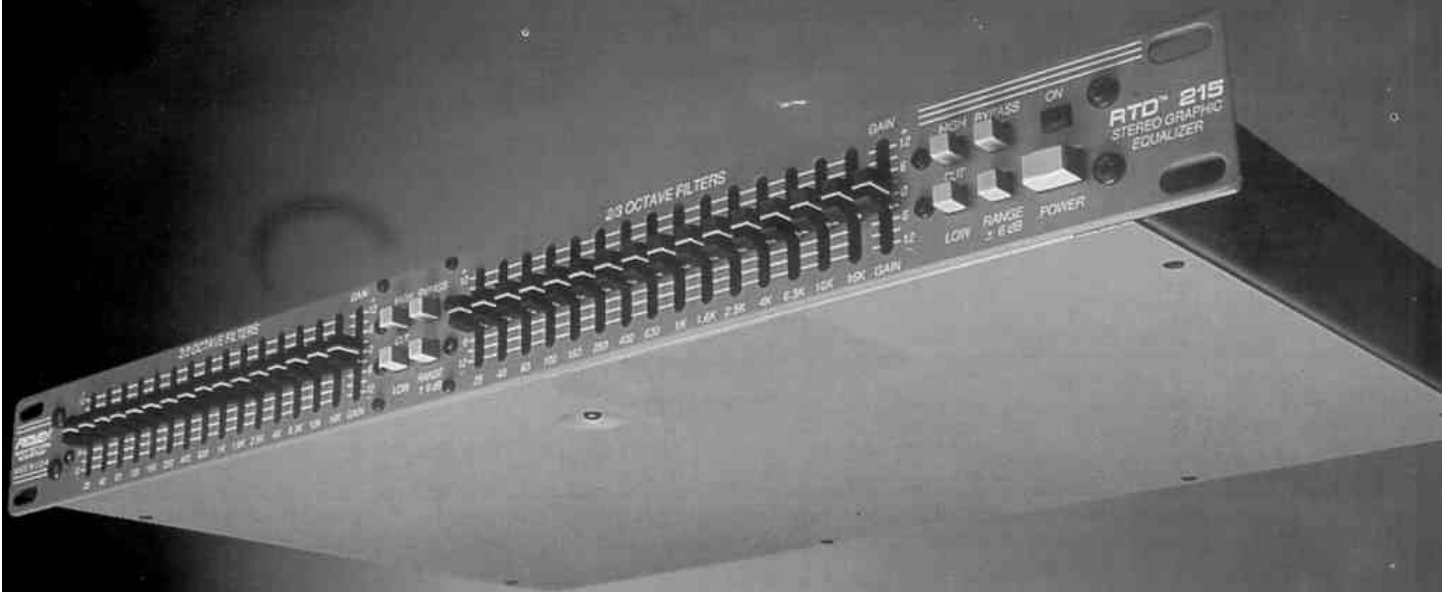


RTD™ 215

STEREO GRAPHIC EQUALIZER

OPERATING GUIDE



ARCHITECTURAL
ACOUSTICS

WARNING: TO PREVENT ELECTRICAL SHOCK OR FIRE HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. BEFORE USING THIS APPLIANCE, READ THE OPERATING GUIDE FOR FURTHER WARNINGS.

INTRODUCTION

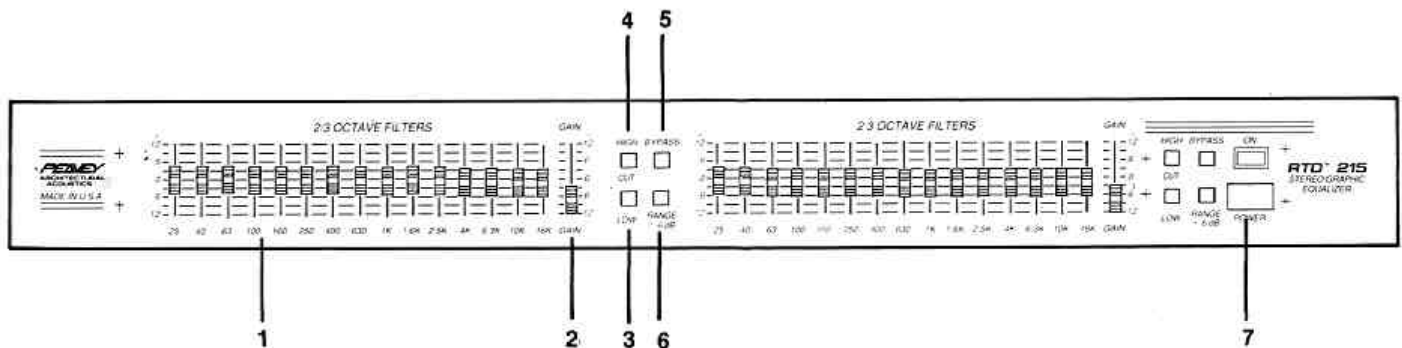
The RTD™ 215 features 15 bands of $\frac{2}{3}$ octave filter sets with dual range capability. The filters are constant "Q" devices, located at standard ISO center frequencies. Effective equalization range is from 25 Hz to 16 kHz.

The compact size, occupying only a single rack space and providing dual 15-band filter sets, gives the RTD 215 a clear advantage over other equalizers in its range. Features such as EQ bypass, low and high cut filters, ± 6 and ± 12 dB range, Balanced inputs and outputs, and Constant "Q" filters are all priceless functions for the business of accurate equalization, but with the headroom to keep your system clean.

Application

The RTD 215 has been designed to provide accurate dual channel room equalization, feedback control, and system tone control. Equalization for stereo sound systems (left and right signals) may be provided with the RTD 215 in a single rack space. **NOTE:** Superb tonality, absence of feedback, and great sounding systems may not always be possible with any graphic equalizer. All other components in the sound system must be

FRONT PANEL



EQUALIZER SECTION (1)

Two 15-band, $\frac{2}{3}$ octave filter sets with dual range capability. The filters are constant "Q" devices located at standard ISO center frequencies. Effective equalization range is from 25 Hz to 16 kHz per channel. Normal operation is 12 dB cut or boost (see Range switch).

GAIN (2)

Calibrated control for regulating overall gain of the equalizer section. Unity gain throughout the signal chain may be maintained by recovering lost signal at this point. Example: Assume the equalization process has introduced a signal loss of -6 dB by negative ($-$) adjustment of the EQ section. The gain should then be adjusted to $+6$ to maintain unity gain through the equalizer.

LOW CUT (3)

Provides high pass filtering at two preset frequencies, 12 Hz in the "out" position, 40 Hz in the "in" position. Low frequency roll off is at 12 dB per octave.

designed for the application and of the highest quality to maximize results. No amount of equalization will correct an acoustically bad room/mic/speaker arrangement or completely correct the response curve of a poor loudspeaker.

Equalization Process

Always begin the equalization process with all sliders in the "0" or "flat" position and avoid excessively cutting large segments of the audio passband, which would limit the system's dynamic range. **EXERCISE CAUTION WHEN ATTEMPTING TO BOOST EQUALIZATION BELOW CUT-OFF OF SPEAKER SYSTEM TRANSDUCERS.** Typical sound reinforcement enclosures are not designed for 20 Hz performance and transducer damage could result from "over-boosting" the low frequencies. Excessive boost at the very low frequencies could also greatly limit overall system headroom.

FEATURES

- Two 15-band, $\frac{2}{3}$ octave filter sets (constant Q)
- Switch-selectable ± 6 and ± 12 dB ranges
- Broadband level control
- Low and high cut filters
- EQ bypass function
- Balanced inputs and outputs
- Quiet power-up and power-down modes
- $+24$ dBV input and output capability (headroom)
- Single $1\frac{3}{4}$ " rack space package

HIGH CUT (4)

Provides low pass filtering at two preset frequencies, 30 kHz in the "out" position, 16 kHz in the "in" position. High frequency roll off is at 12 dB per octave.

EQ BYPASS (5)

In bypass mode, the input signal is routed directly to the output and is unaffected by all front panel controls except the low cut and high cut filters.

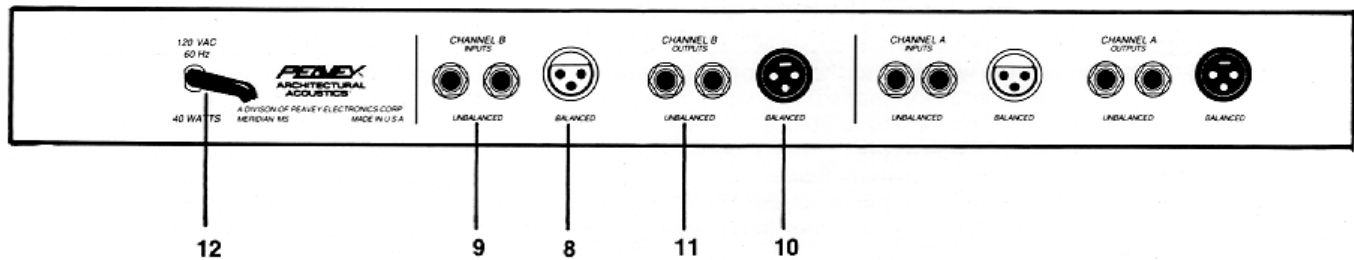
RANGE (± 6 dB/ ± 12 dB) (6)

Selects the amount of cut or boost available with equalizer section. Switch position (out) provides ± 12 dB range. Switch position (in) provides ± 6 dB operation.

POWER SWITCH (7)

Depress the switch to the "On" position. The red pilot light (LED) will illuminate indicating power is being supplied to the unit.

REAR PANEL



INPUT (BALANCED) (8)

A three-pin female XLR jack is provided for electronically balanced input termination.

INPUT (UNBALANCED) (9)

Two ¼" ring-tip-sleeve (stereo) jacks provide balanced inputs when used with stereo (RTS) ¼" plugs and 2-conductor shielded cables. When used with a mono ¼" phone plug, the input is unbalanced.

OPERATION NOTE

Using either of the two ¼" inputs with a mono phone plug unbalances the other ¼" input and the XLR input. When one of these inputs is used as a "y-out" to an unbalanced input on another piece of equipment, all the inputs become unbalanced.

OUTPUT (BALANCED) (10)

A transformer balanced, male XLR output provides line-balancing to other pieces of audio equipment (e.g. power amps). Balanced output is recommended for rejection of hum, noise, and outside interference.

OUTPUT (UNBALANCED) (11)

Two paralleled ¼" phone jacks are provided for unbalanced output termination.

LINE CORD (120V PRODUCTS ONLY) (12)

For your safety, we have incorporated a 3-wire line (mains) cable with proper grounding facilities. It is not advisable to remove the ground pin under any circumstances. If it is necessary to use the equipment without proper grounding facilities, suitable grounding adaptors should be used. Less noise and greatly reduced shock hazard exists when the unit is operated with the proper grounded receptacles.

SPECIFICATIONS

All specifications are typical unless otherwise noted.

0 dBV = 1 volt

All specifications are referenced to nominal output level (0 dBV) unless otherwise noted.

All measurements are wideband 20 Hz to 20 kHz unless otherwise stated.

NOTE: All specs measured at 1V RMS input and unbalanced output. All sliders at mid position, all switches out unless otherwise noted.

FREQUENCY RESPONSE (Balanced and Unbalanced outputs)
± 1 dB 20 Hz - 20 kHz

DISTORTION
.003% 20 Hz - 20 kHz

COMMON MODE REJECTION RATIO (CMRR)
36 dB typical

INPUT IMPEDANCE
Unbalanced: 20K ohms
Balanced: 20K ohms (Equal impedances to ground)

OUTPUT IMPEDANCE
Unbalanced: 100 ohms
Balanced: 160 ohms

MAXIMUM INPUT LEVEL

Unbalanced: +24 dBV (15.8V RMS)
Balanced: +24 dBV (15.8V RMS)

MAXIMUM OUTPUT LEVEL

Unbalanced: +18 dBV (8V RMS)
Balanced: +24 dBV (15.8V 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 = 24 dB

OUTPUT HEADROOM

Unbalanced: 18 dB
Balanced: 18 dB

OUTPUT NOISE: UNBALANCED OUTPUT

EQ Out: -98 dBV
EQ In, all Flat: -96.5 dBV

FILTER BANDWIDTH

⅔ octave

FILTER FREQUENCIES

25, 40, 63, 100, 160, 250, 400, 630, 1K, 1.6K, 2.5K, 4K, 6.3K, 10K, and 16 kHz

FILTER Q

2.36

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)

HIGH CUT FILTER: (12 dB per octave frequency)

Out: 30 kHz
In: 16 kHz

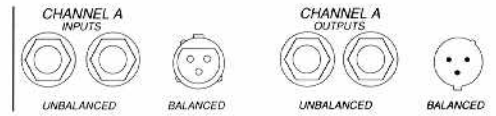
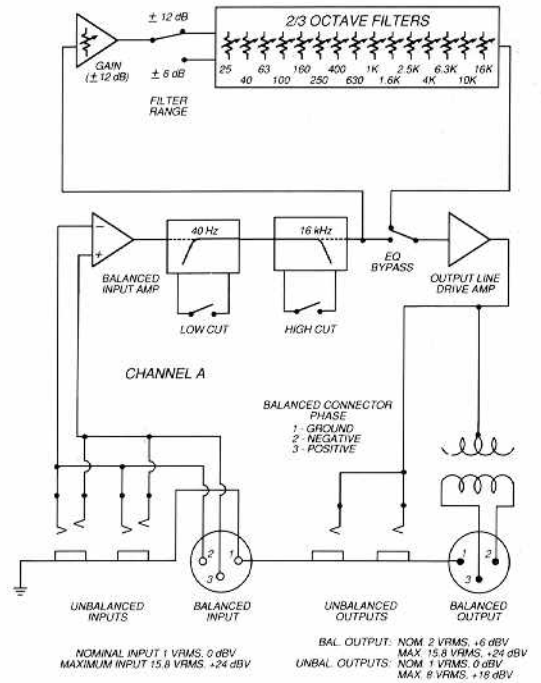
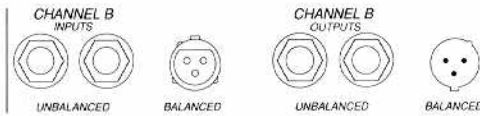
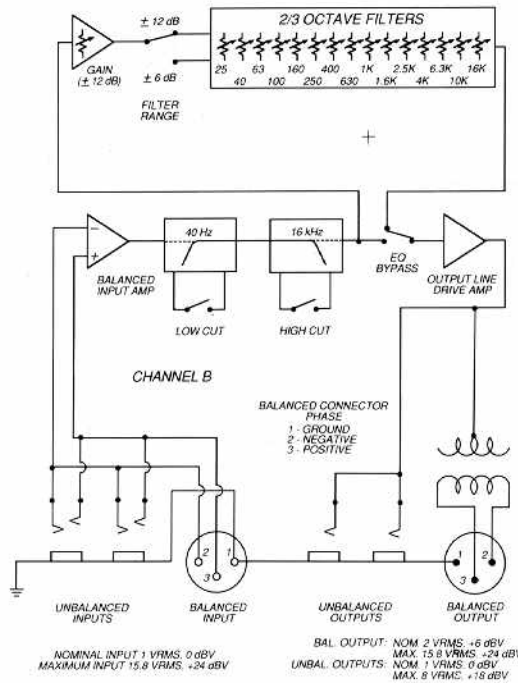
LOW CUT FILTER: (12 dB per octave)

Out: 12 Hz
In: 40 Hz

PEAVEY
ARCHITECTURAL
ACOUSTICS®

RTD™ 215

A DIVISION OF
PEAVEY ELECTRONICS CORP.
MERIDIAN, MS MADE IN U.S.A.



WARNING
TO PREVENT THE RISK OF FIRE AND SHOCK HAZARD,
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR
MOISTURE. DO NOT REMOVE COVER. NO USER SER-
VICABLE PARTS INSIDE. REFER SERVICING TO
QUALIFIED SERVICE PERSONNEL.
AVIS: RISQUE DE CHOC ELECTRIQUE - NE PAS
OUVRIE.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: When using electric products, basic cautions should always be followed, including the following.

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be retained for future reference.
3. Obey all cautions in the operating instructions and on the back of the unit.
4. All operating instructions should be followed.
5. This product should not be used near water, i.e., a bathtub, sink, swimming pool, wet basement, etc.
6. This product should be located so that its position does not interfere with its proper ventilation. It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
7. This product should not be placed near a source of heat such as a stove, radiator, or another heat producing amplifier.
8. Connect only to a power supply of the type marked on the unit adjacent to the power supply cord.
9. Never break off the ground pin on the power supply cord. For more information on grounding, write for our free booklet "Shock Hazard and Grounding."
10. Power supply cords should always be handled carefully. Never walk or place equipment on power supply cords. Periodically check cords for cuts or signs of stress, especially at the plug and the point where the cord exits the unit.
11. The power supply cord should be unplugged when the unit is to be unused for long periods of time.
12. If this product is to be mounted in an equipment rack, rear support should be provided.
13. Metal parts can be cleaned with a damp rag. The vinyl covering used on some units can be cleaned with a damp rag or an ammonia-based household cleaner if necessary. Disconnect unit from power supply before cleaning.
14. Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation holes or any other openings.
15. This unit should be checked by a qualified service technician if:
 - a. The power supply cord or plug has been damaged.
 - b. Anything has fallen or been spilled into the unit.
 - c. The unit does not operate correctly.
 - d. The unit has been dropped or the enclosure damaged.
16. The user should not attempt to service this equipment. All service work should be done by a qualified service technician.
17. This product should be used only with a cart or stand that is recommended by Peavey Electronics.
18. Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably in susceptibility to noise induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures.

Duration Per Day In Hours	Sound Level dBA, Slow Response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

According to OSHA, any exposure in excess of the above permissible limits could result in some hearing loss.

Ear plugs or protectors in the ear canals or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss if exposure is in excess of the limits as set forth above. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels such as this amplification system be protected by hearing protectors while this unit is in operation.

SAVE THESE INSTRUCTIONS!

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.

THIS LIMITED WARRANTY IS IN LIEU OF ANY AND ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE. UNDER NO CIRCUMSTANCES WILL PEAVEY BE LIABLE FOR ANY LOST PROFITS, LOST SAVINGS, INCIDENTAL DAMAGES OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT, EVEN IF PEAVEY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. THIS LIMITED WARRANTY IS THE ONLY EXPRESS WARRANTY ON THIS PRODUCT, AND NO OTHER STATEMENT, REPRESENTATION, WARRANTY OR AGREEMENT BY ANY PERSON SHALL BE VALID OR BINDING UPON PEAVEY.

Peavey's liability to the original purchaser for damages for any cause whatsoever and regardless of the form of action, is limited to the actual damages up to the greater of Five Hundred Dollars (\$500) or an amount equal to the purchase price of the product that caused the damage or that is the subject of or is directly related to the cause of action. This limitation of liability will not apply to claims for personal injury or damage to real property or tangible personal property allegedly caused by Peavey's negligence. For information on service under this warranty, call a Peavey customer service representative at (601) 483-5376.



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ARCHITECTURAL ACOUSTICS®

Features and specifications subject to change without notice.

A Division of Peavey Electronics Corporation

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