

Extended LF Neodymium Transducer

KeyFeatures

- Class D amplifier optimized for maximum power transfer
- Conforms to Powersoft™ iPal® standards
- 94.2 dB SPL 1W / 1m average sensitivity
- 135mm (5.3") split winding, four layer ISV aluminum voice coil
- 3600 W program power handling
- Triple Silicon Spider (TSS) for improved excursion control
- Aluminum 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

Model	Code	Information
21iD	022212N000	2 Ohm

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General Specifications

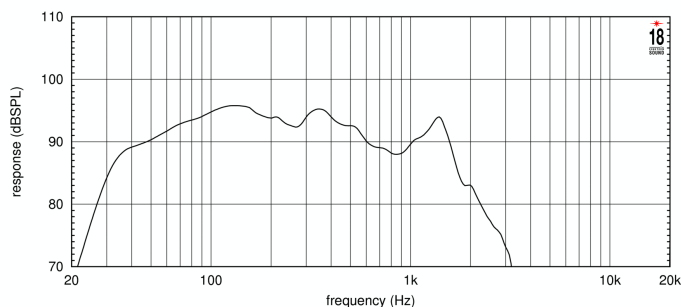
Nominal Diameter	533 mm (21 in)
Rated Impedance	2 Ohm
AES Power	1800 W
Program Power	3600 W
Peak Power	10000 W
Sensitivity	94,2 dB
Frequency Range	29 ÷ 1600 Hz
Power Compression @-10dB	180W 0,7 dB
Power Compression @-3dB	900W 1,3 dB
Power Compression @Full Power	1800W 2,2 dB
Max Recomm. Frequency	150 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
Linear Mathematical Xmax	±14 mm (±0,55 in)
Le (1kHz)	1,08 mH

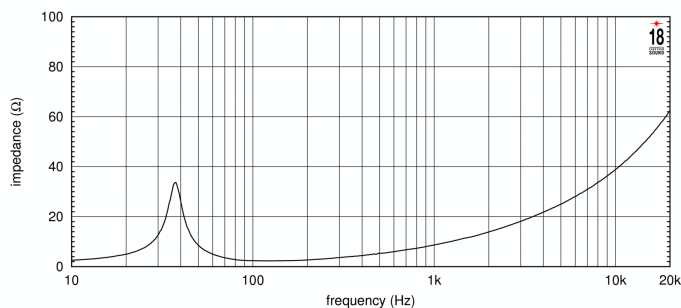
Mounting information

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)



FREQUENCY RESPONSE MADE IN 250 LT. ENCLOSURE TUNED AT 28 Hz IN FREE FIELD (4n) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER, THE THIN LINE REPRESENTS 45° OFF AXIS FREQUENCY RESPONSE

FREE AIR IMPEDANCE MAGNITUDE CURVE



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 1 hour 20 Hz sine and represent the expected long term parameters after a short period of use.
- (9) Linear Mat. Xmax is calculated as; $(H_{vc} - H_g)/2 + H_g/4$ where H_{vc} is the coil depth and H_g is gap depth.