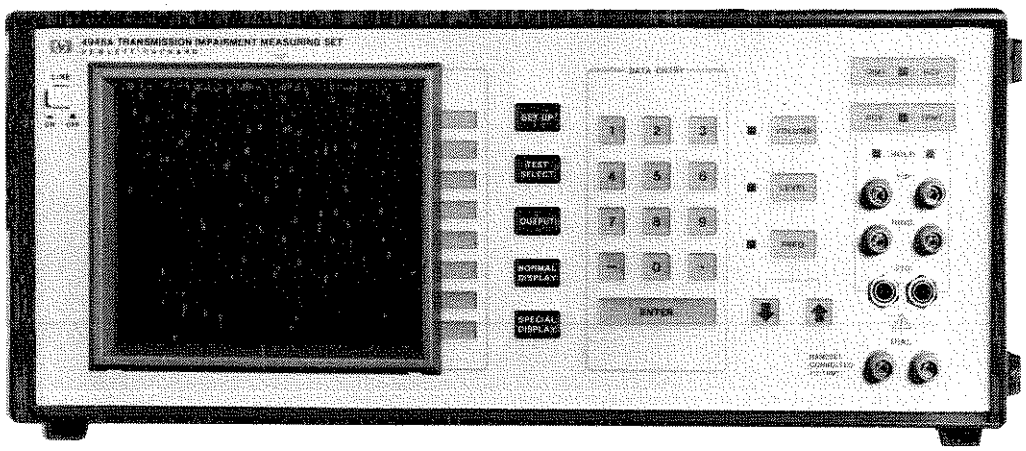
SERVICE MANUAL

4945A
TRANSMISSION IMPAIRMENT MEASURING SET



HEWLETT PACKARD

HP 4945A

SERVICE MANUAL

4945A

TRANSMISSION IMPAIRMENT MEASUREMENT SET

SERIAL NUMBERS

This manual applies directly to instruments with serial numbers prefixed 2344A.

For additional important information about serial numbers, see INSTRUMENTS COVERED BY MANUAL in Section I.

Manual Part No: 04945-90005

Includes: Printed Pages - 5957-4423
Binder - 9282-1018

Microfiche Part No: 5957-4424

Operating and Programming Manual Part No: 04945-90001

Printed: November, 1983

SAFETY SUMMARY

The following general safety precautions must be observed during all phases of operation, service, and repair of this instrument. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the instrument. Hewlett-Packard Company assumes no liability for the customer's failure to comply with these requirements.

GROUND THE INSTRUMENT.

To minimize shock hazard, the instrument chassis and cabinet must be connected to an electrical ground. The instrument is equipped with a three-conductor ac power cable. The power cable must either be plugged into an approved three-contact electrical outlet or used with a three-contact to two-contact adapter with the grounding wire (green) firmly connected to an electrical ground (safety ground) at the power outlet. The power jack and mating plug of the power cable meet International Electrotechnical Commission (IEC) safety standards.

DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE.

Do not operate the instrument in the presence of flammable gases or fumes. Operation of any electrical instrument in such an environment constitutes a definite safety hazard.

KEEP AWAY FROM LIVE CIRCUITS.

Operating personnel must not remove instrument covers. Component replacement and internal adjustments must be made by qualified maintenance personnel. Do not replace components with power cable connected. Under certain conditions, dangerous voltages may exist even with the power cable removed. To avoid injuries, always disconnect power and discharge circuits before touching them.

DO NOT SERVICE OR ADJUST ALONE.

Do not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.

USE CAUTION WHEN EXPOSING OR HANDLING THE CRT.

Breakage of the Cathode-ray Tube (CRT) causes a high-velocity scattering of glass fragments (implosion). To prevent CRT implosion, avoid rough handling or jarring of the instrument. Handling of the CRT shall be done only by qualified maintenance personnel using approved safety mask and gloves.

DO NOT SUBSTITUTE PARTS OR MODIFY INSTRUMENT.

Because of the danger of introducing additional hazards, do not install substitute parts or perform any unauthorized modification of the instrument. Return the instrument to a Hewlett-Packard Sales and Service Office for service and repair to ensure that safety features are maintained.

DANGEROUS PROCEDURE WARNINGS.

Warnings, such as the example below, precede potentially dangerous procedures throughout this manual. Instructions contained in the warnings must be followed.

WARNING

Dangerous voltages, capable of causing death, are present in this instrument. Use extreme caution when handling, testing, and adjusting.

U.S.A. ONLY

The Federal Communications Commission (in 47 CFR 15.818) has specified that the following notice be brought to the attention of the users of this product. This notice does not indicate a change of Hewlett-Packard's normal quality standards or testing program.

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

Attention: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested with a Class A computing device and found to comply with the limits for a Class A computer peripheral device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient the receiving antenna.

Relocate the computer with respect to the receiver.

Move the computer away from the receiver.

Plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

IEC SYMBOLS

The following is a list of key IEC symbols used by Hewlett-Packard. All symbols are normally applied adjacent to the device requiring the symbol. They shall not be placed on removable parts likely to be detached or lost.

Instruction Manual symbol: If necessary, to preserve the apparatus from damage it is necessary for the user to refer to the instruction manual, then shall the apparatus be marked with this symbol (IEC 348;16a).

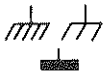
Terminal devices fed from the interior by live voltages that may be dangerous when connecting to or disconnecting from those devices shall be marked with the flash shown when the voltage exceeds 1 KV: The flash shall be red (IEC 348;18c).

Earth Terminals. If the use of this symbol for the protective earth terminal is not permitted by National Standards, it may be modified, for example, by being placed inside a circle (IEC 348;18a).

AC current (IEC 117-1, symbol No. 3).

DC current (IEC 117-1, symbol No. 2).

AC or DC current (IEC 117-1, symbol No. 8).



Frame or chassis connection. The hatching may be completely or partly omitted if there is no ambiguity. If the hatching is omitted, the line representing the frame or chassis shall be thicker (IEC 117-1, symbol No. 87).

A — Ampere (IEC 117-4, symbol No. 356).

V — Volt (IEC 117-4, symbol No. 357).

VA — Voltampere (IEC 117-4, symbol No. 358).

W — Watt (IEC 117-4, symbol No. 360).

Wh — Watthour (IEC 117-4, symbol No. 361).

VAh — Voltamperehour (IEC 117-4, symbol No. 362).

Hz — Hertz (IEC 117-4, symbol No. 365).

Contactor, normally closed. In order to avoid confusion with the symbol for a capacitor, the distance between the horizontal (as drawn here) lines should be at least equal to the length of those lines (IEC 117-3, symbol No. 215.2).

In addition the following describes the use of Warnings, Cautions and Notes used in HP Automatic Test System Manuals.

Warnings, cautions and notes. (All) Warnings and cautions shall precede the text to which each applies but notes may precede or follow applicable text depending on the material to be highlighted. Warnings, cautions, and notes shall not contain procedural steps nor shall they be numbered. When a warning, caution, or note consists of two or more paragraphs, the heading WARNING, CAUTION, NOTE, shall not be repeated above each paragraph. If it is ever necessary to precede a paragraph by both a warning and a note, or a caution and a note, etc, they shall appear in the sequence as noted, namely, warnings, cautions, notes. Such inserts in the text shall be short and concise and be used to emphasize important and critical instructions.

WARNING

An operating procedure, practice, etc, which, if not correctly followed, could result in personal injury or loss of life.

CAUTION

An operating procedure, practice, etc. which, if not strictly observed, could result in damage to, or destruction of, equipment.

NOTE: An operating procedure, condition, etc. which it is essential to highlight.

Health hazards precaution data. (All) When hazardous chemicals or adverse health factors, in the environment or use of the equipment cannot be eliminated, appropriate precautionary requirements shall be included.

Figure 1-1. HP Model 4945A TIMS and Supplied Accessories

SECTION I
GENERAL INFORMATION

1-1. INTRODUCTION

This manual contains technical information required to install and service the Hewlett-Packard Model 4945A Transmission Impairment Measurement Set. This manual together with the 4945A Operating Manual provides complete documentation for the 4945A.

Figure 1-1 shows the instrument and accessories supplied. Throughout the remainder of this manual, the Model 4945A Transmission Impairment Measurement Set is referred to as the 4945A or the instrument.

This manual is divided into eight sections and contains the following information:

Section I, General Information, identifies the instruments that are documented by this manual. A description of the instrument, the available options and accessories , and the specifications are also included in Section I.

Section II, Installation, provides information about initial inspection, preparation for use, storage, and shipment.

Section III, Operation, references the 4945A Operating Manual which gives detailed operating instructions for the instrument.

Section IV, Performance Test, presents the procedures to check the performance of the instrument.

Section V, Adjustments, provides instructions for properly adjusting the instrument.

Section VI, Replaceable Parts, lists all replaceable parts and assemblies along with ordering information.

Section VII, Manual Changes, contains information necessary to document all serial prefixes listed on the title page of this manual.

Section VIII, Service, provides necessary information to repair the instrument.

The part numbers for the Operating Manual and the Service Manual are listed on the Title Page.

The title page also lists the part numbers for the microfiche version of the Service manual. The microfiche package also includes the latest Manual Changes supplement.

1-2. DESCRIPTION

The Hewlett-Packard 4945A Transmission Impairment Measuring Set is a combination test set used by the telephone industry. The 4945A is used for measuring analog parameters on voice bandwidth data circuits as well as wideband analog program channels and wideband digital channels (DDS). The 4945A frequency range is from 20 Hz to 110 kHz for both the transmitter and receiver.

The 4945A contains all measurements needed for installation, maintenance and troubleshooting. The parameters measured are:

- Level/Frequency
- Message Circuit Noise
- Noise With Tone
- Signal-to-Noise Ratio
- Noise-to-Ground
- Intermodulation Distortion
- Peak-to-Average Ratio
- Phase and Amplitude Jitter
- Phase Hits, Gain Hits, Dropouts
- Impulse Noise
- Envelope Delay
- Return Loss (2 and 4 wire)

The 4945A has a built-in, comprehensive self-check capability.

The Master/Slave feature allows complete control of a slave unit from the master unit over 4-wire circuits.

The 4945A can communicate with an external controller via RS-232C, HP-IB or HP-IL.

1-3. SAFETY CONSIDERATIONS

WARNING

TO PREVENT PERSONAL INJURY, OBSERVE ALL SAFETY PRECAUTIONS AND WARNINGS STATED ON THE IN INSTRUMENT AND IN THE MANUAL. THIS PRODUCT IS A SAFETY CLASS 1 INSTRUMENT (PROVIDED WITH A PROTECTIVE EARTH TERMINAL). THE 4945A AND ALL RELATED DOCUMENTATION MUST BE REVIEWED FOR FAMILIARIZATION WITH SAFETY MARKINGS AND INSTRUCTIONS BEFORE OPERATIONS.

1-4. INSTRUMENTS COVERED BY THIS MANUAL

Attached to the instrument is a serial number plate. The serial number is in the form:0000A00000. It is in two parts: the first four digits and the letter are the serial number prefix and the last five digits are the suffix. The prefix is the same for all identical instruments; it changes only when a change is made to the instrument. The letter in the prefix designates the country in which the instrument was manufactured (A=USA; G=West Germany; J=Japan; S=Singapore). The suffix changes to identify the individual instrument.

The contents of this manual apply to all instruments with the serial number prefix(es) listed under SERIAL NUMBERS on the title page. An instrument manufactured after the printing of this manual may have a serial prefix that is not listed on the title page. This unlisted serial number prefix indicates that the instrument is different from those described in this manual. Manuals accompanying this newer instrument include a Manual Changes supplement. This supplement contains change instructions to adapt the manual to the newer instrument.

For information concerning a serial prefix number that is not listed on the title page contact the nearest Hewlett-Packard Sales and Service office.

1-5. INTERFACES

Three interfaces are available for the 4945A.

- 18162A HP-IB Interface (Option 001)
- 18163A RS-232 Interface (Option 002)
- 18165A HP-IL Interface (Option 003)

There is room for any two of these interfaces on the 4945A rear panel.

Operating information for the interfaces is found in the 4945A Operating Manual (HP Part Number 04945-90001).

Service information for the interfaces is found in the back of this manual.

1-6. ACCESSORIES SUPPLIED

Accessories supplied with the instrument are listed below.

Power Cord 2.3 m (7.5 ft).....Part No. 8120-1378
Operating Manual.....Part No. 04945-90001
Service Manual.....Part No. 04945-90005
Quick Reference Card.....Part No. 04945-90010

The power cable and line fuse are selected at the factory according to the country of destination. Part numbers of the available power cables are listed in Section II.

1-7. ACCESSORIES AVAILABLE

The following accessories are available for the 4945A.

10833A	1 metre HP-IB Cable
13242N	RS-232C Terminal Cable
13242G	RS-232C Modem Cable
15513A	36-inch 310 to 310 Cable
18169A	19-inch Rack Mount Kit
18170A	Soft Carrying Case
82167A	.5 metre HP-IL Cable
9211-2650	Rugged Transit Case

1-8. OPTIONS

Standard options are modifications installed at the factory and can be ordered by contacting a Hewlett-Packard sales office.

1-9. SPECIFICATIONS

GENERAL

Power Requirements:	115/230 Vac +11%/-22%, 48 to 63 Hz. 150 watts maximum.
Dimensions: (excluding feet)	Height: 18.4 cm (7.25 in) Width: 45.1 cm (17.75 in) Depth: 48.9 cm (19.25 in)
Weight:	15 kg (33 lbs)
Operating Environment:	Temperature: 0° to +50°C (+32° to 122°F)
	Humidity: 10% to 90%, non-condensing
	Altitude: up to 4600 m (15,000 ft)
	Warm-up time: 5 minutes for stated accuracy
Interfaces:	HP-IB (IEEE 488), RS-232C, HP-IL
HP-IB Capabilities:	AH1, SH1, C0, L4, T5, SR1, RL1, PP1, DC1, DT0

RS-232C Capabilities:	Bit Rates: 50, 75, 110, 150, 300, 600, 1200, 2400, 4800, 9600 bps. Asynchronous half or full duplex. 7 or 8 bit word. Parity: none, odd, even mark or space.
HP-IL Capabilities:	R, AH, SH, D, T1-T5, L1, AA1, C0, DC2, DT0, PP1, SR2, RL2, PD0, DD0
Termination Impedance: (receiver and transmitter)	135, 600, 900 or 1200 ohm
Hold Circuits:	Two circuits, each independent; > 20 mA for applied open circuit voltages from 42.5 to 105 volts dc, either polarity, through an external resistance of <=1700 ohms. Nominal: 23 mA, 48 V, 1300 ohms.
Return Loss: (receiver and transmitter)	>20 dB from 20 Hz to 110 kHz >30 dB from 800 Hz to 110 kHz at 135 ohms >30 dB from 200 Hz to 20 kHz
Bridging Loss: (receiver)	< 0.2 dB
Longitudinal Balance: (receiver and transmitter)	>90 dB, 50 Hz to 120 Hz decreasing 6 dB per octave above 120 Hz
Maximum dc blocking:	150 volts

Transmitter Frequency

Range:	20 Hz to 110 Hz; selected by keypad or six programmable steps.
Resolution:	1 Hz from 20 Hz to 9999 Hz 10 Hz from 10 kHz to 110 kHz
Accuracy:	± .01 % of output frequency
Sweep:	Automatic or manual from 20 Hz to 110 kHz. Auto sweep is single or repetitive, up or down. Step size programmable 1 Hz to 10 kHz (1 Hz resolution) Sweep rates; .3, 1 or 3 steps per second
SF Skip:	Skips a band from 2450 to 2750 Hz
Holding Tone:	1004 Hz ± 0.1 Hz

Transmitter Level

Range:	-60 to +13 dBm (600, 900, 1200 ohm) -60 to +5 dBm (135 ohm)
Resolution:	0.1 dB
Accuracy:	± 0.1 dB at 1004 Hz, -20 to 0 dBm ± 0.2 dB at 1004 Hz, -60 to +10 dBm

Flatness:

20 Hz	200 Hz	15 kHz	85 kHz	110 kHz
± 0.5 dB	± 0.2 dB	± 0.5 dB	± 1.0 dB	

Flatness is not specified below 200 Hz when using the 135 ohm termination.

Total Distortion: 100 Hz to 3 kHz, >= 50 dB down from fundamental, measured in 3 dB bandwidth up to 12 kHz (for signal levels -40 dBm to +10 dBm)

3 kHz to 20 kHz, >=40 dB down from fundamental, measured in 3 dB bandwidth up to 80 kHz (for signal levels -40 dBm to +10 dBm)

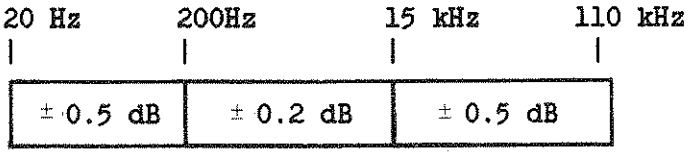
20 kHz to 110 kHz, >=40 dB down from fundamental, measured in 3 dB bandwidth up to 440 kHz (for signal levels -30 dBm to +10 dBm)

Receiver Frequency

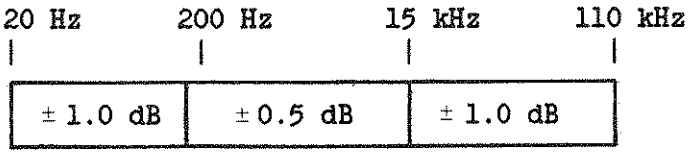
Range:	20 Hz to 110 kHz
Resolution:	1 Hz from 20 Hz to 9999 Hz 10 Hz from 10 kHz to 110 kHz
Accuracy:	for signal levels > -50 dBm at > 20 dB signal-to-noise ratio
	1 Hz from 20 Hz to 9999 Hz
	10 Hz from 10 kHz to 110 kHz

Receiver Level

Range:	-60 to +13 dBm
Resolution:	.1 dB
Detector:	full wave average
Accuracy (in dB):	-50 dBm to +13 dBm



-60 dBm to -50 dBm



1004 Hz holding tone accuracy is ± 0.1 dB from -20 to 0 dBm

accuracy is not specified below 200 Hz when using the 135 ohm termination

Filters Available: 50 Hz highpass, 10 kHz lowpass

MESSAGE CIRCUIT NOISE MEASUREMENT

Transmitter:	quiet termination

Receiver

Weighting Filters:	C-message, 3 kHz flat, 15 kHz flat, 50 kbit or Program
Range:	+10 to +90 dBrn
Resolution:	1 dB
Accuracy:	± 1 dB
Detector:	True rms

NOISE WITH TONE MEASUREMENT

Transmitter

Frequency:	1004 Hz (fixed)

Receiver

Weighting Filters:	C-message, 3 kHz flat, 15 kHz flat, 50 kbit or Program
Notch Filter:	>60 dB rejection from 995 to 1025 Hz
Range:	+10 to +90 dBrn
Resolution:	1 dB
Detector:	True rms
Accuracy:	± 1 dB

SIGNAL-TO-NOISE MEASUREMENT

Transmitter

Frequency:	1004 Hz (fixed)

Receiver

Weighting Filters:	C-message, 3kHz flat, 15 kHz flat, 50 kbit or Program
Notch Filter:	> 60 dB rejection from 995 to 1025 Hz
Ratio Range:	10 dB to 45 dB
Resolution:	1 dB
Signal level range:	from -40 to +13 dBm
Detector:	full wave average and true rms

NOISE-TO-GROUND MEASUREMENT

Transmitter:	quiet termination

Receiver

Weighting Filters:	C-message, 3 kHz flat, 15 kHz flat 50 kbit or Program
Range:	40 to 130 dBrn (C-Message, 3 kHz) 50 to 130 dBrn (Program, 15 kHz, 50 kbit)
Resolution:	1 dB
Accuracy:	± 1.5 dB
Detector:	True rms

INTERMODULATION DISTORTION MEASUREMENT

Transmitter

Signal Spectrum:	four tone, non-linear distortion
Level Range:	-40 dBm to 0 dBm (not specified at 135 ohms

Receiver

Signal Level Range:	-40 dBm to 0 dBm
Resolution:	1 dB
Accuracy:	± 1 dB
Filters:	Second order centered at 520 Hz and 2240 Hz Third order centered at 1900 Hz
Distortion Range:	10 to 70 dB (not specified at 135 ohms)

PEAK TO AVERAGE RATIO MEASUREMENT (P/AR)

Transmitter

Signal Spectrum:	meets Bell System PUB 41009 specifications
Level Range:	-40 to 0 dBm
Level Resolution:	0.1 dB

Receiver

Signal Level Range:	-40 to 0 dBm
P/AR Range:	0 to 120 units
Accuracy:	± 2 P/AR units over range of 40 to 110 units ± 4 P/AR units elsewhere
Resolution:	1 P/AR unit

PHASE AND AMPLITUDE JITTER MEASUREMENTS

Transmitter

Frequency:	1004 Hz (fixed)

Receiver

Level Range:	-40 to +10 dBm
Bandwidths:	20 to 300 Hz, 4 to 20 Hz and 4 to 300 Hz

Range: Phase (peak to peak) 0 to 40 degrees Amplitude (peak to peak) 0 to 40 %

Accuracy:	Phase: ±.2 deg or ±5% of reading Amplitude: ±.2% abs or ±5% of reading (for received tone of 990 to 1030 Hz, -40 to +10 dBm)
Outputs:	Demodulated carrier and jitter available

TRANSIENTS MEASUREMENT

Transmitter

Frequency:	1004 Hz (fixed) and quiet termination are selectable

Receiver

Holding Tone:	-40 to +10 dBm, 995 to 1025 Hz
Count Rate:	7, 8 or 100 counts per second
Count Range:	0 to 9999 for all count indicators
Timer:	1 to 9,999 minutes, or continuous

Note: the following accuracy specifications apply to the 7 and 8 counts per second rates only.

Impulse Noise:	low, 30 to 110 dBrn in 1 dB steps
Threshhold Range:	medium, programmable, 2, 3, 4, 5 or 6 dB above low
	high, programmable, 2, 3, 4, 5 or 6 dB above medium
Threshold Accuracy:	+- 1 dB
Phase Hits	
Threshold Level:	5 to 45 degrees in 5 degree steps
Threshold Accuracy:	±0.5 degrees, ±10% of threshold setting (10 to 45 degrees)
Gain Hits	
Threshold Range:	2 to 10 dB in 1 dB steps
Threshold Accuracy:	± 0.5 dB
Dropouts	
Threshold:	>=12 dB
Threshold Accuracy:	±1 dB
Duration:	>= 4 milliseconds, ±10%

ENVELOPE DELAY MEASUREMENT

Transmitter

Level Range:	-40 to 0 dBm
Modulation Frequency:	83 1/3 Hz, ±0.1%

Receiver

Level Range:	-40 to +10 dBm
Measurement Range:	-3000 to +9000 microseconds
Resolution:	1 microsecond
Accuracy:	± 10 usec from 600 to 4000 Hz ± 30 usec from 300 to 600 Hz

RETURN LOSS MEASUREMENT

Modes:	ERL, SRL-High, SRL-Low and Sine Wave
Two-Wire Return Loss	
Level Range:	-10 to -2 dBm
Measurement Range:	0 dB to 40 dB
Resolution:	0.1 dB
Reference Impedance:	600 or 900 ohms (± 1%) in series with 2.16 microfarads (± 1%), or External
Four-Wire Return Loss	
Transmitter	
Level Range:	-10 to -2 dBm
Receiver	
Range:	0 dB to 50 dB
Accuracy:	± 0.5 dB
Resolution:	0.1 dB
Transhybrid Loss Compensation:	-10 to +30 dB

1-10. RECOMMENDED TEST EQUIPMENT

The following test equipment is recommended to service the 4945A. This equipment is used for the adjustments, troubleshooting and the performance verification tests. Equivalent equipment may be substituted.

- Standard hand tools for electronic PC board repair
- Torque driver: 0 to 50 in. lbs. or a driver to measure 11, 21 and 35 in. lbs. For example, the Lowell, TS-360, 50 in. lbs. driver.

References: A = Adjustment
P = Performance
T = Troubleshooting

Instrument	Specifications	Model	Use
Signature Analyzer/ Multimeter	Multiple logic SA, 20 MHz Clk Freq., Qualifier SA Mode	HP5005A/B	T,P
Oscilloscope	Dual Channel 5 mV or better sensitivity, X vs Y Mode, Sweep Rate 0.5 uSec/div 1000:1 HV probe (HP34111A)	HP1740A	T,P,A
Digital Voltmeter	Accuracy - <= 0.005% Resolution - > 1 uV, 6 1/2 digits, Input impedance > 10 Megohm 50:1 probe (HP10002A)	HP3455A	T,P,A
Universal Counter	Low Freq. Resolution, 7 digits/sec. from 1 Hz to 100 MHz, Sensitivity - 10mV rms from 1 Hz to 10 MHz	HP5315A/B or HP5316A	T,P,A
Spectrum Analyzer	20Hz to 40MHz Range, 0.1 Hz resolution	HP3585A	P,A
Signal Analyzer	20Hz to 100KHz Range, 30 kHz low pass filter with ability to <-50dB distortion in log/ ratio.	HP8903A	P,A
Frequency/Level Synthesizer	200 Hz to 100 kHz range, 0.05 dB Flatness accuracy	HP3336B (Opt005)	T,P,A
Function Generator/ Synthesizer	1 uHz to 20.99 MHz, DC/phase Offset, Amp./Ph. Modulation	HP3325A	T,P,A
Power Supply	Bench Operational, 0 - 320 V	HP6209B	P,A
Attenuator	Balanced 600 Ohm Input/Output Impedance.	HP4436A	P,A
True RMS Voltmeter	DC plus 2Hz to 100MHz Thermopile; Replaces HP3455A Long Period TRMS readings for critical readings	HP3403C	T,P,A
Pulse/Function Generator	10mVpp to 16Vpp, 1mHz to 50MHz	HP8116A	T,P,A
Power Amplifier	+100V to -100V,0 to 40 times Voltage Gain, DC to 15 kHz, 0.1% THD to 100Hz.	HP6827A Opt.009	
Low Frequency Impedance Analyzer	Swept frequency measurement of all Impedance Parameters 5Hz to 13MHz, Synthesizer/Source	HP4192A	T,P,A
Gain/Phase Meter	Dual channel with 0.1 degree accuracy and resolution	HP3575A (Opt 001)	T,P,A
Service Kit	Required for power supply and transmitter distortion	HP-Part No. 04945-62607	T,P,A
Interface Controllers	HP-IB I/O RS232C I/O(Serial) HP-IL I/O	HP-85A,w/82937A HP-85A,w/82939A HP-41C	P,T

Note: HP9826/36A may be recommended for auto-performance tests w/HB-IB high speed test programs.

Supplemental Test Equipment

The following test equipment is used to perform supplemental tests which are in addition to or are alternate methods of checking the 4945A specifications.

- Luminance Meter (Example: TV-Mate Photometer, Model PR-505D)

Instrument	Specifications	Model	Use
Signal Analyzer	Freq. Resolution to 1 Hz 5Hz to 25MHz Band Analysis, Ø.1dB Flat for 4 tone IMD.	HP3582A	T,P,A

References: A = Adjustment
P = Performance
T = Troubleshooting

1-11. SERVICE KIT

The 04945-62607 Service Kit contains the special service assemblies and tools needed to properly service the 4945A. Here is a list of the kit contents.

Table 1-1. Service Kit Contents

HP Part No.	Description
04945-60023	50 pin extender board
04945-60024	120 pin extender board
04945-60062	Passive loading board
04945-61617	A13 to A19 extender cable
04945-62608	Power supply test fixture
04945-62615	Test Amplifier
04945-62614	440 kHz Band Pass Filter
04945-62613	368 ohm balanced network
1251-3890	Ground Connector Terminal

Details of the Passive Loading Board and the Power Supply Test Fixture are given at the end of Section 8.

1-12. CLEANING AND HANDLING PRECAUTIONS

When cleaning the instrument or handling and repairing PC boards, the following precautions should be observed.

Cabinet Cleaning

To clean the instrument cabinet, use only a damp cloth and a mild detergent. Do not allow water to penetrate inside the cabinet.

When cleaning the plastic CRT window, use only a non-abrasive cleaner and a soft cloth.

Clean the fan filter every three months or more often depending on your environment. Clean the fan filter in warm, soapy water and allow it to dry before reinstalling.

PC Board Cleaning

When repairing PC boards, only RMA type solder should be used. This type is low in chlorides which are the main cause of most contamination problems.

It is recommended that the solder flux and resin be left on the board after a repair. This residue does not cause any electrical problems. Flux remover makes the board look good but leaves a film that can cause intermittents.

Do not use a pencil eraser to clean PC board edge connectors. Erasers all leave a film which causes intermittent problems.

The correct procedure is to clean the connectors with a 50/50 solution of water and isopropyl alcohol using a lint-free cloth (HP P/N 9310-0039). Do not use abrasive paper wipes.

The water/alcohol solution disolves the chemicals that get on the connectors from the soldering process. The lint-free cloth provides the mechanical rubbing action needed to free the contact fingers of all contamination.

PC Board Handling

All of the 4945A PC boards should be protected from contaminants such as oils and greases, fingerprints, body perspiration (sodium-chloride residue) and cleaning solutions with ionic detergents.

All of the 4945A PC boards have a Dry Film, High Impedance surface.

When handling a PC board, touch only the board edges and the board extractors, or wear clean cotton gloves.

If fingerprints and/or other contamination are suspected of causing operational problems, use the following cleaning procedure.

1. Wash both sides of the PC board with hot water and a stiff bristle brush. Clean between the traces on both sides of the board.

2. Place the cleaned boards in a drying oven at approximately 140 degrees F for 30 minutes.

   Handle the boards by the edges to avoid re-contamination.

SECTION II
INSTALLATION

2-1. INTRODUCTION

This section provides installation instructions for the 4945A. Also included in this section is information pertinent to initial inspection, preparation for use, storage, and shipment.

2-2. INITIAL INSPECTION

WARNING

TO AVOID HAZARDDOUS ELECTRICAL SHOCK, DO NOT CONDUCT PERFORMANCE WHEN THERE ARE SIGNS IF SHIPPING DAMAGE TO ANY PORTION OF THE OUTER COVERS AND PANELS.

Inspect the shipping container for damage. If the shipping container or cushioning material is damaged, it should be kept until the contents of the shipment have been checked mechanically and electrically. The electrical performance is checked automatically at the time of power on. If there are any selfcheck failures refer to Section IV for a description of the power-on self checks. If there is mechanical damage or defect, or if the instrument does not pass the electrical performance test, notify the nearest HewlettPackard Sales and Service office. If the shipping container or the cushioning materials show signs of damage, notify the carrier as well as the Hewlett-Packard office. Keep the shipping material for the carrier's inspection.

2-3. POWER REQUIREMENTS

The 4945A requires a power source of 115 or 230 Vac +11%/-22%, 48-63 Hz, single phase.

WARNING

THIS IS A SAFETY CLASS I PRODUCT (PROVIDED WITH A PROTECTIVE EARTH TERMINAL). AN UNINTERRUPTIBLE SAFETY EARTH GROUND MUST BE PROVIDED FROM THE MAIN POWER SOURCE TO THE PRODUCT IN PUT WIRING TERMINALS, POWER CORD, OR SUPPLIED CABLE SET. WHENEVER IT IS LIKELY THAT THE PROTECTION HAS BEEN IMPAIRED, THE INSTRUMENT MUST BE MADE INOPERATIVE AND BE SECURED AGAINST ANY UNINTENDED OPERATION. IF THIS INSTRUMENT IS TO BE ENERGIZED VIA AN AUTO TRANSFORMER OR VOLTAGE REDUCTION, MAKE SURE THE COMMON TERMINAL IS CONNECTED TO THE EARTHED POLE OF THE POWER SOURCE.

CAUTION

BEFORE CONNECTING THIS INSTRUMENT TO THE LINE VOLTAGE, BE SURE THAT THE LINE VOLTAGE SWITCH IS SET CORRECTLY AND THAT THE PROPER FUSE IS INSTALLED.

DAMAGE TO THE INSTRUMENT WILL OCCUR IF THE LINE VOLTAGE SELECTOR SWITCH IS SET TO 115 VOLTS WHEN 230 VOLTS IS APPLIED TO THE INSTRUMENT.

IF THE LINE FUSE BURNS OUT, DO NOT REPLACE IT UNTIL THE FAULT HAS BEEN DETERMINE AND REPAIRED BY ONLY A QUALIFIED SERVICE PERSON.

The 4945A is normally set at the factory for 115-volt operation. To operate the instrument from a 230-volt ac power source, proceed as follows:

1. Disconnect input power cable from instrument.
2. Select and install proper line fuse (see Table 2-1).
3. Slide the selector switch to the 230 volt position (See Figure 2-1).
4. Reconnect power cable.

Table 2-1. Line Fuse Part Numbers

Line Voltage	Fuse Rating	HP part Number
115 volts ac	T 3 A (250V)	2110-0381
230 volts ac	T 1.5 A (250V)	2110-0304

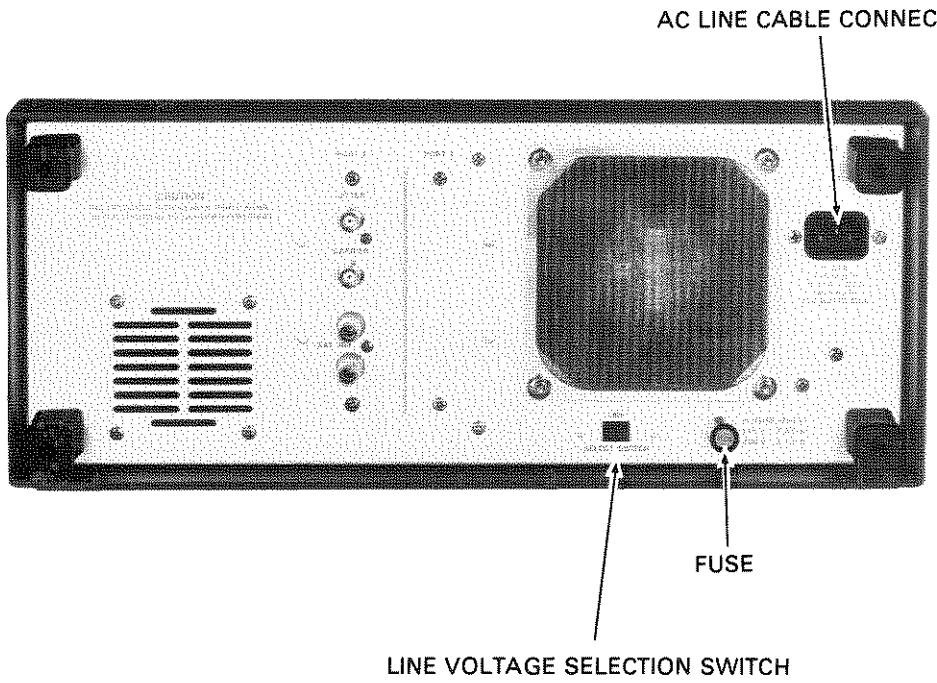


Figure 2-1. Line Voltage Selector Switch

WARNING

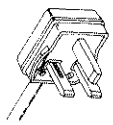
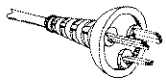
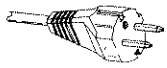
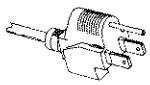
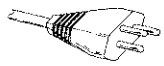
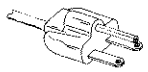
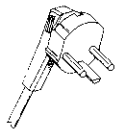
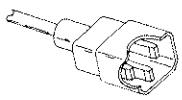
BEFORE CONNECTING THIS INSTRUMENT TO THE LINE VOLTAGE, THE PROTECTIVE EARTH TERMINAL OF THE INSTRUMENT MUST BE CONNECTED TO THE PROTECTIVE CONDUCTOR OF THE MAIN POWER CABLE. THE MAIN PLUG MUST BE INSERTED IN A SOCKET OUTLET PROVIDED WITH A PROTECTIVE EARTH CONTACT. THE PROTECTIVE ACTION MUST NOT BE NEGATED BY THE USE OF AN EXTENSION CORD WITHOUT A PROTECTIVE CONDUCTOR (GROUNDING). GROUNDING ONE CONDUCTOR OF A TWO-CONDUCTOR OUTLET DOES NOT PROVIDE AN INSTRUMENT GROUND.

2-4. POWER CABLE

The instrument power cable has three wires. When connected to an appropriate power receptacle this cable grounds the instrument cabinet. The type of power cable shipped with each instrument depends on the country of destination (see Table 2-1).

If the appropriate power cable is not included with the instrument, notify the nearest Hewlett-Packard sales and service office for a replacement.

Table 2-2. Power Cable Part Numbers

Plug Type	Cable HP Part Number	CD	Plug Description	Cable Length (inches)	Cable Color	For Use In Country
250V 	8120-1351 8120-1703	0 6	Straight*BS1363A 90°	90 90	Mint Gray Mint Gray	United Kingdom, Cyprus, Nigeria, Rhodesia, Singapore
250V 	8120-1369 8120-0696	0 4	Straight*NZSS198/ASC112 90°	79 87	Gray Gray	Australia, New Zealand
250V 	8120-1689 8120-1692	7 2	Straight*CEE7-Y11 90°	79 79	Mint Gray Mint Gray	East and West Europe, Saudi Arabia, Egypt, So. Africa, India (unpolarized in many nations)
125V 	8120-1348 8120-1398 8120-1754 8120-1378 8120-1521 8120-1676	5 5 7 1 6 2	Straight*NEMA5-15P 90° Straight*NEMA5-15P Straight*NEMA5-15P 90° Straight*NEMA5-15P	80 80 36 80 80 36	Black Black Black Jade Gray Jade Gray Jade Gray	United States, Canada, Japan (100V or 200V), Mexico, Philippines, Taiwan
250V 	8120-2104	3	Straight*SEV1011 1959-24507 Type 12	79	Gray	Switzerland
250V 	8120-0698	6	Straight*NEMA6-15P			United States, Canada
220V 	8120-1957 8120-2956	2 3	Straight*DHCK 107 90°	79 79	Gray Gray	Denmark
250V 	8120-1860	6	Straight*CEE22-VI (Systems Cabinet use)			

*Part number shown for plug is industry identifier for plug only. Number shown for cable is HP Part Number for complete cable including plug.

2-5. OPERATING ENVIRONMENT

CAUTION

DO NOT BLOCK THE FAN OR VENTILATION HOLES. CLEARANCE SHOULD BE PROVIDED AROUND THE SIDES OF THE INSTRUMENT. AVOID ENVIRONMENT EXTREMES THAT MIGHT CAUSE CONDENSATION WITHIN THE INSTRUMENT.

The operating environment should be within the following limits:

Temperature..... 0 to 55 degrees C (32 to 131 degrees F)

2-6. PACKAGING

Original Packaging

Containers and materials identical to those used in factory packaging are available through Hewlett-Packard offices. If the instrument is being returned to Hewlett Packard for service, attach a tag indicating the type of service required, return address, model number, and full serial number. Mark the container FRAGILE to ensure careful handling. In correspondence, refer to the instrument by model number and full serial number.

Other Packaging

The following general instructions should be used for repackaging with commercially available materials:

A. Wrap the instrument in heavy paper or plastic.

B. Use a strong shipping container. A double-walled carton made of 350-pound test material is suitable.

C. Use a layer of shock-absorbing material 70 to 100 mm (3 to 4 inches) thick around all sides of the instrument to provide firm cushioning and to prevent movement inside the container.

D. Seal shipping container securely.

E. Mark shipping container FRAGILE to ensure careful handling.

F. In any correspondence, refer to the instrument by model number and full serial number.

SECTION III
OPERATION

Complete operation information for 4945A is described in the 4945A Operating Manual and is not duplicated in this Service Manual.

SECTION IV
PERFORMANCE TESTS

4-1. INTRODUCTION

This section describes the power-on self checks that are built into the 4945A and the performance verification tests which are used to verify the 4945A specifications.

Other tests (the diagnostic test modes) are described in Section 8.

4-2. POWER-ON SELF CHECK

At power-on, the 4945A executes a series of self tests on the digital and analog circuits. Error codes are displayed in the event of a hardware failure. The instrument also beeps and lights the front panel LEDs to indicate the passage of some digital tests and to serve as an indication in case the display hardware is not functional.

The power-on self check first tests the System Processor. If this test passes, the 4945A beeps once and the LED next to the VOLUME key lights.

The System Memory is then checked. If this test passes, the 4945A beeps twice and the LED next to the LEVEL key lights.

The Display Control circuits are tested. If this test passes, the 4945A beeps three times and the LED next to the FREQUENCY key lights.

The Receiver Processor is tested, and once it passes, it performs basic communications and measurement tests on the receiver circuits.

Upon completing these tests, the receiver processor and the system processor perform other tests to ensure that the communications between the two microprocessor systems is entirely functional.

The system processor then checks the "last setup" information stored in memory. If the last setup was not stored, "LAST SET-UP NOT RETAINED" is displayed and the system uses default setup values that are stored in ROM.

If an error occurs in the power-on self checks, an error number is displayed. Refer to "Power-On Self Check Troubleshooting" in Section 8 for detailed description of the power-on self check and definitions of the error numbers.

4-3. RECOMMENDED TEST EQUIPMENT AND ACCESSORIES

The test equipment used in the performance tests is included in the Recommended Test Equipment list (Paragraph 1-10) in Section 1.

In addition to the test equipment, the following accessories are used in the performance tests.

Cables

Two-conductor (twisted-pair) shielded cables must be used for their low noise, low capacitance and low crosstalk characteristics.

Cables should be 36 inches or less in length and have a capacitance in the 10 pf/ft range.

A good example of the recommended cables are the Model 1167 series cables from the Pomona Electronics Co.

Connector Adapters

The following connector adapters are used.

WE #310 (PJ -051) to Binding Post adapter
Example: Pomona Electric, Model 2112

Binding Post to Male BNC adapter
Example: Pomona Electric, Model 1296

Resistive Loads

The following load resistors are used.

Series impedance matching resistors

Value	HP Part Number
85 ohm, 1%	0698-8242
550 ohm, 1%	0811-2790
850 ohm, 1%	0811-1730
1150 ohm, 1%	0698-4469

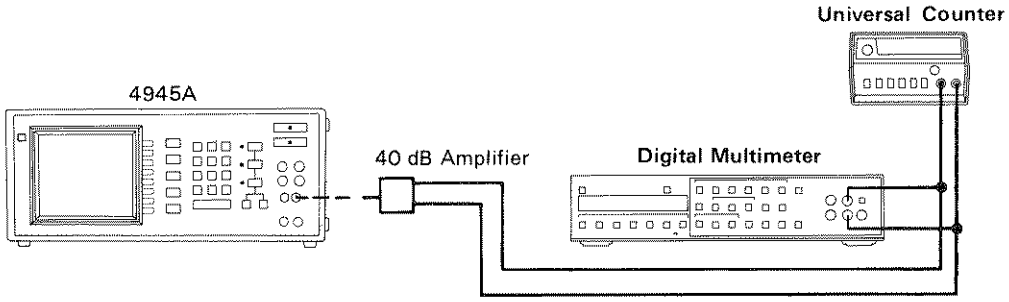
Load resistors

Value	HP Part Number
135 ohm, 0.1%	0698-7364
368 ohm balanced	network (part of service kit)
600 ohm, 0.1%	0698-7408
900 ohm, 0.1%	0698-6344
1200 ohm, 0.1%	0699-1004 (or two, 600 ohm)
1700 ohm, 2%, 3W	0766-0006

4-4. TRANSMITTER LEVEL AND FREQUENCY TEST

Test Equipment Required

HP 3455A Digital Voltmeter
HP 5315A or HP 5316A Counter
HP 04945-62615 Test Amplifier (part of service kit)
600 ohm load
550 ohm resistor
Low Capacitance/Low Crosstalk Cables



Setup Conditions

Connect the test equipment as shown above.

4945A:	Test Mode - Level/Frequency Transmit Impedance - 600 ohm
04945-62615:	variable, see table
3455A:	Function - AC volts Range - 1 volt (for best accuracy) 10 volt (for +13 dB measurement)
5315A/5316A:	Sample rate - maximum Below 10 kHz use 10 kHz low pass filter Adjust sensitivity for steady reading

Procedure

1. Check the 4945A output frequency accuracy at the five frequencies listed below. The accuracy at each frequency should be +-.01 %. Be sure to set the Test Amplifier to 0 dB.

Frequency Setting	Actual Reading
20 Hz	
200 Hz	
1004 Hz	
15 kHz	
110 kHz	

2. Check the 4945A output level flatness at the five levels listed in the table below. Check the five levels at each one of the five frequencies listed. Record your readings in the table below. The level specification for each frequency is given below each column of the table.

Transmitter Output Level Table

Note: The amplifier settings are used to make use of the 1 volt range of the 3455A, which is the most accurate.

Frequency

4945A Level	Test Amp (Level)	20 Hz	200 Hz	1004 Hz	15 kHz	110 kHz
+13 dB	0 dB (346 mV)					
0 dB	0 dB (775 mV)					
-20 dB	+20 dB (775 mV)					
-50 dB	+40 dB (245 mV)					
-60 dB	+40 dB (77.5 mV)					
	Spec.*	+-.5dB	+-.5dB	+-.2dB	+-.5dB	+-1dB

* Following are the specification values converted into volts.

+13 dB	+-.5 dB	=	3.266 to 3.665 volts
	+-.2 dB	=	3.381 to 3.541 volts
	+- 1 dB	=	3.084 to 3.882 volts
0 dB	+-.5 dB	=	.731 to .820 volts
	+-.2 dB	=	.757 to .792 volts
	+- 1 dB	=	.690 to .869 volts
-20 dB	+-.5 dB	=	.082 to .073 volts
	+-.2 dB	=	.079 to .075 volts
	+- 1 dB	=	.087 to .069 volts
-50 dB	+-.5 dB	=	.0026 to .0023 volts
	+-.2 dB	=	.0025 to .0024 volts
	+- 1 dB	=	.0027 to .0022 volts
-60 dB	+-.5 dB	=	.00082 to .00073 volts
	+-.2 dB	=	.00079 to .00075 volts
	+- 1 dB	=	.00087 to .00069 volts

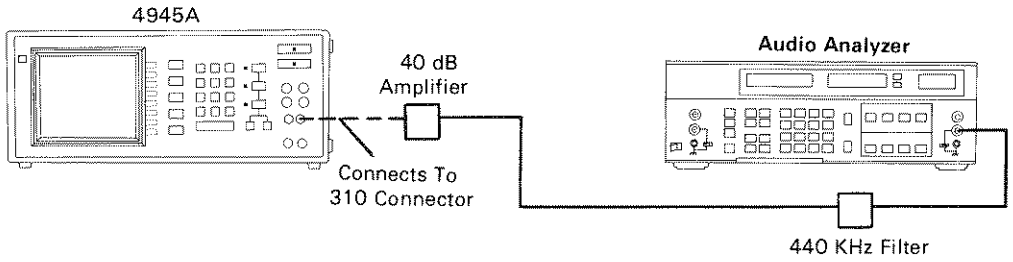
4-5. TRANSMITTER LEVEL DISTORTION TEST

Test Equipment Required

HP 8903A Audio Analyzer

HP 04945-62615 Test Amplifier

Low Capacitance/Low Crosstalk Cables



Setup Conditions

Connect the test equipment as shown above.

4945A:	Test Mode - Level/Frequency Transmit Impedance - 1200 ohm
8903A:	Measurement - Distortion Log/lin - log Input - Floating, high input with 600 ohm load Use 30 kHz LPF below 3 kHz Use 80 kHz LPF above 3 kHz
04945-62615:	Use only on measurements below -10 dB

Procedure

1. Refer to the table below and check each frequency at the four levels. For amplitudes below -10 dB, use the test amplifier to get the signal to a measureable level (approximately 20 dB gain).

   The noise level should be >=50 dB below the signal level for 100 Hz, 1004 Hz and 3 kHz. Be sure to use the 30 kHz LPF.

   The noise level should be >=40 dB below the signal level for 4 kHz, 10 kHz and 20 kHz. Be sure to use the 80 kHz LPF.

2. Record your readings in the table below.

Transmitter Level Distortion Table

	Level				
Frequency	-40 dB	-20 dB	0 dB	+10 dB	
100 Hz					>=50 dB
1004 Hz					
3 kHz					
4 kHz					>=40 dB
10 kHz					
20 kHz					

4-6. TRANSMITTER HOLD COIL CURRENT TEST

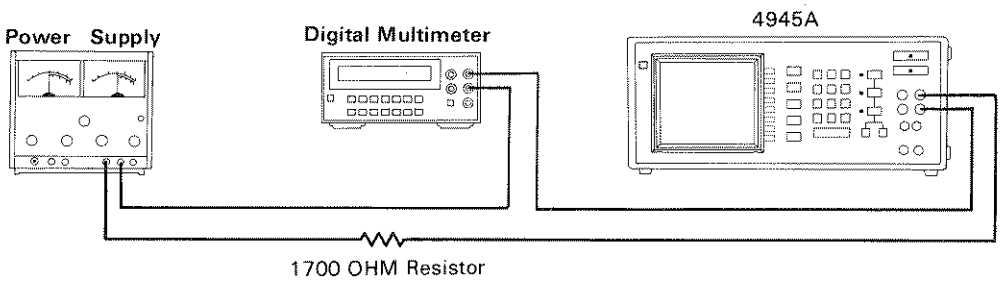
Test Equipment Required

HP 3478A Digital Multimeter

HP 6827A (Opt. 009) or HP 6209B Power Supply (floating) to supply +-42.5 V and +-105 V.

1700 ohm resistor

Low Capacitance/Low Crosstalk Cables



Setup Conditions

Connect the test equipment as shown above. Connect the cable to the transmitter input jacks

4945A: Transmitter - quiet termination or -75 dB level
Transmit Hold Coil - ON

3478A: Measure - dc current

Power Supply: Initially set to +42.5 volts

Procedure

1. Set the power supply to the voltages listed below. Record the current at each voltage. The current should be >20 mA for all voltage settings.

DC Voltage	Hold Current
+42.5 V	
-42.5 V	
+105 V	
-105 V	

2. Make these checks for each of the transmitter termination impedances (135, 600, 900 and 1200 ohms).

4-7. RECEIVER HOLD COIL CURRENT TEST

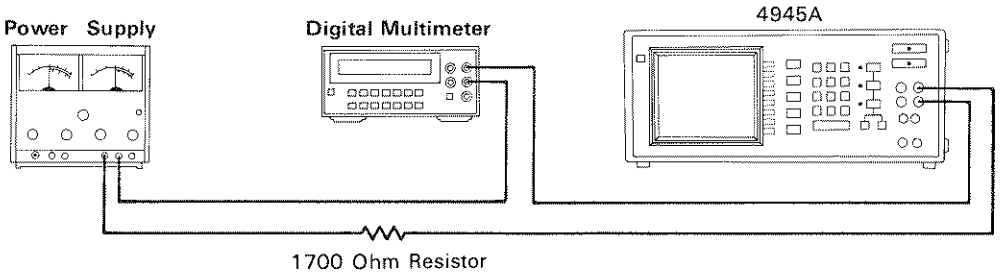
Test Equipment Required

HP 3468A Digital Voltmeter

HP 6209B Power Supply (floating) to supply +-42.5V and +-105V

1700 ohm resistor

Low Capacitance Cables



Setup Conditions

Connect the test equipment as shown above. Connect the cable to the receiver input jacks.

4945A: Receiver - level/frequency
Receive Hold Coil - ON

3468A: Measure - dc current

Power Supply: Initially set to +42.5 volts

Procedure

1. Set the power supply to the voltages listed below. Record the current at each voltage. The current should be >20 mA for all voltage settings.

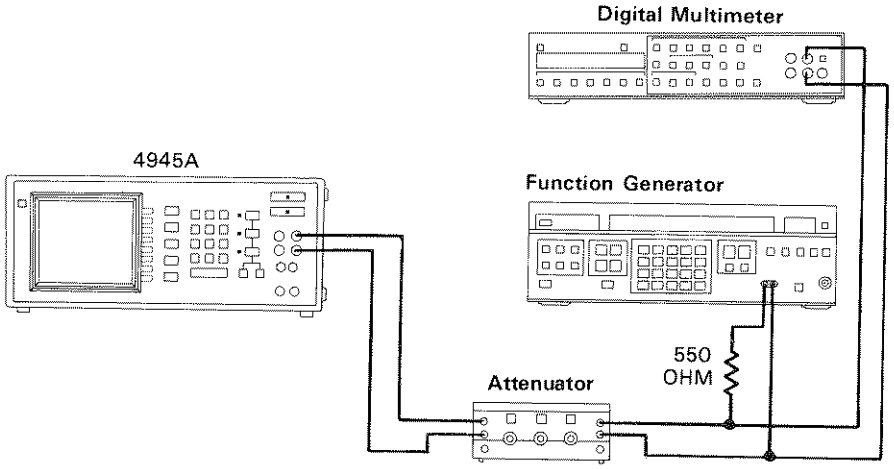
DC Voltage	Hold Current
+42.5 V	
-42.5 V	
+105 V	
-105 V	

2. Make these checks for each of the transmitter termination impedances (135, 600, 900 and 1200 ohms).

4-8. RECEIVER LEVEL AND FREQUENCY TEST

Test Equipment Required

HP 3325A Synthesizer
HP 3455A Digital Voltmeter
HP 4436A Attenuator
550 ohm resistor
Low Capacitance/Low Crosstalk Cables



Setup Conditions

Connect the test equipment as shown above.

4945A:	Test Mode - Level/Frequency Termination Impedance - 600 ohm
3325A:	Set level and frequency according to table below
3455A:	AC volts, Range - Auto

Procedure

1. Perform the 4945A calibration by selecting CALIBRATE in the SELF TEST menu, then go back to Level/Frequency.

2. To check the receiver frequency accuracy, set the 3325A to each of the frequencies listed below. Read the 4945A receiver frequency on the display. The 4945A frequency accuracy should be +- 1 Hz from 20 Hz to 9999 Hz and +- 10 Hz from 10 kHz to 110 kHz.

Frequency Setting	Actual Reading
20 Hz	
200 Hz	
1004 Hz	
15 kHz	
110 kHz	

3. To check the 4945A receiver level accuracy, set the 3325A to the frequencies listed in the table below. For each frequency, set the 3325A level to each of the five levels (listed in the table).

   Note: Set the attenuator to 0 dB for the +13 dB, 0 dB and -20 dB levels. Use the attenuator for the -50 dB and -60 dB levels.

4. Record your readings in the table below. The level specification for each frequency is given in the boxes of the following table.

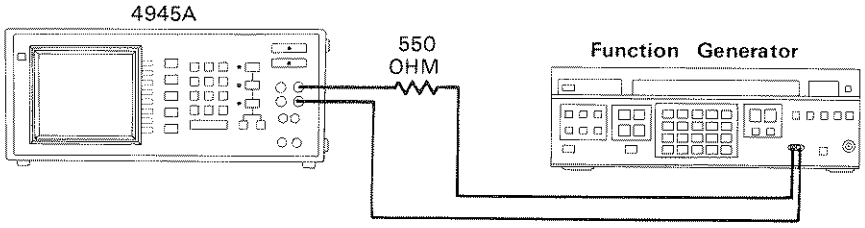
Receiver Level Table

3325A Level	3325A Frequency 20 Hz	200 Hz	1004 Hz	15 kHz	110 kHz
+ 13 dB (3.46 V)	+-.5dB	+-.2dB	+-.2dB	+-.5dB	+-.5dB
0 dB (.775 V)	+-.5dB	+-.2dB	+-.1dB	+-.5dB	+-.5dB
-20 dB (775 mV)	+-.5dB	+-.2dB	+-.1dB	+-.5dB	+-.5dB
-50 dB (2.45 mV)	+-.5dB	+-.2dB	+-.2dB	+-.5dB	+-.5dB
-60 dB (.775 mV)	+-1dB	+-.5dB	+-.5dB	+-1dB	+-1dB

4-9. FILTER TESTS

Test Equipment Required

3325A Synthesizer
550 ohm resistor
Low Capacitance/Low Crosstalk Cables



Equipment Setup

Connect the test equipment as shown above. The equipment setup is good for all the filter tests.

The filter tests make use of the 4945A Diagnostic Mode 46. A different segment is used for each filter.

4-10. 50 kilobit Filter Response Test

Setup Conditions

Connect the test equipment as shown at the beginning of "Filter Tests".

4945A: Self Check Mode 46, Segment 4

3325A: Frequency to 1000 Hz

Procedure

1. Run Mode 46, Segment 4.
   Line 1 of the display reads X.XXXX volts with zero blanking
   Line 2 of the display reads XX.XXX dB with zero blanking.

2. Adjust the 3325A output level for a 0.00 dB reading (as close as possible) on line 2 of the display at 1000 Hz. This sets the reference for other measurements.

   Note: Due to impedance matching, the actual level on the 3325A will be approximately +10.8 dB.

3. Set the 3325A to the frequencies listed below and record the levels displayed on line 2. The levels (filter response) should correspond to the expected levels given next to the frequencies.

Frequency	Expected Level in dB	Actual Level in dB
20 Hz	-10 +-3.0	
50 Hz	-2.7 +-1.5	
200 Hz	-0.2 +-0.5	
1000 Hz	0.0 +-0.2	
5000 Hz	-0.1 +-0.5	
10 kHz	-0.3 +-0.5	
15 kHz	-0.7 +-1.0	
20 kHz	-1.3 +-1.0	
25 kHz	-2.1 +-1.0	
30 kHz	-3.3 +-1.5	
35 kHz	-5.0 +-1.7	
40 kHz	-7.8 +-2.0	
45 kHz	-14.0 +-3.0	

4-11. 15 kHz FILTER RESPONSE TEST

Setup Conditions

Connect the test equipment as shown at the beginning of "Filter Tests".

4945A: Self Check Mode 46, Segment 5

3325A: Frequency to 1000 Hz

Procedure

1. Run Mode 46, Segment 5.
   Line 1 of the display reads X.XXXX volts with zero blanking
   Line 2 of the display reads XX.XXX dB with zero blanking.

2. Adjust the 3325A output level for a 0.00 dB reading (as close as possible) on line 2 of the display at 1000 Hz. This sets the reference for other measurements.

   Note: Due to impedance matching, the actual level on the 3325A will be approximately +10.8 dB.

3. Set the 3325A to the frequencies listed below and record the levels displayed on line 2. The levels (filter response) should correspond to the expected levels given next to the frequencies.

Frequency	Expected Level in dB	Actual Level in dB
30 Hz	0.0 +-2.5	
60 Hz	0.0 +-1.7	
400 Hz	0.0 +-0.5	
1000 Hz	0.0 +-0.2	
10 kHz	-0.8 +-1.0	
15 kHz	-3.0 +-1.8	
30 kHz	-12.3 +-3.0	
100 kHz	-33.0 +-___	

4-12. 3 kHz FILTER RESPONSE TEST

Setup Conditions

Connect the test equipment as shown at the beginning of "Filter Tests".

4945A: Self Check Mode 46, Segment 6

3325A: Frequency to 1000 Hz

Procedure

1. Run Mode 46, Segment 6.
   Line 1 of the display reads X.XXXX volts with zero blanking
   Line 2 of the display reads XX.XXX dB with zero blanking.

2. Adjust the 3325A output level for a 0.00 dB reading (as close as possible) on line 2 of the display at 1000 Hz. This sets the reference for other measurements.

   Note: Due to impedance matching, the actual level on the 3325A will be approximately +10.8 dB.

3. Set the 3325A to the frequencies listed below and record the levels displayed on line 2. The levels (filter response) should correspond to the expected levels given next to the frequencies.

Frequency	Expected Level in dB	Actual Level in dB
30 Hz	0.0 +-2.5	
60 Hz	0.0 +-1.7	
400 Hz	0.0 +-0.5	
1000 Hz	0.0 +-0.2	
2000 Hz	-0.8 +-1.0	
3000 Hz	-3.0 +-1.8	
6000 Hz	-12.3 +-3.0	
100 kHz	> -60	

4-13. Hz NOTCH AND 15 kHz FILTER RESPONSE TEST

Setup Conditions

Connect the test equipment as shown at the beginning of "Filter Tests".

4945A: Self Check Mode 46, Segment 3

3325A: Frequency to 3000 Hz

Procedure

1. Run Mode 46, Segment 3.
   Line 1 of the display reads X.XXXX volts with zero blanking
   Line 2 of the display reads XX.XXX dB with zero blanking.

2. Adjust the 3325A output level for a 0.00 dB reading (as close as possible) on line 2 of the display at 3000 Hz. This sets the reference for other measurements.

   Note: due to impedance matching, the actual level on the 3325A will be approximately +10.8 dB.

3. Set the 3325A to the frequencies listed below and record the levels displayed on line 2. The levels (filter response) should correspond to the expected levels given next to the frequencies.

Frequency	Expected Level in dB	Actual Level in dB
3000 Hz	0.0 +-0.2	
400 Hz	0.0 +-0.5	
862 Hz	>= -3.0	
995 Hz	<= -60	
1010 Hz	<= -60	
1025 Hz	<= -60	
1182 Hz	>= -3.0	
1700 Hz	0.0 +-0.5	

4-14. Program Filter Response Test

Setup Conditions

Connect the test equipment as shown at the beginning of "Filter Tests".

4945A: Self Check Mode 46, Segment 7

3325A: Frequency to 1000 Hz

Procedure

1. Run Mode 46, Segment 7.
   Line 1 of the display reads X.XXXX volts with zero blanking
   Line 2 of the display reads XX.XXX dB with zero blanking.

2. Adjust the 3325A output level for a 0.00 dB reading (as close as possible) on line 2 of the display at 1000 Hz. This sets the reference for other measurements.

   Note: Due to impedance matching, the actual level on the 3325A will be approximately +10.8 dB.

3. Set the 3325A to the frequencies listed below and record the levels displayed on line 2. The levels (filter response) should correspond to the expected levels given next to the frequencies.

Frequency	Expected Level in dB	Actual Level in dB
100 Hz	-26.3 +-2.0	
200 Hz	-17.3 +-2.0	
300 Hz	-12.2 +-2.0	
400 Hz	-9.0 +-2.0	
500 Hz	-6.6 +-1.0	
600 Hz	-4.7 +-1.0	
700 Hz	-3.2 +-1.0	
800 Hz	-2.0 +-1.0	
900 Hz	-0.8 +-1.0	
1000 Hz	0.0 +-0.2	
1500 Hz	+3.2 +-1.0	
2000 Hz	+4.8 +-1.0	
2500 Hz	+5.6 +-2.0	
3000 Hz	+6.0 +-2.0	
4000 Hz	+6.5 +-2.0	
5000 Hz	+6.5 +-2.0	
6000 Hz	+6.4 +-3.0	
7000 Hz	+5.8 +-3.0	
8000 Hz	+4.0 +-3.0	
9000 Hz	+1.5 +-4.0	
10 kHz	-8.5 +-4.0	
80 kHz	<= -44	

4-15. C-Message Filter Response Test

Setup Conditions

Connect the test equipment as shown at the beginning of "Filter Tests".

4945A: Self Check Mode 46, Segment 8

3325A: Frequency to 1000 Hz

Procedure

1. Run Mode 46, Segment 8.
   Line 1 of the display reads X.XXXX volts with zero blanking
   Line 2 of the display reads XX.XXX dB with zero blanking.

2. Adjust the 3325A output level for a 0.00 dB reading (as close as possible) on line 2 of the display at 1000 Hz. This sets the reference for other measurements.

   Note: Due to impedance matching, the actual level on the 3325A will be approximately +10.8 dB.

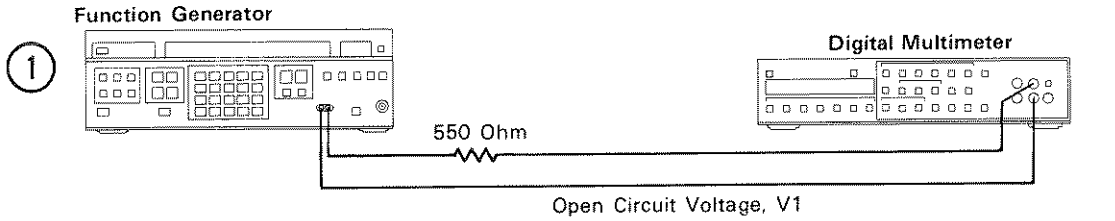
3. Set the 3325A to the frequencies listed below and record the levels displayed on line 2. The levels (filter response) should correspond to the expected levels given next to the frequencies.

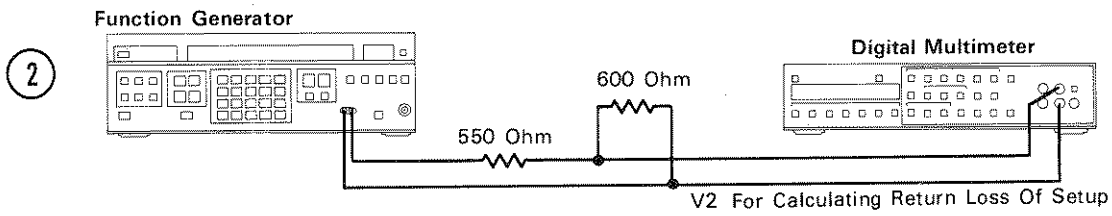
Frequency	Expected Level in dB	Actual Level in dB
60 Hz	-55.7 +-2.0	
100 Hz	-42.5 +-2.0	
200 Hz	-25.1 +-2.0	
300 Hz	-16.3 +-1.0	
400 Hz	-11.2 +-1.0	
500 Hz	-7.7 +-1.0	
600 Hz	-5.0 +-1.0	
700 Hz	-2.8 +-1.0	
800 Hz	-1.3 +-1.0	
900 Hz	-0.3 +-1.0	
1000 Hz	0.0 +-0.2	
1200 Hz	-0.4 +-1.0	
1300 Hz	-0.7 +-1.0	
1500 Hz	-1.2 +-1.0	
1800 Hz	-1.3 +-1.0	
2000 Hz	-1.1 +-1.0	
2500 Hz	-1.1 +-1.0	
2800 Hz	-2.0 +-1.0	
3000 Hz	-3.0 +-1.0	
3300 Hz	-5.1 +-2.0	
3500 Hz	-7.1 +-2.0	
4000 Hz	-14.6 +-3.0	
4500 Hz	-22.3 +-3.0	
5000 Hz	-28.7 +-3.0	
40 kHz	> -60	

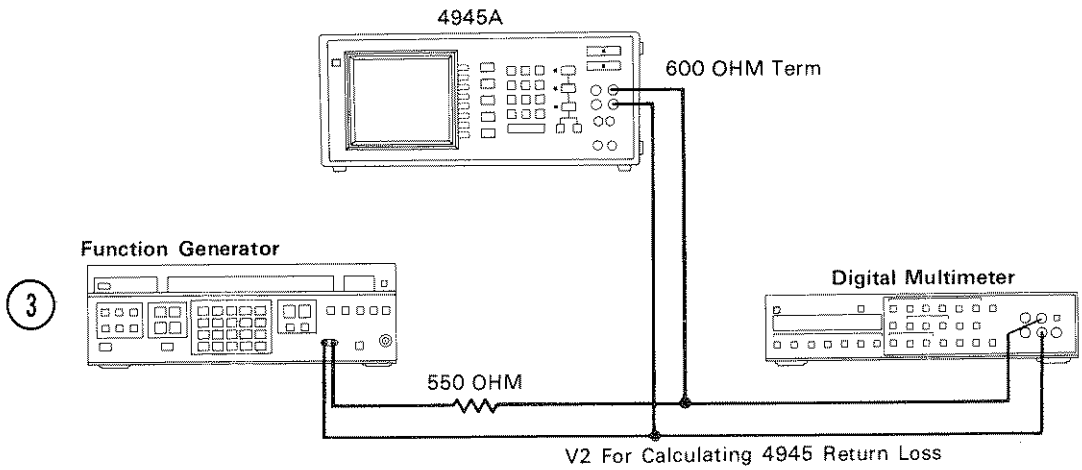
4-16. RECEIVER PASSIVE RETURN LOSS TEST

Test Equipment Required

HP 3325A Synthesizer
HP 3455A Digital Voltmeter
550 ohm resistance
600 ohm resistor
Low Capacitance Cables







Setup Conditions

Connect the test equipment as shown above. Keep all cables as short as possible.

4945A: Termination Impedance - 600 ohm Hold - OFF

3325A: Frequency - 4000 Hz

3455A: Function - AC Volts Range - Auto

Procedure

Return loss in dB may be found by using the following equation.

$$RL = -20\log\left|\frac{R2 - R1}{R2 + R1}\right| = -20\log\left|\frac{2V2 - V1}{V1}\right|$$

R1 is the source resistance and V1 is its open circuit voltage.
R2 is the load resistance and V2 is the voltage across the load.

1. Connect R1 and measure the open circuit voltage (V1). Set the 3325A output so that the V1 reading on the 3455A is 1.00 volt.

2. Connect R2 (Load R) and record the voltage across the load (V2).

3. Calculate the return loss of the test equipment, using the formula previously shown. The return loss must be greater than 40 dB in order to accurate enough to test the 4955A. If it is not, check R1, the 3325A and the interconnecting cables.

4. Remove the load resistor (R2) and connect the cable to the 4945A receiver input. Sweep the 3325A frequency from 200 Hz to 110 kHz. Record the highest and lowest voltage measured on the 3455A and the frequencies at which these voltages were measured.

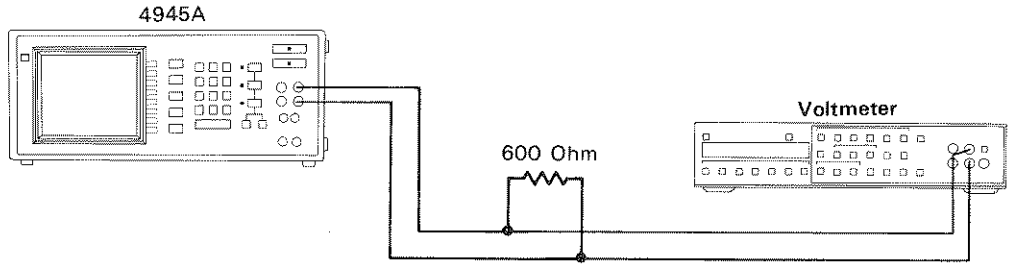
5. Disconnect the 4945A and record the open circuit voltage at the points recorded in step 4.

6. Calculate the return loss for both cases. V1 is the open circuit voltage from step 5 and V2 is the voltage recorded in step 4. The return loss must be greater than 30 dB.

4-17. TRANSMITTER PASSIVE RETURN LOSS TEST

Test Equipment Required

HP 3455A Digital Voltmeter
600 ohm resistor
Low Capacitance Cables



Setup Conditions

Connect the test equipment as shown above. Keep all cables as short as possible.

4945A:	Termination Impedance - 600 ohm Hold - OFF Frequency - 200 Hz Level - 0 dB
3455A:	Function - AC Volts Range - Auto

Procedure

Return loss in dB may be found by using the following equation.

$$RL = -20\log\left|\frac{2V2 - V1}{V1}\right|$$

V1 is the 4945A open circuit output voltage.
V2 is the voltage across the load resistor.

1. Connect the cable and the load resistor to the 4945A transmitter output. Slowly sweep the 4945A frequency from 200 Hz to 110 kHz. Record the highest and lowest voltages measured on the 3455A, along with the frequencies at which these voltages occurred. This voltage is V2.

2. Disconnect Load R and measure the open circuit voltage at both frequencies recorded in step 1. This voltage is V1.

3. Calculate the return loss for both cases, using the equation previosly shown. V2 is the voltage measured in step 1. V1 is the voltage measured in step 2. The return loss must be greater than 30 dB.

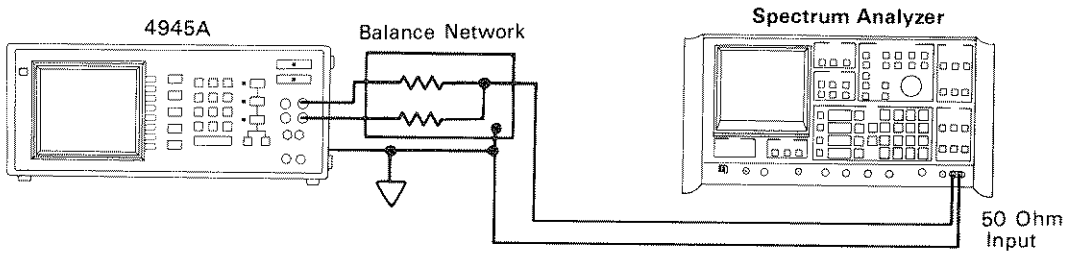
4-18. TRANSMITTER LONGITUDINAL BALANCE TEST

Test Equipment Required

3585A Spectrum Analyzer
368 ohm Balance Network
Low Capacitance/Low Crosstalk Cables

Note: You can also use a 3582A. In this case, you also need a 3455A Digital Voltmeter and a 1090 ohm load.

The voltmeter is only needed for the 110 kHz measurement.



Using the 3585A

Setup Conditions

Connect the test equipment as shown above.

4945A: Test Mode - Level/Freqency set according to table below
Impedance - set according to table below

3585A: Mode - Set Center
Frequency span - 500 Hz
Trace - View A
Sweep - Continuous
Trigger - Freerun
Impedance - 50 ohm
Input - Auto range
Vertical - 10 dB/div

Alternate

3582A: Filter - Flattop
Input - A, Display - A
Sensitivity - 3 mV/div, -50 dBv
Mode - Set Center
Freq Span - 250 Hz

3455A: Measure - AC Range - Auto

Procedure

1. Select the appropriate table below.

2. Set the 4945A to any one of the impedances listed in the table below.

3. Set the 4945A level to the level listed beneath the selected impedance.

4. Set the 4945A frequency to the frequencies listed in the table. Measure the signal level with the 3585A or the 3582A. The signal levels should be below the specification listed next to the frequency. Record your readings in the table.

3585 Measurement Table

XMIT FREQ HZ	Balance Spec. (dB)	135 ohm Level= +4.5dB	600 ohm Level= +.7dB	900 ohm Level= +.7dB	1200 ohm Level= +.7dB
50	>-90dB				
130	>-90dB				
250	>-84dB				
1000	>-71.6dB				
5000	>-58dB				
110k	>-31dB				

3582A Measurement Table

When using the 3582A, the AC Voltmeter is only used for the 110 kHz measurements. Convert the AC voltage reading on the voltmeter to dB.

XMIT FREQ HZ	Balance Spec. (dB)	135 ohm Level= +4.5dB	600 ohm Level= +6.7dB	900 ohm Level= +6.7dB	1200 ohm Level= +6.9dB
50	>-90dB				
130	>-90dB				
250	>-84dB				
1000	>-71.6dB				
5000	>-58dB				
110k	>-31dB				

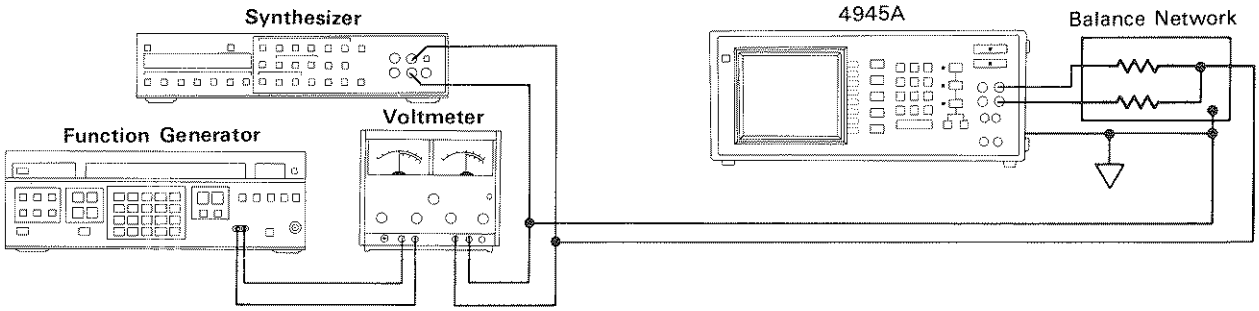
↑
Subtract +5 dB from measurement for 135 ohms

↑
Add +5 dB to measurement at 110 kHz, 1200 ohm

4-19. RECEIVER BALANCE

Test Equipment Required

HP 3325A Synthesizer
HP 3455A Digital Voltmeter
HP 6827A Amplifier
368 ohm Balance Network



Setup Conditions

Connect the test equipment as shown above.

4945A: Test Mode - Level Frequency
set according to table below
Impedance - Receiver - set according to table below
Transmitter - quiet termination

3325A: Frequency - set according to table below
Level - set level to achieve 29.97 volts on the 3455A.

6827A: Gain - set gain to X10.

3455A: Function - AC volts
Range - Auto

Procedure

1. Connect the balance network to the receiver terminals.

2. Set the 4945A receiver impedance to one of the impedances listed below.

3. Set the 3325A to each of the frequencies listed in the table below. Be sure the voltage on the 3455A is set to 29.97 volts.

4. The balance in dB should be greater than the specification listed in the Balance Specification table.

5. To calculate the balance reading, subtract the dB reading shown on the 4945A from the input dB reading which is given in the tables below for each impedance.

For example: 1200 Hz at 600 ohms, the input level is 31.8 dB. If the 4945A reading is -41 dB, Then the balance measurement is:

+31.8 dB - (-41 dB) = 72.8 dB

which is within the specification of > 70 dB.

Receiver Longitudinal Balance Specifications

Freqency	Specification
50 Hz	> 90 dB
120 Hz	> 90 dB
240 Hz	> 84 dB
1200 Hz	> 70 dB
5000 Hz	> 58 dB
110 kHz	> 31 dB

135 ohm Impedance

Freq.	Input Level	4945A Level	Balance dB
50 Hz	+38.2	-	=
120 Hz	+38.2	-	=
240 Hz	+38.2	-	=
1200 Hz	+38.2	-	=
5000 Hz	+38.2	-	=
110 kHz	+8.7	-	=

600 ohm Impedance

Freq.	Input Level	4945A Level	Balance dB
50 Hz	+31.8	-	=
120 Hz	+31.8	-	=
240 Hz	+31.8	-	=
200 Hz	+31.8	-	=
000 Hz	+31.8	-	=
110 kHz	+2.2	-	=

900 ohm Impedance

Freq.	Input Level		4945A Level		Balance dB
50 Hz	+30.0	-		=	
120 Hz	+30.0	-		=	
240 Hz	+30.0	-		=	
1200 Hz	+30.0	-		=	
5000 Hz	+30.0	-		=	
110 kHz	+0.46	-		=	

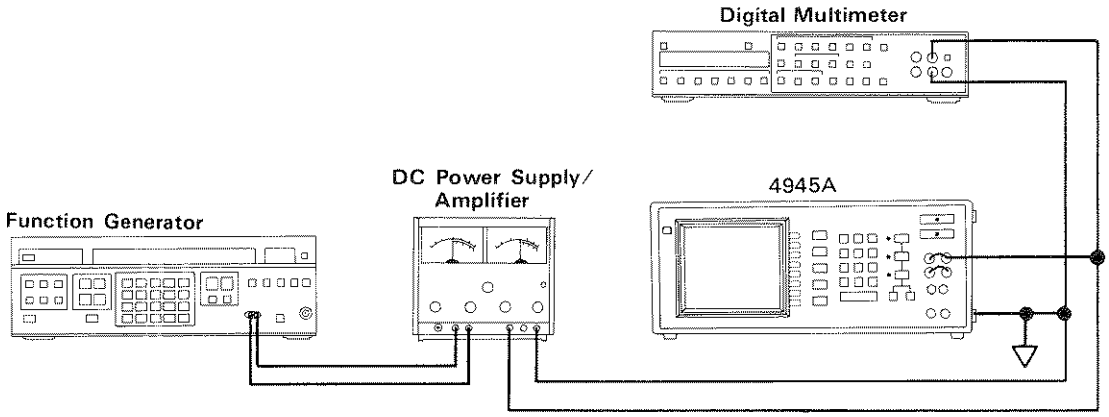
1200 ohm Impedance

Freq.	Input Level		4945A Level		Balance dB
50 Hz	+28.8	-		=	
120 Hz	+28.8	-		=	
240 Hz	+28.8	-		=	
1200 Hz	+28.8	-		=	
5000 Hz	+28.8	-		=	
110 kHz	-0.8	-		=	

4-20. NOISE TO GROUND TEST

Test Equipment Required

HP 3325A Synthesizer
HP 3455A Digital Voltmeter
HP 6827A Amplifier



Setup Conditions

Connect the test equipment as shown above. Short the 4945A transmitter output to the receiver input.

4945A: Test Mode - Level/Frequency
Impedance - Receiver - 600 ohm
Transmitter - quiet termination

3325A: Frequency - 1000 Hz Level - set level to achieve level listed in the table below on the 3455A.

6827A: Gain - set gain achieve desired level.

3455A: Function - AC volts
Range - Auto

Procedure

1. Set the 3325A gain and the 6827A gain to achieve the three AC voltage levels (listed in the table) on the 3455A.

2. On the 4945A switch in one of the filters listed in the table. Check the noise readings at the three levels with each of the filters switched in individually.

3. The noise reading in dBrn is displayed on the 4945A. The noise specification is given in the table. Record your readings in the table.

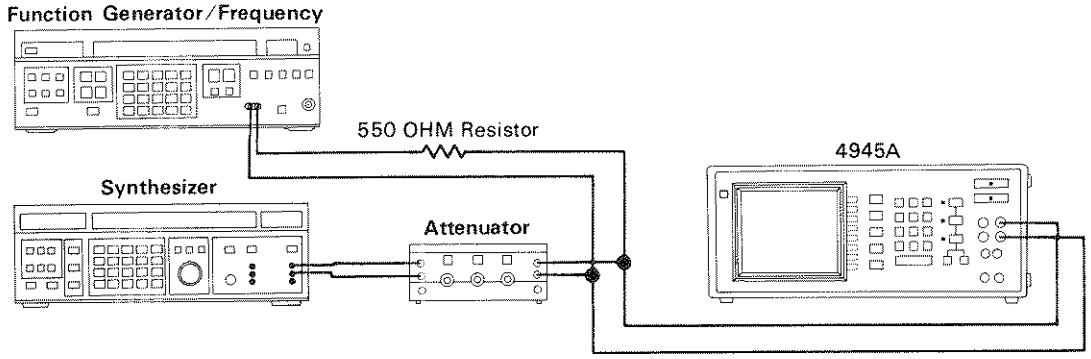
Noise To Ground Table

3325A AC Level at 1 kHz	Spec dBrn +-1dB	Filter Selected				
		C-MSG	3 kHz	15 kHz	Program	50 kbit
+77.46 V (40dBm on 4945A)	130					
+775 mV (0dBm on 4945A)	90					
+2.45 mV (-50 dBm on 4945A)	40					

4-21. MESSAGE CIRCUIT NOISE (No Holding Tone)

Test Equipment Required

HP 3325A Synthesizer
HP 3336A Synthesizer
HP 4436 Attenuator (balanced 600 ohm load)
550 ohm resistor
Low Capacitance/Low Crosstalk Cables



Setup Conditions

Connect the test equipment as shown above. Connect the signal cable to the 4945A receiver input.

4945A: Test Mode - Message Circuit Noise
Impedance - Transmitter, quiet termination
Receiver, 600 ohm

3325A: Frequency - 1 kHz
Level - +14.3 dB
Function - AC

3336A: Frequency - 200 Hz Level - -75 dB

4436: Attenuation - 0.0 dB

Procedure

1. Set the frequency and level of the 3325A and the 3336A as shown above.

2. On the 4945A, switch in the filters listed below.

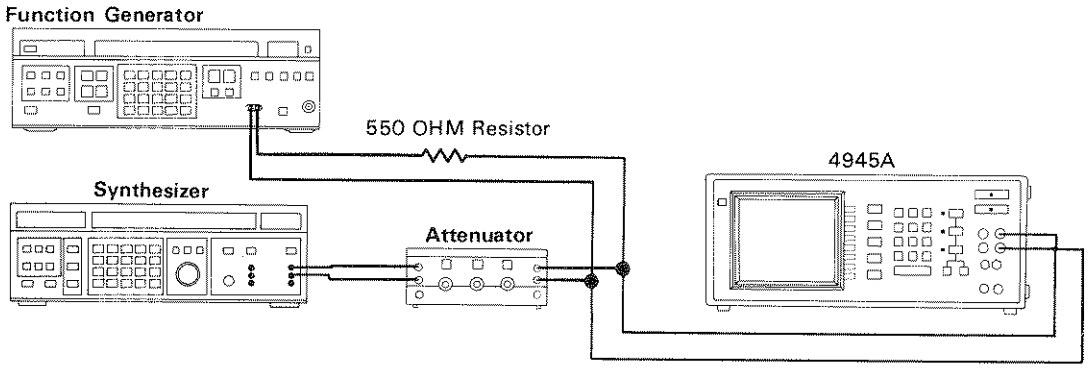
- C-MSG
- 3 kHz
- 15 kHz
- Program
- 50 kbit

The 4945A display should indicate 90 dBrn +-1 for each filter.

4-22. NOISE WITH TONE (Notch Noise)

Test Equipment Required

3325A Synthesizer
3336A Synthesizer
4436A Attenuator
550 ohm resistor
Low capacitance/Low Crosstalk cables



Setup Conditions

Connect the test equipment as shown above. Connect the signal cable to the 4945A receiver input.

4945A: Test Mode - Message Circuit Noise
Impedance - Transmitter, quiet termination
Receiver, 600 ohm

3325A: Set frequency and level according to table below. Function - AC

3336A: Set frequency and level according to table below.

4436: Set attenuation according to the table below.

Procedure

1. Refer to the table below. For each line, set up the 3336A, the 3325A and the 4436A as shown.

2. Select the 4945A filter shown on the particular line.

3. The noise reading in dBrn is displayed on the 4945A. The specification for each line is given in the table.

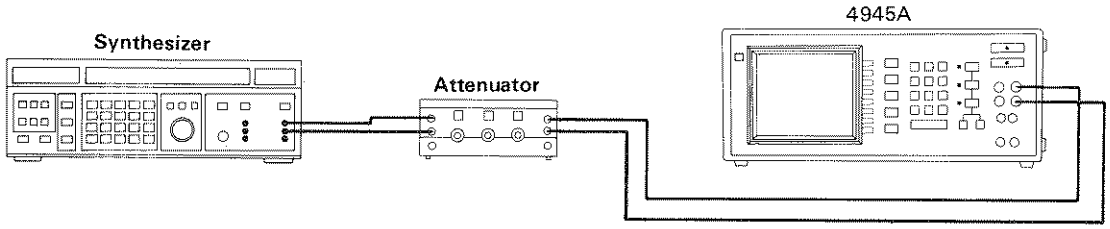
4. Record your readings for each line in the table.

3336A Freq/Amp	3325A Freq/Amp	4436A Atten	4945A Filter	Spec. dBrn	Your Reading
1kHz/+3.5dB	2kHz/+22.4dB	0 dB	C-MSG	90+-1	
2kHz/-41.4dB	1kHz/+14.3dB	0 dB	C-MSG	44+-1	
2kHz/-64.4dB	1kHz/-24.7dB	0 dB	C-MSG	21+-1	
400Hz/+3.5dB	1kHz/+14.3dB	0 dB	3-kHz	90+-1	
400Hz/-42.5dB	1kHz/-24.7dB	0 dB	3-kHz	44+-1	
400Hz/+3.5dB	1kHz/+14.3dB	0 dB	15-kHz	90+-1	
400Hz/-47.5dB	1kHz/-24.7dB	0 dB	15-kHz	44+-1	
2kHz/-1.3dB	1kHz/+14.3dB	0 dB	Program	90+-1	
2kHz/-47.3dB	1kHz/-24.7dB	0 dB	Program	44+-1	
5kHz/=3.6dB	1kHz/+14.3dB	0 dB	50 kbit	90+-1	
5kHz/-42.4dB	1kHz/-24.7dB	0 dB	50 kbit	44+-1	
2kHz/+1.63dB	1kHz/+22.3dB	0 dB	C-MSG	11+-1	
2kHz/-32.4dB	1kHz/+22.3dB	0 dB	C-MSG	45+-1	
2kHz/-58.4dB	1kHz/-3.7dB	0 dB	C-MSG	45+-1	
2kHz/-28.9dB	1kHz/-24.7dB	-20dB	C-MSG	11+-1	
2kHz/-60.5dB	1kHz/-24.7dB	-20dB	C-MSG	45+-1	
400Hz/-26.4dB	1kHz/-24.7dB	-20dB	3-kHz	11+-1	
400Hz/-60.5dB	1kHz/-24.7dB	-20dB	3-kHz	45+-1	
400Hz/-26.4dB	1kHz/-24.7dB	-20dB	15-kHz	11+-1	
400Hz/-60.5dB	1kHz/-24.7dB	-20dB	15-kHz	45+-1	
2100Hz/-31.5dB	1kHz/-24.7dB	-20dB	Program	11+-1	
2100Hz/-65.5dB	1kHz/-24.7dB	-20dB	Program	45+-1	
5kHz/-26.4dB	1kHz/-24.7dB	-20dB	50 kbit	11+-1	
5kHz/-60.4dB	1kHz/-24.7dB	-20dB	50 kbit	45+-1	

4-23. INTERMODULATION DISTORTION

Test Equipment Required

HP 3336B Synthesizer
HP 4436A Attenuator
Low Capacitance/Low Crosstalk Cables



Setup Conditions

Connect the test equipment as shown above. Connect the signal cable to the 4945A receiver input.

4945A:	Test Mode - IMD Receiver Impedance - 600 ohms
3336B:	Output - 600 ohms Frequency - See table Amplitude - See table
4436A:	Attenuation - See table

Procedure

1. Connect the 4945A transmitter output to the receiver input.
2. Set up the 3336B frequency and level according to the tables below.
3. Set the 4436A attenuation shown for each table.
4. Compare the IMD readings on the 4945A with the specifications given in the table.
5. If the display shows a number more than 1 dB from the specified result, an error condition exists. Diagnostic Modes 15 and 16 can help isolate the problem.

Intermodulation Distortion (High Level) Table

4945A Output Level = 0.0 dB
4436A Attenuation = 10 dB

3336B Level (dBm)	3336B Frequency (Hz)	4945A IMD Reading
+6.25	520	11 dB +-1
+5.50	2240	11 dB +-1
+2.53	1900	11 dB +-1
-53.5	520	70 dB +-1
-53.5	2240	70 dB +-1
-56.5	1900	70 dB +-1

Intermodulation Distortion (Low Level) Table

4945A Output Level = -39 dB
4436A Attenuation = 49 dB

3336B Level (dBm)	3336B Frequency (Hz)	4945A IMD Reading
+6.25	520	11 dB +-1
+5.50	2240	11 dB +-1
+2.53	1900	11 dB +-1
-53.5	520	70 dB +-1
-53.5	2240	70 dB +-1
-56.5	1900	70 dB +-1

4-24. PEAK-TO-AVERAGE RATIO

Test Equipment Required

Low Capacitance Cable

Setup Conditions

Connect the 4945A transmitter output to the receiver input.

4945A: Test Mode - P/AR
Impedance - 600 ohm (transmitter and receiver)
Level See table

Procedure

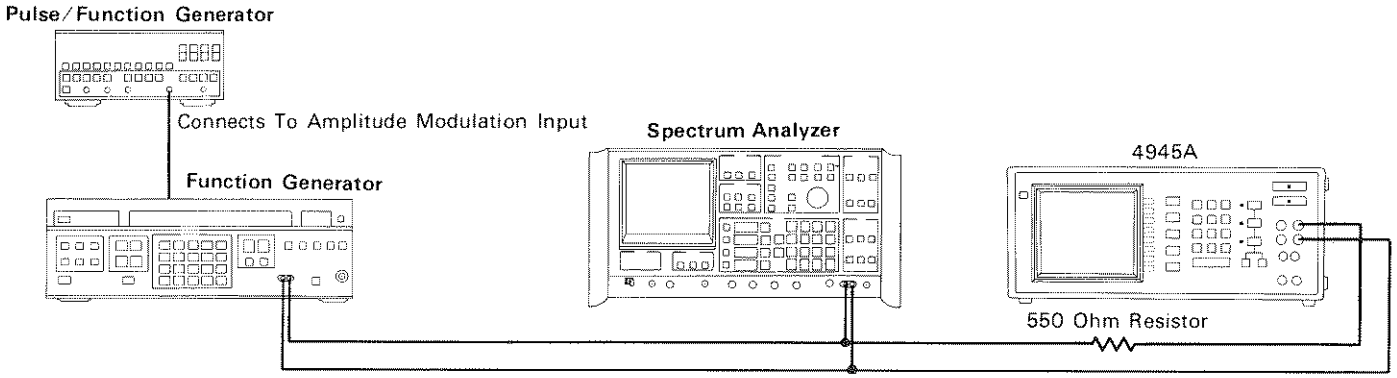
1. Set the 4945A level as shown in the table below.
2. The P/AR reading shown on the display should be within the specification shown in the table.

4945A Level	P/AR Reading	Specification
0 dBm		100 +-2
-11 dBm		100 +-2
-22 dBm		100 +-2
-33 dBm		100 +-2
-39 dBm		100 +-2

4-25. AMPLITUDE JITTER

Test Equipment Required

HP 3325A Synthesizer
HP 3585A Spectrum Analyzer
HP 8116A Pulse/Function Generator
HP 11048C 50 ohm load
550 ohm resistor
Low Capacitance/Low Crosstalk Cables



Setup Conditions (for Calibration Procedure)

Connect the test equipment as shown above.

4945A:
Test Mode - Jitter
Band Measurement - See table
Amplitude Jitter - ON
Phase Jitter - OFF

3325A:
Frequency - 1000 Hz
Amplitude - See tables
Amplitude Modulation - ON
Low Voltage Range selected

3585A:
Center Frequency - 1000 Hz, initially
Freq. Span - 200 Hz
Input Impedance - 1 Megohm
Sweep - Manual
dB/Div - 10 dB
Resolution BW - 10 Hz
Video BW - 3 Hz
Counter - On
Autorange - On
REF LVL Track - On then cycle Off and then back On

8116A:
Mode - Normal
Function - Sinewave
Amplitude - 1.0 volts initially, then see table
Frequency - 100 Hz initially, then see table
Offset - 0.00V
Disable - Off, Limit - Off, Complement - Off
Control - All Off
Terminate output with 50 ohm load

Calibration Procedure

1. Press the Amplitude Calibration button on the 3325A.

2. Set the amplitude of the 1000 Hz carrier from the 3325A to the level shown in the table (Column A).

3. Set the 8116A frequency to 100 Hz and set the amplitude to the nominal value in the table for the desired % modulation (Column B).

4. Set the Carrier Level (1000 Hz) to 0.00 dB offset.
   On the 3585A set the RANGE to the level shown in the table (Column C).
   Press: MKR->CF
   Set the dB/Div to 1 dB
   Using the MODIFY and LEVEL keys on the 3325A, adjust the level to read -5.2 dBv +-.1 dB or -41.2 dBv +-.1 dB.
   Set the OFFSET to On
   Press: ENTER OFFSET

5. Measure the sideband level.
   On the 3585A, Set the Center Frequency to 1100 Hz.
   Set Ref Level to the value listed in the table (Column D).
   Press MKR->CF

   Adjust the 8116A amplitude to get the proper sideband level listed in the table (Column E).
   Record this level in the table (Column F).

6. Recheck the carrier level.
   On the 3585A, set the Center Frequency to 1000 Hz.
   Set the Reference Level to the Range level and press; MKR->CF.
   The Marker Level should be approximately +-.02 dB. If not, repeat steps 4 and 5 above.

7. Repeat steps 2 through 6 for the other 3325A level shown in column A.

8. Use the 8116A amplitude calibration levels in the tables below.

Amplitude Jitter Calibration Table

Setup and Calibration for Tests with carrier at -3 dBm +-1 dB (600 ohm)

A	C	D	B	F	E	
3325A 1000 Hz Level in dBm	3585A Range & Ref Level to measure carrier in dBV	3585A Ref Level to measure sideband in dBV	8116A Amplitude		Resulting Sideband Level in dB	Modulation Level in %
			Nominal in volts	Your setting		
14.28	-3.0	-27.0	1.00		-26.02	10.0
14.28	-3.0	-17.0	3.80		-14.40	38.1

Setup and Calibration for Tests with carrier at -39 dBm +-1 dB (600 ohm)

A	C	D	B	F	E	
3325A 1000 Hz Level in dBm	3585A Range & Ref Level to measure carrier in dBV	3585A Ref Level to measure sideband in dBV	8116A Amplitude		Resulting Sideband Level in dB	Modulation Level in %
			Nominal in volts	Your setting		
-21.7	-38.0	-64.0	1.00		-26.02	10.0
-21.7	-38.0	-52.0	3.80		-14.40	38.1

Accuracy Verification Procedure

1. Set the amplitude of the 8116A to the calibration level measured in the Calibration Procedure.

   Set the 8116A frequency according to the tables below.

2. Connect the 3325A (with 550 ohm resistor) to the 4945A receiver input.

3. The percent value is displayed on the 4945A. Compare the displayed values with the specifications given in the table.

   Note: The 4945A takes approximately 5 to 10 seconds to process and display jitter measurements.

4. There is a separate table for each frequency band. Check each band at the two carrier levels and the two sideband levels.

   Note that the 8116A has more than one frequency setting for each table.

5. You can save time be setting a particular sideband level and then checking that level in all three bands before resetting the sideband level.

Amplitude Jitter Table, (4 - 300 Hz Band)

Test level = -3 dBm (600 ohm)

8116A Amplitude	3585A Sideband Level dB	8116A Freq = 8 Hz	8116A Freq = 50 Hz	8116A Freq = 240 Hz	Specification
	-26.02				10.0% +-.7%
	-14.40				38.1% +-2.1%

Test level = -39 dBm (600 ohm)

8116A Amplitude	3585A Sideband Level dB	8116A Freq = 8 Hz	8116A Freq = 50 Hz	8116A Freq = 240 Hz	Specification
	-26.02				10.0% +-.7%
	-14.40				38.1% +-2.1%

Amplitude Jitter Table, (4 - 20 Hz Band)

Test level = -3 dBm (600 ohm)

8116A Amplitude	3585A Sideband Level dB	8116A Freq = 8 Hz	8116A Freq = 16 Hz	Specification
	-26.02			10.0% +-.7%
	-14.40			38.1% +-2.1%

Test level = -39 dBm (600 ohm)

8116A Amplitude	3585A Sideband Level dB	8116A Freq = 8 Hz	8116A Freq = 16 Hz	Specification
	-26.02			10.0% +-.7%
	-14.40			38.1% +-2.1%

Amplitude Jitter Table, (20 - 300 Hz Band)

Test level = -3 dBm (600 ohm)

8116A Amplitude	3585A Sideband Level dB	8116A Freq = 20 Hz	8116A Freq = 70 Hz	8116A Freq = 240 Hz	Specification
	-26.02				10.0% +-.7%
	-14.40				38.1% +-2.1%

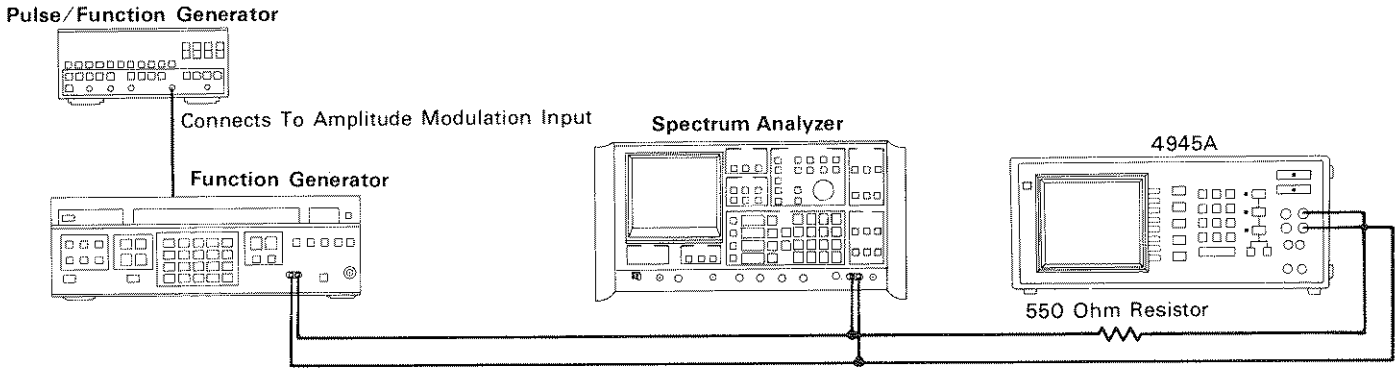
Test level = -39 dBm (600 ohm)

8116A Amplitude	3585A Sideband Level dB	8116A Freq = 20 Hz	8116A Freq = 70 Hz	8116A Freq = 240 Hz	Specification
	-26.02				10.0% +-.7%
	-14.40				38.1% +-2.1%

4-26. PHASE JITTER

Test Equipment Required

HP 3325A Synthesizer
HP 3585A Spectrum Analyzer
HP 8116A Pulse/Function Generator
HP 11048C 50 ohm load
550 ohm resistor
Low Capacitance/Low Crosstalk Cables



Setup Conditions (for Calibration Procedure)

Connect the test equipment as shown above.

4945A:
Test Mode - Jitter
Band Measurement - See table
Amplitude Jitter - ON
Phase Jitter - OFF

3325A:
Frequency - 1000 Hz
Amplitude - See tables
Phase Modulation - ON
Low Voltage Range selected

3585A:
Center Frequency - 1000 Hz, initially
Freq. Span - 200 Hz
Input Impedance - 1 Megohm
Sweep - Manual
dB/Div - 10 dB
Resolution BW - 10 Hz
Video BW - 3 Hz
Counter - On
Autorange - On
REF LVL Track - On then cycle Off and then back On

8116A:
Mode - Normal
Function - Sinewave
Amplitude - 1.0 volts initially, then see table
Frequency - 100 Hz initially, then see table
Offset - 0.00V
Disable - Off, Limit - Off, Complement - Off
Control - All Off
Terminate output with 50 ohm load

Calibration Procedure

1. Press the Amplitude Calibration button on the 3325A.

2. Set the amplitude of the 1000 Hz carrier from the 3325A to the level shown in the table (Column A).

3. Set the 8116A frequency to 100 Hz and set the amplitude to the nominal value in the table for the desired % modulation (Column B).

4. Set the Carrier Level (1000 Hz) to 0.00 dB offset.
   On the 3585A set the RANGE to the level shown in the table (Column C).
   Press: MKR->CF
   Set the dB/Div to 1 dB
   Using the MODIFY and LEVEL keys on the 3325A, adjust the level to read -5.2 dBv +-.1 dB or -41.2 dBv +-.1 dB.
   Set the OFFSET to On
   Press: ENTER OFFSET

5. Measure the sideband level.
   On the 3585A, Set the Center Frequency to 1100 Hz.
   Set Ref Level to the value listed in the table (Column D).
   Press MKR->CF

   Adjust the 8116A amplitude to get the proper sideband level listed in the table (Column E).
   Record this level in the table (Column F).

6. Recheck the carrier level.
   On the 3585A, set the Center Frequency to 1000 Hz.
   Set the Reference Level to the Range level and press; MKR->CF.
   The Marker Level should be approximately +-.02 dB. If not, repeat steps 4 and 5 above.

7. Repeat steps 2 through 6 for the other 3325A level shown in column A.

8. Use the 8116A amplitude calibration levels in the tables below.

Phase Jitter Calibration Table

Setup and Calibration for Tests with carrier at -3 dBm +-1 dB (600 ohm)

A	C	D	B	F	E	
3325A 1000 Hz Level in dBm	3585A Range & Ref Level to measure carrier in dBV	3585A Ref Level to measure sideband in dBV	8116A Amplitude		Resulting Sideband Level in dB	Modulation Level in Degrees
			Nominal in mV	Your setting		
7.79	-3.0	-27.0	60.0		-26.02	11.5
7.79	-3.0	-17.0	180		-16.40	34.4

Setup and Calibration for Tests with carrier at -39 dBm +-1 dB (600 ohm)

A	C	D	B	F	E	
3325A 1000 Hz Level in dBm	3585A Range & Ref Level to measure carrier in dBV	3585A Ref Level to measure sideband in dBV	8116A Amplitude		Resulting Sideband Level in dB	Modulation Level in Degrees
			Nominal in mV	Your setting		
-28.21	-38.0	-64.0	60.0		-26.02	11.5
-28.21	-38.0	-52.0	180		-16.40	34.4

Accuracy Verification Procedure

1. Set the amplitude of the 8116A to the calibration level measured in the Calibration Procedure.

   Set the 8116A frequency according to the tables below.

2. Connect the 3325A (with 550 ohm resistor) to the 4945A receiver input.

3. The phase value is displayed on the 4945A. Compare the displayed values with the specifications given in the table.

   Note: The 4945A takes approximately 5 to 10 seconds to process and display jitter measurements.

4. There is a separate table for each frequency band. Check each band at the two carrier levels and the two sideband levels.

   Note that the 8116A has more than one frequency setting for each table.

5. You can save time be setting a particular sideband level and then checking that level in all three bands before resetting the sideband level.

Phase Jitter Table, (4 - 300 Hz Band)

Test level = -3 dBm (600 ohm)

8116A Amplitude	3585A Sideband Level dB	8116A Freq = 8 Hz	8116A Freq = 50 Hz	8116A Freq = 240 Hz	Specification
	-26.02				11.5° +-.8°
	-16.40				34.4° +-1.9°

Test level = -39 dBm (600 ohm)

8116A Amplitude	3585A Sideband Level dB	8116A Freq = 8 Hz	8116A Freq = 50 Hz	8116A Freq = 240 Hz	Specification
	-26.02				11.5° +-.8°
	-16.40				34.4° +-1.9°

Procedure

1. Set the 4945A to one of the phase thresholds listed in the table below.

2. Press phase mode on the 3325A. Enter the degrees of phase from the table and press Degrees on the 3325A.

   When Degrees is pressed, the frequency shifts to give a positive phase hit. Enter 0 degrees phase to give a negative phase hit. Two phase hits are recorded by the 4945A.

   Note: Phase hits are recorded only if the phase angle is more than the set threshold.

3. Do steps 1 and 2 for each line of the table. The number of phase hits appears on the 4945A display and the specification is given in the table.

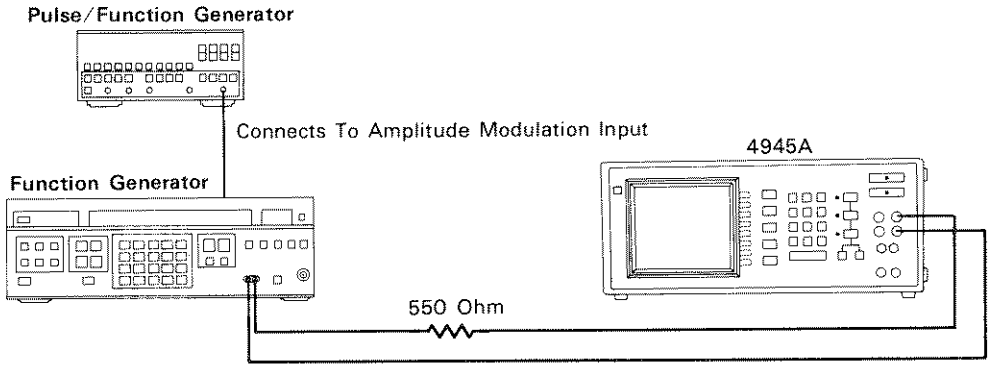
Phase Hits Table

4945A Threshold Setting	3325A Phase Angle	4945A Reading	Spec.
10	8		0
10	12		2
20	17		0
20	23		2
35	31.5		0
5	38.5		2
45	40.5		0
45	49.5		2

4-28. GAIN HITS

Test Equipment Required

HP 3325A Synthesizer
HP 8116A Pulse/Function Generator
550 ohm resistor
Low Capacitance Cables



Setup Conditions

Connect the test equipment as shown above.
Connect the 3325A signal cable to the 4945A receiver input.

4945A: Test Mode - Level/Freq initially, then Transients
Input Impedance - 600 ohm
Count Rate - See table
Gain Hits Threshold - 2 dB, then see table
Filter - C-Message

3325A: Frequency - 1000 Hz
Mode - Modulation, press Blue key, Store
Level - 17.26 dBm initially, then see table

8116A: Frequency - 6 Hz
Amplitude - See table
Function - Pulse, positive
Mode - E burst
Burst - 6
WID - 6 msec
HIL - 0 volts
LOL - -0.40 volts

Procedure For Measurement Calibrations

1. Set up the 3325A level to 17.26 dBm (50 ohm) initially and then according to the table below.

2. Set up the 8116A pulse levels, pulse width and frequency according to the initial conditions above. With the 4945A in Level Frequency, toggle the complement switch on the 8116A. Look for a 1.5 dB change. Fine tune the 8116A pulse until a 1.5 dB change is obtained. This sets up the hit level for the first test. The hit level must be set for each test.

3. Set up the 4945A according to the table below.

4. The gain hits are displayed on the 4945A. Compare your reading with the gain hit specification in the table.

Gain Hits Table (Positive)

8116A: Complement - ON
Pulse width - 6 msec
Frequency - 6 Hz

3325A Ampl. dBm	8116A Nominal Hi L	8116A Nominal Lo L	8116A Your Actual Hi L	8116A Your Actual Lo L	Hit Level	4945A Count Rate	4945A Gain Hit Thld. dB	Count Spec.
+17.26	0	-.40			1.5 dB	7/sec	2	0
+17.26	0	-.80			2.5 dB	7/sec	2	15
+22.05	1	-2.28			10.5 dB	7/sec	10	15

Gain Hits Table (Negative)

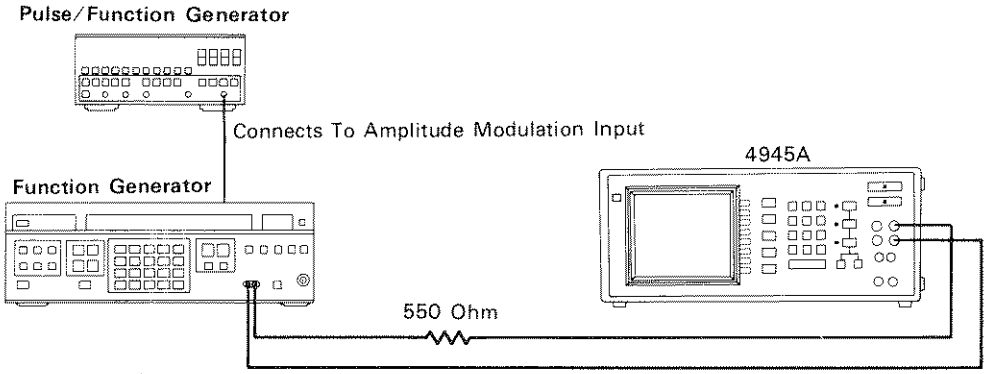
8116A: Complement - ON
Pulse width - 6 msec
Frequency - 6 Hz

3325A Ampl. dBm	8116A Nominal Hi L	8116A Nominal Lo L	8116A Your Actual Hi L	8116A Your Actual Lo L	Hit Level	4945A Count Rate	4945A Gain Hit Thld. dB	Count Spec.
+21.0	-1.55	-2.3			1.5 dB	7/sec	2	0
+21.0	-1.14	-2.3			2.5 dB	7/sec	2	15
+21.0	-.99	-2.3			10.5 dB	7/sec	10	15

4-29. DROPOUTS

Test Equipment Required

HP 3325A Synthesizer
HP 8116A Pulse/Function Generator
550 ohm resistor
Low Capacitance Cables



Setup Conditions

Connect the test equipment as shown above.
Connect the 3325A signal cable to the 4945A receiver input.

4945A: Test Mode - Level/Frequency, then Transients
Input Impedance - 600 ohm
Count Rate - See table
Filter - C-Message

3325A: Frequency - 1000 Hz
Mode - Modulation, press Blue key, Store
Level - See table

8116A: Frequency - See table
Amplitude - See table
Function - Pulse, positive
Mode - E burst
E burst - 3

Procedure

1. Set up the 3325A level according to the table below.

2. Set up the 8116A pulse levels, pulse width and frequency according to the initial conditions below. With the 4945A in Level Frequency, toggle the complement switch on the 8116A. Look for an 11 dB change. Fine tune the 8116A pulse until an 11 dB change is obtained. This sets up the dropout for the first test. The dropout level must be set for each test.

3. Set up the 4945A according to the table below.

4. The dropouts are displayed on the 4945A. Compare your reading with the dropout specification in the table.

Dropouts Table

8116A: Complement - OFF
Pulse Width - 6 msec
Frequency - .9 Hz

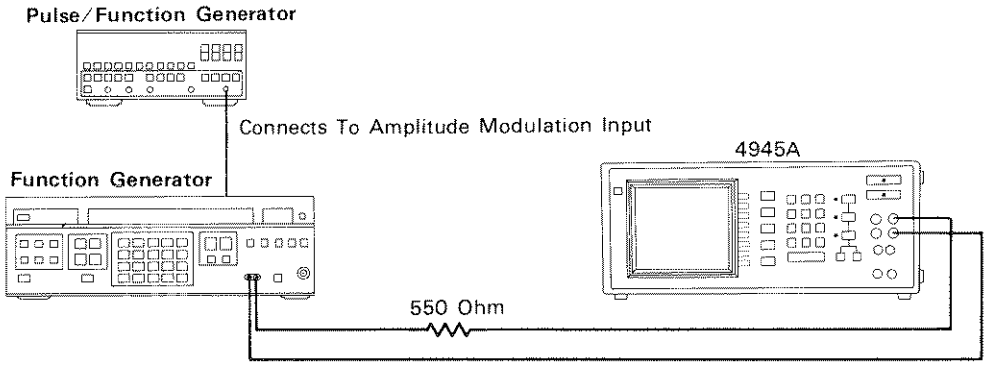
4945A: Count Rate - 8/sec

3325A Ampl. dBm	8116A Nominal Hi L	8116A Nominal Lo L	8116A Your Actual Hi L	8116A Your Actual Lo L	Dropout (4945A Level)	4945A Dropout Count
+21.0	+1.00	-3.0			11 dB (0 dBm - Comp OFF) (11 dBm - Comp ON)	0
+21.0	+1.00	-4.66			13 dB (0 dBm - Comp OFF) (13 dBm - Comp ON)	3
-26.5	+1.00	-3.0			11 dB (-37 dBm-Comp OFF) (-48 dBm-Comp ON)	0
-26.5	+1.00	-4.66			13 (-37 dBm-Comp OFF) (-51 dBm-Comp ON)	3

4-30. IMPULSE NOISE

Test Equipment Required

HP 3325A Synthesizer
HP 8116A Pulse/Function Generator
Low Capacitance Cables



Setup Conditions

Connect the test equipment as shown above.
Connect the 3325A signal cable to the 4945A receiver input.

4945A: Test Mode - Level/Freq initially, then Transients
Impulse Threshold - set for each table
Treshold Step - See table
Count Rate - See table
Count Time - 1 minute

3325A: Frequency - 1800 Hz
Amplitude Modulation - ON
Level - See table

8116A: Frequency - 6 Hz
Pulse Width - 6 msec
Mode - E burst
Hi L - See table
Lo L - See table
E burst - 3

Threshold Considerations

The threshold levels given in the tables were set by considering the following information.
For this measurement, the 3325A outputs a level which is measured on the 4945A in the Level/Frequency mode. The 3325A levels given in the tables are approximate and may vary between 3325As. Reading the level on the 4945A provides a consistent level, however, some conversion factors are taken into account.

For example, to set a 70 dBrn level requires a -20 dBm peak signal. The level displayed on the 4945A is an rms reading which is 3 dB lower than peak. Thus for 70 dBrn, the 4945A reading would be -23 dB.

Note: These are steady state conditions. The actual transient levels are adjusted down 0.5 dB to compensate for modulation overshoot which triggers the transients receiver.

For the impulse measurement the C-Message filter is switched in and the filter factor must be taken into account. At 1800 Hz, +1.5 dBm must be added to the level to compensate for the filter. Thus 70 dBrn = -23 dBm + 1.5 dBm or a level of -21.5 dBm displayed on the 4945A.

Here is an example using a 72 dBrn threshold.

74 dBrn -

73 dBrn - Count all

72 dBrn - Threshold level

71 dBrn - No count

70 dBrn - Peak of steady state carrier set in Level/Freq.

Procedure

1. Three 4945A threshold levels are tested; 30 dBrn, 72 dBrn and 105 dBrn. There is a separate table for each threshold setting.

   For each threshold chart, the actual HiL and LoL readings must be recorded. These readings depend on the particular 8116A and 3325A combination being used.

2. Set the 4945A to one of the three Impulse Noise thresholds.

For each line in the table, do the following steps.

3. Set the 3325A output level so that the 4945A reads the reference level in Level/Frequency mode (See the COMPL ON column in the table).
   This level is set with the 8116A Complement ON.

4. Set the 8116A to Complement OFF and set the pulse level (See the COMPL OFF column in the table).

5. Set the 8116A to Complement ON.

6. Select the transients test mode on the 4945A. Set the counts per second, threshold and step size.

7. Press the MAN button on the 8116A and read the impulse noise counts on the 4945A display.

8. Compare your results with the expected results in the table.

Note: Repeat the setup conditions for each table and for any change of equipment or operating conditions.

Procedure

1. Set the 4945A level and frequency as shown in the table.
2. Set the 3582A center frequency to the 4945A frequency. Put the 3582A marker to this frequency and press SET REF.
3. Move the marker to the upper and lower sidebands.
4. Subtract the sideband amplitude from the carrier amplitude and compare your readings with the specification in the table.
5. Do the above steps for each line of the table.

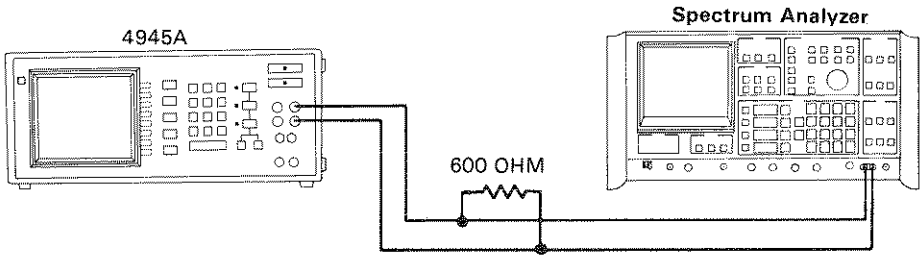
EDD Transmitter Amplitude Modulation Table

4945A		Sideband Specs.	Actual Readings	
Level	Frequency		Upper	Lower
0 dBm	1804 Hz	-11.2 to -13.0		
0 dBm	300 Hz	-11.2 to -13.0		
0 dBm	4000 Hz	-11.2 to -13.0		
-40 dBm	1804 Hz	-11.2 to -13.0		

4-33. Transmitter Modulation Frequency

Test Equipment Required

HP 3582A Spectrum Analyzer
600 ohm load
Low Capacitance Cables



Setup Conditions

Connect the test equipment as shown above. Connect the 4945A output signal cable to the 3582A input.

4945A: Test Mode - Envelope Delay
Transmit Impedance - 600 ohms
Amplitude - 0 dB
Frequency - 1000 Hz

3582A: Input - Isolated
Filter Shape - Flat top
Bandwidth - 5 Hz (to get .02 Hz accuracy)
Center Frequency - 1083 Hz

Procedure

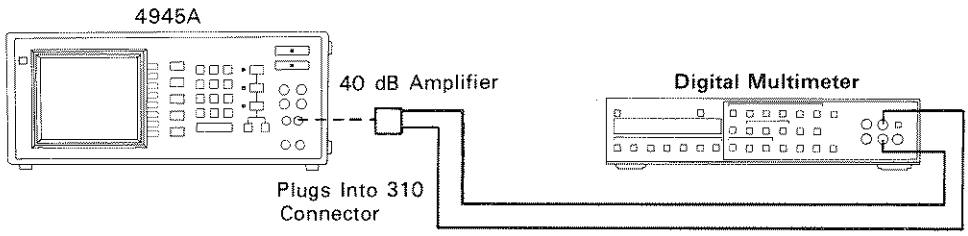
1. Put the 3582A marker on the peak of the 1083 Hz signal.

2. The peak frequency must be between 1083.25 Hz and 1083.41 Hz.

4-34. Transmitter Level and Flatness

Test Equipment Required

HP 3455A Digital Voltmeter
HP 04945-62615 Test Amplifier
600 ohm load
Low Capacitance Cables



Setup Conditions

Connect the test equipment as shown above. Connect the 4945A output signal cable to the 3455A input.

4945A:	Test Mode - Envelope Delay Transmit Impedance - 600 ohms Amplitude - See table Frequency - See table
3455A:	Input - AC, autorange
04945-62615:	Gain - See table

Procedure

1. Set the 4945A level and frequency to 0.0 dBm and 1 kHz. Set the amplifier gain to 0 dB. The reading on the 3455A should be between .802 volts and .839 volts. This is the level accuracy test.

2. Set the 4945A level and frequency as shown in the table below.

3. Set the amplifier gain as shown in the table below.

4. Record the voltage reading on the 3455A. The voltage level at each frequency should be within the tolerance (<2 dB) shown in the table.

5. Do steps 2 through 4 for each line of the table.

ED Transmitter Flatness Table

4945A Level	Amplifier Level	4945A Frequency 300 Hz	1804 Hz	4000 Hz	Specification < 2 dB change between freq.
0 dBm	0 dB				.615 - .975 V
+10 dBm	0 dB				1.946 - 3.084 V
-20 dBm	+20 dB				.615 - .975 V
-40 dBm	+40 dB				.615 - .975 V

Note: The specification voltages given are calculated for a less than 2 dB change over the three frequencies.

4-35. Envelope Delay Receiver Test

Test Equipment Required

Low Capacitance/Low Crosstalk Cables

Setup Conditions

Connect the 4945A transmitter output to the receiver input.

4945A: Test Mode - Envelope Delay
Impedance - 600 ohm (transmit and receive)
Level - See procedure
Frequency - See procedure

Procedure

1. Set the 4945A level and frequency to 0.0 dBm and 1804 Hz. Let the receiver reading stabilize and press Delay Zero. This sets up a reference for the remaining readings.

2. Set the 4945A level and frequency as shown in the table below.

3. The measured delay is displayed on the 4945A. Compare the reading with the specifications in the table.

Receiver Delay Table

4945A Frequency = 1800 Hz

Level	Delay +-30 us	Change <=5 us
0		
-10		
20		
-30		
-40		

4945A Frequency = 300 Hz

Level	Delay +-30 us	Change <=5 us
0		
-10		
-20		
-30		
-40		

4-36. TWO-WIRE RETURN LOSS

Test Equipment Required

600 ohm, .1%, resistor (0698-7408)
900 ohm, .1%, resistor (0698-6344)

Setup Conditions

4945A: Test Mode - 2-Wire Return Loss

Procedure

1. In Two Wire Return Loss, Press Measure All on the 4945A.

2. Set the output level and reference impedance as shown in the tables below.

3. Check the displayed return loss values with the transmitter jacks Open, Shorted and then terminated with the proper resistor.

4. The values for ECHO, SRL Low and SRL High are displayed at the same time on the 4945A.

5. Record the displayed values in the table below and compare the values against the specifications listed in the table.

6. Select the sine wave return loss test (SINE 1 kHz) and repeat the test.

Two Wire Return Loss Table

Transmit Level = -2.0 dBm
Reference Impedance = 900 ohms

Return Loss Signal	Specification +-.5 dB	Open Circuit	Short Circuit	900 ohms Terminated
ECHO	28.3 dB			
L Low	18.9 dB			
SRL High	36.6 dB			
Sine- 1kHz	28.3 dB			

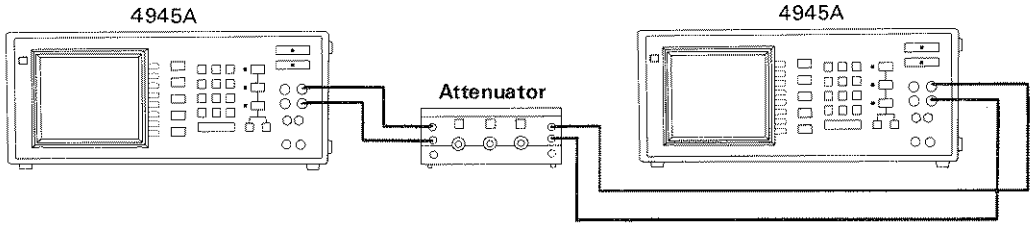
Transmit Level = -10.0 dBm
Reference Impedance = 600 ohms

Return Loss Signal	Specification +-.5 dB	Open Circuit	Short Circuit	600 ohms Terminated
ECHO	24.7 dB			
SRL Low	15.5 dB			
SRL High	32.9 dB			
Sine- 1kHz	24.3 dB			

4-37. FOUR-WIRE RETURN LOSS

Test Equipment Required

4436B Attenuator
4945A Transmission Impairment Measurement Set
Low Capacitance/Low Crosstalk Cables



Setup Conditions

Connect the test equipment as shown above.
Connect the signal cable from the attenuator to the 4945A test unit receiver input.

4945A: (Test Unit)	Test Mode - Return Loss, 4-wire (Test Unit) Receive Impedance - 600 ohm
4945A: (Source)	Test Mode - Return Loss, 4-wire Level - -10 dBm Transmit Impedance - 600 ohm
4436B:	Attenuation - See table

Procedure

1. Set the 4436B attenuation to one of the values in the table below.

2. Set the transhybrid loss compensation on the 4945A test unit to the value shown in the table.

3. The return loss in dB is displayed on the 4945A test unit. Check the return loss values in ECHO, SRL Low and SRL high. Record your readings in the table and compare them to the specification given in the table.

Four Wire Return Loss Table

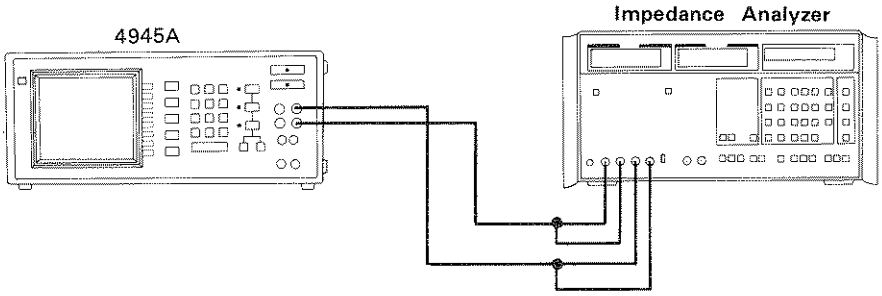
4945A Source Level = -10 dBm

4436B Atten.	4945A Test Unit Received Level	4945A Test Unit Hybrid Compensation Loss	Expected R.L. for ECHO, SRL Low and SRL High +-.5 dB
0 dB	-10 dB	0.0 dB	0 dB
20 dB	-30 dB	0.0 dB	20 dB
40 dB	-50 dB	0.0 dB	40 dB
65 dB	-75 dB	0.0 dB	(over range)
40 dB	-50 dB	10 dB	30 dB
40 dB	-50 dB	20 dB	20 dB
40 dB	-50 dB	30 dB	10 dB
20 dB	-30 dB	20 dB	0 dB
20 dB	-30 dB	30 dB	-10 dB

4-38. RECEIVER HOLDING CIRCUIT IMPEDANCE

Test Equipment Required

4192A Impedance Analyzer



Setup Conditions

Connect the test equipment as shown above. Connect the 4192A four wire probe to the 4945A receiver input.

4945A: Setup - Dial/Hold, Receive Hold Off
Receiver Impedance - 1200 ohms

4192A: |Z| - Phase Measurement
AUTO - Serial Circuit
Frequency - 1000 Hz
Osc. Level - 1 volt
Average - ON
Bias - +12.50 volts (Red light should come on)

Procedure

1. When the setup is complete, the 4192A should read 1200 ohms and -.19 dB.

2. Set the 4192A to R/G and X/B measurement. Select parallel circuit (Mode 3).

3. Record the G and B values with the hold circuit off and on. Record your readings in the chart corresponding to the frequency set on the 4192A.

4. Set the 4192A frequency to each of the four frequencies listed below.

5. Record the G and B values for each frequency.

Frequency = 50 Hz

	G	B
Hold ON		
Hold OFF		
ON - OFF		

Frequency = 1000 Hz

	G	B
Hold ON		
Hold OFF		
ON - OFF		

Frequency = 10 kHz

	G	B
Hold ON		
Hold OFF		
ON - OFF		

Frequency = 110 kHz

	G	B
Hold ON		
Hold OFF		
ON - OFF		

6. Calculate the holding impedance (for each frequency) as follows.

   a. Subtract the Hold OFF value for G and B from the Hold ON value for G and B.

   b. Use these difference values in the formula below.

$$|Z| = \frac{1}{\sqrt{G2 + B2}}$$

   c. The resulting |Z| value is the holding circuit impedance.

   d. The specifications are;

      › 50 k-ohms for frequencies to 10 kHz

      › 20 k-ohms for frequencies to 110 kHz

dB Expressed in Watts and Volts
P = 1 mW V is into 600 ohms

dB	Above Zero Level Watts	Above Zero Level Volts	Below Zero Level Watts	Below Zero Level Volts
0	0.0010	0.775	1.00 X 10^-3	0.7746
1	0.0013	0.869	7.94 X 10^-4	0.6904
2	0.0016	0.975	6.31 X 10^-4	0.6153
3	0.0020	1.094	5.01 X 10^-4	0.5483
4	0.0025	1.227	3.98 X 10^-4	0.4888
5	0.0032	1.337	3.16 X 10^-4	0.4356
6	0.0040	1.545	2.51 X 10^-4	0.3883
7	0.0050	1.734	2.00 X 10^-4	0.3460
8	0.0063	1.946	1.59 X 10^-4	0.3084
9	0.0079	2.183	1.26 X 10^-4	0.2748
10	0.0100	2.449	1.00 X 10^-4	0.2449
11	0.0126	2.748	7.94 X 10^-5	0.2183
12	0.0159	3.084	6.31 X 10^-5	0.1946
13	0.0200	3.460	5.01 X 10^-5	0.1734
14	0.0251	3.882	3.98 X 10^-5	0.1545
15	0.0316	4.356	3.16 X 10^-5	0.1377
16	0.0398	4.888	2.51 X 10^-5	0.1228
17	0.0501	5.483	2.00 X 10^-5	0.1095
18	0.0631	6.153	1.59 X 10^-5	0.0975
19	0.0794	6.904	1.26 X 10^-5	0.0869
20	0.1	7.746	10^-5	7.75 X 10^-2
30	1.0	24.493	10^-6	2.45 X 10^-2
40	10.0	77.460	10^-7	7.75 X 10^-3
50	10^2	244.93	10^-8	2.45 X 10^-3
60	10^3	774.60	10^-9	7.75 X 10^-4
70	10^4	2449.0	10^-10	2.45 X 10^-4
80	10^5	7746.0	10^-11	7.75 X 10^-5
90	10^6	24493.0	10^-12	2.45 X 10^-5
100	10^7	77460.0	10^-13	7.75 X 10^-6

dBrn To dBm Conversion Chart

dBrn	dBm	dBrn	dBm	dBrn	dBm	dBrn	dBm
110	+20	82	-8	54	-36	26	-64
109	+19	81	-9	53	-37	25	-65
108	+18	80	-10	52	-38	24	-66
107	+17	79	-11	51	-39	23	-67
106	+16	78	-12	50	-40	22	-68
105	+15	77	-13	49	-41	21	-69
104	+14	76	-14	48	-42	20	-70
103	+13	75	-15	47	-43	19	-71
102	+12	74	-16	46	-44	18	-72
101	+11	73	-17	45	-45	17	-73
100	+10	72	-18	44	-46	16	-74
99	+9	71	-19	43	-47	15	-75
98	+8	70	-20	42	-48	14	-76
97	+7	69	-21	41	-49	13	-77
96	+6	68	-22	40	-50	12	-78
95	+5	67	-23	39	-51	11	-79
94	+4	66	-24	38	-52	10	-80
93	+3	65	-25	37	-53	9	-81
92	+2	64	-26	36	-54	8	-82
91	+1	63	-27	35	-55	7	-83
90	0	62	-28	34	-56	6	-84
89	-1	61	-29	33	-57	5	-85
88	-2	60	-30	32	-58	4	-86
87	-3	59	-31	31	-59	3	-87
86	-4	58	-32	30	-60	2	-88
85	-5	57	-33	29	-61	1	-89
84	-6	56	-34	28	-62	0	-90
83	-7	55	-35	27	-63		

SECTION V
ADJUSTMENTS

5-1. INTRODUCTION

This section describes adjustments and checks used to return the instrument to its specifications after repairs have been made.

Normally, adjustments need to be made only if the board that the adjustment is on has been changed or repaired.

See paragraph 1-10, Recommended Test Equipment, in Chapter 1 for a list of equipment used to properly service the 4945A.
Table 5-1 gives a summary of the 4945A adjustments.

See Figure 5-1 for adjustmemt locations.

5-2. SAFETY CONSIDERATIONS

WARNING

ADJUSTMENTS ARE PERFORMED WITH POWER APPLIED TO THE INSTRUMENT, AND PROTECTIVE COVERS REMOVED. SUCH MAINTENANCE SHOULD BE PERFORMED ONLY BY SERVICE TRAINED PERSONNEL WHO ARE AWARE OF THE HAZARDS INVOLVED FOR EXAMPLE, FIRE AND ELECTRICAL SHOCK). WHERE MAINTENANCE CAN BE PERFORMED WITHOUT POWER APPLIED, THE POWER SHOULD BE REMOVED.

READ THE SAFETY SUMMARY AT THE FRONT OF THIS MANUAL BEFORE MAKING ANY ADJUSTMENTS.

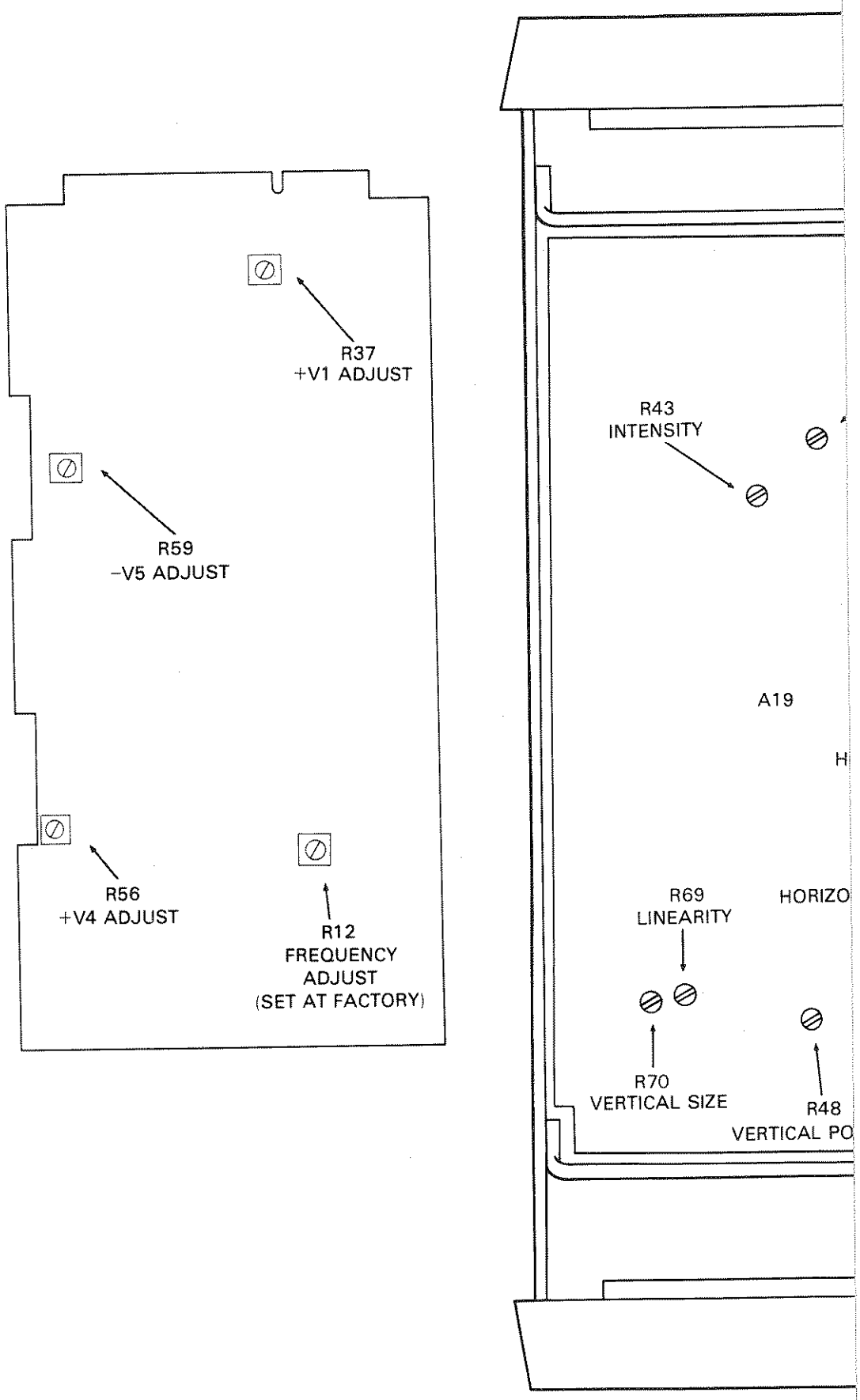


Figure 5-1. Adjustment Locations

Receiver Adjustments

Adjustment	Component	Specifications
Level Accuracy	A1R54	Input and A1 TP1 same level (3.46 V trms at 600 ohms)
1010 Hz Notch Filter	A2R134 A2R135 A2R133	1010 Hz TP NOTCH2 1025 Hz TP NOTCH3 995 Hz TP NOTCH1
P/AR Filter	A2R132	adjust for 0 degrees phase A2R131 adjust for 0 degrees phase
US EDD Hi-Q Filters	A7R72	adjust for 0 degrees phase A7R11 adjust for 0 degrees phase
US EDD AGC	A7R35	TP3 reads 2.19 V rms +50 mV
Phase Hit Balance	A9R28	50% duty cycle at TP2
NLD 1990 Hz Detector	A3R9	1990 Hz +-1 Hz at U701 pin 5
NLD 520 Hz Bandpass Filter	A3R10 A3R12 A3R22 A3R32	90 degrees phase at 562 Hz 90 degrees phase at 492 Hz 90 degrees phase at 555 Hz 0 degrees phase at 480 Hz
Hold Coil	A1R2	24 ma +.1 ma
2-Wire Return Loss	A17R98	ERL reading of 0.0 dB
Real Time Clock Oscillator	A12C34	within 1.00001 seconds

CRT Adjustments

Adjustment	Component	Specifications
Focus	A19R14	best focus
Intensity	A19R52	500 c/m2, full raster, no faceplate
Horizontal Size	A19R9	16.5 cm +-.2 cm
Horizontal Position		centered
Vertical Size	A19R65	11 cm +- .2 cm
Vertical Position	A19R46	centered
Linearity	A19R64	Top and bottom characters are equal size
Yoke	Yoke Clamp	level display

5-3. POWER SUPPLY ADJUSTMENTS

Newer 4945A's have access holes in the power supply sheet metal that allow the adjustments to be made with just the top and bottom covers removed. On the earlier instruments, these access holes are not present and the left side power supply (A29 and A21) must be swung out to access the adjustments.

If the left side supply must be swung out, refer to the power supply removal procedures in Section 6.

WARNING

LETHAL VOLTAGES ARE PRESENT ON THE A20 BOARD EVEN WHEN THE POWER SWITCH IS OFF.

LETHAL VOLTAGES ARE PRESENT ON THE POWER SUPPLY BOARDS AND ON THE A19 DISPLAY DRIVER BOARD WHEN AC POWER IS ON.

USE A NON-CONDUCTIVE ADJUSTMENT TOOL WHEN PERFORMING THE POWER SUPPLY ADJUSTMENTS.

5-4. Frequency Adjustment

The frequency adjustment is a factory adjustment and not normally done in the field. If you have questions about this adjustment, call the factory service engineer.

5-5. +V1 Adjustment (+5 volt)

The +5 volt supply must be adjusted before the other supplies are adjusted. There are two +5 voltages, one on A28 and one on A29.

Swing out the 65909 supply (A29 and A21, on left side) +5 NSY
Adjust

+5 NSY Adjust

1. Connect a DVM to A10 TP1 (+5V) and A10 TP2 (GND).

2. Adjust V1 on A29 (R37) for +5 volts +-.01 volts.

+5 CLN Adjust

1. Connect a DVM to A6 TP8 (+5V) and A6 TP7 (GND).

2. Use a long adjustment tool to reach the A28 V1 adjustment from the top of the 4945A. Adjust V1 on A28 (R37) for +5 volts +-.01 volts.

5-6. +V2 Adjustment (+18 Volt)

+V2 is +18 volts on the 65909 supply.

1. Swing out the 65909 supply (A29 and A21, on left side).
2. Connect a DVM to the red wire on A21 (+18V) and ground.
3. Check for +18 volts on A21. The voltage comes from the 65909 supply as unregulated +19 volts.

5-7. +V4 Adjustment

V4 is +12 volts on the 65909 supply and +15 volts on the 65908 supply.

Swing out the 65909 supply (A29 and A21, on left side).

+12 Volt Adjust

1. Do the +5 volt NSY adjustment first.
2. Connect a DVM to A19 J1 pin 3 (+12V) and ground.
3. Adjust V4 on A29 (R56) for +12 volts +-.1 volts.

+15 Volt Adjust

1. Do the +5 volt CLN adjustment first.
2. Connect a DVM to A6 TP5 (+15V) and ground.
3. Use a long adjustment tool to reach the A28 V4 adjustment from top of the 4945A (between the A14 and A15 board guides). Adjust V4 on A28 (R56) for +15 volts +-.1 volts.

5-8. -V5 Adjustment

V5 is -12 volts on the 65909 supply and -15 volts on the 65908 supply.

Swing out the 65909 supply (A29 and A21, on left side).

-12 Volt Adjust

1. Do the +5 volt NSY adjustment first.
2. Connect a DVM to A19 J1 pin 1 (-12V) and ground.
3. Adjust V5 on A29 (R59) for -12 volts +-.1 volts.

-15 Volt Adjust

1. Do the +5 volt CLN adjustment first.

2. Connect a DVM to A6 TP4 (-15V) and ground.

3. Use a long adjustment tool to reach the A28 V5 adjustment from the top of the 4945A (between the A9 and A10 board guides). Adjust V5 on A28 (R59) for -15 volts +-.1 volts.

5-9. Using the Power Supply Test Fixture

If you are using the power supply test fixture (04945-62608) to adjust the supply voltages, set the supply voltages to the specified levels and algebraically add the offset voltages listed below.

For V1 (+5V), set the voltage 25 mV high.

For V4 (+12V and +15V), set the voltage 100 mV high.

For V5 (-12V), set the voltage 50 mV high.

For V5 (-15V), set the voltage 100 mV low.

5-10. TRANSMITTER ADJUSTMENTS

5-11. Level Accuracy

Receiver: Level/Freq
Transmitter: 1004 Hz, 0.0 dBm, 600 ohms

Note: Use only 0.1% resistors or better. Refer to paragraph 4-3 for recommended resistor part numbers.

1. Connect the 600 ohm, 0.1% load.

2. Connect a DVM (HP 3455A) to the transmitter output.
   Adjust the XMT Level accuracy (A15R108) for 0.7746 Vrms +-.002 V.

3. Change the transmitter impedance to 900 ohms and verify the output level to be 0.9554 Vrms +-.004 V.

4. Change the transmitter impedance to 1200 ohms and verify the output level to be 1.098 Vrms +-.005 V.

5. Change the transmitter impedance to 135 ohms and verify the output level to be .3650 Vrms +-.002 V.

5-12. NLD Tone Balance and Level (Primary Method)

Receiver: Intermodulation Distortion
Transmitter: 0 dBm, 600 ohms

1. Connect the transmitter output to the receiver input.

2. For NLD balance, select and run diagnostic mode 52.

3. Adjust the NLD Balance (A15R106) so that the 4945A display reads 0.0 dB +-.1 dB. Failures and levels of .5 dB or greater are shown in inverse video.

4. Connect a true rms meter (HP 3403C) to the transmitter output. Adjust the NLD Gain (A15R105) until level is 0.775 V trms. Use the slow response time. **Note:** Other T-rms conversion meters can give different readings.

5-13. NLD Balance (Alternate Method)

Use this method for troubleshooting or performance verification.

Receiver: Intermodulation Distortion
Transmitter: 0 dBm, 600 ohms

1. Connect a spectrum analyzer to the transmitter output. Analyzer must have "Fast Fourier Transform" (FFT) with 0.02 Hz resolution.

   Following is the setup for the HP 3582A analyzer.

Marker -----	On	Freq. Span -----	25 Hz
Mode Set ---	Center	Input Mode -----	A
Coupling ---	ac	Chan A Sense ---	+10 dBV
Trig Level -	Free run, repetitive	Scale ----------	10 dB/div
		Passband shape -	flat top
Display ----	Amplitude A	Amplitude Ref --	Normal

2. Set the center frequency at either 860 Hz or 1380 Hz.

   Press REL and then SET REF after the marker is on the peak. Check the other peaks.

3. Adjust the NLD Balance (A15R106) so that all four IMD tones have identical levels (within .1 dBm offset).

   Note: The adjustment interface between the four peaks and it may require several reference sets to adjust.

5-14. Alternate Channel Level (Primary Method)

Run diagnostic self-check mode 18 (checking 1104 Hz at -20 dBm mixed with 1004 Hz).

1. Connect the DVM (HP 3455A with math function) to A15TP2.

2. Run mode 18 path 1 (1004 Hz single tone).

5-21. US EDD Hi-Q Filters 3 Hz modulation)

Receiver: Level/Freq, 600
Transmitter: 1004 Hz, 0 dBm, 600 ohms

1. Put the A7 board on an extender. On A7, move jumper JU3 (83 1/3 Hz CAL) to the left and move jumper JU1 (83 1/3 Hz BPF)to the left.

2. This adjustment uses an HP 3575A Phase/Gain meter. First connect channel A to the middle pin of JU3 and connect channel B to the left pin of JU3. The phase should be 0.0 degrees +-.1. This checks the meter calibration.

2. Connect Channel A of the phase gain meter to the middle pin of JU3. Connect Channel B to TP1.

3. Adjust A7R103 (HI-Q 1) for 0.0 degrees +-.1.

4. Move Channel A to TP2 and adjust A7R102 (HI-Q 2) for 0.0 degrees +-.1.

5. Move Channel B to the middle pin of JU3 to verify that the filter reads 0.0 degrees +-.1.

   Note: Go back and compensate each adjustment to get the 0.0 degree result.

6. Return the jumpers to their original positions.

5-22. US EDD AGC

Receiver: Envelope Delay Mode
Transmitter: 1804 Hz, 0 dBm, 600 ohms

1. Loop the transmitter output to the receiver input.

2. Monitor A7 TP2 with a DVM and adjust A7R203 (AGC Gain) for 2.19 Vrms +- 50 mV.

3. Change the transmit level to -13 dBm and verify that TP2 still reads 2.19 Vrms + 50 mV. Then go back to 0 dBm and again verify the TP2 level.

3. Connect the counter to A12 TP103-8, labelled 1 Hz.

4. The reading should be 1.0000000 seconds, +-.0000199 seconds Adjust. Adjust A12 if necessary.

5-28. DISPLAY ADJUSTMENTS

First see that the power supplies are within specifications. The values of +5NSY, +12V and -12V will affect the CRT adjustments. Adjust the supplies if necessary (See Power Supply Adjustments).

Magnetic fields from soldering irons, transformers, instruments and other such devices may cause display distortion. Removing these electromagnetic fields should eliminate unwanted distortions. If this is a new CRT/Yoke assembly, be sure to do the phosphor packing before continuing (See CRT Installation in Chapter 6).

The CRT adjustments should be made in the order given below.

1. Turn the instrument on, and select the TEST PATTERN softkey in the CALIBRATE/SELF-CHECK menu. Display the pattern that has the E characters in the inverse video field.

2. If necessary, adjust the HORIZ SIZE (A19 R20) and VERT SIZE (A19 R65) so the entire video display pattern is visible.

3. The displayed video border should be level and parallel with the display bezel. If not, perform the Yoke Adjustment below.

4. Adjust the LINEARITY (A69 R19) control so the top and bottom video softkey characters are the same size.

5. Adjust the VERT SIZE (A19 R65) and VERT POSITION (A19 R48) so the video border is just within the top and bottom edges of the display bezel. Also check to see that the vide softkeys are aligned with the front panel softkeys when viewing the display.

6. Adjust the HORZ SIZE (A19 R20) and HORZ POSITION (A19 R27) so the video border is just within the left and right edges of the display bezel.

7. Using a photometer, adjust the brightness as follows:

   A. Remove the display bezel by releasing the latches on the underside of the bezel.

   B. Carefully remove the glass contrast faceplate, and thoroughly clean both sides of the faceplate and the CRT face with a mild glass cleaner and a lint-free cloth.

   C. Replace the faceplate, coated side out, and snap the bezel back in place by first hooking the top latches then the botton latches.

D. Adjust the INTENSITY (A19 R43) for the desired intensity OR use a photometer and set the intensity for a luminance of 60 +/-2 Candela per square metre (17.5 +/-0.6 Foot-lambert).

Note: The photometer method should be done when there is more than two 4945A'S together in a system.

8. Adjust the FOCUS (A19 R30) so that the dots in the video are sharp and clear (minimum dot size).

5-29. Yoke Adjustment

WARNING

LETHAL VOLTAGES EXIST ON THE POWER SUPPLIES AND IN THE AREA AROUND THE CRT. USE EXTREME CAUTION WHEN SERVICING. ALL AJUSTMENTS SHOUD BE PERFORMED ONLY BY QUALIFIED PERSONNEL.

1. Set the 4945A power switch to "off" and remove the ac power cord.
2. Swing out the power supply on the left side of the instrument to access the CRT yoke.
3. Loosen the yoke clamp.
4. Connect the power cord and set the power switch to on.
5. Display the test pattern (from the Calibrate/Self Test menu).
6. Rotate the yoke until the display is level.
7. Make sure the yoke is positioned forward against the CRT bell and re-tighten the yoke clamp.

SECTION VI
REPLACEABLE PARTS

6-1. INTRODUCTION

This section contains information for ordering parts and assembly removal procedures. Table 6-1 lists reference designators and abbreviations used in the parts list and throughout the manual. Table 6-2 lists all replaceable parts in reference designator order. Table 6-3 gives the names and addresses that correspond to the manufacturer's code numbers. The figures in this chapter are used to identify the mechanical and hardware part you need. Component locators in Section 8 can be used to identify a part on a PC board. After identifying the part in one of the figures, look up the reference designator in the parts list for ordering information.

6-2. EXCHANGE ASSEMBLIES

The 65908A (A28) and the 65909A (A29) power supplies are on the Blue Stripe Exchange program. The exchange numbers are:

65908-69020 for the 65908A supply

65909-69020 for the 65909A supply

6-3. ABBREVIATIONS

Table 6-1 lists the reference designators and abbreviations used in the parts list, the schematics and throughout the manual. The abbreviations in the parts list are always capital letters. In other parts of the manual abbreviations may be used with both lower and upper case letters.

6-4. ORDERING INFORMATION

To order a part on the material lists, quote the Hewlett-Packard part number, indicate the quantity desired, and address the order to the nearest Hewlett-Packard Sales/ Service Office.

To order a part not on the material lists, include the instrument model number, instrument serial number, a description of the part (including its function), and the number of parts required. Address the order to the nearest Hewlett-Packard Sales/ Service Office.

6-5. DIRECT MAIL ORDER SYSTEM

Within the USA, Hewlett-Packard can supply parts through a direct mail order system. Advantages of using this system are:

a. Direct ordering and shipment from the Hewlett-Packard Parts Center in Mountain View, California.
b. No maximum or minimum on any mail order (there is a minimum order amount for parts ordered through a local Hewlett-Packard office when the orders require billing and invoicing).

c. Prepaid transportation (there is a small handling charge for each order).

d. No invoices.

To provide these advantages, a check or money order must accompany each order. Payment must include handling charge and state tax. HewlettPackard is licensed to do business in all 50 states and must collect appropriate state taxes.

Mail order forms and specific ordering information is available through your local Hewlett-Packard office. Addresses and phone numbers are listed at the back of this manual.

Table 6-1. Reference Designators and Abbreviations

REFERENCE DESIGNATORS

A	= assembly	F	= fuse	Q	= transistor; SCR; triode thyristor	U	= integrated circuit; microcircuit
B	= fan; motor	FL	= filter	R	= resistor	V	= electron tube; glow lamp
BT	= battery	H	= hardware	RT	= thermistor	VR	= voltage regulator; breakdown diode
C	= capacitor	J	= electrical connector (stationary portion); jack	S	= switch; jumper	W	= cable
CR	= diode; diode thyristor; varactor	L	= coil; inductor	T	= transformer	X	= socket
DL	= delay line	MP	= misc. mechanical part	TB	= terminal board	Y	= crystal unit (piezo-electric or quartz)
DS	= annunciator; lamp; LED	P	= electrical connector (movable portion); plug	TP	= test point		
E	= misc. electrical part						

ABBREVIATIONS

A	= amperes	DWL	= dowel	MFR	= manufacturer	RND	= round
A/D	= analog-to-digital	ECL	= emitter coupled logic	MICPROC	= microprocessor	ROM	= read-only memory
AC	= alternating current	ELAS	= elastomeric	MINTR	= miniature	RPG	= rotary pulse generator
ADJ	= adjust(ment)	EXT	= external	MISC	= miscellaneous	RX	= receiver
AL	= aluminum	F	= farads; metal film (resistor)	MLD	= molded	S	= Schottky-clamped; seconds (time)
AMPL	= amplifier			MM	= millimeter		
ANLG	= analog	FC	= carbon film/ composition	MO	= metal oxide	SCR	= screw; silicon controlled rectifier
ANSI	= American National Standards Institute			MTG	= mounting		
		FD	= feed	MTLC	= metallic	SEC	= second (time); secondary
ASSY	= assembly	FEM	= female	MUX	= multiplexer	SEG	= segment
ASTIG	= astigmatism	FF	= flip-flop	MW	= milliwatt	SEL	= selector
ASYNCHRO	= asynchronous	FL	= flat	N	= nano (10^{-9})	SGL	= single
ATTEN	= attenuator	FM	= foam;from	NC	= no connection	SHF	= shift
AWG	= American wire gauge	FR	= front	NMOS	= n-channel metal-oxide-semiconductor	SI	= silicon
BAL	= balance	FT	= gain bandwidth product			SIP	= single in-line package
BCD	= binary-coded decimal			NPN	= negative-positive-negative	SKT	= skirt
BD	= board	FW	= full wave			SL	= slide
BFR	= buffer	FXD	= fixed	NPRN	= neoprene	SLDR	= solder
BIN	= binary	GEN	= generator	NRFR	= not recommended for field replacement	SLT	= slot(ted)
BRDG	= bridge	GND	= ground(ed)			SOLD	= solenoid
BSHG	= bushing	GP	= general purpose	NSR	= not separately replaceable	SPCL	= special
BW	= bandwidth	GRAT	= graticule			SQ	= square
C	= ceramic; cermet (resistor)	GRV	= groove	NUM	= numeric	SREG	= shift register
		H	= henries; high	OBD	= order by description	SRQ	= service request
CAL	= calibrate; calibration	HD	= hardware	OCTL	= octal	STAT	= static
CC	= carbon composition	HDND	= hardened	OD	= outside diameter	STD	= standard
CCW	= counterclockwise	HG	= mercury	OP AMP	= operational amplifier	SYNCHRO	= synchronous
CER	= ceramic	HGT	= height	OSC	= oscillator	TA	= tantalum
CFM	= cubic feet/minute	HLCL	= helical	P	= plastic	TBAX	= tubeaxial
CH	= choke	HORIZ	= horizontal	P/O	= part of	TC	= temperature coefficient
CHAM	= chamfered	HP	= Hewlett-Packard	PC	= printed circuit	TD	= time delay
CHAN	= channel	HP-IB	= Hewlett-Packard Interface Bus	PCB	= printed circuit board	THD	= thread(ed)
CHAR	= character			PD	= power dissipation	THK	= thick
CM	= centimeter	HR	= hour(s)	PF	= picofards	THRU	= through
CMOS	= complementary metal-oxide-semiconductor	HV	= high voltage	PI	= plug in	TP	= test point
		HZ	= Hertz	PL	= plate(d)	TPG	= tapping
CMR	= common mode rejection	I/O	= input/output	PLA	= programmable logic array	TPL	= triple
CNDCT	= conductor	IC	= integrated circuit			TRANS	= transformer
CNTR	= counter	ID	= inside diameter	PLST	= plastic	TRIG	= trigger(ed)
CON	= connector	IN	= inch	PNP	= positive-negative-positive	TRMR	= trimmer
CONT	= contact	INCL	= include(s)			TRN	= turn(s)
CRT	= cathode-ray tube	INCAND	= incandescent	POLYE	= polyester	TTL	= transistor-transistor
CW	= clockwise	INP	= input	POS	= positive; position	TX	= transmitter
D	= diameter	INTEN	= intensity	POT	= potentiometer	U	= micro (10^{-6})
D/A	= digital-to-analog	INTL	= internal	POZI	= pozidrive	UL	= Underwriters Laboratory
DAC	= digital-to-analog converter	INV	= inverter	PP	= peak-to-peak	UNREG	= unregulated
		JFET	= junction field-effect transistor	PPM	= parts per million	VA	= voltampere
DARL	= darlington			PRCN	= precision	VAC	= volt, ac
DAT	= data	JKT	= jacket	PREAMP	= preamplifier	VAR	= variable
DBL	= double	K	= kilo (103)	PRGMBL	= programmable	VCO	= voltage-controlled oscillator
DBM	= decibel referenced to 1 mW	L	= low	PRL	= parallel		
		LB	= pound	PROG	= programmable	VDC	= volt, dc
DC	= direct current	LCH	= latch	PSTN	= position	VERT	= vertical
DCDR	= decoder	LCL	= local	PT	= point	VF	= voltage, filtered
DEG	= degree	LED	= light-emitting diode	PW	= potted wirewound	VS	= versus
DEMUX	= demultiplexer	LG	= long	PWR	= power	W	= watts
DET	= detector	LI	= lithium	R-S	= reset-set	W/	= with
DIA	= diameter	LK	= lock	RAM	= random-access memory	W/O	= without
DIP	= dual in-line package	LKWR	= lockwasher	RECT	= rectifier	WW	= wirewound
DIV	= division	LS	= low power Schottky	RET	= retainer	XSTR	= transistor
DMA	= direct memory access	LV	= low voltage	RF	= radio frequency	ZNR	= zener
DPDT	= double-pole, double-throw	M	= mega (10^{6}); megohms; meter (distance)	RGLTR	= regulator	°C	= degree Celsius (Centigrade)
				RGTR	= register		
DRC	= DAC refresh controller	MACH	= machine	RK	= rack	°F	= degree Fahrenheit
DRVR	= driver	MAX	= maximum	RMS	= root-mean-square	°K	= degree Kelvin

6-6. TORQUES FOR HARDWARE

Some of the 4945A screws and nuts must be tightened to specific torque values to prevent damage to the fastener or the chassis. Here is a list of the items that require a specific torques. Also refer to the torque notes on the part locator drawings.

The 10-32 screws holding the handle and the side rails should be tightened to 35 inch pounds.

The following items should be tightened to 21 inch pounds:

- o Screws holding the top and bottom covers and their feet.
- o The six screws that hold the front panel to the chassis.
- o The nuts that hold the 310 connectors to the front panel.
- o The screws that hold the card cage supports to the wire frame.
- o Any screw that uses the wire frame nut clamps. These are on wire frame used to hold several PC boards onto the frame.

The following items should be tightened to 11 inch pounds.

- o All the screws on the rear panel; I/O cover, rear feet, A59 and the screws that hold A18 onto the rear panel.
- o The front panel binding post connectors and the nuts that hold A58.
- o Any screw that uses a sheetmetal nut.

WARNING

REMOVE ANY AC POWER FROM THE 4945A BEFORE REMOVING ANY ASSEMBLY OR PART.

CAUTION

HANDLE THE FLAT, FLEXIBLE RIBBON CABLES CAREFULLY. THE CONNECTORS PROVIDE A LOCK FOR THE CABLES AND THE CABLE ENDS CAN BE DAMAGED WHEN THEY ARE DISCONNECTED.

6-7. POWER SUPPLY REMOVAL

Here are the procedures to remove any one of the power supply assemblies and to swing the assemblies out for adjustment.

65908-69020 Supply (' 15V) Removal

The 65908A Supply is on the bottom of the 4945A. To remove this assembly use the following procedure.

1. Place the 4945A on its rear feet and remove the bottom cover. Refer to Figure 6-1.

2. Cut the two cable ties that hold the power switch cable to the 65908A sheet metal (See Figure 6-1).

3. Remove the four screws marked "A" in Figure 6-1 that hold the 65908A assembly to the chassis.

4. Carefully disconnect the supply from the A20 assembly. Disconnect the cable that plugs into A20 and remove the 65908A assembly.

5. When reinstalling, remember to plug in the cable to A20 and install new cable ties for the power switch cable.

A21 Removal

The A21 board is on the bottom of the 4945A. To remove this assembly use the following procedure.

1. Place the 4945A on its rear feet and remove the bottom cover. Refer to Figure 6-1.

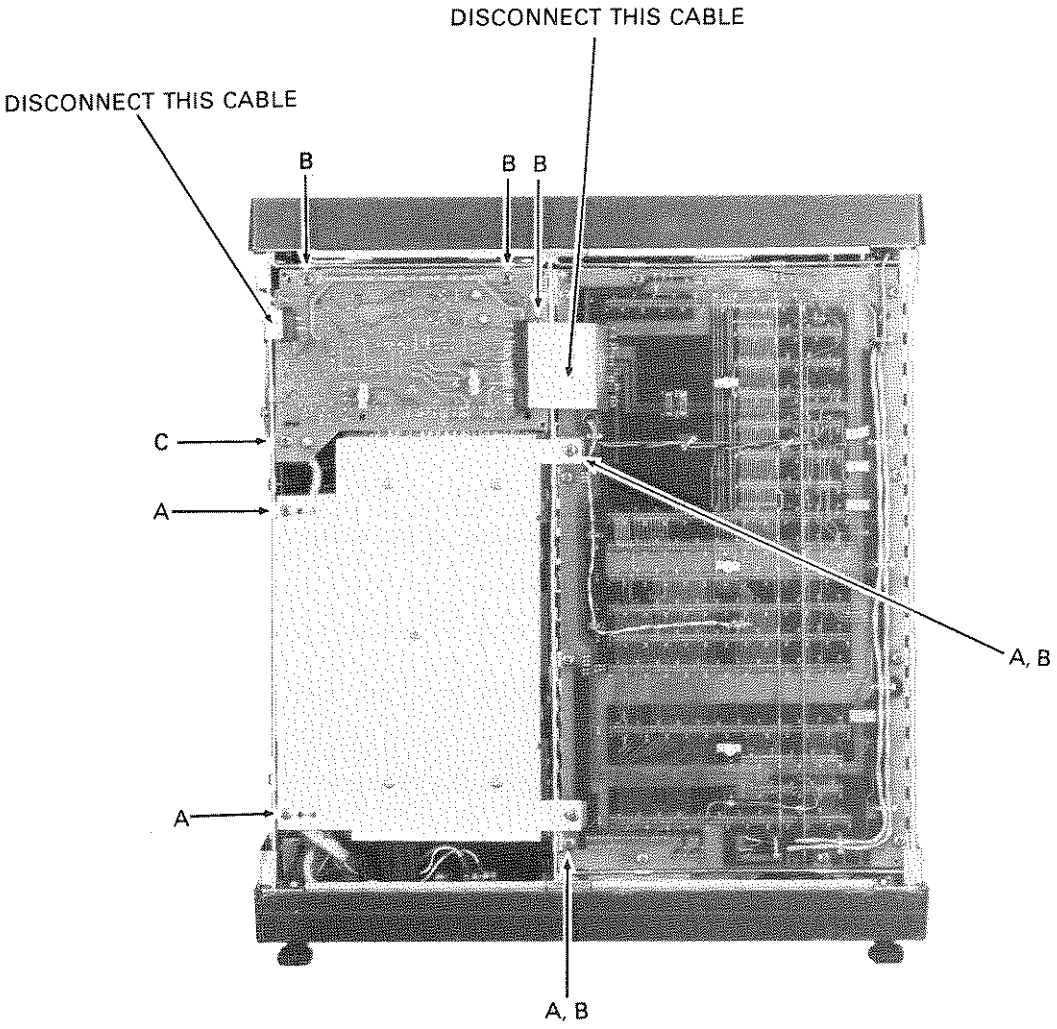
2. Remove the flat ribbon flex-cables (J1 and J2) from the A21 board.

3. Remove the five screws (B) shown in Figure 6-1 to swing out the 65908A and the A21 board.

4. Disconnect the wires from A21 (See Figure 6-2);

   - o Disconnect the four wire cable to A20.
   - o Disconnect the two wire cable to the 65908A.
   - o Unsolder the two sense lines from A20 (white/brown, white/blue).
   - o Unsolder the two sense lines (orange and black wires).
   - o Unsolder the red (+18V) wire).

5. Remove the last screw (C) holding A21 to the chassis and disconnect the board from the 65908A supply.



REMOVE SCREWS MARKED B TO SWING OUT 65908A AND A21.
REMOVE SCREWS MARKED C AND B TO REMOVE A21.
REMOVE SCREWS MARKED A TO REMOVE 65908A.

Figure 6-1. 65908A and A21 Access Screws

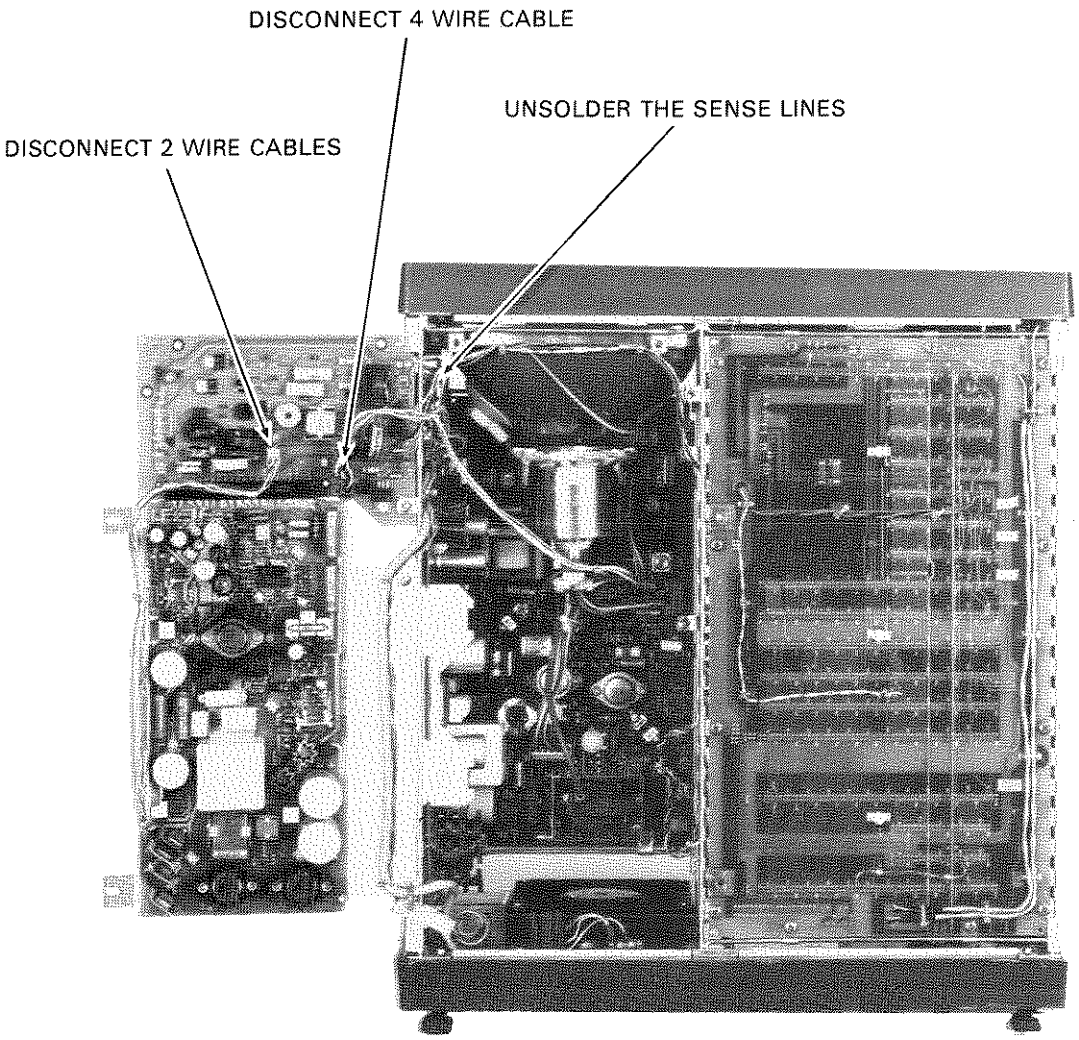


Figure 6-2. A21 Cables

65909-69020 Supply ('12V) Removal

The 65909A Supply is on the left side of the 4945A. To remove this assembly use the following procedure.

1. Set the 4945A on its rear feet and remove the top and bottom covers.

2. Remove the carry handle and the side rail.

3. Remove the four screws marked "A" in Figure 6-3 that hold the 65909A assembly to the chassis.

4. Carefully disconnect the supply from the A20 board and remove the 65909A supply.

A20 Removal

The A20 board is on the left side of the 4945A. To remove this assembly use the following procedure.

1. Set the 4945A on its rear feet and remove the top and bottom covers.

2. Remove the carry handle and the side rail.

3. Switch the power switch to the ON position. Carefully pry the line switch extension shaft from the line switch. Use a screwdriver and pry only on the extension shaft to avoid damaging the line switch mechanism.

4. Remove the cable that connects to the A20 board from A21 (Figure 6-3).

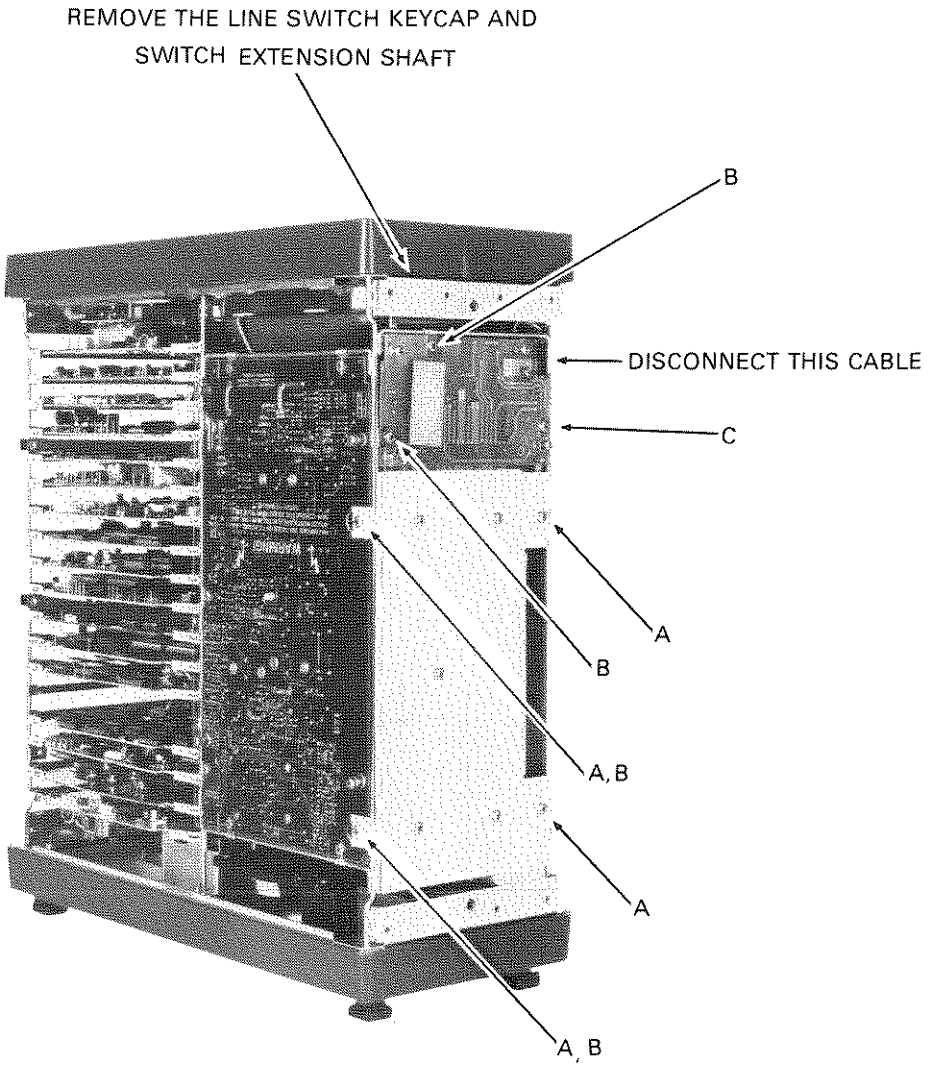
5. Remove the four screws (B) shown in Figure 6-3 and swing out the 65909A and the A20 board.

6. Disconnect the wires from A20 (See Figure 6-4);

   - o Unplug the four wire cable from A21.
   - o Unplug the four wire cable to A19.
   - o Unplug the two wire fan cable.
   - o Unsolder the two sense lines.
   - o Unsolder the power cable from the power switch.

7. Remove the remaining screw (C) that holds the A20 board to the chassis. Remove the A20 board from the 65909A.

8. When reinstalling, check the mechanical operation of the power switch on A20.



REMOVE SCREWS MARKED B TO SWING OUT 65909A AND A20.
REMOVE SCREWS MARKED C AND B TO REMOVE A20.
REMOVE SCREWS MARKED A TO REMOVE 65909A.

Figure 6-3. 65909A and A20 Access Screws

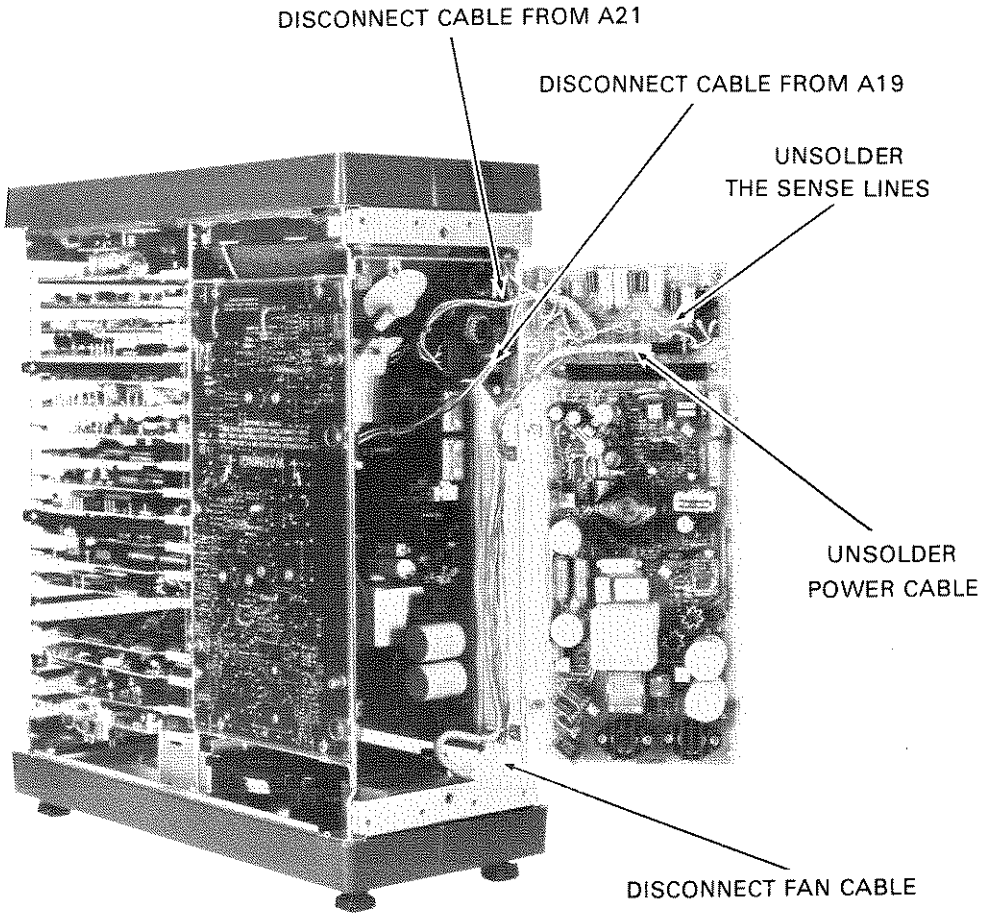


Figure 6-4. A20 Cables

6-8. CRT REMOVAL

WARNING

HAZARDOUS VOLTAGES EXIST ON THE PC BOARDS SURROUNDING THE CRT. TO AVOID ELECTRICAL SHOCK, USE THE FOLLOWING PROCEDURE. WEAR SAFETY GLASSES WHEN HANDLING THE CRT.

THE CRT MAY CHARGE ITSELF WHILE DISCONNECTED.

1. Set the power switch to OFF and disconnect the power cord.

2. Place the instrument face down on a table and remove the top and bottom covers.

3. Remove the five screws (A) shown in Figure 6-1 and remove the ribbon cable from the A21 board so that the 65908A power supply and the A21 board can be swung out of the way (See Figure 6-2).

4. Disconnect the CRT connector from the rear of the CRT and disconnect the yoke cable from the A19 board.

5. Discharge the CRT.

   a. Connect a jumper wire between the metal strap on the CRT and metal shaft of an insulated screwdriver.

   b. Slip the screwdriver tip under the rubber cap of the anode lead and touch the screwdriver tip to the anode connection to discharge the CRT.

6. Remove the anode lead from the CRT.

7. Remove the four screws that hold the CRT to the front panel.

8. Remove the CRT/Yoke assembly through the bottom of the instrument.

6-9. CRT INSTALLATION

If a new CRT/Yoke assembly is to be installed, the CRT phosphor must first be "packed". This must be done before final adjustments are made. Use this procedure to pack the phosphor on a new CRT.

1. With the top cover removed and the power off, turn the display self-test switch (A19 SW1) to the TEST position.

2. Turn the instrument on and see that the raster displayed is level and parallel to the display bezel. If not, adjust the yoke as described in CRT Adjustments, Section 5.

3. Adjust the HORIZONTAL SIZE (A19 R20) and VERTICAL SIZE (A19 R70) so that the entire CRT face is filled with the raster.

4. Adjust the INTENSITY (A19 R43) for maximum brightness.

5. Leave instrument running this way for 15 hours minimum.

6. Return display self-test switch (A19 SW1) to RUN position.

7. Make final diplay adjustments described in CRT Adjustments, Section 5.

6-10. FRONT PANEL REMOVAL

Six screws hold the front panel to the instrument frame. Four of the screws are accessed through the card cage and the other two are accessed through the CRT cage area (See Figure 6-5).

1. Switch the instrument power switch to off and remove the instrument power cord.

2. Place the instrument face down on a table and remove the top, bottom and and right side covers.

3. Some of the pc boards in the card cage must be removed so you can get a screwdriver in to remove four of the screws.

4. Disconnect the cables between the motherboard and the front panel.

5. Remove the four screws (A) shown in Figure 6-3 and swing out the 65909 power supply and the A20 board to access the other two screws. 6. Now, before you get in a hurry, you have to remove the CRT.

7. Lift the instrument from the front panel.

8. When re-assembling, be sure to connect all the ground straps and the front panel cable.

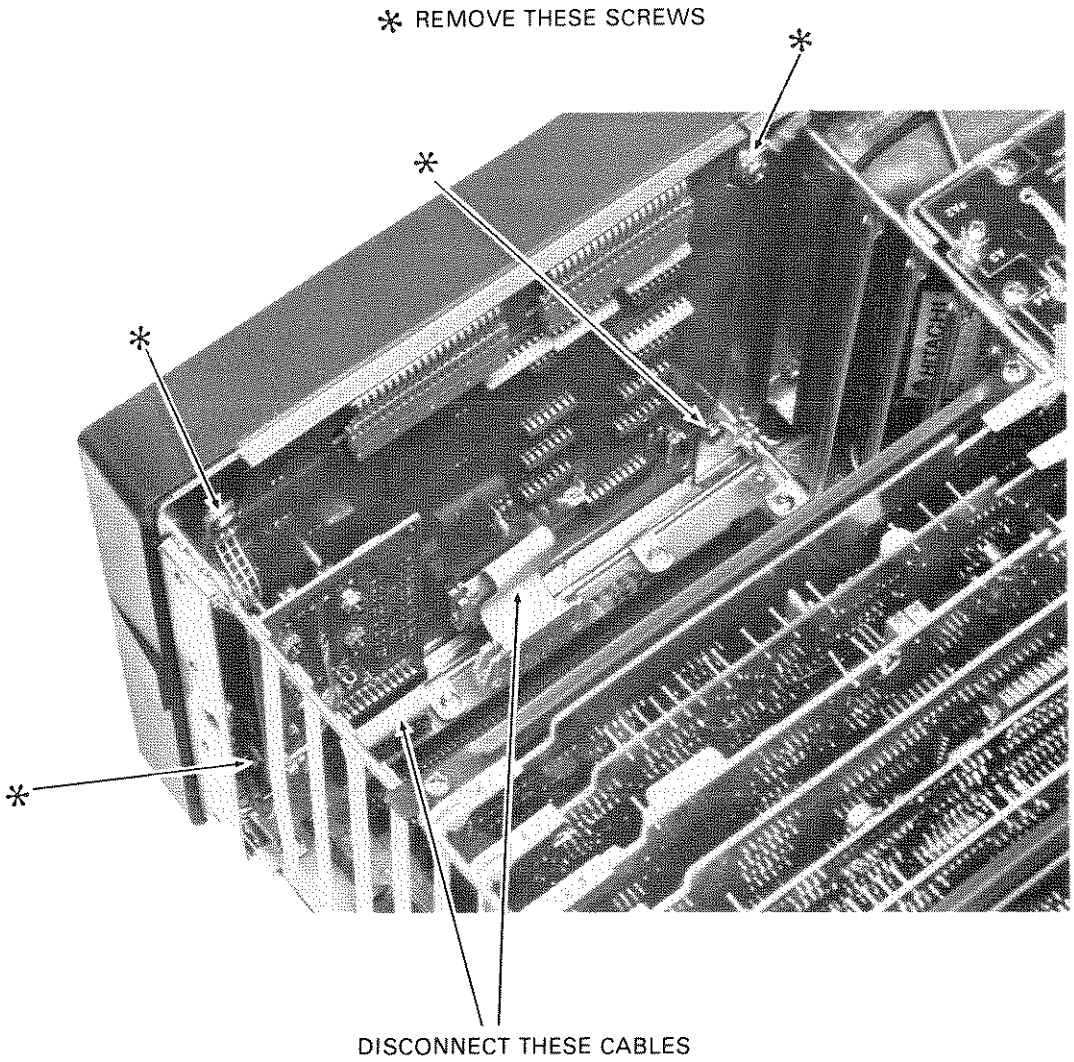


Figure 6-5. Front Panel Screws Accessed From Cardcage

6-11. FRONT PANEL 310 CONNECTOR PRECAUTION

When replacing a 310 connector on the front panel, mount the connector to the front panel first to ensure the proper front panel fit, then install the A58 board and solder the connector. See Figure 6-6.

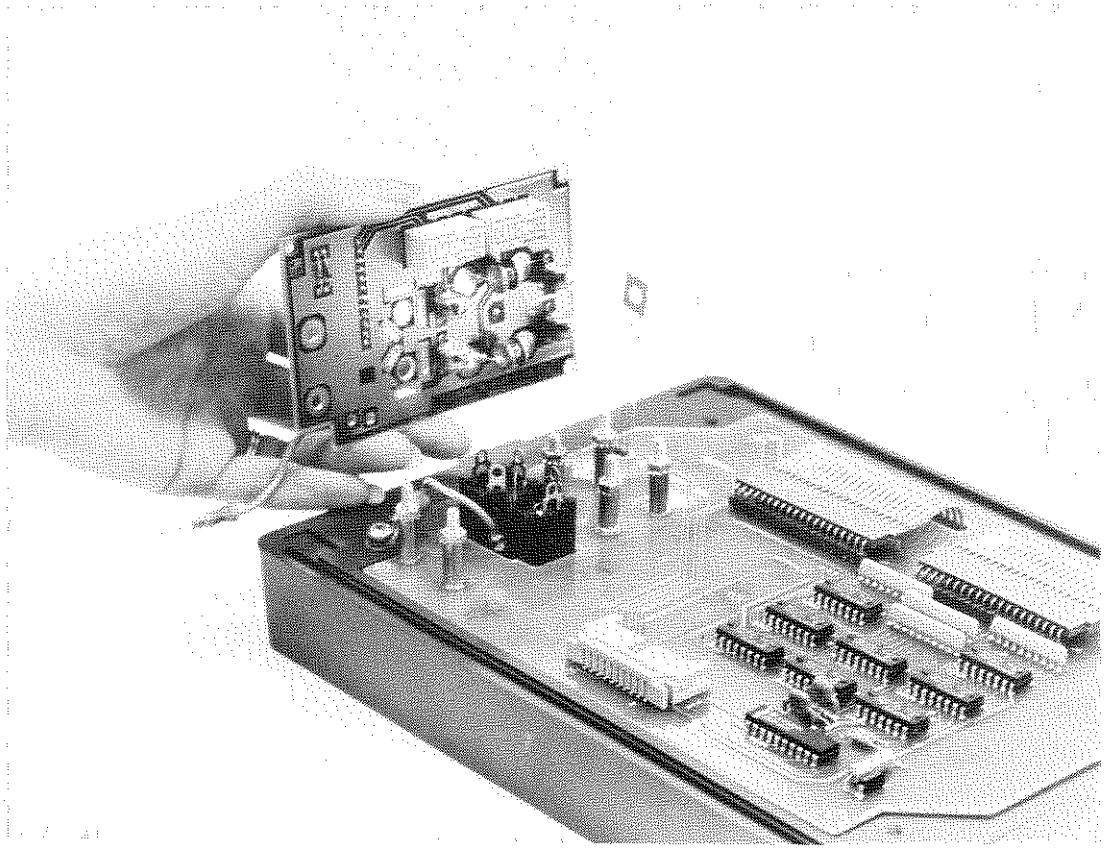


Figure 6-6. 310 Connector Installation

6-12. REAR PANEL COMPONENT ACCESS

The fan and loudspeaker are mounted to the rear panel, which is held to the instrument frame by six screws. A18 is also held to the I/O housing by three screws.

Use this procedure to remove the rear panel and access the rear panel components.

1. Switch the instrument power switch off and remove the instrument power cord.

2. Remove the bottom cover.

3. Place the instrument on a table with the rear panel facing you, with the rear plastic bezel hanging over the edge of the table.

4. If replacing the fan, remove the fan air filter screen held by four thumb nuts and washers.

5. Remove any interfaces or the I/O cover plate and the A59 rear panel connect assembly.

6. Remove the three, 6-32 screws which hold A18 to the I/O housing. Remove the four rear feet and two screws at the upper and lower center of the rear panel.

7. Gently tip out the top of the panel and frame, pivoting on the bottom.

8. Carefully disconnect the speaker wires from the motherboard (A22).

9. Pull the rear panel and frame as far away from the instrument as the cables will allow.

10. Separate the plastic bezel from the sheetmetal panel.

The rear panel components are now accessible for replacement.

When replacing the speaker, be careful not to damage the paper cone in any way.

When replacing the fan, be sure to have the safety screen "sandwitched" between the fan housing and the metal panel. Be sure to thoroughly clean the fan filter screen.

6-13. REPLACEABLE PARTS LIST

Table 6-2 is replaceable parts alphanumerically by reference designator and organized as follows:

a. Electrical assemblies.

b. Chassis mounted parts.

c. Electrical assemblies and their components.

Information for each part consists of:

a. Reference designator.

b. Hewlett-Packard part number.

c. Part number check digit (CD).

d. Total quantity (QTY) in instrument (or assembly). The total quantity is given only once at the first appearance of the part number in the list.

e. Description of part.

f. Typical manufacturer of part in a five-digit code.

g. Manufacturer's part number.

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A1	04945-60001	3	1	RECEIVER INPUT	28480	04945-60001
A1C1	0160-5675	5	1	CAPACITOR-FXD .47UF +-20% 50VDC	28480	0160-5675
A1C2	0160-5332	1	3	CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A1C3	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A1C4	0180-0373	2	1	CAPACITOR-FXD .68UF+-10% 35VDC TA	56289	150D684X9035A2
A1C5	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A1C6	0180-3264	6	1	CAPACITOR-FXD 85UF+75-10% 150VDC AL NPOL	28480	0180-3264
A1C7	0160-0128	3	18	CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C8	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C9	0180-2210	0	4	CAPACITOR-FXD 2UF+50-10% 150VDC AL	56289	30D205F150BB2
A1C10	0180-2210	0		CAPACITOR-FXD 2UF+50-10% 150VDC AL	56289	30D205F150BB2
A1C11	0180-2210	0		CAPACITOR-FXD 2UF+50-10% 150VDC AL	56289	30D205F150BB2
A1C12	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C13	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C14	0160-5298	8	8	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A1C15	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C16	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C17	0160-2265	3	1	CAPACITOR-FXD 22PF +-5% 500VDC CER 01-30	28480	0160-2265
A1C18	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A1C19	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C20	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C21	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C22	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A1C23	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C24	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C25	0180-2210	0		CAPACITOR-FXD 2UF+50-10% 150VDC AL	56289	30D205F150BB2
A1C26	0160-3904	9	2	CAPACITOR-FXD 10UF +-10% 200VDC POLYC	28480	0160-3904
A1C27	0160-3904	9		CAPACITOR-FXD 10UF +-10% 200VDC POLYC	28480	0160-3904
A1C28	0160-0168	1	1	CAPACITOR-FXD .1UF +-10% 200VDC POLYE	28480	0160-0168
A1C29	0160-4808	4	1	CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
A1C30	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A1C31	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C32	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C33	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C34	0180-0553	0	1	CAPACITOR-FXD 22UF+-20% 25VDC TA	28480	0180-0553
A1C35	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A1C36	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C37	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C38	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C39	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A1C40	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A1C41	0180-1746	5	3	CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A1C42	0180-1746	5		CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A1C43	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A1C44	0180-1746	5		CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A1C45	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A1CR1	1901-0040	1	12	DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A1CR2	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A1CR3	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A1CR4	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A1CR5	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A1CR6	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A1CR7	1902-0961	7	6	DIODE-ZNR 13V 5% DO-35 PD=.4W TC=+.082%	28480	1902-0961
A1CR8	1902-0961	7		DIODE-ZNR 13V 5% DO-35 PD=.4W TC=+.082%	28480	1902-0961
A1CR9	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A1CR10	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A1CR11	1902-0961	7		DIODE-ZNR 13V 5% DO-35 PD=.4W TC=+.082%	28480	1902-0961
A1CR12	1902-0961	7		DIODE-ZNR 13V 5% DO-35 PD=.4W TC=+.082%	28480	1902-0961
A1CR13	1901-0732	8	4	DIODE-PWR RECT 1KV 1A	28480	1901-0732
A1CR14	1901-0732	8		DIODE-PWR RECT 1KV 1A	28480	1901-0732
A1CR15	1901-0732	8		DIODE-PWR RECT 1KV 1A	28480	1901-0732
A1CR16	1901-0732	8		DIODE-PWR RECT 1KV 1A	28480	1901-0732
A1CR17	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A1CR18	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A1CR19	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A1CR20	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A1CR21	1902-0961	7		DIODE-ZNR 13V 5% DO-35 PD=.4W TC=+.082%	28480	1902-0961
A1CR22	1902-0961	7		DIODE-ZNR 13V 5% DO-35 PD=.4W TC=+.082%	28480	1902-0961
A1CR23	1902-0962	8	1	DIODE-ZNR 15V 5% DO-35 PD=.4W TC=+.087%	28480	1902-0962
A1CR24	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A1CR25	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A1CR103	1906-0069	4	1	DIODE-FW BRDG 400V 1A	28480	1906-0069
A1HS2	1205-0011	0	2	HEAT SINK TO-5/TO-39-CS	28480	1205-0011
A1HS3	1205-0011	0		HEAT SINK TO-5/TO-39-CS	28480	1205-0011
A1K106	0490-1354	8	5	RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A1K107	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A1K108	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A1K306	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A1K606	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A1P1	1251-7506	9	1	CONN-POST TYPE .100-PIN-SPCG 120-CONT	28480	1251-7506
A1Q1	1854-0643	9	1	TRANSISTOR NPN 2N3585 SI TO-66 PD=35W	3L585	2N3585
A1Q2	1854-0071	7	1	TRANSISTOR NPN SI PD=300MW FT=200MHZ	28480	1854-0071
A1Q3	1854-0575	6	3	TRANSISTOR NPN SI PD=625MW FT=50MHZ	04713	MPS-A42
A1Q4	1854-0575	6		TRANSISTOR NPN SI PD=625MW FT=50MHZ	04713	MPS-A42
A1Q5	1854-0575	6		TRANSISTOR NPN SI PD=625MW FT=50MHZ	04713	MPS-A42
A1Q6	1854-0079	5	4	TRANSISTOR NPN 2N3439 SI TO-5 PD=1W	3L585	2N3439
A1Q7	1854-0079	5		TRANSISTOR NPN 2N3439 SI TO-5 PD=1W	3L585	2N3439
A1Q8	1854-0079	5		TRANSISTOR NPN 2N3439 SI TO-5 PD=1W	3L585	2N3439
A1Q9	1854-0079	5		TRANSISTOR NPN 2N3439 SI TO-5 PD=1W	3L585	2N3439
A1Q10	1853-0281	9	4	TRANSISTOR PNP 2N2907A SI TO-18 PD=400MW	04713	2N2907A
A1Q11	1853-0281	9		TRANSISTOR PNP 2N2907A SI TO-18 PD=400MW	04713	2N2907A
A1Q12	1853-0281	9		TRANSISTOR PNP 2N2907A SI TO-18 PD=400MW	04713	2N2907A
A1Q13	1853-0281	9		TRANSISTOR PNP 2N2907A SI TO-18 PD=400MW	04713	2N2907A
A1Q14	1855-0497	3	1	TRANSISTOR MOSFET N-CHAN E-MODE TO-220	28480	1855-0497
A1Q15	1854-0215	1	1	TRANSISTOR NPN SI PD=350MW FT=300MHZ	04713	2N3904
A1R1	0757-0382	6	1	RESISTOR 16.2 1% .125W F TC=0+-100	19701	MF4C1/8-T0-16R2-F
A1R2	2100-3164	9	1	RESISTOR-TRMR 10 20% C SIDE-ADJ 17-TRN	02111	43P100
A1R3	0698-3453	2	1	RESISTOR 196K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1963-F
A1R4	0698-8826	3	1	RESISTOR 825K 1% .125W F TC=0+-100	28480	0698-8826
A1R5	0698-3459	8	1	RESISTOR 383K 1% .125W F TC=0+-100	28480	0698-3459
A1R6	0757-0199	3	1	RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A1R7	0757-0401	0	21	RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R8	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R9	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R10	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R11	0698-8638	5	6	RESISTOR 3.16K .1% .125W F TC=0+-25	28480	0698-8638
A1R12	0698-3452	1	2	RESISTOR 147K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1473-F
A1R13	0698-8638	5		RESISTOR 3.16K .1% .125W F TC=0+-25	28480	0698-8638
A1R14	0698-8638	5		RESISTOR 3.16K .1% .125W F TC=0+-25	28480	0698-8638
A1R15	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R16	0757-0280	3	4	RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A1R17	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A1R18	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R19	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R20	0698-8638	5		RESISTOR 3.16K .1% .125W F TC=0+-25	28480	0698-8638
A1R21	0698-3452	1		RESISTOR 147K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1473-F
A1R22	0698-4343	1	3	RESISTOR 100 .1% .125W F TC=0+-50	28480	0698-4343
A1R23	0698-4343	1		RESISTOR 100 .1% .125W F TC=0+-50	28480	0698-4343
A1R24	0699-1092	3	2	RESISTOR 600 .25% .5W F TC=0+-50	28480	0699-1092
A1R25	0699-1092	3		RESISTOR 600 .25% .5W F TC=0+-50	28480	0699-1092
A1R26	0699-0658	5	2	RESISTOR 450 .25% .5W F TC=0+-50	28480	0699-0658
A1R27	0699-0658	5		RESISTOR 450 .25% .5W F TC=0+-50	28480	0699-0658
A1R28	0698-8558	8	2	RESISTOR 67.3 .25% .5W F TC=0+-50	28480	0698-8558
A1R29	0698-8558	8		RESISTOR 67.3 .25% .5W F TC=0+-50	28480	0698-8558
A1R30	0699-0657	4	2	RESISTOR 300 .25% .5W F TC=0+-50	28480	0699-0657
A1R31	0699-0657	4		RESISTOR 300 .25% .5W F TC=0+-50	28480	0699-0657
A1R32	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A1R33	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A1R34	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R35	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R36	0698-6446	9	4	RESISTOR 2.162K .1% .125W F TC=0+-25	28480	0698-6446
A1R37	0698-6446	9		RESISTOR 2.162K .1% .125W F TC=0+-25	28480	0698-6446
A1R38	0698-6446	9		RESISTOR 2.162K .1% .125W F TC=0+-25	28480	0698-6446
A1R39	0698-6446	9		RESISTOR 2.162K .1% .125W F TC=0+-25	28480	0698-6446
A1R40	0757-0465	6	3	RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A1R41	0698-8638	5		RESISTOR 3.16K .1% .125W F TC=0+-25	28480	0698-8638
A1R42	0698-8638	5		RESISTOR 3.16K .1% .125W F TC=0+-25	28480	0698-8638
A1R43	0698-6362	8	3	RESISTOR 1K .1% .125W F TC=0+-25	28480	0698-6362
A1R44	0698-6362	8		RESISTOR 1K .1% .125W F TC=0+-25	28480	0698-6362
A1R45	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R46	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A1R47	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A1R48	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R49	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R50	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R51	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R52	0698-6362	8		RESISTOR 1K .1% .125W F TC=0+-25	28480	0698-6362
A1R53	0698-5454	7	2	RESISTOR 9K .1% .125W F TC=0+-50	28480	0698-5454
A1R54	2100-3123	0	1	RESISTOR-TRMR 500 10% C SIDE-ADJ 17-TRN	02111	43P501
A1R55	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R56	0683-2255	9	1	RESISTOR 2.2M 5% .25W FC TC=-900/+1100	01121	CB2255
A1R57	0698-8958	2	2	RESISTOR 511K 1% .125W F TC=0+-100	28480	0698-8958
A1R58	0698-8958	2		RESISTOR 511K 1% .125W F TC=0+-100	28480	0698-8958
A1R59	0698-5454	7		RESISTOR 9K .1% .125W F TC=0+-50	28480	0698-5454
A1R60	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
A1R61	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R62	0698-6344	6	1	RESISTOR 900 .1% .125W F TC=0+-25	28480	0698-6344
A1R63	0698-4343	1		RESISTOR 100 .1% .125W F TC=0+-50	28480	0698-4343
A1R64	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R65	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R66	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R67	0698-0085	0	1	RESISTOR 2.61K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2611-F
A1R68	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A1R701	1810-0231	9	1	NETWORK-RES 8-SIP2.2K OHM X 7	01121	209A222
A1TP1	0380-1682	2	3		28480	0380-1682
A1TP2	0380-1682	2			28480	0380-1682
A1TP3	0380-1682	2			28480	0380-1682
A1U200	1858-0076	0	2	TRANSISTOR ARRAY 14-PIN PLSTC TO-116	04713	MPQ2907P
A1U300	1858-0076	0		TRANSISTOR ARRAY 14-PIN PLSTC TO-116	04713	MPQ2907P
A1U302	1826-0735	1	5	IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A1U400	1810-0037	3	1	NETWORK-RES 16-DIP1.0K OHM X 8	11236	761-3-R1K
A1U402	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A1U500	1820-1216	3	2	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A1U502	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A1U600	1820-1858	9	2	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A1U602	1820-1725	9	1	IC MULTIPLXR ANLG 16-DIP-P PKG	17856	DG508CJ
A1U700	1820-1858	9		IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A1U702	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A1U800	1820-1216	3		IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A1U802	1826-0740	8	1	IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A1U803	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A1U900	1820-1419	8	1	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
A1U906	1826-0915	9	1	IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
	0340-0060	4	1	TERMINAL-STUD SPCL-FDTHRU PRESS-MTG	98291	011-6809 000 209
	0590-0076	1	1	NUT-HEX-PLSTC LKG 4-40-THD .143-IN-THK	28480	0590-0076
	1200-0173	5	4	INSULATOR-XSTR DAP-GL	28480	1200-0173
	1400-0493	6	2	CABLE TIE .062-1.25-DIA .14-WD NYL	06383	PLT1.5-M98
	1480-0116	8	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	2190-0004	9	1	WASHER-LK INTL T NO. 4 .115-IN-ID	28480	2190-0004
	2200-0105	4	1	SCREW-MACH 4-40 .312-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
	2360-0117	6	1	SCREW-MACH 6-32 .375-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
	2420-0023	1	1	NUT-HEX-W/LKWR 6-32-THD .109-IN-THK	28480	2420-0023
	4040-0747	2	1	EXTR-PC BD GRA POLYC .062-BD-THKNS	28480	4040-0747
	5080-8538	0	1	A1-ID LABEL	28480	5080-8538
	04945-00026	6	1	MOUNTING BRKT	28480	04945-00026
	04945-20001	9	1	RCVR INPUT BDBLK	28480	04945-20001

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A2	04945-60002	4	1	FILTER BOARD	28480	04945-60002
A2C1	0160-5298	8	37	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C2	0160-5658	4	9	CAPACITOR-FXD 1700PF +-1% 100VDC CER	28480	0160-5658
A2C3	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C4	0160-5658	4		CAPACITOR-FXD 1700PF +-1% 100VDC CER	28480	0160-5658
A2C5	0160-5332	1	12	CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A2C6	0160-4426	2	10	CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A2C7	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A2C8	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A2C9	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A2C10	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A2C11	0160-0127	2	6	CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A2C12	0160-5659	5	7	CAPACITOR-FXD 2400PF +-1% 100VDC CER	28480	0160-5659
A2C13	0160-5657	3	7	CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A2C14	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C15	0160-5660	8	8	CAPACITOR-FXD 5100PF +-1% 100VDC CER	28480	0160-5660
A2C16	0160-0128	3	1	CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A2C17	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C18	0160-5660	8		CAPACITOR-FXD 5100PF +-1% 100VDC CER	28480	0160-5660
A2C19	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A2C20	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A2C21	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A2C22	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A2C23	0160-0127	2		CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A2C24	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A2C25	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A2C26	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C27	0160-0127	2		CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A2C28	0160-5659	5		CAPACITOR-FXD 2400PF +-1% 100VDC CER	28480	0160-5659
A2C29	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A2C30	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C31	0160-5659	5		CAPACITOR-FXD 2400PF +-1% 100VDC CER	28480	0160-5659
A2C32	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A2C33	0160-5658	4		CAPACITOR-FXD 1700PF +-1% 100VDC CER	28480	0160-5658
A2C34	0160-0127	2		CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A2C35	0160-5660	8		CAPACITOR-FXD 5100PF +-1% 100VDC CER	28480	0160-5660
A2C36	0160-5660	8		CAPACITOR-FXD 5100PF +-1% 100VDC CER	28480	0160-5660
A2C37	0160-5660	8		CAPACITOR-FXD 5100PF +-1% 100VDC CER	28480	0160-5660
A2C38	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A2C39	0160-0127	2		CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A2C40	0160-4535	4	2	CAPACITOR-FXD 1UF +-10% 50VDC CER	28480	0160-4535
A2C41	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C42	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C43	0160-4679	7	1	CAPACITOR-FXD 270PF +-1% 300VDC MICA	28480	0160-4679
A2C44	0160-4535	4	1	CAPACITOR-FXD 1UF +-10% 50VDC CER	28480	0160-4535
A2C45	0160-5654	0	1	CAPACITOR-FXD 680PF +-1% 100VDC MICA	28480	0160-5654
A2C46	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C47	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C48	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C49	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C50	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C51	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C52	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C53	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C54	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C55	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C56	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C57	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A2C58	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A2C59	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A2C60	0160-5659	5		CAPACITOR-FXD 2400PF +-1% 100VDC CER	28480	0160-5659
A2C61	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A2C62	0160-5658	4		CAPACITOR-FXD 1700PF +-1% 100VDC CER	28480	0160-5658
A2C63	0160-5660	8		CAPACITOR-FXD 5100PF +-1% 100VDC CER	28480	0160-5660
A2C64	0160-4567	2	4	CAPACITOR-FXD 3900PF +-1% 100VDC CER	28480	0160-4567
A2C65	0160-5658	4		CAPACITOR-FXD 1700PF +-1% 100VDC CER	28480	0160-5658
A2C66	0160-5658	4		CAPACITOR-FXD 1700PF +-1% 100VDC CER	28480	0160-5658
A2C67	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C68	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C69	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A2C70	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A2C71	0160-4567	2		CAPACITOR-FXD 3900PF +-1% 100VDC CER	28480	0160-4567
A2C72	0160-4535	4		CAPACITOR-FXD 1UF +-10% 50VDC CER	28480	0160-4535
A2C73	0160-5660	8		CAPACITOR-FXD 5100PF +-1% 100VDC CER	28480	0160-5660
A2C74	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A2C75	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A2C76	0160-4567	2		CAPACITOR-FXD 3900PF +-1% 100VDC CER	28480	0160-4567
A2C77	0160-5659	5		CAPACITOR-FXD 2400PF +-1% 100VDC CER	28480	0160-5659
A2C78	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A2C79	0140-0225	9	1	CAPACITOR-FXD 300PF +-1% 300VDC MICA	72136	DM15F301F0300WV1C
A2C80	0160-5660	8		CAPACITOR-FXD 5100PF +-1% 100VDC CER	28480	0160-5660
A2C81	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A2C82	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C83	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C84	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C85	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C86	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C87	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C88	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C89	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C90	0160-0127	2		CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A2C91	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C92	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C93	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C94	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C95	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A2C96	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A2C97	0160-5659	5		CAPACITOR-FXD 2400PF +-1% 100VDC CER	28480	0160-5659
A2C98	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A2C99	0160-4567	2		CAPACITOR-FXD 3900PF +-1% 100VDC CER	28480	0160-4567
A2C100	0160-5658	4		CAPACITOR-FXD 1700PF +-1% 100VDC CER	28480	0160-5658
A2C101	0160-5659	5		CAPACITOR-FXD 2400PF +-1% 100VDC CER	28480	0160-5659
A2C102	0160-5658	4		CAPACITOR-FXD 1700PF +-1% 100VDC CER	28480	0160-5658
A2C103	0160-5658	4		CAPACITOR-FXD 1700PF +-1% 100VDC CER	28480	0160-5658
A2C104	0180-0374	3	3	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A2C105	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C106	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A2C107	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C108	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A2C109	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C110	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A2C111	0160-4463	7	3	CAPACITOR-FXD .1UF +-1% 50VDC MET-POLYC	28480	0160-4463
A2C112	0160-4463	7		CAPACITOR-FXD .1UF +-1% 50VDC MET-POLYC	28480	0160-4463
A2C113	0160-4463	7		CAPACITOR-FXD .1UF +-1% 50VDC MET-POLYC	28480	0160-4463
A2CR1	1990-0810	0	3	LED-LAMP LUM-INT=2.5MCD IF=20MA-MAX	28480	1990-0810
A2CR2	1990-0810	0		LED-LAMP LUM-INT=2.5MCD IF=20MA-MAX	28480	1990-0810
A2CR3	1990-0810	0		LED-LAMP LUM-INT=2.5MCD IF=20MA-MAX	28480	1990-0810
A2JU1	1251-4398	1	1	CONNECTOR SHUNT-4 POSITION	28480	1251-4398
A2P1	1251-7986	9	1	CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7986
A2Q1	1854-0215	1	3	TRANSISTOR NPN SI PD=350MW FT=300MHZ	04713	2N3904
A2Q2	1854-0215	1		TRANSISTOR NPN SI PD=350MW FT=300MHZ	04713	2N3904
A2Q3	1854-0215	1		TRANSISTOR NPN SI PD=350MW FT=300MHZ	04713	2N3904
A2R1	0698-6320	8	2	RESISTOR 5K .1% .125W F TC=0+-25	03888	PME55-1/8-T9-5001-B
A2R2	0698-8784	2	3	RESISTOR 19.6K .1% .125W F TC=0+-25	28480	0698-8784
A2R3	0698-4520	6	2	RESISTOR 143K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1433-F
A2R4	0698-8695	4	2	RESISTOR 36K .1% .125W F TC=0+-25	28480	0698-8695
A2R5	0698-6320	8		RESISTOR 5K .1% .125W F TC=0+-25	03888	PME55-1/8-T9-5001-B
A2R6	0698-8784	2		RESISTOR 19.6K .1% .125W F TC=0+-25	28480	0698-8784
A2R7	0698-4520	6		RESISTOR 143K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1433-F
A2R8	0698-8695	4		RESISTOR 36K .1% .125W F TC=0+-25	28480	0698-8695
A2R9	0698-6360	6	12	RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A2R10	0699-0587	9	2	RESISTOR 12.918K .1% .125W F TC=0+-25	28480	0699-0587
A2R11	0757-0403	2	12	RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A2R12	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A2R13	0699-0586	8	1	RESISTOR 186.365K .1% .125W F TC=0+-25	28480	0699-0586
A2R14	0699-0585	7	1	RESISTOR 240.738K .1% .125W F TC=0+-25	28480	0699-0585
A2R15	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A2R16	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A2R17	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A2R18	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A2R19	0699-0589	1	2	RESISTOR 34.334K .1% .125W F TC=0+-25	28480	0699-0589
A2R20	0699-0589	1		RESISTOR 34.334K .1% .125W F TC=0+-25	28480	0699-0589
A2R21	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A2R22	0699-0592	6	1	RESISTOR 7.741K .1% .125W F TC=0+-25	28480	0699-0592
A2R23	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A2R24	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A2R25	0699-0591	5	1	RESISTOR 140.158K .1% .125W F TC=0+-25	28480	0699-0591

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A2R26	0699-0600	7	1	RESISTOR 100,502K .1% .125W F TC=0+-25	28480	0699-0600
A2R27	0757-0296	5	2	RESISTOR 6.19K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-6191-F
A2R28	0757-0199	3	5	RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A2R29	0757-0296	5		RESISTOR 6.19K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-6191-F
A2R30	0698-6619	8	2	RESISTOR 15K .1% .125W F TC=0+-25	28480	0698-6619
A2R31	0698-6627	8	2	RESISTOR 25K .1% .125W F TC=0+-25	28480	0698-6627
A2R32	0757-0462	3	6	RESISTOR 75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7502-F
A2R33	0698-6619	8		RESISTOR 15K .1% .125W F TC=0+-25	28480	0698-6619
A2R34	0698-6627	8		RESISTOR 25K .1% .125W F TC=0+-25	28480	0698-6627
A2R35	0757-0442	9	4	RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A2R36	0698-3440	7	3	RESISTOR 196 1% .125W F TC=0+-100	24546	C4-1/8-T0-196R-F
A2R37	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A2R38	0698-3440	7		RESISTOR 196 1% .125W F TC=0+-100	24546	C4-1/8-T0-196R-F
A2R39	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A2R40	0698-3440	7		RESISTOR 196 1% .125W F TC=0+-100	24546	C4-1/8-T0-196R-F
A2R41	0699-0588	0	3	RESISTOR 10.171K .1% .125W F TC=0+-25	28480	0699-0588
A2R42	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A2R43	0699-0588	0		RESISTOR 10.171K .1% .125W F TC=0+-25	28480	0699-0588
A2R44	0698-4380	8	3	RESISTOR 16.9K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1692-F
A2R45	0699-0590	4	2	RESISTOR 15.758K .1% .125W F TC=0+-25	28480	0699-0590
A2R46	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A2R47	0699-0590	4		RESISTOR 15.758K .1% .125W F TC=0+-25	28480	0699-0590
A2R48	0757-0289	2	1	RESISTOR 13.3K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-1332-F
A2R49	0757-0462	3		RESISTOR 75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7502-F
A2R50	0699-0593	7	2	RESISTOR 13.665K .1% .125W F TC=0+-25	28480	0699-0593
A2R51	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A2R52	0699-0593	7		RESISTOR 13.665K .1% .125W F TC=0+-25	28480	0699-0593
A2R53	0757-0443	0	1	RESISTOR 11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1102-F
A2R54	0757-0199	3		RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A2R55	0698-6423	2	3	RESISTOR 31.25K .1% .125W F TC=0+-25	28480	0698-6423
A2R56	0698-6423	2		RESISTOR 31.25K .1% .125W F TC=0+-25	28480	0698-6423
A2R57	0698-6624	5	1	RESISTOR 2K .1% .125W F TC=0+-25	28480	0698-6624
A2R58	0698-6963	5	1	RESISTOR 5.55K .1% .125W F TC=0+-25	28480	0698-6963
A2R59	0699-0597	1	3	RESISTOR 2.26K .1% .125W F TC=0+-25	28480	0699-0597
A2R60	0699-0597	1		RESISTOR 2.26K .1% .125W F TC=0+-25	28480	0699-0597
A2R61	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A2R62	0698-8799	9	2	RESISTOR 21.5K .1% .125W F TC=0+-25	28480	0698-8799
A2R63	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A2R64	0699-0597	1		RESISTOR 2.26K .1% .125W F TC=0+-25	28480	0699-0597
A2R65	0757-0199	3		RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A2R66	0699-0596	0	1	RESISTOR 4.12K .1% .125W F TC=0+-25	28480	0699-0596
A2R67	0698-7375	5	1	RESISTOR 20.64K .1% .125W F TC=0+-50	19701	MF4C1/8-T2-20641-B
A2R68	0698-8850	3	1	RESISTOR 41.9K .1% .125W F TC=0+-25	28480	0698-8850
A2R69	0698-6964	6	1	RESISTOR 49.5K .1% .125W F TC=0+-25	28480	0698-6964
A2R70	0698-7382	4	1	RESISTOR 103.5K .1% .125W F TC=0+-50	19701	MF4C1/8-T2-10352-B
A2R71	0757-0199	3		RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A2R72	0757-0462	3		RESISTOR 75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7502-F
A2R73	0757-0462	3		RESISTOR 75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7502-F
A2R74	0698-6446	9	1	RESISTOR 2.162K .1% .125W F TC=0+-25	28480	0698-6446
A2R75	0698-6362	8	1	RESISTOR 1K .1% .125W F TC=0+-25	28480	0698-6362
A2R76	0757-0424	7	1	RESISTOR 1.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1101-F
A2R77	0757-0428	1	1	RESISTOR 1.62K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1621-F
A2R78	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A2R79	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A2R80	0698-3456	5	1	RESISTOR 287K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2873-F
A2R81	0699-0594	8	2	RESISTOR 2.21K .1% .125W F TC=0+-25	28480	0699-0594
A2R82	0699-0594	8		RESISTOR 2.21K .1% .125W F TC=0+-25	28480	0699-0594
A2R83	0698-8337	1	1	RESISTOR 10.7K .1% .125W F TC=0+-50	19701	MF4C1/8-T2-1072-B
A2R84	0699-0754	2	1	RESISTOR 4.99K .1% .125W F TC=0+-25	28480	0699-0754
A2R85	0699-1051	4	1	RESISTOR 92.8K .1% .125W F TC=0+-25	28480	0699-1051
A2R86	0698-6477	6	2	RESISTOR 59.67K .25% .125W F TC=0+-50	28480	0698-6477
A2R87	0698-8799	9		RESISTOR 21.5K .1% .125W F TC=0+-25	28480	0698-8799
A2R88	0698-6423	2		RESISTOR 31.25K .1% .125W F TC=0+-25	28480	0698-6423
A2R89	0698-8696	5	1	RESISTOR 83.9K .1% .125W F TC=0+-25	28480	0698-8696
A2R90	9698-7858	1	1	RESISTOR 9.455K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-9455R-B
A2R91	0698-8885	8	1	RESISTOR 18.35K .1% .125W F TC=0+-25	28480	0698-8885
A2R92	0699-1052	5	1	RESISTOR 146K .1% .125W F TC=0+-25	28480	0699-1052
A2R93	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A2R94	0698-5368	2	1	RESISTOR 3.74K .25% .125W F TC=0+-50	28480	0698-5368
A2R95	0757-0462	3		RESISTOR 75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7502-F
A2R96	0757-0462	3		RESISTOR 75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7502-F
A2R97	0698-6982	2	1	RESISTOR 34K .5% .125W F TC=0+-50	28480	0698-6982
A2R98	0698-3942	4	1	RESISTOR 69.8K .1% .125W F TC=0+-25	28480	0698-3942
A2R99	0698-8784	2		RESISTOR 19.6K .1% .125W F TC=0+-25	28480	0698-8784
A2R100	9698-8077	0	1	RESISTOR 93.1K 1% .125W F TC=0+-100	03888	PME55-1/8-T0-9312-F

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A2R101	0699-0775	7	1	RESISTOR 19.04K .1% .125W F TC=0+-25	28480	0699-0775
A2R102	0699-0588	0		RESISTOR 18.171K .1% .125W F TC=0+-25	28480	0699-0588
A2R103	0698-8858	1	2	RESISTOR 12.4K .1% .125W F TC=0+-25	28480	0698-8858
A2R104	0699-0587	9		RESISTOR 12.918K .1% .125W F TC=0+-25	28480	0699-0587
A2R105	0698-8858	1		RESISTOR 12.4K .1% .125W F TC=0+-25	28480	0698-8858
A2R106	0698-6444	7	1	RESISTOR 21.62K .1% .125W F TC=0+-25	28480	0698-6444
A2R107	0757-0199	3		RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A2R108	0757-0394	0	1	RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A2R109	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A2R110	0698-7318	6	1	RESISTOR 14.45K .25% .125W F TC=0+-50	19701	MF4C1/8-T2-14421-C
A2R111	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A2R112	0698-6935	1	1	RESISTOR 154K .5% .125W F TC=0+-50	28480	0698-6935
A2R113	0698-6477	6		RESISTOR 59.67K .25% .125W F TC=0+-50	28480	0698-6477
A2R114	0698-6917	9	1	RESISTOR 63.4K .5% .125W F TC=0+-50	28480	0698-6917
A2R115	0698-4308	8		RESISTOR 16.9K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1692-F
A2R116	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A2R117	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A2R118	0698-6363	9	1	RESISTOR 40K .1% .125W F TC=0+-25	28480	0698-6363
A2R119	0698-6625	6	1	RESISTOR 6K .1% .125W F TC=0+-25	28480	0698-6625
A2R120	0698-6754	2	1	RESISTOR 44.2K .5% .125W F TC=0+-50	24546	NC4-1/8-T2-4422-D
A2R121	0698-4537	5	1	RESISTOR 357K 1% .125W F TC=0+-100	28480	0698-4537
A2R122	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A2R123	0698-4308	8		RESISTOR 16.9K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1692-F
A2R124	0757-0401	0	1	RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A2R125	0757-0465	6	1	RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A2R126	0698-7934	2	1	RESISTOR 12.1K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-1212-B
A2R127	0699-0517	5	1	RESISTOR 5.621K .1% .1W F TC=0+4	28480	0699-0517
A2R128	0699-0722	4	1	RESISTOR 23.7K .1% .125W F TC=0+-25	28480	0699-0722
A2R129	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A2R130	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A2R131	2100-3103	6	2	RESISTOR-TRMR 10K 10% C SIDE-ADJ 17-TRN	02111	43P103
A2R132	2100-3103	6		RESISTOR-TRMR 10K 10% C SIDE-ADJ 17-TRN	02111	43P103
A2R133	2100-3056	8	3	RESISTOR-TRMR 5K 10% C SIDE-ADJ 17-TRN	02111	43P502
A2R134	2100-3056	8		RESISTOR-TRMR 5K 10% C SIDE-ADJ 17-TRN	02111	43P502
A2R135	2100-3056	8		RESISTOR-TRMR 5K 10% C SIDE-ADJ 17-TRN	02111	43P502
A2R605	1810-0275	1	1	NETWORK-RES 10-SIP1.0K OHM X 9	01121	210A102
A2TP1	1251-4670	2	1	CONNECTOR 3-PIN M POST TYPE	28480	1251-4670
A2TP205	1251-5619	1	1	CONNECTOR 4-PIN M POST TYPE	28480	1251-5619
A2TP305	1251-5618	0	1	CONNECTOR 8-PIN M POST TYPE	28480	1251-5618
A2U101	1826-0753	3	10	IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A2U102	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A2U104	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A2U105	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A2U106	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A2U107	1826-0785	1	5	IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A2U306	1826-0915	9	2	IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A2U400	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A2U401	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A2U402	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A2U403	1826-0915	9		IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A2U405	1820-1725	9	1	IC MULTIPLXR ANLG 16-DIP-P PKG	17856	DG508CJ
A2U406	1826-0748	8	3	IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A2U407	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A2U504	1826-0735	1	1	IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A2U604	1820-1199	1	1	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
A2U606	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A2U607	1826-0740	8		IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A2U700	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A2U701	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A2U702	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A2U704	1820-1419	8	1	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
A2U705	1820-1858	9	1	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A2U706	1826-0740	8		IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A2U707	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A2XU205	1200-0607	0	2	SOCKET-IC 16-CONT DIP DIP-SLDR	28480	1200-0607
A2XU505	1200-0607	0		SOCKET-IC 16-CONT DIP DIP-SLDR	28480	1200-0607
A2XU705	1200-0639	8	1	SOCKET-IC 20-CONT DIP DIP-SLDR	28480	1200-0639
	1480-0116	8	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	5040-6067	2	2	EXTRACTOR PC	28480	5040-6067
	5080-8539	1	1	A2-ID LABEL	28480	5080-8539

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A3	04945-60003	5	1	NLD/MODEM	28480	04945-60003
A3C1	0160-5332	1	29	CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C2	0160-3508	9	3	CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A3C3	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C4	0160-5533	4	3	CAPACITOR-FXD .018UF +-1% 50VDC CER	28480	0160-5533
A3C5	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C6	0160-5267	1	3	CAPACITOR-FXD 4700PF +-5% 50VDC CER	28480	0160-5267
A3C7	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C8	0160-4953	0	2	CAPACITOR-FXD .027UF +-5% 50VDC CER	28480	0160-4953
A3C9	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C10	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C11	0180-0229	7	1	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
A3C12	0180-1746	5	5	CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A3C13	0160-5695	9	5	CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A3C14	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A3C15	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A3C16	0160-0576	5	31	CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C17	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C18	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A3C19	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C20	0160-4696	8	1	CAPACITOR-FXD .018UF +-5% 50VDC	28480	0160-4696
A3C21	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C22	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A3C23	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C24	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C25	0160-5658	4	2	CAPACITOR-FXD 1700PF +-1% 100VDC CER	28480	0160-5658
A3C26	0160-4810	8	2	CAPACITOR-FXD 330PF +-5% 100VDC CER	28480	0160-4810
A3C27	0160-4810	8		CAPACITOR-FXD 330PF +-5% 100VDC CER	28480	0160-4810
A3C28	0160-5658	4		CAPACITOR-FXD 1700PF +-1% 100VDC CER	28480	0160-5658
A3C29	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A3C30	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C31	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C32	0160-5533	4		CAPACITOR-FXD .018UF +-1% 50VDC CER	28480	0160-5533
A3C33	0160-5533	4		CAPACITOR-FXD .018UF +-1% 50VDC CER	28480	0160-5533
A3C34	0160-5771	2	1	CAPACITOR-FXD 8200TF +-5% CER MPO	28480	0160-5771
A3C35	0160-5267	1		CAPACITOR-FXD 4700PF +-5% 50VDC CER	28480	0160-5267
A3C36	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C37	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C38	0160-4378	5	1	CAPACITOR-FXD 1000PF +-5% 200VDC CER	51642	200-200-NP0-102J
A3C39	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C40	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C41	0160-4426	2	11	CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A3C42	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C43	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C44	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A3C45	0160-4567	2	3	CAPACITOR-FXD 3900PF +-1% 100VDC CER	28480	0160-4567
A3C46	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A3C47	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C48	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C49	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C50	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C51	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C52	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A3C53	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A3C54	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A3C55	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C56	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C57	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C58	0160-2265	3	1	CAPACITOR-FXD 22PF +-5% 500VDC CER 0+-30	28480	0160-2265
A3C59	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C60	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C61	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C62	0160-5267	1		CAPACITOR-FXD 4700PF +-5% 50VDC CER	28480	0160-5267
A3C63	0160-4953	0		CAPACITOR-FXD .027UF +-5% 50VDC CER	28480	0160-4953
A3C64	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C65	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C66	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C67	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C68	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C69	0160-4567	2		CAPACITOR-FXD 3900PF +-1% 100VDC CER	28480	0160-4567
A3C70	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A3C71	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A3C72	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C73	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C74	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C75	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C76	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C77	0180-1746	5		CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A3C78	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C79	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C80	0180-1746	5		CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A3C81	0180-1746	5		CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A3C82	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C83	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C84	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A3C85	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C86	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A3C87	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A3C88	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C89	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C90	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C91	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A3C92	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C93	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C94	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C95	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C96	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C97	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C98	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C99	0160-4567	2		CAPACITOR-FXD 3900PF +-1% 100VDC CER	28480	0160-4567
A3C100	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A3C101	0160-0576	5		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-0576
A3C102	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3C103	0180-1746	5		CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A3C104	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A3CR1	1901-0040	1	2	DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A3CR2	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A3P1	1251-7986	9		CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7986
A3Q1	1854-0215	1	2	TRANSISTOR NPN SI PD=350MW FT=300MHZ	04713	2N3904
A3Q2	1854-0215	1		TRANSISTOR NPN SI PD=350MW FT=300MHZ	04713	2N3904
A3R1	0698-3260	9	2	RESISTOR 464K 1% .125W F TC=0+-100	28480	0698-3260
A3R2	0698-8530	6	1	RESISTOR 64.9K .1% .125W F TC=0+-25	28480	0698-8530
A3R3	0698-8958	2	3	RESISTOR 511K 1% .125W F TC=0+-100	28480	0698-8958
A3R4	0757-0447	4	1	RESISTOR 16.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1622-F
A3R5	0757-0464	5	1	RESISTOR 90.9K 1% .125W F TC=0+-100	24546	C4-1/8-T0-9092-F
A3R6	0757-0289	2	1	RESISTOR 13.3K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-1332-F
A3R7	0698-0083	8	5	RESISTOR 1.96K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1961-F
A3R8	0698-0083	8		RESISTOR 1.96K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1961-F
A3R9	2100-3956	8	1	RESISTOR-TRMR 5K 10% C SIDE-ADJ 17-TRN	02111	43P502
A3R10	2100-3123	0	2	RESISTOR-TRMR 500 10% C SIDE-ADJ 17-TRN	02111	43P501
A3R11	0698-6960	2	1	RESISTOR 27K .1% .125W F TC=0+-50	28480	0698-6960
A3R12	2100-3154	7	2	RESISTOR-TRMR 1K 10% C SIDE-ADJ 17-TRN	02111	43P102
A3R13	0698-7143	5	1	RESISTOR 19.3K .1% .125W F TC=0+-25	28480	0698-7143
A3R14	0698-6624	5	8	RESISTOR 2K .1% .125W F TC=0+-25	28480	0698-6624
A3R15	0698-5478	7	1	RESISTOR 111K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1113-F
A3R16	0698-6348	0	5	RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A3R17	0698-4534	2	1	RESISTOR 309K 1% .125W F TC=0+-100	28480	0698-4534
A3R18	0698-6348	0		RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A3R19	0698-6513	1	1	RESISTOR 11.547K .1% .125W F TC=0+-50	28480	0698-6513
A3R20	0698-6624	5		RESISTOR 2K .1% .125W F TC=0+-25	28480	0698-6624
A3R21	0698-6103	5	1	RESISTOR 1.6K .1% .125W F TC=0+-50	28480	0698-6103
A3R22	2100-3123	0		RESISTOR-TRMR 500 10% C SIDE-ADJ 17-TRN	02111	43P501
A3R23	0698-7343	7	1	RESISTOR 78.7K .5% .125W F TC=0+-50	19701	MF4C1/8-T0-7072-D
A3R24	0698-6378	6	1	RESISTOR 14.9K .1% .125W F TC=0+-50	28480	0698-6378
A3R25	0698-4522	8	1	RESISTOR 165K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1653-F
A3R26	0698-6889	4	1	RESISTOR 22.1K .5% .125W F TC=0+-50	28480	0698-6889
A3R27	0698-6624	5		RESISTOR 2K .1% .125W F TC=0+-25	28480	0698-6624
A3R28	0698-8780	8	1	RESISTOR 24.9K .1% .125W F TC=0+-25	28480	0698-8780
A3R29	0698-6624	5		RESISTOR 2K .1% .125W F TC=0+-25	28480	0698-6624
A3R30	0698-7339	1	1	RESISTOR 72K .25% .125W F TC=0+-50	19701	MF4C1/8-T2-7202-C
A3R31	0698-6423	2	3	RESISTOR 31.25K .1% .125W F TC=0+-25	28480	0698-6423
A3R32	2100-3154	7		RESISTOR-TRMR 1K 10% C SIDE-ADJ 17-TRN	02111	43P102
A3R33	0698-0083	8		RESISTOR 1.96K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1961-F
A3R34	0757-0470	3	4	RESISTOR 162K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1623-F
A3R35	0757-0470	3		RESISTOR 162K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1623-F

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A3R36	0757-0394	0	1	RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A3R37	0698-3446	3	1	RESISTOR 383 1% .125W F TC=0+-100	24546	C4-1/8-T0-383R-F
A3R38	0698-3260	9		RESISTOR 464K 1% .125W F TC=0+-100	28480	0698-3260
A3R39	0757-0478	3		RESISTOR 162K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1623-F
A3R40	0757-0470	3		RESISTOR 162K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1623-F
A3R41	0698-6248	9	1	RESISTOR 400K 1% .125W F TC=0+-100	28480	0698-6248
A3R42	0699-0647	2	1	RESISTOR 40.11K .1% .125W F TC=0+-25	28480	0699-0647
A3R43	0698-0083	8		RESISTOR 1.96K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1961-F
A3R44	0698-0892	9	1	RESISTOR 2.61K 1% .125W F TC=0+-25	03888	PME55-1/8-T0-2611-F
A3R45	0698-3453	2	1	RESISTOR 196K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1963-F
A3R46	0698-6353	7	4	RESISTOR 50K .1% .125W F TC=0+-25	28480	0698-6353
A3R47	0698-6353	7		RESISTOR 50K .1% .125W F TC=0+-25	28480	0698-6353
A3R48	0698-6624	5		RESISTOR 2K .1% .125W F TC=0+-25	28480	0698-6624
A3R49	0699-0721	3	1	RESISTOR 33K .1% .125W F TC=0+-25	28480	0699-0721
A3R50	0698-7318	6	1	RESISTOR 14.45K .25% .125W F TC=0+-50	19701	MF4C1/8-T2-14421-C
A3R51	0698-6624	5		RESISTOR 2K .1% .125W F TC=0+-25	28480	0698-6624
A3R52	0698-6895	2	1	RESISTOR 27.7K .5% .125W F TC=0+-50	28480	0698-6895
A3R53	0698-6360	6	11	RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A3R54	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A3R55	0698-6348	0		RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A3R56	0698-8063	4	1	RESISTOR 5.23K 1% .125W F TC=0+-100	91637	CMF-1/8-T1-5231-F
A3R57	0699-0248	9	1	RESISTOR 387K .5% .125W F TC=0+-50	28480	0699-0248
A3R58	0698-6894	1	1	RESISTOR 27.1K .5% .125W F TC=0+-50	28480	0698-6894
A3R59	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A3R60	0698-8641	0	1	RESISTOR 47.5K .1% .125W F TC=0+-25	28480	0698-8641
A3R61	0698-8167	5	1	RESISTOR 18K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-1802-B
A3R62	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A3R63	0698-6887	2	1	RESISTOR 20.8K .5% .125W F TC=0+-50	28480	0698-6887
A3R64	0698-3382	6	1	RESISTOR 5.49K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5491-F
A3R65	0698-6348	0		RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A3R66	0698-6348	0		RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A3R67	0699-0633	6	1	RESISTOR 2.475K .1% .125W F TC=0+-25	28480	0699-0633
A3R68	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A3R69	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A3R70	0698-6363	9	1	RESISTOR 40K .1% .125W F TC=0+-25	28480	0698-6363
A3R71	0699-0597	1	1	RESISTOR 2.26K .1% .125W F TC=0+-25	28480	0699-0597
A3R72	0698-6914	6	1	RESISTOR 55.6K .5% .125W F TC=0+-50	28480	0698-6914
A3R73	0698-4519	3	1	RESISTOR 149K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1403-F
A3R74	0698-6358	2	4	RESISTOR 100K .1% .125W F TC=0+-25	28480	0698-6358
A3R75	0698-8958	2		RESISTOR 511K 1% .125W F TC=0+-100	28480	0698-8958
A3R76	0698-0083	8		RESISTOR 1.96K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1961-F
A3R77	0698-8958	2		RESISTOR 511K 1% .125W F TC=0+-100	28480	0698-8958
A3R78	0698-6630	3	1	RESISTOR 20K .1% .125W F TC=0+-25	28480	0698-6630
A3R79	0698-6671	2	1	RESISTOR 7K .25% .125W F TC=0+-25	28480	0698-6671
A3R80	0698-6353	7		RESISTOR 50K .1% .125W F TC=0+-25	28480	0698-6353
A3R81	0698-6353	7		RESISTOR 50K .1% .125W F TC=0+-25	28480	0698-6353
A3R82	0698-6624	5		RESISTOR 2K .1% .125W F TC=0+-25	28480	0698-6624
A3R83	0698-8854	7	1	RESISTOR 17.17K .1% .125W F TC=0+-25	28480	0698-8854
A3R84	0699-0768	8	1	RESISTOR 22.6K .1% .125W F TC=0+-25	28480	0699-0768
A3R85	0698-8803	6	1	RESISTOR 5.9K .1% .125W F TC=0+-25	28480	0698-8803
A3R86	0698-6627	8	1	RESISTOR 25K .1% .125W F TC=0+-25	28480	0698-6627
A3R87	0699-0626	7	1	RESISTOR 3.056K .1% .125W F TC=0+-25	28480	0699-0626
A3R88	0698-6624	5		RESISTOR 2K .1% .125W F TC=0+-25	28480	0698-6624
A3R89	0757-0403	2	5	RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A3R90	0698-6358	2		RESISTOR 100K .1% .125W F TC=0+-25	28480	0698-6358
A3R91	0698-6358	2		RESISTOR 100K .1% .125W F TC=0+-25	28480	0698-6358
A3R92	0698-6358	2		RESISTOR 100K .1% .125W F TC=0+-25	28480	0698-6358
A3R93	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A3R94	0698-7842	1	1	RESISTOR 26.1K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-2612-B
A3R95	0699-0766	6	1	RESISTOR 21.3K .1% .125W F TC=0+-25	28480	0699-0766
A3R96	0698-8724	0	1	RESISTOR 16.06K .25% .125W F TC=0+-50	28480	0698-8724
A3R97	0698-6629	0	3	RESISTOR 60K .1% .125W F TC=0+-25	28480	0698-6629
A3R98	0698-6629	0		RESISTOR 60K .1% .125W F TC=0+-25	28480	0698-6629
A3R99	0698-8012	9	2	RESISTOR 38.0K .5% .125W F TC=0+-50	19701	MF4C1/8-T2-3802-D
A3R100	0698-8012	9		RESISTOR 38.0K .5% .125W F TC=0+-50	19701	MF4C1/8-T2-3802-D
A3R101	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A3R102	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A3R103	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A3R104	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A3R105	0698-7322	2	1	RESISTOR 4.25K .25% .125W F TC=0+-25	19701	MF4C1/8-T9-4251-C
A3R106	0698-8336	0	1	RESISTOR 3.55K .1% .125W F TC=0+-50	19701	MF4C1/8-T2-3551-B
A3R107	0698-6423	2		RESISTOR 31.25K .1% .125W F TC=0+-25	28480	0698-6423
A3R108	0698-6629	0		RESISTOR 60K .1% .125W F TC=0+-25	28480	0698-6629
A3R109	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A3R110	0698-6362	8	1	RESISTOR 1K .1% .125W F TC=0+-25	28480	0698-6362

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A3R111	0698-6344	6	1	RESISTOR 900 .1% .125W F TC=0+-25	28480	0698-6344
A3R112	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A3R113	0698-6423	2		RESISTOR 31.25K .1% .125W F TC=0+-25	28480	0698-6423
A3R114	0699-0672	3	1	RESISTOR 9.214K .1% .125W F TC=0+-25	28480	0699-0672
A3R115	0698-6343	5	1	RESISTOR 9K .1% .125W F TC=0+-25	28480	0698-6343
A3R116	0757-0442	9		RES?	28480	0757-0442
A3R117	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A3R118	0698-3455	4	1	RESISTOR 261K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2613-F
A3R119	0757-0442	9		RESISTOR 10K 1% .125W F TC=0±100	28480	0757-0442
A3R702	1810-0231	9	1	NETWORK-RES 8-SIP2.2K OHM X 7	01121	208A222
A3TP1	0360-1682	0	6	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A3TP2	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A3TP3	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A3TP4	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A3TP5	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A3TP6	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A3U100	1826-1002	7	3	IC PL LOOP 14-DIP-P PKG	28480	1826-1002
A3U101	1826-0219	6	1	IC PL LOOP 8-DIP-P PKG	18324	NE567V
A3U105	1826-0753	3	7	IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A3U107	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A3U201	1826-0785	1	4	IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A3U204	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A3U208	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A3U300	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A3U302	1826-1002	7		IC PL LOOP 14-DIP-P PKG	28480	1826-1002
A3U306	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A3U400	1820-1977	3	1	IC OSC ECL	04713	MC12061P
A3U402	1826-1002	7		IC PL LOOP 14-DIP-P PKG	28480	1826-1002
A3U404	1826-0740	8	4	IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A3U405	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A3U406	1826-0740	8		IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A3U408	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A3U500	1820-1432	5	2	IC CNTR TTL LS BIN SYNCHRO POS-EDGE-TRIG	01295	SN74LS163AN
A3U501	1820-1197	9	2	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
A3U502	1820-2096	9	1	IC CNTR TTL LS BIN DUAL 4-BIT	01295	SN74LS393N
A3U504	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A3U505	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A3U600	1820-1432	5		IC CNTR TTL LS BIN SYNCHRO POS-EDGE-TRIG	01295	SN74LS163AN
A3U601	1820-1199	1	1	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
A3U607	1826-0667	8	1	IC OP AMP LOW-BIAS-H-IMPD 8-DIP-P PKG	27014	LF351N
A3U608	1826-0740	8		IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A3U700	1820-1491	6	1	IC BFR TTL LS NON-INV HEX 1-INP	01295	SN74LS367AN
A3U702	1820-1197	9		IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
A3U705	1826-0740	8		IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A3U800	1820-1419	8	1	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
A3U803	1820-1858	9	1	IC FF TTL LS D-TYPE CCTL	01295	SN74LS377N
A3VR1	1990-0449	1	1	OPTO-ISOLATOR LED-PCNDCT IF=50MA-MAX	03911	CLM9000
A3XU802	1200-0607	0	1	SOCKET-IC 16-CONT DIP DIP-SLDR	28480	1200-0607
A3XU803	1200-0639	9	1	SOCKET-IC 20-CONT DIP DIP-SLDR	28480	1200-0639
A3Y1	0410-1400	7	1	CRYSTAL-QUARTZ 8.015MHZ HC-18/U-HLDR	28480	0410-1400
	1251-7986	9	2	CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7986
	1480-0116	8	1	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	4040-0747	2	1	EXTR-PC BD GRA POLYC .062-BD-THKNS	28480	4040-0747
	5080-8540	4	1	A3-ID LABEL	28480	5080-8540
	04945-20003	1	1	NLD/MODEM BD BLK	28480	04945-20003

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A4	04945-60004	6	1	AUTORANGE AMP	28480	04945-60004
A4C1	0160-4786	7	1	CAPACITOR-FXD 27PF +-5% 100VDC CER 0+-30	28480	0160-4786
A4C2	0160-5298	8	56	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C3	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C4	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C5	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C6	0160-3291	7	2	CAPACITOR-FXD 1200PF +-1% 100VDC MICA	28480	0160-3291
A4C7	0160-0340	1	1	CAPACITOR-FXD 600PF +-1% 300VDC MICA	28480	0160-0340
A4C8	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C9	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C10	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C11	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C12	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C13	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C14	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C15	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C16	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C17	0140-0221	5	1	CAPACITOR-FXD 220PF +-1% 300VDC MICA	72136	DM15F221F0300WV1C
A4C18	0160-4136	1	1	CAPACITOR-FXD 3300PF +-1% 500VDC MICA	28480	0160-4136
A4C19	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C20	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C21	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C22	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C23	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C24	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C25	0160-0128	3	2	CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A4C26	0160-3482	8	1	CAPACITOR-FXD 430PF +-1% 300VDC MICA	28480	0160-3482
A4C27	0140-0177	0	1	CAPACITOR-FXD 460PF +-1% 300VDC MICA	72136	DM15F401F0300WV1CR
A4C28	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C29	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C30	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C31	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C32	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C33	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C34	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C35	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C36	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C37	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C38	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C39	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C40	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C41	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C42	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A4C43	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C44	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C45	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C46	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C47	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C48	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C49	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C50	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C51	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C52	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C53	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C54	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C55	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C56	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C57	0160-4426	2	2	CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A4C58	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C59	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C60	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C61	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C62	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C63	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C64	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C65	0180-2249	5	2	CAPACITOR-FXD 47UF+-10% 20VDC TA	56289	150D476X9020R2
A4C66	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A4C67	0160-3291	7		CAPACITOR-FXD 1200PF +-1% 100VDC MICA	28480	0160-3291
A4C68	0160-5533	4	1	CAPACITOR-FXD .015UF +-1% 50VDC CER	28480	0160-5533
A4C69	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A4C70	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A4C71	0180-0374	3	3	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A4C72	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A4C73	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A4C74	0180-2249	5		CAPACITOR-FXD 47UF+-10% 20VDC TA	56289	150D476X9020R2
A4CR1	1901-0518	8	1	DIODE-SM SIG SCHOTTKY	28480	1901-0518
A4CR2	1901-0050	3	6	DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A4CR3	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A4CR4	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A4CR5	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A4CR6	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A4CR7	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A4P1	1251-7986	9	1	CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7986
A4R1	0698-7847	6	5	RESISTOR 1.111K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-1111R-B
A4R2	0698-6360	6	8	RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A4R3	0699-0020	5	4	RESISTOR 1.31991K .1% .125W F TC=0+-25	28480	0699-0020
A4R4	0699-0020	5		RESISTOR 1.31991K .1% .125W F TC=0+-25	28480	0699-0020
A4R5	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A4R6	0698-7847	6		RESISTOR 1.111K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-1111R-B
A4R7	0699-0020	5		RESISTOR 1.31991K .1% .125W F TC=0+-25	28480	0699-0020
A4R8	0699-0020	5		RESISTOR 1.31991K .1% .125W F TC=0+-25	28480	0699-0020
A4R9	0698-3162	0	1	RESISTOR 46.4K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4642-F
A4R10	0698-0085	0	3	RESISTOR 2.61K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2611-F
A4R11	0698-0085	0		RESISTOR 2.61K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2611-F
A4R12	0698-8638	5	2	RESISTOR 3.16K .1% .125W F TC=0+-25	28480	0698-8638
A4R13	0698-6445	8	6	RESISTOR 6.838K .1% .125W F TC=0+-25	28480	0698-6445
A4R14	0698-8638	5		RESISTOR 3.16K .1% .125W F TC=0+-25	28480	0698-8638
A4R15	0698-7847	6		RESISTOR 1.111K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-1111R-B
A4R16	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A4R17	0698-6445	8		RESISTOR 6.838K .1% .125W F TC=0+-25	28480	0698-6445
A4R18	0698-6445	8		RESISTOR 6.838K .1% .125W F TC=0+-25	28480	0698-6445
A4R19	0698-6446	9	4	RESISTOR 2.162K .1% .125W F TC=0+-25	28480	0698-6446
A4R20	0698-6447	0	2	RESISTOR 683.8 .1% .125W F TC=0+-25	28480	0698-6447
A4R21	0698-7585	9	2	RESISTOR 316.2 .1% .125W F TC=0+-25	19701	MF4C1/8-T9-316R2-B
A4R22	0698-6445	8		RESISTOR 6.838K .1% .125W F TC=0+-25	28480	0698-6445
A4R23	0698-6446	9		RESISTOR 2.162K .1% .125W F TC=0+-25	28480	0698-6446
A4R24	0698-6447	0		RESISTOR 683.8 .1% .125W F TC=0+-25	28480	0698-6447
A4R25	0698-7585	9		RESISTOR 316.2 .1% .125W F TC=0+-25	19701	MF4C1/8-T9-316R2-B
A4R26	0698-7847	6		RESISTOR 1.111K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-1111R-B
A4R27	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A4R28	0698-6445	8		RESISTOR 6.838K .1% .125W F TC=0+-25	28480	0698-6445
A4R29	0698-6446	9		RESISTOR 2.162K .1% .125W F TC=0+-25	28480	0698-6446
A4R30	0698-6362	8	2	RESISTOR 1K .1% .125W F TC=0+-25	28480	0698-6362
A4R31	0698-0085	0		RESISTOR 2.61K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2611-F
A4R32	0698-6362	8		RESISTOR 1K .1% .125W F TC=0+-25	28480	0698-6362
A4R33	0698-6446	9		RESISTOR 2.162K .1% .125W F TC=0+-25	28480	0698-6446
A4R34	0698-6445	8		RESISTOR 6.838K .1% .125W F TC=0+-25	28480	0698-6445
A4R35	0698-4037	0	8	RESISTOR 46.4 1% .125W F TC=0+-100	24546	C4-1/8-T0-46R4-F
A4R36	0698-4037	0		RESISTOR 46.4 1% .125W F TC=0+-100	24546	C4-1/8-T0-46R4-F
A4R37	0698-4037	0		RESISTOR 46.4 1% .125W F TC=0+-100	24546	C4-1/8-T0-46R4-F
A4R38	0698-7847	6		RESISTOR 1.111K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-1111R-B
A4R39	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A4R40	0698-4037	0		RESISTOR 46.4 1% .125W F TC=0+-100	24546	C4-1/8-T0-46R4-F
A4R41	0757-0438	3	1	RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A4R42	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A4R43	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A4R44	0698-4037	0		RESISTOR 46.4 1% .125W F TC=0+-100	24546	C4-1/8-T0-46R4-F
A4R45	0698-4037	0		RESISTOR 46.4 1% .125W F TC=0+-100	24546	C4-1/8-T0-46R4-F
A4R46	0699-1099	0	1	RESISTOR 60.79K .1% .125W F TC=0+-25	28480	0699-1099
A4R47	0699-1100	4	1	RESISTOR 6.984K .1% .125W F TC=0+-25	28480	0699-1100
A4R48	0698-8831	0	1	RESISTOR 13.4K .1% .125W F TC=0+-10	28480	0698-8831
A4R49	0698-4037	0		RESISTOR 46.4 1% .125W F TC=0+-100	24546	C4-1/8-T0-46R4-F
A4R50	0698-4037	0		RESISTOR 46.4 1% .125W F TC=0+-100	24546	C4-1/8-T0-46R4-F
A4R51	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A4R52	0698-6673	4	1	RESISTOR 63K 1% .125W F TC=0+-50	28480	0698-6673
A4R53	0699-0722	4	1	RESISTOR 23.7K .1% .125W F TC=0+-25	28480	0699-0722
A4TP1-A4TP6	1251-5838	8	6	CONNECTOR 6-PIN M POST TYPE	22526	65500-106
A4U102	1826-0861	4	1	IC CONV 10-B-D/A 16-DIP-P PKG	24355	AD7533LN
A4U104	1826-0915	9	5	IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A4U106	1826-0735	1	9	IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A4U108	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A4U201	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A4U202	1820-1997	7	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
A4U204	1826-0915	9		IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A4U206	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A4U302	1820-1858	9	4	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A4U304	1826-0609	8	4	IC MULTIPLXR ANLG 16-DIP-C PKG	06665	MUX08FQ
A4U306	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A4U308	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A4U402	1820-1858	9		IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A4U404	1826-0915	9		IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A4U406	1826-0609	8		IC MULTIPLXR ANLG 16-DIP-C PKG	06665	MUX08FQ
A4U408	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A4U502	1820-1858	9		IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A4U504	1826-0915	9		IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A4U506	1826-0982	0	3	IC OP AMP LOW-NOISE 8-DIP-C PKG	28480	1826-0982
A4U508	1826-0982	0		IC OP AMP LOW-NOISE 8-DIP-C PKG	28480	1826-0982
A4U602	1820-1858	9		IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A4U604	1826-0915	9		IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A4U606	1826-0982	0		IC OP AMP LOW-NOISE 8-DIP-C PKG	28480	1826-0982
A4U608	1826-1048	1	1	IC OP AMP PRCN 8-DIP-C PKG	28480	1826-1048
A4U702	1820-1216	3	1	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A4U704	1826-0748	8	2	IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A4U706	1826-0748	8		IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A4U708	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A4U802	1820-1419	8	1	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
A4U804	1826-0609	8		IC MULTIPLXR ANLG 16-DIP-C PKG	06665	MUX08FQ
A4U806	1826-0609	8		IC MULTIPLXR ANLG 16-DIP-C PKG	06665	MUX08FQ
A4U808	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A4U901	1826-0753	3	1	IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A4U902	1820-1197	9	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
	1480-0116	8	1	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	4040-0747	2	1	EXTR-PC BD GRA POLYC .062-BD-THKNS	28480	4040-0747
	5080-8541	5	1	A4-ID LABEL	28480	5080-8541

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A5	04945-60005	7	1	DETECTOR BOARD	28480	04945-60005
A5C1	0180-0374	3	9	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A5C2	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A5C3	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A5C4	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A5C5	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A5C6	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A5C7	0160-4426	2	3	CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A5C8	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A5C9	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A5C10	0160-5298	8	52	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C11	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C12	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C13	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C14	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C15	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C16	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C17	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C18	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C19	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C20	0160-4786	7	1	CAPACITOR-FXD 27PF +-5% 100VDC CER 0+-30	28480	0160-4786
A5C22	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C23	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C24	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C25	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C26	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C27	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C28	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C29	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C30	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C31	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C32	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C33	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C34	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C35	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C36	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C37	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C38	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C39	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C40	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C41	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C42	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C43	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C44	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C45	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C46	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C47	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C48	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C49	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C50	0180-0100	3	1	CAPACITOR-FXD 4.7UF+-10% 35VDC TA	56289	150D475X9035B2
A5C51	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C52	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C53	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C54	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C55	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C56	0160-0128	3	6	CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A5C57	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C58	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C59	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C60	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C61	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A5C62	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A5C63	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A5C64	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A5C65	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A5C66	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A5C67	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A5C68	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C69	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C70	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C71	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A5C72	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A5C73	0160-0128	3		CAPACITOR-FXD 2.2UF +-20% 50VDC CER	28480	0160-0128
A5C74	0180-0291	3	2	CAPACITOR-FXD 1UF+-10% 35VDC TA	56289	150D105X9035A2
A5C75	0180-0291	3		CAPACITOR-FXD 1UF+-10% 35VDC TA	56289	150D105X9035A2
A5CR1	1901-0376	6	5	DIODE-GEN PRP 35V 50MA DO-35	28480	1901-0376
A5CR2	1901-0376	6		DIODE-GEN PRP 35V 50MA DO-35	28480	1901-0376
A5CR3	1901-0376	6		DIODE-GEN PRP 35V 50MA DO-35	28480	1901-0376
A5CR4	1901-0376	6		DIODE-GEN PRP 35V 50MA DO-35	28480	1901-0376
A5CR5	1901-0376	6		DIODE-GEN PRP 35V 50MA DO-35	28480	1901-0376
A5CR6	1901-0518	8	4	DIODE-SM SIG SCHOTTKY	28480	1901-0518
A5CR7	1901-0518	8		DIODE-SM SIG SCHOTTKY	28480	1901-0518
A5CR8	1901-0518	8		DIODE-SM SIG SCHOTTKY	28480	1901-0518
A5CR9	1901-0518	8		DIODE-SM SIG SCHOTTKY	28480	1901-0518
A5CR12	1901-0050	3	4	DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A5CR13	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A5CR14	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A5CR15	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A5P1	1251-7986	9	1	CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7986
A5R1	0698-3155	1	4	RESISTOR 4.64K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4641-F
A5R2	0698-3150	6	2	RESISTOR 2.37K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2371-F
A5R3	0757-0424	7	2	RESISTOR 1.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1101-F
A5R4	0698-6360	6	13	RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A5R5	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A5R6	0698-3155	1		RESISTOR 4.64K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4641-F
A5R7	0698-3150	6		RESISTOR 2.37K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2371-F
A5R8	0757-0424	7		RESISTOR 1.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1101-F
A5R9	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A5R10	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A5R11	0757-0465	6	1	RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A5R12	0757-0459	8	1	RESISTOR 56.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5622-F
A5R13	0698-3159	5	1	RESISTOR 26.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2612-F
A5R14	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A5R15	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A5R16	0698-3155	1		RESISTOR 4.64K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4641-F
A5R17	0757-0416	7	1	RESISTOR 511 1% .125W F TC=0+-100	24546	C4-1/8-T0-511R-F
A5R18	0757-0346	2	2	RESISTOR 10 1% .125W F TC=0+-100	24546	C4-1/8-T0-10R0-F
A5R19	0698-3160	8	1	RESISTOR 31.6K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3162-F
A5R20	0757-0279	0	1	RESISTOR 3.16K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3161-F
A5R21	0698-3155	1		RESISTOR 4.64K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4641-F
A5R22	0698-6782	6	1	RESISTOR 250 .1% .125W F TC=0+-25	28480	0698-6782
A5R23	0698-6413	0	1	RESISTOR 6.5K .1% .125W F TC=0+-25	28480	0698-6413
A5R24	0698-6348	0	6	RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A5R25	0698-6348	0		RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A5R26	0698-6348	0		RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A5R27	0698-6453	8	4	RESISTOR-MATCHED SET 10K; 5K	28480	0698-6453
A5R28	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A5R29	0698-6453	8		RESISTOR-MATCHED SET 10K; 5K	28480	0698-6453
A5R30	0698-6364	0	1	RESISTOR 50 .1% .125W F TC=0+-25	28480	0698-6364
A5R31	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A5R32	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A5R33	0698-6348	0		RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A5R34	0698-6348	0		RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A5R35	0698-6348	0		RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A5R36	0698-6453	8		RESISTOR-MATCHED SET 10K; 5K	28480	0698-6453
A5R37	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A5R38	0698-6453	8		RESISTOR-MATCHED SET 10K; 5K	28480	0698-6453
A5R39	0698-6362	8	3	RESISTOR 1K .1% .125W F TC=0+-25	28480	0698-6362
A5R40	0757-0442	9	1	RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A5R41	0698-6362	8		RESISTOR 1K .1% .125W F TC=0+-25	28480	0698-6362
A5R42	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A5R43	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A5R44	0698-6362	8		RESISTOR 1K .1% .125W F TC=0+-25	28480	0698-6362
A5R45	0698-3162	8	5	RESISTOR 46.4K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4642-F
A5R46	0698-3162	0		RESISTOR 46.4K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4642-F
A5R47	0698-3162	0		RESISTOR 46.4K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4642-F
A5R48	0698-3162	0		RESISTOR 46.4K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4642-F
A5R49	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A5R50	0698-3162	0		RESISTOR 46.4K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4642-F
A5R53	0757-0346	2		RESISTOR 10 1% .125W F TC=0+-100	24546	C4-1/8-T0-10R0-F
A5TP1-A5TP4	1251-5619	1	4	CONNECTOR 4-PIN M POST TYPE	28480	1251-5619
A5U104	1820-1211	8	1	IC GATE TTL LS EXCL-OR QUAD 2-INP	01295	SN74LS86N
A5U105	1820-1195	7	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS175N
A5U106	1826-0098	9	1	IC COMPARATOR PRCN TO-99 PKG	27014	LM211H
A5U200	1826-0735	1	4	IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A5U201	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A5U203	1826-1049	2	5	IC OP AMP PRCN 8-DIP-C PKG	28480	1826-1049
A5U204	1820-1244	7	1	IC MUXR/DATA-SEL TTL LS 4-TO-1-LINE DUAL	01295	SN74LS153N
A5U205	1820-1425	6	1	IC SCHMITT-TRIG TTL LS NAND QUAD 2-INP	01295	SN74LS132N
A5U206	1826-1047	0	2	IC OP AMP PRCN 8-DIP-C PKG	28480	1826-1047
A5U300	1826-1049	2		IC OP AMP PRCN 8-DIP-C PKG	28480	1826-1049
A5U301	1826-1049	2		IC OP AMP PRCN 8-DIP-C PKG	28480	1826-1049
A5U302	1826-1049	2		IC OP AMP PRCN 8-DIP-C PKG	28480	1826-1049
A5U303	1826-1049	2		IC OP AMP PRCN 8-DIP-C PKG	28480	1826-1049
A5U304	1826-1043	6	1	IC V RGLTR-FXD-POS 9.99/10.01V TO-5 PKG	28480	1826-1043
A5U305	1826-1013	0	1	D/A 12-1/2-BIT 24-DIP-C BPLR	28480	1826-1013
A5U306	1820-1435	8	3	IC CNTR TTL LS BIN UP/DOWN SYNCHRO	01295	SN74LS669N
A5U400	1826-1047	0		IC OP AMP PRCN 8-DIP-C PKG	28480	1826-1047
A5U401	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A5U402	1826-0915	9	2	IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A5U403	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A5U404	1826-0740	8	2	IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A5U405	1820-1997	7	2	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
A5U406	1820-1435	8		IC CNTR TTL LS BIN UP/DOWN SYNCHRO	01295	SN74LS669N
A5U504	1826-0915	9		IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A5U505	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
A5U506	1820-1435	8		IC CNTR TTL LS BIN UP/DOWN SYNCHRO	01295	SN74LS669N
A5U601	1826-0508	8	1	IC CONV RMS/DC 14-DIP-C PKG	24355	AD536K
A5U602	1826-0740	8		IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A5U604	1826-0689	8	3	IC MULTIPLXR ANLG 16-DIP-C PKG	86665	MUX08FQ
A5U605	1820-1858	9	2	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A5U606	1820-1216	3	1	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A5U701	1826-0689	8		IC MULTIPLXR ANLG 16-DIP-C PKG	86665	MUX08FQ
A5U702	1826-0689	8		IC MULTIPLXR ANLG 16-DIP-C PKG	86665	MUX08FQ
A5U705	1820-1858	9		IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A5U706	1820-1419	8	1	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
	1480-0116	9	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	4040-0747	2	2	EXTR-PC BD GRA POLYC .062-BD-THKNS	28480	4040-0747
	5080-8542	6	1	A5-ID LABEL	28480	5080-8542

See introduction to this section for ordering information
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Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A6	04945-60006	8	1	JITTER BOARD	28480	04945-60006
A6C1	0160-5695	9	5	CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A6C2	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A6C3	0160-5298	8	21	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C4	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A6C5	0160-3645	5	7	CAPACITOR-FXD 1UF +-1% 100VDC MET-POLYE	84411	X663F10511W2
A6C6	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C7	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C8	0160-4426	2	5	CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A6C9	0160-4586	5	3	CAPACITOR-FXD .033UF +-1% 100VDC CER	28480	0160-4586
A6C10	0180-0228	6	2	CAPACITOR-FXD 22UF+-10% 15VDC TA	56289	150D226X9015B2
A6C11	0180-0228	6		CAPACITOR-FXD 22UF+-10% 15VDC TA	56289	150D226X9015B2
A6C12	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C13	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A6C14	0160-4586	5		CAPACITOR-FXD .033UF +-1% 100VDC CER	28480	0160-4586
A6C15	0160-4586	5		CAPACITOR-FXD .033UF +-1% 100VDC CER	28480	0160-4586
A6C16	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C17	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A6C18	0160-3508	9	3	CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A6C19	0170-0040	9	2	CAPACITOR-FXD .047UF +-10% 200VDC POLYE	56289	292P47392
A6C20	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A6C21	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A6C22	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C23	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C24	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C25	0180-1746	5	1	CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A6C26	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C27	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A6C28	0160-3645	5		CAPACITOR-FXD 1UF +-1% 100VDC MET-POLYE	84411	X663F10511W2
A6C29	0160-3645	5		CAPACITOR-FXD 1UF +-1% 100VDC MET-POLYE	84411	X663F10511W2
A6C30	0160-3645	5		CAPACITOR-FXD 1UF +-1% 100VDC MET-POLYE	84411	X663F10511W2
A6C31	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C32	0180-2285	3	1	CAPACITOR-FXD .33UF+-10% 35VDC TA	56289	150D334X9035A2
A6C33	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C34	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C35	0160-3645	5		CAPACITOR-FXD 1UF +-1% 100VDC MET-POLYE	84411	X663F10511W2
A6C36	0170-0040	9		CAPACITOR-FXD .047UF +-10% 200VDC POLYE	56289	292P47392
A6C37	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C38	0160-4389	6	1	CAPACITOR-FXD 100PF +-5PF 200VDC CER	28480	0160-4389
A6C39	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C40	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A6C41	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C42	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C43	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C44	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C45	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A6C46	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A6C47	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C48	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C49	0160-3903	8	2	CAPACITOR-FXD 1.0UF 200VDC	28480	0160-3903
A6C50	0160-3903	8		CAPACITOR-FXD 1.0UF 200VDC	28480	0160-3903
A6C51	0160-3645	5		CAPACITOR-FXD 1UF +-1% 100VDC MET-POLYE	84411	X663F10511W2
A6C52	0160-3645	5		CAPACITOR-FXD 1UF +-1% 100VDC MET-POLYE	84411	X663F10511W2
A6C53	0180-0374	3	3	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A6C54	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A6C55	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A6C56	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A6C57	0160-4565	0	1	CAPACITOR-FXD 1000PF +-1% 100VDC CER	28480	0160-4565
A6C58	0180-2286	4	2	CAPACITOR-FXD 68UF+-10% 6VDC TA	56289	150D686X9006B2
A6C59	0180-2286	4		CAPACITOR-FXD 68UF+-10% 6VDC TA	56289	150D686X9006B2
A6CR1	1901-0050	3	7	DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A6CR2	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A6CR3	1902-0954	8	1	DIODE-ZNR 6.8V 5% DO-35 PD=.4W TC=+.057%	28480	1902-0954
A6CR4	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A6CR5	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A6CR6	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A6CR7	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A6CR8	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A6CR9	1902-0949	1	2	DIODE-ZNR 4.3V 5% DO-35 PD=.4W TC=+.017%	28480	1902-0949
A6CR10	1902-0949	1		DIODE-ZNR 4.3V 5% DO-35 PD=.4W TC=+.017%	28480	1902-0949
A6P1	1251-7986	9	1	CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7986

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A6Q1	1853-0459	3	2	TRANSISTOR PNP SI PD=625MW FT=200MHZ	28480	1853-0459
A6Q2	1853-0459	3		TRANSISTOR PNP SI PD=625MW FT=200MHZ	28480	1853-0459
A6Q3	1855-0420	2	1	TRANSISTOR J-FET 2N4391 N-CHAN D-MODE	01295	2N4391
A6R1	0757-0442	9	17	RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A6R2	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A6R3	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A6R4	0698-3450	9	1	RESISTOR 42.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4222-F
A6R5	0757-0439	4	3	RESISTOR 6.81K 1% .125W F TC=0+-100	24546	C4-1/8-T0-6811-F
A6R6	0698-3243	8	1	RESISTOR 178K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1783-F
A6R7	0757-0443	0	1	RESISTOR 11K 1% .125W F TC=0+-100	28480	0757-0443
A6R8	0698-3162	7	1	RESISTOR 46.4K 1% .125W F TC=0+-100	28480	0698-3162
A6R9	0757-0459	0	3	RESISTOR 56.2K 1% .125W F TC=0+-100	28480	0757-0459
A6R10	0757-0443	0	4	RESISTOR 11K 1% .125W F TC=0+-100	28480	0757-0443
A6R11	0757-0199	3	6	RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A6R12	0757-0199	3		RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A6R13	0757-0440	7	1	RESISTOR 7.5K 1% .125W F TC=0+-100	28480	0757-0440
A6R14	0757-0199	3	1	RESISTOR 21.5K 1% .125W F TC=0+-100	28480	0757-0199
A6R15	0698-6360	6		RESISTOR 10K 1% .125W F TC=0+-100	28480	0698-6360
A6R16	0698-6360	9		RESISTOR 10K 1% .125W F TC=0+-100	28480	0698-6360
A6R17	0757-0439	4		RESISTOR 6.81K 1% .125W F TC=0+-100	24546	C4-1/8-T0-6811-F
A6R18	0757-0199	3		RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A6R19	0698-3430	5	2	RESISTOR 21.5 1% .125W F TC=0+-100	03888	PME55-1/8-T0-21R5-F
A6R20	0698-3447	4	3	RESISTOR 422 1% .125W F TC=0+-100	24546	C4-1/8-T0-422R-F
A6R21	0683-1065	7	1	RESISTOR 10M 5% .25W CC TC=-900/+1100	01121	CB1065
A6R22	0757-0439	4		RESISTOR 6.81K 1% .125W F TC=0+-100	24546	C4-1/8-T0-6811-F
A6R23	0757-0199	3		RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A6R24	0698-3447	4		RESISTOR 422 1% .125W F TC=0+-100	24546	C4-1/8-T0-422R-F
A6R25	0757-0123	3	3	RESISTOR 34.8K 1% .125W F TC=0+-100	28480	0757-0123
A6R26	0757-0470	3	2	RESISTOR 162K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1623-F
A6R27	0698-6360	6		RESISTOR 10K 1% .125W F TC=0+-100	28480	0698-6360
A6R28	0698-6360	6		RESISTOR 10K 1% .125W F TC=0+-100	28480	0698-6360
A6R29	0698-3260	9	1	RESISTOR 464K 1% .125W F TC=0+-100	28480	0698-3260
A6R30	0757-0447	4	1	RESISTOR 16.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1622-F
A6R31	0757-0199	3		RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A6R32	0757-0468	1		RESISTOR 61.9K 1% .125W F TC=0+-100	24546	C4-1/8-T0-6192-F
A6R33	0698-3430	5		RESISTOR 21.5 1% .125W F TC=0+-100	03888	PME55-1/8-T0-21R5-F
A6R34	0757-0459	8	1	RESISTOR 56.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5622-F
A6R35	0757-0280	3	2	RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A6R36	0698-3447	4		RESISTOR 422 1% .125W F TC=0+-100	24546	C4-1/8-T0-422R-F
A6R37	0698-3157	3	2	RESISTOR 19.6K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1962-F
A6R38	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A6R39	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A6R40	0757-0123	3		RESISTOR 34.8K 1% .125W F TC=0+-100	28480	0757-0123
A6R41	0698-3455	4	2	RESISTOR 261K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2613-F
A6R42	0757-0289	2	1	RESISTOR 13.3K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-1332-F
A6R43	0698-3451	0	1	RESISTOR 133K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1333-F
A6R44	0757-0123	3		RESISTOR 34.8K 1% .125W F TC=0+-100	28480	0757-0123
A6R45	0757-0438	3	3	RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A6R46	0698-3452	1	1	RESISTOR 147K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1473-F
A6R47	0757-0467	8	1	RESISTOR 121K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1213-F
A6R48	0698-0083	8	2	RESISTOR 1.96K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1961-F
A6R49	0757-0448	5	1	RESISTOR 18.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1822-F
A6R50	0698-0083	8		RESISTOR 1.96K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1961-F
A6R51	0757-0460	1		RESISTOR 61.9K 1% .125W F TC=0+-100	24546	C4-1/8-T0-6192-F
A6R52	0698-3455	4		RESISTOR 261K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2613-F
A6R53	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A6R54	0757-0470	3		RESISTOR 162K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1623-F
A6R55	0698-3159	5	1	RESISTOR 26.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2612-F
A6R56	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A6R57	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A6R58	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A6R59	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A6R60	0698-6353	7	1	RESISTOR 50K 1% .125W F TC=0±25	28480	0698-6353
A6R61	0698-6358	2	1	RESISTOR 100K 1% .125W F TC=0±25	28480	0698-6358
A6R62	0698-3157	3		RESISTOR 19.6K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1962-F
A6R63	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A6R64	0757-0288	1		RESISTOR 9.09K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-9091-F
A6R65	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A6R66	0698-3151	7	3	RESISTOR 2.87K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2871-F
A6R67	0757-0288	1		RESISTOR 9.09K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-9091-F
A6R68	0757-0290	5	1	RESISTOR 6.19K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-6191-F
A6R69	0757-0443	0	1	RESISTOR 11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1102-F
A6R70	0757-0440	7	1	RESISTOR 7.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7501-F
A6R71	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A6R72	0757-0401	0	3	RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A6R73	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A6R74	0757-0288	1		RESISTOR 9.09K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-9091-F
A6R75	0698-3151	7		RESISTOR 2.87K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2871-F

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A6R76	0698-3151	7		RESISTOR 2.87K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2871-F
A6R77	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A6R78	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A6R79	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A6R80	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A6TP1	1251-4670	2	3	CONNECTOR 3-PIN M POST TYPE	28480	1251-4670
A6TP2	1251-4670	2		CONNECTOR 3-PIN M POST TYPE	28480	1251-4670
A6TP3	1251-4670	2		CONNECTOR 3-PIN M POST TYPE	28480	1251-4670
A6TP4	0360-1682	0	6	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A6TP5	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A6TP6	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A6TP7	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A6TP8	1251-5618	0	1	CONNECTOR 8-PIN M POST TYPE	28480	1251-5618
A6U102	1826-0753	3	3	IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A6U104	1826-0785	1	4	IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A6U106	1820-0938	4	2	IC FF CMOS J-K M/S POS-EDGE-TRIG DUAL	3L585	CD4027BE
A6U108	1826-0938	4		IC FF CMOS J-K M/S POS-EDGE-TRIG DUAL	3L585	CD4027BE
A6U200	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A6U204	1826-0746	8	2	IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A6U205	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A6U206	1826-0180	0	2	IC TIMER TTL MONO/ASTBL	01295	NE555P
A6U208	1826-0180	0		IC TIMER TTL MONO/ASTBL	01295	NE555P
A6U300	1826-0276	5	1	IC 78L05A V RGLTR TO-92	04713	MC78L05ACP
A6U302	1826-0878	3	1	IC-LINEAR	28480	1826-0878
A6U305	1826-0026	3	3	IC COMPARATOR PRCN TO-99 PKG	01295	LM311L
A6U400	1820-1419	8	1	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
A6U402	1826-0713	5	1	IC CONV 8-B-A/D 18-DIP-P PKG	24355	AD7574JN
A6U406	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A6U408	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A6U500	1820-1216	3	1	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A6U502	1820-2024	3	1	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A6U504	1826-0753	3		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A6U506	1826-0746	8		IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A6U508	1820-1601	0	1	IC GATE CMOS EXCL-OR QUAD 2-INP	3L585	CD4070BE
A6U600	1820-1997	7	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
A6U606	1826-0026	3		IC COMPARATOR PRCN TO-99 PKG	01295	LM311L
A6U607	1826-0026	3		IC COMPARATOR PRCN TO-99 PKG	01295	LM311L
A6U700	1820-1858	9	1	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A6U708	1821-0001	4	1	TRANSISTOR ARRAY 14-PIN PLSTC DIP	3L585	CA3046
	1480-0116	8	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	4040-0747	2	2	EXTR-PC BD GRA POLYC .062-BD-THKNS	28480	4040-0747
	5080-8543	7	1	A6-ID LABEL	28480	5080-8543

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A7	04945-60007	9	1	USE ENV DELAY	28480	04945-60007
A7C1	0160-5695	9	7	CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A7C2	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A7C3	0160-4801	7	2	CAPACITOR-FXD 100PF +-5% 100VDC CER	28480	0160-4801
A7C4	0160-5298	8	38	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C5	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C6	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A7C7	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C8	0160-4801	7		CAPACITOR-FXD 100PF +-5% 100VDC CER	28480	0160-4801
A7C9	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C10	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C11	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C12	0160-3510	3	4	CAPACITOR-FXD 3UF +-10% 50VDC MET-POLYC	28480	0160-3510
A7C13	0160-3510	3		CAPACITOR-FXD 3UF +-10% 50VDC MET-POLYC	28480	0160-3510
A7C14	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A7C15	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A7C16	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A7C17	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C18	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C19	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A7C20	0160-3510	3		CAPACITOR-FXD 3UF +-10% 50VDC MET-POLYC	28480	0160-3510
A7C21	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C22	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C23	0160-3397	4	1	CAPACITOR-FXD 6000PF +-1% 100VDC MICA	28480	0160-3397
A7C24	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C25	0160-3510	3		CAPACITOR-FXD 3UF +-10% 50VDC MET-POLYC	28480	0160-3510
A7C26	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C27	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C28	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C29	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C30	0180-0228	6	2	CAPACITOR-FXD 22UF+-10% 15VDC TA	56289	150D226X9015B2
A7C31	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C32	0160-2265	3	1	CAPACITOR-FXD 22PF +-5% 500VDC CER 0+-30	28480	0160-2265
A7C33	0180-0228	6		CAPACITOR-FXD 22UF+-10% 15VDC TA	56289	150D226X9015B2
A7C34	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C35	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C36	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C37	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C38	0160-5657	3	6	CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A7C40	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C41	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C42	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C43	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C44	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C45	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C46	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C47	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C48	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A7C49	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C50	0180-1746	5	3	CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A7C51	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C52	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C53	0180-1746	5		CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A7C54	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C55	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C56	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A7C57	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C58	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C59	0180-1746	5		CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A7C60	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A7C61	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C62	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A7C63	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A7C64	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C65	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A7C66	0160-4822	2	1	CAPACITOR-FXD 1000PF +-5% 100VDC CER	28480	0160-4822
A7C67	0180-0376	1		CAPACITOR-FXD .47UF 35VDC	28480	0180-0376
A7CR1	1901-0040	1	1	DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A7CR2	1901-0376	6	2	DIODE-GEN PRP 35V 50MA DO-35	28480	1901-0376
A7CR3	1901-0376	6		DIODE-GEN PRP 35V 50MA DO-35	28480	1901-0376
A7CR4	1901-0539	3	2	DIODE-SM SIG SCHOTTKY	28480	1901-0539
A7CR5	1901-0539	3		DIODE-SM SIG SCHOTTKY	28480	1901-0539

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A7J1	1251-8171	6	2	CONN-POST TYPE .100-PIN-SPCG 3-CONT	28480	1251-8171
A7J2	1251-6857	1	2	CONNECTOR 2-PIN M POST TYPE	28480	1251-6857
A7J3	1251-6857	1		CONNECTOR 2-PIN M POST TYPE	28480	1251-6857
A7J4	1251-8171	6		CONN-POST TYPE .100-PIN-SPCG 3-CONT	28480	1251-8171
A7JU1	1258-0141	8	4	JUMPER-REM	28480	1258-0141
A7JU2	1258-0141	8		JUMPER-REM	28480	1258-0141
A7JU3	1258-0141	8		JUMPER-REM	28480	1258-0141
A7JU4	1258-0141	8		JUMPER-REM	28480	1258-0141
A7P1	1251-7986	9	1	CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7986
A7Q1	1855-0205	1	1	TRANSISTOR J-FET P-CHAN D-MODE TO-72 SI	17856	VCR3P
A7Q2	1855-0305	2	1	TRANSISTOR J-FET 2N4117A N-CHAN D-MODE	17856	2N4117A
A7Q3	1853-0036	2	1	TRANSISTOR PNP SI PD=310MW FT=250MHZ	28480	1853-0036
A7R1	0699-0588	0	3	RESISTOR 18.171K .1% .125W F TC=0+-25	28480	0699-0588
A7R2	0699-0588	0		RESISTOR 18.171K .1% .125W F TC=0+-25	28480	0699-0588
A7R3	0698-8825	2	2	RESISTOR 681K 1% .125W F TC=0+-100	28480	0698-8825
A7R4	0699-0630	3	9	RESISTOR 19.1K .1% .125W F TC=0+-15	28480	0699-0630
A7R5	0699-0630	3		RESISTOR 19.1K .1% .125W F TC=0+-15	28480	0699-0630
A7R6	0699-0588	0		RESISTOR 18.171K .1% .125W F TC=0+-25	28480	0699-0588
A7R7	0698-0084	9	8	RESISTOR 2.15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2151-F
A7R8	0757-0420	3	1	RESISTOR 750 1% .125W F TC=0+-100	24546	C4-1/8-T0-751-F
A7R9	0698-8825	2		RESISTOR 681K 1% .125W F TC=0+-100	28480	0698-8825
A7R10	0699-0630	3		RESISTOR 19.1K .1% .125W F TC=0+-15	28480	0699-0630
A7R11	0699-0630	3		RESISTOR 19.1K .1% .125W F TC=0+-15	28480	0699-0630
A7R12	0699-0630	3		RESISTOR 19.1K .1% .125W F TC=0+-15	28480	0699-0630
A7R13	0757-0401	0	5	RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A7R14	0757-0462	3	2	RESISTOR 75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7502-F
A7R15	0757-0442	9	16	RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R16	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R17	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R18	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A7R19	0757-0462	3		RESISTOR 75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7502-F
A7R20	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R21	0698-0084	9		RESISTOR 2.15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2151-F
A7R21	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R22	0698-3460	1	2	RESISTOR 422K 1% .125W F TC=0+-100	28480	0698-3460
A7R23	0683-3955	8	1	RESISTOR 3.9M 5% .25W FC TC=-900/+1100	01121	CB3955
A7R24	0757-0199	3	3	RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A7R25	0757-0199	3		RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A7R26	0698-3460	1		RESISTOR 422K 1% .125W F TC=0+-100	28480	0698-3460
A7R27	0757-0443	0	2	RESISTOR 11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1102-F
A7R28	0757-0290	5	2	RESISTOR 6.19K 1% .125W F TC=0+-100	19701	MFAC1/8-T0-6191-F
A7R29	0698-3162	0	1	RESISTOR 46.4K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4642-F
A7R30	0757-0443	0		RESISTOR 11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1102-F
A7R31	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R32	0757-0199	3		RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A7R33	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A7R34	0757-0465	6	4	RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A7R35	0699-0630	3		RESISTOR 19.1K .1% .125W F TC=0+-15	28480	0699-0630
A7R36	0698-3157	3	1	RESISTOR 19.6K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1962-F
A7R37	0698-7367	5	2	RESISTOR 78.028K .1% .125W F TC=0+-50	19701	MF4C1/8-T2-7802BR-B
A7R38	0698-7367	5		RESISTOR 78.028K .1% .125W F TC=0+-50	19701	MF4C1/8-T2-7802BR-B
A7R39	0699-0630	3		RESISTOR 19.1K .1% .125W F TC=0+-15	28480	0699-0630
A7R40	0699-0630	3		RESISTOR 19.1K .1% .125W F TC=0+-15	28480	0699-0630
A7R41	0699-0630	3		RESISTOR 19.1K .1% .125W F TC=0+-15	28480	0699-0630
A7R42	0698-4502	4	1	RESISTOR 64.9K 1% .125W F TC=0+-100	24546	C4-1/8-T0-6492-F
A7R43	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R44	0757-0438	3	1	RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A7R45	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R46	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R47	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R48	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A7R49	0757-0460	1	1	RESISTOR 61.9K 1% .125W F TC=0+-100	24546	C4-1/8-T0-6192-F
A7R50	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A7R51	0698-0084	9		RESISTOR 2.15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2151-F
A7R52	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R53	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A7R54	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A7R55	0698-6946	4	6	RESISTOR 66.33K .1% .125W F TC=0+-50	28480	0698-6946
A7R56	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R57	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R58	0698-6946	4		RESISTOR 66.33K .1% .125W F TC=0+-50	28480	0698-6946
A7R59	0698-3457	6	6	RESISTOR 316K 1% .125W F TC=0+-100	28480	0698-3457
A7R60	0698-3457	6		RESISTOR 316K 1% .125W F TC=0+-100	28480	0698-3457
A7R61	0698-3457	6		RESISTOR 316K 1% .125W F TC=0+-100	28480	0698-3457
A7R62	0698-6946	4		RESISTOR 66.33K .1% .125W F TC=0+-50	28480	0698-6946
A7R63	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R64	0698-6946	4		RESISTOR 66.33K .1% .125W F TC=0+-50	28480	0698-6946

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A7R65	0698-3457	6		RESISTOR 316K 1% .125W F TC=0+-100	28480	0698-3457
A7R66	0698-6946	4		RESISTOR 66.33K .1% .125W F TC=0+-50	28480	0698-6946
A7R67	0698-6946	4		RESISTOR 66.33K .1% .125W F TC=0+-50	28480	0698-6946
A7R68	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R69	0698-3457	6		RESISTOR 316K 1% .125W F TC=0+-100	28480	0698-3457
A7R70	0698-3457	6		RESISTOR 316K 1% .125W F TC=0+-100	28480	0698-3457
A7R71	0757-0290	5		RESISTOR 6.19K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-6191-F
A7R72	0698-0084	9		RESISTOR 2.15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2151-F
A7R73	0698-0084	9		RESISTOR 2.15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2151-F
A7R74	0698-0084	9		RESISTOR 2.15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2151-F
A7R75	0698-0084	9		RESISTOR 2.15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2151-F
A7R76	0698-0084	9		RESISTOR 2.15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2151-F
A7R77	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A7R78	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A7R79	0757-0424	7	1	RESISTOR 1.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1101-F
A7R80	0698-3157	3		RESISTOR 19.6K 1% .125W F TC=0±100	28480	0698-3157
A7R102	2100-3109	2	3	RESISTOR-TRMR 2K 10% C SIDE-ADJ 17-TRN	02111	43P202
A7R103	2100-3109	2		RESISTOR-TRMR 2K 10% C SIDE-ADJ 17-TRN	02111	43P202
A7R203	2100-3109	2		RESISTOR-TRMR 2K 10% C SIDE-ADJ 17-TRN	02111	43P202
A7TP1	0360-1682	0	12	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A7TP2	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A7TP3	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A7TP4	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A7TP207	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A7TP303	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A7TP505	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A7TP506	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A7TP507	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A7TP606	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A7TP602	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A7TP807	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A7U102	1826-0785	1	6	IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A7U103	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A7U104	1826-0792	0	1	IC COMPARATOR PRCN QUAD 16-DIP-C PKG	34371	HA1-4905-5
A7U107	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A7U200	1820-1197	9	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS03N
A7U201	1820-1211	8	1	IC GATE TTL LS EXCL-OR QUAD 2-INP	01295	SN74LS86N
A7U204	1826-0328	8	6	IC OP AMP GP DUAL 8-DIP-C PKG	07933	RV4558DE
A7U207	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A7U300	1820-1282	3	2	IC FF TTL LS J-K BAR POS-EDGE-TRIG	01295	SN74LS109AN
A7U303	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A7U304	1826-0740	8	1	IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A7U307	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A7U400	1820-1443	8	1	IC CNTR TTL LS BIN ASYNCHRO	01295	SN74LS293N
A7U401	1826-0371	1	1	IC OP AMP LOW-BIAS-H-IMPD TO-99 PKG	27014	LF256H
A7U403	1820-0493	6	1	IC OP AMP GP 8-DIP-P PKG	27014	LM307N
A7U404	1826-0328	8		IC OP AMP GP DUAL 8-DIP-C PKG	07933	RV4558DE
A7U407	1826-0328	8		IC OP AMP GP DUAL 8-DIP-C PKG	07933	RV4558DE
A7U500	1820-1442	7	1	IC CNTR TTL LS DECD ASYNCHRO	01295	SN74LS290N
A7U501	1820-1203	8	1	IC GATE TTL LS AND TPL 3-INP	01295	SN74LS11N
A7U502	1820-1282	3		IC FF TTL LS J-K BAR POS-EDGE-TRIG	01295	SN74LS109AN
A7U600	1820-1428	1	1	IC CNTR TTL LS DIV-X-12 ASYNCHRO	01295	SN74LS92N
A7U601	1820-1991	1	1	IC CNTR TTL LS DECD DUAL 4-BIT	01295	SN74LS390N
A7U602	1820-1201	6	1	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
A7U603	1820-1216	3	1	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A7U604	1826-0328	8		IC OP AMP GP DUAL 8-DIP-C PKG	07933	RV4558DE
A7U605	1826-0328	8		IC OP AMP GP DUAL 8-DIP-C PKG	07933	RV4558DE
A7U700	1820-0936	2	2	IC CNTR CMOS BIN SYNCHRO NEG-EDGE-TRIG	3L585	CD4024BE
A7U701	1820-0936	2		IC CNTR CMOS BIN SYNCHRO NEG-EDGE-TRIG	3L585	CD4024BE
A7U702	1820-1491	6	3	IC BFR TTL LS NON-INV HEX 1-INP	01295	SN74LS367AN
A7U703	1820-1419	8	1	IC COMPTR TTL LS MAGID 4-BIT	01295	SN74LS85N
A7U707	1826-0328	8		IC OP AMP GP DUAL 8-DIP-C PKG	07933	RV4558DE
A7U800	1820-1491	6		IC BFR TTL LS NON-INV HEX 1-INP	01295	SN74LS367AN
A7U801	1820-1491	6		IC BFR TTL LS NON-INV HEX 1-INP	01295	SN74LS367AN
A7U802	1820-1858	9	1	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A7VR1	1990-0449	1	1	OPTO-ISOLATOR LED-PCNDCT IF=50MA-MAX	83911	CLM8000
	1400-0116	8	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1400-0116
	4040-0747	2	2	EXTR-PC BD GRA POLYC .062-BD-THKNS	28480	4040-0747
	5080-8544	8	1	A7-ID LABEL	28480	5080-8544

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A8	04945-60008	0	1	FREQ COUNTER	28480	04945-60008
A8C1	0160-5298	8	22	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C2	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C3	0180-0383	2	1	CAPACITOR-FXD .68UF ±10% 35VDC TA	28480	0180-0373
A8C4	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C5	0160-2257	3	3	CAPACITOR-FXD 10PF +-5% 500VDC CER 0+-60	28480	0160-2257
A8C6	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C7	0160-2257	3		CAPACITOR-FXD 10PF +-5% 500VDC CER 0+-60	28480	0160-2257
A8C8	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C9	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C10	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C11	0180-1974	1	1	CAPACITOR-FXD .10UF ±20% 35V TA	28480	0180-1974
A8C12	0160-2257	3		CAPACITOR-FXD 10PF +-5% 500VDC CER 0+-60	28480	0160-2257
A8C13	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C14	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C15	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C16	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C17	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C18	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C19	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C20	0160-4426	2	2	CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A8C21	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A8C22	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C23	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C24	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C25	0180-0374	3	3	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A8C26	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C27	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A8C28	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C29	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A8C30	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C31	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8C32	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A8CR1	1901-0518	8	3	DIODE-SM SIG SCHOTTKY	28480	1901-0518
A8CR2	1901-0040	1	1	DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A8CR3	1901-0518	8		DIODE-SM SIG SCHOTTKY	28480	1901-0518
A8CR4	1901-0518	8		DIODE-SM SIG SCHOTTKY	28480	1901-0518
A8CR5	1902-0777	3	1	DIODE-ZNR 1N825 6.2V 5% DO-7 PD=.4W	04713	1N825
A8CR6	1901-0050	3	2	DIODE SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A8CR7	1901-0050	3		DIODE SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A8P1	1251-7506	9	1	CONN-POST TYPE .100-PIN-SPCG 120-CONT	28480	1251-7506
A8R1	0757-0438	3	3	RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A8R2	0683-1855	3	3	RESISTOR 1.8M 5% .25W FC TC=-900/+1100	01121	CB1855
A8R3	0757-0465	6	6	RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A8R4	0757-0442	9	4	RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A8R5	0698-3453	2	2	RESISTOR 196K 1% .125W F TC=0±100	28480	0698-3453
A8R6	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A8R7	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A8R8	0698-3153	9	1	RESISTOR 3.83K 1% .125W F TC=0±100	28480	0698-3153
A8R9	0698-3453	2		RESISTOR 196K 1% .125W F TC=0±100	28480	0698-3453
A8R10	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A8R11	0757-0394	0	4	RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A8R12	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A8R13	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A8R14	0698-3454	3	1	RESISTOR 215K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2153-F
A8R15	0757-0438	6		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-TO-5111-F
A8R16	0757-0438	6		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-TO-5111-F
A8R17	0757-3158			RESISTOR 5.11K 1% .125W F TC=0±100	24546	C4-1/8-TO-5111-F
A8R18	0757-0441	8	1	RESISTOR 8.25K 1% .125W F TC=0+-100	24546	C4-1/8-T0-8251-F
A8R19	0698-6360	6	2	RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A8R20	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A8R21	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A8R22	0757-0439	6		RESISTOR 6.81K 1% .125W F TC=0+-100	28480	0757-0439
A8R23	0757-0439	6		RESISTOR 6.81K 1% .125W F TC=0+-100	28480	0757-0439
A8R24	0757-0274	5	1	RESISTOR 1.21K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1211-F
A8R25	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A8R26	0698-3160	8	3	RESISTOR 31.6K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3162-F
A8R27	0698-6879	2	4	RESISTOR 15.6K .5% .125W F TC=0+-50	28480	0698-6879
A8R28	0698-6879	2		RESISTOR 15.8K .5% .125W F TC=0+-50	28480	0698-6879
A8R29	0698-0084	9	4	RESISTOR 2.15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2151-F
A8R30	0698-6879	2		RESISTOR 15.8K .5% .125W F TC=0+-50	28480	0698-6879
A8R31	0698-3160	8		RESISTOR 31.6K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3162-F

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A8R32	0698-6879	2		RESISTOR 15.8K .5% .125W F TC=0+-50	28480	0698-6879
A8R33	0698-6938	4	1	RESISTOR 196K .5% .125W F TC=0+-50	28480	0698-6938
A8R34	0698-3162	8		RESISTOR 31.6K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3162-F
A8R35	0698-0084	9		RESISTOR 2.15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2151-F
A8R36	0698-0084	9		RESISTOR 2.15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2151-F
A8R37	0698-0084	9		RESISTOR 2.15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2151-F
A8R38	0757-0290	5	3	RESISTOR 6.19K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-6191-F
A8R39	0757-0290	5		RESISTOR 6.19K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-6191-F
A8R40	0757-0290	5		RESISTOR 6.19K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-6191-F
A8R41	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A8R42	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A8R43	0698-3156			RESISTOR 14.7K 1% .125W F TC=0±100	28480	0698-3156
A8R44	0698-3156			RESISTOR 14.7K 1% .125W F TC=0±100	28480	0698-3156
A8R45	0698-3156			RESISTOR 14.7K 1% .125W F TC=0±100	28480	0698-3156
A8R102	1810-0368	3	1	NETWORK-RES 6-SIP10.0K OHM X 5	01121	206A103
A8R201	1810-0208	8	1	NETWORK-RES 10-SIP10.0K OHM X 9	01121	210A103
A8TP1	1251-4672	4	1	CONNECTOR 10-PIN M POST TYPE	28480	1251-4672
A8U101	1820-1855	6	2	IC CNTR CMOS	04713	MC14534BCP
A8U102	1820-1855	6		IC CNTR CMOS	04713	MC14534BCP
A8U103	1820-1282	3	1	IC FF TTL LS J-K BAR POS-EDGE-TRIG	01295	SN74LS109AN
A8U104	1820-1197	9	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
A8U105	1820-1199	1	1	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
A8U201	1826-0639	4	3	IC CONV 8-B-D/A 16-DIP-P PKG	24355	AD7524JN
A8U203	1820-1470	1	1	IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A8U204	1820-1201	6	1	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
A8U205	1826-0138	8	2	IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
A8U300	1826-0522	4	1	IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-P	01295	TL074CN
A8U301	1826-0639	4		IC CONV 8-B-D/A 16-DIP-P PKG	24355	AD7524JN
A8U302	1820-1568	8	1	IC BFR TTL LS BUS QUAD	01295	SN74LS125AN
A8U303	1820-1858	9	2	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A8U304	1820-1491	6	1	IC BFR TTL LS NON-INV HEX 1-INP	01295	SN74LS367AN
A8U305	1826-0785	1	2	IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A8U400	1820-1208	3	1	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
A8U401	1826-0639	4		IC CONV 8-B-D/A 16-DIP-P PKG	24355	AD7524JN
A8U402	1820-1437	0	2	IC MV TTL LS MONOSTBL DUAL	01295	SN74LS221N
A8U403	1820-1216	3	1	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A8U405	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A8U501	1820-1858	9		IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A8U502	1820-1437	0		IC MV TTL LS MONOSTBL DUAL	01295	SN74LS221N
A8U503	1820-1419	8	1	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
A8U505	1826-0138	8		IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
	1480-0116	8	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	4040-0747	2	2	EXTR-PC BD GRA POLYC .062-BD-THKNS	28480	4040-0747
	5080-8545	9	1	A8-ID LABEL	28480	5080-8545

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A9	04945-60009	1	1	TRANSIENTS	28480	04945-60009
A9C1	0160-5298	8	30	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C2	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C3	0180-0291	3	1	CAPACITOR-FXD 1UF+-10% 35VDC TA	56289	150D105X9035A2
A9C4	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C5	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C6	0160-4788	9	2	CAPACITOR-FXD 18PF +-5% 100VDC CER 0+-30	28480	0160-4788
A9C7	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C8	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C9	0160-4426	2	3	CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A9C10	0160-5695	9	3	CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A9C11	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A9C12	0160-5695	9		CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A9C13	0160-4788	9		CAPACITOR-FXD 18PF +-5% 100VDC CER 0+-30	28480	0160-4788
A9C14	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C15	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C16	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C17	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C18	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C19	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C20	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C21	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C22	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C23	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C24	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C25	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C26	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C27	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C28	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C29	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C30	0180-0374	3	5	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A9C31	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C32	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C33	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C34	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C35	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C36	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A9C37	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A9C38	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C39	0160-0161	4	1	CAPACITOR-FXD .01UF +-10% 200VDC POLYE	28480	0160-0161
A9C40	0160-0162	5	2	CAPACITOR-FXD .022UF +-10% 200VDC POLYE	28480	0160-0162
A9C41	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C42	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A9C43	0160-0578	7	1	CAPACITOR-FXD .047UF +-1% 50VDC	28480	0160-0578
A9C44	0160-0970	3	1	CAPACITOR-FXD .47UF +-10% 80VDC POLYE	28480	0160-0970
A9C45	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A9C46	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A9C47	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A9C50	0160-0162	5		CAPACITOR-FXD .022UF +-10% 200VDC POLYE	28480	0160-0162
A9C51	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A9CR1	1902-0686	3	2	DIODE-ZNR 6.2V 2% DO-7 PD=.4W TC=+.002%	04713	1N825
A9CR2	1901-0518	8	4	DIODE-SM SIG SCHOTTKY	28480	1901-0518
A9CR3	1901-0050	3	2	DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A9CR4	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A9CR5	1901-0518	8		DIODE-SM SIG SCHOTTKY	28480	1901-0518
A9CR6	1901-0518	8		DIODE-SM SIG SCHOTTKY	28480	1901-0518
A9CR7	1901-0518	8		DIODE-SM SIG SCHOTTKY	28480	1901-0518
A9CR8	1902-0686	3		DIODE-ZNR 6.2V 2% DO-7 PD=.4W TC=+.002%	04713	1N825
A9CR9	1902-0953	7	1	DIODE-ZNR 6.2V 5% DO-35 PD=.4W TC=+.053%	28480	1902-0953
A9CR13	1902-0958	2	1	DIODE-ZNR 10V 5% DO-35 PD=.4W TC=+.075%	28480	1902-0958
A9J1	1200-0607	0	1	SOCKET-IC 16-CONT DIP DIP-SLDR	28480	1200-0607
A9J2	1251-8129	4	1	CONN-POST TYPE .100-PIN-SPCG 4-CONT	28480	1251-8129
A9J3	1251-8171	6	2	CONN-POST TYPE .100-PIN-SPCG 3-CONT	28480	1251-8171
A9J4	1251-8171	6		CONN-POST TYPE .100-PIN-SPCG 3-CONT	28480	1251-8171
A9JU1	1251-4787	2	1	SHUNT-DIP 8-POSITION	28480	1251-4787
A9JU3	1258-0141	8	2	JUMPER-REM	28480	1258-0141
A9JU4	1258-0141	8		JUMPER-REM	28480	1258-0141
A9P1	1251-7506	9	1	CONN-POST TYPE .100-PIN-SPCG 120-CONT	28480	1251-7506
A9Q1	1854-0071	7	7	TRANSISTOR NPN SI PD=300MW FT=200MHZ	28480	1854-0071
A9Q2	1854-0071	7		TRANSISTOR NPN SI PD=300MW FT=200MHZ	28480	1854-0071
A9Q3	1854-0071	7		TRANSISTOR NPN SI PD=300MW FT=200MHZ	28480	1854-0071
A9Q4	1854-0071	7		TRANSISTOR NPN SI PD=300MW FT=200MHZ	28480	1854-0071
A9Q6	1854-0071	7		TRANSISTOR NPN SI PD=300MW FT=200MHZ	28480	1854-0071

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
A9Q7	1854-0071	7		TRANSISTOR NPN SI PD=300MW FT=200MHZ	28480	1854-0071
A9Q8	1853-0036	2	1	TRANSISTOR PNP SI PD=310MW FT=250MHZ	28480	1853-0036
A9Q9	1854-0071	7		TRANSISTOR NPN SI PD=300MW FT=200MHZ	28480	1854-0071
A9R1	0757-0394	0	12	RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A9R2	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A9R3	0757-0274	5	1	RESISTOR 1.21K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1211-F
A9R4	0698-6362	8	2	RESISTOR 1K .1% .125W F TC=0+-25	28480	0698-6362
A9R5	0683-1855	3	2	RESISTOR 1.8M 5% .25W FC TC=-900/+1100	01121	CB1855
A9R6	0757-0438	3	5	RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A9R7	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A9R8	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A9R9	0757-0467	8	1	RESISTOR 121K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1213-F
A9R10	0698-6360	6	22	RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R11	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R12	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R13	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R14	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R15	0757-0200	7	2	RESISTOR 5.62K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5621-F
A9R16	0757-0200	7		RESISTOR 5.62K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5621-F
A9R17	0757-0428	1	1	RESISTOR 1.62K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1621-F
A9R18	0698-3159	5	2	RESISTOR 26.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2612-F
A9R19	0698-3159	5		RESISTOR 26.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2612-F
A9R20	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A9R21	0699-0273	0	5	RESISTOR 2.15K .1% .125W F TC=0+-25	28480	0699-0273
A9R22	0699-0273	0		RESISTOR 2.15K .1% .125W F TC=0+-25	28480	0699-0273
A9R23	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R24	0757-0465	6	2	RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A9R25	0698-8799	9	2	RESISTOR 21.5K .1% .125W F TC=0+-25	28480	0698-8799
A9R26	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R27	0683-1855	3		RESISTOR 1.8M 5% .25W FC TC=-900/+1100	01121	CB1855
A9R29	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A9R30	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A9R31	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A9R32	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A9R33	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R34	0757-0447	4	1	RESISTOR 16.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1622-F
A9R35	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R36	0698-0082	7	1	RESISTOR 464 1% .125W F TC=0+-100	24546	C4-1/8-T0-4640-F
A9R37	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A9R38	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A9R39	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A9R40	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A9R41	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R42	0698-8799	9		RESISTOR 21.5K .1% .125W F TC=0+-25	28480	0698-8799
A9R43	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R44	0698-3156	2	2	RESISTOR 14.7K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1472-F
A9R45	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A9R46	0698-6362	8		RESISTOR 1K .1% .125W F TC=0+-25	28480	0698-6362
A9R47	0698-8827	4	1	RESISTOR 1M 1% .125W F TC=0+-100	28480	0698-8827
A9R48	0757-0290	5	1	RESISTOR 6.19K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-6191-F
A9R49	0699-0273	0		RESISTOR 2.15K .1% .125W F TC=0+-25	28480	0699-0273
A9R50	0757-0317	7	1	RESISTOR 1.33K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1331-F
A9R51	0698-8638	5	1	RESISTOR 3.16K .1% .125W F TC=0+-25	28480	0698-8638
A9R52	0699-0273	0		RESISTOR 2.15K .1% .125W F TC=0+-25	28480	0699-0273
A9R53	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R54	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A9R55	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A9R57	0757-0416	7	1	RESISTOR 511 1% .125W F TC=0+-100	24546	C4-1/8-T0-511R-F
A9R58	0757-0466	7	1	RESISTOR 110K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1103-F
A9R59	0698-3453	2	2	RESISTOR 196K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1963-F
A9R60	0698-3154	0	1	RESISTOR 4.22K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4221-F
A9R64	0757-0461	2	1	RESISTOR 68.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-6812-F
A9R65	0698-3156	2		RESISTOR 14.7K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1472-F
A9R66	0698-3157	3	2	RESISTOR 19.6K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1962-F
A9R67	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R68	0757-0288	1	1	RESISTOR 9.09K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-9091-F
A9R69	0698-3438	3	1	RESISTOR 147 1% .125W F TC=0+-100	24546	C4-1/8-T0-147R-F
A9R70	0698-3160	8	2	RESISTOR 31.6K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3162-F
A9R71	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R72	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R73	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R74	0698-3458	9	1	RESISTOR 42.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4222-F
A9R75	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R76	0757-0439	9	1	RESISTOR 93.9 1% .125W F TC=0+-100	24546	C4-1/8-T0-93R9-F
A9R77	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R78	0698-3266	5	1	RESISTOR 237K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2373-F
A9R79	0698-3158	4	1	RESISTOR 23.7K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2372-F

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A9R81	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R83	0698-3453	2		RESISTOR 196K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1963-F
A9R84	0698-3160	8		RESISTOR 31.6K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3162-F
A9R86	0698-3157	3		RESISTOR 19.6K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1962-F
A9R87	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A9R88	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R89	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A9R90	0699-0273	0		RESISTOR 2.15K .1% .125W F TC=0+-25	28480	0699-0273
A9R100	1810-0279	5	2	NETWORK-RES 10-SIP4.7K OHM X 9	01121	210A472
A9R104	1810-0280	8	1	NETWORK-RES 10-SIP10.0K OHM X 9	01121	210A103
A9R303	1810-0279	5		NETWORK-RES 10-SIP4.7K OHM X 9	01121	210A472
A9R306	2100-3154	7	1	RESISTOR-TRMR 1K 10% C SIDE-ADJ 17-TRN	02111	43P102
A9TP1	0360-1682	0	4	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A9TP2	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A9TP3	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A9TP4	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A9TP5	1251-5380	3	2	CONNECTOR 2-PIN M POST TYPE	28480	1251-5380
A9TP6	1251-5925	2	2	CONNECTOR 12-PIN M POST TYPE	28480	1251-5925
A9TP7	1251-5925	2		CONNECTOR 12-PIN M POST TYPE	28480	1251-5925
A9TP8	1251-5380	3		CONNECTOR 2-PIN M POST TYPE	28480	1251-5380
A9U102	1820-2624	9	1	IC-MPU; CLK FREQ=2MHZ, ENHANCED 6800	28480	1820-2624
A9U103	1826-0915	9	1	IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A9U104	1826-0898	9	2	IC COMPARATOR PRCN TO-99 PKG	27014	LM211H
A9U105	1826-0521	3	4	IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-P	01295	TL072CP
A9U203	1820-1199	1	1	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
A9U204	1826-0707	7	3	IC CONV 8-B-D/A 16-DIP-P PKG	24355	AD7523JN
A9U302	1820-2495	4	3	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	34335	AM25LS2520DC
A9U303	1820-1058	9	2	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A9U304	1820-1858	9		IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A9U305	1826-0098	9		IC COMPARATOR PRCN TO-99 PKG	27014	LM211H
A9U400	04945-18001	8	1	TRTS PROM	28480	04945-18001
A9U402	1820-2495	4		IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	34335	AM25LS2520DC
A9U403	1826-0707	7		IC CONV 8-B-D/A 16-DIP-P PKG	24355	AD7523JN
A9U404	1826-0521	3		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-P	01295	TL072CP
A9U405	1826-0521	3		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-P	01295	TL072CP
A9U406	1820-1476	1	1	IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A9U502	1820-2495	4		IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	34335	AM25LS2520DC
A9U503	1826-0707	7		IC CONV 8-B-D/A 16-DIP-P PKG	24355	AD7523JN
A9U504	1826-0138	8	1	IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
A9U505	1820-1112	8	4	IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
A9U506	1820-1112	8		IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
A9U600	1818-1751	6	1	IC NMOS 1024 (1K) STAT RAM 250-NS 3-S	04713	MCM6810P
A9U602	1820-2024	3	1	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A9U604	1820-1548	8	1	IC BFR TTL LS BUS QUAD	01295	SN74LS125AN
A9U605	1826-0180	9	2	IC TIMER TTL MONO/ASTBL	01295	NE555P
A9U606	1826-0521	3		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-P	01295	TL072CP
A9U702	1820-1440	5	1	IC LCH TTL LS QUAD	01295	SN74LS279N
A9U703	1826-0522	4	1	IC OP AMP LOW-BIAS-N-IMPD QUAD 14-DIP-P	01295	TL074CN
A9U704	1820-1211	8	1	IC GATE TTL LS EXCL-OR QUAD 2-INP	01295	SN74LS86N
A9U705	1820-1781	7	1	IC SWITCH ANLG DUAL TO-100 PKG	34371	HI2-200-5
A9U800	1820-2053	8	1	IC DCDR TTL LS BCD 4-TO-16-LINE	18324	74LS154N
A9U802	1820-1216	3	2	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A9U803	1826-0180	9		IC TIMER TTL MONO/ASTBL	01295	NE555P
A9U804	1820-1197	9	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
A9U805	1820-1423	4	1	IC MV TTL LS MONOSTBL RETRIG DUAL	01295	SN74LS123N
A9U900	1820-1216	3		IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A9U902	1820-1419	8	1	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
A9U903	1820-1208	3	1	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
A9U904	1820-1112	8		IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
A9U905	1820-1112	8		IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
A9XU102	1200-0654	7	1	SOCKET-IC 40-CONT DIP DIP-SLDR	28480	1200-0654
A9XU400	1200-0541	1	2	SOCKET-IC 24-CONT DIP DIP-SLDR	28480	1200-0541
A9XU500	1200-0541	1		SOCKET-IC 24-CONT DIP DIP-SLDR	28480	1200-0541
A9Y1	0410-1486	9	1	CRYSTAL 8.86MHZ	28480	0410-1486
	1480-0116	8	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	4040-0747	2	2	EXTR-PC BD GRA POLYC .062-BD-THKNS	28480	4040-0747
	5080-8546	0	1	A9-ID LABEL	28480	5080-8546

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
A10	04945-60010	4	1	RCVR PROCESSOR	28480	04945-60010
A10C1	0160-5298	8	26	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C2	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C3	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C4	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C5	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C6	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C7	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C8	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C9	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C10	0160-4803	9	2	CAPACITOR-FXD 68PF +-5% 100VDC CER 0+-30	28480	0160-4803
A10C11	0160-4807	3	2	CAPACITOR-FXD 33PF +-5% 100VDC CER 0+-30	28480	0160-4807
A10C12	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C13	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C14	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C15	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C16	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C17	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C18	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C19	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C20	0160-4803	9		CAPACITOR-FXD 68PF +-5% 100VDC CER 0+-30	28480	0160-4803
A10C21	0160-4807	3		CAPACITOR-FXD 33PF +-5% 100VDC CER 0+-30	28480	0160-4807
A10C22	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C23	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C24	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C25	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C26	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C27	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C28	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C29	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C30	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A10C31	0180-2287	5	1	CAPACITOR-FXD 100UF+-10% 16VDC TA	56289	150D107X9016P2
A10CR1	1990-0810	0	1	LED-LAMP LUM-INT=2.5MCD IF=20MA-MAX	28480	1990-0810
A10CR2	1902-0943	5	1	DIODE-ZNR 2.4V 5% DO-35 PD=.4W TC=-.037%	28480	1902-0943
A10CR3	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A10CR4	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A10CR5	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A10P1	1251-7506	9	1	CONN-POST TYPE .100-PIN-SPCG 120-CONT	28480	1251-7506
A10Q1	1854-0810	2	1	TRANSISTOR NPN SI PD=625MW FT=200MHZ	28480	1854-0810
A10R1	0698-3440	7	1	RESISTOR 196 1% .125W F TC=0+-100	24546	C4-1/8-T0-196R-F
A10R2	0757-0465	6	1	RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A10R3	0757-0280	3	6	RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A10R4	0757-0279	0	1	RESISTOR 3.16K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3161-F
A10R5	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A10R6	0757-0442	9	2	RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A10R7	0698-3155	1	2	RESISTOR 4.64K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4641-F
A10R8	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A10R9	0757-0402	1	2	RESISTOR 110 1% .125W F TC=0+-100	24546	C4-1/8-T0-111-F
A10R10	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A10R11	0757-0403	2	2	RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A10R12	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A10R13	0757-0402	1		RESISTOR 110 1% .125W F TC=0+-100	24546	C4-1/8-T0-111-F
A10R14	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A10R15	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A10R16	0698-3155	1		RESISTOR 4.64K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4641-F
A10R17	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A10R107	1810-0279	5	2	NETWORK-RES 10-SIP4.7K OHM X 9	01121	210A472
A10R200	1810-0280	8	1	NETWORK-RES 10-SIP10.0K OHM X 9	01121	210A103
A10R500	1810-0365	0	1	NETWORK-RES 6-SIP2.2K OHM X 5	01121	206A222
A10R603	1810-0279	5		NETWORK-RES 10-SIP4.7K OHM X 9	01121	210A472
A10S100	3101-2135	5	1	SWITCH-RKR DIP-RKR-ASSY DPDT .05A 30VDC	28480	3101-2135
A10TP1	0360-1682	0	2	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A10TP2	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A10TP3-A10TP5	1251-4670	2	3	CONNECTOR 3-PIN M POST TYPE	28480	1251-4670
A10TP6-A10TP13	1251-5618	0	8	CONNECTOR 8-PIN M POST TYPE	28480	1251-5618
A10TP14-A10TP19	1251-5038	8	6	CONNECTOR 6-PIN M POST TYPE	22526	65500-106

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A10U102	1820-1281	2	1	IC DCDR TTL LS 2-TO-4-LINE DUAL 2-INP	01295	SN74LS139N
A10U103	1820-1216	3	3	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A10U105	1820-2024	3	5	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A10U107	1820-1858	9	1	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A10U200	1820-2075	4	4	IC MISC TTL LS	01295	SN74LS245N
A10U202	1820-1470	1	4	IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A10U203	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A10U300	1820-2293	8	1	IC-MPU; CLK FREQ=2MHZ	28480	1820-2293
A10U303	1820-1216	3		IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A10U304	1820-1216	3		IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A10U305	04945-10021	2	1	RVCR PROM 23	28480	04945-10021
A10U306	04945-10007	4	1	RVCR PROM 45	28480	04945-10007
A10U307	04945-10006	3	1	RVCR PROM 67	28480	04945-10006
A10U308	04945-10005	2	1	RVCR PROM 89	28480	04945-10005
A10U400	1820-1804	5	1	IC BFR NMOS CLOCK DRVR	04713	MPQ6842
A10U402	1820-1470	1		IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A10U403	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A10U405	1818-1738	9	3	IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	54613	HM6116LP-4
A10U407	04945-10004	1	1	RVCR PROM AB	28480	04945-10004
A10U500	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A10U502	1820-1470	1		IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A10U503	1818-1738	9		IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	54613	HM6116LP-4
A10U505	1818-1738	9		IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	54613	HM6116LP-4
A10U507	04945-10003	0	1	RVCR PROM CD	28480	04945-10003
A10U600	1820-0683	6	1	IC INV TTL S HEX 1-INP	01295	SN74S04N
A10U602	1820-1470	1		IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A10U603	1820-2075	4		IC MISC TTL LS	01295	SN74LS245N
A10U605	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A10U607	04945-10002	9	1	RVCR PROM EF	28480	04945-10002
A10U700	1820-0681	4	1	IC GATE TTL S NAND QUAD 2-INP	01295	SN74S00N
A10U702	1820-2311	1	1	IC COMPTR TTL LS MAGTD 8-BIT	34335	AM25LS2521PC
A10U703	1820-2075	4		IC MISC TTL LS	01295	SN74LS245N
A10U705	1820-2075	4		IC MISC TTL LS	01295	SN74LS245N
A10XU300	1200-0654	7	1	SOCKET-IC 40-CONT DIP DIP-SLDR	28480	1200-0654
A10XU305	1200-0567	1	7	SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A10XU306	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A10XU307	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A10XU308	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A10XU407	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A10XU507	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A10XU607	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
	1480-0116	8	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	4040-0745	0	2	SEAL LIGHT	28480	4040-0745
	5080-8547	1	1	A10 ID LABEL	28480	5080-8547

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A11	04945-60011	5	1	SYSTEM PROCESSOR	28480	04945-60011
A11C1	0160-5298	8	34	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C2	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C3	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C4	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C5	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C6	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C7	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C8	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C9	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C10	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C11	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C12	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C13	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C14	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C15	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C16	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C17	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C19	0160-0127	2	2	CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A11C20	0160-0127	2		CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A11C21	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C22	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C23	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C24	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C25	0160-5332	1	2	CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A11C26	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C27	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C28	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C29	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C30	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A11C31	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C32	0160-4816	8	2	CAPACITOR-FXD 330PF +-5% 100VDC CER	28480	0160-4816
A11C33	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C34	0160-4816	8		CAPACITOR-FXD 330PF +-5% 100VDC CER	28480	0160-4816
A11C35	0160-4803	9	2	CAPACITOR-FXD 6PF +-5% 100VDC CER 0+-30	28480	0160-4803
A11C36	0160-4807	3	2	CAPACITOR-FXD 33PF +-5% 100VDC CER 0+-30	28480	0160-4807
A11C37	0160-4803	9		CAPACITOR-FXD 6PF +-5% 100VDC CER 0+-30	28480	0160-4803
A11C38	0160-4807	3		CAPACITOR-FXD 33PF +-5% 100VDC CER 0+-30	28480	0160-4807
A11C39	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C40	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C41	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C42	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C43	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C44	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11C45	0180-0374	3	1	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A11C46	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A11CR1	1901-0033	2	3	DIODE-GEN PRP 100V 200MA DO-7	28480	1901-0033
A11CR3	1901-0033	2		DIODE-GEN PRP 100V 200MA DO-7	28480	1901-0033
A11CR4	1901-0033	2		DIODE-GEN PRP 100V 200MA DO-7	28480	1901-0033
A11J1	1251-8171	6	2	CONN-POST TYPE .100-PIN-SPCG 3-CONT	28480	1251-8171
A11JU1	1258-8141	8	1	JUMPER-REM	28480	1258-0141
A11JU602	1251-4398	1	1	CONNECTOR SHUNT-4 POSITION	28480	1251-4398
A11P1	1251-7506	9	1	CONN-POST TYPE .100-PIN-SPCG 120-CONT	28480	1251-7506
A11R2	0757-0401	0	2	RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A11R4	0757-0462	3	1	RESISTOR 75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7502-F
A11R5	0757-0465	6	1	RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A11R6	0757-0442	9	2	RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A11R7	0698-0082	7	2	RESISTOR 464 1% .125W F TC=0+-100	24546	C4-1/8-T0-4640-F
A11R8	0698-3155	1	3	RESISTOR 4.64K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4641-F
A11R9	0757-0280	3	2	RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A11R10	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A11R11	0757-0462	1	2	RESISTOR 110 1% .125W F TC=0+-100	24546	C4-1/8-T0-111-F
A11R12	0757-0403	2	2	RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A11R13	0757-0462	1		RESISTOR 110 1% .125W F TC=0+-100	24546	C4-1/8-T0-111-F
A11R14	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A11R15	0698-3155	1		RESISTOR 4.64K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4641-F
A11R16	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A11R17	0698-0082	7		RESISTOR 464 1% .125W F TC=0+-100	24546	C4-1/8-T0-4640-F
A11R18	0698-3155	1		RESISTOR 4.64K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4641-F
A11R19	0698-3157	3	1	RESISTOR 19.6K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1962-F
A11R20	0698-3152	8	2	RESISTOR 3.48K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3481-F
A11R21	0698-3152	8		RESISTOR 3.48K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3481-F
A11R22	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A11R206	1810-0367	2	1	NETWORK-RES 6-SIP4.7K OHM X 5	01121	206A472
A11R703	1810-0280	8	1	NETWORK-RES 10-SIP10.0K OHM X 9	01121	210A103
A11R706	1810-0368	3	1	NETWORK-RES 6-SIP10.0K OHM X 5	01121	206A103
A11R806	1810-0338	7	1	NETWORK-RES 16-DIP100.0 OHM X 8	11236	761-3-R100
A11S106	3101-2601	0	1	SWITCH-PB SPDT MOM .02A PED-BTN	28480	3101-2601
A11S406	3101-2063	9	1	SWITCH-RKR DIP-RKR-ASSY 4-1A .05A 30VDC	28480	3101-2063
A11TP1	1251-5618	0	1	CONNECTOR 8-PIN M POST TYPE	28480	1251-5618
A11TP3	0360-1682	0	4	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A11TP4	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A11TP5	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A11TP6	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A11TP606	1251-8171	6		CONN-POST TYPE .100-PIN-SPCG 3-CONT	28480	1251-8171
A11U100	1820-1282	3	6	IC FF TTL LS J-K BAR POS-EDGE-TRIG	01295	SN74LS109AN
A11U101	1820-0683	6	3	IC INV TTL S HEX 1-INP	01295	SN74S04N
A11U102	1820-1282	3		IC FF TTL LS J-K BAR POS-EDGE-TRIG	01295	SN74LS109AN
A11U103	1820-1282	3		IC FF TTL LS J-K BAR POS-EDGE-TRIG	01295	SN74LS109AN
A11U105	1820-0683	6		IC INV TTL S HEX 1-INP	01295	SN74S04N
A11U200	1820-1207	2	1	IC GATE TTL LS NAND 8-INP	01295	SN74LS30N
A11U201	1820-1240	3	2	IC DCDR TTL S 3-TO-8-LINE 3-INP	01295	SN74S138N
A11U202	1820-1282	3		IC FF TTL LS J-K BAR POS-EDGE-TRIG	01295	SN74LS109AN
A11U203	1820-1282	3		IC FF TTL LS J-K BAR POS-EDGE-TRIG	01295	SN74LS109AN
A11U204	1818-1738	9	2	IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	34013	HM6116LP-4
A11U205	1820-0697	2	1	IC DRVR TTL S NAND LINE DUAL 4-INP	01295	SN74S140N
A11U300	1820-1432	5	2	IC CNTR TTL LS BIN SYNCHRO POS-EDGE-TRIG	01295	SN74LS163AN
A11U301	1820-0683	6		IC INV TTL S HEX 1-INP	01295	SN74S04N
A11U302	1820-1282	3		IC FF TTL LS J-K BAR POS-EDGE-TRIG	01295	SN74LS109AN
A11U303	1820-1240	3		IC DCDR TTL S 3-TO-8-LINE 3-INP	01295	SN74S138N
A11U400	1820-1432	5		IC CNTR TTL LS BIN SYNCHRO POS-EDGE-TRIG	01295	SN74LS163AN
A11U401	1820-1203	8	1	IC GATE TTL LS AND TPL 3-INP	01295	SN74LS11N
A11U402	1820-1208	3	1	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
A11U403	1820-1453	0	1	IC CNTR TTL S BIN SYNCHRO POS-EDGE-TRIG	01295	SN74S163N
A11U404	1818-1738	9		IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	34013	HM6116LP-4
A11U486	1820-1356	2	1	IC MV CMOS MONOSTBL RETRIG/RESET DUAL	04713	MC14528BCP
A11U500	1820-1281	2	3	IC DCDR TTL LS 2-TO-4-LINE DUAL 2-INP	01295	SN74LS139N
A11U501	1820-1201	6	1	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
A11U502	1820-1281	2		IC DCDR TTL LS 2-TO-4-LINE DUAL 2-INP	01295	SN74LS139N
A11U503	1820-1977	3	1	IC OSC ECL	04713	MC12061P
A11U600	1820-1804	5	1	IC BFR NMOS CLOCK DRVR	04713	MPQ6942
A11U601	1820-1281	2		IC DCDR TTL LS 2-TO-4-LINE DUAL 2-INP	01295	SN74LS139N
A11U602	1820-1216	3	2	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A11U604	04945-18008	5	1	SYS PROM	28480	04945-18008
A11U606	1820-2307	5	1	IC-PROGRMBL TIMER MOD, 6MHZ, 3 ASYCH	28480	1820-2307
A11U607	1820-1997	7	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
A11U701	1820-2293	8	1	IC-MPU; CLK FREQ=2MHZ	28480	1820-2293
A11U703	1820-2081	2	1	IC NMOS	04713	MC68A21P
A11U706	1820-2024	3	4	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A11U830	1820-1216	3		IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A11U801	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A11U802	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A11U803	1820-2075	4	1	IC MISC TTL LS	01295	SN74LS245N
A11U804	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A11XU602	1200-0796	8	1	SOCKET-IC 8-CONT DIP DIP-SLDR	28480	1200-0796
A11XU604	1200-0541	1	1	SOCKET-IC 24-CONT DIP DIP-SLDR	28480	1200-0541
A11XU605	1200-0567	1	1	SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A11XU701	1200-0654	7	2	SOCKET-IC 40-CONT DIP DIP-SLDR	28480	1200-0654
A11XU703	1200-0654	7		SOCKET-IC 40-CONT DIP DIP-SLDR	28480	1200-0654
A11Y1	0410-1034	3	1	CRYSTAL-QUARTZ 16.000 MHZ HC-18/U-HLDR	28480	0410-1034
	1480-0116	8	1	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	4040-0742	2	2	EXTR-PC BD GRA POLYC .062-BD-THKNS	28480	4040-0742
	5080-8548	2	1	A11 ID LABEL	28480	5080-8548

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A12	04945-60012	6	1	SYSTEM MEMORY	28480	04945-60012
A12B1	1420-0311	9	1	BATTERY 3V .2A-HR LI MANGANESE DIOXIDE	28480	1420-0311
A12C1	0160-5298	8	30	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C2	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C3	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C4	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C5	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C6	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C7	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C8	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C9	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C10	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C11	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C12	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C13	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C14	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C15	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C16	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C17	0160-2264	2	2	CAPACITOR-FXD 20PF +-5% 500VDC CER 0+-30	28480	0160-2264
A12C18	0160-2264	2		CAPACITOR-FXD 20PF +-5% 500VDC CER 0+-30	28480	0160-2264
A12C19	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C20	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C21	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C22	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C23	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C24	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C25	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C26	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C27	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C28	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C29	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C30	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C31	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C32	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A12C33	0180-0374	3	1	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A12CR1	1901-0033	2	1	DIODE-GEN PRP 100V 200MA DO-7	28480	1901-0033
A12CR2	1902-3059	0	1	DIODE-ZNR 3.83V 5% DO-35 PD=.4W	28480	1902-3059
A12CR3	1902-0943	5	1	DIODE-ZNR 2.4V 5% DO-35 PD=.4W TC=-.037%	28480	1902-0943
A12CR4	1901-0376	6	1	DIODE-GEN PRP 35V 50MA DO-35	28480	1901-0376
A12CR5	1901-1068	5	1	DIODE-SM SIG SCHOTTKY	28480	1901-1068
A12J308	1251-8171	6	1	CONN-POST TYPE .100-PIN-SPCG 3-CONT	28480	1251-8171
A12JU102	1251-4787	2	1	SHUNT-DIP 8-POSITION	28480	1251-4787
A12JU308	1258-0141	8	1	JUMPER-REM	28480	1258-0141
A12P1	1251-7586	9	1	CONN-POST TYPE .100-PIN-SPCG 120-CONT	28480	1251-7586
A12Q1	1853-0036	2	2	TRANSISTOR PNP SI PD=310MW FT=250MHZ	28480	1853-0036
A12Q2	1854-0215	1	1	TRANSISTOR NPN SI PD=350MW FT=300MHZ	04713	2N3904
A12Q3	1853-0036	2		TRANSISTOR PNP SI PD=310MW FT=250MHZ	28480	1853-0036
A12R1	0757-0442	9	5	RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A12R2	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A12R3	0698-3441	8	1	RESISTOR 215 1% .125W F TC=0+-100	24546	C4-1/8-T0-215R-F
A12R4	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A12R5	0698-3443	0	1	RESISTOR 287 1% .125W F TC=0+-100	24546	C4-1/8-T0-287R-F
A12R6	0698-3429	2	1	RESISTOR 19.6 1% .125W F TC=0+-100	03888	PME55-1/8-T0-19R6-F
A12R7	0698-3435	8	1	RESISTOR 38.3 1% .125W F TC=0+-100	24546	C4-1/8-T0-38R3-F
A12R8	0757-0401	0	1	RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A12R9	0698-3162	0	1	RESISTOR 46.4K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4642-F
A12R10	0757-0280	3	1	RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A12R11	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A12R12	0683-1065	7	1	RESISTOR 10M 5% .25W CC TC=-900/+1100	01121	CB1065
A12R13	0698-3453	2	1	RESISTOR 196K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1963-F
A12R14	0698-0083	8	2	RESISTOR 1.96K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1961-F
A12R15	0698-0083	8		RESISTOR 1.96K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1961-F
A12R16	0757-0442	9		RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A12R17	0698-3430	5	1	RESISTOR 21.5 1% .125W F TC=0+-100	03888	PME55-1/8-T0-21R5-F
A12R18	0757-0395	1	1	RESISTOR 56.2 1% .125W F TC=0+-100	24546	C4-1/8-T0-56R2-F
A12R504	1810-0338	7	6	NETWORK-RES 16-DIP100.0 OHM X 8	11236	761-3-R100
A12R602	1810-0338	7		NETWORK-RES 16-DIP100.0 OHM X 8	11236	761-3-R100
A12R603	1810-0338	7		NETWORK-RES 16-DIP100.0 OHM X 8	11236	761-3-R100
A12R708	1810-0206	8	1	NETWORK-RES 8-SIP10.0K OHM X 7	01121	208A103

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A12TP1	1251-5618	8	2	CONNECTOR 8-PIN M POST TYPE	28480	1251-5618
A12TP2	0360-1682	8	2	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A12TP3	1251-5618	8		CONNECTOR 8-PIN M POST TYPE	28480	1251-5618
A12TP4	0360-1682	8		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A12U100	04945-10009	6	1	MEM PROM 6789	28480	04945-10009
A12U102	04945-10013	2	1	MEM PROM BANK 3	28480	04945-10013
A12U104	04945-10016	5	1	MEM PROM BANK 6	28480	04945-10016
A12U106	1818-T59045	4	2	IC PD444-6514	28480	1818-T59045
A12U107	1818-T59045	4		IC PD444-6514	28480	1818-T59045
A12U200	04945-10010	9	1	MEM PROM ABCD	28480	04945-10010
A12U202	04945-10014	3	1	MEM PROM BANK 4	28480	04945-10014
A12U204	04945-10017	6	1	MEM PROM BANK 7	28480	04945-10017
A12U206	1820-1997	7	3	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
A12U208	1820-1417	6	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS26N
A12U300	04945-10011	0	1	MEM PROM BANK 1	28480	04945-10011
A12U302	04945-10015	4	1	MEM PROM BANK 5	28480	04945-10015
A12U306	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
A12U307	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
A12U308	1820-2813	8	1	IC-MM58167	28480	1820-2813
A12U400	04945-10012	1	1	MEM PROM BANK 2	28480	04945-10012
A12U402	1818-1738	9	3	IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	54013	HM6116LP-4
A12U404	1818-1738	9		IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	54013	HM6116LP-4
A12U406	1820-1208	3	1	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
A12U407	1820-1281	2	2	IC DCDR TTL LS 2-TO-4-LINE DUAL 2-INP	01295	SN74LS139N
A12U408	1820-1440	5	1	IC LCH TTL LS QUAD	01295	SN74LS279N
A12U500	1818-1738	9		IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	54013	HM6116LP-4
A12U502	1820-1419	8	2	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
A12U503	1820-1216	3	2	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A12U504	1810-0338	7		NETWORK-RES 16-DIP100.0 OHM X 8	11236	761-3-R100
A12U506	1820-1197	9	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
A12U507	1820-1437	0	1	IC MV TTL LS MONOSTBL DUAL	01295	SN74LS221N
A12U508	1820-1198	0	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS03N
A12U602	1810-0338	7		NETWORK-RES 16-DIP100.0 OHM X 8	11236	761-3-R100
A12U603	1810-0338	7		NETWORK-RES 16-DIP100.0 OHM X 8	11236	761-3-R100
A12U604	1820-1419	8		IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
A12U606	1820-1204	9	1	IC GATE TTL LS NAND DUAL 4-INP	01295	SN74LS20N
A12U607	1820-1295	0	1	IC GATE TTL LS AND DUAL 4-INP	01295	SN74LS21N
A12U608	1820-1201	6	1	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
A12U700	1820-2024	3	3	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A12U702	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A12U703	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A12U704	1820-2075	4	1	IC MISC TTL LS	01295	SN74LS245N
A12U706	1820-1216	3		IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A12U707	1820-1281	2		IC DCDR TTL LS 2-TO-4-LINE DUAL 2-INP	01295	SN74LS139N
A12XU100	1200-0567	1	10	SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A12XU102	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A12XU104	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A12XU106	1200-0539	7	2	SOCKET-IC 18-CONT DIP DIP-SLDR	28480	1200-0539
A12XU107	1200-0539	7		SOCKET-IC 18-CONT DIP DIP-SLDR	28480	1200-0539
A12XU200	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A12XU202	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A12XU204	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A12XU300	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A12XU302	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A12XU304	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A12XU308	1200-0541	1	1	SOCKET-IC 24-CONT DIP DIP-SLDR	28480	1200-0541
A12XU400	1200-0567	1		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A12Y1	0410-1294	7	1	CRYSTAL-QUARTZ 32.768 KHZ	28480	0410-1294
	1480-0116	8	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	4040-0747	2	2	EXTR-PC BD GRA POLYC .062-BD-THKNS	28480	4040-0747
	5080-8549	3	1	A12 ID LABEL	28480	5080-8549
	0470-1145	3	1	ADHESIVE HOT MELT	28480	0470-1145

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A13	04945-60013	7	1	VIDEO GENERATOR	28480	04945-60013
A13C1	0160-5298	8	28	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C2	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C3	0160-5099	7	1	CAPACITOR-FXD 3300PF +-5% 100VDC CER	16299	CAC05C0G332J100A
A13C4	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C5	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C6	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C7	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C8	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C9	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C10	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C11	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C12	0160-0194	3	2	CAPACITOR-FXD .015UF +-10% 200VDC POLYE	28480	0160-0194
A13C13	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C14	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C15	0160-0194	3		CAPACITOR-FXD .015UF +-10% 200VDC POLYE	28480	0160-0194
A13C16	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C17	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C18	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C19	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C20	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C21	0180-2208	6	1	CAPACITOR-FXD 220UF+-10% 10VDC TA	56289	150D227X9010S2
A13C22	0170-0040	9	1	CAPACITOR-FXD .047UF +-10% 200VDC POLYE	56289	292P47392
A13C23	0180-0374	3	6	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A13C24	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C25	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C26	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C27	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C28	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C29	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C30	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C31	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C32	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C33	0160-4822	2	1	CAPACITOR-FXD 1000PF +-5% 100VDC CER	28480	0160-4822
A13C34	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A13C35	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A13C36	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A13C37	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C38	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A13C39	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A13C40	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A13C41	0160-3508	9	1	CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A13CR1	1901-0050	3	1	DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A13E509	1251-8042	0	1	SHUNT-DIP 5 POSITION; DUAL INLINE PKG	28480	1251-8042
A13J1	1251-7699	3	1	CONN-POST TYPE .100-PIN-SPCG 7-CONT	28480	1251-7699
A13P1	1251-7506	9	1	CONN-POST TYPE .100-PIN-SPCG 120-CONT	28480	1251-7506
A13R1	0757-0443	0	1	RESISTOR 11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1102-F
A13R3	0757-0420	3	1	RESISTOR 750K 1% .125W F TC=0+-100	28480	0757-0420
A13R4	0757-0438	3	2	RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A13R5	0757-0462	3	1	RESISTOR 75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7502-F
A13R6	0757-0123	3	1	RESISTOR 34.8K 1% .125W F TC=0+-100	28480	0757-0123
A13R7	0757-0441	8	1	RESISTOR 8.25K 1% .125W F TC=0+-100	24546	C4-1/8-T0-8251-F
A13R8	0757-0440	7	1	RESISTOR 7.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7501-F
A13R9	0757-0280	3	2	RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A13R10	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A13R11	0757-0463	4	1	RESISTOR 82.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-8252-F
A13R12	0698-3151	7	1	RESISTOR 2.87K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2871-F
A13R13	0757-0346	2	1	RESISTOR 10 1% .125W F TC=0+-100	24546	C4-1/8-T0-10R0-F
A13R14	0757-0466	7	1	RESISTOR 110K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1103-F
A13R15	0757-0458	7	1	RESISTOR 51.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5112-F
A13R16	0757-0465	6	1	RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A13R17	0757-0442	9	1	RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A13R18	0698-3159	5	1	RESISTOR 26.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2612-F
A13R19	0683-1855	3	1	RESISTOR 1.8M 5% .25W FC TC=-900/+1100	01121	CB1855
A13R20	0698-8961	7	1	RESISTOR 909K 1% .125W F TC=0+-100	28480	0698-8961
A13R21	0698-3266	5	1	RESISTOR 237K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2373-F
A13R22	0698-3260	9	1	RESISTOR 464K 1% .125W F TC=0+-100	28480	0698-3260
A13R23	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A13TP1	1251-5618	0	1	CONNECTOR 8-PIN M POST TYPE	28480	1251-5618
A13TP2	0360-1682	0	4	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A13TP3	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A13TP4	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A13TP5	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A13U200	1820-1437	0	1	IC MV TTL LS MONOSTBL DUAL	01295	SN74LS221N
A13U201	1820-1216	3	1	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A13U202	1818-1738	9	7	IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	54013	HM6116LP-4
A13U203	1818-1738	9		IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	54013	HM6116LP-4
A13U205	1818-1738	9		IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	54013	HM6116LP-4
A13U206	1818-1738	9		IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	54013	HM6116LP-4
A13U300	1820-1198	0	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS03N
A13U302	1820-1470	1	6	IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A13U303	1820-3123	5	1	IC-CRT VIDEO DISPLAY CONTROLLER 7X11X128	28480	1820-3123
A13U305	1818-1738	9		IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	54013	HM6116LP-4
A13U306	1818-1738	9		IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	54013	HM6116LP-4
A13U400	1820-1470	1		IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A13U402	1820-1470	1		IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A13U403	1820-0683	6	1	IC INV TTL S HEX 1-INP	01295	SN74S04N
A13U404	1820-0693	8	1	IC FF TTL S D-TYPE POS-EDGE-TRIG	01295	SN74S74N
A13U405	1820-2075	4	3	IC MISC TTL LS	01295	SN74LS245N
A13U406	1826-0205	0	1	IC TIMER TTL	18324	NE556A
A13U501	04945-10022	3	1	CHARACTER PROM	28480	04945-10022
A13U502	1818-1372	7	1	IC NMOS 8192 (8K) STAT RAM 90-NS	50088	MK4801P-90
A13U503	1818-1738	9		IC CMOS 16384 (16K) STAT RAM 200-NS 3-S	54013	HM6116LP-4
A13U600	1820-1199	1	1	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
A13U601	1820-1281	2	1	IC DCDR TTL LS 2-TO-4-LINE DUAL 2-INP	01295	SN74LS139N
A13U604	1820-2075	4		IC MISC TTL LS	01295	SN74LS245N
A13U686	1826-0740	8	1	IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A13U700	1820-1201	6	1	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
A13U701	1820-1208	3	1	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
A13U702	1820-2853	6	1	IC-MC68A45L	28480	1820-2853
A13U704	1820-2075	4		IC MISC TTL LS	01295	SN74LS245N
A13U705	1826-0682	7	1	IC AUDIO AMPL PWR 8-DIP-P PKG	27014	LM386N-1
A13U706	1820-1725	9	1	IC MULTIPLXR ANLG 16-DIP-P PKG	17856	DG508CJ
A13U801	1820-1470	1		IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A13U802	1820-1470	1		IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A13U803	1820-1470	1		IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A13U806	1826-0276	5	1	IC 78L05A V RGLTR TO-92	04713	MC78L05ACP
A13XU303	1200-0567	1	1	SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
A13XU501	1200-0541	1	2	SOCKET-IC 24-CONT DIP DIP-SLDR	28480	1200-0541
A13XU502	1200-0541	1		SOCKET-IC 24-CONT DIP DIP-SLDR	28480	1200-0541
A13XU702	1200-0654	7	1	SOCKET-IC 40-CONT DIP DIP-SLDR	28480	1200-0654
	1480-0116	8	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	4040-0747	2	2	EXTR-PC BD GRA POLYC .062-BD-THKNS	28480	4040-0747
	5080-8550	6	1	A13 ID LABEL	28480	5080-8550

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A14	04945-60015	9	1	TRANSMIT CONTROL	28480	04945-60015
A14C1	0160-5332	1	24	CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C2	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C3	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C4	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C5	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C6	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C7	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C8	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C9	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C10	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C11	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C12	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C13	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C14	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C15	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C17	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C18	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C19	0180-1746	5	2	CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A14C20	0180-1746	5		CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A14C22	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C23	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C24	0160-5660	8	2	CAPACITOR-FXD 5100PF +-1% 100VDC CER	28480	0160-5660
A14C25	0160-5660	8		CAPACITOR-FXD 5100PF +-1% 100VDC CER	28480	0160-5660
A14C27	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C28	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C29	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C30	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C31	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A14C32	0160-0127	2	2	CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A14C33	0160-0127	2		CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A14C34	0180-0374	3	3	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A14C35	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A14C36	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A14J1	1251-7506	9	1	CONN-POST TYPE .100-PIN-SPCG 120-CONT	28480	1251-7506
A14R2	0757-0465	6	2	RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A14R4	0699-0567	5	1	RESISTOR 137K .1% .125W F TC=0+-25	28480	0699-0567
A14R5	0757-0463	4	2	RESISTOR 82.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-8252-F
A14R6	0757-0463	4		RESISTOR 82.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-8252-F
A14R7	0698-5496	7	1	RESISTOR 255K .1% .125W F TC=0+-50	28480	0698-5496
A14R8	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A14R11	0698-6363	9	1	RESISTOR 40K .1% .125W F TC=0+-25	28480	0698-6363
A14R12	0698-6358	2	1	RESISTOR 100K .1% .125W F TC=0+-25	28480	0698-6358
A14R14	0757-0438	3	4	RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A14R15	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A14R16	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A14R17	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A14R18	0698-3260	9	2	RESISTOR 464K 1% .125W F TC=0+-100	28480	0698-3260
A14R19	0699-0035	2	2	RESISTOR 284.2K .25% .125W F TC=0+-50	28480	0699-0035
A14R20	0698-3260	9		RESISTOR 464K 1% .125W F TC=0+-100	28480	0698-3260
A14R21	0757-0472	5	1	RESISTOR 200K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2003-F
A14R22	0698-3454	3	2	RESISTOR 215K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2153-F
A14R23	0699-0035	2		RESISTOR 284.2K .25% .125W F TC=0+-50	28480	0699-0035
A14R24	0698-3454	3		RESISTOR 215K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2153-F
A14R25	0698-3158	4	1	RESISTOR 23.7K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2372-F
A14R26	0757-0401	0	2	RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A14R27	0698-3266	5	1	RESISTOR 237K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2373-F
A14R28	0698-3136	8	1	RESISTOR 17.8K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1782-F
A14R29	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A14TP1	1251-4670	2	1	CONNECTOR 3-PIN M POST TYPE	28480	1251-4670
A14TP2	1251-4670	2	1	CONNECTOR 3-PIN M POST TYPE	28480	1251-4670
A14TP807	1251-5925	2	1	CONNECTOR 12-PIN M POST TYPE	28480	1251-5925
A14TP901	0360-1682	0	3	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A14TP902	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A14TP907	0360-1682	0		TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A14U101	1820-1730	6	3	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS273N
A14U104	1820-1730	6		IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS273N
A14U105	1820-1730	6		IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS273N
A14U200	1820-1447	2	10	IC TTL LS 16-BIT STAT RAM 45-NS 3-S	01295	SN74LS670N
A14U202	1820-1447	2		IC TTL LS 16-BIT STAT RAM 45-NS 3-S	01295	SN74LS670N
A14U203	1820-1447	2		IC TTL LS 16-BIT STAT RAM 45-NS 3-S	01295	SN74LS670N
A14U204	1820-1447	2		IC TTL LS 16-BIT STAT RAM 45-NS 3-S	01295	SN74LS670N
A14U205	1820-1447	2		IC TTL LS 16-BIT STAT RAM 45-NS 3-S	01295	SN74LS670N
A14U206	1820-1447	2		IC TTL LS 16-BIT STAT RAM 45-NS 3-S	01295	SN74LS670N
A14U300	1820-1441	6	6	IC ADDR TTL LS BIN FULL ADDR 4-BIT	01295	SN74LS283N

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A14U302	1820-1441	6		IC ADDR TTL LS BIN FULL ADDR 4-BIT	01295	SN74LS283N
A14U303	1820-1441	6		IC ADDR TTL LS BIN FULL ADDR 4-BIT	01295	SN74LS283N
A14U304	1820-1441	6		IC ADDR TTL LS BIN FULL ADDR 4-BIT	01295	SN74LS283N
A14U305	1820-1441	6		IC ADDR TTL LS BIN FULL ADDR 4-BIT	01295	SN74LS283N
A14U306	1820-1441	6		IC ADDR TTL LS BIN FULL ADDR 4-BIT	01295	SN74LS283N
A14U400	1820-1977	3	1	IC OSC ECL	04713	MC12061P
A14U402	1820-1447	2		IC TTL LS 16-BIT STAT RAM 45-NS 3-S	01295	SN74LS670N
A14U403	1820-1447	2		IC TTL LS 16-BIT STAT RAM 45-NS 3-S	01295	SN74LS670N
A14U404	1820-1447	2		IC TTL LS 16-BIT STAT RAM 45-NS 3-S	01295	SN74LS670N
A14U405	1820-1447	2		IC TTL LS 16-BIT STAT RAM 45-NS 3-S	01295	SN74LS670N
A14U406	1820-1211	6	1	IC GATE TTL LS EXCL-OR QUAD 2-INP	01295	SN74LS86N
A14U500	1820-1443	8	2	IC CNTR TTL LS BIN ASYNCHRO	01295	SN74LS293N
A14U501	1820-1144	6	1	IC GATE TTL LS NOR QUAD 2-INP	01295	SN74LS02N
A14U502	1820-1197	9	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
A14U506	1820-1112	8	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
A14U600	1820-1217	4	1	IC MUXR/DATA-SEL TTL LS 8-TO-1-LINE	01295	SN74LS151N
A14U601	1820-1492	7	1	IC BFR TTL LS INV HEX 1-INP	01295	SN74LS368AN
A14U603	1820-1212	9	1	IC FF TTL LS J-K NEG-EDGE-TRIG	01295	SN74LS112AN
A14U604	1820-1199	1	1	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
A14U605	1826-0740	8	1	IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A14U700	1820-1991	1	1	IC CNTR TTL LS DECD DUAL 4-BIT	01295	SN74LS390N
A14U701	1820-1443	8		IC CNTR TTL LS BIN ASYNCHRO	01295	SN74LS293N
A14U702	1820-1207	8	1	IC BFR TTL LS NAND QUAD 2-INP	01295	SN74LS37N
A14U703	1820-2096	9	1	IC CNTR TTL LS BIN DUAL 4-BIT	01295	SN74LS393N
A14U800	1820-1281	2	1	IC DCDR TTL LS 2-TO-4-LINE DUAL 2-INP	01295	SN74LS139N
A14U801	1820-1431	4	2	IC CNTR TTL LS DECD SYNCHRO	01295	SN74LS162AN
A14U802	1820-1431	4		IC CNTR TTL LS DECD SYNCHRO	01295	SN74LS162AN
A14U803	1820-1858	9	1	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A14U804	1820-0976	0	1	IC SHF-RGTR CMOS D-TYPE SERIAL-IN	3L585	CD4015BE
A14U805	1826-0328	8	1	IC OP AMP GP DUAL 8-DIP-C PKG	07933	RV4558DE
A14U900	1820-1216	3	1	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A14U901	1820-3210	1	1	IC-ASYNCH. COMMUN INTERFACE ADAPTER	28480	1820-3210
A14U903	1820-2024	3	1	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
A14XU901	1200-0541	1	1	SOCKET-IC 24-CONT DIP DIP-SLDR	28480	1200-0541
A14Y1	0410-1220	9	1	CRYSTAL-QUARTZ 4.194304 MHZ HC-49/U-HLDR	28480	0410-1220
	1480-0116	8	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	4040-0745	0	2	SEAL LIGHT	28480	4040-0745
	5080-8552	8	1	A14 ID LABEL	28480	5080-8552

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A15	04945-60016	0	1	WAVEFORM GEN BD	28480	04945-60016
A15C1	0160-0153	4	1	CAPACITOR-FXD 1000PF +-10% 200VDC POLYE	28480	0160-0153
A15C2	0160-5332	1	28	CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C3	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C4	0180-0374	3	5	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A15C5	0160-2257	3	2	CAPACITOR-FXD 10PF +-5% 500VDC CER 0+-60	28480	0160-2257
A15C6	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C7	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C8	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C9	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C10	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C11	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C12	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A15C13	0160-2387	0	1	CAPACITOR-FXD 1000PF +-1% 500VDC MICA	28480	0160-2387
A15C14	0160-4786	7	1	CAPACITOR-FXD 27PF +-5% 100VDC CER 0+-30	28480	0160-4786
A15C15	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C16	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C17	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C18	0160-4426	2	5	CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A15C19	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C20	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C21	0160-5695	9	1	CAPACITOR-FXD .1UF +-1% 200VDC MET-POLYC	28480	0160-5695
A15C22	0160-5660	8	1	CAPACITOR-FXD 5100PF +-1% 100VDC CER	28480	0160-5660
A15C23	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A15C24	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A15C25	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C26	0160-5657	3	3	CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A15C27	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A15C28	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A15C29	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C30	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A15C31	0160-4089	3	1	CAPACITOR-FXD 2200PF +-1% 500VDC MICA	28480	0160-4089
A15C32	0140-0205	5	1	CAPACITOR-FXD 62PF +-5% 300VDC MICA	72136	DM15E620J0300WV1CR
A15C33	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C34	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C35	0160-5268	2	6	CAPACITOR-FXD .039UF +-1% 50VDC	28480	0160-5268
A15C36	0160-5268	2		CAPACITOR-FXD .039UF +-1% 50VDC	28480	0160-5268
A15C37	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C38	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C39	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A15C40	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A15C41	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C42	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A15C43	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C44	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C45	0160-5268	2		CAPACITOR-FXD .039UF +-1% 50VDC	28480	0160-5268
A15C46	0160-5268	2		CAPACITOR-FXD .039UF +-1% 50VDC	28480	0160-5268
A15C47	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C48	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C49	0160-5268	2		CAPACITOR-FXD .039UF +-1% 50VDC	28480	0160-5268
A15C50	0160-5268	2		CAPACITOR-FXD .039UF +-1% 50VDC	28480	0160-5268
A15C51	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C52	0160-4426	2		CAPACITOR-FXD .01UF +-1% 100VDC CER	28480	0160-4426
A15C53	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C54	0160-2257	3		CAPACITOR-FXD 10PF +-5% 500VDC CER 0+-60	28480	0160-2257
A15C55	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C56	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A15C57	0160-4801	7	2	CAPACITOR-FXD 100PF +-5% 100VDC CER	28480	0160-4801
A15C58	0160-4801	7		CAPACITOR-FXD 100PF +-5% 100VDC CER	28480	0160-4801
A15CR1	1902-0686	3	2	DIODE-ZNR 6.2V 2% DO-7 PD=.4W TC=+.062%	04713	1N825
A15CR2	1902-0686	3		DIODE-ZNR 6.2V 2% DO-7 PD=.4W TC=+.062%	04713	1N825
A15CR3	1901-0518	8	1	DIODE-SM SIG SCHOTTKY	28480	1901-0518
A15P1	1251-7986	9	1	CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7986
A15R1	0757-0394	0	25	RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R2	0698-3450	9	2	RESISTOR 42.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4222-F
A15R3	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R4	0698-3450	9		RESISTOR 42.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4222-F
A15R5	0757-1094	9	2	RESISTOR 1.47K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1471-F
A15R6	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R7	0757-0288	1	1	RESISTOR 9.09K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-9091-F
A15R8	0757-0199	3	3	RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A15R9	0757-0199	3		RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A15R10	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A15R11	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R12	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R13	0757-0199	3		RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A15R14	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R15	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R16	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R17	0698-0085	0	2	RESISTOR 2.61K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2611-F
A15R18	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R19	0698-6360	6	16	RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R20	0699-0692	7	1	RESISTOR 1.4K .1% .125W F TC=0+-25	28480	0699-0692
A15R21	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R22	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R23	0699-0079	4	1	RESISTOR 4.667K .1% .1W F TC=0+-10	28480	0699-0079
A15R24	0699-0513	1	1	RESISTOR 4.98K .1% .1W F TC=0+-10	28480	0699-0513
A15R25	0757-0438	3	11	RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A15R26	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A15R27	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A15R28	0698-3512	4	1	RESISTOR 1.18K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1181-F
A15R29	0698-7847	6	1	RESISTOR 1.111K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-1111R-B
A15R30	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R31	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R32	0698-6137	5	1	RESISTOR 328 1% .125W F TC=0+-100	24546	C4-1/8-T0-328R-F
A15R33	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A15R34	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A15R35	0698-6414	1	1	RESISTOR 1K .1% .1W F TC=0+-5	28480	0698-6414
A15R36	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R37	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R38	0698-7842	1	4	RESISTOR 26.1K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-2612-B
A15R39	0698-7842	1		RESISTOR 26.1K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-2612-B
A15R40	0698-6754	2	1	RESISTOR 44.2K .5% .125W F TC=0+-50	24546	NC4-1/8-T2-4422-D
A15R41	0698-8014	1	1	RESISTOR 22.3K .5% .125W F TC=0+-50	19701	MF4C1/8-T2-2232-D
A15R42	0698-3934	4	1	RESISTOR 42.19K .1% .125W F TC=0+-25	28480	0698-3934
A15R43	0698-7842	1		RESISTOR 26.1K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-2612-B
A15R44	0698-6614	3	1	RESISTOR 7.5K .1% .125W F TC=0+-25	28480	0698-6614
A15R45	0757-0279	0	2	RESISTOR 3.16K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3161-F
A15R46	0757-0279	0		RESISTOR 3.16K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3161-F
A15R47	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R48	0757-0424	7	1	RESISTOR 1.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1101-F
A15R49	0698-7643	0	1	RESISTOR 6.25K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-6251-B
A15R50	0698-6444	7	1	RESISTOR 21.62K .1% .125W F TC=0+-25	28480	0698-6444
A15R52	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R53	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R54	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R55	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R56	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A15R57	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A15R58	0698-4441	0	1	RESISTOR 3.74K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3741-F
A15R59	0698-4020	1	1	RESISTOR 9.53K 1% .125W F TC=0+-100	24546	C4-1/8-T0-9531-F
A15R60	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R61	0698-3153	9	1	RESISTOR 3.83K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3831-F
A15R62	0757-1094	9		RESISTOR 1.47K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1471-F
A15R63	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A15R64	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R65	0698-3152	8	1	RESISTOR 3.48K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3481-F
A15R66	0698-3151	7	5	RESISTOR 2.87K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2871-F
A15R67	0757-0441	8	1	RESISTOR 8.25K 1% .125W F TC=0+-100	24546	C4-1/8-T0-8251-F
A15R68	0757-0278	9	2	RESISTOR 1.78K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1781-F
A15R69	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R70	0698-3151	7		RESISTOR 2.87K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2871-F
A15R71	0698-3454	3	1	RESISTOR 215K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2153-F
A15R72	0698-6359	3	1	RESISTOR 80K .1% .125W F TC=0+-25	28480	0698-6359
A15R73	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R74	0698-3151	7		RESISTOR 2.87K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2871-F
A15R75	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R76	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A15R77	0698-3151	7		RESISTOR 2.87K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2871-F
A15R78	0757-0278	9		RESISTOR 1.78K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1781-F
A15R79	0698-3151	7		RESISTOR 2.87K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2871-F
A15R80	0757-0446	3	1	RESISTOR 15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1502-F
A15R81	0757-0440	7	1	RESISTOR 7.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7501-F
A15R82	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R83	0698-3279	0	2	RESISTOR 4.99K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4991-F
A15R84	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R85	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A15R86	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A15R87	0698-0085	0		RESISTOR 2.61K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2611-F
A15R88	0698-3279	0		RESISTOR 4.99K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4991-F
A15R89	0698-7842	1		RESISTOR 26.1K .1% .125W F TC=0+-25	19701	MF4C1/8-T9-2612-B
A15R90	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R91	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R92	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R93	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R94	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R95	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R96	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R97	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R98	0699-0214	9	1	RESISTOR 17.8K .1% .125W F TC=0+-25	28480	0699-0214
A15R99	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R100	0757-0280	3	1	RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A15R101	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R102	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A15R103	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A15R104	0757-0465	6	1	RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A15R105	2100-3123	0	3	RESISTOR-TRMR 500 10% C SIDE-ADJ 17-TRN	02111	43P501
A15R106	2100-3123	0		RESISTOR-TRMR 500 10% C SIDE-ADJ 17-TRN	02111	43P501
A15R107	2100-3123	0		RESISTOR-TRMR 500 10% C SIDE-ADJ 17-TRN	02111	43P501
A15R108	2100-3109	2	1	RESISTOR-TRMR 2K 10% C SIDE-ADJ 17-TRN	02111	43P202
A15TP1	1251-4670	2	3	CONNECTOR 3-PIN M POST TYPE	28480	1251-4670
A15TP2	1251-4670	2		CONNECTOR 3-PIN M POST TYPE	28480	1251-4670
A15TP3	1251-4670	2		CONNECTOR 3-PIN M POST TYPE	28480	1251-4670
A15TP4	1251-6857	1	1	CONNECTOR 2-PIN M POST TYPE	28480	1251-6857
A15TP6	0360-1682	0	1	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A15U101	1826-0735	1	3	IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A15U102	1826-0753	3	1	IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-C	04713	MC34004BL
A15U104	1826-0410	9	3	IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-P	01295	TL084CN
A15U200	1826-1044	7	1	D/A 12-1/2-BIT 24-DIP-C BPLR	28480	1826-1044
A15U201	1826-0328	8	1	IC OP AMP GP DUAL 8-DIP-C PKG	07933	RV4558DE
A15U202	1826-0644	1	1	IC OP AMP H-SLEW-RATE TO-99 PKG	32293	HA2-2515-5
A15U203	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A15U204	1826-0188	8	1	IC CONV 8-B-D/A 16-DIP-C PKG	04713	MC1408L-8
A15U206	1826-0410	9		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-P	01295	TL084CN
A15U300	1820-1730	6	3	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS273N
A15U301	1820-1470	1	2	IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A15U302	1820-1730	6		IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS273N
A15U304	1826-0740	8	4	IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A15U305	1826-0081	0	1	IC OP AMP WB TO-99 PKG	27014	LM318H
A15U306	1826-0410	9		IC OP AMP LOW-BIAS-H-IMPD QUAD 14-DIP-P	01295	TL084CN
A15U400	1820-1112	8	2	IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
A15U401	1820-1470	1		IC MUXR/DATA-SEL TTL LS 2-TO-1-LINE QUAD	01295	SN74LS157N
A15U402	04945-10019	8	1	WFG PROM 1	28480	04945-10019
A15U404	1826-0740	8		IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A15U405	1820-0493	6	1	IC OP AMP GP 8-DIP-P PKG	27014	LM307N
A15U500	1820-1217	4	1	IC MUXR/DATA-SEL TTL LS 8-TO-1-LINE	01295	SN74LS151N
A15U501	1820-1144	6	1	IC GATE TTL LS NOR QUAD 2-INP	01295	SN74LS02N
A15U502	04945-10020	1	1	WFG PROM 2	28480	04945-10020
A15U504	1820-1730	6		IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS273N
A15U505	1826-0740	8		IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A15U506	1826-0661	4	1	IC CONV 10-B-D/A 16-DIP-P PKG	24355	AD7533LN
A15U600	1820-1197	9	2	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
A15U601	1820-1197	9		IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
A15U602	1820-1858	9	1	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
A15U604	1820-1112	8		IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
A15U605	1826-0740	8		IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A15U606	1826-0735	1		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	34371	HA3-2507-5
A15XU200	1200-0541	1	3	SOCKET-IC 24-CONT DIP DIP-SLDR	28480	1200-0541
A15XU402	1200-0541	1		SOCKET-IC 24-CONT DIP DIP-SLDR	28480	1200-0541
A15XU502	1200-0541	1		SOCKET-IC 24-CONT DIP DIP-SLDR	28480	1200-0541
	1480-0116	8	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	4040-0747	2	2	EXTR-PC BD GRA POLYC .062-BD-THKNS	28480	4040-0747
	5080-8553	9	1	A15 ID LABEL	28480	5080-8553

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A17	04945-60017	1	1	ACTIVE OUTPUT BD	28480	04945-60017
A17C1	0180-2210	0	4	CAPACITOR-FXD 2UF+50-10% 150VDC AL	56289	30D205F150BB2
A17C2	0180-2210	0		CAPACITOR-FXD 2UF+50-10% 150VDC AL	56289	30D205F150BB2
A17C3	0180-2210	0		CAPACITOR-FXD 2UF+50-10% 150VDC AL	56289	30D205F150BB2
A17C4	0160-0127	2	3	CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A17C5	0180-0374	3	2	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A17C6	0160-5332	1	22	CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C7	0180-2210	0		CAPACITOR-FXD 2UF+50-10% 150VDC AL	56289	30D205F150BB2
A17C8	0160-0127	2		CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A17C9	0160-0127	2		CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A17C10	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C11	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C12	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C13	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C14	0180-2854	8	2	CAPACITOR-FXD 68UF+-10% 100VDC TA	28480	0180-2854
A17C15	0180-2854	8		CAPACITOR-FXD 68UF+-10% 100VDC TA	28480	0180-2854
A17C16	0180-3312	5	2	CAPACITOR-FXD 8.2UF -10+5% 150WVDC	28480	0180-3312
A17C17	0180-3312	5		CAPACITOR-FXD 8.2UF -10+5% 150WVDC	28480	0180-3312
A17C18	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C19	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C20	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C21	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C22	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C23	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C24	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C25	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C26	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C27	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C28	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C29	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C30	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C31	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C32	0180-0374	3		CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
A17C33	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C34	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17C35	0160-0168	1	1	CAPACITOR-FXD .1UF +-10% 200VDC POLYE	28480	0160-0168
A17C36	0180-1819	3	1	CAPACITOR-FXD 100UF+75-10% 50VDC AL	56289	30D107G050DH2
A17C37	0180-1746	5	3	CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A17C38	0180-1746	5		CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A17C39	0180-1746	5		CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A17C40	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A17CR1	1826-0585	9	3	V REF TO-92	27014	LM329DZ
A17CR2	1826-0585	9		V REF TO-92	27014	LM329DZ
A17CR3	1826-0585	9		V REF TO-92	27014	LM329DZ
A17CR4	1901-1106	2	12	DIODE-POWER RECTIFIER	28480	1901-1106
A17CR5	1901-1106	2		DIODE-POWER RECTIFIER	28480	1901-1106
A17CR6	1902-0950	2	1	DIODE-ZNR 10V 5% DO-35 PD=.4W TC=+.075%	28480	1902-0950
A17CR7	1901-1106	2		DIODE-POWER RECTIFIER	28480	1901-1106
A17CR8	1901-1106	2		DIODE-POWER RECTIFIER	28480	1901-1106
A17CR9	1901-0033	2	1	DIODE-GEN PRP 180V 200MA DO-7	28480	1901-0033
A17CR10	1901-1106	2		DIODE-POWER RECTIFIER	28480	1901-1106
A17CR11	1901-1106	2		DIODE-POWER RECTIFIER	28480	1901-1106
A17CR12	1902-0969	5	1	DIODE-ZNR 30V 5% DO-35 PD=.4W TC=+.095%	28480	1902-0969
A17CR13	1901-1106	2		DIODE-POWER RECTIFIER	28480	1901-1106
A17CR14	1901-1106	2		DIODE-POWER RECTIFIER	28480	1901-1106
A17CR15	1901-0050	3	12	DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A17CR16	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A17CR17	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A17CR18	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A17CR19	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A17CR20	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A17CR21	1902-0175	5	4	DIODE-ZNR 100V 5% PD=1W IR=5UA	28480	1902-0175
A17CR22	1902-0175	5		DIODE-ZNR 100V 5% PD=1W IR=5UA	28480	1902-0175
A17CR23	1902-0175	5		DIODE-ZNR 100V 5% PD=1W IR=5UA	28480	1902-0175
A17CR24	1902-0175	5		DIODE-ZNR 100V 5% PD=1W IR=5UA	28480	1902-0175
A17CR25	1901-1106	2		DIODE-POWER RECTIFIER	28480	1901-1106
A17CR26	1901-1106	2		DIODE-POWER RECTIFIER	28480	1901-1106
A17CR27	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A17CR28	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A17CR29	1901-1106	2		DIODE-POWER RECTIFIER	28480	1901-1106
A17CR30	1901-1106	2		DIODE-POWER RECTIFIER	28480	1901-1106

See introduction to this section for ordering information
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Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A17CR31	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A17CR32	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A17CR33	1902-0943	5	4	DIODE-ZNR 2.4V 5% DO-35 PD=.4W TC=-.037%	28480	1902-0943
A17CR34	1902-0943	5		DIODE-ZNR 2.4V 5% DO-35 PD=.4W TC=-.037%	28480	1902-0943
A17CR35	1902-0943	5		DIODE-ZNR 2.4V 5% DO-35 PD=.4W TC=-.037%	28480	1902-0943
A17CR36	1902-0943	5		DIODE-ZNR 2.4V 5% DO-35 PD=.4W TC=-.037%	28480	1902-0943
A17CR37	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A17CR38	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A17P1	1251-7986	9	1	CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7986
A17Q1	1853-0221	7	3	TRANSISTOR PNP 2N5416 SI TO-5 PD=1W	3L585	2N5416
A17Q2	1854-0079	5	6	TRANSISTOR NPN 2N3439 SI TO-5 PD=1W	3L585	2N3439
A17Q3	1853-0462	8	1	TRANSISTOR PNP 2N3635 SI TO-39 PD=1W	01295	2N3635
A17Q4	1854-0079	5		TRANSISTOR NPN 2N3439 SI TO-5 PD=1W	3L585	2N3439
A17Q5	1854-0474	4	2	TRANSISTOR NPN SI PD=310MW FT=100MHZ	04713	2N5551
A17Q6	1853-0336	5	1	TRANSISTOR PNP SI PD=625MW FT=50MHZ	04713	MPSA92
A17Q7	1854-0474	4		TRANSISTOR NPN SI PD=310MW FT=100MHZ	04713	2N5551
A17Q8	1853-0459	3	1	TRANSISTOR PNP SI PD=625MW FT=200MHZ	28480	1853-0459
A17Q9	1854-0810	2	1	TRANSISTOR NPN SI PD=625MW FT=200MHZ	28480	1854-0810
A17Q10	1854-0079	5		TRANSISTOR NPN 2N3439 SI TO-5 PD=1W	3L585	2N3439
A17Q11	1854-0079	5		TRANSISTOR NPN 2N3439 SI TO-5 PD=1W	3L585	2N3439
A17Q12	1854-0079	5		TRANSISTOR NPN 2N3439 SI TO-5 PD=1W	3L585	2N3439
A17Q13	1853-0221	7		TRANSISTOR PNP 2N5416 SI TO-5 PD=1W	3L585	2N5416
A17Q14	1853-0221	7		TRANSISTOR PNP 2N5416 SI TO-5 PD=1W	3L585	2N5416
A17Q15	1854-0079	5		TRANSISTOR NPN 2N3439 SI TO-5 PD=1W	3L585	2N3439
A17Q16	1854-0477	7	2	TRANSISTOR NPN 2N2222A SI TO-18 PD=500MW	04713	2N2222A
A17Q17	1853-0281	9	2	TRANSISTOR PNP 2N2907A SI TO-18 PD=400MW	04713	2N2907A
A17Q18	1853-0281	9		TRANSISTOR PNP 2N2907A SI TO-18 PD=400MW	04713	2N2907A
A17Q19	1854-0477	7		TRANSISTOR NPN 2N2222A SI TO-18 PD=500MW	04713	2N2222A
A17R1	0757-0443	0	2	RESISTOR 11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1102-F
A17R2	0757-0443	0		RESISTOR 11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1102-F
A17R3	0698-4428	3	2	RESISTOR 1.69K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1691-F
A17R4	0698-4428	3		RESISTOR 1.69K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1691-F
A17R5	0757-0419	0	1	RESISTOR 681 1% .125W F TC=0+-100	24546	C4-1/8-T0-681R-F
A17R6	0757-0438	3	3	RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A17R7	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A17R8	0698-6782	6	2	RESISTOR 250 .1% .125W F TC=0+-25	28480	0698-6782
A17R9	0698-4512	6	1	RESISTOR 88.7K 1% .125W F TC=0+-100	24546	C4-1/8-T0-8872-F
A17R10	0698-6413	0	4	RESISTOR 6.5K .1% .125W F TC=0+-25	28480	0698-6413
A17R11	0698-6360	6	8	RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A17R12	0757-0180	2	6	RESISTOR 31.6 1% .125W F TC=0+-100	28480	0757-0180
A17R13	0698-3453	2	4	RESISTOR 196K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1963-F
A17R14	0757-0465	6	7	RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A17R15	0698-8959	3	2	RESISTOR 619K 1% .125W F TC=0+-100	28480	0698-8959
A17R16	0698-8959	3		RESISTOR 619K 1% .125W F TC=0+-100	28480	0698-8959
A17R17	0698-3453	2		RESISTOR 196K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1963-F
A17R18	0757-0470	3	1	RESISTOR 162K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1623-F
A17R19	0698-3157	3	1	RESISTOR 19.6K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1962-F
A17R20	0698-8804	9	1	RESISTOR 2.15K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2151-F
A17R21	0757-0401	0	15	RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R22	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R23	0698-6363	9	1	RESISTOR 40K .1% .125W F TC=0+-25	28480	0698-6363
A17R24	0698-3445	2	1	RESISTOR 348 1% .125W F TC=0+-100	24546	C4-1/8-T0-348R-F
A17R25	0698-3446	3	1	RESISTOR 383 1% .125W F TC=0+-100	24546	C4-1/8-T0-383R-F
A17R26	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A17R27	0698-3453	2		RESISTOR 196K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1963-F
A17R28	0698-6782	6		RESISTOR 250 .1% .125W F TC=0+-25	28480	0698-6782
A17R29	0698-6413	0		RESISTOR 6.5K .1% .125W F TC=0+-25	28480	0698-6413
A17R30	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A17R31	0757-0180	2		RESISTOR 31.6 1% .125W F TC=0+-100	28480	0757-0180
A17R32	0698-3453	2		RESISTOR 196K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1963-F
A17R33	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A17R34	0757-0420	3	2	RESISTOR 750 1% .125W F TC=0+-100	24546	C4-1/8-T0-751-F
A17R35	0757-0420	3		RESISTOR 750 1% .125W F TC=0+-100	24546	C4-1/8-T0-751-F
A17R36	0698-3450	9	1	RESISTOR 42.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4222-F
A17R37	0757-0123	3	1	RESISTOR 34.8K 1% .125W F TC=0+-100	28480	0757-0123
A17R38	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R39	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R40	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A17R41	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A17R42	0757-0279	0	4	RESISTOR 3.16K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3161-F
A17R43	0757-0279	0		RESISTOR 3.16K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3161-F
A17R44	0757-0279	0		RESISTOR 3.16K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3161-F
A17R45	0757-0279	0		RESISTOR 3.16K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3161-F

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A17R46	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A17R47	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A17R48	0698-3457	6	1	RESISTOR 316K 1% .125W F TC=0+-100	28480	0698-3457
A17R49	0757-0486	1	1	RESISTOR 750K 1% .125W F TC=0+-100	28480	0757-0486
A17R50	0698-6348	0	2	RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A17R51	0698-6348	0		RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A17R52	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R53	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R54	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R55	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R56	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R57	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R58	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A17R59	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A17R60	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A17R61	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A17R62	0757-0465	6		RESISTOR 100K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1003-F
A17R63	0757-0458	7	4	RESISTOR 51.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5112-F
A17R64	0698-6413	0		RESISTOR 6.5K .1% .125W F TC=0+-25	28480	0698-6413
A17R65	0698-8638	5	2	RESISTOR 3.16K .1% .125W F TC=0+-25	28480	0698-8638
A17R66	0698-8638	5		RESISTOR 3.16K .1% .125W F TC=0+-25	28480	0698-8638
A17R67	0698-6413	0		RESISTOR 6.5K .1% .125W F TC=0+-25	28480	0698-6413
A17R68	0757-0458	7		RESISTOR 51.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5112-F
A17R69	0698-6323	1	2	RESISTOR 100 .1% .125W F TC=0+-25	28480	0698-6323
A17R70	0698-6321	9	1	RESISTOR 9.9K .1% .125W F TC=0+-25	03888	PME55-1/8-T9-9901-B
A17R71	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R72	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R73	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R74	0757-0280	3	1	RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A17R75	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R76	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A17R77	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A17R78	0698-6360	6		RESISTOR 10K .1% .125W F TC=0+-25	28480	0698-6360
A17R79	0698-6445	8	1	RESISTOR 6.838K .1% .125W F TC=0+-25	28480	0698-6445
A17R80	0698-6446	9	1	RESISTOR 2.162K .1% .125W F TC=0+-25	28480	0698-6446
A17R81	0698-6447	0	1	RESISTOR 683.8 .1% .125W F TC=0+-25	28480	0698-6447
A17R82	0698-6448	1	1	RESISTOR 216.2 .1% .125W F TC=0+-25	28480	0698-6448
A17R83	0698-6323	1		RESISTOR 100 .1% .125W F TC=0+-25	28480	0698-6323
A17R84	0757-0394	0	2	RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A17R85	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A17R86	0757-0458	7		RESISTOR 51.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5112-F
A17R87	0757-0180	2		RESISTOR 31.6 1% .125W F TC=0+-100	28480	0757-0180
A17R88	0757-0180	2		RESISTOR 31.6 1% .125W F TC=0+-100	28480	0757-0180
A17R89	0757-0180	2		RESISTOR 31.6 1% .125W F TC=0+-100	28480	0757-0180
A17R90	0757-0180	2		RESISTOR 31.6 1% .125W F TC=0+-100	28480	0757-0180
A17R91	0757-0458	7		RESISTOR 51.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5112-F
A17U306	1826-0785	1	2	IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A17U309	1826-0915	9	5	IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A17U310	1826-0915	9		IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A17U405	1826-0915	9		IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A17U406	1826-0915	9		IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A17U407	1826-0915	9		IC OP AMP LOW-BIAS-H-IMPD 8-DIP-C PKG	01295	TL071ACJG (PER HP DWG)
A17U408	1826-0740	8	2	IC SWITCH ANLG DUAL 16-DIP-C PKG	32293	IH5043CDE
A17U409	1820-1725	9	1	IC MULTIPLXR ANLG 16-DIP-P PKG	17856	DG508CJ
A17U500	1826-0785	1		IC OP AMP LOW-BIAS-H-IMPD DUAL 8-DIP-C	01295	TL072ACJG
A17U607	1826-0749	8		IC SWITCH ANLG QUAL 16-DIP-C PKG	32293	IH5043CDE
A17U608	1826-1858	9	1	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
	1200-0173	5	10	INSULATOR-XSTR DAP-GL	28480	1200-0173
	1205-0011	0	4	HEAT SINK TO-5/T0-39-CS	28480	1205-0011
	1480-0116	8	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	4040-0747	2	2	EXTR-PC BD GRA POLYC .062-BP-THKNS	28480	4040-0747
	5080-8554	0	1	A17 ID LABEL	28480	5080-8554

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A18	04945-60018	2	1	TRANSMIT OUTPUT	28480	04945-60018
A18C1	0160-5675	5	1	CAPACITOR-FXD .47UF +-20% 50VDC	28480	0160-5675
A18C2	0160-5332	1	8	CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A18C3	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A18C4	0180-0373	2	1	CAPACITOR-FXD .68UF+-10% 35VDC TA	56289	150D684X9035A2
A18C5	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A18C6	0160-5681	5	1	CAPACITOR-FXD 2.16UF +-1% 200VDC	28480	0160-5681
A18C7	0180-3264	6	4	CAPACITOR-FXD 85UF+75-10% 150VDC AL NPOL	28480	0180-3264
A18C8	0180-3264	6		CAPACITOR-FXD 85UF+75-10% 150VDC AL NPOL	28480	0180-3264
A18C9	0180-3264	6		CAPACITOR-FXD 85UF+75-10% 150VDC AL NPOL	28480	0180-3264
A18C10	0180-3264	6		CAPACITOR-FXD 85UF+75-10% 150VDC AL NPOL	28480	0180-3264
A18C11	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A18C12	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A18C13	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A18C14	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A18C15	0180-1746	5	1	CAPACITOR-FXD 15UF+-10% 20VDC TA	56289	150D156X9020B2
A18C16	0160-5332	1		CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A18C17	0160-2307	4	1	CAPACITOR-FXD 47PF +-5% 300VDC MICA	28480	0160-2307
A18CR1	1906-0069	4	1	DIODE-FW BRDG 400V 1A	28480	1906-0069
A18CR2	1826-0585	9	1	V REF TO-92	27014	LM329DZ
A18CR3	1901-0040	1	28	DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR4	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR5	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR6	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR7	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR8	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR9	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR10	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR11	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR12	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR13	1902-0586	2	4	DIODE-ZNR 150V 5% DO-15 PD=1W TC=+.087%	28480	1902-0586
A18CR14	1902-0586	2		DIODE-ZNR 150V 5% DO-15 PD=1W TC=+.087%	28480	1902-0586
A18CR15	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR16	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR17	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR18	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR19	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR20	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR21	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR22	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR23	1902-0586	2		DIODE-ZNR 150V 5% DO-15 PD=1W TC=+.087%	28480	1902-0586
A18CR24	1902-0586	2		DIODE-ZNR 150V 5% DO-15 PD=1W TC=+.087%	28480	1902-0586
A18CR25	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18CR26	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A18J1	1251-2026	8	2	CONNECTOR-PC EDGE 18-CONT/ROW 2-ROWS	28480	1251-2026
A18J2	1251-2026	8		CONNECTOR-PC EDGE 18-CONT/ROW 2-ROWS	28480	1251-2026
A18K301	0490-1354	8	10	RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A18K302	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A18K303	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A18K304	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A18K305	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A18K306	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A18K307	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A18K308	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A18K309	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A18K310	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A18P1	1251-7506	9	1	CONN-POST TYPE .100-PIN-SPCG 120-CONT	28480	1251-7506
A18Q1	1854-0575	6	1	TRANSISTOR NPN SI PD=625MW FT=50MHZ	04713	MPS-A42
A18Q2	1854-0071	7	1	TRANSISTOR NPN SI PD=300MW FT=200MHZ	28480	1854-0071
A18R1	0757-0382	6	1	RESISTOR 16.2 1% .125W F TC=0+-100	19701	MF4C1/8-T0-16R2-F
A18R3	0698-3453	2	1	RESISTOR 196K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1963-F
A18R4	0698-8826	3	1	RESISTOR 825K 1% .125W F TC=0+-100	28480	0698-8826
A18R5	0698-3459	8	1	RESISTOR 383K 1% .125W F TC=0+-100	28480	0698-3459
A18R6	0757-0199	3	1	RESISTOR 21.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2152-F
A18R7	0757-0401	0	2	RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A18R8	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A18R9	0698-6344	6	1	RESISTOR 900 .1% .125W F TC=0+-25	28480	0698-6344
A18R10	0699-1197	9	1	RESISTOR-FXD 9000HM +-0.25% TC=0+-50 PPM	28480	0699-1197
A18R11	0699-1092	3	4	RESISTOR 600 .25% .5W F TC=0+-50	28480	0699-1092

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A18R12	0699-1091	2	2	RESISTOR 75.5 .25% .5W F TC=+-50	28480	0699-1091
A18R13	0699-1092	3		RESISTOR 600 .25% .5W F TC=0+-50	28480	0699-1092
A18R14	0699-1138	2	2	RESISTOR 1.8K .25% .5W F TC=+-50	28480	0699-1138
A18R15	0699-1092	3		RESISTOR 600 .25% .5W F TC=0+-50	28480	0699-1092
A18R16	0699-1091	2		RESISTOR 75.5 .25% .5W F TC=+-50	28480	0699-1091
A18R17	0699-1092	3		RESISTOR 600 .25% .5W F TC=0+-50	28480	0699-1092
A18R18	0699-1138	2		RESISTOR 1.8K .25% .5W F TC=+-50	28480	0699-1138
A18R19	0757-0394	0	3	RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A18R20	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A18R21	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A18R22	0698-6348	0	1	RESISTOR 3K .1% .125W F TC=0+-25	28480	0698-6348
A18R23	0698-4123	5	1	RESISTOR 499 1% .125W F TC=0+-100	24546	C4-1/8-T0-499R-F
A18R24	0698-8063	3	2	RESISTOR 1K .1% .5W F TC=0+-50	28480	0698-8063
A18R25	0698-8063	0		RESISTOR 1K .1% .5W F TC=0+-50	28480	0698-8063
A18R101	2100-3164	9	1	RESISTOR-TRMR 10 20% C SIDE-ADJ 17-TRN	02111	43P100
A18R301	1810-0279	5	4	NETWORK-RES 10-SIP4.7K OHM X 9	01121	210A472
A18R302	1810-0279	5		NETWORK-RES 10-SIP4.7K OHM X 9	01121	210A472
A18R303	1810-0279	5		NETWORK-RES 10-SIP4.7K OHM X 9	01121	210A472
A18R304	1810-0279	5		NETWORK-RES 10-SIP4.7K OHM X 9	01121	210A472
A18R401	1810-6349	0	4	NETWORK-RES 10-SIP1.0K OHM X 5	01121	210B102
A18R402	1810-0349	0		NETWORK-RES 10-SIP1.0K OHM X 5	01121	210B102
A18R403	1810-0349	0		NETWORK-RES 10-SIP1.0K OHM X 5	01121	210B102
A18R404	1810-0349	0		NETWORK-RES 10-SIP1.0K OHM X 5	01121	210B102
A18TP1	0360-1682	0	1	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
A18U401	1854-0643	9	5	TRANSISTOR NPN 2N3585 SI TO-66 PD=35W	3L585	2N3585
A18U401	1858-0076	0	5	TRANSISTOR ARRAY 14-PIN PLSTC TO-116	04713	MPQ2907P
A18U402	1854-0643	9		TRANSISTOR NPN 2N3585 SI TO-66 PD=35W	3L585	2N3585
A18U402	1858-0076	0		TRANSISTOR ARRAY 14-PIN PLSTC TO-116	04713	MPQ2907P
A18U403	1854-0643	9		TRANSISTOR NPN 2N3585 SI TO-66 PD=35W	3L585	2N3585
A18U403	1858-0076	0		TRANSISTOR ARRAY 14-PIN PLSTC TO-116	04713	MPQ2907P
A18U404	1854-0643	9		TRANSISTOR NPN 2N3585 SI TO-66 PD=35W	3L585	2N3585
A18U404	1858-0076	0		TRANSISTOR ARRAY 14-PIN PLSTC TO-116	04713	MPQ2907P
A18U405	1854-0643	9		TRANSISTOR NPN 2N3585 SI TO-66 PD=35W	3L585	2N3585
A18U405	1858-0076	0		TRANSISTOR ARRAY 14-PIN PLSTC TO-116	04713	MPQ2907P
A18U501	1820-1216	3	3	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A18U502	1820-1216	3		IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A18U503	1820-1216	3		IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
A18U504	1820-1858	9	1	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
	0380-0342	9	3	STANDOFF-RVT-ON .125-IN-LG 6-32THD	00000	ORDER BY DESCRIPTION
	1205-0085	8	1	HEAT SINK TO-66-CS	28480	1205-0085
	1251-1115	4	2	POLARIZING KEY-PC EDGE CONN	28480	1251-1115
	1400-0249	0	1	CABLE TIE .062-.625-DIA .091-WD NYL	06383	PLT1M-8
	1480-0116	8	2	PIN-GRV .062-IN-DIA .25-IN-LG STL	28480	1480-0116
	2360-0115	4	2	SCREW-MACH 6-32 .312-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
	2420-0023	1	2	NUT-HEX-W/LKWR 6-32-THD .109-IN-THK	28480	2420-0023
	6040-0239	9	1	LUBRICANT-GREASE SIL	05820	120
	5040-6067	2	2	EXTRACTOR PC	28480	5040-6067
	5080-8555	1	1	A18 ID LABEL	28480	5080-8555
	04945-20018	8	1	XMT OUTPUT BDBLK	28480	04945-20018
	04945-40018	2	1	INSULATOR-CAP	28480	04945-40018

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A19	04945-60019	3	1	CRT DRIVER BOARD	28480	04945-60019
A19C1	0160-5533	4	3	CAPACITOR-FXD .018UF +-1% 50VDC CER	28480	0160-5533
A19C2	0160-4822	2	2	CAPACITOR-FXD 1000PF +-5% 100VDC CER	28480	0160-4822
A19C3	0160-5298	8	4	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A19C4	0180-1745	4	1	CAPACITOR-FXD 1.5UF+-10% 20VDC TA	56289	150D155X9020A2
A19C5	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A19C6	0180-0097	7	5	CAPACITOR-FXD 47UF+-10% 35VDC TA	56289	150D476X9035S2
A19C6	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A19C7	0160-5533	4		CAPACITOR-FXD .018UF +-1% 50VDC CER	28480	0160-5533
A19C8	0160-5332	1	1	CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
A19C9	0160-0127	2	2	CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A19C10	0160-0161	4	2	CAPACITOR-FXD .01UF +-10% 200VDC POLYE	28480	0160-0161
A19C11	0160-4802	8	1	CAPACITOR-FXD 82PF +-5% 100VDC CER 0+-30	28480	0160-4802
A19C12	0160-2290	4	1	CAPACITOR-FXD .15UF +-10% 80VDC POLYE	28480	0160-2290
A19C13	0160-5657	3	2	CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A19C14	0160-4822	2		CAPACITOR-FXD 1000PF +-5% 100VDC CER	28480	0160-4822
A19C15	0160-4449	9	1	CAPACITOR-FXD 8200PF +-10% 400VDC POLYE	28480	0160-4449
A19C16	0160-0161	4		CAPACITOR-FXD .01UF +-10% 200VDC POLYE	28480	0160-0161
A19C17	0160-0127	2		CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A19C18	0180-2692	2	3	CAPACITOR-FXD 68UF+-10% 15VDC TA	56289	150D686X9015R8
A19C19	0160-2204	9	1	CAPACITOR-FXD 100PF +-5% 300VDC MICA	28480	0160-2204
A19C20	0180-2692	2		CAPACITOR-FXD 68UF+-10% 15VDC TA	56289	150D686X9015RS
A19C21	0160-3508	9	3	CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A19C22	0180-0098	8	1	CAPACITOR-FXD 100UF+-20% 20VDC TA	56289	150D107X0020S2
A19C23	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A19C23	0180-0230	0	4	CAPACITOR-FXD 1UF+-20% 50VDC TA	56289	150D105X0050A2
A19C24	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A19C25	0180-0230	0		CAPACITOR-FXD 1UF+-20% 50VDC TA	56289	150D105X0050A2
A19C26	0160-3127	8	2	CAPACITOR-FXD .022UF +-5% 400VDC POLYE	84411	663UW22354W2
A19C27	0180-2667	1	1	CAPACITOR-FXD 150UF+-10% 20VDC TA	56289	150D157X9020S2
A19C28	0180-0097	7		CAPACITOR-FXD 47UF+-10% 35VDC TA	56289	150D476X9035S2
A19C29	0160-4465	9	5	CAPACITOR-FXD .01UF +-20% 1KVDC CER	28480	0160-4465
A19C30	0160-4465	9		CAPACITOR-FXD .01UF +-20% 1KVDC CER	28480	0160-4465
A19C31	0180-1819	3	1	CAPACITOR-FXD 100UF+75-10% 50VDC AL	56289	30D107G050DH2
A19C32	0160-4465	9		CAPACITOR-FXD .01UF +-20% 1KVDC CER	28480	0160-4465
A19C32	0180-0230	0		CAPACITOR-FXD 1UF+-20% 50VDC TA	56289	150D105X0050A2
A19C33	0180-2829	7	1	CAPACITOR-FXD 5800UF+75-10% 7.5VDC AL	56289	604D582G7R5MP
A19C34	0180-0097	7		CAPACITOR-FXD 47UF+-10% 35VDC TA	56289	150D476X9035S2
A19C36	0160-4465	9		CAPACITOR-FXD .01UF +-20% 1KVDC CER	28480	0160-4465
A19C37	0160-4465	9		CAPACITOR-FXD .01UF +-20% 1KVDC CER	28480	0160-4465
A19C38	0160-3127	8		CAPACITOR-FXD .022UF +-5% 400VDC POLYE	84411	663UW22354W2
A19C39	0160-3830	0	1	CAPACITOR-FXD 5UF +-10% 50VDC MET-POLYC	28480	0160-3830
A19C40	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A19C41	0180-1997	8	1	CAPACITOR-FXD 20UF+50-10% 150VDC AL	28480	0180-1997
A19C42	0160-4455	7	1	CAPACITOR-FXD 10UF +-10% 50VDC MET-POLYC	28480	0160-4455
A19C43	0180-0097	7		CAPACITOR-FXD 47UF+-10% 35VDC TA	56289	150D476X9035S2
A19C44	0180-0230	0		CAPACITOR-FXD 1UF+-20% 50VDC TA	56289	150D105X0050A2
A19C45	0160-2055	9	1	CAPACITOR-FXD .01UF +80-20% 100VDC CER	28480	0160-2055
A19C46	0180-2249	5	1	CAPACITOR-FXD 47UF+-10% 20VDC TA	56289	150D476X9020R2
A19C47	0160-5533	4		CAPACITOR-FXD .018UF +-1% 50VDC CER	28480	0160-5533
A19C48	0160-4811	9	1	CAPACITOR-FXD 270PF +-5% 100VDC CER	28480	0160-4811
A19C49	0180-2692	2		CAPACITOR-FXD 68UF+-10% 15VDC TA	56289	150D686X9015RS
A19C50	0180-0116	1	1	CAPACITOR-FXD 6.8UF+-10% 35VDC TA	56289	150D685X9035B2
A19C51	0180-0097	7		CAPACITOR-FXD 47UF+-10% 35VDC TA	56289	150D476X9035S2
A19C54	0160-5657	3		CAPACITOR-FXD 1200PF +-1% 100VDC CER	28480	0160-5657
A19C55	0160-3762	7	2	CAPACITOR-FXD .68UF +-5% 50VDC MET-POLYC	28480	0160-3762
A19C56	0160-3762	7		CAPACITOR-FXD .68UF +-5% 50VDC MET-POLYC	28480	0160-3762
A19C57	0160-4825	5	1	CAPACITOR-FXD 560PF +-5% 100VDC CER	28480	0160-4825
A19CR1	1901-1105	1	4	DIODE-HV RECTIFIER	28480	1901-1105
A19CR2	1901-1105	1		DIODE-HV RECTIFIER	28480	1901-1105
A19CR3	1901-0767	9	3	DIODE-PWR RECT 400V 6A	04713	MR754
A19CR4	1901-1105	1		DIODE-HV RECTIFIER	28480	1901-1105
A19CR5	1901-0050	3	1	DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A19CR6	1901-1105	1		DIODE-HV RECTIFIER	28480	1901-1105
A19CR7	1901-0767	9		DIODE-PWR RECT 400V 6A	04713	MR754
A19CR8	1901-0767	9		DIODE-PWR RECT 400V 6A	04713	MR754
A19CR9	1902-3323	1	1	DIODE-ZNR 42.2V 5% DO-35 PD=.4W TC=+.38%	28480	1902-3323
A19CR10	1901-0040	1	1	DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A19H1	0380-0111	9	1	STANDOFF-RVT-ON .25-IN-LG 6-32THD	00000	ORDER BY DESCRIPTION
A19H2	0380-0159	6	1	STANDOFF-RVT-ON .375-IN-LG 6-32THD	00000	ORDER BY DESCRIPTION
A19H3	2360-0115	4	1	SCREW-MACH 6-32 .312-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A19J1	1251-7967	6	1	CONN-POST TYPE .100-PIN-SPCG 7-CONT	28480	1251-7967
A19J2	1251-3825	7	2	CONNECTOR 5-PIN M POST TYPE	28480	1251-3825
A19J3	1251-3825	7		CONNECTOR 5-PIN M POST TYPE	28480	1251-3825
A19J4	1251-4882	8	1	CONNECTOR 7-PIN M POST TYPE	28480	1251-4882
A19J5	1251-6857	1	4	CONNECTOR 2-PIN M POST TYPE	28480	1251-6857
A19J6	1251-6857	1		CONNECTOR 2-PIN M POST TYPE	28480	1251-6857
A19J7	1251-6857	1		CONNECTOR 2-PIN M POST TYPE	28480	1251-6857
A19J8	1251-6857	1		CONNECTOR 2-PIN M POST TYPE	28480	1251-6857
A19JU1	1258-0141	8	4	JUMPER-REM	28480	1258-0141
A19JU2	1258-0141	8		JUMPER-REM	28480	1258-0141
A19JU3	1258-0141	8		JUMPER-REM	28480	1258-0141
A19JU4	1258-0141	8		JUMPER-REM	28480	1258-0141
A19L1	9140-0765	1	1	INDUCTOR 700UH 10% 1.06WX1.02LG	28480	9140-0765
A19L2	9140-0111	1	1	INDUCTOR RF-CH-MLD 3.3UH 10%	28480	9140-0111
A19L3	01611-86001	8	1	COIL FXD .6UH	28480	01611-86001
A19L4	9140-0764	0	1	INDUCTOR 2.5MH 10% 1.06WX1.02LG	28480	9140-0764
A19L5	9140-0025	4	1	INDUCTOR RF-CH-MLD 235MH	28480	9140-0025
A19MP1	3131-0471	1	1	BOOT RUBBER SW	28480	3131-0471
A19MP2	0470-0354	4	1	ADHESIVE DOW CORNING 732 RTV SIL-RBR-RTV	28480	0470-0354
A19MP3	04945-00027	7	1	FLYBACK SHIELD	28480	04945-00027
A19MP4	0890-0025	6	1	SPIRAL WRAP .188-2-DIA POLYETH	28480	0890-0025
A19MP5	1400-1219	6	1	MOUNT-CA TIE .5-.6-DIA NYL	28480	1400-1219
A19MP6	0510-1210	9	2	NUT-SHMET-U-TP 8-32-THD .62-IN-THK	28480	0510-1210
A19MP7	0510-1210	9		NUT-SHMET-U-TP 8-32-THD .62-IN-THK	28480	0510-1210
A19Q1	1854-0624	6	3	TRANSISTOR NPN 2N6308 SI TO-3 PD=125W	04713	2N6308
A19Q2	1854-0215	1	5	TRANSISTOR NPN SI PD=350MW FT=300MHZ	04713	2N3904
A19Q3	1854-0215	1		TRANSISTOR NPN SI PD=350MW FT=300MHZ	04713	2N3904
A19Q4	1854-0215	1		TRANSISTOR NPN SI PD=350MW FT=300MHZ	04713	2N3904
A19Q5	1853-0036	2	2	TRANSISTOR PNP SI PD=310MW FT=250MHZ	28480	1853-0036
A19Q6	1853-0334	3	1	TRANSISTOR PNP SI DARL PD=70W FT=1MHZ	04713	MJE1090
A19Q7	1854-0558	5	1	TRANSISTOR NPN SI DARL PD=70W FT=1MHZ	28480	1854-0558
A19Q8	1854-0624	6		TRANSISTOR NPN 2N6308 SI TO-3 PD=125W	04713	2N6308
A19Q9	1854-0624	6		TRANSISTOR NPN 2N6308 SI TO-3 PD=125W	04713	2N6308
A19Q10	1854-0215	1		TRANSISTOR NPN SI PD=350MW FT=300MHZ	04713	2N3904
A19Q11	1853-0036	2		TRANSISTOR PNP SI PD=310MW FT=250MHZ	28480	1853-0036
A19Q12	1854-0330	1	1	TRANSISTOR NPN SI PD=21W FT=10MHZ	28480	1854-0330
A19Q13	1854-0215	1		TRANSISTOR NPN SI PD=350MW FT=300MHZ	04713	2N3904
A19R1	0698-3460	1	2	RESISTOR 422K 1% .125W F TC=0+-100	28480	0698-3460
A19R2	0698-3460	1		RESISTOR 422K 1% .125W F TC=0+-100	28480	0698-3460
A19R3	0757-0317	7	2	RESISTOR 1.33K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1331-F
A19R4	0757-0317	7		RESISTOR 1.33K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1331-F
A19R5	0757-0438	3	2	RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A19R6	0698-8850	3	1	RESISTOR 41.9K .1% .125W F TC=0+-25	28480	0698-8850
A19R7	0698-3456	5	1	RESISTOR 287K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2873-F
A19R8	0757-0421	4	1	RESISTOR 825 1% .125W F TC=0+-100	24546	C4-1/8-T0-825R-F
A19R9	0757-0442	9	1	RESISTOR 10K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1002-F
A19R10	0757-0280	3	5	RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A19R11	0698-8827	4	1	RESISTOR 1M 1% .125W F TC=0+-100	28480	0698-8827
A19R12	0698-3455	4	1	RESISTOR 261K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2613-F
A19R13	0698-3601	2	2	RESISTOR 10 5% 2W MO TC=0+-200	27167	FP42-2-T00-10R0-J
A19R14	0757-0401	3	4	RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A19R15	0757-0284	7	1	RESISTOR 150 1% .125W F TC=0+-100	24546	C4-1/8-T0-151-F
A19R16	0757-0457	6	9	RESISTOR 47.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4752-F
A19R17	0757-0412	3	1	RESISTOR 365 1% .125W F TC=0+-100	24546	C4-1/8-T0-365R-F
A19R18	0757-0401	3		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A19R19	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A19R20	2100-3964	7	1	RESISTOR-VAR CONTROL C 50 10% LIN	28480	2100-3964
A19R21	0757-0457	6		RESISTOR 47.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4752-F
A19R22	0757-0457	6		RESISTOR 47.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4752-F
A19R23	0757-0457	6		RESISTOR 47.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4752-F
A19R24	0757-0283	6	4	RESISTOR 2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2001-F
A19R25	0757-0457	6		RESISTOR 47.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4752-F
A19R26	0757-0283	6		RESISTOR 2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2001-F
A19R27	2100-3965	8	3	RESISTOR-TRMR 5K 10% C TOP-ADJ 1-TRN	28480	2100-3965
A19R28	0757-0283	6		RESISTOR 2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2001-F
A19R29	0757-0159	5	2	RESISTOR 1K 1% .5W F TC=0+-100	28480	0757-0159
A19R30	2100-3908	9	1	RESISTOR-TRMR 1M 10% CC TOP-ADJ 1-TRN	28480	2100-3908
A19R31	0757-0394	0	3	RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A19R32	0686-3035	1	1	RESISTOR 30K 5% .5W CC TC=0+765	01121	EB3035
A19R32	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A19R33	0686-1015	3	1	RESISTOR 100 5% .5W CC TC=0+529	01121	EB1015
A19R34	0757-0469	0	1	RESISTOR 150K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1503-F
A19R36	0698-3605	6	1	RESISTOR 15 5% 2W MO TC=0+-200	27167	FP42-2-T00-15R0-J
A19R37	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A19R38	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A19R39	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A19R40	0757-0457	6		RESISTOR 47.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4752-F

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A19R41	0686-9145	6	2	RESISTOR 910K 5% .5W CC TC=0+882	01121	EB9145
A19R42	0686-9145	6		RESISTOR 910K 5% .5W CC TC=0+882	01121	EB9145
A19R43	2100-3966	9	2	RESISTOR-TRMR 200K 10% C TOP-ADJ 1-TRN	28480	2100-3966
A19R44	0692-6865	2	1	RESISTOR 68 5% 2W CC TC=0+412	01121	HB6865
A19R45	0698-0090	7	1	RESISTOR 464 1% .5W F TC=0+-100	28480	0698-0090
A19R46	0757-0159	5		RESISTOR 1K 1% .5W F TC=0+-100	28480	0757-0159
A19R47	0757-0804	7	1	RESISTOR 200 1% .5W F TC=0+-100	28480	0757-0804
A19R48	2100-3965	8		RESISTOR-TRMR 5K 10% C TOP-ADJ 1-TRN	28480	2100-3965
A19R49	0757-0457	6		RESISTOR 47.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4752-F
A19R50	0757-0457	6		RESISTOR 47.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4752-F
A19R51	0686-1045	9	2	RESISTOR 100K 5% .5W CC TC=0+882	01121	EB1045
A19R52	0686-1045	9		RESISTOR 100K 5% .5W CC TC=0+882	01121	EB1045
A19R54	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A19R55	0757-0401	0		RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A19R56	0757-0407	6	1	RESISTOR 200 1% .125W F TC=0+-100	24546	C4-1/8-T0-201-F
A19R57	0698-5437	6	2	RESISTOR 12K .1% .125W F TC=0+-50	28480	0698-5437
A19R58	0698-5420	7	2	RESISTOR 3.874K .1% .125W F TC=0+-50	28480	0698-5420
A19R59	0698-5420	7		RESISTOR 3.874K .1% .125W F TC=0+-50	28480	0698-5420
A19R60	0757-0457	6		RESISTOR 47.5K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4752-F
A19R61	0698-5437	6		RESISTOR 12K .1% .125W F TC=0+-50	28480	0698-5437
A19R62	0698-3155	1	2	RESISTOR 4.64K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4641-F
A19R63	0698-3499	6	1	RESISTOR 46.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4622-F
A19R64	0757-0439	4	2	RESISTOR 6.81K 1% .125W F TC=0+-100	24546	C4-1/8-T0-6811-F
A19R65	0698-3155	1		RESISTOR 4.64K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4641-F
A19R66	0757-0439	4		RESISTOR 6.81K 1% .125W F TC=0+-100	24546	C4-1/8-T0-6811-F
A19R67	0698-3601	2		RESISTOR 10 5% 2W MO TC=0+-200	27167	FP42-2-T00-10R0-J
A19R68	0811-1671	4	1	RESISTOR 2.7 5% 2W PW TC=0+-400	75042	BWH2-2R7-J
A19R69	2100-3965	8		RESISTOR-TRMR 5K 10% C TOP-ADJ 1-TRN	28480	2100-3965
A19R70	2100-3966	9		RESISTOR-TRMR 200K 10% C TOP-ADJ 1-TRN	28480	2100-3966
A19R71	0757-0280	7	1	RESISTOR 5.62K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5621-F
A19R72	0757-0283	6		RESISTOR 2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2001-F
A19R73	0757-0470	3	2	RESISTOR 162K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1623-F
A19R74	0757-0439	2	2	RESISTOR 4.75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4751-F
A19R75	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A19R76	0757-0470	3		RESISTOR 162K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1623-F
A19R77	0757-0453	2	1	RESISTOR 30.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3012-F
A19R78	0757-0438	3		RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A19R79	0757-0437	2		RESISTOR 4.75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4751-F
A19R80	0757-0488	3	1	RESISTOR 909K 1% .125W F TC=0+-100	28480	0757-0488
A19S100	3101-2617	8	*1	SWITCH-TGL SUBMTN 4PDT .02A 20VAC/DC PC	28480	3101-2617
A19T1	9100-2696	7	1	TRANSFORMER-FLYBACK PRI IND: 560UH; SEC	28480	9100-2696
A19T2	5061-1228	1	1	XFMR PULSE	28480	5061-1228
A19TP100	0360-0535	0	16	TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP101	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP104	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP105	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP106	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP107	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP202	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP204	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP205	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP206	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP300	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP500	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP501	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP502	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP503	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19TP508	0360-0535	0		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A19U102	1826-0205	0	1	IC TIMER TTL	18324	NE556A
A19U104	1826-1002	7	1	IC PL LOOP 14-DIP-P PKG	28480	1826-1002
A19U206	1826-0254	9	4	IC OP AMP H-SLEW-RATE 8-DIP-P PKG	04713	MC1741SCP1
A19U408	1826-0254	9		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	04713	MC1741SCP1
A19U508	1826-0254	9		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	04713	MC1741SCP1
A19U600	1820-1437	0	1	IC MV TTL LS MONOSTBL DUAL	01295	SN74LS221N
A19U602	1820-1796	4	1	IC DRVR TTL DUAL 2-INP	27014	DS3611N
A19U608	1826-0254	9		IC OP AMP H-SLEW-RATE 8-DIP-P PKG	04713	MC1741SCP1
A19V1	1970-0072	4	3	TUBE-ELECTRON SURGE V PTCTR	28480	1970-0072
A19V2	1970-0072	4		TUBE-ELECTRON SURGE V PTCTR	28480	1970-0072
A19V3	1970-0072	4		TUBE-ELECTRON SURGE V PTCTR	28480	1970-0072
A19V3	2140-0013	5	2	LAMP-GLOW 5AB-A 70/57VDC 300UA T-2-BULB	08806	5AB-A(NE-23A)
A19V4	2140-0013	5		LAMP-GLOW 5AB-A 70/57VDC 300UA T-2-BULB	08806	5AB-A(NE-23A)

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A20	04945-60020	6	1	AC MAIN SWITCH	28480	04945-60020
A20C1	0180-2466	8	4	CAPACITOR-FXD 50UF+75-10% 50VDC AL	56289	30D506G050DD5
A20C2	0180-2466	8		CAPACITOR-FXD 50UF+75-10% 50VDC AL	56289	30D506G050DD5
A20C3	0180-2466	8		CAPACITOR-FXD 50UF+75-10% 50VDC AL	56289	30D506G050DD5
A20C4	0180-2466	8		CAPACITOR-FXD 50UF+75-10% 50VDC AL	56289	30D506G050DD5
A20H1	2190-0019	6	1	WASHER-LK HLCL NO. 4 .115-IN-ID	28480	2190-0019
A20H2	2200-0147	4	1	SCREW-MACH 4-40 .5-IN-LG PAN-HD-POZI	28480	2200-0147
A20H3	2260-0002	6	1	NUT-HEX-DBL-CHAM 4-40-THD .062-IN-THK	28480	2260-0002
A20H4	0380-0342	9	1	STANDOFF-RVT-ON .125-IN-LG 6-32THD	00000	ORDER BY DESCRIPTION
A20J1	1251-7971	2	1	CONNECTOR-PC EDGE 11-CONT/ROW 2-ROWS	28480	1251-7971
A20J2	1251-8310	5	1	CONNECTOR 6-PIN F FLAT CABLE	28480	1251-8310
A20J3	1251-4670	2	2	CONNECTOR POST-3 PIN	28480	1251-4670
A20J4	1251-4670	2	2	CONNECTOR POST-3 PIN	28480	1251-4670
A20L1	9140-0836	7	4	INDUCTOR-FXD 10UH +-10%	28480	9140-0836
A20L2	9140-0836	7		INDUCTOR-FXD 10UH +-10%	28480	9140-0836
A20L3	9140-0836	7		INDUCTOR-FXD 10UH +-10%	28480	9140-0836
A20L4	9140-0836	7		INDUCTOR-FXD 10UH +-10%	28480	9140-0836
A20MP3	1480-0249	0	2	CABLE TIE .062-.625-DIA .091-WD NYL	06383	PLT1M-8
A20MP4	1480-0249	0		CABLE TIE .062-.625-DIA .091-WD NYL	06383	PLT1M-8
A20SW1	3101-0680	1	1	SWITCH-PB DPDT ALTNG 4A 250VAC	28480	3101-0680
A20W1	5060-7127	9	1	WHT-BLK/WHT-RED	28480	5060-7127
A20W2	04945-61610	2	1	A21 AC CABLE	28480	04945-61610
A20W3	04945-61611	3	1	A19 DC CABLE	28480	04945-61611
A20W4	04945-61612	4	1	FAN DC CABLE	28480	04945-61612

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A21	**04945-60021**	**7**	**1**	**DC CONNECTOR BOARD**	**28480**	**04945-60021**
A21C1	0160-4663	9	2	CAPACITOR-FXD 2.2UF +80-20% 100VDC CER	28480	0160-4663
A21C2	0160-4663	9		CAPACITOR-FXD 2.2UF +80-20% 100VDC CER	28480	0160-4663
A21C3	0160-0303	6	2	CAPACITOR-FXD .15UF +-10% 200VDC POLYE	28480	0160-0303
A21C4	0160-0303	6		CAPACITOR-FXD .15UF +-10% 200VDC POLYE	28480	0160-0303
A21C5	0180-2815	1	2	CAPACITOR-FXD 100UF+-20% 10VDC TA	28480	0180-2815
A21C6	0180-2815	1		CAPACITOR-FXD 100UF+-20% 10VDC TA	28480	0180-2815
A21C7	0180-0291	3	2	CAPACITOR-FXD 1UF+-10% 35VDC TA	56289	150D105X9035A2
A21C8	0180-0291	3		CAPACITOR-FXD 1UF+-10% 35VDC TA	56289	150D105X9035A2
A21CR1	1901-0871	6	6	DIODE-PWR RECT 150V 2.5A 25NS	12969	UES1103
A21CR2	1901-0871	6		DIODE-PWR RECT 150V 2.5A 25NS	12969	UES1103
A21CR3	1901-0871	6		DIODE-PWR RECT 150V 2.5A 25NS	12969	UES1103
A21CR4	1901-0871	6		DIODE-PWR RECT 150V 2.5A 25NS	12969	UES1103
A21CR5	1901-1115	3	4	POWER RECTIFIER	28480	1901-1115
A21CR6	1901-1115	3		POWER RECTIFIER	28480	1901-1115
A21CR7	1901-1115	3		POWER RECTIFIER	28480	1901-1115
A21CR8	1901-1115	3		POWER RECTIFIER	28480	1901-1115
A21CR9	1902-0175	5	2	DIODE-ZNR 100V 5% PD=1W IR=5UA	28480	1902-0175
A21CR10	1901-0871	6		DIODE-PWR RECT 150V 2.5A 25NS	12969	UES1103
A21CR11	1902-0175	5		DIODE-ZNR 100V 5% PD=1W IR=5UA	28480	1902-0175
A21CR12	1901-0871	6		DIODE-PWR RECT 150V 2.5A 25NS	12969	UES1103
A21CR13	1901-0050	3	1	DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A21H1	0380-1638	8	2	SPACER SNAP-IN	28480	0380-1638
A21H2	2190-0019	6	1	WASHER-LK HLCL NO. 4 .115-IN-ID	28480	2190-0019
A21H3	2200-0147	4	1	SCREW-MACH 4-40 .5-IN-LG PAN-HD-POZI	28480	2200-0147
A21H4	2260-0002	6	1	NUT-HEX-DBL-CHAM 4-40-THD .062-IN-THK	28480	2260-0002
A21J1	1251-8312	7	1	CONNECTOR 20-PIN F FLAT CABLE	28480	1251-8312
A21J2	1251-8310	5	1	CONNECTOR 6-PIN F FLAT CABLE	28480	1251-8310
A21J3	1251-4245	7	1	CONNECTOR 2-PIN M POST TYPE	28480	1251-4245
A21J4	1251-8235	3	1	CONN-UTIL MT-LK 4-CKT 4-CONT	28480	1251-8235
A21L1	04945-80047	9	2	CHOKE-CM 135UH	28480	04945-80047
A21L2	04945-80047	9		CHOKE-CM 135UH	28480	04945-80047
A21L3	04945-80046	7	1	CHOKE-CM 90UH	28480	04945-80045
A21L4	04945-80046	8	4	CHOKE-CM 215UH	28480	04945-80046
A21L5	04945-80046	8		CHOKE-CM 215UH	28480	04945-80046
A21L6	9140-0826	5	2	INDUCTOR 25UH	28480	9146-0826
A21L7	9140-0826	5		INDUCTOR 25UH	28480	9140-0826
A21L8	9140-0867	2	1	CHOKE-TOROIDAL	28480	9140-0867
A21L9	9140-0129	1	2	INDUCTOR RF-CH-MLD 220UH 5% .166DX.385LG	28480	9140-0129
A21L10	9140-0129	1		INDUCTOR RF-CH-MLD 220UH 5% .166DX.385LG	28480	9140-0129
A21L11	04945-80046	8		CHOKE-CM 215UH	28480	04945-80046
A21L12	04945-80046	8	1	CHOKE-CM 215UH	28480	04945-80046
A21L13	9100-1629	4		INDUCTOR RF-CH-MLD 47UH 5% .166DX.385LG	28480	9100-1629
A21P1	1251-7966	5	1	CONNECTOR-PC EDGE 11-CONT/ROW 2-ROWS	28480	1251-7966
A21P1	1251-7971	2	1	CONNECTOR-PC EDGE 11-CONT/ROW 2-ROWS	28480	1251-7971
A21Q1	1854-0575	6	1	TRANSISTOR NPN SI PD=625MW FT=50MHZ	04713	MPS-A42
A21Q2	1854-0764	5	1	TRANSISTOR NPN SI PD=10W FT=60MHZ	04713	MPS U-10
A21Q3	1853-0336	5	1	TRANSISTOR PNP SI PD=625MW FT=50MHZ	04713	MPSA92
A21Q4	1853-0423	1	1	TRANSISTOR PNP SI PD=1W FT=60MHZ	04713	MPS U-60
A21R1	0757-0394	0	4	RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A21R2	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A21R3	0757-0280	3	2	RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A21R4	0698-3159	5	2	RESISTOR 26.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2612-F
A21R5	0757-0401	0	1	RESISTOR 100 1% .125W F TC=0+-100	24546	C4-1/8-T0-101-F
A21R6	0698-3159	5		RESISTOR 26.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2612-F
A21R7	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
A21R8	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A21R9	0757-0394	0		RESISTOR 51.1 1% .125W F TC=0+-100	24546	C4-1/8-T0-51R1-F
A21R10	0698-5454	7	1	RESISTOR 9K .1% .125W F TC=0+-50	28480	0698-5454
A21R11	0698-6446	9	1	RESISTOR 2.162K .1% .125W F TC=0+-25	28480	0698-6446
A21R12	0698-8827	4	2	RESISTOR 1M 1% .125W F TC=0+-100	28480	0698-8827
A21R13	0698-8827	4		RESISTOR 1M 1% .125W F TC=0+-100	28480	0698-8827
A21T1	9100-4296	7	1	TRANSFORMER-POWER FOR +-30VDC FLOATING	28480	9100-4296
A21T2	9100-4297	8	1	TRANSFORMER-STEP UP PRI: 50V; SEC:+-100V	28480	9100-4297
A21U1	1826-0643	0	1	IC V RGLTR-V-REF-ADJ 3/30V TO-92 PKG	28480	1826-0643
A21U2	1826-1005	0	1	IC V RGLTR-FXD-POS 4.5/5.5V TO-202 PKG	28480	1826-1005
A21W1	5060-7126	8	1	JW PR ORG/BLK	28480	5060-7126
A21W2	5060-7128	0	1	WHT-BR/WHT-BLU	28480	5060-7128
A21W3	8150-1542	4	1	WIRE 22AWG R 300V PVC 7X30 80C	28480	8150-1542

See introduction to this section for ordering information
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Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
	0470-0761	7	1	ADHESIVE DC 8662 POLYU 1P CLRLS-TP	28480	0470-0761
	1251-5380	3	2	CONNECTOR 2-PIN M POST TYPE	28480	1251-5380
	1400-0249	0	2	CABLE TIE .062-.625-DIA .091-WD NYL	06383	PLT1M-8
	04945-20021	3	1	DC CONN BD BLK	28480	04945-20021

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
A22	**04945-60022**	**8**	**1**	**MOTHER BOARD**	**28480**	**04945-60022**
A22C1	0160-3508	9	19	CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C2	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C3	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C4	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C5	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C6	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C7	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C8	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C9	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C10	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C11	0180-0291	3	4	CAPACITOR-FXD 1UF+-10% 35VDC TA	56289	150D105X9035A2
A22C12	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C13	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C14	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C15	0180-0291	3		CAPACITOR-FXD 1UF+-10% 35VDC TA	56289	150D105X9035A2
A22C16	0180-0291	3		CAPACITOR-FXD 1UF+-10% 35VDC TA	56289	150D105X9035A2
A22C17	0180-0291	3		CAPACITOR-FXD 1UF+-10% 35VDC TA	56289	150D105X9035A2
A22C18	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C19	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C20	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C21	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C22	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22C23	0160-3508	9		CAPACITOR-FXD 1UF +80-20% 50VDC CER	28480	0160-3508
A22H1	0380-1276	0	1	SPACER-SNAP-IN .168 IN LG; .280 IN OD	00000	ORDER BY DESCRIPTION
A22H2	0510-1210	9	1	NUT-SHMET-U-TP 8-32-THD .02-IN-THK	28480	0510-1210
A22H3	1400-0249	0	1	CABLE TIE .062-.625-DIA .091-WD NYL	06383	PLT1M-8
A22H4	0400-0009	9	1	GROMMET-RND .125-IN-ID .25-IN-GRV-OD	28480	0400-0009
A22J1	1251-8312	7	1	CONNECTOR 20-PIN F FLAT CABLE	28480	1251-8312
A22J2	1251-3119	2	1	CONNECTOR 26-PIN M RECTANGULAR	28480	1251-3119
A22J3	1251-8309	2	1	CONN-12 CIRC	28480	1251-8309
A22R1	1810-0277	3	5	NETWORK-RES 10-SIP2.2K OHM X 9	01121	210A222
A22R2	1810-0277	3		NETWORK-RES 10-SIP2.2K OHM X 9	01121	210A222
A22R3	1810-0277	3		NETWORK-RES 10-SIP2.2K OHM X 9	01121	210A222
A22R4	1810-0277	3		NETWORK-RES 10-SIP2.2K OHM X 9	01121	210A222
A22R5	1810-0277	3		NETWORK-RES 10-SIP2.2K OHM X 9	01121	210A222
A22R6	0698-3441	8	2	RESISTOR 215 1% .125W F TC=0+-100	24546	C4-1/8-T0-215R-F
A22R7	0698-3444	1	2	RESISTOR 316 1% .125W F TC=0+-100	24546	C4-1/8-T0-316R-F
A22R8	0698-3441	8		RESISTOR 215 1% .125W F TC=0+-100	24546	C4-1/8-T0-215R-F
A22R9	0698-3444	1		RESISTOR 316 1% .125W F TC=0+-100	24546	C4-1/8-T0-316R-F
A22TP1	0360-0535	9	2	TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A22TP2	0360-0535	8		TERMINAL TEST POINT PCB	00000	ORDER BY DESCRIPTION
A22TP3	0360-0124	3	7	CONNECTOR-SGL CONT PIN .04-IN-BSC-SZ RND	28480	0360-0124
A22TP4	0360-0124	3		CONNECTOR-SGL CONT PIN .04-IN-BSC-SZ RND	28480	0360-0124
A22TP5	0360-0124	3		CONNECTOR-SGL CONT PIN .04-IN-BSC-SZ RND	28480	0360-0124
A22TP6	0360-0124	3		CONNECTOR-SGL CONT PIN .04-IN-BSC-SZ RND	28480	0360-0124
A22TP7	0360-0124	3		CONNECTOR-SGL CONT PIN .04-IN-BSC-SZ RND	28480	0360-0124
A22TP8	0360-0124	3		CONNECTOR-SGL CONT PIN .04-IN-BSC-SZ RND	28480	0360-0124
A22TP9	0360-0124	3		CONNECTOR-SGL CONT PIN .04-IN-BSC-SZ RND	28480	0360-0124
A22W1	04945-61013	9	2	SHIELD PR CABLE	28480	04945-61013
A22W2	04945-61013	9		SHIELD PR CABLE	28480	04945-61013
A22XA1	1251-8697	5	9	CONN-POST TYPE .100-PIN-SPCG 126-CONT	28480	1251-8697
A22XA2	1251-7300	1	8	CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7300
A22XA3	1251-7300	1		CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7300
A22XA4	1251-7300	1		CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7300
A22XA5	1251-7300	1		CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7300
A22XA6	1251-7300	1		CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7300
A22XA7	1251-7300	1		CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7300
A22XA8	1251-8697	5		CONN-POST TYPE .100-PIN-SPCG 126-CONT	28480	1251-8697
A22XA9	1251-8697	5		CONN-POST TYPE .100-PIN-SPCG 126-CONT	28480	1251-8697
A22XA10	1251-8697	5		CONN-POST TYPE .100-PIN-SPCG 126-CONT	28480	1251-8697
A22XA11	1251-8697	5		CONN-POST TYPE .100-PIN-SPCG 126-CONT	28480	1251-8697
A22XA12	1251-8697	5		CONN-POST TYPE .100-PIN-SPCG 126-CONT	28480	1251-8697
A22XA13	1251-8697	5		CONN-POST TYPE .100-PIN-SPCG 126-CONT	28480	1251-8697
A22XA15	1251-8697	5		CONN-POST TYPE .100-PIN-SPCG 126-CONT	28480	1251-8697
A22XA16	1251-7300	1		CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7300
A22XA17	1251-7300	1		CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7300
A22XA18	1251-8697	5		CONN-POST TYPE .100-PIN-SPCG 126-CONT	28480	1251-8697

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A25	**04945-60025**	1	1	**FRPANEL DECODER**	**28480**	**04945-60025**
A25C1	0160-0127	2	2	CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A25C2	0160-0127	2		CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A25C3	0180-0374	3	1	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020R2
A25C4	0160-5298	8	1	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
A25CR1	1990-0673	3	7	LED-LAMP LUM-INT=1.5MCD IF=20MA-MAX	28480	5082-4690
A25CR2	1990-0673	3		LED-LAMP LUM-INT=1.5MCD IF=20MA-MAX	28480	5082-4690
A25CR3	1990-0673	3		LED-LAMP LUM-INT=1.5MCD IF=20MA-MAX	28480	5082-4690
A25CR4	1990-0673	3		LED-LAMP LUM-INT=1.5MCD IF=20MA-MAX	28480	5082-4690
A25CR5	1990-0673	3		LED-LAMP LUM-INT=1.5MCD IF=20MA-MAX	28480	5082-4690
A25CR6	1990-0673	3		LED-LAMP LUM-INT=1.5MCD IF=20MA-MAX	28480	5082-4690
A25CR7	1990-0673	3		LED-LAMP LUM-INT=1.5MCD IF=20MA-MAX	28480	5082-4690
A25J1	1251-4346	9	2	CONNECTOR 20-PIN M POST TYPE	28480	1251-4346
A25J2	1251-4346	9		CONNECTOR 20-PIN M POST TYPE	28480	1251-4346
A25P1	1251-4429	9	1	CONNECTOR 20-PIN M POST TYPE	28480	1251-4429
A25R1	0757-0462	3	2	RESISTOR 75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7502-F
A25R2	0757-0462	3		RESISTOR 75K 1% .125W F TC=0+-100	24546	C4-1/8-T0-7502-F
A25R3	0698-3155	1	2	RESISTOR 4.64K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4641-F
A25R4	0698-3155	1		RESISTOR 4.64K 1% .125W F TC=0+-100	24546	C4-1/8-T0-4641-F
A25R102	1810-0279	5	4	NETWORK-RES 10-SIP4.7K OHM X 9	01121	210A472
A25R103	1810-0279	5		NETWORK-RES 10-SIP4.7K OHM X 9	01121	210A472
A25R104	1810-0279	5		NETWORK-RES 10-SIP4.7K OHM X 9	01121	210A472
A25R204	1810-0279	5		NETWORK-RES 10-SIP4.7K OHM X 9	01121	210A472
A25U202	1820-2121	1	6	IC ENCDR TTL LS	01295	SN74LS348N
A25U203	1820-2121	1		IC ENCDR TTL LS	01295	SN74LS348N
A25U302	1820-2121	1		IC ENCDR TTL LS	01295	SN74LS348N
A25U303	1820-2121	1		IC ENCDR TTL LS	01295	SN74LS348N
A25U304	1820-2121	1		IC ENCDR TTL LS	01295	SN74LS348N
A25U402	1820-2121	1		IC ENCDR TTL LS	01295	SN74LS348N
A25U403	1820-1423	4	1	IC MV TTL LS MONOSTBL RETRIG DUAL	01295	SN74LS123N
A25U404	1820-1112	8	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
A25U604	1820-1997	7	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A28	65908-69020			50 WATT 5 OUTPUT	28480	65908-69020
A28C3	0160-5538	9	2	CAPACITOR-FXD 1.5UF +-10% 160VAC(RMS)	28480	0160-5538
A28C5	0180-3047	3	2	CAPACITOR-FXD 130UF+50-10% 200VDC AL	28480	0180-3047
A28C6	0180-3047	3		CAPACITOR-FXD 130UF+50-10% 200VDC AL	28480	0180-3047
A28C7	0160-4065	5	1	CAPACITOR-FXD .1UF +-20% 250VAC(RMS)	28480	0160-4065
A28C8	0160-5538	9		CAPACITOR-FXD 1.5UF +-10% 160VAC(RMS)	28480	0160-5538
A28C9	0180-3055	3	3	CAPACITOR-FXD 100UF+50-10% 63VDC AL	28480	0180-3055
A28C10	0160-4571	8	7	CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A28C11	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A28C12	0160-2496	2	1	CAPACITOR-FXD 470PF +-10% 1KVDC CER	28480	0160-2496
A28C13	0150-0050	9	2	CAPACITOR-FXD 1000PF +80-20% 1KVDC CER	28480	0150-0050
A28C15	0160-4833	5	1	CAPACITOR-FXD .022UF +-10% 100VDC CER	28480	0160-4833
A28C17	0180-2781	0	1	CAPACITOR-FXD 39UF+-10% 10VDC TA	28480	0180-2781
A28C18	0160-5166	9	1	CAPACITOR-FXD .015UF +-20% 100VDC CER	28480	0160-5166
A28C20	0160-5119	2	1	CAPACITOR-FXD .33UF +-10% 100VDC POLYP	28480	0160-5119
A28C21	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A28C22	0180-3057	5	2	CAPACITOR-FXD 820UF+100-10% 6.3VDC AL	28480	0180-3057
A28C23	0180-3057	5		CAPACITOR-FXD 820UF+100-10% 6.3VDC AL	28480	0180-3057
A28C24	0160-0127	2	2	CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A28C25	0160-0052	2	2	VOID	28480	0160-0052
A28C26	0180-0405	1	2	CAPACITOR-FXD 1.8UF+-10% 20VDC TA	56289	150D185X9020A2
A28C28	0180-0405	1		CAPACITOR-FXD 1.8UF+-10% 20VDC TA	56289	150D185X9020A2
A28C29	0160-0127	2		CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A28C30	0160-5126	1	1	CAPACITOR-FXD .033UF +-200VDC POLYP	28480	0160-5126
A28C34	0180-3054	2	2	CAPACITOR-FXD 2200UF+75-10% 25VDC AL	28480	0180-3054
A28C36	0180-3055	3		CAPACITOR-FXD 100UF+50-10% 63VDC AL	28480	0180-3055
A28C37	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A28C39	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A28C40	0180-3054	2		CAPACITOR-FXD 2200UF+75-10% 25VDC AL	28480	0180-3054
A28C42	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A28C43	0180-3055	3		CAPACITOR-FXD 100UF+50-10% 63VDC AL	28480	0180-3055
A28C44	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A28C45	0160-0052	2		VOID	28480	0160-0052
A28C47	0160-4741	4	1	CAPACITOR-FXD .22UF +-10% 50VDC CER	28480	0160-4741
A28C49	0150-0050	9		CAPACITOR-FXD 1000PF +80-20% 1KVDC CER	28480	0150-0050
A28CR1	1901-0050	3	13	DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28CR2	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28CR3	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28CR4	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28CR5	1901-0028	5	3	DIODE-PWR RECT 400V 750MA DO-29	28480	1901-0028
A28CR6	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28CR7	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28CR8	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28CR9	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28CR11	5060-2798	0	4	ASSY-DIODE & H/S	28480	5060-2798
A28CR12	5060-2798	0		ASSY-DIODE & H/S	28480	5060-2798
A28CR13	5060-2798	0		ASSY-DIODE & H/S	28480	5060-2798
A28CR14	5060-2798	0		ASSY-DIODE & H/S	28480	5060-2798
A28CR15	1901-0028	5		DIODE-PWR RECT 400V 750MA DO-29	28480	1901-0028
A28CR16	1901-0028	5		DIODE-PWR RECT 400V 750MA DO-29	28480	1901-0028
A28CR17	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28CR18	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28CR81	1884-0258	5	1	THYRISTOR-DIAC TRIG IP PULSE=2A MAX; V	28480	1884-0258
A28CR82	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28CR83	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28CR84	1901-0050	3	2	DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28CR91	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A28L1	5080-1936	8	1	CHOKE 230UH	28480	5080-1936
A28L2	9140-0137	1	1	INDUCTOR RF-CH-MLD 1MH 5% .2DX.45LG Q=60	28480	9140-0137
A28L3	5080-1986	8	1	REACTOR-CONTROL	28480	5080-1986
A28L4	1400-0529	7	1	PIN-ESC .071-IN-DIA 1.42-IN-LG STL	28480	1400-0529
A28L4	5080-1973	3	1	INDUCTOR 8UH	28480	5080-1973
A28L4	9170-1116	1	1	CORE-SPECIAL SHAPE FERRITE SLEEVE	28480	9170-1116
A28L5	5080-1977	7	1	COIL-10A	28480	5080-1977
A28L5	9170-1207	1	1	ADJUSTING SCREW OD: .244IN; L .875IN	28480	9170-1207
A28L6	9100-2515	9	2	INDUCTOR 100UH 10% .5DX1.25LG Q=26	28480	9100-2515
A28L7	9100-2515	9		INDUCTOR 100UH 10% .5DX1.25LG Q=26	28480	9100-2515
A28Q1	0570-1236	5	4	STUD-THD-ROD 6-32 UNC-2A .69-IN-LG BRS	28480	0570-1236
A28Q1	0590-0365	9	4	NUT-HEX-W/LKWR 6-32-THD .094-IN-THK	00000	ORDER BY DESCRIPTION
A28Q1	1205-0431	8	2	HEAT SINK TO-3-CS	28480	1205-0431
A28Q1	1855-0472	4	2	TRANSISTOR MOSFET N-CHAN TO-3	28480	1855-0472
A28Q2	0570-1236	5		STUD-THD-ROD 6-32 UNC-2A .69-IN-LG BRS	28480	0570-1236
A28Q2	0590-0365	9		NUT-HEX-W/LKWR 6-32-THD .094-IN-THK	00000	ORDER BY DESCRIPTION
A28Q2	1205-0431	8		HEAT SINK TO-3-CS	28480	1205-0431
A28Q2	1855-0472	4		TRANSISTOR MOSFET N-CHAN TO-3	28480	1855-0472

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A28Q3	5060-2799	1	1	ASSY-XSTR & H/S	28480	5060-2799
A28Q4	1200-0181	5	2	INSULATOR-XSTR NYLON	28480	1200-0181
A28Q4	1205-0391	9	2	HEAT SINK SGL TO-5/TO-39-CS	28480	1205-0391
A28Q4	1854-0687	1	1	TRANSISTOR NPN 2N3725A SI TO-39 PD=5W	01295	2N3725A
A28Q5	1200-0181	5		INSULATOR-XSTR NYLON	28480	1200-0181
A28Q5	1205-0391	9		HEAT SINK SGL TO-5/TO-39-CS	28480	1205-0391
A28Q5	1853-0489	9	1	TRANSISTOR PNP TO-39 PD=1W FT=100MHZ	04713	MM4032
A28Q7	1854-0477	7	2	TRANSISTOR NPN 2N2222A SI TO-18 PD=500MW	04713	2N2222A
A28Q8	1854-0477	7		TRANSISTOR NPN 2N2222A SI TO-18 PD=500MW	04713	2N2222A
A28Q9	1884-0201	8	1	THYRISTOR-SCR TO-92 VRRM=60	04713	2N5061
A28Q10	1854-0087	5	4	TRANSISTOR NPN SI PD=360MW FT=75MHZ	28480	1854-0087
A28Q11	1854-0087	5		TRANSISTOR NPN SI PD=360MW FT=75MHZ	28480	1854-0087
A28Q12	1854-0087	5		TRANSISTOR NPN SI PD=360MW FT=75MHZ	28480	1854-0087
A28Q80	1853-0281	9	1	TRANSISTOR PNP 2N2907A SI TO-18 PD=400MW	04713	2N2907A
A28Q81	1854-0087	5		TRANSISTOR NPN SI PD=360MW FT=75MHZ	28480	1854-0087
A28R1	0686-1045	9	2	RESISTOR 100K 5% .5W CC TC=0+682	01121	EB1045
A28R2	0686-1045	9		RESISTOR 100K 5% .5W CC TC=0+682	01121	EB1045
A28R3	0683-1515	2	2	RESISTOR 150 5% .25W FC TC=-400/+600	01121	CB1515
A28R4	0683-1515	2		RESISTOR 150 5% .25W FC TC=-400/+600	01121	CB1515
A28R5	0811-1066	1	1	RESISTOR .47 10% 2W PW TC=0+-300	28480	0811-1066
A28R6	0811-1063	0	2	RESISTOR 47 10% 1W PW TC=0+-150	28480	0811-1063
A28R7	0811-1063	8		RESISTOR 47 10% 1W PW TC=0+-150	28480	0811-1063
A28R10	0683-1615	3	1	RESISTOR 160 5% .25W FC TC=-400/+600	01121	CB1615
A28R12	2100-0568	1	1	RESISTOR-TRMR 100 10% C TOP-ADJ 1-TRN	28480	2100-0568
A28R13	0683-4705	8	2	RESISTOR 47 5% .25W FC TC=-400/+500	01121	CB4705
A28R14	0757-0969	5	1	RESISTOR 75K 2% .125W F TC=0+-100	24546	C4-1/8-T0-7502-G
A28R17	0683-8205	1	1	RESISTOR 82 5% .25W FC TC=-400/+500	01121	CB8205
A28R18	0683-2015	9	1	RESISTOR 200 5% .25W FC TC=-400/+600	01121	CB2015
A28R20	0689-1005	7	1	RESISTOR 10 5% 1W CC TC=0+412	01121	GB1005
A28R21	0811-1059	2	1	RESISTOR 15 5% 5W PW TC=0+-400	28480	0811-1059
A28R22	0757-0470	3	2	RESISTOR 162K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1623-F
A28R23	0683-0335	2	2	RESISTOR 3.3 5% .25W FC TC=-400/+500	01121	CB3365
A28R24	0683-6805	3	2	RESISTOR 68 5% .25W FC TC=-400/+500	01121	CB6805
A28R25	0683-6215	9	1	RESISTOR 620 5% .25W FC TC=-400/+600	01121	CB6215
A28R26	0683-4715	0	1	RESISTOR 470 5% .25W FC TC=-400/+600	01121	CB4715
A28R27	0683-3315	4	3	RESISTOR 330 5% .25W FC TC=-400/+600	01121	CB3315
A28R28	0683-4705	8		RESISTOR 47 5% .25W FC TC=-400/+500	01121	CB4705
A28R29	0683-5615	1	1	RESISTOR 560 5% .25W FC TC=-400/+600	01121	CB5615
A28R30	0757-0413	4	2	RESISTOR 392 1% .125W F TC=0+-100	24546	C4-1/8-T0-392R-F
A28R31	0757-0466	7	1	RESISTOR 110K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1103-F
A28R32	0683-1015	7	4	RESISTOR 100 5% .25W FC TC=-400/+500	01121	CB1015
A28R33	0757-0290	5	1	RESISTOR 6.19K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-6191-F
A28R34	0683-3925	2	2	RESISTOR 3.9K 5% .25W FC TC=-400/+700	01121	CB3925
A28R35	0757-0435	0	1	RESISTOR 3.92K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3921-F
A28R36	0683-6805	3		RESISTOR 68 5% .25W FC TC=-400/+500	01121	CB6805
A28R37	2100-3252	6	1	RESISTOR-TRMR 5K 10% C TOP-ADJ 1-TRN	28480	2100-3252
A28R38	0757-0438	3	1	RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A28R39	0757-0273	4	1	RESISTOR 3.01K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3011-F
A28R40	0683-2005	7	1	RESISTOR 20 5% .25W FC TC=-400/+500	01121	CB2005
A28R41	0683-3925	2		RESISTOR 3.9K 5% .25W FC TC=-400/+700	01121	CB3925
A28R42	0683-2715	6	1	RESISTOR 270 5% .25W FC TC=-400/+600	01121	CB2715
A28R43	0757-0470	3		RESISTOR 162K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1623-F
A28R45	0757-0270	1	1	RESISTOR 249K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2493-F
A28R46	0683-1525	4	2	RESISTOR 1.5K 5% .25W FC TC=-400/+700	01121	CB1525
A28R47	0683-1015	7		RESISTOR 100 5% .25W FC TC=-400/+500	01121	CB1015
A28R48	0683-3315	4		RESISTOR 330 5% .25W FC TC=-400/+600	01121	CB3315
A28R49	0683-1015	7		RESISTOR 100 5% .25W FC TC=-400/+500	01121	CB1015
A28R54	0683-0335	2		RESISTOR 3.3 5% .25W FC TC=-400/+500	01121	CB3365
A28R55	0757-0403	2	2	RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A28R56	2100-0554	5	2	RESISTOR-TRMR 500 10% C TOP-ADJ 1-TRN	28480	2100-0554
A28R57	0683-3315	4		RESISTOR 330 5% .25W FC TC=-400/+600	01121	CB3315
A28R58	0683-1805	3	2	RESISTOR 18 5% .25W FC TC=-400/+500	01121	CB1805
A28R59	2100-0554	5		RESISTOR-TRMR 500 10% C TOP-ADJ 1-TRN	28480	2100-0554
A28R60	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A28R61	0683-1525	4		RESISTOR 1.5K 5% .25W FC TC=-400/+700	01121	CB1525
A28R62	0683-1805	3		RESISTOR 18 5% .25W FC TC=-400/+500	01121	CB1805
A28R80	0757-0200	7	1	RESISTOR 5.62K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5621-F
A28R81	0683-2025	1	1	RESISTOR 2K 5% .25W FC TC=-400/+700	01121	CB2025
A28R82	0757-0447	4	1	RESISTOR 16.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1622-F
A28R83	0757-0413	4		RESISTOR 392 1% .125W F TC=0+-100	24546	C4-1/8-T0-392R-F
A28R84	0683-3935	4	1	RESISTOR 39K 5% .25W FC TC=-400/+800	01121	CB3935
A28R85	0683-1015	7		RESISTOR 100 5% .25W FC TC=-400/+500	01121	CB1015
A28RT1	TPPNR-26124	4	1	SW-THERM 80C	28480	TPPNR-26124

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A28T1	5080-1933	5	1	XFMR-DRIVE	28480	5080-1933
A28T2	65512-80091	8	1	XFMR 5V 4A	28480	65512-80091
A28U1	1906-0237	8	2	DIODE-FW BRDG 600V 1A	28480	1906-0237
A28U2	1906-0237	8		DIODE-FW BRDG 600V 1A	28480	1906-0237
A28U3	5060-2802	7	1	ASSY-PCT/HS-TO3	28480	5060-2802
A28U4	1826-0161	7	1	IC OP AMP GP QUAD 14-DIP-P PKG	04713	MLM324P
A28U5	1826-0643	0	1	IC V RGLTR-V-REF-ADJ 3/30V TO-92 PKG	28480	1826-0643
A28U6	1400-1044	5	2	CLIP-SPRING 0.82 IN H; 0.50 IN W; 0.022	28480	1400-1044
A28U6	1826-0393	7	1	IC V RGLTR TO-220	27014	LM317T
A28U7	1990-0543	6	1	OPTO-ISOLATOR LED-PXSTR IF=150MA-MAX	01295	TIL116
A28U8	1400-1044	5		CLIP-SPRING 0.82 IN H; 0.50 IN W; 0.022	28480	1400-1044
A28U8	1826-0527	9	1	IC 337 V RGLTR TO-220	27014	LM337T
A28U9	1990-0664	2	1	OPTO-ISOLATOR LED-PXSTR IF=50MA-MAX	24972	CNY 21
A28VR1	1902-3295	6	1	DIODE-ZNR 33.2V 5% DO-35 PD=.4W	28480	1902-3295
A28VR3	1902-1349	7	1	DIODE-ZNR 5.9V 2% PD=.4W	28480	1902-1349
A28VR4	1902-0779	5	4	DIODE-ZNR 11.8V 5% DO-15 PD=1W TC=+.064%	28480	1902-0779
A28VR5	1902-0779	5		DIODE-ZNR 11.8V 5% DO-15 PD=1W TC=+.064%	28480	1902-0779
A28VR6	1902-0779	5		DIODE-ZNR 11.8V 5% DO-15 PD=1W TC=+.064%	28480	1902-0779
A28VR7	1902-0779	5		DIODE-ZNR 11.8V 5% DO-15 PD=1W TC=+.064%	28480	1902-0779
A28VR9	1902-0080	1	2	DIODE-ZNR 14.7V 2% DO-14 PD=.4W TC=+.08%	28480	1902-0080
A28VR10	1902-3214	9	1	DIODE-ZNR 16.2V 2% DO-35 PD=.4W	28480	1902-3214
A28VR80	1902-0080	1		DIODE-ZNR 14.7V 2% DO-14 PD=.4W TC=+.08%	28480	1902-0080
A28VR81	1902-0182	4	2	DIODE-ZNR 20.5V 5% DO-35 PD=.4W	28480	1902-0182
A28VR82	1902-0182	4		DIODE-ZNR 20.5V 5% DO-35 PD=.4W	28480	1902-0182
A28VR91	1902-0943	5	1	DIODE-ZNR 2.4V 5% DO-35 PD=.4W	28480	1902-0943
A28W2	0757-0424	7	2	RESISTOR 1.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1101-F
A28W3	0757-0424	7		RESISTOR 1.1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1101-F
	0340-1071	9	2	INSULATOR NOMEX-NYL-PPR	28480	0340-1071
	0403-0282	6	4	BUMPER FOOT-ADH MTG 12.7-MM-WD	28480	0403-0282
	1251-0679	3	2	CONTACT-CONN U/W-POST-TYPE FEM CRP	28480	1251-0679
	1251-4145	6	1	CONNECTOR 2-PIN F POST TYPE	28480	1251-4145
	1390-0515	0	5	FASTENER-SNAP-IN NUT NUT-EXPANSION; FOR	28480	1390-0515
	2515-0003	8	5	SCREW-MACH 8-32 .375-IN-LG PAN-HD-PHL	00000	ORDER BY DESCRIPTION
	7121-0850	3	1	LABEL-WARNING 1.75-IN-WD 2.5-IN-LG PPR	76381	7101
	7121-4313	1	1	LABEL-INFO ID	28480	7121-4313
	8120-2464	8	10	CABLE-UNSHLD 22AWG 2-CNDCT UL-1430	28480	8120-2464
	65908-80001	0	1	CHASSIS HS	28480	65908-80001
	5020-2638	3	1	PCB-6OUT PFET	28480	5020-2638
	2110-0554	6	1	FUSEHOLDER-8-PIN SKT 5A 125V	28480	2110-0554
	2110-0683	2	1	FUSE .75 AMP	28480	2110-0683

See introduction to this section for ordering information
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Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A29	65909-69020	8	1	50 WATT 5 OUTPUT	28480	65908-69020
A29C3	0160-5538	9	2	CAPACITOR-FXD 1.5UF +-10% 160VAC(RMS)	28480	0160-5538
A29C7	0160-4065	5	1	CAPACITOR-FXD .1UF +-20% 250VAC(RMS)	28480	0160-4065
A29C8	0160-5538	9		CAPACITOR-FXD 1.5UF +-10% 160VAC(RMS)	28480	0160-5538
A29C9	0180-3055	3	3	CAPACITOR-FXD 100UF+50-10% 63VDC AL	28480	0180-3055
A29C10	0160-4571	8	9	CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A29C11	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A29C12	0160-2496	2	1	CAPACITOR-FXD 470PF +-10% 1KVDC CER	28480	0160-2496
A29C13	0150-0050	9	2	CAPACITOR-FXD 1000PF +80-20% 1KVDC CER	28480	0150-0050
A29C15	0160-4833	5	1	CAPACITOR-FXD .022UF +-10% 100VDC CER	28480	0160-4833
A29C17	0180-2781	0	1	CAPACITOR-FXD 39UF+-10% 10VDC TA	28480	0180-2781
A29C18	0160-5166	9	1	CAPACITOR-FXD .015UF +-20% 100VDC CER	28480	0160-5166
A29C20	0160-5119	2	1	CAPACITOR-FXD .33UF +-10% 100VDC POLYP	28480	0160-5119
A29C21	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A29C22	0180-3057	5	2	CAPACITOR-FXD 820UF+100-10% 6.3VDC AL	28480	0180-3057
A29C23	0180-3057	5		CAPACITOR-FXD 820UF+100-10% 6.3VDC AL	28480	0180-3057
A29C24	0160-0127	2	2	CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A29C25	0150-0052	1	2	CAPACITOR-FXD .05UF +-20% 400VDC CER	28480	0150-0052
A29C26	0180-0405	1	2	CAPACITOR-FXD 1.8UF+-10% 20VDC TA	56289	150D185X9020A2
A29C28	0180-0405	1		CAPACITOR-FXD 1.8UF+-10% 20VDC TA	56289	150D185X9020A2
A29C29	0160-0127	2		CAPACITOR-FXD 1UF +-20% 25VDC CER	28480	0160-0127
A29C30	0160-5125	0	1	CAPACITOR-FXD .039UF +-10% 200VDC POLYP	28480	0160-5125
A29C34	0180-3054	2	2	CAPACITOR-FXD 2200UF+75-10% 25VDC AL	28480	0180-3054
A29C36	0180-3055	3		CAPACITOR-FXD 100UF+50-10% 63VDC AL	28480	0180-3055
A29C37	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A29C38	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A29C39	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A29C40	0180-3054	2		CAPACITOR-FXD 2200UF+75-10% 25VDC AL	28480	0180-3054
A29C42	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A29C43	0180-3055	3		CAPACITOR-FXD 100UF+50-10% 63VDC AL	28480	0180-3055
A29C44	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A29C45	0150-0052	1		CAPACITOR-FXD .05UF +-20% 400VDC CER	28480	0150-0052
A29C46	0160-4571	8		CAPACITOR-FXD .1UF +80-20% 50VDC CER	28480	0160-4571
A29C47	0160-4741	4	1	CAPACITOR-FXD .22UF +-10% 50VDC CER	28480	0160-4741
A29C49	0150-0050	9		CAPACITOR-FXD 1000PF +80-20% 1KVDC CER	28480	0150-0050
A29C58	0180-3047	3	2	CAPACITOR-FXD 130UF+50-10% 200VDC AL	28480	0180-3047
A29C59	0180-3047	3		CAPACITOR-FXD 130UF+50-10% 200VDC AL	28480	0180-3047
A29CR1	1901-0050	3	13	DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A29CR2	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A29CR3	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A29CR4	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A29CR5	1901-0028	5	3	DIODE-PWR RECT 400V 750MA DO-29	28480	1901-0028
A29CR6	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A29CR7	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A29CR8	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A29CR9	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A29CR11	5060-2798	0	4	ASSY-DIODE & H/S	28480	5060-2798
A29CR12	5060-2798	0		ASSY-DIODE & H/S	28480	5060-2798
A29CR13	5060-2798	0		ASSY-DIODE & H/S	28480	5060-2798
A29CR14	5060-2798	0		ASSY-DIODE & H/S	28480	5060-2798
A29CR15	1901-0028	5		DIODE-PWR RECT 400V 750MA DO-29	28480	1901-0028
A29CR16	1901-0028	5		DIODE-PWR RECT 400V 750MA DO-29	28480	1901-0028
A29CR17	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A29CR18	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A29CR81	1884-0258	5	1	THYRISTOR-DIAC TRIG IP PULSE=2A MAX; V	28480	1884-0258
A29CR82	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A29CR83	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A29CR84	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	28480	1901-0050
A29F1	TPPNR-26476	9	2	FUSE 0.75A PICO2	28480	TPPNR-26476
A29F1	2110-0554	6	2	FUSEHOLDER-BIPIN SKT 5A 125 V	75915	281065
A29F4	TPPNR-26476	9		FUSE 0.75A PICO2	28480	TPPNR-26476
A29F4	2110-0554	6		FUSEHOLDER-BIPIN SKT 5A 125 V	75915	281065
A29L1	5080-1936	8	1	CHOKE 238UH	28480	5080-1936
A29L2	9140-0137	1	1	INDUCTOR RF-CH-MLD 1MH 5% .2DX.45LG Q=60	28480	9140-0137
A29L4	1480-0529	7	1	PIN-ESC .071-IN-DIA 1.42-IN-LG STL	28480	1480-0529
A29L4	5080-1973	3	1	INDUCTOR 8UH	28480	5080-1973
A29L4	9170-1116	1	1	CORE-SPECIAL SHAPE FERRITE SLEEVE	28480	9170-1116
A29L6	9100-2515	9	2	INDUCTOR 100UH 10% .5DX1.25LG Q=26	28480	9100-2515
A29L7	9100-2515	9		INDUCTOR 100UH 10% .5DX1.25LG Q=26	28480	9100-2515

See introduction to this section for ordering information
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Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A29Q1	0570-1236	5	2	STUD-THD-ROD 6-32 UNC-2A .69-IN-LG BRS	28480	0570-1236
A29Q1	0590-0305	9	2	NUT-HEX-W/LKWR 6-32-THD .094-IN-THK	00000	ORDER BY DESCRIPTION
A29Q1	1205-0431	8	2	HEAT SINK TO-3-CS	28480	1205-0431
A29Q1	1855-0472	4	2	TRANSISTOR MOSFET N-CHAN TO-3	28480	1855-0472
A29Q2	0570-1236	5		STUD-THD-ROD 6-32 UNC-2A .69-IN-LG BRS	28480	0570-1236
A29Q2	0590-0365	9		NUT-HEX-W/LKWR 6-32-THD .094-IN-THK	00000	ORDER BY DESCRIPTION
A29Q2	1205-0431	8		HEAT SINK TO-3-CS	28480	1235-0431
A29Q2	1855-0472	4		TRANSISTOR MOSFET N-CHAN TO-3	28480	1855-0472
A29Q3	5060-2799	1	1	ASSY-XSTR & H/S	28480	5960-2799
A29Q4	1200-0181	5	2	INSULATOR-XSTR NYLON	28480	1200-0181
A29Q4	1205-0391	9	2	HEAT SINK SGL TO-5/TO-39-CS	28480	1205-0391
A29Q4	1854-0687	1	1	TRANSISTOR NPN 2N3725A SI TO-39 PD=5W	01295	2N3725A
A29Q5	1200-0181	5		INSULATOR-XSTR NYLON	28480	1200-0181
A29Q5	1205-0391	9		HEAT SINK SGL TO-5/TO-39-CS	28480	1205-0391
A29Q5	1853-0489	9	1	TRANSISTOR PNP TO-39 PD=1W FT=100MHZ	04713	MM4032
A29Q7	1854-0477	7	2	TRANSISTOR NPN 2N2222A SI TO-18 PD=500MW	04713	2N2222A
A29Q8	1854-0477	7		TRANSISTOR NPN 2N2222A SI TO-18 PD=500MW	04713	2N2222A
A29Q9	1884-0201	8	1	THYRISTOR-SCR TO-92 VRRM=60	04713	2N5061
A29Q10	1854-0087	5	4	TRANSISTOR NPN SI PD=360MW FT=75MHZ	28480	1854-0087
A29Q11	1854-0087	5		TRANSISTOR NPN SI PD=360MW FT=75MHZ	28480	1854-0087
A29Q12	1854-0087	5		TRANSISTOR NPN SI PD=360MW FT=75MHZ	28480	1854-0087
A29Q80	1853-0281	9	1	TRANSISTOR PNP 2N2907A SI TO-18 PD=400MW	04713	2N2907A
A29Q81	1854-0087	5		TRANSISTOR NPN SI PD=360MW FT=75MHZ	28480	1854-0087
A29R3	0683-1515	2	2	RESISTOR 150 5% .25W FC TC=-400/+600	01121	CB1515
A29R4	0683-1515	2		RESISTOR 150 5% .25W FC TC=-400/+600	01121	CB1515
A29R5	0811-1066	1	1	RESISTOR .47 10% 2W PW TC=0+-300	28480	0811-1066
A29R6	0811-1063	8	2	RESISTOR 47 10% 1W PW TC=0+-150	28480	0811-1063
A29R7	0811-1063	8		RESISTOR 47 10% 1W PW TC=0+-150	28480	0811-1063
A29R10	0683-1615	3	1	RESISTOR 160 5% .25W FC TC=-400/+600	01121	CB1615
A29R11	0686-1045	9	2	RESISTOR 100K 5% .5W CC TC=0+682	01121	EB1045
A29R12	0686-1045	9		RESISTOR 100K 5% .5W CC TC=0+682	01121	EB1045
A29R12	2100-0568	1	1	RESISTOR-TRMR 100 10% C TOP-ADJ 1-TRN	28480	2100-0568
A29R13	0683-4705	8	2	RESISTOR 47 5% .25W FC TC=-400/+500	01121	CB4705
A29R14	0757-0969	5	1	RESISTOR 75K 2% .125W F TC=0+-100	24546	C4-1/8-T0-7502-G
A29R17	0683-8205	1	1	RESISTOR 82 5% .25W FC TC=-400/+500	01121	CB8205
A29R18	0683-2015	9	1	RESISTOR 200 5% .25W FC TC=-400/+600	01121	CB2015
A29R20	0689-1005	7	1	RESISTOR 10 5% 1W CC TC=0+412	01121	GB1005
A29R21	0811-1059	2	1	RESISTOR 15 5% 5W PW TC=0+-400	28480	0811-1059
A29R22	0757-0470	3	2	RESISTOR 162K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1623-F
A29R23	0683-0335	2	2	RESISTOR 3.3 5% .25W FC TC=-400/+500	01121	CB3305
A29R24	0683-6805	3	2	RESISTOR 68 5% .25W FC TC=-400/+500	01121	CB6805
A29R25	0683-6215	9	1	RESISTOR 620 5% .25W FC TC=-400/+600	01121	CB6215
A29R26	0683-4715	8	1	RESISTOR 470 5% .25W FC TC=-400/+630	01121	CB4715
A29R27	0683-3315	4	3	RESISTOR 330 5% .25W FC TC=-400/+600	01121	CB3315
A29R28	0683-4705	8		RESISTOR 47 5% .25W FC TC=-400/+500	01121	CB4705
A29R29	0683-5615	1	1	RESISTOR 560 5% .25W FC TC=-400/+600	01121	CB5615
A29R30	0757-0413	4	2	RESISTOR 392 1% .125W F TC=0+-100	24546	C4-1/8-T0-392R-F
A29R31	0757-0466	7	1	RESISTOR 110K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1103-F
A29R32	0683-1815	7	4	RESISTOR 180 5% .25W FC TC=-400/+500	01121	CB1815
A29R33	0757-0290	5	1	RESISTOR 6.19K 1% .125W F TC=0+-100	19701	MF4C1/8-T0-6191-F
A29R34	0683-3925	2	2	RESISTOR 3.9K 5% .25W FC TC=-400/+700	01121	CB3925
A29R35	0757-0435	0	1	RESISTOR 3.92K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3921-F
A29R36	0683-6805	3		RESISTOR 68 5% .25W FC TC=-400/+500	01121	CB6805
A29R37	2100-3252	6	1	RESISTOR-TRMR 5K 10% C TOP-ADJ 1-TRN	28480	2100-3252
A29R38	0757-0438	3	1	RESISTOR 5.11K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5111-F
A29R39	0757-0273	4	1	RESISTOR 3.01K 1% .125W F TC=0+-100	24546	C4-1/8-T0-3011-F
A29R40	0683-2005	7	1	RESISTOR 20 5% .25W FC TC=-400/+500	01121	CB2005
A29R41	0683-3925	2		RESISTOR 3.9K 5% .25W FC TC=-400/+700	01121	CB3925
A29R42	0683-2715	6	1	RESISTOR 270 5% .25W FC TC=-400/+600	01121	CB2715
A29R43	0757-0470	3		RESISTOR 162K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1623-F
A29R45	0757-0279	1	1	RESISTOR 249K 1% .125W F TC=0+-100	24546	C4-1/8-T0-2493-F
A29R46	0683-1525	4	2	RESISTOR 1.5K 5% .25W FC TC=-400/+700	01121	CB1525
A29R47	0683-1015	7		RESISTOR 100 5% .25W FC TC=-400/+500	01121	CB1015
A29R48	0683-3315	4		RESISTOR 330 5% .25W FC TC=-400/+600	01121	CB3315
A29R49	0683-1015	7		RESISTOR 100 5% .25W FC TC=-400/+500	01121	CB1015
A29R54	0683-0335	2		RESISTOR 3.3 5% .25W FC TC=-400/+500	01121	CB3305
A29R55	0757-0403	2	2	RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A29R56	2100-0554	5	2	RESISTOR-TRMR 500 10% C TOP-ADJ 1-TRN	28480	2100-0554
A29R57	0683-3315	4		RESISTOR 330 5% .25W FC TC=-400/+600	01121	CB3315
A29R58	0683-1805	3	2	RESISTOR 18 5% .25W FC TC=-400/+500	01121	CB1805
A29R59	2100-0554	5		RESISTOR-TRMR 500 10% C TOP-ADJ 1-TRN	28480	2100-0554
A29R60	0757-0403	2		RESISTOR 121 1% .125W F TC=0+-100	24546	C4-1/8-T0-121R-F
A29R61	0683-1525	4		RESISTOR 1.5K 5% .25W FC TC=-400/+700	01121	CB1525
A29R62	0683-1805	3		RESISTOR 18 5% .25W FC TC=-400/+500	01121	CB1805
A29R80	0757-0280	7	1	RESISTOR 5.62K 1% .125W F TC=0+-100	24546	C4-1/8-T0-5621-F
A29R81	0683-2025	1	1	RESISTOR 2K 5% .25W FC TC=-400/+700	01121	CB2025
A29R82	0757-0442	4	1	RESISTOR 16.2K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1622-F
A29R83	0757-0413	4		RESISTOR 392 1% .125W F TC=0+-100	24546	C4-1/8-T0-392R-F

See introduction to this section for ordering information
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Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
A29R84	0683-3935	4	1	RESISTOR 39K 5% .25W FC TC=-400/+800	01121	CB3935
A29R85	0683-1015	7		RESISTOR 100 5% .25W FC TC=-400/+500	01121	CB1015
A29T1	5080-1933	5	1	XFMR-DRIVE	28480	5080-1933
A29T2	5080-1998	2	1	XFMR 300W-250W	28480	5080-1998
A29T5	TPPNR-26124	4	1	SW-THERM 80C	28480	TPPNR-26124
A29U1	1906-0237	8	2	DIODE-FW BRDG 600V 1A	28480	1906-0237
A29U2	1906-0237	8		DIODE-FW BRDG 600V 1A	28480	1906-0237
A29U3	5060-2862	7	1	ASSY-PCT/HS-TO3	28480	5060-2862
A29U4	1826-0161	7	1	IC OP AMP GP QUAD 14-DIP-P PKG	04713	MLM324P
A29U5	1826-0643	8	1	IC V RGLTR-V-REF-ADJ 3/38V TO-92 PKG	28480	1826-0643
A29U6	1400-1044	5	2	CLIP-SPRING 0.82 IN H; 0.50 IN W; 0.322	28480	1400-1044
A29U6	1826-0393	7	1	IC V RGLTR TO-220	27014	LM317T
A29U7	1990-0543	6	1	OPTO-ISOLATOR LED-PXSTR IF=150MA-MAX	01295	TIL116
A29U8	1400-1044	5		CLIP-SPRING 0.82 IN H; 0.50 IN W; 0.022	28480	1400-1044
A29U8	1826-0527	9	1	IC 337 V RGLTR TO-220	27014	LM337T
A29U9	1990-0664	2	1	OPTO-ISOLATOR LED-PXSTR IF=50MA-MAX	24972	CNY 21
A29VR1	1902-3295	6	1	DIODE-ZNR 33.2V 5% DO-35 PD=.4W	28480	1902-3295
A29VR3	1902-1349	7	1	DIODE-ZNR 5.9V 2% PD=.4W	28480	1902-1349
A29VR4	1902-0779	3	4	DIODE-ZNR 11.8V 5% DO-15 PD=1W TC=+.064%	28480	1902-0779
A29VR5	1902-0779	5		DIODE-ZNR 11.8V 5% DO-15 PD=1W TC=+.064%	28480	1902-0779
A29VR6	1902-0779	5		DIODE-ZNR 11.8V 5% DO-15 PD=1W TC=+.064%	28480	1902-0779
A29VR7	1902-0779	5		DIODE-ZNR 11.8V 5% DO-15 PD=1W TC=+.064%	28480	1902-0779
A29VR9	1902-3180	8	1	DIODE-ZNR 11.8V 2% DO-35 PD=.4W	28480	1902-3180
A29VR10	1902-3194	4	1	DIODE-ZNR 13.3V 2% DO-35 PD=.4W	28480	1902-3194
A29VR80	1902-0080	1	1	DIODE-ZNR 14.7V 2% DO-14 PD=.4W TC=+.08%	28480	1902-0080
A29VR81	1902-0182	4	2	DIODE-ZNR 20.5V 5% DO-35 PD=.4W	28480	1902-0182
A29VR82	1902-0182	4		DIODE-ZNR 20.5V 5% DO-35 PD=.4W	28480	1902-0182
A29W2	0757-0422	5	2	RESISTOR 909 1% .125W F TC=0+-100	24546	C4-1/8-T0-909R-F
A29W3	0757-0422	5		RESISTOR 909 1% .125W F TC=0+-100	24546	C4-1/8-T0-909R-F
	0340-1071	9	2	INSULATOR NOMEX-NYL-PPR	28480	0340-1071
	0403-0282	6	4	BUMPER FOOT-ADH MTG 12.7-MM-WD	28480	0403-0282
	1390-0515	0	5	FASTENER-SNAP-IN NUT NUT-EXPANSION; FOR	28480	1390-0515
	2515-0003	8	5	SCREW-MACH 8-32 .375-IN-LG PAN-HD-PHL	00000	ORDER BY DESCRIPTION
	7121-4388	0	1	LABEL-INFO ID	28480	7121-4388
	65909-00001	1	1	CHASSIS HS	28480	65909-00001
	5080-1977	7	1	COIL-10A	28480	5080-1977
	5080-1986	8	1	REACTOR-CONTROL	28480	5080-1986
	5020-2638	3	1	PCB-6OUT PFET	28480	5020-2638
	4174-0274	3	50	PLASTIC-CUCLD 2/2 .059-THK FR-4	28480	4174-0274

See introduction to this section for ordering information
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Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
				MECHANICAL PARTS		
A1	04945-60001	3	1	RECEIVER INPUT	28480	04945-60001
A2	04945-60002	4	1	FILTER BOARD	28480	04945-60002
A3	04945-60003	5	1	NLD/MODEM	28480	04945-60003
A4	04945-60004	6	1	AUTORANGE AMP	28480	04945-60004
A5	04945-60005	7	1	DETECTOR BOARD	28480	04945-60005
A6	04945-60006	8	1	JITTER BOARD	28480	04945-60006
A7	04945-60007	9	1	US ENV DELAY	28480	04945-60007
A8	04945-60008	0	1	FREQ COUNTER	28480	04945-60008
A9	04945-60009	1	1	TRANSIENTS	28480	04945-60009
A10	04945-60010	4	1	RCVR PROCESSOR	28480	04945-60010
A11	04945-60011	5	1	SYSTEM PROCESSOR	28480	04945-60011
A12	04945-60012	6	1	SYSTEM MEMORY	28480	04945-60012
A13	04945-60013	7	1	VIDEO GENERATOR	28480	04945-60013
A14	04945-60015	9	1	TRANSMIT CONTROL	28480	04945-60015
A15	04945-60016	0	1	WAVEFORM GEN BD	28480	04945-60016
A17	04945-60017	1	1	ACTIVE OUTPUT BD	28480	04945-60017
A18	04945-60018	2	1	TRANSMIT OUTPUT	28480	04945-60018
A19	04945-60019	3	1	CRT DRIVER BOARD	28480	04945-60019
A20	04945-60020	6	1	AC MAIN SWITCH	28480	04945-60020
A21	04945-60021	7	1	DC CONNECT BOARD	28480	04945-60021
A22	04945-60022	8	1	MOTHER BOARD	28480	04945-60022
A23	04945-62601			CRT/YOKE ASSY	28480	04945-62601
A25	04945-60025	1	1	FR PANEL DECODER	28480	04945-60025
A28	65908-69020	1	1	POWER SUPPLY 15V	28480	65908A
A29	65909-69020	2	1	POWER SUPPLY 12V	28480	65909A
A30	04945-62602	8		FRONT PANEL ASSY	28480	04945-62602
A58	04945-60058	0	1	FR PANEL CONNECT	28480	04945-60058
A59	04945-60059	1	1	REAR PNL CONNECT	28480	04945-60059
F1	2110-0381	7	1	FUSE 3A 250V TD 1.25X.25	28480	2110-0381
H1	2510-0043	6	4	SCREW-MACH 8-32 .312-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
H2	3050-0001	1	2	WASHER-FL MTLC NO. 8 .172-IN-ID	28480	3050-0001
H3	2420-0023	1	12	NUT-HEX-W/LKWR 6-32-THD .109-IN-THK	28480	2420-0023
H4	3050-0066	8	1	WASHER-FL MTLC NO. 6 .147-IN-ID	28480	3050-0066
H5	1400-0024	9	1	CLAMP-CABLE .25-DIA .5-WD NYL	28480	1400-0024
H6	2360-0121	2	1	SCREW-MACH 6-32 .5-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
H7	2360-0117	6	3	SCREW-MACH 6-32 .375-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
H8	2360-0125	6	2	SCREW-MACH 6-32 .75-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
H9	2360-0115	4	4	SCREW-MACH 6-32 .312-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
H10	2360-0242	8	4	SCREW-MACH 6-32 1.25-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
H11	0380-0829	7	6	SPACER-RND .5-IN-LG .156-IN-ID	00000	ORDER BY DESCRIPTION
H12	3050-0304	7	1	WASHER-FL MTLC 5/16 IN .375-IN-ID	28480	3050-0304
H13	2950-0001	8	1	NUT-HEX-DBL-CHAM 3/8-32-THD .094-IN-THK	00000	ORDER BY DESCRIPTION
H14	0340-0732	7	6	INSULATOR-BDG POST POLYC	28480	0340-0732
H15	2680-0104	9	2	SCREW-MACH 10-32 .5-IN-LG 100 DEG	00000	ORDER BY DESCRIPTION
H16	3050-1109	2	2	WASHER-SHLDR 5.8 MM 5.6-MM-ID 15.9-MM-OD	28480	3050-1109
H17	2110-0569	3	1	FUSEHOLDER COMPONENT NUT; THREAD M12.7	28480	2110-0569
H18	1400-0096	9	1	FUSEHOLDER COMPONENT FOR USE ON	28480	1400-0096
H19	2510-0049	2	4	SCREW-MACH 8-32 .5-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
H20	2360-0113	2	8	SCREW-MACH 6-32 .25-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
H21	2510-0133	5	12	SCREW-MACH 8-32 .188-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
H22	0624-0575	8	34	SCREW-TPG 8-18 .312-IN-LG PAN-HD-POZI	28480	0624-0575
H23	2680-0899	1	2	SCREW-MACH 10-32 .375-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
H24	2190-0018	5	4	WASHER-LK HLCL NO.6 .141-IN-ID	28480	2190-0018
H25	2360-0127	8	4	SCREW-MACH 6-32 .875-IN-LG PAN-HD-POZI	28480	2360-0127
H26	0590-0167	1	4	NUT-THUMB G-32 THD BRS	28480	0590-0167
LS1	04945-61616	8	1	SPEAKER ASSY	28480	04945-61616
M1	04945-61615	7	1	FAN ASSEMBLY	28480	04945-61615
MP1	04945-40003	3	1	BEZEL	28480	04945-40003
MP2	7120-3812	1	1	LABEL-WARNING .1-IN-WD 2.6-IN-LG MYLAR	28480	7120-3812
MP3	1000-0653	2	1	GLASS CTRS FC PL	28480	1000-0653
MP4	5041-0201	6	1	KEY CAP WHITE	28480	5041-0201
MP5	5040-7675	0	2	PWR SW PUSH ROD	28480	5040-7675
MP6	04945-62603	5	1	REAR PANEL ASSY	28480	04945-62603
MP6	04945-62606	8	1	REAR PANEL ASSY	28480	04945-62606
MP7	5040-7829	6	4	FOOT-REAR	28480	5040-7829
MP8	04945-40002	2	1	FRAME REAR	28480	04945-40002
MP9	1460-1990	6	1	STAMPING-FE WIRE FRAME	28480	1460-1990
MP10	1251-3677	7	2	CONNECTOR-TEL JACK 2-CKT .25-SHK-DIA	28480	1251-3677
MP12	1510-0127	6	6	BINDING POST ASSY SGL SGL-TUR JGK	28480	1510-0127
MP13	7120-4184	2	1	LABEL-IDENTIFICATION 1-IN-WD 2.5-IN-LG	28480	7120-4184
MP14	04945-40006	6	1	DUST COVER	28480	04945-40006
MP15	04945-20042	8	2	SIDE RAIL	28480	04945-20042

See introduction to this section for ordering information
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Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
MP16	04945-40005	5	1	HANDLE MOLDED	28480	04945-40005
MP17	04945-20041	7	2	HANDLE BRKT	28480	04945-20041
MP18	2110-0658	1	1	FUSEHOLDER COMPONENT CONTACT PROTECTIVE	28480	2110-0658
MP19	2110-0564	8	1	FUSEHOLDER BODY 12A MAX FOR UL	M9027	031.1657
MP20	2110-0565	9	1	FUSEHOLDER CAP 12A MAX FOR UL	28480	2110-0565
MP21	04945-00022	2	1	I/O COVER RIGHT	28480	04945-00022
MP22	04945-00003	9	1	TOP COVER	28480	04945-00003
MP23	04945-00013	1	1	BOTTOM COVER	28480	04945-00013
MP24	0403-0457	7	8	ER DIVISION	28480	0403-0457
MP25	04945-00020	0	3	WIRE FRAME BRCKT	28480	04945-00020
MP27	04945-40008	8	1	WARNING COVR A19	28480	04945-40008
MP28	04945-40009	9	1	WARNING COVR A20	28480	04945-40009
MP29	3150-0218	4		FILLER-AIR 32 STD MESH MET SCREEN	28480	3150-0218
MP30	03582-04104	8		SCREEN	28480	03582-04104
W1	04945-61609	9	1	AC MAINS CABLE	28480	04945-61609
W2	04945-61601	1	1	A13-A19 CBL ASSY	28480	04945-61401
W3	04945-61602	2	1	A22-A25 CBL ASSY	28480	04945-61602
W4	04945-61606	6	1	CRT CABLE ASSY	28480	04945-61606
W5	8120-4107	0	1	CABLE-FLEX CIRCUIT 20 CONDUCTOR; COPPER	28480	8120-4107
W6	8120-4106	9	1	CABLE-FLEX CIRCUIT 6 CONDUCTOR; COPPER	28480	8120-4106
W7	8120-4108	1	1	CABLE-FLEX CIRCUIT 12 CONDUCTOR; COPPER	28480	8120-4108
				MISCELLANEOUS		
	1400-0249	0	12	CABLE TIE .062-.625-DIA .091-WD NYL	06383	PLT1M-8
	0362-0150	9	2	TERMINAL-CRIMP R-TNG #8 22-16-AWG RED	28480	0362-0150
	1400-0249	0		CABLE TIE .062-.625-DIA .091-WD NYL	06383	PLT1M-8
	7120-3185	1	1	LABEL-WARNING 1-IN-WD 2-IN-LG VINYL	28480	7120-3185
	04945-62602	4	1	FRONT PANEL ASSY	28480	04945-62602
	8120-1521	6	1	CABLE ASSY 18AWG 3-CNDCT JCK-JKT	28480	8120-1521
	04945-80003	7	1	SER TAG LABEL	28480	04945-80003
	04945-90007	2	1	OPER MANUAL	28480	04945-90007
	04945-90005	0	1	SERVICE MANUAL	28480	04945-90005
	04945-20063	3	1	RETAINER, SHAFT	28480	04945-20063

See introduction to this section for ordering information
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Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
				18162A HP-IB INTERFACE		
	18162-20001	1	1	HP-IB I/O BD BLK	28480	18162-20001
	0380-0644	4	2	STANDOFF-HEX .327-IN-LG 6-32THD	00000	ORDER BY DESCRIPTION
	1390-0520	7	1	FASTENER-LATCH SPR SPRING LATCH	28480	1390-0520
	1480-0225	0	1	PIN-GRV .093-IN-DIA .312-IN-LG STL	28480	1480-0225
	2190-0913	9	6	WASHER-LK HLCL NO. 4 .115-IN-ID	28480	2190-0913
	2200-0097	3	12	SCREW-MACH 4-40 .562-IN-LG 82 DEG	00000	ORDER BY DESCRIPTION
	2420-0023	1	2	NUT-HEX-W/LKWR 6-32-THD .109-IN-THK	28480	2420-0023
	8120-4155	8	1	HP IB INTFC CBL	28480	8120-4155
	5020-5258	9	6	SPCR THD 4-40	28480	5020-5258
	98046-64403	6	1	CASE-TOP PAINTED	28480	98046-64403
	98046-64404	7	1	CASE-BOTTOM PAINTED	28480	98046-64404
	18162-00001	9	1	MOUNTING PLATE	28480	18162-00001
	18162-00002	0	1	HOUSING PLATE	28480	18162-00002
	18162-60001	5	2	HP IB-I/O ASSY	28480	18162-60001
	18162-80001	7	1	IDENT LABEL HPIB	28480	18162-80001
	18162-80003	9	1	SER TAG LABEL	28480	18162-80003
				18162-60001 HP IB-I/O ASSY		
C1	0180-0374	3	1	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
C2	0160-5298	8	10	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C3	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C4	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C5	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C6	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C7	0160-4535	4	1	CAPACITOR-FXD 1UF +-10% 50VDC CER	28480	0160-4535
C8	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C9	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C10	0160-4789	0	2	CAPACITOR-FXD 15PF +-5% 100VDC CER 0+-30	28480	0160-4789
C11	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C12	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C13	0160-4789	0		CAPACITOR-FXD 15PF +-5% 100VDC CER 0+-30	28480	0160-4789
C14	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
CR1	1901-0025	2	1	DIODE-GEN PRP 100V 200MA DO-7	28480	1901-0025
J1	1251-8248	8	1	CONN-POST TYPE .100-PIN-SPCG 26-CONT	28480	1251-8248
JU501	1251-6524	9	1	SHUNT-DIP 9 POSITION; DUAL INLINE PKG	28480	1251-6524
Q1	1854-0477	7	1	TRANSISTOR NPN 2N2222A SI TO-18 PD=500MW	04713	2N2222A
R1	0757-0280	3	2	RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
R2	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
R201	1810-0280	8	2	NETWORK-RES 10-SIP10.0K OHM X 9	01121	210A103
R202	1810-0206	8	1	NETWORK-RES 8-SIP10.0K OHM X 7	01121	208A103
R301	1810-0368	3	1	NETWORK-RES 6-SIP10.0K OHM X 5	01121	206A103
R501	1810-0280	8		NETWORK-RES 10-SIP10.0K OHM X 9	01121	210A103
R503	1810-0318	3	1	NETWORK-RES 6-SIP1.0K OHM X 5	01121	206A102
TP1	0360-1682	0	1	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
U100	1820-1216	3	1	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U101	1820-2548	6	1	IC-TMS 9914	28480	1820-2548
U102	1820-3431	8	1	IC DS75160AN	28480	1820-3431
U200	1820-1568	8	1	IC BFR TTL LS BUS QUAD	01295	SN74LS125AN
U202	1820-2483	8	1	IC RCVR TTL LS BUS OCTL	01295	SN75161N
U300	1820-1858	7	2	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
U301	1820-2977	5	1	IC-ROMLESS VERSION OF Z8601 MCU; FCLK=8M	28480	1820-2977
U302	18162-10001	0	1	HP IB PROM	28480	18162-10001
U400	1820-1997	7	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U500	1820-1449	5	1	IC LCH TTL LS QUAD	01295	SN74LS279N
U502	1820-1858	9		IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
U503	1820-1200	3	1	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U604	1820-1427	8	1	IC DCDR TTL LS 2-TO-4-LINE DUAL 2-INP	01295	SN74LS156N
XU302	1200-0567	1	1	SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
XU501	1200-0539	7	1	SOCKET-IC 18-CONT DIP DIP-SLDR	28480	1200-0539
Y1	0410-1298	1	1	CRYSTAL-QUARTZ 4 MHZ HC-18/U-HLDR	28480	0410-1298

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
				18163A RS232 INTERFACE		
	18163-20001	2	1	RS 232 I/O BD BK	28480	18163-20001
	1251-2942	7	2	LOCK-SUBMIN D CONN	28480	1251-2942
	1390-0520	7	1	FASTENER-LATCH SPR SPRING LATCH	28480	1390-0520
	1480-0225	0	1	PIN-GRV .093-IN-DIA .312-IN-LG STL	28480	1480-0225
	2190-0913	9	6	WASHER-LK HLCL NO. 4 .115-IN-ID	28480	2190-0913
	2200-0097	3	12	SCREW-MACH 4-40 .562-IN-LG 82 DEG	00000	ORDER BY DESCRIPTION
	8120-4156	9	1	RS-232 INTFC CBL	28480	8120-4156
	5020-5258	9	6	SPCR THD 4-40	28480	5020-5258
	18162-00002	0	1	HOUSING PLATE	28480	18162-00002
	98046-64403	6	1	CASE-TOP PAINTED	28480	98046-64403
	98046-64404	7	1	CASE-BOT PAINTED	28480	98046-64404
	18163-00001	0	1	MOUNTING PLATE	28480	18163-00001
	18163-60001	6	2	RS-232 I/O ASSY	28480	18163-60001
	18163-80001	8	1	IDENT LBL RS232	28480	18163-80001
	18163-80003	0	1	SER TAG LABEL	28480	18163-80003
				18163-60001 RS-232 I/O ASSY		
C1	0180-0374	3	1	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
C2	0180-2205	3	2	CAPACITOR-FXD .33UF+-10% 35VDC TA	56289	150D334X9035A2
C3	0180-2205	3		CAPACITOR-FXD .33UF+-10% 35VDC TA	56289	150D334X9035A2
C4	0180-1743	2	2	CAPACITOR-FXD .1UF+-10% 35VDC TA	56289	150D104X9035A2
C5	0180-1743	2		CAPACITOR-FXD .1UF+-10% 35VDC TA	56289	150D104X9035A2
C6	0160-5298	8	9	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C7	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C8	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C9	0160-4810	8	3	CAPACITOR-FXD 330PF +-5% 100VDC CER	28480	0160-4810
C10	0160-4810	8		CAPACITOR-FXD 330PF +-5% 100VDC CER	28480	0160-4810
C11	0160-4810	8		CAPACITOR-FXD 330PF +-5% 100VDC CER	28480	0160-4810
C13	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C14	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C15	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C16	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C17	0160-4535	4	1	CAPACITOR-FXD 1UF +-10% 50VDC CER	28480	0160-4535
C18	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C19	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C20	0160-4789	0	2	CAPACITOR-FXD 15PF +-5% 100VDC CER 0+-30	28480	0160-4789
C21	0160-4789	0		CAPACITOR-FXD 15PF +-5% 100VDC CER 0+-30	28480	0160-4789
CR1	1901-0033	2	2	DIODE-GEN PRP 100V 200MA DO-7	28480	1901-0033
CR2	1901-0033	2		DIODE-GEN PRP 100V 200MA DO-7	28480	1901-0033
CR3	1901-0025	2	1	DIODE-GEN PRP 100V 200MA DO-7	28480	1901-0025
JU201	1251-6524	9	1	SHUNT-DIP 9 POSITION; DUAL INLINE PKG	28480	1251-6524
P1	1251-8248	8	1	CONN-POST TYPE .100-PIN-SPCG 26-CONT	28480	1251-8248
Q1	1854-0477	7	1	TRANSISTOR NPN 2N2222A SI TO-18 PD=500MW	04713	2N2222A
R1	0757-0280	3	2	RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
R2	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
R201	1810-0280	8	2	NETWORK-RES 10-SIP10.0K OHM X 9	01121	210A103
R202	1810-0280	8		NETWORK-RES 10-SIP10.0K OHM X 9	01121	210A103
R502	1810-0368	3	2	NETWORK-RES 6-SIP10.0K OHM X 5	01121	206A103
R603	1810-0318	3	1	NETWORK-RES 6-SIP1.0K OHM X 5	01121	206A102
R604	1810-0368	3		NETWORK-RES 6-SIP10.0K OHM X 5	01121	206A103
TP1	0360-1682	0	1	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
U100	1826-0275	4	1	IC 78L12A V RGLTR TO-92	04713	MC78L12ACP
U101	1826-0262	3	1	IC V RGLTR TO-92	04713	MC79L12ACP
U102	1820-2665	8	1	IC-ASYNCHRONOUS COMMUNICATIONS ELEMENT	28480	1820-2665
U103	1820-0509	5	1	IC DRVR DTL LINE DRVR QUAD	04713	MC1488L
U200	1820-1568	8	1	IC BFR TTL LS BUS QUAD	01295	SN74LS125AN
U202	1818-0643	3	1	IC NMOS 4096 (4K) STAT RAM 450-NS 3-S	27014	MM2114N-L
U203	1820-0990	8	1	IC RCVR DTL NAND LINE QUAD	01295	SN75189AJ
U300	1820-1216	3	1	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U303	1820-1858	9	2	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
U400	1820-1858	9		IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
U403	18163-10001	1	1	RS232 PROM	28480	18163-10001
U407	1820-2977	5	1	IC-ROMLESS VERSION OF Z8601 MCU; FCLK=8M	28480	1820-2977
U500	1820-1997	7	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U501	1820-1440	5	1	IC LCH TTL LS QUAD	01295	SN74LS279N
U502	1820-1427	8	1	IC DCDR TTL LS 2-TO-4-LINE DUAL 2-INP	01295	SN74LS156N
U503	1820-1208	3	1	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U504	1820-1199	1	1	IC INV TTL LS HEX 1-IN*	01295	SN74LS04N

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
XU201	1200-0539	7	2	SOCKET-IC 18-CONT DIP DIP-SLDR	28480	1200-0539
XU202	1200-0539	7		SOCKET-IC 18-CONT DIP DIP-SLDR	28480	1200-0539
XU403	1200-0567	1	1	SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
Y1	0410-1298	1	1	CRYSTAL-QUARTZ 4 MHZ HC-18/U-HLDR	28480	0410-1298

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
				18165A HP-IL INTERFACE		
	0624-0227	7	2	SCREW-TPG 4-40 .25-IN-LG PAN-HD-POZI STL	00000	ORDER BY DESCRIPTION
	1390-0520	7	1	FASTENER-LATCH SPR SPRING LATCH	28480	1390-0520
	1480-0225	0	1	PIN-GRV .093-IN-DIA .312-IN-LG STL	28480	1480-0225
	2190-0913	9	6	WASHER-LK HLCL NO. 4 .115-IN-ID	28480	2190-0913
	2200-0097	3	12	SCREW-MACH 4-40 .562-IN-LG 82 DEG	00000	ORDER BY DESCRIPTION
	8120-3383	2	1	CA-ASSY HP-IL 1M	28480	8120-3383
	5020-5258	9	6	SPCR THD 4-40	28480	5020-5258
	00075-60049	8	1	PNL RECEPT HP-IL	28480	00075-60049
	18162-00002	0	1	HOUSING PLATE	28480	18162-00002
	98046-64403	6	1	CASE-TOP PAINTED	28480	98046-64403
	98046-64404	7	1	CASE-BOT PAINTED	28480	98046-64404
	18165-00001	2	1	MOUNTING PLATE	28480	18165-00001
	18165-00002	3	1	MOUNTING BRACKET	28480	18165-00002
	18165-60001	8	2	HP IL I/O ASSY	28480	18165-60001
	18165-80001	0	1	IDENT LABEL HPIL	28480	18165-80001
	18165-80003	2	1	SER TAG LABEL	28480	18165-80003
	18165-60001			HP IL I/O ASSY		
C1	0160-5298	8	6	CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C2	0160-5332	1	1	CAPACITOR-FXD .1UF +-20% 50VDC CER	28480	0160-5332
C3	0160-4800	6	1	CAPACITOR-FXD 120PF +-5% 100VDC CER	28480	0160-4800
C4	0160-4810	8	2	CAPACITOR-FXD 330PF +-5% 100VDC CER	28480	0160-4810
C5	0160-4810	8		CAPACITOR-FXD 330PF +-5% 100VDC CER	28480	0160-4810
C6	0180-0374	3	1	CAPACITOR-FXD 10UF+-10% 20VDC TA	56289	150D106X9020B2
C7	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C8	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C9	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C10	0160-4789	0	2	CAPACITOR-FXD 15PF +-5% 100VDC CER 0+-30	28480	0160-4789
C11	0160-4789	0		CAPACITOR-FXD 15PF +-5% 100VDC CER 0+-30	28480	0160-4789
C12	0160-4535	4	1	CAPACITOR-FXD 1UF +-10% 50VDC CER	28480	0160-4535
C13	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
C14	0160-5298	8		CAPACITOR-FXD .01UF +-20% 100VDC CER	28480	0160-5298
CR1	1902-0970	8	2	DIODE-ZNR 33V 5% DO-35 PD=.4W TC=+.097%	28480	1902-0970
CR2	1902-0970	8		DIODE-ZNR 33V 5% DO-35 PD=.4W TC=+.097%	28480	1902-0970
CR3	1902-0953	7	2	DIODE-ZNR 6.2V 5% DO-35 PD=.4W TC=+.053%	28480	1902-0953
CR4	1902-0953	7		DIODE-ZNR 6.2V 5% DO-35 PD=.4W TC=+.053%	28480	1902-0953
CR5	1901-0025	2	1	DIODE-GEN PRP 100V 200MA DO-7	28480	1901-0025
JU403	1251-6524	9	1	SHUNT-DIP 9 POSITION; DUAL INLINE PKG	28480	1251-6524
L1	9100-1631	8	1	INDUCTOR RF-CH-MLD 56UH 5% .166DX.385LG	28480	9100-1631
Q1	1854-0477	7	1	TRANSISTOR NPN 2N2222A SI TO-18 PD=500MW	04713	2N2222A
R1	1810-0280	8	2	NETWORK-RES 10-SIP10.0K OHM X 9	01121	210A103
R2	0757-0280	3	2	RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
R3	0757-0280	3		RESISTOR 1K 1% .125W F TC=0+-100	24546	C4-1/8-T0-1001-F
R4	8159-0005	0	1	RESISTOR-ZERO OHMS 22 AWG LEAD DIA	28480	8159-0005
R5	0683-1535	6	2	RESISTOR 15K 5% .25W FC TC=-400/+800	01121	CB1535
R6	0683-1535	6		RESISTOR 15K 5% .25W FC TC=-400/+800	01121	CB1535
R7	1810-0318	3	1	NETWORK-RES 6-SIP1.0K OHM X 5	01121	206A102
R8	0698-3446	3	2	RESISTOR 383 1% .125W F TC=0+-100	24546	C4-1/8-T0-383R-F
R9	0698-3446	3		RESISTOR 383 1% .125W F TC=0+-100	24546	C4-1/8-T0-383R-F
R10	1810-0280	8		NETWORK-RES 10-SIP10.0K OHM X 9	01121	210A103
R11	1810-0206	8	1	NETWORK-RES 8-SIP10.0K OHM X 7	01121	208A103
T1	9100-4226	3	1	TRANSFORMER	28480	9100-4226
TP1	0360-1682	0	1	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
U100	1820-1216	3	1	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U101	1820-2927	5	1	IC-ILB3-0003	28480	1820-2927
U200	1820-1440	5	1	IC LCH TTL LS QUAD	01295	SN74LS279N
U300	1820-1568	8	1	IC BFR TTL LS BUS QUAD	01295	SN74LS125AN
U301	18165-10001	3	1	HP-IL PROM	28480	18165-10001
U302	1820-1427	8	1	IC DCDR TTL LS 2-TO-4-LINE DUAL 2-INP	01295	SN74LS156N
U400	1820-1997	7	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U500	1820-1858	9	2	IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
U501	1820-2977	5	1	IC-ROMLESS VERSION OF Z8601 MCU; FCLK=8M	28480	1820-2977
U503	1820-1858	9		IC FF TTL LS D-TYPE OCTL	01295	SN74LS377N
U504	1820-1208	3	1	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
XU301	1200-0567	1	1	SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0567
XU403	1200-0539	7	1	SOCKET-IC 18-CONT DIP DIP-SLDR	28480	1200-0539
Y1	0410-1298	1	1	CRYSTAL-QUARTZ 4 MHZ HC-18/U-MLDR	28480	0410-1298

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
	04945-62607	**9**	**1**	**4945A SERVICE KIT**	**28480**	**04945-62607**
	9211-4142	7	1	CARTON	28480	9211-4142
	9220-3080	7	1	FOAM PAD SET	28480	9220-3080
	04945-60023	9	1	50 PIN EXTENDER BOARD	28480	04945-60023
	04945-60024	0	1	120 PIN EXTENDER BOARD	28480	04945-60024
	04945-60062	6	1	PASSIVE LOADING BOARD	28480	04945-60062
	04945-62608	0	1	POWER SUPPLY TEST FIXTURE	28480	04945-62608
A58	**04945-60058**	**0**	**1**	**FR PANEL CONNECT**	**28480**	**04945-60058**
A58CR1	1901-0040	1	2	DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A58CR2	1901-0040	1		DIODE-SWITCHING 30V 50MA 2NS DO-35	28480	1901-0040
A58J1	1251-8311	6	1	CONNECTOR 12-PIN F FLAT CABLE	28480	1251-8311
A58K1	0490-1354	8	2	RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A58K2	0490-1354	8		RELAY 2C 5VDC-COIL 2A 250VAC	28480	0490-1354
A58V1	1970-0078	0		TUBE-ELECTRON SURGE V PTCTR	25088	B1-A350/15
A58V2	1970-0078	0		TUBE-ELECTRON SURGE V PTCTR	25088	B1-A350/15
A58V3	1970-0078	0		TUBE-ELECTRON SURGE V PTCTR	25088	B1-A350/15
A58V4	1970-0078	0		TUBE-ELECTRON SURGE V PTCTR	25088	B1-A350/15
A58V5	1970-0078	0		TUBE-ELECTRON SURGE V PTCTR	25088	B1-A350/15
A58V6	1970-0078	0		TUBE-ELECTRON SURGE V PTCTR	25088	B1-A350/15
	0362-0150	9	1	TERMINAL-CRIMP R-TNG #8 22-16-AWG RED	28480	0362-0150
	1400-0249	0	1	CABLE TIE .662-.625-DIA .091-WD NYL	06383	PLT1M-8
	1970-0078	0	2	TUBE-ELECTRON SURGE V PTCTR	25088	B1-A350/15
	04945-20058	6	1	FR CONN BD BLK	28480	04945-20058
A59	**04945-60059**	**1**	**1**	**REAR PANEL CONNECT**	**28480**	**04945-60059**
A59H1	2190-0016	3	2	WASHER-LK INTL T 3/8 IN .377-IN-ID	28480	2190-0016
A59H2	2190-0016	3		WASHER-LK INTL T 3/8 IN .377-IN-ID	28480	2190-0016
A59H3	2950-0043	8	2	NUT-HEX-DBL-CHAM 3/8-32-THD .094-IN-THK	00000	ORDER BY DESCRIPTION
A59H4	2950-0043	8		NUT-HEX-DBL-CHAM 3/8-32-THD .094-IN-THK	00000	ORDER BY DESCRIPTION
A59H5	0340-0732	7	2	INSULATOR-BDG POST POLYC	28480	0340-0732
A59H6	0340-0732	7		INSULATOR-BDG POST POLYC	28480	0340-0732
A59H7	0340-0719	0	2	INSULATOR-BDG POST ABS JADE-GRA	28480	0340-0719
A59H8	0340-0719	0		INSULATOR-BDG POST ABS JADE-GRA	28480	0340-0719
A59H9	3050-0227	3	2	WASHER-FL MTLC NO. 6 .149-IN-ID	28480	3050-0227
A59H10	3050-0227	3		WASHER-FL MTLC NO. 6 .149-IN-ID	28480	3050-0227
A59H11	2420-0023	1	2	NUT-HEX-W/LKWR 6-32-THD .109-IN-THK	28480	2420-0023
A59H12	2420-0023	1		NUT-HEX-W/LKWR 6-32-THD .109-IN-THK	28480	2420-0023
A59H13	2200-0103	2	2	SCREW-MACH 4-40 .25-IN-LG PAN-HD-POZI	28480	2200-0103
A59H14	2200-0103	2		SCREW-MACH 4-40 .25-IN-LG PAN-HD-POZI	28480	2200-0103
A59J1	1250-0083	1	2	CONNECTOR-RF BNC FEM SGL-HOLE-FR 50-OHM	28480	1250-0083
A59J2	1250-0083	1		CONNECTOR-RF BNC FEM SGL-HOLE-FR 50-OHM	28480	1250-0083
A59J3	1510-0076	4	2	BINDING POST SGL SGL-TUR JGK	28480	1510-0076
A59J4	1510-0076	4		BINDING POST SGL SGL-TUR JGK	28480	1510-0076
A59MP1	1400-0498	1	2	BRACKET-RTANG .312-LG X .452-LG .25-WD	28480	1400-0498
A59MP2	1400-0498	1		BRACKET-RTANG .312-LG X .452-LG .25-WD	28480	1400-0498
A59MP3	0361-0010	8	2	RIVET-AL .123D X .219L	28480	0361-0010
A59MP4	0361-0010	8		RIVET-AL .123D X .219L	28480	0361-0010
A59MP5	3050-0105	6	2	WASHER-FL MTLC NO. 4 .125-IN-ID	28480	3050-0105
A59MP6	3050-0105	6		WASHER-FL MTLC NO. 4 .125-IN-ID	28480	3050-0105
	8151-0013	4	1	WIRE 22AWG 1X22	28480	8151-0013
	04945-00021	1	1	I/O COVER-LEFT	28480	04945-00021
	04945-60062	**6**	**1**	**PASSIVE LOAD BOARD**	**28480**	**04945-60062**
	0360-1682	0	8	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
	0380-0159	6	4	STANDOFF-RVT-ON .375-IN-LG 6-32THD	00000	ORDER BY DESCRIPTION
	0811-1893	2	2	RESISTOR 5 5% 10W PW TC=0+-50	28480	0811-1893
	0811-2988	8	4	RESISTOR 22 1% 7W PW TC=0+-26	91637	NS7-22R-F
	1251-7506	9	1	CONN-POST TYPE .100-PIN-SPCG 120-CONT	28480	1251-7506
	1251-7986	9	1	CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7986

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-2. 4945A Replaceable Parts (Cont'd)

Reference Designation	HP Part Number	C D	Qty	Description	Mfr Code	Mfr Part Number
	04945-60061	**5**	**1**	**POWER SUPPLY TEST BOARD**	**28480**	**04945-60061**
	0360-1682	0	13	TERMINAL-STUD SGL-TUR PRESS-MTG	28480	0360-1682
	0380-0741	2	8	STANDOFF-RVT-ON .187-IN-LG 6-32THD	00000	ORDER BY DESCRIPTION
	0380-1276	0	3	SPACER-SNAP-IN .188 IN LG; .280 IN OD	00000	ORDER BY DESCRIPTION
	0811-1893	2	4	RESISTOR 5 5% 10W PW TC=0+-50	28480	0811-1893
	0811-2568	0	5	RESISTOR 1 1% 3W PW TC=0+-50	28480	0811-2568
	0811-2988	8	4	RESISTOR 22 1% 7W PW TC=0+-20	91637	N57-22R-F
	0812-0099	0	2	RESISTOR 1K 5% 5W PW TC=0+-20	28480	0812-0099
	0816-0010	3	4	RESISTOR 12 5% 10W PW TC=0+-260	91637	HL12-02Z-10W-12R-J
	0890-0305	5	1	TUBING-HS .25-D/.125-RCVD .025-WALL PVC	00000	ORDER BY DESCRIPTION
	1251-2875	5	1	CONNECTOR-PC EDGE 22-CONT/ROW 2-ROWS	28480	1251-2875
	1251-3917	8	1	CONNECTOR 2-PIN M POST TYPE	28480	1251-3917
	1400-0249	0	3	CABLE TIE .062-.625-DIA .091-WD NYL	06383	PLT1M-8
	8120-4109	2	1	CABLE-FLEX 22 AWG 5-CNDCT GRA-JKT	28480	8120-4109
	04945-62608	**0**	**1**	**POWER SUPPLY TEST FIXTURE**	**28480**	**04945-62608**
	0360-0009	3	1	SOLDER LUG TERMINAL	28480	0360-0009
	0403-0179	0	4	PLASTIC BUMPER	28480	0403-0179
	2110-0304	4	1	FUSE 1.5A 250V TD 1.25X.25 UL	28480	2110-0304
	2110-0360	2	1	FUSE .75A 250V TD 1.25X.25 UL	75915	313.750
	2110-0564	8	2	FUSEHOLDER BODY 12A MAX FOR UL	M9027	031.1657
	2110-0565	9	2	FUSEHOLDER CAP 12A MAX FOR UL	28480	2110-0565
	2110-0569	3	2	FUSEHOLDER COMPONENT NUT; THREAD M12.7	28480	2110-0569
	2110-0558	0	2	FUSE 1A 500V 1.5X.406 UL	71400	FNQ1
	2200-0105	4	4	SCREW-MACH 4-40 .312-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
	2260-0009	3	4	NUT-HEX-W/LKWR 4-40-THD .094-IN-THK	00000	ORDER BY DESCRIPTION
	2360-0113	2	27	SCREW-MACH 6-32 .25-IN-LG PAN-HD-POZI	00000	ORDER BY DESCRIPTION
	2420-0023	1	2	NUT-HEX-W/LKWR 6-32-THD .109-IN-THK	28480	2420-0023
	3101-2299	2	1	SWITCH-SL DPDT STD 5A 250VAC SLDR-LUG	28480	3101-2299
	04945-00023	3	1	CHASSIS	28480	04945-00023
	04945-00024	4	1	COVER	28480	04945-00024
	04945-00025	5	1	FRONT PANEL	28480	04945-00025
	04945-60061	5	1	POWER SUPPLY TEST BOARD	28480	04945-60061
	04945-61614	6	1	LINE FILTER	28480	04945-61614
	04945-60023	**9**	**1**	**50 PIN EXTENDER BOARD**	**28480**	**04945-60023**
	0360-0124	3	1	CONNECTOR-SGL CONT PIN .04-IN-BSC-SZ RND	28480	0360-0124
	0403-0470	4	2	EXTENDER-PC BOARD SUPPORT FOR .062 IN	28480	0403-0470
	1251-7986	9	1	CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-7986
	1251-8098	6	1	CONN-POST TYPE .100-PIN-SPCG 50-CONT	28480	1251-8098
	1480-0136	2	4	PIN-ROLL .094-IN-DIA .25-IN-LG SST	28480	1480-0136
	04945-60024	**0**	**1**	**120 PIN EXTENDER BOARD**	**28480**	**04945-60024**
	0360-0124	3	2	CONNECTOR-SGL CONT PIN .04-IN-BSC-SZ RND	28480	0360-0124
	0403-0470	4	2	EXTENDER-PC BOARD SUPPORT FOR .062 IN	28480	0403-0470
	1251-7506	9	1	CONN-POST TYPE .100-PIN-SPCG 120-CONT	28480	1251-7506
	1251-7518	3	1	CONN-POST TYPE .100-PIN-SPCG 120-CONT	28480	1251-7518
	1480-0136	2	4	PIN-ROLL .094-IN-DIA .25-IN-LG SST	28480	1480-0136

See introduction to this section for ordering information
*Indicates factory selected value

Table 6-3 List of Manufacturers' Codes

MRF NO.	MANUFACTURER NAME	ADDRESS		ZIP CODE
H9027	SCHURTER A G H	LUZERN	SW	
S4013	HITACHI	TOKYO	JP	
00000	ANY SATISFACTORY SUPPLIER			
01121	ALLEN-BRADLEY CO	MILWAUKEE	WI	53204
01295	TEXAS INSTRU INC SEMICOND CMPNT DIV	DALLAS	TX	75222
02111	SPECTROL ELECTRONICS CORP	CITY OF IND	CA	91745
03888	K D I PYROFILM CORP	WHIPPANY	NJ	07981
03911	CLAIREX CORP	MT VERNON	NY	10050
04713	MOTOROLA SEMICONDUCTOR PRODUCTS	PHOENIX	AZ	85005
05820	WAKEFIELD ENGINEERING INC	WAKEFIELD	MA	01880
06383	PANDUIT CORP	TINLEY PARK	IL	60477
06665	PRECISION MONOLITHICS INC	SANTA CLARA	CA	95050
07933	RAYTHEON CO SEMICONDUCTOR DIV HQ	MOUNTAIN VIEW	CA	94040
08806	GE CO MINIATURE LAMP PROD DEPT	CLEVELAND	OH	44112
11236	CTS OF BERNE INC	BERNE	IN	46711
12969	UNITRODE CORP	WATERTOWN	MA	02172
16299	CORNING GLASS WKKS COMPONENT DIV	RALEIGH	NC	27604
17856	SILICONIX INC	SANTA CLARA	CA	95054
18324	SIGNETICS CORP	SUNNYDALE	CA	94086
19701	MEPCO/ELECTRA CORP	MINERAL WELLS	TX	76067
22526	BERG ELEK DIV DUPONT	NEW CUMBERLAND	PA	17070
24355	ANALOG DEVICES INC	NORWOOD	MA	02062
24546	CORNING GLASS WORKS (BRADFORD)	BRADFORD	PA	16701
24972	AEG-TELEFUNKEN CORP	ENGLEWOOD	NJ	07632
25088	SIEMENS CORP	ISELIN	NJ	08830
27014	NATIONAL SEMICONDUCTOR CORP	SANTA CLARA	CA	95051
27167	CORNING GLASS WORKS (WILMINGTON)	WILMINGTON	NC	28401
28480	HEWLETT-PACKARD CO CORPORATE HQ	PALO ALTO	CA	94304
3L585	RCA CORP SOLID STATE DIV	SOMERVILLE	NJ	
32293	INTERSIL INC	CUPERTINO	CA	95014
34335	ADVANCED MICRO DEVICES INC	SUNNYVALE	CA	94086
34371	HARRIS SEMICON DIV HARRIS-INTERTYPE	MELBOURNE	FL	32901
50088	MOSTEK CORP	CARROLLTON	TX	75006
51642	CENTRE ENGINEERING INC	STATE COLLEGE	PA	16801
56289	SPRAGUE ELECTRIC CO	NORTH ADAMS	MA	01247
71400	BUSSMAN MFG DIV OF MCGRAW-EDISON CO	ST LOUIS	MO	63107
72136	ELECTRO MOTIVE CORP	FLORENCE	SC	06226
75042	TRW INC PHILADELPHIA DIV	PHILADELPHIA	PA	19108
75915	LITTELFUSE INC	DES PLAINES	IL	60016
76381	3M COMPANY	ST PAUL	MN	55101
84411	TRW CAPACITOR DIV	OGALLALA	NE	69153
91637	DALE ELECTRONICS INC	COLUMBUS	OH	68601
98291	SEALECTRO CORP	MAMARONECK	NY	10544

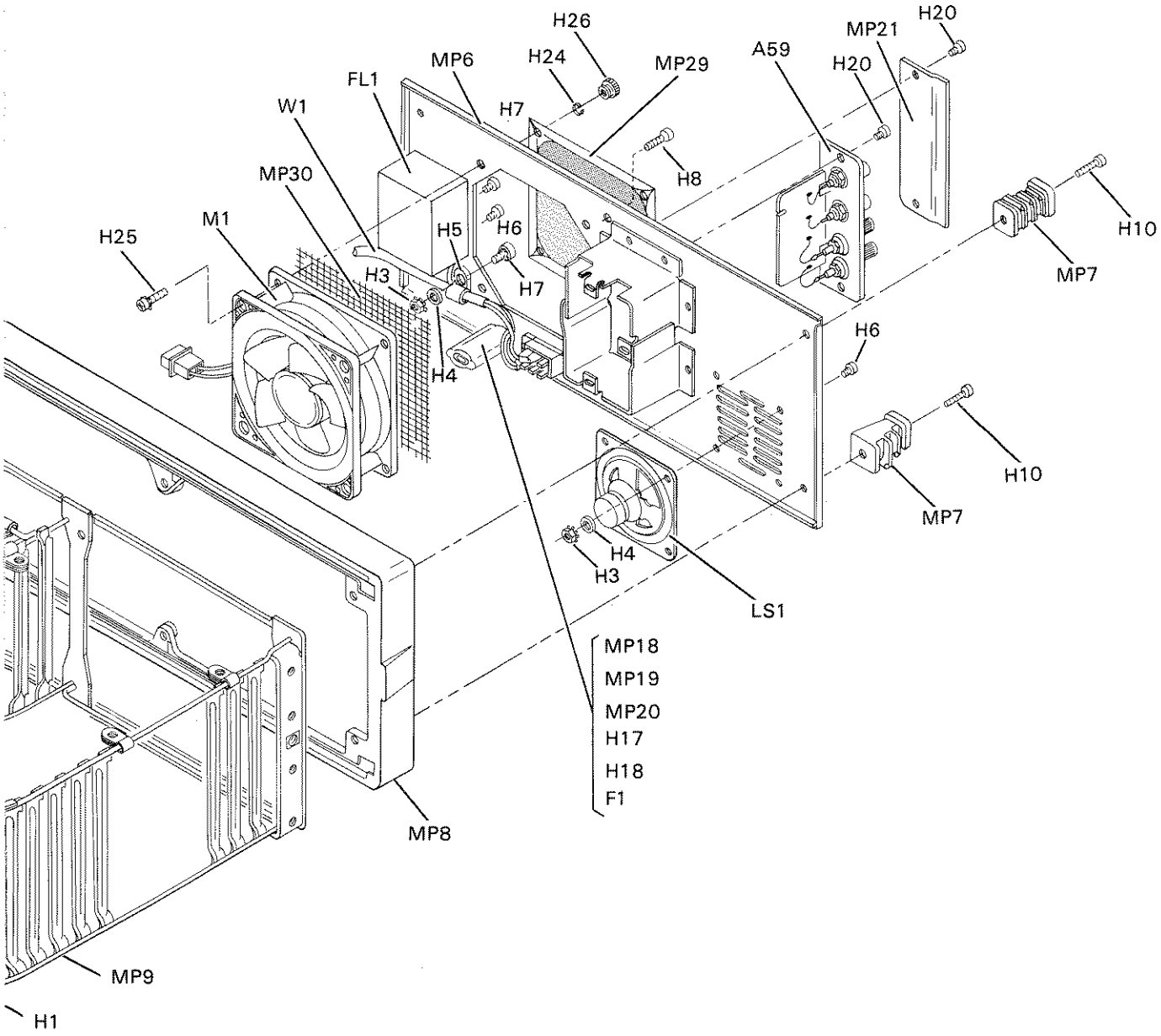


Figure 6-7. 4945A Chassis Parts

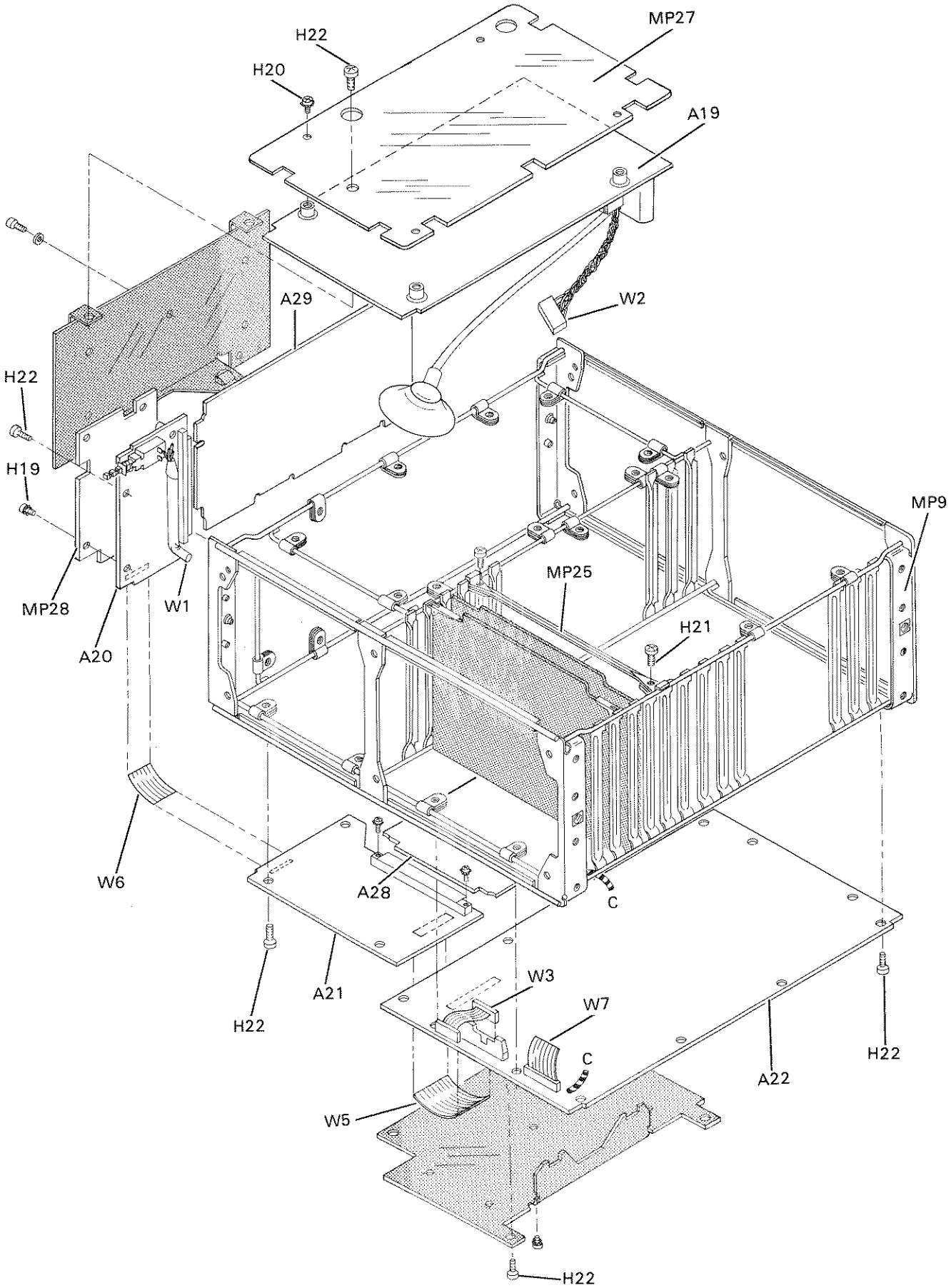


Figure 6-8. 4945A PC Board Locations

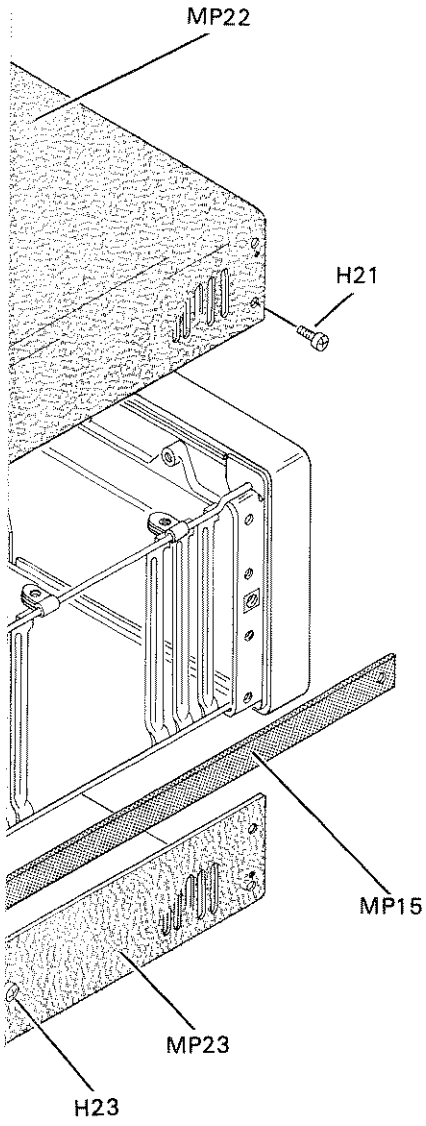


Figure 6-9. 4945A Covers

SECTION VII
MANUAL CHANGES

7-1. INTRODUCTION

Because this is a new instrument manual, no change information is needed.

SECTION VIII
SERVICE

8-1. INTRODUCTION

This section contains theory of operation, troubleshooting, component locators and schematic diagrams. This section is divided into the functional parts of the 4945A.

8-2. SAFETY CONSIDERATIONS

This section contains warnings and cautions that must be followed for your protection and to avoid damage to equipment. Read the safety summary at the front of this manual and all warnings given at the beginning of procedures, prior to servicing.

8-3. GRID LOCATORS

The 4945A printed circuit boards use a grid system for locating integrated circuits. The reference designator for a particular IC is also its location on the PC board. For example, U103 is located vertically in the 100 row and horizontally in the third column (see the example grid locator below). Basically, all the dualinline-package ICs and the single-inline-package devices such as resistor packs have reference designators that correspond to grid locations on the PC board.

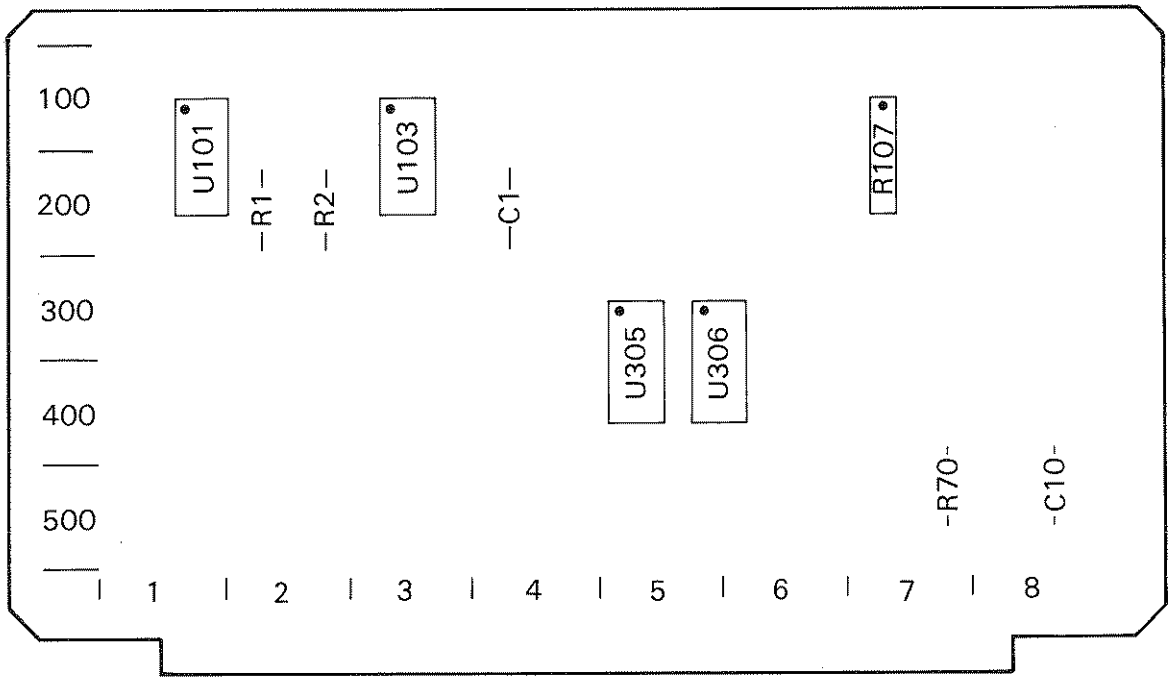


Figure 8-1. Example Grid Locator

Descrete components such as resistors, capacitors and inductors are numbered sequentially for reference designators, starting from the upper left corner of the PC board and going across the board and down to the lower right corner of the board.

Component locators for the PC boards are shown by the schematic diagram for that board.

8-4. LOGIC SYMBOLOGY

The 4945A schematics are drawn using logic symbology described in ANSI standard Y32.14 and IEEE standard 91. The symbols are drawn to show circuit function. For example; if a NOR gate is used to AND together two, low true signals, the schematic shows the AND symbol even though the physical part is a NOR gate. The polarity convention (small right triangle) is used to indicate the active low states of logic functions.

Symbol Composition

A symbol comprises an outline or a combination of outlines together with one or more qualifying symbols and the representation of input and output lines. Figure 8-2 shows examples of some of the more complex symbols used in the schematics. All the major parts of the symbol are pointed out.

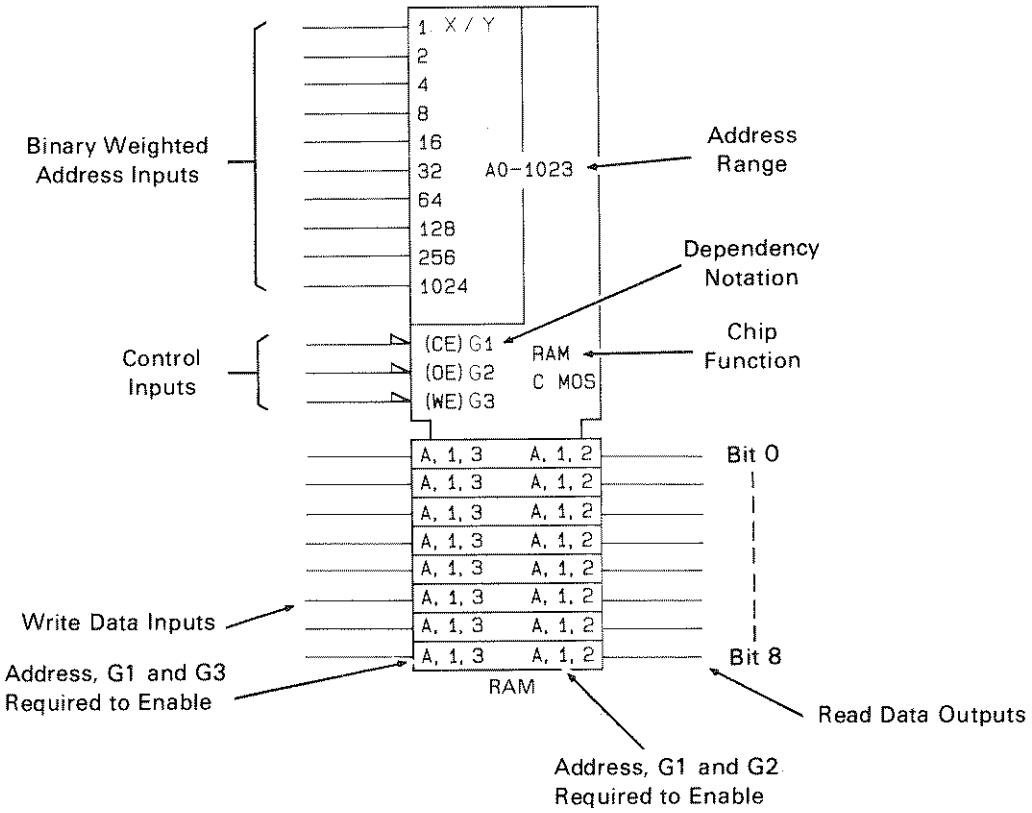
The two main parts of a symbol are the control block and the array elements. Notice that not all symbols have a control block even though there are control signal inputs.

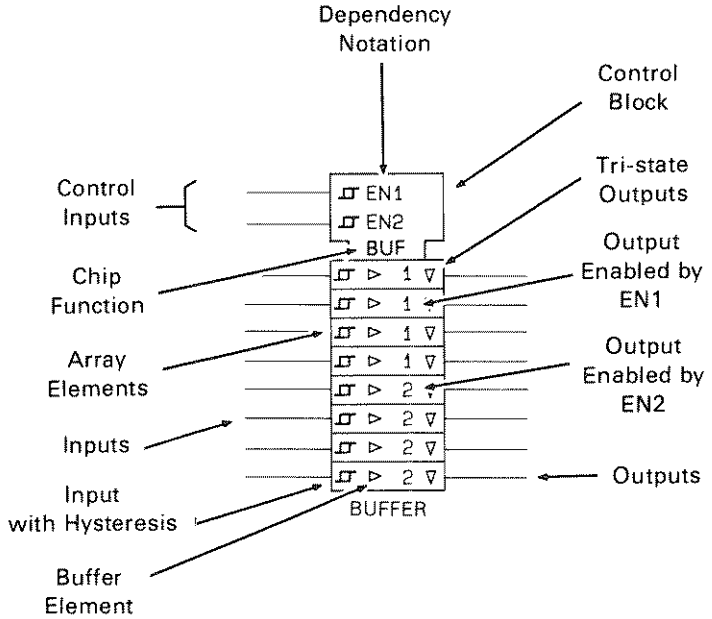
All inputs and dependency notation in the control block affect the array elements directly. Common outputs are located in the control block.

All array elements are controlled by the control block as a function of dependency notation. Any array element is independent of all other array elements. Unless indicated, the least significant element is always closest to the control block. Some array elements are arranged by binary weight, indicated by powers of 2.

Inputs are located on the left side of the symbol and are affected by their dependency notation. Outputs are located on the right side of the symbol and are affected by dependency notation.

Dependency notation is read from left to right. Dependency notation indicates the relationship between inputs and outputs. Signals having a common relationship have a common number.


1 X / Y
2
4
8
16
32
64
128
256
1024
A0-1023
Binary Weighted Address Inputs
Address Range
Dependency Notation
Chip Function
Control Inputs
(CE) G1
(OE) G2
(WE) G3
RAM
C MOS
A, 1, 3
A, 1, 2
Bit 0
Bit 8
Write Data Inputs
Address, G1 and G3 Required to Enable
RAM
Read Data Outputs
Address, G1 and G2 Required to Enable


Dependency Notation
Control Block
Control Inputs
EN1
EN2
BUF
Tri-state Outputs
Chip Function
Output Enabled by EN1
Array Elements
Output Enabled by EN2
Inputs
Outputs
Input with Hysteresis
BUFFER
Buffer Element