

TAD TL-1601a



Low-Frequency Loudspeaker

The TL-1601a is a low-frequency loudspeaker conforming to the very highest technical standards. It is specifically designed to reduce all forms of distortion and coloration to a bare minimum.

VOICE COIL The TL-1601a employs an edgewise-wound long-travel type voice coil. Since the coil stays completely within the magnetic gap even during peak excursions, bass output is powerful, and distortion low, at all input levels. And since the coil makes more effective use of the flux within the magnetic gap, it provides high conversion efficiency. The voice coil bobbin and adhesive materials have high heat resistance.

MAGNETIC CIRCUIT The magnetic circuit is designed for low distortion and high efficiency. Thanks to the use of a powerful alnico ring magnet (3 lbs. 10 oz, or 1.65kg), it features an extremely high flux density of 11,800G. In combination with light moving parts and the long-travel coil, it results in exceptionally high efficiency for a unit of this size.

DIAPHRAGM The cone diaphragm of the TL-1601a is made of a newly-developed tough and lightweight material that is capable of withstanding high amplitude levels without deformation. Corrugations are added across the cone surface to assure smooth response down to the extreme low end. The surround is coated with a damping material to ensure proper internal loss and linear excursions, and to reduce cone breakup in the high frequencies. The result is extremely low distortion and coloration.

HOUSING The TL-1601a is mounted in a sturdy aluminum alloy diecast frame that supports the heavy magnetic circuit. The frame is essentially resonance-free.

General	TL-1601a
Nominal Impedance	8 Ohm
Lowest Resonance Frequency (Fo)	28 Hz
Frequency Range	28-2000 Hz
Rated Input Power	150 Watt
Maximum Input Power	300 Watt
Sound Pressure Level	97 dB/W (1m)
Total Magnetic Flux	260.000 Mx
Magnetic Flux Density	11.800 G
Highest Recommended Crossover	1.200 Hz
Recommended Enclosure	113 - 307 liter
Effective Piston Diameter	335,0 mm
Baffle Opening	352,0 mm
Mounting Dimensions	370,0 mm
Weight	11 kg
Dimensions (diameter x depth)	400 x 167 mm
Theile-Small Parameters	TL-1601a
sd - Piston Area	0,0881 Sq M
Revc - DV Voice Coil Resistance	7 Ohm
Levc - Voice Coil Inductance 1kHz (mH)	1,6
BL - Flux Density (TM)	19,5
Vas - Equivalent Acoustic Volume (Liter)	307 liter

Cms - Mechanical Suspension Compliance (x 10 ⁻⁴ m/N)	2785
Mms - Mechanical Mass of Cone and Free Air Load	116 g
Mmd	85 g
Fs - Free Air Resonance Frequency	28 Hz
Qms - Mechanical Q Factor	6,8
Qes - Electrical Q Factor	0,36
Qts - Total Q factor	0,34
Xmax - Max Linear Peak Excursion (O-P)	8,0 mm
Pmax - RMS Thermal power Limit	300 Watt
no - Relative Efficiency	1,82 %
Vd (cm ²)	705
Max. Excursion Before Damage (P-P)	36,0 mm