

**PEAVEY**<sup>®</sup>  
ARCHITECTURAL ACOUSTICS™

# CEQ™ 28

## Computer Controlled Graphic Equalizer

*SPECIFICATIONS*

### SPECIFICATIONS

CEQ™ 28

#### Frequency Response (Balanced and Unbalanced Outputs)

± 1 dB 20 Hz - 20 kHz

#### Distortion

Less than .01% (20 - 20K) .005%  
Typical

#### Common Mode Rejection Ratio (CMRR)

36 dB Typical

#### Input Impedance

Unbalanced: 20K ohms  
Balanced: 20K ohms (equal impedances to ground)

#### Output Impedance

Unbalanced: 1K ohms  
Balanced: 2K ohms

#### Maximum Input Level

Unbalanced: +23 dBV (14V RMS)  
Balanced: +23 dBV (14V RMS)

#### Maximum Output Level

Unbalanced: +17 dBV (7V RMS)  
Balanced: +23 dBV (14V RMS)

#### Nominal Input Level

Unbalanced: 0 dBV (1V RMS)  
Balanced: 0 dBV (1V RMS)

#### Nominal Output Level

Unbalanced: 0 dBV (1V RMS)  
Balanced: +6 dBV (2V RMS)

#### Input Headroom

Nominal: 23 dB

#### Output Headroom

Unbalanced: 17 dB  
Balanced: 17 dB

#### Output Noise: Unbalanced Output

EQ Out: -95 dBV  
EQ In, all Flat: -90 dBV

#### Filter Bandwidth

1/3 Octave

#### Filter Frequencies

31.6, 40, 50, 63, 80, 100, 125, 160,  
200, 250, 316, 400, 500, 630, 800,  
1K, 1.25K, 1.6K, 2K, 2.5K, 3.16K,  
4K, 5K, 6.3K, 8K, 10K, 12.5K, 16K

#### Filter Q

4.77  
40 Hz to 12.5 kHz

#### Shelving Filters

32 Hz and 16 kHz are 12 dB  
octave

#### Maximum Boost & Cut Filters

±12 dB (±12 dB Position)  
±6 dB (±6 dB Position)

#### Maximum Boost & Cut Gain (WideBand Gain)

±12 dB (±12 dB Position)  
±12 dB (±6 dB Position)

#### Subsonic Low Cut Filter

18 dB per octave

#### Frequency

40 Hz

### FEATURES:

- 28 band equalizer
- 26 band constant Q filters
- Low and high shelving filters
- Occupies 1¾" of rack space
- Built-in 40 Hz subsonic filter
- Turn on/off transient muting
- MIDI program change, continuous controller and system exclusive capability
- Automatic equalization
- Built-in pink noise source
- Built-in real time analysis
- Additive curve building
- 128 user-defined curves stored in memory
- 40 × 2 LCD illuminated display
- EQ bypass switch
- "Angle of view" adjustment (0° to 60°)
- Low Z balanced input
- Unbalanced line level input
- Line output (RTS)
- Low Z balanced output
- MIDI In, MIDI Out, and MIDI Thru
- "Master" capability to program/control remote model (CEQ™ 28R)

### DESCRIPTION

The new CEQ™ 28 is a fully functional, 28 band graphic equalizer with a built-in real-time analyzer and pink noise source. It can capture multiple discrete sample mic placements or

continuous room samples, display the results, and store them in any of the 128 spaces in memory. Stored curves can then be named and added together to form additional settings.

The CEQ 28 is a truly amazing blend of advanced technology and state-of-the-art analog sound components. Using a special algebraic additive synthesis, the CEQ 28 algorithmically completes over a thousand computations across its response band and "automatically" determines the target room response.

The CEQ 28 equalizer has 28 bands on third octave, ISO centers, and can adjust  $\pm 12$  dB in 1 dB increments, or  $\pm 6$  dB in 0.5 dB increments. There is a subsonic filter, which can be turned on or off, that provides an 18 dB per octave roll-off below 40 Hz. The "software-based" sliders, as well as the level control, can be manually adjusted or remotely affected by MIDI data by assigning a standard MIDI continuous controller.

#### ARCHITECTURAL & ENGINEERING SPECIFICATIONS

The graphic equalizer shall be monaural. It shall consist of 28 bands on ISO  $\frac{1}{3}$  octave centers. The top and bottom (32 Hz and 16 kHz) bands shall be shelving filters. The remaining 26 bands shall be constant-Q filters. The adjustment of these bands shall be  $\pm 12$  dB in 1 dB steps, or  $\pm 6$  dB in 0.5 dB steps. It shall be able to store 128 complete EQ curves including an eight character, user programmed label for each curve in non-volatile memory. It shall have front panel power and bypass switches. It shall have a 40 character by 2 line backlit liquid crystal display for graphic and alphanumeric indication of EQ curves and other unit functions. It shall have a built-in real-time analyzer and pink noise generator for sound system and room analysis. It shall have 5 factory programmed and 2 user programmable mic correction curves selectable for the RTA input. Using the built in RTA, it shall be able to automatically adjust the equalizer to achieve a specified room/system response. The equalizer shall also have a switchable, 3rd-order 40 Hz

subsonic filter. It shall also have a serial, digital control interface with in, out, and thru jacks. This interface shall conform to the MIDI standard. The equalizer shall be able to individually control up to 15 remote compatible,  $\frac{1}{3}$  octave graphic equalizers using its front panel display and buttons via the built in digital control interface. Stored curves shall also be transferrable between units or to a floppy disk storage unit via the digital interface. The graphic equalizer shall have active, electronically balanced inputs and outputs via both XLR and RTS  $\frac{1}{4}$  inch jacks. The maximum input level shall be +23 dBV balanced or unbalanced and the maximum output level shall be +23 dBV balanced or +17 dBV unbalanced. The frequency response shall be  $\pm 1$  dB from 20 Hz to 20 kHz. The THD shall be less than 0.01% (0.005 typical). Hum and noise shall be less than -90 dBV. The dynamic range shall be greater than 107 dB. The unit shall operate on 120 Volts AC, 60 Hz power. The unit shall be packaged in a rugged metal chassis  $16\frac{3}{4}$ " wide by  $1\frac{3}{4}$ " high by  $7\frac{3}{4}$ " deep. The unit shall be called the Peavey Architectural Acoustics Division CEQ™ 28.

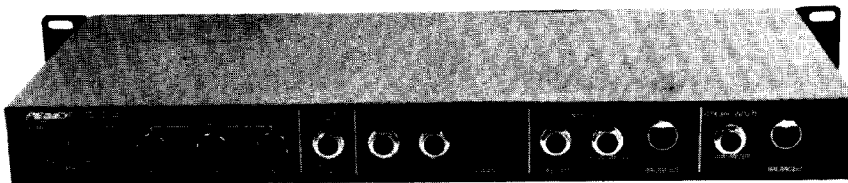
#### LIMITED WARRANTY

Peavey Electronics Corporation warrants to the original purchaser of this new Architectural Acoustics product that it is free from defects in material and workmanship. If within one (1) year from date of purchase a properly installed product proves to be defective and Peavey is notified, Peavey will repair or replace it at no charge. (Note: Batteries and patch cords not covered.) "Original purchaser" means the customer for whom the product is originally installed.

Damage resulting from improper installation, interconnection of a unit or system of another manufacturer, accident or unreasonable use, neglect or any other cause not arising from defects in material and workmanship is not covered by this warranty. The warranty is valid only as to products purchased and installed in the United States.

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#80301271

Printed in U.S.A. 4/90