21iD

Extended LF Neodymium Transducer

Key Features

- Class D amplifier optimized for maximum power transfer
- Conforms to Powersoft™ iPal® standards
- 94.2 dB SPL 1W / 1m average sensitivity
- 125mm (5.3”) split winding, four layer ISV aluminum voice coil
- 3600 W program power handling
- Triple Silicon Spider (TSS) for improved excursion control
- Aluminium demodulating ring (SDR) for lower distortion

Description

The 21iD is an 21 inch neodymium high performance subwoofer. The loudspeaker has been optimized for vented and bandpass subwoofer cabinet designs and is recommended to use a Class D or iPal (tm*) amplifier able to deliver 3600 Watt program power without clipping. Eighteen Sound engineers have obtained the best possible results with today’s available materials in terms of clean and undistorted LF reproduction at a ultra high SPL, with the lowest possible power compression figure. The transducer design features include a large displacement suspension system specifically designed for matching the composite fiber reinforced, straight ribbed cone. Thanks to the Triple Silicon Spider (TSS) technology, the 21iD is able to control the moving mass with high linearity, showing an exceptional stability of mechanical parameter values in the long term. Bl force factor, as well as all other electro-dynamic parameters, are linear within the working range. This, together with the exceptional high excursion behavior - 70mm before damage, ±14mm linear Xmax - makes the 21iD an extremely low distortion, highly dynamic transducer. The 21iD features a state-of-the-art 5,3” inside outside ISV (Interleaved Sandwich Voice-Coil) enabling the 21iD to deliver extraordinary transient results. The 21iD has been developed after intense FEA and fluidodynamics simulation and testing focusing on dissipating the heat generated by the powerful voice coil. Special attention was given to the optimization of air flow into the gap without introducing audible noise. A low-density material air diffractor placed into the heatsink acts as a cooling system, increasing the power handling capability and lowering the power compression figure.

Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>21iD</td>
<td>022212N000</td>
<td>2 Ohm</td>
</tr>
</tbody>
</table>
Extended LF Neodymium Transducer

**General Specifications**

- **Nominal Diameter**: 533 mm (21 in)
- **Rated Impedance**: 2 Ohm
- **AES Power**: 1800 W
- **Program Power**: 3600 W
- **Peak Power**: 10000 W
- **Sensitivity**: 94.2 dB
- **Frequency Range**: 29 ÷ 1600 Hz
- **Power Compression @-10dB**: 180 W, 0.7 dB
- **Power Compression @-3dB**: 900 W, 1.3 dB
- **Power Compression @Full Power**: 1800 W, 2.2 dB
- **Max Recomm. Frequency**: 120 Hz
- **Recomm. Enclosure Volume**: 120 ÷ 250 lt. (4.24 ÷ 8.83 cu.ft)
- **Minimum Impedance**: 2 Ohm
- **Max Peak To Peak Excursion**: 70 mm (2.76 in)
- **Voice Coil Diameter**: 135 mm (5.31 in)
- **Voice Coil winding material**: Copper
- **Suspension**: Triple Roll, Polycotton
- **Cone**: Straight ribbed carbon fiber loaded cellulose

**Thiele Small Parameters**

- **Fs**: 38 Hz
- **Re**: 1.3 Ohm
- **Sd**: 0.166 sq.m (257.30 sq.in)
- **Qms**: 5.60
- **Qes**: 0.24
- **Qts**: 0.23
- **Vas**: 143 lt. (5.05 cu.ft)
- **Mms**: 489 gr. (1.08 lb)
- **BL**: 25.20 Tm
- **Le (1kHz)**: 1.08 mH

**Mounting information**

- **Overall diameter**: 545 mm (21.46 in)
- **N. of mounting holes and bolt**: 8
- **Mounting holes diameter**: 8.5 mm (0.33 in)
- **Bolt circle diameter**: 520 mm (20.47 in)
- **Front mount baffle cutout ø**: 492 mm (19.37 in)
- **Rear mount baffle cutout ø**: 490 mm (19.29 in)
- **Total depth**: 250 mm (9.84 in)
- **Flange and gasket thickness**: 18 mm (0.71 in)
- **Net weight**: 13.6 kg (29.98 lb)
- **Shipping weight**: 15.1 kg (33.29 lb)
- **CardBoard Packaging dimensions**: 570x570x290 mm (22.44x22.44x11.42 in)

**Notes**

1. AES standard.
2. Program power rating is measured in 250 lit. enclosure tuned at 28 Hz using a 30-300 band limited pink noise test signal applied for 2 hours and with 50% duty cycle.
3. The peak power rating is based on a 4.5 dB crest factor above the program power rating and represents the maximum permitted instantaneous peak power level over a maximum period of 10ms which will be withstood by the loudspeaker without damage.
4. Sensitivity represents the averaged value of acoustic output as measured on the forward central axis of cone, at distance 1m from the baffle panel, when connected to 1.41V sine wave test signal swept between 100Hz and 500Hz with the test specimen mounted in the same enclosure as given for 2 above.
5. Frequency range is given as the band of frequencies delineated by the lower and upper limits where the output level drops by 10 dB below the rated sensitivity in half space environment.
6. Power compression represents the loss of sensitivity for the specified power, measured from 30 to 300Hz after a 5 min pink noise preconditioning test at the specified power.
7. Thiele - Small parameters are measured after the test specimen has been conditioned by hour 20 Hz sine and represent the expected long term parameters after a short period of use.
8. Linear Mat. Xmax is calculated as; (Hvc-Hg)/2 + Hg/4 where Hvc is the coil depth and Hg is gap depth.