet-metal access cover.

Tools Required

These tools are required to perform the transmitter and receiver removal and replacement procedures.

- Torx tool, T-10
- Torx tool, T-15
- Wrenches: 3/16, 3/8, 7/16, and 9/16 inches.

2722A Receiver

This section describes removing and replacing circuit boards and modules in the sweep system receiver. You may use these procedures to gain access to the instrument's modules for adjustment, verification, or replacement.

WARNING. *Removing cover panels exposes hazardous voltages. Before removing instrument covers or performing removal or replacement procedures, always power down the instrument and disconnect power cords from electrical supplies. Use extreme caution when servicing this instrument, to prevent dangerous electrical shock.*

Refer to the exploded pictorial view of the 2722A receiver at the back of this manual as you perform the following procedures.

Removing and Replacing the Instrument Housing

1. Place the receiver on its back (cover latch facing up) and remove eight Torx fasteners holding the bottom plate to the housing.
2. Separate the bottom plate (with attached battery) from the housing and place it upright on the work surface.
3. Remove two Torx fasteners holding the battery shield retainer and separate the retainer from the battery.
4. Lift the plastic shield away from the battery, disconnect the wires, and remove the battery and bottom plate.
5. Place the receiver in the upright position and unlatch and open the hinged cover.
6. Grasping the edges of the receiver front panel bezel, lift the receiver from the housing and set it aside on the work surface.
7. To replace the receiver in the housing, reverse this procedure. Be sure to observe polarity when re-attaching wires to battery terminal connections.

Removing and Replacing the Battery

1. Remove the battery and bottom plate as described in steps 1 through 4 of *Removing and Replacing the Instrument Housing*.

NOTE. *Note the orientation of the battery (the position of the leads) with respect to the bottom plate. When repositioning the battery on the bottom plate, be sure to orient it the same way.*

2. Lift the urethane foam gasket to expose the fasteners holding the battery retainer to the bottom plate.
3. Remove four Torx fasteners and lift the battery retainer clear of the battery and bottom plate.
4. To replace the battery, reverse this procedure.

Removing and Replacing the Power Supply Board

1. Remove the instrument from its housing as described in *Removing and Replacing the Instrument Housing*.
2. Remove the cables from connectors J110, J280, J130, and J490 on the power supply board.

NOTE. *You must also remove the ribbon cable from J390 on the microprocessor board to gain access to one of the power supply board's retaining screws.*

3. Remove 17 Torx fasteners holding the power supply board on the sheet-metal retainer.

CAUTION. *Five Torx fasteners are accessed through clearance holes in the circuit board. These fasteners are factory installed with non-conductive shoulder washers for electrical isolation. Note the locations of these fasteners and be sure to re-install them in the same locations when replacing the power supply.*

4. Lift the power supply clear of the instrument.

5. To replace the power supply, reverse this procedure. Be sure that the five electrical isolation pads are aligned over the threaded holes in the sheet-metal retainer before replacing the power supply. If you have difficulty keeping these pads aligned during installation, place a small drop of thermal grease on each pad before positioning it on the retainer.

CAUTION. *The electrical isolation pads are required for power supply operation. When removing and replacing the power supply, be sure these are installed correctly before completing the installation and applying power to the receiver.*

Removing and Replacing the RF Down Converter Board

1. Remove the instrument from its housing as described in *Removing and Replacing the Instrument Housing*.

2. Remove the cables from connectors J980, J940, J930, J941, J910, and J990.

3. Remove six Torx fasteners holding the RF down converter board and retainer plate assembly to the instrument and lift the board clear.

4. To access components for repair, remove 16 Torx fasteners holding the retainer plate to the component side of the circuit board.

5. To replace the RF down converter board, reverse this procedure.

Removing and Replacing the Front Panel Display Assembly

The front panel display assembly consists of the instrument front panel bezel, the keypad, the transparent display window, the LCD display, and the front panel board. The front panel display assembly must be removed from the instrument as a unit before its modules may be separated for servicing or replacement.

1. Remove the instrument from its housing as described in *Removing and Replacing the Instrument Housing*.

2. Remove two Torx fasteners at the top of the front-panel bezel, one on each side.
3. Remove the ribbon cable from the front-panel board 34-pin connector.
4. Remove the power-switch wires.
5. Remove the signal input cable to the log board and the 4-wire cable from J490 on the power supply.
6. Now, remove four Torx fasteners holding the front-panel hinges to the power supply and RF down converter retaining plates.
7. Separate the front panel assembly from the receiver and lift it away.
8. To replace the front panel display assembly, reverse this procedure.

Removing and Replacing the LCD Display

1. Remove the instrument from its housing as described in *Removing and Replacing the Instrument Housing* and remove the front panel display assembly as described in *Removing and Replacing the Front Panel Display Assembly.*
2. Remove the two-conductor cable at J671.
3. Remove four Torx fasteners holding the LCD display on the front panel board.
4. Carefully separate the LCD display from the front panel board by disconnecting 14-pin connector J560.
5. To replace the LCD display, reverse this procedure. Be sure to position the display window in the front panel board opening before re-installing the LCD display.

Removing and Replacing the Front Panel Board

1. Remove the LCD display as described in *Removing and Replacing the LCD Display.*
2. Remove cables from CURSOR A, GAIN, CURSOR B, J640, J650, and J670 on the front panel board.
3. Remove four Torx fasteners and four spacers retaining the front panel board on the front-panel bezel.
4. Carefully separate the front panel board from the front-panel bezel.
5. To replace the front panel board, reverse this procedure.

Removing and Replacing the Log Board

1. Remove the instrument from its housing as described in *Removing and Replacing the Instrument Housing* and remove the front panel display assembly as described in *Removing and Replacing the Front Panel Display Assembly.*
2. Remove cables from connectors J1, J590, LOG IN, and J800.
3. Remove cables from connectors RF OUT, µPROC CLK, 3MHZ REF, and 2ND LO RF Down.
4. Remove the metal shield by removing six fasteners holding it to the log board.
5. Remove six fasteners holding the log board to its retainer.
6. Carefully separate the log board from the microprocessor board by prying up at connector J690 (J400 on the microprocessor board).
7. To replace the log board, reverse this procedure.

NOTE. *Be sure to align the pins on the microprocessor board at J400 (there are more pins on the board than there are sockets in the corresponding connector) with log board connector J690 before seating the connection.*

Removing and Replacing the Microprocessor Board

1. Remove the instrument from its housing as described in *Removing and Replacing the Instrument Housing*, and remove the front panel display assembly as described in *Removing and Replacing the Front Panel Display Assembly.*
2. Remove three Torx fasteners holding the option port interface and separate the interface chassis from the instrument.
3. Remove the cables from the microprocessor board SERIAL PORT and OPTION PORT connectors.
4. Remove the cable from power supply board connector J280 and set the option port interface chassis aside.
5. Disconnect the ribbon cable from power supply board connector J130 and disconnect the cable's opposite end from the microprocessor board.
6. Disconnect the cables from J100, J200, and J550.
7. Remove three Torx fasteners holding the RF down converter and retainer plate assembly and lay the assembly aside (you need not disconnect the cables).

8. Remove three Torx fasteners holding the power supply and retainer plate assembly and lay the assembly aside (again, you need not disconnect the cables).
9. Remove eight Torx fasteners holding the microprocessor board to its retainer plate.
10. Carefully separate the microprocessor board from the log board by prying the connector.
11. Lift the microprocessor board from the instrument.
12. To replace the microprocessor board, reverse this procedure.

2721A Transmitter

This section describes removing and replacing circuit boards and modules in the sweep system transmitter. You may use these procedures to gain access to the instrument's modules for adjustment, verification, or replacement.

WARNING. *Removing cover panels exposes hazardous voltages. Before removing instrument covers or performing removal or replacement procedures, always power down the instrument and disconnect power cords from electrical supplies. Use extreme caution when servicing this instrument, to prevent dangerous electrical shock.*

Refer to the exploded pictorial view of the 2721A transmitter as you perform the following procedures.

NOTE. *Label all electrical connections before removing them to ensure their replacement in the correct locations.*

Removing and Replacing the Power Supply Board

1. Remove the access cover and set it aside.
2. On the power supply board, remove the ribbon cable at P150 and the four-wire connector at P490.
3. Remove 16 Torx fasteners holding the power supply to the instrument bottom panel.

CAUTION. *Five Torx fasteners are accessed through clearance holes in the circuit board. These fasteners are factory installed with non-conductive shoulder washers for electrical isolation. Note the locations of these fasteners and be sure to re-install them in the same locations when replacing the power supply.*

4. Lift the power supply from the instrument.
5. To replace the power supply, reverse this procedure. Be sure that the five electrical isolation pads are aligned over the threaded holes in the instrument bottom panel before replacing the power supply. If you have difficulty keeping these pads aligned during installation, place a small drop of thermal grease on each pad before positioning it on the bottom panel.

CAUTION. *The electrical isolation pads are required for power supply operation. When removing and replacing the power supply, be sure these are installed correctly before completing the installation and applying power to the transmitter.*

Removing and Replacing the Microprocessor Board

1. Remove the access cover and set it aside.
2. On the microprocessor board, remove the CLOCK IN cable at J550 and the four-wire connector at J520.
3. Remove the cables from connectors J200, J100, J123, J180, and J390.
4. Now, remove eight Torx fasteners retaining the microprocessor board.
5. Separate the microprocessor board from the instrument and remove the ribbon cable at connector J400, then lift the board away.
6. To replace the microprocessor board, reverse this procedure.

Removing and Replacing the Sync Board

1. Remove the access cover and set it aside.
2. On the sync board, remove the cables from connectors J320, J390, J590, and J920.
3. Remove nine Torx fasteners retaining the sync board and lift the board clear of the instrument.
4. To replace the sync board, reverse this procedure.

Removing and Replacing the RF Down Converter Board

1. Remove the access cover and set it aside.

NOTE. *Observe how cables entering and exiting the RF down converter are routed. Be sure the cables are routed the same way when they are replaced.*

2. On the RF down converter board, remove cables from connectors J910, J990, and J931, and remove the ribbon cable at connector J980.
3. Remove cables from connectors J620 and J680 on the 2nd LO board.
4. Remove six Torx fasteners retaining the RF down converter and lift the board clear of the instrument.
5. To access board components for repair, remove the Torx fasteners that retain the shield on the component side of the board.
6. To replace the RF down converter board, reverse this procedure.

Removing and Replacing the 2nd LO Board

1. Remove the access cover and set it aside.
2. Remove cables from connectors J620, J640, J650, J670, J680, J980, and remove the ribbon cable from connector J800.
3. If desired, remove the cable from J931 on the RF down converter to make 2nd LO board removal easier.
4. Remove four Torx fasteners retaining the 2nd LO and shield assembly and lift the board clear of the instrument.
5. To access board components for repair, remove the Torx fasteners that retain the shield on the component side of the board.
6. To replace the 2nd LO board, reverse this procedure.

Removing and Replacing the RF Up Converter Board

1. Remove the access cover and set it aside.
2. Remove cables from connectors J900, J901, J922, J950, J960, and J990.
3. If desired, remove the cable from J931 on the RF down converter to make RF up converter removal easier.
4. Remove six Torx fasteners holding the RF up converter board and shield assembly and lift the assembly clear of the instrument.
5. To access board components for repair, remove the Torx fasteners that retain the shield on the component side of the board.
6. To replace the RF up converter board, reverse this procedure.

Troubleshooting the Instrument

This section lists common fault symptoms and their possible causes, then suggests actions that can be taken to correct each fault. See Table 6–2 for receiver diagnosis and Table 6–3 for transmitter diagnosis.

CAUTION. *Do not connect an RS-232 cable to the receiver when measuring AC voltages with the voltmeter input. When a cable is connected to the RS-232 port, measuring AC voltages can cause damage to the RS-232 interface circuitry.*

Table 6–2: 2722A Receiver Fault Diagnosis and Correction

Symptom	Possible Cause	Corrective Action
Power Problems		
Blowing fuses	Bad power supply board	Check power supply board; replace as necessary.
Archive data lost or corrupted; buffer cannot be deleted	Bad microprocessor board	Replace microprocessor board.
Communication of storage problems; FSK errors		
Receiver unable to download tables from transmitter	Bad microprocessor board or RS-232 connection	Check the RS-232 cable or RS-232 input filter on microprocessor board.
Will not hold memory; setup table cursor doesn't move when front panel knob A is turned	Bad microprocessor board	Replace microprocessor board.
Incorrect time/date reading	Bad microprocessor board	Replace microprocessor board.
NVRAM checksum errors	Caused by microprocessor EPROM	Initialize system routine.
Transmitter ID number doesn't match	Wrong ID number selection	Check transmitter or receiver ID numbers; transmitter output is low.
FSK data errors	Bad log board or signal too low	Check log board and external attenuation.
Display Irregularities; Intermittent problems		
No display; backlight on but not display; keys do not work; contrast does not work	Bad front panel board	Replace front panel board.
Intermittent display (alternates between light and dark); keypad not working	Bad front panel board	Replace front panel board.
Intermittent or no display	Bad or unconnected cable	Check connector between log and microprocessor boards.
Erratic sweep trace displayed	Bad log board (receiver) or RF up converter (transmitter)	Replace log board in receiver, RF up converter in transmitter, or RF down converter in receiver.

Table 6–2: 2722A Receiver Fault Diagnosis and Correction (Cont.)

Symptom	Possible Cause	Corrective Action
Intermittent sweep trace	Bad log or RF down converter	Check the log and RF down converter boards.
Gaps, bars, control characters, noise, or flashes displayed, but cannot be printed	Bad front panel board or LCD driver board	Replace front panel or LCD driver board.
Gaps, bars, control characters, noise, or flashes are displayed and can be printed	Bad microprocessor board	Replace microprocessor board.
Cursor markers do not move when knobs are turned	Bad front panel or microprocessor board	Check front panel board/microprocessor board; replace if necessary.
Missing sweep trace; normalization problems		
Signal lost in sweep or SLM modes	Bad RF down converter board or log board /RF connector	Replace RF down converter board, or log board. Check the RF cable connections.
Transmitter and receiver do not normalize when connected back to back	Incorrect external attenuation between transmitter and receiver RF connections	Add or reduce the external fixed attenuation between RF connections. 50 dB attenuation recommended.
Sweep trace has intermittent holes or positive/negative spikes	Bad log board or RF down converter board	Check FSK data on the log board, or for excessive FM on RF down converter board.
Normalized sweep trace greater than 1 dB (out of spec)	Bad log or RF down converter	Check log or RF down converter boards.
Un-normalized sweep trace is greater than 7 dB (out of spec)	Bad RF down converter	Check RF down converter board.
Attenuation, preamp, or reference-level problems		
Internal attenuator not working (no audible clicks)	Bad log board/attenuator	Replace log board.
Reference level reading is incorrect	Bad front panel board or log board	Check front panel and log boards; replace as necessary.
Readouts for preamp on/off, or backlight on/off won't appear when buttons are pressed	Bad microprocessor board	Replace microprocessor board.
Signal trace doesn't move up when preamp is turned on/readout (on) is displayed	Bad attenuator	Check log board.
SLM or 2nd local oscillator problems		
No 2nd local oscillator signal	Bad log or microprocessor boards	Replace the log board or microprocessor board.
2nd local oscillator frequency is incorrect	Bad microprocessor board	Check microprocessor board; replace if necessary.
SLM out of specification	Bad log board	Check log board; replace if necessary.
SLM reading is low or high	Bad log board	Check log board; replace if necessary.
Log accuracy does not meet specifications	Bad log board	Recalibrate log board.

Table 6–2: 2722A Receiver Fault Diagnosis and Correction (Cont.)

Symptom	Possible Cause	Corrective Action
Option port or printer problems		
YT1 printer does not work; intermittent printing or missing pixels	Loose cable connection, bad printer, cable, or microprocessor board	Check YT1 printer, ribbon cable, and option port connector. Check microprocessor board and replace if necessary.
Voltmeter or temperature probe problems		
Temperature or voltmeter readouts are incorrect	Bad log board	Check log board; replace if necessary.

Table 6–3: 2721A Transmitter Fault Diagnosis and Correction

Symptom	Possible Cause	Corrective Action
Power problems, LEDs not lighting, blown fuses		
No power (green LED does not light when unit is powered on)	Bad fuse	Check fuse and replace if necessary.
	Bad power supply	Unplug cable between power supply and microprocessor. Measure output voltages at appropriate test points on the power supply board. Replace power supply if voltages do not meet specifications.
Blown fuses	Bad power supply board	Check power supply board; replace if necessary.
Sweep LED does not light	Bad sync or microprocessor boards	Initialize the transmitter to receiver link by connecting them with an RS-232 cable and pressing UTIL/UTIL/DISP/EXIT. If transmitter does not initialize, return it to the factory for repair.
RS-232 communications or RF connection problems		
No output signal	Bad RF cable between transmitter and receiver	Check for proper connection; replace if necessary.
Intermittent output signal	Bad connections or up converter	Check RF output cable and RF up converter.
Transmitter does not communicate with receiver	Bad RS-232 cable or microprocessor board	Check RS-232 cable and connections. Check microprocessor board.
Telemetry amplitude or frequency errors	Bad RF up converter	Replace RF up converter board.
Microprocessor or NVRAM problems		
Cannot configure the transmitter	Bad microprocessor board	Check microprocessor board; replace if necessary.
Normalization problems/un-normalized data		
Normalized sweep trace greater than 1 dB P/V (out of spec)	Bad RF up converter	Check RF up converter board; replace if necessary.
Un-Normalized sweep trace greater than 7 dB P/V (out of spec)	Bad RF up converter	Check RF up converter board; replace if necessary.

Table 6–3: 2721A Transmitter Fault Diagnosis and Correction (Cont.)

Symptom	Possible Cause	Corrective Action
RF filter or 2nd local oscillator problems; signal spurs		
No output signal	2nd LO frequency not correct on RF up converter	Check the 2nd local oscillator frequency on RF up converter board.
Erratic sweep trace	RF up converter out of adjustment	Check RF up converter for unwanted FM; check 2nd LO frequency.
Sync board problems		
Transmitter will not fire a sync pulse	Wrong decode mode selected with receiver	Check system test plan and video encoding equipment.
	Bad sync or RF down converter boards	Check sync board and RF down converter board.
Sweep flashes are visible in the active video picture	Transmitter temperature is out of operating range	Check transmitter temperature. Acceptable temperature measured at the right rear of the top cover is 30 to 47° C. If temperature is outside range, instrument isolation may be necessary.
	Bad sync board	Replace sync board.

Hardware Interface Descriptions

This section describes the 2721A/2722A Sweep System hardware interface.

Microprocessor Hardware Interface

The hardware interface for this board consists of several connectors to the various modules of the instrument. Each of these connectors is described below.

J550 Processor Clock Input

This SMB-type connection provides a 1.5 MHz nominal TTL clock from the 2nd local oscillator module.

J510 Receiver Front-Panel Interface

This 34-terminal square-pin connector sends display information to and receives keypad and knob codes from the receiver front panel. Pin assignments for J510 are listed in Table 7–1.

Table 7–1: J510 Receiver Front-Panel Interface

Pin	Name	Type	Function
1	+5V	O	
2	–15V	O	
3	+15V	O	
4	(FPINT)	I	Keypad or knob interrupt, active low, TTL.
5	GROUND		
6	PH2	O	Microprocessor system clock, TTL.
7	(FP)	O	Front Panel registers chip select, active low, TTL.
8	+15V		
9	(FPWR)	O	Buffered write strobe, active low, TTL.
10	(FPRD)	O	Buffered read strobe, active low, TTL.
11	FPD0	I/O	Buffered data, LSB, TTL.
12	FPD1	I/O	Buffered data, TTL.
13	FPD2	I/O	Buffered data, TTL.
14	FPD3	I/O	Buffered data, TTL.
15	FPD4	I/O	Buffered data, TTL.
16	FPD5	I/O	Buffered data, TTL.
17	FPD6	I/O	Buffered data, TTL.
18	FPD7	I/O	Buffered data, MSB, TTL.

Table 7–1: J510 Receiver Front-Panel Interface (Cont.)

Pin	Name	Type	Function
19	FPA0	O	Buffered address, LSB, TTL.
20	FPA1	O	Buffered address, TTL.
21	FPA2	O	Buffered address, TTL.
22	FPA3	O	Buffered address, TTL.
23	FPA4	O	Buffered address, TTL.
24	FPA5	O	Buffered address, TTL.
25	FPA6	O	Buffered address, TTL.
26	FPA7	O	Buffered address, TTL.
27	FPA8	O	Buffered address, TTL.
28	FPA9	O	Buffered address, TTL.
29	FPA10	O	Buffered address, TTL.
30	FPA11	O	Buffered address, TTL.
31	FPA12	O	Buffered address, TTL.
32	FPA13	O	Buffered address, MSB, TTL.
33	GROUND		
34	(DISPRAM)	O	Display RAM chip select, active low, TTL.

J520 Transmitter Front-Panel Interface

This four-terminal square-pin connector is used to indicate POWER and SWEEP on the transmitter's front panel. Table 7–2 lists J520 pin assignments and describes their functions.

Table 7–2: J520 Transmitter Front-Panel Interface

Pin	Name	Type	Function
1	SWEEP	O	Approx. 10 mA pulses to indicate sweep is in process.
2	GROUND		
3	POWER	O	Approx. 10 mA to indicate +5 V power is on. Current pulses on/off if sync pulse is lost.
4	GROUND		

J123 RS-232 Serial Interface

This 10-terminal square-pin connector connects to a standard 9-pin RS-232 D-shell connector via a ribbon cable. Table 7–3 lists J123 pin assignments and describes their functions.

Table 7–3: J123 RS-232 Serial Interface

Pin	Name	Type	Function
1	N/C		
2	(DSR)	I	Data set read.
3	RXD	I O	Received data (transmitter), i.e. W596 not installed. Transmitted data (receiver), i.e. W599 not installed.
4	(RTS)	I	Request to send.
5	TXD	O I	Transmitted data (transmitter), i.e. W598 not installed. Received data (receiver), i.e. W597 not installed.
6	(CTS)	O	Clear to send.
7	(DTR)	O	DTE ready.
8	N/C		
9	GROUND		Signal ground.
10	N/C		

J400 Microprocessor Log/Sync Interface

This 26-terminal square-pin connector provides the microprocessor board with communication and control functions to the log module in the receiver or the sync module in the transmitter. Table 7–4 lists J400 pin assignments and describes their functions.

Table 7–4: J400 Log or Sync Interface

Pin	Name	Type	Function
1	FSKCLK	I	FSK Data shift out clock, TTL.
2	FSKDATA	I O	Receiver FSK Data Input. Transmitter FSK Data Output, TTL.
3	DATAFRM	I	Receiver FSK data frame, TTL (not used in transmitter).
4	(L/SWR)	O	Write strobe, TTL, active low.
5	(L/SRD)	O	Read strobe, TTL, active low.
6	L/SEN1	O O	Receiver A/D, D/A chip select, TTL, active low. Transmitter address MSB, TTL.
7	L/SEN0	O O	Receiver chip select 0, TTL, active low. Transmitter address LSB, TTL.
8	L/SSIG1	O O	Receiver chip select 1, TTL, active low. Transmitter FSK data valid, TTL.
9	(DACK)	I I	Not used in receiver. Transmitter FSK data acknowledge, TTL, active low.
10	L/SSIG0	 O	Not used in receiver. Transmitter FSK 4XCLOCK, TTL.
11	L/SD0	I/O	Port 3A Data, LSB, TTL.

Table 7–4: J400 Log or Sync Interface (Cont.)

Pin	Name	Type	Function
12	L/SD1	I/O	Port 3A Data, TTL.
13	L/SD2	I/O	Port 3A Data, TTL.
14	L/SD3	I/O	Port 3A Data, TTL.
15	L/SD4	I/O	Port 3A Data, TTL.
16	L/SD5	I/O	Port 3A Data, TTL.
17	L/SD6	I/O	Port 3A Data, TTL.
18	L/SD7	I/O	Port 3A Data, MSB, TTL.
19	L/SSIG3	O	Transmitter 1.5 MHz clock, TTL. Not used in receiver.
20	GROUND		
21	+5V	O	
22	—15 V	O	
23	+15V	O	
24	+20V	O	
25	+5V	O	
26	GROUND		

J100 RF Down Converter Interface

This 10-terminal square-pin connector is used to control the RF down converter module. Table 7–5 lists J100 pin assignments and describes their functions.

Table 7–5: J100 RF Down Converter Interface

Pin	Name	Type	Function
1	+5V	O	
2	–15V	O	
3	+15V	O	
4	DATA	O	Serial Data, TTL.
5	GROUND		
6	CLK	O	Serial Data Clock, positive edge active, TTL.
7	DC1LE	O	Serial Data Latch Enable for DC1, active high, TTL.
8	+20V	O	
9	DCRESVD	O	Reserved for future use.
10	DC2LE	O	Serial Data Latch Enable for DC2, active high, TTL.

J180 Transmitter RF Up Converter Interface

This 10-terminal square-pin connector used to control the transmitter's RF up converter module. Table 7–6 lists J180 pin assignments and describes their functions.

Table 7–6: J180 Transmitter Up Converter Interface

Pin	Name	Type	Function
1	+5V	O	
2	–15V	O	
3	+15V	O	
4	DATA	O	Serial data, TTL.
5	GROUND		
6	CLK	O	Serial data clock, positive edge active, TTL.
7	UC1LE		Serial data latch enable for UC1, active high, TTL.
8	+20V	O	
9	UC1GAIN	O	UC1 gain control, TTL.
10	UC2LE	O	Serial data latch enable for UC2, active high, TTL.

J110 Receiver Attenuator Interface (2722 Retrofit Only)

This 10-terminal square-pin connector is used to control the receiver's attenuator module only when the microprocessor is used as a retrofit to 2722 receivers. Table 7–7 lists J110 pin assignments and describes their functions.

Table 7–7: J110 Receiver Attenuator Interface

Pin	Name	Type	Function
1	+5V	O	
2	–15V	O	
3	+15V	O	
4	DATA	O	Serial data, TTL.
5	GROUND		
6	CLK	O	Serial data clock, positive edge active, TTL.
7	ATTNLE		Serial data latch enable, active high, TTL.
8	N/C		
9	N/C		
10	N/C		

J200 2nd Local Oscillator Interface

This 10-terminal square-pin connector is used to control the 2nd local oscillator (LO) module. Table 7–8 lists J200 pin assignments and describes their functions.

Table 7–8: J200 Transmitter 2nd Local Oscillator Interface

Pin	Name	Type	Function
1	+5 V	O	
2	–15 V	O	
3	+15 V	O	
4	DATA	O	Serial data, TTL.
5	GND		
6	CLK	O	Serial data clock, positive edge active, TTL.
7	LOLE	O	Serial data latch enable, active high, TTL.
8	+20 V	O	
9	(LOLD)	I	2nd local oscillator phase-lock detect, active low, TTL.
10	ATTNLE	O	Attenuator serial data latch enable, active high, TTL.

J390 Power Supply Interface

This 26-terminal square-pin connector is the connection to the system power supply. Table 7–9 lists J390 pin assignments and describes their functions.

Table 7–9: J390 Power Supply Interface

Pin	Name	Type	Function
1	GND		
2	(EXT)	I	Active low TTL signal indicating external AC power: (EXT)=0: AC power; (EXT)=1: Battery power.
3	BATCHG	I	TTL signal indicating battery charger state: BATCHG=0: Charging to over-charge voltage (14.7V); BATCHG=1: Charger is float state or off (no AC pwr).
4	(PWRDN)	O	Active low TTL signal to control power supply state: (PWRDN)=0: Turn off power; (PWRDN)=1: Turn on power.
5	BATLO	I	TTL signal indicating battery state: BATLO=0: Battery voltage is less than 10.7V; BATLO=1: Battery voltage is greater than 10.7V.
6	GND		
7	+20V	I	
8	GND		
9	–15V	I	
10	GND		
11	+15V	I	
12	GND		
13	+15V	I	

Table 7–9: J390 Power Supply Interface (Cont.)

Pin	Name	Type	Function
14	GND		
15	+15V	I	
16	GND		
17	+15VSENSE	O	
18	GNDSENSE		
19	+5VSENSE	O	
20	GND		
21	+5V	I	
22	GND		
23	+5V	I	
24	GND		
25	+5V	I	
26	GND		

J120 2722A Option Port Interface

This 26-terminal square-pin connector is used to connect to the 2722A option port. Table 7–10 lists J120 pin assignments and describes their functions.

Table 7–10: J120 2722A Option Port Interface

Pin	Name	Type	Function
1	PRD1	I/O	Buffered data, TTL.
2	N/C		
3	PRD0	I/O	Buffered data, LSB, TTL.
4	GND		
5	(PRWE)	O	Printer write enable, active low, TTL.
6	PRA3	O	Buffered address, MSB, TTL.
7	(PROE)	O	Printer output enable, active low, TTL.
8	PRA2	O	Buffered address, TTL.
9	(OPCS)	O	Option port chip select, active low, TTL.
10	PRA1	O	Buffered address, TTL.
11	(INTACK)	O	Interrupt acknowledge, active low, TTL.
12	PRA0	O	Buffered address, LSB, TTL.
13	(PRIRQ)	I	Printer interrupt request, active low, TTL.
14	PRD7	I/O	Buffered data, MSB, TTL.
15	GND		

Table 7–10: J120 2722A Option Port Interface (Cont.)

Pin	Name	Type	Function
16	PRD6	I/O	Buffered data, TTL.
17	+5VSW	O	On/off switchable power supply.
18	PRD5	I/O	Buffered data, TTL.
19	GND		
20	PRD4	I/O	Buffered data, TTL.
21	GND		
22	PRD3	I/O	Buffered data, TTL.
23	+15VSW	O	On/off switchable power supply.
24	PRD2	I/O	Buffered data, TTL.
25	+15VSW	O	On/off switchable power supply.
26	N/C		

RF Down Converter Hardware Interface

Hardware interface for the RF down converter board consists of three 50 Ω coaxial inputs, a 75 Ω SMB input, two 50 Ω coaxial outputs, and a 10–pin interface connection to the microprocessor board. These are listed and described below.

External Connections

Table 7–11 lists and describes the RF down converter external connections.

Table 7–11: RF Down Converter External Connections

Connector	Type	Description
J910	50 Ω coaxial	DC1 IF output to transmitter video sync J320; 10.7 MHz at –19 dBm. DC1 IF output to receiver log J590; 21.4 MHz at –43 dBm (non gated) or –55 dBm (gated).
J930	50 Ω coaxial	Receiver 5 – 625 MHz RF input from log board J450. +10 dBm input power.
J931	75 Ω SMB	Transmitter 5 – 625 MHz RF input from F male rear panel connection. +65 dBmV input power.
J940	50 Ω coaxial	Reference input (3 MHz TTL clock) from transmitter 2nd local oscillator (J680) or receiver log (J430).
J941	50 Ω coaxial	2nd local oscillator input. 690.70 MHz input frequency at 0 dBm from transmitter 2nd local oscillator; 670.4 dBm input frequency at 0 dBm from receiver log.

Table 7–11: RF Down Converter External Connections (Cont.)

Connector	Type	Description
J980	10-pin connector	Power and I/O interface to transmitter or receiver microprocessor J100.
J990	50 Ω coaxial	DC2 IF output to transmitter video sync J920; 10.7 MHz at –19 dBm. DC2 IF output to receiver log J390; 10.7 MHz at –48 dBm.

Power and I/O Interface

Table 7–12 lists and describes the pin assignments for J980, the RF down converter-to-microprocessor power and I/O interface.

Table 7–12: J980 RF Down Converter to Microprocessor (J100) Interface

Pin	Name	Type	Description
1	+5V	Power	250 mA maximum.
2	—15V	Power	Unused.
3	+15V	Power	315 mA maximum.
4	DATA	TTL	Serial LO synthesizer count from processor.
5	GROUND	GND	Power and TTL return.
6	CLOCK	TTL	Serial clock for LO synthesizer from processor.
7	DC1LE	TTL	Latch enable for DC1 synthesizer from processor.
8	+20V	Power	10 mA maximum.
9	RESERVED	TTL	Unused.
10	DC2LE	TTL	Latch enable for DC2 synthesizer from processor.

RF Up Converter Hardware Interface

Hardware interface for the RF up converter board consists of three 50 Ω coaxial inputs, a 75 Ω SMB output, a 10-pin connection to the microprocessor, and a 10-pin connection to the video sync board. These are listed and described below.

External Connections

Table 7–13 lists and describes the RF up converter external connections.

Table 7–13: RF Up Converter External Connections

Connector	Type	Description
J900	10-pin connector	Power and I/O interface to microprocessor J180.
J901	10-pin connector	I/O interface to video sync J390.

Table 7–13: RF Up Converter External Connections (Cont.)

Connector	Type	Description
J990	50 Ω coaxial	48 MHz input from 2nd local oscillator J980; +15 dBm input power.
J950	50 Ω coaxial	Reference input (3 MHz TTL clock) from 2nd local oscillator J670.
J960	50 Ω coaxial	Input from 2nd local oscillator J640; 690.79 MHz at 0 dBm (±2 dB).
J922	75 Ω SMB	RF output to F male rear panel connection; 5 – 625 MHz, +45 dBmV pulse and telemetry, +33 dBmV gated, ±5 dB.

Power and I/O Interface

Table 7–14 lists and describes the pin assignments for J900, the RF up converter to microprocessor interface.

Table 7–14: J900 RF Up Converter to Microprocessor (J180) Interface

Pin	Name	Type	Description
1	+5V	Power	365 mA typical, 470 mA maximum
2	—15V	Power	–46 mA typical, –51 mA maximum
3	+15V	Power	650 mA typical, 700 mA maximum
4	DATA	TTL Input	Serial local oscillator synthesizer count
5	GROUND	Ground	Power and TTL return
6	CLOCK	TTL Input	Serial clock for local oscillator synthesizer
7	UC1LE	TTL Input	Latch-enable for UC1 synthesizer
8	+20V	Power	2 mA typical, 10 mA maximum
9	UC1GAIN	TTL Input	UC1 gain control +5V: low output 0V: high output High Z: high output
10	UC2LE	TTL Input	Latch-enable for UC2 synthesizer

Video Sync I/O Interface

Table A–15 lists and describes the pin assignments for J901, the RF up converter-to-video sync board interface.

Table 7–15: J901 RF Up Converter to Video Sync (J390) Interface

Pin	Name	Type	Description
1	PULSEGATE	TTL input	Enables pulse when low
2	GND	Ground	TTL and analog return
3	LVLI	Analog input	Leveling current, —5.65 mA max.

Table 7–15: J901 RF Up Converter to Video Sync (J390) Interface (Cont.)

Pin	Name	Type	Description
4	GND	Ground	TTL and analog return
5	NC	NC	No connection
6	CALRELY	TTL input	Enables pulse carrier when low
7	GND	Ground	TTL and analog return
8	VERSION	TTL output	+5V: A version +0V: non–A version
9	GND	Ground	TTL and analog return
10	TELGATE	TTL input	Formatted FSK data

Front Panel Hardware Interface

The front panel's hardware interface consists of connections to the microprocessor module, keypad, LCD panel, and the three knobs. Each of these connectors is described below.

J100 Microprocessor Interface

This 34-terminal square-pin connector is used for receiving display information and sending keypad and knob codes from the 2722A front panel. Table 7–16 lists and describes the pin assignments for J100.

Table 7–16: J100 Microprocessor Interface

Pin	Name	Type	Function
1	+5V	I	
2	–15V	I	
3	+15V	I	
4	(FPINT)	O	Keypad or knob interrupt, active low, TTL.
5	GND		
6	PH2	I	Microprocessor system clock, TTL.
7	(FP)	I	Front panel registers chip select, active low, TTL.
8	+15V		
9	(FPWR)	I	Buffered write strobe, active low, TTL.
10	(FPRD)	I	Buffered read strobe, active low, TTL.
11	FPD0	I/O	Buffered data, LSB, TTL.
12	FPD1	I/O	Buffered data, TTL.
13	FPD2	I/O	Buffered data, TTL.
14	FPD3	I/O	Buffered data, TTL.

Table 7–16: J100 Microprocessor Interface (Cont.)

Pin	Name	Type	Function
15	FPD4	I/O	Buffered data, TTL.
16	FPD5	I/O	Buffered data, TTL.
17	FPD6	I/O	Buffered data, TTL.
18	FPD7	I/O	Buffered data, MSB, TTL.
19	FPA0	I	Buffered address, LSB, TTL.
20	FPA1	I	Buffered address, TTL.
21	FPA2	I	Buffered address, TTL.
22	FPA3	I	Buffered address, TTL.
23	FPA4	I	Buffered address, TTL.
24	FPA5	I	Buffered address, TTL.
25	FPA6	I	Buffered address, TTL.
26	FPA7	I	Buffered address, TTL.
27	FPA8	I	Buffered address, TTL.
28	FPA9	I	Buffered address, TTL.
29	FPA10	I	Buffered address, TTL.
30	FPA11	I	Buffered address, TTL.
31	FPA12	I	Buffered address, TTL.
32	N/C		
33	GND		
34	(DISPRAM)	I	Display RAM chip select, active low, TTL.

J560 LCD Interface

This 20-terminal in-line female square-pin connector is used for powering and sending pixel data to the LCD module. Pin assignments for J560 are given in Table 7–17. Signals marked with an asterisk (*) are not necessary for the Epson EG4403S-AR display module but are provided for compatibility with the Epson EG4401S-ER display module.

Table 7–17: J560 LCD Data Interface

Pin	Name	Type	Function
1	N/C		
2	N/C		
3	N/C		
4	+5V	O	
5	GND		
6	VLCD	O	Contrast adjust voltage.

Table 7–17: J560 LCD Data Interface (Cont.)

Pin	Name	Type	Function
7	CL	O	Data latch, TTL.
8	FR	O	Frame pulse, TTL.
9	*+5V	O	Display control: 1 = on state.
10	*CL	O	Y shift clock: row scan shift clock.
11	DIN	O	Row scan start-up pulse, TTL.
12	XSCL	O	Data shift clock, TTL.
13	*XECL	O	Enable transition clock, TTL.
14	F0	O	Display data LSB, TTL.
15	F1	O	Display data, TTL.
16	F2	O	Display data, TTL.
17	F3	O	Display data MSB, TTL.
18	N/C		
19	N/C		
20	N/C		

J640 Cursor B Knob Interface

This 3-terminal in-line square-pin connector is used to detect the Cursor B knob turn direction. Pin assignments are described in Table 7–18.

Table 7–18: J640 Cursor B Knob Interface

Pin	Name	Type	Function
1	CW	I	Leading switch contact for clockwise turns.
2	GND		Switch common.
3	CCW	I	Leading switch contact for counterclockwise turns.

J650 Gain Knob Interface

This 3-terminal, in-line square-pin connector is used to detect the Gain knob turn direction. Pin assignments are described in Table 7–19.

Table 7–19: J650 Gain Knob Interface

Pin	Name	Type	Function
1	CW	I	Leading switch contact for clockwise turns.
2	GND		Switch common.
3	CCW	I	Leading switch contact for counterclockwise turns.

J670 Cursor A Knob Interface

This 3-terminal in-line square-pin connector is used to detect the Cursor A knob turn direction. Pin assignments are described in Table 7–20.

Table 7–20: J670 Cursor A Knob Interface

Pin	Name	Type	Function
1	CW	I	Leading switch contact for clockwise turns.
2	GND		Switch common.
3	CCW	I	Leading switch contact for counterclockwise turns.

J671 LCD Backlight Interface

This two-terminal copper pattern is used to power the LCD backlight. Pin assignments are described in Table 7–21.

Table 7–21: J671 LCD Backlight Interface

Pin	Name	Type	Function
3	GND		
4	80 VAC	O	On/off switchable 80 Vrms AC to power the EL backlight.

Video Sync Hardware Interface

The video sync module interfaces with three other modules: microprocessor, RF up converter, and RF down converter. The microprocessor interface uses 24 of 26 pins in a 26-conductor ribbon cable terminated in an insulation displacement connector (IDC). All power supply voltages, control lines, and data lines are contained in the cable.

The RF up converter interface is a 10-pin ribbon cable with IDC connectors. Four control signals are passed from the sync board to the RF up converter: gate the output pulse, FSK data, the output level control signal, and the calibration enable control line. One signal is passed from the RF up converter to the microprocessor via the sync board: the –A/non–A revision signal.

The RF down converter provides two IF signals tuned with respect to 10.7 MHz as inputs to the two sync channels. The IF signals arrive via two 50 Ω coaxial cables. The RF down converter is controlled by the microprocessor, and is directed to tune to specified frequencies so the sync board can process the recovered IF signal.

External Connectors

Table 7–22 lists and describes the external connectors on the video sync board.

Table 7–22: Video Sync Board External Connectors

Connector	Type	Description
J320	50 Ω coaxial	IF 1; 10.7 MHz input from RF down converter J910, –19 dBm typical at video carrier frequency.
J820	50 Ω coaxial	IF 2; 10.7 MHz input from RF down converter J990, –19 dBm typical at video carrier frequency.
J590	26-pin male IDC	Sync board interface to microprocessor J400.
J390	10-conductor ribbon	Gate control interface to RF up converter J901.

Table 7–23 lists and describes the pin assignments for J590, the sync board interface to the microprocessor board.

Table 7–23: J590 Sync Board to Microprocessor Interface

Pin	Name	Type	Description
1	Telemetry clock FSKCLK	O	CMOS, gated 5 kHz
2	Telemetry data FSKDATA	I	TTL, 200 µsec/bit
3	Not used		
4	Data bus write L/SWR	I	TTL, active low
5	Data bus read L/SRD	I	TTL, active low
6	Select/enable 1 L/SEN1	I	TTL
7	Select/enable 0 L/SEN0	I	TTL
8	FSK data valid D_Valid	I	TTL
9	Ready (for FSK data)	O	CMOS
10	FSK 4X clock	I	TTL, 20 kHz, unused
11	Data port D0 L/SD0	I/O	TTL input, CMOS output
12	Data port D1 L/SD1	I/O	TTL input, CMOS output
13	Data port D2 L/SD2	I/O	TTL input, CMOS output
14	Data port D3 L/SD3	I/O	TTL input, CMOS output
15	Data port D4 L/SD4	I/O	TTL input, CMOS output
16	Data port D5 L/SD5	I/O	TTL input, CMOS output
17	Data port D6 L/SD6	I/O	TTL input, CMOS output
18	Data port D7 L/SD7	I/O	TTL input, CMOS output
19	1.5 MHz clock	I	CMOS
20	Signal ground	I	
21	+5 V	I	Power
22	—15 V	I	Power
23	+15 V	I	Power

Table 7–23: J590 Sync Board to Microprocessor Interface (Cont.)

Pin	Name	Type	Description
24	+20 V	I	Power
25			Not used
26			Not used

NOTE. *Note: L/S preceding a signal name means that the signal is used on both transmitter sync and receiver log boards.*

Table 7–24 lists and describes the pin assignments for J390, the sync board gate control interface to the RF up converter board.

Table 7–24: J390 Sync Board Gate Control to RF Up Converter Interface

Pin	Name	Type	Description
1	Pulse Gate	O	CMOS
2	Ground	I	Ground
3	Leveling Control LVLI	O	Analog, current out
4	Ground	I	Ground
5	Not used		
6	Pulse Switch Enable CALRELY	O	CMOS
7	Ground	I	Ground
8	A up converter	I	CMOS
9	Ground	I	Ground
10	Telemetry Gate TELGATE	O	CMOS

Power Supply Hardware Interface

J130 is a 26-pin connection to the microprocessor board (J390). Pin assignments for this connector are listed and described in Table 7–25.

Table 7–25: J130 Power Supply to Microprocessor Interface

Pin	Name	Type	Description
1	GROUND	Ground	Power and TTL return
2	(EXT)	TTL out	AC input state 0 V: Supply operates on AC input. 5 V: Supply operates on battery.

Table 7–25: J130 Power Supply to Microprocessor Interface (Cont.)

Pin	Name	Type	Description
3	BATCHG	TTL out	Charger state 0 V: Bulk-charge or over-charge state. 5 V: Float charge state or charger off.
4	(PWRDN)	TTL in	Turns power converter off 0 V: Supply powers down. Toggle power switch to turn on supply. 5 V: Supply operates normally. HighZ: Supply operates normally.
5	BATLO	TTL out	Asserts when battery voltage drops to 10.7 V threshold. 0 V: Battery voltage below threshold. 5 V: Battery voltage above threshold.
6	GROUND	Ground	Power and TTL return
7	+20V	Power out	
8	GROUND	Ground	Power and TTL return
9	–15V	Power out	
10	GROUND	Ground	Power and TTL return
11	+15V	Power out	
12	GROUND	Ground	Power and TTL return
13	+15V	Power out	
14	GROUND	Ground	Power and TTL return
15	+15V	Power out	
16	GROUND	Ground	Power and TTL return
17	+15VSENSE	Analog in	Voltage sense for +15 V regulator
18	GNDSENSE	Analog in	Voltage sense for regulators
19	+5VSENSE	Analog in	Voltage sense for +5 V regulator
20	GROUND	Ground	Power and TTL return
21	+5V	Power out	
22	GROUND	Ground	Power and TTL return
23	+5V	Power out	
24	GROUND	Ground	Power and TTL return
25	+5V	Power out	
26	GROUND	Ground	Power and TTL return

Replaceable Electrical Parts

This section contains a list of the components that are replaceable for the 2721A. Use this list to identify and order replacement parts. There is a separate Replaceable Electrical Parts list for each instrument.

Parts Ordering Information

Replacement parts are available from or through your local Tektronix, Inc., Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available and to give you the benefit of the latest circuit improvements. Therefore, when ordering parts, it is important to include the following information in your order.

- Part number
- Instrument type or model number
- Instrument serial number
- Instrument modification number, if applicable

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc., Field Office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

Using the Replaceable Electrical Parts List

The tabular information in the Replaceable Electrical Parts list is arranged for quick retrieval. Understanding the structure and features of the list will help you find all of the information you need for ordering replaceable parts.

Cross Index–Mfr. Code Number to Manufacturer

The Mfg. Code Number to Manufacturer Cross Index for the electrical parts list is located immediately after this page. The cross index provides codes, names, and addresses of manufacturers of components listed in the electrical parts list.

Abbreviations

Abbreviations conform to American National Standards Institute (ANSI) standard Y1.1.

List of Assemblies

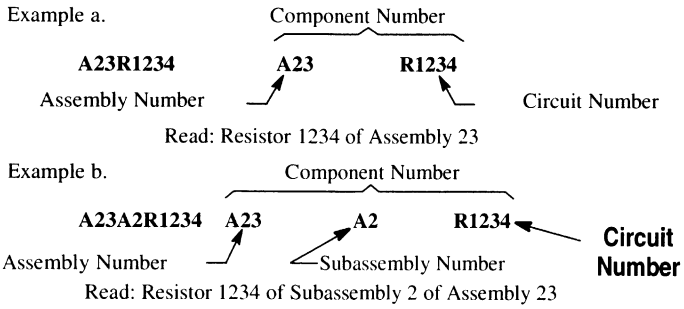
A list of assemblies can be found at the beginning of the electrical parts list. The assemblies are listed in numerical order. When the complete component number of a part is known, this list will identify the assembly in which the part is located.

Column Descriptions

Component No. (Column 1)

The component circuit number appears on the diagrams and circuit board illustrations, located in the diagrams section. Assembly numbers are also marked

on each diagram and circuit board illustration, in the Diagram section and on the mechanical exploded views, in the mechanical parts list. The component number is obtained by adding the assembly number prefix to the circuit number.



The electrical parts list is arranged by assemblies in numerical sequence (A1, with its subassemblies and parts, precedes A2, with its subassemblies and parts).

Mechanical subparts to the circuit boards are listed in the electrical parts list. These mechanical subparts are listed with their associated electrical part (for example, fuse holder follows fuse).

Chassis-mounted parts and cable assemblies have no assembly number prefix and are located at the end of the electrical parts list.

Tektronix Part No. (Column 2) Indicates part number to be used when ordering replacement part from Tektronix.

Serial/Assembly No. (Column 3 and 4) Column three (3) indicates the serial or assembly number at which the part was first used. Column four (4) indicates the serial or assembly number at which the part was removed. No serial or assembly number entered indicates part is good for all serial numbers.

Name and Description (Column 5) An item name is separated from the description by a colon (:). Because of space limitations, an item name may sometimes appear as incomplete. Use the U.S. Federal Catalog handbook H6-1 for further item name identification.

The mechanical subparts are shown as *ATTACHED PARTS* / *END ATTACHED PARTS* or *MOUNTING PARTS* / *END MOUNTING PARTS* in column five (5).

Mfr. Code (Column 6) Indicates the code number of the actual manufacturer of the part. (Code to name and address cross reference can be found immediately after this page.)

Mfr. Part No. (Column 7) Indicates actual manufacturer's part number.

CROSS INDEX – MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code.	Manufacturer	Address	City, State, Zip Code
00779	AMP INC	2800 FULLING MILL PO BOX 3608	HARRISBURG PA 17105
01121	ALLEN-BRADLEY CO INDUSTRIAL CONTROL PRODUCTS	1201 S 2ND ST	MILWAUKEE WI 53204-2410
02113	COILCRAFT INC	1102 SILVER LAKE RD	CARY IL 60013-1658
04222	AVX CERAMICS DIV OF AVX CORP	19TH AVE SOUTH P O BOX 867	MYRTLE BEACH SC 29577
04713	MOTOROLA INC SEMICONDUCTOR PRODUCTS SECTOR	5005 E MCDOWELL RD	PHOENIX AZ 85008-4229
05397	UNION CARBIDE CORP MATERIALS SYSTEMS DIV	11901 MADISON AVE	CLEVELAND OH 44101
06090	RAYCHEM CORP	300 CONSTITUTION DRIVE	MENLO PARK CA 94025-1111
09922	BURNDY CORP	RICHARDS AVE	NORWALK CT 06852
12969	MICROSEMI CORPORATION WATERTOWN DIVISION	530 PLEASANT STREET	WATERTOWN MA 02172
14752	ELECTRO CUBE INC	1710 S DEL MAR AVE	SAN GABRIEL CA 91776-3825
15542	MINI-CIRCUITS LABORATORY	2625 E 14TH ST	BROOKLYN NY 11235-3915
18565	CHOMERICS INC	77 DRAGON COURT	WOBURN MA 01801-1039
22526	BERG ELECTRONICS INC (DUPONT)	857 OLD TRAIL RD	ETTERS PA 17319
24931	SPECIALTY CONNECTOR CO INC	2100 EARLYWOOD DR PO BOX 547	FRANKLIN IN 46131
26364	COMPONENTS CORP	6 KINSEY PLACE	DENVILLE NJ 07834-2611
27012	MICRO DEVICES CORP SUB OF EMERSON ELECTRIC CO	1320 S MAIN ST PO BOX 3538	MANSFIELD OH 44907-2516
27014	NATIONAL SEMICONDUCTOR CORP	2900 SEMICONDUCTOR DR	SANTA CLARA CA 95051-0606
53387	MINNESOTA MINING MFG CO	PO BOX 2963	AUSTIN TX 78769-2963
54583	TDK ELECTRONICS CORP	12 HARBOR PARK DR	PORT WASHINGTON NY 11550
57668	ROHM CORP	8 WHATNEY PO BOX 19515	IRVINE CA 92713
58050	TEKA PRODUCTS INC	45 SALEM ST	PROVIDENCE RI 02907
71400	BUSSMANN DIV OF COOPER INDUSTRIES INC	114 OLD STATE RD PO BOX 14460	ST LOUIS MO 63178
75498	MULTICOMP INC	3005 SW 154TH TERRACE #3	BEAVERTON OR 97006
75915	LITTELFUSE INC SUB TRACOR INC	800 E NORTHWEST HWY	DES PLAINES IL 60016-3049
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON OR 97077-0001
84171	ARCO ELECTRONICS	9822 Independence Ave	Chatsworth CA 91311
85471	BOYD CORP	13885 RAMOMA AVE	CHINO CA 91710
91637	DALE ELECTRONICS INC	2064 12TH AVE PO BOX 609	COLUMBUS NE 68601-3632
93907	TEXTRON INC CAMCAR DIV	600 18TH AVE	ROCKFORD IL 61108-5181
98159	RUBBER TECK INC	19115 HAMILTON AVE PO BOX 389	GARDENA CA 90247
TK0510	PANASONIC COMPANY DIV OF MATSUSHITA ELECTRIC CORP	ONE PANASONIC WAY	SECAUCUS NJ 07094
TK0515	ERICSSON COMPONENTS INC	403 INTERNATIONAL PKY PO BOX 853904	RICHARDSON TX 75085-3904
TK0935	MARQUARDT SWITCHES INC		
TK1345	ZMAN & ASSOCIATES		
TK1424	MARCON AMERICA CORP		
TK1919	AMERICAN KSS INC	2620 AUGUSTINE DR SUITE 100	SANTA CLARA CA 95054
TK2058	TDK CORPORATION OF AMERICA	2055 GATEWAY PLACE SUITE 200	SAN JOSE CA 95110
TK2469	UNITREK CORPORATION	3000 LEWIS & CLARK WAY SUITE #2	VANCOUVER WA 98601

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A2	671-2626-00	B020100	B020157	CIRCUIT BD ASSY:PROCESSOR TX	80009	671-2626-00
A2	671-2626-01	B020158	B020296	CIRCUIT BD ASSY:PROCESSOR TX	80009	671-2626-01
A2	671-2626-02	B020296		CIRCUIT BD ASSY:PROCESSOR TX	80009	671-2626-02
A3	671-2622-00			CKT BD ASSY:TELEMETRY DOWN CONVERTER	80009	671-2622-00
A4	671-2624-00			CIRCUIT BD ASSY:POWER SUPPLY	80009	671-2624-00
A5	671-2627-00	B020100	B020109	CIRCUIT BD ASSY:SYNC	80009	671-2627-00
A5	671-2627-01	B020110	B020295	CIRCUIT BD ASSY:SYNC	80009	671-2627-01
A5	671-2627-02	B020296		CIRCUIT BD ASSY:SYNC	80009	671-2627-02
A6	671-2623-00			CIRCUIT BD ASSY:RF UP CONVERTER	80009	671-2623-00
A7	671-2625-00			CIRCUIT BD ASSY:2ND LO TX	80009	671-2625-00
A10	671-2106-00			CIRCUIT BD ASSY:SERIAL FILTER	80009	671-2106-00
A2	671-2626-00	B020100	B020157	CIRCUIT BD ASSY:PROCESSOR TX	80009	671-2626-00
A2	671-2626-01	B020158	B020295	CIRCUIT BD ASSY:PROCESSOR TX	80009	671-2626-01
A2	671-2626-02	B020296		CIRCUIT BD ASSY:PROCESSOR TX	80009	671-2626-02
A2BT280	146-0055-00			BATTERY,DRY:3.0V,1200 MAH,LITHIUM	TK0510	BR-2/3A-E2P
A2C110	290-5039-00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM;SMD,16MM T&R	80009	290-5039-00
A2C120	290-5039-00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM;SMD,16MM T&R	80009	290-5039-00
A2C121	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C160	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A2C161	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A2C170	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C190	290-0963-00			CAP,FXD,ALUM:220UF,+50-20%,25WVDC,10 X 12MM;RDL	80009	290-0963-00
A2C191	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C212	290-5039-00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM;SMD,16MM T&R	80009	290-5039-00
A2C213	290-5039-00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM;SMD,16MM T&R	80009	290-5039-00
A2C220	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C221	283-5042-00			CAP,FXD,CER:MLC;27PF,5%,50V,NPO,1206;SMD,8 MM T&R	80009	283-5042-00
A2C242	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C272	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C273	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C290	290-0963-00			CAP,FXD,ALUM:220UF,+50-20%,25WVDC,10 X 12MM;RDL	80009	290-0963-00
A2C310	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C320	283-0201-00			CAP,FXD,CER DI:27PF,10%,200V	04222	SR152C270KAA
A2C380	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C400	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C440	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C470	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A2C471	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C480	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C490	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C491	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C530	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C560	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C580	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C581	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C590	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A2C591	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C593	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM;SMD,16MM T&R	80009	290–5039–00
A2C594	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C595	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C596	283–0167–00			CAP,FXD,CER DI:0.1UF,10%,100V	80009	283–0167–00
A2DS480	150–5000–00			DIO,OPTO:LED;RED,628NM;LS S260–DO,SOT–23,8MM,TR	80009	150–5000–00
A2DS570	150–5000–00			DIO,OPTO:LED;RED,628NM;LS S260–DO,SOT–23,8MM,TR	80009	150–5000–00
A2DS580	150–5000–00			DIO,OPTO:LED;RED,628NM;LS S260–DO,SOT–23,8MM,TR	80009	150–5000–00
A2DS581	150–5000–00			DIO,OPTO:LED;RED,628NM;LS S260–DO,SOT–23,8MM,TR	80009	150–5000–00
A2DS582	150–5000–00			DIO,OPTO:LED;RED,628NM;LS S260–DO,SOT–23,8MM,TR	80009	150–5000–00
A2DS590	150–5000–00			DIO,OPTO:LED;RED,628NM;LS S260–DO,SOT–23,8MM,TR	80009	150–5000–00
A2J100	131–3520–00			CONN,HDR:	53387	2510–6002UB
A2J123	131–3520–00			CONN,HDR:	53387	2510–6002UB
A2J180	131–3520–00			CONN,HDR:	53387	2510–6002UB
A2J200	131–3520–00			CONN,HDR:	53387	2510–6002UB
A2J390	131–3362–00			CONN,HDR:	53387	2526–6002UB
A2J400	131–3362–00			CONN,HDR:	53387	2526–6002UB
A2J520	131–1857–00			CONN,HDR:PCB;MALE,STR,1 X 36,0.1 CTR,0.230 MLG X 0.100 TAIL,GLD (QUANTITY 4 PINS)	58050	082–3644–SS10
A2J550	131–0391–01			CONN,RF JACK:	80009	131–0391–01
A2R121	321–5024–00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5024–00
A2R220	321–5024–00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5024–00
A2R244	321–5030–00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5030–00
A2R255	321–5030–00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5030–00
A2R260	321–5018–00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5018–00
A2R310	321–5030–00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5030–00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A2R400	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R420	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R440	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R441	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R450	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R471	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R472	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R481	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R482	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R483	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R484	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R485	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R487	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R488	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R520	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R572	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R582	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A2R585	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R586	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R589	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R590	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R592	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R593	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R594	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R595	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R596	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R597	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R598	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R599	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R600	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A2R601	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R602	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R604	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R605	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R606	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R607	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R608	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R609	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A2R610	322-3193-00			RES,FXD:MET FILM;1K OHM,1%,0.2W, TC=100 PPM;AXIAL,T&R,SM BODY	57668	CRB20 FXE 1K00
A2R611	322-3085-00			RES,FXD:MET FILM;75 OHM,1%,0.2W, TC=100 PPM;AXIAL,T&R,SM BODY	57668	CRB20 FXE 75E0
A2TP1	214-4085-00			TERM,TEST PT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRS,W/ RED NYL CLR	26364	104-01-02
A2TP2	214-4085-00			TERM,TEST PT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRS,W/ RED NYL CLR	26364	104-01-02
A2TP3	214-4085-00			TERM,TEST PT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRS,W/ RED NYL CLR	26364	104-01-02
A2TP4	214-4085-00			TERM,TEST PT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRS,W/ RED NYL CLR	26364	104-01-02
A2TP5	214-4085-00			TERM,TEST PT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRS,W/ RED NYL CLR	26364	104-01-02
A2U160	156-6344-00			IC,LIN:CMOS,MISC;NONVOLATILE CONTROL-LER;1210,SO16.300	80009	156-6344-00
A2U170	156-5131-00			IC,DGTL:HCTCMOS,GATE;HEX INV SCHMITT TRIG;74HCT14,SO14.150,TUBE	80009	156-5131-00
A2U220	156-5776-00			IC,MISC:	80009	156-5776-00
A2U250	156-5782-00			IC,PROCESSOR:CMOS,PRPHL;VERSATILE INER-FACE ADAPTER,2MHZ,65C22,PLCC44	80009	156-5782-00
A2U260	156-5940-00			IC,MEMORY:CMOS,SRAM;32K X 8,120NS,20UA;43256,SO28M.330,TUBE	80009	156-5940-00
A2U310	156-5782-00			IC,PROCESSOR:CMOS,PRPHL;VERSATILE INER-FACE ADAPTER,2MHZ,65C22,PLCC44	80009	156-5782-00
A2U320	156-5781-00			IC,PROCESSOR:CMOS,PRPHL;8-BIT ACIA,2MHZ;65C51,PLCC28,TUBE	80009	156-5781-00
A2U350	156-5071-00			IC,DGTL:HCTCMOS,XCVR;OCTAL, 3-STATE;74HCT245,SO20.300,TUBE	80009	156-5071-00
A2U360	160-9475-01	671-2626-00	671-2626-00	IC,MEMORY:CMOS,EPROM;64K X 8,150NS,27C512,DIP28.6	80009	160-9475-01
A2U360	160-9475-02	671-2626-01	671-2626-01	IC,MEMORY:CMOS,EPROM;64K X 8,150NS,27C512,DIP28.6	80009	160-9475-02
A2U360	160-9475-03	671-2626-02		IC,MEMORY:CMOS,EPROM;64K X 8,DIP28.6	80009	160-9475-03
				MOUNTING PARTS		
	136-0755-00			SKT,DIP:	09922	DILB28P-108
				END MOUNTING PARTS		
A2U440	156-5220-01			IC,DGTL:HCTCMOS,BFR;OCTAL BFR/DRVR, 3-STATE;74HCT541,SO20.300,24MM T&R	80009	156-5220-01
A2U441	156-5220-01			IC,DGTL:HCTCMOS,BFR;OCTAL BFR/DRVR, 3-STATE;74HCT541,SO20.300,24MM T&R	80009	156-5220-01
A2U442	156-5780-00			IC,PROCESSOR:CMOS,MICROPROCES-SOR;8-BIT;65C02,PLCC44	80009	156-5780-00
A2U460	156-5123-00			IC,DGTL:HCTCMOS,DEMUX/DECODER;4-TO-16 DECODER;74HCT154,SO24.300,TUBE	80009	156-5123-00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A2U480	156-5782-00			IC,PROCESSOR:CMOS,PRPHL;VERSATILE INER-FACE ADAPTER,2MHZ,65C22,PLCC44	80009	156-5782-00
A2U490	156-5888-00			IC,DGTL:HCTCMOS,MULTIVIBRATOR;DUAL NON-RETRIG MONOSTABLE;74HCT221,SO16.150,TUBE	80009	156-5888-00
A2U590	156-5145-00			IC,DGTL:HCTCMOS,FLIP FLOP;DUAL D-TYPE;74HCT74,SO14.150,TUBE	80009	156-5145-00
A2U591	156-6481-01			IC,MISC:	80009	156-6481-01
A2U592	156-5546-00			IC,DGTL:CMOS;PLD;EEPLD, 16V8, 15NS, 90MA;16V8-15,PLCC20,TUBE	80009	156-5546-00
A2U593	156-5546-00			IC,DGTL:CMOS;PLD;EEPLD, 16V8, 15NS, 90MA;16V8-15,PLCC20,TUBE	80009	156-5546-00
A2W580	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A2W581	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A2W597	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A2W599	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A2W600	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A2W601	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A2Y220	158-0290-00			XTAL UNIT,QTZ:1.8432MHZ,0.01%,PRL, CL=7PF,ESR 400 OHM,PKG HC-18/U	80009	158-0290-00
				MOUNTING PARTS		
	346-0032-00			STRAP,RETAINING:0.075 DIA X 4.0 L,MLD RBR	98159	2829-75-4
				END MOUNTING PARTS		
A3	671-2622-00			CIRCUIT BD ASSY:TELEMETRY DOWN CONVERT-ER	80009	671-2622-00
				ATTACHED PARTS		
	337-3919-00			INSULATOR:SAF CONTROLLED (QUANTITY 4)	80009	337-3919-00
	337-3920-00			INSULATOR:SAF CONTROLLED (QUANTITY 3)	80009	337-3920-00
	348-1224-00			ABSORBER,RF:LOADED,SILICON RBR,1 X 1 0.085 (QUANTITY 2)	80009	348-1224-00
	348-1336-00			RF ABSORBER:DOWN CONV (QUANTITY 2)	80009	348-1336-00
	348-1346-00			GASKET,SHLD:0.070 DIA (QUANTITY 2.5 FT)	80009	348-1346-00
				END ATTACHED PARTS		
A3C11	283-5015-00			CAP,FXD,CER DI:3300PF,10%,50V	54583	C3216X7R1H332K-T
A3C12	283-5013-00			CAP,FXD,CER DI:680PF,10%,50V	80009	283-5013-00
A3C15	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C16	283-5017-00	B020111		CAP,FXD,CER:MLC;1PF,+/-0.25PF,50V,NPO,1206;SMD,8MM T&R	80009	283-5017-00
A3C20	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C21	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C22	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C23	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C24	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3C25	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C26	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C27	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C28	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C29	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C31	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C32	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C33	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C34	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C35	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C36	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C37	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C38	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C45	290-5002-00			CAP,FXD,TANT:DRY;10UF,20%,20V,TANT OX-IDE,0.287 X 0.170.7343.SMD.T&R	TK1424	20MC100M-TER
A3C46	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C47	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C48	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C51	290-5002-00			CAP,FXD,TANT:DRY;10UF,20%,20V,TANT OX-IDE,0.287 X 0.170,7343,SMD,T&R	TK1424	20MC100M-TER
A3C52	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C53	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C54	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C61	283-5018-00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5018-00
A3C62	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A3C63	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A3C64	283-5018-00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5018-00
A3C65	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A3C66	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A3C67	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C68	283-5018-00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5018-00
A3C71	283-5018-00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5018-00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3C72	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A3C73	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A3C74	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A3C75	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A3C76	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A3C77	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C78	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A3C81	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A3C82	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A3C85	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C86	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C87	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A3C91	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A3C92	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A3C95	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C96	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C97	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A3C101	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A3C102	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A3C103	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A3C104	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C105	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C106	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C107	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C108	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C109	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C111	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C112	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C113	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C114	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3C115	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00
A3C116	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00
A3C117	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00
A3C118	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00
A3C120	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00
A3C121	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C122	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00
A3C131	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C132	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C133	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C134	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C135	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C136	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C140	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD.8MM T&R	80009	283–5002–00
A3C141	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C142	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00
A3C151	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C152	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C153	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C154	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C155	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C156	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C161	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C162	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C171	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C172	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C181	283–5005–00			CAP,FXD,CER:MLC;4PF,+/–0.25PF,50V,NPO,1206;SMD,8MM T&R	54583	C3216C0G1H040C–T
A3C201	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00
A3C202	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A3C203	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3C211	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C212	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C213	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C221	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C222	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C223	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C231	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C232	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C233	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C241	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C242	283-5011-00			CAP,FXD,CER:MLC;33PF,5%,50V,NPO,1206;SMD,8 MM,T&R	54583	C3216C0G1H330J-T
A3C243	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C244	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C245	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C246	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C251	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C252	283-5011-00			CAP,FXD,CER:MLC;33PF,5%,50V,NPO,1206;SMD,8 MM,T&R	54583	C3216C0G1H330J-T
A3C253	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C254	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C255	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C256	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3E1	337-3843-00			SHIELD,ELEC:CKT BD,ALUM,2722A	80009	337-3843-00
A3E2	337-3843-00			SHIELD,ELEC:CKT BD,ALUM,2722A	80009	337-3843-00
A3FL1	119-3597-00			FILTER,LOW PASS:DC-580 PASS BAND,CKT BD MTG	80009	119-3597-00
A3FL2	119-3597-00			FILTER,LOW PASS:DC-580 PASS BAND,CKT BD MTG	80009	119-3597-00
A3FL3	119-3619-01			FILTER ASSEMBLY:680MHZ,2721A	80009	119-3619-01
A3FL4	119-3619-01			FILTER ASSEMBLY:680MHZ,2721A	80009	119-3619-01
A3J1	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J2	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J3	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J4	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J910	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J931	131-4790-00			CONN,RF JACK:SMB;75 OHM,MALE,STR,PCB, 0.298 H X 4,0.04 SQ,0.2 CTR,0.150 L TAIL,30 GLD	24931	32 JR127-2
A3J940	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J941	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J980	131-3520-00			CONN,HDR:	53387	2510-6002UB

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3J990	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3L11	108-5030-00			COIL,RF:	80009	108-5030-00
A3L12	108-5030-00			COIL,RF:	80009	108-5030-00
A3L21	108-5030-00			COIL,RF:	80009	108-5030-00
A3L22	108-5030-00			COIL,RF:	80009	108-5030-00
A3L31	108-5030-00			COIL,RF:	80009	108-5030-00
A3L32	108-5030-00			COIL,RF:	80009	108-5030-00
A3L41	108-5030-00			COIL,RF:	80009	108-5030-00
A3L42	108-5030-00			COIL,RF:	80009	108-5030-00
A3L51	108-5030-00			COIL,RF:	80009	108-5030-00
A3L52	108-5030-00			COIL,RF:	80009	108-5030-00
A3L86	108-5030-00			COIL,RF:	80009	108-5030-00
A3L87	108-5030-00			COIL,RF:	80009	108-5030-00
A3L96	108-5030-00			COIL,RF:	80009	108-5030-00
A3L97	108-5030-00			COIL,RF:	80009	108-5030-00
A3L101	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L102	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L103	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L104	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L105	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L106	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L111	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L112	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L113	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L114	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L121	108-5030-00			COIL,RF:	80009	108-5030-00
A3L131	108-5030-00			COIL,RF:	80009	108-5030-00
A3L132	108-5030-00			COIL,RF:	80009	108-5030-00
A3L133	108-5030-00			COIL,RF:	80009	108-5030-00
A3L141	108-5030-00			COIL,RF:	80009	108-5030-00
A3L151	108-5030-00			COIL,RF:	80009	108-5030-00
A3L152	108-5030-00			COIL,RF:	80009	108-5030-00
A3L153	108-5030-00			COIL,RF:	80009	108-5030-00
A3L161	108-5030-00			COIL,RF:	80009	108-5030-00
A3L162	108-5030-00			COIL,RF:	80009	108-5030-00
A3L171	108-5030-00			COIL,RF:	80009	108-5030-00
A3L172	108-5030-00			COIL,RF:	80009	108-5030-00
A3L201	108-5030-00			COIL,RF:	80009	108-5030-00
A3L211	108-5030-00			COIL,RF:	80009	108-5030-00
A3L221	108-5030-00			COIL,RF:	80009	108-5030-00
A3L231	108-5030-00			COIL,RF:	80009	108-5030-00
A3L241	108-5020-00			COIL,RF:	02113	1008CS-271-05
A3L242	108-5000-00			COIL,RF:	80009	108-5000-00
A3L251	108-5020-00			COIL,RF:	02113	1008CS-271-05
A3L252	108-5000-00			COIL,RF:	80009	108-5000-00
A3Q241	151-5009-00			XSTR,SIG:BIPOLAR,NPN;25V,300MA,1.2GHZ, AMPL;BFQ17,SOT-89,12MM T/R	80009	151-5009-00
A3Q242	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A3Q251	151-5009-00			XSTR,SIG:BIPOLAR,NPN;25V,300MA,1.2GHZ, AMPL;BFQ17,SOT-89,12MM T/R	80009	151-5009-00
A3Q252	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A3R5	311-1227-00			RES,VAR,NONWW:TRMR,5K OHM,0.5W	80009	311-1227-00
A3R6	311-1227-00			RES,VAR,NONWW:TRMR,5K OHM,0.5W	80009	311-1227-00
A3R11	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A3R12	321-5046-00			RES,FXD:THICK FILM;82.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5046-00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3R13	321–5051–00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5051–00
A3R15	321–5050–00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A3R16	321–5015–00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5015–00
A3R17	321–5015–00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5015–00
A3R18	321–5015–00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5015–00
A3R21	321–5000–00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R22	321–5026–00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5026–00
A3R23	321–5026–00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5026–00
A3R24	321–5026–00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5026–00
A3R25	321–5026–00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5026–00
A3R26	321–5022–00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5022–00
A3R27	322–3435–00			RES,FXD:MET FILM;332K OHM,1%,0.2W, TC=100 PPM;AXIAL,T&R,SM BODY	80009	322–3435–00
A3R31	321–5000–00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R32	321–5026–00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5026–00
A3R33	321–5026–00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5026–00
A3R34	321–5026–00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5026–00
A3R35	321–5026–00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5026–00
A3R36	321–5022–00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5022–00
A3R37	322–3435–00			RES,FXD:MET FILM;332K OHM,1%,0.2W, TC=100 PPM;AXIAL,T&R,SM BODY	80009	322–3435–00
A3R44	321–5000–00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R45	321–5051–00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5051–00
A3R51	321–5000–00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R61	321–5031–00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5031–00
A3R62	321–5031–00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5031–00
A3R63	321–5025–00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321–5025–00
A3R64	321–5031–00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5031–00
A3R65	321–5031–00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5031–00
A3R66	321–5025–00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321–5025–00
A3R67	321–5043–00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5043–00
A3R68	321–5012–00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5012–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3R71	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A3R72	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A3R73	321-5025-00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321-5025-00
A3R74	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A3R75	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A3R76	321-5025-00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321-5025-00
A3R77	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A3R78	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A3R81	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R82	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R83	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R84	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A3R86	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R87	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R91	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R92	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R93	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R94	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A3R96	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R97	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R101	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R102	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R103	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R104	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R105	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R106	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A3R107	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A3R108	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A3R109	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A3R110	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3R111	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R112	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R113	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R121	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A3R122	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R123	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R124	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R127	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R141	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A3R142	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R143	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R144	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R147	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R161	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R162	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R171	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R172	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R181	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A3R182	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A3R183	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A3R201	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A3R202	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R203	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A3R204	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R205	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R211	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A3R212	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R213	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A3R214	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R215	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3R221	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R222	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A3R223	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R224	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R225	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R226	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A3R227	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A3R228	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A3R229	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A3R231	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R232	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A3R233	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R234	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R235	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R236	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A3R237	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A3R238	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A3R239	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A3R241	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R242	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A3R243	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A3R244	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A3R245	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R246	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R247	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A3R248	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R251	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R252	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A3R253	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A3R254	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3R255	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R256	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R257	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A3R258	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R261	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A3R262	321-5005-00			RES,FXD:THICK FILM;27.4 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5005-00
A3R263	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A3R271	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A3R272	321-5005-00			RES,FXD:THICK FILM;27.4 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5005-00
A3R273	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A3U1	119-4334-00			MIXER ASSY,RF: *ATTACHED PARTS*	80009	119-4334-00
	337-3824-00			SHIELD,MIXER:DOWN CONV *END ATTACHED PARTS*	80009	337-3824-00
A3U3	119-3598-00			SPLITTER,POWER:RF,COMBINER;PCB,2 WAY,0 DEG, 1.0 TO 600 MHZ,8 PIN	15542	PSC-2-1W
A3U4	119-4334-00			MIXER ASSY,RF: *ATTACHED PARTS*	80009	119-4334-00
	337-3824-00			SHIELD,MIXER:DOWN CONV *END ATTACHED PARTS*	80009	337-3824-00
A3U5	119-4334-00			MIXER ASSY,RF: *ATTACHED PARTS*	80009	119-4334-00
	337-3824-00			SHIELD,MIXER:DOWN CONV *END ATTACHED PARTS*	80009	337-3824-00
A3U6	119-4334-00			MIXER ASSY,RF: *ATTACHED PARTS*	80009	119-4334-00
	337-3824-00			SHIELD,MIXER:DOWN CONV *END ATTACHED PARTS*	80009	337-3824-00
A3U7	119-3427-01	B020101	B020156	OSC,RF:XTAL UNIT;OSC;680-1360MHZ, +15VDC AT 50MA NOM,TO-8V CASE STYLE	80009	119-3427-01
A3U7	119-3427-02	B020157		OSC,RF:VXCO;680MHZ-1400MHZ,+/-25MHZ,0.18V DC;TO-8 OR TO-8V	80009	119-3427-02
A3U8	119-3427-01	B020101	B020156	OSC,RF:XTAL UNIT;OSC;680-1360MHZ, +15VDC AT 50MA NOM,TO-8V CASE STYLE	80009	119-3427-01
A3U8	119-3427-02	B020157		OSC,RF:VXCO;680MHZ-1400MHZ,+/-25MHZ,0.18V DC;TO-8 OR TO-8V	80009	119-3427-02
A3U10	156-6393-00			IC,LIN:	80009	156-6393-00
A3U20	156-5898-00			IC,LIN:CMOS,FREQ SYNTH;SERIAL DATA IN;MB87006APF,SO16M-2	80009	156-5898-00
A3U21	156-5777-00			IC,LIN:ECL,PRESCALER;1.6GHZ,TWO MODULUS, DIVIDE BY 128/129 OR 256/257;MB507PF.SO8M-3	80009	156-5777-00
A3U30	156-5898-00			IC,LIN:CMOS,FREQ SYNTH;SERIAL DATA IN;MB87006APF,SO16M-2	80009	156-5898-00
A3U31	156-5777-00			IC,LIN:ECL,PRESCALER;1.6GHZ,TWO MODULUS, DIVIDE BY 128/129 OR 256/257;MB507PF.SO8M-3	80009	156-5777-00
A3U60	156-5018-00			IC,LIN:BIPOLAR,OP-AMP;DUAL,SGL SPLY;LM358D,SO8.150,TUBE	80009	156-5018-00
A3U70	156-5018-00			IC,LIN:BIPOLAR,OP-AMP;DUAL,SGL SPLY;LM358D,SO8.150,TUBE	80009	156-5018-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3U81	156-6564-00			IC,LIN:BIPOLAR AMPL;MICROWAVE,12 DB GAIN,1.9GHZ;MSA-0711,SOT-143,8MM	80009	156-6564-00
A3U91	156-6564-00			IC,LIN:BIPOLAR AMPL;MICROWAVE,12 DB GAIN,1.9GHZ;MSA-0711,SOT-143,8MM	80009	156-6564-00
A3U120	156-6393-00			IC,LIN:	80009	156-6393-00
A3U140	156-6393-00			IC,LIN:	80009	156-6393-00
A3U200	156-5918-00			IC,LIN:BIPOLAR,AMPL;MICROWAVE,23DB GAIN,1.9GHZ;UPC1678G,SO8.175	80009	156-5918-00
A3U210	156-5918-00			IC,LIN:BIPOLAR,AMPL;MICROWAVE,23DB GAIN,1.9GHZ;UPC1678G,SO8.175	80009	156-5918-00
A3U220	156-6393-00			IC,LIN:	80009	156-6393-00
A3U230	156-6393-00			IC,LIN:	80009	156-6393-00
A3W30	174-0818-00			CA ASSY,RF:50 OHM COAX,5.25 L (CONNECTED AT A3J941 & A7J620)	80009	174-0818-00
A4	671-2624-00			CIRCUIT BD ASSY:POWER SUPPLY	80009	671-2624-00
				ATTACHED PARTS		
	211-0408-00			SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX (QUANTITY 2)	93907	ORDER BY DESCR
	214-4363-02			HT SK,PWR SPLY:ALUM	80009	214-4363-02
	346-0032-00			STRAP,RETAINING:0.075 DIA X 4.0 L,MLD RBR (QUANTITY 2,1 @ C320/C470 & 1 @ L310/L320)	98159	2829-75-4
				END ATTACHED PARTS		
A4C100	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C101	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C210	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C211	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C220	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C221	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C230	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C320	290-1253-00			CAP,FXD:ALUM,2200UF,20%,50V,AXIAL,105	80009	290-1253-00
A4C330	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C470	290-1253-00			CAP,FXD:ALUM,2200UF,20%,50V,AXIAL,105	80009	290-1253-00
A4C510	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A4C511	283-5016-00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283-5016-00
A4C512	283-5016-00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283-5016-00
A4C520	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A4C530	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A4C531	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A4C532	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A4C540	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A4C541	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A4C550	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C551	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C552	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C553	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C554	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C560	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C561	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C562	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C563	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C564	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C620	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C650	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C660	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C670	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C671	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C672	283–5070–00			CAP,FXD,CER:MLC;0.01UF,10%,200V,X7R,1210;SM D,T&R	04222	12102C103KAT1A
A4C673	283–5070–00			CAP,FXD,CER:MLC;0.01UF,10%,200V,X7R,1210;SM D,T&R	04222	12102C103KAT1A
A4C680	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C681	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C710	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C711	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C720	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C730	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C731	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C740	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C800	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A4C810	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A4C811	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A4C812	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C820	283–0111–00			CAP,FXD,CER DI:0.1UF,20%,50V	80009	283–0111–00
A4C830	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A4C831	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C832	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C833	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C841	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C920	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A4C921	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C930	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A4C990	283–5070–00			CAP,FXD,CER:MLC;0.01UF,10%,200V,X7R,1210;SM D,T&R	04222	12102C103KAT1A
A4C991	283–5070–00			CAP,FXD,CER:MLC;0.01UF,10%,200V,X7R,1210;SM D,T&R	04222	12102C103KAT1A
A4CR260	152–0539–00			DIO,RECT:ULTRA FAST;150V,8A,50NS,COM–CATH;MUR1615CT,TO–220	04713	MUR1615CT
				MOUNTING PARTS		
	210–1178–00			WASHER,SHLDR:	80009	210–1178–00
	211–0408–00			SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
	342–0563–00			INSULATOR,PLATE:XSTR,FBRGL REINFORCED SILICON RBR	18565	69–11–8805–1674
				END MOUNTING PARTS		
A4CR270	152–0539–00			DIO,RECT:ULTRA FAST;150V,8A,50NS,COM–CATH;MUR1615CT,TO–220	04713	MUR1615CT
				MOUNTING PARTS		
	210–1178–00			WASHER,SHLDR:	80009	210–1178–00
	211–0408–00			SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
	342–0563–00			INSULATOR,PLATE:XSTR,FBRGL REINFORCED SILICON RBR	18565	69–11–8805–1674
				END MOUNTING PARTS		
A4CR280	152–0539–00			DIO,RECT:ULTRA FAST;150V,8A,50NS,COM–CATH;MUR1615CT,TO–220	04713	MUR1615CT
				MOUNTING PARTS		
	210–1178–00			WASHER,SHLDR:	80009	210–1178–00
	211–0408–00			SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
	342–0563–00			INSULATOR,PLATE:XSTR,FBRGL REINFORCED SILICON RBR	18565	69–11–8805–1674
				END MOUNTING PARTS		
A4CR290	152–0539–00			DIO,RECT:ULTRA FAST;150V,8A,50NS,COM–CATH;MUR1615CT,TO–220	04713	MUR1615CT
				MOUNTING PARTS		
	210–1178–00			WASHER,SHLDR:	80009	210–1178–00
	211–0408–00			SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
	342–0563–00			INSULATOR,PLATE:XSTR,FBRGL REINFORCED SILICON RBR	18565	69–11–8805–1674
				END MOUNTING PARTS		
A4CR530	152–5000–00			SEMICOND DVC,DI:SW,SI,70V,COM CATHODE	80009	152–5000–00
A4CR660	152–5008–00			DIO,RECT:400V,1A,MONOLITHIC COM–CATH;BAW79D,SOT–89,12MM TR	80009	152–5008–00
A4CR700	152–5008–00			DIO,RECT:400V,1A,MONOLITHIC COM–CATH;BAW79D,SOT–89,12MM TR	80009	152–5008–00
A4CR710	152–5008–00			DIO,RECT:400V,1A,MONOLITHIC COM–CATH;BAW79D,SOT–89,12MM TR	80009	152–5008–00
A4CR711	152–5008–00			DIO,RECT:400V,1A,MONOLITHIC COM–CATH;BAW79D,SOT–89,12MM TR	80009	152–5008–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A4CR712	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00
A4CR750	152-5000-00			SEMICOND DVC,DI:SW,SI,70V,COM CATHODE	80009	152-5000-00
A4CR800	152-0539-00			DIO,RECT:ULTRA FAST;150V,8A,50NS,COM-CATH;MUR1615CT,TO-220	04713	MUR1615CT
A4CR820	152-0827-00			DIO,RECT:SCHKKY;45V,15A,COM-CATH;MBR2545CT,TO-220	04713	MBR2545CT
A4CR900	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00
A4F490	159-0321-00			FUSE,TERM:15A,98DRG C MAX OPENING TEMP	27012	4204A1
				MOUNTING PARTS		
	136-0388-00			SKT,PIN TERM:	80009	136-0388-00
				(QUANTITY 2)		
				END MOUNTING PARTS		
A4J130	131-3362-00			CONN,HDR:	53387	2526-6002UB
A4J490	131-4713-00			CONN,HDR PWR:	80009	131-4713-00
				(QUANTITY 4 PINS)		
A4L200	108-1262-00			COIL,RF:FXD,100UH,10%,Q=30,SRF 8.2MHZ,DCR 0.23 OHM,I MAX 0.75ARDL LEAD	80009	108-1262-00
A4L201	108-1262-00			COIL,RF:FXD,100UH,10%,Q=30,SRF 8.2MHZ,DCR 0.23 OHM,I MAX 0.75ARDL LEAD	80009	108-1262-00
A4L210	108-1262-00			COIL,RF:FXD,100UH,10%,Q=30,SRF 8.2MHZ,DCR 0.23 OHM,I MAX 0.75ARDL LEAD	80009	108-1262-00
A4L260	108-0958-00			COIL,RF:	80009	108-0958-00
A4L310	108-1497-00			COIL,RF:FIXED,300UH,10%,DCR,0.15 OHM,3A DC CUR,BOBBIN CORERDL LEAD	TK1345	108-1497-00
A4L320	108-1497-00			COIL,RF:FIXED,300UH,10%,DCR,0.15 OHM,3A DC CUR,BOBBIN CORERDL LEAD	TK1345	108-1497-00
A4Q200	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A4Q520	151-5007-00			XSTR,SIG:BIPOLAR,PNP;300V,50MA,50MHZ, AMPL;BC621/MXTA92,SOT-89,12MM T/R	80009	151-5007-00
A4Q610	151-0942-00			XSTR,PWR:BIPO-LAR,NPN;80V,10A;MJF44H11,TO-220 FULL PAK	80009	151-0942-00
A4Q630	151-1199-00			XSTR,PWR:MOS,N-CH;50V,25A,0.06 OHM;BUZ11A/IRFZ30,TO-220	80009	151-1199-00
A4Q750	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A4Q910	151-1136-00			XSTR,PWR:MOS,N-CH;100V,14A,0.16 OHM;IRF530,TO-220	80009	151-1136-00
A4Q920	151-1136-00			XSTR,PWR:MOS,N-CH;100V,14A,0.16 OHM;IRF530,TO-220	80009	151-1136-00
A4Q930	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A4R510	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R511	321-5016-00			RES,FXD:THICK FILM;681 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCK6810FT
A4R520	321-5032-00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5032-00
A4R521	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R522	321-5032-00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5032-00
A4R523	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A4R524	321-5032-00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5032-00
A4R525	321-5032-00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5032-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A4R530	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R531	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R532	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A4R533	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R534	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A4R535	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R536	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R560	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R561	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R562	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R620	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A4R630	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A4R631	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R640	321-5049-00			RES,FXD:THICK FILM;1M OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5049-00
A4R642	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A4R650	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R701	322-3289-00			RES,FXD:MET FILM;10K OHM,1%,0.2W, TC=100 PPM;AXIAL,T&R,SM BODY	80009	322-3289-00
A4R710	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R740	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R750	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R751	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A4R800	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A4R810	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R811	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R830	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A4R831	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R832	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A4R842	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R843	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A4R900	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A4R920	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A4R930	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A4R931	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R932	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A4R933	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4T310	120-1847-01			XFMR,PWR:	75498	128-9122EC
A4U100	156-1161-00			IC,LIN:BIPOLAR,VR;POS,AD-JUST,1.5A,4%;LM317T,TO-220	04713	LM317T
A4U330	156-1161-00			IC,LIN:BIPOLAR,VR;POS,AD-JUST,1.5A,4%;LM317T,TO-220	04713	LM317T
A4U430	156-2024-00			IC,LIN:	12969	UC3525AN
A4U431	156-1437-00			IC,LIN:BIPOLAR,V REF;POS,5V,1.0%,25PPM,SE-RIES;MC1404AU5,DIP08.3	80009	156-1437-00
A4U530	156-5018-00			IC,LIN:BIPOLAR,OP-AMP;DUAL,SGL SPLY;LM358D,SO8.150,TUBE	80009	156-5018-00
A4U640	156-5019-00			IC,LIN:BIPOLAR,COMPTR;DUAL,SGL SPLY;LM393D,SO8.150,TUBE	80009	156-5019-00
A4U740	156-5019-00			IC,LIN:BIPOLAR,COMPTR;DUAL,SGL SPLY;LM393D,SO8.150,TUBE	80009	156-5019-00
A4VR520	152-5011-00			DIO,SIG:6.2V,5%,225MW;MMBZ5234BL,SOT-23,8M M TR	80009	152-5011-00
A5	671-2627-00	B020100	B020109	CIRCUIT BD ASSY:SYNC	80009	671-2627-00
A5	671-2627-01	B020110	B020295	CIRCUIT BD ASSY:SYNC	80009	671-2627-01
A5	671-2627-02	B020296		CIRCUIT BD ASSY:SYNC	80009	671-2627-02
A5C1	285-1075-00			CAP,FXD,PLSTC:0.1UF,5%,100V	14752	230B1B104J
A5C2	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A5C3	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C4	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C5	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A5C6	283-5006-00			CAP,FXD,CER:MLC;5PF,+/-0.25PF,50V,NPO,1206;S MD,8MM T&R	54583	C3216C0G1H050C-T
A5C7	283-5068-00			CAP,FXD,CER:MLC;2200PF,10%,50V,X7R,1206;SM D,T&R	04222	12065C222KAT1A
A5C8	283-5108-00			CAP,FXD,CER:MLC;68PF,5%,100V,NPO,1206;SMD	04222	12061A680JAT1A
A5C9	283-5006-00			CAP,FXD,CER:MLC;5PF,+/-0.25PF,50V,NPO,1206;S MD,8MM T&R	54583	C3216C0G1H050C-T
A5C10	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A5C11	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A5C12	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A5C13	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A5C14	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A5C16	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A5C17	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A5C18	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C19	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A5C20	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C21	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C22	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C23	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C24	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C25	290-0963-00			CAP,FXD,ALUM:220UF,+50-20%,25WVDC,10 X 12MM;RDL	80009	290-0963-00
A5C26	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C27	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A5C28	285-1075-00			CAP,FXD,PLSTC:0.1UF,5%,100V	14752	230B1B104J
A5C29	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A5C30	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C31	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C32	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A5C33	283-5006-00			CAP,FXD,CER:MLC;5PF,+/-0.25PF,50V,NPO,1206;S MD,8MM T&R	54583	C3216C0G1H050C-T
A5C34	283-5068-00			CAP,FXD,CER:MLC;2200PF,10%,50V,X7R,1206;SM D,T&R	04222	12065C222KAT1A
A5C35	283-5108-00			CAP,FXD,CER:MLC;68PF,5%,100V,NPO,1206;SMD	04222	12061A680JAT1A
A5C36	283-5006-00			CAP,FXD,CER:MLC;5PF,+/-0.25PF,50V,NPO,1206;S MD,8MM T&R	54583	C3216C0G1H050C-T
A5C37	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A5C38	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A5C39	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A5C40	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A5C41	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A5C42	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C43	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C44	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C45	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C46	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A5C47	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A5C48	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A5C49	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C50	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C51	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C52	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C53	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C54	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C55	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C56	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A5C57	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A5C58	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C59	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C60	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C61	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C62	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A5C63	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A5C65	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C67	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C71	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C72	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C73	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C74	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C75	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C77	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C79	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C80	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C81	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A5C82	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C83	283–5187–00			CAP,FXD,CER:MLC;15PF,5%,100V,NPO,1206;SMD, T&R	04222	12061A150JAT1A
A5C84	283–5187–00			CAP,FXD,CER:MLC;15PF,5%,100V,NPO,1206;SMD, T&R	04222	12061A150JAT1A
A5C85	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A5C86	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A5C87	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A5C91	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C92	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C93	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C94	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C95	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C96	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C97	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C98	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C99	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C100	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C101	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C102	283–5002–00	B020101	B020110	CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A5C102	283–5018–00	B020111		CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A5C103	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A5C104	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A5C105	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A5C110	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C111	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A5C198	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C199	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C211	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C281	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C284	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C291	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5C294	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A5CR1	152–5042–00			SEMICOND DVC,DI:SWING,SCHOTTKY,SI,70V,35 OHMS,2.0PF	80009	152–5042–00
A5CR2	152–5042–00			SEMICOND DVC,DI:SWING,SCHOTTKY,SI,70V,35 OHMS,2.0PF	80009	152–5042–00
A5CR3	152–5042–00			SEMICOND DVC,DI:SWING,SCHOTTKY,SI,70V,35 OHMS,2.0PF	80009	152–5042–00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A5CR4	152-5042-00			SEMICOND DVC,DI:SWING,SCHOTTKY,SI,70V,35 OHMS,2.0PF	80009	152-5042-00
A5CR5	152-5042-00			SEMICOND DVC,DI:SWING,SCHOTTKY,SI,70V,35 OHMS,2.0PF	80009	152-5042-00
A5CR10	152-0324-01			DIO,SIG:50V,1.1VF,225MA,50PA,3.7PF,100NS;MT5260,DO-35	80009	152-0324-01
A5FL1	119-2590-00			FILTER,RFI:10.7MHZ	80009	119-2590-00
A5FL2	119-2590-00			FILTER,RFI:10.7MHZ	80009	119-2590-00
A5J320	131-0391-00			CONN,RF JACK:	80009	131-0391-00
A5J390	131-3520-00			CONN,HDR:	53387	2510-6002UB
A5J590	131-3362-00			CONN,HDR:	53387	2526-6002UB
A5J920	131-0391-00			CONN,RF JACK:	80009	131-0391-00
A5L1	108-5030-00			COIL,RF:	80009	108-5030-00
A5L2	108-5004-00			COIL,RF:	80009	108-5004-00
A5L3	108-5093-00			COIL,RF:	02113	1812LS-222 XKBA
A5L4	108-5030-00			COIL,RF:	80009	108-5030-00
A5L5	108-5004-00			COIL,RF:	80009	108-5004-00
A5L6	108-5093-00			COIL,RF:	02113	1812LS-222 XKBA
A5L7	108-5000-00			COIL,RF:	80009	108-5000-00
A5L8	108-5000-00			COIL,RF:	80009	108-5000-00
A5L9	108-5000-00			COIL,RF:	80009	108-5000-00
A5L10	108-5000-00			COIL,RF:	80009	108-5000-00
A5L11	108-5030-00			COIL,RF:	80009	108-5030-00
A5L12	108-5051-00			COIL,RF:	54583	NL453232-100K
A5Q1	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A5Q2	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A5Q4	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A5Q5	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A5R1	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R2	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R3	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A5R4	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A5R5	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A5R6	321-5002-00			RES,FXD:THICK FILM;15 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 15E0
A5R7	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A5R8	321-5014-00			RES,FXD:THICK FILM;475 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5014-00
A5R9	321-5029-00			RES,FXD:THICK FILM;8.25K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5029-00
A5R10	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A5R11	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A5R12	321-5030-00	671-2627-00	671-2627-00	RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R12	321-5018-00	671-2627-01		RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A5R13	321-5049-00			RES,FXD:THICK FILM;1M OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5049-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A5R14	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A5R15	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A5R16	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R17	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R18	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A5R19	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A5R20	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A5R21	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A5R22	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A5R23	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R24	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R25	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A5R26	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R27	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206.T&R	80009	321-5018-00
A5R28	321-5013-00			RES,FXD:THICK FILM;392 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5013-00
A5R29	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A5R30	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A5R31	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A5R32	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A5R34	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A5R35	321-5038-00			RES,FXD:THICK FILM;47.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5038-00
A5R36	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R37	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R39	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R40	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R41	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A5R42	321-5208-00			RES,FXD:THICK FILM;10M OHM,5%,0.125W, TC=100 PPM;1206,T&R	91637	CRCW1206-106JT
A5R43	321-5208-00			RES,FXD:THICK FILM;10M OHM,5%,0.125W, TC=100 PPM;1206,T&R	91637	CRCW1206-106JT
A5R44	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A5R45	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A5R46	321-5014-00			RES,FXD:THICK FILM;475 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5014-00
A5R47	321-5029-00			RES,FXD:THICK FILM;8.25K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5029-00
A5R48	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A5R49	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A5R50	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R51	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R52	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A5R53	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R54	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R55	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A5R56	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R57	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A5R58	321-5013-00			RES,FXD:THICK FILM;392 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5013-00
A5R59	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A5R61	321-5021-00			RES,FXD:THICK FILM;1.82K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5021-00
A5R62	321-5021-00			RES,FXD:THICK FILM;1.82K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5021-00
A5R63	321-5038-00			RES,FXD:THICK FILM;47.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5038-00
A5R64	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R65	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R66	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A5R67	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R68	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R69	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R70	321-5023-00			RES,FXD:THICK FILM;2.74K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5023-00
A5R71	321-5027-00			RES,FXD:THICK FILM;5.62K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5027-00
A5R72	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A5R73	321-5027-00			RES,FXD:THICK FILM;5.62K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5027-00
A5R74	321-5023-00			RES,FXD:THICK FILM;2.74K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5023-00
A5R75	321-5029-00			RES,FXD:THICK FILM;8.25K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5029-00
A5R76	321-5019-00			RES,FXD:THICK FILM;1.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5019-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A5R77	321-5023-00			RES,FXD:THICK FILM;2.74K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5023-00
A5R78	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A5R79	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A5R80	321-5023-00			RES,FXD:THICK FILM;2.74K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5023-00
A5R81	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R82	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A5R83	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R84	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A5R85	321-5019-00			RES,FXD:THICK FILM;1.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5019-00
A5R86	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A5R87	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A5R88	321-5021-00			RES,FXD:THICK FILM;1.82K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5021-00
A5R89	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A5R90	321-5021-00			RES,FXD:THICK FILM;1.82K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5021-00
A5R91	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A5R92	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R93	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A5R94	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A5R95	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R96	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R97	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R98	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R99	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R100	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A5R101	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R102	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R103	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R104	321-5023-00			RES,FXD:THICK FILM;2.74K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5023-00
A5R105	321-5023-00			RES,FXD:THICK FILM;2.74K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5023-00
A5R106	321-5023-00			RES,FXD:THICK FILM;2.74K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5023-00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A5R107	321-5208-00			RES,FXD:THICK FILM;10M OHM,5%,0.125W, TC=100 PPM;1206,T&R	91637	CRCW1206-106JT
A5R108	321-5208-00			RES,FXD:THICK FILM;10M OHM,5%,0.125W, TC=100 PPM;1206,T&R	91637	CRCW1206-106JT
A5R109	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A5R110	321-5038-00			RES,FXD:THICK FILM;47.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5038-00
A5R111	321-5023-00			RES,FXD:THICK FILM;2.74K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5023-00
A5R121	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R122	321-5049-00	B020101	B020110	RES,FXD:THICK FILM;1M OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5049-00
A5R122	321-5038-00	B020111		RES,FXD:THICK FILM;47.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5038-00
A5R123	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R124	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R125	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A5R127	321-5030-00	671-2627-00	671-2627-00	RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R127	321-5018-00	671-2627-01		RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A5R128	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A5R131	321-5029-00			RES,FXD:THICK FILM;8.25K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5029-00
A5R132	321-5029-00			RES,FXD:THICK FILM;8.25K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5029-00
A5R133	321-5029-00			RES,FXD:THICK FILM;8.25K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5029-00
A5U1	156-5257-00			IC,LIN:BIPOLAR,OP-AMP;HI SLEW RATE;LM318D,SO8.150	80009	156-5257-00
A5U2	156-5299-00			IC,LIN:BIPOLAR,VR;NEG,-5V,100MA,5%; MC79L05ACD,SO8.150,TUBE	80009	156-5299-00
A5U3	156-5298-00			IC,LIN:BIPOLAR,VR;POS,5V,100MA,5%; MC78L05ACD,SO8.150,TUBE	80009	156-5298-00
A5U4	156-5257-00			IC,LIN:BIPOLAR,OP-AMP;HI SLEW RATE;LM318D,SO8.150	80009	156-5257-00
A5U5	156-5299-00			IC,LIN:BIPOLAR,VR;NEG,-5V,100MA,5%; MC79L05ACD,SO8.150,TUBE	80009	156-5299-00
A5U6	156-5262-00			IC,LIN:BIPOLAR,COMPTR;QUAD,SGL SPLY;LM339D,SO14.150	80009	156-5262-00
A5U7	156-5119-00			IC,LIN:BIPOLAR,COMPTR;DUAL,OPEN COLL,80NS;LM319D,SO14.150,TUBE	80009	156-5119-00
A5U8	156-6565-00			IC,LIN:	80009	156-6565-00
A5U9	156-6565-00			IC,LIN:	80009	156-6565-00
A5U10	156-2051-00			MICROCKT,LIN:QUAD J FET	80009	156-2051-00
A5U11	156-2051-00			MICROCKT,LIN:QUAD J FET	80009	156-2051-00
A5U12	156-5571-00			IC,MISC:CMOS,ANALOG MUX;TRIPLE,2 CHAN;MC14053B,SO16.150,TUBE	80009	156-5571-00
A5U13	156-5778-00			IC,CONV:	80009	156-5778-00
A5U14	156-5138-00			IC,LIN:BIFET,OP-AMP;DUAL;MC34002/TL072,SO8.150,TUBE	80009	156-5138-00
A5U15	160-9527-00	B020111		IC,MEMORY:CMOS,PLD;EPLD,32 MACRO-CELL,20NS,83.3MHZ;5032-2,JLCC28,TUBE	80009	160-9527-00
A5U18	156-5133-00			IC,DGTL:HCTCMOS,MUX/ENCODER;8-TO-1 MUX;74HCT151,SO16.150,TUBE	80009	156-5133-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A5U19	156-5074-00			IC,DGTL:HCMOS,FLIP FLOP;DUAL D-TYPE;74HC74,SO14.150,TUBE	80009	156-5074-00
A5U20	156-5074-00			IC,DGTL:HCMOS,FLIP FLOP;DUAL D-TYPE;74HC74,SO14.150,TUBE	80009	156-5074-00
A5U23	156-5142-00			IC,DGTL:HCTCMOS,DEMUX/DECODER;DUAL 2-TO-4 DECODER;74HCT139,SO16.150,TUBE	80009	156-5142-00
A5U24	156-5289-00			IC,DGTL:HCTCMOS,FLIP FLOP;OCTAL D-TYPE, 3-STATE;74HCT574,SO20.300,TUBE	80009	156-5289-00
A5U25	156-5289-00			IC,DGTL:HCTCMOS,FLIP FLOP;OCTAL D-TYPE, 3-STATE;74HCT574,SO20.300,TUBE	80009	156-5289-00
A5U27	156-5043-01			IC,CONV:BIPOLAR,D/A;8 BIT,CUR OUT,MULTIPLYING;DAC08ED,SO16.150,16MM T&R	80009	156-5043-01
A5U28	156-5074-00			IC,DGTL:HCMOS,FLIP FLOP;DUAL D-TYPE;74HC74,SO14.150,TUBE	80009	156-5074-00
A5U29	156-5220-01			IC,DGTL:HCTCMOS,BFR;OCTAL BFR/DRVR, 3-STATE;74HCT541,SO20.300,24MM T&R	80009	156-5220-01
A5U30	156-5888-00			IC,DGTL:HCTCMOS,MULTIVIBRATOR;DUAL NON-RETRIG MONOSTABLE;74HCT221,SO16.150,TUBE	80009	156-5888-00
A5U115	160-9623-01			IC,DGTL:CMOS,PLD;OTP,5032,32 MACROCELL,20NS,83.3MHZ;5032-2,DIP28.3	80009	160-9623-01
				MOUNTING PARTS		
	136-1038-00			SKT,DIP:	00779	2-641873-1
				END MOUNTING PARTS		
A5U116	160-9624-00			IC,DGTL:	80009	160-9624-00
				MOUNTING PARTS		
	136-1038-00			SKT,DIP:	00779	2-641873-1
				END MOUNTING PARTS		
A5U126	160-9521-00	671-2627-00	671-2627-01	IC,PROCESSOR:	80009	160-9521-00
A5U126	160-9521-01	671-2627-02		IC,PROCESSOR:	80009	160-9521-01
				MOUNTING PARTS		
	136-0755-00			SKT,DIP:	09922	DILB28P-108
				END MOUNTING PARTS		
A5Y1	158-0317-00			XTAL UNIT,QTZ:3.579545MHZ, +/-0.003%,PRL,CL=16PF,HC-49U-A	TK1919	TO BE ASSIGNED
				MOUNTING PARTS		
	253-0176-00			TAPE,PRESS SENS:VINYL FOAM,0.5 X 0.062,	85471	ORDER BY DESCR
	346-0032-00			STRAP,RETAINING:0.075 DIA X 4.0 L,MLD RBR	98159	2829-75-4
				END MOUNTING PARTS		
A6	671-2623-00			CIRCUIT BD ASSY:RF UP CONVERTER	80009	671-2623-00
				ATTACHED PARTS		
	211-0408-00			SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
				(QUANTITY 22 FOR HEATSINK)		
	211-0730-00			SCR,ASSEM WSHR:6-32 X 0.375,PNH,STL CD PL,TORX T15	80009	211-0730-00
				(QUANTITY 2)		
	337-3919-00			INSULATOR:SAF CONTROLLED	80009	337-3919-00
				(QUANTITY 5)		
	337-3920-00			INSULATOR:SAF CONTROLLED	80009	337-3920-00
	348-1346-00			GASKET,SHLD:0.070 DIA	80009	348-1346-00
				(QUANTITY 5)		
	380-0991-01			HSG,CONV:CONV	80009	380-0991-01
				(QUANTITY 2)		
				END ATTACHED PARTS		
A6C11	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A6C12	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A6C13	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6C14	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C15	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C16	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C17	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C18	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C21	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C25	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C26	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C27	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C28	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C101	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C102	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C103	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C104	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C105	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C106	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C107	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C108	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C111	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C112	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C121	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C122	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C123	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C124	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C131	283–5009–00			CAP,FXD,CER:MLC;15PF,5%,50V,NPO,0.126 X 0.063;1206,SMD,8MM,T&R	54583	C3216C0G1H150J–T
A6C132	283–5049–00			CAP,FXD,CER:MLC;180PF,5%,50V,NPO,1206;SMD, 8MM T&R	54583	C3216C0G1H181J–T
A6C133	283–5005–00			CAP,FXD,CER:MLC;4PF,+/–0.25PF,50V,NPO,1206;SMD,8MM T&R	54583	C3216C0G1H040C–T
A6C134	283–5011–00			CAP,FXD,CER:MLC;33PF,5%,50V,NPO,1206;SMD,8MM,T&R	54583	C3216C0G1H330J–T
A6C135	283–5049–00			CAP,FXD,CER:MLC;180PF,5%,50V,NPO,1206;SMD, 8MM T&R	54583	C3216C0G1H181J–T
A6C136	283–5005–00			CAP,FXD,CER:MLC;4PF,+/–0.25PF,50V,NPO,1206;SMD,8MM T&R	54583	C3216C0G1H040C–T

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6C137	283–5049–00			CAP,FXD,CER:MLC;180PF,5%,50V,NPO,1206;SMD, 8MM T&R	54583	C3216C0G1H181J–T
A6C138	283–5009–00			CAP,FXD,CER:MLC;15PF,5%,50V,NPO,0.126 X 0.063;1206,SMD,8MM,T&R	54583	C3216C0G1H150J–T
A6C141	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C142	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C151	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C152	283–5009–00			CAP,FXD,CER:MLC;15PF,5%,50V,NPO,0.126 X 0.063;1206,SMD,8MM,T&R	54583	C3216C0G1H150J–T
A6C153	283–5009–00			CAP,FXD,CER:MLC;15PF,5%,50V,NPO,0.126 X 0.063;1206,SMD,8MM,T&R	54583	C3216C0G1H150J–T
A6C154	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C155	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C156	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C157	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C158	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C161	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C162	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C163	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C164	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C165	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C171	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C181	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A6C182	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A6C183	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C184	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C190	283–5005–00			CAP,FXD,CER:MLC;4PF,+/–0.25PF,50V,NPO,1206;S MD,8MM T&R	54583	C3216C0G1H040C–T
A6C191	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A6C192	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A6C193	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C201	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C202	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C211	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A6C212	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6C213	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SMD,8MM T&R	80009	283–5003–00
A6C214	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A6C215	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SMD,8MM T&R	80009	283–5003–00
A6C221	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD,8MM,T&R	80009	283–5001–00
A6C222	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD,8MM,T&R	80009	283–5001–00
A6C231	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SMD,8MM T&R	80009	283–5003–00
A6C232	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SMD,8MM T&R	80009	283–5003–00
A6C233	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A6C234	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A6C241	283–5008–00			CAP,FXD,CER:MLC;12PF,5%,50V,NPO,1206;SMD,8MM T&R	54583	C3216C0G1H120J–T
A6C242	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD,8MM,T&R	80009	283–5001–00
A6C243	283–5005–00			CAP,FXD,CER:MLC;4PF,+/–0.25PF,50V,NPO,1206;SMD,8MM T&R	54583	C3216C0G1H040C–T
A6C244	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD,8MM,T&R	80009	283–5001–00
A6C245	283–5005–00			CAP,FXD,CER:MLC;4PF,+/–0.25PF,50V,NPO,1206;SMD,8MM T&R	54583	C3216C0G1H040C–T
A6C246	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD,8MM,T&R	80009	283–5001–00
A6C247	283–5008–00			CAP,FXD,CER:MLC;12PF,5%,50V,NPO,1206;SMD,8MM T&R	54583	C3216C0G1H120J–T
A6C251	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SMD,8MM T&R	80009	283–5003–00
A6C252	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A6C253	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A6C254	283–5009–00			CAP,FXD,CER:MLC;15PF,5%,50V,NPO,0.126 X 0.063;1206,SMD,8MM,T&R	54583	C3216C0G1H150J–T
A6C255	283–5009–00			CAP,FXD,CER:MLC;15PF,5%,50V,NPO,0.126 X 0.063;1206,SMD,8MM,T&R	54583	C3216C0G1H150J–T
A6C261	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00
A6C262	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00
A6C263	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A6C264	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A6C291	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00
A6C292	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00
A6C293	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00
A6C294	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283–5002–00
A6C301	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD,8MM T&R	80009	283–5004–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6C302	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C303	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C304	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C305	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C306	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C307	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C308	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C311	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C312	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C313	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C320	283–5011–00			CAP,FXD,CER:MLC;33PF,5%,50V,NPO,1206;SMD,8 MM,T&R	54583	C3216C0G1H330J-T
A6C330	283–5011–00			CAP,FXD,CER:MLC;33PF,5%,50V,NPO,1206;SMD,8 MM,T&R	54583	C3216C0G1H330J-T
A6C331	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C332	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C333	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C341	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C342	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C343	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C351	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A6C352	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A6C353	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A6C354	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A6C355	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C361	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A6C362	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A6C363	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A6C364	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A6C365	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A6C366	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A6C367	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6C368	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A6C371	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A6C372	290–5002–00			CAP,FXD,TANT:DRY;10UF,20%,20V,TANT OX-IDE,0.287 X 0.170,7343,SMD,T&R	TK1424	20MC100M–TER
A6C373	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A6C374	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C381	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A6C382	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A6C383	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A6C384	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C385	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A6C386	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C387	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A6C401	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C402	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C403	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C404	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C405	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C406	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C407	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C408	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C411	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C412	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C413	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C420	283–5011–00			CAP,FXD,CER:MLC;33PF,5%,50V,NPO,1206;SMD,8 MM,T&R	54583	C3216C0G1H330J–T
A6C430	283–5011–00			CAP,FXD,CER:MLC;33PF,5%,50V,NPO,1206;SMD,8 MM,T&R	54583	C3216C0G1H330J–T
A6C431	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C432	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A6C433	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A6C451	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A6C452	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6C453	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A6C454	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A6C455	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A6C461	283-5018-00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5018-00
A6C462	283-5018-00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5018-00
A6C463	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A6C464	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A6C465	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A6C466	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A6C467	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A6C468	283-5018-00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5018-00
A6C471	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A6C472	290-5002-00			CAP,FXD,TANT:DRY;10UF,20%,20V,TANT OX-IDE,0.287 X 0.170,7343,SMD,T&R	TK1424	20MC100M-TER
A6C473	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A6C474	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A6C481	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A6C482	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A6C483	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A6C484	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A6C485	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A6C486	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A6C487	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A6C901	281-0267-00			CAP,VAR,CER:6-50PF,50V	80009	281-0267-00
A6C902	281-0267-00			CAP,VAR,CER:6-50PF,50V	80009	281-0267-00
A6C903	281-0267-00			CAP,VAR,CER:6-50PF,50V	80009	281-0267-00
A6C911	281-0267-00			CAP,VAR,CER:6-50PF,50V	80009	281-0267-00
A6C912	281-0267-00			CAP,VAR,CER:6-50PF,50V	80009	281-0267-00
A6C913	281-0267-00			CAP,VAR,CER:6-50PF,50V	80009	281-0267-00
A6C921	290-0963-00			CAP,FXD,ALUM:220UF,+50-20%,25WVDC,10 X 12MM;RDL	80009	290-0963-00
A6C922	290-0963-00			CAP,FXD,ALUM:220UF,+50-20%,25WVDC,10 X 12MM;RDL	80009	290-0963-00
A6C923	290-0963-00			CAP,FXD,ALUM:220UF,+50-20%,25WVDC,10 X 12MM;RDL	80009	290-0963-00
A6C924	290-0963-00			CAP,FXD,ALUM:220UF,+50-20%,25WVDC,10 X 12MM;RDL	80009	290-0963-00
A6CR101	152-5005-00			DIO,SIG:ULTRA FAST;70V,0.15A,6NS,COM-ANODE;BAW56,SOT-23,8MM TR	80009	152-5005-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6CR161	152-5065-00			DIO,SIG:PIN;35V,1.0PF,0.7 OHMS;MMBV3401L,SOT-23,8MM T&R	80009	152-5065-00
A6CR162	152-5065-00			DIO,SIG:PIN;35V,1.0PF,0.7 OHMS;MMBV3401L,SOT-23,8MM T&R	80009	152-5065-00
A6E3	337-3824-00			SHIELD,MIXER:DOWN CONV	80009	337-3824-00
A6E4	337-3824-00			SHIELD,MIXER:DOWN CONV	80009	337-3824-00
A6E5	337-3824-00			SHIELD,MIXER:DOWN CONV	80009	337-3824-00
A6E6	337-3824-00			SHIELD,MIXER:DOWN CONV	80009	337-3824-00
A6E7	337-3715-00			SHIELD,ELEC:RE UP CONV,SST	80009	337-3715-00
A6FL221	119-2590-00			FILTER,RFI:10.7MHZ	80009	119-2590-00
A6FL321	119-3810-00			FILTER,LOW PASS:0 TO 620MHZ,75 OHM IM-PEDANCE	84171	LP550B1
A6FL421	119-3810-00			FILTER,LOW PASS:0 TO 620MHZ,75 OHM IM-PEDANCE	84171	LP550B1
A6FL901	119-3619-01			FILTER ASSEMBLY:680MHZ,2721A	80009	119-3619-01
A6FL911	119-3619-01			FILTER ASSEMBLY:680MHZ,2721A	80009	119-3619-01
A6J1	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A6J2	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A6J3	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A6J4	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A6J900	131-3520-00			CONN,HDR:	53387	2510-6002UB
A6J901	131-3520-00			CONN,HDR:	53387	2510-6002UB
A6J920	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A6J921	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A6J922	131-4790-00			CONN,RF JACK:SMB;75 OHM,MALE,STR,PCB,0.298 H X 4,0.04 SQ,0.2 CTR,0.150 L TAIL,30 GLD	24931	32 JR127-2
A6J950	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A6J960	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A6J980	131-1857-00			CONN,HDR:PCB;MALE,STR,1 X 36,0.1 CTR,0.230 MLG X 0.100 TAIL,GLD (QUANTITY 2 PINS)	58050	082-3644-SS10
A6J990	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A6L11	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L12	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L13	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L14	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L15	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L16	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L17	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L18	108-1263-00			COIL,RF:FXD,10UH, 10%,Q=70,SRF 27 MHZ,DCR 0.043 OHM,I MAX 2.1A RDL LEAD	80009	108-1263-00
A6L21	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L25	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L26	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L27	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L28	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L101	108-5030-00			COIL,RF:	80009	108-5030-00
A6L103	108-5030-00			COIL,RF:	80009	108-5030-00
A6L105	108-5030-00			COIL,RF:	80009	108-5030-00
A6L107	108-5030-00			COIL,RF:	80009	108-5030-00
A6L121	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L131	108-1496-00			COIL,RF:FIXED,46NH,+/- 10 %,3 TURN, 20 AWG WIRE, AIR WOUND	TK1345	108-1496-00
A6L132	108-1496-00			COIL,RF:FIXED,46NH,+/- 10 %,3 TURN, 20 AWG WIRE, AIR WOUND	TK1345	108-1496-00
A6L133	108-1496-00			COIL,RF:FIXED,46NH,+/- 10 %,3 TURN, 20 AWG WIRE, AIR WOUND	TK1345	108-1496-00
A6L151	108-5020-00			COIL,RF:	02113	1008CS-271-05

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6L152	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L161	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L162	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L163	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L181	108-5030-00			COIL,RF:	80009	108-5030-00
A6L191	108-5030-00			COIL,RF:	80009	108-5030-00
A6L201	108-5030-00			COIL,RF:	80009	108-5030-00
A6L211	108-5030-00			COIL,RF:	80009	108-5030-00
A6L212	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L221	108-5004-00			COIL,RF:	80009	108-5004-00
A6L222	108-5004-00			COIL,RF:	80009	108-5004-00
A6L231	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L241	108-1496-00			COIL,RF:FIXED,46NH,+/- 10 %,3 TURN, 20 AWG WIRE, AIR WOUND	TK1345	108-1496-00
A6L242	108-1496-00			COIL,RF:FIXED,46NH,+/- 10 %,3 TURN, 20 AWG WIRE, AIR WOUND	TK1345	108-1496-00
A6L243	108-1496-00			COIL,RF:FIXED,46NH,+/- 10 %,3 TURN, 20 AWG WIRE, AIR WOUND	TK1345	108-1496-00
A6L251	108-5051-00			COIL,RF:	54583	NL453232-100K
A6L252	108-5030-00			COIL,RF:	80009	108-5030-00
A6L261	108-5030-00			COIL,RF:	80009	108-5030-00
A6L291	108-5030-00			COIL,RF:	80009	108-5030-00
A6L301	108-5030-00			COIL,RF:	80009	108-5030-00
A6L303	108-5030-00			COIL,RF:	80009	108-5030-00
A6L305	108-5030-00			COIL,RF:	80009	108-5030-00
A6L307	108-5030-00			COIL,RF:	80009	108-5030-00
A6L311	108-5030-00			COIL,RF:	80009	108-5030-00
A6L312	108-5000-00			COIL,RF:	80009	108-5000-00
A6L331	108-5030-00			COIL,RF:	80009	108-5030-00
A6L332	108-5000-00			COIL,RF:	80009	108-5000-00
A6L351	108-5030-00			COIL,RF:	80009	108-5030-00
A6L371	108-5030-00			COIL,RF:	80009	108-5030-00
A6L372	108-5030-00			COIL,RF:	80009	108-5030-00
A6L381	108-5030-00			COIL,RF:	80009	108-5030-00
A6L382	108-5030-00			COIL,RF:	80009	108-5030-00
A6L383	108-5030-00			COIL,RF:	80009	108-5030-00
A6L401	108-5030-00			COIL,RF:	80009	108-5030-00
A6L403	108-5030-00			COIL,RF:	80009	108-5030-00
A6L405	108-5030-00			COIL,RF:	80009	108-5030-00
A6L407	108-5030-00			COIL,RF:	80009	108-5030-00
A6L411	108-5030-00			COIL,RF:	80009	108-5030-00
A6L412	108-5000-00			COIL,RF:	80009	108-5000-00
A6L431	108-5030-00			COIL,RF:	80009	108-5030-00
A6L432	108-5000-00			COIL,RF:	80009	108-5000-00
A6L451	108-5030-00			COIL,RF:	80009	108-5030-00
A6L471	108-5030-00			COIL,RF:	80009	108-5030-00
A6L472	108-5030-00			COIL,RF:	80009	108-5030-00
A6L481	108-5030-00			COIL,RF:	80009	108-5030-00
A6L482	108-5030-00			COIL,RF:	80009	108-5030-00
A6L483	108-5030-00			COIL,RF:	80009	108-5030-00
A6P980	131-0993-00			CONN,BOX:SHUNT/SHORTING;FEM,STR,1 X 2,0.1 CTR,0.385 H,30 GLD,BLK,JUMPER;	22526	65474-006
A6Q101	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A6Q111	151-5009-00			XSTR,SIG:BIPOLAR,NPN;25V,300MA,1.2GHZ, AMPL;BFQ17,SOT-89,12MM T/R	80009	151-5009-00
A6Q211	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6R10	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A6R11	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A6R12	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R13	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A6R14	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R15	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A6R16	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R21	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R22	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R23	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A6R24	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R101	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A6R102	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A6R103	321-5019-00			RES,FXD:THICK FILM;1.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5019-00
A6R104	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A6R105	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A6R106	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A6R111	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R112	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R113	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R114	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R115	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A6R116	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A6R117	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A6R118	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A6R119	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R121	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R122	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A6R123	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R124	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6R125	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R141	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A6R142	321-5008-00			RES,FXD:THICK FILM;150 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5008-00
A6R143	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A6R144	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A6R145	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R146	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A6R147	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A6R148	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R151	321-5008-00			RES,FXD:THICK FILM;150 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5008-00
A6R152	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A6R153	321-5008-00			RES,FXD:THICK FILM;150 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5008-00
A6R154	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R155	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R156	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A6R157	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R158	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R159	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R161	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A6R162	321-5013-00			RES,FXD:THICK FILM;392 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5013-00
A6R163	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A6R164	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R165	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R167	321-5046-00			RES,FXD:THICK FILM;82.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5046-00
A6R168	321-5046-00			RES,FXD:THICK FILM;82.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5046-00
A6R171	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R172	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A6R173	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A6R174	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A6R182	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6R184	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R185	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R186	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R187	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A6R188	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R190	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R191	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R192	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R193	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R194	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A6R195	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R196	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R197	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A6R198	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R199	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A6R212	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R213	321-5023-00			RES,FXD:THICK FILM;2.74K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5023-00
A6R214	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A6R215	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A6R216	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R221	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A6R222	321-5005-00			RES,FXD:THICK FILM;27.4 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5005-00
A6R223	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A6R224	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R225	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A6R226	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R231	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R232	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R233	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A6R234	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00

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A6R235	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A6R251	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R252	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R253	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A6R254	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R255	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A6R256	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A6R261	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A6R262	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R263	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A6R264	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R265	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R266	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R267	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A6R268	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R291	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R292	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A6R293	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R294	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R295	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A6R296	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A6R297	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R311	321-5008-00			RES,FXD:THICK FILM;150 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5008-00
A6R312	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A6R313	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A6R314	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R315	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R316	321-5008-00			RES,FXD:THICK FILM;150 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5008-00
A6R317	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A6R318	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00

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A6R319	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A6R320	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A6R321	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A6R322	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R323	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A6R324	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A6R330	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A6R331	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A6R332	321-5008-00			RES,FXD:THICK FILM;150 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5008-00
A6R333	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A6R334	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A6R335	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A6R336	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A6R351	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R352	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R353	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R354	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R355	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R356	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R361	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A6R362	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A6R363	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A6R364	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A6R365	321-5025-00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321-5025-00
A6R366	321-5025-00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321-5025-00
A6R367	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R368	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R369	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A6R370	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R371	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6R372	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R373	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A6R374	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R375	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A6R381	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R382	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R383	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A6R384	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A6R411	321-5008-00			RES,FXD:THICK FILM;150 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5008-00
A6R412	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A6R413	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A6R414	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R415	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A6R416	321-5008-00			RES,FXD:THICK FILM;150 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5008-00
A6R417	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A6R418	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A6R419	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A6R420	321-5002-00			RES,FXD:THICK FILM;15 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 15E0
A6R421	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A6R422	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R423	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A6R424	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A6R430	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A6R431	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A6R432	321-5008-00			RES,FXD:THICK FILM;150 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5008-00
A6R433	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A6R434	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A6R435	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A6R436	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A6R451	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6R452	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R453	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R454	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R455	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R456	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R461	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A6R462	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A6R463	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A6R464	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A6R465	321-5025-00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321-5025-00
A6R466	321-5025-00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321-5025-00
A6R467	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R468	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A6R469	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A6R470	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R471	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R472	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A6R473	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A6R474	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A6R475	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A6R481	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R482	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A6R483	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A6R484	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A6R960	311-2082-00			RES,VAR,NONWW:TRMR,200 OHM,10%,0.5W	80009	311-2082-00
A6R980	311-1226-00			RES,VAR,NONWW:TRMR,2.5K OHM,0.5W	80009	311-1226-00
A6U121	156-5299-00			IC,LIN:BIPOLAR,VR;NEG,-5V,100MA,5%; MC79L05ACD,SO8.150,TUBE	80009	156-5299-00
A6U122	156-5155-00			IC,DGTL:HCMOS,GATE;HEX INV;74HC04,SO14.150,TUBE	80009	156-5155-00
A6U123	156-6020-00			IC,MISC:ANALOG MUX;RF,SPDT,GAAS;SO8.150,TUBE	80009	156-6020-00
A6U124	156-6020-00			IC,MISC:ANALOG MUX;RF,SPDT,GAAS;SO8.150,TUBE	80009	156-6020-00
A6U141	156-6404-00			IC,MISC:BIPOLAR,MULTR;FOUR QUAD-RANT;MC1495D,SO14.150	80009	156-6404-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A6U151	156-6564-01			IC,LIN:BIPOLAR,AMPL;MICROWAVE,12 DB GAIN,1.9GHZ;MSA-0711,SOT-143,8MM,T&R	80009	156-6564-01
A6U161	156-5464-00			IC,DGTL:ACTCMOS,GATE;QUAD 2-IN NAND;74ACT00,SO14.150,TUBE	04713	MC74ACT00D
A6U181	156-6564-01			IC,LIN:BIPOLAR,AMPL;MICROWAVE,12 DB GAIN,1.9GHZ;MSA-0711,SOT-143,8MM,T&R	80009	156-6564-01
A6U191	156-5918-00			IC,LIN:BIPOLAR,AMPL;MICROWAVE,23DB GAIN,1.9GHZ;UPC1678G,SO8.175	80009	156-5918-00
A6U211	156-5899-00			IC,LIN:ECL,PRESCALER;DIVIDE BY 64/65 OR 128/129,1.1GHZ;MB501PF,SO8M-3	80009	156-5899-00
A6U231	156-6564-01			IC,LIN:BIPOLAR,AMPL;MICROWAVE,12 DB GAIN,1.9GHZ;MSA-0711,SOT-143,8MM,T&R	80009	156-6564-01
A6U251	156-6564-01			IC,LIN:BIPOLAR,AMPL;MICROWAVE,12 DB GAIN,1.9GHZ;MSA-0711,SOT-143,8MM,T&R	80009	156-6564-01
A6U261	156-6564-01			IC,LIN:BIPOLAR,AMPL;MICROWAVE,12 DB GAIN,1.9GHZ;MSA-0711,SOT-143,8MM,T&R	80009	156-6564-01
A6U291	156-5918-00			IC,LIN:BIPOLAR,AMPL;MICROWAVE,23DB GAIN,1.9GHZ;UPC1678G,SO8.175	80009	156-5918-00
A6U311	156-6393-00			IC,LIN:	80009	156-6393-00
A6U331	156-6393-00			IC,LIN:	80009	156-6393-00
A6U341	156-3927-00			IC,LIN:	80009	156-3927-00
A6U351	156-5898-00			IC,LIN:CMOS,FREQ SYNTH;SERIAL DATA IN;MB87006APF,SO16M-2	80009	156-5898-00
A6U361	156-5018-00			IC,LIN:BIPOLAR,OP-AMP;DUAL,SGL SPLY;LM358D,SO8.150,TUBE	80009	156-5018-00
A6U381	156-6564-01			IC,LIN:BIPOLAR,AMPL;MICROWAVE,12 DB GAIN,1.9GHZ;MSA-0711,SOT-143,8MM,T&R	80009	156-6564-01
A6U382	156-5777-00			IC,LIN:ECL,PRESCALER;1.6GHZ,TWO MODULUS, DIVIDE BY 128/129 OR 256/257;MB507PF.SO8M-3	80009	156-5777-00
A6U411	156-6393-00			IC,LIN:	80009	156-6393-00
A6U431	156-6393-00			IC,LIN:	80009	156-6393-00
A6U451	156-5898-00			IC,LIN:CMOS,FREQ SYNTH;SERIAL DATA IN;MB87006APF,SO16M-2	80009	156-5898-00
A6U461	156-5018-00			IC,LIN:BIPOLAR,OP-AMP;DUAL,SGL SPLY;LM358D,SO8.150,TUBE	80009	156-5018-00
A6U481	156-6564-01			IC,LIN:BIPOLAR,AMPL;MICROWAVE,12 DB GAIN,1.9GHZ;MSA-0711,SOT-143,8MM,T&R	80009	156-6564-01
A6U482	156-5777-00			IC,LIN:ECL,PRESCALER;1.6GHZ,TWO MODULUS, DIVIDE BY 128/129 OR 256/257;MB507PF.SO8M-3	80009	156-5777-00
A6U901	119-4334-00			MIXER ASSY,RF:	80009	119-4334-00
A6U902	119-4334-00			MIXER ASSY,RF:	80009	119-4334-00
A6U903	119-3598-00			SPLITTER,POWER:RF,COMBINER;PCB,2 WAY,0 DEG, 1.0 TO 600 MHZ,8 PIN	15542	PSC-2-1W
A6U904	119-3427-01	B020101	B020156	OSC,RF:XTAL UNIT;OSC;680-1360MHZ, +15VDC AT 50MA NOM,TO-8V CASE STYLE	80009	119-3427-01
A6U904	119-3427-02	B020157		OSC,RF:VXCO;680MHZ-1400MHZ,+/-25MHZ,0.18V DC;TO-8 OR TO-8V	80009	119-3427-02
A6U911	119-3426-00			MIXER,ASSEMBLY:5 - 1250 MHZ	80009	119-3426-00
A6U912	119-4334-00			MIXER ASSY,RF:	80009	119-4334-00
A6U913	119-4334-00			MIXER ASSY,RF:	80009	119-4334-00
A6U914	119-3427-01	B020101	B020156	OSC,RF:XTAL UNIT;OSC;680-1360MHZ, +15VDC AT 50MA NOM,TO-8V CASE STYLE	80009	119-3427-01
A6U914	119-3427-02	B020157		OSC,RF:VXCO;680MHZ-1400MHZ,+/-25MHZ,0.18V DC;TO-8 OR TO-8V	80009	119-3427-02
A6W920	174-0818-00			CA ASSY,RF:50 OHM COAX,5.25 L	80009	174-0818-00
A7	671-2625-00			CIRCUIT BD ASSY:2ND LO TX *ATTACHED PARTS*	80009	671-2625-00
	211-0408-00			SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX (QUANTITY 6)	93907	ORDER BY DESCR

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
	337-3928-00			SHIELD,ELEC: *END ATTACHED PARTS*	80009	337-3928-00
A7C1	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A7C2	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A7C3	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A7C4	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A7C5	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C6	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C7	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C8	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C9	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C10	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C11	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C12	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C13	283-5000-00			CAP,FXD,CER:MLC;10PF,5%,50V,NPO,1206;SMD,8 MM T&R	80009	283-5000-00
A7C14	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C15	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A7C16	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A7C17	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A7C19	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A7C22	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A7C110	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A7C120	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A7C131	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C170	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A7C171	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C180	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A7C210	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A7C220	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A7C232	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C240	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A7C241	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A7C250	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C260	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C270	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A7C284	283-5011-00			CAP,FXD,CER:MLC;33PF,5%,50V,NPO,1206;SMD,8 MM,T&R	54583	C3216C0G1H330J-T
A7C310	281-0122-00			CAP,VAR,CER DI:2.5-9PF,100V	80009	281-0122-00
A7C311	283-5000-00			CAP,FXD,CER:MLC;10PF,5%,50V,NPO,1206;SMD,8 MM T&R	80009	283-5000-00
A7C320	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A7C321	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A7C343	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A7C344	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A7C350	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A7C351	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A7C360	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A7C363	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C372	283-5005-00			CAP,FXD,CER:MLC;4PF,+/-0.25PF,50V,NPO,1206;S MD,8MM T&R	54583	C3216C0G1H040C-T
A7C373	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A7C382	283-5009-00			CAP,FXD,CER:MLC;15PF,5%,50V,NPO,0.126 X 0.063;1206,SMD,8MM,T&R	54583	C3216C0G1H150J-T
A7C383	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C422	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A7C441	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A7C450	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A7C471	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C530	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A7C531	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A7C533	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C534	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A7C535	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A7C536	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A7C537	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A7CR423	152-5064-00			DIO,SIG:VVC;6.8PF,10%,AT 4V,C2/C30=2.7;MMBV2101LT1,SOT-23,8MM T&R	80009	152-5064-00
A7E1	337-3822-00			SHIELD,ELEC:2ND LO	80009	337-3822-00
				ATTACHED PARTS		
	348-1346-00			GASKET,SHLD:0.070 DIA	80009	348-1346-00
				END ATTACHED PARTS		
A7J620	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A7J640	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A7J650	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A7J670	131-0391-01			CONN,RF JACK:	80009	131-0391-01

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A7J680	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A7J800	131-3520-00			CONN,HDR:	53387	2510-6002UB
A7J980	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A7L1	108-5030-00			COIL,RF:	80009	108-5030-00
A7L2	108-5030-00			COIL,RF:	80009	108-5030-00
A7L3	108-5030-00			COIL,RF:	80009	108-5030-00
A7L4	108-5051-00			COIL,RF:	54583	NL453232-100K
A7L5	108-5051-00			COIL,RF:	54583	NL453232-100K
A7L6	108-5051-00			COIL,RF:	54583	NL453232-100K
A7L7	108-5051-00			COIL,RF:	54583	NL453232-100K
A7L8	108-5030-00			COIL,RF:	80009	108-5030-00
A7L9	108-5030-00			COIL,RF:	80009	108-5030-00
A7L10	108-5030-00			COIL,RF:	80009	108-5030-00
A7L12	108-5030-00			COIL,RF:	80009	108-5030-00
A7L325	108-0181-01			COIL,RF:FIXED,165NH	TK1345	108-0181-01
A7L370	108-5051-00			COIL,RF:	54583	NL453232-100K
A7L371	108-5051-00			COIL,RF:	54583	NL453232-100K
A7L431	108-1483-00			COIL,RF:FXD 8.0NH(REF)1.5 TURNS #22 WIRE,0.125 IN DIA	80009	108-1483-00
A7L790	114-0447-00			COIL,RF:VAR,0.8-1.2UH,SHIELDED E CORE,SLOT TEN TYPE	02113	SLOT TEN-4-01
A7L792	108-5030-00			COIL,RF:	80009	108-5030-00
A7L793	108-5030-00			COIL,RF:	80009	108-5030-00
A7Q364	151-5011-00			XSTR,SIG:BIPOLAR,NPN;12V,50MA,900MHZ, AMPL;MMBR5179L,TO-236/SOT-23,8MM T&R	80009	151-5011-00
A7Q410	151-5010-00			XSTR,SIG:BIPOLAR,NPN;12V,200MA,6.5GHZ, AMPL;NE85634/2SC3357,SOT-89,12MM T/R	80009	151-5010-00
A7R1	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A7R211	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A7R251	321-5028-00			RES,FXD:THICK FILM;6.81K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5028-00
A7R261	321-5029-00			RES,FXD:THICK FILM;8.25K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5029-00
A7R262	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A7R263	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A7R271	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A7R281	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A7R282	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A7R283	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A7R312	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A7R313	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A7R322	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A7R323	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A7R324	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A7R340	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A7R341	321-5028-00			RES,FXD:THICK FILM;6.81K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5028-00
A7R342	321-5028-00			RES,FXD:THICK FILM;6.81K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5028-00
A7R352	321-5028-00			RES,FXD:THICK FILM;6.81K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5028-00
A7R361	321-5017-00			RES,FXD:THICK FILM;825 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5017-00
A7R362	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A7R420	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A7R430	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A7R440	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A7R521	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A7R532	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A7R533	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A7R534	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A7R535	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A7R538	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A7R539	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A7R540	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A7U140	156-5898-00			IC,LIN:CMOS,FREQ SYNTH;SERIAL DATA IN;MB87006APF,SO16M-2	80009	156-5898-00
A7U160	156-5714-00			IC,LIN:BIPOLAR,VR;POS,AD-JUST,100MA,4%;LM317LM,SO8.150,TUBE	27014	LM317LM
A7U212	156-5777-00			IC,LIN:ECL,PRESCALER;1.6GHZ,TWO MODULUS, DIVIDE BY 128/129 OR 256/257;MB507PF.SO8M-3	80009	156-5777-00
A7U270	156-5897-00			IC,LIN:ECL,PRESCALER;DIVIDE BY 16/17 OR 32/33,TWO MODULUS,200MHZ;MB503PF,SO8M-3	80009	156-5897-00
A7U330	156-5018-00			IC,LIN:BIPOLAR,OP-AMP;DUAL,SGL SPLY;LM358D,SO8.150,TUBE	80009	156-5018-00
A7U452	156-5145-01			IC,DGTL:HCTCMOS,FLIP FLOP;DUAL D-TYPE;74HCT74,SO14.150,16MM T&R	80009	156-5145-01
A7U470	156-5081-01			IC,DGTL:HCTCMOS,GATE;HEX INVERT-ER;74HCT04,SO14.150,16MM T&R	80009	156-5081-01
A7Y780	158-0382-00			XTAL UNIT QTZ:48.0 MHZ,+/-0.001%,REF 35 DEG, PRL 3RD OVERTONE, CL 24PF, HC49/U PKG	80009	158-0382-00
				ATTACHED PARTS		
	337-3537-00			SHIELD,ELEC:CALIBRATOR,LARGE	80009	337-3537-00
				END ATTACHED PARTS		
A10	671-2106-00			CIRCUIT BD ASSY:SERIAL FILTER	80009	671-2106-00
A10C1	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C2	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C3	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C4	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C5	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C6	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C7	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA

2721A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A10C8	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C9	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C10	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C11	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C12	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C13	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C14	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C15	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C16	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C17	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C18	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10FL1	119-3580-00			FILTER,EMI:	TK2058	ZJSR-5101-102TA
A10FL2	119-3580-00			FILTER,EMI:	TK2058	ZJSR-5101-102TA
A10FL3	119-3580-00			FILTER,EMI:	TK2058	ZJSR-5101-102TA
A10FL4	119-3580-00			FILTER,EMI:	TK2058	ZJSR-5101-102TA
A10FL5	119-3580-00			FILTER,EMI:	TK2058	ZJSR-5101-102TA
A10FL6	119-3580-00			FILTER,EMI:	TK2058	ZJSR-5101-102TA
A10FL7	119-3580-00			FILTER,EMI:	TK2058	ZJSR-5101-102TA
A10FL8	119-3580-00			FILTER,EMI:	TK2058	ZJSR-5101-102TA
A10FL9	119-3580-00			FILTER,EMI:	TK2058	ZJSR-5101-102TA
A10J1	174-2353-00			CA ASSY,SP,ELEC:10,28 AWG,9.25 L	80009	174-2353-00
A10J2	131-3926-00			CONN,DSUB:	80009	131-3926-00
C2000	285-1192-00			CAP,FXD,PPR DI:0.0022 UF,20%,250VAC	TK0515	PME271Y422
C2001	285-1192-00			CAP,FXD,PPR DI:0.0022 UF,20%,250VAC	TK0515	PME271Y422
F100	159-0017-00			FUSE,CARTRIDGE:3AG,4A,250V,FAST BLOW	71400	AGC-4
				MOUNTING PARTS		
	162-0530-00			INSUL SLVG,ELEC:HT SHRINK,0.188 ID (QUANTITY .083',CUT TO 2—1/2" PIECES)	06090	VERSAFIT
F100	174-1821-00			CA ASSY,SP,ELEC:18 AWG,3.0 L (F100 TO S100)	80009	174-1821-00
	210-1039-00			WASHER,LOCK:0.521 ID,IN,0.025 THK,SST	24931	ORDER BY DESCR
	352-0362-00			FUHLR,EXTR POST:3AG,20A,300V	75915	345603W/901-002
				END MOUNTING PARTS		
S100	260-1961-00			SW,ROCKER:DPST,6(4)A,250V	TK0935	1802.1121
W100	174-1806-00			CA ASSY,SP,ELEC:10,28 AWG,19.0 L,RIBBON (CONNECTED FROM A2J100 TO A3J980)	80009	174-1806-00
W180	174-1799-00			CA ASSY,SP,ELEC:10,28 AWG,17.0 L,RIBBON (CONNECTED FROM A2J180 TO A6J900)	80009	174-1799-00
W200	174-1814-00			CA ASSY,SP,ELEC:10,28 AWG,15.0 L,RIBBON (CONNECTED FROM A2J200 TO A7J800)	80009	174-1814-00
W390	174-1805-00			CA ASSY,SP,ELEC:26,28 AWG,5.75 L,RIBBON (CONNECTED FROM A2J390 TO A4J130)	80009	174-1805-00
W400	174-1793-00			CA ASSY,SP,ELEC:26,28 AWG,6.0 L,RIBBON (CONNECTED FROM A2J400 TO A5J590)	80009	174-1793-00
W490	174-1803-01			CA ASSY,SP,ELEC:SAF CONTROLLED (CONNECTED FROM A4J490 TO REAR PANEL)	80009	174-1803-01
W550	174-1237-00			CA ASSY,RF:50 OHM COAX,12.5 L (CONNECTED FROM A2J550 TO A7J650)	TK2469	174-1237-00
W901	174-1807-00			CA ASSY,SP,ELEC:10,28 AWG,15.0 L,RIBBON (CONNECTED FROM A5J390 TO A6J901)	80009	174-1807-00
W910	174-0819-00			CA ASSY,RF:50 OHM COAX,8.25 L (CONNECTED FROM A5J320 TO A3J910)	80009	174-0819-00
W920	174-1238-00			CA ASSY,RF:50 OHM COAX,16.5 L (CONNECTED FROM A5J920 TO A3J990)	TK2469	174-1238-00
W922	174-1817-00			CA,RF:75 OHM COAX,W/BNC,5.0 L ("RF OUT" ON REAR PANEL TO A6J922)	80009	174-1817-00
W931	174-1808-00			CA,RF:75 OHM COAX,BLK VINYL JKT,15.0 L	80009	174-1808-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
				("RF IN" ON REAR PANEL TO A3J931)		
W940	174–0819–00			CA ASSY,RF:50 OHM COAX,8.25 L (CONNECTED FROM A3J940 TO A7J680)	80009	174–0819–00
W941	174–0819–00			CA ASSY,RF:50 OHM COAX,8.25 L (CONNECTED FROM A3J941 TO A7J620)	80009	174–0819–00
W950	174–0820–00			CA ASSY,RF:50 OHM COAX,11.5 L (CONNECTED FROM A7J670 TO A6J950)	80009	174–0820–00
W960	174–0819–00			CA ASSY,RF:50 OHM COAX,8.25 L (CONNECTED FROM A7J980 TO A6J960)	80009	174–0819–00
W990	174–0820–00			CA ASSY,RF:50 OHM COAX,11.5 L (CONNECTED FROM A7J640 TO A6J990)	80009	174–0820–00

Diagrams/Circuit Board Illustrations

Symbols

Graphic symbols and class designation letters are based on ANSI Standard Y32.2–1975.

Logic symbology is based on ANSI Y32.14–1973 in terms of positive logic. Logic symbols depict the logic function performed and may differ from the manufacturer's data.

Overline, parenthesis, or leading slash indicate a low asserting state.

Example: $\overline{\text{ID CONTROL}}$, (ID CONTROL), or /ID CONTROL.

Abbreviations are based on ANSI Y1.1–1972.

Other ANSI standards that are used in the preparation of diagrams by Tektronix, Inc. are:

Y14.15, 1966 -- Drafting Practices.
Y14.2, 1973 -- Line Conventions and Lettering.
Y10.5, 1968 -- Letter Symbols for Quantities Used in Electrical Science and
Electrical Engineering.

American National Standard Institute
1430 Broadway, New York, New York 10018

Component Values

Electrical components shown on the diagrams are in the following units unless noted otherwise:

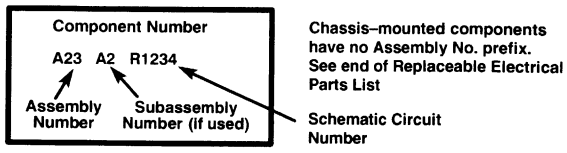
Capacitors: Values one or greater are in picofarads (pF). Values less than one are in microfarads (μF).
Resistors = Ohms (Ω).

The following information and special symbols may appear in this manual.

Assembly Numbers

Each assembly in the instrument is assigned an assembly number (e.g., A20). The assembly number appears on the diagram (in circuit board outline), circuit board illustration title, and lookup table for the schematic diagram.

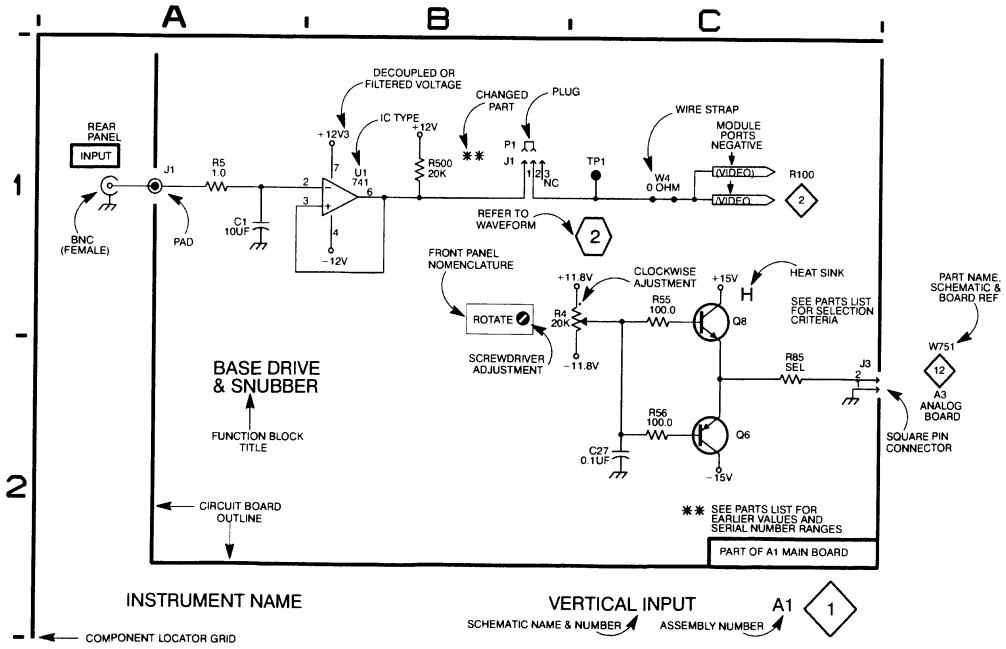
The Replaceable Electrical Parts List is arranged by assembly number in numerical sequence; the components are listed by component number. Example:

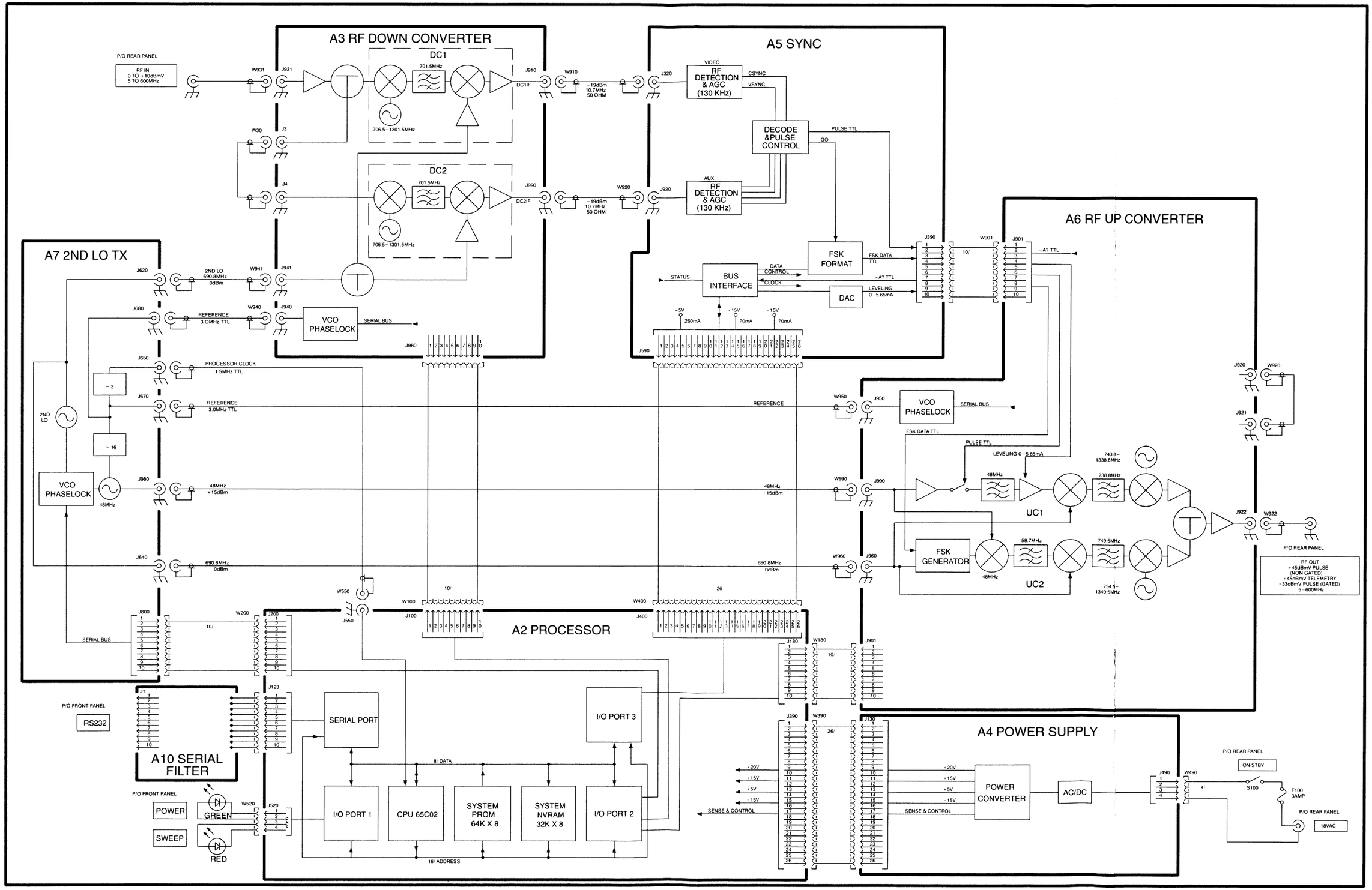


Grid Coordinates

The schematic diagram and circuit board component location illustration have grids. A lookup table with the grid coordinates is provided for ease of locating the component. Only the components illustrated on the facing diagram are listed in the lookup table.

When more than one schematic diagram is used to illustrate the circuitry on a circuit board, the circuit board illustration will only appear opposite the first diagram; the lookup table will list the diagram number of other diagrams that the other circuitry appears on.





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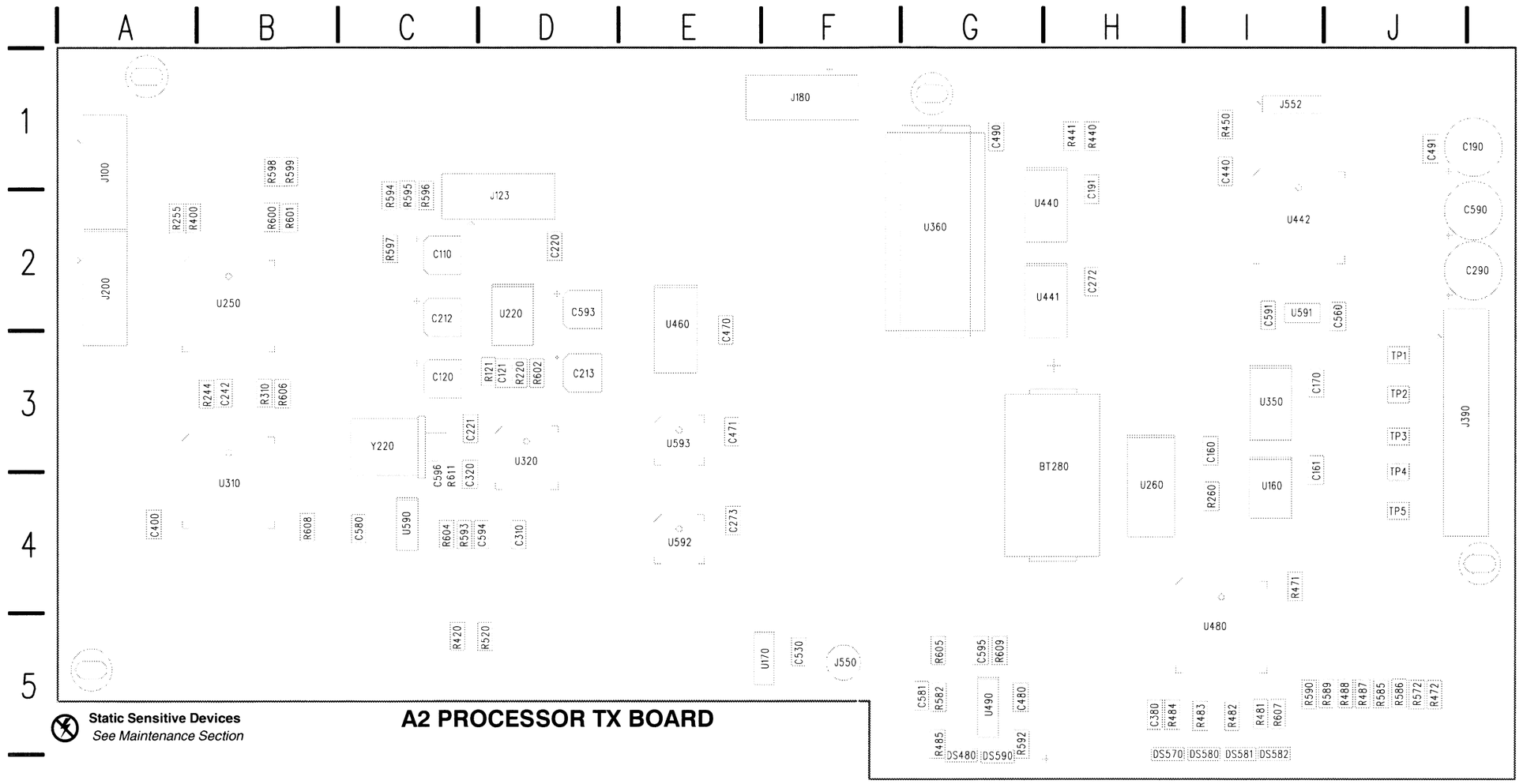
SYSTEM LEVEL BLOCK DIAGRAM



Static Sensitive Devices
See Maintenance Section

A2 PROCESSOR TX BOARD

Schematic Diagram <1> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A2. Partial Assembly A2 also shown on Diagrams 2 and 3.

Comp No	Diag Loc	Bd Loc
BT280	F4	G4
C160	H4	I3
C161	G4	I4
C170	B5	I3
C191	B5	H2
C272	B5	H2
C273	B5	E4
C440	C2	I1
C471	C5	E3
C490	C5	G1
C530	C5	F5
C560	A3	J2
C591	B3	I2
J550	A2	F5
J552	A3	I1
R260	G4	I4
R440	B2	H1
R441	B2	H1
R450	C2	I1
R594	H4	C2
R595	H4	C2
R596	H4	C2
R597	H4	C2
R598	H4	B1
R599	H4	B1
R600	H4	B2
R601	H4	B2
U160	G4	I3
U170A	B2	E5
U170E	A4	E5
U170F	B4	E5
U260	G3	H3
U350	B1	I3
U360	G5	F1
U440	E1	G1
U441	E2	G2
U442	C1	I1
U591	A3	I3
U592	D3	E4
U593	D4	E3

A2 Processor TX Board Component Locator *(with cross-references to schematic diagrams 1, 2, and 3)*

Comp No	Diag No	Diag Loc	Bd Loc
BT280	1	F4	G4
C110	2	F2	C2
C120	2	F2	C3
C121	2	F2	D3
C160	1	H4	I3
C161	1	G4	I4
C170	1	B5	I3
C190	3	H5	J1
C191	1	B5	H2
C212	2	F2	C3
C213	2	F2	D3
C220	2	F2	D2
C221	2	E2	C3
C242	3	F4	B3
C272	1	B5	H2
C273	1	B5	E4
C290	3	H5	J2
C310	2	E3	D4
C320	2	E2	C4
C380	3	B5	H5
C400	3	F2	A4
C440	1	C2	I1
C470	2	D1	E3
C471	1	C5	E3
C480	3	A5	G5
C490	1	C5	G1
C491	3	H5	J1
C530	1	C5	F5
C560	1	A3	J2
C580	3	A5	C4
C581	3	C1	G5
C590	3	H5	J2
C591	1	B3	I2
C593	2	F2	D3
C594	3	B3	D4
C595	3	F5	G5
C596	2	E2	C4
DS480	3	G5	G6
DS570	3	C4	H6
DS580	3	C4	I6
DS581	3	C5	I6
DS582	3	C5	I6
DS590	3	C1	G6
J100	3	H3	A1
J123	2	H3	C2
J180	3	H3	F1
J200	3	H4	A2
J390	3	H4	J2
J400	3	H2	A4
J520	3	A1	C5
J550	1	A2	F5
J552	1	A3	I1
R121	2	G2	D3
R220	2	G2	D3
R244	3	F4	B3
R255	3	F4	A2
R260	1	G4	I4
R310	3	F2	B3
R400	3	F4	B2
R420	3	B1	C5
R440	1	B2	H1
R441	1	B2	H1
R450	1	C2	I1
R471	3	C4	I4
R472	3	D4	J5
R481	3	C5	I5
R482	3	C5	I5
R483	3	C4	I5
R484	3	C4	H5
R485	3	G5	G6
R487	3	C4	J5
R488	3	C4	J5
R520	3	A1	D5
R572	3	D4	J5
R582	3	C1	G5
R585	3	C4	J5
R586	3	D4	J5
R589	3	C4	J5
R590	3	C4	I5
R592	3	C1	G6
R593	3	B3	C4
R594	1	H4	C2
R595	1	H4	C2
R596	1	H4	C2
R597	1	H4	C2
R598	1	H4	B1
R599	1	H4	B1
R600	1	H4	B2
R601	1	H4	B2
R602	2	D3	D3
R604	3	B3	C4
R605	3	F5	G5
R606	3	D4	B3
R607	3	A4	I5
R608	3	E2	B4
R609	3	F5	G5
R611	2	E2	C3
TP1	3	G5	J3
TP2	3	G5	J3
TP3	3	G5	J3
TP4	3	G5	J3
TP5	3	H5	J4
U160	1	G4	I3
U170A	1	B2	E5
U170B	2	B3	E5
U170C	3	F2	E5
U170D	3	F5	E5
U170E	1	A4	E5
U170F	1	B4	E5
U220	2	F2	C2
U250	3	E3	B2
U260	1	G3	H3
U310	3	E1	B3
U320	2	E2	D3
U350	1	B1	I3
U360	1	G5	F1
U440	1	E1	G1
U441	1	E2	G2
U442	1	C1	I1
U460	2	C1	E2
U480	3	B4	I4
U490A	3	F5	G5
U490B	3	C1	G5
U590A	3	B1	C4
U590B	3	B3	C4
U591	1	A3	I3
U592	1	D3	E4
U593	1	D4	E3
Y220	2	E2	C3

PROCESSOR

POWER–UP RESET

CONTROL

SYSTEM RAM

SYSTEM ROM

P/O A2 PROCESSOR BOARD

2721A

PROCESSOR, POWER UP RESET, CONTROL, ARCHIVE RAM & REAL TIME CLOCK, RAM & ROM SYSTEM

A2 1

Schematic Diagram <2>
Component Locator Chart

The schematic diagram has an alpha-numeric grid to assist in locating parts within that diagram.

Assembly A2. Partial Assembly A2 also shown on Diagrams 1 and 3.

Comp No	Diag Loc	Bd Loc
C110	F2	C2
C120	F2	C3
C121	F2	D3
C212	F2	C3
C213	F2	D3
C220	F2	D2
C221	E2	C3
C310	E3	D4
C320	E2	C4
C470	D1	E3
C593	F2	D3
C596	E2	C3
J123	H3	C2
R121	G2	D3
R220	G2	D3
R602	D3	D3
R611	E2	C3
U170B	B3	E5
U220	F2	C2
U320	E2	D3
U460	C1	E2
Y220	E2	C3

ADDRESS DECODE

U460
74HCT154

U440
A[0..15]

U593-18
(I/O)

(CS0) → U250-25
(CS1) → U480-25
(CS2) → U310-25
(FP) → U592-5
(PRLATCH) → U330-1
(PREN) → U570C-8
(CS11) → U571B-6
(BSADHI) → U593-3
(BSADLO) → U593-2

+5V
C470
0.1uF

SERIAL PORT

U442-5
(IRQ)

C596 0.1uF
R611 75.0
Y220 1.8432MHz
C320 27pF
R610 1.00k
C221 27pF

U350
D[0..7]

U320
65C51

R602
10.0k

U350-1 R/W
U592-19 PH2
U591-2 (RES)

U170B
74HCT14

C593 10uF
C220 0.1uF
C110 10uF
C212 10uF
C120 10uF
C121 0.1uF
C213 10uF
R121 3.32k
R220 3.32k

U220
MAX232

+10V
-10V
U240A-4

W597
W599

J123
(DSR)
RXD
(RTS)
TXD
(CTS)
(DTR)

P/O FRONT PANEL
RS232

P/O A2 PROCESSOR BOARD

2721A

ADDRESS DECODE, SERIAL PORT A2 2

Schematic Diagram <3>
Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A2. Partial Assembly A2 also shown on Diagrams 1 and 2.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C190	H5	J1	J520	A1	C5	R592	C1	G6
C242	F4	B3				R593	B3	C4
C290	H5	J2	R244	F4	B3	R604	B3	C4
C380	B5	H5	R255	F4	A2			
C400	F2	A4	R310	F2	B3	R605	F5	G5
C480	A5	G5	R400	F4	B2	R606	D4	B3
			R420	B1	C5	R607	A4	I5
C491	H5	J1	R471	C4	I4	R608	E2	B4
C580	A5	C4				R609	F5	G5
C581	C1	G5	R472	D4	J5			
C590	H5	J2	R481	C5	I5	TP1	G5	J3
C594	B3	D4	R482	C5	I5	TP2	G5	J3
C595	F5	G5	R483	C4	I5	TP3	G5	J3
			R484	C4	H5	TP4	G5	J3
DS480	G5	G6	R485	G5	G6	TP5	H5	J4
DS570	C4	H6						
DS580	C4	I6	R487	C4	J5	U170C	F2	E5
DS581	C5	I6	R488	C4	J5	U170D	F5	E5
DS582	C5	I6	R520	A1	D5	U250	E3	B2
DS590	C1	G6	R572	D4	J5	U310	E1	B3
			R582	C1	G5	U480	B4	I4
J100	H3	A1	R585	C4	J5	U490A	F5	G5
J180	H3	F1						
J200	H4	A2	R586	D4	J5	U490B	C1	G5
J390	H4	J2	R589	C4	J5	U590A	B1	C4
J400	H2	A4	R590	C4	I5	U590B	B3	C4

FSK CLOCK SYNCHRONIZER

PORT3

PORT2

PORT1

P/O FRONT PANEL

J520 SWEEP POWER

R520 332.0

R420 332.0

U590A 74HCT74

U490B 74HCT221

C581 0.1uF

R582 100.0k

R592 332.0

DS590 Indicates FSK Data Transfer

PH2

HI1

W581 W580

U442 - 5 (IRQ)

U350 D[0..7]

U350 - 1 R/W

U442 - 44 (RES)

U592 - 19 PH2

U440 A[0..15]

U460 - 3 (CS2)

U310 65C22

R608 10.0k

R310 10.0k

C400 0.1uF

L/SD[0..7]

W600

J400

FSKCLK
FSKDATA
DATAFRM
(L/SWR)
(L/SRD)
L/SEN1
L/SEN0
L/SSIG1
(DACK)
L/SSIG0
L/SSIG3
+5V
-15V
+15V
+20V
+5V

J590 A5 SYNC

U480 65C22

R604 10.0k

R593 10.0k

U590B 74HCT74

C594 0.1uF

R471 10.0k
R590 10.0k
R589 10.0k
R488 10.0k
R487 10.0k
R585 10.0k
R586 10.0k
R572 10.0k
R472 10.0k

W609 W602 W603 W604 W605 W606 W607 W608

U460 - 2 (CS1)

R607 10.0k

C380 0.1uF

R484 332.0
R483 332.0
R482 332.0
R481 332.0

DS570
DS580
DS581
DS582

PAGESEL

U360 - 1

C580 0.1uF

C480 0.1uF

U250 65C22

R606 10.0k

U460 - 1 (CS0)

R255 10.0k

R400 10.0k

R244 10.0k

C242 0.1uF

LOLE
UC2LE
UC1LE
DC1LE
(LOLD)
DCRSVD
ATTNLE
DC2LE
BATLO
(PWRDN)
BATCHG
(EXT)
3WCLK
3WDATA

J100

J980 A3 RF DOWN CONVERTER

3WDATA
3WCLK
DC1LE
DCRSVD
DC2LE
+20V

J180

J900 A6 RF UP CONVERTER

UC1GAIN
UC2LE

W601

J200

J800 A7 2ND LO TX

J390

(EXT)
BATCHG
(PWRDN)
BATLO

TP1 +20V
TP2 15V
TP3 +15V

C290 220uF
C590 220uF

J390 A4 POWER SUPPLY

+15VSENSE
GNDSENSE
+5VSENSE

TP4 +5V
TP5 GND

C190 220uF
C491 0.1uF

U170D 74HCT14

C595 0.1uF

R609 100.0k

R485 332.0

DS480 Indicates Serial Data Transfer

U490A 74HCT221

R605 10.0k

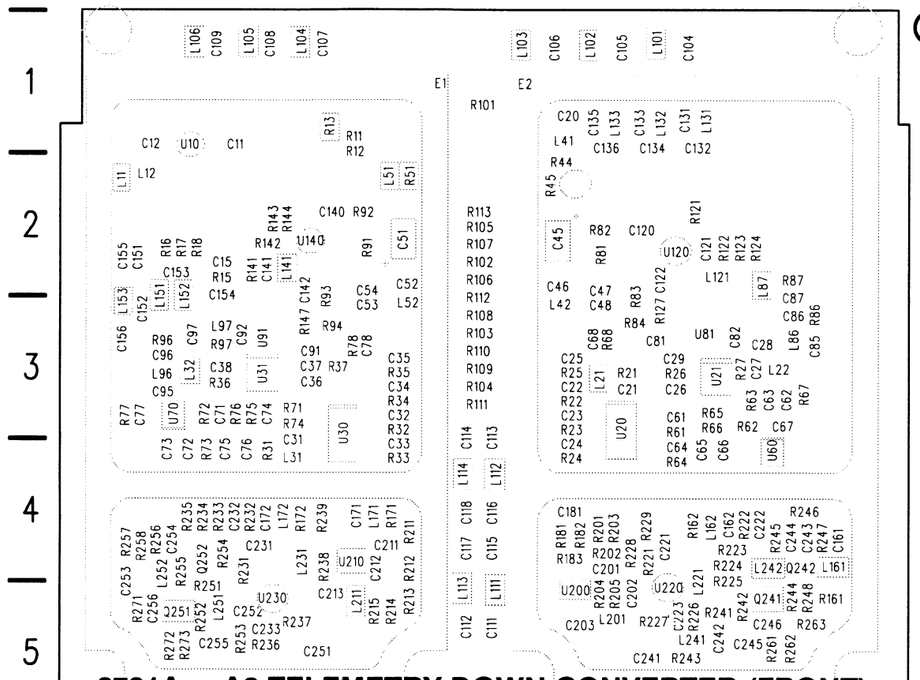
P/O A2 PROCESSOR BOARD

Schematic Diagram <1>
Component Locator Chart

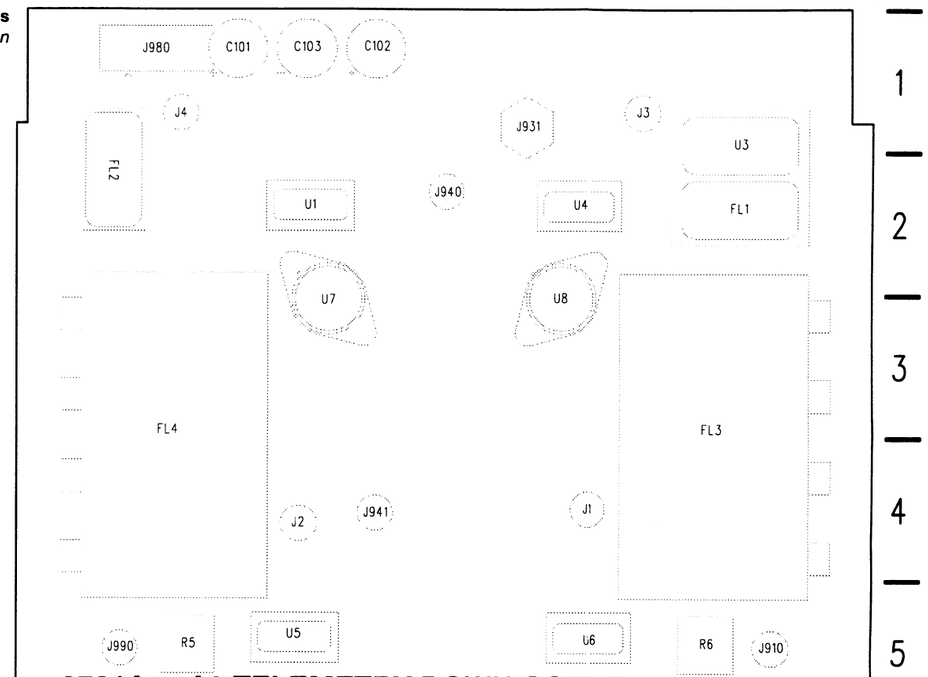
The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A3. Partial Assembly A3 also shown on Diagram 2.

Comp No	Diag Loc	Bd Loc
C11	B5	B1
C12	B5	A1
C15	C4	B2
C20	B1	D1
C21	D1	D3
C22	B1	D3
C23	B1	D3
C24	B1	D4
C25	B1	D3
C26	C2	E3
C27	D2	E3
C28	D2	E3
C29	C2	E3
C31	D4	B4
C32	B3	C3
C33	B3	C4
C34	B4	C3
C35	B4	C3
C36	C4	B3
C37	D5	B3
C38	C5	B3
C45	G1	D2
C46	G1	D2
C47	F1	D3
C48	F1	D3
C51	G4	C2
C52	G4	C2
C53	F4	C3
C54	F4	C3
C61	D1	E3
C62	E1	F3
C63	E1	F3
C64	D1	E4
C65	D2	E4
C66	E2	E4
C67	E1	F3
C68	F1	D3
C71	D4	B3
C72	E3	A4
C73	E4	A4
C74	D4	B3
C75	D4	B4
C76	E4	B4
C77	E4	A3
C78	F4	C3
C81	E2	E3
C82	E2	E3
C85	D2	F3
C86	E2	F3
C87	E2	F3
C91	E5	B3
C92	E5	B3
C95	D4	A3
C96	E4	A3
C97	E4	A3
C101	B2	E1
C102	B2	D1
C103	B2	E1
C104	G3	E1
C105	H3	E1
C106	H3	D1
C107	G4	B1
C108	H4	B1
C109	H4	B1
C120	F2	E2
C121	G2	E2
C122	G2	E2
C131	G3	E1
C132	G3	E2
C133	H3	E1
C134	H3	E2
C135	H3	D1
C136	H3	D2
C140	F5	B2
C141	G5	B2
C142	G5	B3
C151	G4	A2
C152	G4	A3
C153	H4	A2
C154	H4	B3
C155	H4	A2
C156	H4	A3
E1	H4	C1
E2	H3	D1
FL1	F5	A2
FL2	F2	F2
FL3	G5	A3
FL4	G2	G3
J3	C5	B1
J4	E2	E1
J931	A4	C1
J940	A1	C2
J980	A1	F1
L11	B5	A2
L12	B5	A2
L21	D1	D3
L22	D2	F3
L31	D4	B4
L32	D5	A3
L41	G1	D1
L42	G1	D3
L51	G3	C2
L52	F3	C3
L86	D2	F3
L87	E2	F3
L96	D4	A3
L97	E4	B3
L101	G3	E1
L102	H3	D1
L103	H3	D1
L104	G4	B1
L105	H4	B1
L106	H4	B1
L121	G2	E2
L131	G3	E1
L132	H3	E1
L133	H3	D1
L141	G5	B2
L151	G4	A3
L152	H4	A3
L153	H4	A3
R11	A4	C1
R12	A5	C2
R13	A5	B1
R15	B4	B2
R16	B4	A2
R17	B4	A2
R18	B4	B2
R21	D1	D3
R22	C1	D3
R23	C1	D3
R24	C1	D4
R25	C1	D3
R26	C2	E3
R27	D2	E3
R31	D4	B4
R32	B3	C3
R33	B3	C4
R34	B4	C3
R35	B4	C3
R36	C5	B3
R37	D5	B3
R44	G1	D2
R45	G1	D2
R51	G3	C2
R61	D1	E3
R62	E1	E3
R63	E1	E3
R64	D1	E4
R65	E1	E3
R66	E1	E3
R67	E1	F3
R68	F1	D3
R71	D3	B3
R72	E3	B3
R73	E3	B4
R74	D4	B3
R75	E4	B3
R76	E4	B3
R77	E4	A3
R78	E4	C3
R81	F2	D2
R82	F2	D2
R83	F2	E3
R84	F2	D3
R86	E2	F3
R87	E2	F2
R91	F5	C2
R92	F5	C2
R93	F5	B3
R94	F5	B3
R96	E4	A3
R97	E4	B3
R101	B1	C1
R102	B1	C2
R103	B1	C3
R104	B1	C3
R105	B1	C2
R106	B1	C2
R107	B1	C2
R108	B1	C3
R109	B1	C3
R110	B3	C3
R111	B3	C3
R112	B4	C3
R113	B4	C2
R121	G2	E2
R122	G2	E2
R123	G2	E2
R124	G2	E2
R127	G2	E3
R141	G4	B2
R142	G5	B2
R143	G5	B2
R144	G5	B2
R147	G5	B3
U1	F2	E2
U3	C5	A1
U4	F5	B2
U7	F1	D3
U8	F4	C3
U10	B5	A1
U20	C1	E4
U21	C2	E3
U30	C3	C4
U31	C5	B3
U60A	E1	F4
U60B	E1	F4
U70A	E4	A3
U70B	F3	A3
U81	E2	E3
U91	E5	B3
U120	G2	E2
U140	G5	B2



Static Sensitive Devices
See Maintenance Section



2721A – A3 TELEMETRY DOWN CONVERTER (FRONT)

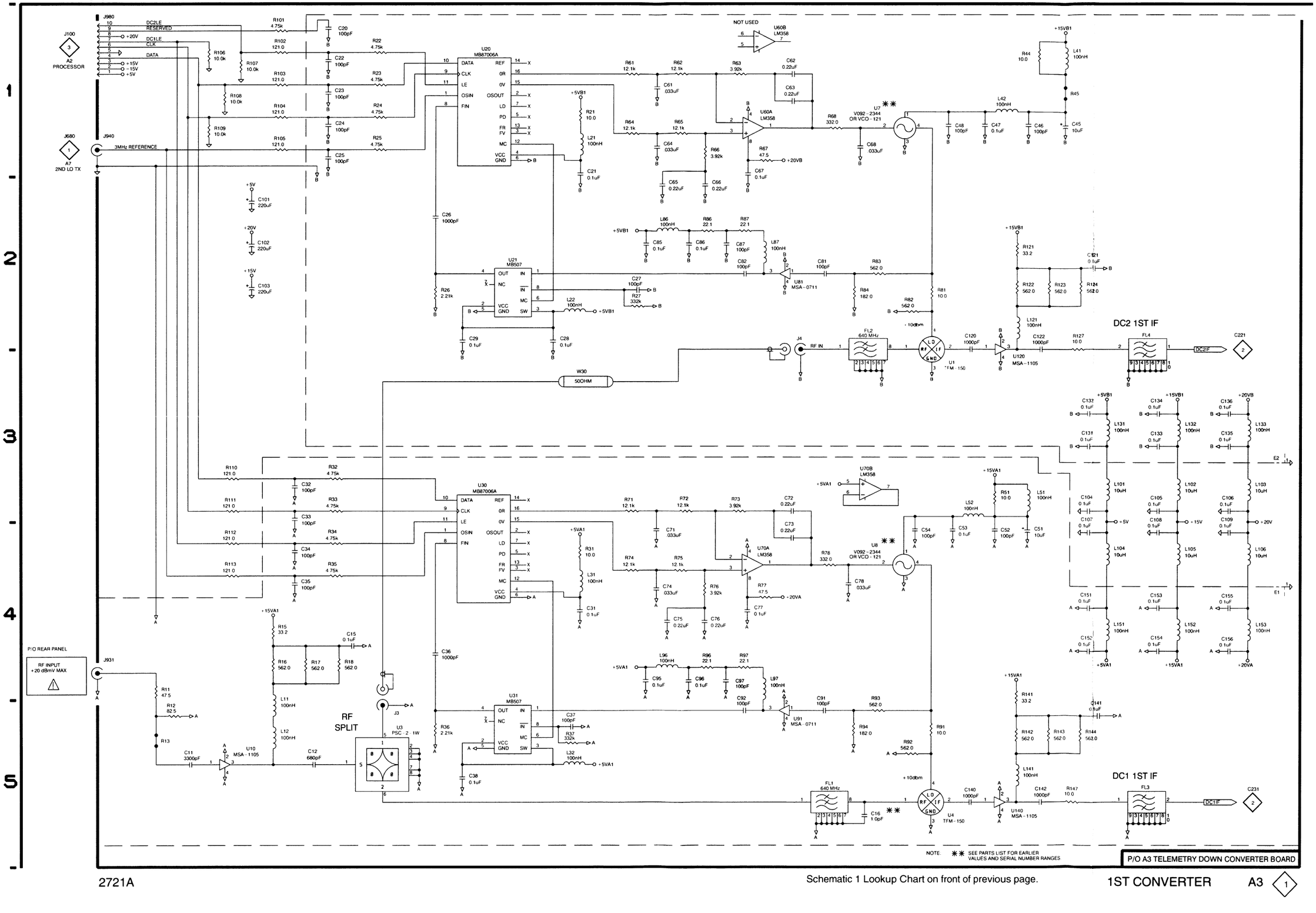
2721A – A3 TELEMETRY DOWN CONVERTER (BACK)

A3 Telemetry Down Converter Board Component Locator *(with cross-references to schematic diagrams 1 and 2)*

Comp No	Diag No	Diag Loc	Bd Loc
C11	1	B5	B1
C12	1	B5	A1
C15	1	C4	B2
C20	1	B1	D1
C21	1	D1	D3
C22	1	B1	D3
C23	1	B1	D3
C24	1	B1	D4
C25	1	B1	D3
C26	1	C2	E3
C27	1	D2	E3
C28	1	D2	E3
C29	1	C2	E3
C31	1	D4	B4
C32	1	B3	C3
C33	1	B3	C4
C34	1	B4	C3
C35	1	B4	C3
C36	1	C4	B3
C37	1	D5	B3
C38	1	C5	B3
C45	1	G1	D2
C46	1	G1	D2
C47	1	F1	D3
C48	1	F1	D3
C51	1	G4	C2
C52	1	G4	C2
C53	1	F4	C3
C54	1	F4	C3
C61	1	D1	E3
C62	1	E1	F3
C63	1	E1	F3
C64	1	D1	E4
C65	1	D2	E4
C66	1	E2	E4
C67	1	E1	F3
C68	1	F1	D3
C71	1	D4	B3
C72	1	E3	A4
C73	1	E4	A4
C74	1	D4	B3
C75	1	D4	B4
C76	1	E4	B4
C77	1	E4	A3
C78	1	F4	C3
C81	1	E2	E3
C82	1	E2	E3
C85	1	D2	F3
C86	1	E2	F3
C87	1	E2	F3
C91	1	E5	B3
C92	1	E5	B3
C95	1	D4	A3
C96	1	E4	A3
C97	1	E4	A3
C104	1	G3	E1
C105	1	H3	E1
C106	1	H3	D1
C107	1	G4	B1
C108	1	H4	B1
C109	1	H4	B1
C111	2	G3	D5
C112	2	G3	C5
C113	2	G3	D4
C114	2	G3	C4
C115	2	G3	D4
C116	2	G3	D4
C117	2	G4	C4
C118	2	G4	C4
C120	1	F2	E2
C121	1	G2	E2
C122	1	G2	E2
C131	1	G3	E1
C132	1	G3	E2
C133	1	H3	E1
C134	1	H3	E2
C135	1	H3	D1
C136	1	H3	D2
C140	1	F5	B2
C141	1	G5	B2
C142	1	G5	B3
C151	1	G4	A2
C152	1	G4	A3
C153	1	H4	A2
C154	1	H4	B3
C155	1	H4	A2
C156	1	H4	A3
C161	2	G2	F4
C162	2	G2	E4
C171	2	G4	C4
C172	2	G4	B4
C181	2	A1	D4
C201	2	C1	D4
C202	2	C1	E5
C203	2	D1	D5
C211	2	B4	C4
C212	2	C4	C5
C213	2	C4	B5
C221	2	C2	E4
C222	2	D1	E4
C223	2	D2	E5
C231	2	C5	B4
C232	2	D4	B4
C233	2	D5	B5
C241	2	E2	E5
C242	2	E2	E5
C243	2	E1	F4
C244	2	F1	F4
C245	2	F2	E5
C246	2	F2	E5
C251	2	E5	B5
C252	2	E4	B5
C253	2	E4	A5
C254	2	F4	A4
C255	2	F4	B5
C256	2	F4	A5
E1	1	H4	C1
E2	1	H3	D1
L11	1	B5	A2
L12	1	B5	A2
L21	1	D1	D3
L22	1	D2	F3
L31	1	D4	B4
L32	1	D5	A3
L41	1	G1	D1
L42	1	G1	D3
L51	1	G3	C2
L52	1	F3	C3
L86	1	D2	F3
L87	1	E2	F3
L96	1	D4	A3
L97	1	E4	B3
L101	1	G3	E1
L102	1	H3	D1
L103	1	H3	D1
L104	1	G4	B1
L105	1	H4	B1
L106	1	H4	B1
L111	2	G3	D5
L112	2	G3	D4
L113	2	G3	C5
L114	2	G3	C4
L121	1	G2	E2
L131	1	G3	E1
L132	1	H3	E1
L133	1	H3	D1
L141	1	G5	B2
L151	1	G4	A3
L152	1	H4	A3
L153	1	H4	A3
L161	2	G3	F4
L162	2	G3	E4
L171	2	G4	C4
L172	2	G4	B4
L201	2	C1	D5
L211	2	C4	C5
L221	2	D2	E5
L231	2	D4	B4
L241	2	E2	E5
L242	2	F1	E4
L251	2	E5	B5
L252	2	F4	A5
Q241	2	F2	E5
Q242	2	E1	F4
Q251	2	F5	A5
Q252	2	E4	B4
R11	1	A4	C1
R12	1	A5	C2
R13	1	A5	B1
R15	1	B4	B2
R16	1	B4	A2
R17	1	B4	A2
R18	1	B4	B2
R21	1	D1	D3
R22	1	C1	D3
R23	1	C1	D3
R24	1	C1	D4
R25	1	C1	D3
R26	1	C2	E3
R27	1	D2	E3
R31	1	D4	B4
R32	1	B3	C3
R33	1	B3	C4
R34	1	B4	C3
R35	1	B4	C3
R36	1	C5	B3
R37	1	D5	B3
R44	1	G1	D2
R45	1	G1	D2
R51	1	G3	C2
R61	1	D1	E3
R62	1	E1	E3
R63	1	E1	E3
R64	1	D1	E4
R65	1	E1	E3
R66	1	E1	E3
R67	1	E1	F3
R68	1	F1	D3
R71	1	D3	B3
R72	1	E3	B3
R73	1	E3	B4
R74	1	D4	B3
R75	1	E4	B3
R76	1	E4	B3
R77	1	E4	A3
R78	1	E4	C3
R81	1	F2	D2
R82	1	F2	D2
R83	1	F2	E3
R84	1	F2	D3
R86	1	E2	F3
R87	1	E2	F2
R91	1	F5	C2
R92	1	F5	C2
R93	1	F5	B3
R94	1	F5	B3
R96	1	E4	A3
R97	1	E4	B3
R101	1	B1	C1
R102	1	B1	C2
R103	1	B1	C3
R104	1	B1	C3
R105	1	B1	C2
R106	1	B1	C2
R107	1	B1	C2
R108	1	B1	C3
R109	1	B1	C3
R110	1	B3	C3
R111	1	B3	C3
R112	1	B4	C3
R113	1	B4	C2
R121	1	G2	E2
R122	1	G2	E2
R123	1	G2	E2
R124	1	G2	E2
R127	1	G2	E3
R141	1	G4	B2
R142	1	G5	B2
R143	1	G5	B2
R144	1	G5	B2
R147	1	G5	B3
R161	2	G3	F5
R162	2	H3	E4
R171	2	G4	C4
R172	2	H4	B4
R181	2	B1	D4
R182	2	B1	D4
R183	2	B1	D4
R201	2	B1	D4
R202	2	B1	D4
R203	2	C1	D4
R204	2	C1	D5
R205	2	C1	D5
R211	2	B4	C4
R212	2	B4	C5
R213	2	B4	C5
R214	2	C3	C5
R215	2	C3	C5
R221	2	C2	E4
R222	2	D1	E4
R223	2	D2	E4
R224	2	D2	E4
R225	2	D2	E5
R226	2	D2	E5
R227	2	D2	E5
R228	2	D2	E4
R229	2	D2	E4
R231	2	C5	B5
R232	2	D4	B4
R233	2	D4	B4
R234	2	D4	B4
R235	2	D4	A4
R236	2	D5	B5
R237	2	D5	B5
R238	2	D5	B5
R239	2	D5	B4
R241	2	F2	E5
R242	2	F2	E5
R243	2	E2	E5
R244	2	E2	F5
R245	2	F1	F4
R246	2	E1	F4
R247	2	E1	F4
R248	2	E1	F5
R251	2	F5	A5
R252	2	F4	B5
R253	2	E4	B5
R254	2	E4	B4
R255	2	F4	A5
R256	2	E4	A4
R257	2	E4	A4
R258	2	E4	A4
R271	2	G4	A5
R272	2	G4	A5
R273	2	G4	A5
U10	1	B5	A1
U20	1	C1	E4
U21	1	C2	E3
U30	1	C3	C4
U31	1	C5	B3
U60A	1	E1	F4
U60B	1	E1	F4
U70A	1	E4	A3
U70B	1	F3	A3
U81	1	E2	E3
U91	1	E5	B3
U120	1	G2	E2
U140	1	G5	B2
U200	2	C1	D5
U210	2	C4	C4
U220	2	C2	E5
U230	2	C5	B5

Back of Board

Comp No	Diag No	Diag Loc	Bd Loc
C101	1	B2	E1
C102	1	B2	D1
C103	1	B2	E1
FL1	1	F5	A2
FL2	1	F2	F2
FL3	1	G5	A3
FL4	1	G2	G3
J1	2	E5	B4
J2	2	E2	D4
J3	1	C5	B1
J4	1	E2	E1
J910	2	H4	A5
J931	1	A4	C1
J940	1	A1	C2
J941	2	A1	D4
J980	1	A1	F1
J990	2	H2	F5
R5	2	F2	E5
R6	2	F4	B5
U1	1	F2	E2
U3	1	C5	A1
U4	1	F5	B2
U5	2	D2	E5
U6	2	D5	B5
U7	1	F1	D3
U8	1	F4	C3



2721A

Schematic 1 Lookup Chart on front of previous page.

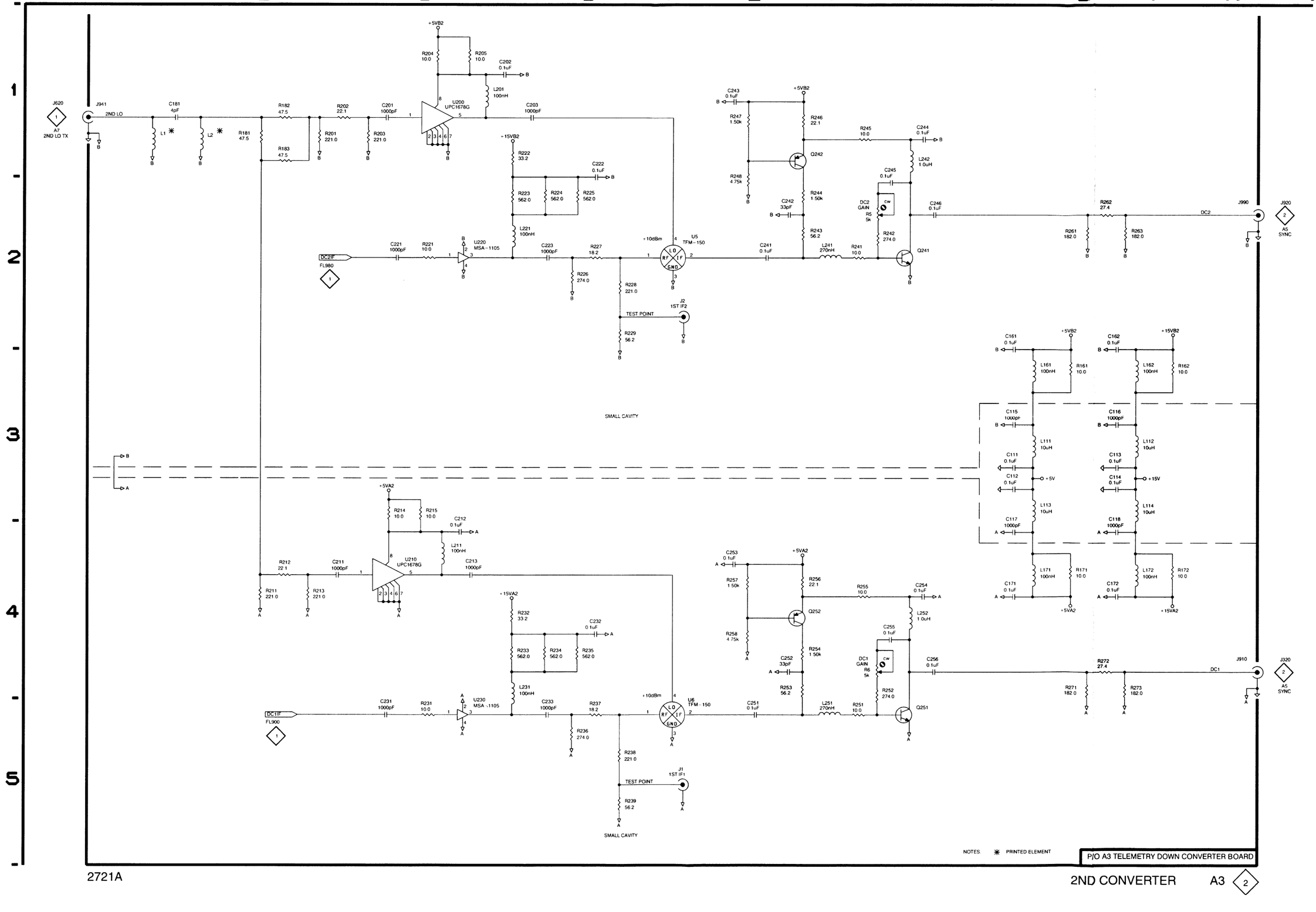
1ST CONVERTER A3 1

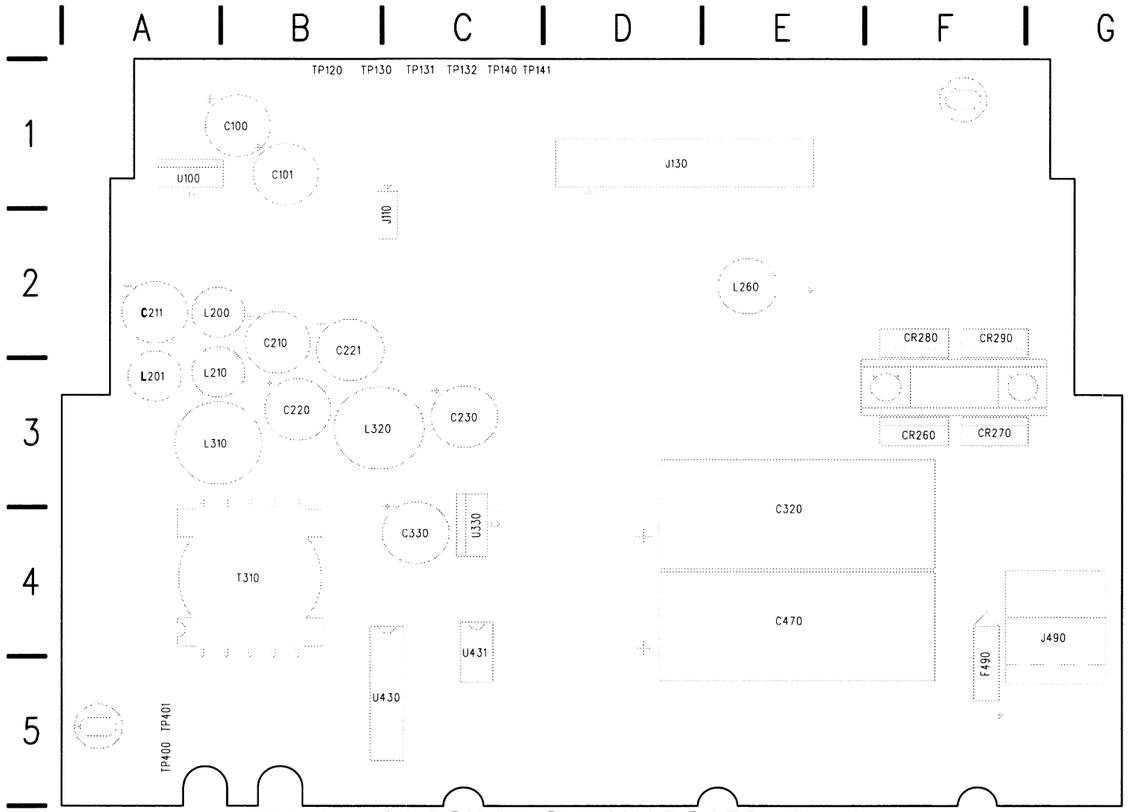
Schematic Diagram <2>
Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

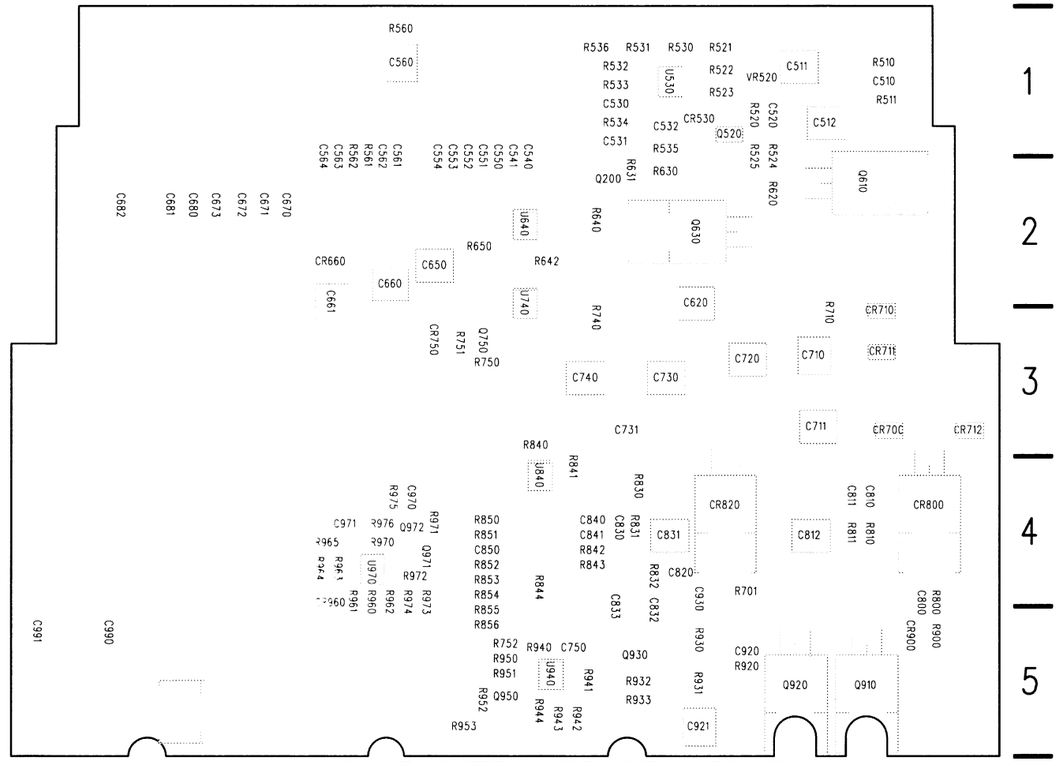
Assembly A3. Partial Assembly A3 also shown on Diagram 1.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C111	G3	D5	L113	G3	C5	R228	D2	E4
C112	G3	C5	L114	G3	C4	R229	D2	E4
C113	G3	D4	L161	G3	F4	R231	C5	B5
C114	G3	C4				R232	D4	B4
C115	G3	D4	L162	G3	E4			
			L171	G4	C4	R233	D4	B4
C116	G3	D4	L172	G4	B4	R234	D4	B4
C117	G4	C4	L201	C1	D5	R235	D4	A4
C118	G4	C4	L211	C4	C5	R236	D5	B5
C161	G2	F4				R237	D5	B5
C162	G2	E4	L221	D2	E5			
			L231	D4	B4	R238	D5	B5
C171	G4	C4	L241	E2	E5	R239	D5	B4
C172	G4	B4	L242	F1	E4	R241	F2	E5
C181	A1	D4	L251	E5	B5	R242	F2	E5
C201	C1	D4	L252	F4	A5	R243	E2	E5
C202	C1	E5						
			Q241	F2	E5	R244	E2	F5
C203	D1	D5	Q242	E1	F4	R245	F1	F4
C211	B4	C4	Q251	F5	A5	R246	E1	F4
C212	C4	C5	Q252	E4	B4	R247	E1	F4
C213	C4	B5				R248	E1	F5
C221	C2	E4	R5	F2	E5			
			R6	F4	B5	R251	F5	A5
C222	D1	E4	R161	G3	F5	R252	F4	B5
C223	D2	E5	R162	H3	E4	R253	E4	B5
C231	C5	B4	R171	G4	C4	R254	E4	B4
C232	D4	B4				R255	F4	A5
C233	D5	B5	R172	H4	B4			
			R181	B1	D4	R256	E4	A4
C241	E2	E5	R182	B1	D4	R257	E4	A4
C242	E2	E5	R183	B1	D4	R258	E4	A4
C243	E1	F4	R201	B1	D4	R261	G2	F5
C244	F1	F4				R262	G2	F5
C245	F2	E5	R202	B1	D4			
			R203	C1	D4	R263	G2	F5
C246	F2	E5	R204	C1	D5	R271	G4	A5
C251	E5	B5	R205	C1	D5	R272	G4	A5
C252	E4	B5	R211	B4	C4	R273	G4	A5
C253	E4	A5						
C254	F4	A4	R212	B4	C5	U5	D2	E5
			R213	B4	C5	U6	D5	B5
C255	F4	B5	R214	C3	C5	U200	C1	D5
C256	F4	A5	R215	C3	C5	U210	C4	C4
			R221	C2	E4	U220	C2	E5
J1	E5	B4				U230	C5	B5
J2	E2	D4	R222	D1	E4			
J910	H4	A5	R223	D2	E4			
J941	A1	D4	R224	D2	E4			
J990	H2	F5	R225	D2	E5			
			R226	D2	E5			
L111	G3	D5						
L112	G3	D4	R227	D2	E5			


J620
A7
2ND LO TX
J941
2ND LO
C181
4pF
L1
L2
R181
47.5
R182
47.5
R183
47.5
R202
22.1
R201
221.0
R203
221.0
C201
1000pF
U200
UPC1678G
+5VB2
R204
10.0
R205
10.0
C202
0.1uF
L201
100nH
C203
1000pF
+15VB2
R222
33.2
C222
0.1uF
R223
562.0
R224
562.0
R225
562.0
L221
100nH
DC2IF
FL980
C221
1000pF
R221
10.0
U220
MSA-1105
C223
1000pF
R227
18.2
R226
274.0
R228
221.0
J2
1ST IF2
TEST POINT
R229
56.2
+10dBm
U5
TFM-150
LO
RF
IF
GND
C241
0.1uF
C243
0.1uF
R247
1.50k
R248
4.75k
Q242
R246
22.1
R244
1.50k
R243
56.2
C242
33pF
L241
270nH
R241
10.0
R245
10.0
C244
0.1uF
L242
1.0uH
C245
0.1uF
DC2
GAIN
R5
5k
CW
R242
274.0
Q241
C246
0.1uF
R262
27.4
R261
182.0
R263
182.0
DC2
J990
J920
2
A5
SYNC
SMALL CAVITY
C161
0.1uF
L161
100nH
R161
10.0
C162
0.1uF
L162
100nH
R162
10.0
C115
1000pF
L111
10uH
C116
1000pF
L112
10uH
C111
0.1uF
C112
0.1uF
+5V
L113
10uH
C113
0.1uF
C114
0.1uF
+15V
L114
10uH
C117
1000pF
C118
1000pF
L171
100nH
R171
10.0
L172
100nH
R172
10.0
C171
0.1uF
C172
0.1uF
+5VA2
+15VA2
+5VA2
R214
10.0
R215
10.0
C212
0.1uF
L211
100nH
U210
UPC1678G
C213
1000pF
R212
22.1
C211
1000pF
R211
221.0
R213
221.0
+15VA2
R232
33.2
C232
0.1uF
R233
562.0
R234
562.0
R235
562.0
L231
100nH
DC1IF
FL900
C231
1000pF
R231
10.0
U230
MSA-1105
C233
1000pF
R237
18.2
R236
274.0
R238
221.0
J1
1ST IF1
TEST POINT
R239
56.2
+10dBm
U6
TFM-150
LO
RF
IF
GND
C251
0.1uF
C253
0.1uF
R257
1.50k
R258
4.75k
Q252
R256
22.1
R254
1.50k
R253
56.2
C252
33pF
L251
270nH
R251
10.0
R255
10.0
C254
0.1uF
L252
1.0uH
C255
0.1uF
DC1
GAIN
R6
5k
CW
R252
274.0
Q251
C256
0.1uF
R272
27.4
R271
182.0
R273
182.0
DC1
J910
J320
2
A5
SYNC
SMALL CAVITY
NOTES:
PRINTED ELEMENT
P/O A3 TELEMETRY DOWN CONVERTER BOARD
2721A
2ND CONVERTER
A3
2



2721A – A4 POWER SUPPLY BOARD (Front)



2721A – POWER SUPPLY BOARD (Back)

A4 Power Supply Board and Schematic Diagram <1> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

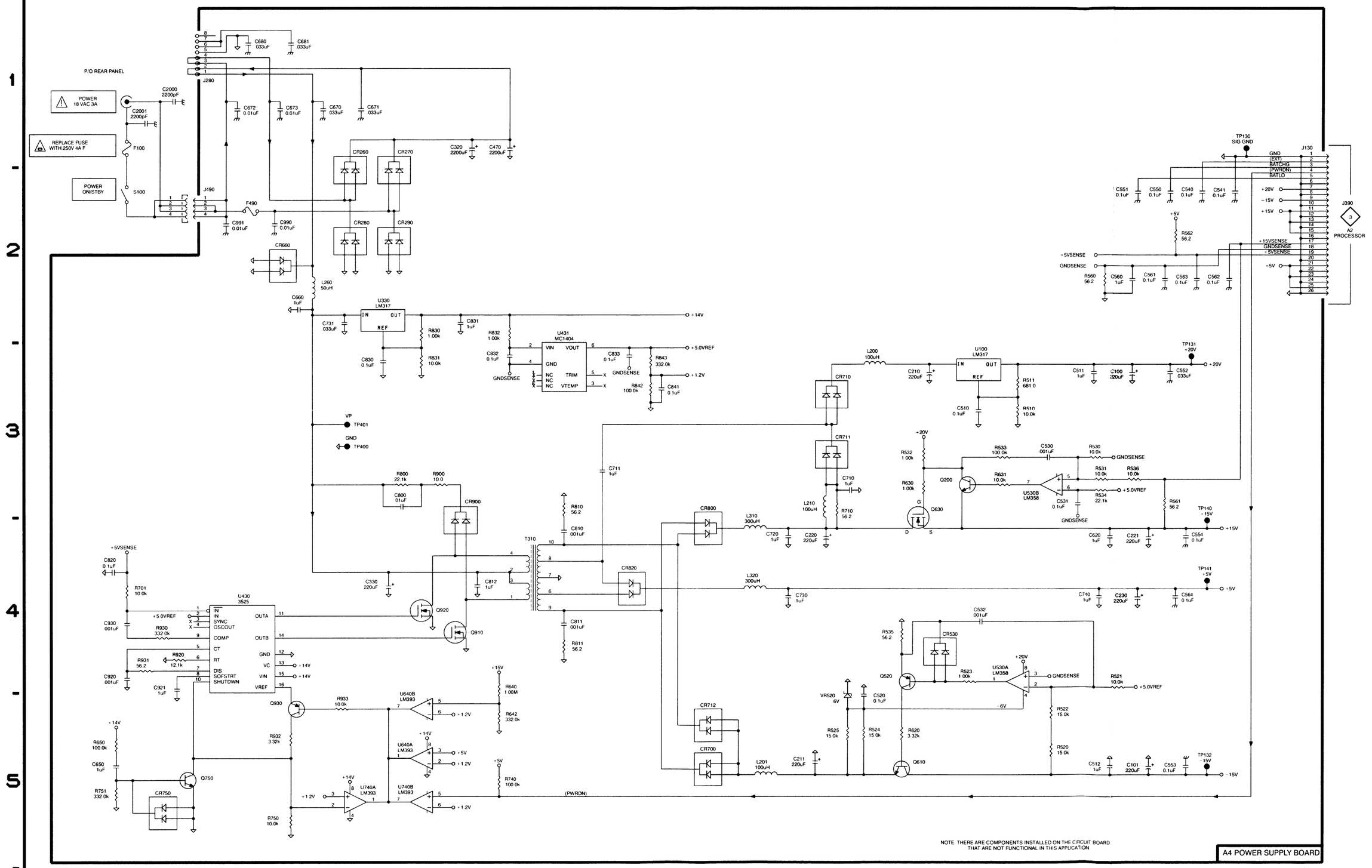
Static Sensitive Devices
See Maintenance Section

Assembly A4 (Front)

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C100	G3	B1	F490	A2	F5	TP131	H3	C1
C101	G5	B1				TP132	H5	C1
C210	F3	B2	J130	H1	D1	TP140	H4	C1
C211	E5	A2	J490	A2	G5	TP141	H4	C1
C220	E4	B3				TP400	B3	A5
C221	G4	B2	L200	F3	A2	TP401	B3	A5
C230	G4	C3	L201	E5	A3			
C320	C1	E4	L210	E3	A3	U100	F3	A2
C330	C4	C4	L260	B2	E2	U330	B2	C4
C470	C1	E4	L310	E4	A3	U431	C3	C4
			L320	E4	B3			
CR260	B1	F3						
CR270	B1	F3	T310	D4	A4			
CR280	B2	F2						
CR290	B2	F2	TP130	H1	B1			

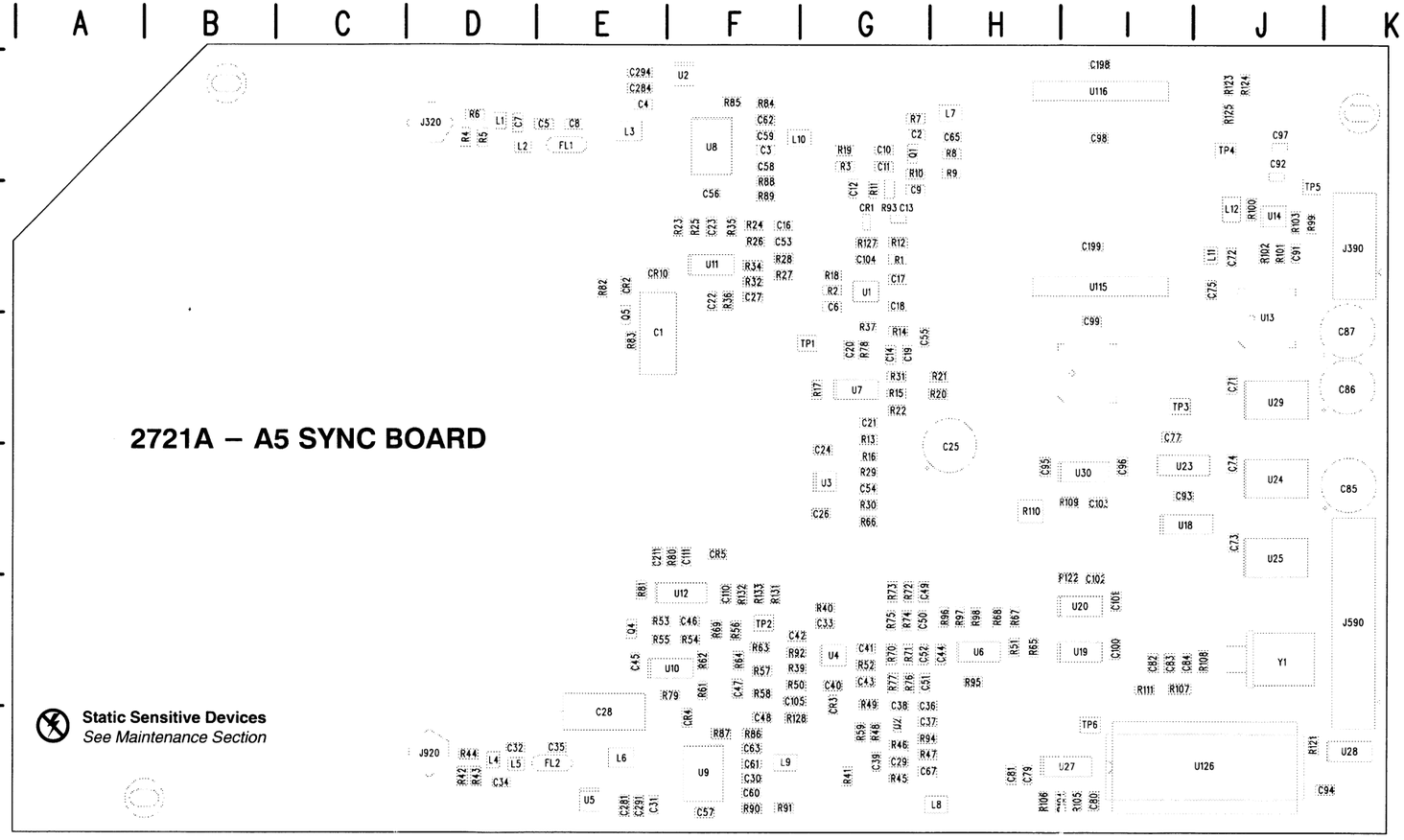
Assembly A4 (Back)

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C510	F3	A1	C661	D1	E2	C833	D3	C4	Q750	A5	D3	R562	H2	E1	R920	A4	B5
C511	G3	B1	C670	B1	E2	C841	D3	C4	Q910	C4	A5	R620	F5	B2	R930	A4	C5
C512	G5	B1	C671	B1	E2	C920	A4	B5	Q920	C4	B5	R630	F3	C2	R931	A4	C5
C520	F5	B1	C672	A1	F2	C921	A4	B5	Q930	B5	C5	R631	F3	C2	R932	B5	C5
C530	G3	C1	C673	B1	F2	C930	A4	C4				R640	C4	C2	R933	B5	C5
C531	G3	C1	C680	A1	F2	C990	B2	F5	R510	G3	A1	R642	C5	C2			
C532	F4	C1	C681	B1	F2	C991	A2	G5	R511	G3	A1	R650	A5	D2	U530A	G4	C1
C540	H2	D1	C682	B1	F2				R520	G5	B1	R701	A4	B4	U530B	G3	C1
C541	H2	D1	C710	F3	B3	CR530	F4	B1	R521	G4	B1	R710	E3	B2	U640A	C5	D2
C550	G2	D1	C711	D3	B3	CR660	B2	E2	R522	G5	B1	R740	C5	C3	U640B	C5	D2
			C720	E4	B3	CR700	E5	A3	R523	F4	B1				U740A	B5	D2
C551	G2	D1	C730	E4	C3	CR710	E3	A3	R524	F5	B1	R750	B5	D3	U740B	C5	D2
C552	G3	D1				CR711	E3	A3	R525	F5	B1	R751	A5	D3			
C553	H5	D1	C731	B2	C3	CR712	E5	A3	R530	G3	C1	R800	C3	A4	VR520	E4	B1
C554	H4	D1	C740	G4	C3	CR750	A5	D3	R531	G3	C1	R810	D3	A4			
C560	G2	D1	C800	C3	A4	CR800	E3	A4				R811	D4	A4			
C561	G2	E1	C810	D4	A4	CR820	D4	B4	R532	F3	C1	R830	C2	C4			
C562	H2	E1	C811	D4	A4	CR900	C3	A5	R533	F3	C1	R831	C3	C4			
C563	H2	E1	C812	C4	B4				R534	G3	C1	R832	C2	C4			
C564	H4	E1	C820	A4	C4	Q200	F3	C2	R535	F4	C1	R842	D3	C4			
C620	G4	B3	C830	B3	C4	Q520	F4	B1	R536	G3	C1	R843	D3	C4			
C650	A5	D2	C831	C2	C4	Q610	F5	A2	R560	G2	D1						
C660	B2	E2	C832	C3	C4	Q630	F3	C2	R561	G3	E1	R900	C3	A5			



NOTE: THERE ARE COMPONENTS INSTALLED ON THE CIRCUIT BOARD THAT ARE NOT FUNCTIONAL IN THIS APPLICATION

A4 POWER SUPPLY BOARD



Schematic Diagram <1> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A5. Partial Assembly A5 also shown on Diagrams 2 and 3.

Comp No	Diag Loc	Bd Loc
C1	E2	F2
C2	F1	G1
C3	D2	F1
C4	B1	E1
C5	B1	E1
C6	G2	G3
C7	B1	D1
C8	B1	E1
C9	E1	H2
C10	E1	G1
C11	F1	G1
C12	E1	G2
C13	F1	G2
C16	G1	G2
C17	G1	G2
C18	G1	G3
C22	E2	F3
C23	E2	F2
C24	C2	G4
C25	C2	H4
C26	D2	G4
C27	F3	F3
C28	E4	E5
C29	F4	G6
C30	C4	F6
C31	B3	F6
C32	B4	D6
C33	G4	G5
C34	B4	D6
C35	B4	E6
C36	E3	H6
C37	E3	H6
C38	F3	G6
C39	E4	G6
C40	F4	G5
C41	G4	G5
C42	G3	F5
C43	G4	G5
C45	C4	E5
C46	C5	F5
C47	F5	F5
C48	G5	F6
C53	G2	G2
C56	D1	F2
C57	D4	F6
C58	D1	F1
C59	D2	F1
C60	D4	F6
C61	D4	F6
C62	C1	F1
C63	C4	F6
C65	E1	H1
C67	E3	H6
C104	F1	G2
C105	F3	G6
C110	D5	F5
C211	C5	E4
C281	C3	E6
C284	C1	E1
C291	C3	E6
C294	C1	E1
CR1	F1	G2
CR2	E2	E2
CR3	F3	G6
CR4	E4	F6
CR5	D4	F4
CR10	E2	E2
FL1	B1	E1
FL2	B3	E6
J320	A1	D1
J920	A3	D6
L1	A1	D1
L2	B1	D1
L3	B1	E1
L4	B1	E1
L5	B4	D6
L10	D1	G1
Q1	F1	G1
Q2	E3	G6
Q4	E5	E5
Q5	E3	E3
R6	A1	D1
R7	F1	G1
R8	F1	H1
R9	E1	H2
R10	E1	H2
R24	F2	F2
R25	G2	F2
R26	G2	F2
R27	G2	G2
R28	G2	G2
R32	F3	F2
R34	F2	F2
R35	G2	F2
R36	G2	F3
R37	G2	G3
R39	G4	G5
R40	G4	G5
R41	G4	G5
R42	G4	G5
R43	A4	D6
R44	A4	D6
R45	F4	G6
R46	F3	G6
R47	E3	H6
R48	E4	G6
R49	F3	G6
R50	G4	G5
R52	G4	G5
R53	F4	F5
R54	F4	F5
R55	G4	F5
R56	G5	F5
R57	G5	F5
R58	G5	F5
R59	F3	G6
R61	F5	F5
R62	F4	F5
R63	G4	F5
R64	G5	F5
R69	D4	F5
R79	E5	E6
R81	E5	E5
R82	E2	E2
R83	E3	E3
R84	C1	F1
R85	C1	F1
R86	C3	F6
R87	C4	F6
R88	D1	F2
R89	D1	F2
R90	D3	F6
R91	D4	F6
R92	G4	G5
R93	E1	G2
R94	E3	H6
R127	F1	G2
R128	F3	F6
R131	D5	F5
R132	D5	F5
R133	D5	F5
TP1	H1	G3
TP2	H3	F5
U1	G1	G3
U2	C1	F1
U3	C2	G4
U4	G4	G5
U5	C3	E6
U8A	C1	F1
U8B	D1	F1
U9A	C3	F6
U9B	D3	F6
U10A	C4	E5
U10B	E4	E5
U10C	F4	E5
U10D	G4	E5
U11A	E2	F2
U11B	E2	F2
U11C	F2	F2
U11D	G2	F2
U12A	D4	E5
U12B	A4	E5
U12C	A5	E5

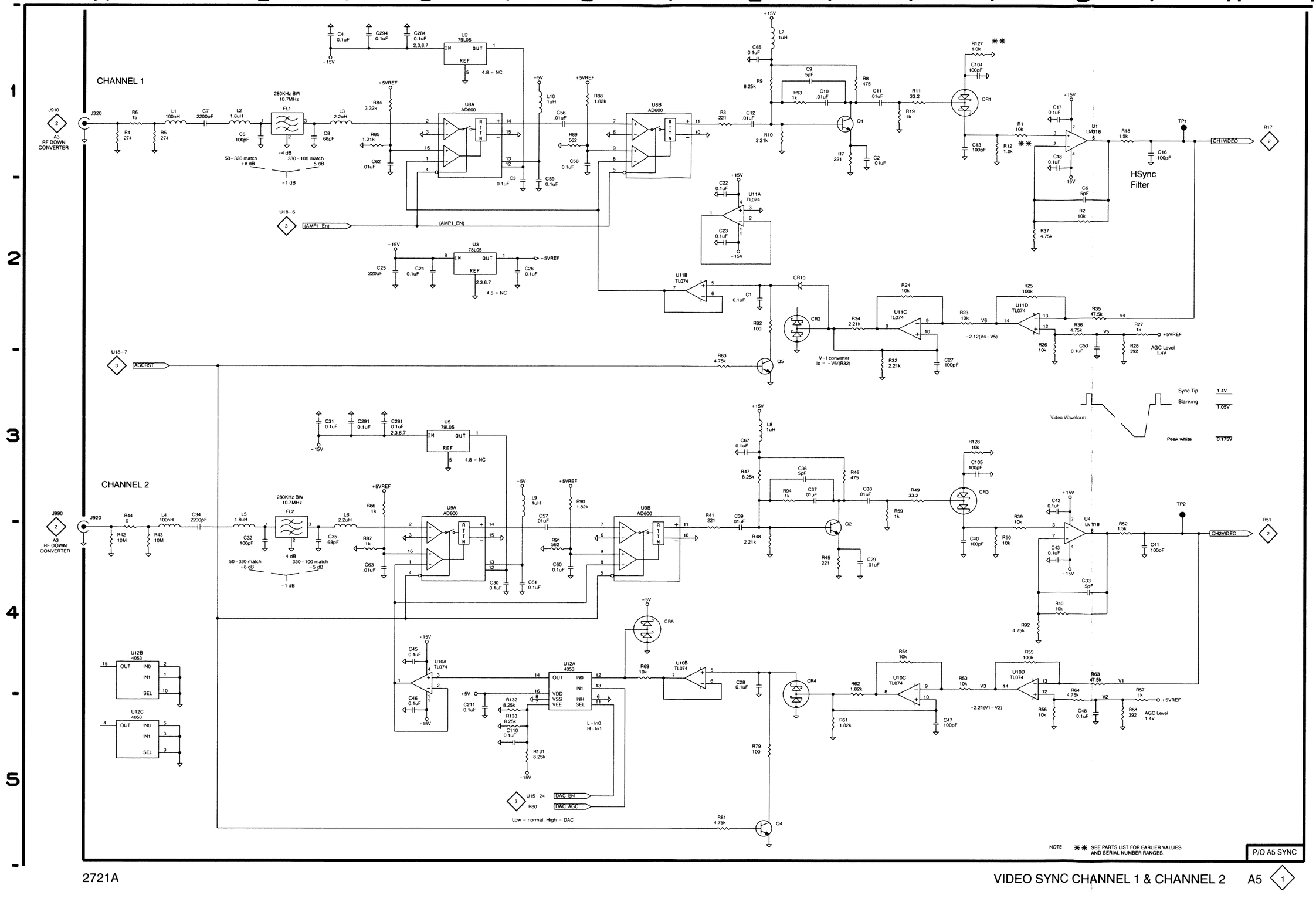
Note on A5 Sync Board

671-2627-00 U15, U16, and U26 are not installed and must never be installed.

671-2627-01 U15 or U115 must be installed, but not both. U16 or U116 must be installed, but not both. U26 or U126 must be installed, but not both.

A5 Sync Board Component Locator *(with cross-references to schematic diagrams 1, 2, and 3)*

Comp No	Diag No	Diag Loc	Bd Loc
C1	1	E2	F2
C2	1	F1	G1
C3	1	D2	F1
C4	1	B1	E1
C5	1	B1	E1
C6	1	G2	G3
C7	1	B1	D1
C8	1	B1	E1
C9	1	E1	H2
C10	1	E1	G1
C11	1	F1	G1
C12	1	E1	G2
C13	1	F1	G2
C14	2	D2	G3
C16	1	G1	G2
C17	1	G1	G2
C18	1	G1	G3
C19	2	D2	G3
C20	2	C2	G3
C21	2	C2	G3
C22	1	E2	F3
C23	1	E2	F2
C24	1	C2	G4
C25	1	C2	H4
C26	1	D2	G4
C27	1	F3	F3
C28	1	E4	E5
C29	1	F4	G6
C30	1	C4	F6
C31	1	B3	F6
C32	1	B4	D6
C33	1	G4	G5
C34	1	B4	D6
C35	1	B4	E6
C36	1	E3	H6
C37	1	E3	H6
C38	1	F3	G6
C39	1	E4	G6
C40	1	F4	G5
C41	1	G4	G5
C42	1	G3	F5
C43	1	G4	G5
C45	1	C4	E5
C46	1	C5	F5
C47	1	F5	F5
C48	1	G5	F6
C53	1	G2	G2
C56	1	D1	F2
C57	1	D4	F6
C58	1	D1	F1
C59	1	D2	F1
C60	1	D4	F6
C61	1	D4	F6
C62	1	C1	F1
C63	1	C4	F6
C65	1	E1	H1
C67	1	E3	H6
C71	3	A1	J3
C72	3	D5	J2
C73	3	B1	J4
C74	3	B1	J4
C75	3	D5	J2
C77	3	A1	I4
C79	3	G2	H6
C80	3	H2	I6
C81	3	G2	H6
C82	3	E2	I5
C83	3	E2	I5
C84	3	E2	J5
C85	3	C1	K4
C86	3	C1	J3
C87	3	C1	J3
C91	3	D5	J2
C92	3	D5	J1
C93	3	B1	I4
C94	3	B1	K6
C95	2	F5	H4
C96	2	F5	I4
C97	3	C1	J1
C98	3	E3	I1
C99	3	E4	I3
C100	2	E5	I5
C101	2	E5	I5
C102	2	F2	I4
C103	2	E2	I4
C104	1	F1	G2
C105	1	F3	G6
C110	1	D5	F5
C111	3	H2	F4
C198	3	E3	I1
C199	3	E4	H2
C211	1	C5	E4
C281	1	C3	E6
C284	1	C1	E1
C291	1	C3	E6
C294	1	C1	E1
CR1	1	F1	G2
CR2	1	E2	E2
CR3	1	F3	G6
CR4	1	E4	F6
CR5	1	D4	F4
CR10	1	E2	E2
FL1	1	B1	E1
FL2	1	B3	E6
J320	1	A1	D1
J390	3	H3	K2
J590	3	A2	K6
J920	1	A3	D6
L1	1	A1	D1
L2	1	B1	D1
L3	1	B1	E1
L4	1	A4	D6
L5	1	B4	D6
L6	1	B4	E6
L7	1	E1	H1
L8	1	E3	H6
L9	1	D3	F6
L10	1	D1	G1
L11	3	D5	J2
L12	3	D5	J2
Q1	1	F1	G1
Q2	1	E3	G6
Q4	1	E5	E5
Q5	1	E3	E3
R1	1	G1	G2
R2	1	G2	G2
R3	1	E1	G1
R4	1	A1	D1
R5	1	A1	D1
R6	1	A1	D1
R7	1	F1	G1
R8	1	F1	H1
R9	1	E1	H2
R10	1	E1	H2
R11	1	F1	G2
R12	1	G1	G2
R13	2	C2	G4
R14	2	E2	G3
R15	2	C2	G3
R16	2	C2	G4
R17	2	C2	G3
R18	1	E4	G6
R19	1	F1	G1
R20	2	D2	H3
R21	2	D2	H3
R22	2	E2	G3
R23	1	F2	F2
R24	1	F2	F2
R25	1	G2	F2
R26	1	G2	F2
R27	1	G2	G2
R28	1	G2	G2
R29	2	C2	G4
R30	2	C2	G4
R31	2	D2	G3
R32	1	F3	F2
R33	1	F2	F2
R34	1	F2	F2
R35	2	C3	H5
R36	2	C2	G4
R37	1	G2	G3
R39	1	G4	G5
R40	1	G4	G5
R41	1	E4	G6
R42	1	A4	D6
R43	1	A4	D6
R44	1	A4	D6
R45	1	F4	G6
R46	1	F3	G6
R47	1	E3	H6
R48	1	E4	G6
R49	1	F3	G6
R50	1	G4	G5
R51	2	C3	H5
R52	1	G4	G5
R53	1	F4	F5
R54	1	F4	F5
R55	1	G4	F5
R56	1	G5	F5
R57	1	G5	F5
R58	1	G5	F5
R59	1	F3	G6
R61	1	F5	F5
R62	1	F4	F5
R63	1	G4	F5
R64	1	G5	F5
R65	2	C3	H5
R66	2	C2	G4
R67	2	C4	H5
R68	2	C5	H5
R69	1	D4	F5
R70	2	C3	G5
R71	2	C3	G5
R72	2	C5	G5
R73	2	C5	G5
R74	2	C4	G5
R75	2	C4	G5
R76	2	C4	G5
R77	2	C4	G5
R78	2	D2	G3
R79	1	E5	E6
R80	3	H2	F4
R81	1	E5	E5
R82	1	E2	E2
R83	1	E2	I5
R84	1	C1	F1
R85	1	C1	F1
R86	1	C3	F6
R87	1	C4	F6
R88	1	D1	F2
R89	1	D1	F2
R90	1	D3	F6
R91	1	D4	F6
R92	1	G4	G5
R93	1	E1	G2
R94	1	E3	H6
R95	2	C3	H5
R96	2	C3	H5
R97	2	C4	H5
R98	2	C4	H5
R99	3	D4	J2
R100	3	E5	J2
R101	3	D5	J2
R102	3	D5	J2
R103	3	D4	J2
R104	3	G2	H6
R105	3	H2	I6
R106	3	G2	H6
R107	3	E2	J5
R108	3	E2	J5
R109	2	E1	I4
R110	2	E1	H4
R111	3	E2	I5
R121	3	F2	J6
R122	2	F1	I4
R123	3	E3	J1
R124	3	E3	J1
R125	3	E3	J1
R127	1	F1	G2
R128	1	F3	F6
R131	1	D5	F5
R132	1	D5	F5
R133	1	D5	F5
TP1	1	H1	G3
TP2	1	H3	F5
TP3	3	B3	I3
TP4	3	H3	J1
TP5	3	H3	J2
TP6	3	E2	I6
U1	1	G1	G3
U2	1	C1	F1
U3	1	C2	G4
U4	1	G4	G5
U5	1	C3	E6
U6A	2	C3	H5
U6B	2	C3	H5
U6C	2	C4	H5
U6D	2	C5	H5
U7A	2	C2	G3
U7B	2	E2	G3
U8A	1	C1	F1
U8B	1	D1	F1
U9A	1	C3	F6
U9B	1	D3	F6
U10A	1	C4	E5
U10B	1	E4	E5
U10C	1	F4	E5
U10D	1	G4	E5
U11A	1	E2	F2
U11B	1	E2	F2
U11C	1	F2	F2
U11D	1	G2	F2
U12A	1	D4	E5
U12B	1	A4	E5
U12C	1	A5	E5
U13	3	C5	J3
U14A	3	D5	J2
U14B	3	D4	J2
U15	3	F4	H3
U16	3	F3	H2
U18	3	G4	I4
U19A	2	D3	H5
U19B	2	D4	H5
U20A	2	D4	H5
U20B	2	D5	H5
U23A	3	B4	I4
U23B	3	B4	I4
U24	3	C4	J4
U25	3	C1	J5
U26	3	F1	I6
U27	3	G2	H6
U28A	3	B2	J6
U28B	3	D1	J6
U29	3	B3	J3
U30A	2	F2	H4
U30B	2	E2	H4
U115	3	F4	H3
U116	3	F3	H1
U126	3	F1	I6
Y1	3	E2	J5

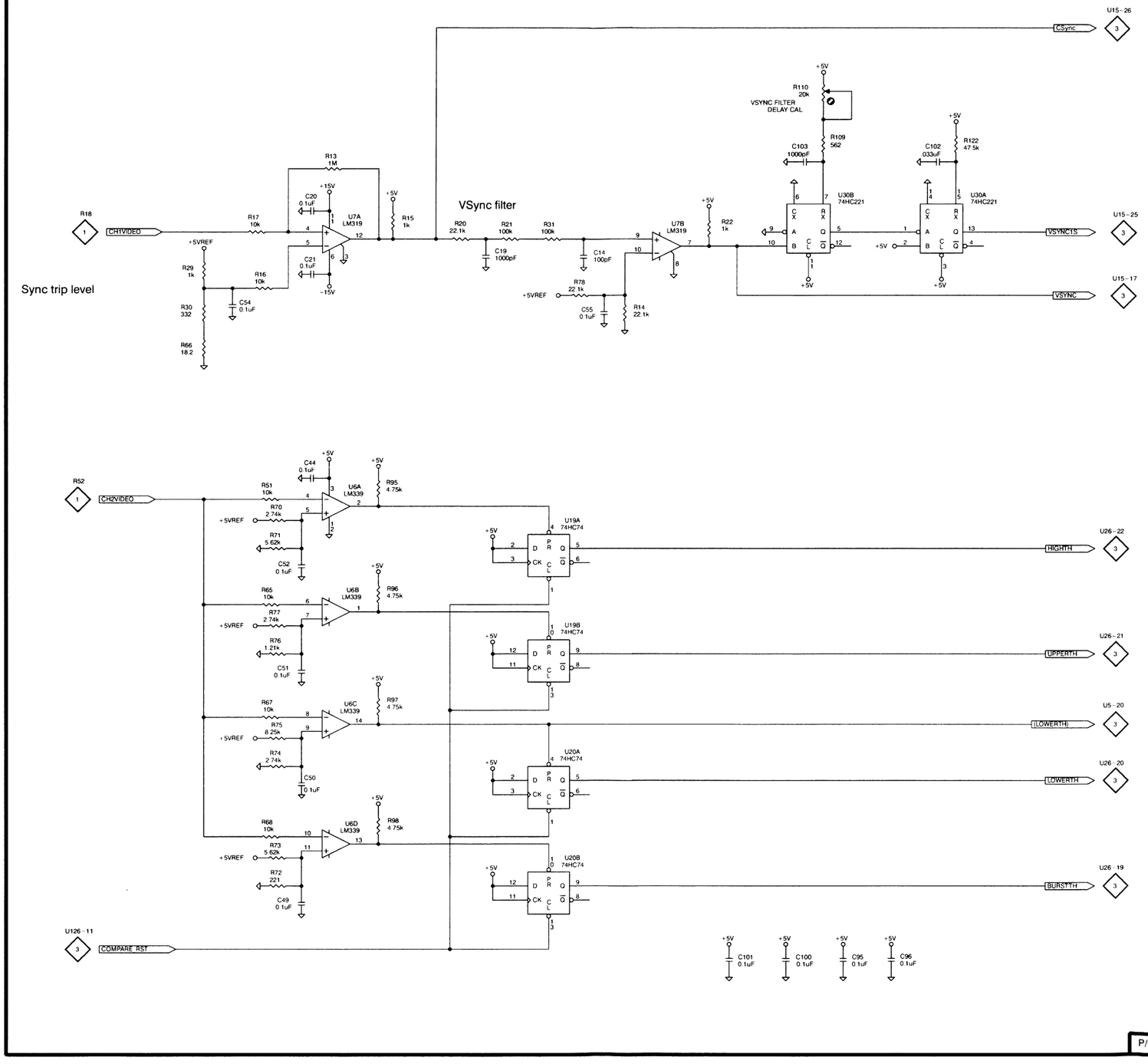

CHANNEL 1
CHANNEL 2
J910
A3 RF DOWN CONVERTER
J920
J990
280KHz BW 10.7MHz
FL1
FL2
50 - 330 match +8 dB
330 - 100 match -5 dB
-4 dB
-1 dB
U2 79L05
U3 78L05
U5 79L05
U8A AD600
U8B AD600
U9A AD600
U9B AD600
U11A TL074
U11B TL074
U11C TL074
U11D TL074
U10A TL074
U10B TL074
U10C TL074
U10D TL074
U12A 4053
U12B 4053
U12C 4053
U1 LM318
U4 LM318
HSync Filter
AGC Level 1.4V
V-I converter Io = -V6/(R32)
-2.12(V4 - V5)
-2.21(V1 - V2)
L = In0 H = In1
Low = normal, High = DAC
U18-6
(AMP1 En)
U18-7
AGCRST
U15 - 24
R80
DAC_EN
DAC_AGC
CH1VIDEO
CH2VIDEO
Video Waveform
Sync Tip 1.4V
Blanking 1.05V
Peak white 0.175V
NOTE. ** SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES.
P/O A5 SYNC

Schematic Diagram <2>
Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A5. Partial Assembly A5 also shown on Diagrams 1 and 3.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C14	D2	G3	R20	D2	H3	R97	C4	H5
C19	D2	G3	R21	D2	H3	R98	C4	H5
C20	C2	G3	R22	E2	G3	R109	E1	I4
C21	C2	G3	R29	C2	G4			
C44	C3	H5	R30	C2	G4	R110	E1	H4
						R122	F1	I4
C49	C5	G5	R31	D2	G3			
C50	C4	H5	R51	C3	H5	U6A	C3	H5
C51	C4	H5	R65	C3	H5	U6B	C3	H5
C52	C3	G5	R66	C2	G4	U6C	C4	H5
C54	C2	G4	R67	C4	H5	U6D	C5	H5
						U7A	C2	G3
C55	D2	H3	R68	C5	H5			
C95	F5	H4	R70	C3	G5	U7B	E2	G3
C96	F5	I4	R71	C3	G5	U19A	D3	H5
C100	E5	I5	R72	C5	G5	U19B	D4	H5
C101	E5	I5	R73	C5	G5	U20A	D4	H5
						U20B	D5	H5
C102	F2	I4	R74	C4	G5			
C103	E2	I4	R75	C4	G5	U30A	F2	H4
			R76	C4	G5	U30B	E2	H4
R13	C2	G4	R77	C4	G5			
R14	E2	G3	R78	D2	G3			
R15	C2	G3						
R16	C2	G4	R95	C3	H5			
R17	C2	G3	R96	C3	H5			


CH1VIDEO
R18
R17 10k
R13 1M
C20 0.1uF
C21 0.1uF
U7A LM319
R15 1k
+15V
-15V
+5V
+5VREF
R29 1k
R16 10k
R30 332
R66 18.2
C54 0.1uF
Sync trip level
VSync filter
R20 22.1k
R21 100k
C19 1000pF
R31 100k
C14 100pF
R78 22.1k
C55 0.1uF
R14 22.1k
U7B LM319
R22 1k
R110 20k
VSYNC FILTER DELAY CAL
R109 562
C103 1000pF
U30B 74HC221
C102 .033uF
R122 47.5k
U30A 74HC221
VSYNC1S
VSYNC
U15-26
VSync
U15-25
U15-17
R52
CH2VIDEO
R51 10k
R70 2.74k
R71 5.62k
C52 0.1uF
U6A LM339
R95 4.75k
R65 10k
R77 2.74k
R76 1.21k
C51 0.1uF
U6B LM339
R96 4.75k
R67 10k
R75 8.25k
R74 2.74k
C50 0.1uF
U6C LM339
R97 4.75k
R68 10k
R73 5.62k
R72 221
C49 0.1uF
U6D LM339
R98 4.75k
U19A 74HC74
U19B 74HC74
U20A 74HC74
U20B 74HC74
HIGHTH
UPPERTH
LOWERTH
BURSTTH
U26-22
U26-21
U5-20
U26-20
U26-19
U126-11
COMPARE RST
C44 0.1uF
C101 0.1uF
C100 0.1uF
C95 0.1uF
C96 0.1uF

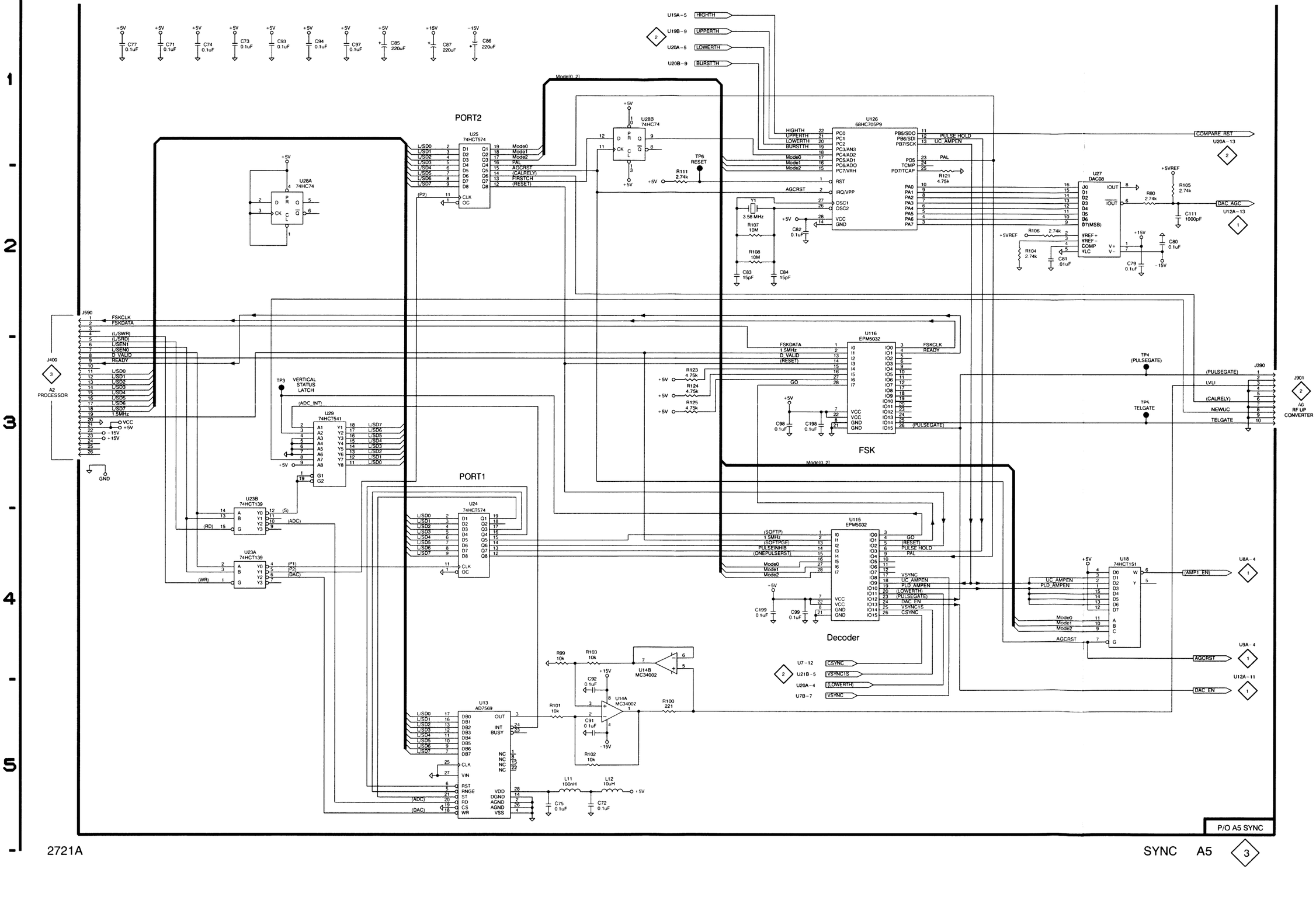
P/O A5 SYNC

Schematic Diagram <3>
Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

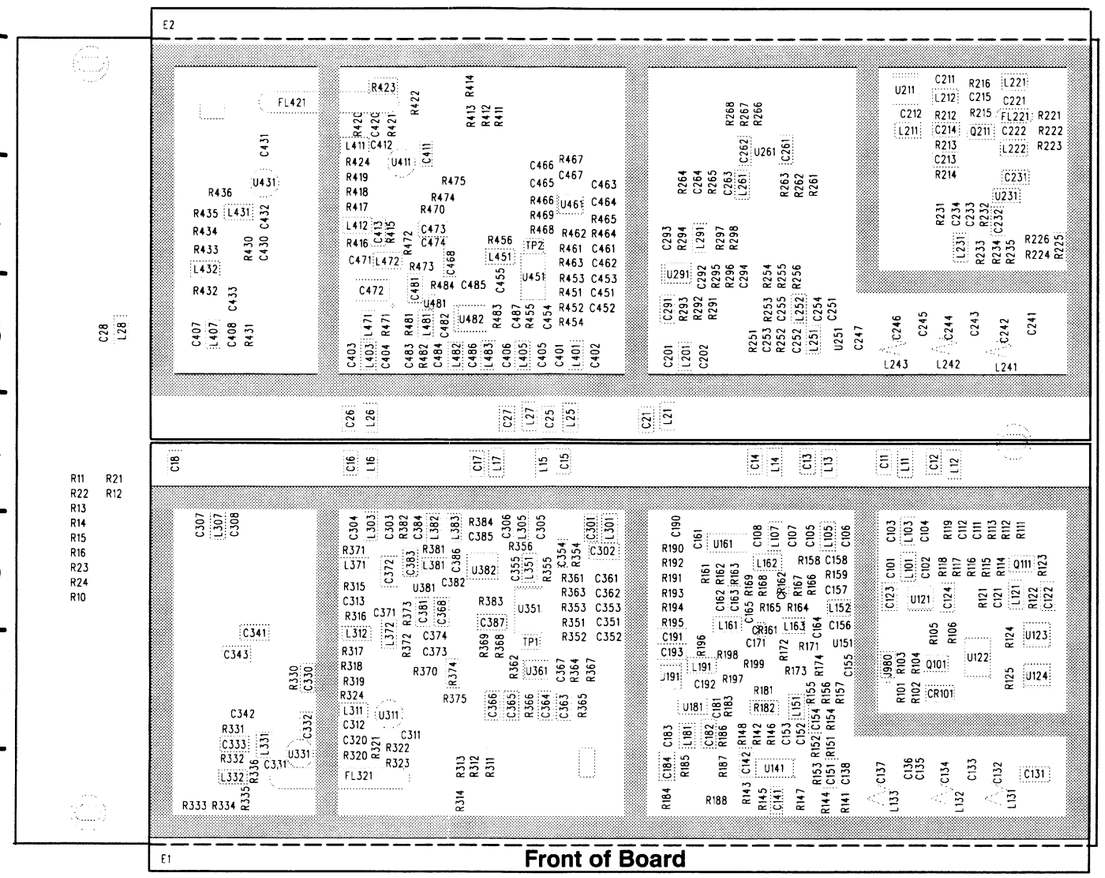
Assembly A5. Partial Assembly A5 also shown on Diagrams 1 and 2.

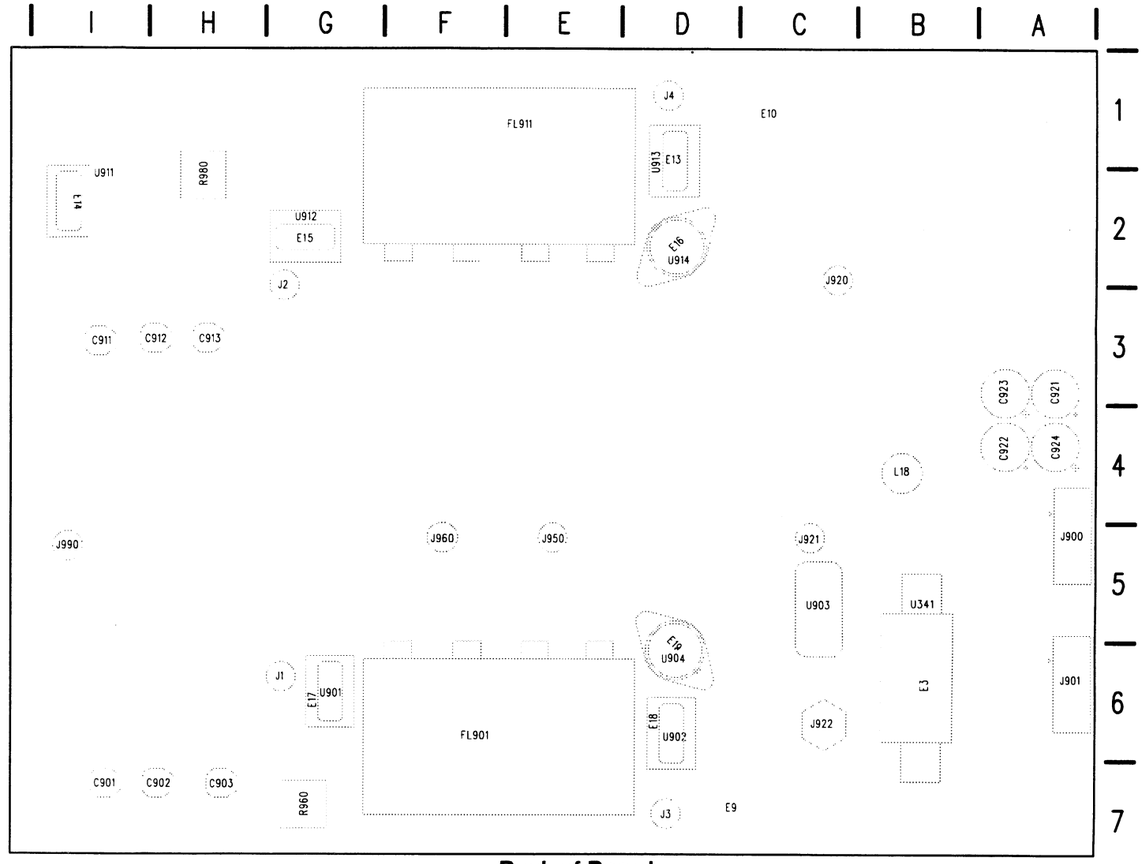
Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C71	A1	J3	J390	H3	K2	TP6	E2	I6
C72	D5	J2	J590	A2	K6			
C73	B1	J4				U13	C5	J3
C74	B1	J4	L11	D5	J2	U14A	D5	J2
C75	D5	J2	L12	D5	J2	U14B	D4	J2
						U15	F4	H3
C77	A1	I4	R80	H2	F4	U16	F3	H2
C79	G2	H6	R99	D4	J2			
C80	H2	I6	R100	E5	J2	U18	G4	I4
C81	G2	H6	R101	D5	J2	U23A	B4	I4
C82	E2	I5	R102	D5	J2	U23B	B4	I4
						U24	C4	J4
C83	E2	I5	R103	D4	J2	U25	C1	J5
C84	E2	J5	R104	G2	H6			
C85	C1	K4	R105	H2	I6	U26	F1	I6
C86	C1	J3	R106	G2	H6	U27	G2	H6
C87	C1	J3	R107	E2	J5	U28A	B2	J6
						U28B	D1	J6
C91	D5	J2	R108	E2	J5	U29	B3	J3
C92	D5	J1	R111	E2	I5			
C93	B1	I4	R121	F2	J6	U115	F4	H3
C94	B1	K6	R123	E3	J1	U116	F3	H1
C97	C1	J1	R124	E3	J1	U126	F1	I6
C98	E3	I1	R125	E3	J1	Y1	E2	J5
C99	E4	I3						
C111	H2	F4	TP3	B3	I3			
C198	E3	I1	TP4	H3	J1			
C199	E4	H2	TP5	H3	J2			


PORT2
PORT1
FSK
Decoder
P/O A5 SYNC
2721A
SYNC A5 3

A6 RF Up Converter Component Locator *(with cross-references to schematic diagrams 1, 2, and 3)*

Comp No	Diag No	Diag Loc	Bd Loc
FRONT OF BOARD			
C11	1	A2	H4
C12	1	A3	H4
C13	1	A3	G4
C14	1	A3	G4
C15	3	B1	E4
C16	3	B1	C4
C17	3	B1	D4
C18	2	D1	B4
C21	1	A4	F4
C25	3	B3	E4
C26	3	B3	C4
C27	3	B4	E4
C28	2	D3	A3
C101	1	B2	H5
C102	1	B2	H5
C103	1	B3	H5
C104	1	B3	H5
C105	1	B3	G5
C106	1	B3	H5
C107	1	B3	G5
C108	1	B3	G5
C111	1	A1	I5
C112	1	A1	I5
C121	1	B1	I5
C122	1	B1	I5
C123	1	B2	H5
C124	1	C2	H5
C131	1	D1	I7
C132	1	D1	I7
C133	1	D1	I7
C134	1	D1	H7
C135	1	D1	H7
C136	1	E1	H7
C137	1	E1	H7
C138	1	E1	H7
C141	1	E2	G7
C142	1	F2	G7
C151	1	F1	G7
C152	1	F1	G6
C153	1	G1	G6
C154	1	G1	G6
C155	1	G1	H6
C156	1	H1	G5
C157	1	G1	G5
C158	1	G1	G5
C161	1	E2	F5
C162	1	E2	G5
C163	1	E3	G5
C164	1	E2	G6
C165	1	F2	G5
C171	1	F3	G6
C181	1	G3	F6
C182	1	H3	F6
C183	1	H2	F6
C184	1	H2	F7
C190	1	C3	F5
C191	1	E3	F6
C192	1	E3	F6
C193	1	E3	F6
C201	1	B4	F3
C202	1	B4	F3
C211	1	A4	H1
C212	1	A4	H1
C213	1	B5	H2
C214	1	B5	H1
C215	1	B5	I1
C221	1	B5	I1
C222	1	B5	I1
C231	1	C5	I2
C232	1	D5	I2
C233	1	C5	I2
C234	1	C4	H2
C241	1	D5	I3
C242	1	D5	I3
C243	1	E5	I3
C244	1	E5	H3
C245	1	E5	H3
C246	1	E5	H3
C247	1	F5	H3
C251	1	F5	G3
C252	1	F5	G3
C253	1	F4	G3
C254	1	F5	G3
C255	1	F5	G3
C261	1	G5	G2
C262	1	H5	G2
C263	1	H5	G2
C264	1	H4	F2
C291	1	E4	F3
C292	1	E4	F3
C293	1	E4	F2
C294	1	E4	G3
C301	3	B1	E5
C302	3	C1	E5
C303	3	B1	D5
C304	3	C1	C5
C305	3	B1	E5
C306	3	C1	E5
C307	2	E1	B5
C308	2	E1	B5
C311	2	C2	D6
C312	2	D2	C6
C313	2	C1	C5
C320	2	D2	C6
C330	2	F2	C6
C331	2	E2	C7
C332	2	F2	C6
C333	2	E1	B6
C341	2	F3	B6
C342	2	G3	B6
C343	2	F2	B6
C351	3	B2	E5
C352	3	B2	E6
C353	3	B2	E5
C354	3	C2	E5
C355	3	D2	E5
C361	3	D2	E5
C362	3	D2	E5
C363	3	D2	E6
C364	3	D2	E6
C365	3	E1	E6
C366	3	E1	E6
C367	3	E1	E6
C368	3	E2	D5
C371	3	E1	D5
C372	3	F1	D5
C373	3	E1	D6
C374	3	F1	D6
C381	3	F2	D5
C382	3	G2	D5
C383	3	G1	D5
C384	3	F1	D5
C385	3	G2	D5
C386	3	H2	D5
C387	3	H2	D5
C401	3	B3	E3
C402	3	C3	E3
C403	3	B3	C3
C404	3	C3	D3
C405	3	B4	E3
C406	3	C4	E3
C407	2	E3	B3
C408	2	E3	B3
C411	2	C5	D2
C412	2	D5	D1
C413	2	C4	D2
C420	2	D5	D1
C430	2	F5	C2
C431	2	E5	C1
C432	2	F5	C2
C433	2	E4	B3
C451	3	B4	E3
C452	3	B4	E3
C453	3	B4	E3
C454	3	C5	E3
C455	3	D4	E3
C461	3	D4	E2
C462	3	D4	E2
C463	3	D4	E2
C464	3	D4	E2
C465	3	E3	E2
C466	3	E3	E2
C467	3	E4	E2
C468	3	E4	D2
C471	3	E3	C2
C472	3	F3	C3
C473	3	E4	D2
C474	3	F4	D2
C481	3	F4	D3
C482	3	G4	D3
C483	3	G3	D3
C484	3	F3	D3
C485	3	G4	D3
C486	3	H4	D3
C487	3	H5	E3
CR101	1	A2	H6
CR161	1	F2	G6
CR162	1	F3	G5
E1	1	H3	B7
E2	1	H3	B4
FL221	1	B5	I1
FL321	2	E2	C7
FL421	2	E5	C1
J980	1	A2	H6
L11	1	A2	H4
L12	1	A3	I4
L13	1	A3	G4
L14	1	A3	G4
L15	3	B1	E4
L16	3	B1	D4
L17	3	B1	E4
L21	1	A4	F4
L25	3	B3	E4
L26	3	B3	D4
L27	3	B4	E4
L28	2	D3	A3
L101	1	B2	H5
L103	1	B3	H5
L105	1	B3	G5
L107	1	B3	G5
L121	1	B1	I5
L131	1	D1	I7
L132	1	E1	H7
L133	1	E1	H7
L151	1	G1	G6
L152	1	H1	G5
L161	1	E2	F5
L162	1	E3	G5
L163	1	F2	G5
L181	1	H2	F6
L191	1	E3	F6
L201	1	B4	F3
L211	1	A4	H1
L212	1	A5	H1
L221	1	B5	I1
L222	1	B5	I1
L231	1	D5	I2
L241	1	D5	I3
L242	1	E5	H3
L243	1	E5	H3
L251	1	F5	G3
L252	1	F5	G3
L261	1	H5	G2
L291	1	E4	F2
L301	3	B1	F5
L303	3	B1	D5
L305	3	B1	E5
L307	2	E1	B5
L311	2	C2	C6
L312	2	C1	C6
L331	2	E2	C7
L332	2	E1	B7
L351	3	D2	E5
L371	3	F1	C5
L372	3	F1	D6
L381	3	G1	D5
L382	3	F1	D5
L383	3	H2	D5
L401	3	B3	E3
L403	3	B3	D3
L405	3	B4	E3
L407	2	E3	B3
L411	2	C5	C1
L412	2	C4	C2
L431	2	E5	B2
L432	2	E4	B2
L451	3	D4	E2
L471	3	F3	D3
L472	3	F3	D2
L481	3	G4	D3
L482	3	F3	D3
L483	3	H4	E3
Q101	1	B2	H6
Q111	1	B1	I5
Q211	1	A5	I1
R10	1	A2	A5
R11	3	B2	A4
R12	3	B2	A4
R13	3	B2	A5
R14	3	B2	A5
R15	3	B2	A5
R16	3	B2	A5
R21	3	B4	A4
R22	3	B4	A4
R23	3	B4	A5
R24	3	B4	A5
R101	1	A2	H6
R102	1	B2	H6
R103	1	B2	H6
R104	1	B2	H6
R105	1	B2	H6
R106	1	B2	H6
R111	1	A1	I5
R112	1	A1	I5
R113	1	A1	I5
R114	1	A1	I5
R115	1	A1	I5
R116	1	B1	I5
R117	1	B1	I5
R118	1	B1	H5
R119	1	B1	H5
R121	1	A1	I5
R122	1	B1	I5
R123	1	B1	I5
R124	1	C1	I6
R125	1	C1	I6
R141	1	E1	H7
R142	1	F1	G6
R143	1	F1	G7
R144	1	E1	G7
R145	1	E2	G7
R146	1	F2	G6
R147	1	F2	G7
R148	1	F2	G6
R151	1	F1	G7
R152	1	F1	G7
R153	1	F1	G7
R154	1	G1	G6
R155	1	G1	G6
R156	1	G1	G6
R157	1	G1	H6
R158	1	H1	G5
R159	1	H1	G5
R161	1	D2	F5
R162	1	E2	G5
R163	1	E2	G5
R164	1	F3	G5
R165	1	F3	G5
R166	1	E3	G5
R167	1	F3	G5
R168	1	F3	G5
R169	1	F3	G5
R171	1	F3	G6
R172	1	F3	G6
R173	1	G3	G6
R174	1	G3	G6
R181	1	G3	G6
R182	1	G3	G6
R183	1	G3	G6
R184	1	H2	F7
R185	1	H2	F7
R186	1	H3	G6
R187	1	H3	G7
R188	1	H3	F7
R190	1	D3	F5
R191	1	D3	F5
R192	1	D3	F5
R193	1	D3	F5
R194	1	D3	F5
R195	1	E3	F5
R196	1	E3	F6
R197	1	F3	F6
R198	1	F3	F6
R199	1	F3	G6
R212	1	A5	H1
R213	1	A5	H1
R214	1	A5	H2
R215	1	A5	I1
R216	1	B5	I1
R221	1	C5	I1
R222	1	C5	I1
R223	1	C5	I1
R224	1	C4	I2
R225	1	C4	I2
R226	1	C5	I2
R231	1	D4	H2
R232	1	D5	I2
R233	1	D5	I2
R234	1	D5	I2
R235	1	D5	I2
R251	1	F4	G3
R252	1	F5	G3
R253	1	F5	G3
R254	1	F5	G3
R255	1	G5	G3
R256	1	G5	G3
R261	1	G5	G2
R262	1	G5	G2
R263	1	G5	G2
R264	1	H4	F2
R265	1	H5	F2
R266	1	H5	G1
R267	1	H5	G1
R268	1	H5	G1
R291	1	D4	F3
R292	1	D4	F3
R293	1	E4	F3
R294	1	E4	F2
R295	1	E4	F3
R296	1	E4	G3
R297	1	F4	F2
R298	1	F4	G2
R311	2	B2	E7
R312	2	B2	D7
R313	2	B2	D7
R314	2	B3	D7
R315	2	C1	C5
R316	2	C1	C5
R317	2	C1	C6
R318	2	C2	C6
R319	2	C2	C6
R320	2	D2	C7
R321	2	D2	D7
R322	2	D2	D7
R323	2	D2	D7
R324	2	C2	C6
R330	2	F2	C6
R331	2	E1	B6
R332	2	E1	B7
R333	2	E1	B7
R334	2	E2	B7
R335	2	E2	C7
R336	2	E2	C7
R351	3	C2	E5
R352	3	C2	E6
R353	3	C2	E5
R354	3	B2	E5
R355	3	C2	E5
R356	3	D2	E5
R361	3	D2	E5
R362	3	D2	E6
R363	3	D2	E5
R364	3	D2	E6
R365	3	D2	E6
R366	3	D1	E6
R367	3	E1	E6
R368	3	E1	E6
R369	3	E2	E6
R370	3	F2	D6
R371	3	E1	C5
R372	3	F2	D6
R373	3	F2	D5
R374	3	F1	D6
R375	3	F1	D6
R381	3	G1	D5
R382	3	G1	D5
R383	3	H2	D5
R384	3	G2	D5
R411	2	B5	E1
R412	2	B5	E1
R413	2	B5	D1
R414	2	B5	D1
R415	2	C4	D2
R416	2	C4	C2
R417	2	C4	C2
R418	2	C4	C2
R419	2	C4	C2
R420	2	D5	C1
R421	2	D5	D1
R422	2	D5	D1
R423	2	D5	D1
R424	2	C4	C2
R430	2	F5	C2
R431	2	E4	B3
R432	2	E4	B3
R433	2	E4	B2
R434	2	E4	B2
R435	2	E4	B2
R436	2	E4	B2
R451	3	C4	E3
R452	3	C4	E3
R453	3	C4	E3
R454	3	B5	E3
R455	3	C5	E3
R456	3	D4	E2
R461	3	D4	E2
R462	3	D4	E2
R463	3	D4	E2
R464	3	D4	E2
R465	3	D4	E2
R466	3	D3	E2
R467	3	E4	E2
R468	3	E4	E2
R469	3	E4	E2
R470	3	F4	D2
R471	3	E3	D3
R472	3	F4	D2
R473	3	F4	D2
R474	3	F4	D2
R475	3	F3	D2
R481	3	G3	D3
R482	3	G3	D3
R483	3	H5	E3
R484	3	G4	D3
TP1	3	E1	E6
TP2	3	E4	E2
U121	1	C2	H5
U122A	1	B1	I6
U122B	1	C1	I6
U122C	1	C1	I6
U122D	1	C1	I6
U122E	1	C1	I6
U122F	1	B1	I6
U123	1	B1	I6
U124	1	C1	I6
U141	1	F1	G7
U151	1	G1	G6
U161A	1	E2	F5
U161B	1	E2	F5
U161C	1	E2	F5
U161D	1	E2	F5
U181	1	G3	F6
U191	1	E3	F6
U211	1	A4	H1
U231	1	C5	I2
U251	1	F5	G3
U261	1	H5	G2
U291	1	E4	F3
U311	2	C2	D6
U331	2	E2	C6
U351	3	C2	E5
U361A	3	E2	E6
U361B	3	E2	E6
U381	3	G2	D5
U382	3	G2	D5
U411	2	C5	D2
U431	2	E5	C2
U451	3	C4	E3
U461A	3	E4	E2
U461B	3	E4	E2
U481	3	G4	D3
U482	3	G4	E3
BACK OF BOARD			
C901	1	D1	I7
C902	1	E1	H7
C903	1	E1	H7
C911	1	D5	I3
C912	1	E5	I3
C913	1	E5	H3
C921	3	A1	A3
C922	3	A1	A4
C923	3	A1	A3
C924	3	A1	A4
E3	1	G3	F6
E4	2	C2	D6
E5	1	G5	G2
E6	2	C5	D1
E7	2	G3	A6
E8	1	C5	J2
FL901	2	B2	H6
FL911	2	B5	C2
J1	1	F3	G6
J2	1	F5	G3
J3	2	C2	D7
J4	2	C5	D1
J900	3	A2	A4
J901	1	A2	A5
J920	2	G5	C3
J921	2	G3	C5
J922	2	G2	C6
J950	3	A2	E5
J960	1	A3	F5
J990	1	A1	I5
L18	2	D1	B4
R960	1	E1	G7
R980	1	B4	H2
U341	2	F2	B5
U901	1	G3	G6
U902	2	C2	D6
U903	2	F2	B5
U904	3	E2	D6
U911	1	C5	J2
U912	1	G5	G2
U913	2	C5	D1
U914	3	E4	D2





A6 RF UP CONVERTER BOARD

Assembly A6 board component lookup chart located on front of this page.

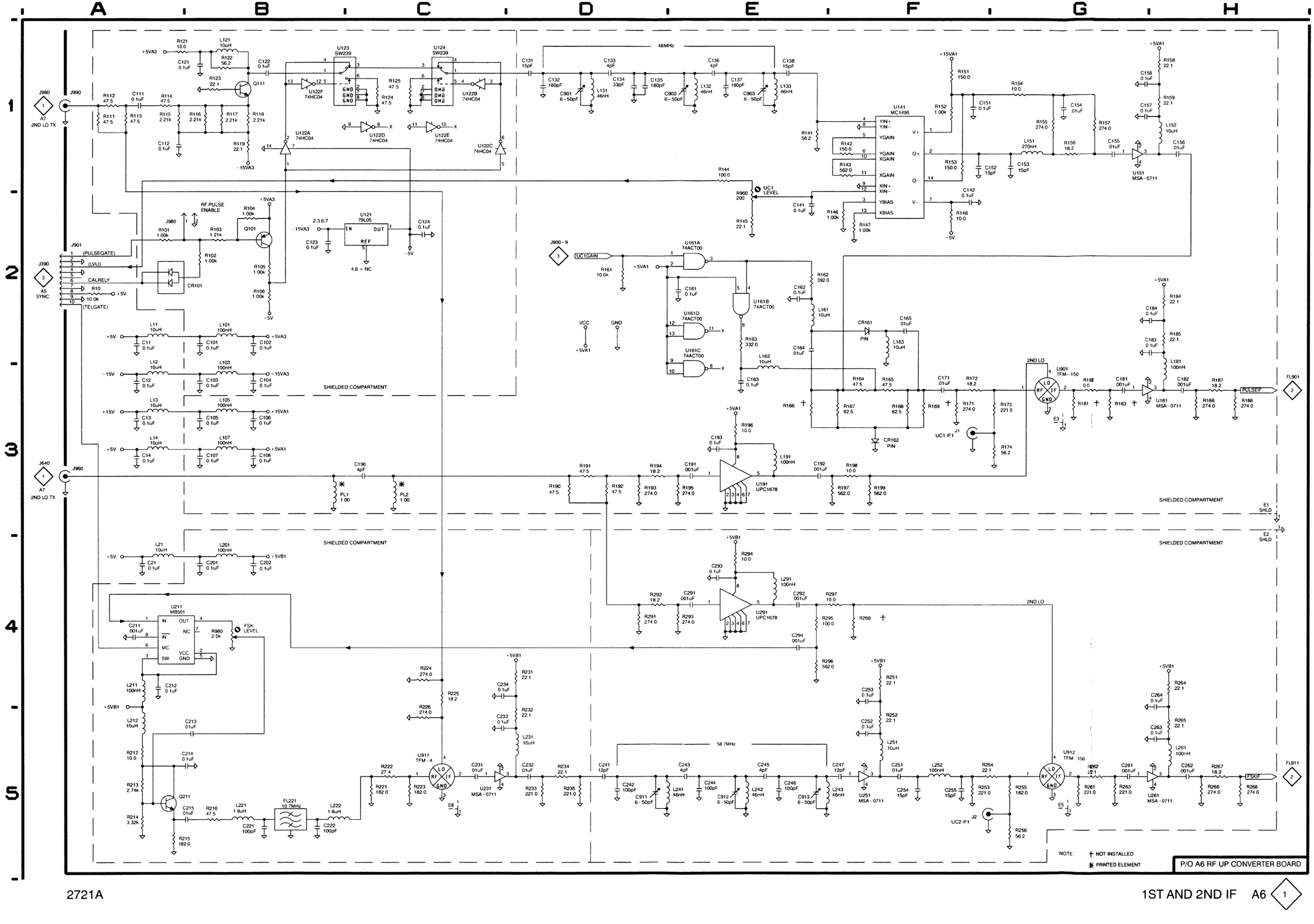
Static Sensitive Devices
See Maintenance Section

Schematic Diagram <1> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Partial Assembly A6 also shown on Diagrams 2 and 3.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C11	A2	H4	C132	D1	I7	C164	E2	G6				C293	E4	F2	L107	B3	G5	L243	E5	H3	R115	A1	I5	R153	F1	G7	R181	G3	G6	R214	A5	H2	R261	G5	G2	U122C	C1	I6
C12	A3	H4	C133	D1	I7	C165	F2	G5	C233	C5	I2	C294	E4	G3	L121	B1	I5	L251	F5	G3	R116	B1	I5	R154	G1	G6	R182	G3	G6	R215	A5	I1	R262	G5	G2	U122D	C1	I6
C13	A3	G4	C134	D1	H7	C171	F3	G6	C234	C4	H2							L252	F5	G3	R117	B1	I5	R155	G1	G6	R183	G3	G6	R216	B5	I1	R263	G5	G2	U122E	C1	I6
C14	A3	G4	C135	D1	H7	C181	G3	F6	C241	D5	I3	CR101	A2	H6	L131	D1	I7	L261	H5	G2	R118	B1	H5	R156	G1	G6	R184	H2	F7	R221	C5	I1	R264	H4	F2	U122F	B1	I6
C21	A4	F4	C136	E1	H7	C182	H3	F6	C242	D5	I3	CR161	F2	G6	L132	E1	H7	L291	E4	F2	R119	B1	H5	R157	G1	H6	R185	H2	F7	R222	C5	I1	R265	H5	F2	U123	B1	I6
C101	B2	H5	C137	E1	H7	C183	H2	F6	C243	E5	I3	CR162	F3	G5	L133	E1	H7				R121	A1	I5	R158	H1	G5	R186	H3	G6	R223	C5	I1	R266	H5	G1	U124	C1	I6
C102	B2	H5	C138	E1	H7	C184	H2	F7	C244	E5	H3				L151	G1	G6	Q101	B2	H6	R122	B1	I5	R159	H1	G5	R187	H3	G7	R224	C4	I2	R267	H5	G1	U141	F1	G7
C103	B3	H5	C141	E2	G7	C190	C3	F5	C245	E5	H3	E1	H3	B7	L152	H1	G5	Q111	B1	I5	R123	B1	I5	R161	D2	F5	R188	H3	F7	R225	C4	I2	R268	H5	G1			
C104	B3	H5	C142	F2	G7	C191	E3	F6	C246	E5	H3	E2	H3	B4	L161	E2	F5	Q211	A5	I1																U151	G1	G6
C105	B3	G5	C151	F1	G7	C192	E3	F6	C247	F5	H3				L162	E3	G5				R124	C1	I6	R162	E2	G5	R190	D3	F5	R226	C5	I2	R291	D4	F3	U161A	E2	F5
						C193	E3	F6	C251	F5	G3	FL221	B5	I1	L163	F2	G5	R10	A2	A5	R125	C1	I6	R163	E2	G5	R191	D3	F5	R231	D4	H2	R292	D4	F3	U161B	E2	F5
C106	B3	H5	C152	F1	G6	C201	B4	F3							L181	H2	F6	R101	A2	H6	R141	E1	H7	R164	F3	G5	R192	D3	F5	R232	D5	I2	R293	E4	F3	U161C	E2	F5
C107	B3	G5	C153	G1	G6	C202	B4	F3	C252	F5	G3	J980	A2	H6	L191	E3	F6	R102	B2	H6	R142	F1	G6	R165	F3	G5	R193	D3	F5	R233	D5	I2	R294	E4	F2	U161D	E2	F5
C108	B3	G5	C154	G1	G6	C211	A4	H1	C253	F4	G3							R103	B2	H6	R143	F1	G7	R166	E3	G5	R194	D3	F5	R234	D5	I2	R295	E4	F3	U181	G3	F6
C111	A1	I5	C155	G1	H6	C212	A4	H1	C254	F5	G3	L11	A2	H4	L201	B4	F3	R104	B2	H6	R144	E1	G7	R167	F3	G5	R195	E3	F5	R235	D5	I2	R296	E4	G3	U191	E3	F6
C112	A1	I5	C156	H1	G5	C213	B5	H2	C255	F5	G3	L12	A3	I4	L211	A4	H1	R105	B2	H6	R145	E2	G7	R168	F3	G5	R196	E3	F6	R251	F4	G3	R297	F4	F2	U211	A4	H1
C121	B1	I5	C157	G1	G5	C214	B5	H1	C261	G5	G2	L13	A3	G4	L212	A5	H1	R106	B2	H6	R146	F2	G6	R169	F3	G5	R197	F3	F6	R252	F5	G3	R298	F4	G2	U231	C5	I2
C122	B1	I5	C158	G1	G5	C215	B5	I1	C262	H5	G2	L14	A3	G4	L221	B5	I1	R111	A1	I5	R147	F2	G7	R171	F3	G6	R198	F3	F6	R253	F5	G3				U251	F5	G3
C123	B2	H5	C161	E2	F5	C221	B5	I1	C263	H5	G2	L21	A4	F4	L222	B5	I1	R112	A1	I5	R148	F2	G6	R172	F3	G6	R199	F3	G6	R254	F5	G3	U121	C2	H5	U261	H5	G2
C124	C2	H5	C162	E2	G5	C222	B5	I1	C264	H4	F2	L101	B2	H5	L231	D5	I2																U122A	B1	I6	U291	E4	F3
C131	D1	I7	C163	E3	G5	C231	C5	I2	C291	E4	F3	L103	B3	H5	L241	D5	I3	R113	A1	I5	R151	F1	G7	R173	G3	G6	R212	A5	H1	R255	G5	G3	U122B	C1	I6			
						C232	D5	I2	C292	E4	F3	L105	B3	G5	L242	E5	H3	R114	A1	I5	R152	F1	G7	R174	G3	G6	R213	A5	H1	R256	G5	G3						



2721A

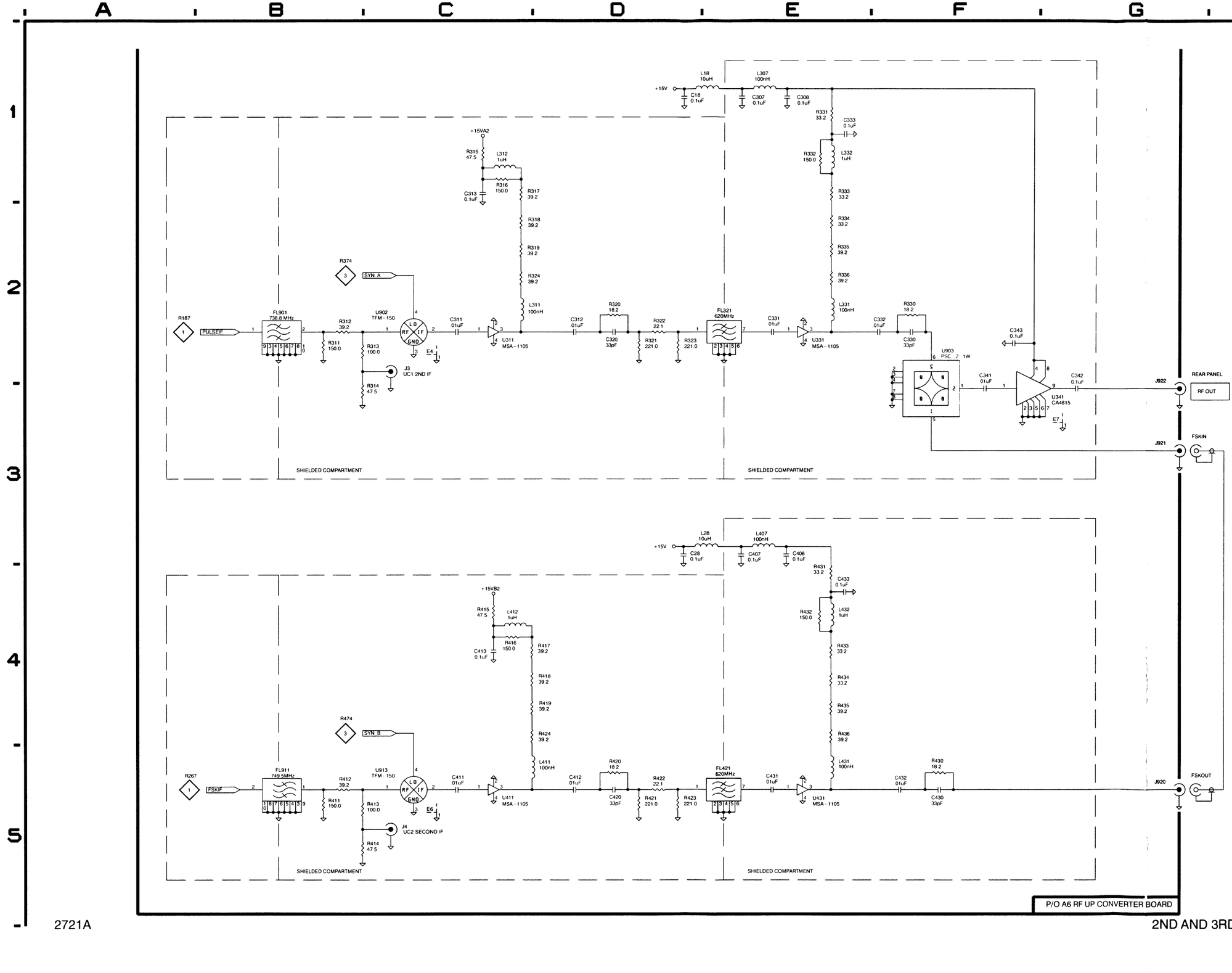
1ST AND 2ND IF A6 1

Schematic Diagram <2>
Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A6. Partial Assembly A6 also shown on Diagrams 1 and 3.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C18	D1	B4	L307	E1	B5	R335	E2	C7
C28	D3	A3	L311	C2	C6			
C307	E1	B5	L312	C1	C6	R336	E2	C7
C308	E1	B5	L331	E2	C7	R411	B5	E1
C311	C2	D6				R412	B5	E1
			L332	E1	B7	R413	B5	D1
C312	D2	C6	L407	E3	B3	R414	B5	D1
C313	C1	C5	L411	C5	C1			
C320	D2	C6	L412	C4	C2	R415	C4	D2
C330	F2	C6	L431	E5	B2	R416	C4	C2
C331	E2	C7	L432	E4	B2	R417	C4	C2
						R418	C4	C2
C332	F2	C6	R311	B2	E7	R419	C4	C2
C333	E1	B6	R312	B2	D7			
C341	F3	B6	R313	B2	D7	R420	D5	C1
C342	G3	B6	R314	B3	D7	R421	D5	D1
C343	F2	B6	R315	C1	C5	R422	D5	D1
						R423	D5	D1
C407	E3	B3	R316	C1	C5	R424	C4	C2
C408	E3	B3	R317	C1	C6			
C411	C5	D2	R318	C2	C6	R430	F5	C2
C412	D5	D1	R319	C2	C6	R431	E4	B3
C413	C4	D2	R320	D2	C7	R432	E4	B3
						R433	E4	B2
C420	D5	D1	R321	D2	D7	R434	E4	B2
C430	F5	C2	R322	D2	D7	R435	E4	B2
C431	E5	C1	R323	D2	D7	R436	E4	B2
C432	F5	C2	R324	C2	C6			
C433	E4	B3	R330	F2	C6	U311	C2	D6
						U331	E2	C6
FL321	E2	C7	R331	E1	B6	U411	C5	D2
FL421	E5	C1	R332	E1	B7	U431	E5	C2
			R333	E1	B7			
L28	D3	A3	R334	E2	B7			

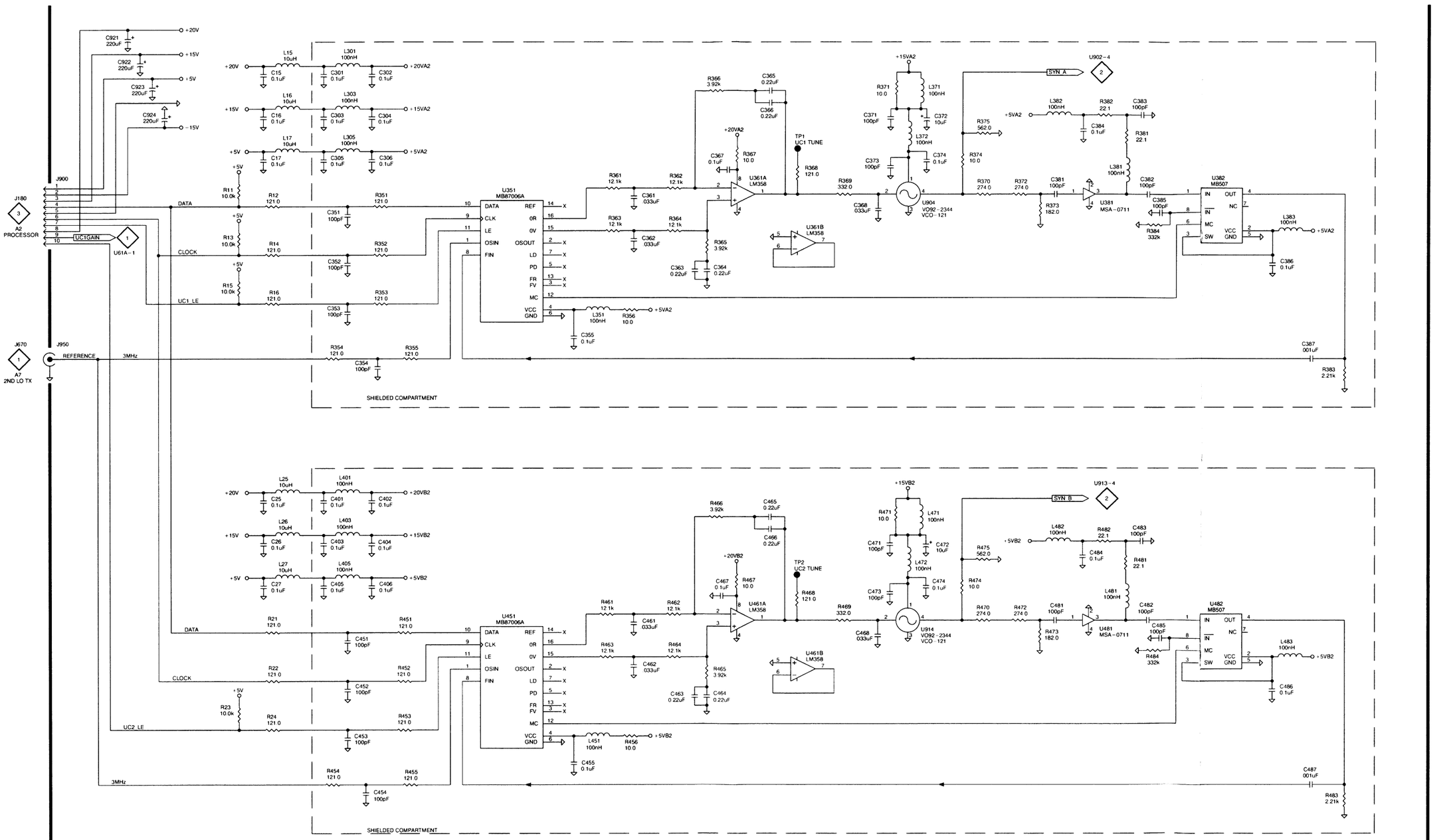

+15V
L18 10uH
C18 0.1uF
L307 100nH
C307 0.1uF
C308 0.1uF
R331 33.2
C333 0.1uF
R332 150.0
L332 1uH
R333 33.2
R334 33.2
R335 39.2
R336 39.2
L331 100nH
+15VA2
R315 47.5
L312 1uH
R316 150.0
C313 0.1uF
R317 39.2
R318 39.2
R319 39.2
R324 39.2
L311 100nH
R374
SYN A
R187
PULSEIF
FL901 738.8 MHz
R312 39.2
R311 150.0
R313 100.0
R314 47.5
U902 TFM-150
LO RF IF GND
J3 UC1 2ND IF
E4
C311 .01uF
U311 MSA-1105
C312 .01uF
R320 18.2
C320 33pF
R322 22.1
R321 221.0
R323 221.0
FL321 620MHz
C331 .01uF
U331 MSA-1105
C332 .01uF
R330 18.2
C330 33pF
U903 PSC-2 1W
C343 0.1uF
C341 .01uF
U341 CA4815
E7
C342 0.1uF
J922
REAR PANEL
RF OUT
J921
FSKIN
SHIELDED COMPARTMENT
SHIELDED COMPARTMENT
+15V
L28 10uH
C28 0.1uF
L407 100nH
C407 0.1uF
C408 0.1uF
R431 33.2
C433 0.1uF
R432 150.0
L432 1uH
R433 33.2
R434 33.2
R435 39.2
R436 39.2
L431 100nH
+15VB2
R415 47.5
L412 1uH
R416 150.0
C413 0.1uF
R417 39.2
R418 39.2
R419 39.2
R424 39.2
L411 100nH
R474
SYN B
R267
FSKIF
FL911 749.5MHz
R412 39.2
R411 150.0
R413 100.0
R414 47.5
U913 TFM-150
LO RF IF GND
J4 UC2 SECOND IF
E6
C411 .01uF
U411 MSA-1105
C412 .01uF
R420 18.2
C420 33pF
R422 22.1
R421 221.0
R423 221.0
FL421 620MHz
C431 .01uF
U431 MSA-1105
C432 .01uF
R430 18.2
C430 33pF
J920
FSKOUT
SHIELDED COMPARTMENT
SHIELDED COMPARTMENT
P/O A6 RF UP CONVERTER BOARD

Schematic Diagram <3>
Component Locator Chart

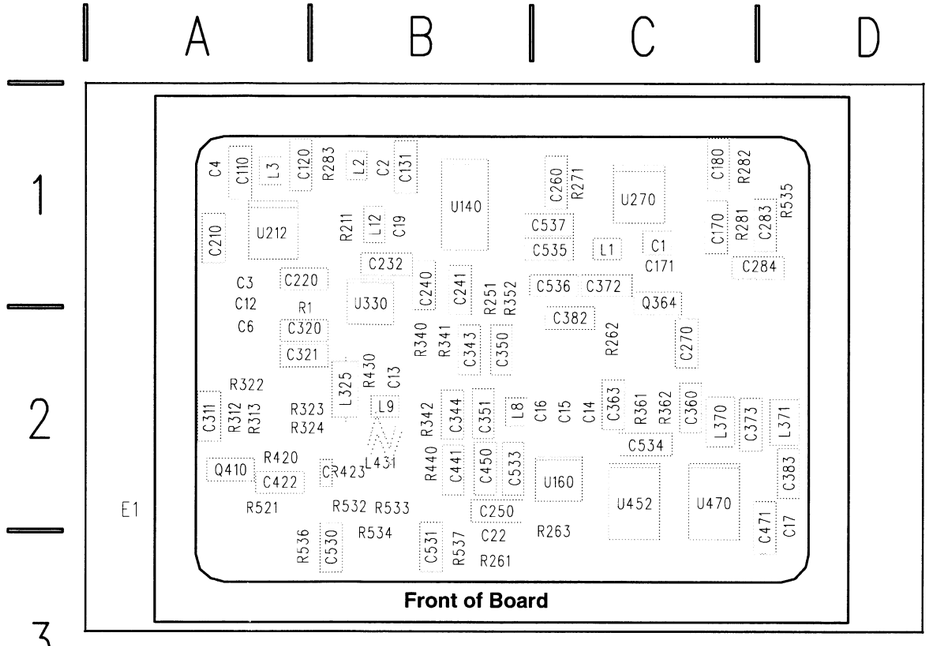
The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A6. Partial Assembly A6 also shown on Diagrams 1 and 2.

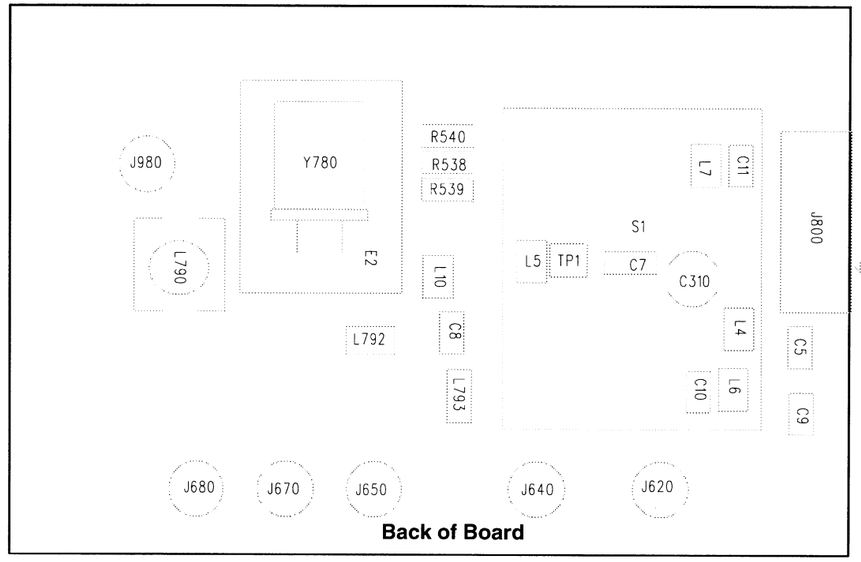
Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C15	B1	E4				R364	D2	E6
C16	B1	C4	C471	E3	C2			
C17	B1	D4	C472	F3	C3	R365	D2	E6
C25	B3	E4	C473	E4	D2	R366	D1	E6
C26	B3	C4	C474	F4	D2	R367	E1	E6
			C481	F4	D3	R368	E1	E6
C27	B4	E4				R369	E2	E6
C301	B1	E5	C482	G4	D3			
C302	C1	E5	C483	G3	D3	R370	F2	D6
C303	B1	D5	C484	F3	D3	R371	E1	C5
C304	C1	C5	C485	G4	D3	R372	F2	D6
			C486	H4	D3	R373	F2	D5
C305	B1	E5	C487	H5	E3	R374	F1	D6
C306	C1	E5						
C351	B2	E5	L15	B1	E4	R375	F1	D6
C352	B2	E6	L16	B1	D4	R381	G1	D5
C353	B2	E5	L17	B1	E4	R382	G1	D5
			L25	B3	E4	R383	H2	D5
C354	C2	E5	L26	B3	D4	R384	G2	D5
C355	D2	E5						
C361	D2	E5	L27	B4	E4	R451	C4	E3
C362	D2	E5	L301	B1	F5	R452	C4	E3
C363	D2	E6	L303	B1	D5	R453	C4	E3
			L305	B1	E5	R454	B5	E3
C364	D2	E6	L351	D2	E5	R455	C5	E3
C365	E1	E6						
C366	E1	E6	L371	F1	C5	R456	D4	E2
C367	E1	E6	L372	F1	D6	R461	D4	E2
C368	E2	D5	L381	G1	D5	R462	D4	E2
			L382	F1	D5	R463	D4	E2
C371	E1	D5	L383	H2	D5	R464	D4	E2
C372	F1	D5						
C373	E1	D6	L401	B3	E3	R465	D4	E2
C374	F1	D6	L403	B3	D3	R466	D3	E2
C381	F2	D5	L405	B4	E3	R467	E4	E2
			L451	D4	E2	R468	E4	E2
C382	G2	D5	L471	F3	D3	R469	E4	E2
C383	G1	D5						
C384	F1	D5	L472	F3	D2	R470	F4	D2
C385	G2	D5	L481	G4	D3	R471	E3	D3
C386	H2	D5	L482	F3	D3	R472	F4	D2
			L483	H4	E3	R473	F4	D2
C387	H2	D5				R474	F4	D2
C401	B3	E3	R11	B2	A4			
C402	C3	E3	R12	B2	A4	R475	F3	D2
C403	B3	C3	R13	B2	A5	R481	G3	D3
C404	C3	D3	R14	B2	A5	R482	G3	D3
			R15	B2	A5	R483	H5	E3
C405	B4	E3				R484	G4	D3
C406	C4	E3	R16	B2	A5			
C451	B4	E3	R21	B4	A4	TP1	E1	E6
C452	B4	E3	R22	B4	A4	TP2	E4	E2
C453	B4	E3	R23	B4	A5			
			R24	B4	A5	U351	C2	E5
C454	C5	E3				U361A	E2	E6
C455	D4	E3	R351	C2	E5	U361B	E2	E6
C461	D4	E2	R352	C2	E6	U381	G2	D5
C462	D4	E2	R353	C2	E5	U382	G2	D5
C463	D4	E2	R354	B2	E5			
			R355	C2	E5	U451	C4	E3
C464	D4	E2				U461A	E4	E2
C465	E3	E2	R356	D2	E5	U461B	E4	E2
C466	E3	E2	R361	D2	E5	U481	G4	D3
C467	E4	E2	R362	D2	E6	U482	G4	E3
C468	E4	D2	R363	D2	E5			



P/O A6 RF UP CONVERTER BOARD



Front of Board



Back of Board

Static Sensitive Devices
See Maintenance Section

A7 2ND LO TX BOARD

A7 2nd Lo Tx Board and Schematic Diagram <1> Component Locator Chart

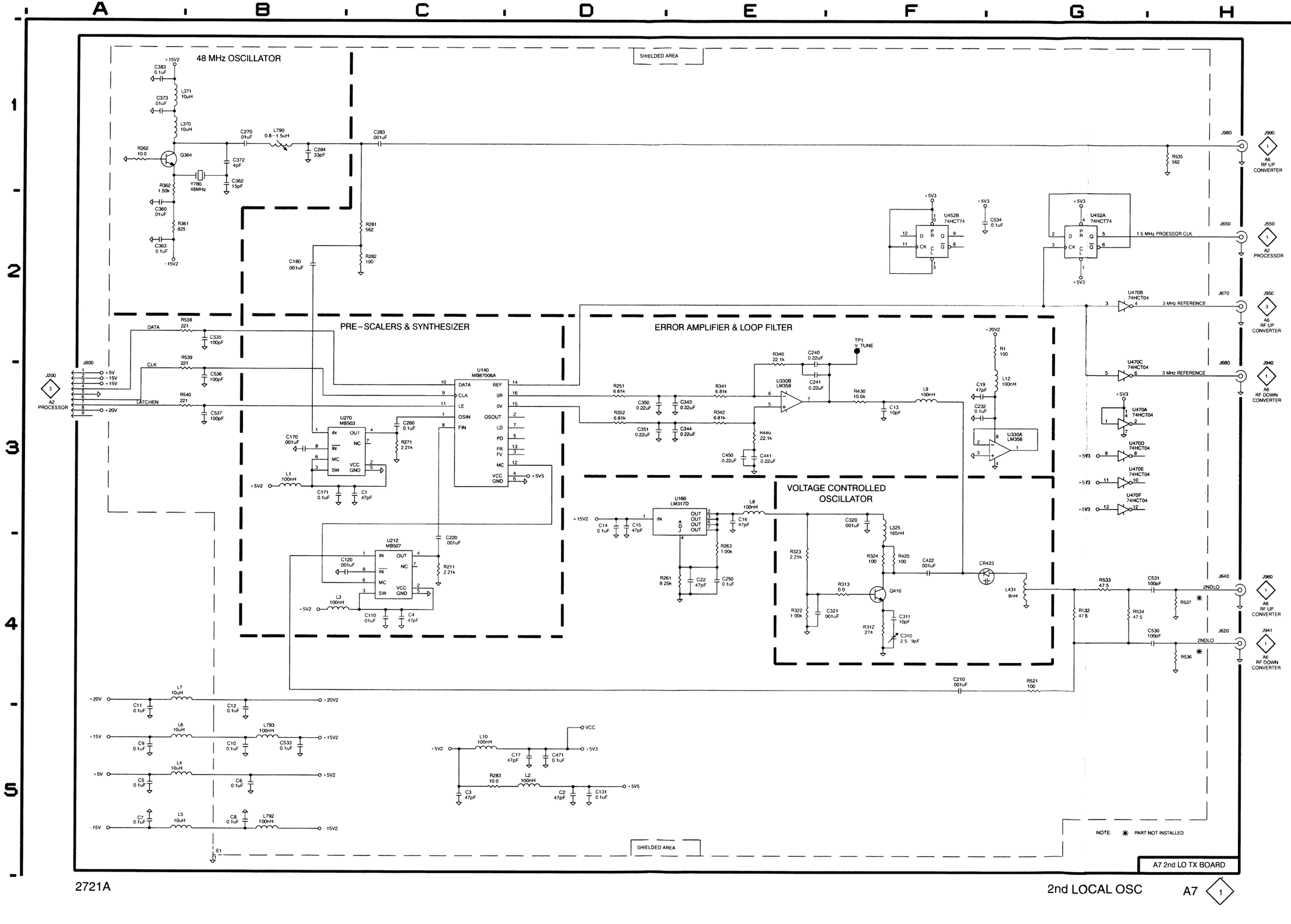
The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A7 (Front)

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C1	C3	C1	C220	C4	A1	C383	A1	D2	L12	G3	B1	R323	E4	A2	U160	D3	C2
C2	D5	B1	C232	F3	B1	C422	F4	A2	L325	F3	B2				U212	C4	A1
C3	C5	A1	C240	E2	B2	C441	E3	B2	L370	A1	C2	R324	F4	A2	U270	B3	C1
C4	C4	A1	C241	E3	B2	C450	E3	B2	L371	A1	D2	R340	E2	B2	U330A	G3	B2
C6	B5	A2							L431	G4	B2	R341	E3	B2			
			C250	E4	B2	C471	D5	D3				R342	E3	B2	U330B	E3	B2
C12	B5	A2	C260	C3	C1	C530	H4	B3	Q364	A1	C2	R352	D3	B2	U452A	G2	C2
C13	F3	B2	C270	B1	C2	C531	H4	B3	Q410	F4	A2	R361	A2	C2	U452B	F2	C2
C14	D3	C2	C283	C1	D1	C533	B5	B2							U470A	G3	C2
C15	D3	C2	C284	B1	C1	C534	F2	C2	R1	G2	A2	R362	A1	C2	U470B	G2	C2
C16	E3	C2	C311	F4	A2	C535	B2	B1	R211	C4	B1	R420	F4	A2			
			C320	F3	A2	C536	B3	B1	R251	D3	B2	R430	F3	B2	U470C	G3	C2
C17	D5	D3				C537	B3	B1	R261	E4	B3	R440	E3	B2	U470D	G3	C2
C19	F3	B1	C321	E4	A2				R262	A1	C2	R521	G4	A2	U470E	G3	C2
C22	E4	B3	C343	E3	B2	CR423	F4	B2	R263	E4	C3				U470F	G3	C2
C110	C4	A1	C344	E3	B2							R532	G4	B2			
C120	C4	A1	C350	D3	B2	E1	B5	A2	R271	C3	C1	R533	G4	B2			
			C351	D3	B2				R281	C2	C1	R534	G4	B3			
C131	D5	B1	C360	A2	C2	L1	B3	C1	R282	C2	C1	R535	H1	D1			
C170	B3	C1	C363	A2	C2	L2	D5	B1	R283	C5	B1	R536	H4	B3			
C171	B3	C1	C372	B1	C1	L3	B4	A1	R312	F4	A2	R537	H4	B3			
C180	B2	C1	C373	A1	D2	L8	E3	B2	R313	F4	A2						
C210	F4	A1	C382	B1	C2	L9	F3	B2	R322	E4	A2	U140	C3	B1			

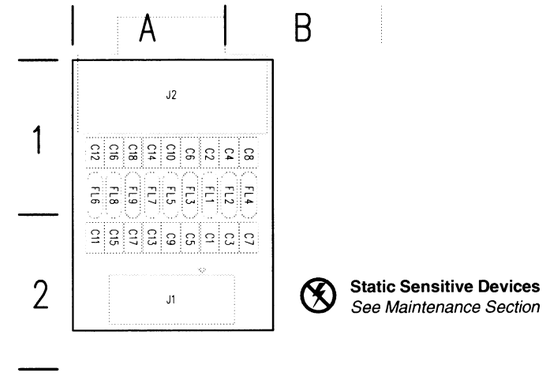
Assembly A7 (Back)

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C5	A5	A2	J670	H2	C3	L792	B5	C2
C7	A5	A2	J680	H3	C3	L793	B5	B2
C8	B5	B2	J800	A3	A1			
C9	A5	A2	J980	H1	D1	R538	A2	B1
C10	B5	A2				R539	A3	B1
C11	A5	A1	L4	A5	A2	R540	A3	B1
C310	F4	A2	L5	A5	B2			
			L6	A5	A2	TP1	F2	B2
J620	H4	A3	L7	A4	A1			
J640	H4	B3	L10	C5	B2	Y780	B1	C1
J650	H2	C3	L790	B1	C2			



2721A

2nd LOCAL OSC A7 1



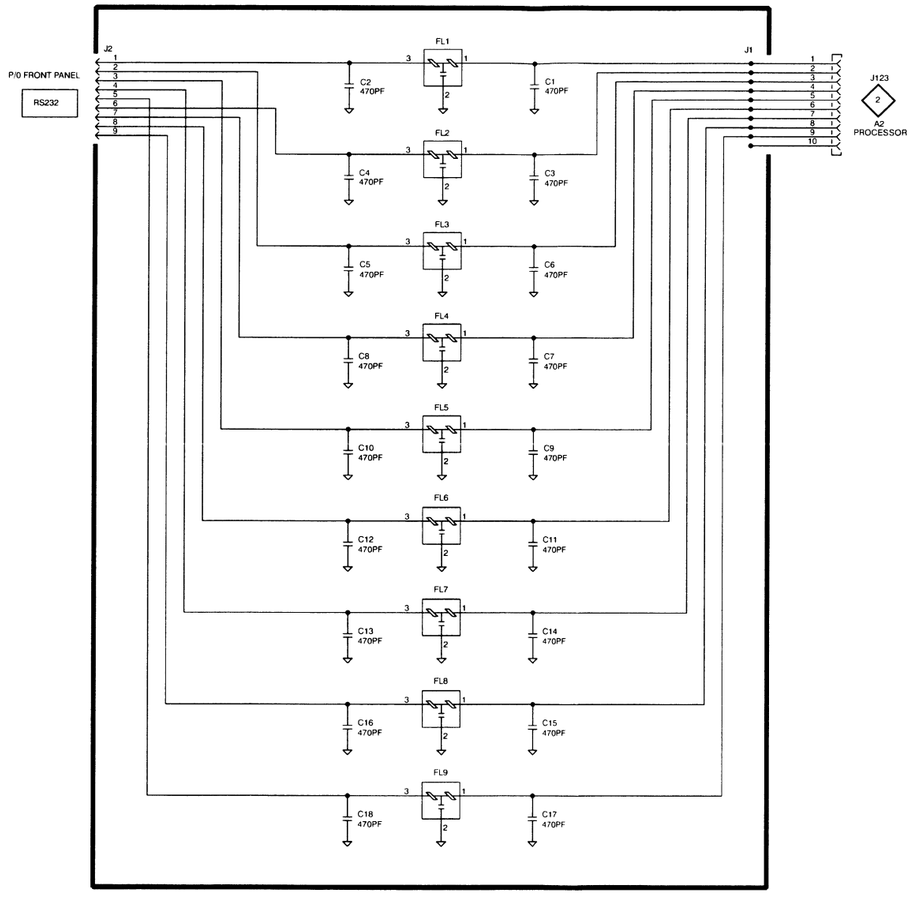
A10 SERIAL FILTER BOARD

Schematic Diagram <1>
Component Locator Chart

The schematic diagram has an alpha-numeric grid to assist in locating parts within that diagram.

Assembly A10

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C1	D2	A2	C16	D4	A1
C2	D2	A1	C17	D4	A2
C3	D2	B2	C18	D4	A1
C4	D2	B1			
C5	D2	A2	FL1	D2	A1
			FL2	D2	B1
C6	D2	A1	FL3	D2	A1
C7	D3	B2	FL4	D2	B1
C8	D3	B1	FL5	D3	A1
C9	D3	A2			
C10	D3	A1	FL6	D3	A1
			FL7	D3	A1
C11	D3	A2	FL8	D4	A1
C12	D3	A1	FL9	D4	A1
C13	D4	A2			
C14	D4	A1	J1	F2	A2
C15	D4	A2	J2	C2	A1


J2
P/O FRONT PANEL
RS232
1
2
3
4
5
6
7
8
9
FL1
FL2
FL3
FL4
FL5
FL6
FL7
FL8
FL9
C1 470PF
C2 470PF
C3 470PF
C4 470PF
C5 470PF
C6 470PF
C7 470PF
C8 470PF
C9 470PF
C10 470PF
C11 470PF
C12 470PF
C13 470PF
C14 470PF
C15 470PF
C16 470PF
C17 470PF
C18 470PF
J1
J123
2
A2
PROCESSOR

Replaceable Mechanical Parts

This section contains a list of the components that are replaceable for the 2721A. Use this list to identify and order replacement parts. There is a separate Replaceable Mechanical Parts list for each instrument.

Parts Ordering Information

Replacement parts are available from or through your local Tektronix, Inc., Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available and to give you the benefit of the latest circuit improvements. Therefore, when ordering parts, it is important to include the following information in your order.

- Part number
- Instrument type or model number
- Instrument serial number
- Instrument modification number, if applicable

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc., Field Office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

Using the Replaceable Mechanical Parts List

The tabular information in the Replaceable Mechanical Parts list is arranged for quick retrieval. Understanding the structure and features of the list will help you find all of the information you need for ordering replaceable parts.

Cross Index–Mfr. Code Number to Manufacturer

The Mfg. Code Number to Manufacturer Cross Index for the mechanical parts list is located immediately after this page. The cross index provides codes, names, and addresses of manufacturers of components listed in the mechanical parts list.

Abbreviations

Abbreviations conform to American National Standards Institute (ANSI) standard Y1.1.

Chassis Parts

Chassis–mounted parts and cable assemblies are located at the end of the Replaceable Electrical Parts list.

Column Descriptions

Figure & Index No. (Column 1)

Items in this section are referenced by figure and index numbers to the illustrations.

Tektronix Part No. (Column 2)

Indicates part number to be used when ordering replacement part from Tektronix.

Serial No. (Column 3 and 4)

Column three (3) indicates the serial number at which the part was first used. Column four (4) indicates the serial number at which the part was removed. No serial number entered indicates part is good for all serial numbers.

Qty (Column 5)

This indicates the quantity of mechanical parts used.

Name and Description (Column 6)

An item name is separated from the description by a colon (:). Because of space limitations, an item name may sometimes appear as incomplete. Use the U.S. Federal Catalog handbook H6-1 for further item name identification.

Following is an example of the indentation system used to indicate relationship.

```
1  2  3  4  5        Name & Description
Assembly and/or Component
Mounting parts for Assembly and/or Component
*MOUNTING PARTS*/*END MOUNTING PARTS*
    Detail Part of Assembly and/or Component
    Mounting parts for Detail Part
    *MOUNTING PARTS*/*END MOUNTING PARTS*
        Parts of Detail Part
        Mounting parts for Parts of Detail Part
        *MOUNTING PARTS*/*END MOUNTING PARTS*
```

Mounting Parts always appear in the same indentation as the Item it mounts, while the detail parts are indented to the right. Indented items are part of and included with, the next higher indentation. **Mounting parts must be purchased separately, unless otherwise specified.**

Mfr. Code (Column 7)

Indicates the code number of the actual manufacturer of the part. (Code to name and address cross reference can be found immediately after this page.)

Mfr. Part Number (Column 8)

Indicates actual manufacturer's part number.

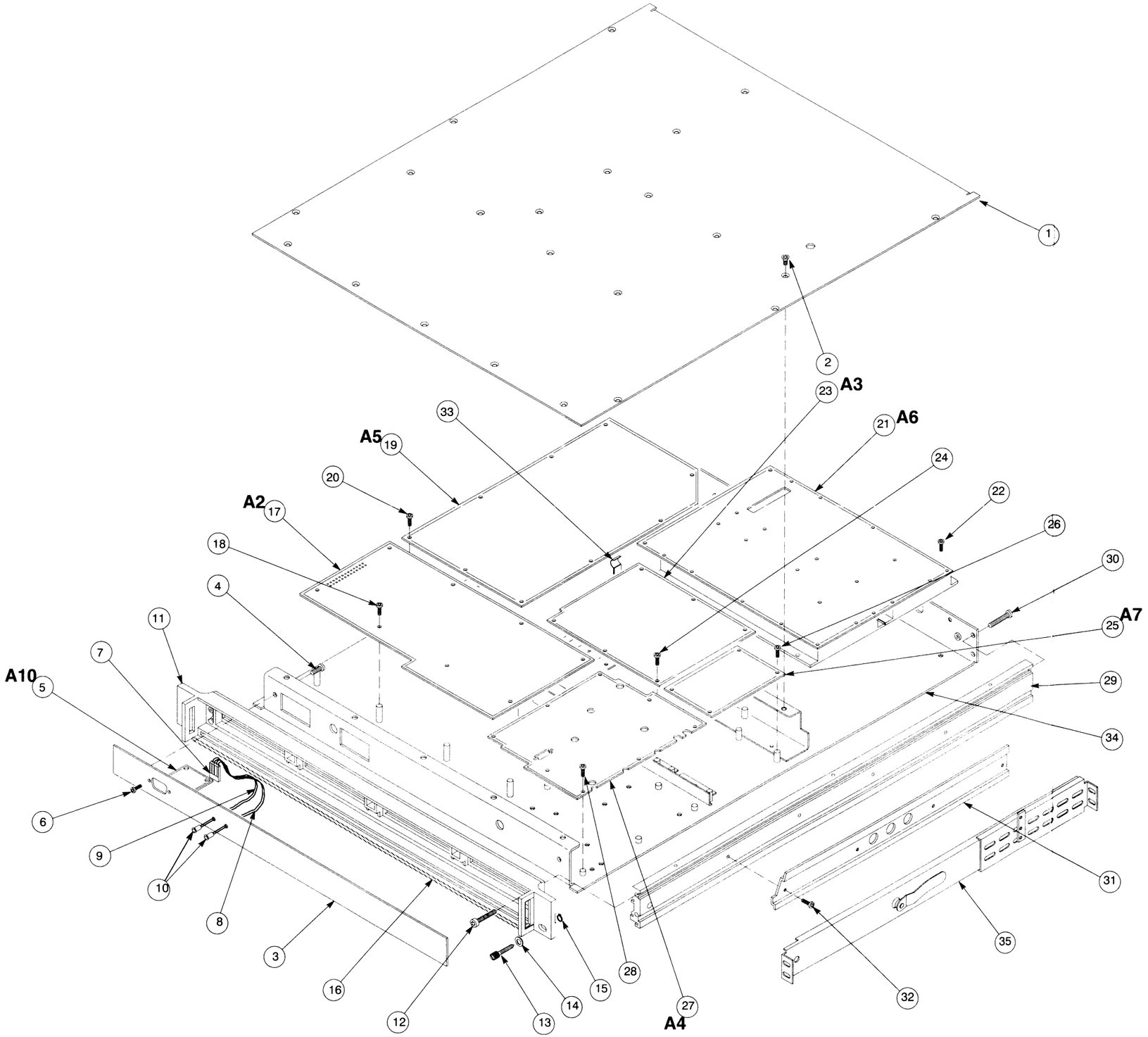
CROSS INDEX – MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code.	Manufacturer	Address	City, State, Zip Code
06666	GENERAL DEVICES CO INC	1410 S POST RD PO BOX 39100	INDIANAPOLIS IN 46239–9632
06915	RICHCO PLASTIC CO	5825 N TRIPP AVE	CHICAGO IL 60646–6013
09422	PLASTIC STAMPING CORP	2216 W ARMITAGE AVE	CHICAGO IL 60647–4461
18565	CHOMERICS INC	77 DRAGON COURT	WOBURN MA 01801–1039
24931	SPECIALTY CONNECTOR CO INC	2100 EARLYWOOD DR PO BOX 547	FRANKLIN IN 46131
72228	AMCA INTERNATIONAL CORP CONTINENTAL SCREW CO DIV	459 MT PLEASANT	NEW BEDFORD MA 02742
72619	DIALIGHT CORP BROOKLYN DIV	203 HARRISON PL	BROOKLYN NY 11237–1587
77900	ILLINOIS TOOL WORKS SHAKEPROOF DIV	ST CHARLES RD	ELGIN IL 60120
79136	WALDES KOHINOOR INC	47–16 AUSTEL PLACE	LONG ISLAND CITY NY 11101–4402
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON OR 97077–0001
83385	MICRODOT MFG INC GREER–CENTRAL DIV	3221 W BIG BEAVER RD	TROY MI 48098
83486	ELCO INDUSTRIES INC	1101 SAMUELSON RD	ROCKFORD IL 61101
86928	SEASTROM MFG CO INC	701 SONORA AVE	GLENDALE CA 91201–2431
93907	TEXTRON INC CAMCAR DIV	600 18TH AVE	ROCKFORD IL 61108–5181
TK1373	PATELEC–CEM (ITALY)	10156 TORINO	VAICENTALLO 62/45S ITALY

Fig. & Index No.	Tektronix Part No.	Serial Number Effective	Serial Number Dscont	Qty	12345	Name & Description	Mfr. Code	Mfr. Part No.
1-1	200-3880-02			1		COVER,MAIN:SAFETY CONTROLLED	80009	200-3880-02
						MOUNTING PARTS		
-2	211-0734-00			27		SCREW,MACHINE:6-32 X 0.25,FLH,100 DEG,STL	83486	ORDER BY DESCR
						END MOUNTING PARTS		
-3	333-3760-01			1		PANEL,FRONT:2721A	80009	333-3760-01
						MOUNTING PARTS		
-4	211-0730-00			4		SCR,ASSEM WSHR:6-32 X 0.375,PNH,STL CD PL,TORX T15	80009	211-0730-00
						END MOUNTING PARTS		
-5	——— ———			1		CIRCUIT BD ASSY:SERIAL FILTER		
						(SEE A10 REPL)		
						MOUNTING PARTS		
-6	211-0409-00			2		SCR,ASSEM WSHR:4-40 X 0.312,PNH,STL	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-7	352-0162-00			1		HLDR,TERM CONN:4 WIRE,BLACK	80009	352-0162-00
-8	150-1054-01			1		DIODE,LED:	72619	558-0201-802
-9	150-1093-02			1		LT EMITTING DIO:RED	72619	558-0101-803
-10	210-1486-00			2		WASHER,SHOULDER:0.50 DIA ACETAL HOMOPOLYMER	80009	210-1486-00
-11	426-2116-01			1		FRAME,FRONT:	80009	426-2116-01
						MOUNTING PARTS		
-12	213-0760-00			4		SCREW,TPG,TF:8-32 X 0.875,SPCL TAPTITE,FILH,STL	72228	ORDER BY DESCR
						END MOUNTING PARTS		
-13	213-0216-00			1		THUMBSCREW:10-32 X 0.85,0.375 OD HD,SST	80009	213-0216-00
-14	210-0894-00			1		WASHER,FLAT:0.19 ID X 0.438 OD X 0.031	09422	ORDER BY DESCR
-15	354-0025-00			1		RING,RETAINING:EXTERNAL,U/O 0.187 DIA SFT	79136	5555-18
-16	378-0269-00			1		FILTER,AIR:	80009	378-0269-00
-17	——— ———			1		CIRCUIT BD ASSY:PROCESSOR TX		
						(SEE A2 REPL)		
						MOUNTING PARTS		
-18	211-0408-00			8		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-19	——— ———			1		CIRCUIT BD ASSY:SYNC		
						(SEE A5 REPL)		
						MOUNTING PARTS		
-20	211-0408-00			9		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-21	——— ———			1		CIRCUIT BD ASSY:RF UP CONVERTER		
						(SEE A6 REPL)		
						MOUNTING PARTS		
-22	211-0408-00			6		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-23	——— ———			1		CIRCUIT BD ASSY:TELEMETRY DOWN CONVERTER		
						(SEE A3 REPL)		
						MOUNTING PARTS		
-24	211-0408-00			6		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-25	——— ———			1		CIRCUIT BD ASSY:2ND LO TX		
						(SEE A7 REPL)		
						MOUNTING PARTS		
-26	211-0408-00			4		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-27	——— ———			1		CIRCUIT BD ASSY:POWER SUPPLY		
						(SEE A4 REPL)		
						MOUNTING PARTS		
-28	211-0408-00			10		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
	211-0408-00			5		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						(LOCATED AT A4CR800,CR820,Q630,Q910,Q920)		

Fig. & Index No.	Tektronix Part No.	Serial Number Effective	Serial Number Dscont	Qty	12345	Name & Description	Mfr. Code	Mfr. Part No.
	210-1178-00			5		WASHER,SHLDR: (LOCATED AT A4CR800,CR820,Q630,Q910,Q920)	80009	210-1178-00
	342-0563-00			5		INSULATOR,PLATE:TRANSISTOR,FIBERGLASS RE-INFORCED SILICON RUBBER (LOCATED AT A4CR800,CR820,Q630,Q910,Q920)	18565	69-11-8805-1674
	210-0994-00			6		WASHER,FLAT:0.125 ID X 0.25 OD X 0.022,STL	86928	A371-283-20
	211-0144-00			1		SCREW,MACHINE:4-40 X 1.312,PNH,STL (LOCATED THROUGH PWR SPLY HEATSINK)	83385	ORDER BY DESCR
	210-0004-00			1		WASHER,LOCK:#4 INTL,0.015 THK,STL (LOCATED AT PWR SPLY HEATSINK) *END MOUNTING PARTS*	77900	1204-00-00-0541C
-29	426-2115-00			2		FRAME SECTION:SIDE *MOUNTING PARTS*	80009	426-2115-00
-30	213-0760-00			4		SCREW,TPG,TF:8-32 X 0.875,SPCL TAPTITE,FILH,STL *END MOUNTING PARTS*	72228	ORDER BY DESCR
-31	351-0104-03			1		SL SECT,DWR EXT:12.625 L,W/O HARDWARE *MOUNTING PARTS*	06666	C-720-3
-32	212-0158-00			8		SCREW,MACHINE:8-32 X 0.375,PNH,STL *END MOUNTING PARTS*	83486	ORDER BY DESCR
-33	343-0298-00			2		STRAP,RETAINING:0.25 DIA CABLE	06915	HUC-4
-34	441-1981-01			1		CHASSIS,XMTR:ALUMINUM	80009	441-1981-01
	334-8630-00			1		MARKER,IDENT:FUSE LABEL;2721A	80009	334-8630-00
						STANDARD ACCESSORIES		
-35	351-0241-01			1		SLIDE,DWR,EXT:W/CLOSED MOUNTING SLOTS	80009	351-0241-01
	070-8743-00			1		MANUAL,TECH:USERS,2721A/2722A	80009	070-8743-00
	103-0301-00			2		ADAPTOR,CONN:F SERIES,FEMALE TO FEMALE	24931	33A116-2
	119-3740-00			1		POWER SUPPLY:AC/AC XFMR DESK TOP,PRI 120V 60HZ 3 PRONG,SEC 18V 3A	80009	119-3740-00
						OPTIONAL ACCESSORIES		
	070-8756-00			1		MANUAL,TECH:SERVICE,2721A/2722A	80009	070-8756-00
	119-4272-00			1		POWER SUPPLY: (OPTION A1,A2,A3 AND A5 ONLY)	80009	119-4272-00
	161-0066-09			1		CABLE ASSY,PWR,:3,0.75MM SQ,220V,99.0 L (EUROPEAN OPTION A1 ONLY)	80009	161-0066-09
	161-0066-10			1		CABLE ASSY,PWR,: (UNITED KINGDOM OPTION A2 ONLY)	TK1373	24230
	161-0066-11			1		CABLE ASSY,PWR,:3,0.75MM,240V,96.0 L (AUSTRALIAN OPTION A3 ONLY)	80009	161-0066-11
	161-0154-00			1		CABLE ASSY,PWR,:3,1.00MM SQ,250V,10A,2.5METER, SWISS (SWISS OPTION A5 ONLY)	80009	161-0154-00

FIG. 1 EXPLODED VIEW



2721A

Replaceable Electrical Parts

This section contains a list of the components that are replaceable for the 2722A. Use this list to identify and order replacement parts. There is a separate Replaceable Electrical Parts list for each instrument.

Parts Ordering Information

Replacement parts are available from or through your local Tektronix, Inc., Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available and to give you the benefit of the latest circuit improvements. Therefore, when ordering parts, it is important to include the following information in your order.

- Part number
- Instrument type or model number
- Instrument serial number
- Instrument modification number, if applicable

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc., Field Office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

Using the Replaceable Electrical Parts List

The tabular information in the Replaceable Electrical Parts list is arranged for quick retrieval. Understanding the structure and features of the list will help you find all of the information you need for ordering replaceable parts.

Cross Index–Mfr. Code Number to Manufacturer

The Mfg. Code Number to Manufacturer Cross Index for the electrical parts list is located immediately after this page. The cross index provides codes, names, and addresses of manufacturers of components listed in the electrical parts list.

Abbreviations

Abbreviations conform to American National Standards Institute (ANSI) standard Y1.1.

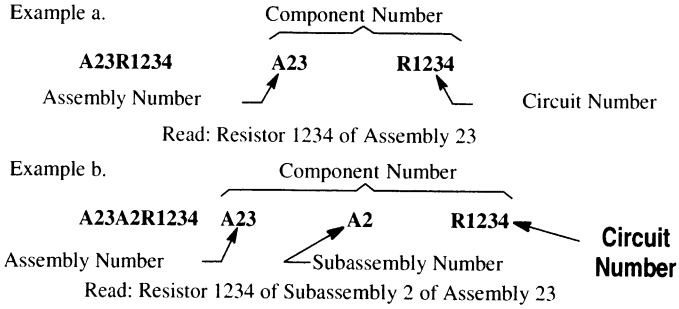
List of Assemblies

A list of assemblies can be found at the beginning of the electrical parts list. The assemblies are listed in numerical order. When the complete component number of a part is known, this list will identify the assembly in which the part is located.

Column Descriptions

Component No. (Column 1)

The component circuit number appears on the diagrams and circuit board illustrations, located in the diagrams section. Assembly numbers are also marked on each diagram and circuit board illustration, in the Diagram section and on the mechanical exploded views, in the mechanical parts list. The component number is obtained by adding the assembly number prefix to the circuit number.



The electrical parts list is arranged by assemblies in numerical sequence (A1, with its subassemblies and parts, precedes A2, with its subassemblies and parts).

Mechanical subparts to the circuit boards are listed in the electrical parts list. These mechanical subparts are listed with their associated electrical part (for example, fuse holder follows fuse).

Chassis-mounted parts and cable assemblies have no assembly number prefix and are located at the end of the electrical parts list.

Tektronix Part No. (Column 2)

Indicates part number to be used when ordering replacement part from Tektronix.

Serial/Assembly No. (Column 3 and 4)

Column three (3) indicates the serial or assembly number at which the part was first used. Column four (4) indicates the serial or assembly number at which the part was removed. No serial or assembly number entered indicates part is good for all serial numbers.

Name and Description (Column 5)

An item name is separated from the description by a colon (:). Because of space limitations, an item name may sometimes appear as incomplete. Use the U.S. Federal Catalog handbook H6-1 for further item name identification.

The mechanical subparts are shown as *ATTACHED PARTS* / *END ATTACHED PARTS* or *MOUNTING PARTS* / *END MOUNTING PARTS* in column five (5).

Mfr. Code (Column 6)

Indicates the code number of the actual manufacturer of the part. (Code to name and address cross reference can be found immediately after this page.)

Mfr. Part No. (Column 7)

Indicates actual manufacturer's part number.

CROSS INDEX – MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code.	Manufacturer	Address	City, State, Zip Code
01121	ALLEN–BRADLEY CO INDUSTRIAL CONTROL PRODUCTS	1201 S 2ND ST	MILWAUKEE WI 53204–2410
01686	RCL ELECTRONICS/SHALLCROSS INC SUB OF HIRSCH AND ASSOCIATES INC	195 MCGREGOR ST	MANCHESTER NH 03102–3731
02107	FLUOROCARBON CO OHIO DIV	5200 N WOOSTER RD PO BOX 449	DOVER OH 44622
02113	COILCRAFT INC	1102 SILVER LAKE RD	CARY IL 60013–1658
04222	AVX CERAMICS DIV OF AVX CORP	19TH AVE SOUTH P O BOX 867	MYRTLE BEACH SC 29577
04713	MOTOROLA INC SEMICONDUCTOR PRODUCTS SECTOR	5005 E MCDOWELL RD	PHOENIX AZ 85008–4229
05397	UNION CARBIDE CORP MATERIALS SYSTEMS DIV	11901 MADISON AVE	CLEVELAND OH 44101
06090	RAYCHEM CORP	300 CONSTITUTION DRIVE	MENLO PARK CA 94025–1111
06665	PRECISION MONOLITHICS INC SUB OF BOURNS INC		
09922	BURNDY CORP	RICHARDS AVE	NORWALK CT 06852
09969	DALE ELECTRONICS INC	EAST HIGHWAY 50 P O BOX 180	YANKTON SD 57078
0B0A9	DALLAS SEMICONDUCTOR CORP	4350 BELTWOOD PKWY SOUTH	DALLAS TX 75244
11532	TELEDYNE RELAYS TELEDYNE INDUSTRIES INC SUB OF TELEDYNE INC	12525 DAPHNE AVE	HAWTHORNE CA 90250–3308
12969	MICROSEMI CORPORATION WATERTOWN DIVISION	530 PLEASANT STREET	WATERTOWN MA 02172
15542	MINI–CIRCUITS LABORATORY	2625 E 14TH ST	BROOKLYN NY 11235–3915
18565	CHOMERICS INC	77 DRAGON COURT	WOBURN MA 01801–1039
24355	ANALOG DEVICES INC	RT 1 INDUSTRIAL PK PO BOX 9106	NORWOOD MA 02062
24931	SPECIALTY CONNECTOR CO INC	2100 EARLYWOOD DR PO BOX 547	FRANKLIN IN 46131
25088	SIEMENS CORP	186 WOOD AVE S	ISELIN NJ 08830–2704
26364	COMPONENTS CORP	6 KINSEY PLACE	DENVILLE NJ 07834–2611
27012	MICRO DEVICES CORP SUB OF EMERSON ELECTRIC CO	1320 S MAIN ST PO BOX 3538	MANSFIELD OH 44907–2516
27014	NATIONAL SEMICONDUCTOR CORP	2900 SEMICONDUCTOR DR	SANTA CLARA CA 95051–0606
32997	BOURNS INC TRIMPOT DIV	1200 COLUMBIA AVE	RIVERSIDE CA 92507–2114
51640	ANALOG DEVICES INC MICROELECTRONICS DIV	829 WOBURN ST	WILMINGTON MA 01887–3414
53387	MINNESOTA MINING MFG CO	PO BOX 2963	AUSTIN TX 78769–2963
54583	TDK ELECTRONICS CORP	12 HARBOR PARK DR	PORT WASHINGTON NY 11550
55680	NICHICON /AMERICA/ CORP	927 E STATE PKY	SCHAUMBURG IL 60195–4526
57668	ROHM CORP	8 WHATNEY PO BOX 19515	IRVINE CA 92713
58050	TEKA PRODUCTS INC	45 SALEM ST	PROVIDENCE RI 02907
75498	MULTICOMP INC	3005 SW 154TH TERRACE #3	BEAVERTON OR 97006
75915	LITTELFUSE INC SUB TRACOR INC	800 E NORTHWEST HWY	DES PLAINES IL 60016–3049
78189	ILLINOIS TOOL WORKS INC SHAKEPROOF DIV	ST CHARLES ROAD	ELGIN IL 60120
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON OR 97077–0001
93907	TEXTRON INC CAMCAR DIV	600 18TH AVE	ROCKFORD IL 61108–5181
94322	TEL LABS INC	154 HARVEY RD P O BOX 375	LONDONDERRY NH 03053
98159	RUBBER TECK INC	19115 HAMILTON AVE PO BOX 389	GARDENA CA 90247
98335	WEATHERFORD ENGINEERING AND MFG. COM PANY		WEATHERFORD, TX 76086
TK0510	PANASONIC COMPANY DIV OF MATSUSHITA ELECTRIC CORP	ONE PANASONIC WAY	SECAUCUS NJ 07094
TK0515	ERICSSON COMPONENTS INC	403 INTERNATIONAL PKY PO BOX 853904	RICHARDSON TX 75085–3904
TK0935	MARQUARDT SWITCHES INC		
TK1066	STAR MICRONICS		
TK1345	ZMAN & ASSOCIATES		
TK1424	MARCON AMERICA CORP		
TK2058	TDK CORPORATION OF AMERICA	2055 GATEWAY PLACE SUITE 200	SAN JOSE CA 95110
TK2073	TOCOS AMERICA INC	565 W GULF ROAD	ARLINGTON HEIGHTS IL 60005

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A1	671-2629-00			CIRCUIT BD ASSY:FRONT PANEL	80009	671-2629-00
A2	671-2631-00	B020100	B020120	CIRCUIT BD ASSY:PROCESSOR RX	80009	671-2631-00
A2	671-2631-01	B020121	B020164	CIRCUIT BD ASSY:PROCESSOR RX	80009	671-2631-01
A2	671-2631-02	B020165		CIRCUIT BD ASSY:PROCESSOR RX	80009	671-2631-02
A3	671-2630-00			CIRCUIT BD ASSY:RF DOWN CONVERTER	80009	671-2630-00
A4	671-2632-00			CIRCUIT BD ASSY:POWER SUPPLY	80009	671-2632-00
A8	671-2628-00	B020100	B020153	CIRCUIT BD ASSY:LOG AMP	80009	671-2628-00
A8	671-2628-01	B020154		CIRCUIT BD ASSY:LOG AMP	80009	671-2628-01
A9	119-3155-01			LCD MODULE:DOT MATRIX	80009	119-3155-01
A10	671-2866-00			CIRCUIT BD ASSY:SERIAL FLTR	80009	671-2866-00
A1	671-2629-00			CIRCUIT BD ASSY:FRONT PANEL	80009	671-2629-00
A1C100	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C120	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C200	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C220	290-0963-00			CAP,FXD,ALUM:220UF,+50-20%,25WVDC,10 X 12MM;RDL	80009	290-0963-00
A1C221	290-0963-00			CAP,FXD,ALUM:220UF,+50-20%,25WVDC,10 X 12MM;RDL	80009	290-0963-00
A1C290	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C300	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C301	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C312	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C320	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C321	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C322	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C323	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C330	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C400	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C410	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C411	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C412	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C413	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C414	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C420	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C421	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C423	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C430	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A1C431	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C492	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A1C520	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C540	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C541	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C560	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A1C561	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C570	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C571	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C580	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C590	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C591	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C592	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C620	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C640	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A1C641	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A1C651	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A1C660	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A1C671	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A1C672	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A1C673	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C674	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C675	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C676	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C677	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C678	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C679	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C680	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C681	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A1C682	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A1C683	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C684	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C685	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A1C686	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C687	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C688	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C689	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C690	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1C691	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A1C692	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A1C693	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A1C694	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A1C695	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A1C696	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A1C697	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A1C698	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A1C699	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A1C700	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A1J100	131-3364-00			CONN,HDR:	53387	2534-6002UB
A1J560	131-2093-00			CONN,BOX:	80009	131-2093-00
A1J640	131-1857-00			CONN,HDR:PCB;MALE,STR,1 X 36,0.1 CTR,0.230 MLG X 0.100 TAIL,GLD (QUANTITY 3 PINS)	58050	082-3644-SS10
A1J650	131-1857-00			CONN,HDR:PCB;MALE,STR,1 X 36,0.1 CTR,0.230 MLG X 0.100 TAIL,GLD (QUANTITY 3 PINS)	58050	082-3644-SS10
A1J670	131-1857-00			CONN,HDR:PCB;MALE,STR,1 X 36,0.1 CTR,0.230 MLG X 0.100 TAIL,GLD (QUANTITY 3 PINS)	58050	082-3644-SS10
A1J671	131-1857-00			CONN,HDR:PCB;MALE,STR,1 X 36,0.1 CTR,0.230 MLG X 0.100 TAIL,GLD (QUANTITY 2 PINS)	58050	082-3644-SS10
A1Q220	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A1Q230	151-5007-00			XSTR,SIG:BIPOLAR,PNP;300V,50MA,50MHZ, AMPL;BC621/MXTA92,SOT-89,12MM T/R	80009	151-5007-00
A1Q500	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A1Q501	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A1Q502	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A1Q510	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A1Q600	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A1Q610	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A1R153	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R154	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R155	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R161	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R220	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R230	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A1R231	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R292	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R293	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R324	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A1R325	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R330	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R331	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R333	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R334	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R390	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R400	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R401	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R410	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R411	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R412	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R413	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R414	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R415	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R420	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R421	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R490	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A1R500	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A1R501	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A1R502	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A1R510	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A1R540	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A1R541	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A1R550	321-5049-00			RES,FXD:THICK FILM;1M OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5049-00
A1R560	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R601	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R603	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R605	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R606	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A1R608	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R611	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R612	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A1R614	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R650	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A1R660	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A1R664	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A1R674	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A1R675	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R676	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R677	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R678	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R679	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R680	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A1R681	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A1R682	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A1R683	321-5025-00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321-5025-00
A1R684	321-5025-00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321-5025-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A1R685	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A1R686	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A1R687	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A1R688	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A1R689	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R690	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R691	321-5046-00			RES,FXD:THICK FILM;82.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5046-00
A1R692	321-5046-00			RES,FXD:THICK FILM;82.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5046-00
A1R693	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R694	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A1R695	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A1R696	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A1R697	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A1R698	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A1R699	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A1R700	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A1R701	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A1R702	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A1R703	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A1R704	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A1TP1	214-4085-00			TERM,TEST PT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRS,W/ RED NYL CLR	26364	104-01-02
A1TP2	214-4085-00			TERM,TEST PT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRS,W/ RED NYL CLR	26364	104-01-02
A1U110	156-5216-00			IC,PROCESSOR:CMOS,PRPHL;DOT MATRIX LCD CONT;6255GS,FP80	80009	156-5216-00
A1U120	156-5286-01			IC,MEMORY:CMOS,SRAM;32K X 8,120NS,50UA,OE;43256,SO28.330,T&R	80009	156-5286-01
A1U130	119-2370-00			CONV:DC - AC, 15V IN, 80V AT 400 HZ OUT, LPS15-1-2	80009	119-2370-00
A1U180	156-5121-00			IC,DGTL:LSTTL,MUX/ENCODER;8-TO-3 PRI ENCODER;74LS148,SO16.150,TUBE	80009	156-5121-00
A1U200	156-5935-00			IC,DGTL:HCTCMOS,ALU;4-BIT WITH FCTN GEN;74HCT181,SO24.300,TUBE	80009	156-5935-00
A1U201	156-5106-01			IC,DGTL:HCTCMOS,GATE;QUAD 2-IN NOR;74HCT02,SO14.150,16MM T&R	80009	156-5106-01
A1U210	156-5071-01			IC,DGTL:HCTCMOS,XCVR;OCTAL,3-STATE;74HCT245,SO20.300,24MM T&R	80009	156-5071-01
A1U290	156-5070-01			IC,DGTL:HCTCMOS,BFR;OCTAL BFR/DRVR, 3-STATE;74HCT244;SO20.300,24MM T&R	80009	156-5070-01

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A1U300	156–5088–01			IC,DGTL:HCTCMOS,DEMUX/DECODER;3–TO–8 DECODER;74HCT138,SO16.150,16MM T&R	80009	156–5088–01
A1U310	156–5142–01			IC,DGTL:HCTCMOS,DEMUX/DECODER;DUAL 2–TO–4 DECODER;74HCT139,SO16.150,16MM T&R	80009	156–5142–01
A1U312	156–5088–01			IC,DGTL:HCTCMOS,DEMUX/DECODER;3–TO–8 DECODER;74HCT138,SO16.150,16MM T&R	80009	156–5088–01
A1U320	156–5018–00			IC,LIN:BIPOLAR,OP–AMP;DUAL,SGL SPLY;LM358D,SO8.150,TUBE	80009	156–5018–00
A1U400	156–5145–01			IC,DGTL:HCTCMOS,FLIP FLOP;DUAL D–TYPE;74HCT74,SO14.150,16MM T&R	80009	156–5145–01
A1U421	156–5288–00			IC,DGTL:HCTCMOS,CNTR;SYNCH 4–BIT UP/DWN BINARY;74HCT193,SO16.150,TUBE	80009	156–5288–00
A1U430	156–5106–01			IC,DGTL:HCTCMOS,GATE;QUAD 2–IN NOR;74HCT02,SO14.150,16MM T&R	80009	156–5106–01
A1U431	156–5098–01			IC,DGTL:HCTCMOS,GATE;QUAD 2–IN NAND;74HCT00,SO14.150,16MM T&R	80009	156–5098–01
A1U510	156–5070–01			IC,DGTL:HCTCMOS,BFR;OCTAL BFR/DRVR, 3–STATE;74HCT244;SO20.300,24MM T&R	80009	156–5070–01
A1U520	156–5121–00			IC,DGTL:LSTTL,MUX/ENCODER;8–TO–3 PRI ENCODER;74LS148,SO16.150,TUBE	80009	156–5121–00
A1U530	156–5289–01			IC,DGTL:HCTCMOS,FLIP FLOP;OCTAL D–TYPE, 3–STATE;74HCT574,SO20.300,24MM T&R	80009	156–5289–01
A1U540	156–5289–01			IC,DGTL:HCTCMOS,FLIP FLOP;OCTAL D–TYPE, 3–STATE;74HCT574,SO20.300,24MM T&R	80009	156–5289–01
A1U560	156–5888–00			IC,DGTL:HCTCMOS,MULTIVIBRATOR;DUAL NON–RETRIG MONOSTABLE;74HCT221,SO16.150,TUBE	80009	156–5888–00
A1U561	156–5098–01			IC,DGTL:HCTCMOS,GATE;QUAD 2–IN NAND;74HCT00,SO14.150,16MM T&R	80009	156–5098–01
A1U580	156–5121–00			IC,DGTL:LSTTL,MUX/ENCODER;8–TO–3 PRI ENCODER;74LS148,SO16.150,TUBE	80009	156–5121–00
A1U581	156–5145–01			IC,DGTL:HCTCMOS,FLIP FLOP;DUAL D–TYPE;74HCT74,SO14.150,16MM T&R	80009	156–5145–01
A1U590	156–5145–01			IC,DGTL:HCTCMOS,FLIP FLOP;DUAL D–TYPE;74HCT74,SO14.150,16MM T&R	80009	156–5145–01
A1U592	156–5145–01			IC,DGTL:HCTCMOS,FLIP FLOP;DUAL D–TYPE;74HCT74,SO14.150,16MM T&R	80009	156–5145–01
A1U593	156–5131–01			IC,DGTL:HCTCMOS,GATE;HEX INV SCHMITT TRIG;74HCT14,SO14.150,16MM T&R	80009	156–5131–01
A1U610	156–5070–01			IC,DGTL:HCTCMOS,BFR;OCTAL BFR/DRVR, 3–STATE;74HCT244;SO20.300,24MM T&R	80009	156–5070–01
A1U620	156–5121–00			IC,DGTL:LSTTL,MUX/ENCODER;8–TO–3 PRI ENCODER;74LS148,SO16.150,TUBE	80009	156–5121–00
A1U621	156–5289–01			IC,DGTL:HCTCMOS,FLIP FLOP;OCTAL D–TYPE, 3–STATE;74HCT574,SO20.300,24MM T&R	80009	156–5289–01
A1U622	156–5043–01			IC,CONV:BIPOLAR,D/A;8 BIT,CUR OUT,MULTIPLYING;DAC08ED,SO16.150,16MM T&R	80009	156–5043–01
A1U623	156–5289–01			IC,DGTL:HCTCMOS,FLIP FLOP;OCTAL D–TYPE, 3–STATE;74HCT574,SO20.300,24MM T&R	80009	156–5289–01
A1W600	321–5051–00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5051–00
A1W602	321–5051–00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5051–00
A1W604	321–5051–00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5051–00
A1W607	321–5051–00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5051–00
A1W610	321–5051–00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5051–00
A1W613	321–5051–00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321–5051–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A2	671-2631-00	B020100	B020120	CIRCUIT BD ASSY:PROCESSOR RX	80009	671-2631-00
A2	671-2631-01	B020121	B020164	CIRCUIT BD ASSY:PROCESSOR RX	80009	671-2631-01
A2	671-2631-02	B020165		CIRCUIT BD ASSY:PROCESSOR RX	80009	671-2631-02
A2BT280	146-0055-00			BTRY,DRY:3.0V,1200 MAH,LITHIUM	TK0510	BR-2/3A-E2P
A2C110	290-5039-00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM;SMD,16MM T&R	80009	290-5039-00
A2C120	290-5039-00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM;SMD,16MM T&R	80009	290-5039-00
A2C121	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C130	290-5039-00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM;SMD,16MM T&R	80009	290-5039-00
A2C140	290-0963-00			CAP,FXD,ALUM:220UF,+50-20%,25WVDC,10 X 12MM;RDL	80009	290-0963-00
A2C150	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A2C160	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A2C161	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A2C170	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C190	290-0963-00			CAP,FXD,ALUM:220UF,+50-20%,25WVDC,10 X 12MM;RDL	80009	290-0963-00
A2C191	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C212	290-5039-00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM;SMD,16MM T&R	80009	290-5039-00
A2C213	290-5039-00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM;SMD,16MM T&R	80009	290-5039-00
A2C220	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C221	283-5042-00			CAP,FXD,CER:MLC;27PF,5%,50V,NPO,1206;SMD,8 MM T&R	80009	283-5042-00
A2C230	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C240	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A2C241	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C242	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C244	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C250	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C251	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C252	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C260	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C272	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C273	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C290	290-0963-00			CAP,FXD,ALUM:220UF,+50-20%,25WVDC,10 X 12MM;RDL	80009	290-0963-00
A2C310	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A2C320	283-0201-00			CAP,FXD,CER DI:27PF,10%,200V	04222	SR152C270KAA

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A2C330	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C380	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C400	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C410	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C411	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C420	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C430	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C440	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C460	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C461	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C470	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C471	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C480	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C490	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C491	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C530	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C560	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C570	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C580	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C581	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C590	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A2C591	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C592	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A2C593	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM;SMD,16MM T&R	80009	290–5039–00
A2C594	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C595	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A2C596	283–0167–00			CAP,FXD,CER DI:0.1UF,10%,100V	80009	283–0167–00
A2DS480	150–5000–00			DIO,OPTO:LED;RED,628NM;LS S260–DO,SOT–23,8MM,TR	80009	150–5000–00
A2DS570	150–5000–00			DIO,OPTO:LED;RED,628NM;LS S260–DO,SOT–23,8MM,TR	80009	150–5000–00
A2DS580	150–5000–00			DIO,OPTO:LED;RED,628NM;LS S260–DO,SOT–23,8MM,TR	80009	150–5000–00
A2DS581	150–5000–00			DIO,OPTO:LED;RED,628NM;LS S260–DO,SOT–23,8MM,TR	80009	150–5000–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A2DS582	150-5000-00			DIO,OPTO:LED;RED,628NM;LS S260-DO,SOT-23,8MM,TR	80009	150-5000-00
A2DS590	150-5000-00			DIO,OPTO:LED;RED,628NM;LS S260-DO,SOT-23,8MM,TR	80009	150-5000-00
A2J100	131-3520-00			CONN,HDR:	53387	2510-6002UB
A2J110	131-3520-00			CONN,HDR:	53387	2510-6002UB
A2J120	131-3362-00			CONN,HDR:	53387	2526-6002UB
A2J123	131-3520-00			CONN,HDR:	53387	2510-6002UB
A2J200	131-3520-00			CONN,HDR:	53387	2510-6002UB
A2J390	131-3362-00			CONN,HDR:	53387	2526-6002UB
A2J400	131-3774-00			CONN,HDR:PCB;MALE,STR,2 X 36,0.1 CTR,0.230 MLG X 0.095 TAIL,30 GLD	80009	131-3774-00
				ATTACHED PARTS		
	210-0910-00			WASHER,FLAT:0.19 OD X 0.281 OD X 0.046 (QUANTITY 2)	02107	S-47-11
				END ATTACHED PARTS		
A2J510	131-2401-00			CONN,HDR:PCB;MALE,STR,2 X 25,0.1 CTR,0.230 MLG X 0.100 TAIL,30 GLD	58050	082-2544-SD10
A2J550	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A2J552	131-0608-00			TERM,PIN:0.365 L X 0.025 BRZ GLD PL (QUANTITY 4)	80009	131-0608-00
A2LS380	119-1427-01			XDCR,AUDIO:1-4.2KHZ,30MA,6V	TK1066	QMB-06
A2Q150	151-5045-00			XSTR,PWR:MOS,P-CH;60V,5.0A,0.55 OHM;MTD5P06E,TO-252/DPAK,16MM T&R	80009	151-5045-00
A2Q240	151-5045-00			XSTR,PWR:MOS,P-CH;60V,5.0A,0.55 OHM;MTD5P06E,TO-252/DPAK,16MM T&R	80009	151-5045-00
A2Q380	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A2R121	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A2R140	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A2R150	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A2R220	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A2R230	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R231	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R232	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R233	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R240	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A2R241	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A2R242	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A2R243	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R244	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R250	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R251	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A2R252	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A2R253	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R255	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R260	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A2R310	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R320	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R321	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R322	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R330	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R331	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R332	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R333	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R334	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R335	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R336	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R337	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R380	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A2R400	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R440	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R441	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R450	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R471	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R472	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R480	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A2R481	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R482	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R483	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R484	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R485	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R487	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R488	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A2R572	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R582	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A2R585	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R586	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R589	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R590	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R592	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A2R593	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R594	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R595	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R596	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R597	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R598	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R599	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R600	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R601	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R602	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R603	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A2R604	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R605	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R606	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R607	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R608	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A2R609	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A2R610	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A2R611	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A2R612	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A2R613	322-3193-00			RES,FXD:MET FILM;1K OHM,1%,0.2W, TC=100 PPM;AXIAL,T&R,SM BODY	57668	CRB20 FXE 1K00
A2R614	322-3085-00			RES,FXD:MET FILM;75 OHM,1%,0.2W, TC=100 PPM;AXIAL,T&R,SM BODY	57668	CRB20 FXE 75E0
A2TP1	214-4085-00			TERM,TEST PT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRS,W/ RED NYL CLR	26364	104-01-02

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A2TP2	214–4085–00			TERM,TEST PT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRS,W/ RED NYL CLR	26364	104–01–02
A2TP3	214–4085–00			TERM,TEST PT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRS,W/ RED NYL CLR	26364	104–01–02
A2TP4	214–4085–00			TERM,TEST PT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRS,W/ RED NYL CLR	26364	104–01–02
A2TP5	214–4085–00			TERM,TEST PT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRS,W/ RED NYL CLR	26364	104–01–02
A2U160	156–6344–00			IC,LIN:CMOS,MISC;NONVOLATILE CONT;1210,SO16.300	80009	156–6344–00
A2U170	156–5131–00			IC,DGTL:HCTCMOS,GATE;HEX INV SCHMITT TRIG;74HCT14,SO14.150,TUBE	80009	156–5131–00
A2U220	156–5776–00			IC,MISC:	80009	156–5776–00
A2U230	156–5071–00			IC,DGTL:HCTCMOS,XCVR;OCTAL, 3–STATE;74HCT245,SO20.300,TUBE	80009	156–5071–00
A2U240	156–5019–00			IC,LIN:BIPOLAR,COMPTR;DUAL,SGL SPLY;LM393D,SO8.150,TUBE	80009	156–5019–00
A2U250	156–5782–00			IC,PROCESSOR:CMOS,PRPHL;VERSATILE INTFC ADAPTER,2MHZ,65C22,PLCC44	80009	156–5782–00
A2U260	156–5940–00			IC,MEMORY:CMOS,SRAM;32K X 8,120NS,20UA;43256,SO28M.330,TUBE	80009	156–5940–00
A2U310	156–5782–00			IC,PROCESSOR:CMOS,PRPHL;VERSATILE INTFC ADAPTER,2MHZ,65C22,PLCC44	80009	156–5782–00
A2U320	156–5781–00			IC,PROCESSOR:CMOS,PRPHL;8–BIT ACIA,2MHZ;65C51,PLCC28,TUBE	80009	156–5781–00
A2U330	156–5220–01			IC,DGTL:HCTCMOS,BFR;OCTAL BFR/DRVR, 3–STATE;74HCT541,SO20.300,24MM T&R	80009	156–5220–01
A2U350	156–5071–00			IC,DGTL:HCTCMOS,XCVR;OCTAL, 3–STATE;74HCT245,SO20.300,TUBE	80009	156–5071–00
A2U360	160–9476–00	671–2631–00	671–2631–00	IC,DGTL:CMOS,EPROM;64K X 8,150NS,27C512,DIP28.6	80009	160–9476–00
A2U360	160–9476–01	671–2631–01	671–2631–01	IC,DGTL:CMOS,EPROM;64K X 8,150NS,27C512,DIP28	80009	160–9476–01
A2U360	160–9476–02	671–2631–02		IC,DGTL:CMOS,EPROM;64K X 8,150NS,27C512,DIP28	80009	160–9476–02
				MOUNTING PARTS		
	136–0755–00			SKT,DIP:	09922	DILB28P–108
				END MOUNTING PARTS		
A2U410	156–5071–00			IC,DGTL:HCTCMOS,XCVR;OCTAL, 3–STATE;74HCT245,SO20.300,TUBE	80009	156–5071–00
A2U440	156–5220–01			IC,DGTL:HCTCMOS,BFR;OCTAL BFR/DRVR, 3–STATE;74HCT541,SO20.300,24MM T&R	80009	156–5220–01
A2U441	156–5220–01			IC,DGTL:HCTCMOS,BFR;OCTAL BFR/DRVR, 3–STATE;74HCT541,SO20.300,24MM T&R	80009	156–5220–01
A2U442	156–5780–00			IC,PROCESSOR:CMOS,MICROPROCES-SOR;8–BIT;65C02,PLCC44	80009	156–5780–00
A2U460	156–5123–00			IC,DGTL:HCTCMOS,DEMUX/DECODER;4–TO–16 DECODER;74HCT154,SO24.300,TUBE	80009	156–5123–00
A2U480	156–5782–00			IC,PROCESSOR:CMOS,PRPHL;VERSATILE INTFC ADAPTER,2MHZ,65C22,PLCC44	80009	156–5782–00
A2U490	156–5888–00			IC,DGTL:HCTCMOS,MULTIVIBRATOR;DUAL NON–RETRIG MONOSTABLE;74HCT221,SO16.150,TUBE	80009	156–5888–00
A2U570	156–5106–00			IC,DGTL:HCTCMOS,GATE;QUAD 2–IN NOR;74HCT02,SO14.150,TUBE	80009	156–5106–00
A2U571	156–5106–00			IC,DGTL:HCTCMOS,GATE;QUAD 2–IN NOR;74HCT02,SO14.150,TUBE	80009	156–5106–00
A2U590	156–5145–00			IC,DGTL:HCTCMOS,FLIP FLOP;DUAL D–TYPE;74HCT74,SO14.150,TUBE	80009	156–5145–00
A2U591	156–6481–01			IC,MISC:	80009	156–6481–01
A2U592	156–5546–00			IC,DGTL:CMOS;PLD;EEPLD, 16V8, 15NS, 90MA;16V8–15,PLCC20,TUBE	80009	156–5546–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A2U593	156-5546-00			IC,DGTL:CMOS;PLD;EEPLD, 16V8, 15NS, 90MA;16V8-15,PLCC20,TUBE	80009	156-5546-00
A2U594	156-4202-00			IC,MEMORY:CMOS,NVRAM;32K X 8,150NS,INTERNAL BTRY AND CLK;DS1386-32,DIP32.600	0B0A9	DS1386-32
A2U595	156-5289-00			IC,DGTL:HCTCMOS,FLIP FLOP;OCTAL D-TYPE, 3-STATE;74HCT574,SO20.300,TUBE	80009	156-5289-00
A2U596	156-5289-00			IC,DGTL:HCTCMOS,FLIP FLOP;OCTAL D-TYPE, 3-STATE;74HCT574,SO20.300,TUBE	80009	156-5289-00
A2U598	156-5289-00			IC,DGTL:HCTCMOS,FLIP FLOP;OCTAL D-TYPE, 3-STATE;74HCT574,SO20.300,TUBE	80009	156-5289-00
A2U599	156-5289-00			IC,DGTL:HCTCMOS,FLIP FLOP;OCTAL D-TYPE, 3-STATE;74HCT574,SO20.300,TUBE	80009	156-5289-00
A2W581	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A2W596	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A2W598	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A2Y220	158-0290-00			XTAL UNIT,QTZ:1.8432MHZ,0.01%,PRL,CL=7PF,ESR 400 OHM,PKG HC-18/U	80009	158-0290-00
				MOUNTING PARTS		
A2Y220	346-0032-00			STRAP,RETAINING:0.075 DIA X 4.0 L,MLD RBR	98159	2829-75-4
				END MOUNTING PARTS		
A3	671-2630-00			CIRCUIT BD ASSY:RF DOWN CONVERTER	80009	671-2630-00
				ATTACHED PARTS		
	211-0408-00			SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX (QUANTITY 16)	93907	ORDER BY DESCR
	337-3919-00			INSULATOR:SAF CONTROLLED (QUANTITY 4)	80009	337-3919-00
	337-3920-00			INSULATOR:SAF CONTROLLED (QUANTITY 3)	80009	337-3920-00
	348-1224-00			ABSORBER,RF:LOADED,SILICON RBR,1 X 1 0.085 (QUANTITY 2)	80009	348-1224-00
	348-1336-00			RF ABSORBER:DWN CONV (QUANTITY 2)	80009	348-1336-00
	348-1346-00			GASKET,SHLD:0.070 DIA (QUANTITY 2.5 FT)	80009	348-1346-00
				END ATTACHED PARTS		
A3C11	283-5015-00			CAP,FXD,CER DI:3300PF,10%,50V	54583	C3216X7R1H332K-T
A3C12	283-5013-00			CAP,FXD,CER DI:680PF,10%,50V	80009	283-5013-00
A3C15	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C16	283-5017-00	B020128		CAP,FXD,CER:MLC;1PF,+/-0.25PF,50V,NPO,1206;SMD,8MM T&R	80009	283-5017-00
A3C20	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C21	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C22	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C23	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C24	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C25	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C26	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SMD,8MM T&R	80009	283-5002-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3C27	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C28	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C29	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C31	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C32	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C33	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C34	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C35	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C36	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C37	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C38	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C45	290-5002-00			CAP,FXD,TANT:DRY;10UF,20%,20V,TANT OX-IDE,0.287 X 0.170,7343,SMD,T&R	TK1424	20MC100M-TER
A3C46	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C47	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C48	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C51	290-5002-00			CAP,FXD,TANT:DRY;10UF,20%,20V,TANT OX-IDE,0.287 X 0.170,7343,SMD,T&R	TK1424	20MC100M-TER
A3C52	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C53	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C54	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A3C61	283-5018-00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5018-00
A3C62	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A3C63	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A3C64	283-5018-00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5018-00
A3C65	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A3C66	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A3C67	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C68	283-5018-00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5018-00
A3C71	283-5018-00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5018-00
A3C72	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A3C73	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3C74	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A3C75	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A3C76	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A3C77	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C78	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A3C81	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A3C82	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A3C85	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C86	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C87	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A3C91	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A3C92	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A3C95	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C96	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C97	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A3C101	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A3C102	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A3C103	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A3C104	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C105	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C106	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C107	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C108	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C109	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C111	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C112	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C113	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C114	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C115	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A3C116	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3C117	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A3C118	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A3C120	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A3C121	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C122	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A3C131	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C132	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C133	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C134	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C135	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C136	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C140	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A3C141	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C142	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A3C151	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C152	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C153	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C154	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C155	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C156	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C161	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C162	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C171	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C172	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C181	283–5005–00			CAP,FXD,CER:MLC;4PF,+/–0.25PF,50V,NPO,1206;S MD,8MM T&R	54583	C3216C0G1H040C–T
A3C201	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A3C202	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A3C203	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A3C211	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A3C212	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3C213	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C221	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C222	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C223	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C231	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C232	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C233	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A3C241	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C242	283-5011-00			CAP,FXD,CER:MLC;33PF,5%,50V,NPO,1206;SMD,8 MM,T&R	54583	C3216C0G1H330J-T
A3C243	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C244	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C245	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C246	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C251	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C252	283-5011-00			CAP,FXD,CER:MLC;33PF,5%,50V,NPO,1206;SMD,8 MM,T&R	54583	C3216C0G1H330J-T
A3C253	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C254	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C255	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3C256	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A3E1	337-3843-00			SHIELD,ELEC:CKT BD,ALUM,2722A	80009	337-3843-00
A3E2	337-3843-00			SHIELD,ELEC:CKT BD,ALUM,2722A	80009	337-3843-00
A3FL1	119-3597-00			FLTR,LOW PASS:DC-580 PASS BAND,CKT BD MTG	80009	119-3597-00
A3FL2	119-3597-00			FLTR,LOW PASS:DC-580 PASS BAND,CKT BD MTG	80009	119-3597-00
A3FL3	119-3619-01			FLTR ASSY:680MHZ,2721A	80009	119-3619-01
A3FL4	119-3619-01			FLTR ASSY:680MHZ,2721A	80009	119-3619-01
A3J1	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J2	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J3	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J4	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J910	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J930	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J940	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J941	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3J980	131-3520-00			CONN,HDR:	53387	2510-6002UB
A3J990	131-0391-01			CONN,RF JACK:	80009	131-0391-01
A3L11	108-5030-00			COIL,RF:	80009	108-5030-00
A3L12	108-5030-00			COIL,RF:	80009	108-5030-00
A3L21	108-5030-00			COIL,RF:	80009	108-5030-00
A3L22	108-5030-00			COIL,RF:	80009	108-5030-00

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3L31	108-5030-00			COIL,RF:	80009	108-5030-00
A3L32	108-5030-00			COIL,RF:	80009	108-5030-00
A3L41	108-5030-00			COIL,RF:	80009	108-5030-00
A3L42	108-5030-00			COIL,RF:	80009	108-5030-00
A3L51	108-5030-00			COIL,RF:	80009	108-5030-00
A3L52	108-5030-00			COIL,RF:	80009	108-5030-00
A3L86	108-5030-00			COIL,RF:	80009	108-5030-00
A3L87	108-5030-00			COIL,RF:	80009	108-5030-00
A3L96	108-5030-00			COIL,RF:	80009	108-5030-00
A3L97	108-5030-00			COIL,RF:	80009	108-5030-00
A3L101	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L102	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L103	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L104	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L105	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L106	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L111	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L112	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L113	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L114	108-5051-00			COIL,RF:	54583	NL453232-100K
A3L121	108-5030-00			COIL,RF:	80009	108-5030-00
A3L131	108-5030-00			COIL,RF:	80009	108-5030-00
A3L132	108-5030-00			COIL,RF:	80009	108-5030-00
A3L133	108-5030-00			COIL,RF:	80009	108-5030-00
A3L141	108-5030-00			COIL,RF:	80009	108-5030-00
A3L151	108-5030-00			COIL,RF:	80009	108-5030-00
A3L152	108-5030-00			COIL,RF:	80009	108-5030-00
A3L153	108-5030-00			COIL,RF:	80009	108-5030-00
A3L161	108-5030-00			COIL,RF:	80009	108-5030-00
A3L162	108-5030-00			COIL,RF:	80009	108-5030-00
A3L171	108-5030-00			COIL,RF:	80009	108-5030-00
A3L172	108-5030-00			COIL,RF:	80009	108-5030-00
A3L201	108-5030-00			COIL,RF:	80009	108-5030-00
A3L211	108-5030-00			COIL,RF:	80009	108-5030-00
A3L221	108-5030-00			COIL,RF:	80009	108-5030-00
A3L231	108-5030-00			COIL,RF:	80009	108-5030-00
A3L241	108-5020-00			COIL,RF:	02113	1008CS-271-05
A3L242	108-5000-00			COIL,RF:	80009	108-5000-00
A3L251	108-5020-00			COIL,RF:	02113	1008CS-271-05
A3L252	108-5000-00			COIL,RF:	80009	108-5000-00
A3Q241	151-5009-00			XSTR,SIG:BIPOLAR,NPN;25V,300MA,1.2GHZ, AMPL;BFQ17,SOT-89,12MM T/R	80009	151-5009-00
A3Q242	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A3Q251	151-5009-00			XSTR,SIG:BIPOLAR,NPN;25V,300MA,1.2GHZ, AMPL;BFQ17,SOT-89,12MM T/R	80009	151-5009-00
A3Q252	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A3R5	311-1227-00			RES,VAR,NONWW:TRMR,5K OHM, 0.5W	80009	311-1227-00
A3R6	311-1227-00			RES,VAR,NONWW:TRMR,5K OHM, 0.5W	80009	311-1227-00
A3R11	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A3R12	321-5046-00			RES,FXD:THICK FILM;82.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5046-00
A3R13	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A3R15	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3R16	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R17	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R18	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R21	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R22	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R23	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R24	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R25	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R26	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A3R27	322-3435-00			RES,FXD:MET FILM;332K OHM,1%,0.2W, TC=100 PPM;AXIAL,T&R,SM BODY	80009	322-3435-00
A3R31	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R32	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R33	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R34	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R35	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R36	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A3R37	322-3435-00			RES,FXD:MET FILM;332K OHM,1%,0.2W, TC=100 PPM;AXIAL,T&R,SM BODY	80009	322-3435-00
A3R44	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R45	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A3R51	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R61	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A3R62	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A3R63	321-5025-00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321-5025-00
A3R64	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A3R65	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A3R66	321-5025-00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321-5025-00
A3R67	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A3R68	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A3R71	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A3R72	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3R73	321-5025-00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321-5025-00
A3R74	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A3R75	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A3R76	321-5025-00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321-5025-00
A3R77	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A3R78	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A3R81	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R82	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R83	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R84	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A3R86	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R87	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R91	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R92	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R93	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R94	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A3R96	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R97	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R101	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R102	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R103	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R104	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R105	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R106	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A3R107	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A3R108	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A3R109	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A3R110	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R111	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R112	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3R113	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A3R121	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A3R122	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R123	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R124	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R127	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R141	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A3R142	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R143	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R144	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R147	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R161	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R162	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R171	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R172	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R181	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A3R182	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A3R183	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A3R201	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A3R202	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R203	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A3R204	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R205	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R211	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A3R212	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R213	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A3R214	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R215	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R221	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R222	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3R223	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R224	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R225	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R226	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A3R227	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A3R228	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A3R229	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A3R231	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R232	321-5050-00			RES,FXD:THICK FILM;33.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18FWEA33E2
A3R233	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R234	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R235	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A3R236	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A3R237	321-5003-00			RES,FXD:THICK FILM;18.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 18E2
A3R238	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A3R239	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A3R241	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R242	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A3R243	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A3R244	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A3R245	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R246	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A3R247	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A3R248	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R251	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R252	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A3R253	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A3R254	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A3R255	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A3R256	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3R257	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A3R258	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A3R261	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A3R262	321-5005-00			RES,FXD:THICK FILM;27.4 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5005-00
A3R263	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A3R271	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A3R272	321-5005-00			RES,FXD:THICK FILM;27.4 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5005-00
A3R273	321-5009-00			RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A3U1	119-4334-00			MIXER ASSY,RF:	80009	119-4334-00
				ATTACHED PARTS		
	337-3824-00			SHIELD,MIXER:DWN CONV	80009	337-3824-00
				END ATTACHED PARTS		
A3U3	119-3598-00			SPLITTER,POWER:RF,COMBINER;PCB,2 WAY,0 DEG, 1.0 TO 600 MHZ,8 PIN	15542	PSC-2-1W
A3U4	119-4334-00			MIXER ASSY,RF:	80009	119-4334-00
				ATTACHED PARTS		
	337-3824-00			SHIELD,MIXER:DWN CONV	80009	337-3824-00
				END ATTACHED PARTS		
A3U5	119-4334-00			MIXER ASSY,RF:	80009	119-4334-00
				ATTACHED PARTS		
	337-3824-00			SHIELD,MIXER:DWN CONV	80009	337-3824-00
				END ATTACHED PARTS		
A3U6	119-4334-00			MIXER ASSY,RF:	80009	119-4334-00
				ATTACHED PARTS		
	337-3824-00			SHIELD,MIXER:DWN CONV	80009	337-3824-00
				END ATTACHED PARTS		
A3U7	119-3427-01	B020101	B020156	OSC,RF:XTAL UNIT;OSC;680-1360MHZ, +15VDC AT 50MA NOM,TO-8V CASE STYLE	80009	119-3427-01
A3U7	119-3427-02	B020157		OSC,RF:VXCO;680MHZ-1400MHZ,+/-25MHZ,0.18V DC;TO-8 OR TO-8V	80009	119-3427-02
A3U8	119-3427-01	B020101	B020156	OSC,RF:XTAL UNIT;OSC;680-1360MHZ, +15VDC AT 50MA NOM,TO-8V CASE STYLE	80009	119-3427-01
A3U8	119-3427-02	B020157		OSC,RF:VXCO;680MHZ-1400MHZ,+/-25MHZ,0.18V DC;TO-8 OR TO-8V	80009	119-3427-02
A3U10	156-6393-00			IC,LIN:	80009	156-6393-00
A3U20	156-5898-00			IC,LIN:CMOS,FREQ SYNTH;SERIAL DATA IN;MB87006APF,SO16M-2	80009	156-5898-00
A3U21	156-5777-00			IC,LIN:ECL,PRESCALER;1.6GHZ,TWO MODULUS, DIV BY 128/129 OR 256/257;MB507PF.SO8M-3	80009	156-5777-00
A3U30	156-5898-00			IC,LIN:CMOS,FREQ SYNTH;SERIAL DATA IN;MB87006APF,SO16M-2	80009	156-5898-00
A3U31	156-5777-00			IC,LIN:ECL,PRESCALER;1.6GHZ,TWO MODULUS, DIV BY 128/129 OR 256/257;MB507PF.SO8M-3	80009	156-5777-00
A3U60	156-5018-00			IC,LIN:BIPOLAR,OP-AMP;DUAL,SGL SPLY;LM358D,SO8.150,TUBE	80009	156-5018-00
A3U70	156-5018-00			IC,LIN:BIPOLAR,OP-AMP;DUAL,SGL SPLY;LM358D,SO8.150,TUBE	80009	156-5018-00
A3U81	156-6564-00			IC,LIN:BIPOLAR AMPL;MICROWAVE,12 DB GAIN,1.9GHZ;MSA-0711,SOT-143,8MM	80009	156-6564-00
A3U91	156-6564-00			IC,LIN:BIPOLAR AMPL;MICROWAVE,12 DB GAIN,1.9GHZ;MSA-0711,SOT-143,8MM	80009	156-6564-00
A3U120	156-6393-00			IC,LIN:	80009	156-6393-00

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Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A3U140	156-6393-00			IC,LIN:	80009	156-6393-00
A3U200	156-5918-00			IC,LIN:BIPOLAR,AMPL;MICROWAVE,23DB GAIN,1.9GHZ;UPC1678G,SO8.175	80009	156-5918-00
A3U210	156-5918-00			IC,LIN:BIPOLAR,AMPL;MICROWAVE,23DB GAIN,1.9GHZ;UPC1678G,SO8.175	80009	156-5918-00
A3U220	156-6393-00			IC,LIN:	80009	156-6393-00
A3U230	156-6393-00			IC,LIN:	80009	156-6393-00
A3W30	174-0818-00			CA ASSY,RF:50 OHM COAX,5.25 L (CONNECTED AT A3J941 & A7J620)	80009	174-0818-00
A4	671-2632-00			CIRCUIT BD ASSY:POWER SUPPLY	80009	671-2632-00
				ATTACHED PARTS		
	211-0408-00			SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX (QUANTITY 2)	93907	ORDER BY DESCR
	214-4363-02			HT SK,PWR SPLY:ALUM	80009	214-4363-02
	346-0032-00			STRAP,RETAINING:0.075 DIA X 4.0 L,MLD RBR (QUANTITY 2,1 @ C320/C470 & 1 @ L310/L320)	98159	2829-75-4
				END ATTACHED PARTS		
A4C100	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C101	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C210	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C211	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C220	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C221	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C230	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C320	290-1253-00			CAP,FXD:ALUM,2200UF,20%,50V,AXIAL,105	80009	290-1253-00
A4C330	290-1248-00			CAP,FXD:ALUM;220UF,20%,63V;RDL,BULK 10 X 20MM	80009	290-1248-00
A4C470	290-1253-00			CAP,FXD:ALUM,2200UF,20%,50V,AXIAL,105	80009	290-1253-00
A4C510	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A4C511	283-5016-00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283-5016-00
A4C512	283-5016-00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283-5016-00
A4C520	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A4C530	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A4C531	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A4C532	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A4C540	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A4C541	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A4C550	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A4C551	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A4C552	283-5018-00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5018-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A4C553	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C554	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C560	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C561	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C562	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C563	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C564	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C620	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C650	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C660	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C661	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C670	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C671	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C672	283–5070–00			CAP,FXD,CER:MLC;0.01UF,10%,200V,X7R,1210;SM D,T&R	04222	12102C103KAT1A
A4C673	283–5070–00			CAP,FXD,CER:MLC;0.01UF,10%,200V,X7R,1210;SM D,T&R	04222	12102C103KAT1A
A4C680	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C681	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C682	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C710	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C711	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C720	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C730	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C731	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C740	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C750	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C800	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A4C810	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A4C811	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A4C812	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C820	283–0111–00			CAP,FXD,CER DI:0.1UF,20%,50V	80009	283–0111–00
A4C830	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A4C831	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C832	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C833	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C840	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C841	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C850	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A4C920	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A4C921	283–5016–00			CAP,FXD,CER:MLC;1UF,10%,50V,X7R,0.225 X 0.250;2225,SMD,12MM T&R	80009	283–5016–00
A4C930	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A4C970	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A4C971	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A4C990	283–5070–00			CAP,FXD,CER:MLC;0.01UF,10%,200V,X7R,1210;SM D,T&R	04222	12102C103KAT1A
A4C991	283–5070–00			CAP,FXD,CER:MLC;0.01UF,10%,200V,X7R,1210;SM D,T&R	04222	12102C103KAT1A
A4CR260	152–0539–00			DIO,RECT:ULTRA FAST;150V,8A,50NS,COM–CATH;MUR1615CT,TO–220	04713	MUR1615CT
				MOUNTING PARTS		
	210–1178–00			WASHER,SHLDR:	80009	210–1178–00
	211–0408–00			SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
	342–0563–00			INSULATOR,PLATE:XSTR,FIBERGLASS RE-INFORCED SILICON RBR	18565	69–11–8805–1674
				END MOUNTING PARTS		
A4CR270	152–0539–00			DIO,RECT:ULTRA FAST;150V,8A,50NS,COM–CATH;MUR1615CT,TO–220	04713	MUR1615CT
				MOUNTING PARTS		
	210–1178–00			WASHER,SHLDR:	80009	210–1178–00
	211–0408–00			SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
	342–0563–00			INSULATOR,PLATE:XSTR,FIBERGLASS RE-INFORCED SILICON RBR	18565	69–11–8805–1674
				END MOUNTING PARTS		
A4CR280	152–0539–00			DIO,RECT:ULTRA FAST;150V,8A,50NS,COM–CATH;MUR1615CT,TO–220	04713	MUR1615CT
				MOUNTING PARTS		
	210–1178–00			WASHER,SHLDR:	80009	210–1178–00
	211–0408–00			SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
	342–0563–00			INSULATOR,PLATE:XSTR,FIBERGLASS RE-INFORCED SILICON RBR	18565	69–11–8805–1674
				END MOUNTING PARTS		
A4CR290	152–0539–00			DIO,RECT:ULTRA FAST;150V,8A,50NS,COM–CATH;MUR1615CT,TO–220	04713	MUR1615CT
				MOUNTING PARTS		
	210–1178–00			WASHER,SHLDR:	80009	210–1178–00
	211–0408–00			SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
	342–0563–00			INSULATOR,PLATE:XSTR,FIBERGLASS RE-INFORCED SILICON RBR	18565	69–11–8805–1674
				END MOUNTING PARTS		
A4CR470	152–0946–00			SEMICOND DVC,DI:RECT,SI,40V,3.0A	80009	152–0946–00
A4CR530	152–5000–00			SEMICOND DVC,DI:SW,SI,70V,COM CATHODE	80009	152–5000–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A4CR660	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00
A4CR700	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00
A4CR710	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00
A4CR711	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00
A4CR712	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00
A4CR750	152-5000-00			SEMICOND DVC,DI:SW,SI,70V,COM CATHODE	80009	152-5000-00
A4CR760	152-0827-00			DIO,RECT:SCHKKY;45V,15A,COM-CATH;MBR2545CT,TO-220	04713	MBR2545CT
A4CR800	152-0539-00			DIO,RECT:ULTRA FAST;150V,8A,50NS,COM-CATH;MUR1615CT,TO-220	04713	MUR1615CT
A4CR820	152-0827-00			DIO,RECT:SCHKKY;45V,15A,COM-CATH;MBR2545CT,TO-220	04713	MBR2545CT
A4CR900	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00
A4CR960	152-5004-00			DIO,SIG:ULTRA FAST;70V,0.15A,6NS,SER-PAIR;BAV99,SOT-23,8MM TR	25088	BAV99T
A4F290	159-0321-00			FUSE,TERM:15A,98DRG C MAX OPENING TEMP	27012	4204A1
				MOUNTING PARTS		
	136-0388-00			SKT,PIN TERM: (QUANTITY 2)	80009	136-0388-00
				END MOUNTING PARTS		
A4F490	159-0321-00			FUSE,TERM:15A,98DRG C MAX OPENING TEMP	27012	4204A1
				MOUNTING PARTS		
	136-0388-00			SKT,PIN TERM: (QUANTITY 2)	80009	136-0388-00
				END MOUNTING PARTS		
A4J110	131-0608-00			TERM,PIN:0.365 L X 0.025 BRZ GLD PL (QUANTITY 3)	80009	131-0608-00
A4J130	131-3362-00			CONN,HDR:	53387	2526-6002UB
A4J280	131-4713-00			CONN,HDR PWR: (QUANTITY 8 PINS)	80009	131-4713-00
A4J490	131-4713-00			CONN,HDR PWR: (QUANTITY 4 PINS)	80009	131-4713-00
A4L200	108-1262-00			COIL,RF:FXD,100UH,10%,Q=30,SRF 8.2MHZ,DCR 0.23 OHM,I MAX 0.75ARDL LEAD	80009	108-1262-00
A4L201	108-1262-00			COIL,RF:FXD,100UH,10%,Q=30,SRF 8.2MHZ,DCR 0.23 OHM,I MAX 0.75ARDL LEAD	80009	108-1262-00
A4L210	108-1262-00			COIL,RF:FXD,100UH,10%,Q=30,SRF 8.2MHZ,DCR 0.23 OHM,I MAX 0.75ARDL LEAD	80009	108-1262-00
A4L260	108-0958-00			COIL,RF:	80009	108-0958-00
A4L310	108-1497-00			COIL,RF:FIXED,300UH,10%,DCR,0.15 OHM,3A DC CUR,BOBBIN CORE RDL LEAD	TK1345	108-1497-00
A4L320	108-1497-00			COIL,RF:FIXED,300UH,10%,DCR,0.15 OHM,3A DC CUR,BOBBIN CORE RDL LEAD	TK1345	108-1497-00
A4Q200	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A4Q450	151-0943-00			XSTR,PWR:BIPOLAR,PNP;80V,10A,SWING; MJF45H11,TO-220 FULL PAK	80009	151-0943-00
A4Q520	151-5007-00			XSTR,SIG:BIPOLAR,PNP;300V,50MA,50MHZ, AMPL;BC621/MXTA92,SOT-89,12MM T/R	80009	151-5007-00
A4Q610	151-0942-00			XSTR,PWR:BIPO-LAR,NPN;80V,10A;MJF44H11,TO-220 FULL PAK	80009	151-0942-00
A4Q630	151-1199-00			XSTR,PWR:MOS,N-CH;50V,25A,0.06 OHM;BUZ11A/IRFZ30,TO-220	80009	151-1199-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A4Q750	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A4Q910	151-1136-00			XSTR,PWR:MOS,N-CH;100V,14A,0.16 OHM;IRF530,TO-220	80009	151-1136-00
A4Q920	151-1136-00			XSTR,PWR:MOS,N-CH;100V,14A,0.16 OHM;IRF530,TO-220	80009	151-1136-00
A4Q930	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A4Q950	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A4Q970	151-0943-00			XSTR,PWR:BIPOLAR,PNP;80V,10A,SWING; MJF45H11,TO-220 FULL PAK	80009	151-0943-00
A4Q971	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A4Q972	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A4R350	308-0299-00			RES,FXD,WW:300 OHM,1%,3W	01686	T2A-300R-F-10
A4R461	308-0793-00			RES,FXD:0.51 OHM,5%,1WTC=150PPM/DEG C,MI T&R	80009	308-0793-00
A4R462	308-0793-00			RES,FXD:0.51 OHM,5%,1WTC=150PPM/DEG C,MI T&R	80009	308-0793-00
A4R510	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R511	321-5016-00			RES,FXD:THICK FILM;681 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCK6810FT
A4R520	321-5032-00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5032-00
A4R521	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R522	321-5032-00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5032-00
A4R523	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A4R524	321-5032-00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5032-00
A4R525	321-5032-00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5032-00
A4R530	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R531	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R532	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A4R533	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R534	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A4R535	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R536	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R560	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R561	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R562	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R620	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A4R630	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A4R631	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R640	321-5049-00			RES,FXD:THICK FILM;1M OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5049-00
A4R642	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A4R650	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R701	322-3289-00			RES,FXD:MET FILM;10K OHM,1%,0.2W, TC=100 PPM;AXIAL,T&R,SM BODY	80009	322-3289-00
A4R710	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R740	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R750	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R751	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A4R752	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A4R800	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A4R810	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R811	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R830	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A4R831	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R832	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A4R840	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R841	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R842	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R843	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A4R844	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A4R850	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A4R851	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A4R852	321-5027-00			RES,FXD:THICK FILM;5.62K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5027-00
A4R853	321-5039-00			RES,FXD:THICK FILM;56.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5039-00
A4R854	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A4R855	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R856	321-5039-00			RES,FXD:THICK FILM;56.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5039-00
A4R900	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A4R920	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A4R930	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A4R931	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R932	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A4R933	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R940	321-5049-00			RES,FXD:THICK FILM;1M OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5049-00
A4R941	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R942	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R943	321-5027-00			RES,FXD:THICK FILM;5.62K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5027-00
A4R944	321-5041-00			RES,FXD:THICK FILM;82.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5041-00
A4R950	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R951	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R952	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R953	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A4R960	321-5027-00			RES,FXD:THICK FILM;5.62K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5027-00
A4R961	321-5027-00			RES,FXD:THICK FILM;5.62K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5027-00
A4R962	321-5027-00			RES,FXD:THICK FILM;5.62K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5027-00
A4R963	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A4R964	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A4R965	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A4R970	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A4R971	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A4R972	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A4R973	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R974	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4R975	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A4R976	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A4T310	120-1847-01			XFMR,PWR:	75498	128-9122EC
A4U100	156-1161-00			IC,LIN:BIPOLAR,VR;POS,AD-JUST,1.5A,4%;LM317T,TO-220	04713	LM317T
A4U330	156-1161-00			IC,LIN:BIPOLAR,VR;POS,AD-JUST,1.5A,4%;LM317T,TO-220	04713	LM317T
A4U340	156-3840-00			IC,LIN:	80009	156-3840-00
A4U430	156-2024-00			IC,LIN:	12969	UC3525AN
A4U431	156-1437-00			IC,LIN:BIPOLAR,V REF;POS,5V,1.0%,25PPM,SE-RIES;MC1404AU5,DIP08.3	80009	156-1437-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A4U530	156-5018-00			IC,LIN:BIPOLAR,OP-AMP;DUAL,SGL SPLY;LM358D,SO8.150,TUBE	80009	156-5018-00
A4U640	156-5019-00			IC,LIN:BIPOLAR,COMPTR;DUAL,SGL SPLY;LM393D,SO8.150,TUBE	80009	156-5019-00
A4U740	156-5019-00			IC,LIN:BIPOLAR,COMPTR;DUAL,SGL SPLY;LM393D,SO8.150,TUBE	80009	156-5019-00
A4U840	156-5019-00			IC,LIN:BIPOLAR,COMPTR;DUAL,SGL SPLY;LM393D,SO8.150,TUBE	80009	156-5019-00
A4U940	156-5019-00			IC,LIN:BIPOLAR,COMPTR;DUAL,SGL SPLY;LM393D,SO8.150,TUBE	80009	156-5019-00
A4U970	156-5018-00			IC,LIN:BIPOLAR,OP-AMP;DUAL,SGL SPLY;LM358D,SO8.150,TUBE	80009	156-5018-00
A4VR520	152-5011-00			DIO,SIG:6.2V,5%,225MW;MMBZ5234BL,SOT-23,8M M TR	80009	152-5011-00
A8	671-2628-00	B020100	B020153	CIRCUIT BD ASSY:LOG AMP	80009	671-2628-00
A8	671-2628-01	B020154		CIRCUIT BD ASSY:LOG AMP	80009	671-2628-01
				ATTACHED PARTS		
	337-3807-02			SHIELD,ELEC:	80009	337-3807-02
	348-1346-00			GASKET,SHLD:0.070 DIA (QUANTITY 2)	80009	348-1346-00
				END ATTACHED PARTS		
A8C24	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C25	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C26	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C27	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C28	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C29	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C30	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C31	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C33	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C34	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C35	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C36	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C37	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C38	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C39	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C40	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C41	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C43	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C45	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8C46	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C48	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C49	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C50	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C51	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C52	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C53	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C54	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C55	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C56	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C57	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C170	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A8C180	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A8C190	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A8C220	283–5018–00			CAP,FXD,CER:MLC;0.033UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5018–00
A8C230	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A8C240	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C251	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C260	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C270	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C300	290–0943–02			CAP,FXD,ELCTLT:47UF,20%,25V	55680	UVX1E470MDA1TD
A8C340	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C350	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C360	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C361	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C362	281–0267–00			CAP,VAR,CER:6–50PF,50V	80009	281–0267–00
A8C370	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C371	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C372	283–5000–00			CAP,FXD,CER:MLC;10PF,5%,50V,NPO,1206;SMD,8 MM T&R	80009	283–5000–00
A8C373	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A8C374	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A8C380	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8C381	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C382	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C383	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C384	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C480	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C482	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C490	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C491	283–5041–00			CAP,FXD,CER:MLC;7PF,+/–0.5PF,50V,NPO,1206;S MD,8MM T&R	54583	C3216C0G1H070D–T
A8C492	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C500	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C550	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C551	283–5019–00			CAP,FXD,CER:MLC;2PF,+/–0.25PF,50V,NPO,1206;S MD,8MM T&R	54583	C3216C0G1H020C–T
A8C552	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C590	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C591	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C600	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C620	283–5112–00			CAP,FXD,CER DI:0.33UF,10%,25V	54583	C4532X7RIE334K–T
A8C630	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C631	283–5049–00			CAP,FXD,CER:MLC;180PF,5%,50V,NPO,1206;SMD, 8MM T&R	54583	C3216C0G1H181J–T
A8C632	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C640	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C641	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C650	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A8C651	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A8C660	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A8C661	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A8C670	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C701	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C702	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C730	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C740	283–5185–00			CAP,FXD,CER:MLC;1000PF,5%,50V,NPO,1206;SMD ,SMD,T&R	04222	12065A102JAT1A

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8C750	285–1062–00			CAP,FXD,PLSTC:0.005UF,1%,200V	80009	285–1062–00
A8C760	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C761	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C762	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C770	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C800	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C820	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C830	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C880	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J–T
A8C882	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C952	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C981	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J–T
A8C982	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C983	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C986	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C987	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C988	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C989	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C990	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C991	283–5185–00			CAP,FXD,CER:MLC;1000PF,5%,50V,NPO,1206;SMD ,SMD,T&R	04222	12065A102JAT1A
A8C992	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C993	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C994	283–5185–00			CAP,FXD,CER:MLC;1000PF,5%,50V,NPO,1206;SMD ,SMD,T&R	04222	12065A102JAT1A
A8C995	283–5185–00			CAP,FXD,CER:MLC;1000PF,5%,50V,NPO,1206;SMD ,SMD,T&R	04222	12065A102JAT1A
A8C996	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C997	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C998	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1000	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1002	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1004	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1005	285–1062–00			CAP,FXD,PLSTC:0.005UF,1%,200V	80009	285–1062–00
A8C1006	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8C1013	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1014	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1017	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1018	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1019	285–1062–00			CAP,FXD,PLSTC:0.005UF,1%,200V	80009	285–1062–00
A8C1020	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1021	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1022	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1023	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1024	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1025	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1026	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1027	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A8C1028	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A8C1029	283–5005–00			CAP,FXD,CER:MLC;4PF,+/–0.25PF,50V,NPO,1206;S MD,8MM T&R	54583	C3216C0G1H040C–T
A8C1030	283–5009–00			CAP,FXD,CER:MLC;15PF,5%,50V,NPO,0.126 X 0.063;1206,SMD,8MM,T&R	54583	C3216C0G1H150J–T
A8C1031	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A8C1032	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1033	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A8C1034	283–5011–00			CAP,FXD,CER:MLC;33PF,5%,50V,NPO,1206;SMD,8 MM,T&R	54583	C3216C0G1H330J–T
A8C1035	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A8C1036	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C1037	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C1038	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C1039	283–5000–00			CAP,FXD,CER:MLC;10PF,5%,50V,NPO,1206;SMD,8 MM T&R	80009	283–5000–00
A8C1040	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A8C1041	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A8C1042	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A8C1043	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A8C1044	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00
A8C1045	283–5010–00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283–5010–00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8C1046	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A8C1047	283-5010-00			CAP,FXD,CER:MLC;0.22UF,10%,25V,X7R,1210;SM D,8MM T&R	80009	283-5010-00
A8C1048	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1049	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A8C1050	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1051	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A8C1052	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1053	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1054	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1055	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1056	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1057	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1060	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C1061	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1062	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C1063	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C1064	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1065	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C1066	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C1067	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A8C1068	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A8C1069	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A8C1070	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A8C1071	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1072	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A8C1073	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A8C1074	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1075	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A8C1076	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A8C1077	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A8C1078	283-5002-00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283-5002-00
A8C1079	283-5000-00	671-2628-00	671-2628-00	CAP,FXD,CER:MLC;10PF,5%,50V,NPO,1206;SMD,8 MM T&R	80009	283-5000-00
A8C1079	283-5009-00	671-2628-01		CAP,FXD,CER:MLC;15PF,5%,50V,NPO,0.126 X 0.063;1206,SMD,8MM,T&R	54583	C3216C0G1H150J-T

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8C1080	281–0122–00			CAP,VAR,CER DI:2.5–9PF,100V	80009	281–0122–00
A8C1081	283–5002–00			CAP,FXD,CER:MLC;1000PF,10%,50V,NPO,1206;SM D,8MM T&R	80009	283–5002–00
A8C1082	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1083	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C1084	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C1085	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C1088	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1089	283–5070–00			CAP,FXD,CER:MLC;0.01UF,10%,200V,X7R,1210;SM D,T&R	04222	12102C103KAT1A
A8C1090	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C1091	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C1092	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C1093	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A8C1094	283–5003–00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283–5003–00
A8C1095	290–0963–00			CAP,FXD,ALUM:220UF,+50–20%,25WVDC,10 X 12MM;RDL	80009	290–0963–00
A8C1096	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1097	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1098	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1099	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C1100	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C1101	283–5001–00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283–5001–00
A8C1102	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM;SMD,16MM T&R	80009	290–5039–00
A8C1103	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1104	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1105	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1106	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1107	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1108	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1109	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1110	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1111	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00
A8C1112	283–5004–00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283–5004–00

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8C1113	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C1114	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C1115	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C1116	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1117	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C1118	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1119	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1120	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1121	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C1122	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C2000	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C2001	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C2002	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C2003	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C2004	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C2005	283-5004-00			CAP,FXD,CER:MLC;0.1UF,10%,25V,X7R,1206;SMD, 8MM T&R	80009	283-5004-00
A8C2006	283-5041-00			CAP,FXD,CER:MLC;7PF,+/-0.5PF,50V,NPO,1206;S MD,8MM T&R	54583	C3216C0G1H070D-T
A8C2007	283-5006-00			CAP,FXD,CER:MLC;5PF,+/-0.25PF,50V,NPO,1206;S MD,8MM T&R	54583	C3216C0G1H050C-T
A8C2008	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A8C2009	283-5001-00			CAP,FXD,CER:MLC;100PF,5%,50V,NPO,1206;SMD, 8MM,T&R	80009	283-5001-00
A8C2010	283-5003-00			CAP,FXD,CER:MLC;0.01UF,10%,50V,X7R,1206;SM D,8MM T&R	80009	283-5003-00
A8C2012	283-0108-00	671-2628-00	671-2628-00	CAP,FXD,CER DI:220PF,10%,200V	04222	SR152A221KAA
A8C2012	283-5025-00	671-2628-01		CAP,FXD,CER DI:220PF,5%,50V	80009	283-5025-00
A8C2013	283-5022-00	671-2628-01		CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A8CR260	152-5004-00	671-2628-00	671-2628-00	DIO,SIG:ULTRA FAST;70V,0.15A,6NS,SER-PAIR;BAV99,SOT-23,8MM TR	25088	BAV99T
A8CR650	152-5042-00			SEMICOND DVC,DI:SWING,SCHOTTKY,SI,70V,35 OHMS,2.0PF	80009	152-5042-00
A8CR750	152-1144-00			DIO,SIG:45V,50MA,0.8PF,1PA@20V;PAD1,TO-18	80009	152-1144-00
A8CR751	152-1144-00			DIO,SIG:45V,50MA,0.8PF,1PA@20V;PAD1,TO-18	80009	152-1144-00
A8CR753	152-5065-00			DIO,SIG:PIN;35V,1.0PF,0.7 OHMS;MMBV3401L,SOT-23,8MM T&R	80009	152-5065-00
A8CR754	152-1144-00			DIO,SIG:45V,50MA,0.8PF,1PA@20V;PAD1,TO-18	80009	152-1144-00
A8CR755	152-0144-00			SEMICOND DVC,DI:SIG,GAAS,MATCHED QUAD	80009	152-0144-00
A8CR756	152-5004-00			DIO,SIG:ULTRA FAST;70V,0.15A,6NS,SER-PAIR;BAV99,SOT-23,8MM TR	25088	BAV99T
A8CR757	152-5064-00			DIO,SIG:VVC;6.8PF,10%,AT 4V,C2/C30=2.7;MMBV2101LT1,SOT-23,8MM T&R	80009	152-5064-00
A8CR758	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8CR759	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00
A8CR760	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00
A8CR761	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00
A8CR762	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00
A8CR763	152-5008-00			DIO,RECT:400V,1A,MONOLITHIC COM-CATH;BAW79D,SOT-89,12MM TR	80009	152-5008-00
A8CR764	152-1144-00			DIO,SIG:45V,50MA,0.8PF,1PA@20V;PAD1,TO-18	80009	152-1144-00
A8CR765	152-1144-00			DIO,SIG:45V,50MA,0.8PF,1PA@20V;PAD1,TO-18	80009	152-1144-00
A8CR766	152-5004-00			DIO,SIG:ULTRA FAST;70V,0.15A,6NS,SER-PAIR;BAV99,SOT-23,8MM TR	25088	BAV99T
A8DS220	150-5000-00			DIO,OPTO:LED;RED,628NM;LS S260-DO,SOT-23,8MM,TR	80009	150-5000-00
A8FL380	119-2590-00			FLTR,RFI:10.7MHZ	80009	119-2590-00
A8FL690	119-4577-00			FLTR:21.4MHZ IF BANDPASS FLTR	80009	119-4577-00
				ATTACHED PARTS		
	210-1014-00			WASHER,FLAT:0.094 ID X 0.312 OD X 0.02 (QUANTITY 4)	80009	210-1014-00
				END ATTACHED PARS		
A8J1	131-1857-00			CONN,HDR:PCB;MALE,STR,1 X 36,0.1 CTR,0.230 MLG X 0.100 TAIL,GLD (QUANTITY 3 PINS)	58050	082-3644-SS10
A8J240	131-1857-00			CONN,HDR:PCB;MALE,STR,1 X 36,0.1 CTR,0.230 MLG X 0.100 TAIL,GLD	58050	082-3644-SS10
A8J390	131-0391-00			CONN,RF JACK:	80009	131-0391-00
A8J420	131-0265-00			CONN,RF PLUG:SMB;PCB,MALE,RTANG,50 OHM, 0.381 H X 0.15 TAIL,0.043 DIA CTR COND,0.040 SQ TAIL	80009	131-0265-00
A8J430	131-0265-00			CONN,RF PLUG:SMB;PCB,MALE,RTANG,50 OHM, 0.381 H X 0.15 TAIL,0.043 DIA CTR COND,0.040 SQ TAIL	80009	131-0265-00
A8J440	131-0265-00			CONN,RF PLUG:SMB;PCB,MALE,RTANG,50 OHM, 0.381 H X 0.15 TAIL,0.043 DIA CTR COND,0.040 SQ TAIL	80009	131-0265-00
A8J450	131-0265-00			CONN,RF PLUG:SMB;PCB,MALE,RTANG,50 OHM, 0.381 H X 0.15 TAIL,0.043 DIA CTR COND,0.040 SQ TAIL	80009	131-0265-00
A8J480	131-4790-00			CONN,RF JACK:SMB;75 OHM,MALE,STR,PCB, 0.298 H X 4,0.04 SQ,0.2 CTR,0.150 L TAIL,30 GLD	24931	32 JR127-2
A8J590	131-0391-00			CONN,RF JACK:	80009	131-0391-00
A8J690	131-2093-00			CONN,BOX:	80009	131-2093-00
A8J800	131-3520-00			CONN,HDR:	53387	2510-6002UB
A8K1	148-0198-00			RELAY,ARM:2 FORM C,COIL 6VDC, 98 OHM,CONT 1A@28 VDC,PKG TO-5	11532	712-6
A8K2	148-0198-00			RELAY,ARM:2 FORM C,COIL 6VDC, 98 OHM,CONT 1A@28 VDC,PKG TO-5	11532	712-6
A8K3	148-0198-00			RELAY,ARM:2 FORM C,COIL 6VDC, 98 OHM,CONT 1A@28 VDC,PKG TO-5	11532	712-6
A8K4	148-0198-00			RELAY,ARM:2 FORM C,COIL 6VDC, 98 OHM,CONT 1A@28 VDC,PKG TO-5	11532	712-6
A8K5	148-0198-00			RELAY,ARM:2 FORM C,COIL 6VDC, 98 OHM,CONT 1A@28 VDC,PKG TO-5	11532	712-6
A8K6	148-0198-00			RELAY,ARM:2 FORM C,COIL 6VDC, 98 OHM,CONT 1A@28 VDC,PKG TO-5	11532	712-6
A8L13	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L15	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L17	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L19	108-5051-00			COIL,RF:	54583	NL453232-100K

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8L21	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L23	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L24	108-5030-00			COIL,RF:	80009	108-5030-00
A8L25	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L27	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L29	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L31	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L33	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L35	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L360	108-5046-00			COIL,RF:	80009	108-5046-00
A8L390	108-0345-00	671-2628-00	671-2628-00	COIL,RF:FIXED,1.8UH	80009	108-0345-00
A8L390	108-5004-00	671-2628-01		COIL,RF:	80009	108-5004-00
A8L660	108-5024-00			COIL,RF:	80009	108-5024-00
A8L661	108-5024-00			COIL,RF:	80009	108-5024-00
A8L792	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L793	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L794	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L795	114-0447-00			COIL,RF:VAR,0.8-1.2UH,SHIELDED E CORE,SLOT TEN TYPE	02113	SLOT TEN-4-01
A8L796	108-5030-00			COIL,RF:	80009	108-5030-00
A8L797	108-5030-00			COIL,RF:	80009	108-5030-00
A8L798	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L799	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L800	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L802	108-5030-00			COIL,RF:	80009	108-5030-00
A8L803	108-5030-00			COIL,RF:	80009	108-5030-00
A8L804	108-5030-00			COIL,RF:	80009	108-5030-00
A8L805	108-5030-00			COIL,RF:	80009	108-5030-00
A8L806	108-5030-00			COIL,RF:	80009	108-5030-00
A8L807	108-0181-01			COIL,RF:FIXED,165NH	TK1345	108-0181-01
A8L808	108-1483-00			COIL,RF:FXD 8.0NH(REF)1.5 TURNS #22 WIRE,0.125 IN DIA	80009	108-1483-00
A8L809	108-5030-00			COIL,RF:	80009	108-5030-00
A8L810	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L811	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L812	108-5101-00			COIL,RF:	TK2058	NL322522TAR10J3
A8L813	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L814	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L815	108-5051-00			COIL,RF:	54583	NL453232-100K
A8L816	108-5072-00			COIL,RF:	02113	1008CS-102-XJ2A
A8L817	108-5030-00			COIL,RF:	80009	108-5030-00
A8Q220	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A8Q620	151-5057-00			XSTR,SIG:	80009	151-5057-00
A8Q740	151-5002-00			XSTR,SIG:JFET,N-CH;5V,75MA,60 OHM,SW;MMBF4392L,SOT-23,8MM T&R	80009	151-5002-00
A8Q871	151-5001-00			XSTR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ, AMPL;MMBT3904L,TO-236/SOT-23,8MM T&R	80009	151-5001-00
A8Q873	151-5011-00			XSTR,SIG:BIPOLAR,NPN;12V,50MA,900MHZ, AMPL;MMBR5179L,TO-236/SOT-23,8MM T&R	80009	151-5011-00
A8Q874	151-5010-00			XSTR,SIG:BIPOLAR,NPN;12V,200MA,6.5GHZ, AMPL;NE85634/2SC3357,SOT-89,12MM T/R	80009	151-5010-00
A8Q875	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A8Q876	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A8Q877	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8Q878	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A8Q879	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A8Q880	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A8Q881	151-5000-00			XSTR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ, AMPL;MMBT3906L,TO-236/SOT-23,8MM T&R	04713	MMBT3906LT1
A8R7	321-5021-00			RES,FXD:THICK FILM;1.82K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5021-00
A8R8	321-5033-00			RES,FXD:THICK FILM;18.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5033-00
A8R9	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A8R10	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R11	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R12	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A8R14	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A8R97	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R98	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A8R99	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A8R120	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R220	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A8R221	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R222	321-5033-00			RES,FXD:THICK FILM;18.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5033-00
A8R230	321-5037-00			RES,FXD:THICK FILM;39.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5037-00
A8R231	321-5040-00			RES,FXD:THICK FILM;68.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5040-00
A8R232	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A8R240	311-5040-00			RES,VAR,NONWW:TRMR,1OK OHM,25%,0.1W	32997	3314J-1-103E
A8R241	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R242	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R243	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A8R260	321-5037-00			RES,FXD:THICK FILM;39.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5037-00
A8R290	321-5049-00			RES,FXD:THICK FILM;1M OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5049-00
A8R300	321-5049-00			RES,FXD:THICK FILM;1M OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5049-00
A8R310	321-5049-00			RES,FXD:THICK FILM;1M OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5049-00
A8R311	321-5049-00			RES,FXD:THICK FILM;1M OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5049-00
A8R312	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8R330	311-5036-00	671-2628-00	671-2628-00	RES,VAR,TRMR:CERMET;5K OHM,25%,0.25W,4MM SQ,TOP ADJ;SMD,T&R	80009	311-5036-00
A8R330	311-5039-00	671-2628-01		RES,VAR,NONWW:TRMR,1K OHM,25%,0.1W	TK2073	G4DT102M
A8R331	321-5030-00	671-2628-00	671-2628-00	RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R331	321-5029-00	671-2628-01		RES,FXD:THICK FILM;8.25K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5029-00
A8R340	311-5038-00			RES,VAR,TRMR:CERMET;20K OHM,25%,0.25W,4MM SQ,TOP ADJ;SMD,T&R	80009	311-5038-00
A8R341	321-5049-00			RES,FXD:THICK FILM;1M OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5049-00
A8R342	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A8R350	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R351	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R360	321-5039-00			RES,FXD:THICK FILM;56.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5039-00
A8R380	321-5014-00			RES,FXD:THICK FILM;475 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5014-00
A8R430	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R431	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R440	321-5041-00	671-2628-00	671-2628-00	RES,FXD:THICK FILM;82.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5041-00
A8R440	321-5047-00	671-2628-01		RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A8R500	311-5038-00			RES,VAR,TRMR:CERMET;20K OHM,25%,0.25W,4MM SQ,TOP ADJ;SMD,T&R	80009	311-5038-00
A8R501	321-5029-00			RES,FXD:THICK FILM;8.25K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5029-00
A8R510	311-5033-00			RES,VAR,TRMR:CERMET;500 OHM,25%,0.25W,4MM SQ,TOP ADJ;SMD,T&R	32997	3314J-1-501G
A8R530	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R550	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A8R551	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A8R552	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A8R560	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A8R561	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A8R562	321-5016-00			RES,FXD:THICK FILM;681 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCK6810FT
A8R563	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A8R600	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R610	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A8R630	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A8R631	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R632	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8R633	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R640	321-5036-00			RES,FXD:THICK FILM;33.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5036-00
A8R641	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R650	311-5041-00			RES,VAR,NONWW:TRMR,100K OHM,25%,0.1W	TK2073	G4DT104-M
A8R660	321-5016-00			RES,FXD:THICK FILM;681 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCK6810FT
A8R661	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R671	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A8R672	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A8R711	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A8R712	321-5033-00			RES,FXD:THICK FILM;18.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5033-00
A8R713	321-5021-00			RES,FXD:THICK FILM;1.82K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5021-00
A8R714	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A8R720	307-1534-00			RES,TEMP,SENSE:500 OHM,1%,3W,0.7R TO 1.86R	94322	081 500 OHM, 1%
A8R730	311-5036-00			RES,VAR,TRMR:CERMET;5K OHM,25%,0.25W,4MM SQ,TOP ADJ;SMD,T&R	80009	311-5036-00
A8R731	321-5028-00			RES,FXD:THICK FILM;6.81K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5028-00
A8R732	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A8R740	321-5037-00			RES,FXD:THICK FILM;39.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5037-00
A8R742	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A8R743	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A8R750	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A8R820	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R821	321-5027-00			RES,FXD:THICK FILM;5.62K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5027-00
A8R830	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A8R831	321-5027-00			RES,FXD:THICK FILM;5.62K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5027-00
A8R832	321-5037-00			RES,FXD:THICK FILM;39.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5037-00
A8R870	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A8R880	321-5028-00			RES,FXD:THICK FILM;6.81K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5028-00
A8R881	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A8R885	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R886	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A8R951	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8R952	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R953	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R954	321-5025-00			RES,FXD:THICK FILM;3.92K OHM,1%,0.125W, TC=100 PPM;1206,T&R,SAF CONTROLLED	80009	321-5025-00
A8R955	321-5049-00			RES,FXD:THICK FILM;1M OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5049-00
A8R956	321-5049-00			RES,FXD:THICK FILM;1M OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5049-00
A8R957	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R958	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A8R959	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A8R960	321-5035-00			RES,FXD:THICK FILM;27.4K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5035-00
A8R961	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A8R962	321-5037-00			RES,FXD:THICK FILM;39.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5037-00
A8R963	321-5039-00			RES,FXD:THICK FILM;56.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5039-00
A8R964	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R965	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R966	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A8R967	321-5034-00	671-2628-00	671-2628-00	RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A8R967	321-5032-00	671-2628-01		RES,FXD:THICK FILM;15.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5032-00
A8R968	321-5040-00			RES,FXD:THICK FILM;68.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5040-00
A8R969	321-5021-00			RES,FXD:THICK FILM;1.82K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5021-00
A8R970	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A8R979	321-5013-00			RES,FXD:THICK FILM;392 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5013-00
A8R980	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A8R981	321-5013-00			RES,FXD:THICK FILM;392 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5013-00
A8R982	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R983	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A8R984	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R985	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R986	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R987	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R988	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8R989	321-5032-00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5032-00
A8R990	311-5040-00			RES,VAR,NONWW:TRMR,1OK OHM,25%,0.1W	32997	3314J-1-103E
A8R991	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A8R992	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A8R993	321-5024-00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5024-00
A8R994	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A8R995	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A8R996	321-5042-00			RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A8R998	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R999	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R1000	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R1001	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A8R1002	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A8R1003	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A8R1004	321-5001-00			RES,FXD:THICK FILM;12.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 12E1
A8R1011	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R1016	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A8R1018	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A8R1019	321-5047-00			RES,FXD:THICK FILM;100K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5047-00
A8R1020	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R1021	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R1022	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R1023	321-5038-00			RES,FXD:THICK FILM;47.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5038-00
A8R1024	321-5036-00			RES,FXD:THICK FILM;33.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5036-00
A8R1025	321-5048-00			RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A8R1026	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A8R1027	321-5031-00			RES,FXD:THICK FILM;12.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5031-00
A8R1028	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R1029	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A8R1030	321-5017-00			RES,FXD:THICK FILM;825 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5017-00
A8R1031	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8R1032	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A8R1033	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A8R1034	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R1035	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R1036	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R1037	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R1038	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A8R1039	321-5034-00			RES,FXD:THICK FILM;22.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5034-00
A8R1040	321-5028-00			RES,FXD:THICK FILM;6.81K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5028-00
A8R1041	321-5028-00			RES,FXD:THICK FILM;6.81K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5028-00
A8R1042	321-5028-00			RES,FXD:THICK FILM;6.81K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5028-00
A8R1043	321-5028-00			RES,FXD:THICK FILM;6.81K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5028-00
A8R1044	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A8R1045	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A8R1046	321-5029-00			RES,FXD:THICK FILM;8.25K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5029-00
A8R1047	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A8R1048	321-5022-00			RES,FXD:THICK FILM;2.21K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5022-00
A8R1049	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A8R1050	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A8R1051	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A8R1052	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A8R1053	321-5009-00	671-2628-00	671-2628-00	RES,FXD:THICK FILM;182 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5009-00
A8R1053	321-5011-00	671-2628-01		RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A8R1054	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A8R1055	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A8R1057	321-5043-00			RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A8R1058	321-5010-00	671-2628-00	671-2628-00	RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R1058	321-5008-00	671-2628-01		RES,FXD:THICK FILM;150 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5008-00
A8R1059	321-5010-00	671-2628-00	671-2628-00	RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R1059	321-5008-00	671-2628-01		RES,FXD:THICK FILM;150 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5008-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8R1060	321-5004-00	671-2628-00	671-2628-00	RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1060	321-5042-00	671-2628-01		RES,FXD:THICK FILM;39.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5042-00
A8R1061	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R1062	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R1063	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R1064	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R1065	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R1066	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R1067	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R1068	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R1069	321-5043-00	671-2628-00	671-2628-00	RES,FXD:THICK FILM;47.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5043-00
A8R1069	322-3066-00	671-2628-01		RES,FXD:MET FILM;47.5 OHM,1%,0.2W, TC=100 PPM;AXIAL,T&R,SM BODY	09969	CCF502G47R50F
A8R1070	321-5046-00			RES,FXD:THICK FILM;82.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5046-00
A8R1071	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A8R1072	321-5045-00			RES,FXD:THICK FILM;68.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5045-00
A8R1073	321-5046-00			RES,FXD:THICK FILM;82.5 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5046-00
A8R1074	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A8R1075	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A8R1076	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A8R1077	321-5016-00			RES,FXD:THICK FILM;681 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCK6810FT
A8R1078	321-5001-00			RES,FXD:THICK FILM;12.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW 12E1
A8R1079	321-5012-00			RES,FXD:THICK FILM;332 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5012-00
A8R1080	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R1081	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1082	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R1083	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A8R1084	321-5044-00			RES,FXD:THICK FILM;56.2 OHM,1%,0.125W, TC=100 PPM;1206,T&R	01121	BCD56R2FT
A8R1085	321-5007-00			RES,FXD:THICK FILM;121 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5007-00
A8R1086	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R1087	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8R1088	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R1089	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R1090	321-5026-00			RES,FXD:THICK FILM;4.75K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5026-00
A8R1091	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R1092	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A8R1093	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1094	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1095	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R1096	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R1097	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1098	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1099	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1100	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1101	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1102	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1103	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A8R1104	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1105	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1106	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R1107	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A8R1108	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A8R1109	321-5006-00			RES,FXD:THICK FILM;100 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5006-00
A8R1110	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R1112	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1113	321-5004-00			RES,FXD:THICK FILM;22.1 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5004-00
A8R1114	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R1115	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00
A8R1116	321-5000-00			RES,FXD:THICK FILM;10 OHM,1%,0.125W, TC=100 PPM;1206,T&R	57668	MCR18EZHFW10E
A8R1117	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A8R1118	321-5010-00			RES,FXD:THICK FILM;221 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5010-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8R1119	321-5048-00	671-2628-00		RES,FXD:THICK FILM;332K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5048-00
A8R1120	321-5018-00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5018-00
A8R1121	321-5029-00			RES,FXD:THICK FILM;8.25K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5029-00
A8R1122	321-5030-00			RES,FXD:THICK FILM;10.0K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5030-00
A8R1123	321-5033-00			RES,FXD:THICK FILM;18.2K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5033-00
A8R1124	321-5027-00			RES,FXD:THICK FILM;5.62K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5027-00
A8R1125	321-5040-00			RES,FXD:THICK FILM;68.1K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5040-00
A8R1126	321-5020-00			RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A8R1127	321-5015-00			RES,FXD:THICK FILM;562 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5015-00
A8R1128	321-5011-00			RES,FXD:THICK FILM;274 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5011-00
A8R1129	321-5051-00	671-2628-00	671-2628-00	RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A8R1130	321-5051-00			RES,FXD:THICK FILM;0 OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5051-00
A8R1131	321-5020-00	671-2628-01		RES,FXD:THICK FILM;1.5K OHM,1%,0.125W, TC=100 PPM;1206,T&R	80009	321-5020-00
A8U2	156-5138-00			IC,LIN:BIFET,OP-AMP;DUAL;MC34002/TL072,SO8.150.TUBE	80009	156-5138-00
A8U3	156-2516-00			IC,MISC:BIPOLAR,TEMP SNSR;CUR OUT;AD592BN,TO-92	24355	AD592BN
A8U200	156-5130-00			IC,DGTL:HCTCMOS,GATE;TRIPLE 3-IN NAND;74HCT10,SO14.150,TUBE	80009	156-5130-00
A8U230	156-5227-00			IC,DGTL:HCMOS,MULTIVIBRATOR;DUAL RETRIG MONOSTABLE, WITH RESET;74HC123,SO16.150	80009	156-5227-00
A8U340	156-5119-00			IC,LIN:BIPOLAR,COMPTR;DUAL,OPEN COLLECTOR,80NS;LM319D,SO14.150,TUBE	80009	156-5119-00
A8U350	156-5138-00			IC,LIN:BIFET,OP-AMP;DUAL;MC34002/TL072,SO8.150,TUBE	80009	156-5138-00
A8U370	156-5275-00			IC,LIN:BIPOLAR,AMPL;FM IF AMP/DETECTOR,W/RSSI;NE604AD,SO16.150	80009	156-5275-00
A8U400	156-5954-00			IC,MISC:BIPOLAR,TRUE RMS-TO-DC CONV;AD736JR,SO8.150	80009	156-5954-00
A8U410	156-6059-00			IC,MISC:CMOS,ANALOG SW;QUAD;DG444,SO16.150,TUBE	80009	156-6059-00
A8U430	156-5138-00			IC,LIN:BIFET,OP-AMP;DUAL;MC34002/TL072,SO8.150,TUBE	80009	156-5138-00
A8U480	156-5275-00			IC,LIN:BIPOLAR,AMPL;FM IF AMP/DETECTOR,W/RSSI;NE604AD,SO16.150	80009	156-5275-00
A8U530	156-5298-00			IC,LIN:BIPOLAR,VR;POS,5V,100MA,5%; MC78L05ACD,SO8.150,TUBE	80009	156-5298-00
A8U550	156-5023-00			IC,LIN:BIFET,OP-AMP;MC34001D,SO8.150	80009	156-5023-00
A8U600	156-5138-00	671-2628-00	671-2628-00	IC,LIN:BIFET,OP-AMP;DUAL;MC34002/TL072,SO8.150,TUBE	80009	156-5138-00
A8U600	156-5854-00	671-2628-01		IC,LIN:BIFET,OP-AMP;HI SPEED;AD712JR, SO8.150,TUBE,SEL LOW OFFSET	51640	AD42356
A8U610	156-6059-00			IC,MISC:CMOS,ANALOG SW;QUAD;DG444,SO16.150,TUBE	80009	156-6059-00
A8U640	156-5138-00			IC,LIN:BIFET,OP-AMP;DUAL;MC34002/TL072,SO8.150,TUBE	80009	156-5138-00
A8U660	156-5779-00			IC,LIN:BIPOLAR,AMPL;DIFFERENTIAL;CA3028AM,SO8.150	80009	156-5779-00

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8U700	156-5138-00			IC,LIN:BIFET,OP-AMP;DUAL;MC34002/TL072,SO8.150,TUBE	80009	156-5138-00
A8U730	156-5138-00			IC,LIN:BIFET,OP-AMP;DUAL;MC34002/TL072,SO8.150,TUBE	80009	156-5138-00
A8U750	156-5101-01			IC,DGTL:HCTCMOS,LATCH;OCTAL D-TYPE, 3-STATE;74HCT373,SO20.300,24MM T&R	80009	156-5101-01
A8U760	156-5101-01			IC,DGTL:HCTCMOS,LATCH;OCTAL D-TYPE, 3-STATE;74HCT373,SO20.300,24MM T&R	80009	156-5101-01
A8U770	156-5070-00			IC,DGTL:HCTCMOS,BFR;OCTAL BFR/DRVR, 3-STATE;74HCT244,SO20.300,TUBE	80009	156-5070-00
A8U780	156-5106-00			IC,DGTL:HCTCMOS,GATE;QUAD 2-IN NOR;74HCT02,SO14.150,TUBE	80009	156-5106-00
A8U790	156-5778-00			IC,CONV:	80009	156-5778-00
A8U830	156-5138-00			IC,LIN:BIFET,OP-AMP;DUAL;MC34002/TL072,SO8.150,TUBE	80009	156-5138-00
A8U840	156-6059-00			IC,MISC:CMOS,ANALOG SW;QUAD;DG444,SO16.150,TUBE	80009	156-6059-00
A8U890	156-5018-00			IC,LIN:BIPOLAR,OP-AMP;DUAL,SGL SPLY;LM358D,SO8.150,TUBE	80009	156-5018-00
A8U950	156-2516-00			IC,MISC:BIPOLAR,TEMP SNSR;CUR OUT;AD592BN,TO-92	24355	AD592BN
A8U951	156-6059-00			IC,MISC:CMOS,ANALOG SW;QUAD;DG444,SO16.150,TUBE	80009	156-6059-00
A8U952	156-5299-00			IC,LIN:BIPOLAR,VR;NEG-ATIVE,-5V,100MA,5%;MC79L05ACD,SO8.150,TUBE	80009	156-5299-00
A8U953	156-5888-00			IC,DGTL:HCTCMOS,MULTIVIBRATOR;DUAL NON-RETRIG MONOSTABLE;74HCT221,SO16.150,TUBE	80009	156-5888-00
A8U954	156-5145-00			IC,DGTL:HCTCMOS,FLIP FLOP;DUAL D-TYPE;74HCT74,SO14.150,TUBE	80009	156-5145-00
A8U955	156-6297-01			IC,LIN:BIPOLAR,OP-AMP;190MHZ,CUR FEED-BACK;AD9617JR,SO8.150,12MM	80009	156-6297-01
A8U956	156-6297-01			IC,LIN:BIPOLAR,OP-AMP;190MHZ,CUR FEED-BACK;AD9617JR,SO8.150,12MM	80009	156-6297-01
A8U957	156-5464-00			IC,DGTL:ACTCMOS,GATE;QUAD 2-IN NAND;74ACT00,SO14.150,TUBE	04713	MC74ACT00D
A8U958	156-1312-00			IC,MISC:BIPOLAR,SAMPLE/HOLD;LOW DROOP RATE;SMP-11,DIP14.3	06665	SMP11-004Y
A8U959	156-5138-00			IC,LIN:BIFET,OP-AMP;DUAL;MC34002/TL072,SO8.150,TUBE	80009	156-5138-00
A8U961	156-5138-00			IC,LIN:BIFET,OP-AMP;DUAL;MC34002/TL072,SO8.150,TUBE	80009	156-5138-00
A8U962	156-5138-00			IC,LIN:BIFET,OP-AMP;DUAL;MC34002/TL072,SO8.150,TUBE	80009	156-5138-00
A8U963	156-5145-00			IC,DGTL:HCTCMOS,FLIP FLOP;DUAL D-TYPE;74HCT74,SO14.150,TUBE	80009	156-5145-00
A8U964	156-5081-01			IC,DGTL:HCTCMOS,GATE;HEX INVERT-ER;74HCT04,SO14.150,16MM T&R	80009	156-5081-01
A8U965	156-5018-00			IC,LIN:BIPOLAR,OP-AMP;DUAL,SGL SPLY;LM358D,SO8.150,TUBE	80009	156-5018-00
A8U966	156-5898-00			IC,LIN:CMOS,FREQ SYNTH;SERIAL DATA IN;MB87006APF,SO16M-2	80009	156-5898-00
A8U967	156-5897-00			IC,LIN:ECL,PRESCALER;DIVIDE BY 16/17 OR 32/33,TWO MODULUS,200MHZ;MB503PF,SO8M-3	80009	156-5897-00
A8U968	156-5777-00			IC,LIN:ECL,PRESCALER;1.6GHZ,TWO MODULUS, DIV BY 128/129 OR 256/257;MB507PF.SO8M-3	80009	156-5777-00
A8U969	156-5714-00			IC,LIN:BIPOLAR,VR;POS,AD-JUST,100MA,4%;LM317LM,SO8.150,TUBE	27014	LM317LM
A8U970	156-5254-00			IC,DGTL:HCTCMOS,RGTR;8-STAGE SHIFT AND STORE BUS RGTR;74HCT4094,SO16.150,TUBE	80009	156-5254-00
A8U971	156-5918-00			IC,LIN:BIPOLAR,AMPL;MICROWAVE,23DB GAIN,1.9GHZ;UPC1678G,SO8.175	80009	156-5918-00

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
A8U972	156-5138-00	671-2628-00	671-2628-00	IC,LIN:BIFET,OP-AMP;DUAL;MC34002/TL072,SO8.150,TUBE	80009	156-5138-00
A8U972	156-5854-00	671-2628-01		IC,LIN:BIFET,OP-AMP;HI SPEED;AD712JR, SO8.150,TUBE,SEL LOW OFFSET	51640	AD42356
A8VR890	152-5023-00			DIO,ZENER:5.1V,5%,225MW;MMBZ5231BL, SOT-23,8MM TR	04713	MMBZ5231BLT1
A8VR891	152-5023-00			DIO,ZENER:5.1V,5%,225MW;MMBZ5231BL, SOT-23,8MM TR	04713	MMBZ5231BLT1
A8Y1	158-0382-00			XTAL UNIT QTZ:48.0 MHZ,+/-0.001%,REF 35 DEG, PRL 3RD OVERTONE, CL 24PF, HC49/U PKG	80009	158-0382-00
A9	119-3155-01			LCD MODULE:DOT MATRIX	80009	119-3155-01
A10	671-2866-00			CIRCUIT BD ASSY:SERIAL FLTR	80009	671-2866-00
A10C1	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C2	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C3	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C4	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C5	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C6	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C7	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C8	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C9	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C10	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C11	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C12	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C13	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C14	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C15	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C16	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C17	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10C18	283-0197-00			CAP,FXD,CER DI:470PF,5%,50V	05397	C320C471J5G5CA
A10FL1	119-3580-00			FLTR,EMI:	TK2058	ZJSR-5101-102TA
A10FL2	119-3580-00			FLTR,EMI:	TK2058	ZJSR-5101-102TA
A10FL3	119-3580-00			FLTR,EMI:	TK2058	ZJSR-5101-102TA
A10FL4	119-3580-00			FLTR,EMI:	TK2058	ZJSR-5101-102TA
A10FL5	119-3580-00			FLTR,EMI:	TK2058	ZJSR-5101-102TA
A10FL6	119-3580-00			FLTR,EMI:	TK2058	ZJSR-5101-102TA
A10FL7	119-3580-00			FLTR,EMI:	TK2058	ZJSR-5101-102TA
A10FL8	119-3580-00			FLTR,EMI:	TK2058	ZJSR-5101-102TA
A10FL9	119-3580-00			FLTR,EMI:	TK2058	ZJSR-5101-102TA
A10J1	174-2353-00			CA ASSY,SP,ELEC:10,28 AWG,9.25 L	80009	174-2353-00
A10J2	131-3925-00			CONN,DSUB:	80009	131-3925-00
C1	285-1192-00			CAP,FXD,PPR DI:0.0022 UF,20%,250VAC	TK0515	PME271Y422
C2	285-1192-00			CAP,FXD,PPR DI:0.0022 UF,20%,250VAC	TK0515	PME271Y422
F100	159-0015-00			FUSE,CARTRIDGE:3AG,3A,250V,0.65SEC *MOUNTING PARTS*	75915	312 003
	352-0362-00			FUHLR,EXTR POST:3AG,20A,300V *END MOUNTING PARTS*	75915	345603W/901-002
F200	159-0015-00			FUSE,CARTRIDGE:3AG,3A,250V,0.65SEC *MOUNTING PARTS*	75915	312 003
	352-0362-00			FUHLR,EXTR POST:3AG,20A,300V *END MOUNTING PARTS*	75915	345603W/901-002
S100	260-1961-00			SW,ROCKER:DPST,6(4)A,250V	TK0935	1802.1121
W100	174-1801-00			CA ASSY,SP,ELEC:10,28 AWG,6.75 L,RIBBON (CONNECTED AT A2J100 & A3J980)	80009	174-1801-00
W110	174-2676-00			CA ASSY,SP,ELEC:3,26 AWG,5.0 L,RIBBON (CONNECTED AT A4J110 & A8J1)	80009	174-2676-00

2722A Replaceable Electrical Parts

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
W120	174–2680–00			CA ASSY,SP,ELEC:26,28 AWG,6.0 L,RIBBON	80009	174–2680–00
				(CONNECTED AT A2J120 TO CHART RECORDER)		
				MOUNTING PARTS		
	210–0586–00			NUT,PL,ASSEM WA:4–40 X 0.25,STL CD PL	78189	211–041800–00
				(QUANTITY 2)		
	211–0409–00			SCR,ASSEM WSHR:4–40 X 0.312,PNH,STL	93907	ORDER BY DESCR
				(QUANTITY 2)		
				END MOUNTING PARTS		
W123	174–1809–00			CA ASSY,SP,ELEC:9 COND,72.0 L	80009	174–1809–00
				(CONNECTED AT A2J123 & A10J2)		
W200	174–2681–00			CA ASSY,SP,ELEC:10,28 AWG,3.0 L,RIBBON	80009	174–2681–00
				(CONNECTED AT A2J200 & A8J800)		
W240	174–1804–01			CA ASSY,SP,ELEC:SAF CONTROLLED	80009	174–1804–01
				(CONNECTED AT A8J240 TO "0–80V" FRT PNL)		
				ATTACHED PARTS		
	136–0765–00			JACK,TIP:BANANA	80009	136–0765–00
	210–0227–00			TERM,LUG:0.141 ID,LOCKING,BRZ TINNED	98335	GC7462M
	210–1039–00			WASHER,LOCK:0.521 ID,INT,0.025 THK,SST	24931	ORDER BY DESCR
	211–0409–00			SCR,ASSEM WSHR:4–40 X 0.312,PNH,STL	93907	ORDER BY DESCR
	220–0497–00			NUT,PLAIN,HEX:0.5–28 X 0.562 HEX,BRS CD PL	80009	220–0497–00
	352–1035–00			HOLDER,CONN:SAF CONTROLLED	80009	352–1035–00
				END ATTACHED PARTS		
W280	174–1800–00			CA ASSY,SP,ELEC:20.0 L,COAX	80009	174–1800–00
				(CONNECTED AT A4J280 TO BT100,F100,F200, AND S100 FRT PNL)		
				ATTACHED PARTS		
	162–0530–00			INSUL SLVG,ELEC:HT SHRINK,0.188 ID	06090	VERSAFIT
				(QUANTITY 4–0.500 INCHES LONG)		
				END ATTACHED PARTS		
W390	174–1797–00			CA ASSY,SP,ELEC:26,28 AWG,2.0 L,RIBBON	80009	174–1797–00
				(CONNECTED AT A2J390 & A4J130)		
W400	174–0820–00			CA ASSY,RF:50 OHM COAX,11.5 L	80009	174–0820–00
				(CONNECTED AT A2J400 & A8J690)		
W420	174–0819–00			CA ASSY,RF:50 OHM COAX,8.25 L	80009	174–0819–00
				(CONNECTED AT A2J550 & A8J420)		
W430	174–0819–00			CA ASSY,RF:50 OHM COAX,8.25 L	80009	174–0819–00
				(CONNECTED AT A3J940 & A8J430)		
W440	174–0819–00			CA ASSY,RF:50 OHM COAX,8.25 L	80009	174–0819–00
				(CONNECTED AT A3J941 & A8J440)		
W480	174–2679–00			CA ASSY,RF:75 OHM COAX,BLK VINYL JKT,9.5 L	80009	174–2679–00
				(CONNECTED AT A8J480 TO "RF IN" FRT PNL)		
W490	174–1795–00			CA ASSY,SP,ELEC:17.0 L,POWER CONN TO POWER SUPPLY	80009	174–1795–00
				(CONNECTED FROM A4J490 TO "18V AC" FRT PNL)		
W510	174–1794–01			CA ASSY,SP:34,28 AWG,8.0 L,RIBBON	80009	174–1794–01
				(CONNECTED AT A1J100 & A2J510)		
W640	174–1812–00			CA ASSY,SP,ELEC:3,26 AWG,3.5 L,STRD W/VINYL INSUL	80009	174–1812–00
				(CONNECTED AT A1J640 TO "CURSOR B" FRT PNL)		
				ATTACHED PARTS		
	366–0685–01			SHELL,KNOB:SILVER GRAY	80009	366–0685–01
				END ATTACHED PARTS		
W650	174–1812–00			CA ASSY,SP,ELEC:3,26 AWG,3.5 L,STRD W/VINYL INSUL	80009	174–1812–00
				(CONNECTED AT A1J650 TO "GAIN" FRT PNL)		
				ATTACHED PARTS		
	366–0685–01			SHELL,KNOB:SILVER GRAY	80009	366–0685–01

Component Number	Tektronix Part Number	Serial / Assembly Number Effective	Discontinued	Name & Description	Mfr. Code	Mfr. Part Number
				END ATTACHED PARTS		
W670	174–1812–00			CA ASSY,SP,ELEC:3,26 AWG,3.5 L,STRD W/VINYL INSUL	80009	174–1812–00
				(CONNECTED AT A1J670 TO "CURSOR A" FRT PNL)		
				ATTACHED PARTS		
	366–0685–01			SHELL,KNOB:SILVER GRAY	80009	366–0685–01
				END ATTACHED PARTS		
W671	174–3093–00			CA ASSY,SP:LEVEL SENSE,4699PXI	80009	174–3093–00
				(CONNECTED AT A1J671 & A9)		
W910	174–2678–00			CA ASSY,RF:50 OHM COAX,17.5 L	80009	174–2678–00
				(CONNECTED AT A3J910 & A8J590)		
W990	174–2677–00			CA ASSY,RF:50 OHM COAX,13.0 L	80009	174–2677–00
				(CONNECTED AT A3J990 & A8J390)		

Diagrams/Circuit Board Illustrations

Symbols

Graphic symbols and class designation letters are based on ANSI Standard Y32.2–1975.

Logic symbology is based on ANSI Y32.14–1973 in terms of positive logic. Logic symbols depict the logic function performed and may differ from the manufacturer's data.

Overline, parenthesis, or leading slash indicate a low asserting state.

Example: $\overline{\text{ID CONTROL}}$, (ID CONTROL), or /ID CONTROL.

Abbreviations are based on ANSI Y1.1–1972.

Other ANSI standards that are used in the preparation of diagrams by Tektronix, Inc. are:

Y14.15, 1966 -- Drafting Practices.
Y14.2, 1973 -- Line Conventions and Lettering.
Y10.5, 1968 -- Letter Symbols for Quantities Used in Electrical Science and
Electrical Engineering.

American National Standard Institute
1430 Broadway, New York, New York 10018

Component Values

Electrical components shown on the diagrams are in the following units unless noted otherwise:

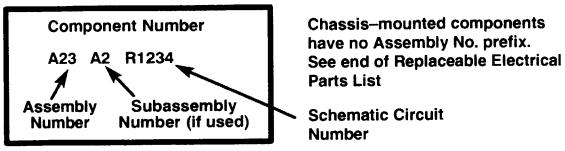
Capacitors: Values one or greater are in picofarads (pF).
Values less than one are in microfarads (μF).
Resistors = Ohms (Ω).

The following information and special symbols may appear in this manual.

Assembly Numbers

Each assembly in the instrument is assigned an assembly number (e.g., A20). The assembly number appears on the diagram (in circuit board outline), circuit board illustration title, and lookup table for the schematic diagram.

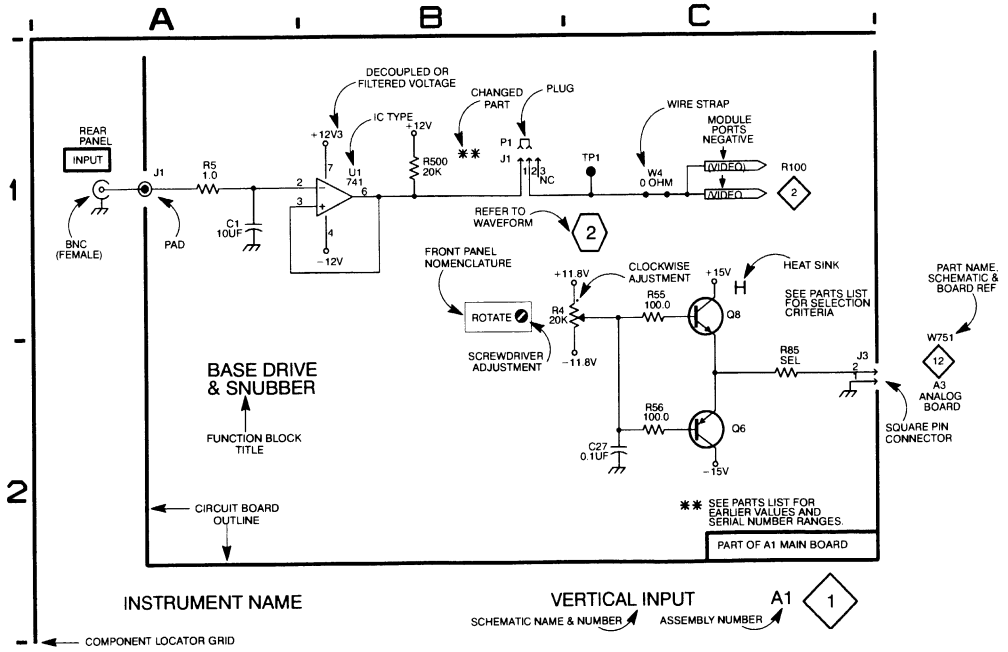
The Replaceable Electrical Parts List is arranged by assembly number in numerical sequence; the components are listed by component number. Example:

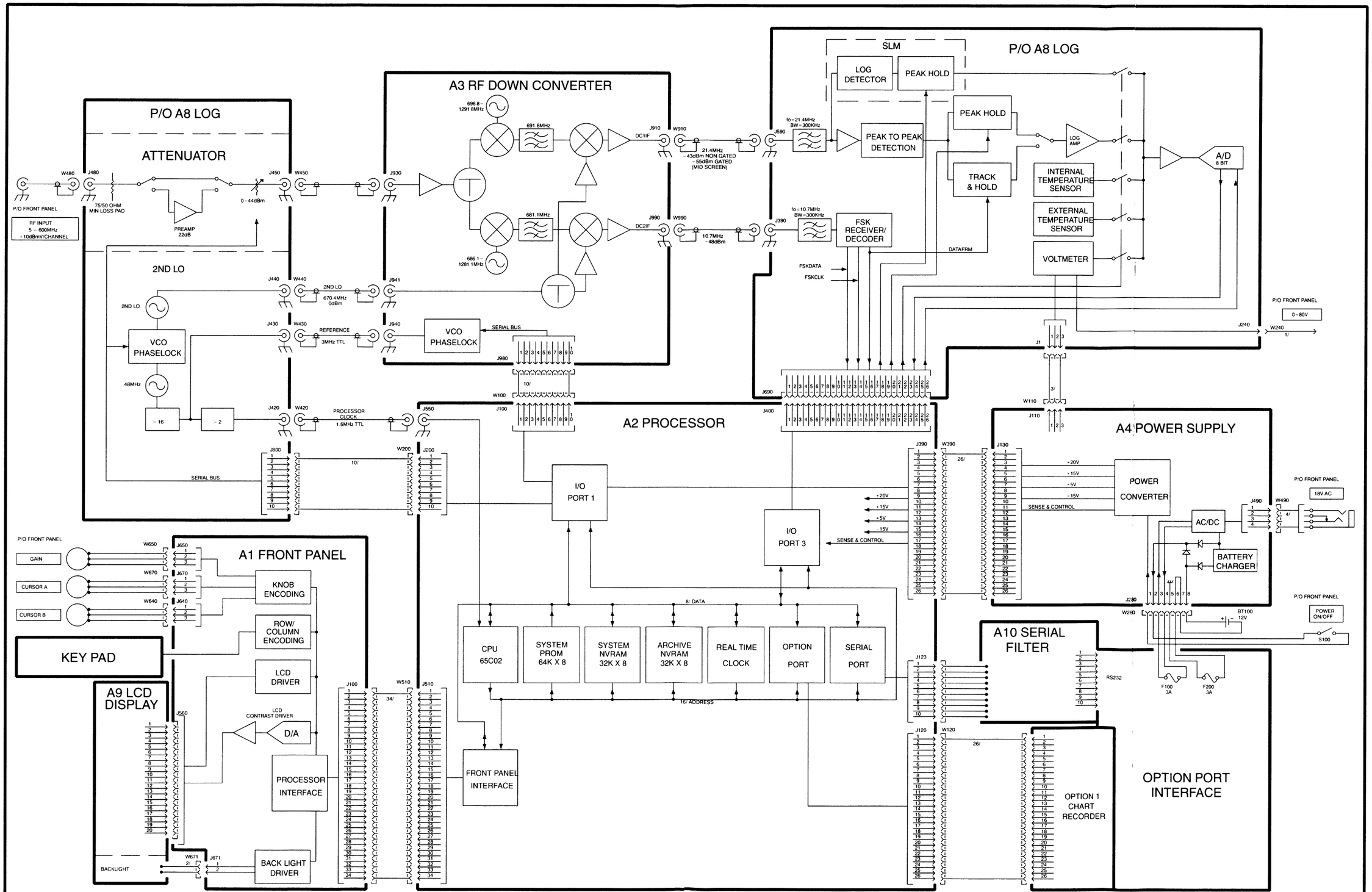


Grid Coordinates

The schematic diagram and circuit board component location illustration have grids. A lookup table with the grid coordinates is provided for ease of locating the component. Only the components illustrated on the facing diagram are listed in the lookup table.

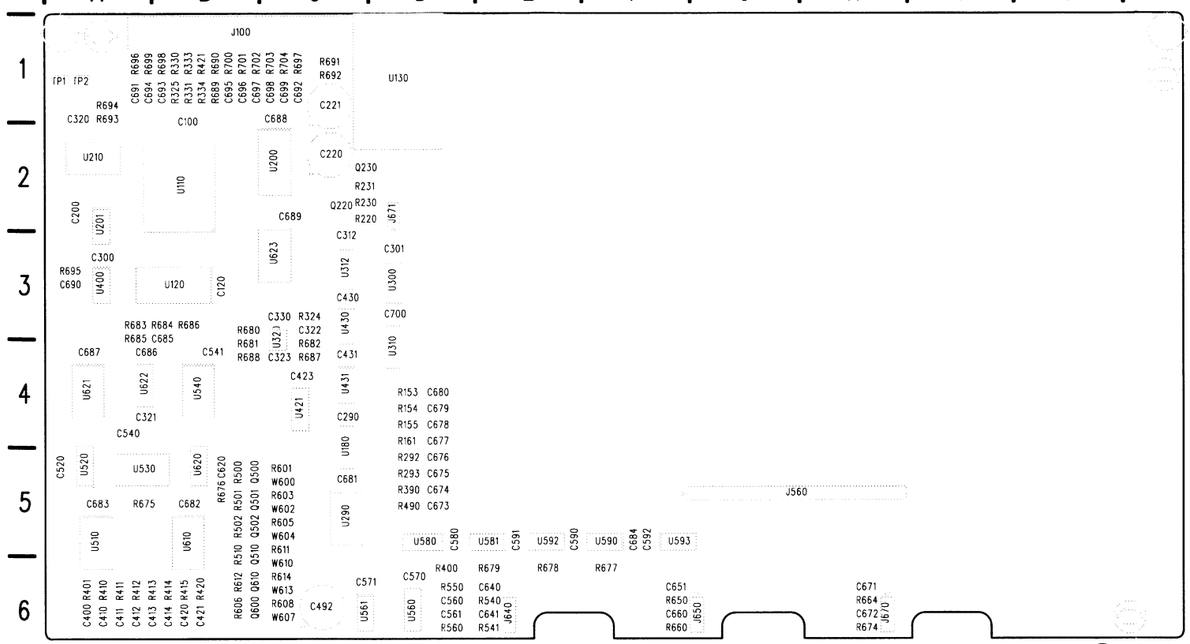
When more than one schematic diagram is used to illustrate the circuitry on a circuit board, the circuit board illustration will only appear opposite the first diagram; the lookup table will list the diagram number of other diagrams that the other circuitry appears on.

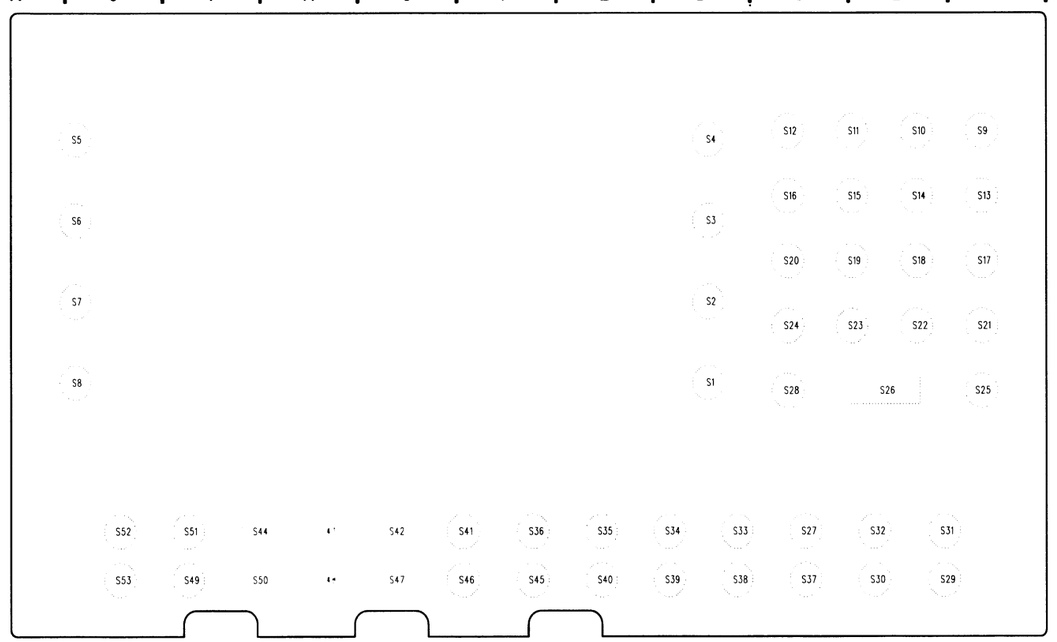




2722A

SYSTEM LEVEL BLOCK DIAGRAM





2722A – A1 FRONT PANEL BOARD (FRONT)

Static Sensitive Devices
See Maintenance Section

2722A – A1 FRONT PANEL BOARD (BACK)

A1 Front Panel Board Component Locator

(with cross-references to schematic diagrams 1, 2, 3, and 4)

Use this lookup table for parts located on Schematic <1>.

Comp No	Diag No	Diag Loc	Bd Loc
C100	4	D5	B2
C120	4	B5	B3
C200	4	B5	A2
C220	4	G3	C2
C221	4	G3	C1
C290	1	C5	C4
C300	2	A5	A3
C301	3	D5	D3
C312	3	D5	C3
C320	4	C5	A2
C321	4	E1	A4
C322	4	G2	C3
C323	4	G2	C4
C330	4	G2	C3
C400	1	E3	A6
C410	1	D2	A6
C411	1	D2	A6
C412	1	D2	A6
C413	1	E3	B6
C414	1	E3	B6
C420	1	E3	B6
C421	1	E4	B6
C423	4	D5	C4
C430	4	D5	C3
C431	4	D5	C4
C492	3	C5	C6
C520	1	C5	A5
C540	1	B5	A4
C541	2	B5	B4
C560	2	F3	D6
C561	2	F4	D6
C570	2	B5	D6
C571	2	B5	C6
C580	2	C5	D5
C590	2	C5	E5
C591	2	C5	E5
C592	2	D5	F5
C620	1	B5	B5
C640	2	B1	E6
C641	2	B2	E6
C651	2	B3	F6
C660	2	B3	F6
C671	2	B4	H6
C672	2	B4	H6
C673	1	F4	D5
C674	1	E4	D5
C675	1	E4	D5
C676	1	D4	D5
C677	1	C4	D4
C678	1	C4	D4
C679	1	B4	D4
C680	1	B4	D4
C681	1	B5	C5
C682	1	A5	B5
C683	1	B5	A5
C684	2	D5	F5
C685	4	E1	B4
C686	4	E1	A4
C687	4	C5	A4
C688	4	C5	C2
C689	4	E5	C2
C690	3	B4	A3
C691	3	C3	A1
C692	3	C4	C1
C693	3	C3	B1
C694	3	C3	B1
C695	3	C2	B1
C696	3	C2	B1
C697	3	C2	C1
C698	3	C2	C1
C699	3	C2	C1
C700	3	C5	D3
J100	3	A2	B1
J560	4	H4	G5
J640	2	A1	E6
J650	2	A2	G6
J670	2	A4	H6
J671	4	H3	D2
Q220	4	G3	C2
Q230	4	G3	C2
Q500	1	A1	B5
Q501	1	A1	B5
Q502	1	B1	B5
Q510	1	C1	B6
Q600	1	D1	B6
Q610	1	C1	B6
R153	1	A4	D4
R154	1	B4	D4
R155	1	C4	D4
R161	1	C4	D4
R220	4	G3	C2
R230	4	G3	C2
R231	4	G3	C2
R292	1	D4	D5
R293	1	D4	D5
R324	4	G2	C3
R325	1	G3	B1
R330	1	G3	B1
R331	1	G3	B1
R333	1	G3	B1
R334	1	G3	B1
R390	1	E4	D5
R400	2	D2	D6
R401	1	E2	A6
R410	1	D2	A6
R411	1	D2	A6
R412	1	D2	A6
R413	1	E3	B6
R414	1	E3	B6
R415	1	E3	B6
R420	1	E4	B6
R421	1	G3	B1
R490	1	F4	D5
R500	1	A1	B5
R501	1	B1	B5
R502	1	B1	B5
R510	1	C1	B6
R540	2	B1	E6
R541	2	B2	E6
R550	2	F3	D6
R560	2	F4	D6
R601	1	A1	C5
R603	1	A1	C5
R605	1	B1	C5
R606	1	D1	B6
R608	1	C1	C6
R611	1	B1	C5
R612	1	C1	B6
R614	1	C1	C6
R650	2	B2	F6
R660	2	B3	F6
R664	2	B4	H6
R675	1	G1	A5
R676	1	F1	B5
R677	2	B1	F6
R678	2	B2	E6
R679	2	B3	E6
R680	4	G2	B3
R681	4	F2	B4
R682	4	F2	C4
R683	4	E1	A3
R684	4	E1	B3
R685	4	E1	A4
R686	4	E1	B3
R687	4	F2	C4
R688	4	E2	B4
R689	1	G3	B1
R690	1	G2	B1
R691	4	F3	C1
R692	4	F3	C1
R693	4	C5	A2
R694	4	C5	A1
R695	3	B4	A3
R696	3	C3	A1
R697	3	C4	C1
R698	3	C3	B1
R699	3	C3	B1
R700	3	C2	B1
R701	3	C2	B1
R702	3	C2	C1
R703	3	C2	C1
R704	3	C2	C1
S1	1	A5	D4
S2	1	B5	D3
S3	1	C5	D2
S4	1	C5	D2
S5	1	D5	J2
S6	1	D5	J2
S7	1	E5	J3
S8	1	F5	J4
S9	1	A2	A2
S10	1	A2	B2
S11	1	A2	B2
S12	1	A3	C2
S13	1	A3	A2
S14	1	A3	B2
S15	1	A3	B2
S16	1	A4	C2
S17	1	A2	A3
S18	1	A2	B3
S19	1	A2	B3
S20	1	A3	C3
TP1	3	A2	A1
TP2	3	A2	A1
U110	4	C3	B2
U120	4	D4	B3
U130	4	H3	D1
U180	1	G4	C5
U200	4	G4	C2
U201A	4	B3	A3
U201B	4	B3	A3
U201C	4	B3	A3
U201D	4	B3	A3
U210	4	B3	A2
U290	1	F4	C5
U300	3	E2	D3
U310A	3	D2	D4
U310B	3	D3	D4
U312	3	E2	C3
U320A	4	G2	C4
U320B	4	F2	C4
U400A	3	D5	A3
U400B	3	D4	A3
U421	4	G5	C4
U430A	4	F5	C3
U430B	4	G5	C3
U430C	4	G4	C3
U430D	4	F5	C3
U431A	4	H5	C4
U431B	4	F5	C4
U431C	4	F5	C4
U431D	4	G5	C4
U510	1	E2	A5
U520	1	E2	A5
U530	1	G2	A5
U540	2	G2	B4
U560A	2	F4	D6
U560B	2	F3	D6
U561A	2	F3	C6
U561B	2	G4	C6
U561C	2	F4	C6
U561D	2	E4	C6
U580	2	D2	D5
U581A	2	C4	E5
U581B	2	C4	E5
U590A	2	C1	F5
U590B	2	C2	F5
U592A	2	C2	E5
U592B	2	C3	E5
U593A	2	B1	F5
U593B	2	B2	F5
U593C	2	B2	F5
U593D	2	B4	F5
U593E	2	B4	F5
U593F	2	B3	F5
U610	1	E1	B5
U620	1	F1	B5
U621	4	D1	A4
U622	4	E1	A4
U623	4	F4	C3
W600	1	A1	C5
W602	1	A1	C5
W604	1	B1	C5
W607	1	D1	C6
W610	1	B1	C6
W613	1	C1	C6

Back of Board

Comp No	Diag No	Diag Loc	Bd Loc
S21	1	A3	A3
S22	1	A3	B3
S23	1	A3	B3
S24	1	A4	C3
S25	1	B2	A4
S26	1	B2	B4
S27	1	B2	C5
S28	1	B3	C4
S29	1	B3	A6
S30	1	B3	B6
S31	1	B3	A5
S32	1	B4	B5
S33	1	B2	D5
S34	1	B2	D5
S35	1	B2	E5
S36	1	B3	F5
S37	1	B3	C6
S38	1	B3	D6
S39	1	B3	D6
S40	1	B4	E6
S41	1	C2	F5
S42	1	C2	G5
S43	1	C2	H5
S44	1	C3	H5
S45	1	C3	F6
S46	1	C3	F6
S47	1	C3	G6
S48	1	C4	H6
S49	1	D2	I6
S50	1	D2	H6
S51	1	D2	I5
S52	1	D3	J5
S53	1	D4	J6

P/O A1 FRONT PANEL BOARD

2722A

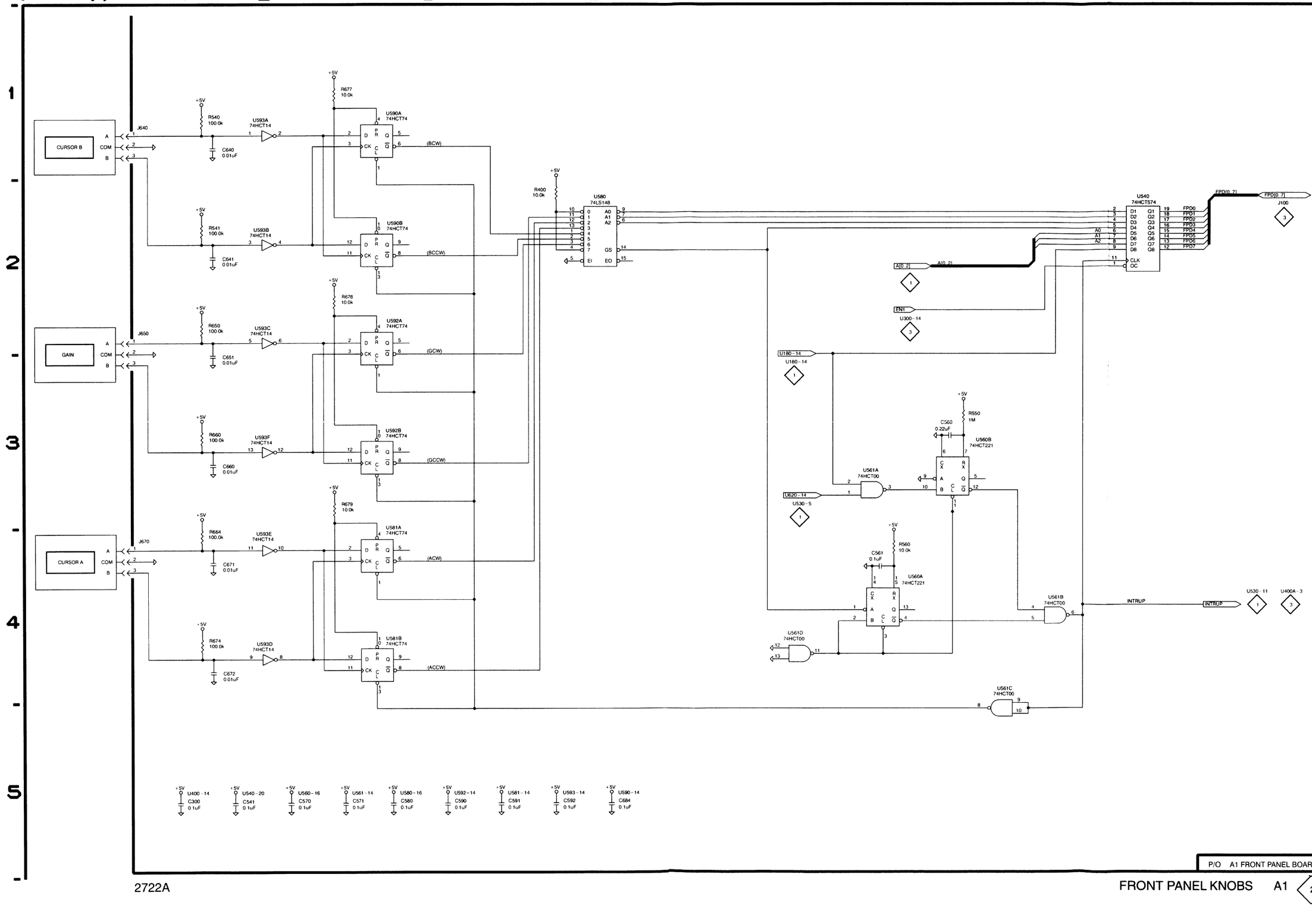
FRONT PANEL SWITCHES A1

Schematic Diagram <2> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A1. Partial Assembly A1 also shown on Diagrams 1, 3, and 4.

Comp No	Diag Loc	Bd Loc
C300	A5	A3
C541	B5	B4
C560	F3	D6
C561	F4	D6
C570	B5	D6
C571	B5	C6
C580	C5	D5
C590	C5	E5
C591	C5	E5
C592	D5	F5
C640	B1	E6
C641	B2	E6
C651	B3	F6
C660	B3	F6
C671	B4	H6
C672	B4	H6
C684	D5	F5
J640	A1	E6
J650	A2	G6
J670	A4	H6
R400	D2	D6
R540	B1	E6
R541	B2	E6
R550	F3	D6
R560	F4	D6
R650	B2	F6
R660	B3	F6
R664	B4	H6
R674	B4	H6
R677	B1	F6
R678	B2	E6
R679	B3	E6
U540	G2	B4
U560A	F4	D6
U560B	F3	D6
U561A	F3	C6
U561B	G4	C6
U561C	F4	C6
U561D	E4	C6
U580	D2	D5
U581A	C4	E5
U581B	C4	E5
U590A	C1	F5
U590B	C2	F5
U592A	C2	E5
U592B	C3	E5
U593A	B1	F5
U593B	B2	F5
U593C	B2	F5
U593D	B4	F5
U593E	B4	F5
U593F	B3	F5



P/O A1 FRONT PANEL BOARD

2722A

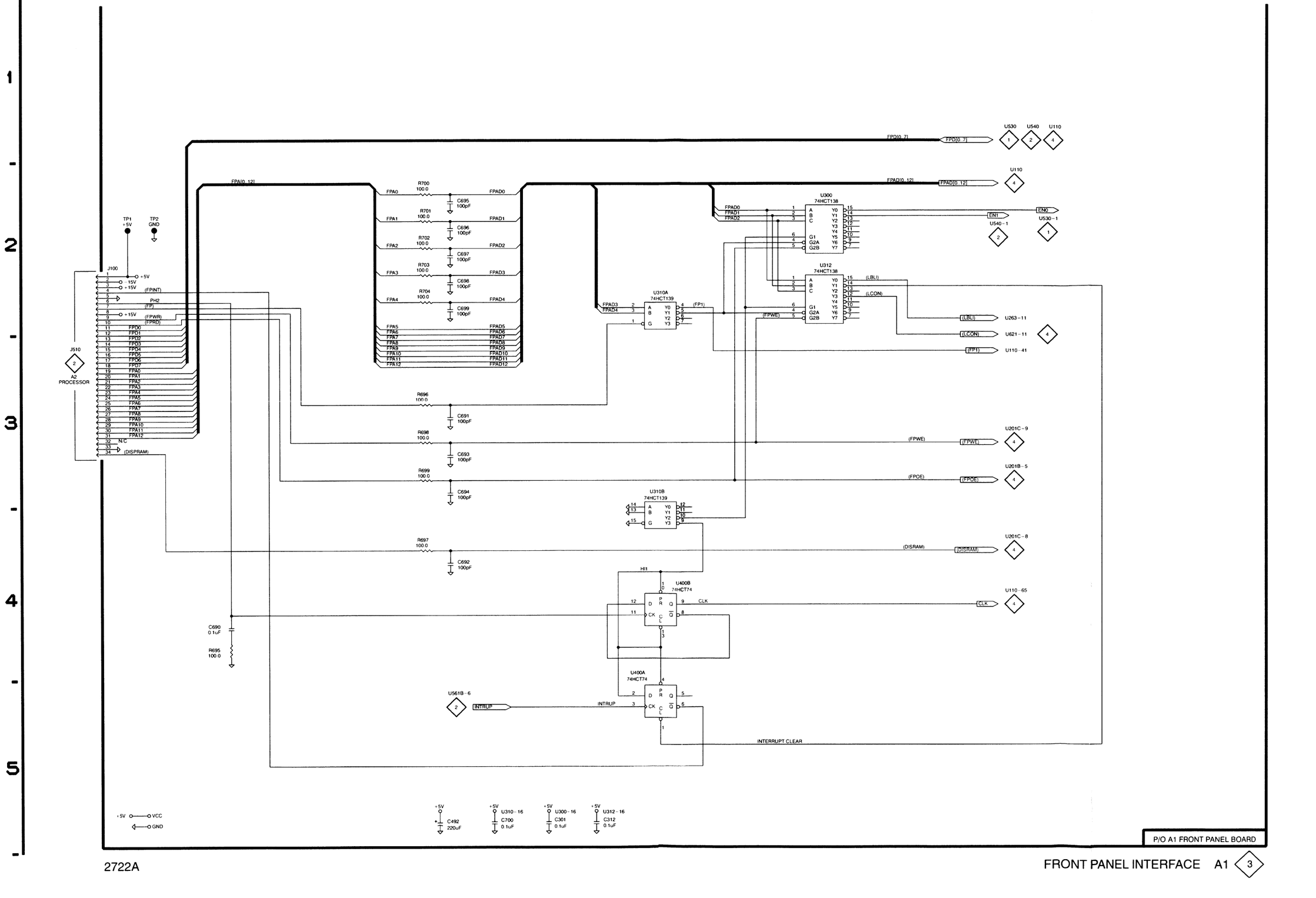
FRONT PANEL KNOBS A1 2

Schematic Diagram <3> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A1. Partial Assembly A1 also shown on Diagrams 1, 2, and 4.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C301	D5	D3	C699	C2	C1	R703	C2	C1
C312	D5	C3	C700	C5	D3	R704	C2	C1
C492	C5	C6						
C690	B4	A3	J100	A2	B1	TP1	A2	A1
C691	C3	A1				TP2	A2	A1
			R695	B4	A3			
C692	C4	C1	R696	C3	A1	U300	E2	D3
C693	C3	B1	R697	C4	C1	U310A	D2	D4
C694	C3	B1	R698	C3	B1	U310B	D3	D4
C695	C2	B1	R699	C3	B1	U312	E2	C3
C696	C2	B1				U400A	D5	A3
			R700	C2	B1	U400B	D4	A3
C697	C2	C1	R701	C2	B1			
C698	C2	C1	R702	C2	C1			



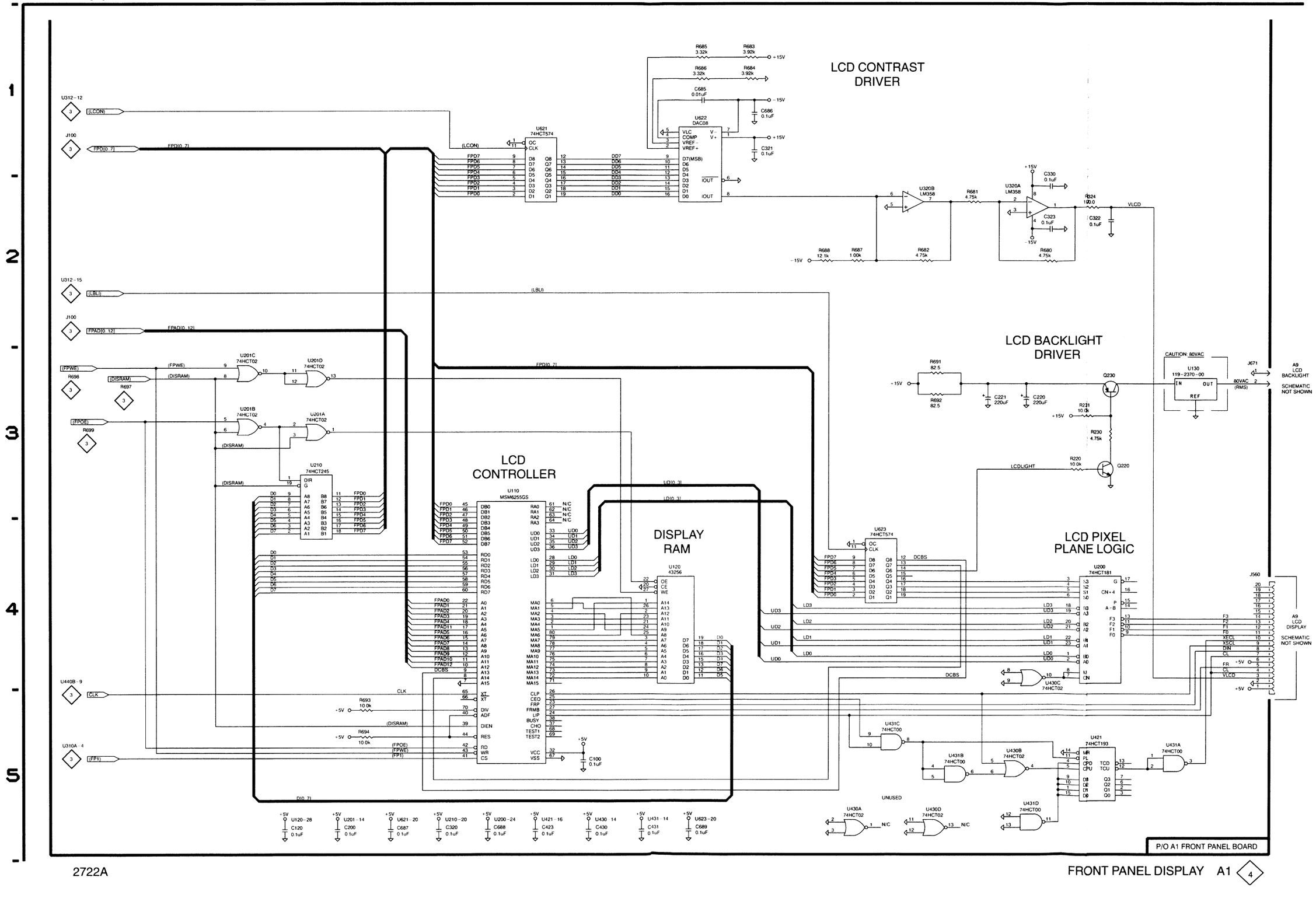
P/O A1 FRONT PANEL BOARD

Schematic Diagram <4> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

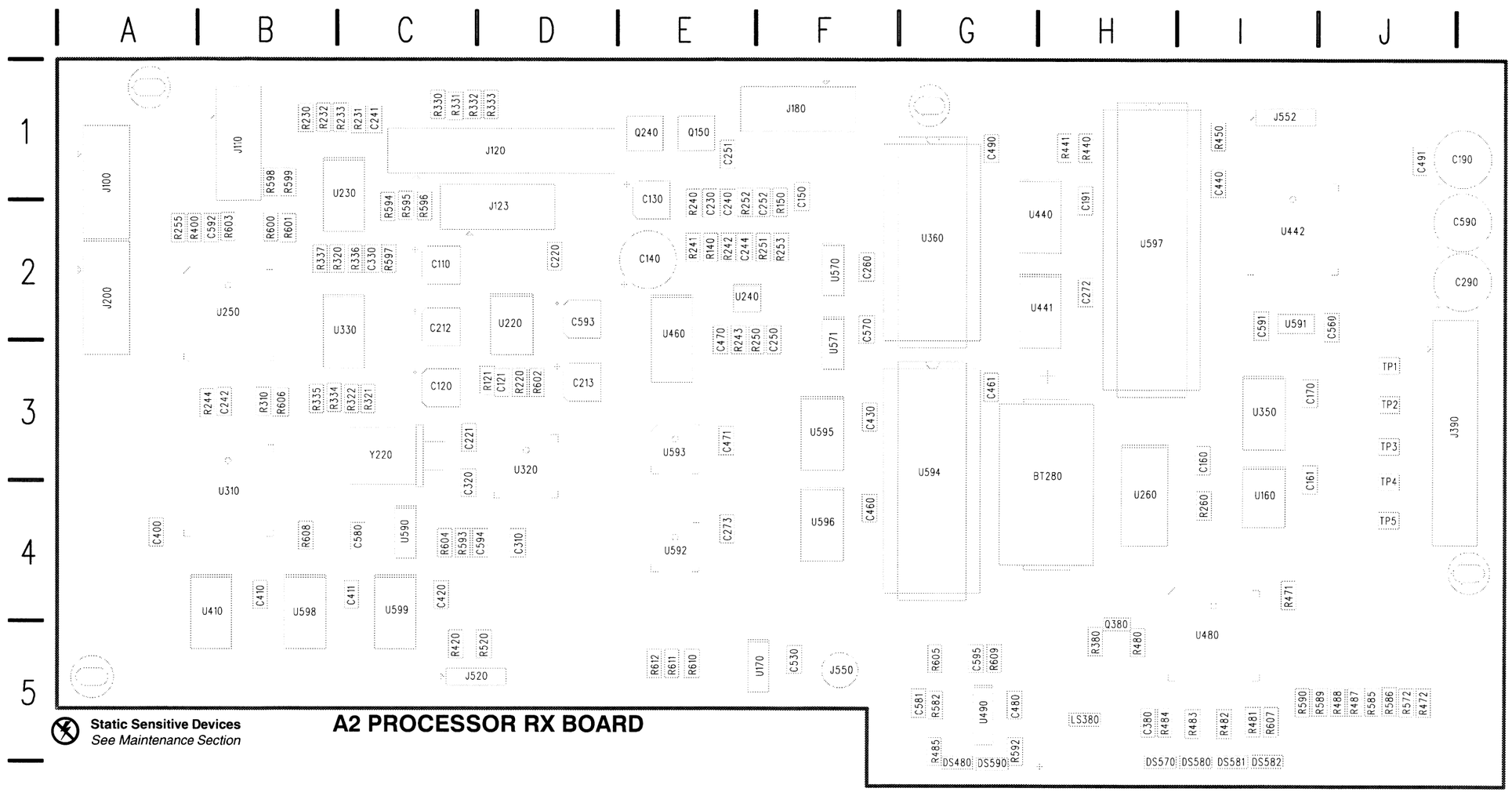
Assembly A1. Partial Assembly A1 also shown on Diagrams 1, 2, and 3.

Comp No	Diag Loc	Bd Loc
C100	D5	B2
C120	B5	B3
C200	B5	A2
C220	G3	C2
C221	G3	C1
C320	C5	A2
C321	E1	A4
C322	G2	C3
C323	G2	C4
C330	G2	C3
C423	D5	C4
C430	D5	C3
C431	D5	C4
C685	E1	B4
C686	E1	A4
C687	C5	A4
C688	C5	C2
C689	E5	C2
J560	H4	G5
J671	H3	D2
Q220	G3	C2
Q230	G3	C2
R220	G3	C2
R230	G3	C2
R231	G3	C2
R324	G2	C3
R680	G2	B3
R681	F2	B4
R682	F2	C4
R683	E1	A3
R684	E1	B3
R685	E1	A4
R686	E1	B3
R687	F2	C4
R688	E2	B4
R691	F3	C1
R692	F3	C1
R693	C5	A2
R694	C5	A1
U110	C3	B2
U120	D4	B3
U130	H3	D1
U200	G4	C2
U201A	B3	A3
U201B	B3	A3
U201C	B3	A3
U201D	B3	A3
U210	B3	A2
U320A	G2	C4
U320B	F2	C4
U421	G5	C4
U430A	F5	C3
U430B	G5	C3
U430C	G4	C3
U430D	F5	C3
U431A	H5	C4
U431B	F5	C4
U431C	F5	C4
U431D	G5	C4
U621	D1	A4
U622	E1	A4
U623	F4	C3



2722A

FRONT PANEL DISPLAY A1 4



Static Sensitive Devices
See Maintenance Section

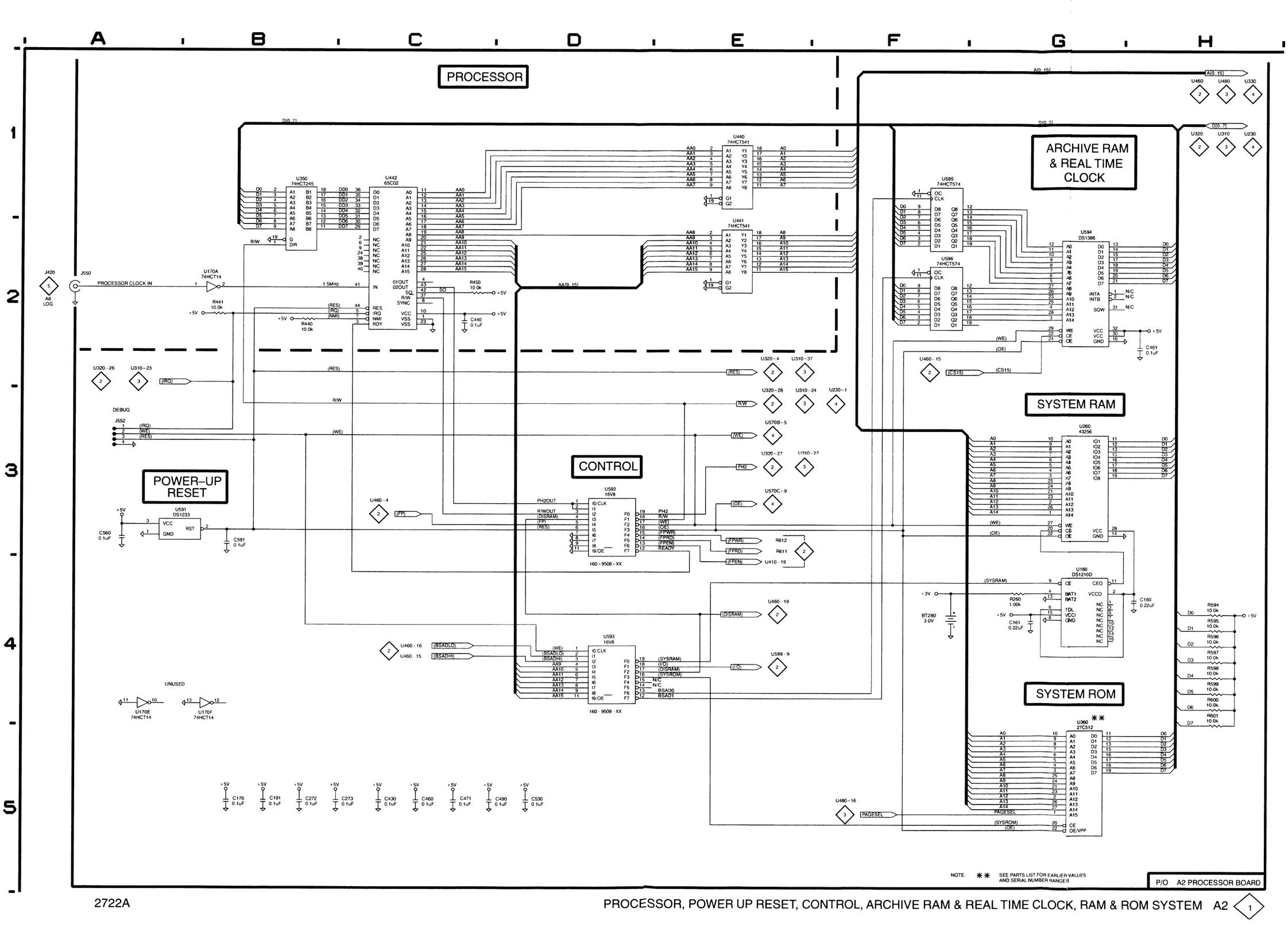
A2 PROCESSOR RX BOARD

A2 Processor RX Board Component Locator

(with cross-references to schematic diagrams 1, 2, 3, and 4)

Use this lookup table for parts located on Schematic <1>.

Comp No	Diag No	Diag Loc	Bd Loc
BT280	1	F4	G4
C110	2	F2	C2
C120	2	F2	C3
C121	2	F2	D3
C130	4	F4	E2
C140	4	F4	E2
C150	4	F5	F2
C160	1	H4	I3
C161	1	G4	I4
C170	1	B5	I3
C190	3	H5	J1
C191	1	B5	H2
C212	2	F2	C3
C213	2	F2	D3
C220	2	F2	D2
C221	2	E2	C3
C230	4	F4	E2
C240	4	E4	E1
C241	4	D5	C1
C242	3	F4	B3
C244	4	D4	E2
C250	4	D4	F3
C251	4	F5	E1
C252	4	E5	F2
C260	4	D5	F2
C272	1	B5	H2
C273	1	B5	E4
C290	3	H5	J2
C310	2	E3	D4
C320	2	E2	C4
C330	4	D5	C2
C380	3	B5	H5
C400	3	F2	A4
C410	2	D4	B4
C411	2	D5	C4
C420	2	D5	C4
C430	1	C5	F3
C440	1	C2	I1
C460	1	C5	F4
C461	1	H2	G3
C470	2	D1	E3
C471	1	C5	E3
C480	3	A5	G5
C490	1	C5	G1
C491	3	H5	J1
C530	1	D5	F5
C560	1	A3	J2
C570	4	D5	F3
C580	3	A5	C4
C581	3	C1	G5
C590	3	H5	J2
C591	1	B3	I2
C592	3	E5	B2
C593	2	F2	D3
C594	3	B3	D4
C595	3	F5	G5
DS480	3	G5	G6
DS570	3	C4	H6
DS580	3	C4	I6
DS581	3	C5	I6
DS582	3	C5	I6
DS590	3	C1	G6
J100	3	H3	A1
J110	3	H3	B1
J120	4	H1	C1
J123	2	H3	C2
J200	3	H4	A2
J390	3	H4	J2
J400	3	H2	A4
J510	2	A4	A5
J550	1	A2	F5
J552	1	A3	I1
LS380	3	D5	H5
Q150	4	F5	E1
Q240	4	F4	E1
Q380	3	D5	H5
R121	2	G2	D3
R140	4	E4	E2
R150	4	F5	F2
R220	2	G2	D3
R230	4	D1	B1
R231	4	D1	C1
R232	4	D1	B1
R233	4	D1	C1
R234	4	F2	C3
R235	4	E4	E2
R236	4	E2	C2
R241	4	E4	E2
R242	4	E4	E2
R243	4	D4	E3
R244	3	F4	B3
R250	4	D4	F3
R251	4	E5	F2
R252	4	E5	E2
R253	3	E5	F2
R255	3	F4	A2
R260	1	G4	I4
R310	3	F2	B3
R320	4	E2	C2
R321	4	E2	C3
R322	4	F2	C3
R330	4	D2	C1
R331	4	D2	C1
R332	4	D2	D1
R333	4	D1	D1
R334	4	F2	C3
R335	4	E4	E2
R336	4	E2	C2
R337	4	E2	B2
R380	3	D5	H5
R400	3	F4	B2
R440	1	B2	H1
R441	1	B2	H1
R450	1	C2	I1
R471	3	C4	I4
R472	3	D4	J5
R480	3	D5	H5
R481	3	C5	I5
R482	3	C5	I5
R483	3	C4	I5
R484	3	C4	H5
R485	3	G5	G6
R487	3	B3	C4
R488	3	D4	J5
R520	3	A5	C4
R572	3	D4	J5
R582	3	C1	G5
R585	3	C4	J5
R586	3	D4	J5
R589	3	C4	J5
R590	3	C4	I5
R592	3	C1	G6
R593	3	B3	C4
R594	1	H4	C2
R595	1	H4	C2
R596	1	H4	C2
R597	1	H4	C2
R598	1	H4	B1
R599	1	H4	B1
R600	1	H4	B2
R601	1	H4	B2
R602	2	D3	D3
R603	3	E4	B2
R604	3	B3	C4
R605	3	F5	G5
R606	3	D4	B3
R607	3	A4	I5
R608	3	E2	B4
R609	3	F5	G5
R610	2	B4	E5
R611	2	B5	E5
R612	2	B5	E5
TP1	3	G5	J3
TP2	3	G5	J3
TP3	3	G5	J3
TP4	3	G5	J3
TP5	3	H5	J4
U160	1	G4	I3
U170A	1	B2	E5
U170B	2	B3	E5
U170C	3	F2	E5
U170D	3	F5	E5
U170E	1	A4	E5
U170F	1	B4	E5
U220	2	F2	C2
U230	4	C1	B1
U240A	4	D4	E2
U240B	4	D5	E2
U250	3	E3	B2
U260	1	G3	H3
U310	3	E1	B3
U320	2	E2	D3
U330	4	D2	B2
U350	1	B1	I3
U360	1	G5	J3
U410	2	C4	A4
U440	1	E1	G1
U441	1	E2	G2
U442	1	C1	I1
U460	2	C1	E2
U480	3	B4	I4
U490A	3	F5	G5
U490B	3	C1	G5
U570A	4	C5	F2
U570B	4	C4	F2
U570C	4	C5	F2
U570D	4	C5	F2
U571A	4	E3	F2
U571B	4	E3	F2
U571C	4	E3	F2
U571D	4	E3	F2
U590A	3	B1	C4
U590B	3	B3	C4
U591	1	A3	I3
U592	1	D3	E4
U593	1	D4	E3
U594	1	H4	C2
U595	1	G4	I3
U596	1	G2	D2
U597	1	C4	F2
U598	2	C4	B4
U599	2	C5	C4
W580	3	F1	B4
W581	3	F1	C4
W596	2	G2	D2
W598	2	G3	D2
W602	3	C4	J5
W603	3	C4	J5
W604	3	C4	J5
W605	3	C4	J5
W606	3	D4	J5
W607	3	D4	J5
W608	3	D4	J5
W609	3	C4	I5
Y220	2	E2	C3


PROCESSOR
ARCHIVE RAM & REAL TIME CLOCK
SYSTEM RAM
SYSTEM ROM
CONTROL
POWER–UP RESET
PROCESSOR CLOCK IN
1.5MHz
DEBUG
UNUSED
U350 74HCT245
U442 65C02
U440 74HCT541
U441 74HCT541
U595 74HCT574
U596 74HCT574
U594 DS1386
U260 43256
U591 DS1233
U592 16V8
U593 16V8
U160 DS1210D
U360 27C512
U170A 74HCT14
U170E 74HCT14
U170F 74HCT14
U570B-5
U570C-9
U599-9
U460-4
U460-15
U460-16
U460-19
U480-16
U320-4
U320-26
U320-27
U320-28
U310-23
U310-24
U310-27
U310-37
U230-1
U330
U230
J420
J550
J552
R441 10.0k
R440 10.0k
R450 10.0k
R612
R611
R260 1.00k
R594 10.0k
R595 10.0k
R596 10.0k
R597 10.0k
R598 10.0k
R599 10.0k
R600 10.0k
R601 10.0k
C440 0.1uF
C461 0.1uF
C160 0.22uF
C161 0.22uF
C560 0.1uF
C591 0.1uF
C170 0.1uF
C191 0.1uF
C272 0.1uF
C273 0.1uF
C430 0.1uF
C460 0.1uF
C471 0.1uF
C490 0.1uF
C530 0.1uF
BT280 3.0V
A[0..15]
D[0..7]
AA[9..15]
(RES)
(IRQ)
(NMI)
R/W
(WE)
(OE)
(FP)
(CS15)
(SYSRAM)
(SYSROM)
(I/O)
(DISRAM)
(BSADLO)
(BSADHI)
(FPWR)
(FPRD)
(FPEN)
PH2
PAGESEL
READY
+5V
+3V
NOTE: ** SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES
P/O A2 PROCESSOR BOARD

Schematic Diagram <2> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A2. Partial Assembly A2 also shown on Diagrams 1, 3, and 4.

Comp No	Diag Loc	Bd Loc
C110	F2	C2
C120	F2	C3
C121	F2	D3
C212	F2	C3
C213	F2	D3
C220	F2	D2
C221	E2	C3
C310	E3	D4
C320	E2	C4
C410	D4	B4
C411	D5	C4
C420	D5	C4
C470	D1	E3
C593	F2	D3
J123	H3	C2
J510	A4	A5
R121	G2	D3
R220	G2	D3
R602	D3	D3
R610	B4	E5
R611	B5	E5
R612	B5	E5
U170B	B3	E5
U220	F2	C2
U320	E2	D3
U410	C4	A4
U460	C1	E2
U598	C4	B4
U599	C5	C4
W596	G2	D2
W598	G3	D2
Y220	E2	C3

ADDRESS DECODE

U460
74HCT154

U440 — A[0..15]

U593-18 — (I/O)

(CS0) → U250-25
(CS1) → U480-25
(CS2) → U310-25
(FP)
(RS232)
(PRLATCH) → U330-1, U570C-8
(PREN) → U570C-8
(CS11) → U571B-6
(BSADHI) → U593-3
(BSADLO) → U593-2
(CS15) → U460-17

+5V — C470 0.1uF

SERIAL PORT

U442-5 — (IRQ)

C596 0.1uF, R614 75.0, Y220 1.8432MHz, C320 27pF, C221 27pF, R613 1.00k

U320
65C51

R602 10.0k

U350 — D[0..7]

U350-1 — R/W
U592-19 — PH2
U591-2 — (RES)

U170B
74HCT14

U220
MAX232

C593 10uF, C220 0.1uF, C110 10uF, C212 10uF, C120 10uF, C121 0.1uF, C213 10uF, R121 3.32k, R220 3.32k

+5V, +10V, -10V — U240A-4

W596, W598

J123 — P/O OPTION PORT INTERFACE — RS232
(DSR), (RTS), TXD, (CTS), (DTR), N/C

C310 0.1uF

FRONT PANEL INTERFACE

U592-13 — (FPEN)

+5VSENSE, +15VSENSE

J510 — (FPINT)

R610 47.5, R603

FPD[0..7]

U410
74HCT245

C410 0.1uF

J100
A1
FRONT PANEL

FPA[0..13]

U598
74HCT574

C411 0.1uF

U599
74HCT574

C420 0.1uF

GNDSENSE

U592-14 — (FPRD) — R611 47.5
U592-15 — (FPWR) — R612 47.5
U593-17 — (DISRAM)

(FP) → U592-5

P/O A2 PROCESSOR BOARD

Schematic Diagram <3> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A2. Partial Assembly A2 also shown on Diagrams 1, 2, and 4.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C190	H5	J1	R244	F4	B3	R607	A4	I5
C242	F4	B3	R255	F4	A2	R608	E2	B4
C290	H5	J2	R310	F2	B3	R609	F5	G5
C380	B5	H5	R380	D5	H5			
C400	F2	A4	R400	F4	B2	TP1	G5	J3
						TP2	G5	J3
C480	A5	G5	R471	C4	I4	TP3	G5	J3
C491	H5	J1	R472	D4	J5	TP4	G5	J3
C580	A5	C4	R480	D5	H5	TP5	H5	J4
C581	C1	G5	R481	C5	I5			
C590	H5	J2	R482	C5	I5	U170C	F2	E5
						U170D	F5	E5
C592	E5	B2	R483	C4	I5	U250	E3	B2
C594	B3	D4	R484	C4	H5	U310	E1	B3
C595	F5	G5	R485	G5	G6	U480	B4	I4
			R487	C4	J5			
DS480	G5	G6	R488	C4	J5	U490A	F5	G5
DS570	C4	H6				U490B	C1	G5
DS580	C4	I6	R572	D4	J5	U590A	B1	C4
DS581	C5	I6	R582	C1	G5	U590B	B3	C4
DS582	C5	I6	R585	C4	J5			
DS590	C1	G6	R586	D4	J5	W580	F1	B4
			R589	C4	J5	W581	F1	C4
J100	H3	A1				W602	C4	J5
J110	H3	B1	R590	C4	I5	W603	C4	J5
J200	H4	A2	R592	C1	G6	W604	C4	J5
J390	H4	J2	R593	B3	C4			
J400	H2	A4	R603	E4	B2	W605	C4	J5
			R604	B3	C4	W606	D4	J5
LS380	D5	H5				W607	D4	J5
			R605	F5	G5	W608	D4	J5
Q380	D5	H5	R606	D4	B3	W609	C4	I5

FSK CLOCK SYNCHRONIZER

PORT3

PORT2

PORT1

U590A 74HCT74

U490B 74HCT221

C581 0.1uF

R582 100.0k

R592 332.0

DS590

Indicates FSK Data Transfer

PH2

HI1

W581

W580

U442-5

(IRQ)

U350

D[0..7]

U350-1

R/W

U442-44

(RES)

U592-19

PH2

U440

A[0..15]

U460-3

(CS2)

U310 65C22

D0 D1 D2 D3 D4 D5 D6 D7

IRQ R/W CS1 CS2 RS0 RS1 RS2 RS3 RES 02

PA0 PA1 PA2 PA3 PA4 PA5 PA6 PA7

PB0 PB1 PB2 PB3 PB4 PB5 PB6 PB7

CA1 CA2 CB1 CB2

NC NC NC NC VCC VSS

L/SD0 L/SD1 L/SD2 L/SD3 L/SD4 L/SD5 L/SD6 L/SD7

L/SD[0..7]

R608 10.0k

R310 10.0k

C400 0.1uF

U170C 74HCT14

N/C

J400

FSKCLK FSKDATA DATAFRM (L/SWR) (L/SRD) L/SEN1 L/SEN0 L/SSIG1 (DACK) L/SSIG0

J690

A8 LOG

+5V +15V +15V +20V +5V

J100

3WDATA 3WCLK DC1LE DCRSVD DC2LE

+20V

J980

A3 RF DOWN CONVERTER

J110

NOT USED

3WDATA 3WCLK ATTNLE N/C N/C N/C

J200

3WDATA 3WCLK LOLE (LOLD) ATTNLE

+20V

J800

A8 LOG

J390

(EXT) BATCHG (PWRON) BATLO

+20V -15V +15V

TP1 +20V

TP2 -15V

TP3 +15V

C290 220uF

C590 220uF

+15VSENSE GNDSENSE +5VSENSE

TP4 +5V

C190 220uF

C491 0.1uF

TP5 GND

J390

A4 POWER SUPPLY

U250 65C22

LOLE DC1LE (LOLD) DCRSVD ATTNLE (PWRON) BATCHG (EXT) 3WCLK 3WDATA

R255 10.0k

R400 10.0k

R244 10.0k

C242 0.1uF

U460-1

(CS0)

J510-4

(FPINT)

R603 100

C592 0.01uF

U170D 74HCT14

C595 0.1uF

R609 100.0k

R485 332.0

DS480

Indicates Serial Data Transfer

U490A 74HCT221

R605 10.0k

J120-13

(PRIRQ)

U571A-1

(INTACK)

U590B 74HCT74

R604 10.0k

R593 10.0k

C594 0.1uF

U480 65C22

R471 10.0k R590 10.0k R589 10.0k R488 10.0k R487 10.0k R585 10.0k R586 10.0k R572 10.0k R472 10.0k

W609 W602 W603 W604 W605 W606 W607 W608

U460-2

(CS1)

R607 10.0k

C380 0.1uF

R484 332.0 DS570

R483 332.0 DS580

R482 332.0 DS581

R481 332.0 DS582

LS380

R380 100.0

Q380

R480 4.75k

U360-1

PAGESEL

C580 0.1uF

C480 0.1uF

P/O A2 PROCESSOR BOARD

2722A

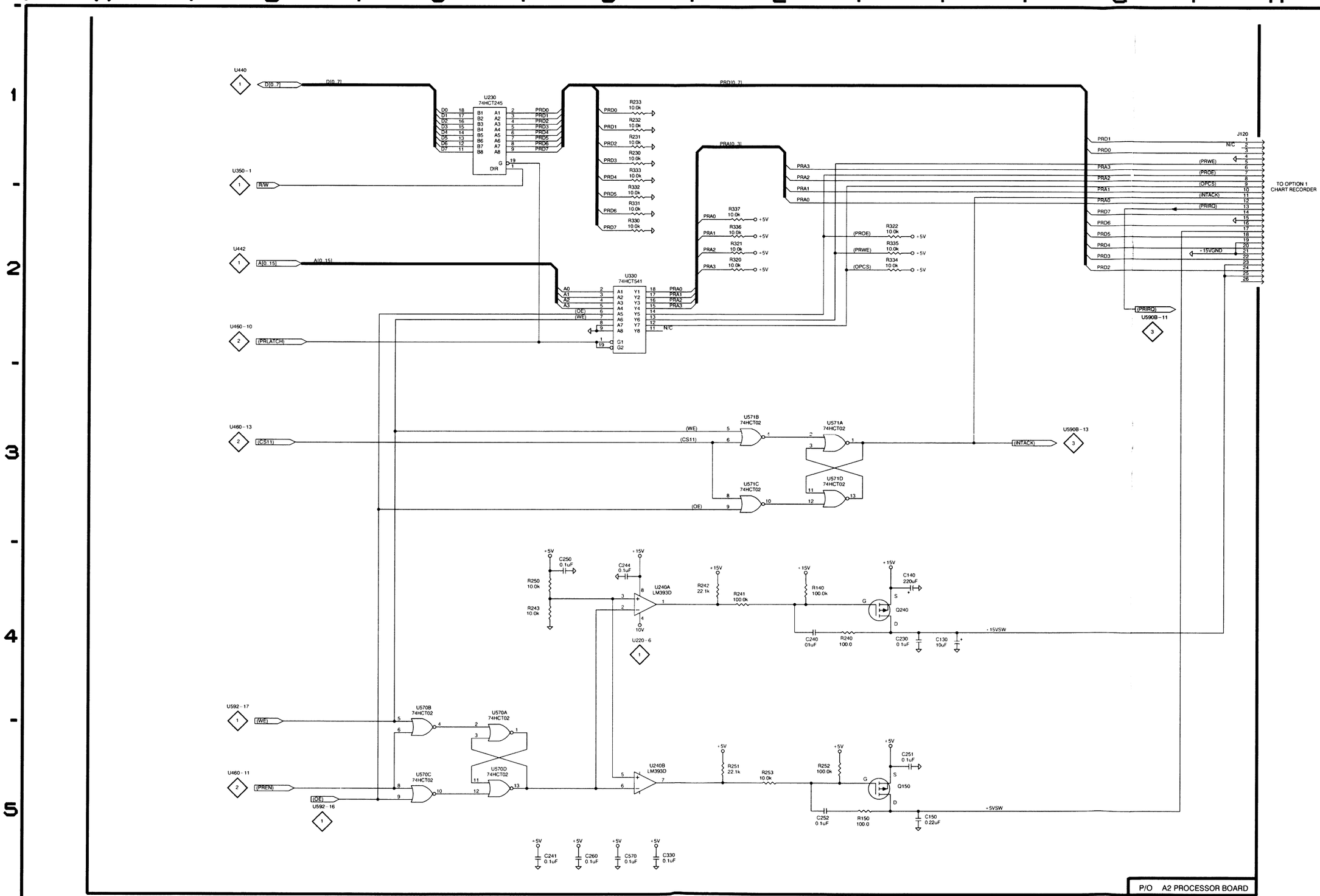
FSK CLOCK SYNCHRONIZER, PORT1, PORT2, PORT3 A2 3

Schematic Diagram <4> Component Locator Chart

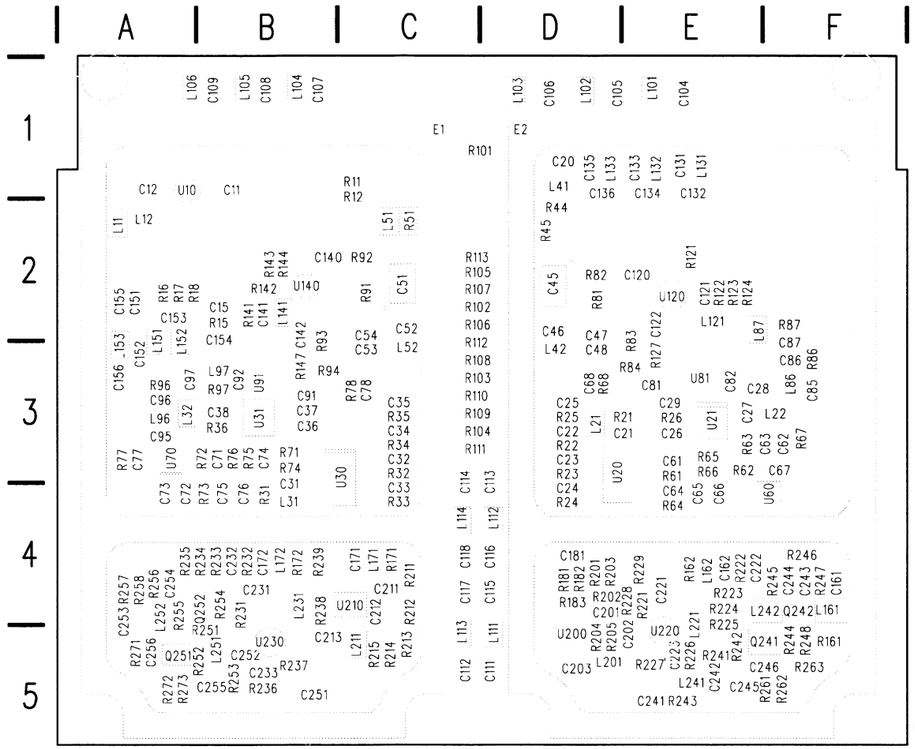
The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A2. Partial Assembly A2 also shown on Diagrams 1, 2, and 3.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C130	F4	E2	R230	D1	B1	R334	F2	C3
C140	F4	E2	R231	D1	C1	R335	F2	B3
C150	F5	F2	R232	D1	B1	R336	E2	C2
C230	F4	E2				R337	E2	B2
C240	E4	E1	R233	D1	C1			
			R240	E4	E2	U230	C1	B1
C241	D5	C1	R241	E4	E2	U240A	D4	E2
C244	D4	E2	R242	E4	E2	U240B	D5	E2
C250	D4	F3	R243	D4	E3	U330	D2	B2
C251	F5	E1				U570A	C5	F2
C252	E5	F2	R250	D4	F3			
			R251	E5	F2	U570B	C4	F2
C260	D5	F2	R252	E5	E2	U570C	C5	F2
C330	D5	C2	R253	E5	F2	U570D	C5	F2
C570	D5	F3	R320	E2	C2	U571A	E3	F2
						U571B	E3	F2
J120	H1	C1	R321	E2	C3			
			R322	F2	C3	U571C	E3	F2
Q150	F5	E1	R330	D2	C1	U571D	E3	F2
Q240	F4	E1	R331	D2	C1			
			R332	D2	D1			
R140	E4	E2						
R150	F5	F2	R333	D1	D1			

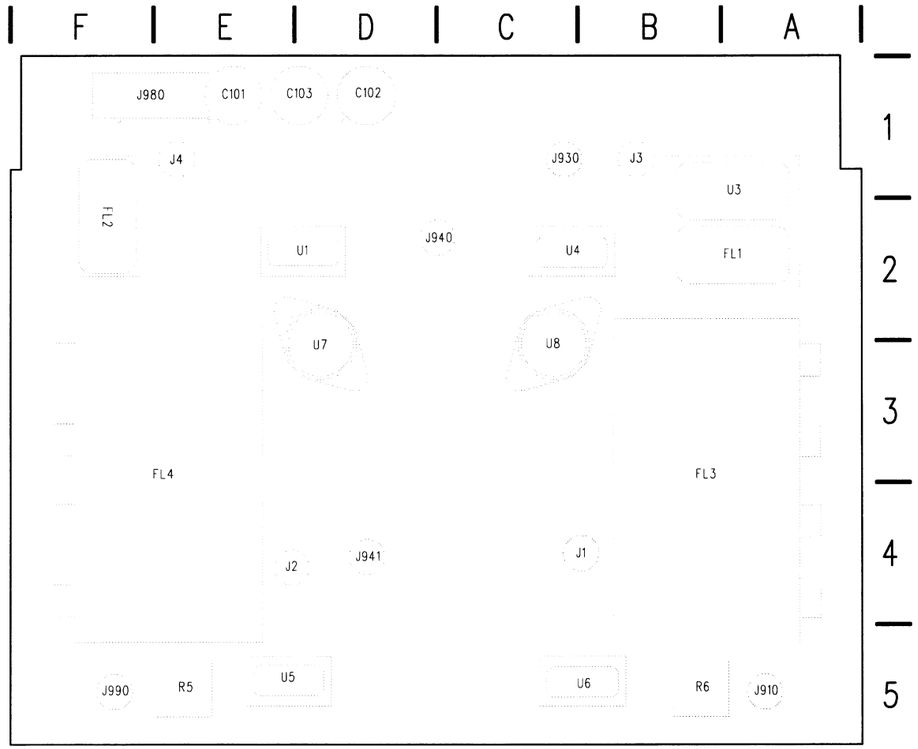


P/O A2 PROCESSOR BOARD



A3 RF DOWN CONVERTER (FRONT)

Static Sensitive Devices
See Maintenance Section



A3 RF DOWN CONVERTER (BACK)

A3 RF Down Converter Board Component Locator

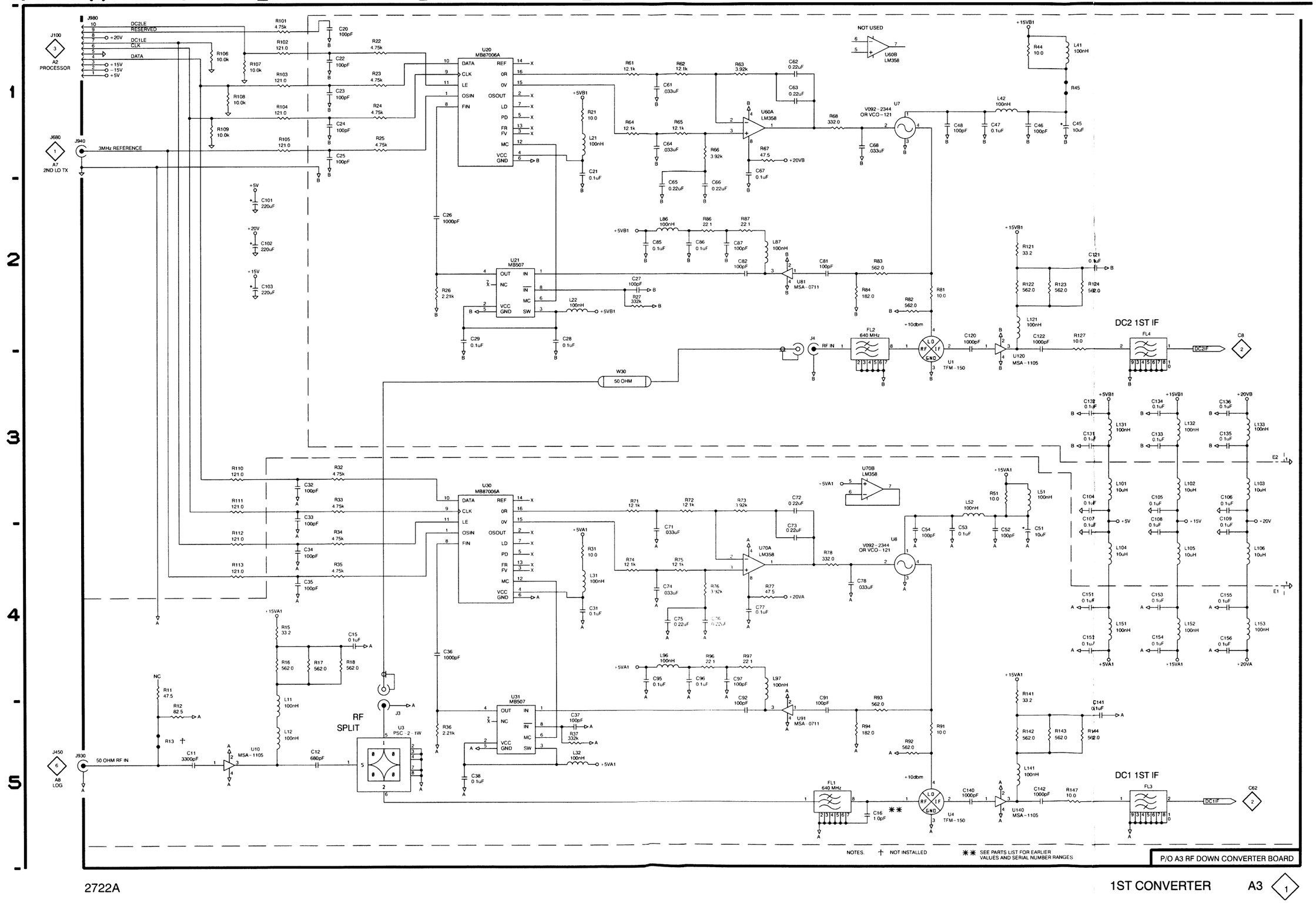
(with cross-references to schematic diagrams 1 and 2)

Use this lookup table for parts located on Schematic <1>.

Comp No	Diag No	Diag Loc	Bd Loc
C11	1	B5	B1
C12	1	B5	A1
C15	1	C4	B2
C20	1	B1	D1
C21	1	D1	D3
C22	1	B1	D3
C23	1	B1	D3
C24	1	B1	D4
C25	1	B1	D3
C26	1	C2	E3
C27	1	D2	E3
C28	1	D2	E3
C29	1	C2	E3
C31	1	D4	B4
C32	1	B3	C3
C33	1	B3	C4
C34	1	B4	C3
C35	1	B4	C3
C36	1	C4	B3
C37	1	D5	B3
C38	1	C5	B3
C45	1	G1	D2
C46	1	G1	D2
C47	1	F1	D3
C48	1	F1	D3
C51	1	G4	C2
C52	1	G4	C2
C53	1	F4	C3
C54	1	F4	C3
C61	1	D1	E3
C62	1	E1	F3
C63	1	E1	F3
C64	1	D1	E4
C65	1	D2	E4
C66	1	E2	E4
C67	1	E1	F3
C68	1	F1	D3
C71	1	D4	B3
C72	1	E3	A4
C73	1	E4	A4
C74	1	D4	B3
C75	1	D4	B4
C76	1	E4	B4
C77	1	E4	A3
C78	1	F4	C3
C81	1	E2	E3
C82	1	E2	E3
C85	1	D2	F3
C86	1	E2	F3
C87	1	E2	F3
C91	1	E5	B3
C92	1	E5	B3
C95	1	D4	A3
C96	1	E4	A3
C97	1	E4	A3
C104	1	G3	E1
C105	1	H3	E1
C106	1	H3	D1
C107	1	G4	B1
C108	1	H4	B1
C109	1	H4	B1
C111	2	G3	D5
C112	2	G3	C5
C113	2	G3	D4
C114	2	G3	C4
C115	2	G3	D4
C116	2	G3	C4
C117	2	G3	D4
C118	2	G4	C4
C120	1	F2	E2
C121	1	G2	E2
C122	1	G2	E2
C131	1	G3	E1
C132	1	H3	E1
C133	1	H3	E1
C134	1	H3	E2
C135	1	H3	D1
C136	1	H3	D2
C140	1	F5	B2
C141	1	G5	B2
C142	1	G5	B3
C151	1	G4	A2
C152	1	G4	A3
C153	1	H4	A2
C154	1	H4	B3
C155	1	H4	A2
C156	1	H4	A3
C161	2	G2	F4
C162	2	G2	E4
C171	2	G4	C4
C172	2	G4	B4
C181	2	A1	D4
C201	2	C1	D4
C202	2	C1	E5
C203	2	D1	D5
C211	2	B4	C4
C212	2	C4	C5
C213	2	C4	B5
C221	2	C2	E4
C222	2	D1	E4
C223	2	D2	E5
C231	2	C5	B4
C232	2	D4	B4
C233	2	D5	B5
C241	2	E2	E5
C242	2	E2	E5
C243	2	E1	F4
C244	2	F1	F4
C245	2	F2	E5
C246	2	F2	E5
C251	2	E5	B5
C252	2	E4	B5
C253	2	E4	A5
C254	2	F4	A4
C255	2	F4	B5
C256	2	F4	A5
E1	1	H4	C1
E2	1	H3	D1
L11	1	B5	A2
L12	1	B5	A2
L21	1	D1	D3
L22	1	D2	F3
L31	1	D4	B4
L32	1	D5	A3
L41	1	G1	D1
L42	1	G1	D3
L51	1	G3	C2
L52	1	F3	C3
L86	1	D2	F3
L87	1	E2	F3
L96	1	D4	A3
L97	1	E4	B3
L101	1	G3	E1
L102	1	H3	D1
L103	1	H3	D1
L104	1	G4	B1
L105	1	H4	B1
L106	1	H4	B1
L111	2	G3	D5
L112	2	G3	D4
L113	2	G3	C5
L114	2	G3	C4
L121	1	G2	E2
L131	1	G3	E1
L132	1	H3	E1
L133	1	H3	D1
L141	1	G5	B2
L151	1	G4	A3
L152	1	H4	A3
L153	1	H4	A3
L161	2	G3	F4
L162	2	G3	E4
L171	2	G4	C4
L172	2	G4	B4
L201	2	C1	D5
L211	2	C4	C5
L221	2	D2	E5
L231	2	D4	B4
L241	2	E2	E5
L242	2	F1	E4
L251	2	E5	B5
L252	2	F4	A5
Q241	2	F2	E5
Q242	2	E1	F4
Q251	2	F5	A5
Q252	2	E4	B4
R11	1	A4	C1
R12	1	A5	C2
R15	1	B4	B2
R16	1	B4	A2
R17	1	B4	A2
R18	1	B4	B2
R21	1	D1	D3
R22	1	C1	D3
R23	1	C1	D3
R24	1	C1	D4
R25	1	C1	D3
R26	1	C2	E3
R31	1	D4	B4
R32	1	B3	C3
R33	1	B3	C4
R34	1	B4	C3
R35	1	B4	C3
R36	1	C5	B3
R44	1	G1	D2
R45	1	G1	D2
R51	1	G3	C2
R61	1	D1	E3
R62	1	E1	E3
R63	1	E1	E3
R64	1	D1	E4
R65	1	E1	E3
R66	1	E1	E3
R67	1	E1	F3
R68	1	F1	D3
R71	1	D3	B3
R72	1	E3	B3
R73	1	E3	B4
R74	1	D4	B3
R75	1	E4	B3
R76	1	E4	B3
R77	1	E4	A3
R78	1	E4	C3
R81	1	F2	D2
R82	1	F2	D2
R83	1	F2	E3
R84	1	F2	D3
R86	1	E2	F3
R87	1	E2	F2
R91	1	F5	C2
R92	1	F5	C2
R93	1	F5	B3
R94	1	F5	B3
R96	1	E4	A3
R97	1	E4	B3
R101	1	B1	C1
R102	1	B1	C2
R103	1	B1	C3
R104	1	B1	C3
R105	1	B1	C2
R106	1	B1	C2
R107	1	B1	C2
R108	1	B1	C3
R109	1	B1	C3
R110	1	B3	C3
R111	1	B3	C3
R112	1	B4	C3
R113	1	B4	C2
R121	1	G2	E2
R122	1	G2	E2
R123	1	G2	E2
R124	1	G2	E2
R127	1	G2	E3
R141	1	G4	B2
R142	1	G5	B2
R143	1	G5	B2
R144	1	G5	B2
R147	1	G5	B3
R161	2	G3	F5
R162	2	H3	E4
R171	2	G4	C4
R172	2	H4	B4
R181	2	B1	D4
R182	2	B1	D4
R183	2	B1	D4
R201	2	B1	D4
R202	2	B1	D4
R203	2	C1	D4
R204	2	C1	D5
R205	2	C1	D5
R211	2	B4	C4
R212	2	B4	C5
R213	2	B4	C5
R214	2	C3	C5
R215	2	C3	C5
R221	2	C2	E4
R222	2	D1	E4
R223	2	D2	E4
R224	2	D2	E4
R225	2	D2	E5
R226	2	D2	E5
R227	2	D2	E5
R228	2	D2	E4
R229	2	D2	E4
R231	2	C5	B5
R232	2	D4	B4
R233	2	D4	B4
R234	2	D4	B4
R235	2	D4	A4
R236	2	D5	B5
R237	2	D5	B5
R238	2	D5	B5
R239	2	D5	B4
R241	2	F2	E5
R242	2	F2	E5
R243	2	E2	E5
R244	2	E2	F5
R245	2	F1	F4
R246	2	E1	F4
R247	2	E1	F4
R248	2	E1	F5
R251	2	F5	A5
R252	2	F4	B5
R253	2	E4	B5
R254	2	E4	B4
R255	2	F4	A5
R256	2	E4	A4
R257	2	E4	A4
R258	2	E4	A4
R261	2	G2	F5
R262	2	G2	F5
R263	2	G2	F5
R271	2	G4	A5
R272	2	G4	A5
R273	2	G4	A5
U10	1	B5	A1
U20	1	C1	E4
U21	1	C2	E3
U30	1	C3	C4
U31	1	C5	B3
U60A	1	E1	F4
U60B	1	F1	F4
U70A	1	E4	A3
U70B	1	F3	A3
U81	1	E2	E3
U91	1	E5	B3
U120	1	G2	E2
U140	1	G5	B2
U200	2	C1	D5
U210	2	C4	C4
U220	2	C2	E5
U230	2	C5	B5

Back of Board

C101	1	B2	E1
C102	1	B2	D1
C103	1	B2	E1
FL1	1	E5	A2
FL2	1	F2	F2
FL3	1	G5	@3
FL4	1	G2	G3
J1	2	E5	B4
J2	2	E2	D4
J3	1	C5	B1
J4	1	E2	E1
J910	2	H4	A5
J930	1	A5	C1
J940	1	A1	C2
J941	2	A1	D4
J980	1	A1	F1
J990	2	H2	F5
R5	2	F2	E5
R6	2	F4	B5
U1	1	F2	E2
U3	1	C5	A1
U4	1	F5	B2
U5	2	D2	E5
U6	2	D5	B5
U7	1	F1	D3
U8	1	F4	C3
W30	1	D3	E2


J980
DC2LE
RESERVED
+20V
DC1LE
CLK
DATA
+15V
–15V
+5V
J100
A2
PROCESSOR
J680
A7
2ND LO TX
J940
3MHz REFERENCE
U20
MB87006A
DATA
CLK
LE
OSIN
FIN
REF
0R
0V
OSOUT
LD
PD
FR
FV
MC
VCC
GND
NOT USED
U60B
LM358
U60A
LM358
U7
V092-2344
OR VCO-121
U8
V092-2344
OR VCO-121
U70A
LM358
U70B
LM358
+15VB1
+5VB1
+20VB
+15VA1
+5VA1
+20VA
U21
MB507
U31
MB507
U81
MSA-0711
U91
MSA-0711
U1
TFM-150
U4
TFM-150
U120
MSA-1105
U140
MSA-1105
U10
MSA-1105
U3
PSC-2-1W
RF SPLIT
J4
RF IN
J3
J450
A8
LOG
J930
50 OHM RF IN
W30
50 OHM
FL2
640 MHz
FL4
FL1
640 MHz
FL3
DC2 1ST IF
DC1 1ST IF
DC2IF
DC1IF
C8
C62
E2
E1
+10dbm
NC
NOTES. † NOT INSTALLED
** SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES
P/O A3 RF DOWN CONVERTER BOARD
2722A
1ST CONVERTER
A3

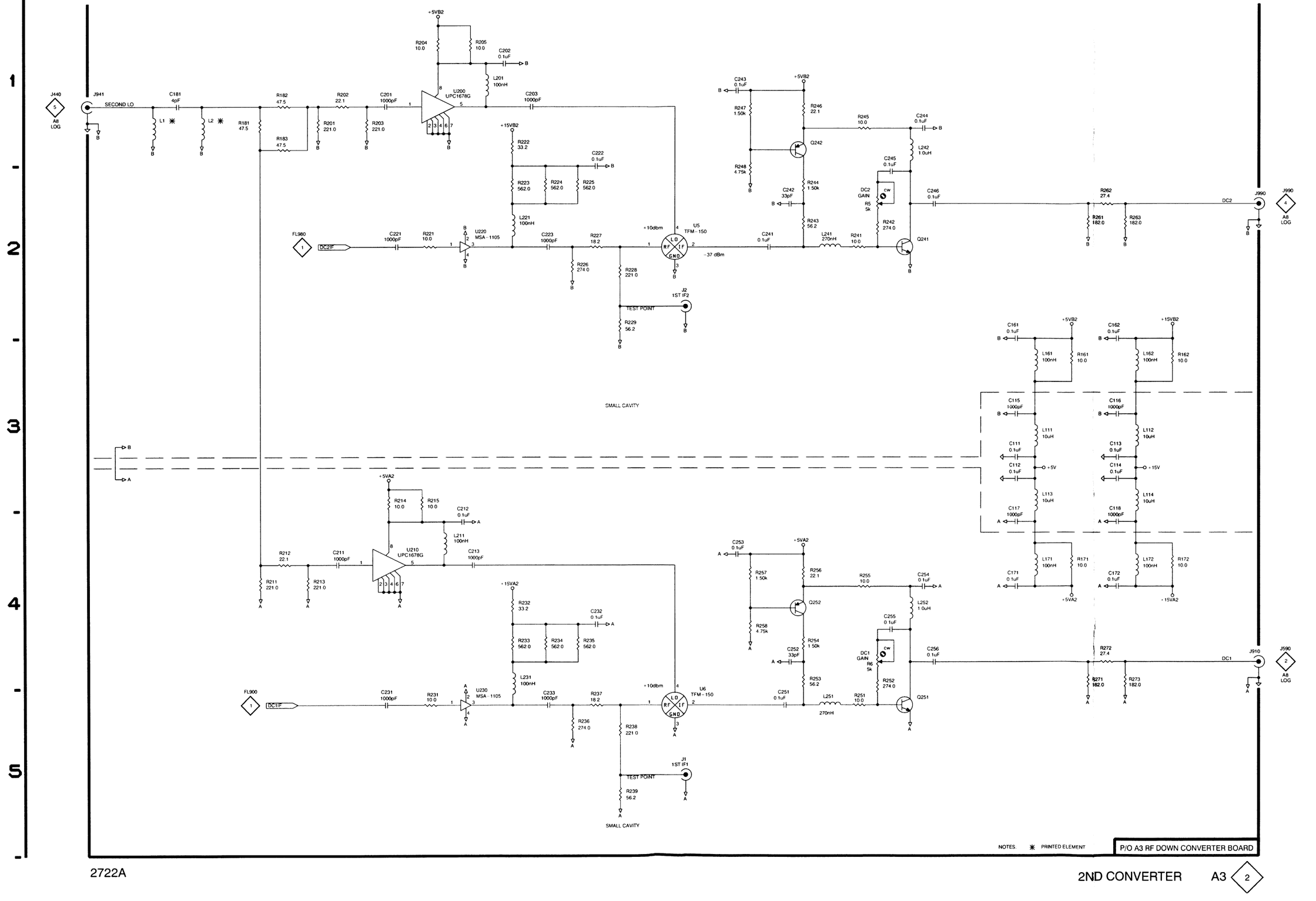
Schematic Diagram <2> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A3. Partial Assembly A3 also shown on Diagram 1.

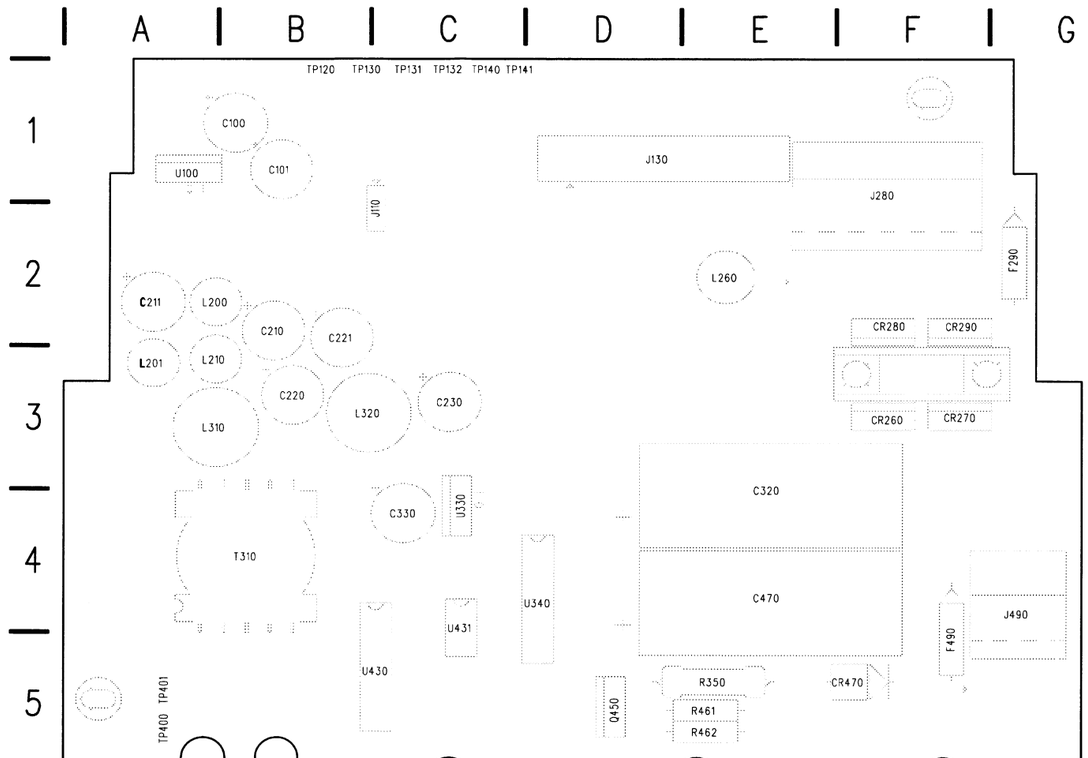
Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C111	G3	D5	L111	G3	D5	R225	D2	E5
C112	G3	C5	L112	G3	D4	R226	D2	E5
C113	G3	D4	L113	G3	C5			
C114	G3	C4	L114	G3	C4	R227	D2	E5
C115	G3	D4	L161	G3	F4	R228	D2	E4
						R229	D2	E4
C116	G3	D4	L162	G3	E4	R231	C5	B5
C117	G4	C4	L171	G4	C4	R232	D4	B4
C118	G4	C4	L172	G4	B4			
C161	G2	F4	L201	C1	D5	R233	D4	B4
C162	G2	E4	L211	C4	C5	R234	D4	B4
						R235	D4	A4
C171	G4	C4	L221	D2	E5	R236	D5	B5
C172	G4	B4	L231	D4	B4	R237	D5	B5
C181	A1	D4	L241	E2	E5			
C201	C1	D4	L242	F1	E4	R238	D5	B5
C202	C1	E5	L251	E5	B5	R239	D5	B4
			L252	F4	A5	R241	F2	E5
C203	D1	D5				R242	F2	E5
C211	B4	C4	Q241	F2	E5	R243	E2	E5
C212	C4	C5	Q242	E1	F4			
C213	C4	B5	Q251	F5	A5	R244	E2	F5
C221	C2	E4	Q252	E4	B4	R245	F1	F4
						R246	E1	F4
C222	D1	E4	R5 †	F2	E5	R247	E1	F4
C223	D2	E5	R6 †	F4	B5	R248	E1	F5
C231	C5	B4	R161	G3	F5			
C232	D4	B4	R162	H3	E4	R251	F5	A5
C233	D5	B5	R171	G4	C4	R252	F4	B5
						R253	E4	B5
C241	E2	E5	R172	H4	B4	R254	E4	B4
C242	E2	E5	R181	B1	D4	R255	F4	A5
C243	E1	F4	R182	B1	D4			
C244	F1	F4	R183	B1	D4	R256	E4	A4
C245	F2	E5	R201	B1	D4	R257	E4	A4
						R258	E4	A4
C246	F2	E5	R202	B1	D4	R261	G2	F5
C251	E5	B5	R203	C1	D4	R262	G2	F5
C252	E4	B5	R204	C1	D5			
C253	E4	A5	R205	C1	D5	R263	G2	F5
C254	F4	A4	R211	B4	C4	R271	G4	A5
						R272	G4	A5
C255	F4	B5	R212	B4	C5	R273	G4	A5
C256	F4	A5	R213	B4	C5			
			R214	C3	C5	U5 †	D2	E5
J1 †	E5	B4	R215	C3	C5	U6 †	D5	B5
J2 †	E2	D4	R221	C2	E4			
J910 †	H4	A5				U200	C1	D5
J941 †	A1	D4	R222	D1	E4	U210	C4	C4
J990 †	H2	F5	R223	D2	E4	U220	C2	E5
			R224	D2	E4	U230	C5	B5

† Part on back of board



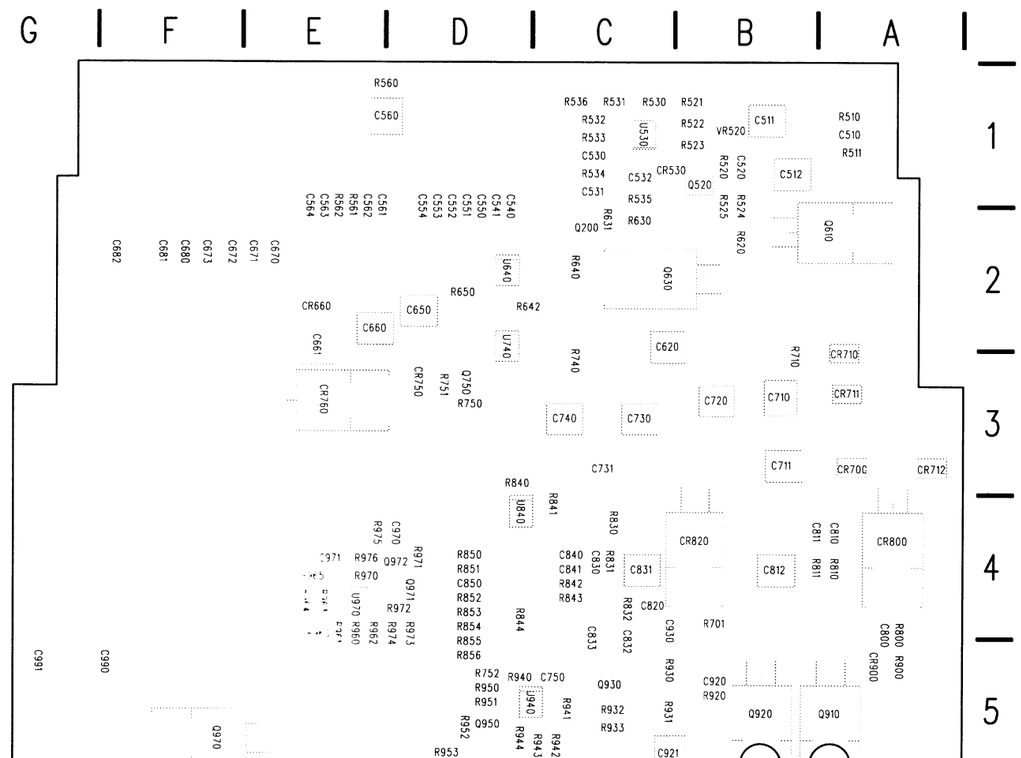
2722A

2ND CONVERTER A3 2



2722A A4 POWER SUPPLY BOARD (FRONT)

Static Sensitive Devices
See Maintenance Section



2722A A4 POWER SUPPLY BOARD (BACK)

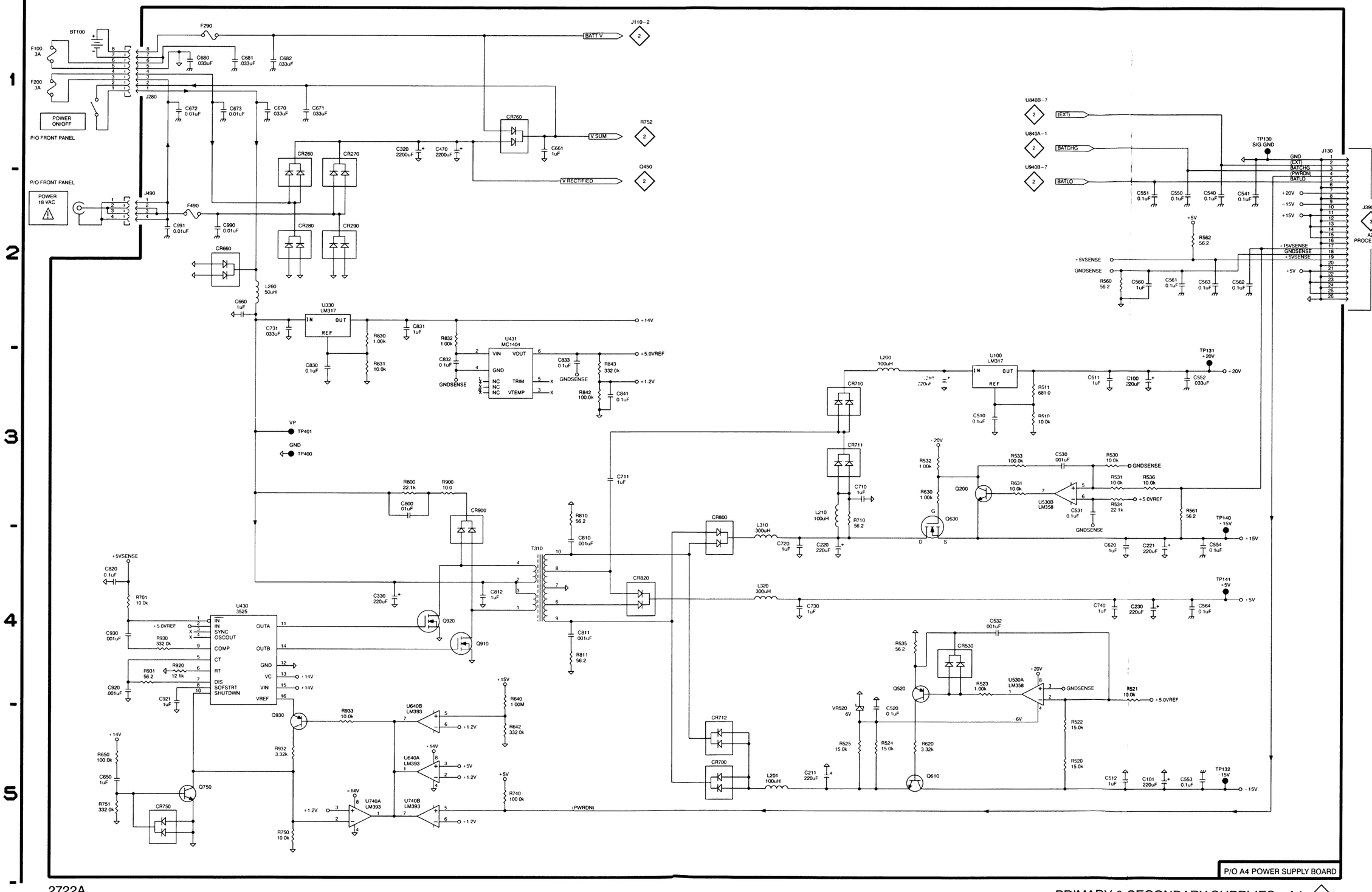
A4 Power Supply Board Component Locator *(with cross-references to schematic diagrams 1 and 2)*

Use this lookup table for parts located on Schematic <1>.

Comp No	Diag No	Diag Loc	Bd Loc
C100	1	G3	B1
C101	1	G5	B1
C210	1	F3	B2
C211	1	E5	A2
C220	1	E4	B3
C221	1	G4	B2
C230	1	G4	C3
C320	1	C1	E4
C330	1	C4	C4
C470	1	C1	E4
CR260	1	B1	F3
CR270	1	B1	F3
CR280	1	B2	F2
CR290	1	B2	F2
CR470	2	F2	E5
F290	1	B1	G2
F490	1	A2	F5
J110	2	H1	C2
J130	1	H1	D1
J280	1	A1	E2
J490	1	A2	G5
L200	1	F3	A2
L201	1	E5	A3
L210	1	E3	A3
L260	1	B2	E2
L310	1	E4	A3
L320	1	E4	B3
Q450	2	C2	D5
R350	2	C2	E5
R461	2	C2	E5
R462	2	E2	E5
T310	1	D4	A4
TP120	2	C1	B1
TP130	1	H1	B1
TP131	1	H3	C1
TP132	1	H5	C1
TP140	1	H4	C1
TP141	1	H4	C1
TP400	1	B3	A5
TP401	1	B3	A5
U100	1	F3	A2
U330	1	B2	C4
U340	2	D4	C4
U430	1	B4	B5
U431	1	C3	C4

Back of Board

Comp No	Diag No	Diag Loc	Bd Loc
C510	1	F3	A1
C511	1	G3	B1
C512	1	G5	B1
C520	1	F5	B1
C530	1	G3	C1
C531	1	G3	C1
C532	1	F4	C1
C540	1	H2	D1
C541	1	H2	D1
C550	1	G2	D1
C551	1	G2	D1
C552	1	G3	D1
C553	1	H5	D1
C554	1	H4	D1
C560	1	G2	D1
C561	1	G2	E1
C562	1	H2	E1
C563	1	H2	E1
C564	1	H4	E1
C620	1	G4	B3
C650	1	A5	D2
C660	1	B2	E2
C661	1	D1	E2
C670	1	B1	E2
C671	1	B1	E2
C672	1	A1	F2
C673	1	B1	F2
C680	1	A1	F2
C681	1	B1	F2
C682	1	B1	F2
C710	1	F3	B3
C711	1	D3	B3
C720	1	E4	B3
C730	1	E4	C3
C731	1	B2	C3
C740	1	G4	C3
C750	2	B2	C5
C800	1	C3	A4
C810	1	D4	A4
C811	1	D4	A4
C812	1	C4	B4
C820	1	A4	C4
C830	1	B3	C4
C831	1	C2	C4
C832	1	C3	C4
C833	1	D3	C4
C840	2	E4	C4
C841	1	D3	C4
C850	2	D4	D4
C920	1	A4	B5
C921	1	A4	B5
C930	1	A4	C4
C970	2	D3	D4
C971	2	D3	E4
C990	1	B2	F5
C991	1	A2	G5
CR530	1	F4	B1
CR660	1	B2	E2
CR700	1	E5	A3
CR710	1	E3	A3
CR711	1	E3	A3
CR712	1	E5	A3
CR750	1	A5	D3
CR760	1	C1	D3
CR800	1	E3	A4
CR820	1	D4	B4
CR900	1	C3	A5
CR960	2	E3	E5
Q200	1	F3	C2
Q520	1	F4	B1
Q610	1	F5	A2
Q630	1	F3	C2
Q750	1	A5	D3
Q910	1	C4	A5
Q920	1	C4	B5
Q930	1	B5	C5
Q950	2	C2	D5
Q970	2	D2	F5
Q971	2	D2	D4
Q972	2	D3	D4
R510	1	G3	A1
R511	1	G3	A1
R520	1	G5	B1
R521	1	G4	B1
R522	1	G5	B1
R523	1	F4	B1
R524	1	F5	B1
R525	1	F5	B1
R530	1	G3	C1
R531	1	G3	C1
R532	1	F3	C1
R533	1	F3	C1
R534	1	G3	C1
R535	1	F4	C1
R536	1	G3	C1
R560	1	G2	D1
R562	1	H2	E1
R620	1	E3	A4
R630	1	F3	B2
R631	1	F3	C2
R640	1	C4	C2
R642	1	C5	C2
R650	1	A5	D2
R701	1	A4	B4
R710	1	E3	B2
R740	1	C5	C3
R750	1	B5	D3
R751	1	A5	D3
R752	2	B2	D5
R800	1	C3	A4
R810	1	D3	A4
R811	1	D4	A4
R830	1	C3	C4
R831	1	C3	C4
R832	1	C2	C4
R840	2	F4	D3
R841	2	F4	C4
R842	1	D3	C4
R843	1	D3	C4
R844	2	E4	D4
R850	2	D4	D4
R851	2	D4	D4
R852	2	E4	D4
R853	2	E4	D4
R854	2	E4	D4
R855	2	E4	D5
R856	2	F4	D5
R900	1	C3	A5
R920	1	A4	B5
R930	1	A4	C5
R931	1	A4	C5
R932	1	B5	C5
R933	1	B5	C5
R940	2	B2	D5
R941	2	G2	C5
R942	2	F2	C5
R943	2	F2	C5
R944	2	F2	D5
R950	2	B2	D5
R951	2	B2	D5
R952	2	C2	D5
R953	2	C2	D5
R960	2	F3	E4
R961	2	F3	E4
R962	2	F3	E4
R963	2	E3	E4
R964	2	E2	E4
R965	2	E2	E4
R970	2	D2	E4
R971	2	D3	D4
R972	2	D2	D4
R973	2	E3	D4
R974	2	E3	D4
R975	2	D3	E4
R976	2	D3	E4
U530A	1	G4	C1
U530B	1	G3	C1
U640A	1	C5	D2
U640B	1	C5	D2
U740A	1	B5	D2
U740B	1	C5	D2
U840A	2	F4	D4
U840B	2	F4	D4
U940A	2	B2	C5
U940B	2	G2	C5
U970A	2	E3	E4
U970B	2	D2	E4
VR520	1	E4	B1



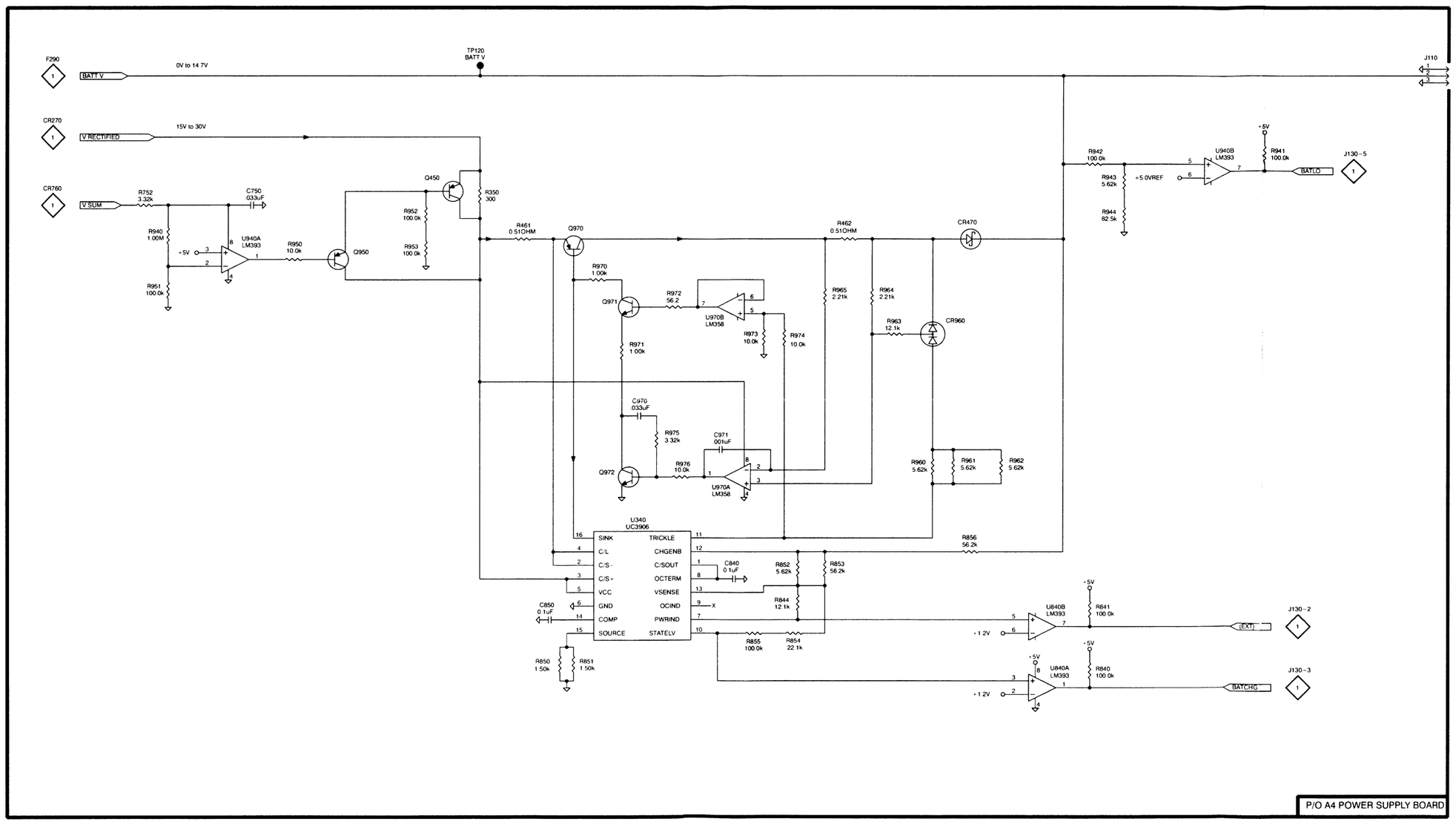
P/O A4 POWER SUPPLY BOARD

Schematic Diagram <2> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A4. Partial Assembly A4 also shown on Diagram 1.

Comp No	Diag Loc	Bd Loc
Front of Board		
CR470	F2	E5
J110	H1	C2
Q450	C2	D5
R350	C2	E5
R461	C2	E5
R462	E2	E5
TP120	C1	B1
U340	D4	C4
Back of Board		
C750	B2	C5
C840	E4	C4
C850	D4	D4
C970	D3	D4
C971	D3	E4
CR960	E3	E5
Q950	C2	D5
Q970	D2	F5
Q971	D2	D4
Q972	D3	D4
R752	B2	D5
R840	F4	D3
R841	F4	C4
R844	E4	D4
R850	D4	D4
R851	D4	D4
R852	E4	D4
R853	E4	D4
R854	E4	D4
R855	E4	D5
R856	F4	D5
R940	B2	D5
R941	G2	C5
R942	F2	C5
R943	F2	C5
R944	F2	D5
R950	B2	D5
R951	B2	D5
R952	C2	D5
R953	C2	D5
R960	F3	E4
R961	F3	E4
R962	F3	E4
R963	E3	E4
R964	E2	E4
R965	E2	E4
R970	D2	E4
R971	D3	D4
R972	D2	D4
R973	E3	D4
R974	E3	D4
R975	D3	E4
R976	D3	E4
U840A	F4	D4
U840B	F4	D4
U940A	B2	C5
U940B	G2	C5
U970A	E3	E4
U970B	D2	E4



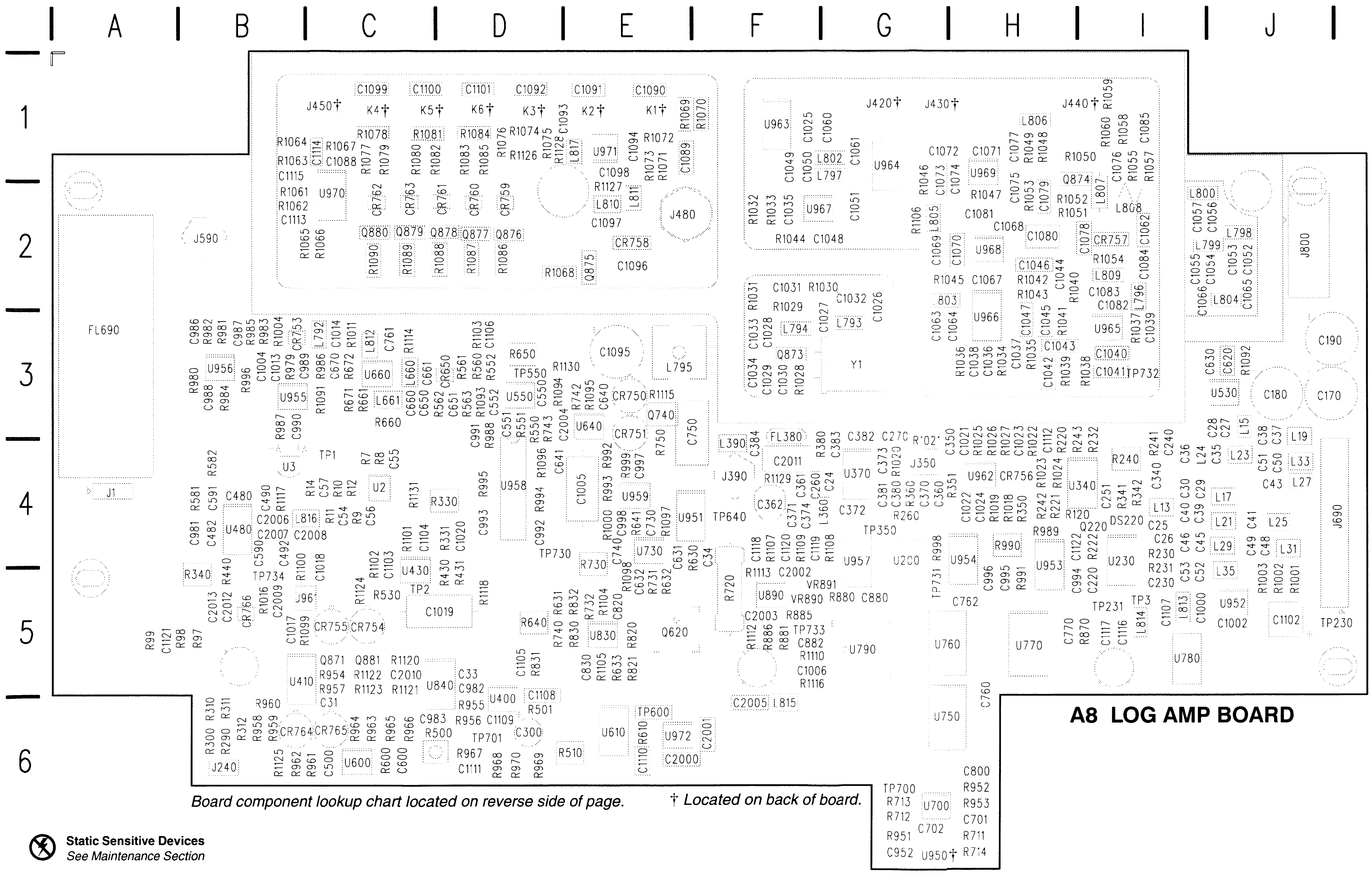
P/O A4 POWER SUPPLY BOARD

A8 Log Amp Board Component Locator *(with cross-references to schematic diagrams 1, 2, 3, 4, 5, and 6)*

Board illustration located on reverse side of page.

Comp No	Diag No	Diag Loc	Bd Loc
C24	4	C3	G4
C25	1	F2	I4
C26	1	F2	I4
C27	1	F1	J3
C28	1	F1	J3
C29	1	F2	I4
C30	1	F2	I4
C31	3	C2	C6
C33	2	H5	D5
C34	2	D4	F5
C35	1	H2	J4
C36	1	H2	I4
C37	1	G1	J4
C38	1	H1	J4
C39	1	E1	I4
C40	1	E1	I4
C41	1	H2	J4
C43	1	G1	J4
C45	1	E1	I4
C46	1	E1	I4
C48	1	H2	J4
C49	1	H2	J4
C50	1	G1	J4
C51	1	H1	J4
C52	1	E2	I5
C53	1	E2	I5
C54	3	B1	C4
C55	3	C1	C4
C56	3	C1	C4
C57	3	B1	C4
C170	1	G1	J3
C180	1	G2	J3
C190	1	E1	J3
C220	4	G2	I5
C230	4	G2	I5
C240	4	D2	I4
C251	4	F3	I4
C260	4	C3	F4
C270	4	B3	G4
C300	3	E2	D6
C340	4	F3	I4
C350	4	D3	H4
C360	4	D3	G4
C361	4	B4	F4
C362	4	C3	F4
C370	4	C2	G4
C371	4	B3	F4
C372	4	C3	G4
C373	4	B3	G4
C374	4	B3	F4
C380	4	B3	G4
C381	4	B3	G4
C382	4	C3	G4
C383	4	B3	G4
C384	4	A3	F4
C480	3	C4	B4
C482	3	C5	B4
C490	3	B4	B4
C492	3	B5	B4
C500	3	C4	C6
C550	2	F2	D3
C551	2	G1	D3
C552	2	F2	D3
C590	3	B5	B4
C591	3	B4	B4
C600	3	C3	C6
C620	1	G1	J3
C630	1	H1	J3
C631	2	G4	E5
C632	2	E4	E5
C640	2	B3	E3
C641	2	B3	D4
C650	2	F2	C3
C651	2	E2	D3
C660	2	E2	C3
C661	2	E2	C3
C670	2	D2	C3
C701	3	D2	H7
C702	3	E2	G7
C730	2	E4	E4
C740	2	F4	E4
C750	2	C3	F4
C760	1	E5	H6
C761	2	E1	C3
C762	1	E4	H5
C770	1	D3	H5
C800	3	E1	H6
C820	2	F5	E5
C830	2	F5	E5
C880	1	E3	G5
C882	1	F3	F5
C952	3	D2	G7
C981	3	C5	B4
C982	3	D2	D5
C983	3	D2	C6
C986	2	B1	B3
C987	2	B1	B3
C988	2	B2	B3
C989	2	D1	C3
C990	2	D2	B3
C991	2	B5	D4
C992	2	C5	D4
C993	2	C5	D4
C994	1	B1	I5
C995	1	C2	H5
C996	1	H3	H5
C997	2	C5	E4
C998	2	D5	E4
C1000	1	F1	I5
C1002	1	E1	J5
C1004	2	C1	B3
C1005	2	C5	E4
C1006	1	F3	F5
C1013	2	C1	B3
C1014	2	C1	C3
C1017	3	D5	B5
C1018	3	D4	C5
C1019	3	E4	C5
C1020	3	F5	D4
C1021	4	D4	H4
C1022	4	D4	H4
C1023	4	D4	H4
C1024	4	E4	H4
C1025	5	G2	F1
C1026	5	B1	G3
C1027	5	B1	G3
C1028	5	B1	F3
C1029	5	B1	F3
C1030	5	B1	F3
C1031	5	B2	F2
C1032	5	B2	G2
C1033	5	C2	F3
C1034	5	C1	F3
C1035	5	B2	F2
C1036	5	B2	H3
C1037	5	B3	H3
C1038	5	B3	H3
C1039	5	F3	I3
C1040	5	F3	I3
C1041	5	F3	I3
C1042	5	E3	H3
C1043	5	E3	H3
C1044	5	E3	H2
C1045	5	E3	H3
C1046	5	E3	H2
C1047	5	E3	H3
C1048	5	C3	F2
C1049	5	C3	F2
C1050	5	C3	F2
C1051	5	B3	G2
C1052	5	A3	J2
C1053	5	B3	J2
C1054	5	A4	J2
C1055	5	B4	I2
C1056	5	A4	J2
C1057	5	B4	I2
C1060	5	C5	G1
C1061	5	H3	G1
C1062	5	B5	I2
C1063	5	C5	G3
C1064	5	C5	H3
C1065	5	B5	J2
C1066	5	C5	J3
C1067	5	C4	H2
C1068	5	C4	H2
C1069	5	C4	G2
C1070	5	C4	H2
C1071	5	D4	H1
C1072	5	D4	G1
C1073	5	E4	G2
C1074	5	E4	H2
C1075	5	E4	H2
C1076	5	F4	I1
C1077	5	F4	H1
C1078	5	F4	I2
C1079	5	F4	H2
C1080	5	F4	H2
C1081	5	F5	H2
C1082	5	G3	I3
C1083	5	G3	I2
C1084	5	G2	I2
C1085	5	H4	I1
C1088	6	B2	C1
C1089	6	B3	E1
C1090	6	C3	E1
C1091	6	D3	E1
C1092	6	E3	D1
C1093	6	D4	E1
C1094	6	D4	E1
C1095	6	A4	E3
C1096	6	B4	E2
C1097	6	B4	E2
C1098	6	B4	E1
C1099	6	G3	C1
C1100	6	G3	C1
C1101	6	F3	D1
C1102	1	E1	J5
C1103	3	F5	C5
C1104	3	F5	C4
C1105	2	E5	D5
C1106	2	G2	D3
C1107	1	F1	I5
C1108	3	E3	D6
C1109	3	E3	D6
C1110	3	D3	E6
C1111	3	E3	D6
C1112	4	F2	H4
C1113	6	B2	B2
C1114	6	B2	C1
C1115	6	B1	B1
C1116	1	H3	I5
C1117	1	H3	I5
C1118	2	D3	F4
C1119	2	D4	F4
C1120	1	H5	F4
C1121	3	A2	A5
C1122	1	H3	I4
C2000	3	F3	E6
C2001	3	F2	F6
C2002	1	A4	F5
C2003	1	A5	F5
C2004	2	B3	E3
C2005	2	E5	F6
C2006	3	A5	B4
C2007	3	B5	B4
C2008	3	A5	B4
C2009	3	E5	B5
C2010	3	E5	C5
C2012	3	C4	B5
C2013	3	C4	B5
CR650	2	F2	C3
CR750	2	C3	E3
CR751	2	C3	E4
CR753	2	C1	B3
CR754	3	E5	C5
CR755	3	E4	C5
CR756	4	E4	H4
CR757	5	G4	I2
CR758	6	C3	E2
CR759	6	D3	D2
CR760	6	E3	D2
CR761	6	F3	D2
CR762	6	G3	C2
CR763	6	F3	C2
CR764	3	C4	B6
CR765	3	C4	C6
CR766	3	E4	B5
DS220	4	F1	I4
FL380	4	A3	F4
FL690	2	A2	A2
J1	3	A2	A4
J240	3	A3	B6
J390	4	A3	F4
J420 †	5	H2	G1
J430 †	5	H2	G1
J440 †	5	H4	H1
J450	6	H3	B1
J480	6	A3	F2
J590	2	A2	A2
J690	1	A3	K5
J800	5	A3	J2
K1A †	6	C3	E1
K1B †	6	C3	E1
K1C †	6	D3	E1
K2A †	6	D3	E1
K2B †	6	D3	E1
K2C †	6	E3	E1
K3A †	6	E3	D1
K3B †	6	E3	D1
K3C †	6	E3	D1
K4A †	6	H3	C1
K4B †	6	H3	C1
K4C †	6	H3	C1
K5A †	6	G3	C1
K5B †	6	G3	C1
K5C †	6	G3	C1
K6A †	6	F3	D1
K6B †	6	F3	D1
K6C †	6	F3	D1
L13	1	F2	I4
L15	1	F1	J3
L17	1	F2	J4
L19	1	G1	J4
L21	1	E1	J4
L23	1	G2	J4
L24	1	H2	I4
L25	1	G2	J4
L27	1	G1	J4
L29	1	E1	J4
L31	1	G2	J4
L33	1	G1	J4
L35	1	E2	J5
L360	4	C3	G4
L390	4	A3	F4
L660	2	E1	C3
L661	2	E2	C3
L792	2	C1	C3
L793	5	B1	G3
L794	5	B1	F3
L795	5	B1	E3
L796	5	F3	I2
L797	5	B3	F2
L798	5	A3	J2
L799	5	A4	I2
L800	5	A4	I2
L802	5	B5	F1
L803	5	C5	G2
L804	5	B5	J2
L805	5	B4	G2
L806	5	E4	H1
L807	5	F4	I2
L808	5	G4	I2
L809	5	G3	I2
L810	6	D4	E2
L811	6	B4	E2
L812	2	E1	C3
L813	1	F1	I5
L814	1	G2	I5
L815	2	E5	F6
L816	3	A5	B4
L817	6	D4	E1
Q220	4	F2	H4
Q620A	2	G4	E5
Q620B	2	G4	E5
Q740	2	C3	E3
Q871	3	B2	C5
Q873	5	B1	F3
Q874	5	F4	H2
Q875	6	C2	E2
Q876	6	D2	D2
Q877	6	E2	D2
Q878	6	F2	D2
Q879	6	G2	C2
Q880	6	H2	C2
Q881	3	E5	C5
R7	3	C1	C4
R8	3	C1	C4
R9	3	B1	C4
R10	3	B1	C4
R11	3	B1	C4
R12	3	B1	C4
R14	3	A1	C4
R97	3	B2	B5
R98	3	A2	B5
R99	3	A2	A5
R120	4	F2	H4
R220	4	F1	H4
R221	4	F2	H4
R222	4	G2	I4
R230	4	G1	I4
R231	4	G1	I5
R232	4	G3	I4
R240	4	D2	I4
R241	4	D2	I4
R242	4	F3	H4
R243	4	F3	I4
R260	4	C2	G4
R290	3	A3	B6
R300	3	A3	B6
R310	3	A3	B6
R311	3	B3	B6
R312	3	B3	B6
R330	3	F5	C4
R331	3	F5	D4
R340	3	C5	B4
R341	4	E2	I4
R342	4	E2	I4
R350	4	D2	H4
R351	4	F3	H4
R360	4	C2	G4
R380	4	B3	F4
R430	3	F4	D5
R431	3	F5	D5
R440	3	C4	B5
R500	3	E3	C6
R501	3	F2	D6
R510	3	F3	D6
R530	3	F4	C5
R550	2	G1	D3
R551	2	F1	D3
R552	2	F2	D3
R560	2	F2	D3
R561	2	F2	D3
R562	2	F2	D3
R563	2	F2	D3
R581	3	B4	B4
R582	3	A4	B4
R600	3	C3	C6
R610	3	F3	E6
R630	2	G4	F5
R631	2	E5	E5
R632	2	G4	E5
R633	2	E5	E5
R640	2	E5	D5
R641	2	E4	E4
R650	2	G2	D3
R660	2	F2	C3
R661	2	E2	C3
R671	2	E2	C3
R672	2	E1	C3
R711	3	E2	H7
R712	3	E2	G6
R713	3	E2	G6
R714	3	E2	H7
R720	2	G4	F5
R730	2	F4	E4
R731	2	F4	E5
R732	2	F4	E5
R740	2	F5	E5
R742	2	C3	E3
R743	2	B4	D3
R750	2	C4	E4
R820	2	F5	E5
R821	2	E5	E5
R830	2	F5	E5
R831	2	F5	D5
R832	2	F4	E5
R870	1	C3	I5
R880	1	D3	G5
R881	1	C4	F5
R885	1	C4	F5
R886	1	C4	F5
R951	3	D2	G7
R952	3	D2	H6
R953	3	D2	H6
R954	3	B2	C5
R955	3	D2	D6
R956	3	D2	D6
R957	3	B2	C5
R958	3	B3	B6
R959	3	B3	B6
R960	3	B3	B6
R961	3	B3	C6
R962	3	B3	B6
R963	3	C3	C6
R964	3	C4	C6
R965	3	D4	C6
R966	3	D4	C6
R967	3	E3	D6
R968	3	F3	D6
R969	3	F3	D6
R970	3	F3	D6
R979	2	D1	B3
R980	2	B2	B3
R981	2	B1	B3
R982	2	B1	B3
R983	2	C1	B3
R984	2	B2	B3
R985	2	B1	B3
R986	2	D1	C3
R987	2	D2	B3
R988	2	B5	D4
R989	1	B1	H4
R990	1	B1	H4
R991	1	D2	H5
R992	2	D5	E4
R993	2	D5	E4
R994	2	C5	D4
R995	2	C5	D4
R996	2	C2	B3
R998	1	C1	G4
R999	2	C5	E4
R1000	2	C5	E4
R1001	1	E1	J5
R1002	1	E1	J5
R1003	1	E1	J5
R1004	2	C1	B3
R1011	2	C1	C3
R1016	3	E5	B5
R1018	4	E4	H4
R1019	4	E4	H4
R1020	4	D3	G4
R1021	4	D4	G4
R1022	4	D4	H4
R1023	4	F3	H4
R1024	4	F3	H4
R1025	4	D4	H4
R1026	4	D4	H4
R1027	4	D4	H4
R1028	5	B1	F3
R1029	5	B1	F3
R1030	5	B2	F2
R1031	5	C2	F3
R1032	5	C2	F2
R1033	5	C2	F2
R1034	5	B2	H3
R1035	5	B3	H3
R1036	5	B3	H3
R1037	5	F3	I3
R1038	5	E3	I3
R1039	5	E3	I3
R1040	5	E3	H2
R1041	5	E3	H3
R1042	5	D3	H2
R1043	5	D3	H2
R1044	5	C3	F2
R1045	5	C4	G2
R1046	5	E4	G2
R1047	5	E4	H2
R1048	5	F4	H1
R1049	5	F4	H1
R1050	5	F4	H1
R1051	5	F4	H2
R1052	5	F4	H2
R1053	5	F4	H2
R1054	5	G3	I2
R1055	5	G5	I1
R1057	5	G4	I1
R1058	5	H4	I1
R1059	5	H4	I1
R1060	5	H4	I1
R1061	6	B1	B2
R1062	6	A1	B2
R1063	6	B1	B1
R1064	6	A1	B1
R1065	6	A2	C2
R1066	6	A2	C2
R1067	6	B2	C1
R1068	6	C2	D2
R1069	6	B3	E1
R1070	6	B3	F1
R1071	6	C3	E1
R1072	6	D3	E1
R1073	6	D3	E1
R1074	6	E3	D1
R1075	6	E4	D1
R1076	6	E4	D1
R1077	6	H3	C1
R1078	6	H3	C1
R1079	6	H3	C1
R1080	6	G3	C1
R1081	6	G3	C1
R1082	6	G3	D1
R1083	6	F3	D1
R1084	6	F3	D1
R1085	6	F3	D1
R1086	6	D2	D2
R1087	6	E2	D2
R1088	6	E2	D2
R1089	6	F2	C2
R1090	6	G2	C2
R1091	2	D2	C3
R1092	1	G1	J3
R1093	2	F2	D3
R1094	2	F1	E3
R1095	2	B3	E3
R1096	2	B3	D4
R1097	2	E4	E4
R1098	2	E4	E5
R1099	3	D5	C5
R1100	3	D4	C5
R1101	3	G5	C4
R1102	3	G5	C5
R1103	2	G2	D3
R1104	2	F5	E5
R1105	2	F5	E5
R1106	5	B5	G2
R1107	2	C3	F4
R1108	2	C4	G4
R1109	1	H5	F4
R1110	1	F3	F5
R1112	1	A5	F5
R1113	1	A4	F5
R1114	2	E1	C3
R1115	2	C3	E3
R1116	2	E5	F5
R1117	3	A5	B4
R1118	3	E5	D5
R1120	3	D5	C5
R1121	3	E5	C5
R1122	3	E5	C5
R1123	3	E5	C5
R1124	3	E5	C5
R1125	3	A3	B6
R1126	6	E4	D1
R1127	6	D4	E2
R1128	6	D4	D1
R1130	2	C4	D3
R1131	3	F5	C4
TP1	3	C1	C4
TP2	3	G4	C5
TP3	4	H3	I5
TP230	4	H3	J5
TP231	4	H2	H5
TP350	4	C3	G4
TP550	2	G2	D3
TP600	3	G2	E6
TP640	2	E4	F4
TP700	3	E2	G6
TP701	3	G4	D6
TP730	2	F4	D4
TP731	1	C1	G5
TP732	5	F3	I3
TP733	1	D4	F5
TP734	3	C4	B5
U2A	3	C1	C4
U2B	3	C1	C4
U3	3	B1	C4
U200A	1	G4	G4
U200B	1	G4	G4
U200C	1	H4	G4
U230A	4	G2	I5
U230B	4	G3	I5
U340A	4	F3	I4
U340B	4	E2	I4
U350A	4	D3	G4
U350B	4	D2	G4
U370	4	B3	G4
U400	3	E2	D5
U410A	3	B2	B5
U410B	3	C3	B5
U410C	3	B3	B5
U410D	3	G1	B5
U430A	3	G5	C4
U430B	3	F4	C4
U480	3	B4	B4
U530	1	G1	I3
U550	2	F2	D3
U600A	3	C4	C6
U600B	3	C3	C6
U610A	3	D3	E6
U610B	3	G2	E6
U610C	3	G4	E6
U610D	3	G1	E6
U640A	2	B3	E4
U640B	2	D3	E4
U660	2	E2	C3
U700A	3	E2	G6
U700B	3	D1	G6
U730A	2	E4	E4
U730B	2	G4	E4
U750	1	E5	G5
U760	1	E4	G5
U770	1	C3	H5
U780A	1	D5	I5
U780B	1	D4	I5
U780C	1	C3	I5
U780D	1	B3	I5
U790	1	E3	F5
U830A	2	F5	E5
U830B	2	F5	E5
U840A	2	G5	C5
U840B	3	G4	C5
U840C	3	D5	C5
U840D	3	D2	C5
U890A	1	A4	F5
U890B	1	C4	F5
U950 †	3	D2	H7
U951A	2	C4	F4
U951B	2	C4	F4
U951C	2	D5	F4
U951D	2	D3	F4
U952	1	E1	J5
U953A	1	B1	H4
U953B	1	C2	H4
U954A	1	C1	G4
U954B	1	D1	G4
U955	2	D1	B3
U956	2	B2	B3
U957A	1	G5	G4
U957B	1	G4	G4
U957C	1	G4	G4
U957D	1	G5	G4
U958	2	B5	D4
U959A	2	C5	E4
U959B	2	C5	E4
U961A	3	D4	B5
U961B	3	F4	B5
U962A	4	D4	H4
U962B	4	E4	H4
U963A	5	F2	F1
U963B	5	E2	F1
U964A	5	H3	G1
U964B	5	H2	G1
U964C	5	H2	G1
U964D	5	H3	G1
U964E	5	H3	G1
U964F	5	H4	G1
U965A	5	G3	I3
U965B	5	E3	I3
U966	5	C3	G2
U967	5	C3	F2
U968	5	C4	H2
U969	5	E4	G1
U970	6	B2	C2
U971	6	D4	E1
U972A	3	F2	E6
U972B	3	F3	E6
VR890	1	C4	F5
VR891	1	C4	F5
Y1	5	B1	G3

† *Located on back of board.*



A8 LOG AMP BOARD

Board component lookup chart located on reverse side of page.

† *Located on back of board.*

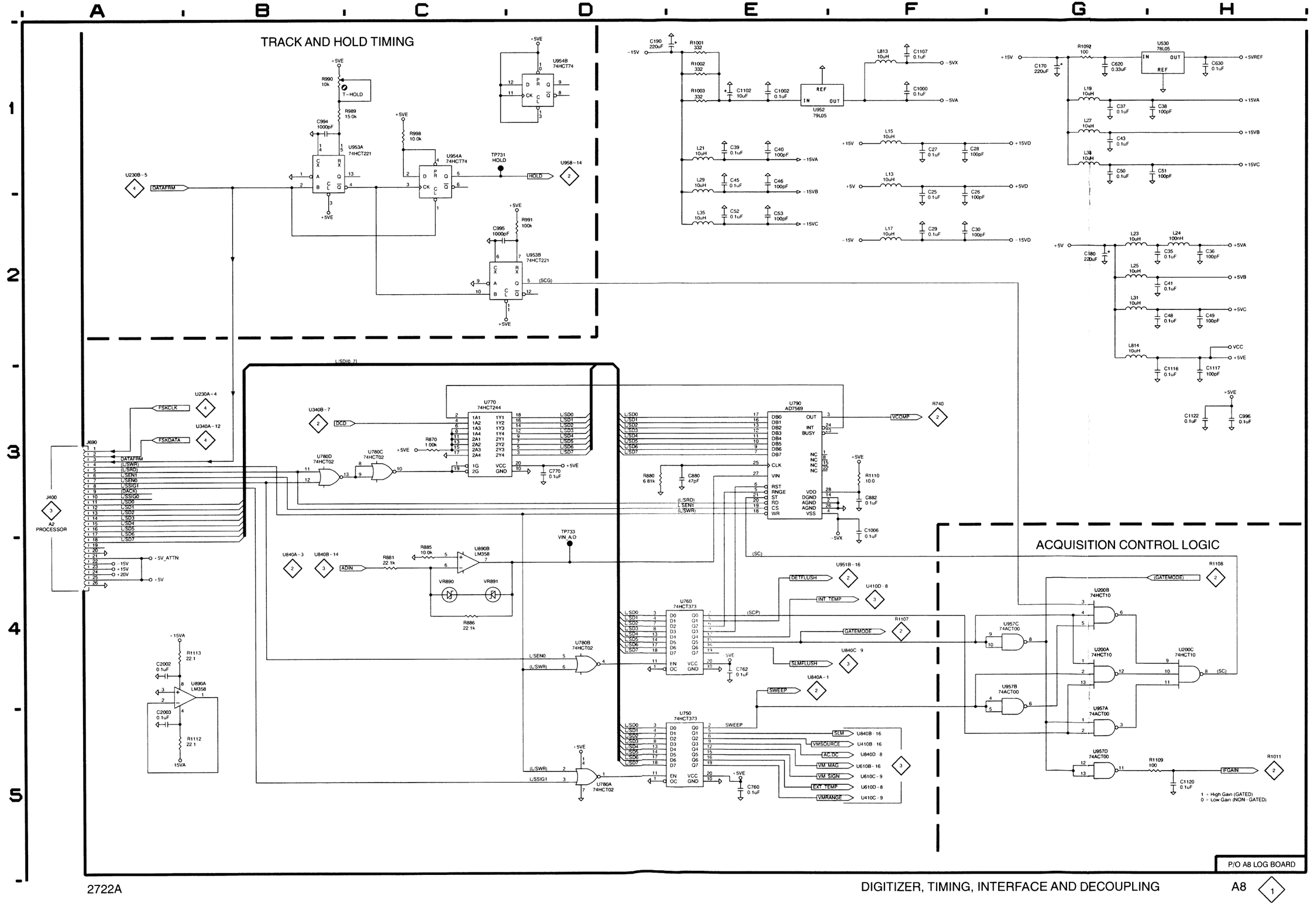
Static Sensitive Devices
See Maintenance Section

Schematic Diagram <1> Component Locator Chart

The schematic diagram has an alpha-numeric grid to assist in locating parts within that diagram.

Assembly A8. Partial Assembly A8 also shown on Diagrams 2, 3, 4, 5, and 6.

Comp No	Diag Loc	Bd Loc
C25	F2	I4
C26	F2	I4
C27	F1	J3
C28	F1	J3
C29	F2	I4
C30	F2	I4
C35	H2	J4
C36	H2	I4
C37	G1	J4
C38	H1	J4
C39	E1	I4
C40	E1	I4
C41	H2	J4
C43	G1	J4
C45	E1	I4
C46	E1	I4
C48	H2	J4
C49	H2	J4
C50	G1	J4
C51	H1	J4
C52	E2	I5
C53	E2	I5
C170	G1	J3
C180	G2	J3
C190	E1	J3
C620	G1	J3
C630	H1	J3
C760	E5	H6
C762	E4	H5
C770	D3	H5
C880	E3	G5
C882	F3	F5
C994	B1	I5
C995	C2	H5
C996	H3	H5
C1000	F1	I5
C1002	E1	J5
C1006	F3	F5
C1102	E1	J5
C1107	F1	I5
C1116	H3	I5
C1117	H3	I5
C1120	H5	F4
C1122	H3	I4
C2002	A4	F5
C2003	A5	F5
J690	A3	K5
L13	F2	I4
L15	F1	J3
L17	F2	J4
L19	G1	J4
L21	E1	J4
L23	G2	J4
L24	H2	I4
L25	G2	J4
L27	G1	J4
L29	E1	J4
L31	G2	J4
L33	G1	J4
L35	E2	J5
L813	F1	I5
L814	G2	I5
R870	C3	I5
R880	D3	G5
R881	C4	F5
R885	C4	F5
R886	C4	F5
R989	B1	H4
R990	B1	H4
R991	D2	H5
R998	C1	G4
R1001	E1	J5
R1002	E1	J5
R1003	E1	J5
R1092	G1	J3
R1109	H5	F4
R1110	F3	F5
R1112	A5	F5
R1113	A4	F5
TP731	C1	G5
TP733	D4	F5
U200A	G4	G4
U200B	G4	G4
U200C	H4	G4
U530	G1	I3
U750	E5	G5
U760	E4	G5
U770	C3	H5
U780A	D5	I5
U780B	D4	I5
U780C	C3	I5
U780D	B3	I5
U790	E3	F5
U890A	A4	F5
U890B	C4	F5
U952	E1	J5
U953A	B1	H4
U953B	C2	H4
U954A	C1	G4
U954B	D1	G4
U957A	G5	G4
U957B	G4	G4
U957C	G4	G4
U957D	G5	G4
VR890	C4	F5
VR891	C4	F5



2722A

DIGITIZER, TIMING, INTERFACE AND DECOUPLING

A8 1

Schematic Diagram <2> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A8. Partial Assembly A8 also shown on Diagrams 1, 3, 4, 5, and 6.

Comp No	Diag Loc	Bd Loc
C33	H5	D5
C34	D4	F5
C550	F2	D3
C551	G1	D3
C552	F2	D3
C631	G4	E5
C632	E4	E5
C640	B3	E3
C641	B3	D4
C650	F2	C3
C651	E2	D3
C660	E2	C3
C661	E2	C3
C670	D2	C3
C730	E4	E4
C740	F4	E4
C750	C3	F4
C761	E1	C3
C820	F5	E5
C830	F5	E5
C986	B1	B3
C987	B1	B3
C988	B2	B3
C989	D1	C3
C990	D2	B3
C991	B5	D4
C992	C5	D4
C993	C5	D4
C997	C5	E4
C998	D5	E4
C1004	C1	B3
C1005	C5	E4
C1013	C1	B3
C1014	C1	C3
C1105	E5	D5
C1106	G2	D3
C1118	D3	F4
C1119	D4	F4
C2004	B3	E3
C2005	E5	F6
CR650	F2	C3
CR750	C3	E3
CR751	C3	E4
CR753	C1	B3
FL690	A2	A2
J590	A2	A2
L660	E1	C3
L661	E2	C3
L792	C1	C3
L812	E1	C3
L815	E5	F6
Q620A	G4	E5
Q620B	G4	E5
Q740	C3	E3
R550	G1	D3
R551	F1	D3
R552	F2	D3
R560	F2	D3
R561	F2	D3
R562	F2	D3
R563	F2	D3
R630	G4	F5
R631	E5	E5
R632	G4	E5
R633	E5	E5
R640	E5	D5
R641	E4	E4
R650	G2	D3
R660	F2	C3
R661	E2	C3
R671	E2	C3
R672	E1	C3
R720	G4	F5
R730	F4	E4
R731	F4	E5
R732	F4	E5
R740	F5	E5
R742	C3	E3
R743	B4	D3
R750	C4	E4
R820	F5	E5
R821	E5	E5
R830	F5	E5
R831	F5	D5
R832	F4	E5
R979	D1	B3
R980	B2	B3
R981	B1	B3
R982	B1	B3
R983	C1	B3
R984	B2	B3
R985	B1	B3
R986	D1	C3
R987	D2	B3
R988	B5	D4
R992	D5	E4
R993	D5	E4
R994	C5	D4
R995	C5	D4
R996	C2	B3
R999	C5	E4
R1000	C5	E4
R1004	C1	B3
R1011	C1	C3
R1091	D2	C3
R1093	F2	D3
R1094	F1	E3
R1095	B3	E3
R1096	B3	D4
R1097	E4	E4
R1098	E4	E5
R1103	G2	D3
R1104	F5	E5
R1105	F5	E5
R1107	C3	F4
R1108	C4	G4
R1114	E1	C3
R1115	C3	E3
R1116	E5	F5
R1130	C4	D3
TP550	G2	D3
TP640	E4	F4
TP730	F4	D4
U550	F2	D3
U640A	B3	E4
U640B	D3	E4
U660	E2	C3
U730A	E4	E4
U730B	G4	E4
U830A	F5	E5
U830B	F5	E5
U840A	G5	C5
U951A	C4	F4
U951B	C4	F4
U951C	D5	F4
U951D	D3	F4
U955	D1	B3
U956	B2	B3
U958	B5	D4
U959A	C5	E4
U959B	C5	E4

INPUT FILTER AND IF AMPLIFIERS

R1109 (1) IFGAIN
1 = High Gain (GATED)
0 = Low Gain (NON-GATED)

R1011 221 — C1014 0.1uF — L792 10uH

R1004 12.1 — CR753 — C1013 0.1uF — R983 39.2 — C1004 0.1uF

+5VA — R985 10.0 — C987 0.1uF — C986 0.1uF — R982 10.0 — R981 392

+5VA — R986 10.0 — C989 0.1uF — R979 392

J910 (2) A3 RF DOWN CONVERTER — J590 — FL690 21.4M-300K

[A] — R980 56.2 — C988 0.1uF — R984 10.0 — -5VA

R996 39.2 — [B]

U956 AD9617 — U955 AD9617 — C990 0.1uF — R987 10.0 — -5VA

[D] — R1091 10.0 — C670 0.1uF

SLM IN — R582 (3)

PEAK TO PEAK DETECTOR

+15VA — L812 100nH — C761 0.1uF — R1114 221 — L660 39uH — C661 01uF

R672 2.21k — R671 2.21k — L661 39uH — U660 CA3028 — R661 4.75k — C660 01uF — C651 .01uF — C650 .01uF — R660 681 — CR650

R551 332k — R550 332k — C551 2pF

+15VA — R1094 22.1 — C550 0.1uF — U550 MC34001 — R1093 22.1 — -15VA

R563 100k — R562 681 — R561 100k — R560 332k — R552 332k — C552 0.1uF — R650 100k — DET OFFSET — R1103 100 — -15VA — C1106 0.1uF — TP50 PKPK OUT

SWEEP PEAK DETECTOR

[E] — +15VA — R1095 10.0 — C640 0.1uF — U640A MC34002 — C641 0.1uF — R1096 10.0 — -15VA — C2004 100pF

CR751 — CR750 — Q740 — C750 005uF — U640B MC34002 — R1115 221

U760-15 (1) GATEMODE — R1107 100 — C1118 0.1uF

U951D DG444 (V+ VL V- GND)

R742 1.00k — DET GAIN — R1111 * — R1130 0.0 — R743 1.00k

U760-5 (1) 1 = Flush Detector DETFLUSH — U951B DG444 — R750 2.21k

U951A DG444 — +5VC — C34 0.1uF

TRACK AND HOLD

U957C-8 (1) (GATEMODE) — R1108 100 — C1119 0.1uF

+15VA — R999 10.0 — C997 0.1uF — U959A MC34002 — R992 3.32k — R993 3.32k — C998 0.1uF — R1000 10.0 — -15VA

U951C DG444 (V+ VL V- GND)

R988 2.21k — C991 1000pF — U958 SMP11 — R994 100 — C992 0.1uF — +15VA — C1005 005uF — C993 0.1uF — R995 100 — -15VA

U954A-5 (1) HOLD 0 = SAMPLE 1 = HOLD

U959B MC34002

LOG AMPLIFIER

[F] — TP640 LOGIN — R641 4.75k — C632 0.1uF — R1098 22.1 — -15VA

+15VA — R1097 22.1 — C730 0.1uF — U730A MC34002 — TP730 LOG

C740 1000pF — R730 5k — LOG GAIN — R731 6.81k — R720 500 — Q620B — Q620A — R630 2.21k — +5VREF — R632 2.21k — C631 180pF — U730B MC34002

[G] — R732 12.1k — R832 39.2k

+5VREF — R631 10.0k — C1105 0.1uF — R640 5k — LOG OFFSET — R821 5.62k — U830B MC34002 — R633 10.0k — R820 10.0k — R830 12.1k

+15VA — R1104 22.1 — C820 0.1uF — R831 5.62k — U830A MC34002 — C830 0.1uF — R1105 22.1 — -15VA

U750-2 (1) SWEEP — U840A DG444 — ADIN — R881 (1)

U790-3 (1) VCOMP — R1116 10.0 — L815 10uH — R740 39.2k — C2005 0.1uF

NOTE: * PART NOT INSTALLED

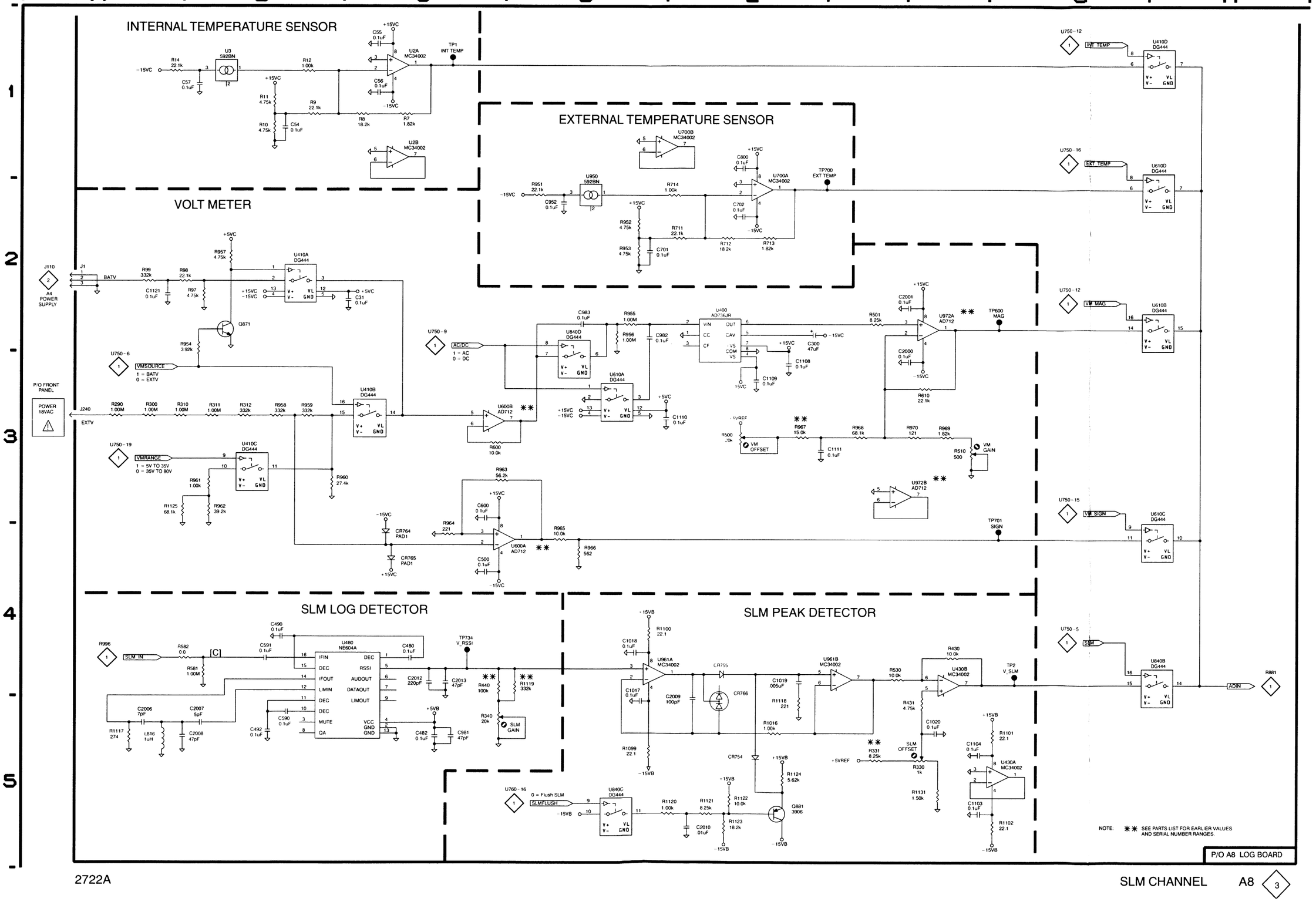
P/O A8 LOG BOARD

Schematic Diagram <3> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A8. Partial Assembly A8 also shown on Diagrams 1, 2, 4, 5, and 6.

Comp No	Diag Loc	Bd Loc
C31	C2	C6
C54	B1	C4
C55	C1	C4
C56	C1	C4
C57	B1	C4
C300	E2	D6
C480	C4	B4
C482	C5	B4
C490	B4	B4
C492	B5	B4
C500	C4	C6
C590	B5	B4
C591	B4	B4
C600	C3	C6
C701	D2	H7
C702	E2	G7
C800	E1	H6
C952	D2	G7
C981	C5	B4
C982	D2	D5
C983	D2	C6
C1017	D5	B5
C1018	D4	C5
C1019	E4	C5
C1020	F5	D4
C1103	F5	C5
C1104	F5	C4
C1108	E3	D6
C1109	E3	D6
C1110	D3	E6
C1111	E3	D6
C1121	A2	A5
C2000	F3	E6
C2001	F2	F6
C2006	A5	B4
C2007	B5	B4
C2008	A5	B4
C2009	E5	B5
C2010	E5	C5
C2012	C4	B5
C2013	C4	B5
CR754	E5	C5
CR755	E4	C5
CR764	C4	B6
CR765	C4	C6
CR766	E4	B5
J1	A2	A4
J240	A3	B6
L816	A5	B4
Q871	B2	C5
Q881	E5	C5
R7	C1	C4
R8	C1	C4
R9	B1	C4
R10	B1	C4
R11	B1	C4
R12	B1	C4
R14	A1	C4
R97	B2	B5
R98	A2	B5
R99	A2	A5
R290	A3	B6
R300	A3	B6
R310	A3	B6
R311	B3	B6
R312	B3	B6
R330	F5	C4
R331	F5	D4
R340	C5	B4
R430	F4	D5
R431	F5	D5
R440	C4	B5
R500	E3	C6
R501	F2	D6
R510	F3	D6
R530	F4	C5
R581	B4	B4
R582	A4	B4
R600	C3	C6
R610	F3	E6
R711	E2	H7
R712	E2	G6
R713	E2	G6
R714	E2	H7
R951	D2	G7
R952	D2	H6
R953	D2	H6
R954	B2	C5
R955	D2	D6
R956	D2	D6
R957	B2	C5
R958	B3	B6
R959	B3	B6
R960	B3	B6
R961	B3	C6
R962	B3	B6
R963	C3	C6
R964	C4	C6
R965	D4	C6
R966	D4	C6
R967	E3	D6
R968	F3	D6
R969	F3	D6
R970	F3	D6
R1016	E5	B5
R1099	D5	C5
R1100	D4	C5
R1101	G5	C4
R1102	G5	C5
R1117	A5	B4
R1118	E5	D5
R1120	D5	C5
R1121	E5	C5
R1122	E5	C5
R1123	E5	C5
R1124	E5	C5
R1125	A3	B6
R1131	F5	C4
TP1	C1	C4
TP2	G4	C5
TP600	G2	E6
TP700	E2	G6
TP701	G4	D6
TP734	C4	B5
U2A	C1	C4
U2B	C1	C4
U3	B1	C4
U400	E2	D5
U410A	B2	B5
U410B	C3	B5
U410C	B3	B5
U410D	G1	B5
U430A	G5	C4
U430B	F4	C4
U480	B4	B4
U600A	C4	C6
U600B	C3	C6
U610A	D3	E6
U610B	G2	E6
U610C	G4	E6
U610D	G1	E6
U700A	E2	G6
U700B	D1	G6
U840B	G4	C5
U840C	D5	C5
U840D	D2	C5
U950	D2	H7
U961A	D4	B5
U961B	F4	B5
U972A	F2	E6
U972B	F3	E6

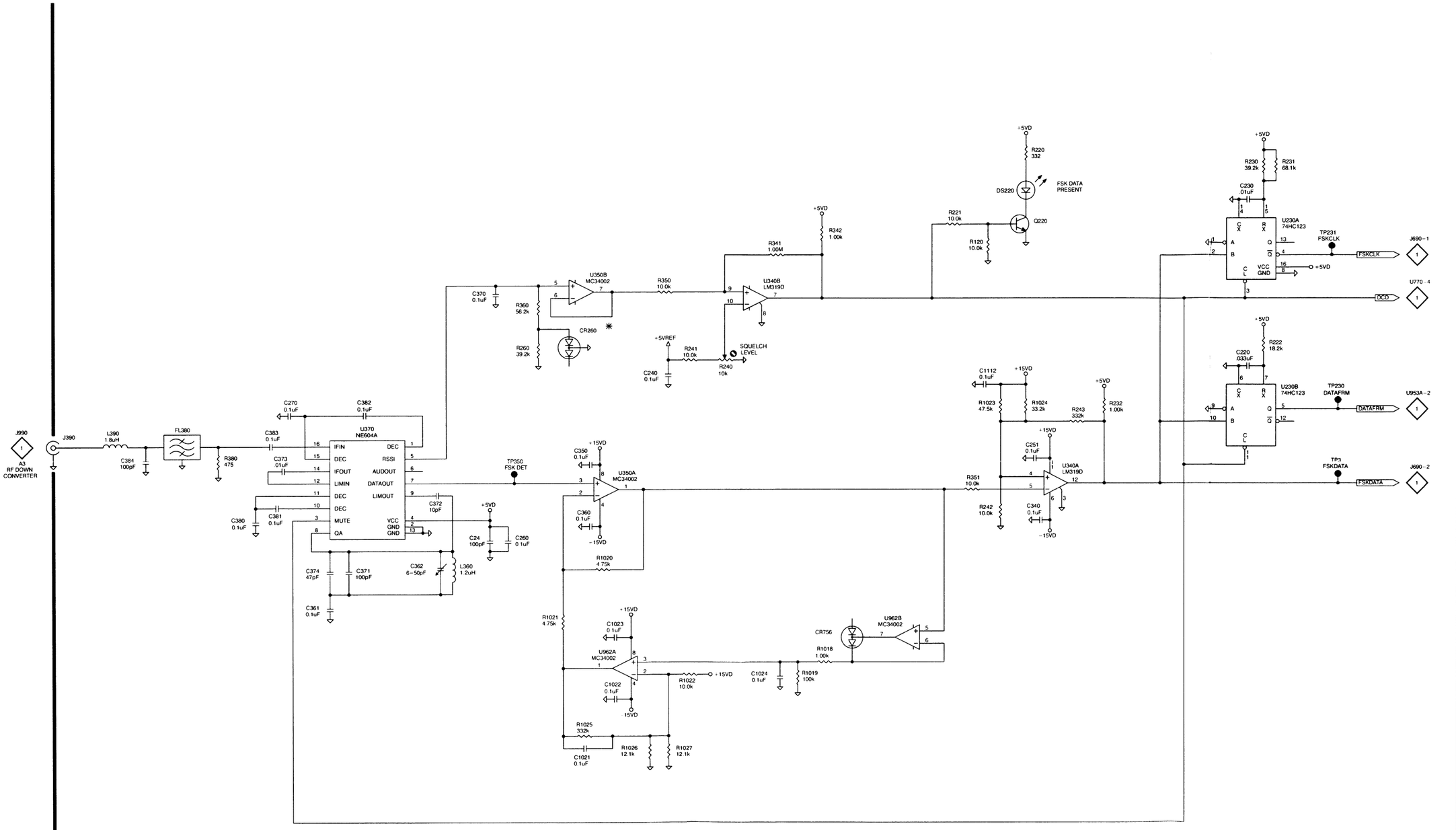

INTERNAL TEMPERATURE SENSOR
EXTERNAL TEMPERATURE SENSOR
VOLT METER
SLM LOG DETECTOR
SLM PEAK DETECTOR
TP1 INT TEMP
TP700 EXT TEMP
TP600 MAG
TP701 SIGN
TP734 V_RSSI
TP2 V_SLM
U2A MC34002
U2B MC34002
U700B MC34002
U700A MC34002
U950 592BN
U3 592BN
U410A DG444
U410B DG444
U410C DG444
U410D DG444
U840D DG444
U610A DG444
U600B AD712
U600A AD712
U400 AD736JR
U972A AD712
U972B AD712
U610D DG444
U610B DG444
U610C DG444
U480 NE604A
U961A MC34002
U961B MC34002
U430B MC34002
U430A MC34002
U840B DG444
U840C DG444
Q871
Q881 3906
CR764 PAD1
CR765 PAD1
CR755
CR766
CR754
U750-12 INT TEMP
U750-16 EXT TEMP
U750-12 VM MAG
U750-15 VM SIGN
U750-5 SLM
U750-6 VMSOURCE
1 = BATV 0 = EXTV
U750-9 AC/DC
1 = AC 0 = DC
U750-19 VMRANGE
1 = 5V TO 35V 0 = 35V TO 80V
U760-16 0 = Flush SLM SLMFLUSH
J110 A4 POWER SUPPLY
P/O FRONT PANEL POWER 18VAC
J240 EXTV
SLM IN
VM OFFSET
VM GAIN
SLM OFFSET
SLM GAIN
ADIN
NOTE: ** SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES.
P/O A8 LOG BOARD

Schematic Diagram <4> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A8. Partial Assembly A8 also shown on Diagrams 1, 2, 3, 5, and 6.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C24	C3	G4	DS220	F1	I4			
C220	G2	I5				R1020	D3	G4
C230	G2	I5	FL380	A3	F4	R1021	D4	G4
C240	D2	I4				R1022	D4	H4
			J390	A3	F4	R1023	F3	H4
C251	F3	I4				R1024	F3	H4
C260	C3	F4	L360	C3	G4			
C270	B3	G4	L390	A3	F4	R1025	D4	H4
C340	F3	I4				R1026	D4	H4
C350	D3	H4	Q220	F2	H4	R1027	D4	H4
C360	D3	G4	R120	F2	H4	TP3	H3	I5
C361	B4	F4	R220	F1	H4	TP230	H3	J5
C362	C3	F4	R221	F2	H4	TP231	H2	H5
C370	C2	G4	R222	G2	I4	TP350	C3	G4
C371	B3	F4	R230	G1	I4			
						U230A	G2	I5
C372	C3	G4	R231	G1	I5	U230B	G3	I5
C373	B3	G4	R232	G3	I4	U340A	F3	I4
C374	B3	F4	R240	D2	I4	U340B	E2	I4
C380	B3	G4	R241	D2	I4	U350A	D3	G4
C381	B3	G4	R242	F3	H4			
						U350B	D2	G4
C382	C3	G4	R243	F3	I4	U370	B3	G4
C383	B3	G4	R260	C2	G4	U962A	D4	H4
C384	A3	F4	R341	E2	I4	U962B	E4	H4
C1021	D4	H4	R342	E2	I4			
C1022	D4	H4	R350	D2	H4			
C1023	D4	H4	R351	F3	H4			
C1024	E4	H4	R360	C2	G4			
C1112	F2	H4	R380	B3	F4			
			R1018	E4	H4			
CR756	E4	H4	R1019	E4	H4			



NOTE: ✱ PART NOT INSTALLED

P/O A8 LOG BOARD

Schematic Diagram <5> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A8. Partial Assembly A8 also shown on Diagrams 1, 2, 3, 4, and 6.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C1025	G2	F1	C1072	D4	G1	R1034	B2	H3
C1026	B1	G3	C1073	E4	G2	R1035	B3	H3
C1027	B1	G3	C1074	E4	H2	R1036	B3	H3
C1028	B1	F3	C1075	E4	H2	R1037	F3	I3
C1029	B1	F3	C1076	F4	I1			
						R1038	E3	I3
C1030	B1	F3	C1077	F4	H1	R1039	E3	I3
C1031	B2	F2	C1078	F4	I2	R1040	E3	H2
C1032	B2	G2	C1079	F4	H2	R1041	E3	H3
C1033	C2	F3	C1080	F4	H2	R1042	D3	H2
C1034	C1	F3	C1081	F5	H2			
						R1043	D3	H2
C1035	B2	F2	C1082	G3	I3	R1044	C3	F2
C1036	B2	H3	C1083	G3	I2	R1045	C4	G2
C1037	B3	H3	C1084	G2	I2	R1046	E4	G2
C1038	B3	H3	C1085	H4	I1	R1047	E4	H2
C1039	F3	I3						
			CR757	G4	I2	R1048	F4	H1
C1040	F3	I3				R1049	F4	H1
C1041	F3	I3	J420	H2	G1	R1050	F4	H1
C1042	E3	H3	J430	H2	G1	R1051	F4	H2
C1043	E3	H3	J440	H4	H1	R1052	F4	H2
C1044	E3	H2	J800	A3	J2			
						R1053	F4	H2
C1045	E3	H3	L793	B1	G3	R1054	G3	I2
C1046	E3	H2	L794	B1	F3	R1055	G5	I1
C1047	E3	H3	L795	B1	E3	R1057	G4	I1
C1048	C3	F2	L796	F3	I2	R1058	H4	I1
C1049	C3	F2	L797	B3	F2			
						R1059	H4	I1
C1050	C3	F2	L798	A3	J2	R1060	H4	I1
C1051	B3	G2	L799	A4	I2	R1106	B5	G2
C1052	A3	J2	L800	A4	I2			
C1053	B3	J2	L802	B5	F1	TP732	F3	I3
C1054	A4	J2	L803	C5	G2			
						U963A	F2	F1
C1055	B4	I2	L804	B5	J2	U963B	E2	F1
C1056	A4	J2	L805	B4	G2	U964A	H3	G1
C1057	B4	I2	L806	E4	H1	U964B	H2	G1
C1060	C5	G1	L807	F4	I2	U964C	H2	G1
C1061	H3	G1	L808	G4	I2			
			L809	G3	I2	U964D	H3	G1
C1062	B5	I2				U964E	H3	G1
C1063	C5	G3	Q873	B1	F3	U964F	H4	G1
C1064	C5	H3	Q874	F4	H2	U965A	G3	I3
C1065	B5	J2				U965B	E3	I3
C1066	C5	J3	R1028	B1	F3			
			R1029	B1	F3	U966	C3	G2
C1067	C4	H2	R1030	B2	F2	U967	C3	F2
C1068	C4	H2	R1031	C2	F3	U968	C4	H2
C1069	C4	G2	R1032	C2	F2	U969	E4	G1
C1070	C4	H2						
C1071	D4	H1	R1033	C2	F2	Y1	B1	G3

A B C D E F G H

1 2 3 4 5

SHIELDED AREA

48 MHz OSCILLATOR

+15V2 C1026 0.1uF L793 10uH C1027 .01uF L794 10uH R1028 10.0 Q873 Y1 48MHz C1028 .01uF L795 0.8 - 1.2uH C1029 4pF C1030 15pF C1034 33pF C1031 .01uF R1029 1.50k C1032 0.1uF R1030 825 -15V2

R1032 562 C1033 001uF C1035 001uF R1033 100 R1031 47.5

PRESCALERS & SYNTHESIZER

ERROR AMPLIFIER & LOOP FILTER

U966 MB87006A

DATA CLK LE OSIN FIN REF 0R 0V OSOUT LD PD FR FV MC VCC GND +5V5

U967 MB503 IN OUT NC IN MC SW VCC GND C1051 001uF C1048 0.1uF R1044 2.21k L797 100nH C1050 0.1uF C1049 47pF

U968 MB507 IN OUT NC IN MC SW VCC GND C1068 001uF C1067 001uF R1045 2.21k L805 100nH C1069 01uF C1070 47pF

J800 +5VL -15VL +15VL +20VL GND

J200 A2 PROCESSOR

DATA R1061 R1034 221 C1036 100pF

CLK R1065 R1035 221 C1037 100pF

LATCHEN R1036 221 C1038 100pF

ATTNLE R1063

L798 10uH +20VL C1052 0.1uF C1053 0.1uF +20V2

L799 10uH +15VL C1054 0.1uF C1055 0.1uF +15V2

L800 10uH +5VL C1056 0.1uF C1057 0.1uF +5V2

R1042 6.81k C1046 0.22uF C1044 0.22uF R1040 6.81k

R1043 6.81k C1047 0.22uF C1045 0.22uF R1041 6.81k

U965B LM358 R1038 22.1k C1040 0.22uF C1041 0.22uF TP732 V_TUNE

R1039 22.1k C1043 0.22uF C1042 0.22uF

L796 100nH C1039 10pF

U963B 74HCT74 +5V4 D PR Q CK CL

U963A 74HCT74 +5V4 D PR Q CK CL VCC GND C1025 0.1uF

1.5MHz PROCESSOR CLK J420 J550 1 A2 PROCESSOR

U964B 74HCT04 3MHz REFERENCE J430 J940 2 A3 RF DOWN CONVERTER

U964C 74HCT04

U964A 74HCT04 +5V4 C1061 0.1uF

U964D 74HCT04 +5V4

U964E 74HCT04 +5V4

U964F 74HCT04 +5V4

+20V2 C1084 100pF R1054 100 L809 100nH C1083 100pF C1082 0.1uF U965A LM358

VOLTAGE CONTROLLED OSCILLATOR

+15V2 C1071 0.1uF C1072 47pF U969 LM317D IN ADJ OUT OUT OUT L806 100nH C1075 47pF R1047 1.00k R1046 8.25k C1073 47pF C1074 0.1uF

C1076 001uF L807 165nH R1048 2.21k R1051 100 R1052 100 C1078 001uF CR757 R1050 0.0 Q874 R1049 1.00k C1077 001uF R1053 274 C1079 15pF ** C1080 2.5 - 9pF L808 8.0nH

R1057 47.5 C1085 100pF R1058 150 ** R1060 39.2 ** R1059 150 2ND LO J440 J941 1 A3 RF DOWN CONVERTER

C1081 001uF R1055 100

SHIELDED AREA

+5V2 L802 100nH C1060 100pF +5V4

R1106 10.0 L803 100nH C1062 100pF C1063 100pF C1064 0.1uF +5V5

-15VL C1065 100pF L804 100nH C1066 100pF -15V2

NOTE: ** SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES

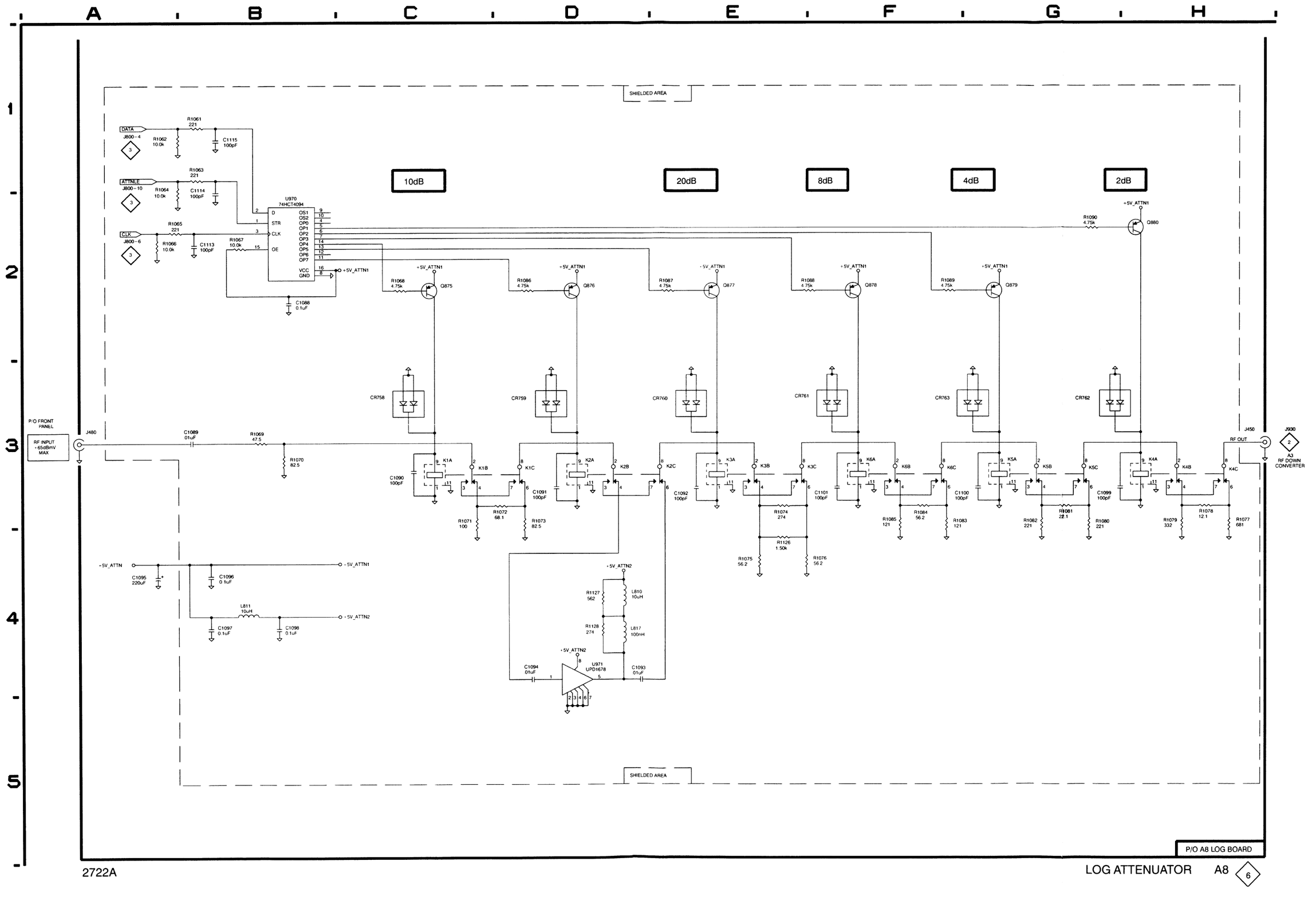
P/O A8 LOG BOARD

Schematic Diagram <6> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

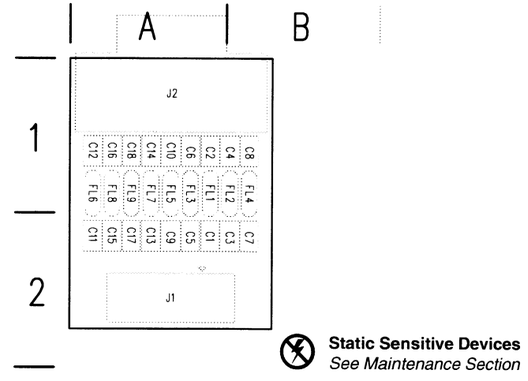
Assembly A8. Partial Assembly A8 also shown on Diagrams 1, 2, 3, 4, and 5.

Comp No	Diag Loc	Bd Loc
C1088	B2	C1
C1089	B3	E1
C1090	C3	E1
C1091	D3	E1
C1092	E3	D1
C1093	D4	E1
C1094	D4	E1
C1095	A4	E3
C1096	B4	E2
C1097	B4	E2
C1098	B4	E1
C1099	G3	C1
C1100	G3	C1
C1101	F3	D1
C1113	B2	B2
C1114	B2	C1
C1115	B1	B1
CR758	C3	E2
CR759	D3	D2
CR760	E3	D2
CR761	F3	D2
CR762	G3	C2
CR763	F3	C2
J450	H3	B1
J480	A3	F2
K1A	C3	E1
K1B	C3	E1
K1C	D3	E1
K2A	D3	E1
K2B	D3	E1
K2C	E3	E1
K3A	E3	D1
K3B	E3	D1
K3C	E3	D1
K4A	H3	C1
K4B	H3	C1
K4C	H3	C1
K5A	G3	C1
K5B	G3	C1
K5C	G3	C1
K6A	F3	D1
K6B	F3	D1
K6C	F3	D1
L810	D4	E2
L811	B4	E2
L817	D4	E1
Q875	C2	E2
Q876	D2	D2
Q877	E2	D2
Q878	F2	D2
Q879	G2	C2
Q880	H2	C2
R1061	B1	B2
R1062	A1	B2
R1063	B1	B1
R1064	A1	B1
R1065	A2	C2
R1066	A2	C2
R1067	B2	C1
R1068	C2	D2
R1069	B3	E1
R1070	B3	F1
R1071	C3	E1
R1072	D3	E1
R1073	D3	E1
R1074	E3	D1
R1075	E4	D1
R1076	E4	D1
R1077	H3	C1
R1078	H3	C1
R1079	H3	C1
R1080	G3	C1
R1081	G3	C1
R1082	G3	D1
R1083	F3	D1
R1084	F3	D1
R1085	F3	D1
R1086	D2	D2
R1087	E2	D2
R1088	E2	D2
R1089	F2	C2
R1090	G2	C2
R1126	E4	D1
R1127	D4	E2
R1128	D4	D1
U970	B2	C2
U971	D4	E1



2722A

LOG ATTENUATOR A8 6



Static Sensitive Devices
See Maintenance Section

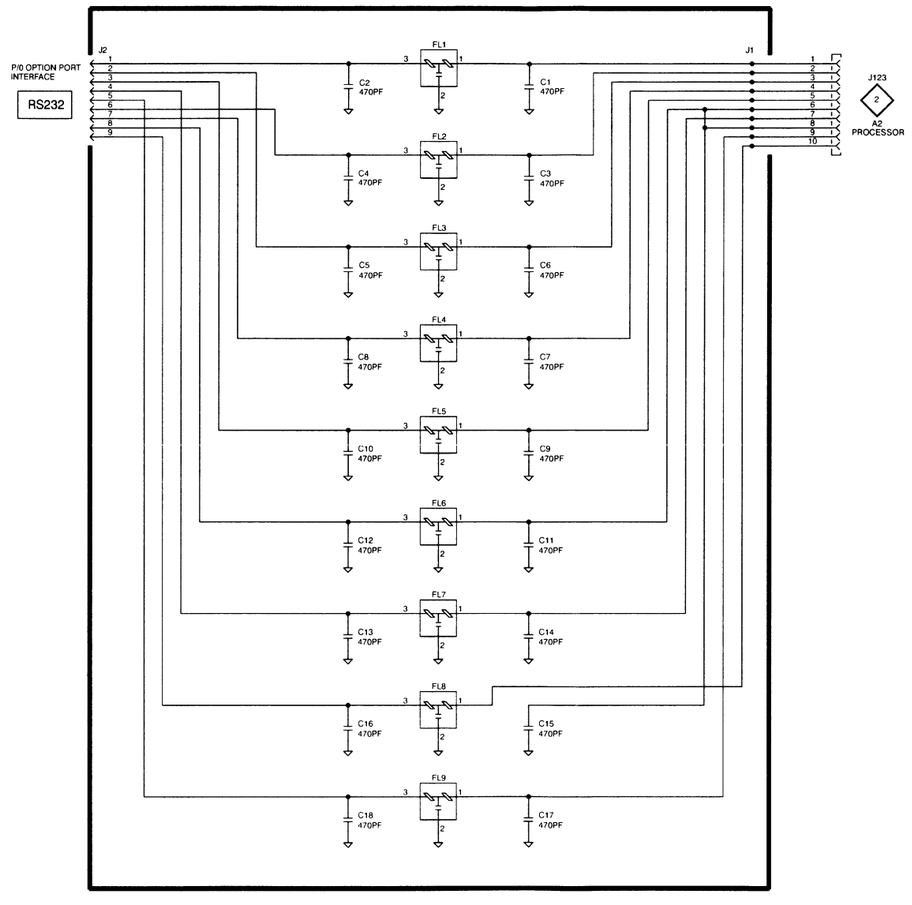
A10 SERIAL FILTER BOARD

Schematic Diagram <1>
Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A10

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C1	D2	A2	C16	D4	A1
C2	D2	A1	C17	D4	A2
C3	D2	B2	C18	D4	A1
C4	D2	B1			
C5	D2	A2	FL1	D2	A1
			FL2	D2	B1
C6	D2	A1	FL3	D2	A1
C7	D3	B2	FL4	D2	B1
C8	D3	B1	FL5	D3	A1
C9	D3	A2			
C10	D3	A1	FL6	D3	A1
			FL7	D3	A1
C11	D3	A2	FL8	D4	A1
C12	D3	A1	FL9	D4	A1
C13	D4	A2			
C14	D4	A1	J1	F2	A2
C15	D4	A2	J2	C2	A1


J2
P/0 OPTION PORT INTERFACE
RS232
1
2
3
4
5
6
7
8
9
FL1
FL2
FL3
FL4
FL5
FL6
FL7
FL8
FL9
C1 470PF
C2 470PF
C3 470PF
C4 470PF
C5 470PF
C6 470PF
C7 470PF
C8 470PF
C9 470PF
C10 470PF
C11 470PF
C12 470PF
C13 470PF
C14 470PF
C15 470PF
C16 470PF
C17 470PF
C18 470PF
J1
10
J123
2
A2 PROCESSOR

Replaceable Mechanical Parts

This section contains a list of the components that are replaceable for the 2722A. Use this list to identify and order replacement parts. There is a separate Replaceable Mechanical Parts list for each instrument.

Parts Ordering Information

Replacement parts are available from or through your local Tektronix, Inc., Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available and to give you the benefit of the latest circuit improvements. Therefore, when ordering parts, it is important to include the following information in your order.

- Part number
- Instrument type or model number
- Instrument serial number
- Instrument modification number, if applicable

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc., Field Office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

Using the Replaceable Mechanical Parts List

The tabular information in the Replaceable Mechanical Parts list is arranged for quick retrieval. Understanding the structure and features of the list will help you find all of the information you need for ordering replaceable parts.

Cross Index–Mfr. Code Number to Manufacturer

The Mfg. Code Number to Manufacturer Cross Index for the mechanical parts list is located immediately after this page. The cross index provides codes, names, and addresses of manufacturers of components listed in the mechanical parts list.

Abbreviations

Abbreviations conform to American National Standards Institute (ANSI) standard Y1.1.

Chassis Parts

Chassis–mounted parts and cable assemblies are located at the end of the Replaceable Electrical Parts list.

Column Descriptions

Figure & Index No. (Column 1)

Items in this section are referenced by figure and index numbers to the illustrations.

Tektronix Part No. (Column 2)

Indicates part number to be used when ordering replacement part from Tektronix.

Serial No. (Column 3 and 4)

Column three (3) indicates the serial number at which the part was first used. Column four (4) indicates the serial number at which the part was removed. No serial number entered indicates part is good for all serial numbers.

Qty (Column 5)

This indicates the quantity of mechanical parts used.

Name and Description (Column 6)

An item name is separated from the description by a colon (:). Because of space limitations, an item name may sometimes appear as incomplete. Use the U.S. Federal Catalog handbook H6-1 for further item name identification.

Following is an example of the indentation system used to indicate relationship.

```
1  2  3  4  5        Name & Description
Assembly and/or Component
Mounting parts for Assembly and/or Component
*MOUNTING PARTS*/*END MOUNTING PARTS*
    Detail Part of Assembly and/or Component
    Mounting parts for Detail Part
    *MOUNTING PARTS*/*END MOUNTING PARTS*
        Parts of Detail Part
        Mounting parts for Parts of Detail Part
        *MOUNTING PARTS*/*END MOUNTING PARTS*
```

Mounting Parts always appear in the same indentation as the Item it mounts, while the detail parts are indented to the right. Indented items are part of and included with, the next higher indentation. **Mounting parts must be purchased separately, unless otherwise specified.**

Mfr. Code (Column 7)

Indicates the code number of the actual manufacturer of the part. (Code to name and address cross reference can be found immediately after this page.)

Mfr. Part Number (Column 8)

Indicates actual manufacturer's part number.

CROSS INDEX – MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code.	Manufacturer	Address	City, State, Zip Code
01536	TEXTRON INC CAMCAR DIV SEMS PRODUCTS UNIT	1818 CHRISTINA ST	ROCKFORD IL 61108
06540	MITE CORP AMATOM ELECTRONIC HARDWARE DIV	446 BLAKE ST	NEW HAVEN CT 06515–1238
0KB01	STAUFFER SUPPLY	810 SE SHERMAN	PORTLAND OR 97214
12327	FREEWAY CORP	9301 ALLEN DR	CLEVELAND OH 44125–4632
24931	SPECIALTY CONNECTOR CO INC	2100 EARLYWOOD DR PO BOX 547	FRANKLIN IN 46131
54318	ASTRO–MED INC ASTRO–MED INDUSTRIAL PARK	600 EAST GREENWICH AVE	WEST WARWICK RI 02983–5446
70485	ATLANTIC INDIA RUBBER WORKS INC	571 W POLK ST	CHICAGO IL 60607
77900	ILLINOIS TOOL WORKS SHAKEPROOF DIV	ST CHARLES RD	ELGIN IL 60120
78189	ILLINOIS TOOL WORKS INC SHAKEPROOF DIV	ST CHARLES ROAD	ELGIN IL 60120
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON OR 97077–0001
83385	MICRODOT MFG INC GREER–CENTRAL DIV	3221 W BIG BEAVER RD	TROY MI 48098
83486	ELCO INDUSTRIES INC	1101 SAMUELSON RD	ROCKFORD IL 61101
86928	SEASTROM MFG CO INC	701 SONORA AVE	GLENDALE CA 91201–2431
93907	TEXTRON INC CAMCAR DIV	600 18TH AVE	ROCKFORD IL 61108–5181
94222	SOUTHCO INC	210 N BRINTON LAKE RD	CONCORDVILLE PA 19331
TK0858	STAUFFER SUPPLY CO (DIST)		
TK1373	PATELEC–CEM (ITALY)	10156 TORINO	VAICENTALLO 62/45S ITALY
TK1543	CAMCAR/TEXTRON	600 18TH AVE	ROCKFORD IL 61108–5181

2722A Replaceable Mechanical Parts

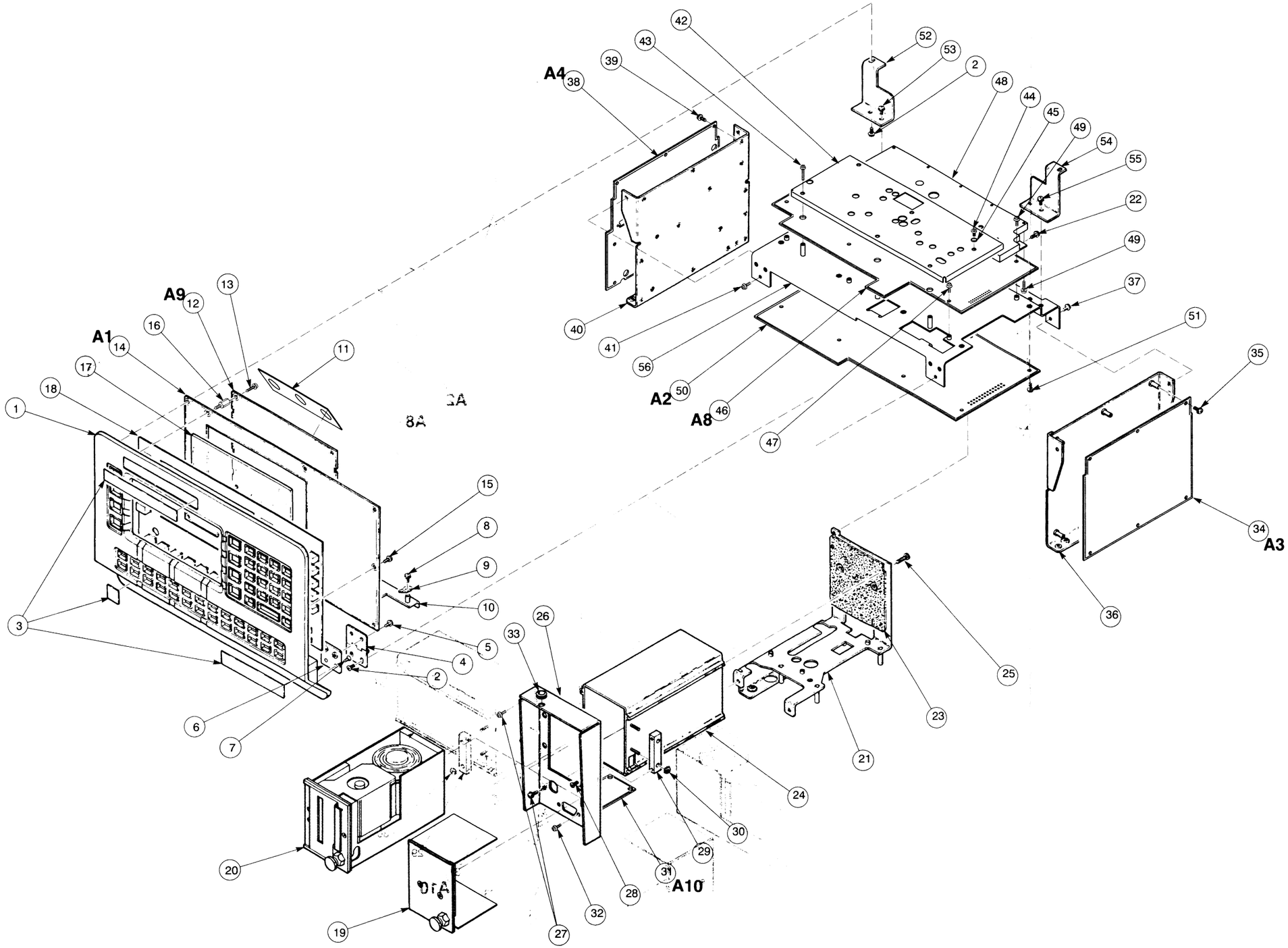
Fig. & Index No.	Tektronix Part No.	Serial Number Effective	Serial Number Dscont	Qty	12345	Name & Description	Mfr. Code	Mfr. Part No.
1–1	200–3772–01			1		BEZEL,TRIM RING:SAFETY CONTROLLED	80009	200–3772–01
						MOUNTING PARTS		
–2	211–0408–00			6		SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
–3	334–7698–01			1		MARKER,IDENT:2722A,SET OF 5	80009	334–7698–01
–4	214–4372–00			2		HINGE,FR PANEL:ZINC	80009	214–4372–00
						MOUNTING PARTS		
–5	211–0408–00			4		SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
–6	407–4024–01			2		BRACKET,HINGE:	80009	407–4024–01
						MOUNTING PARTS		
–7	211–0303–00			4		SCREW,MACHINE:4–40 X 0.25,FLH 100 DEG,STL	TK1543	ORDER BY DESCR
						END MOUNTING PARTS		
–8	210–0201–00			1		TERMINAL,LUG:0.12 ID,LOCKING,BRZ TIN PL	86928	A373–157–2
						MOUNTING PARTS		
–9	211–0409–00			1		SCR,ASSEM WSHR:4–40 X 0.312,PNH,STL	93907	ORDER BY DESCR
						END MOUNTING PARTS		
–10	407–4038–01			1		BRKT,CONN MTG:2722	80009	407–4038–01
–11	386–6137–00			1		PLATE,CMPNT MTG:AL,ENCODER	80009	386–6137–00
–12	———			1		LCD MODULE:DOT MATRIX		
						(SEE A9 REPL)		
						MOUNTING PARTS		
–13	211–0408–00			4		SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
–14	———			1		CIRCUIT BD ASSY:FRONT PANEL		
						(SEE A1 REPL)		
						MOUNTING PARTS		
–15	211–0408–00			4		SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
–16	129–0236–00			4		SPACER,POST:0.375 L,0.187 HEX	06540	9726–A–0440
						END MOUNTING PARTS		
–17	337–3704–01			1		SHIELD,ELEC:LED DISPLAY,POLYCARBONATE	80009	337–3704–01
–18	119–3632–01			1		KEYPAD ASSY:SILICON RUBBER,54 KEY,SILVER GRAY W/LEGEND BLACK NOMENCLATURE	80009	119–3632–01
–19	200–3885–00			1		COVER,FRONT AS:OPTION PORT	80009	200–3885–00
						(STANDARD ONLY)		
–20	119–2371–01			1		CHART RECORDER:	80009	119–2371–01
						(OPTION 01 ONLY)		
–21	441–1935–00			1		CHAS,PRINTER:RECEIVER,ALUMINUM	80009	441–1935–00
						MOUNTING PARTS		
–22	211–0408–00			1		SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
–23	348–0975–00			1		GASKET,REAR PNL:2.771 X 3.2,SILICON RUBBER	80009	348–0975–00
–24	441–1978–00			1		CASE,PRINTER:ALUMINUM	80009	441–1978–00
						MOUNTING PARTS		
–25	213–0882–00			4		SCREW,TPG,TR:6–32 X 0.437 TAPTITE,PNH,STL	83385	ORDER BY DESCR
						END MOUNTING PARTS		
–26	441–1934–01			1		CHAS,PRINTER CO:ALUMINUM,2722A	80009	441–1934–01
						MOUNTING PARTS		
–27	211–0409–00			4		SCR,ASSEM WSHR:4–40 X 0.312,PNH,STL	93907	ORDER BY DESCR
–28	211–0303–00			4		SCREW,MACHINE:4–40 X 0.25,FLH 100 DEG,STL	TK1543	ORDER BY DESCR
						END MOUNTING PARTS		
–29	220–0175–00			2		NUT,BAR:1.7 X 0.375 X 0.250 THK,2–40 THREADED THRU HOLES,AL	80009	220–0175–00
						MOUNTING PARTS		
–30	210–0586–00			4		NUT,PL,ASSEM WA:4–40 X 0.25,STL CD PL	78189	211–041800–00
						END MOUNTING PARTS		
–31	———			1		CIRCUIT BD ASSY:CUSTOM I/O		

Fig. & Index No.	Tektronix Part No.	Serial Number Effective	Serial Number Dscont	Qty	12345	Name & Description	Mfr. Code	Mfr. Part No.
						(SEE A10 REPL)		
						MOUNTING PARTS		
-32	211-0409-00			2		SCR,ASSEM WSHR:4-40 X 0.312,PNH,STL	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-33	348-0003-00			1		GROMMET,RUBBER:BLACK,ROUND,0.219 ID	70485	1411B6040
-34	——— ———			1		CIRCUIT BD ASSY:RF DOWN CONVERTER		
						(SEE A3 REPL)		
						MOUNTING PARTS		
-35	211-0408-00			6		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-36	441-1932-00			1		CHASSIS ASSY:ALUMINUM	80009	441-1932-00
						MOUNTING PARTS		
-37	211-0408-00			3		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-38	——— ———			1		CIRCUIT BD ASSY:POWER SUPPLY		
						(SEE A4 REPL)		
						MOUNTING PARTS		
-39	211-0408-00			8		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-40	441-1936-01			1		CHAS,PWR SPLY:ALUMINUM,2722A	80009	441-1936-01
						MOUNTING PARTS		
-41	211-0408-00			3		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-42	337-3808-00			1		SHIELD,ELEC:2722A	80009	337-3808-00
						MOUNTING PARTS		
-43	211-0410-00			3		SCR,ASSEM WSHR:4-40 X 0.437,PNH,STL	93907	ORDER BY DESCR
-44	211-0007-00			3		SCREW,MACHINE:4-40 X 0.188,PNH,STL	93907	ORDER BY DESCR
-45	210-0004-00			3		WASHER,LOCK:#4 INTL,0.015 THK,STL	77900	1204-00-00-0541C
						END MOUNTING PARTS		
-46	——— ———			1		CIRCUIT BD ASSY:LOG AMP		
						(SEE A8 REPL)		
						MOUNTING PARTS		
-47	211-0408-00			4		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-48	337-3806-02			1		SHIELD,ELEC:	80009	337-3806-02
						MOUNTING PARTS		
-49	211-0408-00			15		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-50	——— ———			1		CIRCUIT BD ASSY:PROCESSOR RX		
						(SEE A2 REPL)		
						MOUNTING PARTS		
-51	211-0408-00			8		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-52	407-4025-00			1		BRACKET,FR PNL:RIGHT,ALUMINUM	80009	407-4025-00
						MOUNTING PARTS		
-53	211-0408-00			2		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-54	407-4022-00			1		BRACKET,FR PNL:LEFT,ALUMINUM	80009	407-4022-00
						MOUNTING PARTS		
-55	211-0408-00			2		SCR,ASSEM WSHR:4-40 X 0.250,PNH,STL TORX	93907	ORDER BY DESCR
						END MOUNTING PARTS		
-56	441-1933-01			1		CHASSIS,PROCESS:2722A	80009	441-1933-01

Fig. & Index No.	Tektronix Part No.	Serial Number Effective	Dscont	Qty	12345	Name & Description	Mfr. Code	Mfr. Part No.
2–1	437–0441–00			1		CABINET ASSY:2722A	80009	437–0441–00
–2	200–4093–00			1		COVER,FRONT:COVER,CABINET	80009	200–4093–00
						MOUNTING PARTS		
–3	212–0189–00			4		SCREW,MACHINE:8–32 X 0.500,PAN HEAD,TORX T–20,CAD PLATE,CREST CUP WASHER	0KB01	ORDER BY DESCR
–4	407–4194–00			1		NUT PLATE,COVER:ALUMINUM,2722A	80009	407–4194–00
						END MOUNTING PARTS		
–5	367–0037–01			1		HANDLE,CARRYING:6.0 L,VINYL,BLACK	80009	367–0037–01
						MOUNTING PARTS		
–6	212–0682–00			2		SCREW,MACHINE:10–32 X 0.5,PNH,STL	TK0858	212–0682–00
–7	210–0056–00			2		WASHER,LOCK:#10 SPLIT,0.047 THK,SI BRZ	86928	ORDER BY DESCR
–8	210–1061–00			2		WASHER,FLAT:0.203 ID X 0.625 OD X 0.062,STL	86928	A371–141–62
–9	344–0098–01			2		CLIP,DECORATIVE:CARRYING HANDLE,BLACK	80009	344–0098–01
						END MOUNTING PARTS		
–10	105–0724–01			1		LATCH,CASE:2722A	80009	105–0724–01
						MOUNTING PARTS		
–11	212–0158–00			4		SCREW,MACHINE:8–32 X 0.375,PNH,STL	83486	ORDER BY DESCR
–12	210–0069–00			4		WASHER,LOCK:#8 SPLIT,0.04 THK STL	86928	ORDER BY DESCR
						END MOUNTING PARTS		
–13	214–4364–00			2		HARDWARE ASSY:D–RING,RECEIVER BASE,STL	80009	214–4364–00
						MOUNTING PARTS		
–14	212–0189–00			2		SCREW,MACHINE:8–32 X 0.500,PAN HEAD,TORX T–20,CAD PLATE,CREST CUP WASHER	0KB01	ORDER BY DESCR
–15	210–0858–00			2		WASHER,FLAT:0.172 ID X 0.5 OD X 0.062,BRS	12327	ORDER BY DESCR
						END MOUNTING PARTS		
–16	214–4275–04			1		HINGE,CABINET:PAINTED	80009	214–4275–04
						MOUNTING PARTS		
–17	212–0158–00			2		SCREW,MACHINE:8–32 X 0.375,PNH,STL	83486	ORDER BY DESCR
–18	210–0069–00			2		WASHER,LOCK:#8 SPLIT,0.04 THK STL	86928	ORDER BY DESCR
–19	407–4030–01			1		BRACKET,MTG:NUT PLATE,ALUMINUM,2722A	80009	407–4030–01
						END MOUNTING PARTS		
–20	348–0068–01			2		FOOT,CABINET:REAR,CHARCOAL GRAY NEOPRENE	80009	348–0068–01
						MOUNTING PARTS		
–21	212–0158–00			2		SCREW,MACHINE:8–32 X 0.375,PNH,STL	83486	ORDER BY DESCR
						END MOUNTING PARTS		
–22	200–4094–00			1		DOOR,ACCESS:CHART RECORDER	80009	200–4094–00
						MOUNTING PARTS		
–23	——— ———			2		PIN,DOWEL:0.125 X 0.625 SST		
						END MOUNTING PARTS		
–24	105–0901–00			1		LATCH,SLIDE:	94222	A3–40–625–12
–25	202–0323–00			1		BASE,CABINET:2722A	80009	202–0323–00
–26	334–7698–01			1		MARKER,IDENT:2722A,SET OF 5	80009	334–7698–01
–27	334–8167–00			1		MARKER,IDENT:MARKED ATTENTION	80009	334–8167–00
–28	146–0080–00			1		BATTERY,STORAGE:12V,8.0AH,SEALED LEAD ACID,RE-CHARGABLE	80009	146–0080–00
–29	343–1476–00			1		RTNR,BATTERY:ALUMINUM	80009	343–1476–00
						MOUNTING PARTS		
–30	211–0725–00			4		SCREW,MACHINE:6–32 X 0.375,FLH	01536	ORDER BY DESCR
						END MOUNTING PARTS		
–31	348–1211–00			1		PAD,BATTERY:0.12 THK NEOPRENE	80009	348–1211–00
–32	348–0048–00			4		FOOT,CAMERA:BLACK VINYL W/6–32 STUD	80009	348–0048–00
–33	214–4277–00			1		HT SINK,PWR SPL:RECEIVER BASE PLATE	80009	214–4277–00
						MOUNTING PARTS		
–34	211–0691–00			8		SCREW,MACHINE:6–32 X 0.625,PNH,STL	TK0858	ORDER BY DESCR
						END MOUNTING PARTS		

Fig. & Index No.	Tektronix Part No.	Serial Number Effective	Dscont	Qty	12345	Name & Description	Mfr. Code	Mfr. Part No.
						STANDARD ACCESSORIES		
	063–1490–00			1		SOFTWARE PKG:2722A PC DOWNLOAD SOFTWARE	80009	063–1490–00
	070–8743–00			1		MANUAL,TECH:USERS,2721A/2722A	80009	070–8743–00
	103–0301–00			1		ADAPTOR,CONN:F SERIES,FEMALE TO FEMALE	24931	33A116–2
	119–3740–00			1		POWER SUPPLY:AC/AC XFMR DESK TOP,PRI 120V 60HZ 3 PRONG,SEC 18V 3A	80009	119–3740–00
	174–1809–00			1		CA ASSY,SP,ELEC:COND,72.0 L	80009	174–1809–00
	————			1		VOLTMETER LEAD SET:ALMO1	80009	ORDER BY DESCR
						OPTIONAL ACCESSORIES		
	006–7647–00			1		PAPER,CHART:THERMAL,YT1,SINGLE	54318	40952–903
	006–7677–00			1		PAPER,CHART:THERMAL,YT1,BOX OF 25	80009	006–7677–00
	016–1087–00			1		CASE,CARRYING:11 X 12 X 8,BLUE,NYLON W/HAND/ SHOLDER STRAP	80009	016–1087–00
	070–8756–00			1		MANUAL,TECH:SERVICE,2721A/2722A	80009	070–8756–00
	103–0310–00			1		ADAPTER CONN:BNC JACK TO F SERIES JACK,1.0L	80009	103–0310–00
	146–0080–00			1		BATTERY,STORAGE:12V,8.0AH,SEALED LEAD ACID,RE-CHARGABLE	80009	146–0080–00
	214–4367–00			1		HOOK,LATCH:STRAND,HOOK,STEEL	80009	214–4367–00
	119–4272–00			1		POWER SUPPLY: (OPTION A1,A2,A3,A5 ONLY)	80009	119–4272–00
	161–0066–09			1		CABLE ASSY,PWR,:3,0.75MM SQ,220V,99.0 L (EUROPEAN OPTION A1 ONLY)	80009	161–0066–09
	161–0066–10			1		CABLE ASSY,PWR,: (UNITED KINGDOM OPTION A2 ONLY)	TK1373	24230
	161–0066–11			1		CABLE ASSY,PWR,:3,0.75MM,240V,96.0 L (AUSTRALIAN OPTION A3 ONLY)	80009	161–0066–11
	161–0154–00			1		CABLE ASSY,PWR,:3,1.00MM SQ,250V,10A,2.5METER,SWISS (SWISS OPTION A5 ONLY)	80009	161–0154–00
	119–2371–02			1		CHART RECORDER:ASTRO–MED NON–SPLASHPROOF (OPTION 01 ONLY)	80009	119–2371–02

FIG. 1 EXPLODED VIEW



2722A

FIG.2 CASE,BATTERY & ACCESSORIES