1260 VXI SWITCHING CARD

1260-54 TREE MULTIPLEXER MODULE

PUBLICATION NO. 980673-009

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- 1. Product serial number
- Product model number
- 3. Your company and contact information

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RETURN of PRODUCT

Authorization is required from Racal Instruments before you send us your product for service or calibration. Call your nearest Racal Instruments support facility. A list is located on the last page of this manual. If you are unsure where to call, contact Racal Instruments, Inc. Customer Support Department in Irvine, California, USA at 1-800-722-3262 or 1-949-859-8999 or via fax at 1-949-859-7139. We can be reached at:

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FOR YOUR SAFETY

Before undertaking any troubleshooting, maintenance or exploratory procedure, read carefully the **WARNINGS** and **CAUTION** notices.

This equipment contains voltage hazardous to human life and safety, and is capable of inflicting personal injury.

If this instrument is to be powered from the AC line (mains) through an autotransformer, ensure the common connector is connected to the neutral (earth pole) of the power supply.

Before operating the unit, ensure the conductor (green wire) is connected to the ground (earth) conductor of the power outlet. Do not use a two-conductor extension cord or a three-prong/two-prong adapter. This will defeat the protective feature of the third conductor in the power cord.

Maintenance and calibration procedures sometimes call for operation of the unit with power applied and protective covers removed. Read the procedures and heed warnings to avoid "live" circuit points.

Before operating this instrument:

- 1. Ensure the instrument is configured to operate on the voltage at the power source. See Installation Section.
- 2. Ensure the proper fuse is in place for the power source to operate.
- 3. Ensure all other devices connected to or in proximity to this instrument are properly grounded or connected to the protective third-wire earth ground.

If the instrument:

- fails to operate satisfactorily
- shows visible damage
- has been stored under unfavorable conditions
- has sustained stress

Do not operate until performance is checked by qualified personnel.

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NOTE FOR SYSTEMS WITH 1260-OPT 01T

The "Module-Specific Syntax" section of this manual shows the command syntax for the 1260-01S Smart Card. If you are using the newer 1260-01T Smart Card, the commands will NOT work as shown.

Consult the 1260-01T Manual for a description of the commands that may be used with the 1260-01T Smart Card.

The channel numbers described in this manual are valid for the 1260-01T. The channel numbers continue to be used for the 1260-01T.

The syntax of the commands that use channel numbers has changed for those cards controlled by the 1260-01T.

The new syntax used to close a channel is:

```
CLOSE (@ <module address> ( <channel> ) )
```

For example, for a relay module whose <module address> is set to 7, closing <channel> 0 is performed with the command:

CLOSE (@7 (0))

Using the older 1260-01S, the command would be (as shown in this manual):

CLOSE 7.0

Many other command syntax differences exist. Please consult chapter 2 of the 1260-01T manual for a description of the commands that are available for the 1260-01T.

Control Information for the 1260-54

The following information describes the control-register-to-relay-channel mapping for a 1260-54 Relay Module. This information may be used to control a 1260-54 when using a 1260-01T in the register-based mode of operation.

A channel within each 1x4 MUX may be selected by programming either 1 or 2 Control Registers. Selecting one channel in each MUX will open all others in that MUX.

Each Control Register is located 2 addresses from the previous Control Register. That is, each Control Register is located at an odd address. This is shown in Table 2-2 of the 1260-01T manual. Control Register 0 is located at the "Base A24 Address" for the module. Consult the "Register-Based Operation" Section of Chapter 2 of the 1260-01T manual for a description of calculating control register addresses.

Each Control Register may also control several different MUXes. For this reason it is necessary to form the new Control Register values by performing the following steps:

- Read the present Control Register values
- Invert the Control Register value (the hardwareinverts the present value on reading)
- AND the present data with an AND mask from the table below
- OR the present data with the OR mask from the table below.

For example, from the table below, to select channel 10 (MUX #1, channel 0 to COM), we must write to both Control Register #0 and Control Register #1. The Control Register #0 AND mask is 3F (hexadecimal), while the Control Register #1 AND mask is F0 (hexadecimal). Similarly, the Control Register #0 OR mask is 40 (hexadecimal), while the Control Register #1 OR mask is 0C (hexadecimal). Therefore, to select channel 10, perform the following sequence of operations:

- Read the present value of Control Register #0
- Perform a 1's complement (invert) of each of the bits of this register
- AND the value with 3F hexadecimal, clearing the most significant 2 bits
- OR the value with 40 hexadecimal
- Write the value just created back to Control Register #0
- Read the present value of Control Register #1
- AND the value with F0 hexadecimal, clearing the least significant 4 bits
- OR the value with 0C hexadecimal
- Write the value just created back to Control Regster #1

In 'C', this can be represented (using Viln8() and ViOut8() to write) as follows:

Note that for each MUX, using a value of 0 for the OR mask for all Control Registers used for that MUX will open ALL 4 channels of that MUX.

The table below shows the mapping from logical channels to control bits. The logical channels are used when operating the relay module in message-based mode. The control bits within the Control Registers are used to operate the module in register-based mode. The table shows holds one or two entries, showing the Control Register, the AND mask, and the OR mask to use to select the desired MUX relay closures.

Channel	Control Register	AND Mask	OR Mask	
	l common regions.	(hex)	(hex)	
00	0	CO CO	31	
01	0	C0	22	
02	0	C0	14	
03	0	C0	08	
10	0	3F	40	
	1	F0	0C	
11	0	3F	80	
	1	F0	08	
12	0	3F	00	
	1	F0	05	
13	0	3F	00	
	1	F0 0F	02	
20	1	0F	10	
	2	FC 0F	03	
21	1	0F	20	
	2	FC 0F	02	
22	1	0F	40	
	2	FC 0F	01	
23	1	0F	80	
00	2	FC	00	
30	2	03	C4	
31	2	03	88	
32	2	03	50	
33	2	03	20	
40	3	C0	31	
41	3	C0	22	
42	3	C0	14	
43	3	C0	08	
50	3		3F 40	
	4	F0	0C	
51	3 4	3F 80		
F0	3	F0 3F	08	
52	4	F0	00 05	
53	3	3F		
53	4	3F 00 F0 02		
	4	FU	UZ	

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Chapter 1 INTRODUCTION

1260-54 1GHz Tree Multiplexer Module

The 1260-54 provides six 1 x 4 tree multiplexers. Each channel has the capability of being terminated into an optional 50Ω SMB terminator.

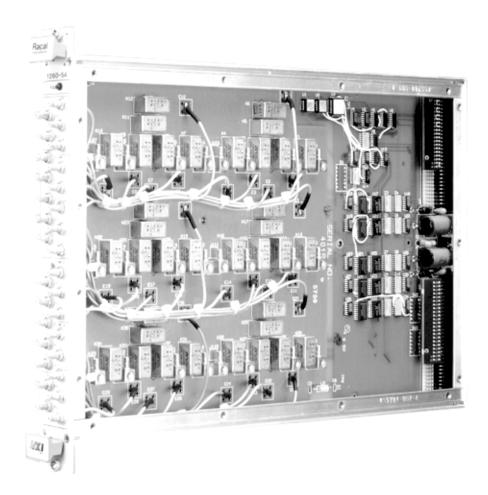


Figure 1-1, 1260-54

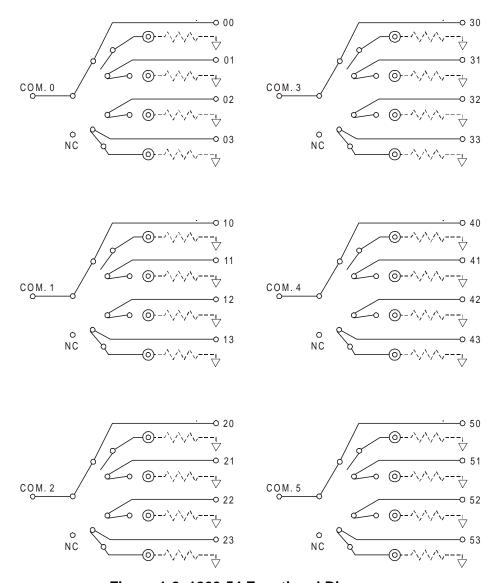


Figure 1-2, 1260-54 Functional Diagram

Specifications

Minimum Option 01 Firmwire 17.1 Revision

User Connector SMC

Caution: Mating Connector engagement should not exceed 16in. oz. Torque

maximum.

Maximum Switchable Voltage (Signal to Ground)

30VDC, 100VAC RMS

Maximum Switchable Current

Per Channel 1.5ADC, 1.5A RMS

Maximum Switchable Power 60W DC, 60VA AC, 60W RF

Per Channel Power

DC Performance

Path Resistance $<1\Omega$

AC Performance

Bandwidth, (-3 dB, 50Ω 1.3 GHz

Termination)

Insertion Loss, (50 Ω < .50dB at 100MHz

Termination) <1.5dB to 500 MHz

<2.0dB to 1GHz

Crosstalk Across Groups <-100dB to 100MHz

 $(50\Omega \text{ Termination})$ <-80dB to 500MHz

<-60dB to 1GHz <-50dB to 1.3GHz

Isolation Between Channels <-80dB at 100MHz

(50Q Termination) <-65dB at 500MHz

<-55dB at 1GHz <-40dB at 1.3GHz

VSWR (50Q Termination) 1.1:1 at 100MHz

1.25:1 at 500MHz 1.75:1 at 1GHz 1.75:1 at 1.3GHz

Switching Time <10mS

Cooling Requirements

Airflow 4 litres/sec Backpressure 0.5mmH₂O

Power Requirements (I_{pm})

+5 V 0.4A (2.8A with Option 01)

+12 V 10 mA per relay

Weight 1.17 Kg (2.59 lb) without

Option 01

1.29 Kg (2.87 lbs) with

Option 01

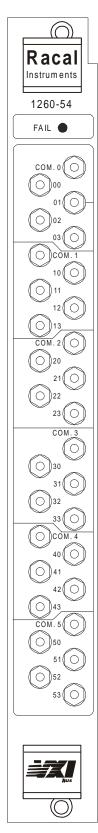


Figure 1-3, 1260-54 Front Panel

Chapter 2

INSTALLATION INSTRUCTIONS

Unpacking and Inspection

- Before unpacking the switching module, check the exterior of the shipping carton for any signs of damage. All irregularities should be noted on the shipping bill.
- 2. Remove the instrument from its carton, preserving the factory packaging as much as possible.
- 3. Inspect the switching module for any defect or damage. Immediately notify the carrier if any damage is apparent.
- 4. Have a qualified person check the instrument for safety before use.

Reshipment Instructions

- Use the original packing when returning the switching module to Racal Instruments for calibration or servicing. The original shipping carton and the instrument's plastic foam will provide the necessary support for safe reshipment.
- 2. If the original packing is unavailable, wrap the switching module in plastic sheeting and use plastic spray foam to surround and protect the instrument.
- 3. Reship in either the original or a new shipping carton.

Option 01 Installation

Installation of the Option 0 1 into the 1260-54 is described in the Installation section of the 1260 Series VXI Switching Cards Manual.

Module Installation

Installation of the 1260-54 Switching Module into a VXI mainframe, including the setting of DIP switches, is described in the Installation section of the 1260 Series VXI Switching Cards Manual. The ID byte DIP switches, SW1-5 and SW 1-6, should be set OFF.



Chapter 3

MODULE SPECIFIC SYNTAX

1260-54 Commands

The 1260-54 RF Multiplexer supports the OPEN, CLOSE, PSETUP, RESET and PDATAOUT commands.

NOTE

The 1260-54 Coaxial switching module is supported by the Option 01 Operating Systems at Revision levels 3.1 and above.

Syntax

The module specific syntax for the 1260-54 RF Multiplexer is as follows:

OPEN

OPEN <module address>.<channel>[;<module address>.<channel>]

where <module address> is the address.

<channel> is the relay to be closed to connect an input to the output.

Note that Channels remain closed until opened by an OPEN command.

The range of values for <channel> is:

00-03

10-13

20-23

30-33

40-43

50-53

CLOSE

The Module Specific Syntax for the CLOSE command is the same as for the OPEN command. Note each group of <channel> values contains five values. Using the highest value in each group, 04, 14, 24 etc, will give a connection to a "not connected" pin, i.e., open the path from input to output. This has the same effect using an OPEN command.

Connections between input and output are mutually exclusive within a group in the switch module. A CLOSE command will open an existing connection and close the new connection. An OPEN command will open any existing connection in the group and open circuit the Common connection.

The 1260-54 is restricted to the Break-Before-Make sequence mode.

PSETUP

The PSETUP command causes the specified module setup to be transmitted to the VXI Controller. The syntax used is:

PSETUP <module address>[;<module address>][;<module address>] where <module address> is the address.

The responses to the PSETUP command for the 1260-54 multiplexer is as follows:

<module address>. 1260-54 COAXIAL SWITCHING MODULE <module address>.BBM <module address>.END

PDATAOUT

The PDATAOUT command causes the specified module to transmit the CLOSED state of the relays fitted to the switching module to the 1260 Controller. The syntax used is:

PDATAOUT <module address>[.<module address>] [;<module address>]

The responses to the PDATAOUT command is as follows:

<module address>.1260-54 RF MULTIPLEXER
<module address>.<channel>[,<channel>] [,<channel>]
<module address>.END

The range of values for <channel> is:

00-03,10- 13,20-23,30-33,40-43 and 50-53.

Note that connections to the "not connected" pins within a group

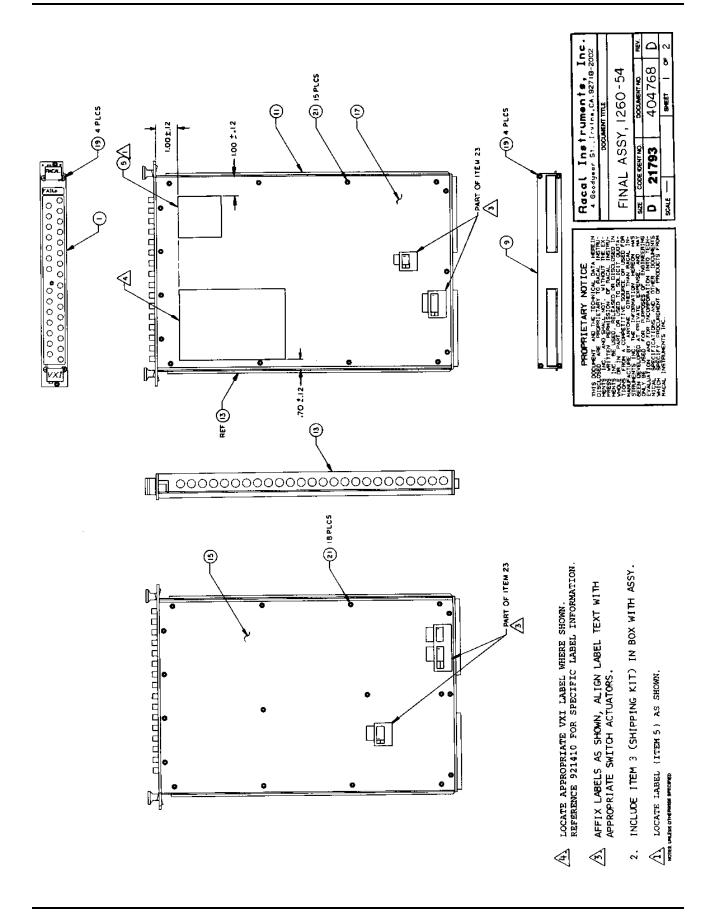
User Manual 1260-54 are not displayed.

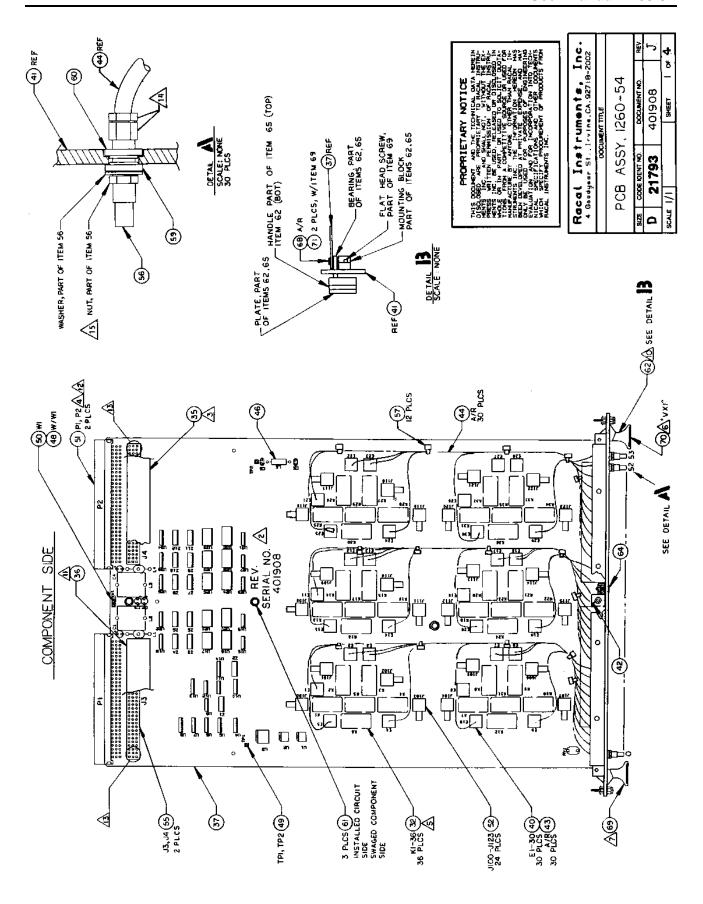
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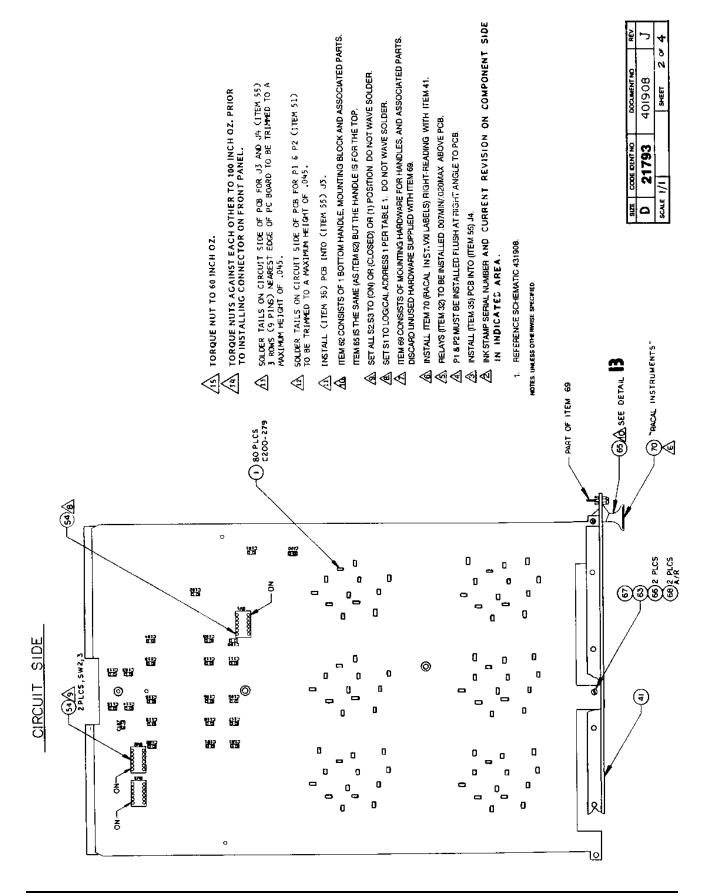
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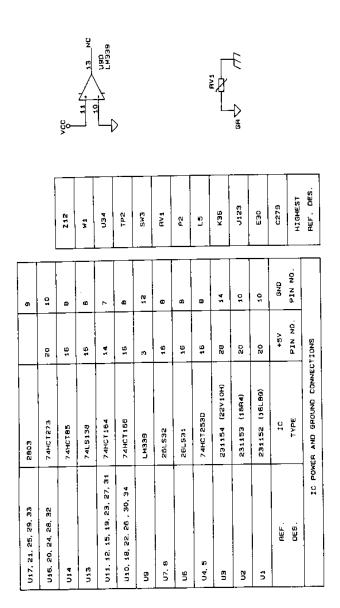
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SHEET

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TYP 36 PLCS K1 THAU K36 RELAY 310168 TOP VIEW 10

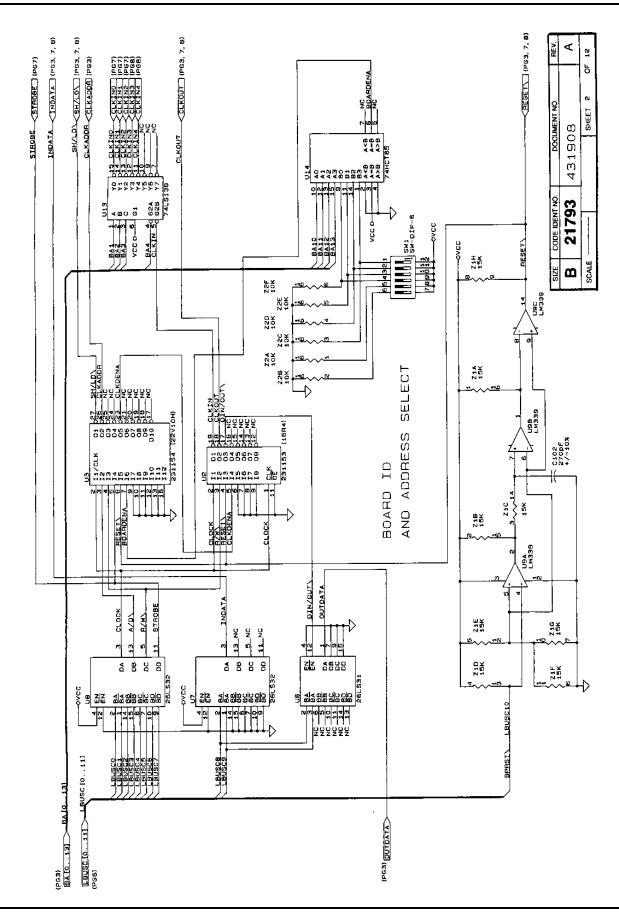
5. THEFERS TO LOGIC GROUND, SR THEFERS TO SIGNAL GROUND. REFER TO SHEET 12 FOR CONNECTIONS.

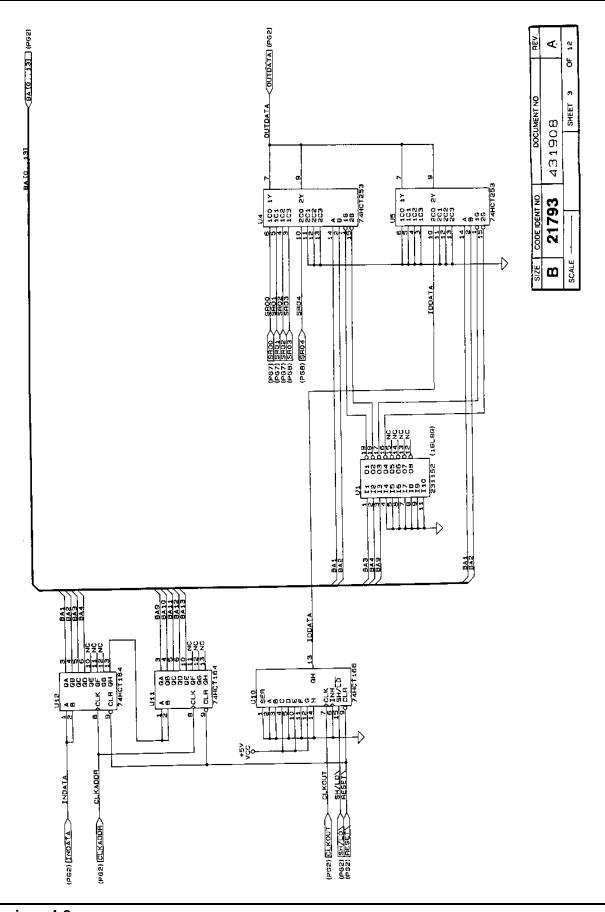
4. CS AND CS ARE NOT INSTALLED.

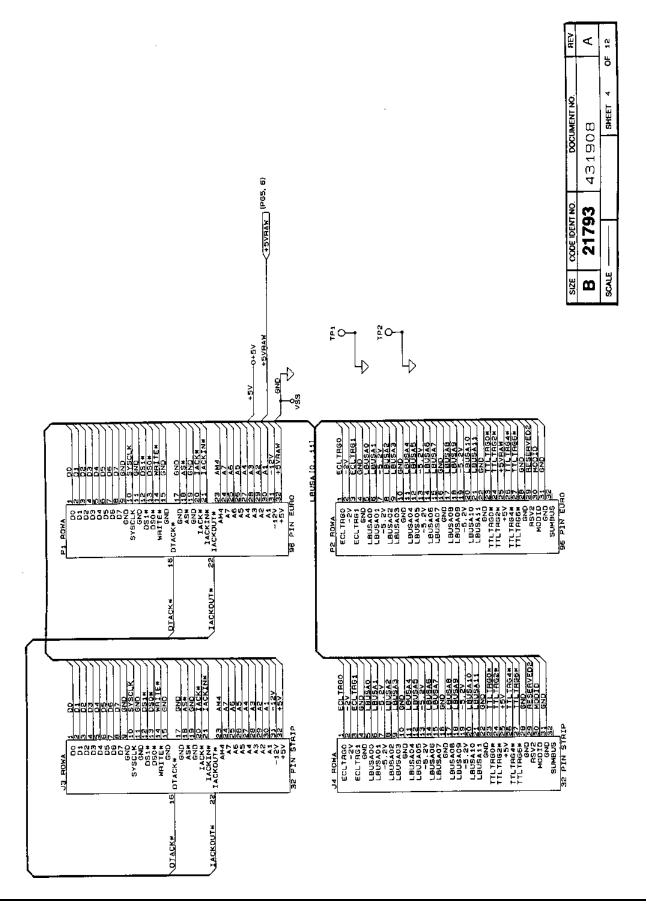
ALL RELAYS SHOWN IN DE-ENERGIZED POSITION. 3. RELAYS KI THRU K36 ARE RACAL P/N 310168. RESISTOR NETWORKS ARE IN DHMS, 12%

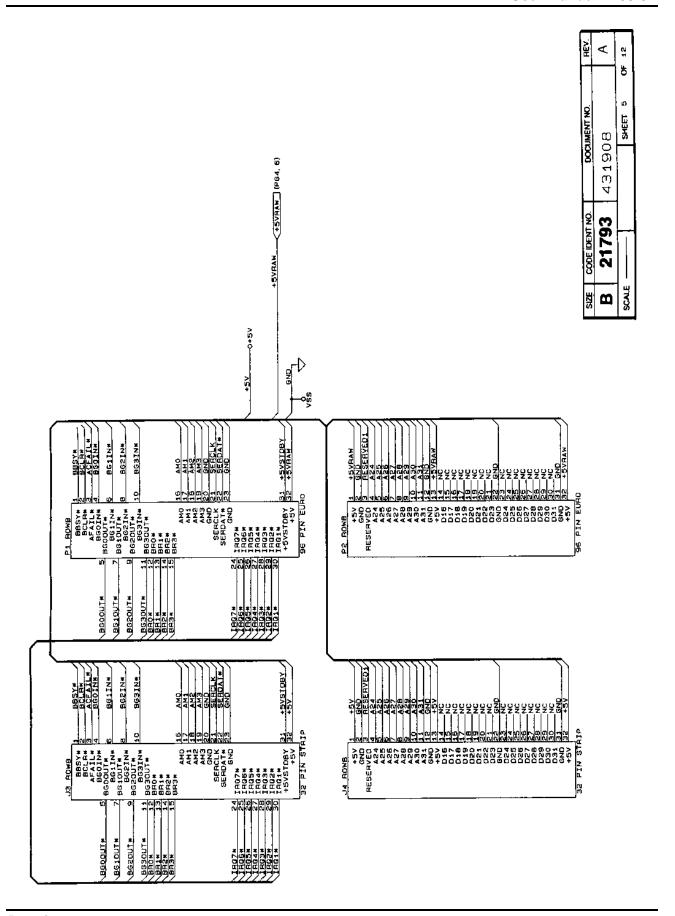
CAPACITOR VALUES ARE IN MICHOFARADS, 50V, +/-20%

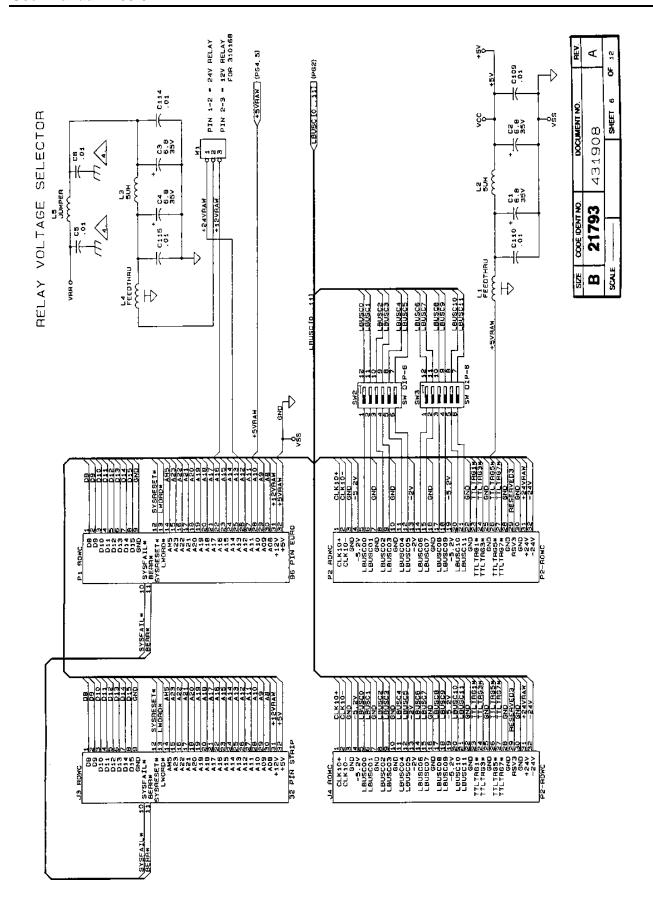
NOTES: UNLESS OTHERWISE SPECIFIED

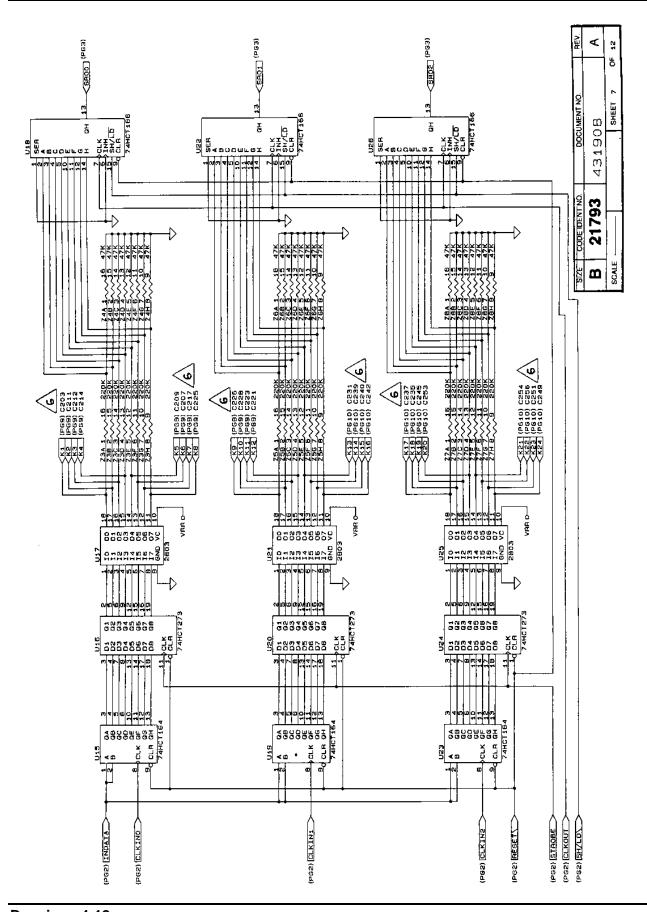


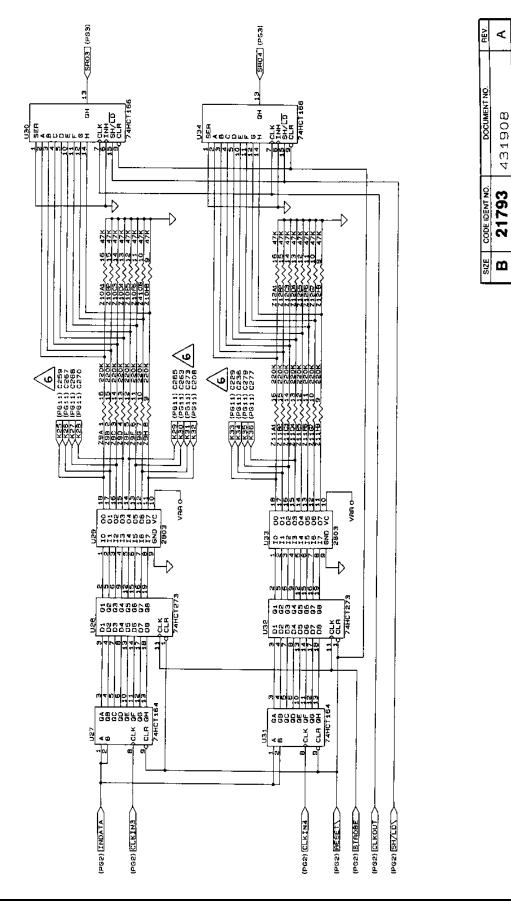






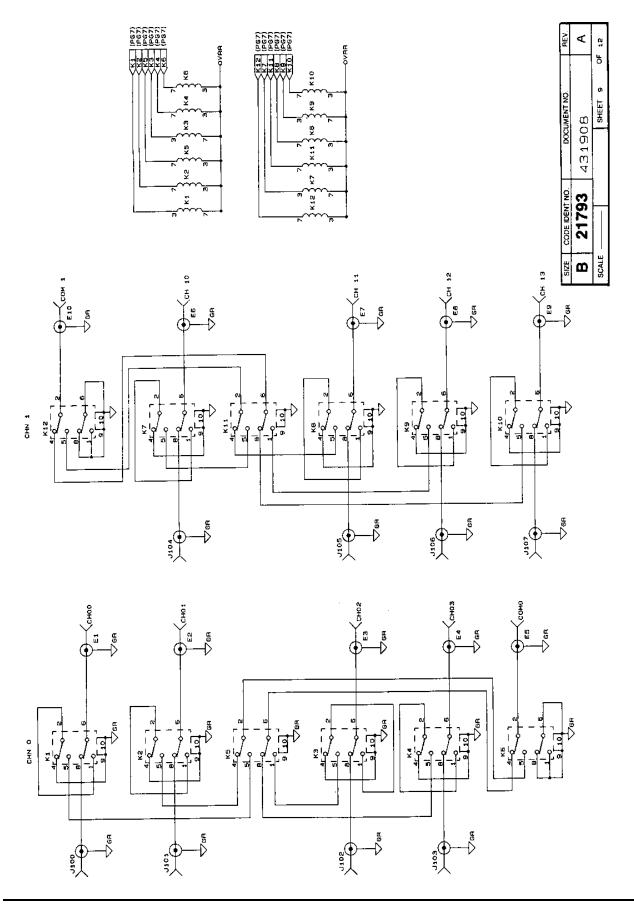


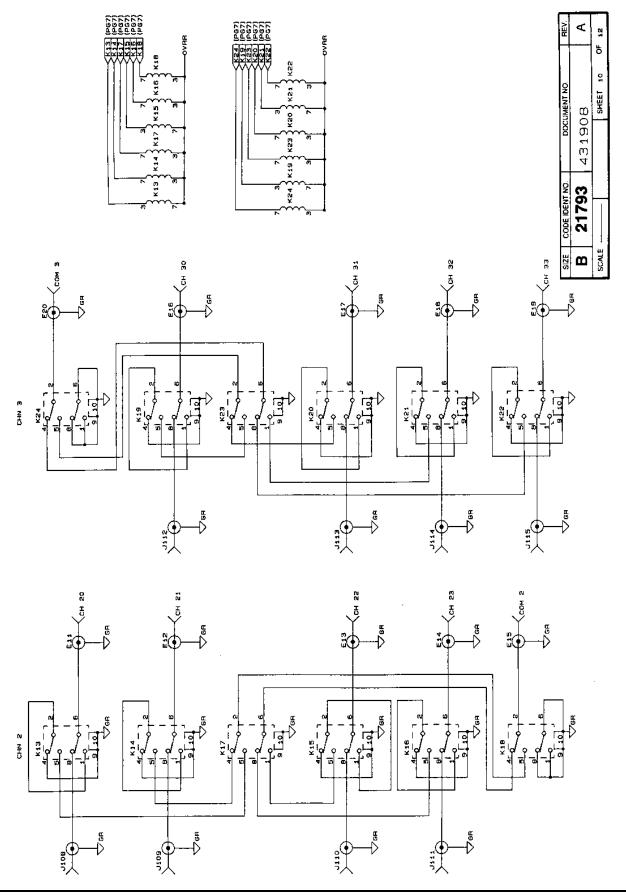


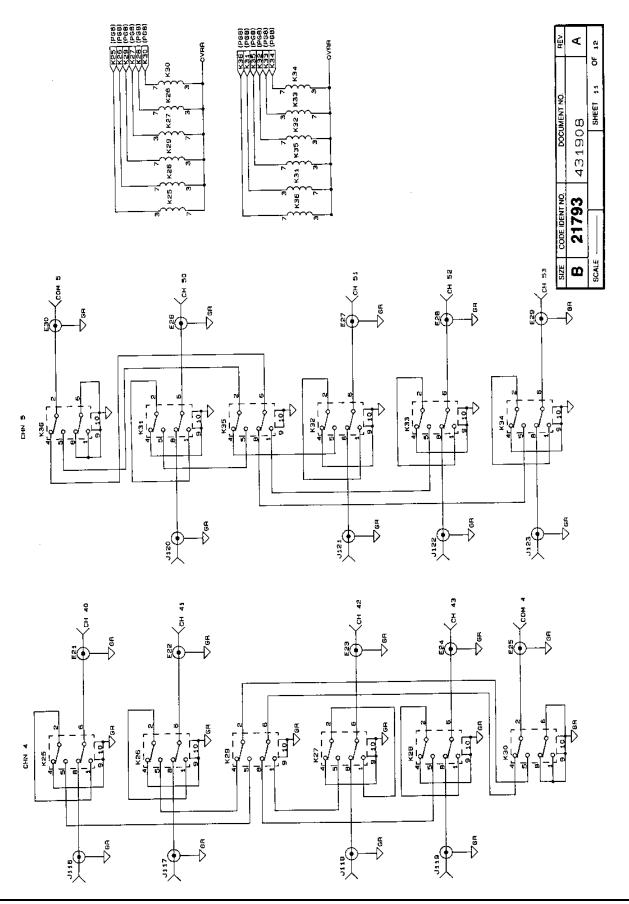


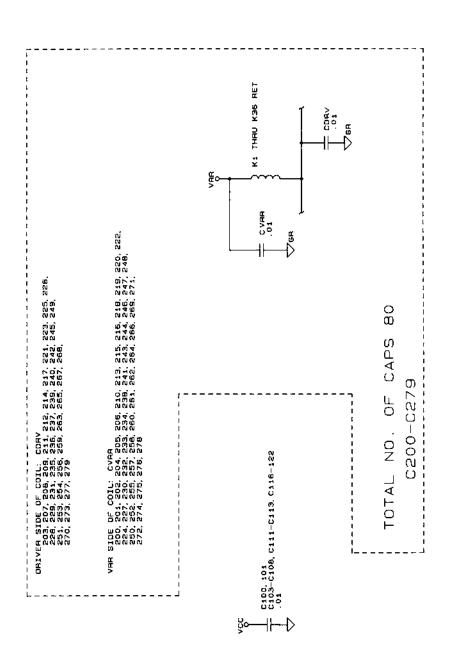
OF 12

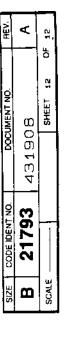
SCALE











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404768 - FINAL ASSY, 1260-54

REF DESIG	JRACAL INST P/N	DESCRIPTION	! FSC	 MANUFACTURER'S P/N
 {1}1	1401908	PCB ASSY., 1260-54	121793	1401908
1 (3)1	1407101	SHIPPING KIT, 1260-54	121793	1407101
(5)1	1921059	(LABEL, CAUTION, STATIC	121793	1921059
1 {9}1	1455781	PANEL, REAR, SINGLE	121793	1455781
(11)1	455784-001	PANEL, VXI TOP	121793	1455784-001
(13)1	1455784-002	PANEL, VXI BOTTOM	121793	1455784-002
(15)1	1455780	[PANEL, LEFT, 1260~54	121793	1455780
(17)1	1455780-001	PANEL, RIGHT, 1260-54	121793	1455780-001
(19)8	616480	ISCREW, PFH, 4-40 X .375	I -	I -
(21)33	1615539	ISCREW, PFH, 4-40X, 125	I -	1-
1 { 23 } 1	1921309	LABEL, VXI SWITCH IDENTIFICATION	121793	1921309

401908 - PCB ASSY, 1260-54

REF DESIG	RACAL INST P/N	ICAP, TANTA, 6.8UF, 35V, 20 PERCENT (CAP, CHIP, 10 NF (CAPACITOR, CHIP, SMD, 270PF (CAP, CHIP, 10 NF (CONNECTOR, PCB, RECEPT, 3 ROW, 96P (CONNECTOR, COAXIAL, RECEPTACLE (RELAY, RF, 2 FORM C (CAP, FEED-THRU, 800PF, 50V (CONNECTOR, SHIELDED, 5UH (CHOKE, SHIELDED, 5UH (CHOKE, SHIELDED, 5UH (CAP, FEED-THRU, 800PF, 50V (CONNECTOR, EUROCARD, 96 PIN MOD. (CONNECTOR, EUROCARD, 96 PIN MOD. (VARISTOR, 56V, 1.7W (SWITCH, DIP 6 POS, LOW PROFILE (POST, TEST, .025 SQ (IC, PROGRAMMED PIA (IC, PROGRAMMED PIA (IC, PROGRAMMED PIA (IC, PROGRAMMED PIA (IC, MULTIPLEXER (IC, MULTIPLEXER (IC, QUAD DIFF RECEIVER (IC, QUAD DIFF RECEIVER (IC, QUAD COMPARATOR (IC, 8-BIT, PARALLEL/SERIAL OUT S.R. (IC, DIGITAL, SHIFT REGISTER (IC, DIGITAL, SHI) FSC	 MANUFACTURER'S P/N
 C1-C4	110126	ICAP, TANTA, 6.8UF, 35V, 20 PERCENT	105397	T355F685M035A5
C100	R-21-1801	(CAP, CHIP, 10 NF	195275	(VJ1206Y103MF
C102	1130177	(CAPACITOR, CHIP, SMD, 270PF	195275	VJ1206A271KXAMT
C102	R-21-1801	CAP, CHIP, 10 NF	195275	[VJ1206Y103MF
C103-C122	(R-21-1801	CAP, CHIP, 10 NF	195275	[VJ1206Y103MF
C200-C279	R-21-1801	CAP, CHIP, 10 NF	195275	[VJ1206Y103MF
J 3	1601925	CONNECTOR, PCB, RECEPT, 3 ROW, 96P	152072	[618008
J4	601925	CONNECTOR, PCB, RECEPT, 3 ROW, 96P	152072	61800 8
J100-J123	601787-001	CONNECTOR, COAXIAL, RECEPTACLE	119505	2010-1511-000
K1-K36	310168	RELAY, RF, 2 FORM C	101526	3SAV2590A2
L1	1100164	CAP, FEED-THRU, 800PF, 50V	100779	1842448-2
L1	1600245	JUMPER, INSULATED	152210	IL-2007-1
L2	1310193	CHOKE, SHIELDED, 5UH	191637	(IH-5-5-10
1.3	1310193	CHOKE, SHIELDED, 5UH	191637	IIH-5-5-10
1.4	1100164	CAP. FEED-THRU. 800PF. 50V	100779	1842448-2
P1	1601675-001	ICONNECTOR, EUROCARD, 96 PIN MOD.	121793	1601675-001
D2	1601675-001	ICONNECTOR, EUROCARD, 96 PIN MOD.	121793	1601675-001
RV1	1220102	IVARISTOR 56V. 1.7W	103508	IV56ZA2
GMJ = GM3	1601969	IGWITTON DID 6 POS LOW PROFILE	165832	1K406S
mp1	1601107	1DOCT TECH 025 SO	100779	16-87022-6
ו עם בט ו דב ד	1601197	DOOR WEST 025 SQ	100779	16-87022-6
1 FZ 1 T 1	1001157	TO DESCRIMED DIX	121793	1231152
, UI	1231132	LIC PROGRAMMED DIA	121703	1231132
102	1231153	IIC, PROGRAMMED PLA	121793	1221155
U.3	1231154	IC, PROGRAMMED PLA	101713	174102520
104	1231147	IC, MULTIPLEXER	104713	1740C253D
105	1231147	IIC, MULTIPLEXER	104713	174nC253D
106	1231125	IC, DIGITAL, LINE DRIVER	127014	1D526D531MN
107	1231096	IC, QUAD DIFF RECEIVER	101295	IAM26LG32ACD
108	1231096	IIC, QUAD DIFF RECEIVER	.101295	IAMZ6LS3ZACD
109	1231093	IIC, QUAD COMPARATOR	104713	LAMONI CCD
1010	1231120	IIC, 8-BIT, PARALLEL/SERIAL OUT S.R.	118324	174HCT166D
[U11	1231131	(IC, DIGITAL, SHIFT REGISTER	118324	IPC/4HCT164D
1012	1231131	IIC, DIGITAL, SHIFT REGISTER	118324	PC/4HCT164D
1013	1231094	IIC, DEMUX DECODER	118324	[N/4LS138D
U14	1231135	IIC, DIGITAL, 4-BIT COMPARATOR	118324	PC/4HCT85D
l U15	1231131	IIC, DIGITAL, SHIFT REGISTER	118324	PC74HCT164D
U16	1231130	IIC, DIGITAL, FLIP FLOP	118324	PC74HC273
IU17	1231098	IIC, SOIC TRANSISTOR	56289	!ULN-2803LW
U18	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	118324	174HCT166D
U19	1231131	IC, DIGITAL, SHIFT REGISTER	118324	PC74HCT164D
U20	1231130	IC, DIGITAL, PLIP FLOP	18324	IPC74HC273
U21	1231098	IC, SOIC TRANSISTOR	156289	ULN-2803LW
U22	1231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	118324	174HCT166D
U23	1231131	IIC, DIGITAL, SHIFT REGISTER	118324	PC74HCT164D
U24	231130	IIC, DIGITAL, FLIP FLOP	18324	PC74HC273
U25	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U26	1231120	IIC, 8-BIT, PARALLEL/SERIAL OUT S.R.	118324	174HCT166D
U27	1231131	IIC, DIGITAL, SHIFT REGISTER	118324	PC74HCT164D
U28	1231130	(IC, DIGITAL, FLIP FLOP	118324	IPC74HC273
1029	1231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
1030	1231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	118324	174HCT166D
U31	[231131	IC, DIGITAL, SHIFT REGISTER	118324	PC74HCT164D
U32	1231130	IC, DIGITAL, FLIP FLOP	118324	IPC74HC273
	1231098	IC, SOIC TRANSISTOR	156289	ULN-2803LW
	1231120		118324	74HCT166D
	1601208-016	LCONNECTOR PCB PLUG 3-PIN	152072	ICA-S03-23B-43
	•			

401908 PCB ASSY., 1260-54

REF	RACAL-INST	I _	77.00	
DESIG	P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
 Z1	1080114	IRES NETWORK, 16P8R, 15K		628-AL-153J
	1080120	TRES NETWORK, 10K	111236	767-161R10K
	080119	RES NETWORK, 220K	191637	SOMC-1603-224K
	1080117	IRES NETWORK, 16P8R, 47K	73138	628-AL-473J
75	1080119	TRES NETWORK, 220A	121021	DONG TOOD DO
26 26	1080117	RES NETWORK, 16P8R, 47K		628-AL-473J
20 27	1000117	RES NETWORK, 220K	191637	SOMC-1603-224K
Z.7 Z.8	1080117	RES NETWORK, 16P8R, 47K		628-AL-473J
20 20	1000117	IRES NETWORK, 220K	91637	SOMC-1603-224K
43 710	1000117	IRES NETWORK, 16P8R, 47K	173138	1628-AL-473J
Z10 Z11	1000117	IRES NETWORK, 220K	191637	SOMC-1603-224K 628-AL-473J 401951
Z11 Z 12	1000119	RES NETWORK, 220K RES NETWORK, 16P8R, 47K	73138	1628-AL-473J
(25)1	1401951	PCB ASSY., LBUS JUMPER	121793	401951
{35}1	1401951 002	IPCB ASSY., P3 JUMPER	121793	1401951-003
			121793	
{3/}1		PANEL, FRONT, SMC CONNECTOR		1455687-002
			1.673.40	LIMERANA
{42}1	1601984	BRACKET, SUPPORT, PCB TUBING, SHRINK, 12 ID, BLK CABLE, COAXIAL, 50 OHM PLUG, JUMPER, 0.1 CTR, LOW PROFILE	129005	RNF-100-1-1/8
{43}A/R	1500009	ACABLE CONVINT. 50 OHM	192194	19178B
(44)A/R	1500254	LDING HIMDER O 1 CTR LOW PROFILE	100779	1530153-2
(48)1	601195	CONNECTOR, RECEPTACLE, PANEL MOUNT SMC	198291	150-010-3196
(56)30	1601944	CONNECTOR, RECEPTACES, PANEE MOON! SHE	116956	08-432
	1610777	WASHER, #8, FLAT PHENOLIC INSUL.	186928	15620-10-31
{59}30	1611348	WASHER, #8, FLAT PHENOLIC INSUL.	155566	15777-PH-045-208
{60}30	611349	WASHER, SHOULDER, PHENOLIC INSUL.	106540	5620-10-31 5777-PH-045-208 8091-11B-B-440-28
			162550	20817-327
•	611264	HANDLE, EXTRACTOR, BOTTOM ISCREW, PPH, 2-56 X .375	1-	1-
{63}1	1615016	ISCREW, PPH, 2-56 X .375 ISCREW, PFH, 2-56 X .312	1-	
{64}1	1615514	ISCREW, PFH, 2-00 A .312	162559	120817-328
{65}1	611265	144.000	-	
		NUT, HEX, 2-56	-	1 -
{67}1	1617101	WASHER, FLAT, LIGHT SERIES, #2	105972	
{68}A/R	1920962	Inocitite, 242, mas asset	1009/2	121100-745
[{69}.5	611266	1,7,4 44.1		
{70}1	921148-001	LABEL SET, VXI		1921148-001
{71}2	616405	SCREW, PFH, M2.545 X 12	-	1 -

407101 - SHIPPING KIT, 1260-54

REF DESIG	RACAL INST P/N	DESCRIPTION	 FSC	MANUFACTURER'S P/N
11132	1455540	IKEY, LOCKOUT, TTL, A/C	121793	1455540
1{2}2	455541	IKEY, LOCKOUT, TTL, C	121793	455541
1{3}2	1455542	KEY, LOCKOUT, TTL. A	121793	1455542
1 (5)3	1615013	ISCREW, PPF, 2-56 X .188	i –	1-1
1(10)1		MANUAL, 1260-54 MODULE	121793	1980673-009
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List of Suppliers

	2.51	·. •	ibbire, a	
FSC	SUPPLIER		FSC	SUPPLIERS
			65832	AMERICAN RESEARCH & ENGINEERING
	TEXAS INSTRUMENTS, INC. DALLAS, TX	 		PHILLIPS COMPONENTS INC.
I	GENICOM CORP. WAYNESBORO, VA	1		BECKMAN INSTRUMENTS FULLERTON, CA
I 03508 I	GENERAL ELECTRIC CO. (SEMICONDUCTOR PRODUCTS) AUBURN, NY			SEASTROM MFG. CO.
			91637	DALE ELECTRONICS, INC.
04713 	MOTOROLA, INC. (SEMICONDUCTOR PRODUCTS DIV.)	-		COLUMBUS, NE
l 	PHOENIX, AZ	 -	1	ALPHA WIRE ELIZABETH, NJ
0 5397 	UNION CARBIDE CORP. (MATERIALS SYSTEMS DIV.) CLEVELAND, OH		95275	VITRAMON, INC. BRIDGEPORT, CT
I	LOCTITE CORP. HARTFORD, CT	1 -		SEALECTRO CORP. MAMARONECK, NY
06540 	AMATOM ELECTRONIC HARDWARE NEW ROCHELLE, NY			
11236	CTS OF BERNE, INC. BERNE, IN	 		
I	DENNISON MFG. CO. FRAMINGTON, MA	1		
1 18324	SIGNETICS, INC. SUNNYVALE, CA			
I	APPLIED ENGINEERING PRODUCTS NEW HAVEN, CT			
21793	(RACAL INSTRUMENTS INC.	t I		
27014 	NATIONAL SEMI-CONDUCTOR CORP. SANTA CLARA, CA			
Ĺ	STORM PRODUCTS CO. LOS ANGELES, CA	1		
52072	CIRCUIT ASSY. CORP. COSTA MESA, CA	 		
	GETTING ENGRG. & MFG. CO. SPRING MILLS, PA	 		
	RAF ELECTRONIC HARDWARE INC. SEYMOUR, CT			
	SPAGUE ELECTRIC CO. N. ADAMS, MA	 		
62 559	SCHROFF, INC. WARWICK, RI	!		

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Chapter 6

OPTIONAL HARNESS ASSEMBLIES

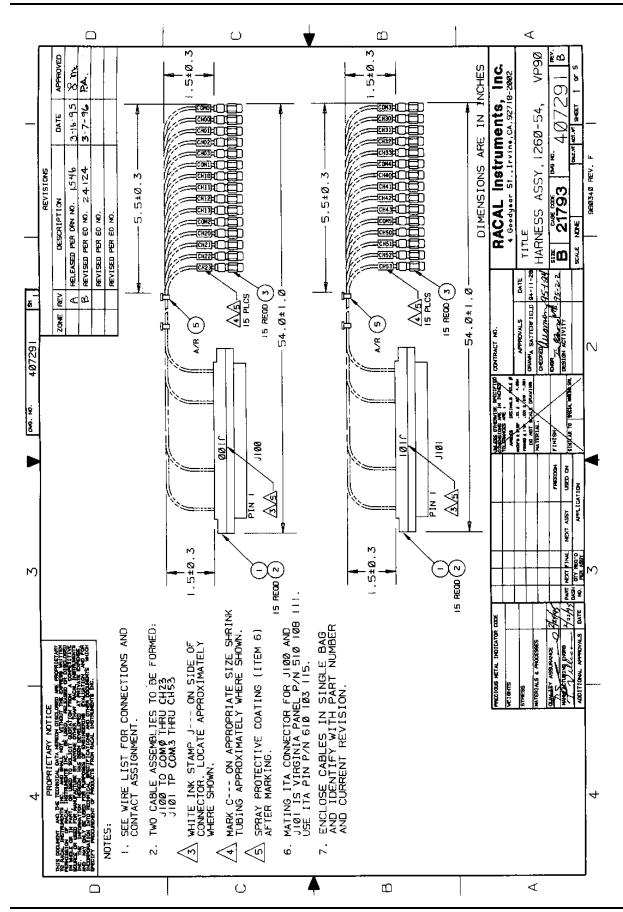
The following harness assemblies are used to connect Racal Instruments Model 1260-54 to Freedom Series Test Receiver Interfaces.

Each harness documentation consists of an assembly drawing, parts list, and wire list.

407291,	Virginia Panel, Inc. Series VP90 Interface Harness	6-3
407292,	TTI Testron, Inc. Interface Harness	6-8
	(TTI Receiver must be above chassis)	

For more information on Racal Instruments complete line of Test Receiver Interface solutions, contact your Sales Representative.

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ENGINEERING PARTS LIST

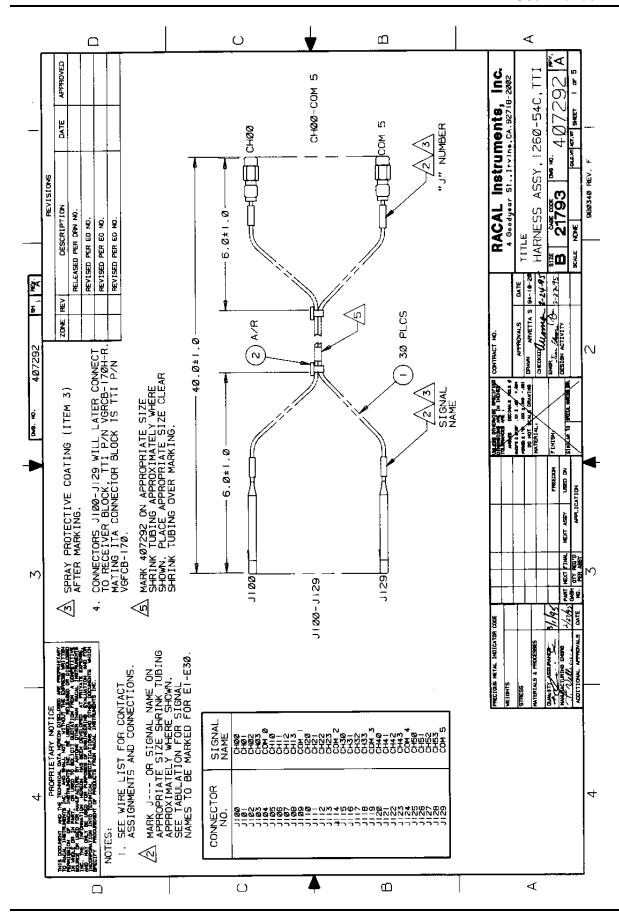
ITEM	BIN	PART NO.	DESCRIPTION	QTY	REFERENCE	
1		602201-008	CON-RCV-PLG019CS-VP90	2	J100- J 101	
2		602201-807	PATCHCORD,MINI-COAX,500HM 60"	30	W/J100-J101	
3		600483	CON-CXL-PLG-1SDS	30	CH00-COM5	
4						
5		610777	TIE-CA-LKG062075	A/R		
6	~_ ~	910541	POLYURETHANE CONF. COAT	A/R		
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			Δ 21703		407291 B	
НΔЪ	PPRIN	ASSEMBLY, 120	60-54C, VP90 DRN	1	SHEET 2 of 5	

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WIRE	FROM	то	ТҮРЕ	PART#	WIRE LEN	REFE	RENCE
	BLK AA (J100)	Uxx-SLOT yy (E1-E15)	CABLE	407291		SYSTEM WIRE	LIST
	BLK AA (J101)	Uxx-SLOT yy (E16-E30)	CABLE	407291			
	(0101)	LEIG ESGY.				<u> </u>	

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		1	!	1	1		
		This system wire	list serves a	as a templat	e for incor	porating	
		this harness assidoes not in any v	embly into ti	he overall s	ystem wire	elist. It	
		assembly.	way allect ti	ie lablicatio	it Of this in	arric33	
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	DOCUMENT	<u></u>	Δ .	21793	DOCUN 40	MENT NO. 7291	REV B
HARN	NESS ASSEMBLY	7, 1260-54C, VP90	DRN			SHEET 3 of	

WIRE	FROM	то	TYPE	PART #	WIRE LEN	REFE	RENCE	
l	J100-1 (602201-008)	E1 (600483)	COAX	602201- 807	54"	CHANNEL 00		
2	J100-2 (602201-008)	E2 (600483)	COAX	602201- 807	54"	CHANNEL 01		
3	J100-3 (602201-008)	E3 (600483)	COAX	602201- 807	54"	CHANNEL 02		
4	J100-4 (602201-008)	E4 (600483)	COAX	602201- 807	54"	CHANNEL 03		
5	J100-5 (602201-008)	E5 (600483)	COAX	602201- 807	54"	СОМ 0		
6	J100-6 (602201-008)	E6 (600483)	COAX	602201- 807	54"	CHANNEL 10		
7	J100-7 (602201-008)	E7 (600483)	COAX	602201- 807	54"	CHANNEL 11		
8	J100-8 (602201-008)	E8 (600483)	COAX	602201- 807	54"	CHANNEL 12		
9	J100-9 (602201-008)	E9 (600483)	COAX	602201- 807	54"	CHANNEL 13		
10	J100-10 (602201-008)	E10 (600483)	COAX	602201- 807	54"	COM 1		
11	J100-11 (602201-008)	E11 (600483)	COAX	602201- 807	54"	CHANNEL 20		
12	J100-12 (602201-008)	E12 (600483)	COAX	602201- 807	54"	CHANNEL 21		
13	J100-13 (602201-008)	E13 (600483)	COAX	602201- 807	54"	CHANNEL 22		
14	J100-14 (602201-008)	E14 (600483)	COAX	602201- 807	54"	CHANNEL 23		
15	J100-15 (602201-008)	E15 (600483)	COAX	602201- 807	54"	COM 2		
16	J100-16 NO CONNECT							
17	J100-17 NO CONNECT							
18	J100-18 NO CONNECT							
19	J100-19 NO CONNECT		6017		7.44	CHANDEL 20		
20	J101-1 (602201-008)	E16 (600483)	COAX	602201- 807	54"	CHANNEL 30		
21	J101-2 (602201-008)	E17 (600483)	COAX	602201- 807	54"	CHANNEL 31		
22	J101-3 (602201-008)	E18 (600483)	COAX	602201- 807 602201-	54"	CHANNEL 32		
23	J101-4 (602201-008) J101-5	E19 (600483) E20	COAX	807	54"	COM 3		
25	(602201-008) J101-6	(600483) E21	COAX	807 602201-	54"	CHANNEL 40		
	(602201-008) L Instruments, I	(600483)		807 CA 92718		CIMILITIE 40		
	DOCUMEN		SIZE	CODE NO.	DOCU	MENT NO.	REV	
		Y, 1260-54C, VI	A	21793	40	7291	<u>£</u>	

WIRE	FROM	то	ТҮРЕ	PART #	WIRE LEN	REFE	RENCE
26	J101-7 (602201-008)	E22 (600483)	COAX	602201- 807	54"	CHANNEL 41	
27	J101-8 (602201-008)	E23 (600483)	COAX	602201- 807	54"	CHANNEL 42	
28	J101-9 (602201-008)	E24 (600483)	COAX	602201- 807	54"	CHANNEL 43	
29	J101-10 (602201-008)	E25 (600483)	COAX	602201- 807	54"	COM 4	"
30	J101-11 (602201-008)	E26 (600483)	COAX	602201- 807	54"	CHANNEL 50	
31	J101-12 (602201-008)	E27 (600483)	COAX	602201- 807	54"	CHANNEL 51	
32	J101-13 (602201-008)	E28 (600483)	COAX	602201- 807	54"	CHANNEL 52	
33	J101-14 (602201-008)	E29 (600483)	COAX	602201- 807	54"	CHANNEL 53	
34	J101-15 (602201-008)	E30 (600483)	COAX	602201- 807	54"	COM 5	
35	J101-16 NO CONNECT						
36	J101-17 NO CONNECT						
37	J101-18 NO CONNECT			ļ			
38	J101-19 NO CONNECT			_			
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ENGINEERING PARTS LIST

ITEM	BIN	PART NO.	DES	SCRIPTION	QTY	REFER	RENCE
1		407263	CARLEASSY	COAX/SMC,TTI	30		
2		610777	TIE-CA-LKG	064075	A/R		
3		910541	POLYURETHA	ANE CONF. COAT	A/R		,
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HA	RNESS	SASSEMBLY, 12	260-54C, TTI	DRN		SHEET 2	

WIRE	FROM	то	TYPE	PART#	WIRE LEN	REFER	ENCE
	BLK AAx PN 01 (J100)	Uxx-SLOT yy (CH00)	CABLE	407292		SYSTEM WIRE	LIST
	BLK AAx PN 02 (J101)	Uxx-SLOT yy (CH01)	CABLE	407292			
	BLK AAx PN 03 (J102)	Uxx-SLOT yy (CH02)	CABLE	407292			
	BLK AAx PN 04 (J103)	Uxx-SLOT yy (CH03)	CABLE	407292			
	BLK AAx PN 05 (J104)	Uxx-SLOT yy (COM 0)	CABLE	407292			
	BLK AAx PN 06 (J105)	Uxx-SLOT yy (CH10)	CABLE	407292			
	BLK AAx PN 07 (J106)	Uxx-SLOT yy (CH11)	CABLE	407292			
	BLK AAx PN 08 (J107)	Uxx-SLOT yy (CH12)	CABLE	407292			
	BLK AAx PN 09 (J108)	Uxx-SLOT yy (CH13)	CABLE	407292			
	BLK AAx PN 10 (J109)	Uxx-SLOT yy (COM 1)	CABLE	407292			
	BLK AAx PN 11 (J110)	Uxx-SLOT yy (CH20)	CABLE	407292			
	BLK AAx PN 12 (J111)	Uxx-SLOT yy (CH21)	CABLE	407292			
	BLK AAx PN 13 (J112)	Uxx-SLOT yy (CH22)	CABLE	407292	<u> </u>		
	BLK AAx PN 14 (J113)	Uxx-SLOT yy (CH23)	CABLE	407292			
	BLK AAx PN 15 (J114)	Uxx-SLOT yy (COM 2)	CABLE	407292			
	BLK AAx PN 16 (J115)	Uxx-SLOT yy (CH30)	CABLE	407292			
	BLK AAx PN 17 (J116)	Uxx-SLOT yy (CH31)	CABLE	407292	<u></u>		
	BLK AAx PN 18 (J117)	Uxx-SLOT yy (CH32)	CABLE	407292			
	BLK AAx PN 19 (J118)	Uxx-SLOT yy (CH33)	CABLE	407292			<u>.</u>
	BLK AAx PN 20 (J119)	Uxx-SLOT yy (COM 3)	CABLE	407292			
	BLK AAx PN 21 (J120)	Uxx-SLOT yy (CH40)	CABLE	407292			
	BLK AAx PN 22 (J121)	Uxx-SLOT yy (CH41)	CABLE	407292			
	BLK AAx PN 23 (J122)	Uxx-SLOT yy (CH42)	CABLE	407292			
	BLK AAx PN 24 (J123)	Uxx-SLOT yy (CH43)	CABLE	407292			·
DAC'	BLK AAx PN 25 (J124)	Uxx-SLOT yy (COM 4)	CABLE	407292			
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HAR	NESS ASSEMBL	Y, 1260-54C, TTI	DRN	41/73		SHEET 3 of	

WIRE	FROM	то	ТҮРЕ	PART #	WIRE LEN	REFERENCE	
	BLK AAx PN 26 (J125)	Uxx-SLOT yy (CH50)	CABLE	407292			
	BLK AAx PN 27 (J126)	Uxx-SLOT yy (CH51)	CABLE	407292			
	BLK AAx PN 28 (J127)	Uxx-SLOT yy (CH52)	CABLE	407292			
	BLK AAx PN 29 (J128)	Uxx-SLOT yy (CH53)	CABLE	407292			
	BLK AAx PN 30 (J129)	Uxx-SLOT yy (COM 5)	CABLE	407292			
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WIRE	FROM	то	ТҮРЕ	PART#	WIRE LEN	REFER	ENCE
1	J100	CH00	COAX	407263	40"	CHANNEL 00	
2	J101	CH01	COAX	407263	40"	CHANNEL 01	
3	J102	CH02	COAX	407263	40"	CHANNEL 02	
4	J103	CH03	COAX	407263	40"	CHANNEL 03	
5	J104	COM 0	COAX	407263	40"	COM 0	
6	J105	CH10	COAX	407263	40"	CHANNEL 10	
7	J106	CH11	COAX	407263	40"	CHANNEL 11	
8	J107	CH12	COAX	407263	40"	CHANNEL 12	
9	J108	CH13	COAX	407263	40"	CHANNEL 13	
10	J109	COM I	COAX	407263	40"	COM 1	
11	J110	CH20	COAX	407263	40"	CHANNEL 20	
12	J111	CH21	COAX	407263	40"	CHANNEL 21	
13	J112	CH22	COAX	407263	40"	CHANNEL 22	
14	J113 J114	CH23 COM 2	COAX	407263	40"	CHANNEL 23	
15	J114	COM 2	COAX	407263	40"	COM 2	
16	J115	CH30	COAX	407263	40"	CHANNEL 30	
17	J116	CH31	COAX	407263	40"	CHANNEL 31	
18	J117	CH32	COAX	407263	40"	CHANNEL 32	
19	J118	CH33	COAX	407263	40"	CHANNEL 33	
20	J119	COM 3	COAX	407263	40"	COM 3	
21	J120	CH40	COAX	407263	40"	CHANNEL 40	
22	J121	CH41	COAX	407263	40"	CHANNEL 41	
23	J122	CH42	COAX	407263	40"	CHANNEL 42	
24	J123	CH43	COAX	407263	40"	CHANNEL 43	
25	J124	COM 4	COAX	407263	40"	COM 4	
26	J125	CH50	COAX	407263	40"	CHANNEL 50	
27	J126	CH51	COAX	407263	40"	CHANNEL 51	
28	J127	CH52	COAX	407263	40"	CHANNEL 52	
29	J128	CH53	COAX	407263	40"	CHANNEL 53	
30	J129	COM 5	COAX	407263	40"	COM 5	
DACA	I Instruments	Inc., 4 Goodyean	r St., Irvine, (CA 92718			<u>. ,</u>
MAU/A			SIZE	CODE NO.	DOCII	MENT NO.	REV
DOCUMENT TITLE			A	21793)7292	A A
HAR	NESS ASSEMB	LY, 1260-54C, T	TI DRN		-41	SHEET 5 of	

Chapter 7 PRODUCT SUPPORT

Product Support

Racal Instruments has a complete Service and Parts Department. If you need technical assistance or should it be necessary to return your product for repair or calibration, call 1-800-722-3262. If parts are required to repair the product at your facility, call 1-949-859-8999 and ask for the Parts Department.

When sending your instrument in for repair, complete the form in the back of this manual.

For worldwide support and the office closes to your facility, refer to the Support Offices section on the following page.

Reshipment Instructions

Use the original packing material when returning the 1260-54 to Racal Instruments for calibration or servicing. The original shipping crate and associated packaging material will provide the necessary protection for safe reshipment.

If the original packing material is unavailable, contact Racal Instruments Customer Service for information.

Support Offices

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