

## LOW FREQUENCY LOUDSPEAKER



## SPECIFICATIONS

Voice coil impedance	8Ω
Fundamental resonance ( $f_0$ )	28Hz
Frequency response	$f_0 \sim 1,000\text{Hz}$
Rated input	200W
Maximum input	500W
Output sound pressure level	97.5dB / W (1m)
Equivalent mass (infinite baffle)	117g
$Q_0$	0.31 ( $f_0 = 28\text{Hz}$ )
Total magnetic flux	277,000 Mx
Flux density	12,400 G
External dimensions	15-3/4 in (400mm) diam., 7-1/2 in (191mm)
Baffle opening	13-7/8 in (352mm) diam.
Mounting dimensions	14-9/16 in (370mm) diam.
Weight	13.0kg (28.7lbs)
Accessories	Mounting screws (M5 × 40 Philips head); 8 Nuts, fang nuts, washers; 8 each Airtight packing; 4 Instruction manual; 1

• Specifications and dimensions are subject to change without notification.

## FEATURES

### 500W maximum permissible input, with high efficiency

The TL-1601b 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 a 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 500W.

### Low-distortion high-efficiency circuit

The powerful magnetic circuit of the TL-1601b uses an Alnico magnet in order to extremely reduce distortion. The material and shape of the magnetic circuit have been carefully designed to realize a flux density of as high as 12,400G and almost eliminate sensitivity due to demagnetization at high input. This in combination with lighter moving parts and the long-travel voice coil have resulted in a sensitivity of 97.5 dB / W (1m).

### No influence of parasitic resonance

Making holes at voice coil bobbin and diving the Alnico magnet into 9 segments eliminate parasitic resonance caused by a chamber behind the diaphragm assembly. This results in smooth and clear sound. This also improves the air cooling effect, increasing maximum input and linearity.

### Use of large-size input terminal

This speaker can be directly connected to a 14mm<sup>2</sup> speaker cable.

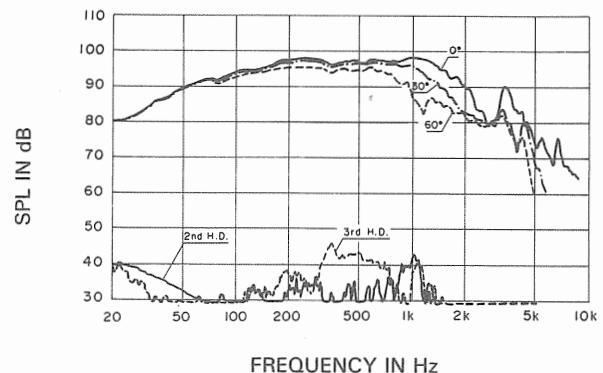
### Use of corrugation type cloth surround

The TL-1601b 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.

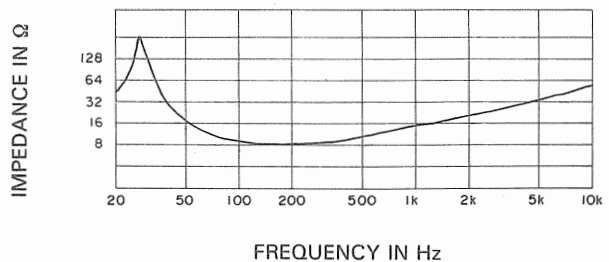
### Strong diecast frame

The TL-1601b employs a sturdy aluminum 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-1601b 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

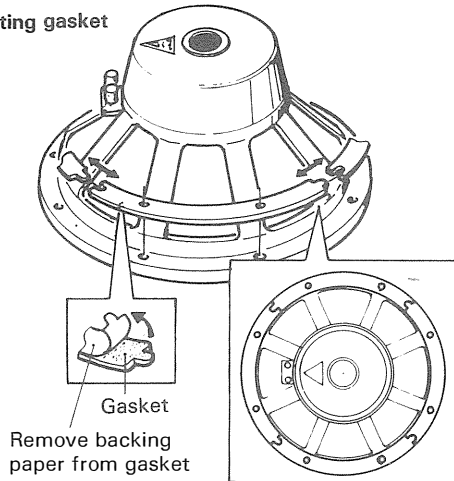
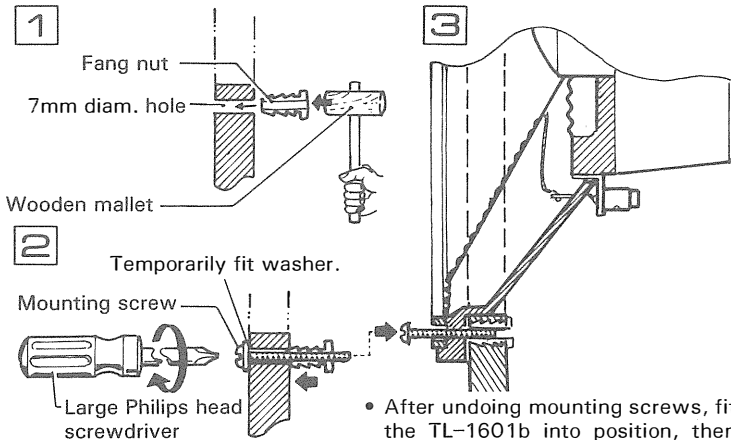


Fig. 1

# INSTALLATION METHOD

## WHEN USING FANG NUTS

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

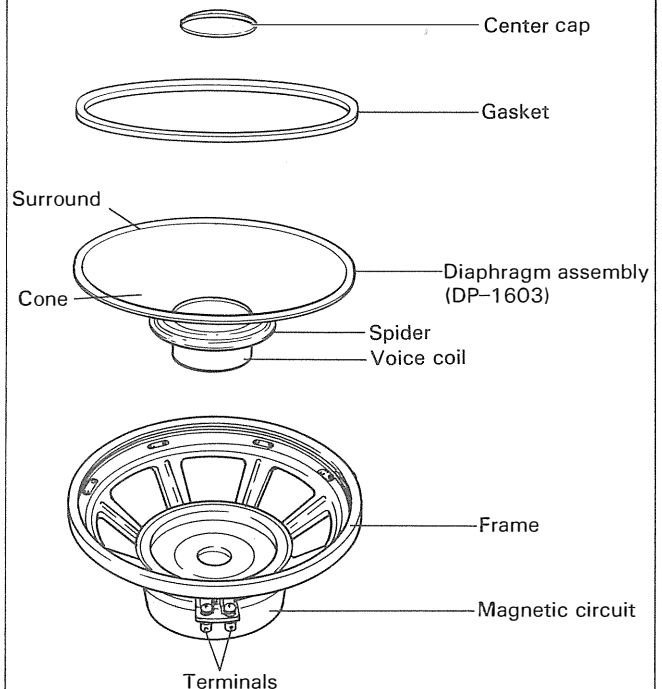


- Use the screwdriver to pull the fang nut completely into the baffle board.

- After undoing mounting screws, fit the TL-1601b into position, then finally reinsert screws and tighten up diagonally opposite screws, applying the final tightening torque after adjusting the speaker position. As washers are not required, make sure they are removed from the mounting screws.

Fig. 2

## Exploded view of TL-1601b



\* Replacement diaphragm assemblies (DP-1603) are also available.

## 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.

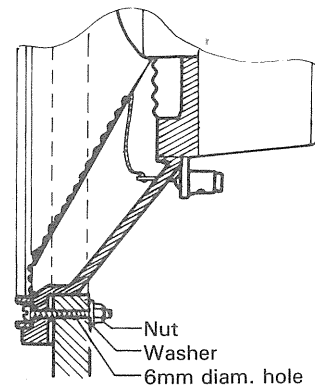


Fig. 3

*Note:*  
Be careful not to short-circuit the cable end when hooking up.