

1260 VXI SWITCHING CARD

1260-37 SWITCH MODULE

PUBLICATION NO. 980673-024

RACAL INSTRUMENTS

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The RACAL logo consists of the word "RACAL" in a bold, sans-serif font. Each letter is contained within a rectangular box, and the boxes are arranged in a slightly staggered, overlapping manner to create a sense of depth and a three-dimensional effect.

PUBLICATION DATE: December 11, 2000

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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 1260-37A

Each channel between 0 and 23 (inclusive) is operated by setting or clearing two bits in parallel. One bit in each of two different Control Registers must be set to operate these channels as a 4-wire MUX.

Channels 100 through 139 are each operated by a single bit of a single Control Register.

The table below shows the mapping between logical channels used to operate the relay module in message-based mode and the bits within the Control Registers which may be used to operate the channel 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 and 3	0
1	0 and 3	1
2	0 and 3	2
3	0 and 3	3
4	0 and 3	4
5	0 and 3	5
6	0 and 3	6
7	0 and 3	7
8	1 and 4	0
9	1 and 4	1
10	1 and 4	2
11	1 and 4	3
12	1 and 4	4
13	1 and 4	5
14	1 and 4	6
15	1 and 4	7
16	2 and 5	0
17	2 and 5	1
18	2 and 5	2
19	2 and 5	3
20	2 and 5	4
21	2 and 5	5
22	2 and 5	6
23	2 and 5	7
100	6	0
101	6	1
102	6	2
103	6	3
104	6	4
105	6	5
106	6	6
107	6	7
108	7	0
109	7	1
110	7	2
111	7	3
112	7	4
113	7	5
114	7	6
115	7	7
116	8	0
117	8	1
118	8	2
119	8	3
120	8	4
121	8	5
122	8	6

Channel	Control Register	Control Bit
123	8	7
124	9	0
125	9	1
126	9	2
127	9	3
128	9	4
129	9	5
130	9	6
131	9	7
132	10	0
133	10	1
134	10	2
135	10	3
136	10	4
137	10	5
138	10	6
139	10	7

Control Information for the 1260-37B

The following information describes the control-register-to-relay-channel mapping for a 1260-37B Relay Module. This information may be used to control a 1260-37B 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
20	2	4
21	2	5
22	2	6
23	2	7
24	3	0
25	3	1
26	3	2
27	3	3
28	3	4
29	3	5
30	3	6
31	3	7
32	4	0
33	4	1
34	4	2
35	4	3
36	4	4
37	4	5
38	4	6
39	4	7
40	5	0
41	5	1
42	5	2
43	5	3

Channel	Control Register	Control Bit
44	5	4
45	5	5
46	5	6
47	5	7
48	12	0
100	6	0
101	6	1
102	6	2
103	6	3
104	6	4
105	6	5
106	6	6
107	6	7
108	7	0
109	7	1
110	7	2
111	7	3
112	7	4
113	7	5
114	7	6
115	7	7
116	8	0
117	8	1
118	8	2
119	8	3
120	8	4
121	8	5
122	8	6
123	8	7
124	9	0
125	9	1
126	9	2
127	9	3
128	9	4
129	9	5
130	9	6
131	9	7
132	10	0
133	10	1
134	10	2
135	10	3
136	10	4
137	10	5
138	10	6
139	10	7

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Chapter 1

MODULE SPECIFICATION

1260-37 Module Specification

The 1260-37 switch module consists of two switch circuits; a 1 x 48 Signal Multiplexer/Scanner and a 40-Channel SPDT Switch. The Signal Multiplexer circuit switches two lines per channel, and has the capability of being configured as one 1 x 48 multiplexer, two 1 x 24 multiplexers, four 1 x 12 multiplexers, or eight 1 x 6 multiplexers. The signal multiplexer configuration is user selectable, but is supplied from the factory in the one 1 x 48 two-wire mode. In addition, the multiplexer may be configured as a one-wire 1 x 96 multiplexer. A block diagram of this circuit is shown in Figure 3-1. The 40 channel SPDT switch circuit provides 40 independent channels of switching. Each channel features one common line that connects to either a normally open or normally closed position. A block diagram of this circuit is shown in Figure 3-2.

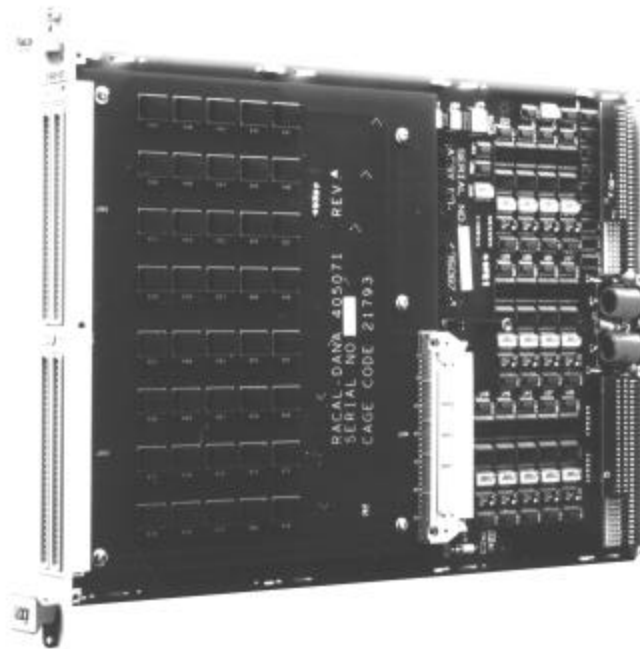


Figure 1-1, 1260-37 Switching Card

Specifications

1 x 48 Signal Multiplexer/Scanner

Switch Configurations	Four-wire mode (any configuration) Two-wire mode (any configuration)
Maximum Switchable Voltage	250 VDC, 250 VAC RMS (Terminal-Terminal or Terminal-Chassis)
Maximum Switchable Current (Per Channel)	1A, DC or AC RMS
Maximum Switchable Power (Per Channel)	30 WDC, 62.5 VA AC
Path Resistance	<0.30Ω (1 x 6 configuration) <0.50Ω (1 x 48 configuration)
Isolation Hi-Lo	> 7.5 x 10 ⁸ Ω
Capacitance	
Open Channel	< 50pf (1x 6 configuration)
Channel-Chassis	< 50pf (1x 6 configuration) <300pf (1x 48 configuration)
HI-LO	< 80pf (1x 6 configuration) <400pf (1x 48 configuration)
Bandwidth (50Ω Termination)	>35 MHz (1 x 6 configuration) >15 MHz (1 x 48 configuration)
Insertion Loss (50Ω Termination) 1 x 6 Configuration	<.1 dB to 100 kHz <.5 dB to 1 MHz <1 dB to 10 MHz
Insertion Loss (50Ω Termination) 1 x 48 Configuration	<.1 dB to 100kHz <1.0 dB to 1 MHz <1.0 dB to 10 MHz
Crosstalk (50Ω Termination)	<-40 dB to 100 kHz <-35 dB to 1 MHz <-15 dB to 10MHz
Isolation	>45 dB to 100kHz >40 dB to 1 MHz >33 dB to 10MHz

Switching Time 2 mS

40 Channel SPDT Switch

Maximum Switchable Voltage 250 VDC, 250 VAC RMS
(Terminal-Terminal or Terminal Chassis)

Maximum Switchable Current (Per Channel) 1 A,DC or AC RMS

Maximum Switchable Power (Per Channel) 30 WDC, 62.5 VA AC

Path Resistance <0.5 Ω

DC Isolation COM-NO >2x 10⁹ Ω

Bandwidth (50Ω termination) >35 MHz

Insertion Loss (50Ω termination) <.1 dB to 100kHz
<.5 dB to 1 MHz
<1 dB to 10 MHz (typical)

Crosstalk (50Ω termination) <-40 dB to 100 kHz
<-35 dB to 1 MHz
<-20 dB to 10 MHz

Isolation (50Ω termination) > 40 dB to 100 kHz
> 35 dB to 1 MHz
> 28 dB to 10 MHz

Switching Time 2 mS

Cooling Requirements
Airflow 4 liters/sec

Backpressure 0.5mm of Hg

Power Requirements (Imp) +5V without Option 0I = 400mA
+5V with Option 0I = 2.5A
+24V = 10mA per relay

Weight 1.26kg (2.771bs) without Option 0I
1.41kg (3.111bs) with Option 0I

User Connector 64-Pin (2 Row)
IDC Quick Disconnect*

Minimum Firmware Revision

Option 0l 23.1

*A crimp connector kit is also available for this module (P/N 404975-003). A strain relief option can be ordered separately for this crimp connector kit.

Ordering Information

Model Number	Description	Part Number
1260-37	1 x 48 Signal Multiplexer/ Scanner, 40-Channel, SPDT Switch	407353

Safety

Refer to the "FOR YOUR SAFETY" page preceding the Table of Contents. Follow all NOTES, CAUTIONS and WARNINGS to ensure personal safety and prevent damage to the instrument.

Product Support

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 for 1-949-859-8999 or via fax at 1-949-859-7309.

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.

Reshipment Instructions

1. 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 01 to the 1260-37 is described in the Installation Section of the 1260 Series VXIbus Switching Cards Manual.

Module Installation

Installation of the 1260-37 Switching Module into a VXIbus mainframe, including the setting of DIP switches, is described in the Installation Section of the 1260 Series VXIbus Switching Cards Manual. Configuration of the motherboard PCB and setting DIP switches S1-5 and S1-6 are described in the following sections.

1260-37 ID Byte

There are two configurations for the 1260-37 Signal Multiplexer/Scanner circuit; two-wire and four-wire. Each configuration responds to different sets of values for <channel number>. The set of values the 1260-37 responds to is controlled by switch 5 on DIP switch 51 on the main PCB. The switch settings that correspond to the two configurations are as follows:

Configuration	S1 Switch 5	S1 Switch 6
Four-wire	Off	Off
Two-wire	On	Off

Configuration Jumpers

The 1260-37 Scanner/Multiplexer circuit is a user configurable switching circuit. It may be configured to any one of eight different configurations as shown below. The 1260-37 SPDT switch circuit is not configurable.

- 1) Eight 1 x 6 two-wire scanner/multiplexers
- 2) Four 1 x 6 four-wire scanner/multiplexers
- 3) Four 1 x 12 two-wire scanner/multiplexers
- 4) Two 1 x 12 four-wire scanner/multiplexers
- 5) Two 1 x 24 two-wire scanner/multiplexers
- 6) One 1 x 24 four-wire scanner/multiplexers
- 7) One 1 x 48 two-wire scanner/multiplexers
- 8) One 1 x 96 one wire scanner/multiplexer

The 1260-37 Scanner/Multiplexer circuit is shipped from the factory in the 1 x 48 two-wire configuration. Table 2-1 gives the information necessary to configure the module into the other possible configurations. Note that the Scanner/ Multiplexer circuit front panel connections are at J200 and J202 while the SPDT switch connections are at J201 and J203.

Table 2-1, 1260-37 Multiplexer/Scanner Circuit Jumper Installation

An X indicates a jumper is to be installed. An (X) indicates the jumper is optional, depending on whether access to the analog bus is required. A blank indicates no jumper is to be installed.

	8(1X6) 2-Wire	4(1X6) 4-Wire	4(1x12) 2-Wire	2(1X12) 4-Wire	2(1X24) 2-Wire	1(1X24) 4-Wire	1(1X48) 2-Wire	1(1X96) 1-Wire
W2A,B W3A,B W4A,B			X	X	X	X	(X) X X	(X) X X
W5A,B W6A,B			X	X	X	X	X X	X X
W8A,B W9A,B W10A,B			X X	X X	X X X	X X X	X X X	X X X
W11A,B								X

Analog Bus

In two of the above configurations, the 1260-37 Scanner/Multiplexer circuit may be configured to access the analog bus (refer to Figure 3-1). The analog bus allows expansion for the configuration of larger scanner/multiplexers than the module may achieve alone. This is accomplished by providing access to a common bus channel which may be daisy chained to other multiplexer modules via the front panel

To connect the module to the analog bus, install jumpers W2A and W2B on the motherboard PCB.

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MODULE SPECIFIC SYNTAX

1260-37 Module Specific Syntax

The Module Specific Syntax for the 1260-37 Signal Multiplexer/SPDT Switch 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.

Syntax

The Module Specific Syntax for the 1260-37 module is as follows:

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

where <module address> is the switch card address.

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

Note that Channels remain closed until opened by an OPEN or RESET command, VXI hard or soft reset, or power-off.

NOTE

The <module address> used here is not the VXIbus defined logical address of the 1260 Series Master. It is particular 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.

The range of values for <channel> is:

Multiplexer/Scanner:	One-wire	00-48
	Two-wire	00-47
	Four-wire	00-23.
SPDT Switch	100-139	

Note that the SPDT circuit channel number is preceded by a "1" to

distinguish it from the Multiplexer/Scanner circuit. For the SPDT circuit, Channels 00 to 39 correspond to channels 100 to 139 in the command syntax.

The actual mapping of channel number to connector pins for the Scanner/Multiplexer circuit is given in Table 3-1, and for the SPDT circuit in Figure 3-2. Figure 3-3 shows the physical location of the 64-pin (2 Row) connector pins. Note that the Scanner /Multiplexer circuit front panel connections are at J200 and J202 while the SPDT switch connections are at J201 and J203.

CLOSE and OPEN Command

The module specific syntax for the CLOSE command is the same as for the OPEN command. Examples are shown below.

For switch card address 7, channels 00, 19, 117, 123:

```
CLOSE 7.00;7.19;7.117;7.123
OPEN 7.00;7.19;7.117;7.123
```

PSETUP Command

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 switch card address.

The responses to the PSETUP command for the 1260-37 Scanner/Multiplexer / SPDT is as follows:

```
1260-37:      Two-wire
```

```
<module address>. 1260-37, Two-wire Scanner/Multiplexer /
                  SPDT Module
```

```
<module address>.B BM
```

```
<module address>.END
```

```
1260-37:      Four-wire
```

```
<module address>. 1260-37, Four-wire Scanner/Multiplexer /
                  SPDT 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, followed by a four-wire or two-wire to indicate the module setup. The next line designates the setup mode for scanning which, by default, is

Break-Before-Make (BBM). The last line containing the "END" characters denotes that there is no more information to report

PDATAOUT Command

The PDATAOUT command causes the specified module to transmit the state of the relays CLOSED within the switch 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:

1260-37: Two-wire

```
<module address>.1260-37 Two-wire Scanner/Multiplexer /
                    SPDT Module
<module address> .<channel>[,<channel>] [,<channel l>]
<module address>.END
```

1260-37 Four-wire

```
<module address>.1260-37, Four-wire Scanner/Multiplexer /
                    SPDT 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.

Operation In Single-Wire Mode

The 1260-37 is delivered with all jumpers installed (refer to Table 2-1). In this configuration, the module is a 1 x 48 two-wire multiplexer (refer to Figure 3-1).

Channel 48 is a single pole, double throw (SPDT) relay with its common channel connected to J202, pin B2. The normally closed (NC) contact is connected to the "LO" side of the two-wire common bus, and the normally open (NO) contact is connected to the "HI" side of the common bus.

The common output of channel 48 is the single channel of the 96 x 1 multiplexer, and the 48 HI and 48 LO connections make up the 96 channels. By closing the appropriate channel (0-47) and opening or closing channel 48, a 96 x 1 multiplexer is achieved.

Table 3-1, 1260-37 Multiplexer/Scanner Circuit Channel Closure

Channel interconnect for 1, 2 and 4-wire modes.

1-wire mode:

<code><channel></code>	<code><channel></code> output	<code><channel></code> input
(channel 48 open) 0 thru 47	always J202- 132	(see 2-wire mode channels 0-47 input pins b-side of channel)
(channel 48 closed) 0 thru 47	always J202- 132	(see 2-wire mode channels 0-47 input pins a-side of channel)

Thus, a one 1 x 96 1-wire mode is achieved.

2-wire mode:

<code><channel></code>	<code><channel></code> output pins		<code><channel></code> input pins	
	A (HI)	b (LO)	A (HI)	b (LO)
0	J200- A30	/ B30	J200- A29	/ B29
1	J200- A30	/ B30	J200- A28	/ B28
2	J200- A30	/ B30	J200- A27	/ B27
3	J200- A30	/ B30	J200- A26	/ B26
4	J200- A30	/ B30	J200- A25	/ B25
5	J200- A30	/ B30	J200- A24	/ B24
6	J200- A23	/ B23	J200- A22	/ B22
7	J200- A23	/ B23	J200- A21	/ B21
8	J200- A23	/ B23	J200- A20	/ B20
9	J200- A23	/ B23	J200- A19	/ B19
10	J200- A23	/ B23	J200- A18	/ B18
11	J200- A23	/ B23	J200- A17	/ B17
12	J200- A16	/ B16	J200- A15	/ B15
13	J200- A16	/ B16	J200- A14	/ B14
14	J200- A16	/ B16	J200- A13	/ B13
15	J200- A16	/ B16	J200- A12	/ B12
16	J200- A16	/ B16	J200- A11	/ B11
17	J200- A16	/ B16	J200- A10	/ B10
18	J200- A9	/ B9	J200- A8	/ B8

<channel>	<channel> output pins		<channel> input pins	
	A (HI)	b (LO)	A (HI)	b (LO)
19	J200-	A9 / B9	J200-	A7 / B7
20	J200-	A9 / B9	J200-	A6 / B6
21	J200-	A9 / B9	J200-	A5 / B5
22	J200-	A9 / B9	J200-	A4 / B4
23	J200-	A9 / B9	J200-	A3 / B3
24	J202-	A30 / B30	J202-	A29 / B29
25	J202-	A30 / B30	J202-	A28 / B28
26	J202-	A30 / B30	J202-	A27 / B27
27	J202-	A30 / B30	J202-	A26 / B26
28	J202-	A30 / B30	J202-	A25 / B25
29	J202-	A30 / B30	J202-	A24 / B24
30	J202-	A23 / B23	J202-	A22 / B22
31	J202-	A23 / B23	J202-	A21 / B21
32	J202-	A23 / B23	J202-	A20 / B20
33	J202-	A23 / B23	J202-	A19 / B19
34	J202-	A23 / B23	J202-	A18 / B18
35	J202-	A23 / B23	J202-	A17 / B17
36	J202-	A16 / B16	J202-	A15 / B15
37	J202-	A16 / B16	J202-	A14 / B14
38	J202-	A16 / B16	J202-	A13 / B13
39	J202-	A16 / B16	J202-	A12 / B12
40	J202-	A16 / B16	J202-	A11 / B11
41	J202-	A16 / B16	J202-	A10 / B10
42	J202-	A9 / B9	J202-	A8 / B8
43	J202-	A9 / B9	J202-	A7 / B7
44	J202-	A9 / B9	J202-	A6 / B6
45	J202-	A9 / B9	J202-	A5 / B5
46	J202-	A9 / B9	J202-	A4 / B4
47	J202-	A9 / B9	J202-	A3 / B3

48 (not used in 2-wire mode)

4-wire mode:

<channel>	refer to the following 2-wire channels for the input/output pins
0	0, 24
1	1, 25
2	2, 26
3	3, 27
4	4, 28
5	5, 29
6	6, 30
7	7, 31
8	8, 32
9	9, 33
10	10, 34
11	11, 35
12	12, 36
13	13, 37
14	14, 38
15	15, 39
16	16, 40
17	17, 41
18	18, 42
19	19, 43
20	20, 44
21	21, 45
22	22, 46
23	23, 47

48 (not used in 4-wire mode)

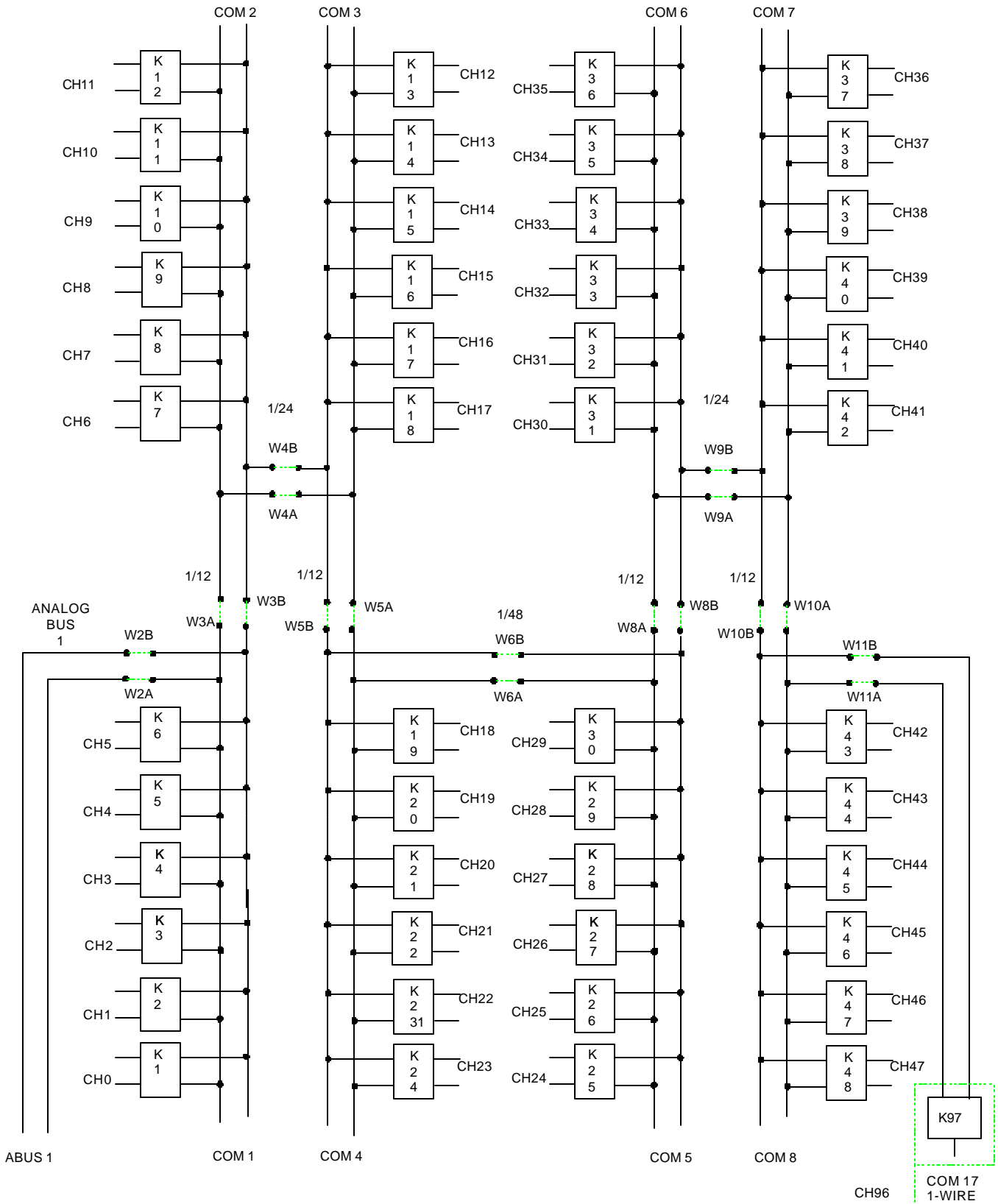
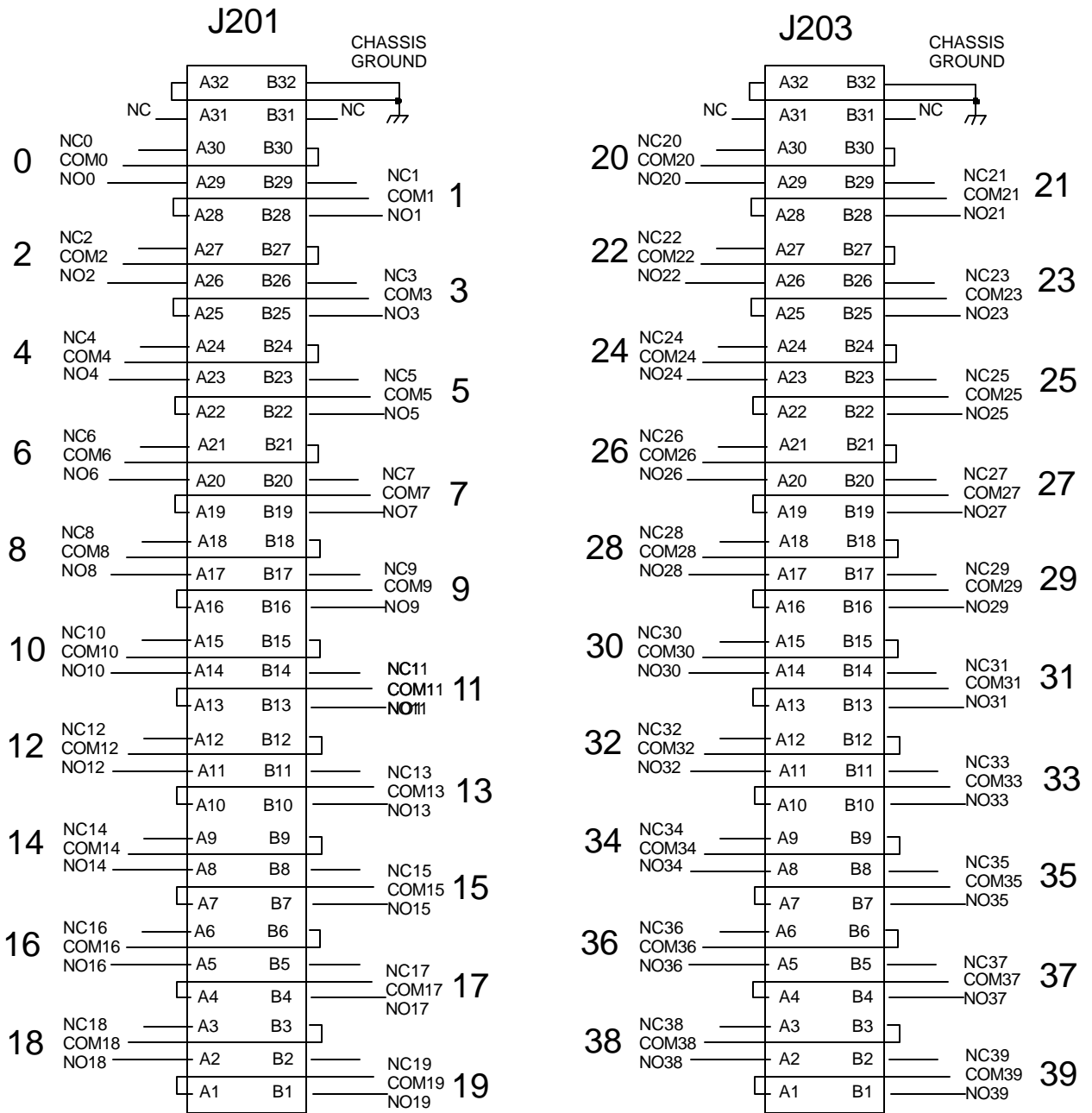
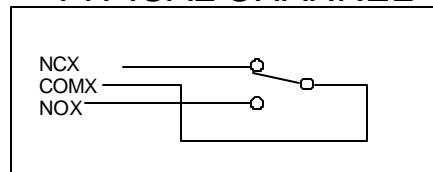


Figure 3-1, 1260-37 Multiplexer/Scanner Circuit Block Diagram



TYPICAL CHANNEL



Revised 12-11-00

Figure 3-2, 1260-37 40-Channel SPDT Circuit Block Diagram

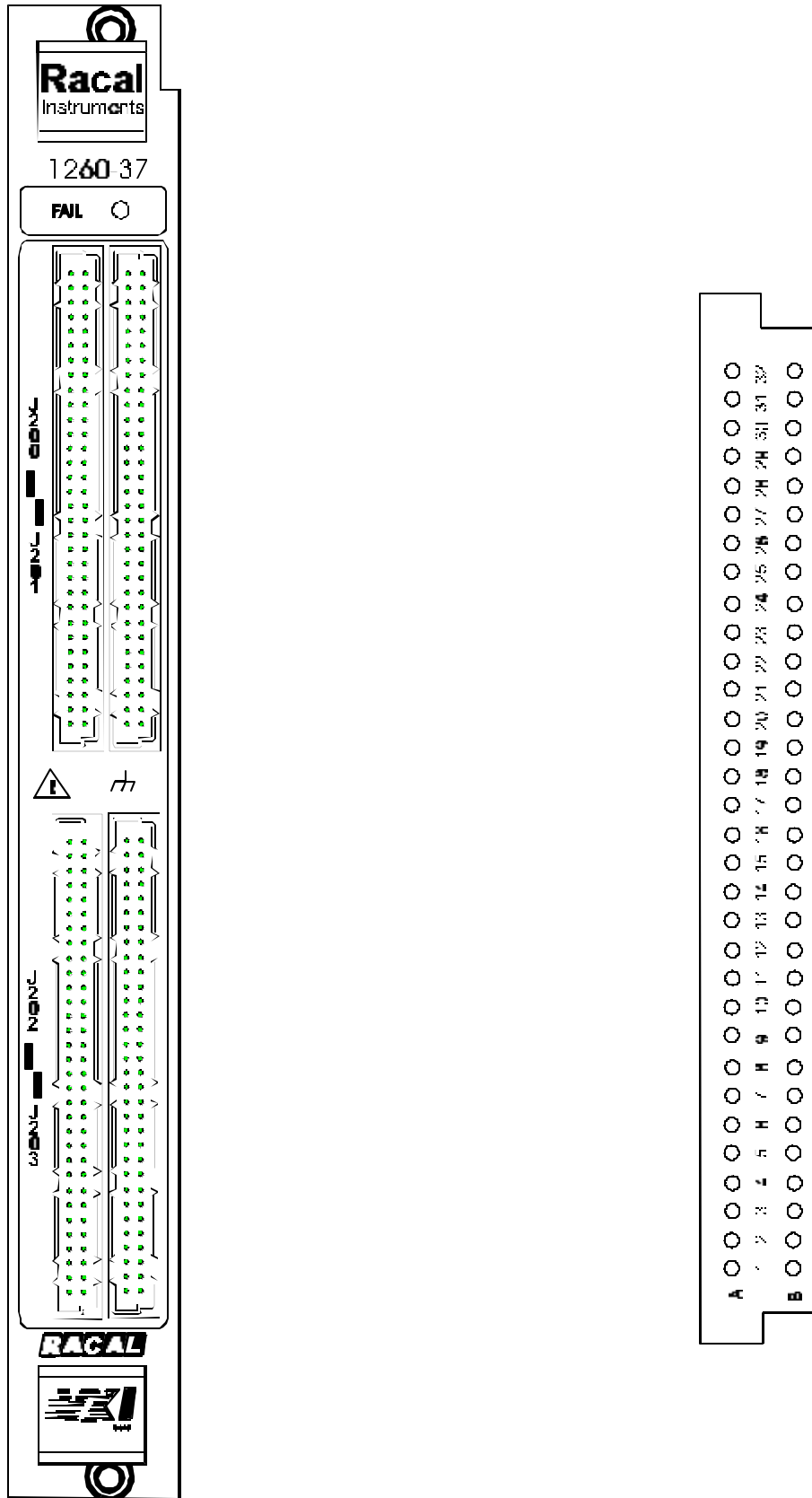


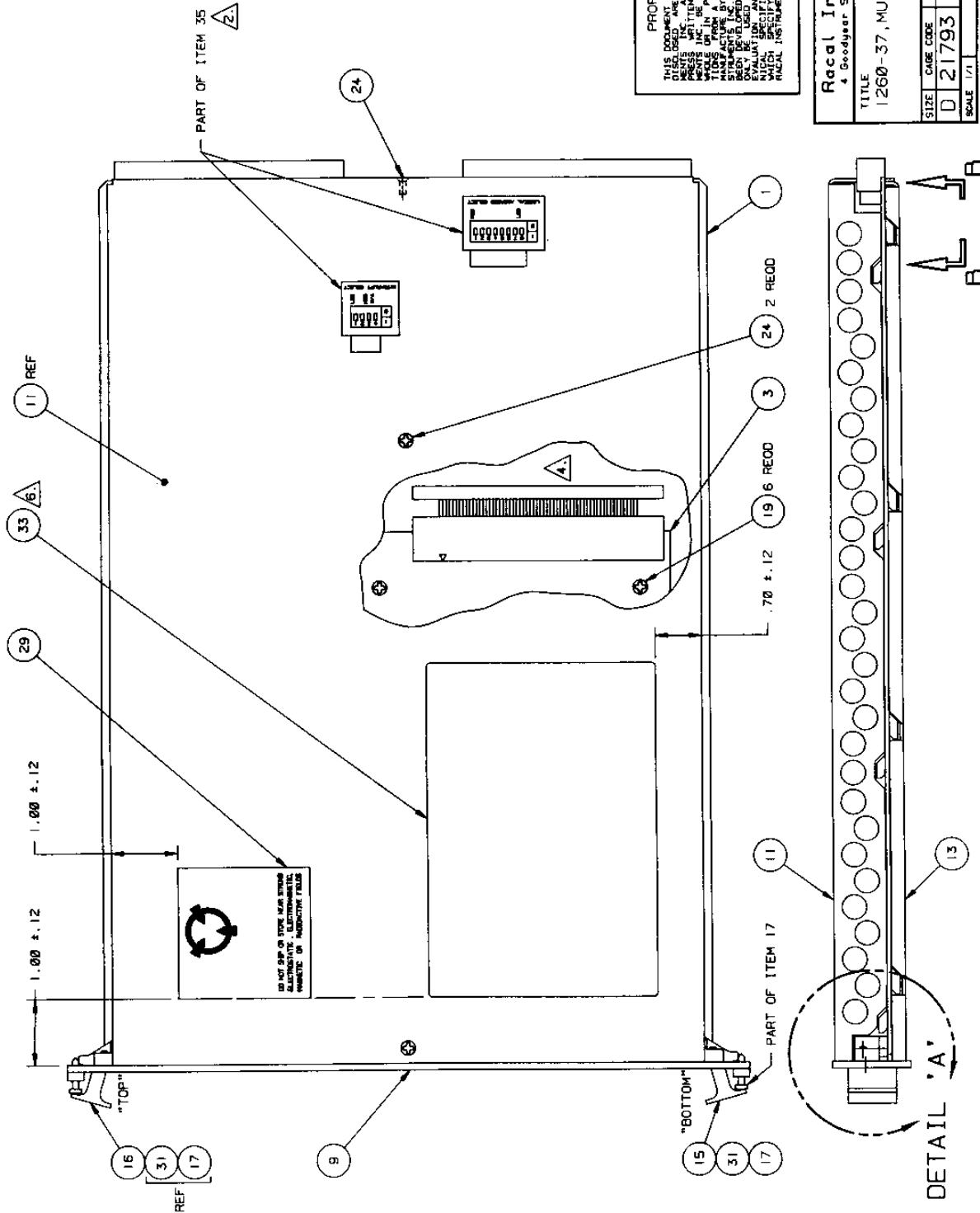
Figure 3-3, 1260-37 Pin Connections

Chapter 4

DRAWINGS

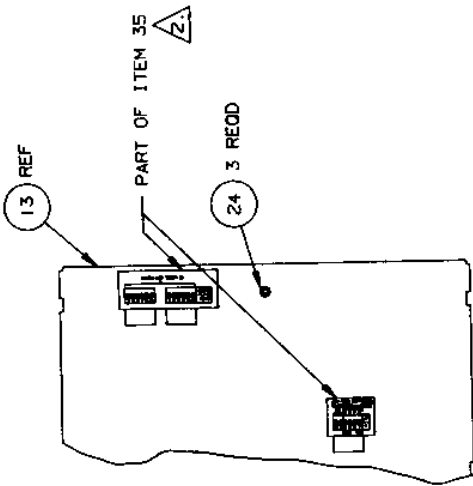
407353	Final Assy, 1260-37 (IDC Connectors).....	4-3
407353-001	Final Assy, 1260-37A (Crimp Connectors).....	4-5
405087	PCB Assy, 1260-37	4-7
435087	Schematic, 1260-37.....	4-9
405071	PCB Assy, 1260-17D	4
435071	Schematic, 1260-17D.....	4

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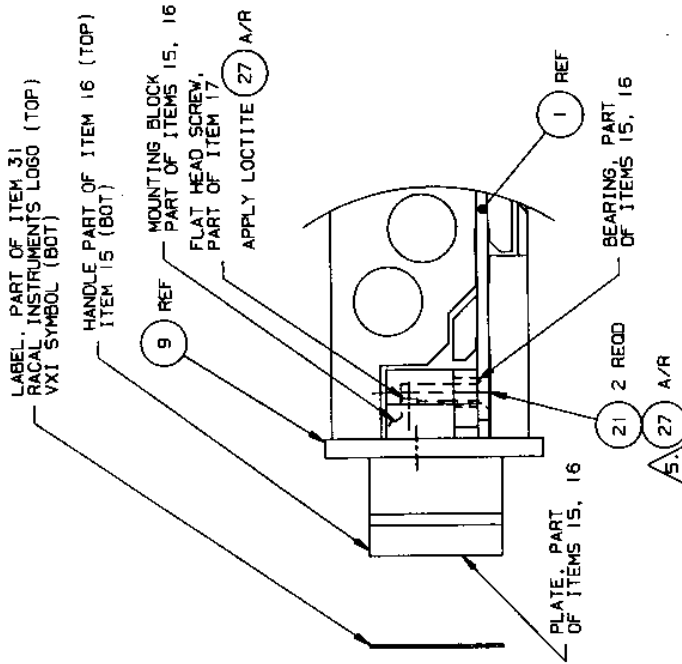


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Racal Instruments, Inc.			
4 Goodyear St., Irvine, CA 92718-2092			
TITLE 1260-37, MUX/FORM C SW, IDC			
SIZE	CAGE CODE	DOCUMENT NUMBER	REV.
D	21793	407353	A
SCALE	1/1	SHEET	1 OF 2



VIEW B-B
SCALE: 1/2
BOTTOM VIEW

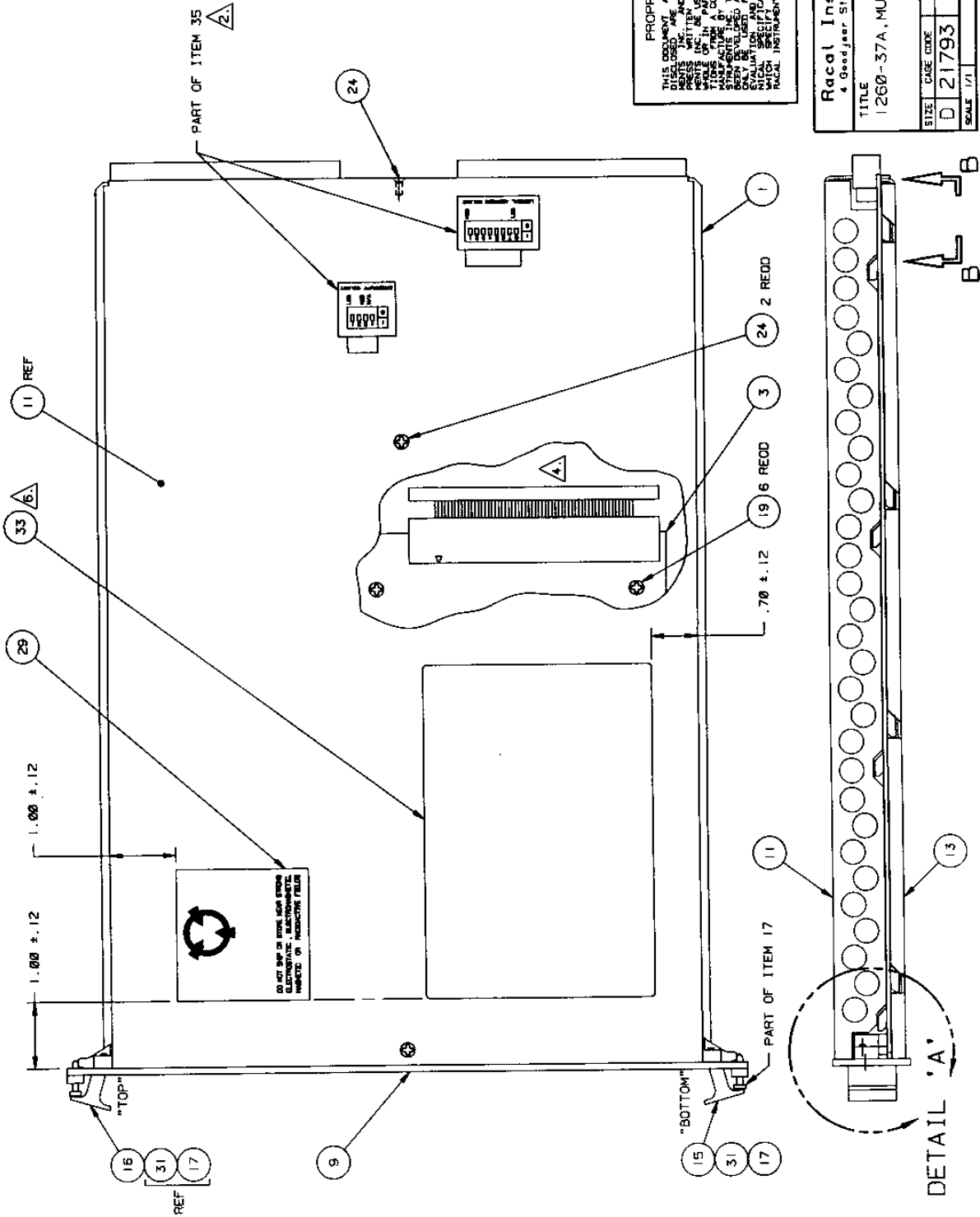


DETAIL 'A'
SCALE: 2/1

NOTES:

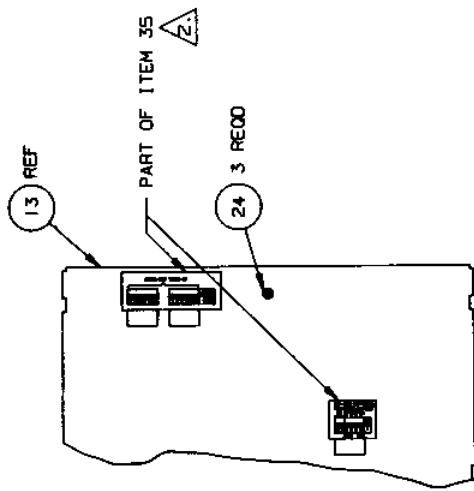
1. DISCARD UNUSED HARDWARE IN ITEM 17.
2. AFFIX LABELS AS SHOWN. ALIGN LABEL TEXT WITH APPROPRIATE SWITCH ACTUATORS.
3. INCLUDE SHIPPING KIT, ITEM 5 IN BOX WITH ASSY.
4. CONNECT CABLE FROM ITEM 1 TO ITEM 3 AS SHOWN.
5. APPLY LOCTITE SPARINGLY. DO NOT ALLOW CONTACT WITH EJECTOR HANDLES ITEMS 15 (BOT) AND 16(TOP).
6. TYPE PERTINENT INFORMATION ON LABEL ITEM 33 PRIOR TO AFFIXING LABEL TO PANEL.

SIZE	CAGE CODE	DOCUMENT NUMBER	REV.
D	21793	407353	A
SCALE 1/1		CLASS. REV. DT	INT. 2 OF 2

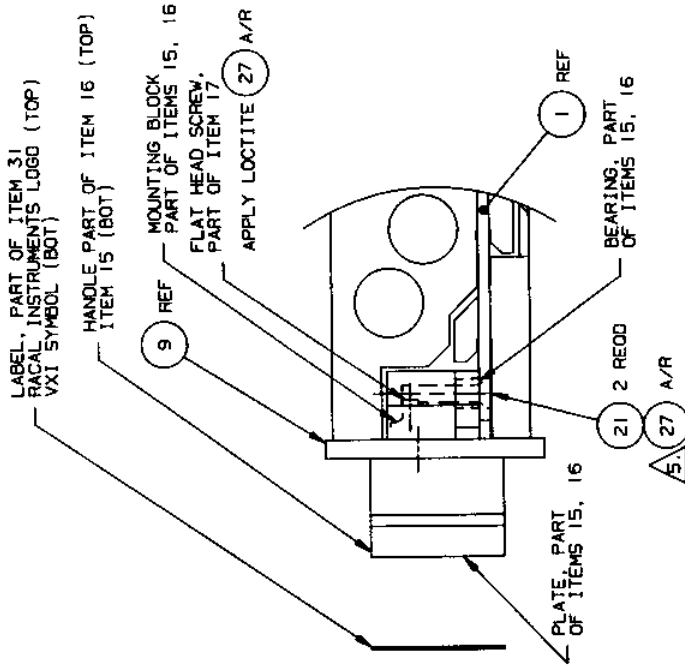


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Racal Instruments, Inc.			
4 Goodyear St., Irvine, CA 92718-2002			
TITLE 1260-37A, MUX/FORM C SW, CRIMP			
SIZE	CAGE CODE	DOCUMENT NUMBER	REV.
D	21793	407353-001	A
SCALE	1/1	SHEET NO. OF	2



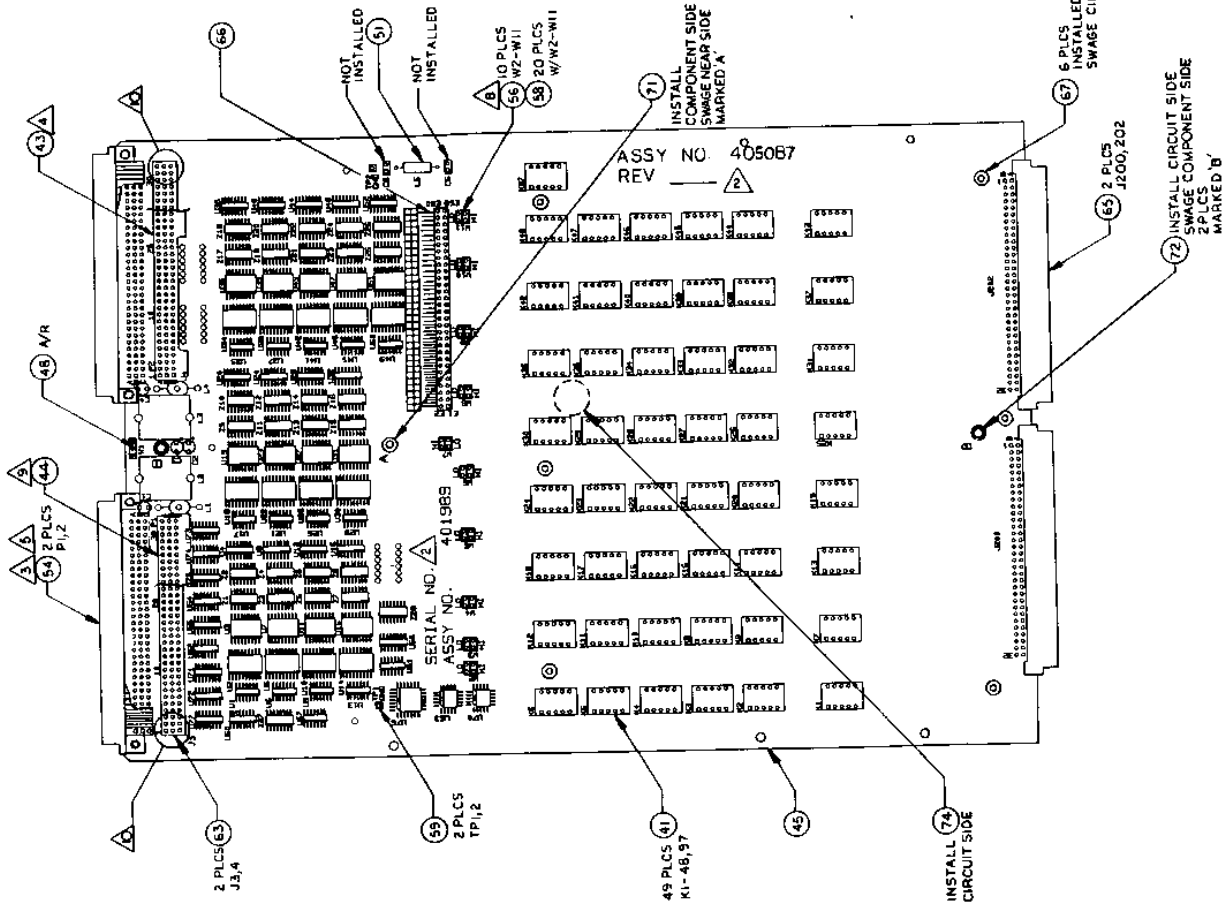
VIEW B-B
SCALE: 1/2
BOTTOM VIEW



DETAIL 'A'
SCALE: 2/1

- NOTES:
1. DISCARD UNUSED HARDWARE IN ITEM 17.
 2. AFFIX LABELS AS SHOWN, ALIGN LABEL TEXT WITH APPROPRIATE SWITCH ACTUATORS.
 3. INCLUDE SHIPPING KIT, ITEM 5 IN BOX WITH ASSY.
 4. CONNECT CABLE FROM ITEM 1 TO ITEM 3 AS SHOWN.
 5. APPLY LOCTITE SPARINGLY. DO NOT ALLOW CONTACT WITH EJECTOR HANDLES ITEMS 15 (BOT) AND 16(TOP).
 6. TYPE PERTINENT INFORMATION ON LABEL ITEM 33 PRIOR TO AFFIXING LABEL TO PANEL.

SIZE	CASE CODE	DOCUMENT NUMBER	REV.
D	21793	407353-001	A
SCALE	1/1	QUANTITY PER KIT	2 OF 2



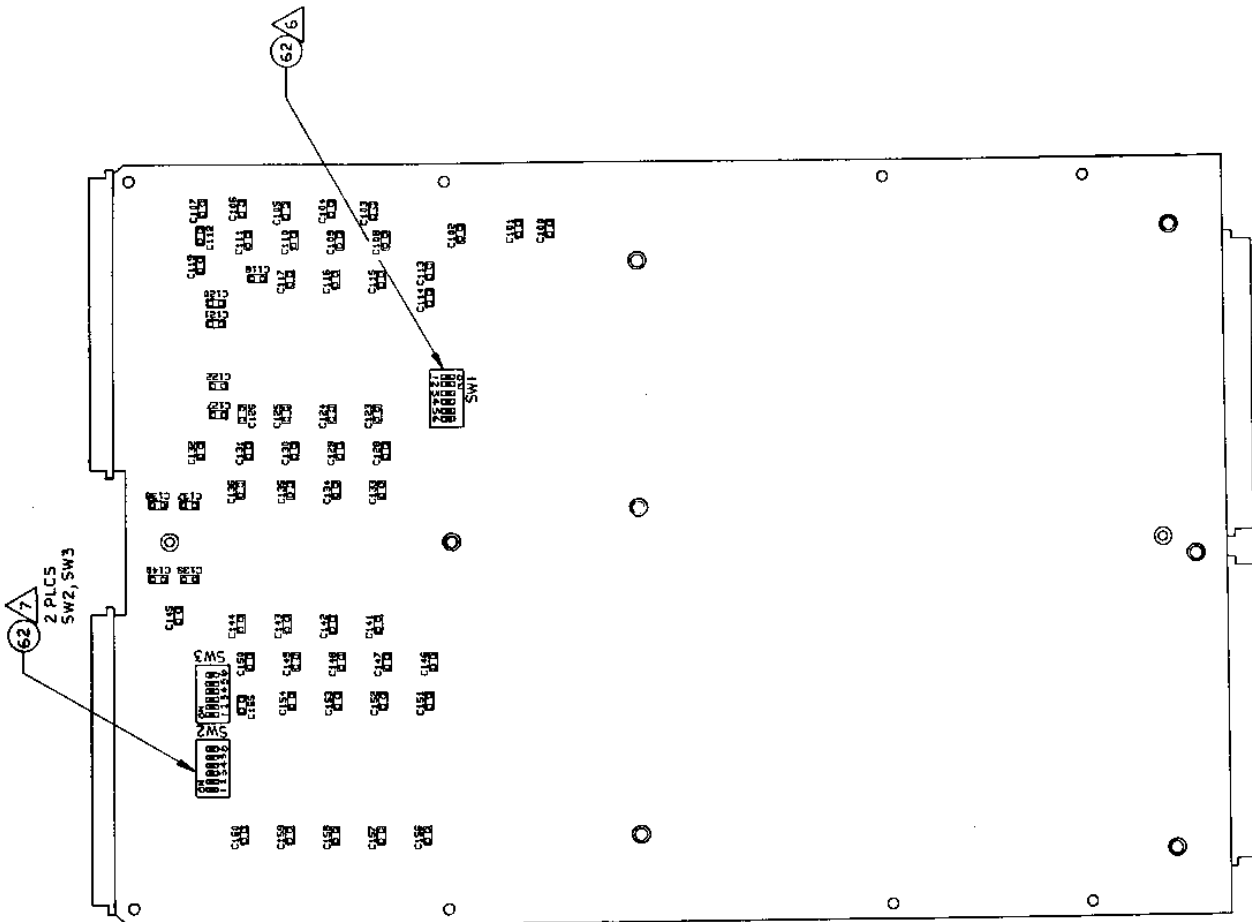
- 40 SOLDER TAILS ON CIRCUIT SIDE OF PCB FOR J3 AND J4 (ITEM 63) 3 ROWS (9 PINS) NEAREST EDGE OF PCB TO BE TRIMMED TO A MAXIMUM HEIGHT OF .045.
- 41 INSTALL (ITEM 44) PCB INTO (ITEM 63) J3.
- 42 INSTALL PLUG-JUMPER (ITEM 58) ONTO W2-W11 (ITEM 56) AS SHOWN.
- 43 SET SW2 & SW3 (ITEM 62) TO ON POSITION. DO NOT WAVE SOLDER.
- 44 SET SW1 (ITEM 62) TO LOGICAL ADDRESS 1 PER TABLE 1. ALSO SET SW1 POSITION 5 TO ON. DO NOT WAVE SOLDER.
- 45 P1 AND P2 MUST BE INSTALLED FLUSH AT RIGHT ANGLE TO PCB.
- 46 INSTALL (ITEM 43) PCB INTO (ITEM 63) J4.
- 47 SOLDER TAILS ON CIRCUIT SIDE OF PCB FOR P1,P2 (ITEM 54) TO BE TRIMMED TO A MAX. HEIGHT OF .045.
- 48 INK STAMP SERIAL NUMBER, ASSY NUMBER & CURRENT REVISION ON COMPONENT SIDE APPROX. WHERE SHOWN.
- 49 1. REFERENCE SCHEMATIC 435087.

NOTES UNLESS OTHERWISE SPECIFIED

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SCALE		SHEET	OF
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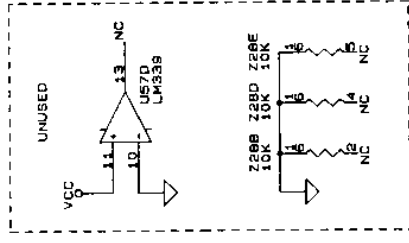
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SCALE		SHEET 2	OF 5



U76	231154 (22V10H)	28	14
U76	26LS31	16	8
U73, 74	26LS32	16	8
U71, 72, 77	74HCT253	16	8
U70	231152-001 (16L80)	20	10
U57	LW339	3	12
U56	74HCT85	16	8
U54, 55	74LS138	16	8
U53	231153 (16R4)	20	10
U4, 6, 12, 16, 20, 24, 28	74HCT166	16	8
U32, 36, 40, 44, 48, 52, 56	2803	NC	8
U3, 7, 11, 15, 19, 23	74HCT273	20	10
U2, 6, 10, 14, 18, 22	74HCT164	14	7
U26, 30, 34, 38, 42, 46, 50			
U1, 5, 9, 13, 17, 21, 25, 29	IC	+5V	GND
U33, 37, 41, 45, 49, 53, 62	TYPE	PIN NO.	PIN NO.
REF.			
DES.			

1. CAPACITOR VALUES ARE IN MICROFARADS. 50V, +/-20% UNLESS OTHERWISE SPECIFIED.
2. RESISTOR NETWORKS ARE IN OHMS.
3. RELAYS K1 THRU K48, K97 ARE RACAL P/N 310197. ALL RELAYS SHOWN IN DE-ENERGIZED POSITION.

NOTES: UNLESS OTHERWISE SPECIFIED



Z2B
M11
U77
TP2
SN3
P2
L5
K97
J202
E60
C160
HIGHEST REF. DES.

Racal Instruments, Inc.
4 Goodyear St., Irvine, CA. 92718-2002

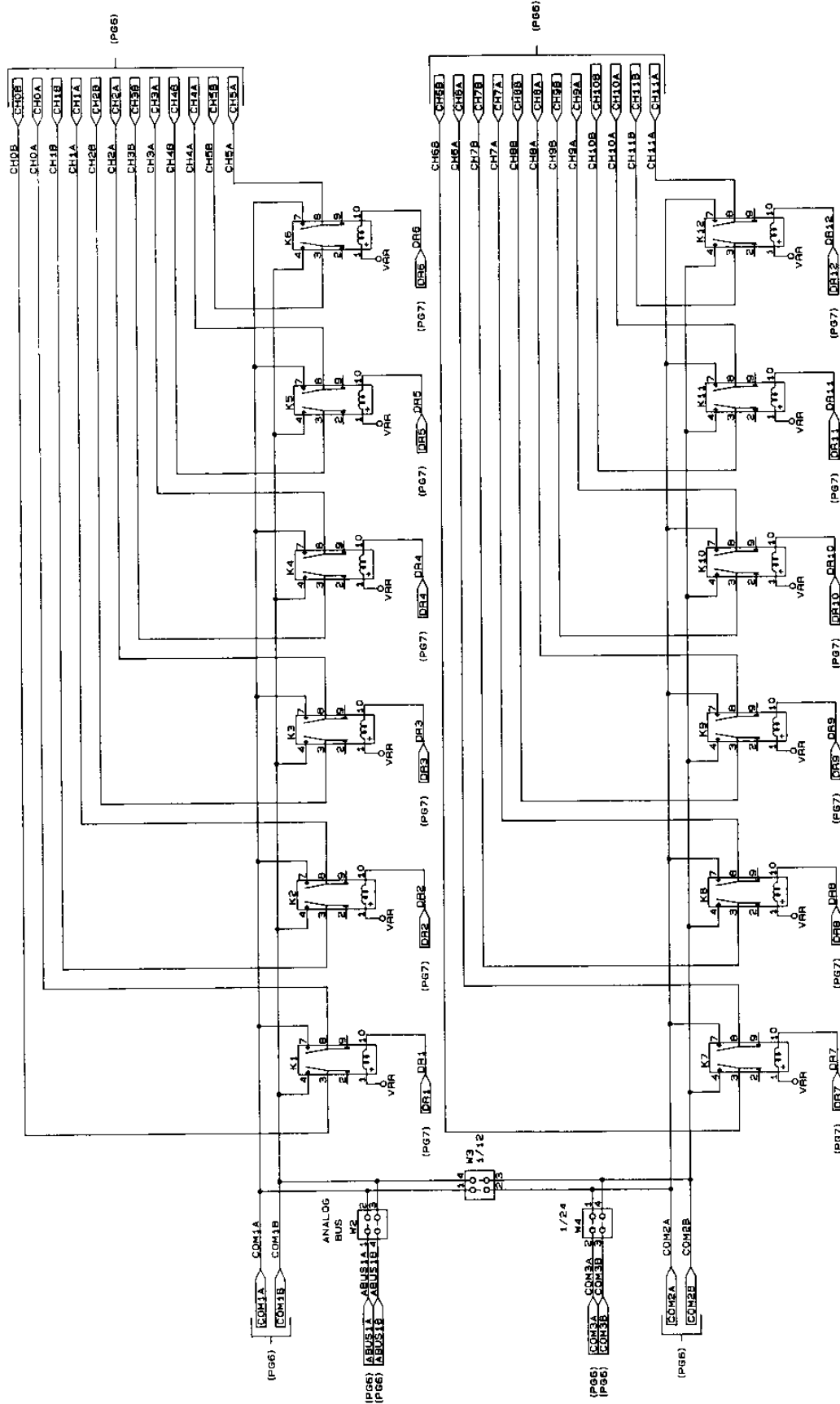
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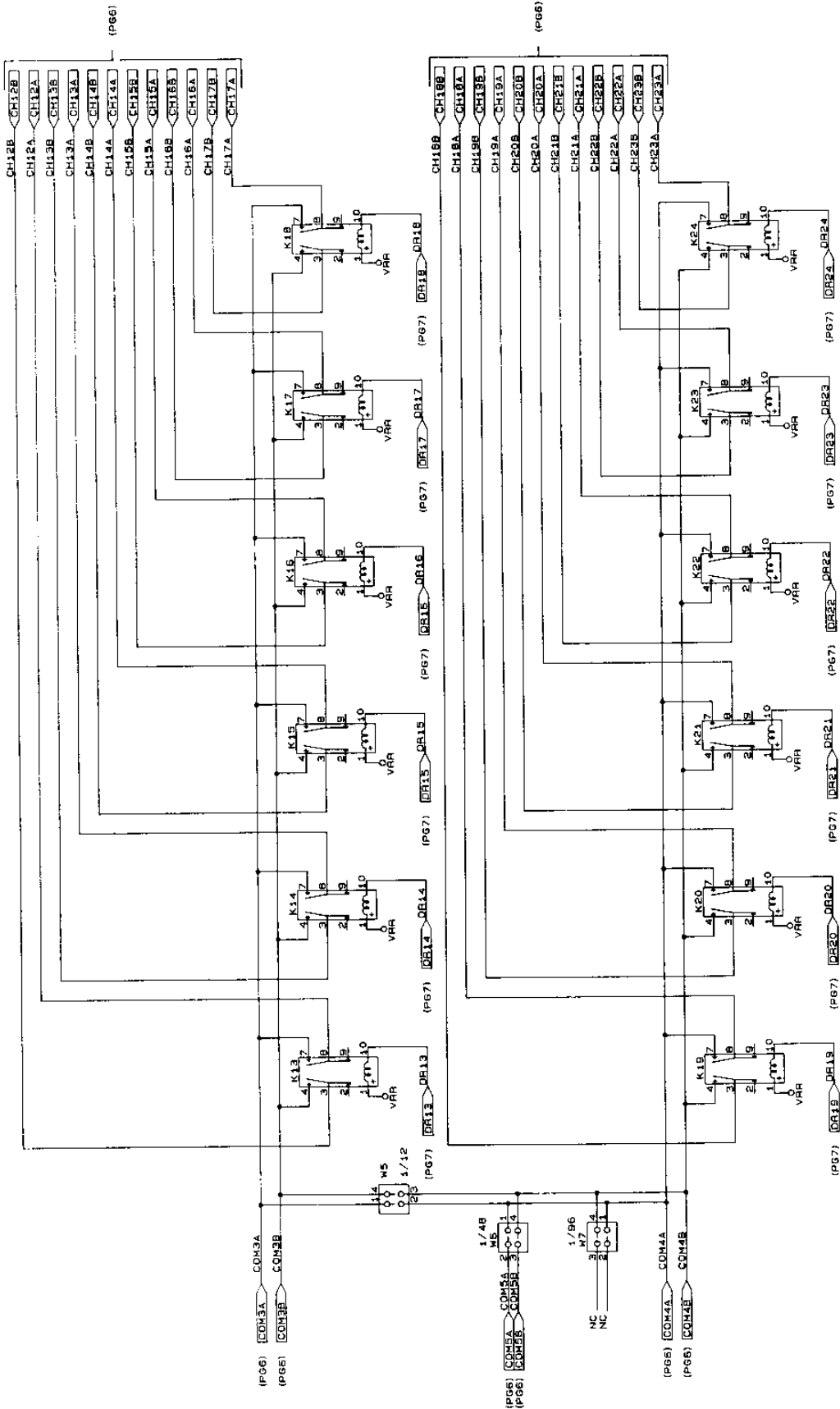
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PROPRIETARY NOTICE

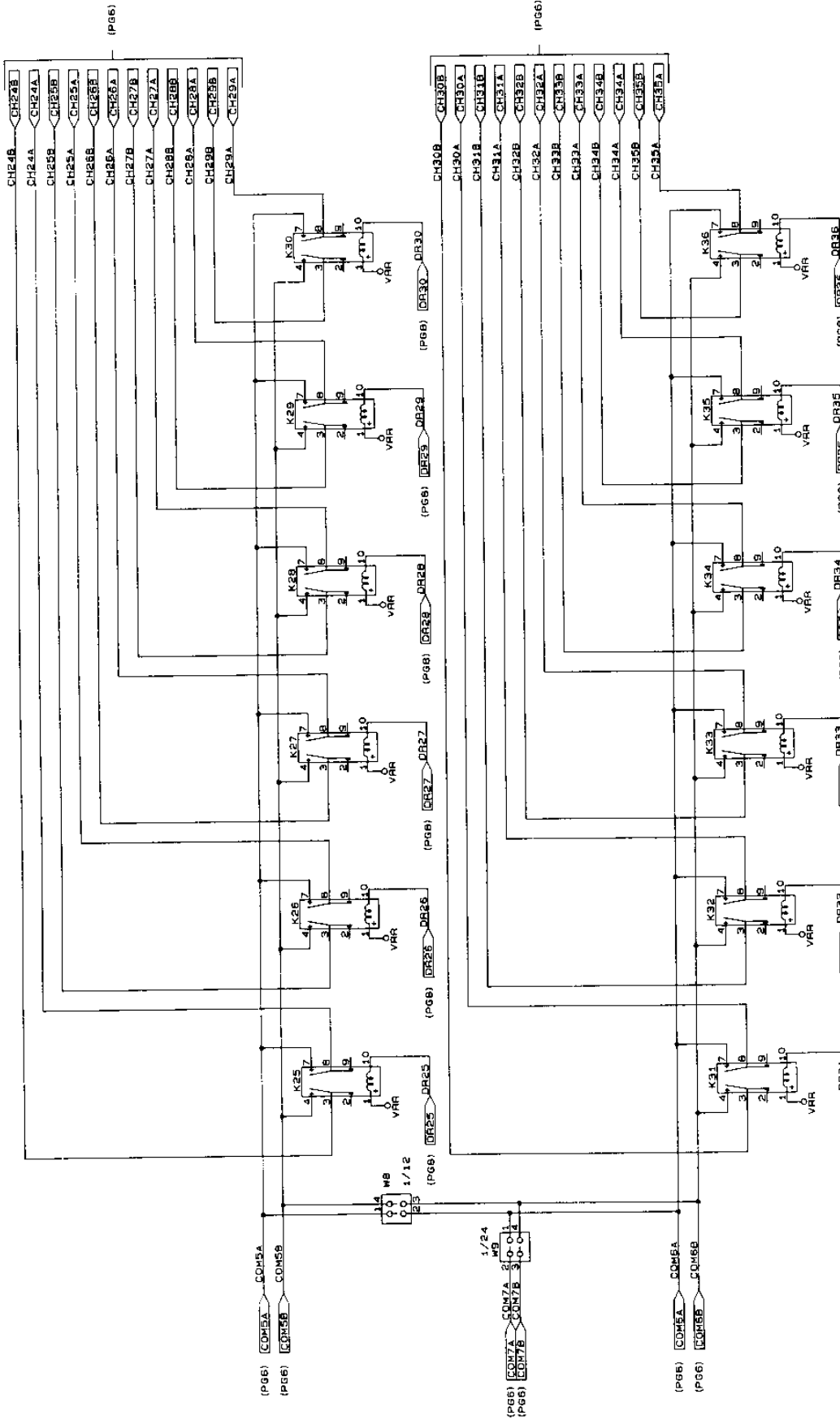
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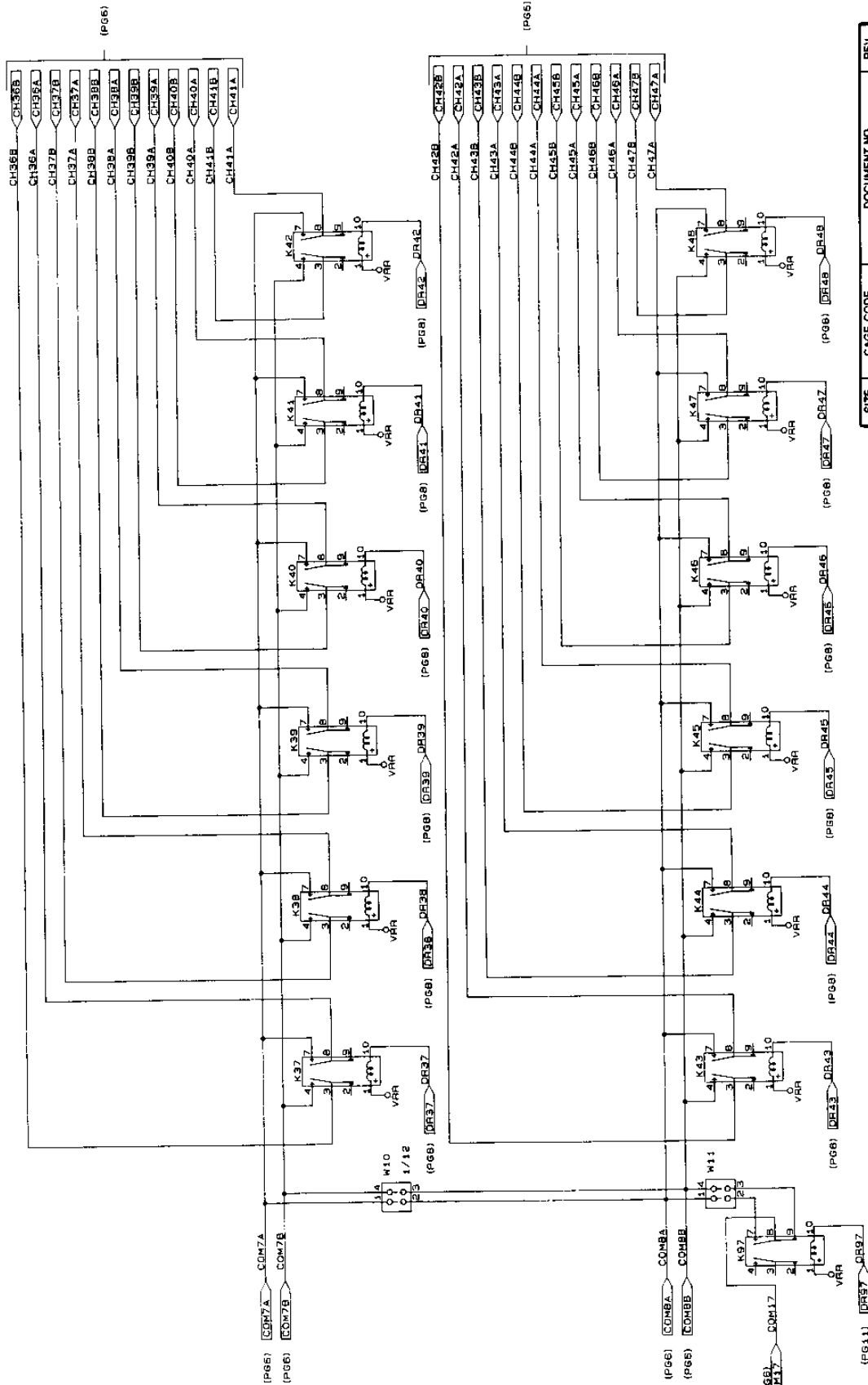
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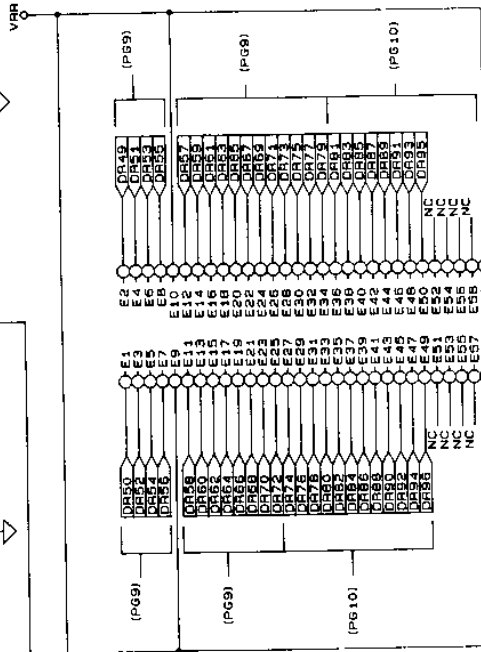
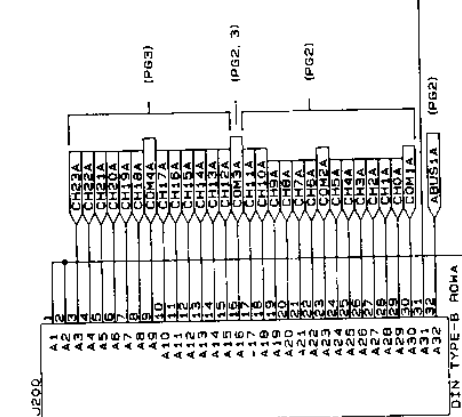
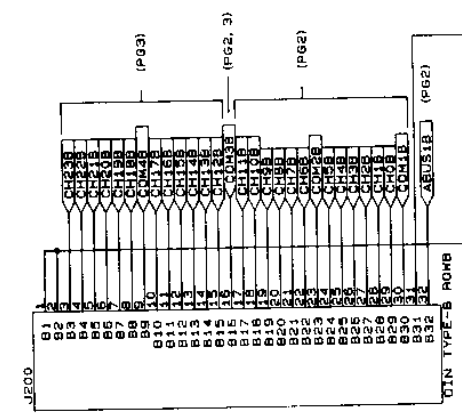
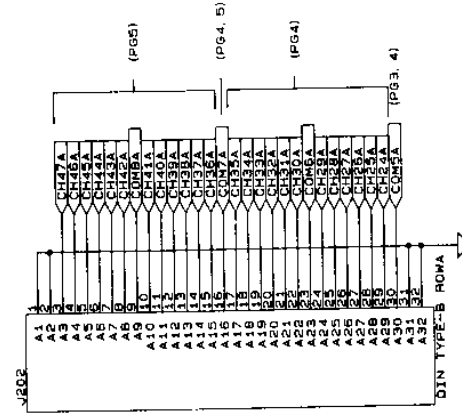
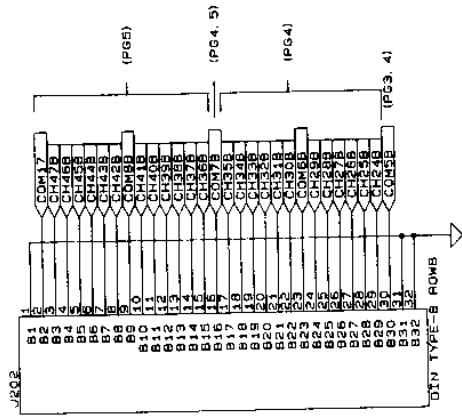
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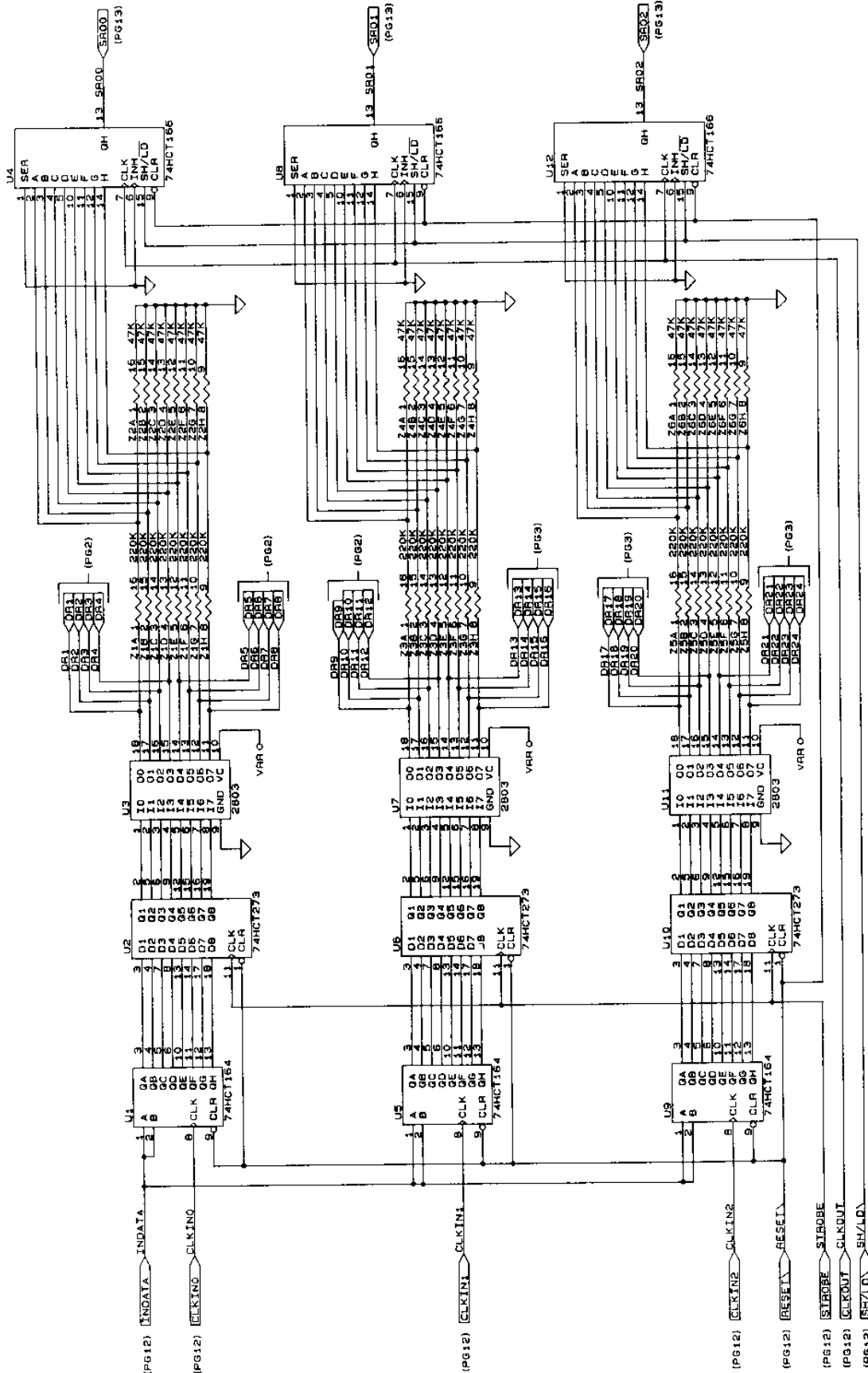
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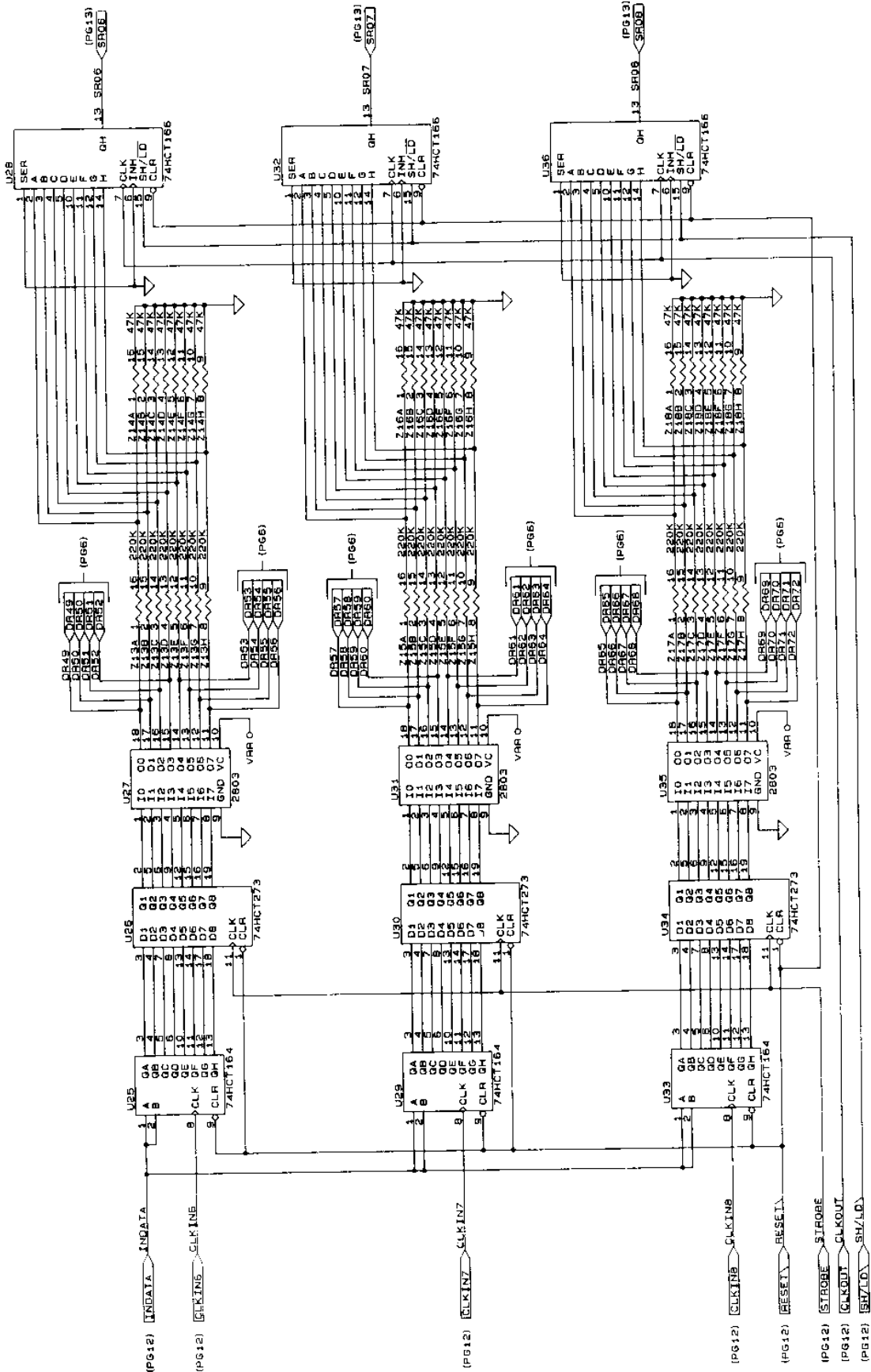
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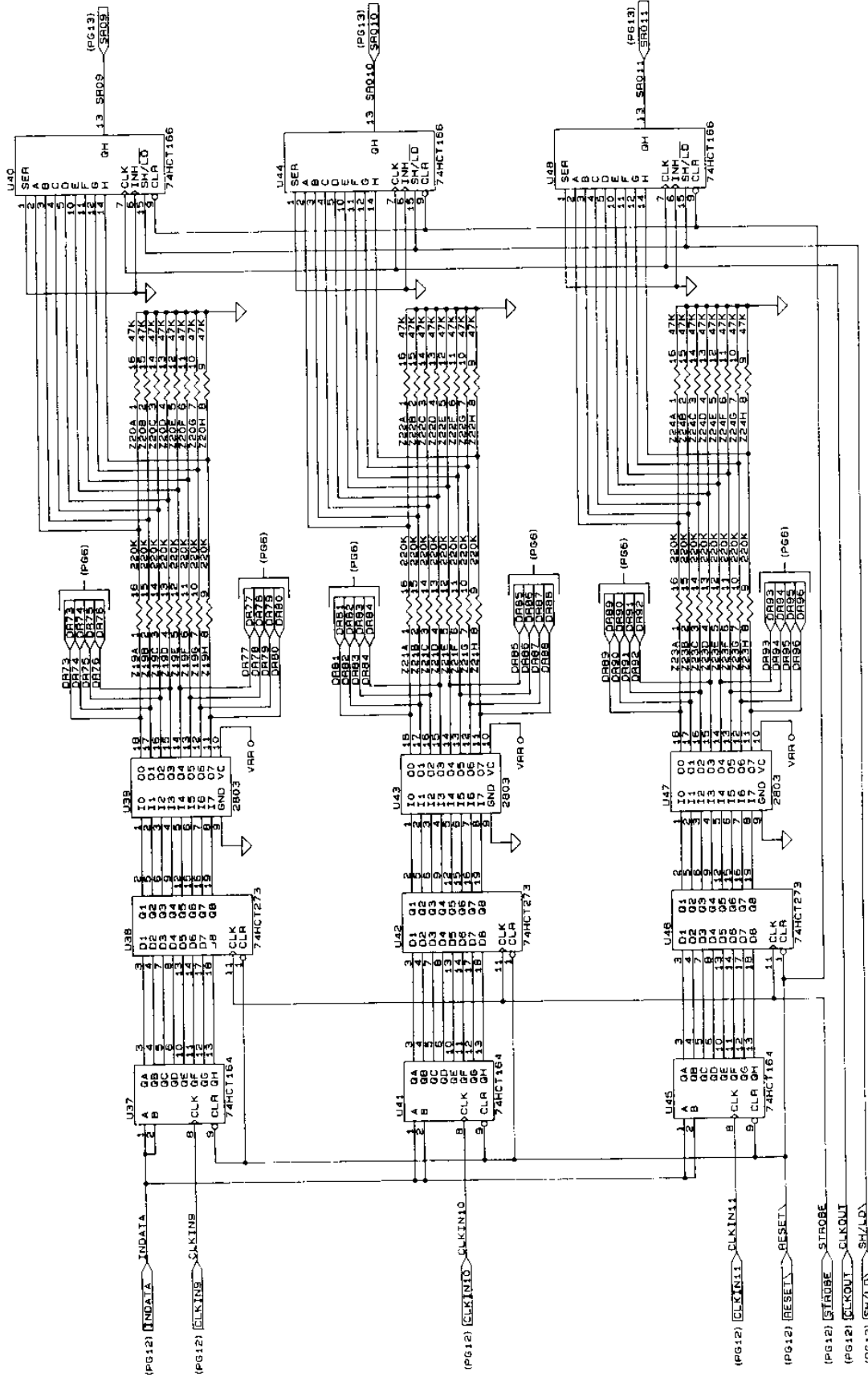
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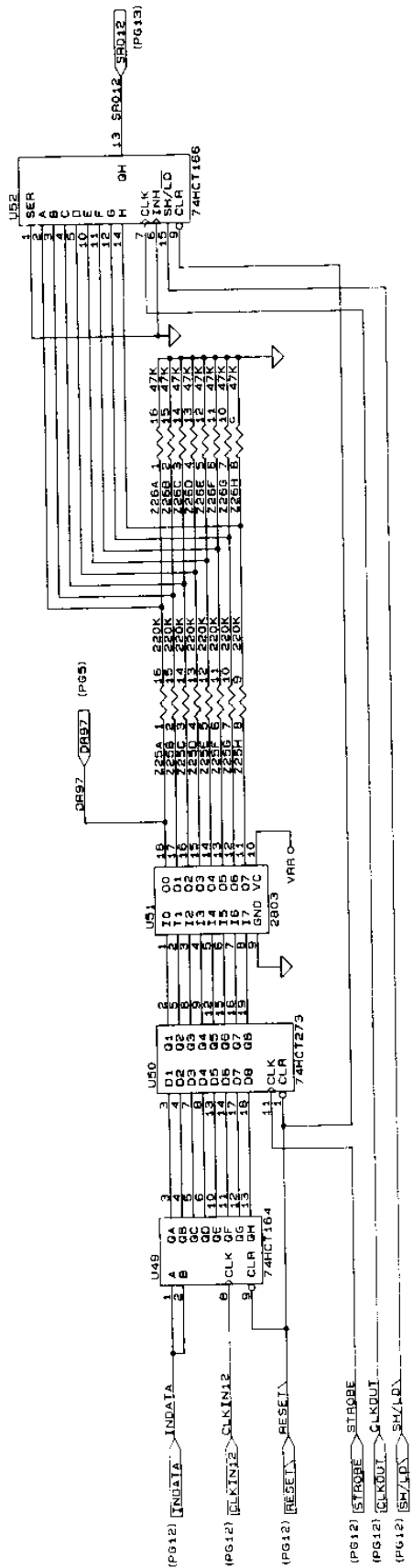
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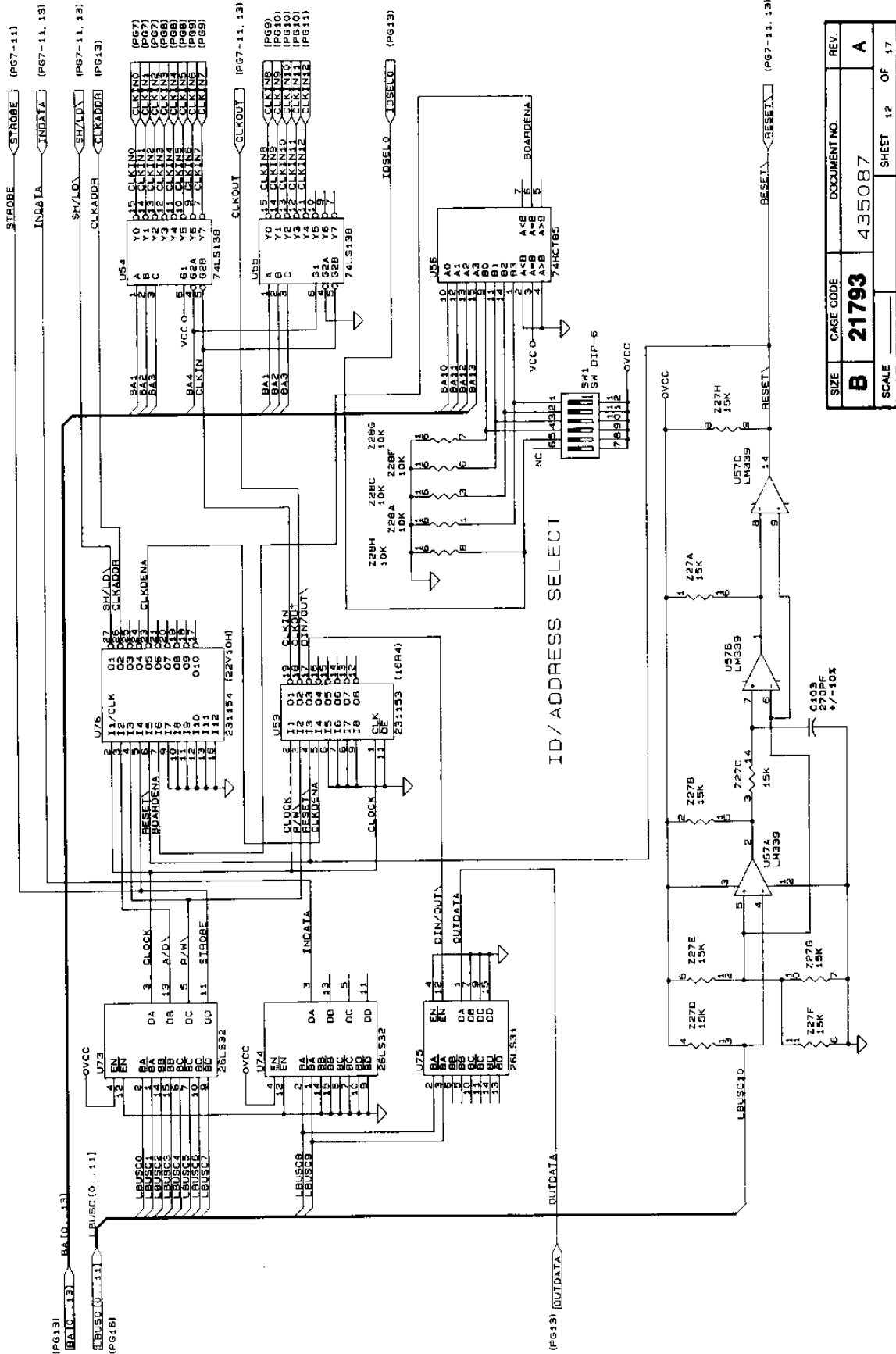
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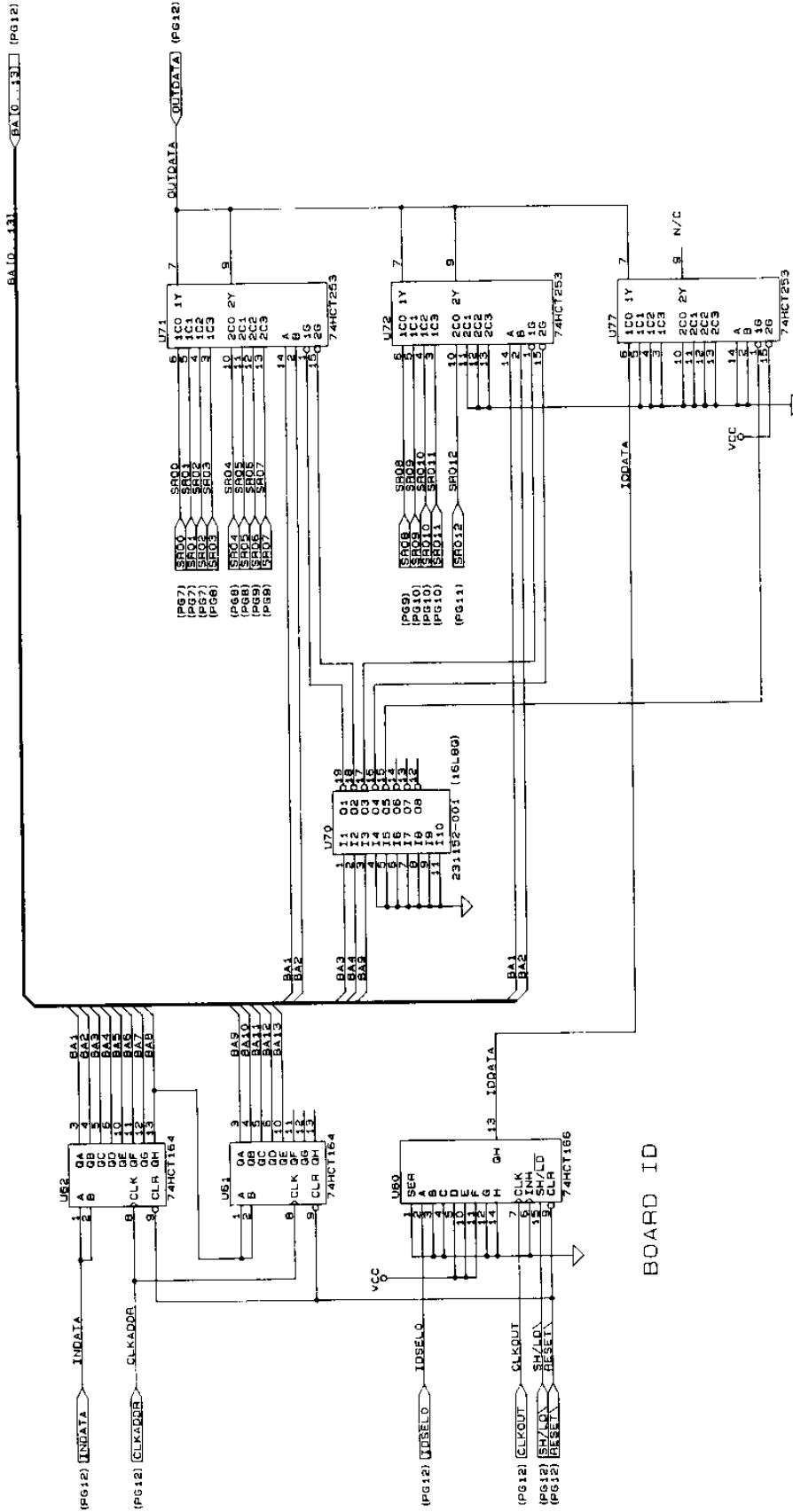
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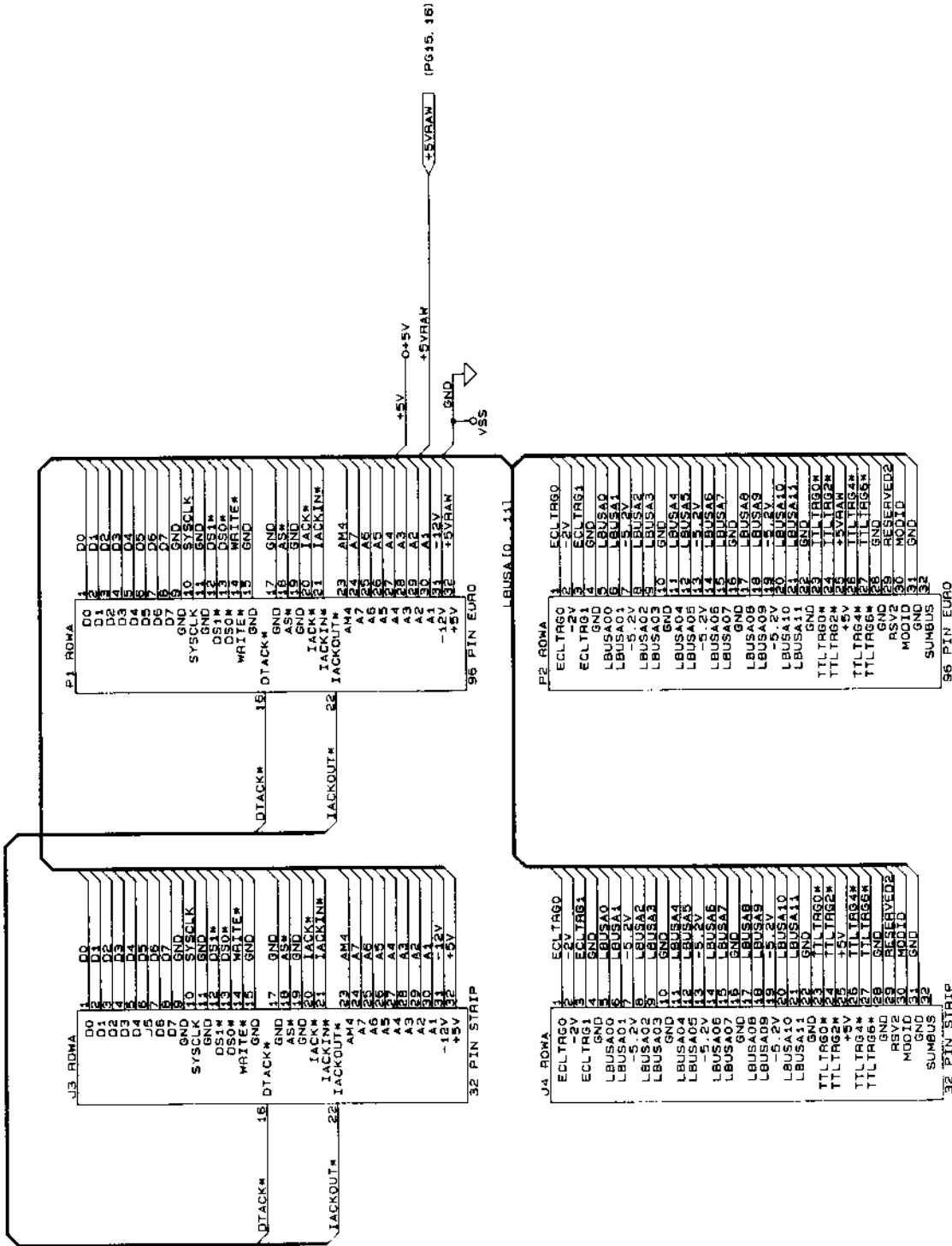


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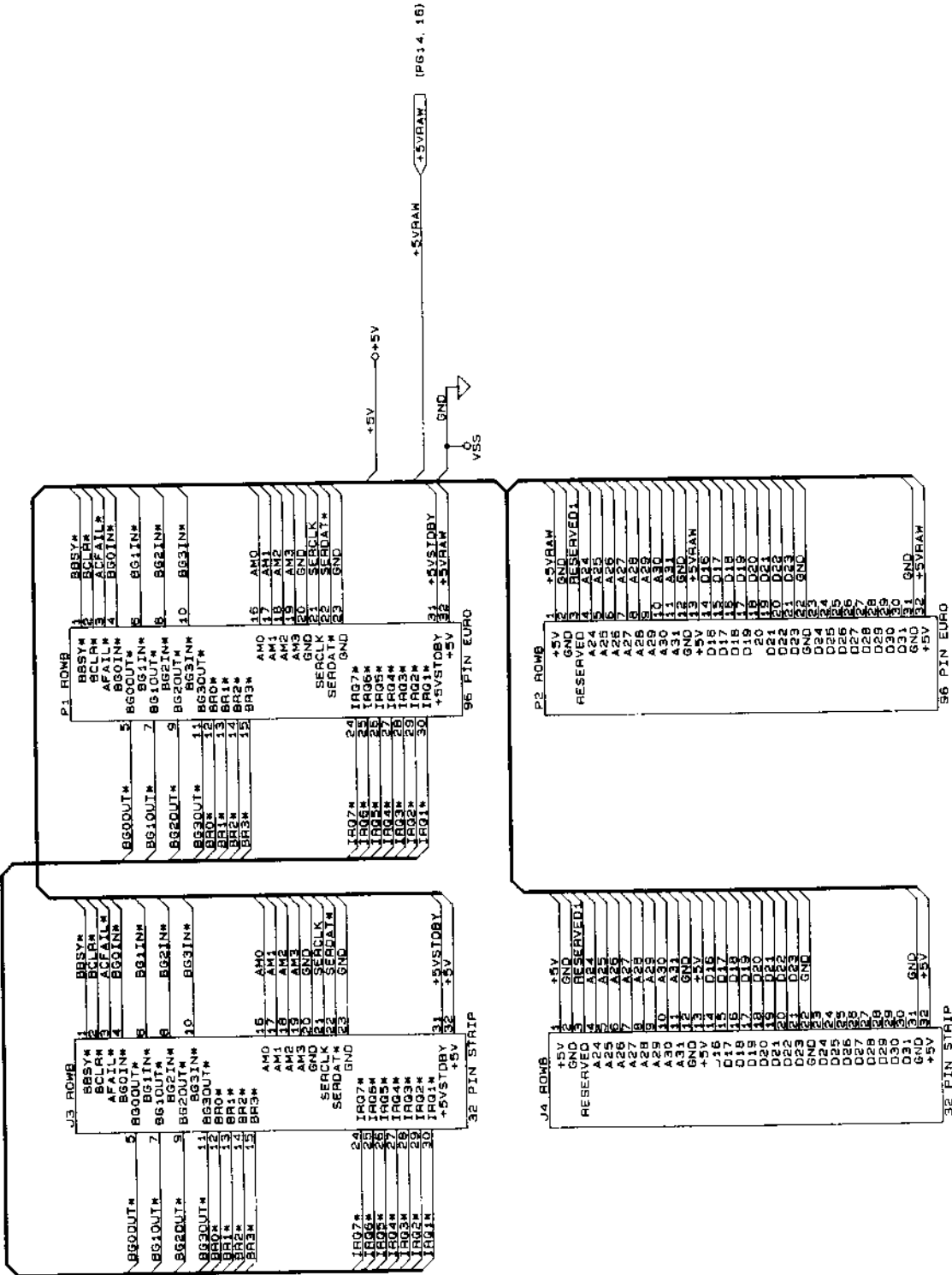


BOARD ID

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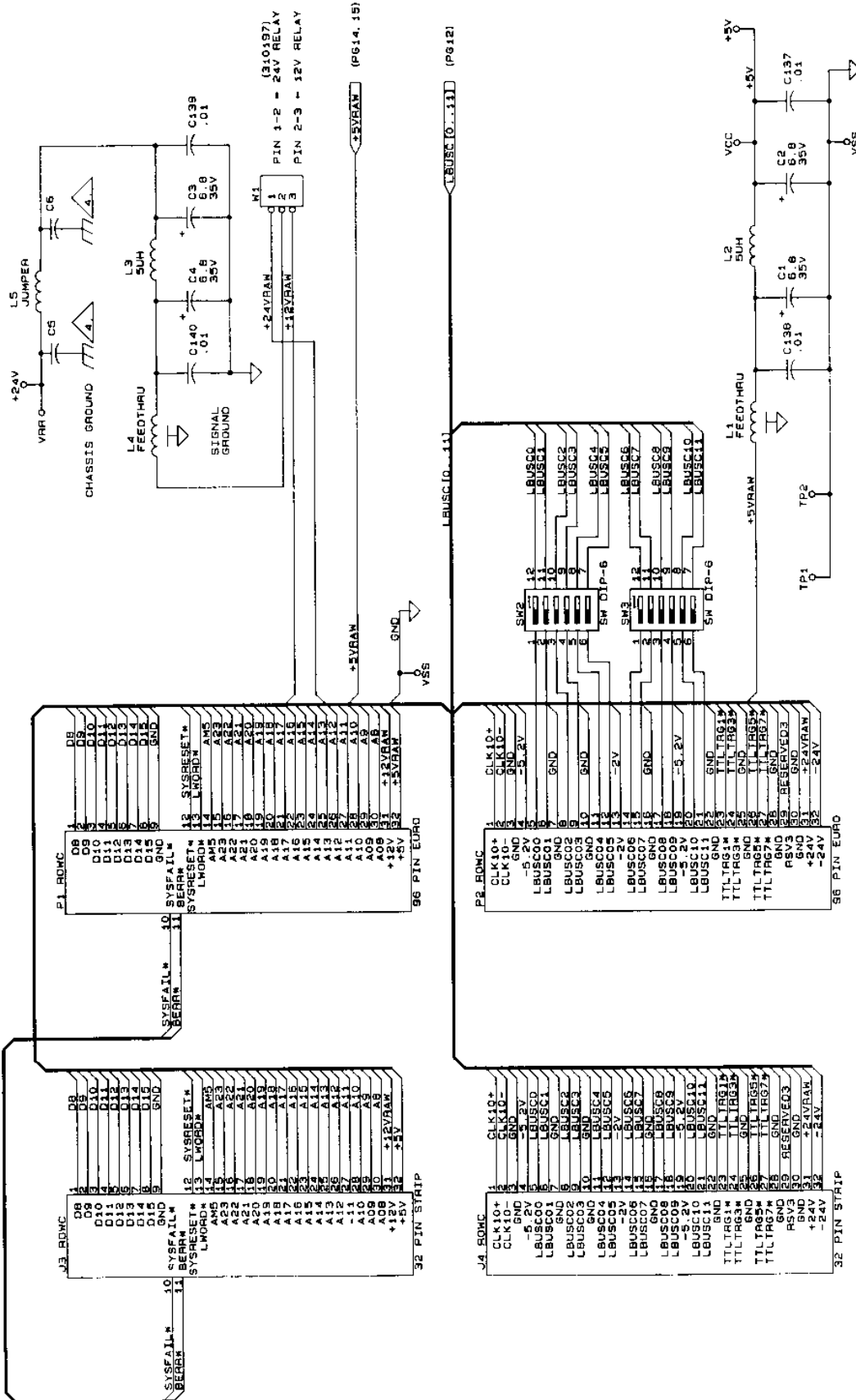


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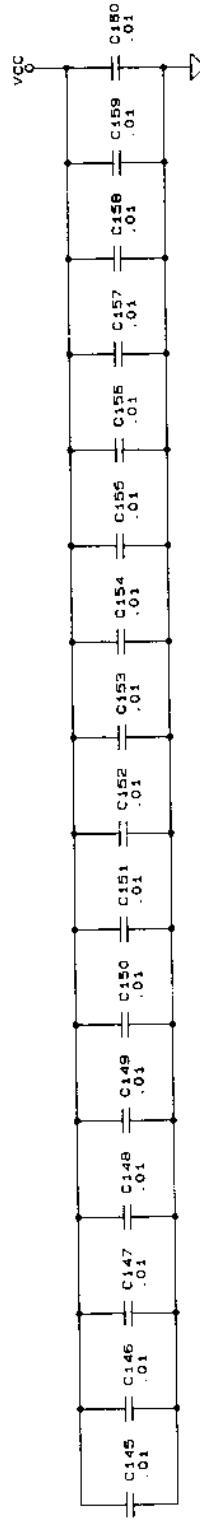
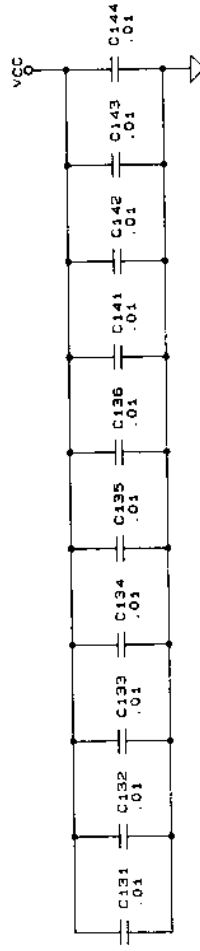
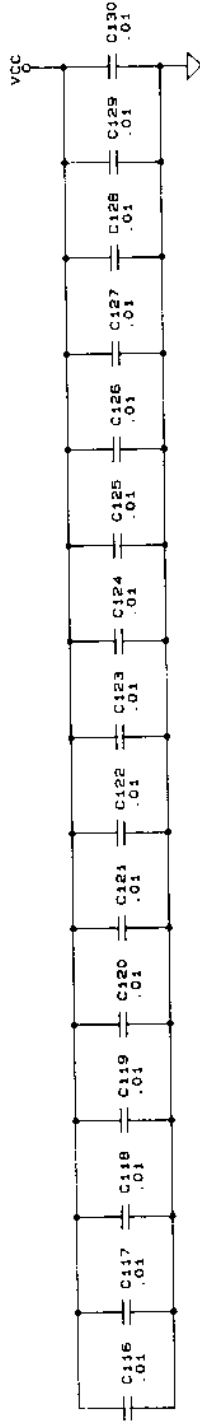
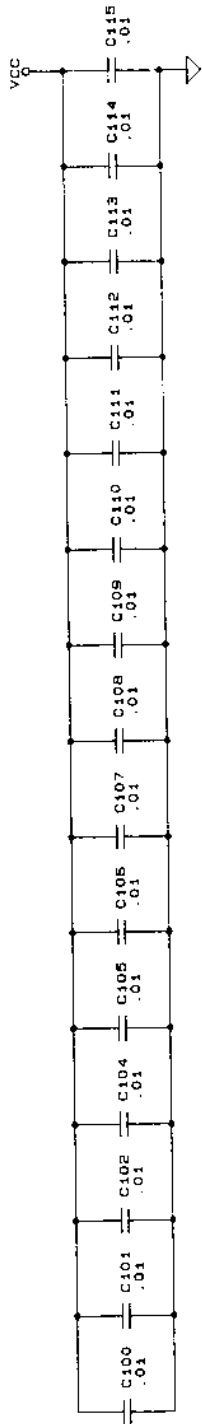


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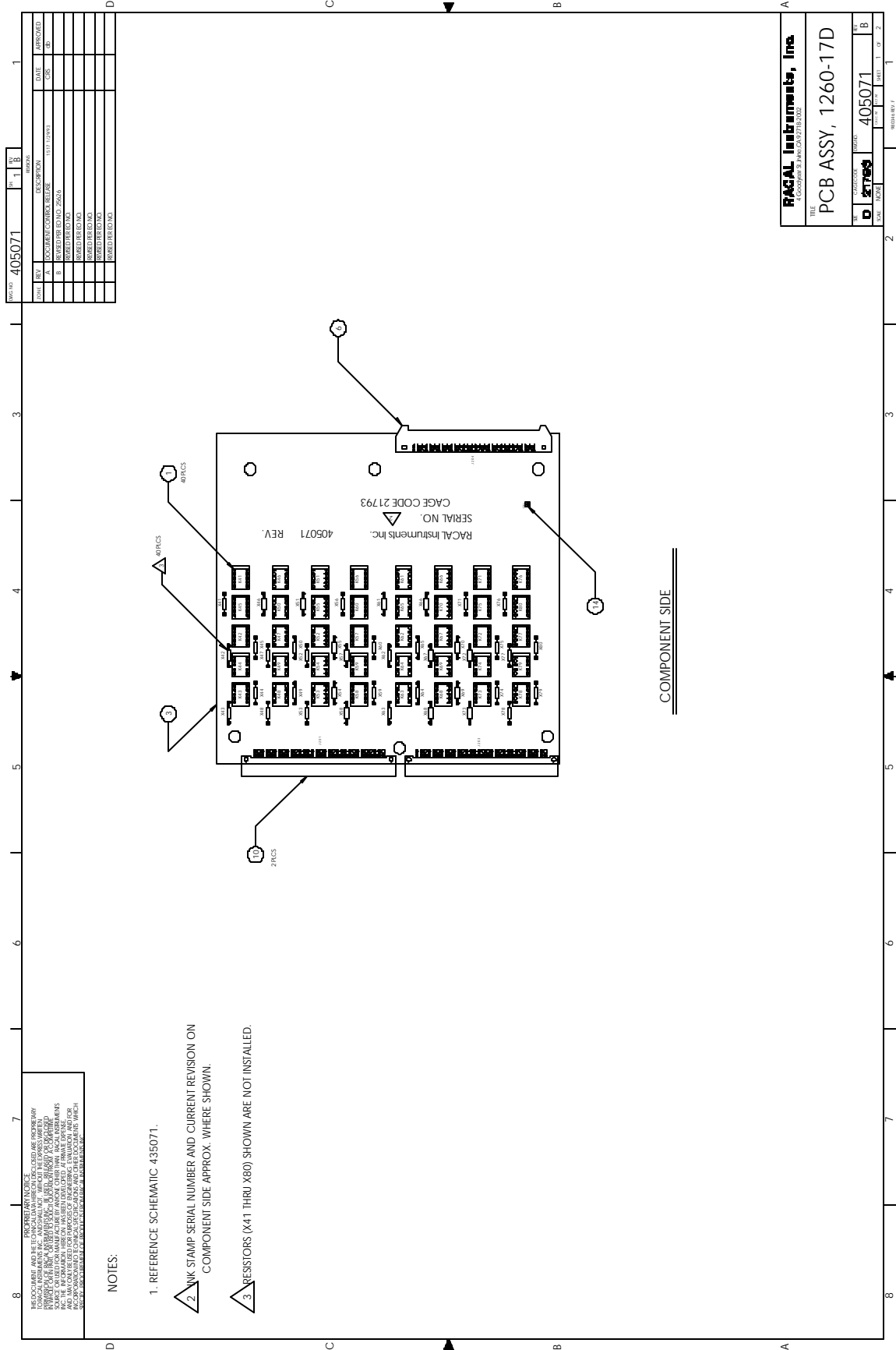
RELAY VOLTAGE SELECTOR

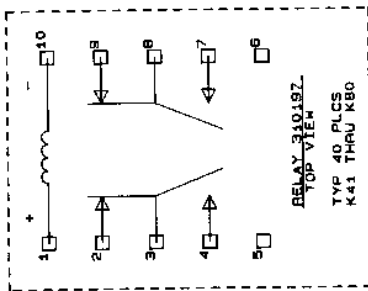


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SCALE		SHEET 17	OF 17





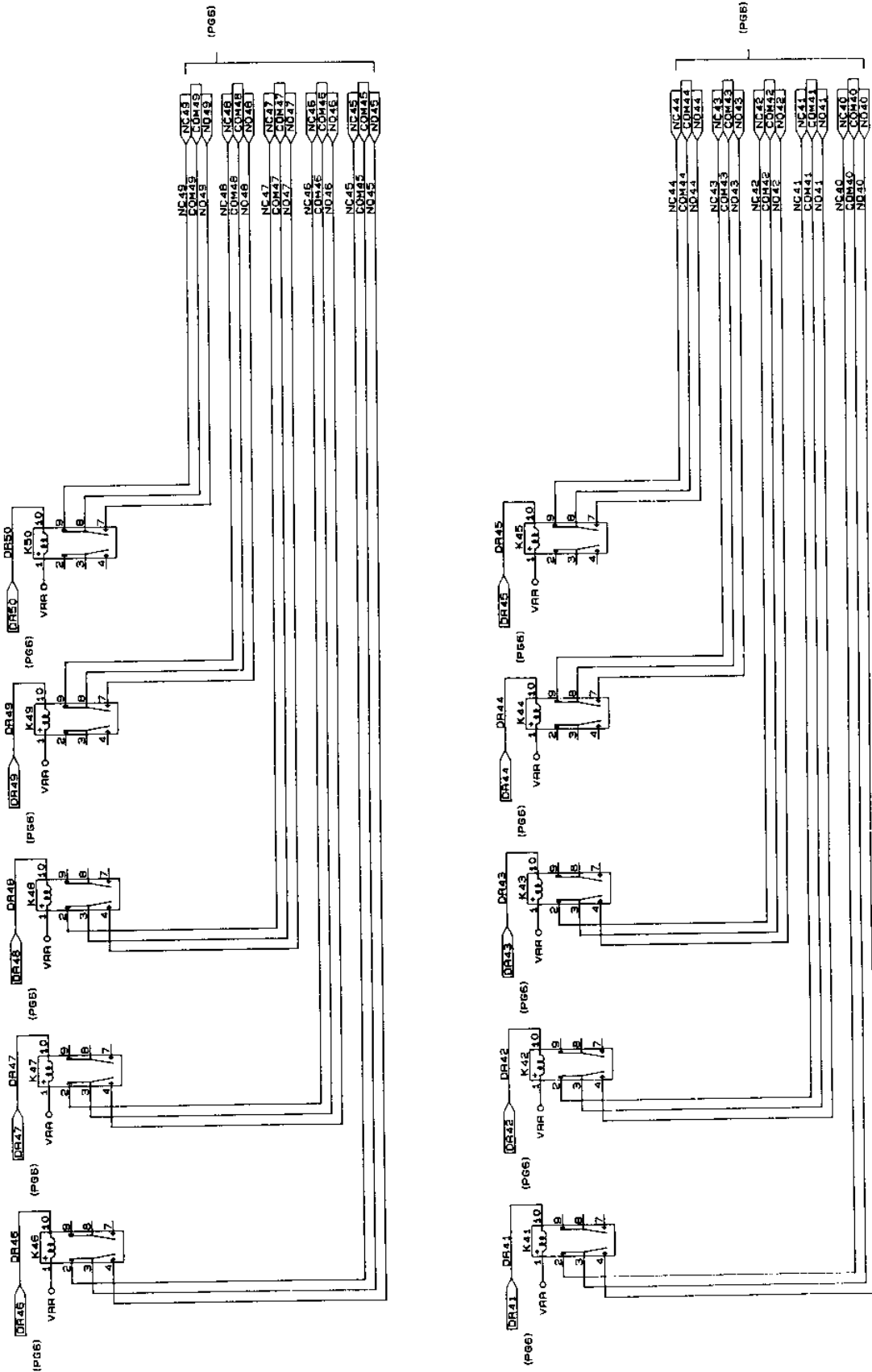
TP1
K80
J204
HIGHEST REF. DES.

- RELAYS K41 THRU K80 ARE RACAL P/N 310197.
ALL RELAYS SHOWN IN DE-ENERGIZED POSITION.

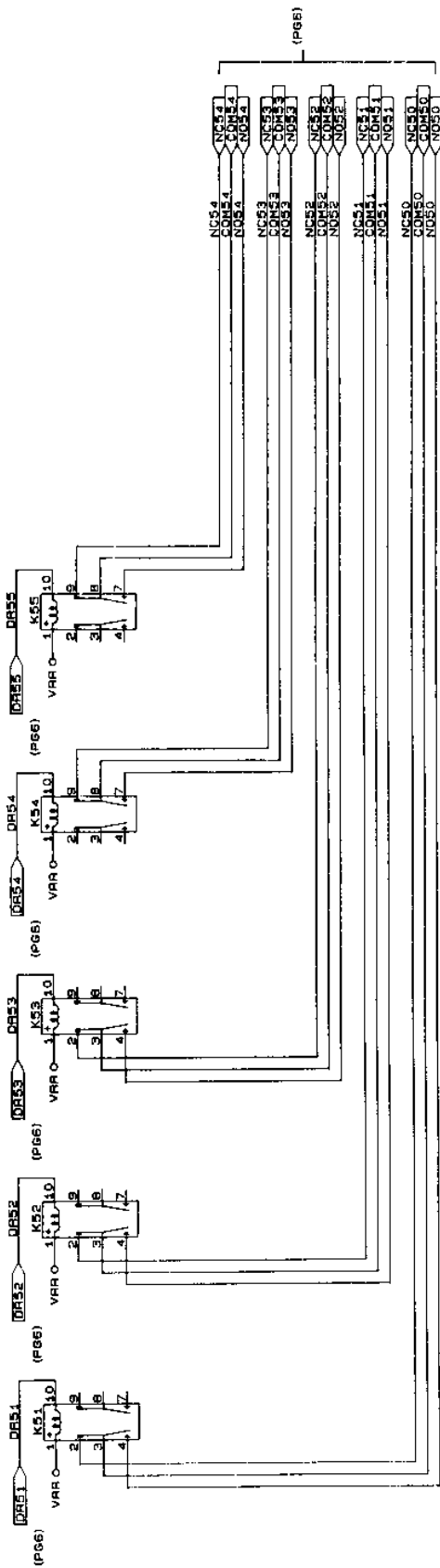
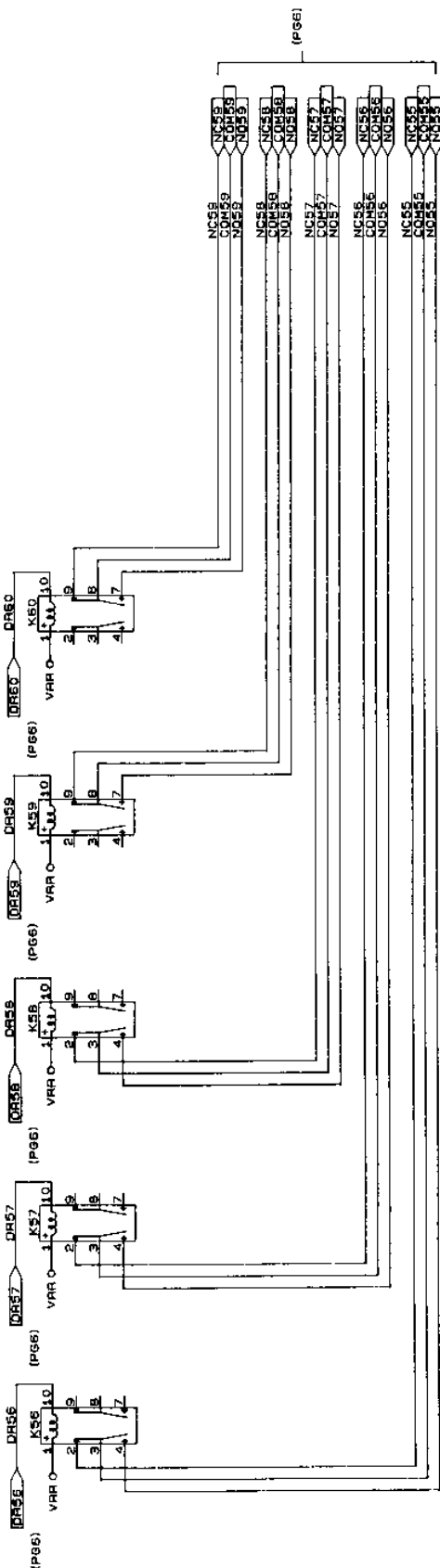
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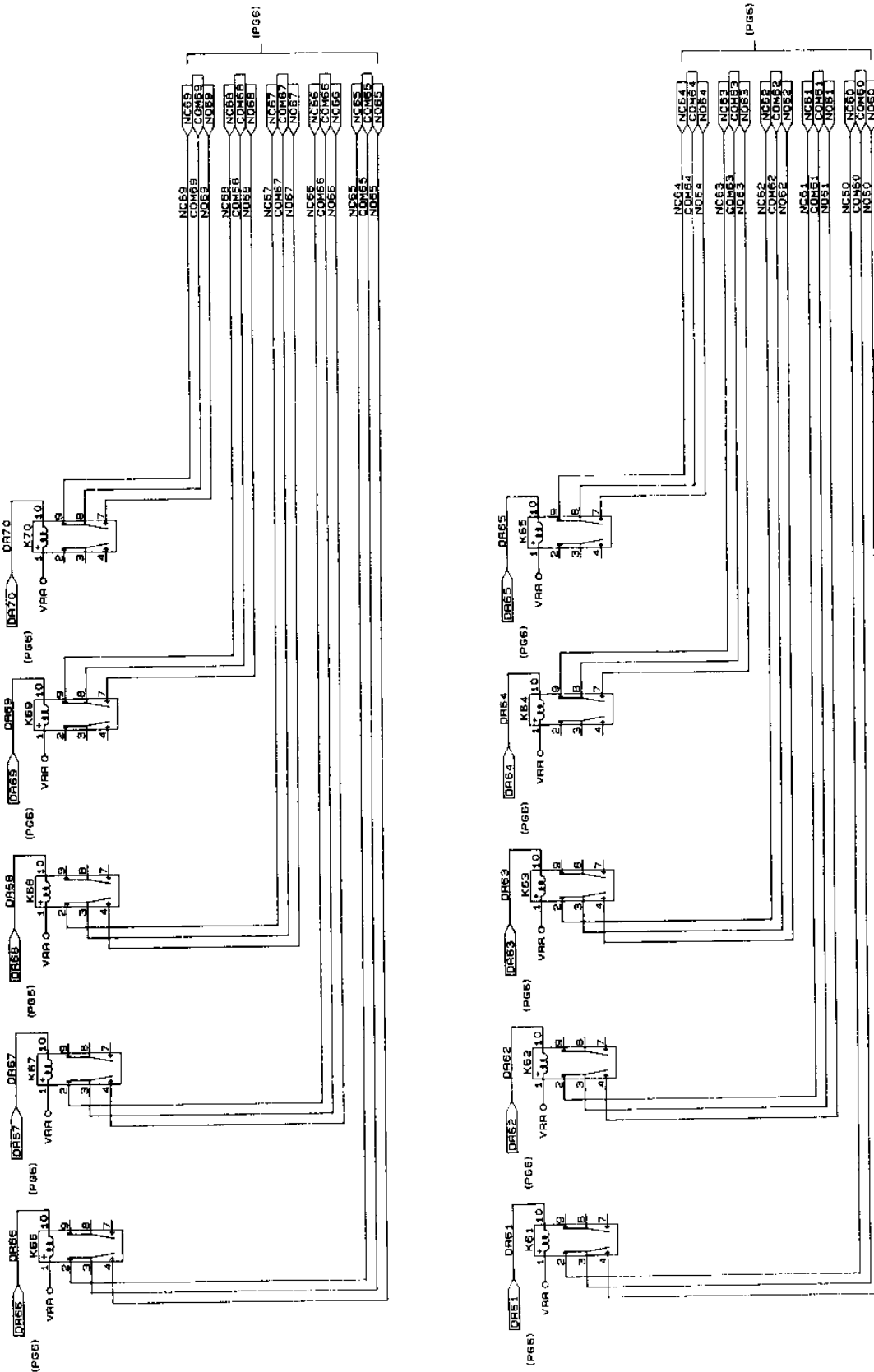
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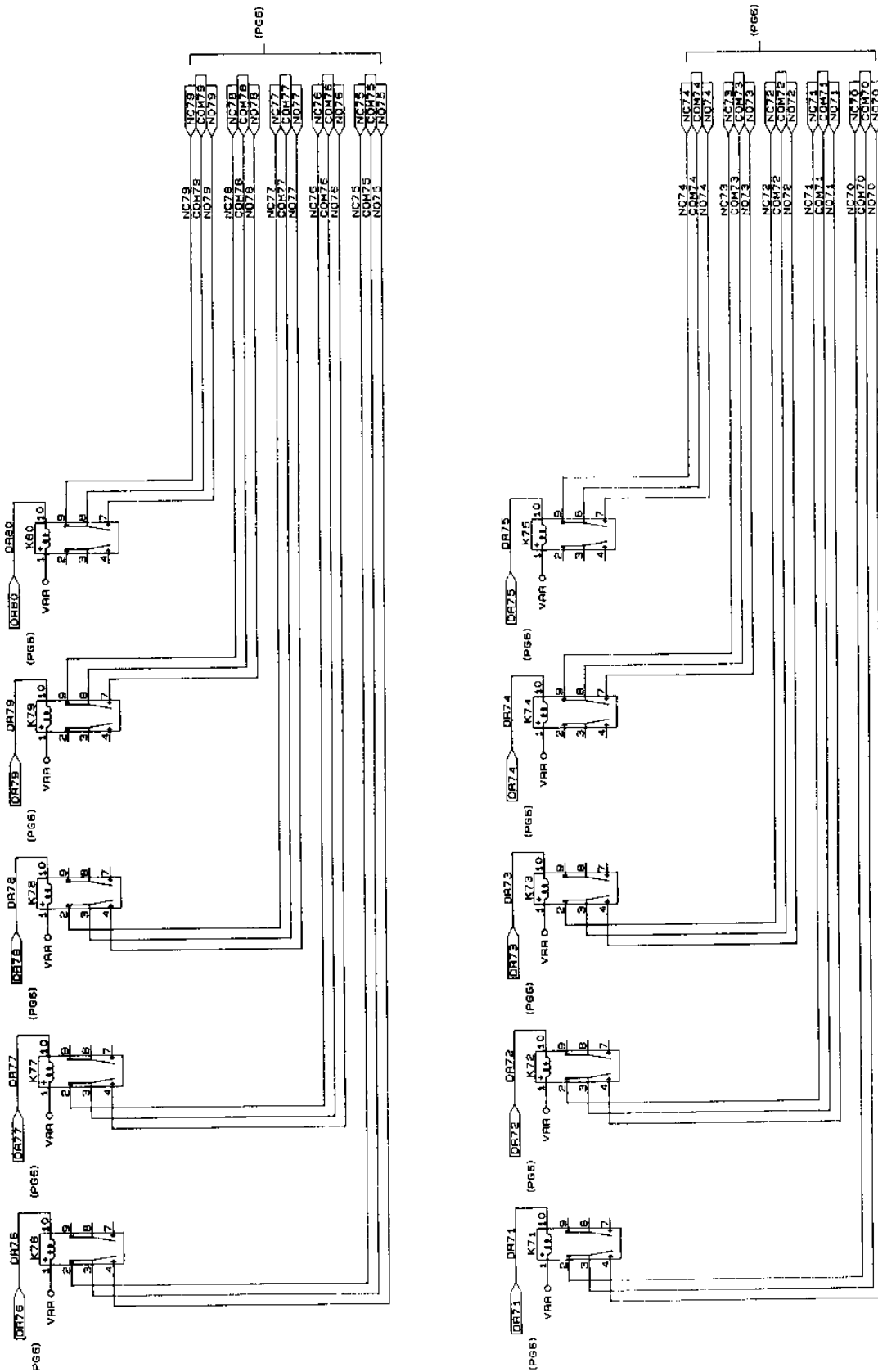
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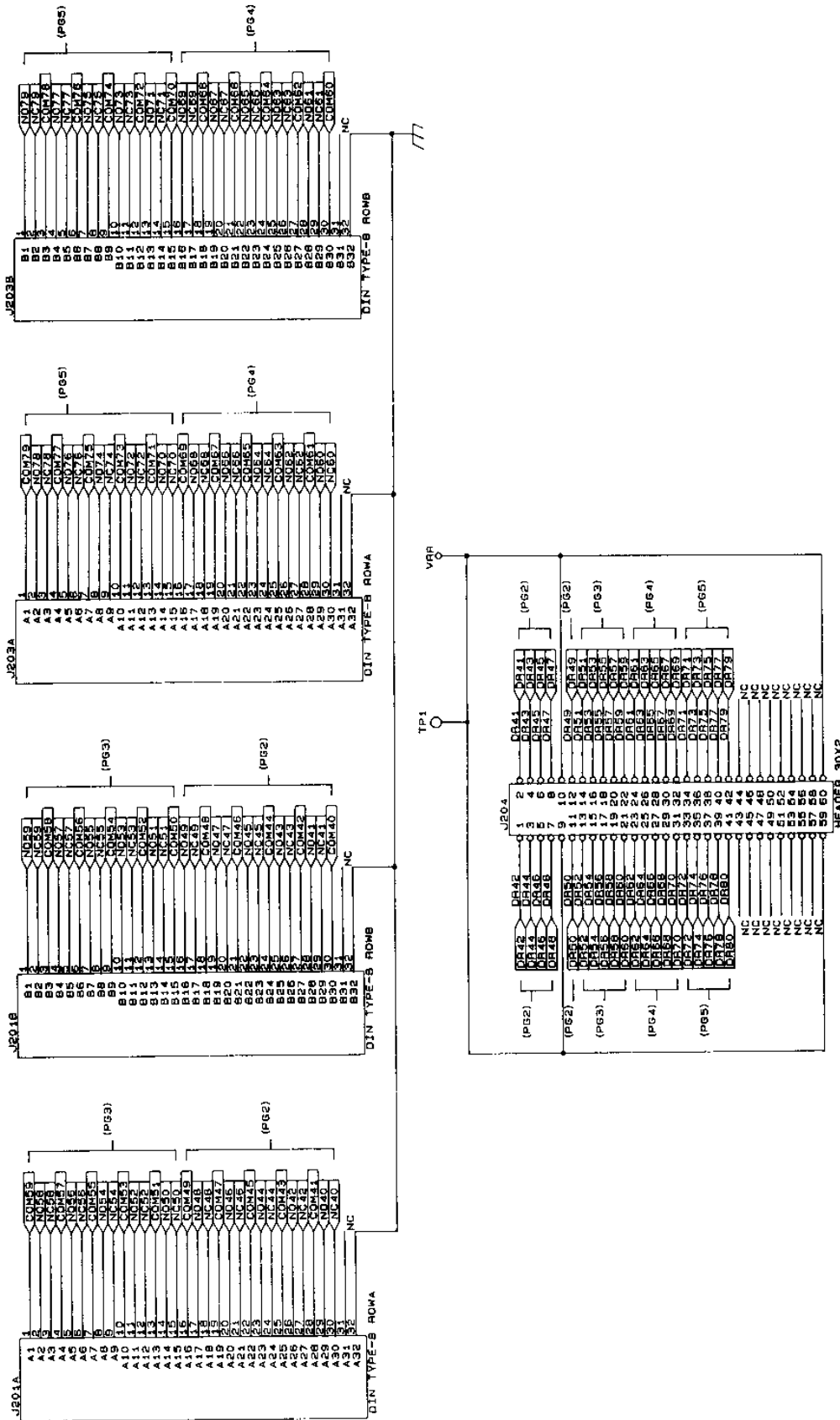
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SIZE	CAGE CODE	DOCUMENT NO	REV
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B	21793	435074	A
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Chapter 5

PARTS LIST

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407353 - 1260-37, MUX/FORM C SW, IDC

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
{1}1	405087	PCB ASSY, 1260-37	21793	405087
{3}1	405071	PCB ASSY, 1260-17D	21793	405071
{5}1	407350	SHIPPING KIT, 1260-37	21793	407350
{9}1	455814-003	PANEL, FRONT, 1260-37	21793	455814-003
{11}1	456238-002	PANEL, RIGHT	21793	456238-002
{13}1	456239-002	PANEL, LEFT	21793	456239-002
{15}1	611264	HANDLE, EXTRACTOR, BOTTOM	62559	20817-327
{16}1	611265	HANDLE, EXTRACTOR, TOP	62559	20817-328
{17}.5	611266	MOUNTING HARDWARE, HANDLE	62559	121100-745
{19}6	616251	SCREW, PPH, SEMS ASSY, 4-40X.250	78189	SEMS W/SQ CONE WA.
{21}2	616405	SCREW, PFH, M2.5-.45 X 12	-	-
{24}6	616414	SCREW, PFL, M3X.50X5	-	-
{27}A/R	920962	LOCTITE, 242, MED STR.	05972	272
{29}1	921059	LABEL, CAUTION, STATIC	21793	921059
{31}1	921148-001	LABEL SET VXI	21793	921148-001
{33}1	921212-017	LABEL, 1260 GENERIC	21793	921212-017
{35}1	921309	LABEL, VXI SWITCH ID	21793	921309

407350 - SHIPPING KIT, 1260-37

REF	RACAL INST	DESCRIPTION	FSC	MANUFACTURER'S P/N
DESIG	P/N			
{1}2	455540	KEY, LOCKOUT, TTL, A/C	21793	455540
{2}2	455541	KEY, LOCKOUT, TTL, A/C	21793	455541
{3}2	455542	KEY, LOCKOUT, TTL, A/C	21793	455542
{6}4	602004	CONNECTOR, TYPE B, FEMALE, 64-PIN	106383	120-064-455
{7}4	602004-001	STRAIN RELIEF, WITH HANDLE	106383	120-000-032
{8}4	602004-002	PULL TAB, SOCKET, 2.5W	106383	LPT-50
{11}3	615013	SCREW, PPF, 2-56 X .188	-	-
{12}1	1980673-024	MANUAL, 1260-37	21793	1980673-024

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407353-001 - 1260-37A, MUX/FORM C SW, CRIMP

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
{1}1	405087	PCB ASSY, 1260-37	21793	405087
{3}1	405071	PCB ASSY, 1260-17D	21793	405071
{5}1	407350-001	SHIPPING KIT, 1260-37A	21793	407350-001
{9}1	455814-003	PANEL, FRONT, 1260-37	21793	455814-003
{11}1	456238-002	PANEL, RIGHT	21793	456238-002
{13}1	456239-002	PANEL, LEFT	21793	456239-002
{15}1	611264	HANDLE, EXTRACTOR, BOTTOM	62559	20817-327
{16}1	611265	HANDLE, EXTRACTOR, TOP	62559	20817-328
{17}.5	611266	MOUNTING HARDWARE, HANDLE	62559	21100-745
{19}6	616251	SCREW, PPH, SEMS ASSY, 4-40X.250	78189	SEMS W/SQ CONE WA.
{21}2	616405	SCREW, PFH, M2.5-.45 X 12	-	-
{24}6	616414	SCREW, PFL, M3X.50X5	-	-
{27}A/R	920962	LOCTITE, 242, MED STR.	05972	272
{29}1	921059	LABEL, CAUTION, STATIC	21793	921059
{31}1	921148-001	LABEL SET VXI	21793	921148-001
{33}1	921212-017	LABEL, 1260 GENERIC	21793	921212-017
{35}1	921309	LABEL, VXI SWITCH ID	21793	921309

407350-001 - SHIPPING, KIT 1260-37A

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
{1}2	1455540	KEY, LOCKOUT, TTL, A/C	21793	1455540
{2}2	1455541	KEY, LOCKOUT, TTL, A/C	21793	1455541
{3}2	1455542	KEY, LOCKOUT, TTL, A/C	21793	1455542
{6}4	602159-064	CONNECTOR HOUSING, 64-PIN, DIN-B, PLUG	0889	09020643214
{10}256	602159-900	CONTACT, CRIMP, SRT, 28-24 AWG	0889	09020008484
{11}3	615013	SCREW, PPF, 2-56 X .188	-	-
{13}1	980673-024	MANUAL, 1260-37	21793	980673-024

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405087 - PCB ASSY, 1260-37

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
C1-C4	110126	CAP, TANTA, 6.8UF, 35V, 20 PERCENT	105397	T355P685M035A5
C100	R-21-1801	CAP, CHIP, 10 NF	95275	VJ1206Y103MF
C102	R-21-1801	CAP, CHIP, 10 NF	95275	VJ1206Y103MF
C103	130177	CAPACITOR, CHIP, SMD, 270PF	95275	VJ1206A271KXAMT
C104-C160	R-21-1801	CAP, CHIP, 10 NF	95275	VJ1206Y103MF
J3	601925	CONNECTOR, PCB, RECEPT, 3 ROW, 96P	52072	1618008
J4	601925	CONNECTOR, PCB, RECEPT, 3 ROW, 96P	52072	1618008
J200	602005	CONNECTOR, DIN TYPE B, MALE, 64 PIN	06383	100-064033B
J202	602005	CONNECTOR, DIN TYPE B, MALE, 64 PIN	06383	100-064033B
K1-K48	310197	RELAY, 2 FORM C	61529	TQ2E-24V
K97	310197	RELAY, 2 FORM C	61529	TQ2E-24V
L1	100164	CAP, FEED-THRU, 800PF, 50V	00779	842448-2
L2	310193	CHOKER, SHIELDED, 5UH	91637	IH-5-5-10
L3	310193	CHOKER, 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
SW1-SW3	601969	SWITCH, DIP 6 POS, LOW PROFILE	65832	K406S
TP1	601197	POST, TEST, .025 SQ	00779	16-87022-6
TP2	601197	POST, TEST, .025 SQ	00779	16-87022-6
U1	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U2	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U3	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U4	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U5	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U6	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U7	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U8	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U9	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U10	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U11	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U12	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U13	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U14	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U15	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U16	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U17	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U18	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U19	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U20	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U21	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U22	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U23	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U24	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U25	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U26	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U27	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U28	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U29	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U30	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U31	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U32	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U33	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U34	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273
U35	231098	IC, SOIC TRANSISTOR	56289	ULN-2803LW
U36	231120	IC, 8-BIT, PARALLEL/SERIAL OUT S.R.	18324	74HCT166D
U37	231131	IC, DIGITAL, SHIFT REGISTER	18324	PC74HCT164D
U38	231130	IC, DIGITAL, FLIP FLOP	18324	PC74HC273

405087 - PCB ASSY, 1260-37

REF	RACAL INST			FSC	MANUFACTURER'S P/N
DESIG	P/N		DESCRIPTION		
U39	1231098	IC,	SOIC TRANSISTOR	156289	ULN-2803LW
U40	1231120	IC,	8-BIT, PARALLEL/SERIAL OUT S.R.	118324	74HCT166D
U41	1231131	IC,	DIGITAL, SHIFT REGISTER	118324	PC74HCT164D
U42	1231130	IC,	DIGITAL, FLIP FLOP	118324	PC74HC273
U43	1231098	IC,	SOIC TRANSISTOR	156289	ULN-2803LW
U44	1231120	IC,	8-BIT, PARALLEL/SERIAL OUT S.R.	118324	74HCT166D
U45	1231131	IC,	DIGITAL, SHIFT REGISTER	118324	PC74HCT164D
U46	1231130	IC,	DIGITAL, FLIP FLOP	118324	PC74HC273
U47	1231098	IC,	SOIC TRANSISTOR	156289	ULN-2803LW
U48	1231120	IC,	8-BIT, PARALLEL/SERIAL OUT S.R.	118324	74HCT166D
U49	1231131	IC,	DIGITAL, SHIFT REGISTER	118324	PC74HCT164D
U50	1231130	IC,	DIGITAL, FLIP FLOP	118324	PC74HC273
U51	1231098	IC,	SOIC TRANSISTOR	156289	ULN-2803LW
U52	1231120	IC,	8-BIT, PARALLEL/SERIAL OUT S.R.	118324	74HCT166D
U53	1231153	IC,	PROGRAMMED PLA	21793	1231153
U54	1231094	IC,	DEMUX DECODER	118324	1N74LS138D
U55	1231094	IC,	DEMUX DECODER	118324	1N74LS138D
U56	1231135	IC,	DIGITAL, 4-BIT COMPARATOR	118324	PC74HCT85D
U57	1231093	IC,	QUAD COMPARATOR	104713	LM339D
U60	1231120	IC,	8-BIT, PARALLEL/SERIAL OUT S.R.	118324	74HCT166D
U61	1231131	IC,	DIGITAL, SHIFT REGISTER	118324	PC74HCT164D
U62	1231131	IC,	DIGITAL, SHIFT REGISTER	118324	PC74HCT164D
U70	1231152-001	IC,	DIGITAL 16L8, PAL	21793	1231152-001
U71	1231147	IC,	MULTIPLEXER	104713	74HC253D
U72	1231147	IC,	MULTIPLEXER	104713	74HC253D
U73	1231096	IC,	QUAD DIFF RECEIVER	101295	AM26LS32ACD
U74	1231096	IC,	QUAD DIFF RECEIVER	101295	AM26LS32ACD
U75	1231125	IC,	DIGITAL, LINE DRIVER	127014	DS26LS31MN
U76	1231154	IC,	PROGRAMMED PLA	21793	1231154
U77	1231147	IC,	MULTIPLEXER	104713	74HC253D
W1	1500022	WIRE,	BARE COPPER/TIN, 22 GA	21793	1500022
W2-W11	1602007	CONNECTOR,	STRAIGHT, DOUBLE ROW, 4 PIN	152072	ICAD0423B43
Z1	1080119	RES NETWORK,	220K	191637	SOMC-1603-224K
Z2	1080117	RES NETWORK,	16P8R, 47K	173138	1628-AL-473J
Z3	1080119	RES NETWORK,	220K	191637	SOMC-1603-224K
Z4	1080117	RES NETWORK,	16P8R, 47K	173138	1628-AL-473J
Z5	1080119	RES NETWORK,	220K	191637	SOMC-1603-224K
Z6	1080117	RES NETWORK,	16P8R, 47K	173138	1628-AL-473J
Z7	1080119	RES NETWORK,	220K	191637	SOMC-1603-224K
Z8	1080117	RES NETWORK,	16P8R, 47K	173138	1628-AL-473J
Z9	1080119	RES NETWORK,	220K	191637	SOMC-1603-224K
Z10	1080117	RES NETWORK,	16P8R, 47K	173138	1628-AL-473J
Z11	1080119	RES NETWORK,	220K	191637	SOMC-1603-224K
Z12	1080117	RES NETWORK,	16P8R, 47K	173138	1628-AL-473J
Z13	1080119	RES NETWORK,	220K	191637	SOMC-1603-224K
Z14	1080117	RES NETWORK,	16P8R, 47K	173138	1628-AL-473J
Z15	1080119	RES NETWORK,	220K	191637	SOMC-1603-224K
Z16	1080117	RES NETWORK,	16P8R, 47K	173138	1628-AL-473J
Z17	1080119	RES NETWORK,	220K	191637	SOMC-1603-224K
Z18	1080117	RES NETWORK,	16P8R, 47K	173138	1628-AL-473J
Z19	1080119	RES NETWORK,	220K	191637	SOMC-1603-224K
Z20	1080117	RES NETWORK,	16P8R, 47K	173138	1628-AL-473J
Z21	1080119	RES NETWORK,	220K	191637	SOMC-1603-224K
Z22	1080117	RES NETWORK,	16P8R, 47K	173138	1628-AL-473J
Z23	1080119	RES NETWORK,	220K	191637	SOMC-1603-224K
Z24	1080117	RES NETWORK,	16P8R, 47K	173138	1628-AL-473J
Z25	1080119	RES NETWORK,	220K	191637	SOMC-1603-224K
Z26	1080117	RES NETWORK,	16P8R, 47K	173138	1628-AL-473J
Z27	1080114	RES NETWORK,	16P8R, 15K	173138	1628-AL-153J

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405087 - PCB ASSY, 1260-37

REF DESIG	RACAL INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
Z28	1080120	RES NETWORK, 10K	11236	1767-161R10K
{43}1	1401951	PCB ASSY., LBUS JUMPER	21793	1401951
{44}1	1401951-003	PCB ASSY., P3 JUMPER	21793	1401951-003
{45}1	1415087	PCB, 1260-37 (UNLOADED)	21793	1415087
{58}20	1601195	PLUG, JUMPER, 0.1 CTR, LOW PROFILE	100779	1530153-2
{66}1	1602023	CABLE ASSY., 1DC 60 PIN	21793	1602023
{67}6	1610257	STANDOFF, SWAGE, 1/4D, 4-40 X .31	106540	19534BB04403A
{71}1	1611366	STANDOFF, ROUND SWAGE, M3X0.5X19	106540	121017-B-0350-28
{72}2	1611367	STANDOFF, ROUND SWAGE, M3X0.5X4.3	106540	121003B-B-0350-28(L4.3)
{74}1	1920927	BUMPER, ADHESIVE BACK	153387	1SJ-5003BUMPON

405071 - PCB ASSY., 1260-17D

REF DESIG	RACAL P/N	INST P/N	DESCRIPTION	FSC	MANUFACTURER'S P/N
J201	1602005		CONNECTOR, DIN TYPE B, MALE, 64 PIN	06383	100-064033B
J203	1602005		CONNECTOR, DIN TYPE B, MALE, 64 PIN	06383	100-064033B
J204	1602008		CONNECTOR, RIGHT ANGLE, 60 PIN	52072	CA-60HRM-1F-S
K41-K80	1310197		RELAY, 2 FORM C	61529	TQ2E-24V
TP1	1601197		POST, TEST, .025 SQ	00779	6-87022-6
{3}1	1415071		PCB, 1260-17D (UNLOADED)	21793	415071

List of Suppliers

FSC	SUPPLIER	FSC	SUPPLIER
00779	AMP, INC. HARRISBURG, PA	52210	GETTING ENGRG. & MFG. CO. SPRING MILLS, PA
01295	TEXAS INSTRUMENTS, INC. DALLAS, TX	53387	THREE M (3M) CO. ST. PAUL, MN
04713	MOTOROLA, INC. (SEMICONDUCTOR PRODUCTS DIV.) PHOENIX, AZ	56289	SPAGUE ELECTRIC CO. N. ADAMS, MA
05397	UNION CARBIDE CORP. (MATERIALS SYSTEMS DIV.) CLEVELAND, OH	61529	AROMAT CORP. CUPERTINO, CA
05972	LOCTITE CORP. HARTFORD, CT	62559	SCHROFF, INC. WARWICK, RI
06383	PANDUIT CORP. TINLEY PARK, IL	65832	AMERICAN RESEARCH & ENGINEERING ELGIN, IL
06540	AMATOM ELECTRONIC HARDWARE NEW ROCHELLE, NY	73138	BECKMAN INSTRUMENTS FULLERTON, CA
11236	CTS OF BERNE, INC. BERNE, IN	78189	ILLINOIS TOOL WORKS, INC. (SHAKEPROOF DIV.) ELGIN, IL
18324	SIGNETICS, INC. SUNNYVALE, CA	91637	DALE ELECTRONICS, INC. COLUMBUS, NE
21793	RACAL INSTRUMENTS INC. IRVINE, CA	95275	VITRAMON, INC. BRIDGEPORT, CT
27014	NATIONAL SEMI-CONDUCTOR CORP. SANTA CLARA, CA	OG8R9	HARTING ELECTRONICS HOFFMAN ESTATES, IL
52072	CIRCUIT ASSY. CORP. COSTA MESA, CA		

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Chapter 6

OPTIONAL HARNESS ASSEMBLIES

The following harness assemblies are used to connect Racal Instruments Model 1260-37 to Freedom Series Test Receiver Interfaces.

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

407437 Virginia Panel, Inc. Series VP90 Interface Harness

407438 TTI Testron, Inc. Interface Harness

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

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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
	BLK AA (J100)	Uxx-SLOT yy (J200,J201)	CABLE	407437		SYSTEM WIRE LIST
	BLK AA (J101)	Uxx-SLOT yy (J201,J202)	CABLE	407437		
	BLK AA (J102)	Uxx-SLOT yy (J203)	CABLE	407437		
<p>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.</p>						
<small>DOC. NO. 407437</small>						
RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718						
DOCUMENT TITLE			SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSY, 1260-37, VP90			A	21793	407437	B
			DRN		SHEET 2 of 8	

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
1	J100-44	J200-A1	RED	407259	41.5"	SIGNAL GND
2	J100-76	J200-A2	BRN	407259	41.5"	SIGNAL GND
3	J100-13	J200-A3	BLK	407259	41.5"	CH23A
4	J100-46	J200-A4	WHT	407259	41.5"	CH22A
5	J100-78	J200-A5	GRY	407259	41.5"	CH21A
6	J100-15	J200-A6	VIO	407259	41.5"	CH20A
7	J100-48	J200-A7	BLU	407259	41.5"	CH19A
8	J100-80	J200-A8	GRN	407259	41.5"	CH18A
9	J100-17	J200-A9	YEL	407259	41.5"	COM4A
10	J100-50	J200-A10	ORN	407259	41.5"	CH17A
11	J100-82	J200-A11	RED	407259	41.5"	CH16A
12	J100-19	J200-A12	BRN	407259	41.5"	CH15A
13	J100-52	J200-A13	BLK	407259	41.5"	CH14A
14	J100-84	J200-A14	WHT	407259	41.5"	CH13A
15	J100-21	J200-A15	GRY	407259	41.5"	CH12A
16	J100-54	J200-A16	VIO	407259	41.5"	COM3A
17	J100-86	J200-A17	BLU	407259	41.5"	CH11A
18	J100-23	J200-A18	GRN	407259	41.5"	CH10A
19	J100-56	J200-A19	YEL	407259	41.5"	CH9A
20	J100-88	J200-A20	ORN	407259	41.5"	CH8A
21	J100-25	J200-A21	RED	407259	41.5"	CH7A
22	J100-58	J200-A22	BRN	407259	41.5"	CH6A
23	J100-90	J200-A23	BLK	407259	41.5"	COM2A
24	J100-27	J200-A24	WHT	407259	41.5"	CH5A
25	J100-60	J200-A25	GRY	407259	41.5"	CH4A
26	J100-92	J200-A26	VIO	407259	41.5"	CH3A
27	J100-29	J200-A27	BLU	407259	41.5"	CH2A
28	J100-62	J200-A28	GRN	407259	41.5"	CH1A
29	J100-94	J200-A29	YEL	407259	41.5"	CH0A
30	J100-31	J200-A30	ORN	407259	41.5"	COM1A
31	J100-64	J200-A31	RED	407259	41.5"	J200-B31
32	J100-96	J200-A32	BRN	407259	41.5"	ABUS1A
33	J100-75	J200-B1	TAN	407259	41.5"	SIGNAL GND
34	J100-12	J200-B2	TAN	407259	41.5"	SIGNAL GND
35	J100-45	J200-B3	TAN	407259	41.5"	CH23B
36	J100-77	J200-B4	TAN	407259	41.5"	CH22B
37	J100-14	J200-B5	TAN	407259	41.5"	CH21B
38	J100-47	J200-B6	TAN	407259	41.5"	CH20B
39	J100-79	J200-B7	TAN	407259	41.5"	CH19B
40	J100-16	J200-B8	TAN	407259	41.5"	CH18B
41	J100-49	J200-B9	TAN	407259	41.5"	COM4B
42	J100-81	J200-B10	TAN	407259	41.5"	CH17B
43	J100-18	J200-B11	TAN	407259	41.5"	CH16B
44	J100-51	J200-B12	TAN	407259	41.5"	CH15B
45	J100-83	J200-B13	TAN	407259	41.5"	CH14B
46	J100-20	J200-B14	TAN	407259	41.5"	CH13B
47	J100-53	J200-B15	TAN	407259	41.5"	CH12B
48	J100-85	J200-B16	TAN	407259	41.5"	COM3B
RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718						
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WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
49	J100-22	J200-B17	TAN	407259	41.5"	CH11B
50	J100-55	J200-B18	TAN	407259	41.5"	CH10B
51	J100-87	J200-B19	TAN	407259	41.5"	CH9B
52	J100-24	J200-B20	TAN	407259	41.5"	CH8B
53	J100-57	J200-B21	TAN	407259	41.5"	CH7B
54	J100-89	J200-B22	TAN	407259	41.5"	CH6B
55	J100-26	J200-B23	TAN	407259	41.5"	COM2B
56	J100-59	J200-B24	TAN	407259	41.5"	CH5B
57	J100-91	J200-B25	TAN	407259	41.5"	CH4B
58	J100-28	J200-B26	TAN	407259	41.5"	CH3B
59	J100-61	J200-B27	TAN	407259	41.5"	CH2B
60	J100-93	J200-B28	TAN	407259	41.5"	CH1B
61	J100-30	J200-B29	TAN	407259	41.5"	CH0B
62	J100-63	J200-B30	TAN	407259	41.5"	COM1B
63	J100-95	J200-B31	TAN	407259	41.5"	J200-A31
64	J100-32	J200-B32	TAN	407259	41.5"	ABUS1B
65	J101-1	J201-A1	RED	407258	41.5"	COM19
66	J101-34	J201-A2	BRN	407258	41.5"	NO18
67	J101-66	J201-A3	BLK	407258	41.5"	NC18
68	J101-3	J201-A4	WHT	407258	41.5"	COM17
69	J101-36	J201-A5	GRY	407258	41.5"	NO16
70	J101-68	J201-A6	VIO	407258	41.5"	NC16
71	J101-5	J201-A7	BLU	407258	41.5"	COM15
72	J101-38	J201-A8	GRN	407258	41.5"	NO14
73	J101-70	J201-A9	YEL	407258	41.5"	NC14
74	J101-7	J201-A10	ORN	407258	41.5"	COM13
75	J101-40	J201-A11	RED	407258	41.5"	NO12
76	J101-72	J201-A12	BRN	407258	41.5"	NC12
77	J101-9	J201-A13	BLK	407258	41.5"	COM11
78	J101-42	J201-A14	WHT	407258	41.5"	NO10
79	J101-74	J201-A15	GRY	407258	41.5"	NC10
80	J101-11	J201-A16	VIO	407258	41.5"	COM9
81	J100-1	J201-A17	BLU	407258	41.5"	NO8
82	J100-34	J201-A18	GRN	407258	41.5"	NC8
83	J100-66	J201-A19	YEL	407258	41.5"	COM7
84	J100-3	J201-A20	ORN	407258	41.5"	NO6
85	J100-36	J201-A21	RED	407258	41.5"	NC6
86	J100-68	J201-A22	BRN	407258	41.5"	COM5
87	J100-5	J201-A23	BLK	407258	41.5"	NO4
88	J100-38	J201-A24	WHT	407258	41.5"	NC4
89	J100-70	J201-A25	GRY	407258	41.5"	COM3
90	J100-7	J201-A26	VIO	407258	41.5"	NO2
91	J100-40	J201-A27	BLU	407258	41.5"	NC2
92	J100-72	J201-A28	GRN	407258	41.5"	COM1
93	J100-9	J201-A29	YEL	407258	41.5"	NO0
94	J100-42	J201-A30	ORN	407258	41.5"	NC0
RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718						
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WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
95	J100-74	J201-A31	RED	407258	41.5"	NO CONNECTION
96	J100-11	J201-A32	BRN	407258	41.5"	CHASSIS GND
97	J101-33	J201-B1	TAN	407258	41.5"	NO19
98	J101-65	J201-B2	TAN	407258	41.5"	NC19
99	J101-2	J201-B3	TAN	407258	41.5"	COM18
100	J101-35	J201-B4	TAN	407258	41.5"	NO17
101	J101-67	J201-B5	TAN	407258	41.5"	NC17
102	J101-4	J201-B6	TAN	407258	41.5"	COM16
103	J101-37	J201-B7	TAN	407258	41.5"	NO15
104	J101-69	J201-B8	TAN	407258	41.5"	NC15
105	J101-6	J201-B9	TAN	407258	41.5"	COM14
106	J101-39	J201-B10	TAN	407258	41.5"	NO13
107	J101-71	J201-B11	TAN	407258	41.5"	NC13
108	J101-8	J201-B12	TAN	407258	41.5"	COM12
109	J101-41	J201-B13	TAN	407258	41.5"	NO11
110	J101-73	J201-B14	TAN	407258	41.5"	NC11
111	J101-10	J201-B15	TAN	407258	41.5"	COM10
112	J101-43	J201-B16	TAN	407258	41.5"	NO9
113	J100-33	J201-B17	TAN	407258	41.5"	NC9
114	J100-65	J201-B18	TAN	407258	41.5"	COM8
115	J100-2	J201-B19	TAN	407258	41.5"	NO7
116	J100-35	J201-B20	TAN	407258	41.5"	NC7
117	J100-67	J201-B21	TAN	407258	41.5"	COM6
118	J100-4	J201-B22	TAN	407258	41.5"	NO5
119	J100-37	J201-B23	TAN	407258	41.5"	NC5
120	J100-69	J201-B24	TAN	407258	41.5"	COM4
121	J100-6	J201-B25	TAN	407258	41.5"	NO3
122	J100-39	J201-B26	TAN	407258	41.5"	NC3
123	J100-71	J201-B27	TAN	407258	41.5"	COM2
124	J100-8	J201-B28	TAN	407258	41.5"	NO1
125	J100-41	J201-B29	TAN	407258	41.5"	NC1
126	J100-73	J201-B30	TAN	407258	41.5"	COM0
127	J100-10	J201-B31	TAN	407258	41.5"	NO CONNECTION
128	J100-43	J201-B32	TAN	407258	41.5"	CHASSIS GND
129	J101-44	J202-A1	RED	407259	41.5"	SIGNAL GND
130	J101-76	J202-A2	BRN	407259	41.5"	SIGNAL GND
131	J101-13	J202-A3	BLK	407259	41.5"	CH47A
132	J101-46	J202-A4	WHT	407259	41.5"	CH46A
133	J101-78	J202-A5	GRY	407259	41.5"	CH45A
134	J101-15	J202-A6	VIO	407259	41.5"	CH44A
135	J101-48	J202-A7	BLU	407259	41.5"	CH43A
136	J101-80	J202-A8	GRN	407259	41.5"	CH42A
137	J101-17	J202-A9	YEL	407259	41.5"	COM8A
138	J101-50	J202-A10	ORN	407259	41.5"	CH41A
139	J101-82	J202-A11	RED	407259	41.5"	CH40A
140	J101-19	J202-A12	BRN	407259	41.5"	CH39A
RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718						
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141	J101-52	J202-A13	BLK	407259	41.5"	CH38A
142	J101-84	J202-A14	WHT	407259	41.5"	CH37A
143	J101-21	J202-A15	GRY	407259	41.5"	CH36A
144	J101-54	J202-A16	VIO	407259	41.5"	COM7A
145	J101-86	J202-A17	BLU	407259	41.5"	CH35A
146	J101-23	J202-A18	GRN	407259	41.5"	CH34A
147	J101-56	J202-A19	YEL	407259	41.5"	CH33A
148	J101-88	J202-A20	ORN	407259	41.5"	CH32A
149	J101-25	J202-A21	RED	407259	41.5"	CH31A
150	J101-58	J202-A22	BRN	407259	41.5"	CH30A
151	J101-90	J202-A23	BLK	407259	41.5"	COM6A
152	J101-27	J202-A24	WHT	407259	41.5"	CH29A
153	J101-60	J202-A25	GRY	407259	41.5"	CH28A
154	J101-92	J202-A26	VIO	407259	41.5"	CH27A
155	J101-29	J202-A27	BLU	407259	41.5"	CH26A
156	J101-62	J202-A28	GRN	407259	41.5"	CH25A
157	J101-94	J202-A29	YEL	407259	41.5"	CH24A
158	J101-31	J202-A30	ORN	407259	41.5"	COM5A
159	J101-64	J202-A31	RED	407259	41.5"	SIGNAL GND
160	J101-96	J202-A32	BRN	407259	41.5"	SIGNAL GND
161	J101-75	J202-B1	TAN	407259	41.5"	SIGNAL GND
162	J101-12	J202-B2	TAN	407259	41.5"	SIGNAL GND
163	J101-45	J202-B3	TAN	407259	41.5"	CH47A
164	J101-77	J202-B4	TAN	407259	41.5"	CH46B
165	J101-14	J202-B5	TAN	407259	41.5"	CH45B
166	J101-47	J202-B6	TAN	407259	41.5"	CH44B
167	J101-79	J202-B7	TAN	407259	41.5"	CH43B
168	J101-16	J202-B8	TAN	407259	41.5"	CH42B
169	J101-49	J202-B9	TAN	407259	41.5"	COM8B
170	J101-81	J202-B10	TAN	407259	41.5"	CH41B
171	J101-18	J202-B11	TAN	407259	41.5"	CH40B
172	J101-51	J202-B12	TAN	407259	41.5"	CH39B
173	J101-83	J202-B13	TAN	407259	41.5"	CH38B
174	J101-20	J202-B14	TAN	407259	41.5"	CH37B
175	J101-53	J202-B15	TAN	407259	41.5"	CH36B
176	J101-85	J202-B16	TAN	407259	41.5"	COM7B
177	J101-22	J202-B17	TAN	407259	41.5"	CH35B
178	J101-55	J202-B18	TAN	407259	41.5"	CH34B
179	J101-87	J202-B19	TAN	407259	41.5"	CH33B
180	J101-24	J202-B20	TAN	407259	41.5"	CH32B
181	J101-57	J202-B21	TAN	407259	41.5"	CH31B
182	J101-89	J202-B22	TAN	407259	41.5"	CH30B
183	J101-26	J202-B23	TAN	407259	41.5"	COM6B
184	J101-59	J202-B24	TAN	407259	41.5"	CH29B
185	J101-91	J202-B25	TAN	407259	41.5"	CH28B
186	J101-28	J202-B26	TAN	407259	41.5"	CH27B
187	J101-61	J202-B27	TAN	407259	41.5"	CH26B
188	J101-93	J202-B28	TAN	407259	41.5"	CH25B

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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
189	J101-30	J202-B29	TAN	407259	41.5"	CH24B
190	J101-63	J202-B30	TAN	407259	41.5"	COM5B
191	J101-95	J202-B31	TAN	407259	41.5"	SIGNAL GND
192	J101-32	J202-B32	TAN	407259	41.5"	SIGNAL GND
193	J102-33	J203-A1	RED	407259	41.5"	COM39
194	J102-34	J203-A2	BRN	407259	41.5"	NO38
195	J102-35	J203-A3	BLK	407259	41.5"	NC38
196	J102-36	J203-A4	WHT	407259	41.5"	COM37
197	J102-37	J203-A5	GRY	407259	41.5"	NO36
198	J102-38	J203-A6	VIO	407259	41.5"	NC36
199	J102-39	J203-A7	BLU	407259	41.5"	COM35
200	J102-40	J203-A8	GRN	407259	41.5"	NO34
201	J102-41	J203-A9	YEL	407259	41.5"	NC34
202	J102-42	J203-A10	ORN	407259	41.5"	COM33
203	J102-43	J203-A11	RED	407259	41.5"	NO32
204	J102-44	J203-A12	BRN	407259	41.5"	NC32
205	J102-45	J203-A13	BLK	407259	41.5"	COM31
206	J102-46	J203-A14	WHT	407259	41.5"	NO30
207	J102-47	J203-A15	GRY	407259	41.5"	NC30
208	J102-48	J203-A16	VIO	407259	41.5"	COM29
209	J102-49	J203-A17	BLU	407259	41.5"	NO28
210	J102-50	J203-A18	GRN	407259	41.5"	NC28
211	J102-51	J203-A19	YEL	407259	41.5"	COM27
212	J102-52	J203-A20	ORN	407259	41.5"	NO26
213	J102-53	J203-A21	RED	407259	41.5"	NC26
214	J102-54	J203-A22	BRN	407259	41.5"	COM25
215	J102-55	J203-A23	BLK	407259	41.5"	NO24
216	J102-56	J203-A24	WHT	407259	41.5"	NC24
217	J102-57	J203-A25	GRY	407259	41.5"	COM23
218	J102-58	J203-A26	VIO	407259	41.5"	NO22
219	J102-59	J203-A27	BLU	407259	41.5"	NC22
220	J102-60	J203-A28	GRN	407259	41.5"	COM21
221	J102-61	J203-A29	YEL	407259	41.5"	NO20
222	J102-62	J203-A30	ORN	407259	41.5"	NC20
223	J102-63	J203-A31	RED	407259	41.5"	NO CONNECTION
224	J102-64	J203-A32	BRN	407259	41.5"	CHASSIS GND
225	J102-1	J203-B1	TAN	407259	41.5"	NO39
226	J102-2	J203-B2	TAN	407259	41.5"	NC39
227	J102-3	J203-B3	TAN	407259	41.5"	COM38
228	J102-4	J203-B4	TAN	407259	41.5"	NO37
229	J102-5	J203-B5	TAN	407259	41.5"	NC37
230	J102-6	J203-B6	TAN	407259	41.5"	COM36
231	J102-7	J203-B7	TAN	407259	41.5"	NO35
232	J102-8	J203-B8	TAN	407259	41.5"	NC35
233	J102-9	J203-B9	TAN	407259	41.5"	COM34
234	J102-10	J203-B10	TAN	407259	41.5"	NO33

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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
235	J102-11	J203-B11	TAN	407259	41.5"	NC33
236	J102-12	J203-B12	TAN	407259	41.5"	COM32
237	J102-13	J203-B13	TAN	407259	41.5"	NO31
238	J102-14	J203-B14	TAN	407259	41.5"	NC31
239	J102-15	J203-B15	TAN	407259	41.5"	COM30
240	J102-16	J203-B16	TAN	407259	41.5"	NO29
241	J102-17	J203-B17	TAN	407259	41.5"	NC29
242	J102-18	J203-B18	TAN	407259	41.5"	COM28
243	J102-19	J203-B19	TAN	407259	41.5"	NO27
244	J102-20	J203-B20	TAN	407259	41.5"	NC27
245	J102-21	J203-B21	TAN	407259	41.5"	COM26
246	J102-22	J203-B22	TAN	407259	41.5"	NO25
247	J102-23	J203-B23	TAN	407259	41.5"	NC25
248	J102-24	J203-B24	TAN	407259	41.5"	COM24
249	J102-25	J203-B25	TAN	407259	41.5"	NO23
250	J102-26	J203-B26	TAN	407259	41.5"	NC23
251	J102-27	J203-B27	TAN	407259	41.5"	COM22
252	J102-28	J203-B28	TAN	407259	41.5"	NO21
253	J102-29	J203-B29	TAN	407259	41.5"	NC21
254	J102-30	J203-B30	TAN	407259	41.5"	COM20
255	J102-31	J203-B31	TAN	407259	41.5"	NO CONNECTION
256	J102-32	J203-B32	TAN	407259	41.5"	CHASSIS GND
RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718						
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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	407438		SYSTEM WIRE LIST
	BLK AAx RW 02 (J101)	Uxx-SLOT yy (J200)	CABLE	407438		
	BLK AAx RW 03 (J102)	Uxx-SLOT yy (J200)	CABLE	407438		
	BLK AAx RW 04 (J103)	Uxx-SLOT yy (J200)	CABLE	407438		
	BLK AAx RW 05 (J104)	Uxx-SLOT yy (J200)	CABLE	407438		
	BLK AAx RW 06 (J105)	Uxx-SLOT yy (J200)	CABLE	407438		
	BLK AAx RW 07 (J106)	Uxx-SLOT yy (J200)	CABLE	407438		
	BLK AAx RW 08 (J107)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 09 (J108)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 10 (J109)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 11 (J110)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 12 (J111)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 13 (J112)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 14 (J113)	Uxx-SLOT yy (J201)	CABLE	407438		
	BLK AAx RW 15 (J114)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 16 (J115)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 17 (J116)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 01 (J117)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 02 (J118)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 03 (J119)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 04 (J120)	Uxx-SLOT yy (J202)	CABLE	407438		
	BLK AAx RW 05 (J121)	Uxx-SLOT yy (J203)	CABLE	407438		
	BLK AAx RW 06 (J122)	Uxx-SLOT yy (J203)	CABLE	407438		
	BLK AAx RW 07 (J123)	Uxx-SLOT yy (J203)	CABLE	407438		
	BLK AAx RW 08 (J124)	Uxx-SLOT yy (J203)	CABLE	407438		
RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718						
DOCUMENT TITLE			SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSY, 1260-37, TTI			A	21793	407438	A
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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
	BLK AAx RW 09 (J125)	Uxx-SLOT yy (J203)	CABLE	407438		
	BLK AAx RW 10 (J126)	Uxx-SLOT yy (J203)	CABLE	407438		
	BLK AAx RW 11 (J127)	Uxx-SLOT yy (J203)	CABLE	407438		
<p>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.</p>						
<p style="font-size: small;">RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718</p>						
DOCUMENT TITLE			SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSY, 1260-37, TTI			A	21793	407438	A
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DOC. NO. 407438

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE	
1	J106-3	J200-A1	RED	407260	41.5"	SIGNAL GND	
2	J106-1	J200-A2	BRN	407260	41.5"	SIGNAL GND	
3	J105-2	J200-A3	BLK	407260	41.5"	CH23A	
4	J105-4	J200-A4	WHT	407260	41.5"	CH22A	
5	J105-6	J200-A5	GRY	407260	41.5"	CH21A	
6	J105-8	J200-A6	VIO	407260	41.5"	CH20A	
7	J105-10	J200-A7	BLU	407260	41.5"	CH19A	
8	J104-9	J200-A8	GRN	407260	41.5"	CH18A	
9	J104-7	J200-A9	YEL	407260	41.5"	COM4A	
10	J104-5	J200-A10	ORN	407260	41.5"	CH17A	
11	J104-3	J200-A11	RED	407260	41.5"	CH16A	
12	J104-1	J200-A12	BRN	407260	41.5"	CH15A	
13	J103-2	J200-A13	BLK	407260	41.5"	CH14A	
14	J103-4	J200-A14	WHT	407260	41.5"	CH13A	
15	J103-6	J200-A15	GRY	407260	41.5"	CH12A	
16	J103-8	J200-A16	VIO	407260	41.5"	COM3A	
17	J103-10	J200-A17	BLU	407260	41.5"	CH11A	
18	J102-9	J200-A18	GRN	407260	41.5"	CH10A	
19	J102-7	J200-A19	YEL	407260	41.5"	CH9A	
20	J102-5	J200-A20	ORN	407260	41.5"	CH8A	
21	J102-3	J200-A21	RED	407260	41.5"	CH7A	
22	J102-1	J200-A22	BRN	407260	41.5"	CH6A	
23	J101-2	J200-A23	BLK	407260	41.5"	COM2A	
24	J101-4	J200-A24	WHT	407260	41.5"	CH5A	
25	J101-6	J200-A25	GRY	407260	41.5"	CH4A	
26	J101-8	J200-A26	VIO	407260	41.5"	CH3A	
27	J101-10	J200-A27	BLU	407260	41.5"	CH2A	
28	J100-9	J200-A28	GRN	407260	41.5"	CH1A	
29	J100-7	J200-A29	YEL	407260	41.5"	CH0A	
30	J100-5	J200-A30	ORN	407260	41.5"	COM1A	
31	J100-3	J200-A31	RED	407260	41.5"	J200-B31	
32	J100-1	J200-A32	BRN	407260	41.5"	ABUS1A	
33	J106-4	J200-B1	TAN	407260	41.5"	SIGNAL GND	
34	J106-2	J200-B2	TAN	407260	41.5"	SIGNAL GND	
35	J105-1	J200-B3	TAN	407260	41.5"	CH23B	
36	J105-3	J200-B4	TAN	407260	41.5"	CH22B	
37	J105-5	J200-B5	TAN	407260	41.5"	CH21B	
38	J105-7	J200-B6	TAN	407260	41.5"	CH20B	
39	J105-9	J200-B7	TAN	407260	41.5"	CH19B	
40	J104-10	J200-B8	TAN	407260	41.5"	CH18B	
41	J104-8	J200-B9	TAN	407260	41.5"	COM4B	
42	J104-6	J200-B10	TAN	407260	41.5"	CH17B	
43	J104-4	J200-B11	TAN	407260	41.5"	CH16B	
44	J104-2	J200-B12	TAN	407260	41.5"	CH15B	
45	J103-1	J200-B13	TAN	407260	41.5"	CH14B	
46	J103-3	J200-B14	TAN	407260	41.5"	CH13B	
47	J103-5	J200-B15	TAN	407260	41.5"	CH12B	
48	J103-7	J200-B16	TAN	407260	41.5"	COM3B	
RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718							
DOCUMENT TITLE				SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, TTI				A	21793	407438	A
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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
49	J103-9	J200-B17	TAN	407260	41.5"	CH11B
50	J102-10	J200-B18	TAN	407260	41.5"	CH10B
51	J102-8	J200-B19	TAN	407260	41.5"	CH9B
52	J102-6	J200-B20	TAN	407260	41.5"	CH8B
53	J102-4	J200-B21	TAN	407260	41.5"	CH7B
54	J102-2	J200-B22	TAN	407260	41.5"	CH6B
55	J101-1	J200-B23	TAN	407260	41.5"	COM2B
56	J101-3	J200-B24	TAN	407260	41.5"	CH5B
57	J101-5	J200-B25	TAN	407260	41.5"	CH4B
58	J101-7	J200-B26	TAN	407260	41.5"	CH3B
59	J101-9	J200-B27	TAN	407260	41.5"	CH2B
60	J100-10	J200-B28	TAN	407260	41.5"	CH1B
61	J100-8	J200-B29	TAN	407260	41.5"	CH0B
62	J100-6	J200-B30	TAN	407260	41.5"	COM1B
63	J100-4	J200-B31	TAN	407260	41.5"	J200-A31
64	J100-2	J200-B32	TAN	407260	41.5"	ABUS1B
65	J113-3	J201-A1	RED	407260	41.5"	COM19
66	J113-1	J201-A2	BRN	407260	41.5"	NO18
67	J112-2	J201-A3	BLK	407260	41.5"	NC18
68	J112-4	J201-A4	WHT	407260	41.5"	COM17
69	J112-6	J201-A5	GRY	407260	41.5"	NO16
70	J112-8	J201-A6	VIO	407260	41.5"	NC16
71	J112-10	J201-A7	BLU	407260	41.5"	COM15
72	J111-9	J201-A8	GRN	407260	41.5"	NO14
73	J111-7	J201-A9	YEL	407260	41.5"	NC14
74	J111-5	J201-A10	ORN	407260	41.5"	COM13
75	J111-3	J201-A11	RED	407260	41.5"	NO12
76	J111-1	J201-A12	BRN	407260	41.5"	NC12
77	J110-2	J201-A13	BLK	407260	41.5"	COM11
78	J110-4	J201-A14	WHT	407260	41.5"	NO10
79	J110-6	J201-A15	GRY	407260	41.5"	NC10
80	J110-8	J201-A16	VIO	407260	41.5"	COM9
81	J110-10	J201-A17	BLU	407260	41.5"	NO8
82	J109-9	J201-A18	GRN	407260	41.5"	NC8
83	J109-7	J201-A19	YEL	407260	41.5"	COM7
84	J109-5	J201-A20	ORN	407260	41.5"	NO6
85	J109-3	J201-A21	RED	407260	41.5"	NC6
86	J109-1	J201-A22	BRN	407260	41.5"	COM5
87	J108-2	J201-A23	BLK	407260	41.5"	NO4
88	J108-4	J201-A24	WHT	407260	41.5"	NC4
89	J108-6	J201-A25	GRY	407260	41.5"	COM3
90	J108-8	J201-A26	VIO	407260	41.5"	NO2
91	J108-10	J201-A27	BLU	407260	41.5"	NC2
92	J107-9	J201-A28	GRN	407260	41.5"	COM1
93	J107-7	J201-A29	YEL	407260	41.5"	NO0
94	J107-5	J201-A30	ORN	407260	41.5"	NC0
95	J107-3	J201-A31	RED	407260	41.5"	NO CONNECTION
96	J107-1	J201-A32	BRN	407260	41.5"	CHASSIS GND

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

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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
97	J113-4	J201-B1	TAN	407260	41.5"	NO19
98	J113-2	J201-B2	TAN	407260	41.5"	NC19
99	J112-1	J201-B3	TAN	407260	41.5"	COM18
100	J112-3	J201-B4	TAN	407260	41.5"	NO17
101	J112-5	J201-B5	TAN	407260	41.5"	NC17
102	J112-7	J201-B6	TAN	407260	41.5"	COM16
103	J112-9	J201-B7	TAN	407260	41.5"	NO15
104	J111-10	J201-B8	TAN	407260	41.5"	NC15
105	J111-8	J201-B9	TAN	407260	41.5"	COM14
106	J111-6	J201-B10	TAN	407260	41.5"	NO13
107	J111-4	J201-B11	TAN	407260	41.5"	NC13
108	J111-2	J201-B12	TAN	407260	41.5"	COM12
109	J110-1	J201-B13	TAN	407260	41.5"	NO11
110	J110-3	J201-B14	TAN	407260	41.5"	NC11
111	J110-5	J201-B15	TAN	407260	41.5"	COM10
112	J110-7	J201-B16	TAN	407260	41.5"	NO9
113	J110-9	J201-B17	TAN	407260	41.5"	NC9
114	J109-10	J201-B18	TAN	407260	41.5"	COM8
115	J109-8	J201-B19	TAN	407260	41.5"	NO7
116	J109-6	J201-B20	TAN	407260	41.5"	NC7
117	J109-4	J201-B21	TAN	407260	41.5"	COM6
118	J109-2	J201-B22	TAN	407260	41.5"	NO5
119	J108-1	J201-B23	TAN	407260	41.5"	NC5
120	J108-3	J201-B24	TAN	407260	41.5"	COM4
121	J108-5	J201-B25	TAN	407260	41.5"	NO3
122	J108-7	J201-B26	TAN	407260	41.5"	NC3
123	J108-9	J201-B27	TAN	407260	41.5"	COM2
124	J107-10	J201-B28	TAN	407260	41.5"	NO1
125	J107-8	J201-B29	TAN	407260	41.5"	NC1
126	J107-6	J201-B30	TAN	407260	41.5"	COM0
127	J107-4	J201-B31	TAN	407260	41.5"	NO CONNECTION
128	J107-2	J201-B32	TAN	407260	41.5"	CHASSIS GND
129	J120-3	J202-A1	RED	407260	41.5"	SIGNAL GND
130	J120-1	J202-A2	BRN	407260	41.5"	SIGNAL GND
131	J119-2	J202-A3	BLK	407260	41.5"	CH47A
132	J119-4	J202-A4	WHT	407260	41.5"	CH46A
133	J119-6	J202-A5	GRY	407260	41.5"	CH45A
134	J119-8	J202-A6	VIO	407260	41.5"	CH44A
135	J119-10	J202-A7	BLU	407260	41.5"	CH43A
136	J118-9	J202-A8	GRN	407260	41.5"	CH42A
137	J118-7	J202-A9	YEL	407260	41.5"	COM8A
138	J118-5	J202-A10	ORN	407260	41.5"	CH41A
139	J118-3	J202-A11	RED	407260	41.5"	CH40A
140	J118-1	J202-A12	BRN	407260	41.5"	CH39A
141	J117-2	J202-A13	BLK	407260	41.5"	CH38A
142	J117-4	J202-A14	WHT	407260	41.5"	CH37A
RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718						
DOCUMENT TITLE			SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, TTI			A	21793	407438	A
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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
143	J117-6	J202-A15	GRY	407260	41.5"	CH36A
144	J117-8	J202-A16	VIO	407260	41.5"	COM7A
145	J117-10	J202-A17	BLU	407260	41.5"	CH35A
146	J116-9	J202-A18	GRN	407260	41.5"	CH34A
147	J116-7	J202-A19	YEL	407260	41.5"	CH33A
148	J116-5	J202-A20	ORN	407260	41.5"	CH32A
149	J116-3	J202-A21	RED	407260	41.5"	CH31A
150	J116-1	J202-A22	BRN	407260	41.5"	CH30A
151	J115-2	J202-A23	BLK	407260	41.5"	COM6A
152	J115-4	J202-A24	WHT	407260	41.5"	CH29A
153	J115-6	J202-A25	GRY	407260	41.5"	CH28A
154	J115-8	J202-A26	VIO	407260	41.5"	CH27A
155	J115-10	J202-A27	BLU	407260	41.5"	CH26A
156	J114-9	J202-A28	GRN	407260	41.5"	CH25A
157	J114-7	J202-A29	YEL	407260	41.5"	CH24A
158	J114-5	J202-A30	ORN	407260	41.5"	COM5A
159	J114-3	J202-A31	RED	407260	41.5"	SIGNAL GND
160	J114-1	J202-A32	BRN	407260	41.5"	SIGNAL GND
161	J120-4	J202-B1	TAN	407260	41.5"	SIGNAL GND
162	J120-2	J202-B2	TAN	407260	41.5"	COM17
163	J119-1	J202-B3	TAN	407260	41.5"	CH47B
164	J119-3	J202-B4	TAN	407260	41.5"	CH46B
165	J119-5	J202-B5	TAN	407260	41.5"	CH45B
166	J119-7	J202-B6	TAN	407260	41.5"	CH44B
167	J119-9	J202-B7	TAN	407260	41.5"	CH43B
168	J118-10	J202-B8	TAN	407260	41.5"	CH42B
169	J118-8	J202-B9	TAN	407260	41.5"	COM8B
170	J118-6	J202-B10	TAN	407260	41.5"	CH41B
171	J118-4	J202-B11	TAN	407260	41.5"	CH40B
172	J118-2	J202-B12	TAN	407260	41.5"	CH39B
173	J117-1	J202-B13	TAN	407260	41.5"	CH38B
174	J117-3	J202-B14	TAN	407260	41.5"	CH37B
175	J117-5	J202-B15	TAN	407260	41.5"	CH36B
176	J117-7	J202-B16	TAN	407260	41.5"	COM7B
177	J117-9	J202-B17	TAN	407260	41.5"	CH35B
178	J116-10	J202-B18	TAN	407260	41.5"	CH34B
179	J116-8	J202-B19	TAN	407260	41.5"	CH33B
180	J116-6	J202-B20	TAN	407260	41.5"	CH32B
181	J116-4	J202-B21	TAN	407260	41.5"	CH31B
182	J116-2	J202-B22	TAN	407260	41.5"	CH30B
183	J115-1	J202-B23	TAN	407260	41.5"	COM6B
184	J115-3	J202-B24	TAN	407260	41.5"	CH29B
185	J115-5	J202-B25	TAN	407260	41.5"	CH28B
186	J115-7	J202-B26	TAN	407260	41.5"	CH27B
187	J115-9	J202-B27	TAN	407260	41.5"	CH26B
188	J114-10	J202-B28	TAN	407260	41.5"	CH25B
189	J114-8	J202-B29	TAN	407260	41.5"	CH24B
190	J114-6	J202-B30	TAN	407260	41.5"	COM5B

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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
191	J114-4	J202-B31	TAN	407260	41.5"	SIGNAL GND
192	J114-2	J202-B32	TAN	407260	41.5"	SIGNAL GND
193	J127-3	J203-A1	RED	407260	41.5"	COM39
194	J127-1	J203-A2	BRN	407260	41.5"	NO38
195	J126-2	J203-A3	BLK	407260	41.5"	NC38
196	J126-4	J203-A4	WHT	407260	41.5"	COM37
197	J126-6	J203-A5	GRY	407260	41.5"	NO36
198	J126-8	J203-A6	VIO	407260	41.5"	NC36
199	J126-10	J203-A7	BLU	407260	41.5"	COM35
200	J125-9	J203-A8	GRN	407260	41.5"	NO34
201	J125-7	J203-A9	YEL	407260	41.5"	NC34
202	J125-5	J203-A10	ORN	407260	41.5"	COM33
203	J125-3	J203-A11	RED	407260	41.5"	NO32
204	J125-1	J203-A12	BRN	407260	41.5"	NC32
205	J124-2	J203-A13	BLK	407260	41.5"	COM31
206	J124-4	J203-A14	WHT	407260	41.5"	NO30
207	J124-6	J203-A15	GRY	407260	41.5"	NC30
208	J124-8	J203-A16	VIO	407260	41.5"	COM29
209	J124-10	J203-A17	BLU	407260	41.5"	NO28
210	J123-9	J203-A18	GRN	407260	41.5"	NC28
211	J123-7	J203-A19	YEL	407260	41.5"	COM27
212	J123-5	J203-A20	ORN	407260	41.5"	NO26
213	J123-3	J203-A21	RED	407260	41.5"	NC26
214	J123-1	J203-A22	BRN	407260	41.5"	COM25
215	J122-2	J203-A23	BLK	407260	41.5"	NO24
216	J122-4	J203-A24	WHT	407260	41.5"	NC24
217	J122-6	J203-A25	GRY	407260	41.5"	COM23
218	J122-8	J203-A26	VIO	407260	41.5"	NO22
219	J122-10	J203-A27	BLU	407260	41.5"	NC22
220	J121-9	J203-A28	GRN	407260	41.5"	COM21
221	J121-7	J203-A29	YEL	407260	41.5"	NO20
222	J121-5	J203-A30	ORN	407260	41.5"	NC20
223	J121-3	J203-A31	RED	407260	41.5"	NO CONNECTION
224	J121-1	J203-A32	BRN	407260	41.5"	CHASSIS GND
225	J127-4	J203-B1	TAN	407260	41.5"	NO39
226	J127-2	J203-B2	TAN	407260	41.5"	NC39
227	J126-1	J203-B3	TAN	407260	41.5"	COM38
228	J126-3	J203-B4	TAN	407260	41.5"	NO37
229	J126-5	J203-B5	TAN	407260	41.5"	NC37
230	J126-7	J203-B6	TAN	407260	41.5"	COM36
231	J126-9	J203-B7	TAN	407260	41.5"	NO35
232	J125-10	J203-B8	TAN	407260	41.5"	NC35
233	J125-8	J203-B9	TAN	407260	41.5"	COM34
234	J125-6	J203-B10	TAN	407260	41.5"	NO33
235	J125-4	J203-B11	TAN	407260	41.5"	NC33
236	J125-2	J203-B12	TAN	407260	41.5"	COM32
RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718						
DOCUMENT TITLE			SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, TTI			A	21793	407438	A
			DRN			SHEET 9 of 11

DOC. NO. 407438

ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
237	J124-1	J203-B13	TAN	407260	41.5"	NO31
238	J124-3	J203-B14	TAN	407260	41.5"	NC31
239	J124-5	J203-B15	TAN	407260	41.5"	COM30
240	J124-7	J203-B16	TAN	407260	41.5"	NO29
241	J124-9	J203-B17	TAN	407260	41.5"	NC29
242	J123-10	J203-B18	TAN	407260	41.5"	COM28
243	J123-8	J203-B19	TAN	407260	41.5"	NO27
244	J123-6	J203-B20	TAN	407260	41.5"	NC27
245	J123-4	J203-B21	TAN	407260	41.5"	COM26
246	J123-2	J203-B22	TAN	407260	41.5"	NO25
247	J122-1	J203-B23	TAN	407260	41.5"	NC25
248	J122-3	J203-B24	TAN	407260	41.5"	COM24
249	J122-5	J203-B25	TAN	407260	41.5"	NO23
250	J122-7	J203-B26	TAN	407260	41.5"	NC23
251	J122-9	J203-B27	TAN	407260	41.5"	COM22
252	J121-10	J203-B28	TAN	407260	41.5"	NO21
253	J121-8	J203-B29	TAN	407260	41.5"	NC21
254	J121-6	J203-B30	TAN	407260	41.5"	COM20
255	J121-4	J203-B31	TAN	407260	41.5"	NO CONNECTION
256	J121-2	J203-B32	TAN	407260	41.5"	CHASSIS GND
257	J106-5	NO CONNECT				
258	J106-6	NO CONNECT				
259	J106-7	NO CONNECT				
260	J106-8	NO CONNECT				
261	J106-9	NO CONNECT				
262	J106-10	NO CONNECT				
263	J113-5	NO CONNECT				
264	J113-6	NO CONNECT				
265	J113-7	NO CONNECT				
266	J113-8	NO CONNECT				
267	J113-9	NO CONNECT				
268	J113-10	NO CONNECT				
269	J120-5	NO CONNECT				
270	J120-6	NO CONNECT				
271	J120-7	NO CONNECT				
272	J120-8	NO CONNECT				
273	J120-9	NO CONNECT				
274	J120-10	NO CONNECT				
275	J127-5	NO CONNECT				
276	J127-6	NO CONNECT				
277	J127-7	NO CONNECT				
278	J127-8	NO CONNECT				
RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718						
DOCUMENT TITLE			SIZE	CODE NO.	DOCUMENT NO.	REV
HARNESS ASSEMBLY, 1260-37, TTI			A	21793	407438	A
			DRN	SHEET 10 of 11		

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ENGINEERING WIRE LIST

WIRE	FROM	TO	TYPE	PART #	WIRE LEN	REFERENCE
279	J127-9	NO CONNECT				
280	J127-10	NO CONNECT				

DOC. NO. 407438

RACAL Instruments, Inc., 4 Goodyear St., Irvine, CA 92718						
DOCUMENT TITLE			SIZE	CODE NO.	DOCUMENT NO.	REV
HARNES ASSEMBLY, 1260-37, TTI			A	21793	407438	A
			DRN			SHEET 11 of 11

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 1260-37 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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Tel: +44 (0) 8706 080134; FAX: +44 (0) 1753 791290

Racal Systems Electronique S.A.

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Tel: +33 (1) 3923 2222; FAX: +33 (1) 3923 2225

Racal Systems Elettronica s.r.l.

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Racal Electronics Pte. Ltd.

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