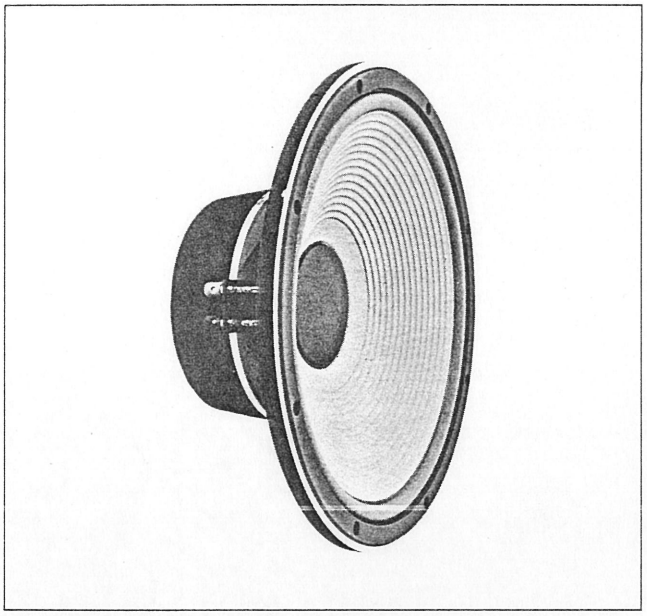
TAD Technical Audio Devices

LOW FREQUENCY LOUDSPEAKER

TL-1602



SPECIFICATIONS

Nominal impedance	8Ω
Fundamental resonance (f_0)	21Hz
Frequency response	f_0 ~ 2,000Hz
Rated input	150W
Maximum input	300W
Output sound pressure level	97dB/W (1m)
Equivalent mass (infinite baffle)	121g
Q_0	0.34 (f_0 = 21Hz)
Total magnetic flux	260,000Mx
Flux density	11,800G
External dimensions	15-3/4 in (400mm) diam., 6-9/16 in (167mm) depth
Baffle opening	13-7/8 in (352mm) diam.
Mounting dimensions	14-9/16 in (370mm) diam.
Weight	11kg
Accessories	Mounting screws (M5x40 Phillips head); 8 Nuts, fang nuts, washers; 8 each Airtight packing; 4 Instruction manual; 1

- *Specifications and dimensions are subject to change without notification.*

FEATURES

300W maximum permissible input with superior acoustic efficiency

The TL-1602 features a 100mm diameter edgewise-wound long travel voice coil with a coil width of only 18mm. That means the voice coil moves completely within the magnetic gap to give you powerful, distortion-free bass even at maximum input levels. Furthermore, the excellent heat resistant properties of the voice coil bobbin and adhesive materials allow safe operation even at 300W of input power.

Low-distortion high-efficiency circuit

The powerful magnetic circuit of the TL-1602 is equipped with a large, high efficiency alnico (Al.Ni.Co.) ring magnet (3 lb 10 oz; 1.65kg). Great care has been taken in the selection of the material and shape of the poles to produce an extremely high flux density of 11,800G. This, in combination with lighter moving parts and the long-travel voice coil have resulted in a sensitivity of 97dB/W (1m), an excellent figure in consideration of the size of this speaker.

Combination carbon fiber/damping material high performance cone

The piston motion range of the cone is wider than ever thanks to the high strength carbon fiber composite cone. The special TAD damping material coating smoothly attenuates the partial vibration (cone breakup) frequency range for a response with minimal distortion. This all results in unusually high resolving power and strikingly clear and natural reproduction of sound.

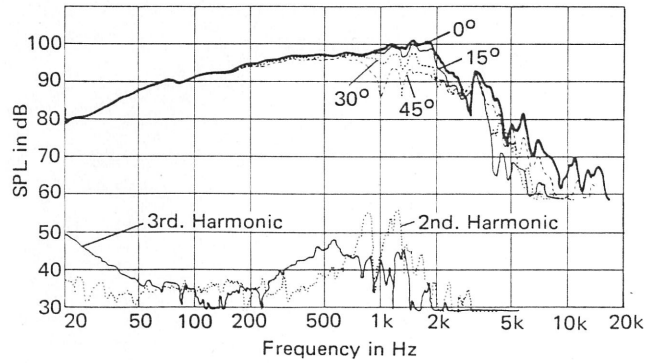
Polyurethane foam high compliance surround

The TL-1602 employs highly linear and symmetrical polyurethane foam surround to provide the correct amount of internal loss. The result is precise piston motion at high amplitude along with a large reduction in partial vibrations in the high frequency range. Distortion is almost non-existant, and f_0 is a remarkably low 21Hz to faithfully reproduce ultra-low frequencies.

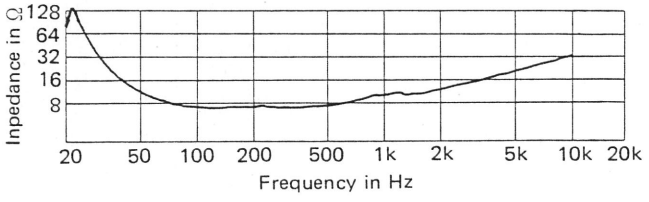
Strong diecast frame

The TL-1602 employs a sturdy aluminium alloy diecast frame which firmly supports the extremely heavy magnetic circuit and also the highly efficient moving parts of the speaker. The frame itself has been designed in such a way that it does not resonate.

HARMONIC DISTORTION



IMPEDANCE



CROSSOVER FREQUENCY

It is recommended that the TL-1602 be used with a crossover network (low-pass filter) having a crossover frequency of no more than 900Hz, and cutoff characteristics of either 12dB/oct or 18dB/oct.
When a high-range impedance compensation network is necessary, insert $20\mu F + 8\Omega$ in parallel with the speaker.

Method of fitting gasket

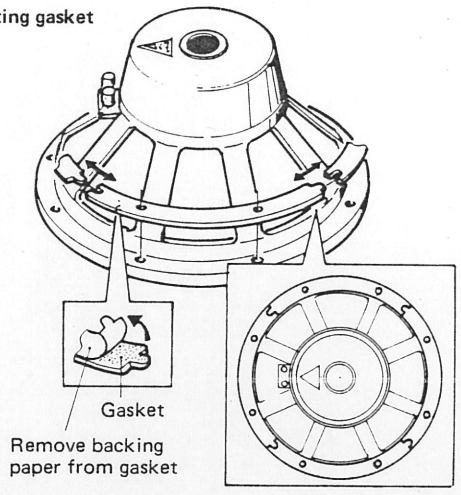
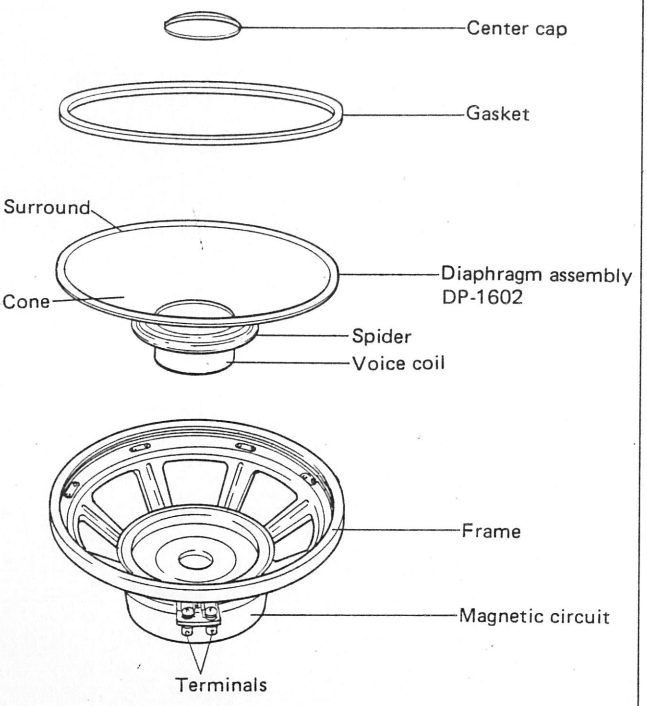


Fig. 1

Exploded TL-1602

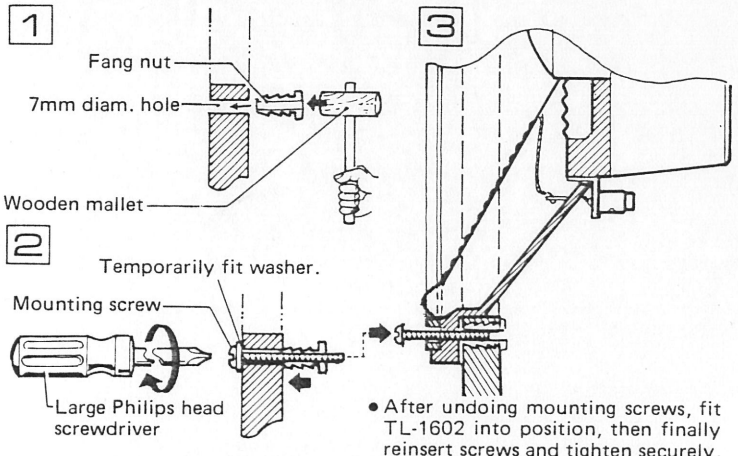


*Replacement diaphragm assemblies (DP-1602) are also available.

INSTALLATION METHOD

WHEN USING FANG NUTS

First, drill 7mm diam. holes in the baffle. Next, using the method shown in Fig. 2, drive fang nut into these holes from the back of the baffle. Finally, insert the screws provided (8) and tighten them up.



- Use screwdriver to pull fang nut completely into baffle board.
- After undoing mounting screws, fit TL-1602 into position, then finally reinsert screws and tighten securely. Progressively tighten up diagonally opposite screws, applying final tightening torque after adjusting position of speaker. As washers are not required, make sure they are removed from the mounting screws.

Fig. 2

WHEN USING NUTS

First, drill 6mm diam. holes. Next, using the method shown in Fig. 3, fit mounting screws, washers and nuts, and then tighten up firmly.

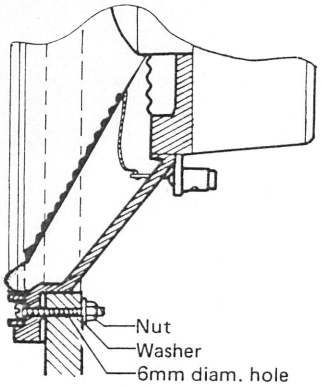


Fig. 3

TAD Technical Audio Devices

DIVISION OF U.S. PIONEER ELECTRONICS CORP.
1925 E. Dominguez St., Long Beach, California 90810 U.S.A.

MANUFACTURER
PIONEER ELECTRONIC CORPORATION
4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan

<85G00F2Q10>

Printed in Japan <SRB-201-0>