

INSTRUCTION MANUAL**SPECIFICATIONS**

Voice coil impedance	16 ohms
Frequency response	600–20,000Hz (with suitable horn mounted)
Voice coil diameter	4in (101mm)
Phasing plug	5-slit rear type
Throat connection diameter	1-15/16in (49.2mm)
Mounting pitch	4in (101mm) for 4 holes
Crossover frequency	600Hz or higher (–12dB/oct)
Rated input	30W } For crossover frequency
Musical program input	60W } at 600Hz, –12dB/oct.
Output sound pressure level	110dB/W (Measured at 1m distance using 200Hz cut-off and dispersion angle 90° x 40° radial horn.)
Total magnetic flux	228,000Mx
Magnetic flux density	20,000G
Dimensions (diam. x depth)	5-9/16 x 4-3/16in (178 x 155.5mm)
Weight	27 lb 12oz (12.6kg)
Accessories	Hexagonal bolts (W 1/4 x 1 in) x 4 Flat washers x 4 Instruction manual x 1

* *Specifications and features are subject to change without notice due to improvements.*

FEATURES**Pure Beryllium Diaphragm**

The 100mm diameter diaphragm features extremely high grade beryllium processed by a unique vacuum evaporation technique. Being an extremely light-weight, yet very rigid metal, the speed of sound in beryllium is one of the highest in all known metals, making it ideal for use in high frequency loudspeaker system. The weight of the dome section has thus been reduced to a mere 1g, resulting in a very high conversion efficiency into the high frequency region. The surround portion is also made of beryllium, and is joined directly to the dome, thereby successfully increasing the high range resonance frequencies to 20kHz. The extremely wide range of 600Hz to 20,000Hz is certainly a very remarkable achievement for a 100mm diameter driver.

Rear Compression System Suppresses Cavity Resonance

The rear compression system featured in this unit practically eliminates all resonance and phase distortion produced in the surround, resulting in extremely uniform sound wave phase at all frequencies. And by carefully analyzing cavity resonance in the surround area, and in the magnetic circuit, subsequent elimination of this resonance interference has brought about a very flat frequency response, resulting in a very natural sound with a very high degree of definition.

5-Slit Phasing Plug

With a new precision-engineered 5-slit phasing plug (slit arrangement aided by computer), this driver achieves a very high equalization capacity in the high frequency region producing flatter frequency response, especially at the high end. The surface of each plug manufactured has been precision machined to a degree of accuracy.

Powerful Magnetic Circuit with Magnetic Flux Density of 20,000G

This powerful magnetic circuit, constructed from a large 2kg Alnico (Al-Ni-Co) 7 magnet, a pure iron pole and top plate, plus a ductile cast iron yoke, features a total magnetic flux of 228,000Mx, and a magnetic flux density of 20,000G. Furthermore, an oxygenfree copper shorting-ring on the center pole effectively prevents impedance increases in the high frequency region. The end result is a superbly flat frequency response extending well into the ultra high frequency range, with a very noticeable lack of distortion.

Aluminum Edgewise Voice Coil

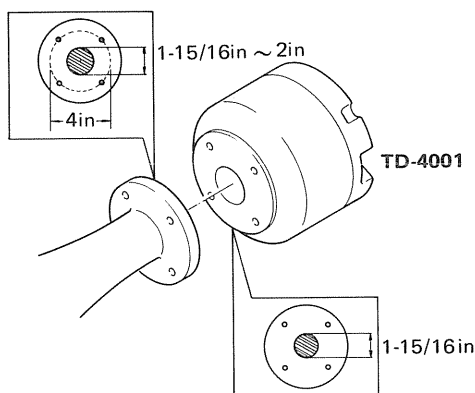
Adoption of an aluminum edgewise voice coil treated with alumite insulating material, and a voice coil bobbin made of 75 μ m thick polyimide film, greatly increases the total conductor volume within the magnetic circuit, resulting in a higher conversion efficiency and smoother frequency response. The use of special non-inflammable adhesive material also contributes to improvements in stability and reliability.

PRECAUTIONS

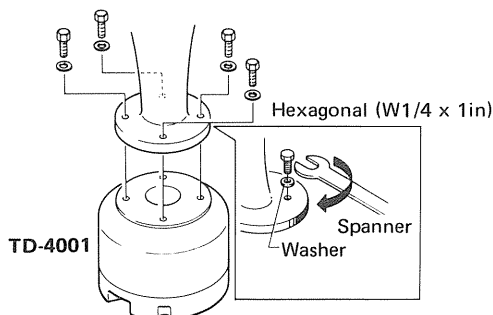
- Since this unit is quite heavy (27 lb 12 oz; 12.6kg), take extra care when handling.
- The horn must be mounted to the driver unit prior to applying any input signals. If signals are applied to the driver unit by itself, the diaphragm will be in danger of rupture when amplitude is increased, because in audio terms, the diaphragm is practically non-loaded (without the horn). Nor should signals be applied directly bypassing the crossover network (low-cut filter).
- When using a sine wave input signal to check operational sound, observe the following: —
 When applied via crossover network
 Use sine wave input signal of voltages below 4V and frequencies above 600Hz.
 When applied directly without crossover network
 Use a sine wave input signal of voltage below 2V and frequencies above 100Hz.

HORN MOUNTING

- Use a horn throat diameter of 1-15/16in (49.2mm) ~ 2in (50.8mm).
- Make the mounting pitch 4in (101.6mm) using the 4 mounting screws supplied.



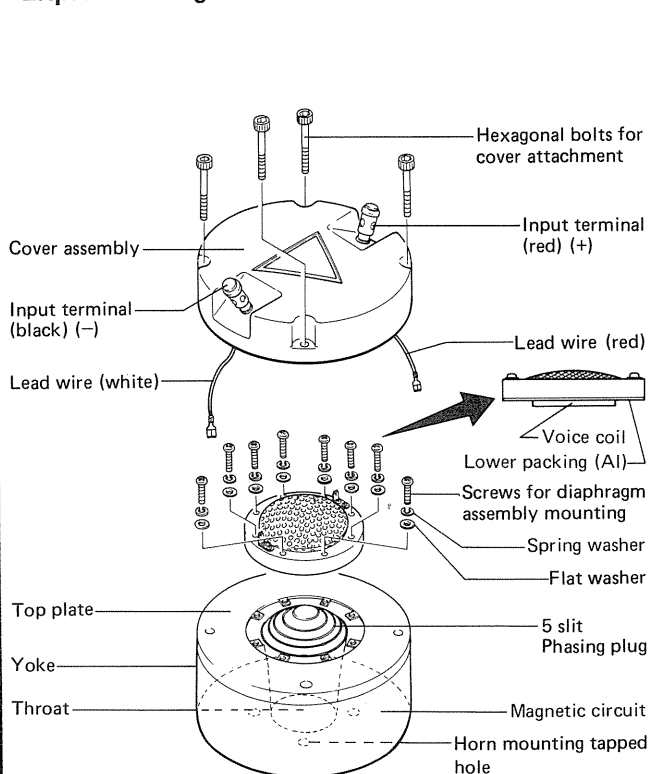
Use the accessory hexagonal screws (W1/4 x 1 in) and flat washers, making sure that each is secured firmly. Note that incorrect horn mounting may well result in deterioration of the frequency response, and the generation of distortion. For a horn flange of less than 5/32in (4mm) in thickness, the screws furnished with the unit cannot be used; use commercially available W1/4 x 3/4in screws.



CROSSOVER FREQUENCY

The crossover frequency of the TD-4001 is 600Hz. When using this unit in a multi-way speaker system, use a crossover frequency of 600Hz or higher, and a network of cut-off slope of at least 12dB/oct.

Exploded Diagram of the TD-4001



* Replacement diaphragm assemblies (DP-4001) are also available.

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