

LEGENDARY EQUALIZATION



80B 500 Series EQ User Manual

The Equalizer

For those not familiar with the difference between a shelving and peaking equaliser, the differences are as follows. A shelving equaliser boosts (*or attenuates*) all frequencies equally, above or below a certain point. The frequency specified for a shelving equaliser circuit is usually at the point where it effectively reaches its 'shelf' state. A 'high shelf' EQ boosts/cuts high frequencies and a 'low shelf' type boosts/cuts low frequencies. This type of circuit is very popular in hi-fi systems but is also actually highly musical, when applied in a recording environment. In contrast, a peaking equaliser is one that, as its name implies, has a centre frequency that is boosted or attenuated more than others.

The frequency range over which it reaches its peak and then falls down is known as the bandwidth (or 'Q'). Because this type of design reaches a peak and then falls away, it is possible with this type of circuit to 'home in' on particular frequencies and make adjustments without affecting those around them. This can be particularly useful when working with instruments such as bass guitars and snare drums. By incorporating both shelving and peaking equalisers into the design of the 80B, it is possible to get the best of both types of design.

Operating The Equalizer

Begin with all boost/cut controls - those with centre detents, set to their mid way '**O**' positions. Adjust the low and high mid frequency sweep controls to their minimum positions (*fully anticlockwise*). The 50Hz high pass '**Filter**' switch should be in the out position. Set the frequency select switches controlling the high and low shelving sections, to 120Hz and 12kHz respectively. Lastly, set the 'EQ' switch to the 'in' position (the associated LED will illuminate).



Operating The Equalizer

Rotation of the high frequency shelving control in a clockwise direction emphasises high frequencies, while turning the control in an anti-clockwise direction from centre attenuates high frequencies.

Operating the **'frequency select'** switch in the high frequency section introduces a subtle change of emphasis to the affected high frequencies, as the shelving 'knee' is changed from 12kHz to 5kHz. Likewise, rotating the low frequency shelving control in a clockwise direction will emphasise low frequencies, while turning the control in an anti-clockwise direction from centre attenuates low frequencies. Adjusting the 'frequency select' switch in the low section introduces a subtle change of emphasis on the affected low frequencies by altering the shelving point from 120Hz down to 60Hz.

The **'low mid'** and **'high mid'** equaliser sections are peaking filters. Adjustment of their parameters is achieved by use of the boost/cut knob and its associated frequency sweep knob. Boost or cut of a given frequency is performed by moving that control from its centre detent position: clockwise for boost, anti-clockwise to cut. The frequency to be boosted or cut is selected by the frequency sweep control knob. The range of frequencies of the 'low mid' control extends from 100Hz up to 1.5kHz.

For the **'high mid'** sweep, the frequency range begins at 1kHz (overlapping with the low mid section) and continues up to 15kHz.

The Series 80B 500 Series EQ incorporates a classic four band equaliser which is identical to that employed in the Trident Series 80 console. It consists of frequency switchable high and low pass shelving sections, coupled with two swept low and high mid range bands and a switchable 50Hz, 12dB per octave filter. Both swept midranges have been carefully chosen for maximum effect on music programme and a good degree of overlap is provided.

Finally, selecting the **'Filter'** switch introduces a smooth, 50Hz, 12dB/octave roll-off to effectively eliminate 'rumble' caused by, among other things, someone's feet moving about near a microphone stand, nearby traffic noise and AC systems. The amount of boost (accentuation) or cut (attenuation) that is applied to the audio signal is entirely dependent on the programme content and it is not our intention to advise on this. Application of equalisation is a very subjective matter and is best learned by experiment. The equaliser bypass switch 'EQ' is a useful facility for comparing the signal before and after the application of equalization.

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Warranty

Trident Audio Developments Limited Warranty Statement

The following outlines the warranty periods for all Trident Analogue electronics. All warranty service requires Proof of Purchase. Proof of purchase is the original Bill of Sale, or Sales Invoice from an authorized dealer.

Trident Audio Developments electronics are covered by a limited warranty against defects in materials and workmanship (parts and labor) for a period of One (1) Year from the date the unit is sold to the Dealer or original purchaser only.

Acceptable registration is met by registering online at <http://www.tridentaudiodevelopments.com/product-registration/>

The terms and conditions of this limited warranty are:

1. The warranty applies to Trident Audio Developments Electronics purchased from Trident Audio or authorized Trident Audio dealers.
2. The warranty covers any defects in materials and workmanship and is limited to the repair or replacement of the original registered product. In its sole discretion, Trident may either repair or replace the product with a product of the same model or replace the product with a new model of a similar specification when the same model is no longer available.
3. The warranty does not cover any of the following: damage caused by the user: spillages or moisture damage; neglect, abuse or misuse, including but not limited to the failure to use the product(s) for its normal purpose in accordance with the manufacturer's instructions for use. Failure to properly maintain the product in accordance with the manufacturer's instructions, and/or the failure to use the products in accordance with the manufacturer's specifications; normal wear and tear; use of products with incompatible or faulty equipment; unauthorized modifications; repairs conducted by unauthorized persons or service center's; the model and/or serial number being altered, removed or made illegible; accidents; acts of God or any cause beyond the control of Trident Audio Developments. It does not cover damage caused by connecting to an improper power voltage supply, cosmetic defects, such as paint finish, and general wear and tear, as well as certain consumables not covered under warranty such as fuses, faders, pots, switches and meter bulbs. Mechanical components including but not limited to a consumable item; potentiometers, faders and switches are covered by a 90-day warranty. Failure to maintain, damage; neglect, abuse or misuse of any mechanical components in this time will result in a void warranty. Trident recommends regular service of the product and in particular; regular service of the mechanical components such as potentiometers and faders.
4. The warranty is applicable to the original purchaser throughout the warranty period as stated above or until original owner resells product. If a unit is received for warranty repair, and after complete examination and testing, no problem is found with the unit, customer will be charged for time labor plus return shipping costs, presuming initial user error falsely caused the unit to be determined faulty.
5. The warranty does not affect any statutory rights the original purchaser may have in accordance with the law applicable in the jurisdiction where the product was purchased, or any rights the original purchaser may have against the authorized dealer pursuant to their original purchase agreement. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state, and or country to country.

Warranty

6. Any claim pursuant to this warranty from the date of purchase of any Trident Audio Developments product must be returned, together with the original proof of purchase, to the authorized Trident Audio dealer that sold the product, or to the Trident Audio service center in the USA or our UK service center. All returns to Trident Audio, or any Trident Audio Service Center must be in the original packing, accompanied by the issued Repair Authorization, and must be shipped to the address specified on the Return Authorization via insured freight at the customer's own expense. Factory original packaging can be ordered from Trident Audio, Inc. Customer will be charged for new factory original packaging if customer fails to ship product to Trident Audio in the original factory packaging. Trident Audio will not pay for express or overnight delivery.

7. Once the product has been received, the authorized Trident Audio service center will assess the warranty claim and arrange to either repair or replace in accordance with the warranty procedure prescribed by Trident Audio for their authorized service center network. The warranty replacement will be conducted by the authorized Trident Audio service center as promptly as possible and within a reasonable time from the date of submission of the warranty claim. In all circumstances, a claimant under this warranty will be liable for all costs in delivering their Trident Audio brand product to the authorized service center for warranty replacement and for all costs in collecting the repaired/replacement Trident Audio product from that authorized Trident Audio service center. Trident Audio service center may waive the cost of return shipping after full inspection to determine cause of warranty.

8. Trident Audio will not accept any warranty replacement without the original proof or purchase of the Trident Audio product, and without the registration of the Trident Audio product within 30 days of purchase by mail, or online. It is the original purchaser's responsibility to keep the original proof of purchase or copy safe at all times, as Trident Audio is not obliged to provide a replacement of the original proof of purchase.

9. The warrantor assumes no liability for property damage or any other incidental or consequential damage whatsoever which may result from failure of this product.

10. A Trident Audio product that was not purchased through an authorized and legitimate sales channel is considered "Grey Market". Warranties for Trident Audio Products purchased outside the USA will be covered by its Trident Audio UK Service Center. Trident Audio product originally sold to the USA market and consequently resold overseas forfeits its warranty. "Grey Market" purchases are not covered by any warranty. In the case that a Trident Audio Product must be returned, it should be returned to the original place of purchase, or the Trident Audio factory, with proper return authorization. Returns from outside the USA, customer shall adhere to specific shipping, customs, and commercial invoicing instructions given with the Return Authorization. Trident Audio will not be responsible for transportation costs or customs fees related to any importation or reexportation charges whatsoever.

11. Trident Audio shall not be liable for damages in excess of the purchase price of the Trident Audio product arising out of the use or inability to use the Trident Audio product.

12. Governing Laws

Any dispute, controversy or claim arising out of or relating to this Agreement shall be decided by arbitration in Los Angeles, California, in accordance with the rules of the American Arbitration Association (the "Association") then in effect. Any award rendered by the Association shall be final, binding and not subject to appeal, and may be enforced by any court of competent jurisdiction.

For Tech Support and Repair Authorization, please contact: US Service & Sales

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or sales@tridentaudiodevelopments.com

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Safety - This product is intended for professional use only and it is assumed that the user is familiar with the 500 Series Modular Rack system. Always switch off the rack power before inserting or removing this (or any other) module or damage may occur. Do not expose this product to direct heat, moisture or mechanical shock.



Environmental - This product complies with the RoHS directive and contains no lead or other banned hazardous materials. In accordance with the WEEE directive, this product must be disposed of responsibly at its end of life, by means of local authority approved recycling systems.

RoHS
COMPLIANT



Trident Audio Developments

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Features and specifications are subject to change without notice