RACAL INSTRUMENTS 1260-54 TREE MULTIPLEXER MODULE

PUBLICATION NO. 980673-009

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- 2. Product model number
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RETURN of PRODUCT

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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 proper fuse is in place for the power source to operate.
- 2. 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.

Racal Instruments

EC Declaration of Conformity

We

Racal Instruments Inc. 4 Goodyear Street Irvine, CA 92718

declare under sole responsibility that the

1260-54 Tree Multiplexer Module P/N 404768

conforms to the following Product Specifications:

Safety:

EN 61010-1

EMC:

CISPR 11:1990/EN 55011 (1991): Group 1 Class A IEC 801-2:1991/EN 50082-1 (1992): 4 kV CD, 8 kV AD IEC 801-3:1984/EN 50082-1 (1992): 3 V/m, 27-500 MHz

IEC 801-4:1988/EN 50082-1 (1992): 1 kV

Supplementary Information:

The above specifications are met when the product is installed in a Racal Instruments certified mainframe with faceplates installed over all unused slots, as applicable.

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC.

Irvine, CA, January 24, 1996

Quality Manager

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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 which 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 which 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, with 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 which 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 hardware inverts 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:

```
ViAddr control_reg_0, control_reg_1;

ViUInt8 creg0_val, creg1_val;

ViStatus error;

ViSession hdl; /* this is from the viOpen() function */

control_reg_0 = (module address of card x 0x400) + 1;

control_reg_1 = control_reg_0 + 2;

error = ViIn8(hdl, control_reg_0, &creg0_val);
```

```
creg0_val = ~ creg0_val; /* invert the data read back */
creg0_val &= 0x3F; /* AND with 3F hex */
creg0_val |= 0x40; /* OR with 40 hex */
error = viOut8(hdl, control_reg_0, creg0_val);

error = ViIn8(hdl, control_reg_1, &creg1_val);
creg1_val = ~ creg1_val; /* invert the data read back */
creg1_val &= 0xF0; /* AND with F0 hex */
creg1_val |= 0x0C; /* OR with 0C hex */
error = Out8(hdl, control_reg_1, creg1_val);
```

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 (hex)
00	0	(hex) C0	31
01	0	C0	22
02	0	C0	14
03	0	C0	08
10	0	3F	40
10	1	F0	0C
11	0	3F	80
1 ''	1	F0	08
12	0	3F	00
1	1	F0	05
13	0	3F	00
	1	F0	02
20	1	0F	10
	2	FC	03
21	1	0F	20
	2	FC	02
22	1	0F	40
	2	FC	01
23	1	0F	80
	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	3F	80
	4	F0	08
52	3	3F	00
	4	F0	05
53	3	3F	00
	4	F0	02

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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.

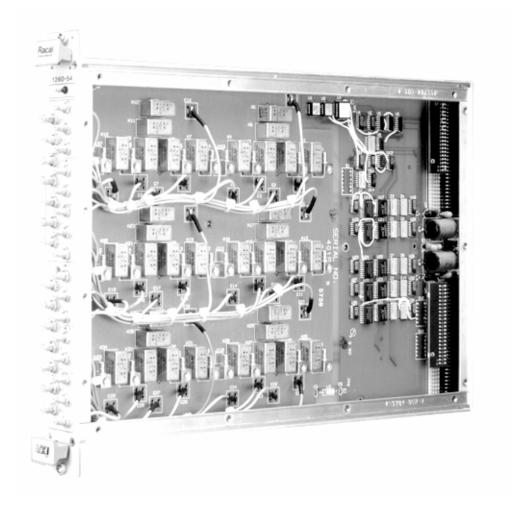


Figure 1-1, 1260-54

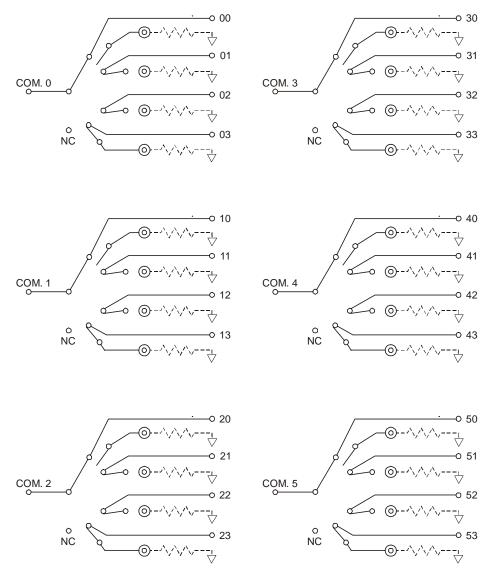


Figure 1-2, 1260-54 Functional Diagram

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 30VDC, 100VAC RMS (Signal to Ground)

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, (50Ω) < .50dB at 100MHz

Termination) <1.5dB to 500 MHz

<2.0dB to 1GHz

Crosstalk Across Groups <-100dB to 100MHz

(50 Ω 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 $0.5 \text{mmH}_2\text{O}$

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

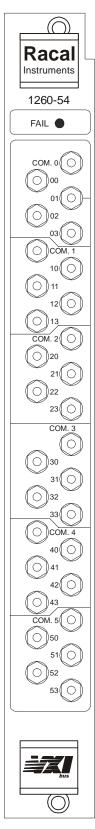


Figure 1-3, 1260-54 Front Panel

Chapter 2

INSTALLATION INSTRUCTIONS

Unpacking and Inspection

- 1. Remove the 1260-54 module and inspect it for damage. If any damage is apparent, inform the carrier immediately. Retain shipping carton and packing material for the carrier's inspection.
- Verify that the pieces in the package you received contain the correct 1260-54 module option and the 1260-54 Users Manual. Notify EADS North America Defense Test and Services, Inc. if the module appears damaged in any way. Do not attempt to install a damaged module into a VXI chassis.
- 3. The 1260-54 module is shipped in an anti-static bag to prevent electrostatic damage to the module. Do not remove the module from the anti-static bag unless it is in a static-controlled area.

Reshipment Instructions

- Use the original packing when returning the switching module to EADS North America Defense Test and Services, Inc. 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 material is unavailable, wrap the switching module in an ESD Shielding bag 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 are not displayed.

Chapter 4

OPTIONAL HARNESS ASSEMBLIES

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

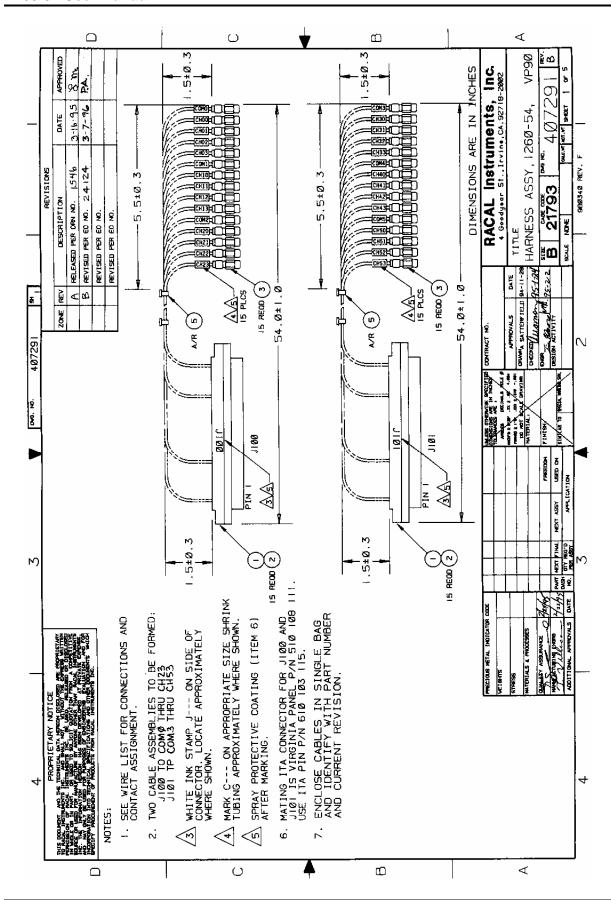
Each harness documentation consists of an assembly drawing, parts list, and wire list.

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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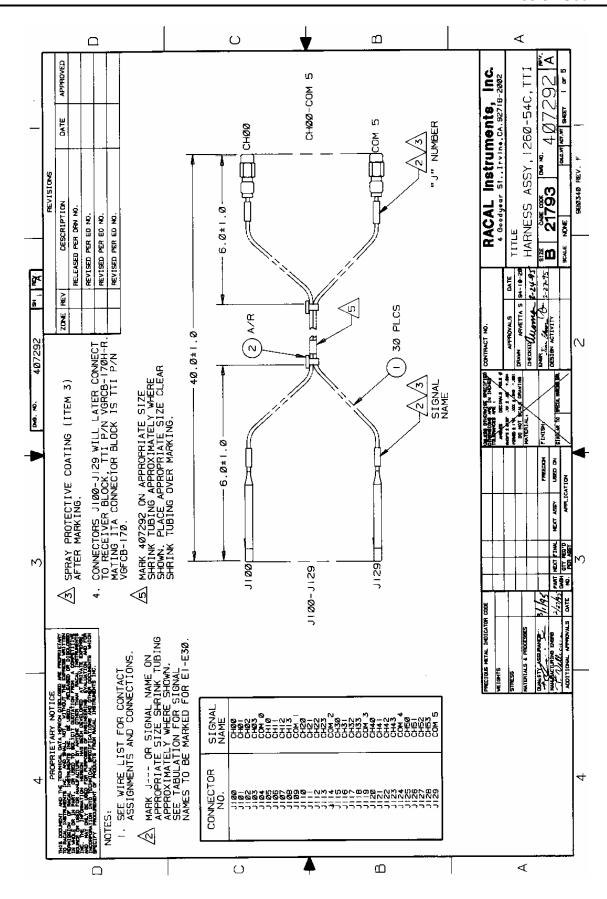
ENGINEERING PARTS LIST

ІТЕМ	BIN	PART NO.	DESCRIPTION	QTY	REFERE	NCE
1		602201-008	CON-RCV-PLG019CS-VP90	2	J100-J101	
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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	BLK AA	Uxx-SLOT yy	CABLE	407291		SYSTEM WIRE	LIST
	(J100) BLK AA	(E1-E15) Uxx-SLOT yy	CABLE	407291	<u> </u>		
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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"	COM 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						-	
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	54"	CHANNEL 32		
23	J101-4 (602201-008)	E19 (600483)	COAX	602201- 807	54"	CHANNEL 33		
24	J101-5 (602201-008)	E20 (600483)	COAX	602201- 807	54"	COM 3		
25	J101-6 (602201-008)	E21 (600483)	COAX	602201- 807	54"	CHANNEL 40		
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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					
38	J101-19 NO CONNECT					
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HARI	NESS ASSEMBL	Y, 1260-54C, VP90	DRN		•	SHEET 5 of 5



ENGINEERING PARTS LIST

TEM	BIN	PART NO.	DESCRIPTION	N QT	Y REFE	RENCE
1		407263	CABLE ASSY, COAX/SMC	C,TTI 3	30	
2		610777	TIE-CA-LKG064075	A	/R	
3		910541	POLYURETHANE CONF.	COAT A	J/R	
			 			
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RAC	AL Ins	truments, Inc., 4	Goodyear St., Irvine, C	CA 92718		
		DOCUMENT TITL	E SIZE	CODE NO. 21793	DOCUMENT NO. 407292	REV
		S ASSEMBLY, 12	A A	21793	407292	A

WIRE	FROM	то	TYPE	PART#	WIRE LEN		RENCE
	BLK AAx PN 01 (J100)	Uxx-SLOT yy (CH00)	CABLE	407292		SYSTEM WIRI	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			
	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			
	BLK AAx PN 18 (J117)	Uxx-SLOT yy (CH32)	CABLE	407292			
	BLK AAx PN 19 (J118)	Uxx-SLOT yy (CH33)	CABLE	407292			
	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			
•	BLK AAx PN 25 (J124)	Uxx-SLOT yy (COM 4)	CABLE	407292			
RACA	L Instruments, I	nc., 4 Goodyear S		CA 92718			
	DOCUMENT	TITLE	SIZE	CODE NO.	DOCU	MENT NO.	REV
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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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	L Instruments, Induction DOCUMENT	TITLE	SIZE	CA 92718 CODE NO. 21793	DOCUMEN 40729	

WIRE	FROM	то	ТҮРЕ	PART #	WIRE LEN	REFE	RENCE
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 9	J107	CH12	COAX	407263	40" 40"	CHANNEL 12	
10	J108 J109	CH13	COAX	407263 407263	40"	CHANNEL 13 COM 1	
10	1109	COM I	COAX	407203	40	COM I	
11	J110	CH20	COAX	407263	40"	CHANNEL 20	
12	J111	CH21	COAX	407263	40"	CHANNEL 21	
13	J112	CH22	COAX	407263 407263	40"	CHANNEL 22	
14	J113 J114	CH23 COM 2	COAX	407263	40"	CHANNEL 23 COM 2	
15	J114 	COM 2	CUAX	407203	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	
RACA	L Instruments.	 Inc., 4 Goodyear	St., Irvine. (A 92718	ŀ		<u> </u>
	DOCUMEN		SIZE	CODE NO.	DOCU	MENT NO.	REV
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HAR	INESS ASSEMB	LY, 1260-54C, TT	I DRN			SHEET 5 of	£ 5

Chapter 5

PRODUCT SUPPORT

Product Support

EADS North America Defense Test and Services, Inc. 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 closest to your facility, refer to the website for the most complete information http://www.eads-nadefense.com.

Warranty

Use the original packing material when returning the 1260-54 to EADS North America Defense Test and Services, Inc. for calibration or servicing. The original shipping container and associated packaging material will provide the necessary protection for safe reshipment.

If the original packing material is unavailable, contact EADS North America Defense Test and Services, Inc. Customer Service at 1-800-722-3262 for information.

REPAIR AND CALIBRATION REQUEST FORM

To allow us to better understand your repair requests, we suggest you use the following outline when calling and include a copy with your instrument to be sent to the EADS North America Defense Test and Service, Inc. Repair Facility.

Model	Serial No	Date_	
Company Name	Pu	Purchase Order #	
Billing Address			
<u> </u>			City
State/Pr	rovince	Zip/Postal Code	Country
Shipping Address			
			City
State/Pr	rovince	Zip/Postal Code	Country
Technical Contact	Ph Ph	one Number ()	
	e problem and symptoms y requencies, waveform deta	rou are having. Please including ils, etc.	de all set up details, such
2. If problem is occurrin type.	g when unit is in remote, pl	ease list the program strings	s used and the controller
3. Please give any addi (i.e., modifications, etc.)		vould be beneficial in facilita	ting a faster repair time
4. Is calibration data rec	quired? Yes No (pl	ease circle one)	
Call before shipping Note: We do not accept "collect" shipments.		o nearest support office.	