

---

---

**PAS 9411/DIV  
ENGINEERING SPECIFICATION**

---

---

**32 Channel Resistor  
Attenuator Card  
PBC Revision A (06/01/2009)**

Additional copies of this manual or other Precision Analog Systems (PAS) literature may be obtained from:

Precision Analog Systems Co.  
1021 SW 75<sup>th</sup> Avenue  
Plantation, Florida 33317  
Phone: (954) 587-0668  
E-mail: [inquiry@precisionanalog.com](mailto:inquiry@precisionanalog.com)

The information in this document is subject to change without notice.

PAS makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Although extensive editing and reviews are performed before release, PAS assumes no responsibility for any errors that may exist in this document. No commitment is made to update or keep current the information contained in this document.

PAS does not assume any liability arising out of the application or use of any product or circuit described herein, nor is any license conveyed under any patent rights or any rights of others.

PAS assumes no responsibility resulting from omissions or errors in this manual, or from the use of information contained herein.

PAS reserves the right to make any changes, without notice, to this product to improve reliability, performance, function or design.

All rights reserved.

# 32 Channel Resistor Attenuator Card

## TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
I	<b>SPECIFICATIONS</b>	4
	Electrical Specifications	4
	Connector P3 Definitions	7
	Connector P4 Definitions	8

# I. SPECIFICATIONS

## Electrical Specifications:

### **PAS 9411/DIV-001 Board A, CCUR P/N RIQ11047-A55**

Channels 0 – 31

Input Type	Voltage Divider
Divider Ratio	10 : 1
Input Impedance	3 k Ohms
Output Impedance	270 Ohms
Input Voltage (max)	+/- 40 Volts

Note 1: All low sides are tied to a common bus and connected to chassis ground through a jumper plug.

### **PAS 9411/DIV-002 Board B, CCUR P/N RIQ11047-B55**

Channels 0-3

Input Type	Voltage Divider
Divider Ratio	2 : 1
Input Impedance	190 Ohms
Output Impedance	1 k Ohms
Input Voltage (max)	+/- 20 Volts

Channels 4 & 5

Input Type	Voltage Divider
Divider Ratio	2 : 1
Input Impedance	680 Ohms
Output Impedance	1 k Ohm
Input Voltage (max)	+/- 40 Volts

Channels 6 & 7

Input Type	Voltage Divider
Divider Ratio	2 : 1
Input Impedance	18 k Ohms
Output Impedance	4.5 k Ohms
Input Voltage (max)	+/- 40 Volts

Channels 8-13

Input Type	Voltage Divider
Divider Ratio	2 : 1
Input Impedance	4 k Ohms
Output Impedance	1 k Ohms
Input Voltage	+/- 40 Volts

Channels 14-31	
Input Type	Contact Sense with Pull-up Resistor
Pull-up Voltage	+ 5 Volts (from backplane)
Pull-up Resistance	1 k Ohm

Note 1: All low sides are tied to a common bus and connected to chassis ground through a jumper plug.

**PAS 9411/DIV-003 Board C, CCUR P/N RIQ11047-C55**

Channels 0-31	
Input Type	Voltage Divider
Divider Ratio	4 : 1
Input Impedance	5220 Ohms
Output Impedance	976 Ohms
Input Voltage (max)	+/- 40 Volts

Note 1: All low sides are tied to a common bus and connected to chassis ground through a jumper plug.

**PAS 9411/DIV-004 Board D, CCUR P/N RIQ11047-D55**

Channels 0 – 9	
Input Type	Voltage Divider
Divider Ratio	4 : 1
Input Impedance	500 Ohms
Output Impedance	563 Ohms
Input Voltage (max)	+/- 40 Volts

Channels 10-31	
Input Type	Voltage Divider with Pull-Up Resistor
Divider Ratio	4 : 1
Output Voltage w/open input	7 Volts
Output Voltage w/shorted input	0 Volts
Pull-up Voltage	28 Volts
Pull-up Resistance	5 k Ohms

Note 1: All low sides are tied to a common bus and connected to chassis ground through a jumper plug.

**PAS 9411/DIV-005 Board E, CCUR P/N RIQ11047-E55**

Channels 0 – 23

Input Type	Voltage Divider
Divider Ratio	4 : 1
Input Impedance	5220 Ohms
Output Impedance	976 Ohms
Input Voltage (max)	+/- 40 Volts

Channels 24-31

Input Type	Voltage Divider with Pull-up Resistor
Divider Ratio	4 : 1
Output Voltage w/open input	7 Volts
Output Voltage w/shorted input	0 Volts
Pull-up Voltage	28 Volts
Pull-up Resistance	5 k Ohms

Note 1: All low sides are tied to a common bus and connected to chassis ground through a jumper plug.

**PAS 9411/DIV-006 Board F, CCUR P/N RIQ11047-F55**

Channel 0-31

Input Type	Voltage Divider with Pull-up Resistor
Divider Ratio	4 : 1
Output Voltage w/open input	7 Volts
Output Voltage w/shorted input	0 Volts
Pull-up Voltage	28 Volts (External Power Supply)
Pull-up Resistance	5 k Ohms

Note 1: All low sides are tied to a common bus and connected to chassis ground through a jumper plug.

## PAS 9411/DIV Connector P3 Pin Definitions

	<b>A</b>	<b>B</b>	<b>C</b>
32	CH31LO	Common	CH31IN
31	CH30LO	Common	CH30IN
30	CH29LO	Common	CH29IN
29	CH28LO	Common	CH28IN
28	CH27LO	Common	CH27IN
27	CH26LO	Common	CH26IN
26	CH25LO	Common	CH25IN
25	CH24LO	Common	CH24IN
24	CH23LO	Common	CH23IN
23	CH22LO	Common	CH22IN
22	CH21LO	Common	CH21IN
21	CH20LO	Common	CH20IN
20	CH19LO	Common	CH19IN
19	CH18LO	Common	CH18IN
18	CH17LO	Common	CH17IN
17	CH16LO	Common	CH16IN
16	CH15LO	Common	CH15IN
15	CH14LO	Common	CH14IN
14	CH13LO	Common	CH13IN
13	CH12LO	Common	CH12IN
12	CH11LO	Common	CH11IN
11	CH10LO	Common	CH10IN
10	CH9LO	Common	CH9IN
9	CH8LO	Common	CH8IN
8	CH7LO	Common	CH7IN
7	CH6LO	Common	CH6IN
6	CH5LO	Common	CH5IN
5	CH4LO	Common	CH4IN
4	CH3LO	Common	CH3IN
3	CH2LO	Common	CH2IN
2	CH1LO	PS +	CH1IN
1	CH0LO	PS +	CH0IN

## PAS 9411/DIV Connector P4 Pin Definitions

	<b>A</b>	<b>B</b>	<b>C</b>
32	CH31LO	Common	CH31OUT
31	CH30LO	Common	CH30OUT
30	CH29LO	Common	CH29OUT
29	CH28LO	Common	CH28OUT
28	CH27LO	Common	CH27OUT
27	CH26LO	Common	CH26OUT
26	CH25LO	Common	CH25OUT
25	CH24LO	Common	CH24OUT
24	CH23LO	Common	CH23OUT
23	CH22LO	Common	CH22OUT
22	CH21LO	Common	CH21OUT
21	CH20LO	Common	CH20OUT
20	CH19LO	Common	CH19OUT
19	CH18LO	Common	CH18OUT
18	CH17LO	Common	CH17OUT
17	CH16LO	Common	CH16OUT
16	CH15LO	Common	CH15OUT
15	CH14LO	Common	CH14OUT
14	CH13LO	Common	CH13OUT
13	CH12LO	Common	CH12OUT
12	CH11LO	Common	CH11OUT
11	CH10LO	Common	CH10OUT
10	CH9LO	Common	CH9 OUT
9	CH8LO	Common	CH8 OUT
8	CH7LO	Common	CH7 OUT
7	CH6LO	Common	CH6 OUT
6	CH5LO	Common	CH5 OUT
5	CH4LO	Common	CH4 OUT
4	CH3LO	Common	CH3 OUT
3	CH2LO	Common	CH2 OUT
2	CH1LO	PS +	CH1 OUT
1	CH0LO	PS +	CH0 OUT