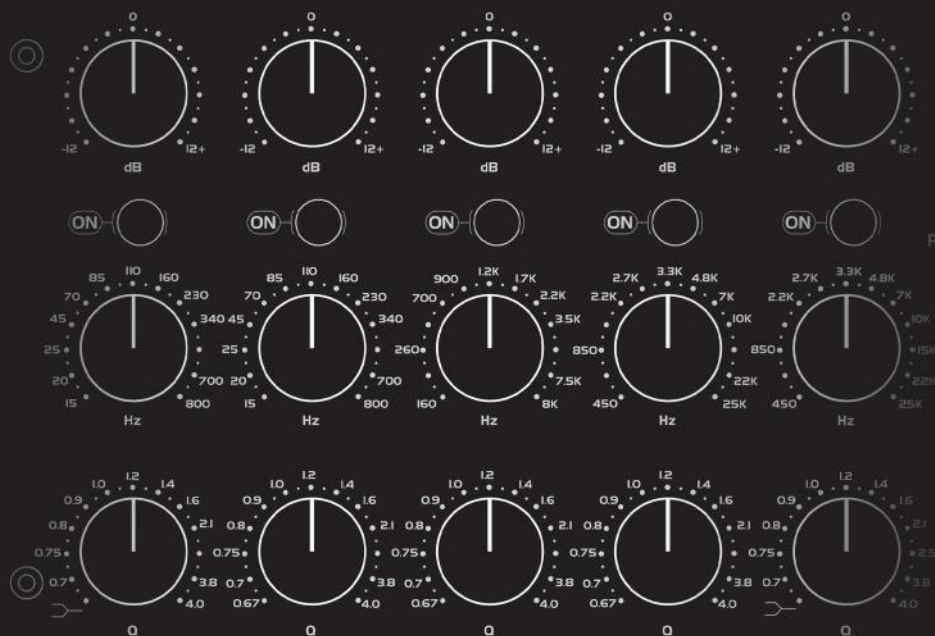




HVC250

5-Band Stereo Parametric EQ



Owner's Manual
Handmade Pro Audio Gear

We craft gear, you craft sound.

Dear _____,

Thanks for creating with HVC250!

The enclosed device is our most frequently used EQ in the studio. It takes little effort to deliver a satisfying and natural result, which doesn't sound engineered at all.

The HVC250 is a tribute to the legendary Sontec MEP-250 equalizer. It took 5 years to redesign the circuits, to eventually produce many parts in house, to handbuild the machine, as well as to test with 100+ commercial projects. Regardless of its root in the great analog fashion, the HVC250 is an EQ that every studio needs.

We shall invite you to go through this manual, so that you can discover its evolved functionality. You are always welcomed to find the latest updates of this HVC250 and other crafts at www.zhdesigns.audio. If you have any feedback, we will be helpful and reachable at store@zhdesigns.audio. Our ideas always come from studios, especially the studios of our community around the world.

Wish you a pleasant time with the HVC250 Stereo Parametric EQ!

With kind regards,
Z&H Designs



zhdesigns.audio



Z&H Designs



[@ZHDesigns-audio](https://www.youtube.com/@ZHDesigns-audio)



[@Z_and_H_Designs](https://twitter.com/Z_and_H_Designs)

Operation and safety precautions

- Use only grounded electrical outlet.
- Do not open the device and don't do any modifications on it.
- Do not attempt to repair or replace any of the components unless specifically instructed to do so in this guide.
- Pay attention to not put any solid matter (flammable things, coin, nail etc) or liquid (water, alcohol etc.) inside device.
- Do not twist or break the power cord or place heavy objects on it. Doing so may damage the cable and cause a short circuit.
- Damaged cables can cause fire and electric shock.
- Protect the device from intensive external shock (e.g. falling down).



**Never use the device
in the following conditions:**

- | | |
|-----------------------|-------------------|
| - Extreme temperature | - Rain |
| - Moisture | - Dust |
| - High humidity | - Heavy vibration |

In the following cases, turn off the device immediately, unplug the power cord, and contact us (store@zhdesigns.audio):

- If the mains plug of the appliance is damaged
 - If you notice smoke or an unusual odor
 - If any object or liquid gets inside the device
 - If the machine has been exposed to rain or other moisture
 - If the device does not operate normally
-
- Do not connect the appliance to a mains socket to which an electrical appliance is controlled by an inverter, switching power supply (eg. refrigerator, washing machine, microwave, air conditioner) or an appliance with a motor is connected.
 - Depending on the use of electrical devices, power supply noises may cause a malfunction or audible noise on this unit. If a separate electrical outlet cannot be used, connect a noise filter between this and the other electrical appliances.
 - The unit heats up during several hours of continuous operation. This is normal and not a cause of concern.

Operation and safety precautions

- Turn off all devices before connecting the device to other devices. This will prevent damage to speakers and other equipment.
- Use of the unit near amplifiers or other equipment that contains a transformer may cause noise. To resolve this issue, relocate the device or move it away from the interfering device.
- Noise may be caused by using a wireless communication device near the device, such as a mobile phone. Such noise can occur when making, receiving, and diverting a call. If you experience this problem, move the wireless device away from the device or turn it off.
- This unit may interfere with radio and television operation, so do not use near such receivers.
- If the device is transported to a location with a very different temperature and/or humidity, moisture may condense inside. Using the device in this condition may result in damage or malfunction. Therefore, wait a few hours for the moisture to completely evaporate before using the appliance.

Cleaning and maintenance

Clean the appliance daily with a soft, dry or slightly damp cloth. Use a soft, abrasion-free cloth to remove stubborn dirt. Then wipe the device with a dry cloth. Never use benzine, thinner, alcohol or other solvents, strong alkaline or acidic cleaners as they may cause discoloration and deformation.

Notice

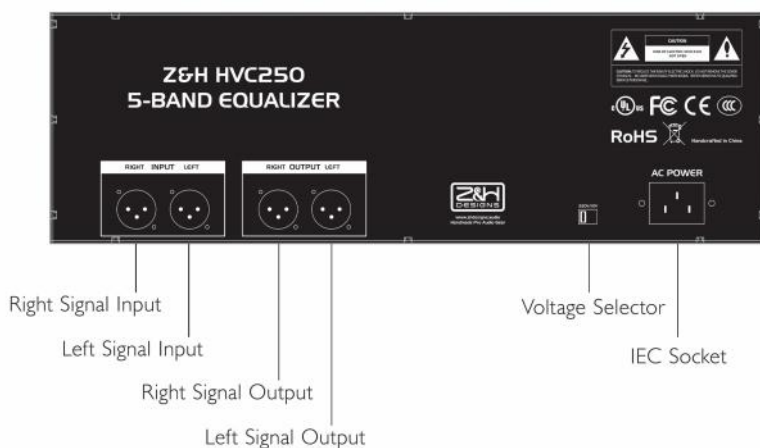
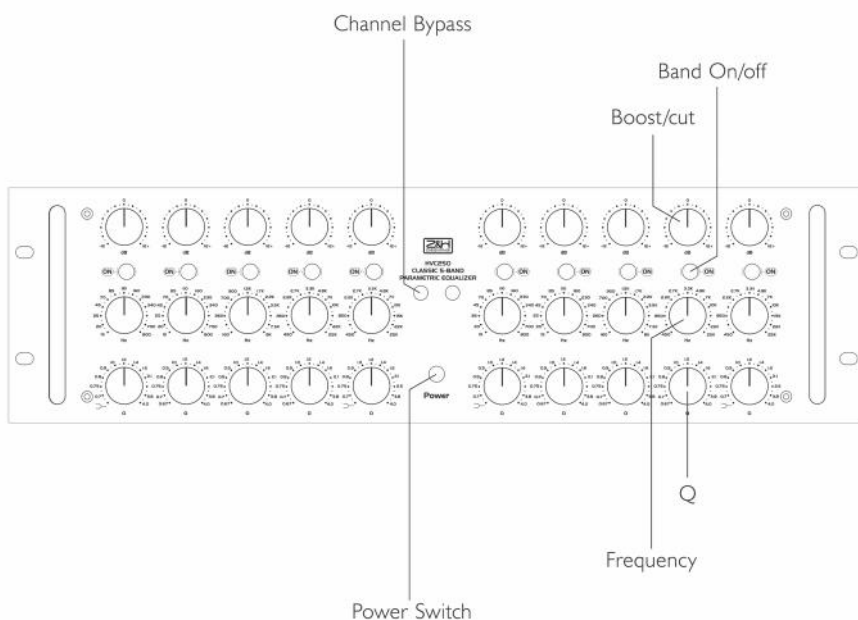
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Panel description



Boost/cut

The Boost/cut knob controls the amount of gain or attenuation for each band. Maximum level of boost or cut is 12 dB, continuously variable, with a highly accurate 0 dB setting (detent).

Band On/off

Push button that turns on/off the band. The corresponding band is bypassed when the light is off. The corresponding band is engaged when the light is on.

Frequency

Determines the center frequency for each band. Frequency ranges differ for the bands to accommodate maximum flexibility, and are continuously variable. The ring of numerical markings denotes center frequency in concert with the pointer.

Q

Controls the sharpness of the peak or dip for each band, with a counter-clockwise detent for shelving on the LF and HF bands. The ring of numerical markings denotes the Q value, which is continuously variable from 0.67 (widest Q) to 4.0 (sharpest Q).

Channel Bypass

Push button that turns on/off the channel. The corresponding channel is bypassed when the light is off. The corresponding channel is engaged when the light is on.

Power Switch

Push button that turns on/off the device.

Connectors

IEC Socket

A power cable is provided in the package, which is supposed to match the standard of user's location.

Voltage Selector

220V/110V AC voltage selector.



WARNING: high voltage

Make sure to disconnect the IEC socket before replacing eventually blown fuses or changing the operating voltage of the unit! In order to change the operating voltage, the fuse holder has to be taken out and re-inserted so that the desired voltage can be read correctly (and is not standing upside down).



WARNING: fuses

Always make sure to use the correct fuses for the chosen voltage: 2A glass tube fast-blow. Incorrect or missing fuses are dangerous safety hazards for both the unit and yourself!

Signal Outputs (+4dBu)

Pin assignment:



1 ground 2 ground 3 cold

Signal Inputs (+4dBu)

Pin assignment:



1 ground 2 hot 3 cold

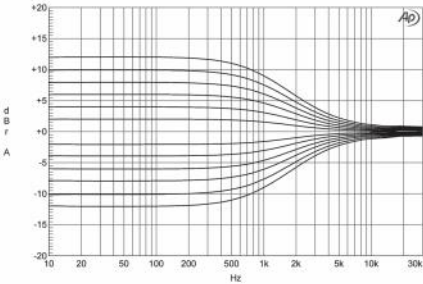
Specifications

Frequency range	15Hz - 25kHz
SNR	left: -97.092 dBV right: -96.021 dBV
Form factor	2 channels, 5 bands: fully parametric
LF	15Hz - 800Hz Q: 0.67 - 4 or shelf 12dB boost/cut
LMF	15Hz - 800Hz Q: 0.67 - 4 12dB boost/cut
MF	160Hz - 8kHz Q: 0.67 - 4 12dB boost/cut
HMF	450Hz - 25kHz Q: 0.67 - 4 12dB boost/cut
HF	450Hz - 25kHz Q: 0.67 - 4 or shelf 12dB boost/cut

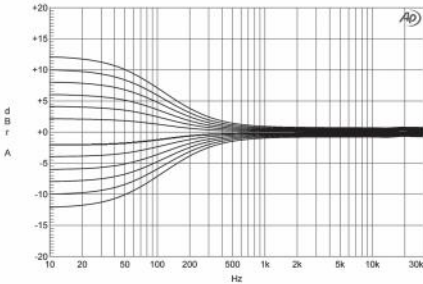
Distortion (left & right channel off)	0.0008%
Distortion (left & right channel on)	0.0015% (20-20kHz)
Chassis size (H×W×D) 13'3" (404mm) × 8'4.1" (254mm) × 4'3.2" (130mm)	
Panel Size (H×W) 15'10" (483mm) × 4'4.2" (133mm)	
Voltage Selector	110V, 220V

Reference

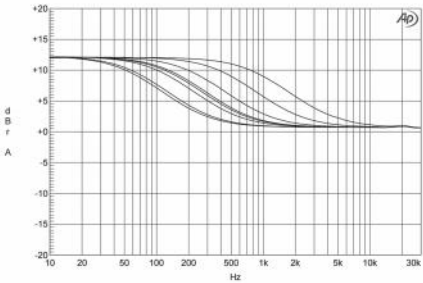
Low shelf (high frequency)



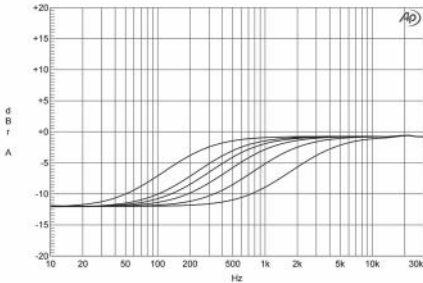
Low shelf (low frequency)



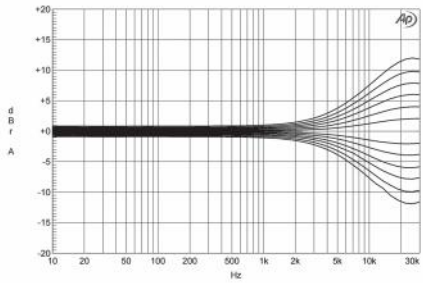
Low shelf (boost)



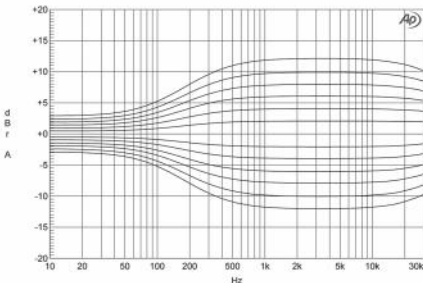
Low shelf (cut)



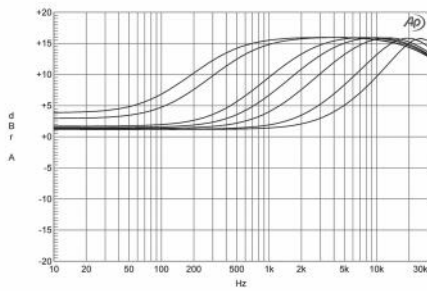
High shelf (high frequency)



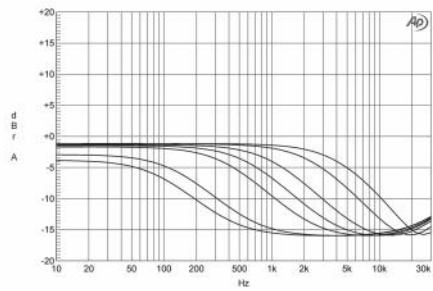
High shelf (low frequency)



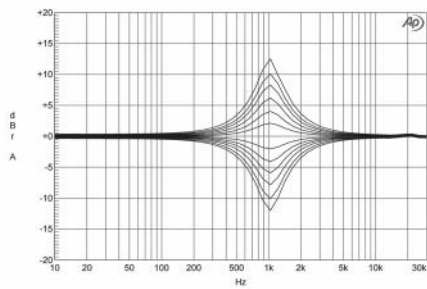
High shelf (boost)



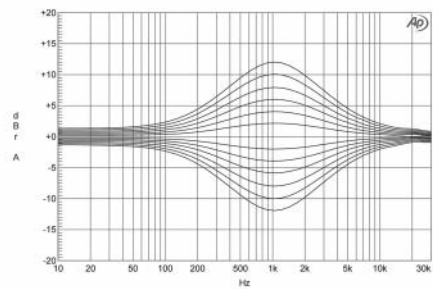
High shelf (cut)



Narrow Q



Wide Q



Troubleshooting

1. Where is the power supply voltage switch?

Turn to the back panel of device. Next to the IEC socket, there is a red switch (as shown in the picture) between 220V and 110V.

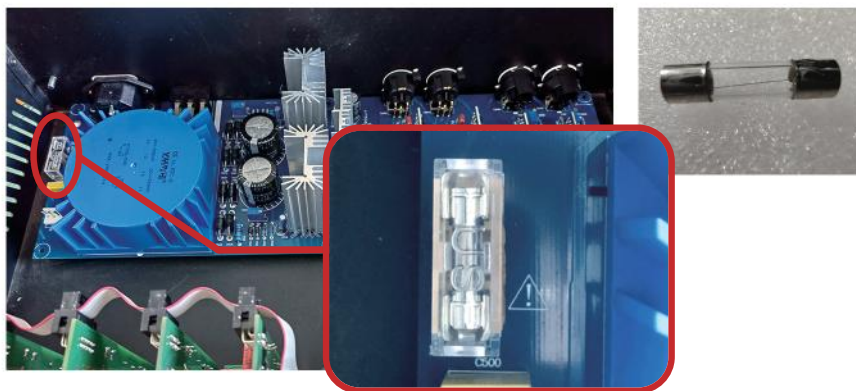


2. Power-up failure

1. Check if the power supply of your location corresponds to the voltage switch on the device (see "1. Where is the power supply voltage switch?").
2. Check if the fuse has melted:
 - Remove 7 screws from the device.



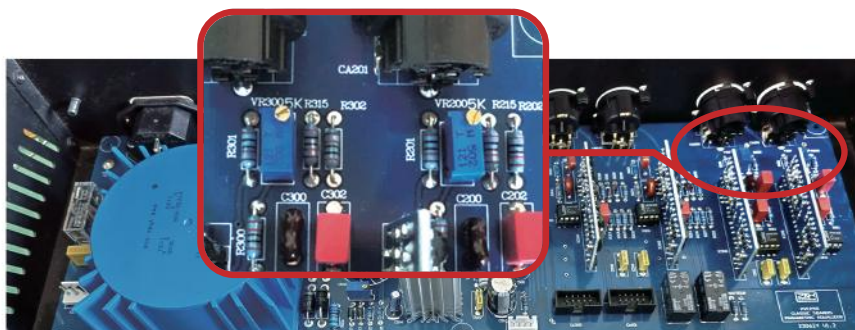
- Find the fuse container beside the blue transformer. Open the transparent lid and remove the fuse tube. Check if the fuse is in complete form (as shown in the picture). If the fuse has melted, replace it with a new fuse. (The direction of fuse does not matter, but the model should be the same. Fuse of the same model is inside the shipping package.)



3. The loudness levels are unequal between 2 channels.

The calibration can be conducted through trimR. It is recommended to use a sine wave generator in DAW for assistance.

First, open up the device (see "2. Power-up failure"). Find the 2 potentiometers labelled "VR300" and "VR200".

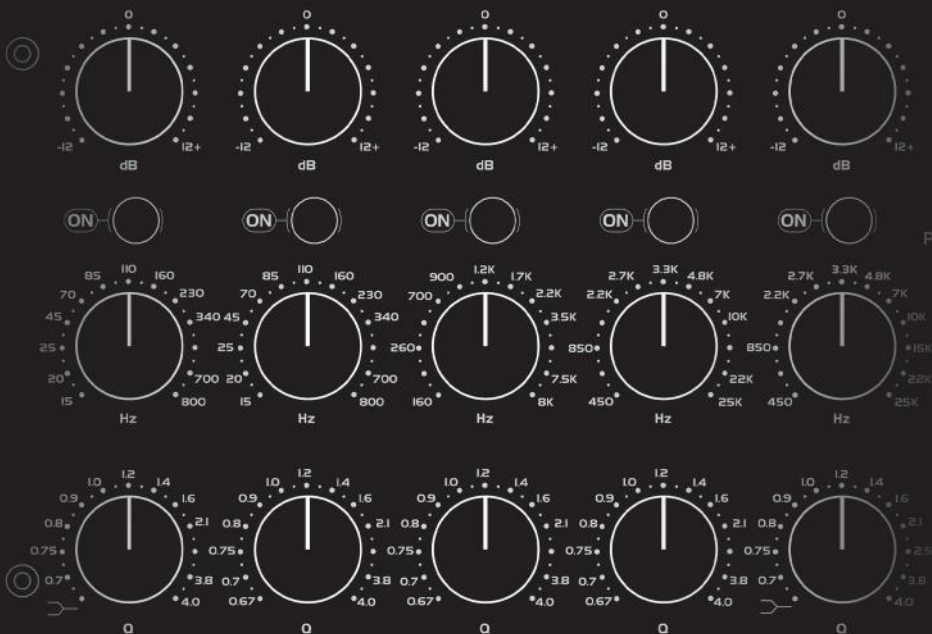


Connect Input & Output cables to the device, power up the device. Set up the sine wave generator at 1kHz, 0.775V. Use voltmeter (AC Volt mode) to measure the voltage between the 2nd and 3rd feet of the output socket. Adjust the knob on "VR300" and "VR200" until the voltmeter also shows 0.775V.



4. A band is not working properly

Opamp may suffer failure. Please contact us at store@zhdesigns.audio for service/replacement.



Email: store@zhdesigns.audio

Web: www.zhdesigns.audio

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We craft gear, you craft sound.



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