

# RPQ160 Parametric Equalizer

The RPQ160 is a four-band parametric equalizer for the professional audio installation and music market. The unit is housed in a steel painted 1U rack space chassis, has an internal power supply, and is designed to withstand the rigors of road use.

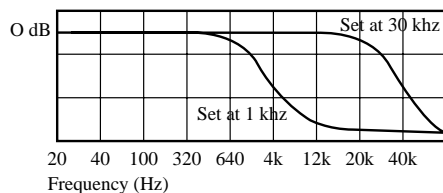
Each frequency band has a variable Frequency select control which adjusts the frequency center, a Width (Q) control which varies the shape of the equalization curve, and a +/- 15 dB Level control. Additional frequency control has been provided with variable High and Low pass shelving filters. An overall Level control, a Bypass switch, and a Power LED round out the front panel.

Since equalization is used on virtually every type of audio signal and in many various applications, the RPQ160 has RCA, 1/4" and XLR inputs and outputs provided on the rear panel.

A parametric equalizer, unlike conventional graphic equalizers, provides for the precise control over the frequency selection, band width and levels. The RPQ160 is a powerful tool when used for room equalization, sound reinforcement, or home or studio recording applications.

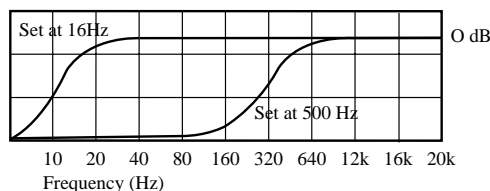
## FEATURES:

- Four bands of parametric equalization
- +/- 15 dB of Boost/Cut for each frequency
- RCA, 1/4" and XLR inputs and outputs
- Adjustable high and low shelving filters
- "T" Filters, which avoid the complexity and distortion of state-variable filters



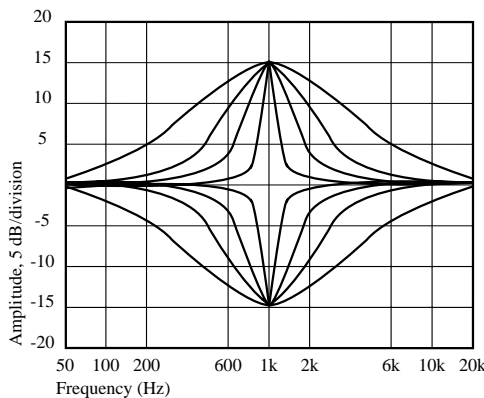
HIGH SHELF SWEEP DIAGRAM

The two shelving filters are designed to tailor the frequency response of the signal; the Low Shelf cuts the frequencies 3 dB at the control's indicated setting and rolls off below, and the High Shelf cuts the frequencies 3dB at the indicated setting and rolls off above.

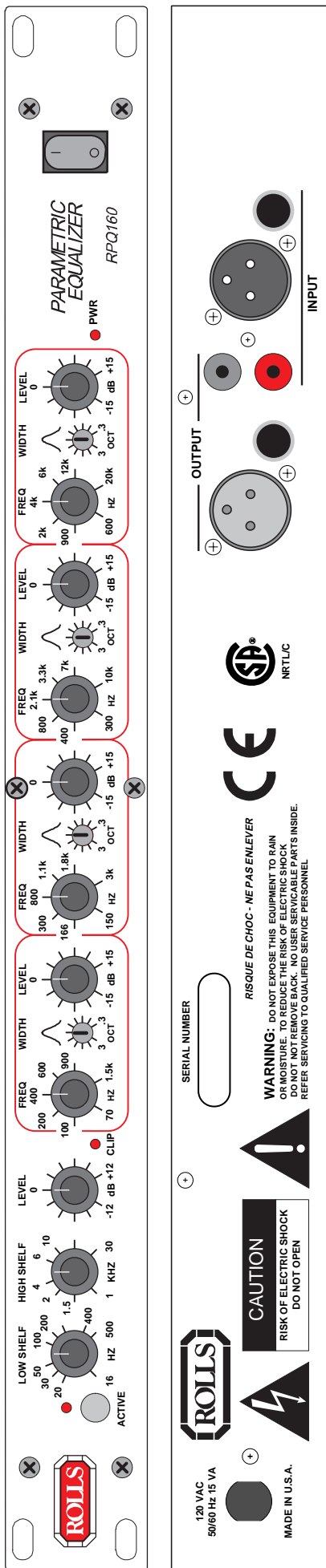


LOW SHELF SWEEP DIAGRAM

The Low Shelf Sweep Diagram shows the response curve of the Low Shelf filter at its minimum and maximum setting. The High Shelf Sweep Diagram shows the response curve of the High Shelf filter at its minimum and maximum setting.



Shown to the left is a typical symmetrical response curve of a swept parametric band filter with the Frequency control set at 1 kHz, the Level set at +15 and -15 dB, and the Octave control set at .3, .5, 1, and 3. These curves remain consistent over the frequency spectrum, they simply shift to whatever frequency setting is indicated by the Frequency control.



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## SPECIFICATIONS

### CONTROLS MAIN SECTION

Master Level:	-12 to +12 dB
Low Shelf:	16 to 500 Hz High-pass filter
High Shelf:	1 to 30 kHz Low-pass filter
Active Switch:	Activates/bypasses equalization circuitry

### CONTROLS FREQUENCY SECTIONS

Frequency Controls:	70Hz to 1.5kHz 150Hz to 3kHz 300Hz to 10kHz 600Hz to 20kHz
Width:	.3 to 3 Octaves each band
Level:	-15 to +15 dB each band

Frequency Response:	16 Hz to 30 kHz +/-3 dB
THD:	<.03%
S/N Ratio:	>90 dB
Max Input:	+22 dB
Max Output:	+22 dB
Input Impedance:	10K $\Omega$ (20K balanced)
Output Impedance:	50 $\Omega$
Shelving Slope:	12 dB / Octave
Size:	19" x 6" x 1.75" (48.3 x 15.2 x 4.5 cm)
Weight:	5 lbs. (2 kg)

### ARCHITECTURAL AND ENGINEERING SPECIFICATIONS

The active parametric equalizer shall be a single channel device that provides four independent bands of proportional-Q type filtering. There shall also be separate high-pass and low-pass shelving filters. The unit shall have an internal power supply capable of operating from 120 to 240 VAC, 50/60Hz line. The voltage selection shall be internally selectable via transformer primary winding configuration. Front panel LEDs shall indicate signal clipping, and power status.

The equalizer shall utilize four filter bands. Each band shall have a +/-15 dB of boost or cut of the following frequency ranges; 70 Hz to 1.5 kHz, 150 Hz to 3 kHz, 300 Hz to 10 kHz, and 600 Hz to 20 kHz. Each frequency select control shall be accurate to within 10% of the indicated setting. The width (Q) control for each frequency range shall be continuously variable from .3 to 3 octaves. The high shelving filter shall have an attenuation rate of 12 dB per octave and shall have a variable frequency selection from 1 kHz to 30 kHz. The low shelving filter shall have an attenuation rate of 12 dB per octave and have a variable selection from 16 Hz

to 500 Hz. The equalization circuitry shall be engaged via a front panel switch.

The active parametric equalizer shall have a frequency response +/- 3dB from 16Hz to 30 kHz (EQ bypassed). The total harmonic distortion shall not exceed .03%. The equalizer shall accept a maximum input level of +22 dB, and shall allow a maximum output of +22dB. A front panel clip LED shall indicate a signal reaching 3 dB below clipping. The inputs shall be unbalanced RCA and 1/4", and a balanced XLR type with impedances of 10K ohms and 20K ohms respectively. The outputs shall be unbalanced RCA and 1/4", and balanced XLR with impedances of 50 ohms.

The equalizer shall be 19" wide by 6" deep by 1.75" high and shall weigh 5 pounds. It shall have a connected power cable and shall be CE and CSA approved

The equalizer shall be the Rolls RPQ160 Parametric Equalizer.

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