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**PAS 9412/AMP  
ENGINEERING SPECIFICATION**

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**32 Channel Differential Driver Card  
PBC Revision A (09/15/2009)**

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# 32 Channel Differential Driver Card

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# I INTRODUCTION

## GENERAL DESCRIPTION

The PAS 9412/AMP provides 32 buffer amplifier circuits on a 6U X 160 mm format eurocard. Input signals enter the card through a 96-position DIN connector (P3) located in the upper part of the front panel. Output signals are terminated on a second 96-position DIN connector (P4) located in the lower part of the front panel.

The differential drivers are made with LM311 comparators and Analog Devices AD 8512 operational amplifiers. TTL level input signals are converted to +/- 5 Volt signals by the input comparators. These signals drive a pair of amplifiers, one configured for a gain of +3 and the other configured for a gain of -3, to produce a +/- 15 Volt differential output signal.

On-board DC to DC power supplies step up the +5 Volt power from the backplane, to the +/- 15 Volts required to power the driver circuits.

## I. SPECIFICATIONS

### Electrical Specifications:

Number of Channels	32
Input Voltage	TTL compatible
Output Voltage	Differential +/- 15 Volts
Output Current	+/- 50 mA (typ)
Slew Rate	20 V/uSec (typ)
Card Power Requirement (From Backplane)	+ 5 Volts @ 1.8 Amps (No Load) + 5 Volts @ 4.0 Amps (8 mA/Ch)

### Environmental Specifications

Operating Temperature Range	0 to 55° C
Storage Temperature Range	0 to 85° C
Relative Humidity Range	20% to 80%, non-condensing

### Physical Specifications

Dimensions	Form Factor : Double (160mm x 233mm)
Weight	16 oz. (typ)
Connectors	
Front Panel I/O	2 ea. 96-position male shrouded DIN
Backplane	2 ea. 96-position male shrouded DIN

## PAS 9412/AMP Connector P3 Pin Definitions

	<b>A</b>	<b>B</b>	<b>C</b>
32	N/C	AGND	CH31IN
31	N/C	AGND	CH30IN
30	N/C	AGND	CH29IN
29	N/C	AGND	CH28IN
28	N/C	AGND	CH27IN
27	N/C	AGND	CH26IN
26	N/C	AGND	CH25IN
25	N/C	AGND	CH24IN
24	N/C	AGND	CH23IN
23	N/C	AGND	CH22IN
22	N/C	AGND	CH21IN
21	N/C	AGND	CH20IN
20	N/C	AGND	CH19IN
19	N/C	AGND	CH18IN
18	N/C	AGND	CH17IN
17	N/C	AGND	CH16IN
16	N/C	AGND	CH15IN
15	N/C	AGND	CH14IN
14	N/C	AGND	CH13IN
13	N/C	AGND	CH12IN
12	N/C	AGND	CH11IN
11	N/C	AGND	CH10IN
10	N/C	AGND	CH9IN
9	N/C	AGND	CH8IN
8	N/C	AGND	CH7IN
7	N/C	AGND	CH6IN
6	N/C	AGND	CH5IN
5	N/C	AGND	CH4IN
4	N/C	AGND	CH3IN
3	N/C	AGND	CH2IN
2	N/C	AGND	CH1IN
1	N/C	AGND	CH0IN

**N/C = No Connection**

**AGND = Analog Ground**

## PAS 9412/AMP Connector P4 Pin Definitions

	<b>A</b>	<b>B</b>	<b>C</b>
32	CH31OUT-	AGND	CH31OUT+
31	CH30 OUT-	AGND	CH30OUT+
30	CH29 OUT-	AGND	CH29OUT+
29	CH28 OUT-	AGND	CH28OUT+
28	CH27 OUT-	AGND	CH27OUT+
27	CH26 OUT-	AGND	CH26OUT+
26	CH25 OUT-	AGND	CH25OUT+
25	CH24 OUT-	AGND	CH24OUT+
24	CH23 OUT-	AGND	CH23OUT+
23	CH22 OUT-	AGND	CH22OUT+
22	CH21 OUT-	AGND	CH21OUT+
21	CH20 OUT-	AGND	CH20OUT+
20	CH19 OUT-	AGND	CH19OUT+
19	CH18 OUT-	AGND	CH18OUT+
18	CH17 OUT-	AGND	CH17OUT+
17	CH16 OUT-	AGND	CH16OUT+
16	CH15 OUT-	AGND	CH15OUT+
15	CH14 OUT-	AGND	CH14OUT+
14	CH13 OUT-	AGND	CH13OUT+
13	CH12 OUT-	AGND	CH12OUT+
12	CH11 OUT-	AGND	CH11OUT+
11	CH10 OUT-	AGND	CH10OUT+
10	CH9 OUT-	AGND	CH9 OUT+
9	CH8 OUT-	AGND	CH8 OUT+
8	CH7 OUT-	AGND	CH7 OUT+
7	CH6 OUT-	AGND	CH6 OUT+
6	CH5 OUT-	AGND	CH5 OUT+
5	CH4 OUT-	AGND	CH4 OUT+
4	CH3 OUT-	AGND	CH3 OUT+
3	CH2 OUT-	AGND	CH2 OUT+
2	CH1 OUT-	AGND	CH1 OUT+
1	CH0 OUT-	AGND	CH0 OUT+

**AGND = Analog Ground**