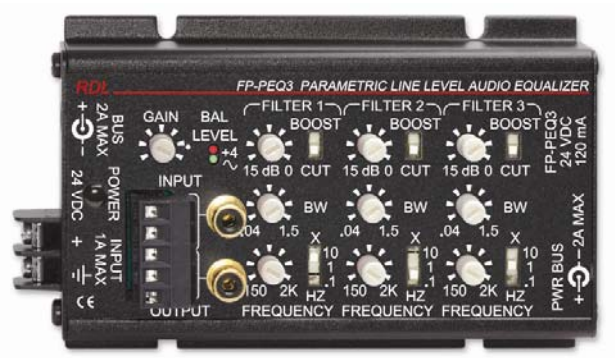
RDL®
Radio Design Labs

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

FLAT-PAK™ SERIES
Model FP-PEQ3
3-Band Parametric Equalizer



ANYWHERE YOU NEED...

- Highly Versatile Parametric Equalizer
- Independent Adjustment Controls
- Adjustable Bandwidth .04 to 1.5 Octave
- Adjustable Frequency 15 Hz to 20 kHz
- Cut or Boost Adjustable +/- 15 dB
- Overlapping Frequency Bands
- Output Level Metering
- Studio Quality, Low Noise Performance

You Need The FP-PEQ3!

The FP-PEQ3 is part of the group of versatile FLAT-PAK products from Radio Design Labs. The unique FLAT-PAK case can be directly screwed or bolted to cabinets or shelves. Optionally available rack-mounting accessories permit single or multiple FLAT-PAK module mounting. All FLAT-PAK modules are supplied with a power interconnect cable for daisy-chaining multiple modules from a single power supply.

APPLICATION: The FP-PEQ3 is the ideal choice in many applications where parametric equalization or acoustic notch filtering is needed. Power connections are made using either the full-size barrier block terminals or a dc power jack located in one end panel. A second dc power jack is provided on the other end panel for connecting additional FLAT-PAK modules.

The FP-PEQ3 is a single channel module featuring three identical independent filters. Each filter has separately adjustable **FREQUENCY**, **BOOST/CUT** amplitude, and bandwidth (**BW**) parameters. The **FREQUENCY** has three fully overlapping switch-selectable ranges: 15 Hz – 200 Hz, 150 Hz – 2 kHz, 1.5 kHz – 20 kHz. The **BOOST/CUT** provides a 15 dB range, switch-selectable to produce either cut or boost. Setting a given filter's **BOOST/CUT** to minimum completely removes that filter from the circuit. The bandwidth (**BW**) allows adjustment from 0.04 octave to 1.5 octave.

Acoustic feedback filtering alignment using the FP-PEQ3 is simpler and quicker than with other parametric equalizers. System levels may be selectively increased by setting a filter to the **BOOST** mode, tuning the **FREQUENCY** and adjusting the **BOOST/CUT** potentiometer for feedback. That filter is then simply switched to the **CUT** mode. The bandwidth (**BW**) control may be adjusted for broad effect, or for a sharp 1/25th octave notch at a single frequency.

Balanced and unbalanced inputs and outputs are provided. Unbalanced connections are intended for –10 dBV signals on phono jacks. Unbalanced –10 dBV signals are internally converted to +4 dBu and back. Balanced +4 dBu input and output signals connect through a plug-in terminal block. The input gain control allows the installer to set the module gain between *off* and 3 dB greater than the input signal. The module is normally adjusted for unity gain, however if the BOOST mode is used, it is possible to generate excessive signal levels. Overload is avoided by setting the gain using the dual LED meter provided on the FP-PEQ3. The dual LED output meter follows standard VU ballistics. A green LED illuminates at 15 dB below +4 dBu output. The intensity of the green LED progresses from minimum at -11 dBu to full intensity at +4 dBu. The adjacent red LED illuminates at +4 dBu. The audio may be adjusted for maximum intensity of the green LED. Flashing of the red LED is equivalent to a VU meter needle swinging above the **0** level.

The FP-PEQ3's low profile and compact size permit mounting in confined spaces and in various locations in equipment racks. The location of the input/output jacks permits high-density mounting against flat surfaces while maintaining accessibility to the connectors. The low noise, studio quality performance of the FP-PEQ3 makes it the ideal choice in most sound systems. The economical cost makes notch filtering possible in small systems where expensive products are precluded. Many versatile systems may be designed using FP-PEQ3s mounted near amplifiers, to rack sides or in an equipment rack (either the front or rear rack rails) using the RDL FP-RRA.

Wherever a parametric equalizer is needed to provide adjustable filtering, low noise and distortion, reliability, compactness and unsurpassed versatility, the FP-PEQ3 is the ideal choice. Use the FP-PEQ3 individually, or combine it with other RDL products as part of a complete audio/video system.

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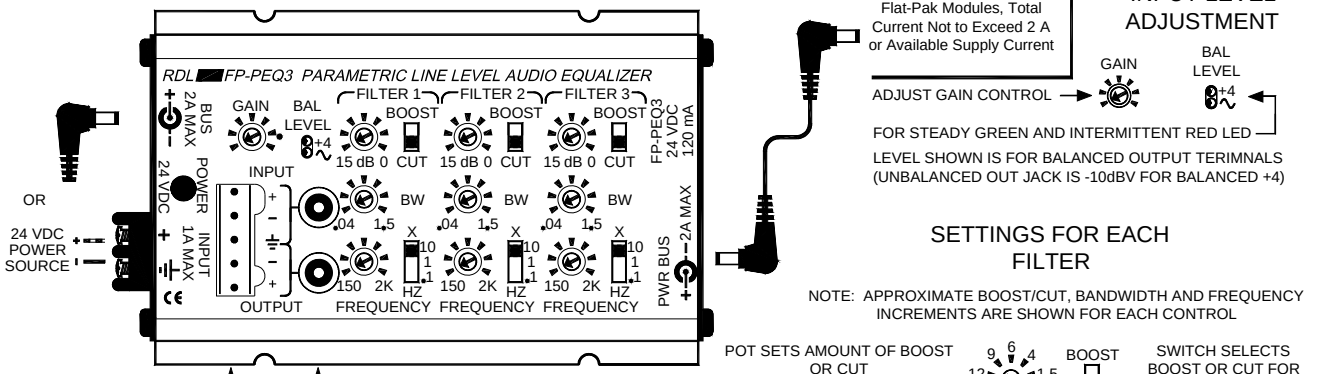
Model FP-PEQ3

3-Band Parametric Equalizer

Installation/Operation

EN55103-1 E1-E5; EN55103-2 E1-E4
Typical Performance reflects product at publication time exclusive of EMC data, if any, supplied with product. Specifications are subject to change without notice.



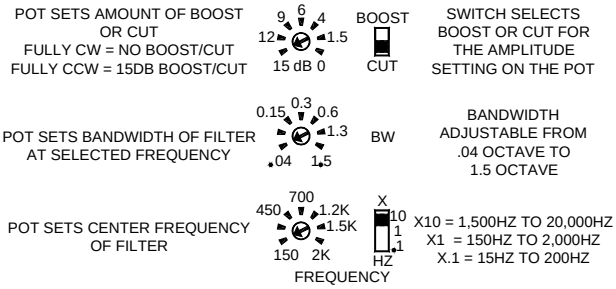
Power to Additional Flat-Pak Modules, Total Current Not to Exceed 2 A or Available Supply Current

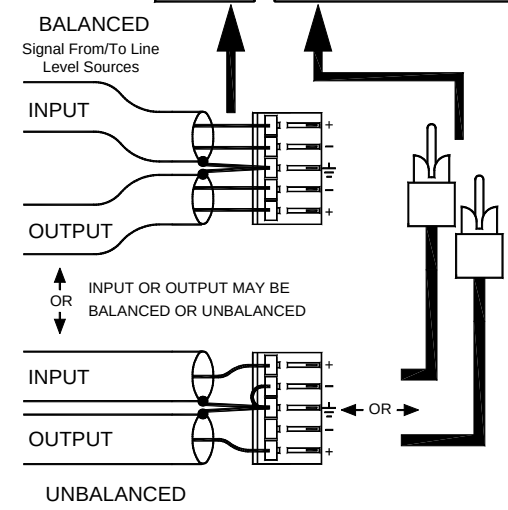
INPUT LEVEL ADJUSTMENT

LEVEL SHOWN IS FOR BALANCED OUTPUT TERIMNALS (UNBALANCED OUT JACK IS -10dBV FOR BALANCED +4)

SETTINGS FOR EACH FILTER

NOTE: APPROXIMATE BOOST/CUT, BANDWIDTH AND FREQUENCY INCREMENTS ARE SHOWN FOR EACH CONTROL





ADJUSTMENT TO REDUCE ACOUSTIC FEEDBACK IF A REAL TIME ANALYZER IS UNAVAILABLE

1) SET ALL SYSTEM MIC INPUTS TO THE MAXIMUM LEVEL BELOW WHICH FEEDBACK OCCURS
2) SET FILTER TO "BOOST" WITH AMPLITUDE POT CENTERED; TUNE THROUGH FREQUENCIES UNTIL FEEDBACK OCCURS
3) SWITCH THAT FILTER TO "CUT" AND REPEAT STEP 2 FOR THE OTHER FILTERS IF NECESSARY
4) SET SOUND SYSTEM TO THE DESIRED OPERATING LEVEL
5) IF FEEDBACK OCCURS, INCREASE THE CUT (CCW) OF EACH FILTER
6) IF NO FEEDBACK OCCURS, DECREASE THE CUT (CW) OF EACH FILTER JUST BEFORE FEEDBACK
7) INCREASE TEMPERATURE AND HUMIDITY STABILITY OF SYSTEM BY INCREASING FILTER BANDWIDTH AS NEEDED.

INPUT OR OUTPUT MAY BE WIRED TO TERMINAL BLOCK OR JACK

NOTE: FOR ACOUSTIC FEEDBACK CONTROL, ONLY THE SOUND SYSTEM MICROPHONE SIGNALS ARE NORMALLY CONNECTED THROUGH THE FP-PEQ3

TYPICAL PERFORMANCE

Inputs (2)	+4 dBu balanced on plug-in terminal block; –10 dBV unbalanced phono jack
Input Impedance:	10 kΩ (balanced bridging); 10 kΩ (unbalanced)
Gain Range:	Off to +3 dB (adjustable)
Outputs (2):	+4 dBu balanced on plug-in terminal block; –10 dBV unbalanced phono jack
Filters (3):	Independently adjustable
Frequency Range:	15 Hz to 200 Hz, 150 Hz to 2 kHz, 1.5 kHz to 20 kHz (adjustable) (switch selectable ranges)
Boost/Cut Amplitude:	±15 dB adjustable
Bandwidth:	0.04 octave to 1.5 octave (adjustable)
Frequency Response (filters flat):	10 Hz to 20 kHz (+/- 0.25 dB)
THD+N:	< 0.005%
Noise:	< -90 dB (below +4 dBu)
CMRR (balanced input):	50 dB @ 100 Hz
Power Requirement:	24 Vdc @ 120 mA, Ground-referenced
Overall Dimensions:	Height: 1.42 in. 3.61 cm Width: 3.25 in. 8.26 cm Length: 5.66 in. 14.38 cm

Radio Design Labs Technical Support Centers
U.S.A. (800) 933-1780, (928) 778-3554; Fax: (928) 778-3506
Europe [NH Amsterdam] (++31) 20-6238 983; Fax: (++31) 20-6225-287