

TANNOY®

SuperTweeter

ST-100

User Manual

Please take time to carefully read this manual before installing and using your Tannoy SuperTweeter

**Tannoy Limited, North Lanarkshire,
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The ST-100 SuperTweeter

Congratulations on choosing this precision handcrafted component to complement your loudspeaker system. To prevent possible damage, and to ensure that optimum performance is achieved, please take the time to read this instruction manual fully before removing from the SuperTweeters from their packaging and proceeding with installation.

The ST100 SuperTweeter is designed to provide the extended high frequency response demanded by modern programme material and sources. Your main loudspeakers still provide the heart of the musical information, but at extreme high frequencies are supplemented by the wideband SuperTweeter. Musical information contains transient information, beyond the range of human hearing for pure tones. For music to be accurately reproduced, we have found it essential to accurately preserve this information.

The unit will find application with a broad range of quality loudspeaker systems. Adjustments are provided for crossover frequency and level to enable accurate matching.

Features

- High stiffness titanium dome to minimise effects of dome break-up and extend frequency response.
- Copper clad aluminium voice coil on aluminium former for high power handling.
- Neodymium magnet system also extends frequency response by minimising eddy current losses in voice coil.
- Provision for driver magnet system earthing (as in Prestige HE series), to avoid interference and information masking caused by radio interference.
- High purity (99.999%) solid silver internal wiring, PTFE coated dielectric.
- Gold plated terminals, adjustment screws and circuit board for high signal transparency.
- Radio Frequency quality inductors in crossover for good high frequency characteristics.
- Non-Inductive Planar Thick Film resistors on ceramic substrates, avoid losses associated with wire wound types.
- High quality polycarbonate film capacitors, selected for high frequency use.
- Unique Tannoy Performance Platform gives stable support and accurate variable adjustment.

Unpacking Instructions

Caution:

The titanium dome on this SuperTweeter is very delicate. Although protected by a metal mesh, take care to avoid pressing on this during unpacking and installation, in case damage results.

Each flight case contains the following:

- SuperTweeter units x 2
- Performance Platform x 2
- Adapter plugs x 4
- Adjustment screws x 4
- Felt mat x 2

Always keep the packaging for future use.

Environmental considerations

Do **not** install the SuperTweeter in the following conditions:

- Very warm or humid areas (such as near swimming pools, kitchens or bathrooms).
- Near to a fire or heating appliance.
- In direct sunlight.

Wiring

The SuperTweeter should be connected across your main speakers, positive (red) to positive and negative (black) to negative. If appropriate, remove the two plastic blanking plugs in the terminals. Ensure your amplifier is switched off, and the volume control turned fully down before beginning. Typical wiring configurations are shown in **Fig. 1**:

- A. Typical single-wired installation. The SuperTweeter is simply connected across your speaker terminals. An optional earth cable can be taken back to your amplifier chassis or ground.
- B. Bi-wiring installation. The SuperTweeter is connected across the HF terminals on your loudspeaker. Again, an earth cable may be taken back to your amplifier.
- C. Where appropriate, when using 4mm plugs for your connections, use the supplied adapter plug as shown.

For optimum performance, the central earth connection on the SuperTweeter should be taken back to the amplifier chassis or ground point. This screening effect can give an improvement in detail and clarity, depending on the amplifier used, by reducing radio frequency interference.

It is important to use a high quality cable between the SuperTweeter and the main loudspeakers. For optimum results, our high purity silver SuperLinks are recommended, which are electrically screened and provide an integral earth wire.

Two lengths are available from your authorised Tannoy Dealer:

STL-075 0.75m
STL-175 1.75m

Please check the length required for your speakers, should you require cable.

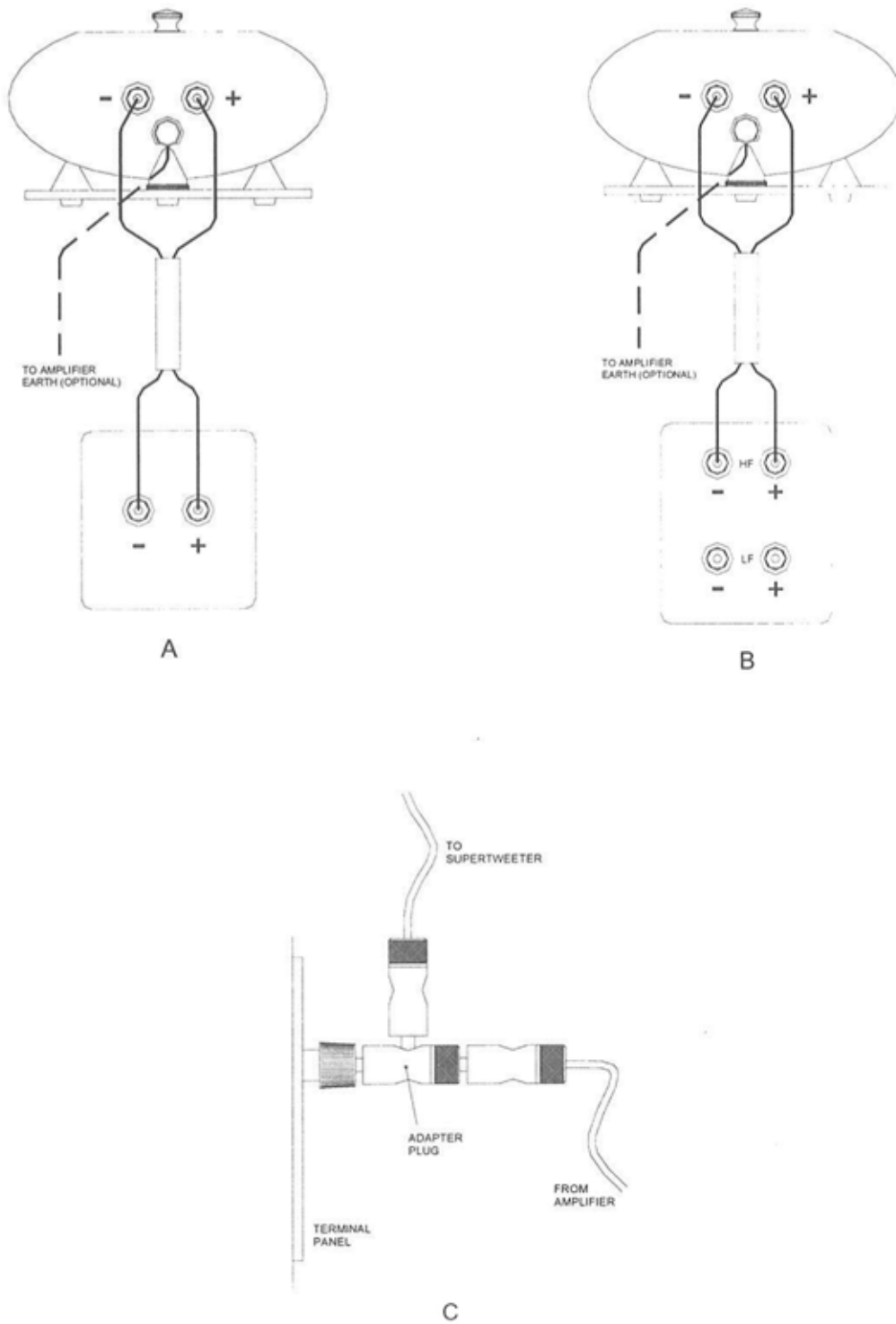


Fig. 1

Initial Positioning

With a moving coil drive unit, the sound will appear to emanate from a point a little behind the front of the speaker cabinet. This coincides approximately to the bass unit dust cap position, which is the driving point. The crossover is then designed to align the tweeter to this position for phase coherence. The SuperTweeter therefore needs to be positioned to coincide with this position for best results.

Firstly, with reference to **Fig. 2**, position the felt mat centrally on the loudspeaker enclosure. Use of this mat is optional, but does aid performance by preventing unwanted reflections from the cabinet top. Place the Performance Platform so that the front of it is aligned to the bass driver dust cap position.

The SuperTweeter is then positioned on the Performance Platform, making sure the front two cones engage the two indents in the SuperTweeter housing.

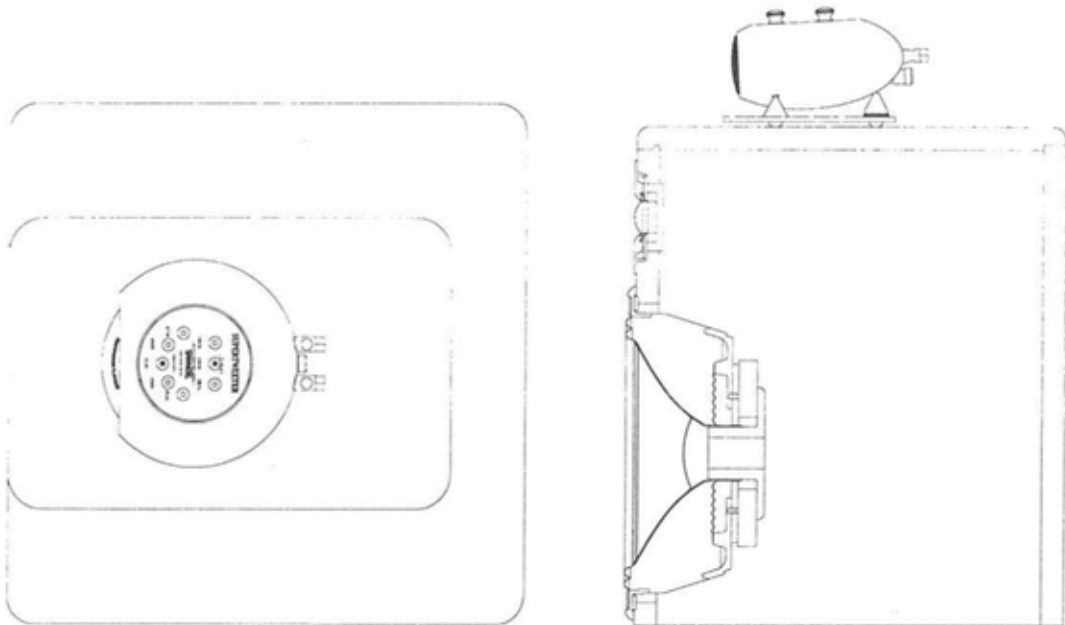


Fig. 2

Adjustments

Referring to the instruction manual for your loudspeakers, select the SENSITIVITY setting that is nearest, and install the adjustment screw into the correct position on the SuperTweeter adjustment panel **Fig. 3**. If you do not have a manual for your loudspeakers, choose the middle setting initially. For the CROSSOVER FREQUENCY, it is again best to choose the middle position, unless you have details on your loudspeaker system.

The rear support cone on the Performance Platform may be adjusted for height, and then secured using the locking thumbscrew. If possible, adjust so that the SuperTweeter is pointing at ear height when seated.

After double-checking the wiring, you are now ready to switch your amplifier on. Select some music you are familiar with, and gently advance the volume control to normal listening level.

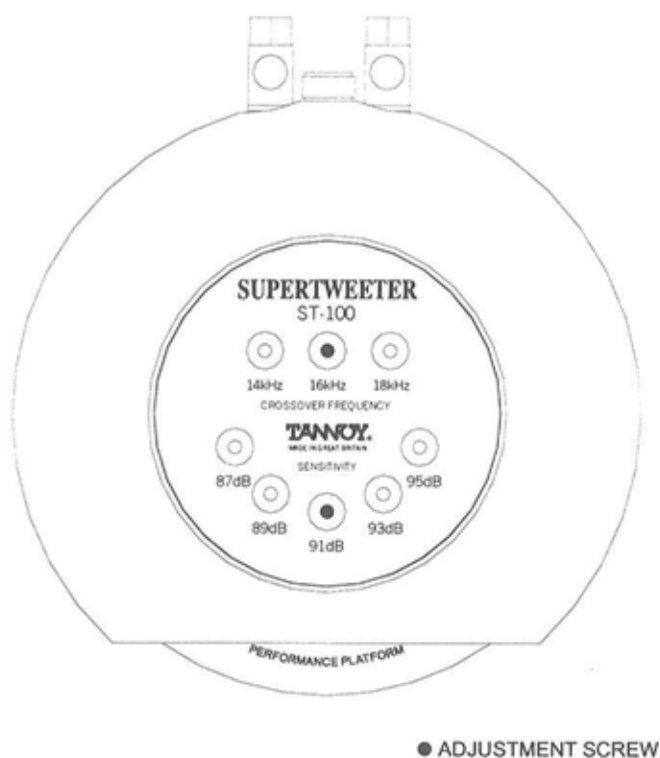


Fig. 3

Running in

Like all loudspeakers, the drive unit in your SuperTweeter requires a while to reach optimum performance, as the stresses in the materials relax. For this reason, it is beneficial to run the system at fairly high levels at normal room temperature for approximately 20 hours to reach best results.

Fine Tuning

Once the SuperTweeter is fully run in, you are in a position to fine-tune the system. Listening room acoustics and personal taste may dictate some adjustment. Remember that like a subwoofer, the SuperTweeter should not draw attention to itself, but should offer a natural enhancement to the upper frequencies.

The effect of the SENSITIVITY adjustment screw is to increase or decrease the output over the full frequency operating range of the SuperTweeter, in 2dB steps. The CROSSOVER FREQUENCY control offers 3 positions for the SuperTweeter energy to be rolled in, as shown in **Fig. 4**.

You may also experiment with the SuperTweeter position, to achieve best results.

The SuperTweeter has a protective mesh grille, which can be removed for optimum performance. It is simply held in place by the magnetic field from its own magnet. Carefully remove by gently holding the mesh on the edges and pulling forward. Take care not to touch the fragile dome.

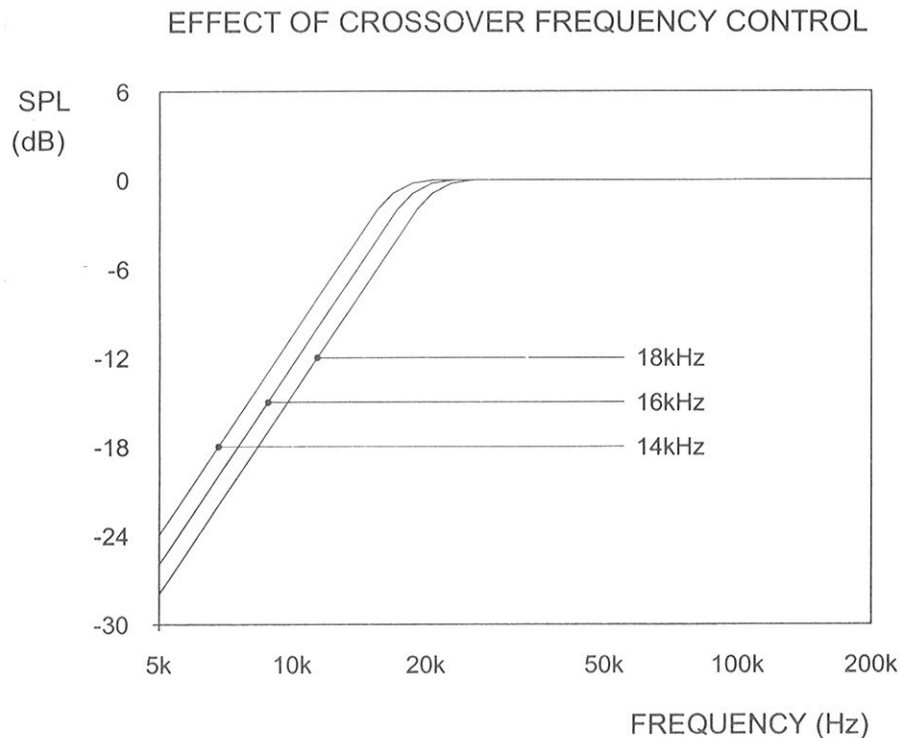


Fig. 4

Care of the SuperTweeter

Two finishes of the enclosure are available, oiled walnut and lacquered black ash. For the black ash finish, simply wipe with a soft slightly damp cloth.

The walnut enclosure has been hand waxed before dispatch from our finishing workshop. To maintain the natural wood appearance, it is important that only a wax of similar formulation is used.

A jar of specially formulated wax is available from your authorised Tannoy dealer. This should be applied carefully (to avoid brass adjustment panel and terminals) and sparingly, with a soft lint-free cloth, such as muslin.

The Performance Platform should only be cleaned with a soft slightly damp cloth, and shined with a soft duster.

Under no circumstances should chemical cleaning agents be used.

Warranty and Service

Your Tannoy SuperTweeter will operate for many years without trouble provided it is not misused. The high peak power handling of Tannoy loudspeakers will allow responsible use with larger amplifiers on wide dynamic range material.

Take care with any amplifier, irrespective of power output, to avoid abnormal conditions such as switch-on surges or output overload (clipping) that may result in peaks of power greatly over the rated output.

The SuperTweeter is warranted against manufacturing defects in material or craftsmanship over a period of 5 years from the date of purchase. This warranty is in addition to your statutory rights as a customer. Tannoy cannot however be held responsible for failures caused by abuse, unauthorised modifications, improper operation or damage caused by faults elsewhere in your system.

The determination of the cause of failure will be made by Tannoy Limited or its authorised Distributor or Service Agent, based on physical inspection of the failed parts.

If you suspect a problem with your SuperTweeter, in the first instance discuss it with your Tannoy Dealer. The dealer has the expertise and experience to help you troubleshoot the system and assess the situation.

If you continue to have problems, contact your Tannoy Distributor or Tannoy Customer Services at our Coatbridge address.

Technical Specifications

Recommended amplifier power:	Up to 250W
Power rating to DIN IEC 268:	135W RMS 550W peak
Maximum sensitivity (2.83V @ 1m):	95dB
Nominal impedance:	8 ohm
Frequency response (-6dB):	To 54kHz, usable output (-18dB) to 100kHz

DRIVE UNIT:

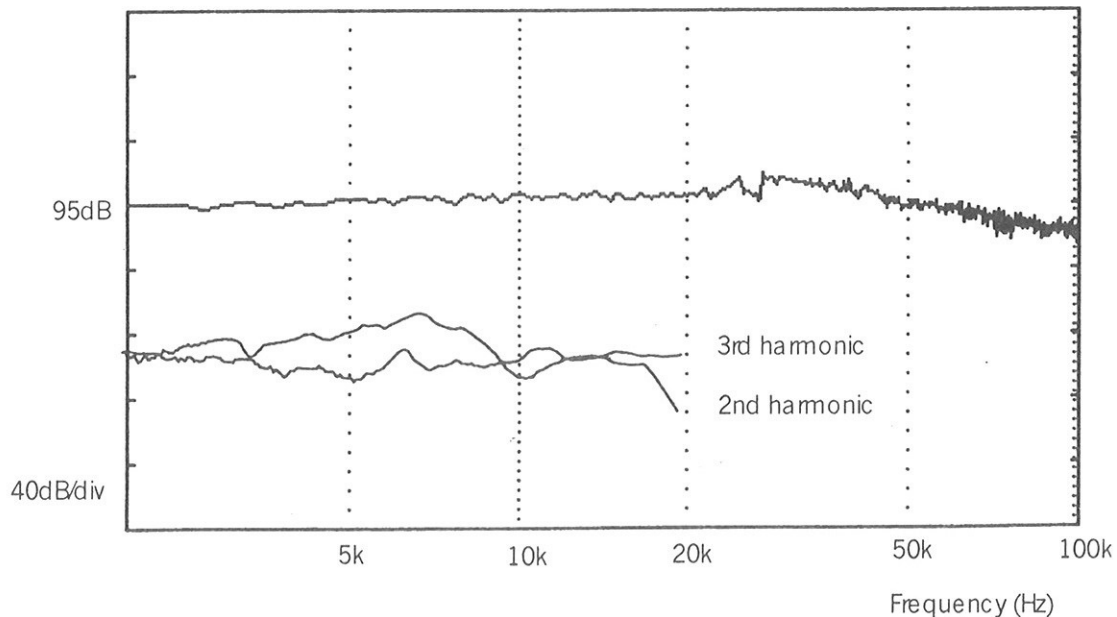
Driver type:	25mm diameter 25 micron titanium dome, 24 Karat vapour deposited gold finish, with neodymium magnet system
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CROSSOVER:

Crossover type:	3 rd order compensated high pass
Crossover frequency:	14, 16 or 18kHz adjustable
Level adjustment:	87dB, 89dB, 91dB, 93dB, 95dB

Due to our policy of continuous improvement, all specifications are subject to change without notice.

Sound Pressure Level (2.83V @ 1m)



SUPERTWEETER FREQUENCY RESPONSE & DISTORTION

TANNOY

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