MODEL 2008AD

8-CHANNEL AUDIO TO DIGITAL CARD

The Model 2008AD Audio to Digital card is a component of the IED 2000 Series UDAPS™. Its purpose it to convert eight channels of audio to serial digital output. It is designed to be mounted in the 2012M Mainframe, through which its power and signal connections are made. The 2008AD card provides a low noise front end for the UDAPS™.

The 2008AD is a 16-bit A/D converter which performs 64 times oversampling of the audio input and then performs digital anti-alias filtering of the signal before decimating the samples to a synchronous serial data stream. The sampling and serial data are synchronized to the UDAPS™ 44.1 kHz data rate clock. The 2000AD card is capable of operating at any data rate from 32 kHz to 50 kHz.

The standard 2008AD card has a maximum input level of +13 dBu with a nominal input impedance of 60 kΩ. For applications requiring it, however, the card can be ordered with a nominal input impedance of 120 kΩ and a maximum input level of +24 dBu.

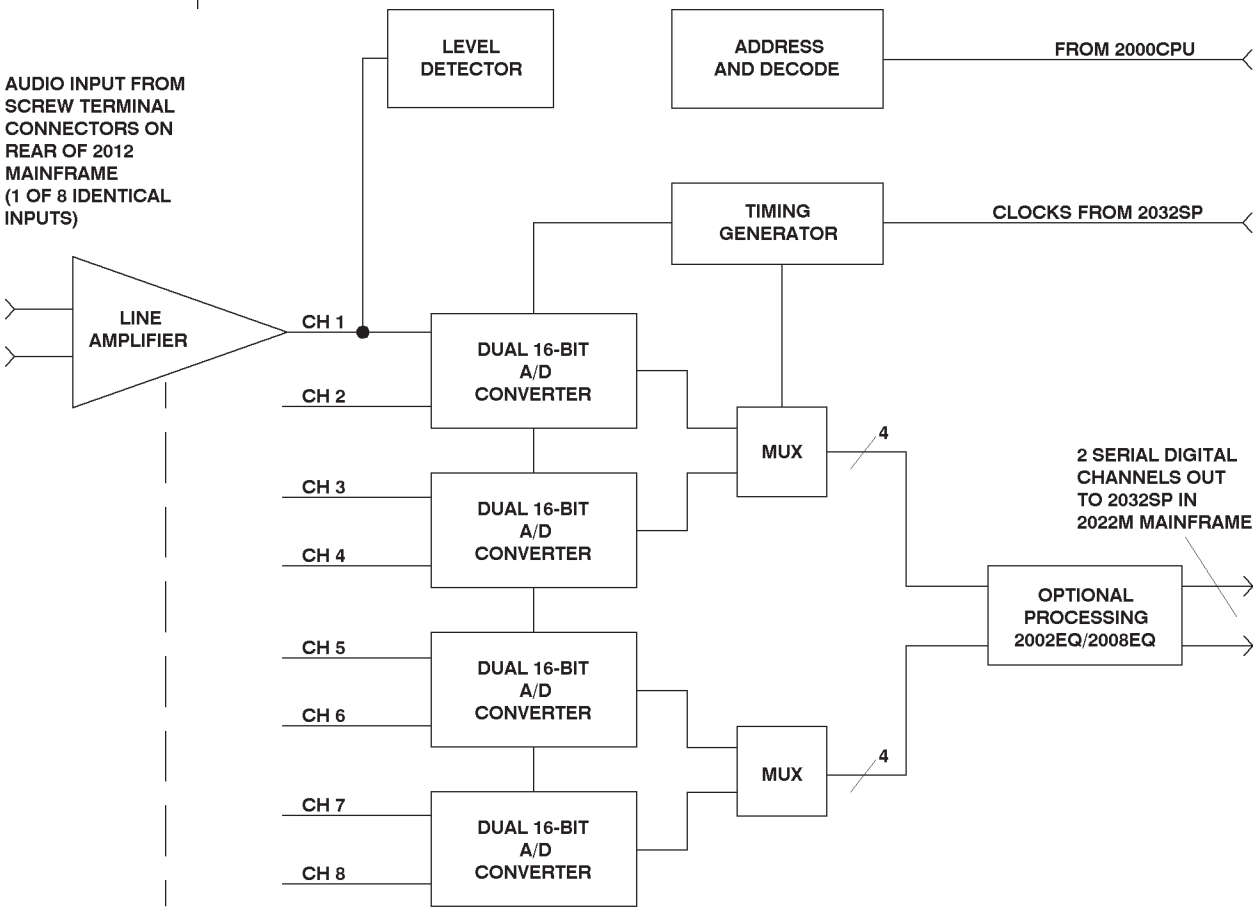

Figure 1 - 2008AD Block Diagram

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SPECIFICATIONS

ELECTRICAL, ANALOG V_{IN} = +13 dBu, V_S = ±15 V, +5V.

1. Frequency Response (system) . . . . . +0, –1 dB
   20 Hz - 20 kHz
2. Total Harmonic Distortion, THD . . . . . ® .01%
   Filters, 10 Hz - 20 kHz
3. Analog Noise referred to the output, NRI (system) . . . . . ®–90 dBr
   Filters, 10 Hz - 20 kHz
4. Nominal Input Impedance
   - Standard . . . . . 60 kΩ
   - Optional . . . . . 120 kΩ
5. Maximum Input Level
   - Standard . . . . . +13 dBu
   - Optional . . . . . +24 dBu
6. Power Supply
   - Supply Voltage Range
     - ±15 V supply . . . . . ±13.5 V - ±16.5 V
     - +5 V supply. . . . . 4.75 V - 5.25 V
   - Supply Current
     - V = +5 V . . . . . 250 mA
     - V = +15 V . . . . . 50 mA
     - V = – 15 V . . . . . 40 mA

ELECTRICAL, DIGITAL V_{IN} = +13 dBu, V_S = ± 15 V, +5V.

1. Sampling Rate (64 X oversampling) . . . . . 512 kHz - 800 kHz
2. Serial Data Rate. . . . . 32 kHz - 50 kHz
   16-bit A/D

INDICATORS

1. Card access . . . . . Green LED

CONNECTORS

1. 96-pin Euro connector (male) . . . . . AMP 650973-5
   For card connector pin connections, see Table 1, page 4.

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MECHANICAL

1. Size, overall
   - Height . . . . . (11.9 cm) 4.67"
   - Width . . . . . (4.45 cm) 1.75"
   - Depth . . . . . (33.1 cm) 13.03"
2. Weight
   - No EQ card . . . . . (457 gm) 1.01 lb
   - With EQ card . . . . . (630 gm) 1.388 lb

ENVIRONMENTAL

1. Operating Temperature Range . . . . . (+32 °F - +104 °F) 0 °C - +40 °C
2. Storage Temperature Range . . . . . (–40 °F - +158 °F) –40 °C - +70 °C

PIN NO.	FUNCTION	PIN NO.	FUNCTION	PIN NO.	FUNCTION
1	Analog Ground	33	Channel 8 –	65	Channel 7 –
2	Analog Ground	34	Test +	66	Test –
3	Analog Ground	35	Channel 8 +	67	Channel 7 +
4	Analog Ground	36	20 kHz +	68	20 kHz –
5	Analog Ground	37	Analog Ground	69	Analog Ground
6	+30 V	38	+30 V	70	+30 V
7	Analog Ground	39	Channel 6 –	71	Channel 5 –
8	– 15 V	40	– 15 V	72	– 15 V
9	Analog Ground	41	Channel 6 +	73	Channel 5 +
10	– 15 V	42	– 15 V	74	– 15 V
11	Analog Ground	43	Analog Ground	75	Analog Ground
12	+15 V	44	+15 V	76	+15 V
13	Analog Ground	45	Channel 4 –	77	Channel 3 –
14	+15 V	46	+15 V	78	+15 V
15	Analog Ground	47	Channel 4 +	79	Channel 3 +
16	+5 V	48	+5 V	80	+5 V
17	Analog Ground	49	Analog Ground	81	Analog Ground
18	+5 V	50	+5 V	82	+5 V
19	Analog Ground	51	Channel 2 –	83	Channel 1 –
20	+5 V	52	+5 V	84	+5 V
21	Analog Ground	53	Channel 2 +	85	Channel 1 +
22	Digital Ground	54	Digital Ground	86	Digital Ground
23	Digital Ground	55	Digital Ground	87	Digital Ground
24	SDOB (P-1)	56	CS3 [3]	88	CS1 [3]
25	SDOA (P-1)	57	BS0 [2]	89	CS0 [3]
26	Spare	58	BS1 [2]	90	CS2 [3]
27	SSYNCB	59	BS2 [2]	91	SCLK7B
28	AD0 [1]	60	BS3 [2]	92	Spare
29	AD2 [1]	61	UAS	93	AD1 [1]
30	AD4 [1]	62	LAS	94	AD3 [1]
31	AD6 [1]	63	RD	95	AD5 [1]
32	ACK	64	WR	96	AD7 [1]

Notes: 1. CPU address lines. 2. Mother board (mainframe) select lines. 3. Card slot select lines.

Table 1 - 2008AD Card Connector Pin Connections

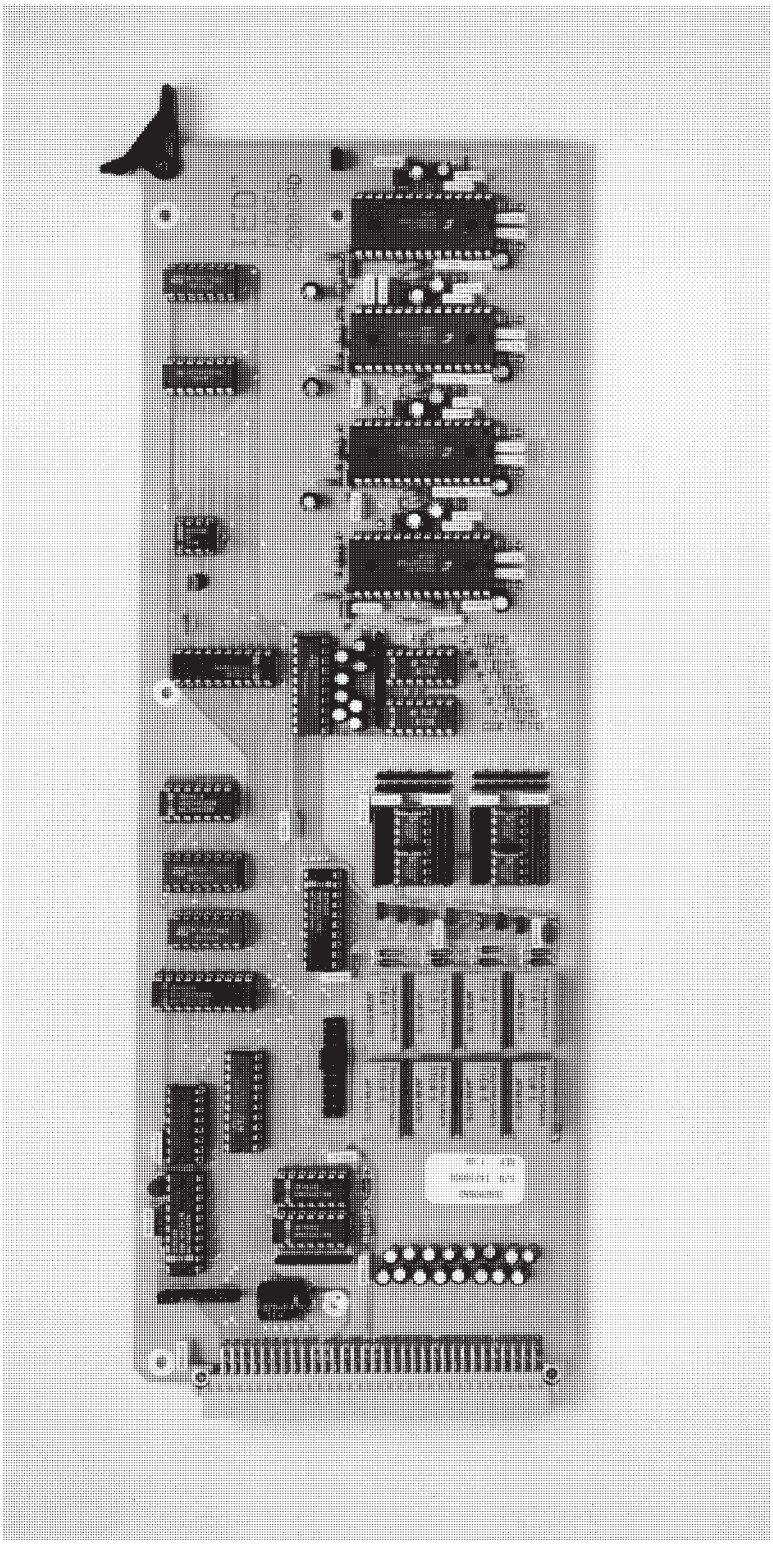

Figure 2 - 2008AD Audio to Digital Card

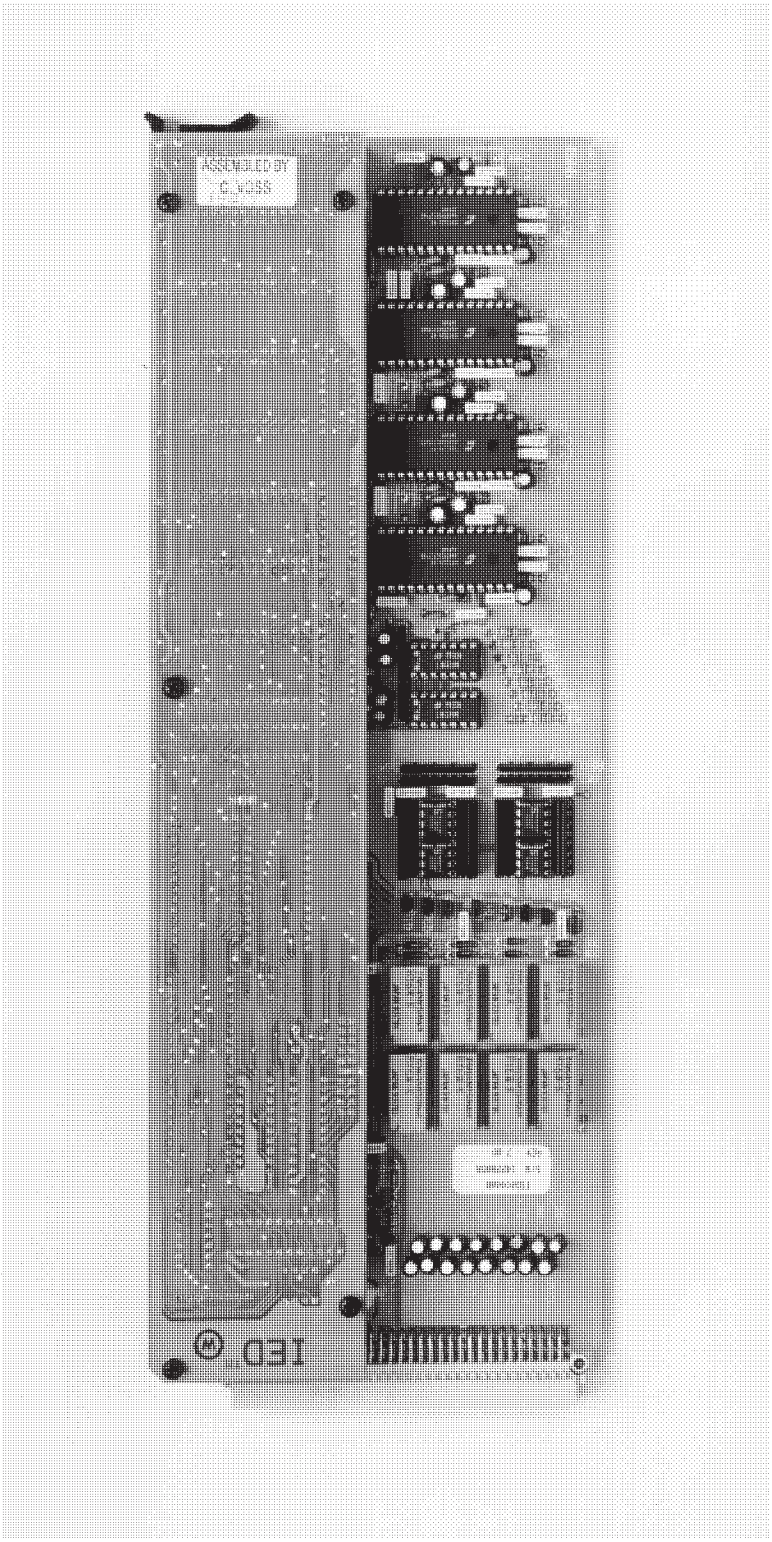

Figure 3 - 2008AD Audio to Digital Card
With EQ Option Installed

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