

# GRAPHIC EQUALIZERS

## MODELS RR-215, RR-131, and RR-231



### FEATURES

- I Three models:
  - RR-215:** Dual 15 Band Graphic Equalizer
  - RR-131:** Single 31 Band Graphic Equalizer
  - RR-231:** Dual 31 Band Graphic Equalizer
- I 20 mm sliders with center detents used throughout
- I Output level matching controls with 0 to 10 dB range
- I Bypass and Range buttons with LED indicators; Range buttons allow  $\pm 6$  dB or  $\pm 12$  dB slider adjustment
- I Low Pass and High Pass buttons (RR-215) or sweepable controls (RR-131, RR-231)
- I Clip LEDs indicate overload conditions
- I Unbalanced RCA, as well as balanced 1/4" TRS phone and XLR connectors, for all inputs and outputs
- I Ground lift switches
- I Dual voltage switch (100/120 or 200/240 VAC)

adjustment of  $\pm 6$  dB or  $\pm 12$  dB, depending on the setting of the Range switch.

All models are built using compact 20 mm sliders, allowing a full set of 30 or 31 sliders to fit in only a single rack space. Though small, the sliders are of high quality and have a smooth, silky feel. They are center detented for quick, reliable identification of the zero setting.

Because the exact EQ setting chosen may alter the program's overall loudness, Level controls are provided. These are sliders which allow trimming the gain over a 10 dB range. An LED Clip light glows if the audio signal has exceeded the maximum output level (i.e., an overload condition exists), in which case the Level slider can be reduced to avoid distortion.

Pushbuttons are provided on each channel for Bypass, allowing an instant comparison of the sound with EQ in or out. A yellow LED glows when the EQ is bypassed.

All models feature extra control of extreme lows and highs. The RR-215 has High Pass buttons which cut lows below 40 Hz, and Low Pass buttons which cut highs above 16 kHz. The RR-131 and RR-231 provide adjustable controls for High and Low Pass, allowing the cutoff frequencies to be set anywhere from 10 to 250 Hz, and 3 to 50 kHz, respectively. The High Pass function is particularly useful in avoiding power-gobbling rumble in systems not designed to reproduce extreme lows.

For ease of hookup, any of three types of connections may be used for each input and output: XLR (balanced), 1/4" TRS phone (balanced or unbalanced), and RCA (unbalanced). The extra outputs may be used if, for example, a signal split is needed to feed both a tape recorder and a PA system.

### DESCRIPTION

RackRider's newest line of graphic equalizers have the features and performance you need for any sound reinforcement, room equalization, or recording application.

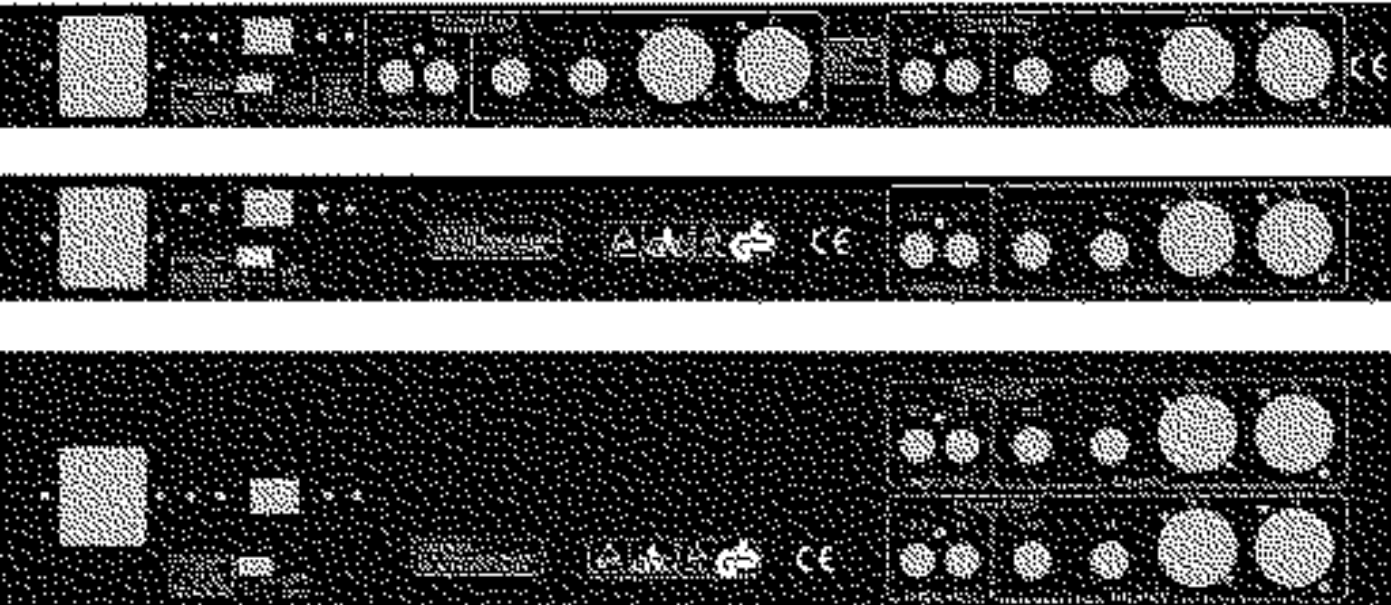
The single-channel RR-131 and dual-channel RR-231 divide the audio frequency spectrum into 31 bands, each spaced 1/3 of an octave apart, while the dual-channel RR-215 divides the spectrum into 15 bands, each spaced 2/3 of an octave apart. The actual center frequencies chosen are those designated as standards by the ISO. Each slider allows an EQ

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# Rear Views, RR-215, RR-131, RR-231



## CONTROLS AND INDICATORS

- Power on-off
- Range: Allows selection of  $\pm 6$  dB or  $\pm 12$  dB boost or cut. Color-coded LED's indicate the range selected.
- Bypass: Toggles the EQ between IN and OUT (bypassed). A yellow LED glows to indicate Bypass.
- Low Pass Filter: Decreases the higher frequencies. Useful in reducing hiss or sibilance. The filtering range is continuously adjustable from 3 kHz up to 50 kHz.
- High Pass Filter: Decreases the lower frequencies, to combat rumble, footsteps, wind noise, etc. Continuously adjustable from 10 Hz to 250 Hz.
- Level Control: This control may be used to compensate for any changes in volume caused by the EQ settings.
- Clip LED: Indicates a distortion-causing overload. Adjust the Level control to compensate for clipping.

EQ Sliders: These sliders allow boost or cut of either  $\pm 6$  dB or  $\pm 12$  dB (depending on the setting of the Range switch) over a narrow frequency band.

Ground Lift: Fights hum or buzz by separating the signal and chassis grounds.

## WARRANTY INFORMATION

The RackRider RR-Series Graphic Equalizers are protected by a limited ninety (90) day warranty covering manufacturing defects. Warranty service is provided by Furman at the address below.

## SPECIFICATIONS

Channels:	RR-131: one; RR-215, RR-231: two
Bands per Channel:	RR-215: 15 (25, 40, 63, 100, 160, 250, 400, 630, 1k, 1.6k, 2.5k, 4k, 6.3k, 10k, 16k) RR-131, RR-231: 31 (20, 25, 31.5, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1k, 1.25k, 1.6k, 2k, 2.5k, 3.15k, 4k, 5k, 6.3k, 8k, 10k, 12.5k, 16k, 20k)
Boost/Cut Range:	$\pm 6$ dB or $\pm 12$ dB, switch selectable
Slider Travel:	20 mm with center detent
Input Connections:	Active balanced XLR and $\frac{1}{4}$ " TRS; unbalanced RCA
Impedance:	Input: 20 k $\Omega$ balanced; 15 k $\Omega$ unbalanced; Output: Less than 600 $\Omega$
Maximum Levels:	Input: +18 dBV; Output: +16 dBV
Signal to Noise Ratio:	93 dB at 1 kHz
Distortion:	.02% THD, 1 kHz, all sliders at center
Frequency Response:	20 Hz to 50 kHz, +0, -3 dB, all sliders at center
High Pass Filter:	RR-131, RR-231: 10 Hz To 250 Hz Variable; RR-215, 40 Hz fixed; 12 dB/octave
Low Pass Filter:	RR-131, RR-231: 3 kHz To 50 kHz Variable; RR-215: 16 kHz fixed; 12 dB/octave
Dimensions (W X D X H):	RR-215, RR-131: 19" X 8.66" X 1.75"; RR-231: 19" X 8.66" X 3.5"
Weight:	RR-215, RR-131: 5.22 lbs (2.9 kg); RR-231: 9.36 lbs (5.2 kg)
Power Requirements:	100-120 VAC, 60 Hz, or 200-240 VAC, 50 Hz, switch selectable; 15 watts
Safety Agency Approvals:	CE, TUV, EMC. Pending: NRTL