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WesAudio LC-EQP

User manual

EN

The art of sound
 WESAUDIO

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Thank you for purchasing WesAudio LC-EQP

WesAudio LC-EQP

- a single channel passive equalizer
with a tube amplifying stage.

With kind regards,



Radoslaw Wesolowski

More than a year of a careful research, the positive results of tests and consultations with Polish recording studios have helped complete the work on creating a musically distinctive and high quality sound equalizer. WesAudio LC-EQP sound can be described as clean and clear with a tube nature. It is an ideal equalizer on both, single tracks and the sum. LC-EQP WesAudio handles well controlling other studio devices thanks to low output impedance. It was designed as a universal musical equalizer to use in professional recording studios.

The equalizer input system is based on a Carnhill linear transformer which matches input impedance. The input impedance is $> 1.5 \text{ k}\Omega$. It is higher than in similar class devices. As a result, the equalizer does not load the signal source, by which it is controlled. The equalization block is a passive system based on coils, resistors and capacitors. The block has been expanded with additional bands for LOW and HIGH section. The EQ section introduces a high attenuation, exceeding 25dB. A signal restoring amplifier is a tube system, based on two triodes. The amplifier has been designed without feedback which does not distort transients. The equalizer output is symmetrical. A Carnhill transformer is responsible for output symmetrization, which provides a low output impedance. The anode and heat voltage are stabilized. WesAudio LC-EQP is powered by alternating voltage 230V / 115V, which can be selected by a voltage selector.

The casing is 2U rack made of 1.5mm stainless steel whereas the aluminum front panel is 4mm. LOW section has separate boost regulations and frequency cut offering six bands. HIGH BOOST section has a selection of 12 bands and a regulation of Q factor. HIGH CUT section is equipped with 6 bands. An EQ IN switch is a "True Bypass" type. Switching the equalizer is indicated by a red LED.

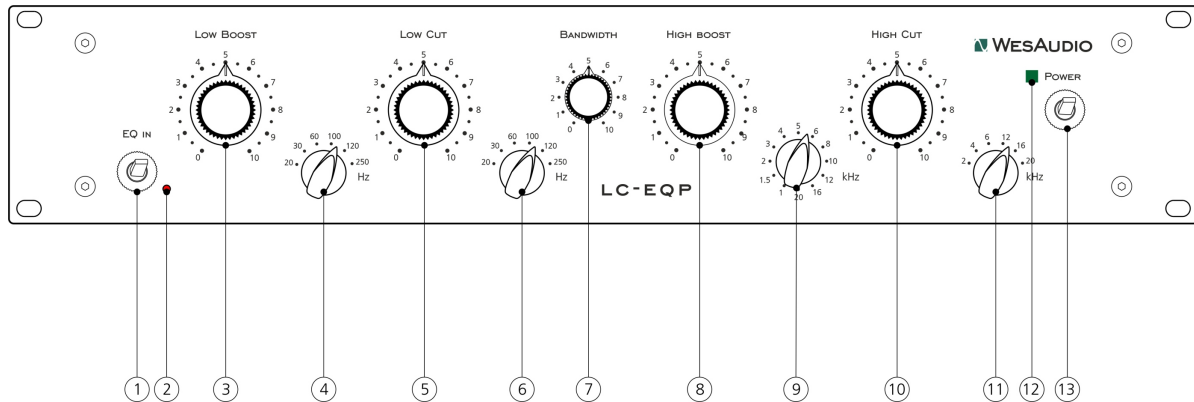


Fig.1 Front panel

- 1 EQ In switches the equalizer. In the upper position the equalizer is on, in the lower - 'off' - the signal goes directly from input to output (true bypass mode)
- 2 LED indicating 'on' mode.
- 3 Low Boost knob. Low bandwidth sections boost from 0 to 18dB
- 4 Low Boost band selector switch, a choice of bandwidth 20Hz, 30Hz, 60Hz, 100Hz, 120Hz, 250Hz.
- 5 Low Cut knob for cutting in the range from 0 to 20dB Low Cut bandwidth section.
- 6 Low Cut Band selector switch, a choice of bandwidth 20Hz, 30Hz, 60Hz, 100Hz, 120Hz, 250Hz.
- 7 Bandwidth knob adjusts the Q - quality factor of filter for High Boost section. Qmax corresponds to position 0, Qmin is 10.
- 8 High Boost knob allows high bandwidth boost from 0 to 18dB
- 9 Band selector switch High Boost, selectable bands: 1kHz, 2kHz, 3kHz, 4kHz, 5kHz, 6kHz, 8kHz, 10kHz, 12kHz, 16kHz, 20kHz.

- 10 High Cut knob for cutting High bandwidth ranging from 0 to-20dB.It is "Shelf"-type filter.
- 11 High Cut Band selector switch, you can choose the band: 2kHz, 4kHz, 6kHz, 12kHz, 16kHz, 20kHz.
- 12 LED indicates that the device is on.
- 13 Power switch.

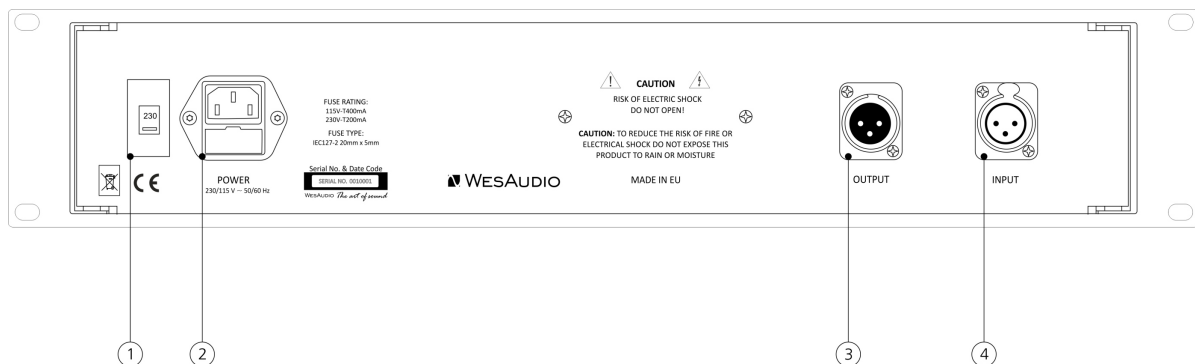


Fig.2 Rear panel

- 1 Voltage switch selector 115V/230V

Warning!! Choosing the wrong voltage can damage the equalizer!
Before connecting, make sure the correct voltage has been selected!

- 2 Mains power inlet connector and fuse holder.
- 3 XLR Balanced audio output connector
- 4 XLR Balanced audio input connector

Installation

The unit comes in a 2U form. As it can produce large amounts of heat during long work, it is advised to leave 1U free space above it to dissipate the heat. It is recommended to switch on the device at least 20 minutes before operating to ensure best parameters.

Note!

The device should be connected only to a grounded outlet and proper voltage.

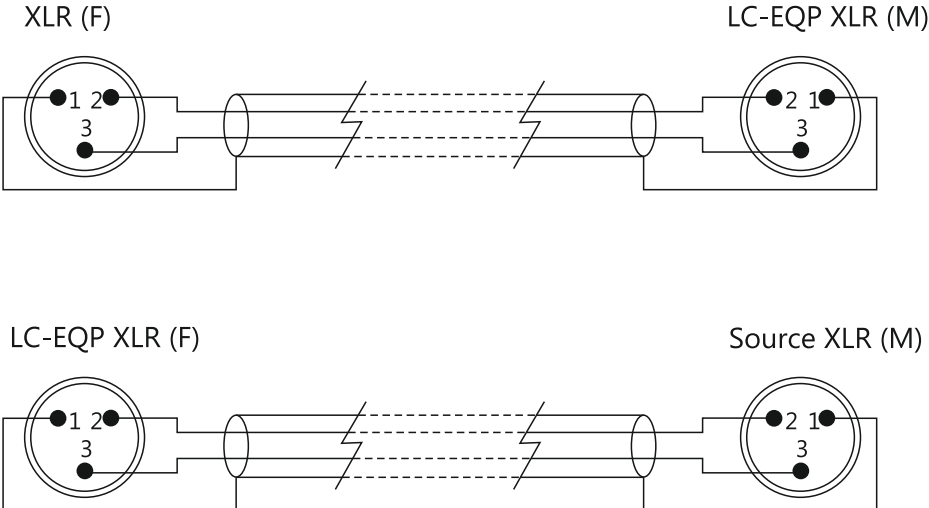
Always replace the fuse with the type and value recommended by the manufacturer.

230V – IEC 127 20x5mm T200ma

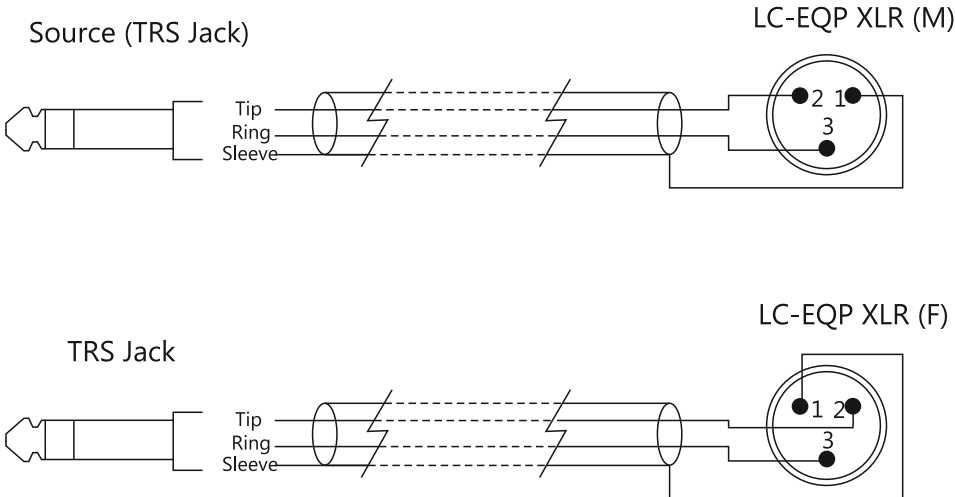
115V – IEC 127 20x5mm T500ma

Warning ! High Voltage inside ! To reduce the risk of electrical shock do not open the unit.

Balanced XLR connection



Balanced Jack - XLR connection



Sections of LC-EQP

LC-EQP is divided to four independent sections :

- Low BOOST** (shelving type)
- Low CUT** (shelving type)
- HIGH BOOST** with BANDWIDTH shelving (peak or bell type)
- HIGH CUT** (shelving type)

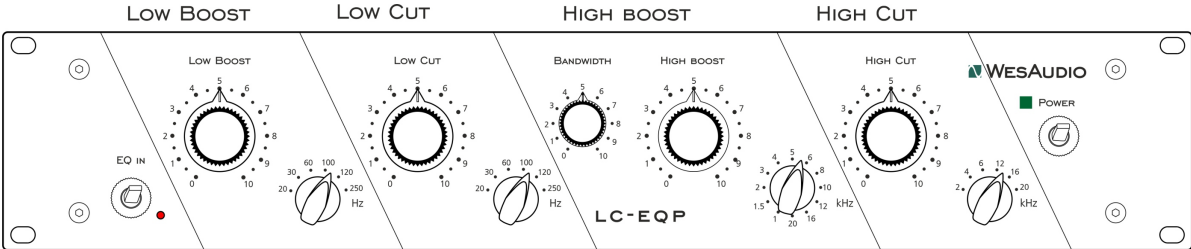
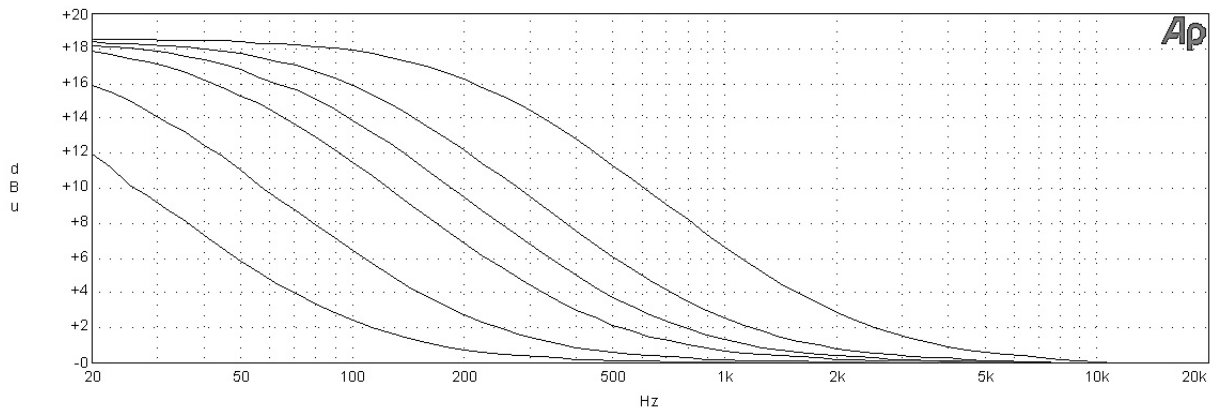
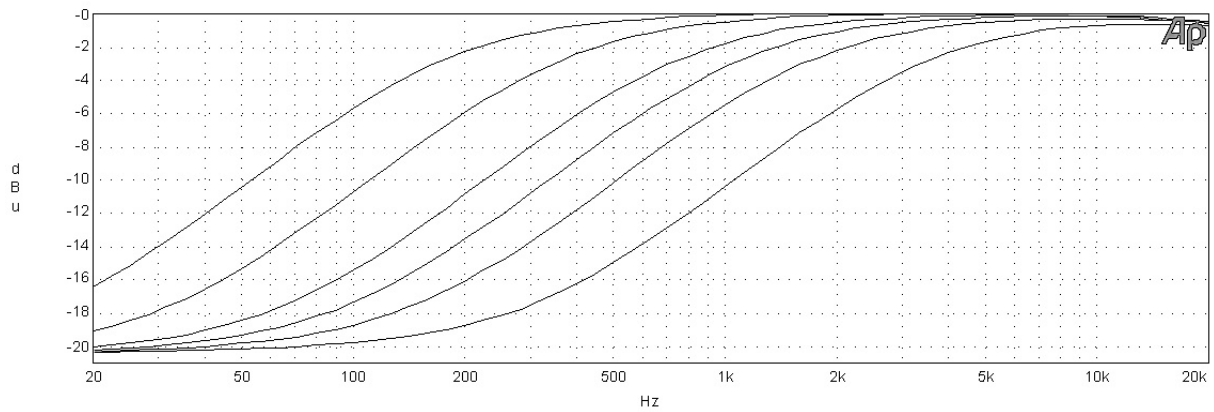


Fig.3 Sections of LC-EQP

Eq characteristics :

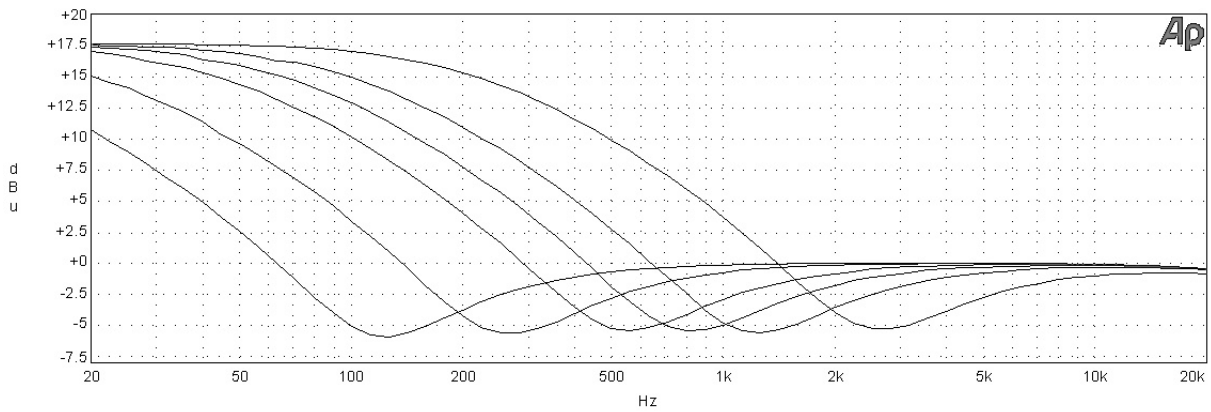


Low frequency boost (from left: 20Hz, 30Hz, 60Hz, 100Hz, 120Hz, 250Hz)

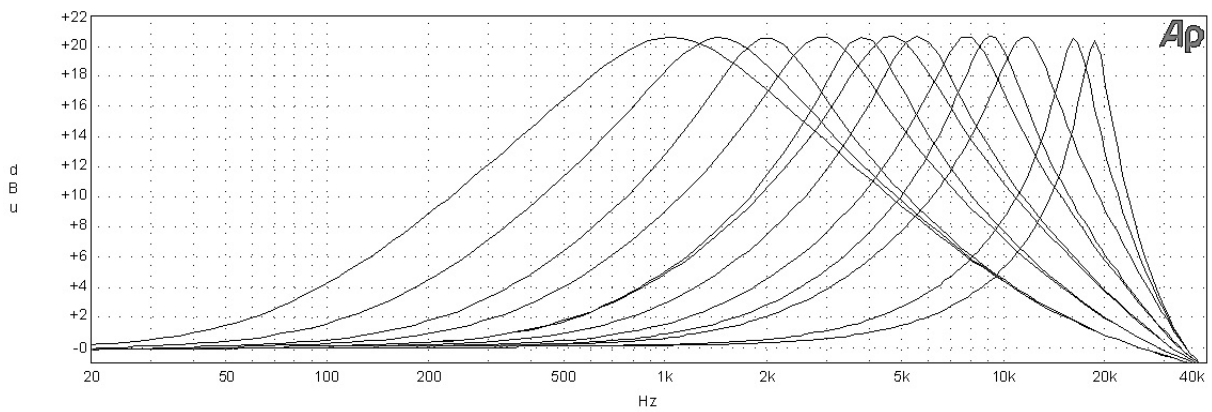


Low frequency cut (from left: 20Hz, 30Hz, 60Hz, 100Hz, 120Hz, 250Hz)

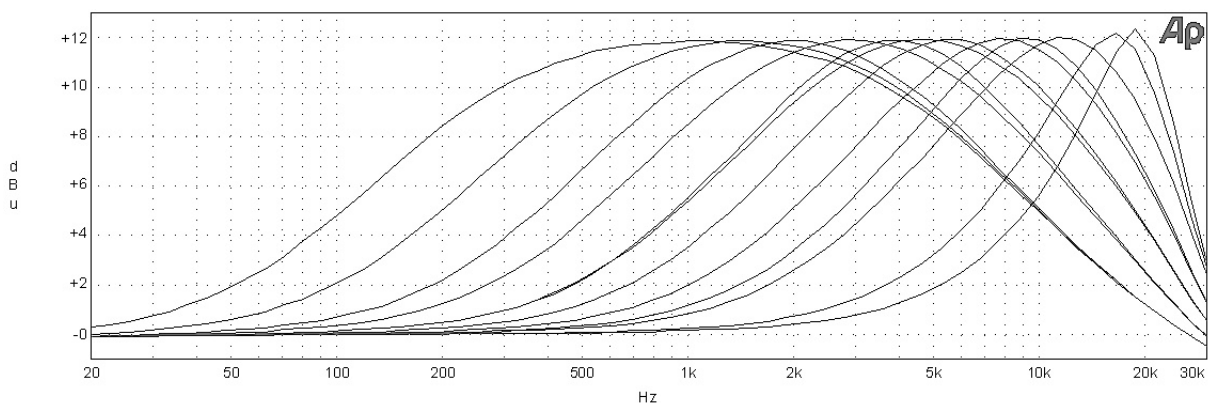
CHARACTERISTICS



Low frequency Boost + Low frequency Cut (from left: 20Hz, 30Hz, 60Hz, 100Hz, 120Hz, 250Hz)

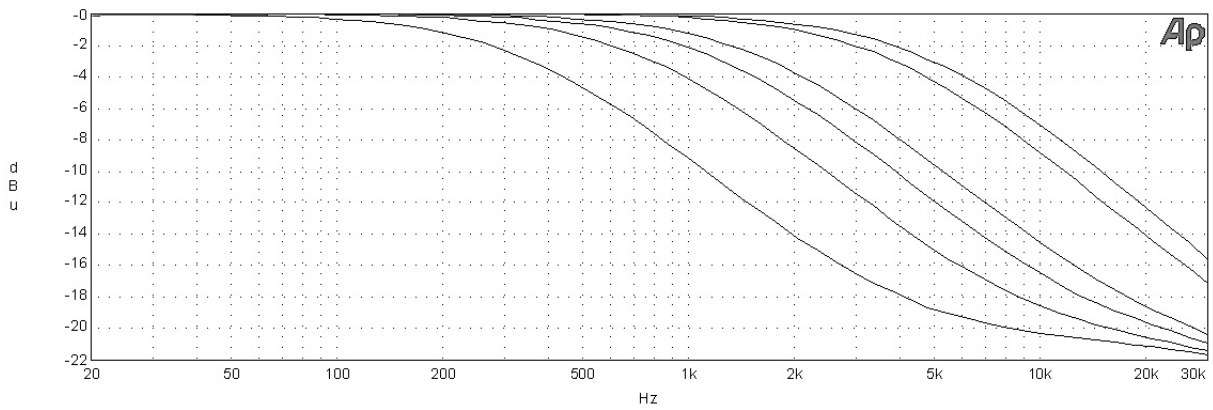


High frequency boost , BW=0 (Q=max)
(from left: 1kHz, 2kHz, 3kHz, 4kHz, 5kHz, 6kHz, 8kHz, 10kHz, 12kHz, 16kHz, 20kHz)

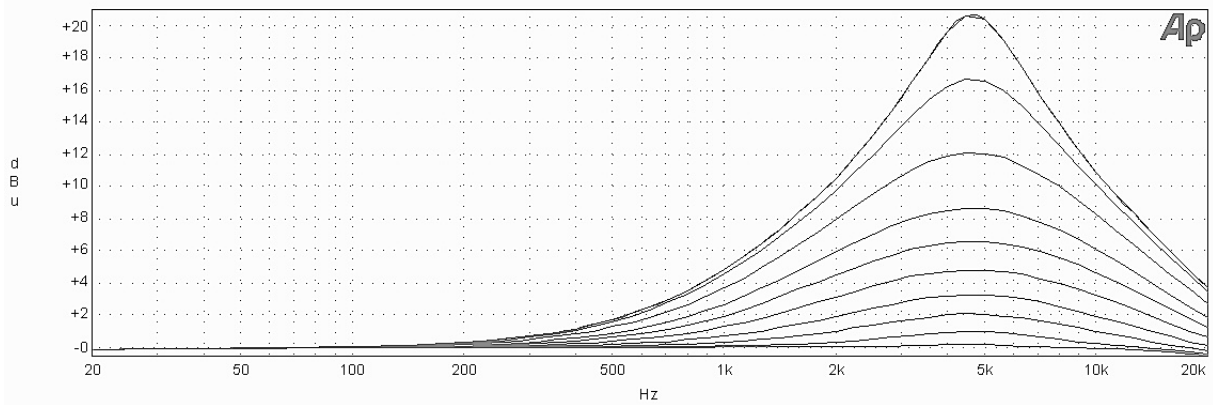


High frequency boost , BW=10 (Q=min)
(from left: 1kHz, 2kHz, 3kHz, 4kHz, 5kHz, 6kHz, 8kHz, 10kHz, 12kHz, 16kHz, 20kHz)

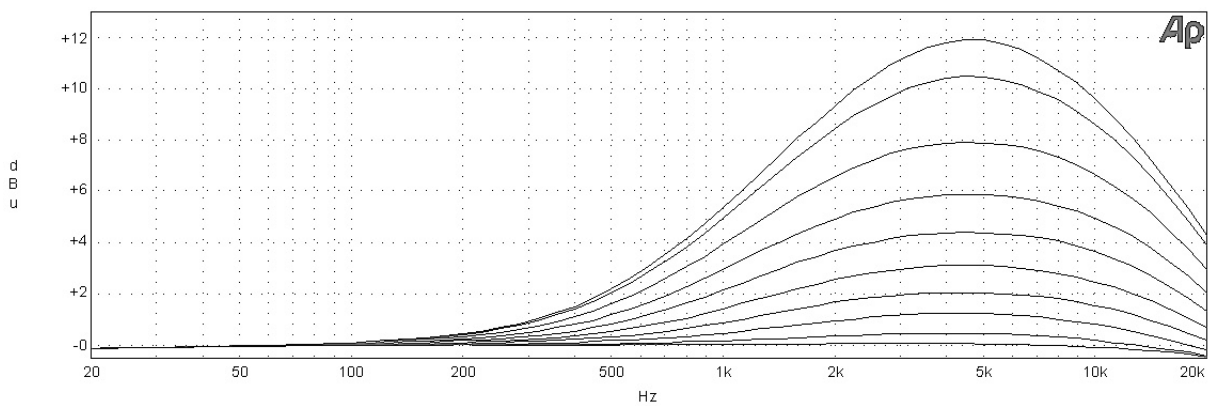
CHARACTERISTICS



High frequency cut (from left: 2kHz, 4kHz, 6kHz, 12kHz, 16kHz, 20kHz)

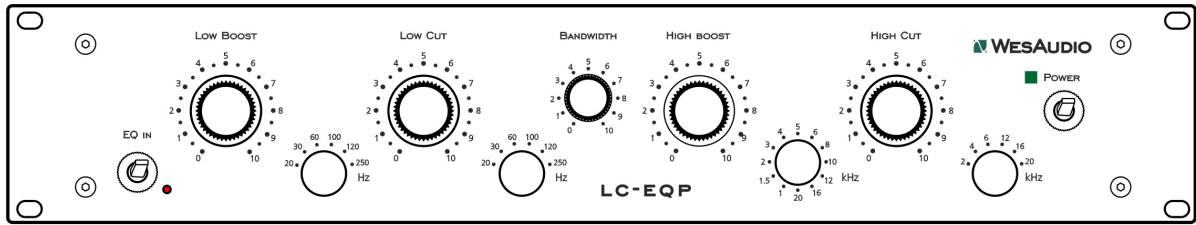


High frequency boost 5kHz (High Boost 1-10) Q=max

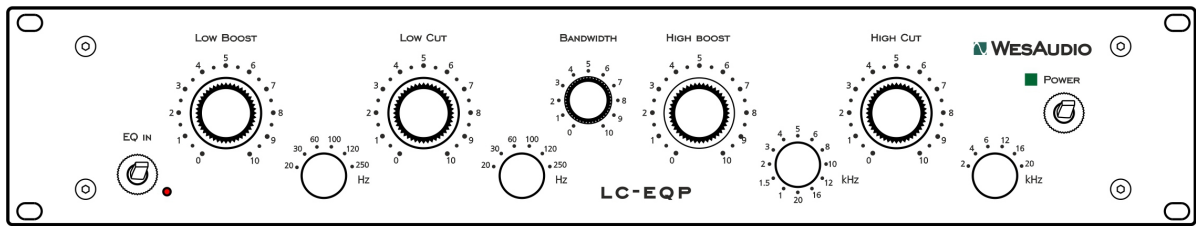


High frequency boost 5kHz (High Boost 1-10) Q=min

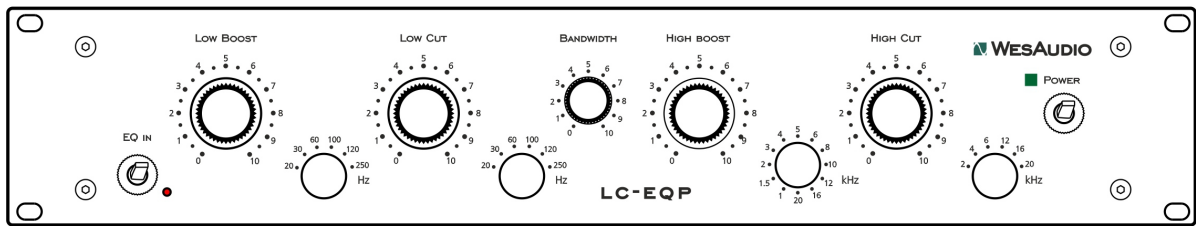
Recall sheet



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Specifications:

Gain:	0dB (+/- 0.5dB)
Input impedance:	>1.5kohm
Output impedance:	150ohm
Max. output level:	+22dBu (0.8% THD)
Frequency response:	5Hz - 65kHz (-3dB)
SNR ratio:	90dB
LOW BOOST:	max +18dB
LOW CUT:	max -18dB
HIGH BOOST:	max +18dB
HIGH CUT:	max -18dB
LOW BOOST:	20, 30, 60, 100, 120, 250 Hz
LOW CUT:	20, 30, 60, 100, 120, 250 Hz
HIGH BOOST:	1, 1.5, 2, 3, 4, 5, 6, 8, 10, 12, 16, 20 kHz
HIGH CUT:	2, 4, 6, 12, 16, 20 kHz
AC mains:	115(60Hz) / 230V(50Hz)
Transformer balanced output and input (XLR)	
Tubes:	12AX7, 12AU7
Case :	Rack 2U
Dimensions :	88 x 483 x 237 mm
Weight:	7 kg
Warranty:	3 years