

MODEL 2008EQ 8-CHANNEL DIGITAL EQ CARD

The Model 2008EQ 8-Channel Digital EQ Card is a component of the IED 2000 Series UDAPS™. Its purpose is to provide eight channels of either input (e.g., microphone) or output (e.g., speaker) equalization or crossover filtering. The 2008EQ provides 9-bands of equalization for each channel. It is designed to be mounted on the 2008DA Digital to Audio card or the 2008AD Audio to Digital card through which its power and signal connections are made. IED Model 630 Software is designed to set up and control IED EQ cards.

The 32-bit internal precision combined with the 44.1 kHz sampling frequency allow for an audio bandwidth well beyond the 20 Hz - 20 kHz limits. The use of digital filtering permits accurate software control of the filter characteristics. Various filter types are available via software control including parametric, high/low pass, crossover, shelving, and notch filtering.

A momentary push switch allows manual reset of the card if it should become necessary. The card also has two red LED indicators. The upper LED flashes when the card is being reset, either by the manual switch or by the CPU. The lower LED lights to indicate a clipping condition.

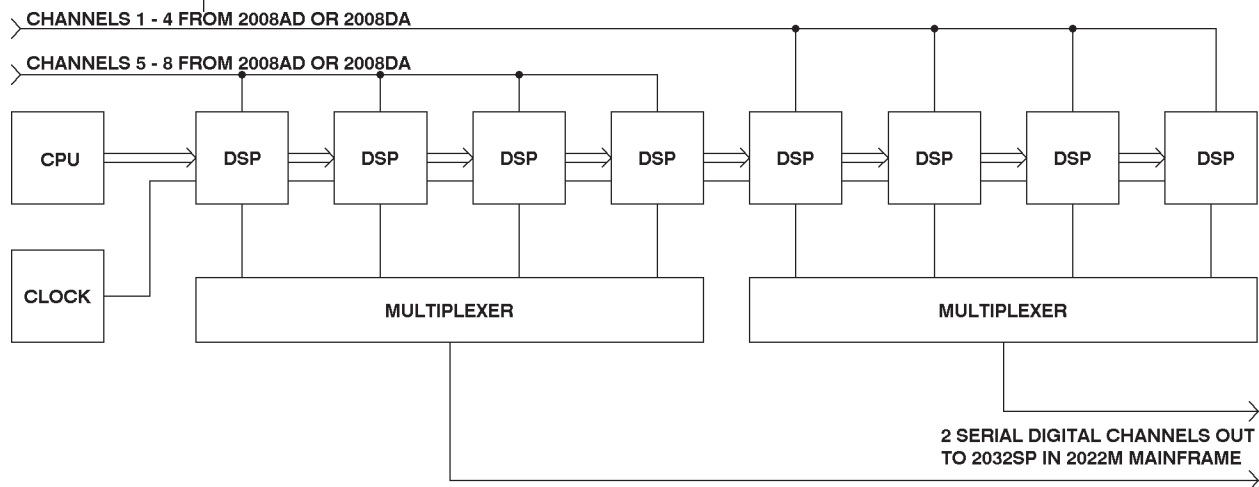


Figure 1 - 2008EQ Block Diagram



SPECIFICATIONS

ELECTRICAL, ANALOG $V_S = +5V$.

- 1. Power Supply
 - Supply Voltage Range
 - +5 V supply. 4.75 V - 5.25 V
 - Supply Current
 - V = +5 V 600 mA

2. Filter Characteristics

Refer to Table 1 below for some of the filter types and parameter ranges obtain- able with the 2008EQ. Results are both hardware and software dependent.

FILTER TYPE	FREQUENCY RANGE	GAIN, DB	Q RANGE	DEFAULT Q
None	-	-	-	-
Parametric	20 Hz - 20 kHz	-18 - +6	.03 - 30	4.318
Low Crossover	20 Hz - 20 kHz	6, 12, 18, 24 dB per octave	-	-
High Cross-over	20 Hz - 20 kHz	6, 12, 18, 24 dB per octave	-	-
Low Shelf	20 Hz - 20 kHz	-18 - +6	.375 - .707	.707
High Shelf	20 Hz - 20 kHz	-18 - +6	.375 - .707	.707
Low Pass	20 Hz - 20 kHz	-	.5 - 2.00	.707
High Pass	20 Hz - 20 kHz	-	.5 - 2.00	.707
Band Pass	20 Hz - 20 kHz	-	.03 - 200	.707
Notch	20 Hz - 20 kHz	-99.9 - 0	.5 - 2.00	4.318

Table 1 - Filter Characteristics

ELECTRICAL, DIGITAL $V_S = \pm 15 V, +5V$.

- 1. Sampling Rate 44.1 kHz
- 2. Internal Processing Precision 32 bits

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CONTROLS

- 1. Reset. Momentary Push Switch

INDICATORS

- 1. MPU Not Running. Upper Red LED
- 2. Clipping Lower Red LED

CONNECTORS

For card connector pin connections, refer to Tables 2 and 3.

MECHANICAL

- 1. Size, overall. (L x H x W) L x H x W
 - Height (5.45 cm) 2.15"
 - Width (2.16 cm) 0.85"
 - Depth (31.5 cm) 12.42"
- 2. Weight (173 gm) 0.382 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
1	AD0	2	AD1
3	AD2	4	AD3
5	AD4	6	AD5
7	AD6	8	AD7
9	Ground	10	Ground
11	SDO14	12	SDOA
13	SDO58	14	SDOB
15	LRA	16	SSYNCB

Table 2 - Pin Connections, 20-pin Connector

PIN NO.	FUNCTION
1	LWR0
2	LWR
3	LRD
4	LLAS
5	CDSELO
6	CDSEL
7	LRD
8	LRD0

Table 3 - Pin Connections
8 Pin Connector



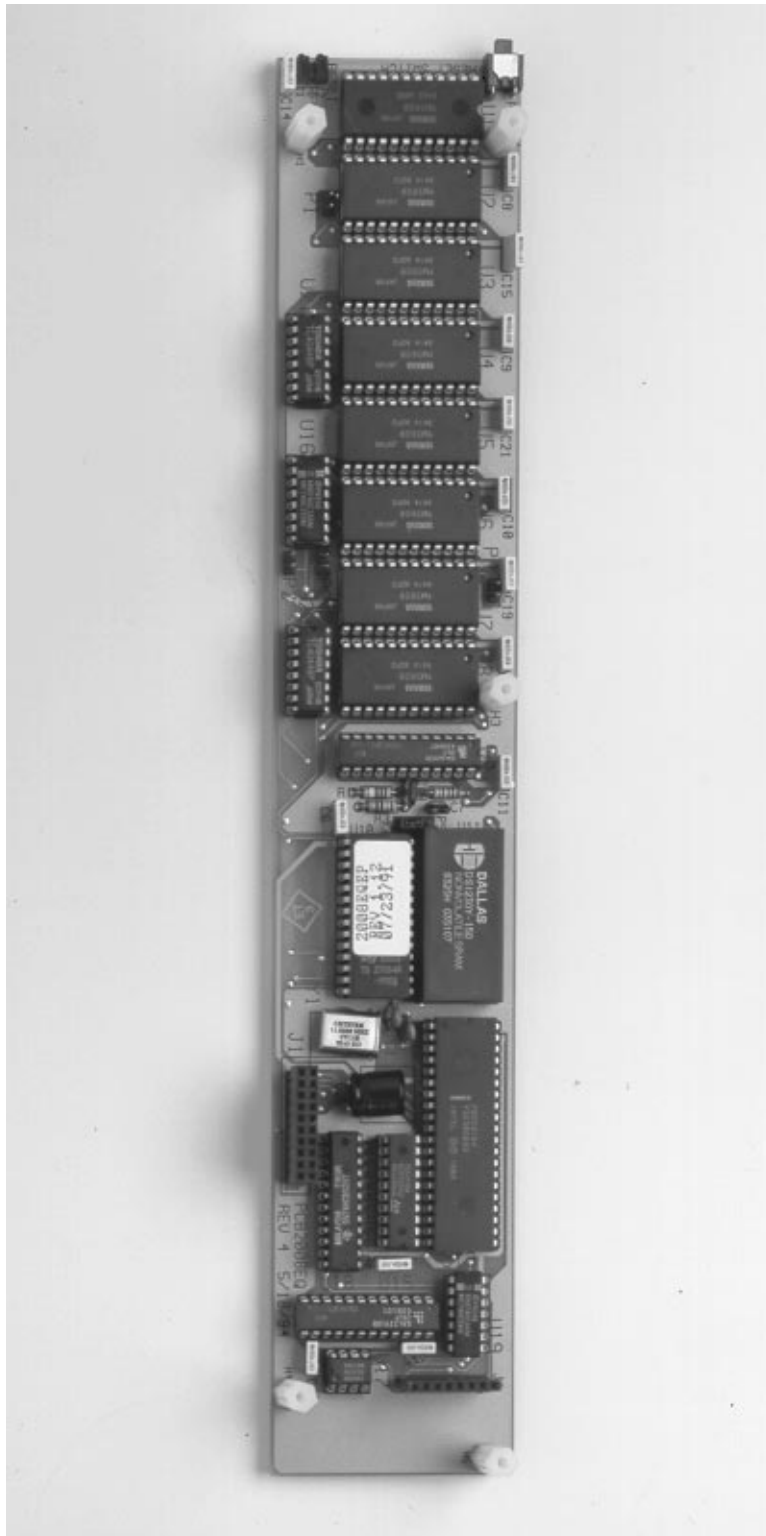


Figure 2 - 2008EQ 8-Channel Digital EQ Card

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