5232Q

DUAL 32 WATTS PER CHANNEL AMPLIFIER

The 5232Q is a subgroup of the 5000 Series Audio Processing System. It is a dual 32 watt per channel amplifier with onboard EQ, VCA and filtering.

The inputs are electronically balanced. The input gain is adjustable from 0 dB to 15 dB by use of potentiometers which are located on the mother board.

The outputs of the 5232Q are balanced and can deliver 32 watts into an 8Ω load. To drive a 70 V line an external step up transformer is required (Soundolier HT-132, or equivalent). Table 1 shows the cards that can be powered by internal or external power supplies at either full RMS power or program power.

Each channel has two high pass filters that can be enabled or bypassed, as selected by a DIP switch. The first high pass filter has its corner frequency at 160 Hz and has a slope of 12 dB/octave. The second high pass filter has its corner frequency at 315 Hz and has a slope of 12 dB/octave from 315 Hz to 160 Hz and a slope of 24 dB/octave below 160 Hz.

The low pass filter provided in each channel can be enabled or bypassed as selected by a DIP switch. Its corner frequency is 12.5 kHz and has a slope of 12 dB/octave.

The 5232Q has an EQ section in each channel which can be enabled or disabled by a DIP switch. The EQ consists of three 1 Octave, constant Q, EQs centered at 250 Hz, 500 Hz and 4 kHz and 5 1/3 Octave,constant Q, EQs centered at 800 Hz, 1 kHz, 1.25 kHz, 1.6 kHz and 2.0 kHz. The gains are adjustable ±10dB on the front of the 5000 rack with a trim pot. These frequencies are in the speech band for EQ adjustment mainly for voice reinforcement applications.

The onboard VCA in each channel can be enabled or disabled through a DIP switch setting. The VCA can be adjusted by an external control voltage which is introduced through the screw terminals on the rear of the 5000 mainframe. Table 2 shows the attenuation versus VCA control voltage. With its input disconnected, the VCA is at full gain.

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SPECIFICATIONS

ELECTRICAL, R_L = 8 Ω, VCA set for unity gain, P_{OUT} = 32 W

1. Gain, Max . . . . . 38 dB
   Input to output
2. Frequency Response[1] . . . . . –3, +0 dB
   20 Hz - 20 kHz, all filters bypassed
3. Total Harmonic Distortion, THD[1] . . . . . < 0.3%
   100 Hz - 20 kHz, 30 kHz low pass filter
4. Intermodulation Distortion, IMD . . . . . < 0.5%
   f = 60 Hz/7 kHz
5. Signal-to-Noise Ratio, S/N
   Referenced to full output, 20 Hz - 20 kHz filters
   - VCA, EQ bypassed . . . . . > 100 dB
   - VCA bypassed, EQ enabled . . . . . > 94 dB
   - VCA, EQ enabled . . . . . > 86 dB
6. Crosstalk . . . . . < –65 dB
   Between channels, 20 Hz - 20 kHz
7. Maximum Input Level . . . . . +24 dBu
8. Maximum Output Level . . . . . 16 V rms
9. Input Impedance, Z_{IN} . . . . . 24 kΩ
10. Output Impedance, Z_{OUT} . . . . . < 1 Ω
11. Input Gain Range. . . . . 0 dB - +15 dB
12. VCA Adjustment Range
    - 0 V . . . . . 0 dB
    - 10 V . . . . . 90 dB
13. Power Supply
    Supply Voltage Range
    - + 15 V Supply . . . . . +15.0 V to +15.75 V
    - – 15 V Supply. . . . . – 15.0 V to –15.75 V

    Supply Current
    - V = +15 V
      - No audio, R_L = 8 Ω . . . . . 200 mA
      - P_{OUT} = 32 W/CH, R_L = 8 Ω . . . . . 3.8 A
    - V = –15 V
      - No audio, R_L = 8 Ω . . . . . 200 mA
      - P_{OUT} = 32 W/CH, R_L = 8 Ω . . . . . 3.8 A

NOTE 1. For 70 V line operation, connect step up transformer HT-327 between output and load. Specifications change as follows:

2. Frequency Response . . . . . –3, +0 dB
   160 Hz - 16 kHz, all filters bypassed
3. Total Harmonic Distortion, THD . . . . . < 0.4%
   160 Hz - 16 kHz, 30 kHz low pass filter

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MECHANICAL

1. Size (maximum Overall Dimensions)
   - Height . . . . . (7.37 cm) 2.90"
   - Width . . . . . (2.74 cm) 1.08"
   - Depth . . . . . (21.3 cm) 8.4"
2. Weight
   - 5232Q . . . . . (236 gm) 0.52 lb

ENVIRONMENTAL

1. Operating Temperature Range. . . . . (+32 °F - +131 °F) 0°C - +55 °C
2. Storage Temperature Range. . . . . (–40 °F - +158 °F) –40 °C - +70 °C

POWER SUPPLY		MAINFRAME	# CARDS 32 W/CH RMS	# CARDS 32 W/CH PROGRAM	INTERNAL/ EXTERNAL POWER
NUMBER	MODEL				
1	5030	5032-10	2	5	INT
2	5030	5032-10	4	10	
1	415	408ML/H	2	5	
2	415	408ML/H	4	10	EXT
3	415	408ML/H	6	10	
4	415	408ML/H	8	10	
5	415	408ML/H	10	10	
NOTES: 1. 408ML/H Mainframe is for power supplies only. When using external power supplies use 5032EP Mainframe with 5002 Power Control Card to house the 5032Q cards.					

Table 1 - 5232Q
Power Supply Usage

V	ATTENUATION	V	ATTENUATION
+0.5	–6.0 dB	3.0	–40.0 dB
1.0	–12.0 dB	3.5	–46.0 dB
1.5	–19.0 dB	4.0	–53 dB
2.0	–25 dB	4.5	–60 dB
2.5	–33 dB	5.0	–66 dB

Table 2 - 5232Q
Attenuation vs. Control Voltage

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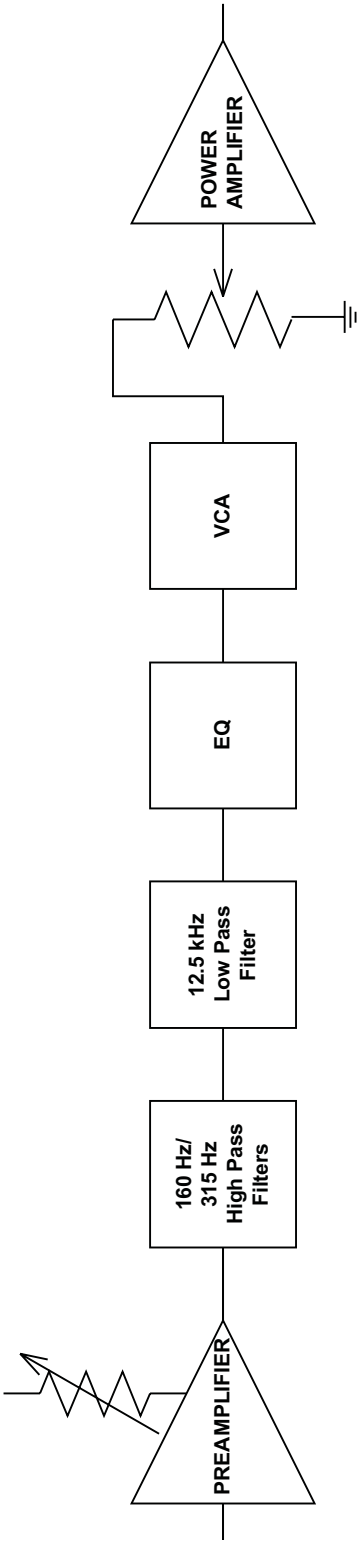

Figure 1 - 5232Q Block Diagram

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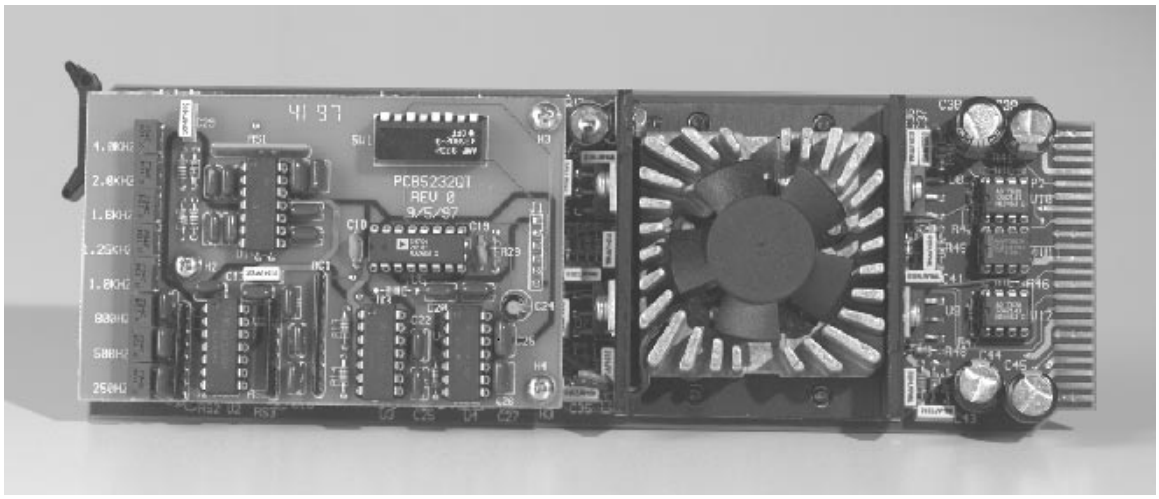

Figure 2 - 5232Q

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