TAD Technical Audio Devices

# TL-1601a

LOW FREQUENCY LOUDSPEAKER

## SPECIFICATIONS

| | |
|---|---|
| Voice coil impedance | 8Ω |
| Fundamental resonance ($f_0$) | 28Hz |
| Frequency response | $f_0$ ~ 1,000Hz |
| Rated input | 150W |
| Maximum input | 300W |
| Output sound pressure level | 97dB/W (1m) |
| Equivalent mass (infinite baffle) | 117g |
| $Q_O$ | 0.31 ($f_0$ = 28Hz) |
| 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 high acoustic efficiency

The TL-1601a features an edgewise-wound 7/8 in (23mm) long-travel voice coil which moves completely within the magnetic gap even at peak-to-peak excursions as long as 5/8 in (16mm). You are thus assured of powerful, distortion-free bass at virtually all input levels. The edgewise conductors make more effective use of the flux within the magnetic gap, resulting in increased acoustic conversion efficiency. The voice coil bobbin and adhesive materials are extremely heat resistant resulting in a maximum input of 300W.

### Low-distortion high-efficiency circuit

The powerful magnetic circuit of the TL-1601a 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.

### Newly developed cone

The cone of the TL-1601a is a made of a newly developed tough, lightweight material, capable of withstanding high amplitude inputs. It features high internal loss and ideal corrugations, resulting in a smooth response right down to the extreme end of the bass region.

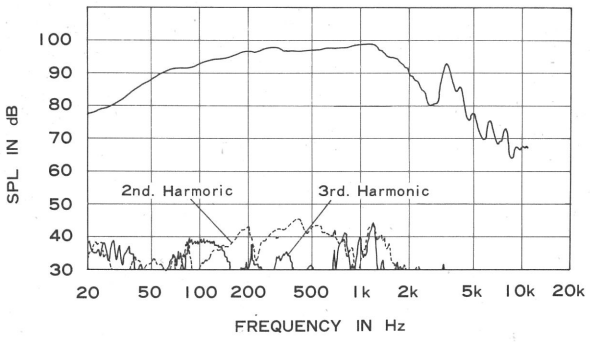
### Use of corrugation type cloth surround

The TL-1601a employs an extremely linear corrugation type cloth surround which has been coated with a specially developed damping material to provide a sufficient degree of internal loss. This ensures positive piston action at high amplitude and also prevents cone breakup in the higher region, resulting in extremely low distortion.

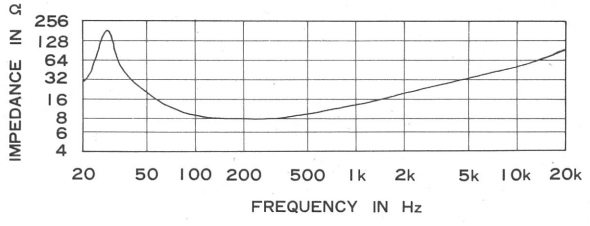
### Strong diecast frame

The TL-1601a 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-1601a 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 20μF + 8Ω in parallel with the speaker.

**Method of fitting gasket**

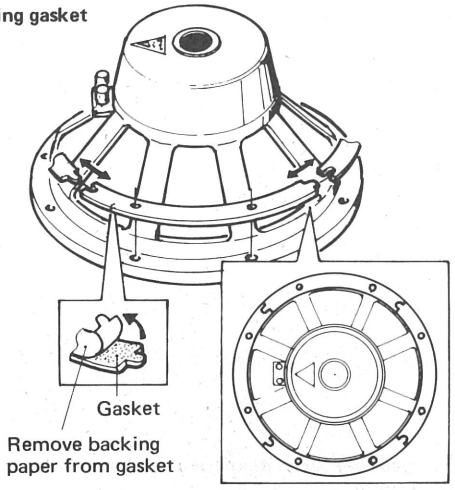
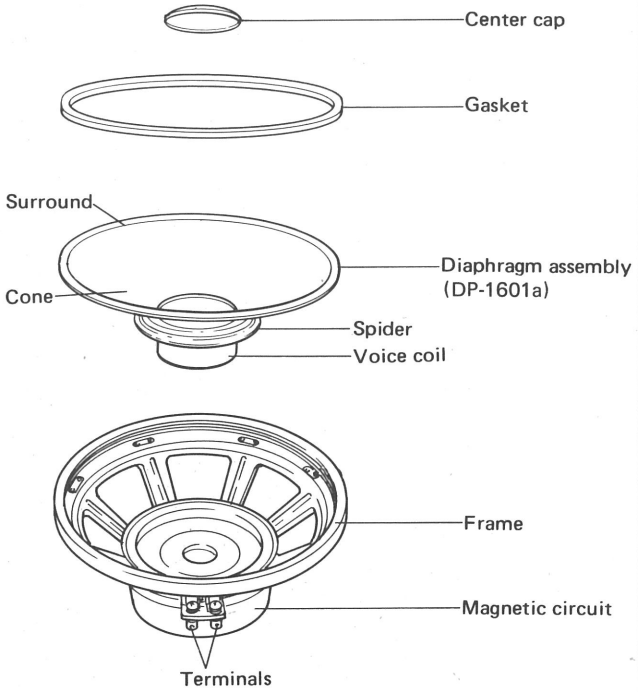



Fig. 1

**Exploded TL-1601a**




*Replacement diaphragm assemblies (DP-1601a) are also available.

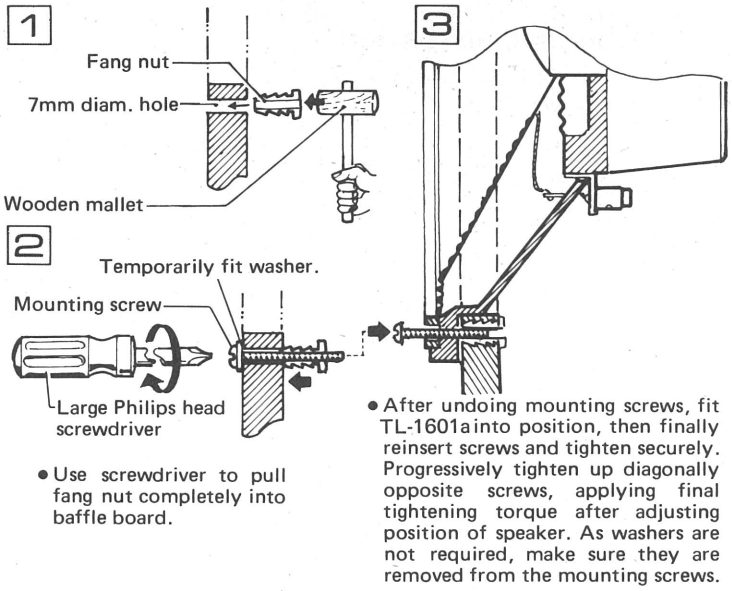
# INSTALLATION METHOD

## 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.

## 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.




- Use screwdriver to pull fang nut completely into baffle board.
- After undoing mounting screws, fit TL-1601a 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

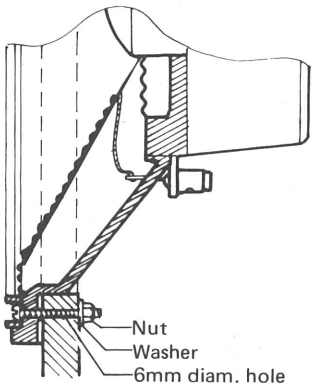



Fig. 3

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Printed in Japan <SRB-289-A>