

1260 VXI SWITCHING CARD

1260-12 ACTUATOR RELAY

PUBLICATION NO. 980673-001

RACAL INSTRUMENTS

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The RACAL logo consists of the word "RACAL" in a bold, italicized, sans-serif font. The letters are white with a black outline, and they are set against a black rectangular background.

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2. Product model number
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	+44(0) 1628 662017	(UK)
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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: helpdesk@racalstruments.com.

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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 1260-12

The following information describes the control-register-to-relay-channel mapping for a 1260-12 Relay Module. This information may be used to control a 1260-12 when using a 1260-01T in the register-based mode of operation.

Each relay on this module is controlled by setting or clearing a single bit within a Control Register. Control Registers on the module operate 8 channels simultaneously. There are eight control bits per Control Register. Setting the bit to a 1 closes the relay; setting the bit to a 0 opens the relay.

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.

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.

Channel	Control Register	Control Bit
0	0	0
1	0	1
2	0	2
3	0	3
4	0	4
5	0	5
6	0	6
7	0	7
8	1	0
9	1	1
10	1	2
11	1	3
12	1	4
13	1	5
14	1	6
15	1	7
16	2	0
17	2	1
18	2	2
19	2	3

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Chapter 1

MODULE SPECIFICATION

Introduction

The 1260-12 Relay Actuator Module is a 20-channel double-pole, double-throw switching module.

Specifications

User Connector	Quick Disconnect
Maximum Switchable Voltage (Terminal-Terminal or Terminal-Chassis)	220 VDC, 250 VAC RMS
Maximum Switchable Current	2 A DC or RMS
Maximum Switchable Power Per Channel	60 W DC, 62.5 VA AC

DC Performance

Path Resistance	200 m Ω at 2A
Isolation	>10 ⁹ Ω

AC Performance

Capacitance	
Open Channel	<25 pF
Channel-Chassis	<25 pF
Hi-Lo	<50 pF
Bandwidth, (-3 dB, 50 Ω Termination)	35 MHz (typical)
Insertion Loss, (50 Ω Termination)	<.20 dB at 100 kHz <.25 dB at 1 MHz <0.5 dB at 10 MHz
Crosstalk, (50 Ω Termination)	<-75 dB at 100 kHz <-60 dB at 1 MHz <-40 dB at 10 MHz

General

Cooling	
Airflow	1.0 liter/sec
Backpressure	0.05 mm H ₂ O
Cooling (With Option 01S/T)	
Airflow	2.0 liters/sec
Backpressure	0.2 mm H ₂ O
Power Requirements	+5V:0.4A (2.8A with Option 01 installed) +24V: 10 mA per energized relay
Weight	1.17 kg (2.59 lbs) 1.30 kg (2.87 lbs) with Option 01 installed
Minimum Option 01 Firmware	
Revision	17.1

Chapter 2

INSTALLATION INSTRUCTIONS

Unpacking and Inspection

1. 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.

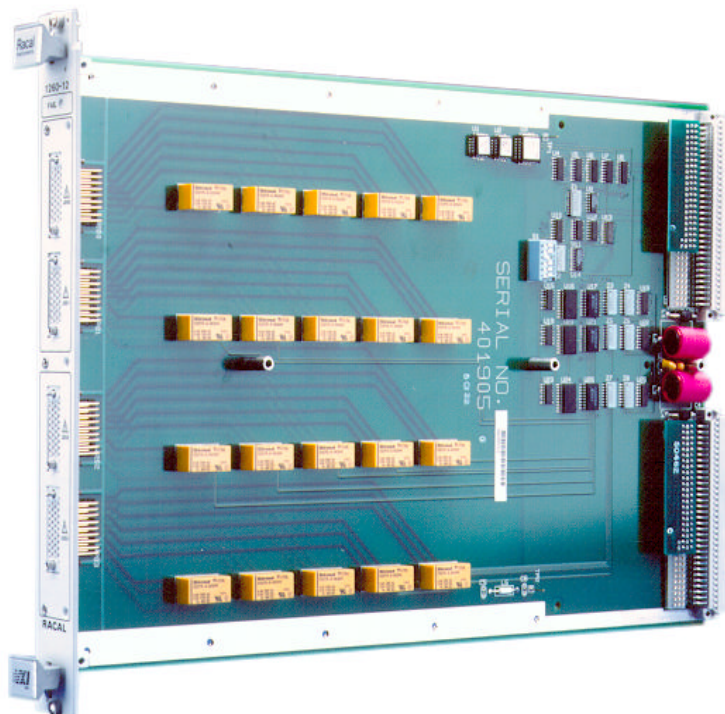


Figure 2-1, 1260-12

Reshipment Instructions

1. Use the original packing material 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 material 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 01 into the 1260-12 is described in the Installation section of the 1260 Series VXI Switching Cards Manual.

Module Installation

Installation of the 1260-12 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 SW1-6, should both be set to OFF.

MODULE SPECIFIC SYNTAX

General

The Module Specific Syntax for the 1260-12 is required in the use of the OPEN and CLOSE commands. It will also appear in data output by the Master in response to the PDATAOUT and PSETUP commands.

NOTE

The 1260-12 Relay Actuator Module is supported by Option 01 Operating Systems at Revision levels 2.1 and above.

Syntax

The Module Specific Syntax for the 1260-12 Relay Actuator module is as follows:

<module address>.<channel>

where <module address> is the address.

<channel> is the reference number of the relay to be closed, value 0 - 19.

NOTE

The <module address> used here is not the VXIbus defined logical address of the 1260 Master. It is peculiar to the 1260 Series and describes the switching module in relation to the Master. This address corresponds to the binary value of the switch setting of SW1 on the switching module PCB.

Each <channel> is a double-pole, double-throw relay with two normally open and two normally closed connections. The connections are between the Common and the Open pins if the <channel> is OPEN, and between the Common and the Closed pins if the <channel> is CLOSED. The pin connections made by each CLOSE <card address>.<channel> command are given in Figure 3-2.

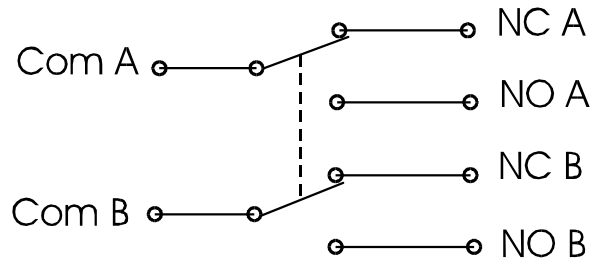


Figure 3-1, Relay Diagram

PSETUP Command

The PSETUP command causes the specified module setup to be displayed as a response. The syntax used is:

```
PSETUP <module address>[;<module address>][;
<module address>].....
```

where <module address> is the switch card address.

The responses to the PSETUP command for the 1260-12 Relay Actuator Module are as follows:

```
<module address>.1260-12 RELAY ACTUATOR MODULE
<module address>.BBM
<module address>.END
```

The response to the PSETUP command consists of a header on the first line. The header describes the model number. The next line designates the setup mode for the scanning which, by default, is Break-Before-Make (BBM). The last line containing the "END" characters denotes no more information to report.

PDATAOUT Command

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

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

The responses to the PDATAOUT command are as follows:

```
<module address>.1260-12 RELAY ACTUATOR MODULE
```


<module address>.<channel>[,<channel>][,<channel>].....

<module address>.END

The response to the PDATAOUT command consists of a header on the first line, as with the PSETUP response. The next line details the channels currently closed on the module, and is blank when no channels are closed. Again, the last line is denoted by the "END" string of characters.

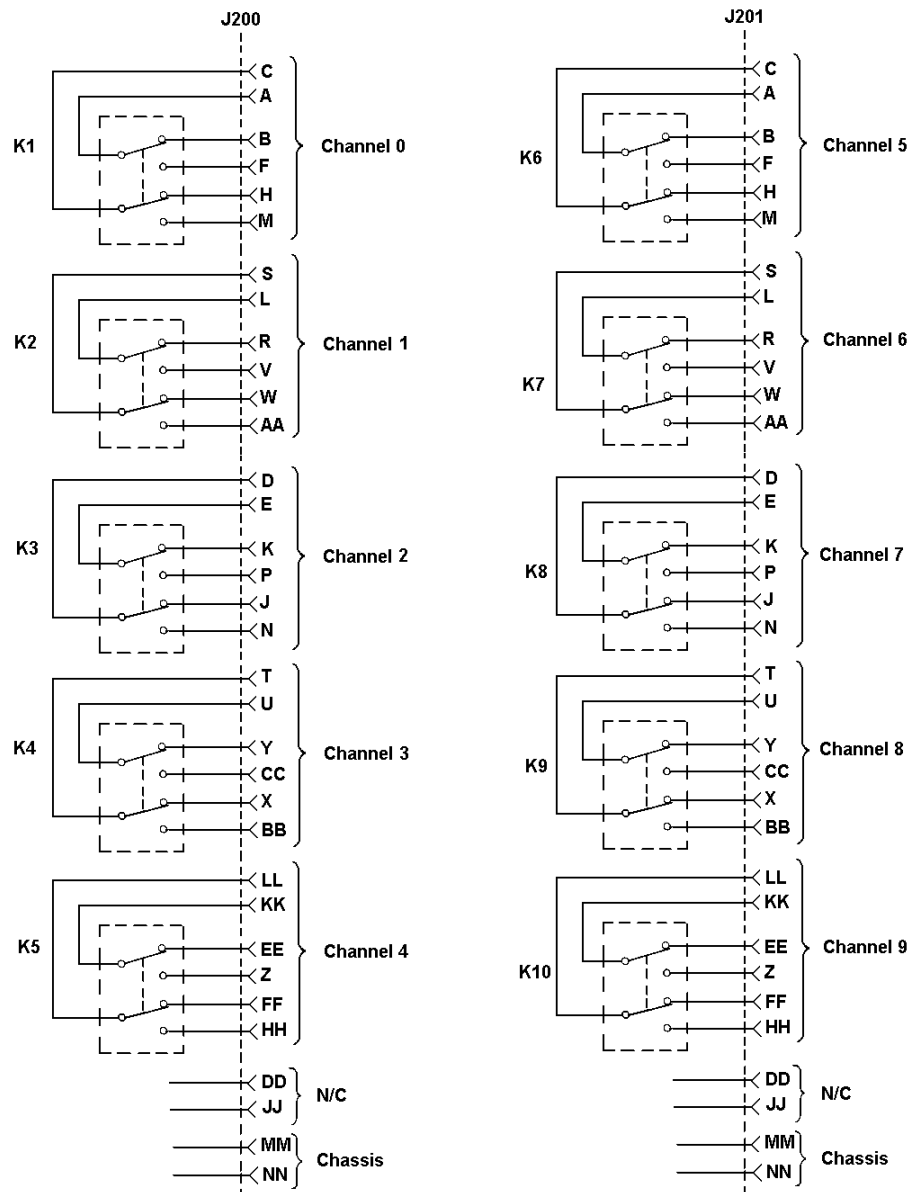


Figure 3-2, 1260-12 Wiring Diagram

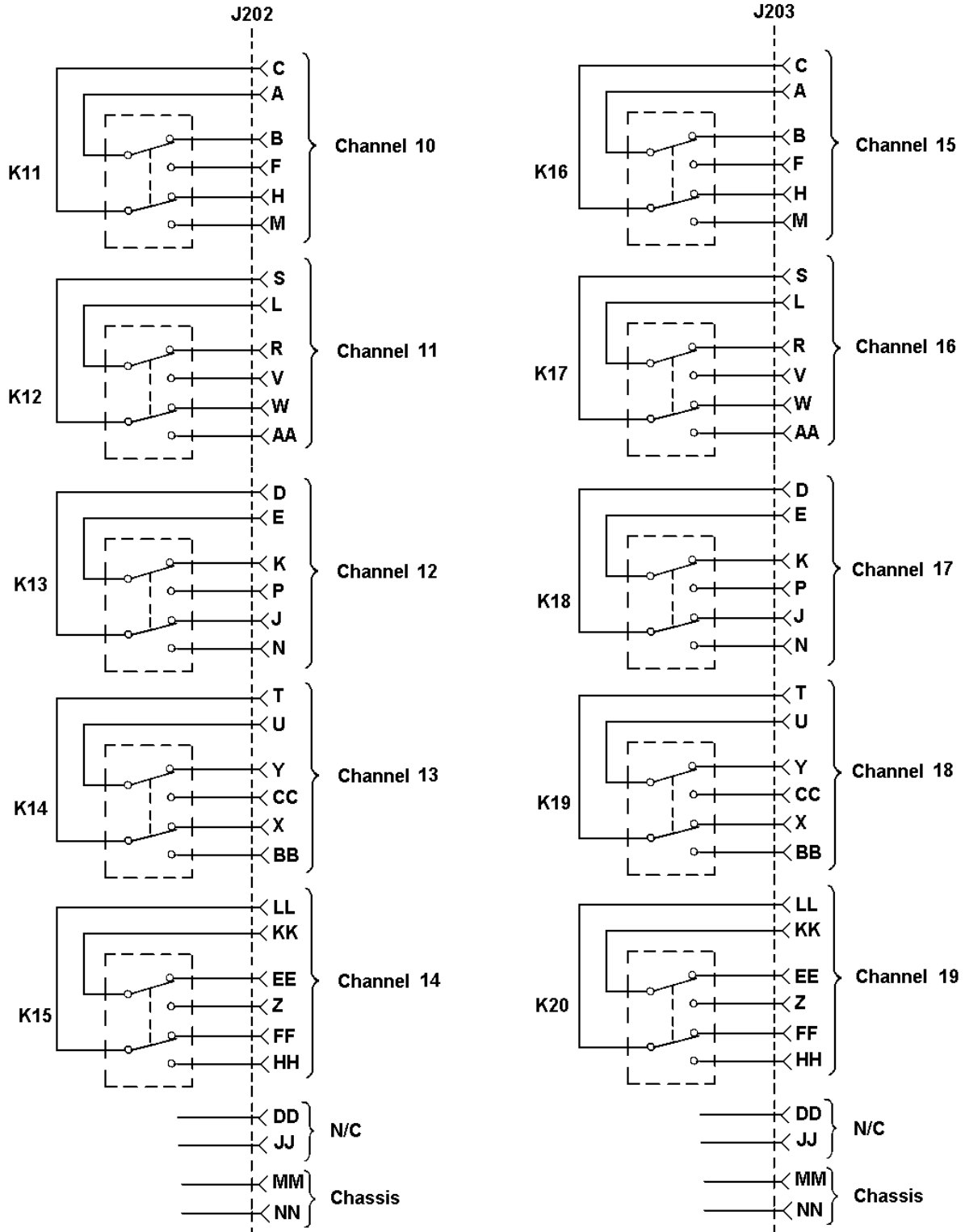


Figure 3-3, 1260-12 Wiring Diagram (continued)

Refer to Figure 3-4 for the pin configurations of connectors J200, J201, J202 and J203 on the 1260-12.

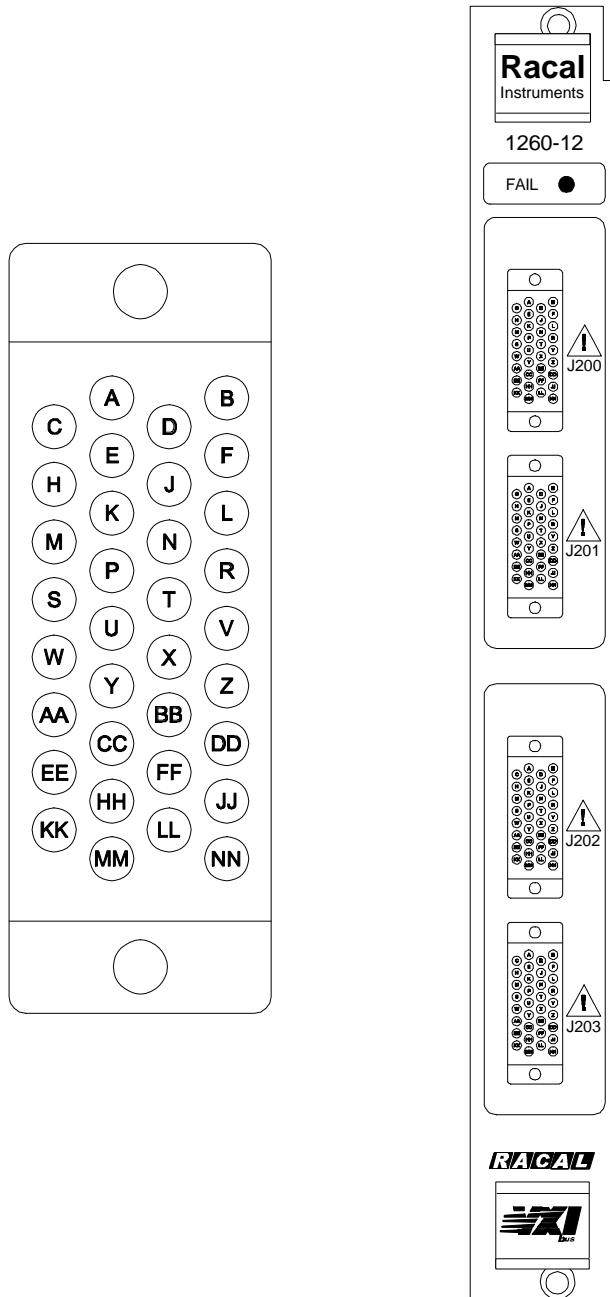


Figure 3-4, 1260-12 Pin Connections

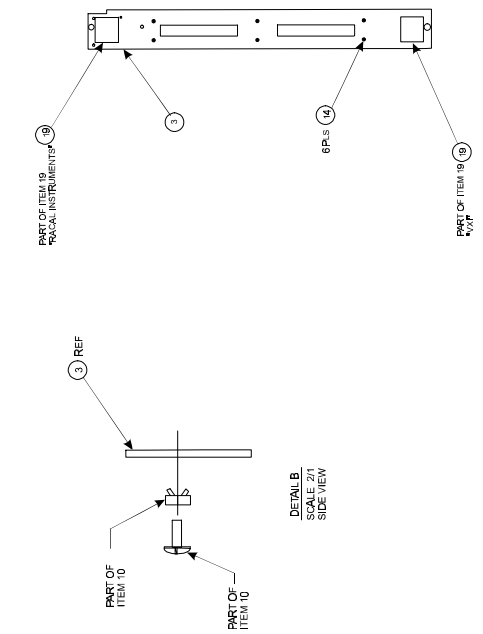
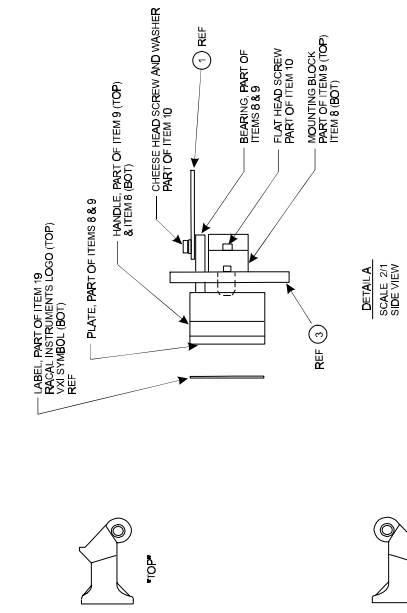
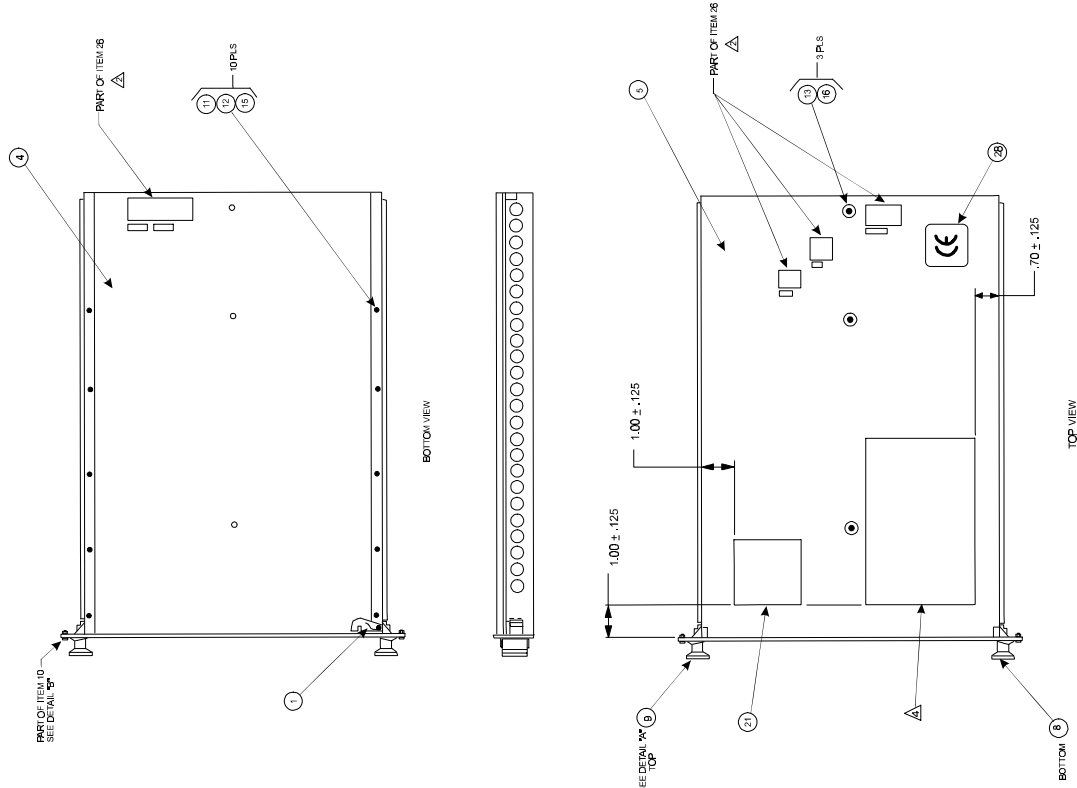
The Racal Instruments part number for the mating connectors for 1260-12 connectors J200 and J201 is 601855-034, and the pins required for the mating connector are Racal Instruments Part Number 601857. 34 pins are required to fully populate each mating connector.

Chapter 4

DRAWINGS

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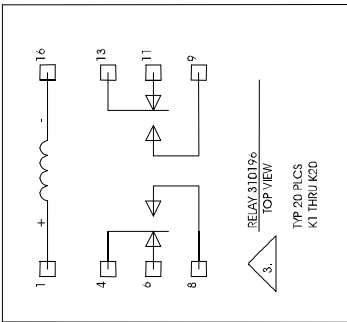
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RACAL Instruments Inc. 4 Goodyear St., Irvine, CA 92718-2002	
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SHEET 1 OF 2	

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- △ LOCATE APPROPRIATE VXI LABEL WHERE SHOWN, REFERENCE 921410 FOR SPECIFIC LABEL INFORMATION
- 3. INCLUDE SHIPPING KIT, ITEM 2, IN BOX WITH ASSY.
- △ AFFIX LABELS AS SHOWN, ALIGN TEXT WITH APPROPRIATE SWITCH ACTUATORS.
- 1. DISCARD UNUSED HARDWARE IN ITEM 10.



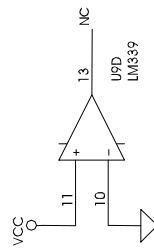
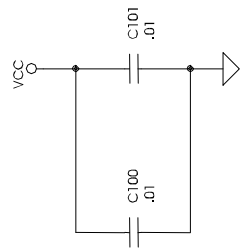
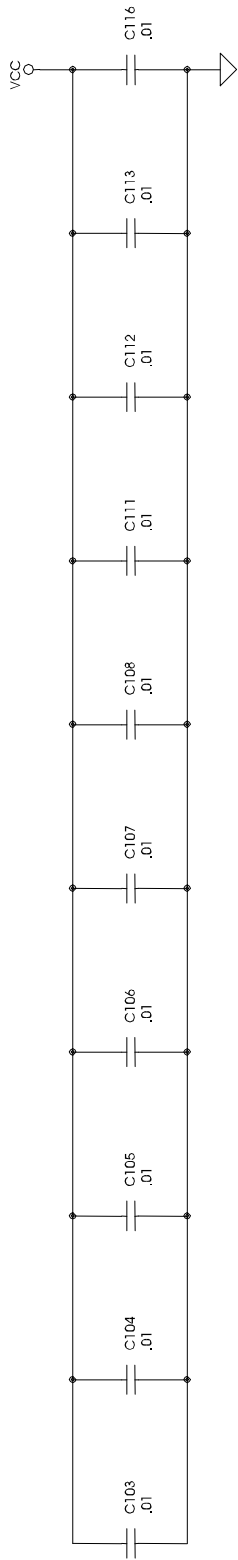
- 4. C5 AND C6 ARE NOT INSTALLED.
- 3. RELAYS K1 THRU K20 ARE RACAL DANA PIN 310196.
ALL RELAYS SHOWN IN DE-ENERGIZED POSITION.
- 2. RESISTOR NETWORKS ARE IN OHMS.
- 1. CAPACITOR VALUES ARE IN MICROFARADS, 50V, +/-20% UNLESS OTHERWISE SPECIFIED.

U17,21,25	2803		9
U16,20,24	74HC1273		10
U14	74HC185		8
U13	74LS138		8
U11,12,15,19,23	74HC164		7
U10,18,22,26	74HC166		8
U9	LM339		12
U7,8	26LS32		8
U6	26LS31		8
U4,5	74HC253		8
U3	231154 (22/10H)		14
U2	231153 (16R4)		10
U1	231152 (16L6Q)		10
REF.	IC	+5V	GND
DES.	TYPE	PIN NO.	PIN NO.

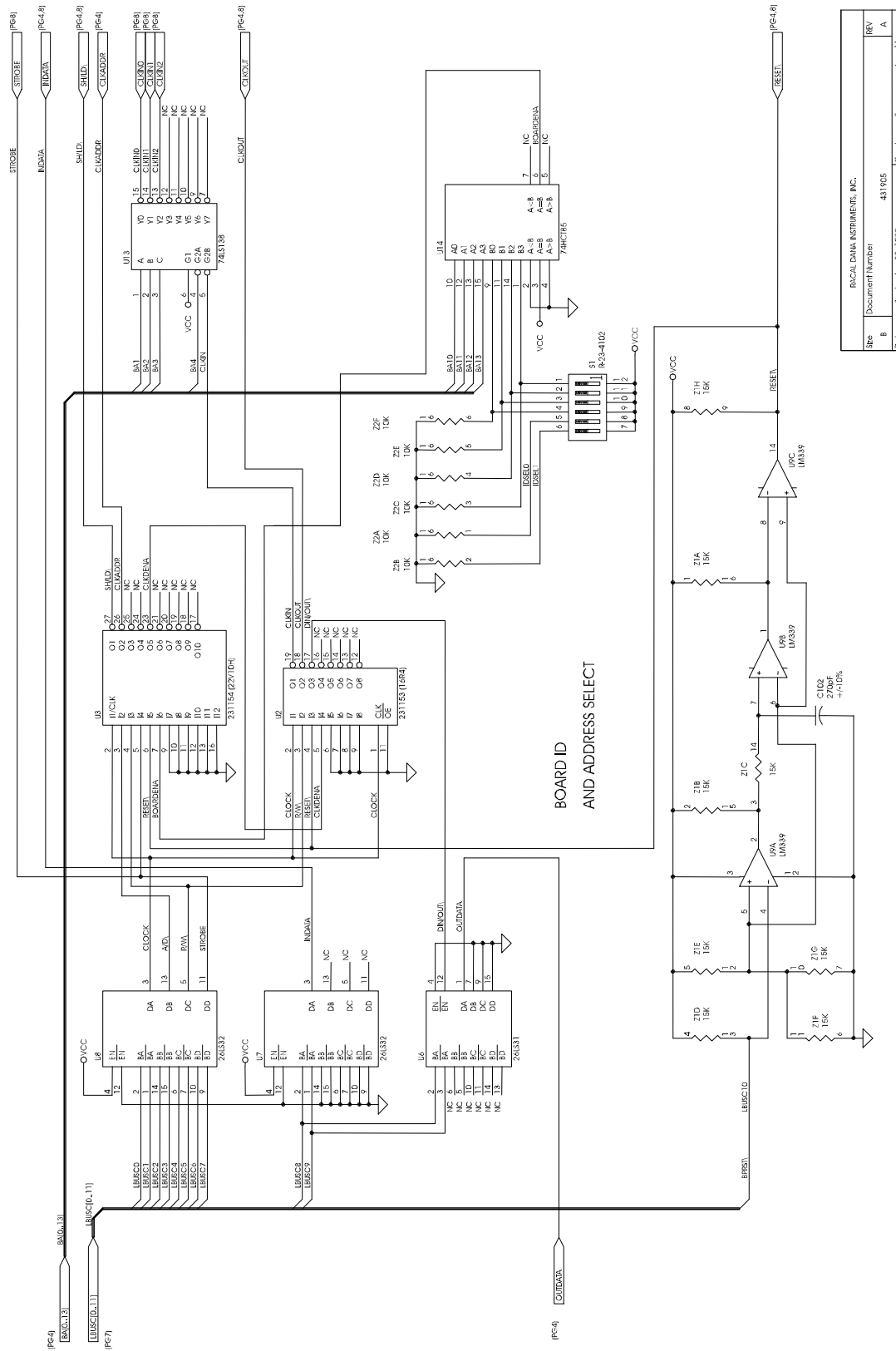
IC POWER AND GROUND CONNECTIONS

Z8
W1
U26
TP2
S3
P2
L5
K20
J203
C116
HIGHEST REF. DES.

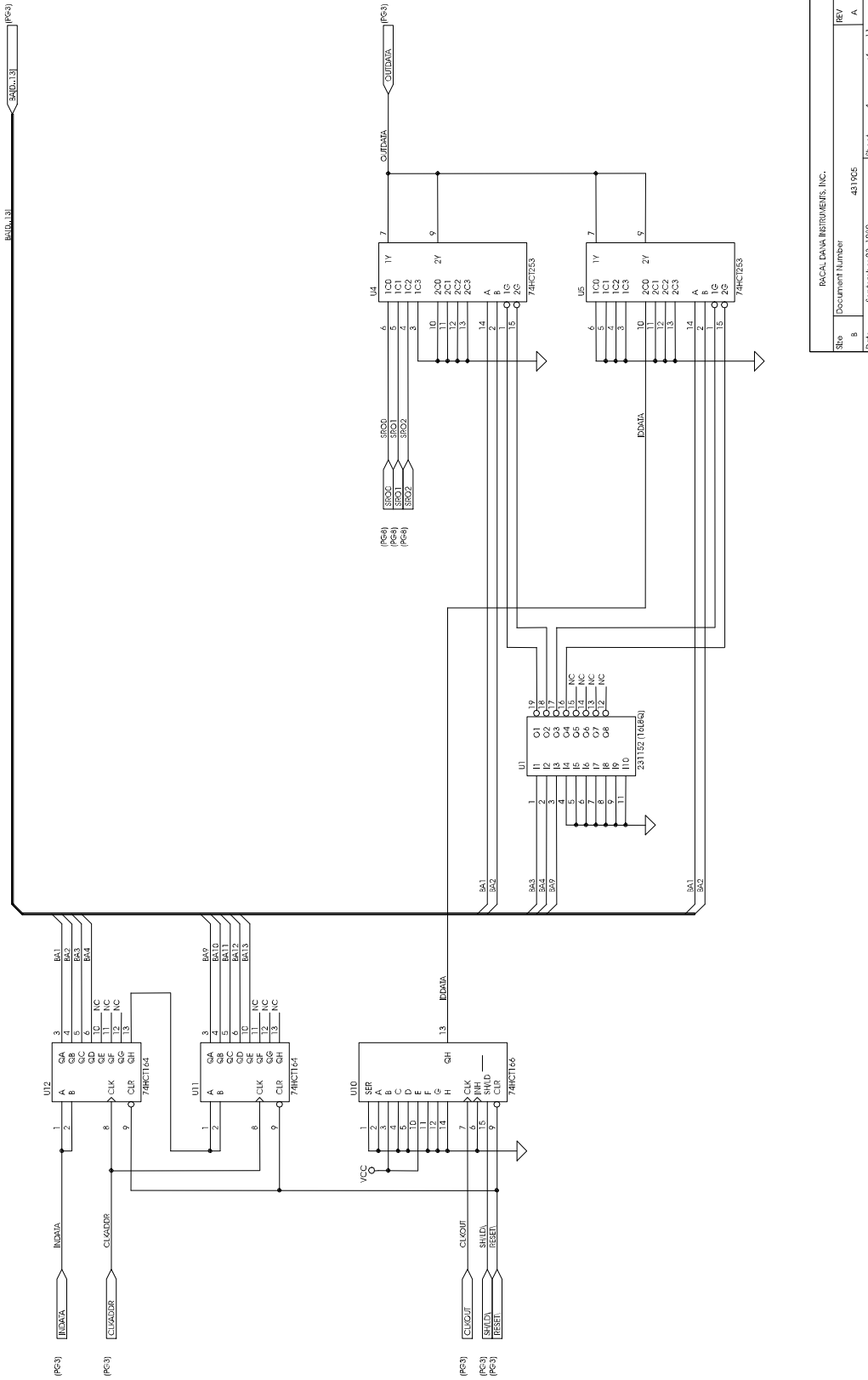
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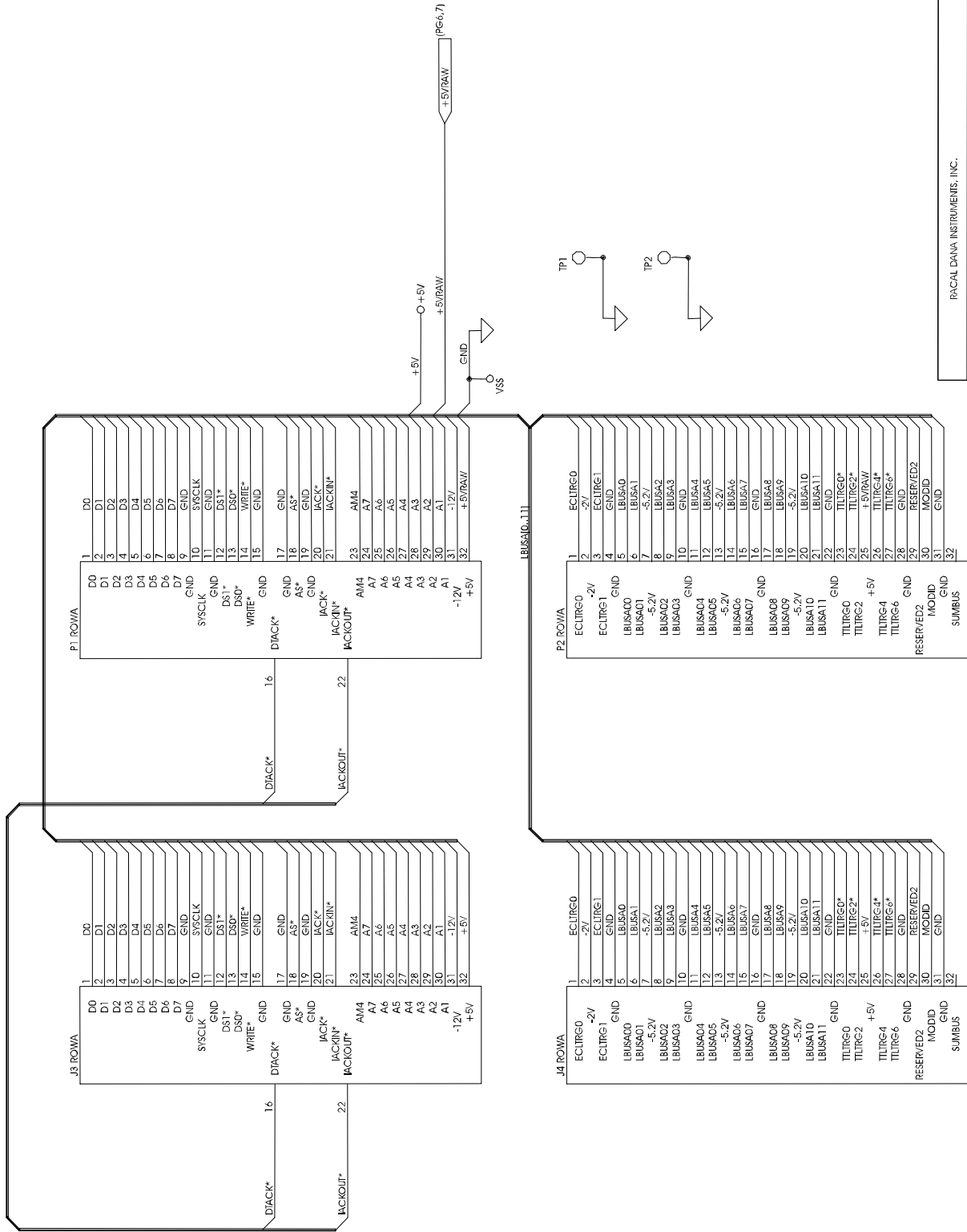


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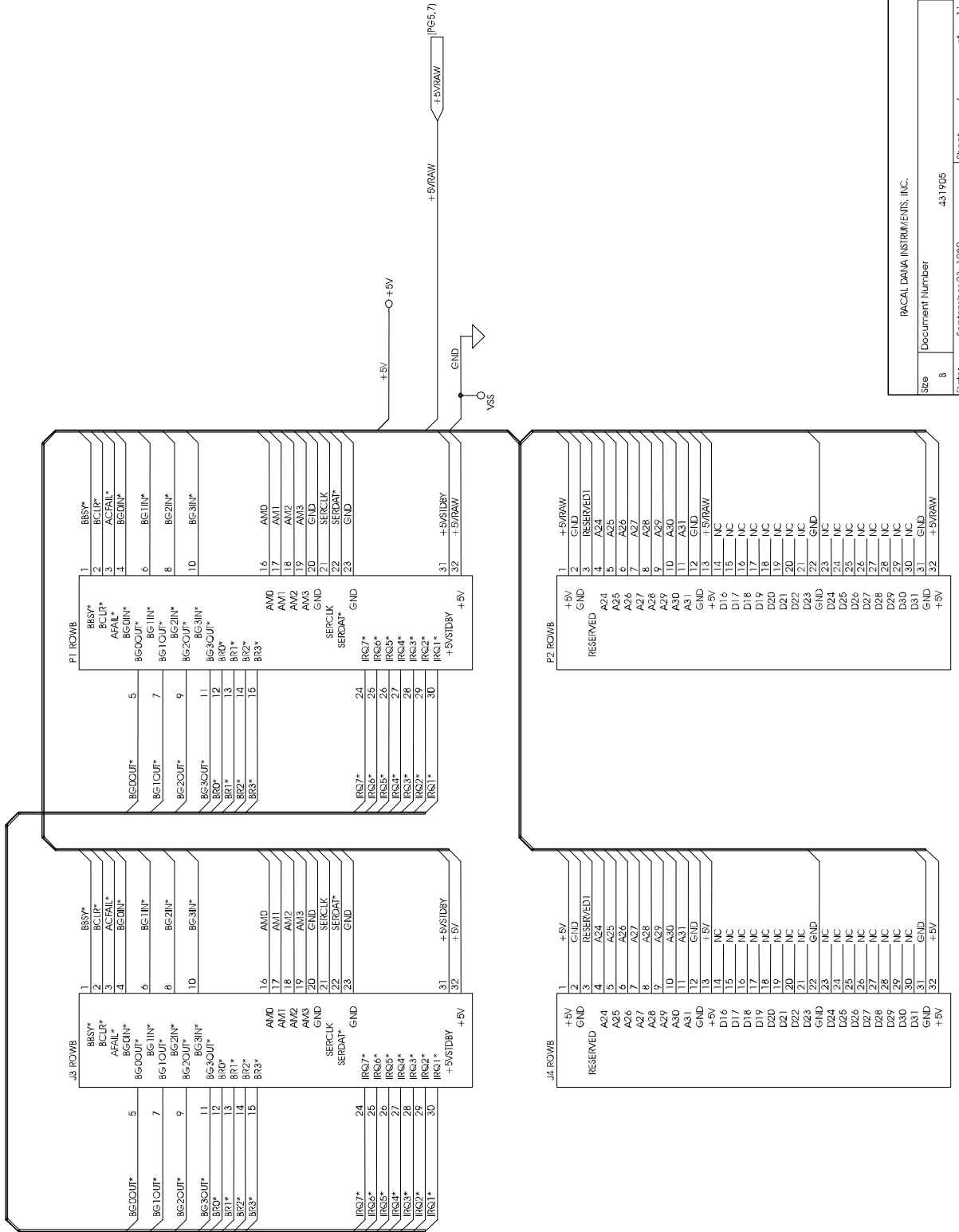


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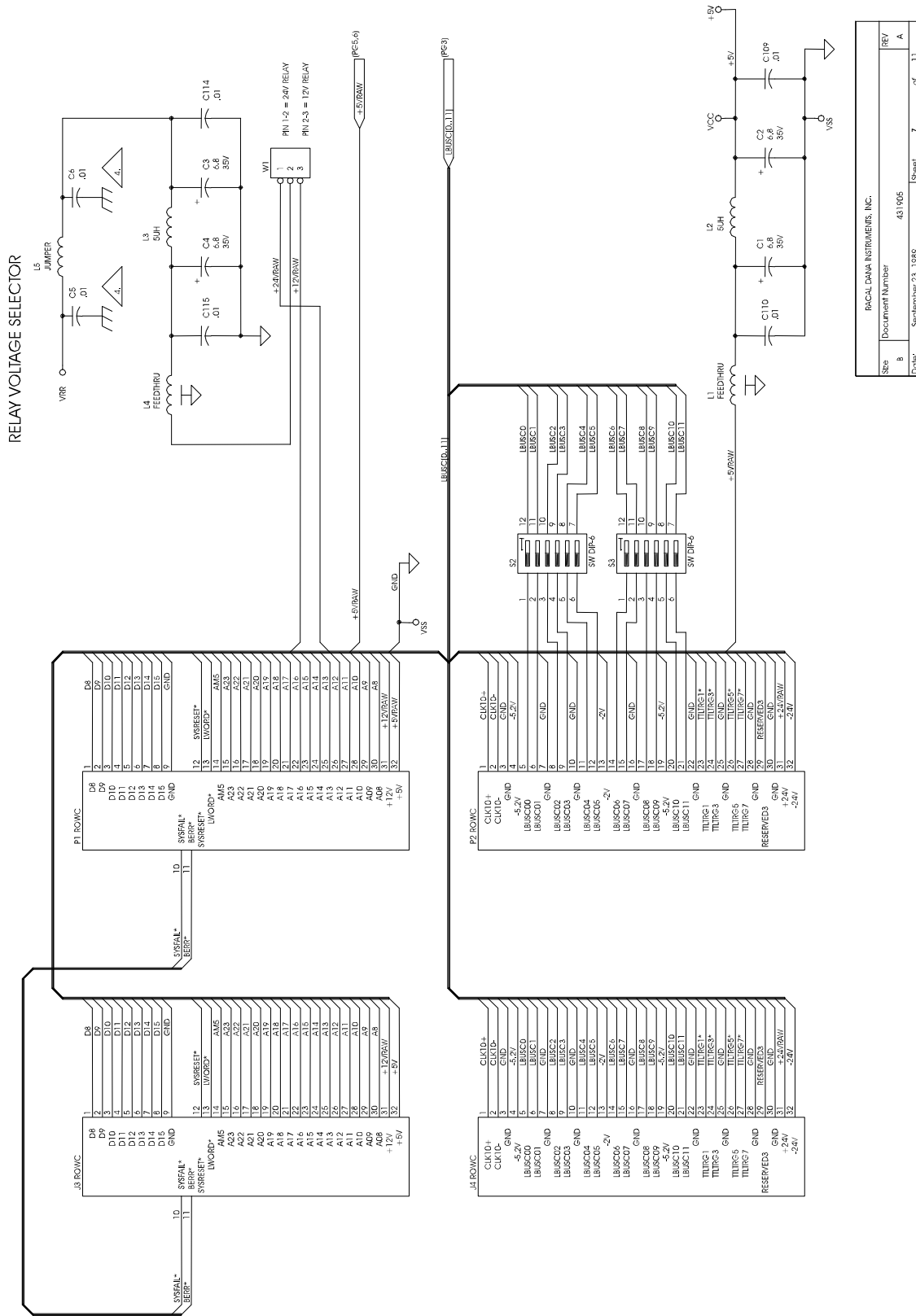




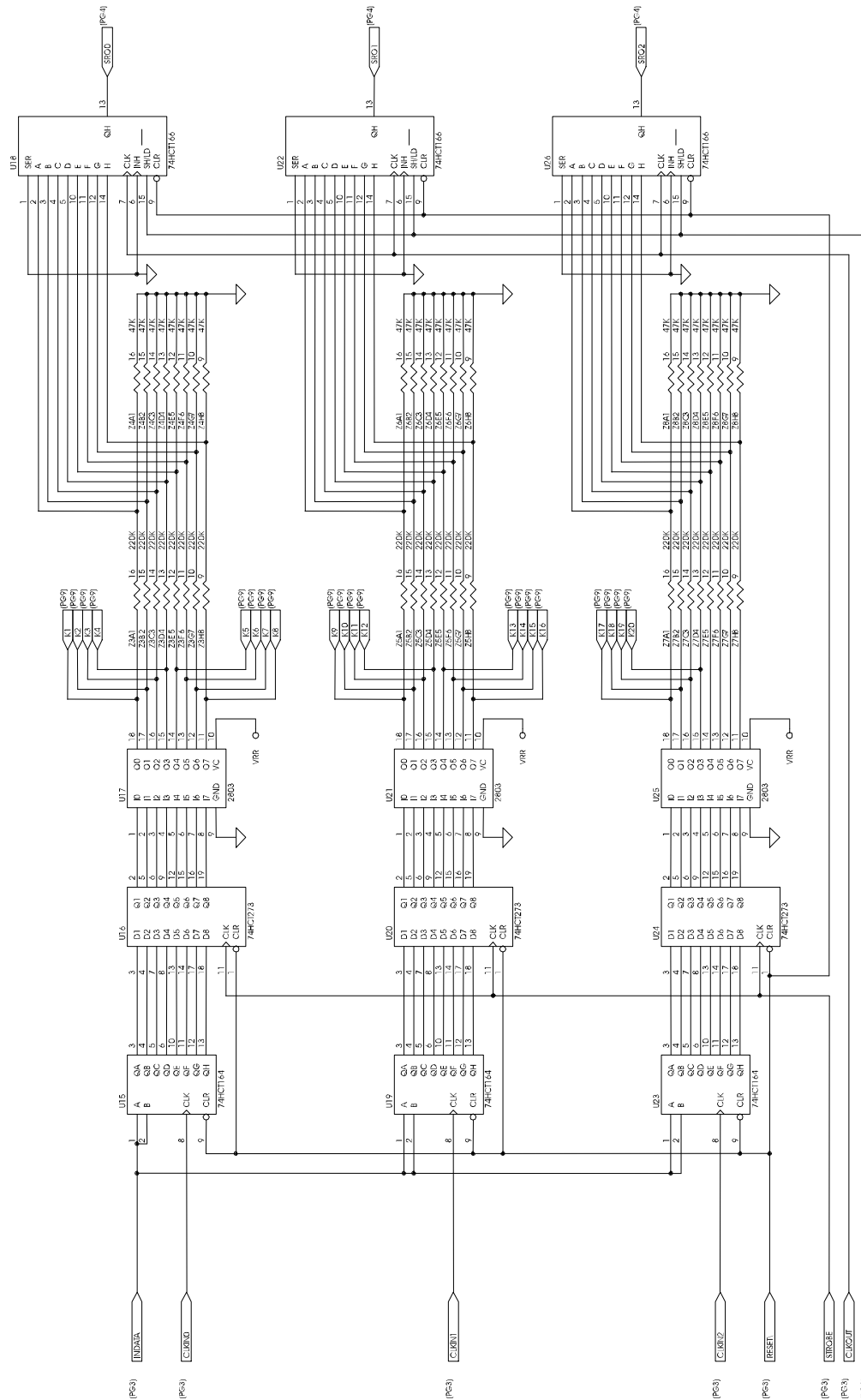
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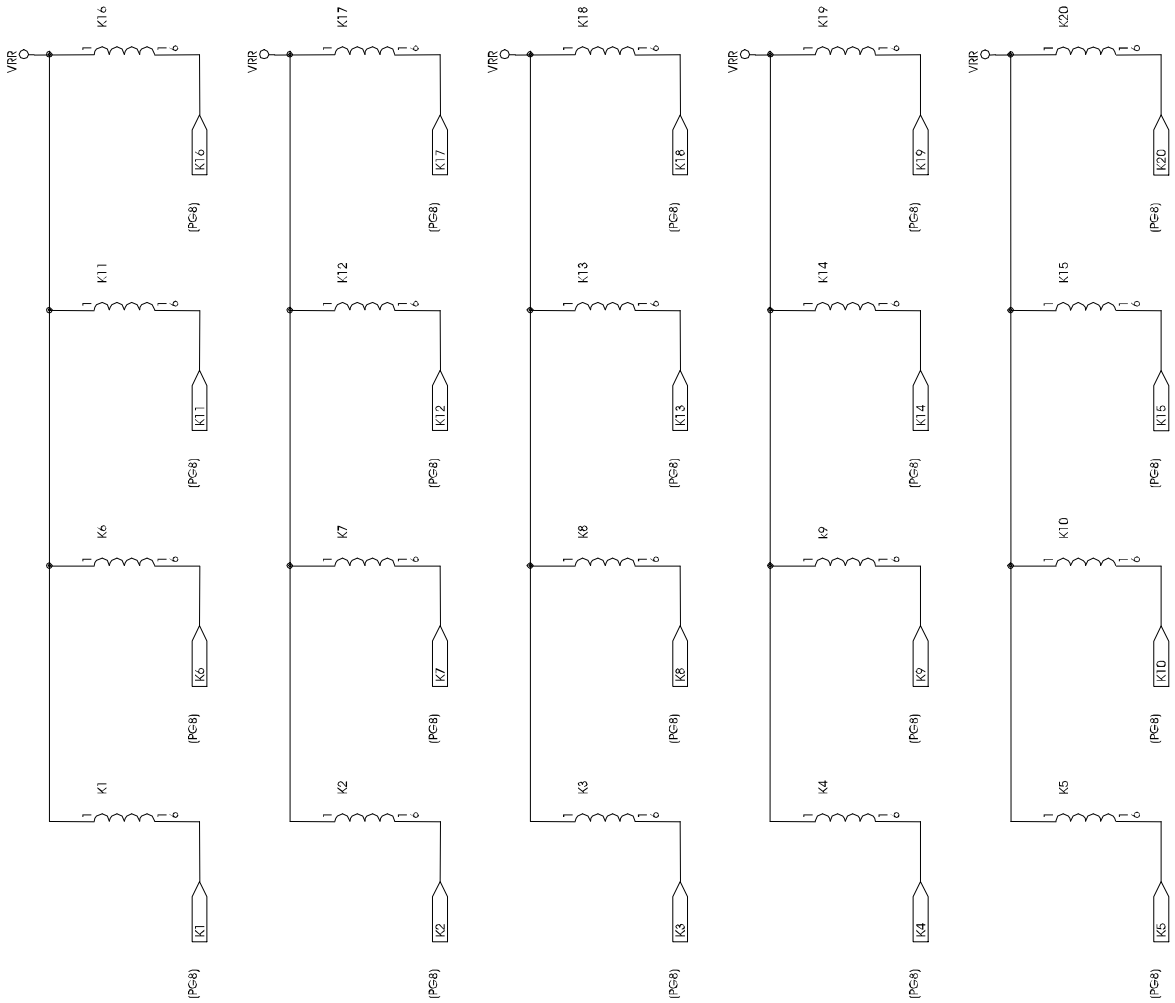
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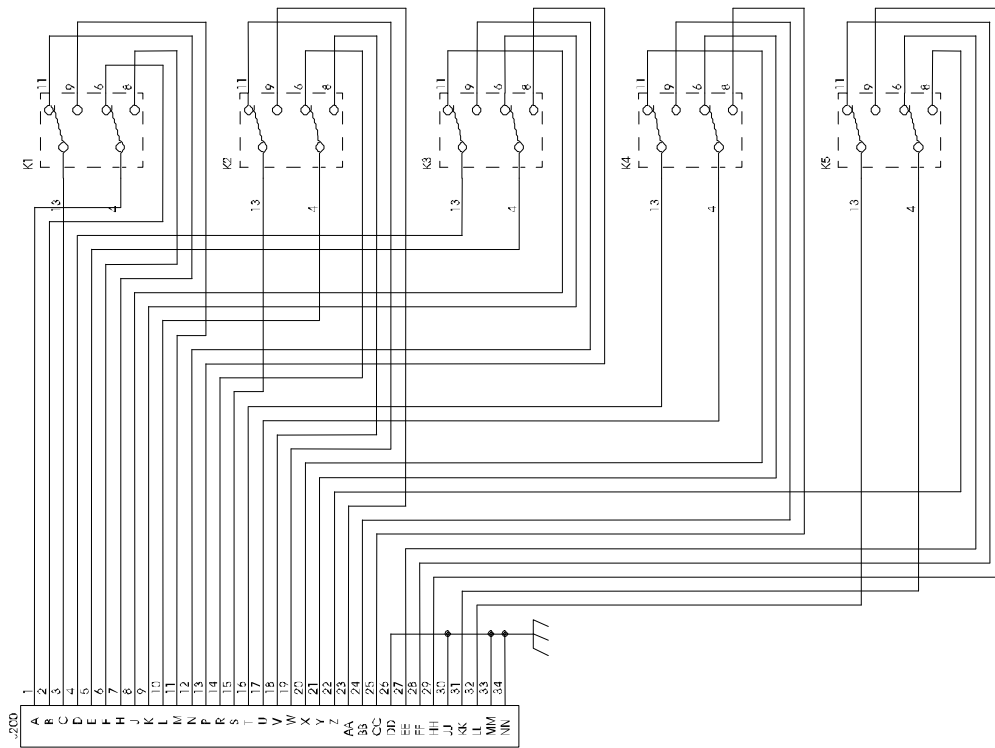
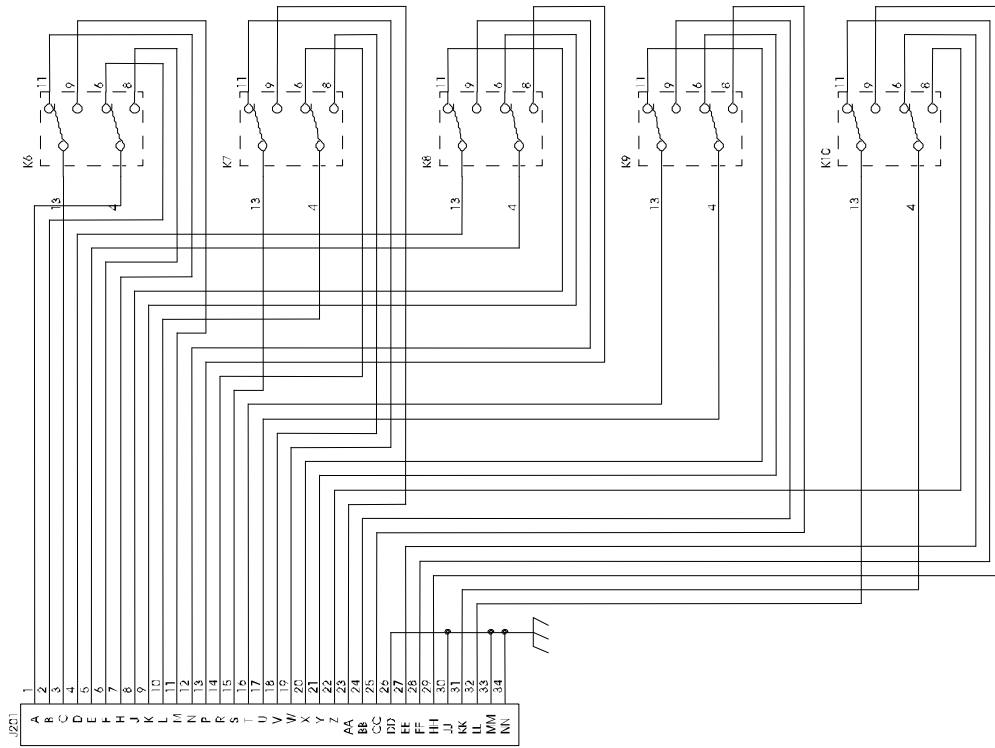
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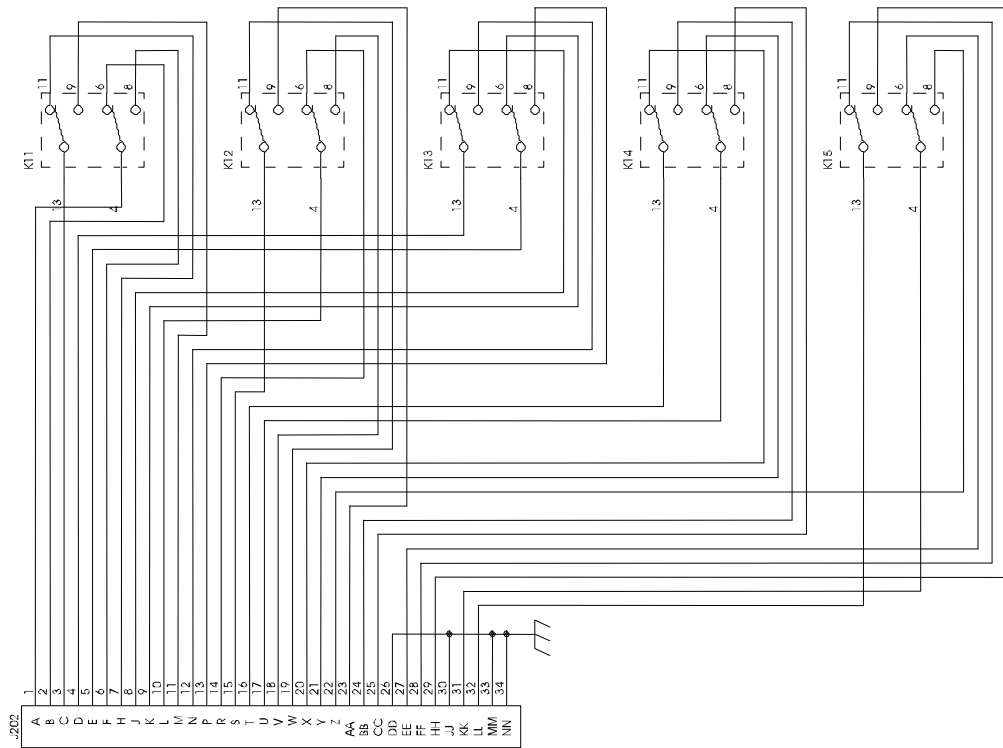
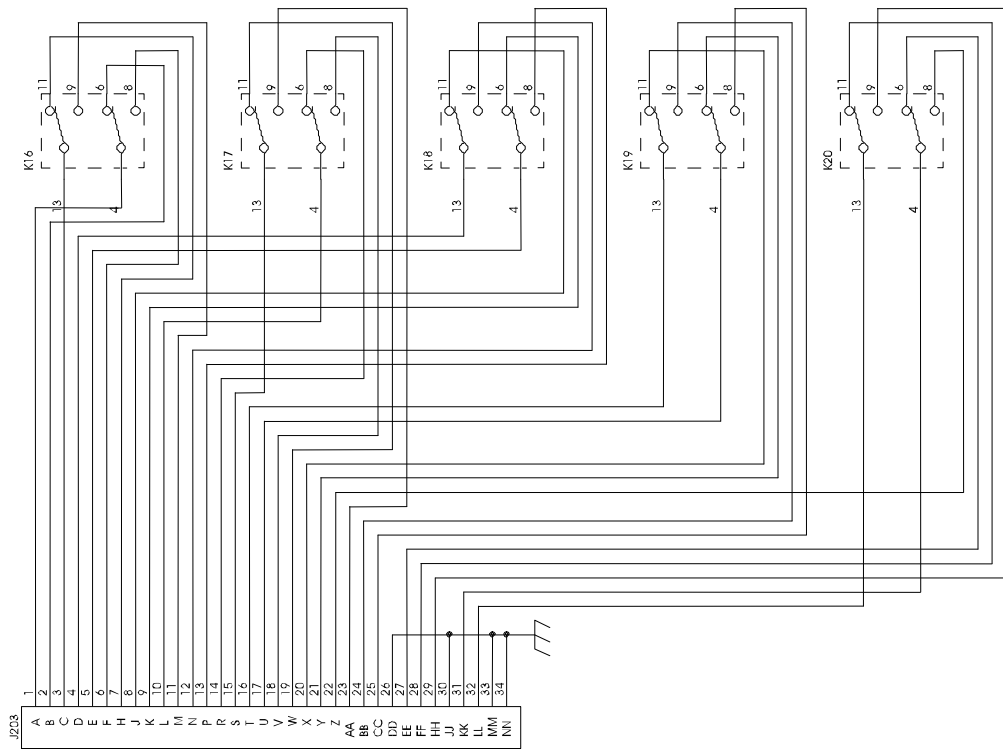
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Chapter 5

PARTS LIST

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404934	Shipping Kit, 1260-12	5-4
401905	PCB Assy, 1260-12	5-5
	List of Suppliers	5-7

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404774 - FINAL ASSY, 1260-12

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
(1)1	401905	PCB, ASSY., 1260-12	21793	401905
(2)1	404934	SHIPPING KIT 1260-12	21793	921212-002
(3)1	455558-001	PANEL, FRONT, 1260-12	21793	455558-001
(4)1	455524	COVER, BOTTOM	21793	455524
(5)1	455525	COVER, TOP	21793	455524
(8)1	611264	HANDLE, EXTRACTOR, BOTTOM	62559	20817-327
(9)1	611265	HANDLE, EXTRACTOR, TOP	62559	20817 -328
(10).5	611266	MOUNTING HARDWARE, HANDLE	62559	21100-745
(11)10	617101	WASHER, FLAT, LIGHT SERIES, #2	-	-
(12)10	615014	SCREW, PPH, 2-56 X .250	-	-
(13)3	615049	SCREW, PPH, 4-40 X .875	-	-
(14)6	615512	SCREW, PFH, 2-56 X .188	-	-
(15)10	617126	WASHER, LOCK, #2, LIGHT SERIES	-	-
(16)3	617127	WASHER, LOCK, #4, LIGHT SERIES	-	-
(19)1	921148-001	LABEL SET VXI	21793	921148-001
(21)1	921059	LABEL, CAUTION, STATIC	21793	921059
(26)1	921309	LABEL, VXI SWITCH ID	21793	921309
(28)1	921423	LABEL, CE MARKING	21793	921423

404934 - SHIPPING KIT

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(4)2	455541	KEY, LOCKOUT, TTL, C	21793	455541
(5)2	455542	KEY, LOCKOUT, TTL, A	21793	455542
(7)4	601855-034	CONNECTOR, SGMC CABLE PLUG	28198	SGMC34MOE100JO
(8)136	601857	CONTACT, SGMC. MALE	28198	M5422N
(10)3	615014	SCREW, PPH, 2-56 X .250	-	-
(12)1	980673-001	MANUAL, 1260-12 MODULE	21793	980673-001

401905 - PCB ASSY, 1260-12

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
CI-C4	110126	CAP, TANTA, 6.8UF, 35V, 20 PERCENT	05397	T355F685M035A5
C100	R-21-1801	CAP, CHIP, 10 NF	95275	VJ1206Y103MF
C101	R-21-1801	CAP, CHIP, 10 NF	95275	VJ1206Y103MF
C102	130177	CAPACITOR, CHIP, SMD, 270PF	95275	VJ1206A271KXAMT
C103-CII6	R-21-1801	CAP, CHIP, 10 NF	95275	VJ1206Y103MF
J3	601925	CONNECTOR, PCB, RECEPT, 3 ROW, 96P	52072	618008
J4	601925	CONNECTOR, PCB, RECEPT, 3 ROW, 96P	52072	618008
J200-J203	601856-034	CONNECTOR, SMPL, PCB RCP	28198	SMPL34FOTOLB
K1-K20	310196	RELAY, 2 FORM C	61529	DS2YE-S-DC24V
L1	100164	CAP, FEED-THRU, 800PF, 50V	00779	842448-2
L2	310193	CHOKE, SHIELDED, 5UH	91637	IH-5-5-10
L3	310193	CHOKE, SHIELDED, 5UH	91637	IH-5-5-10
L4	100164	CAP, FEED-THRU, 800PF, 50V	00779	842448-2
L5	600245	JUMPER, INSULATED	52210	L-2007-1
P1	601675	CONNECTOR, EUROCARD TYPE C, 96-PIN	00779	532505-1
P2	601675	CONNECTOR, EUROCARD TYPE C, 96-PIN	00779	532505-1
S1	600814	SWITCH, SLIDE, 6SPST	02660	31-010
S2	601915	SWITCH, DIP 6 POS, SMD	91506	ADF-06ST
S3	601915,	SWITCH, DIP 6 POS, SMD	91506	ADF-06ST
TP1	601197	POST, TEST, .025 SQ	00779	6-87022-6
TP2	601197	POST, TEST, .025 SQ	00779	6-87022-6
U1	231152	IC, PROGRAMMED PLA	21793	231152
U2	231153	IC, PROGRAMMED PLA	21793	231153
U3	231154	IC, PROGRAMMED PLA	21793	231154
U4	231147	IC, MULTIPLEXER	04713	74HC253D
U5	231147	IC, MULTIPLEXER	04713	74HC253D
U6	231125	IC, DIGITAL, LINE DRIVER	27014	DS26LS31MN
U7	231096	IC, QUAD DIFF RECEIVER	01295	AM26LS32ACD
U8	231096	IC, QUAD DIFF RECEIVER	01295	AM26LS32ACD
U9	231093	IC, QUAD COMPARATOR	04713	LM339D
U10	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U11	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U12	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U13	231094	IC, DEMUX DECODER	18324	N74LS138D
U14	231135	IC, DIGITAL, 4-BIT COMPARATOR	18324	PC74HCT85D

User Manual 1260-12

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
U15	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U16	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U17	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U18	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U19	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U20	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U21	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U22	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U23	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U24	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U25	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U26	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
Z1	080114	RES NETWORK, 16P8R, 15K	73138	628-AL-153J
Z2	080120	RES NETWORK, 10K	11236	767-161R10K
Z3	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z4	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z5	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z6	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
Z7	080119	RES NETWORK, 220K	91637	SOMC-1603-224K
Z8	080117	RES NETWORK, 16P8R, 47K	73138	628-AL-473J
(33)1	401951-003	PCB ASSY., P3 JUMPER	21793	401951-003
(34)1	401951	PCB ASSY., LBUS JUMPER	21793	401951
(35)1	411905	PCB, 1260-12 (UNLOADED)	21793	411905
(39)A/R	500022	WIRE, BARE COPPER/TIN, 22 GA	21793	500022
(53)3	611227	SPACER, PRESS, #4, PCB	46384	KFSE-116-20
(54)8	615012	SCREW, PPH, 2-56 X .125	-	-
(62)A/R	921279	LOCQUIC, PRIMER	05972	74756
(63)A/R	921280	LOCTITE, HIGH STRENGTH	05972	27121

List of Suppliers

FSC	SUPPLIER
00779	AMP, INC. HARRISBURG, PA
01295	TEXAS INSTRUMENTS, INC. DALLAS, TX
02660	AMPHENOL CORP. BROADVIEW, IL
04713	MOTOROLA, INC. (SEMICONDUCTOR PRODUCTS DIV.) PHOENIX, AZ
05397	UNION CARBIDE CORP. (MATERIALS SYSTEMS DIV.) CLEVELAND, OH
05972	LOCTITE CORP. HARTFORD, CT
11236	CTS OF BERNE, INC. BERNE, IN
18324	SIGNETICS, INC. SUNNYVALE, CA
21793	RACAL INSTRUMENTS INC. IRVINE, CA
27014	NATIONAL SEMI-CONDUCTOR CORP. SANTA CLARA, CA
28198	POSITRONIC INDUSTRIES INC. SPRINGFIELD, MO
46384	PENN ENG. & MFG. CORP. DOYLESTOWN, PA
52072	CIRCUIT ASSY. CORP. COSTA MESA, CA
52210	GETTING ENGRG. & MFG. CO. SPRING MILLS, PA
56289	SPAGUE ELECTRIC CO. N. ADAMS, MA
61529	AROMAT CORP. CUPERTINO, CA
62559	SCHROFF, INC. WARWICK, RI
73138	BECKMAN INSTRUMENTS FULLERTON, CA
91506	AUGAT, INC. ATTLEBORO, MA
91637	DALE ELECTRONICS, INC. COLUMBUS, NE
95275	VITRAMON, INC. BRIDGEPORT, CT

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Chapter 6

Optional Harness Assemblies

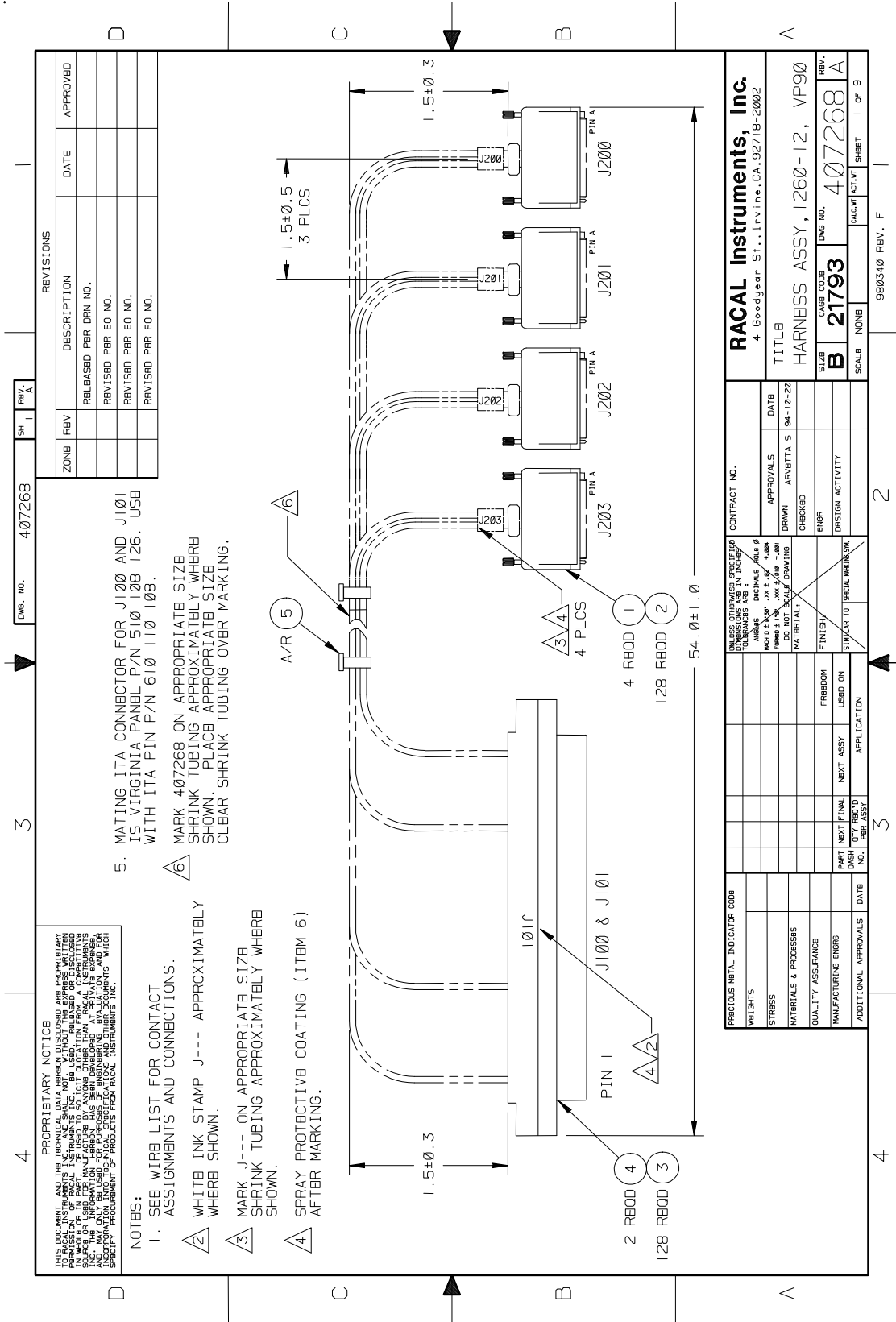
The following harness assemblies are used to connect Racal Instruments Model 1260-12 to Freedom Series Test Receiver Interfaces.

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

407268	Virginia Panel, Inc. Series VP90 Interface Harness
407269	TTI Testron, Inc. Interface Harness (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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REV. A		REV. A	
DWG. NO.	407268	SH	1
REVISIONS		APPROVED	
ZONB	REV	DESCRIPTION	DATE
		RELEASED PER DRN NO.	
		REVISED PER DR NO.	
		REVISED PER DR NO.	
		REVISED PER DR NO.	

FABRICIOUS METAL INDICATOR CODE		CONTRACT NO.	
WEIGHTS	STRESS	APPROVALS	DATE
MATERIALS & PROPERTIES	QUALITY ASSURANCE	DRAWN	APR/VITTA S 94-10-20
MANUFACTURING BNGRS	PART NEXT FINAL	CHECKED	
ADDITIONAL APPROVALS	DASH QTY BROT'D	ENGR	
	PRR ASSY	SHIP TO SPEC/WKNG	
		FINISH	
		MATERIAL	
		DO NOT SCALE DRAWING	
		FORMS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
		TELEPHONES ARE :	
		ADDED DECIMALS FOR P	
		UNLESS OTHERWISE INDICATED	

RACAL Instruments, Inc.		4 Goodyear St., Irvine, CA 92718-2002	
TITLE		HARNESS ASSY, 1260-12, VP90	
SIZE	CAGE CODE	DWG NO.	REV.
B	21793	407268	A
SCALE	NONE	CALC. BY	ACT. BY
		SHRBT	I OF 9

ENGINEERING PARTS LIST

ITEM	BIN	PART NO.	DESCRIPTION	QTY	REFERENCE
1		601855-034	CONN-CAB-PLG34CP	4	J200-J203
2		602092-001	CON,SGMC MALE CRIMP	128	W/J200-J203
3		602201-806	PATCHCORD,SIGNAL,24AWG,60IN	128	W/J100-J101
4		602201-001	CON-RCV-PLGO64C,--- D-VP90	2	J100-J101
5		610777	TIE-CA-LKG-.062-.075	A/R	
6		910541	POLYUPETHANE CONF. COAT	A/R	

RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-12, VP90	A	21793	407268	
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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
	BLK (J100)	AA	Uxx-SLOT yy (J200,J201)	CABLE	407268	SYSTEM WIRE LIST
	BLK (J101)	AA	Uxx-SLOT yy (J202,J203)	CABLE	407268	

This system wire list serves as a template for incorporating this harness assembly into the overall system wire list. It does not in any way affect the fabrication of this harness assembly.

RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-12, VP90	A	21793	407268	A
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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART	WIRE LEN	REFERENCE
1	J100-1 (602201-001)	J200-B 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 0A, NC
2	J100-33 (602201-001)	J200-F 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 0A, NO
3	J100-2 (602201-001)	J200-A 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 0A, COM
4	J100-34 (602201-001)	J200-H 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 0B, NC
5	J100-3 (602201-001)	J200-M 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 0B, NO
6	J100-35 (602201-001)	J200-C 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 0B, COM
7	J100-4 (602201-001)	J200-R 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 1A, NC
8	J100-36 (602201-001)	J200-V 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 1A, NO
9	J100-5 (602201-001)	J200-L 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 1A, COM
10	J100-37 (602201-001)	J200-W 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 1B, NC
11	J100-6 (602201-001)	J200-AA 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 1B, NO
12	J100-38 (602201-001)	J200-S 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 1B, COM
13	J100-7 (602201-001)	J200-K 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 2A, NC
14	J100-39 (602201-001)	J200-P 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 2A, NO
15	J100-8 (602201-001)	J200-E 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 2A, COM
16	J100-40 (602201-001)	J200-J 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 2B, NC
17	J100-9 (602201-001)	J200-N 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 2B, NO
18	J100-41 (602201-001)	J200-D 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 2B, COM
19	J100-10 (602201-001)	J200-Y 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 3A, NC
20	J100-42 (602201-001)	J200-CC 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 3A, NO
21	J100-11 (602201-001)	J200-U 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 3A, COM
22	J100-43 (602201-001)	J200-X 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 3B, NC
23	J100-12 (602201-001)	J200-BB 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 3B, NO
24	J100-44 (602201-001)	J200-T 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 3B, COM
25	J100-13 (602201-001)	J200-EE 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 4A, NC

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DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-12, VP90	A	21793	407268	A
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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART	WIRE LEN	REFERENCE
26	J100-45 (602201-001)	J200-Z 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 4A, NO
27	J100-14 (602201-001)	J200-KK 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 4A, COM
28	J100-46 (602201-001)	J200-FF 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 4B, NC
29	J100-15 (602201-001)	J200-HH 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 4B, NO
30	J100-47 (602201-001)	J200-LL 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 4B, COM
31	J100-16 (602201-001)	J200-MM 602092-001	24 AWG WHT	602201-806	54"	CHASSIS GROUND
32	J100-48 (602201-001)	J200-NN 602092-001	24 AWG WHT	602201-806	54"	CHASSIS GROUND
33	J100-17 (602201-001)	J201-B 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 5A, NC
34	J100-49 (602201-001)	J201-F 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 5A, NO
35	J100-18 (602201-001)	J201-A 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 5A, COM
36	J100-50 (602201-001)	J201-H 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 5B, NC
37	J100-19 (602201-001)	J201-M 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 5B, NO
38	J100-51 (602201-001)	J201-C 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 5B, COM
39	J100-20 (602201-001)	J201-R 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 6A, NC
40	J100-52 (602201-001)	J201-V 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 6A, NO
41	J100-21 (602201-001)	J201-L 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 6A, COM
42	J100-53 (602201-001)	J201-W 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 6B, NC
43	J100-22 (602201-001)	J201-AA 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 6B, NO
44	J100-54 (602201-001)	J201-S 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 6B, COM
45	J100-23 (602201-001)	J201-K 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 7A, NC
46	J100-55 (602201-001)	J201-P 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 7A, NO
47	J100-24 (602201-001)	J201-E 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 7A, COM
48	J100-56 (602201-001)	J201-J 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 7B, NC
49	J100-25 (602201-001)	J201-N 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 7B, NO

RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718

DOCUMENT TITLE HARNESS ASSEMBLY, 1260-12, VP90	SIZE A	CODE NO. 21793	DOCUMENT NO. 407268	REV A
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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART	WIRE LEN	REFERENCE
50	J100-57 (602201-001)	J201-D 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 7B, COM
51	J100-26 (602201-001)	J201-Y 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 8A, NC
52	J100-58 (602201-001)	J201-CC 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 8A, NO
53	J100-27 (602201-001)	J201-U 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 8A, COM
54	J100-59 (602201-001)	J201-X 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 8B, NC
55	J100-28 (602201-001)	J201-BB 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 8B, NO
56	J100-60 (602201-001)	J201-T 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 8B, COM
57	J100-29 (602201-001)	J201-EE 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 9A, NC
58	J100-61 (602201-001)	J201-Z 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 9A, NO
59	J100-30 (602201-001)	J201-KK 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 9A, COM
60	J100-62 (602201-001)	J201-FF 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 9B, NC
61	J100-31 (602201-001)	J201-HH 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 9B, NO
62	J100-63 (602201-001)	J201-LL 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 9B, COM
63	J100-32 (602201-001)	J201-MM 602092-001	24 AWG WHT	602201-806	54"	CHASSIS GROUND
64	J100-64 (602201-001)	J201-NN 602092-001	24 AWG WHT	602201-806	54"	CHASSIS GROUND
65	J101-1 (602201-001)	J202-B 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 10A, NC
66	J101-33 (602201-001)	J202-F 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 10A, NO
67	J101-2 (602201-001)	J202-A 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 10A, COM
68	J101-34 (602201-001)	J202-H 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 10B, NC
69	J101-3 (602201-001)	J202-M 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 10B, NO
70	J101-35 (602201-001)	J202-C 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 10B, COM
71	J101-4 (602201-001)	J202-R 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 11A, NC
72	J101-36 (602201-001)	J202-V 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 11A, NO
73	J101-5 (602201-001)	J202-L 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 11A, COM

RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718

DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-12, VP90	A	21793	407268	A
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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART	WIRE LEN	REFERENCE
74	J101-37 (602201-001)	J202-W 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 11B, NC
75	J101-6 (602201-001)	J202-AA 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 11B, NO
76	J101-38 (602201-001)	J202-S 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 11B, COM
77	J101-7 (602201-001)	J202-K 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 12A, NC
78	J101-39 (602201-001)	J202-P 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 12A, NO
79	J101-8 (602201-001)	J202-E 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 12A, COM
80	J101-40 (602201-001)	J202-J 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 12B, NC
81	J101-9 (602201-001)	J202-N 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 12B, NO
82	J101-41 (602201-001)	J202-D 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 12B, COM
83	J101-10 (602201-001)	J202-Y 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 13A, NC
84	J101-42 (602201-001)	J202-CC 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 13A, NO
85	J101-11 (602201-001)	J202-U 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 13A, COM
86	J101-43 (602201-001)	J202-X 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 13B, NC
87	J101-12 (602201-001)	J202-BB 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 13B, NO
88	J101-44 (602201-001)	J202-T 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 13B, COM
89	J101-13 (602201-001)	J202-EE 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 14A, NC
90	J101-45 (602201-001)	J202-Z 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 14A, NO
91	J101-14 (602201-001)	J202-KK 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 14A, COM
92	J101-46 (602201-001)	J202-FF 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 14B, NC
93	J101-15 (602201-001)	J202-HH 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 14B, NO
94	J101-47 (602201-001)	J202-LL 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 14B, COM
95	J101-16 (602201-001)	J202-MM 602092-001	24 AWG WHT	602201- 806	54"	CHASSIS GROUND
96	J101-48 (602201-001)	J202-NN 602092-001	24 AWG WHT	602201- 806	54"	CHASSIS GROUND
97	J101-17 (602201-001)	J203-B 602092-001	24 AWG WHT	602201- 806	54"	CHANNEL 15A, NC

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HARNESS ASSEMBLY, 1260-12, VP90	A	21793	407268	A
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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART	WIRE LEN	REFERENCE
98	J101-49 (602201-001)	J203-F 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 15A, NO
99	J101-18 (602201-001)	J203-A 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 15A, COM
100	J101-50 (602201-001)	J203-H 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 15B, NC
101	J101-19 (602201-001)	J203-M 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 15B, NO
102	J101-51 (602201-001)	J203-C 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 15B, COM
103	J101-20 (602201-001)	J203-R 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 16A, NC
104	J101-52 (602201-001)	J203-V 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 16A, NO
105	J101-21 (602201-001)	J203-L 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 16A, COM
106	J101-53 (602201-001)	J203-W 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 16B, NC
107	J101-22 (602201-001)	J203-AA 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 16B, NO
108	J101-54 (602201-001)	J203-S 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 16B, COM
109	J101-23 (602201-001)	J203-K 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 17A, NC
110	J101-55 (602201-001)	J203-P 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 17A, NO
111	J101-24 (602201-001)	J203-E 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 17A, COM
112	J101-56 (602201-001)	J203-J 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 17B, NC
113	J101-25 (602201-001)	J203-N 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 17B, NO
114	J101-57 (602201-001)	J203-D 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 17B, COM
115	J101-26 (602201-001)	J203-Y 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 18A, NC
116	J101-58 (602201-001)	J203-CC 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 18A, NO
117	J101-27 (602201-001)	J203-U 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 18A, COM
118	J101-59 (602201-001)	J203-X 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 18B, NC
119	J101-28 (602201-001)	J203-BB 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 18B, NO
120	J101-60 (602201-001)	J203-T 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 18B, COM
121	J101-29 (602201-001)	J203-EE 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 19A, NC
122	J101-61 (602201-001)	J203-Z 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 19A, NO

RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718

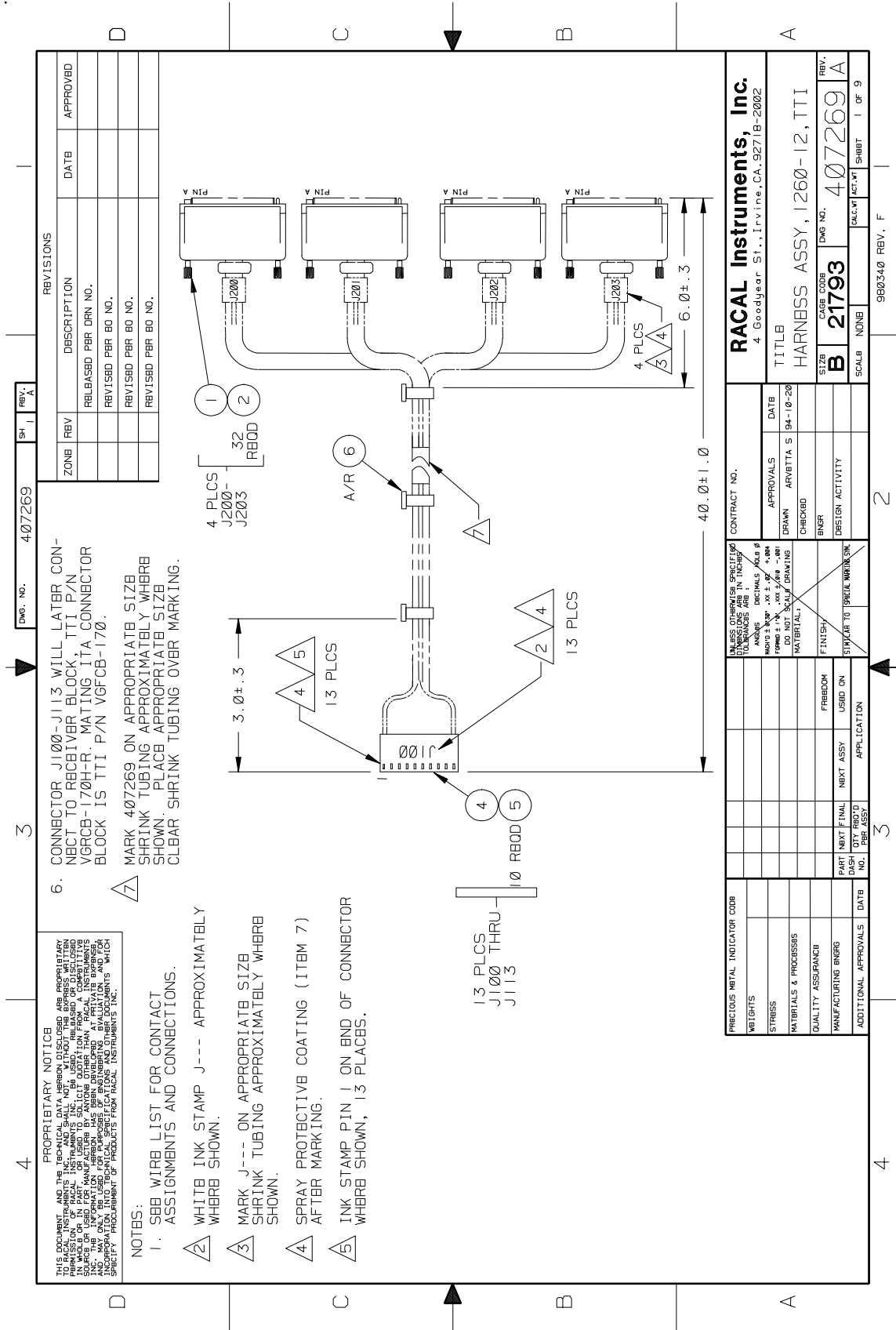
DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART	WIRE LEN	REFERENCE
123	J101-30 (602201-001)	J203-KK 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 19A, COM
124	J101-62 (602201-001)	J203-FF 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 19B, NC
125	J101-31 (602201-001)	J203-HH 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 19B, NO
126	J101-63 (602201-001)	J203-LL 602092-001	24 AWG WHT	602201-806	54"	CHANNEL 19B, COM
127	J101-32 (602201-001)	J203-MM 602092-001	24 AWG WHT	602201-806	54"	CHASSIS GROUND
128	J101-64 (602201-001)	J203-NN 602092-001	24 AWG WHT	602201-806	54"	CHASSIS GROUND

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REV. A		REV. A	
ZONE	REV	DESCRIPTION	DATE
		RELEASED PBR DRN NO.	
		REVISED PBR BO NO.	
		REVISED PBR BO NO.	
		REVISED PBR BO NO.	

6. CONNECTOR J100-J113 WILL LATER CON-
NECT TO RECEIVER BLOCK, TTI P/N
VGRCB-170H-R. MATING ITA CONNECTOR
BLOCK IS TTI P/N VGFCB-170.

7. MARK 407269 ON APPROPRIATE SIZE
SHRINK TUBING APPROXIMATELY WHEREB
SHOWN. PLACE APPROPRIATE SIZE
CLEAR SHRINK TUBING OVER MARKING.

PROPRIETARY NOTICE
THIS DOCUMENT AND THE TECHNICAL DATA HEREON DISCLOSED ARE PROPRIETARY
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PURPOSES FOR WHICH THEY WERE SUPPLIED. NO PART OF THIS DOCUMENT IS TO
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OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION
STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF RACAL
INSTRUMENTS, INC.

- NOTES:
- SBB WIRE LIST FOR CONTACT ASSIGNMENTS AND CONNECTIONS.
 - WHITE INK STAMP J--- APPROXIMATELY WHEREB SHOWN.
 - MARK J--- ON APPROPRIATE SIZE SHRINK TUBING APPROXIMATELY WHEREB SHOWN.
 - SPRAY PROTECTIVE COATING (ITEM 7) AFTER MARKING.
 - INK STAMP PIN 1 ON END OF CONNECTOR WHEREB SHOWN, 13 PLCS.

PRECIOUS METAL INDICATOR CODE		CONTRACT NO.	
WEIGHTS		APPROVALS	DATE
STRESS		DRAWN	ARVBTTA S 94-10-20
MATERIALS & PROCESSES		CHECKED	
QUALITY ASSURANCE		ENGR	
MANUFACTURING ENGR		DESIGN ACTIVITY	
ADDITIONAL APPROVALS			
PART NO.	NEXT ASSY	USED ON	APPLICATION
DASH NO.	PER ASSY		

RACAL Instruments, Inc.	
4 Goodgear St., Irvine, CA. 92718-2002	
TITLE	
HARNESS ASSY, 1260-12, TTI	
SIZE	DWG NO.
B 21793	407269 A
SCALE	NONE
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ENGINEERING PARTS LIST

ITEM	BIN	PART NO.	DESCRIPTION	QTY	REFERENCE	
1		601855-034	CON-CAB-PLG34CP.	4	J200-J203	
2		602092-001	CONT,SGMC MALE CRIMP	128	W/J200-J203	
3		524999	WRTEF-STR24G-9-9-9	A/R		
4		602193-010	CON-CAB-RCP010C.I00S	13	J100-J112	
5		602199-001	CONTACT,CRIMP.RECPT.28-22GA	130	W/J100-J112	
6		610777	TIE-CA-LKG-.062-.075	A/R		
7		910541	POLYURETHANE CONF. COAT			
RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718						
DOCUMENT TITLE			SIZE	CODE NO.	DOCUMENT NO.	REV
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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART	WIRE LEN	REFERENCE
	BLK AAx RW 01 (J100)	Uxx-SLOT yy (J200)	CABLE	407269		SYSTEM WIRE LIST
	BLK AAx RW 02 (J101)	Uxx-SLOT yy (J200)	CABLE	407269		
	BLK AAx RW 03 (J102)	Uxx-SLOT yy (J200)	CABLE	407269		
	BLK AAx RW 04 (J103)	Uxx-SLOT yy (J200-J201)	CABLE	407269		
	BLK AAx RW 05 (J104)	Uxx-SLOT yy (J201)	CABLE	407269		
	BLK AAx RW 06 (J105)	Uxx-SLOT yy (J201)	CABLE	407269		
	BLK AAx RW 07 (J106)	Uxx-SLOT yy (J201-J202)	CABLE	407269		
	BLK AAx RW 08 (J107)	Uxx-SLOT yy (J202)	CABLE	407269		
	BLK AAx RW 09 (J108)	Uxx-SLOT yy (J202)	CABLE	407269		
	BLK AAx RW 10 (J109)	Uxx-SLOT yy (J202-J203)	CABLE	407269		
	BLK AAx RW 11 (J110)	Uxx-SLOT yy (J203)	CABLE	407269		
	BLK AAx RW 12 (J111)	Uxx-SLOT yy (J203)	CABLE	407269		
	BLK AAx RW 13 (J112)	Uxx-SLOT yy (J203)	CABLE	407269		

This system wirelist serves as a template for incorporating this harness assembly into the overall system wirelist. It does not in any way affect the fabrication of this harness assembly.

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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART	WIRE LEN	REFERENCE
1	J100-1 602199-001	J200-B (601855-034)	24 AWG WHT	524999	40'	CHANNEL 0A, NC
2	J100-2 602199-001	J200-F (601855-034)	24 AWG WHT	524999	40'	CHANNEL 0A, NO
3	J100-3 602199-001	J200-A (601855-034)	24 AWG WHT	524999	40'	CHANNEL 0A, COM
4	J100-4 602199-001	J200-H (601855-034)	24 AWG WHT	524999	40'	CHANNEL 0B, NC
5	J100-5 602199-001	J200-M (601855-034)	24 AWG WHT	524999	40'	CHANNEL 0B, NO
6	J100-6 602199-001	J200-C (601855-034)	24 AWG WHT	524999	40'	CHANNEL 0B, COM
7	J100-7 602199-001	J200-R (601855-034)	24 AWG WHT	524999	40'	CHANNEL 1A, NC
8	J100-8 602199-001	J200-V (601855-034)	24 AWG WHT	524999	40'	CHANNEL 1A, NO
9	J100-9 602199-001	J200-L (601855-034)	24 AWG WHT	524999	40'	CHANNEL 1A, COM
10	J100-10 602199-001	J200-W (601855-034)	24 AWG WHT	524999	40'	CHANNEL 1B, NC
11	J101-10 602199-001	J200-AA (601855-034)	24 AWG WHT	524999	40'	CHANNEL 1B, NO
12	J101-9 602199-001	J200-S (601855-034)	24 AWG WHT	524999	40'	CHANNEL 1B COM
13	J101-8 602199-001	J200-K (601855-034)	24 AWG WHT	524999	40'	CHANNEL 2A, NC
14	J101-7 602199-001	J200-P (601855-034)	24 AWG WHT	524999	40'	CHANNEL 2A, NO
15	J101-6 602199-001	J200-E (601855-034)	24 AWG WHT	524999	40'	CHANNEL 2A, COM
16	J101-5 602199-001	J200-J (601855-034)	24 AWG WHT	524999	40'	CHANNEL 2B, NC
17	J101-4 602199-001	J200-N (601855-034)	24 AWG WHT	524999	40'	CHANNEL 2B, NO
18	J101-3 602199-001	J200-D (601855-034)	24 AWG WHT	524999	40'	CHANNEL 2B, COM
19	J101-2 602199-001	J200-Y (601855-034)	24 AWG WHT	524999	40'	CHANNEL 3A, NC
20	J101-1 602199-001	J200-CC (601855-034)	24 AWG WHT	524999	40'	CHANNEL 3A, NO
21	J102-1 602199-001	J200-U (601855-034)	24 AWG WHT	524999	40'	CHANNEL 3A, COM
22	J102-2 602199-001	J200-X (601855-034)	24 AWG WHT	524999	40'	CHANNEL 3B, NC
23	J102-3 602199-001	J200-BB (601855-034)	24 AWG WHT	524999	40'	CHANNEL 3B, NO
24	J102-4 602199-001	J200-T (601855-034)	24 AWG WHT	524999	40'	CHANNEL 3B, COM
25	J102-5 602199-001	J200-EE (601855-034)	24 AWG WHT	524999	40'	CHANNEL 4A, NC

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DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART	WIRE LEN	REFERENCE
26	J102-6 602199-001	J200-Z (601855-034)	24 AWG WHT	524999	40"	CHANNEL 4A, NO
27	J102-7 602199-001	J200-KK (601855-034)	24 AWG WHT	524999	40"	CHANNEL 4A, COM
28	J102-8 602199-001	J200-FF (601855-034)	24 AWG WHT	524999	40"	CHANNEL 4B, NC
29	J102-9 602199-001	J200-HH (601855-034)	24 AWG WHT	524999	40"	CHANNEL 4B, NO
30	J102-10 602199-001	J200-LL (601855-034)	24 AWG WHT	524999	40"	CHANNEL 4B, COM
31	J103-10 602199-001	J200-MM (601855-034)	24 AWG WHT	524999	40"	CHASSIS GROUND
32	J103-9 602199-001	J200-NN (601855-034)	24 AWG WHT	524999	40"	CHASSIS GROUND
33	J103-8 602199-001	J201-B (601855-034)	24 AWG WHT	524999	40"	CHANNEL 5A, NC
34	J103-7 602199-001	J201-F (601855-034)	24 AWG WHT	524999	40"	CHANNEL 5A, NO
35	J103-6 602199-001	J201-A (601855-034)	24 AWG WHT	524999	40"	CHANNEL 5A, COM
36	J103-5 602199-001	J201-H (601855-034)	24 AWG WHT	524999	40"	CHANNEL 5B, NC
37	J103-4 602199-001	J201-M (601855-034)	24 AWG WHT	524999	40"	CHANNEL 5B, NO
38	J103-3 602199-001	J201-C (601855-034)	24 AWG WHT	524999	40"	CHANNEL 5B, COM
39	J103-2 602199-001	J201-R (601955-034)	24 AWG WHT	524999	40"	CHANNEL 6A, NC
40	J103-1 602199-001	J201-V (601855-034)	24 AWG WHT	524999	40"	CHANNEL 6A, NO
41	J104-1 602199-001	J201-L (601855-034)	24 AWG WHT	524999	40"	CHANNEL 6A, COM
42	J104-2 602199-001	J201-W (601855-034)	24 AWG WHT	524999	40"	CHANNEL 6B, NC
43	J104-3 602199-001	J201-AA (601855-034)	24 AWG WHT	524999	40"	CHANNEL 6B, NO
44	J104-4 602199-001	J201-S (601855-034)	24 AWG WHT	524999	40"	CHANNEL 6B, COM
45	J104-5 602199-001	J201-K (601855-034)	24 AWG WHT	524999	40"	CHANNEL 7A, NC
46	J104-6 602199-001	J201-P (601855-034)	24 AWG WHT	524999	40"	CHANNEL 7A, NO
47	J104-7 602199-001	J201-E (601855-034)	24 AWG WHT	524999	40"	CHANNEL 7A, COM
48	J104-8 602199-001	J201-J (601855-034)	24 AWG WHT	524999	40"	CHANNEL 7B, NC
49	J104-9 602199-001	J201-N (601855-034)	24 AWG WHT	524999	40"	CHANNEL 7B, NO

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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART	WIRE LEN	REFERENCE
50	J104-10 602199-001	J201-D (601855-034)	24 AWG WHT	524999	40"	CHANNEL 7B, COM
51	J105-10 602199-001	J201-Y (601855-034)	24 AWG WHT	524999	40"	CHANNEL 8A, NC
52	J105-9 602199-001	J201-CC (601855-034)	24 AWG WHT	524999	40"	CHANNEL 8A, NO
53	J105-8 602199-001	J201-U (601855-034)	24 AWG WHT	524999	40"	CHANNEL 8A, COM
54	J105-7 602199-001	J201-X (601855-034)	24 AWG WHT	524999	40"	CHANNEL 8B, NC
55	J105-6 602199-001	J201-BB (601855-034)	24 AWG WHT	524999	40"	CHANNEL 8B, NO
56	J105-5 602199-001	J201-T (601855-034)	24 AWG WHT	524999	40"	CHANNEL 8B, COM
57	J105-4 602199-001	J201-EE (601855-034)	24 AWG WHT	524999	40"	CHANNEL 9A, NC
58	J105-3 602199-001	J201-Z (601855-034)	24 AWG WHT	524999	40"	CHANNEL 9A, NO
59	J105-2 602199-001	J201-KK (601855-034)	24 AWG WHT	524999	40"	CHANNEL 9A, COM
60	J105-1 602199-001	J201-FF (601855-034)	24 AWG WHT	524999	40"	CHANNEL 9B, NC
61	J106-1 602199-001	J201-HH (601855-034)	24 AWG WHT	524999	40"	CHANNEL 9B, NO
62	J106-2 602199-001	J201-LL (601855-034)	24 AWG WHT	524999	40"	CHANNEL 9B, COM
63	J106-3 602199-001	J20 I-MM (601855-034)	24 AWG WHT	524999	40"	CHASSIS GROUND
64	J106-4 602199-001	J201-NN (601855-034)	24 AWG WHT	524999	40"	CHASSIS GROUND
65	J106-5 602199-001	J202-B (601855-034)	24 AWG WHT	524999	40"	CHANNEL 10A, NC
66	J106-6 602199-001	J202-F (601855-034)	24 AWG WHT	524999	40"	CHANNEL 10A, NO
67	J106-7 602199-001	J202-A (601855-034)	24 AWG WHT	524999	40"	CHANNEL 10A, COM
68	J106-8 602199-001	J202-H (601855-034)	24 AWG WHT	524999	40"	CHANNEL 10B, NC
69	J106-9 602199-001	J202-M (601855-034)	24 AWG WHT	524999	40"	CHANNEL 10B, NO
70	J106-10 602199-001	J202-C (601855-034)	24 AWG WHT	524999	40"	CHANNEL 10B, COM
71	J107-10 602199-001	J202-R (601855-034)	24 AWG WHT	524999	40"	CHANNEL 11A, NC
72	J107-9 602199-001	J202-V (601855-034)	24 AWG WHT	524999	40"	CHANNEL 11A, NO
73	J107-8 602199-001	J202-L (601855-034)	24 AWG WHT	524999	40"	CHANNEL 11A, COM

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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART	WIRE LEN	REFERENCE
74	J107-7 602199-001	J202-W (601855-034)	24 AWG WHT	524999	40"	CHANNEL 11B, NC
75	J107-6 602199-001	J202-AA (601855-034)	24 AWG WHT	524999	40"	CHANNEL 11B, NO
76	J107-5 602199-001	J202-S (601855-034)	24 AWG WHT	524999	40"	CHANNEL 11B, COM
77	J107-4 602199-001	J202-K (601855-034)	24 AWG WHT	524999	40"	CHANNEL 12A, NC
78	J107-3 602199-001	J202-P (601855-034)	24 AWG WHT	524999	40"	CHANNEL 12A, NO
79	J107-2 602199-001	J202-E (601855-034)	24 AWG WHT	524999	40"	CHANNEL 12A, COM
80	J107-1 602199-001	J202-J (601855-034)	24 AWG WHT	524999	40"	CHANNEL 12B, NC
81	J108-1 602199-001	J202-N (601855-034)	24 AWG WHT	524999	40"	CHANNEL 12B, NO
82	J108-2 602199-001	J202-D (601855-034)	24 AWG WHT	524999	40"	CHANNEL 12B, COM
83	J108-3 602199-001	J202-Y (601855-034)	24 AWG WHT	524999	40"	CHANNEL 13A, NC
84	J108-4 602199-001	J202-CC (601855-034)	24 AWG WHT	524999	40"	CHANNEL 13A, NO
85	J108-5 602199-001	J202-U (601855-034)	24 AWG WHT	524999	40"	CHANNEL 13A, COM
86	J108-6 602199-001	J202-X (601855-034)	24 AWG WHT	524999	40"	CHANNEL 13B, NC
87	J108-7 602199-001	J202-BB (601855-034)	24 AWG WHT	524999	40"	CHANNEL 13B, NO
88	J108-8 602199-001	J202-T (601855-034)	24 AWG WHT	524999	40"	CHANNEL 13B, COM
89	J108-9 602199-001	J202-EE (601855-034)	24 AWG WHT	524999	40"	CHANNEL 14A, NC
90	J108-10 602199-001	J202-Z (601855-034)	24 AWG WHT	524999	40"	CHANNEL 14A, NO
91	J109-10 602199-001	J202-KK (601855-034)	24 AWG WHT	524999	40"	CHANNEL 14A, COM
92	J109-9 602199-001	J202-FF (601855-034)	24 AWG WHT	524999	40"	CHANNEL 14B, NC
93	J109-8 602199-001	J202-HH (601855-034)	24 AWG WHT	524999	40"	CHANNEL 14B, NO
94	J109-7 602199-001	J202-LL (601855-034)	24 AWG WHT	524999	40"	CHANNEL 14B, COM
95	J109-6 602199-001	J202-MM (601855-034)	24 AWG WHT	524999	40"	CHASSIS GROUND
96	J109-5 602199-001	J202-NN (601855-034)	24 AWG WHT	524999	40"	CHASSIS GROUND
97	J109-4 602199-001	J203-B (601855-034)	24 AWG WHT	524999	40"	CHANNEL 15A, NC

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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART	WIRE LEN	REFERENCE
98	J109-3 602199-001	J203-F (601855-034)	24 AWG WHT	524999	40"	CHANNEL 15A, NO
99	J109-2 602199-001	J203-A (601855-034)	24 AWG WHT	524999	40"	CHANNEL 15A, COM
100	J109-1 602199-001	J203-H (601855-034)	24 AWG WHT	524999	40"	CHANNEL 15B, NC
101	J110-1 602199-001	J203-M (601855-034)	24 AWG WHT	524999	40"	CHANNEL 15B, NO
102	J110-2 602199-001	J203-C (601855-034)	24 AWG WHT	524999	40"	CHANNEL 15B, COM
103	J110-3 602199-001	J203-R (601855-034)	24 AWG WHT	524999	40"	CHANNEL 16A, NC
104	J110-4 602199-001	J203-V (601855-034)	24 AWG WHT	524999	40"	CHANNEL 16A, NO
105	J110-5 602199-001	J203-L (601855-034)	24 AWG WHT	524999	40"	CHANNEL 16A, COM
106	J110-6 602199-001	J203-W (601855-034)	24 AWG WHT	524999	40"	CHANNEL 16B, NC
107	J110-7 602199-001	J203-AA (601855-034)	24 AWG WHT	524999	40"	CHANNEL 16B, NO
108	J110-8 602199-001	J203-S (601855-034)	24 AWG WHT	524999	40"	CHANNEL 16B, COM
109	J110-9 602199-001	J203-K (601855-034)	24 AWG WHT	524999	40"	CHANNEL 17A, NC
110	J110-10 602199-001	J203-P (601855-034)	24 AWG WHT	524999	40"	CHANNEL 17A, NO
111	J111-10 602199-001	J203-E (601855-034)	24 AWG WHT	524999	40"	CHANNEL 17A, COM
112	J111-9 602199-001	J203-J (601855-034)	24 AWG WHT	524999	40"	CHANNEL 17B, NC
113	J111-8 602199-001	J203-N (601855-034)	24 AWG WHT	524999	40"	CHANNEL 17B, NO
114	J111-7 602199-001	J203-D (601855-034)	24 AWG WHT	524999	40"	CHANNEL 17B, COM
115	J111-6 602199-001	J203-Y (601855-034)	24 AWG WHT	524999	40"	CHANNEL 18A, NC
116	J111-5 602199-001	J203-CC (601855-034)	24 AWG WHT	524999	40"	CHANNEL 18A, NO
117	J111-4 602199-001	J203-U (601855-034)	24 AWG WHT	524999	40"	CHANNEL 18A, COM
118	J111-3 602199-001	J203-X (601855-034)	24 AWG WHT	524999	40"	CHANNEL 18B, NC
119	J111-2 602199-001	J203-BB (601855-034)	24 AWG WHT	524999	40"	CHANNEL 18B, NO
120	J111-1 602199-001	J203-T (601855-034)	24 AWG WHT	524999	40"	CHANNEL 18B, COM
121	J112-1 602199-001	J203-EE (601855-034)	24 AWG WHT	524999	40"	CHANNEL 19A, NC
122	J112-2 602199-001	J203-Z (601855-034)	24 AWG WHT	524999	40"	CHANNEL 19A, NO

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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART	WIRE LEN	REFERENCE
123	J112-3 602199-001	J203-KK (601855-034)	24 AWG WHT	524999	40"	CHANNEL 19A, COM
124	J112-4 602199-001	J203-FF (601855-034)	24 AWG WHT	524999	40"	CHANNEL 19B, NC
125	J112-5 602199-001	J203-HH (601855-034)	24 AWG WHT	524999	40"	CHANNEL 19B, NO
126	J112-6 602199-001	J203-LL (601955-034)	24 AWG WHT	524999	40"	CHANNEL 19B, COM
127	J112-7 602199-001	J203-MM (601855-034)	24 AWG WHT	524999	40"	CHASSIS GROUND
128	J112-8 602199-001	J203-NN (601855-034)	24 AWG WHT	524999	40"	CHASSIS GROUND
129	J112-9 602199-001	NO CONNECT				
130	J112-10 602199-001	NO CONNECT				

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DOCUMENT TITLE	SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-12, TTI	A	21793	407269	A
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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 closest to your facility, refer to the Support Offices section on the following page.

Reshipment Instructions

Use the original packing material when returning the 1260-12 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

Racal Instruments, Inc.

4 Goodyear St., Irvine, CA 92618-2002
Tel: (800) 722-3262, FAX: (949) 859-7309

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Racal Systems Elettronica s.r.l.

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