

### WARRANTY

#### Owner's Record

The model and serial numbers are located on the bottom. Record the serial number in the space provided below. Refer to these numbers whenever you call your Cartridge dealer regarding this product.

**Model No. TB-50**

**Serial No.** \_\_\_\_\_

#### WARNING

To reduce fire or shock hazard, do not expose the unit to rain or moisture.

#### IMPORTANT SAFETY INSTRUCTIONS

-SAVE THESE INSTRUCTIONS

-TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, CAREFULLY FOLLOW THESE INSTRUCTIONS

#### LIMITED WARRANTY

DS Audio warrants this product against defects in material or workmanship for the time periods as stated below. Pursuant to this Limited Warranty, DS Audio will, at its option, (1) repair the product using new or refurbished parts or (2) replace the product with a new or refurbished product.

For the purposes of this warranty, "refurbished" means a product or part has been returned to its original specifications. In the event of a defect, these are your exclusive remedies.

For a period of one (1) year from the original date of purchase of the product, DS Audio, at its option, repair or replace with new or refurbished product, product determined to be defective.

This limited warranty covers only the hardware components packaged with the product. It does not cover technical assistance for hardware.

Instructions: To obtain warranty service, you must deliver the product, freight prepaid, in either its original packaging or packaging affording an equal degree of protection to the DS Audio authorized service facility specified.

Any parts or product replaced under this limited warranty will become the property of DS Audio.

This limited warranty only covers product issues caused by defects in material or workmanship during ordinary consumer use. It does not cover product issues caused by any other reasons, including but not limited to product issues due to commercial use, acts of God misuse, limitation of technology, or modification of any part of product.

This limited warranty is invalid if the factory-applied serial number has been altered or removed from the product.

This limited warranty is valid with the official receipt of our authorized dealer which indicating the date of your purchase.

# TB-50

## Instruction Manual

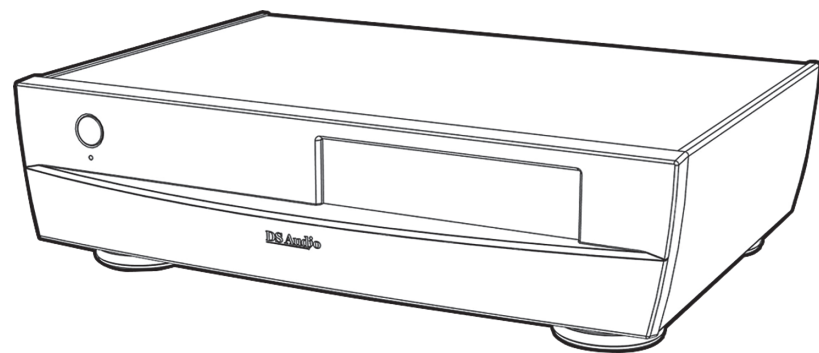
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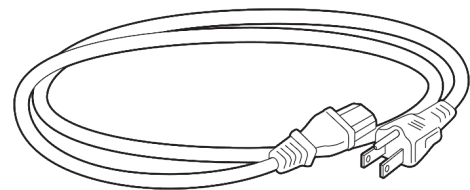
## Supplied items

If any items missing, please contact our authorized dealer or DS Audio.

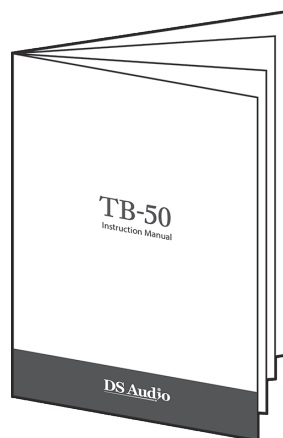
TB-50 Tube equalizer



Power cable



Instruction manual



## Trouble shooting

Should any problem persist after you have checked those symptoms, please consult our authorized dealer nearest to you.

Symptom	Cause	Corrective action
<b>No Power</b>	No AC power	Insert the power plug firmly into the wall outlet, and firmly into the AC inlet on the unit.
<b>No sound</b>	Loose connection	Connect signal plugs firmly. When plugs are dirty, Clean the plugs with a dry soft cloth periodically.
<b>Hamming noise</b>	Loose Ground connection Plugs are dirty	Connect ground line firmly. place it away from noise source such as transformer / motor
<b>No sound when switched on</b>	A vacuum tube equalizer takes time for the tube heaters to warm up sufficiently.	Please wait approximately 60 to 90 seconds until the warm-up is complete and the mute is deactivated.

## Specifications

### TB-50


<b>Rated output voltage</b>	500mV (1kHz)
<b>Input terminals</b>	RCA terminals
<b>Output terminals</b>	RCA terminals
<b>Output impedance</b>	Approx. 700Ω
<b>Size</b>	W42cm/H12cm/D32cm (including terminals)
<b>Weight</b>	10.8kg


## Caution


You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment. To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.





WARNING


 **Do not operate this equipment when it is broken** When it is broken, do not turn the power on. Unplug the AC power line and keep the switch turned off. Turning the power on may cause fire or smoke. Do not open the cabinet to avoid electrical shock.


 **Do not make any changes or modification** You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.


 **Keep away from water/moisture** To reduce the risk of fire or electrical shock, keep this apparatus away from water / moisture.

 **No liquid nearby** To reduce the risk of fire or electrical shock, do not place drinks/any liquid nearby for precaution.

 **Do not open the cabinet** Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.

 **Place this apparatus firmly** Avoid placing this apparatus on unstable table. Do not tilt the apparatus.

 **Away from heat and dust** Avoid placing this apparatus in dusty place / high temperature

 **Connections to other devices** When connecting this apparatus, please refer to the setup manual of connecting devices

## Notes on safe operations

### Initial setup

- Place the player in a location with adequate ventilation to prevent heat build-up in the apparatus.
- Do not place the player on a soft surface such as a rug that might block the ventilation holes on the bottom.
- Do not place the player in a location near heat sources, or in a place subject to direct sunlight, excessive dust or mechanical shock.

### Power requirements

- [ V AC, 50 / 60 Hz ]

### POWER-CORD CAUTION

- Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord time to time.

### On repair

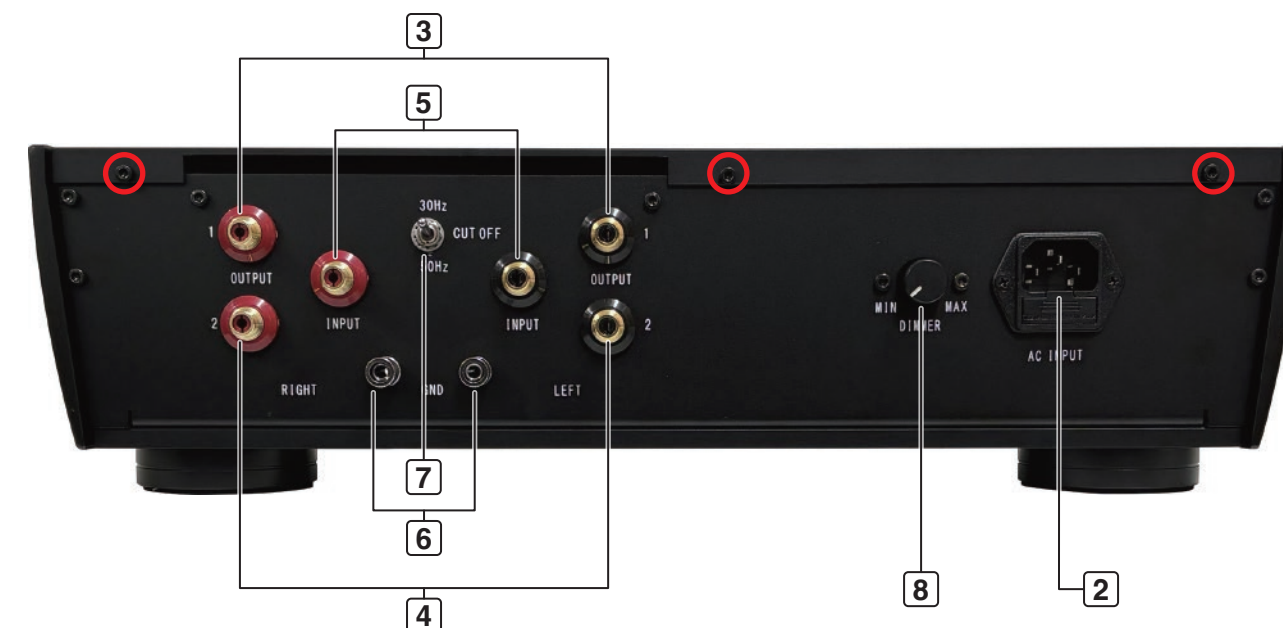
- Please consult our authorized dealer nearest to you.


### Break-in

- **Since large electrolytic capacitors are used in the TB-50, it takes time to break in. Leaving the power on continuously for about a week after purchase helps the equalizer break in, letting you enjoy better sound.**



CAUTION



 The three red circles indicate the bolts to remove.

**1 Power Switch**

This switch toggles the power ON and OFF each time it is pressed. After turning on the power, the device enters a warm-up phase lasting approximately 60 to 90 seconds, during which the LED lights up orange. When the LED changes to red, the mute function is released, and the device is ready for use.

**2 Power inlet**

Connect the device to a power outlet using the included AC power cable. Avoid using the device with power environments that do not match the specified voltage requirements.

**3 Output1**

Standard output. This output is recommended for normal use.

**4 Output2**

Output1 with an added subsonic filter (20 Hz, -6 dB/oct). Use this output when warped records or similar cause excessive woofer movement.

**5 Input Terminals**

Connect the signal cables from your analog player to the L (left) and R (right) terminals.

- Important: The signal cables from the analog player also supply power to the cartridge. Ensure the L and R connections are not reversed, as incorrect polarity will prevent the cartridge from functioning.
- Warning: Do not connect MM or MC cartridges to this equalizer, which is designed exclusively for optical cartridges. Current flowing through the coils of MM or MC cartridges may cause irreparable damage.

**6 GND Terminal**

Connect the ground wire from your analog player to this terminal.

**7 Cutoff Selector (CUT OFF)**

Selects the starting frequency of the low-frequency cutoff, either 30 Hz or 50 Hz. Applies to both Output1 and Output2.

**8 Dimmer**

Adjusts the brightness of the LED built in beneath the vacuum tubes, continuously from MIN to MAX. This illumination is for appearance only and does not affect sound quality or tube operation. The LED remains faintly lit even at the MIN position.

**Replacing the Vacuum Tubes**

**Caution** Before starting, turn off the power and unplug the AC power cord. The vacuum tubes become extremely hot. Wait at least 15 minutes after turning off the power and allow them to cool completely before beginning work.

**Procedure**

1. Using a hex (Allen) wrench, loosen and remove the three M3 hex socket head bolts indicated by the red circles.
2. Pull the rear panel toward you to remove it.
3. Replace the vacuum tube(s).
4. Reattach the rear panel and tighten the three bolts.
5. Connect the AC power cord.

 **Cautions**

- The vacuum tube becomes hot during and immediately after the operation. Please avoid touching the tube directly to prevent burns or injury.
- The TB-50 uses a high-quality ECC82 (12AU7) vacuum tube. While it is possible to replace it with another ECC82 (12AU7) from a different manufacturer, the TB-50 is optimized to deliver stable performance with the factory-matched tubes provided by us. Replacing the tube yourself may result in output imbalances or unstable operation. Proceed with caution if replacing the tube.

 **WARNING**

Replacing the vacuum tube with any model other than the ECC82 (12AU7) may result in malfunction or damage to the internal circuitry. Avoid using incompatible tubes.