

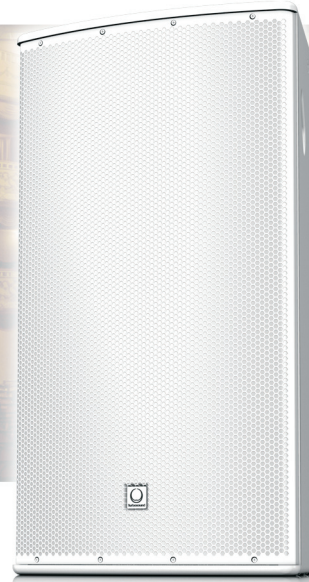
Install Speakers

ATHENS

TCS152/96-AN-WH

Arrayable 2500 Watt 2 Way 15" Loudspeaker with Dendritic Waveguide, KLARK TEKNIK DSP Technology and ULTRANET Networking, 90° H x 60° V Dispersion (White)

- Arrayable 2 way full range loudspeaker for installation applications
- Rotatable Dendritic waveguide with 90° H x 60° V dispersion
- 2,500 Watt power featuring KLARK TEKNIK Class-D technology
- KLARK TEKNIK Digital Signal Processing for total system control
- ULTRANET digital audio networking connects to mixers and other sources
- Carbon fibre loaded 15" low frequency driver with inside/outside wound coil
- Titanium dome 1.4" neodymium motor compression driver
- Fully featured user interface with LCD display for ease of navigation
- PC remote control software downloadable at turbosound.com
- Multiple array configurations for extended coverage
- Trapezoidal cabinet shape enables visually unobtrusive loudspeaker arrays
- Multiple internal rigging points allow bracket mount and suspension in any orientation
- 15 mm (5/8") birch plywood enclosure with hard wearing semi matt white paint finish



The 2-way full range TCS152/96-AN-WH is a 2,500 Watt 15" powered arrayable loudspeaker system that is ideally suited for a wide range of speech and music sound reinforcement applications. Designed to work individually without a controller or in arrays, the TCS152/96-AN-WH provides optimal FOH performance, and offers the flexibility to accommodate venue-specific requirements and install applications.



The TCS152/96-AN-WH features a carbon fibre loaded 15" low frequency driver with an inside/outside wound low mass voice coil for improved power handling. The titanium dome 1.4" neodymium motor compression driver is mounted on a rotatable 90° horizontal by 60° vertical proprietary Dendritic waveguide, which features multiple hornlets with identical path lengths to provide a flat constant-phase wavefront. When the waveguide is rotated 90° from the standard position a 60° horizontal by 90° vertical dispersion is achieved, making the TCS152/96-AN-WH ideal for an even broader range of applications.

Output power for the TCS152/96-AN-WH is provided by means of an efficient and lightweight KLARK TEKNIK 2,500-Watt Class-D power amplifier. A sophisticated, but easy to use KLARK TEKNIK Digital Signal Processor (DSP) provides dynamic EQ for impressive full range response at low volume levels and transparent limiting for clarity at high output levels – and for long-term reliability.

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- Architecturally styled powder coated perforated steel mesh grille
- Mains input on Neutrik powerCON* connector
- 3-Year Warranty Program*
- Designed and engineered in England

On the rear panel of the amplifier module, the user interface's LCD display and single rotary encoder provide intuitive access to: array, position, user EQ control, and signal routing features. In addition to the two combination balanced XLR/jack inputs, an XLR output is provided for daisy-chaining more active loudspeakers or for use with an active subwoofer. An onboard USB port provides access for remote control of the TCS152/96-AN-WH via PC computer, as well as DSP firmware updates.

ULTRANET connectivity is provided by two locking etherCON* connectors. Up to 16 independent channels of 24-bit digital audio and control data are transmitted via a single CAT5 cable between compatible digital devices – including mixers, I/O stage boxes, powered loudspeakers and personal monitoring systems. Simplified cable routing and ease of setup translate directly into significant time saved during installation.

Finished in a highly durable semi matt white paint, the trapezoidal cabinet is constructed from 15 mm (5/8") birch plywood – and includes a rugged powder coated perforated steel mesh grille. Multiple rigging points allow bracket mount suspension in any orientation, or mounting with dedicated brackets – available separately. A dedicated range of fly plates and coupler kits are also available separately for constructing tightly packed custom full-range and subwoofer enclosure arrays for aesthetically pleasing and venue specific coverage requirements. Mains power input is provided via a Neutrik powerCON* connector.

*All third-party trademarks are the property of their respective owners. Their use neither constitutes a claim of the trademark nor affiliation of the trademark owners with MUSIC Group. Product names are mentioned solely as a reference for compatibility, effects and/or components. Warranty details can be found at music-group.com.

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You Are Covered

We always strive to provide the best possible Customer Experience. Our products are made in our own [MUSIC Group](#) factory using state-of-the-art automation, enhanced production workflows and quality assurance labs with the most sophisticated test equipment available in the world. As a result, we have one of the lowest product failure rates in the industry, and we confidently back it up with a generous [3-Year Warranty program](#).

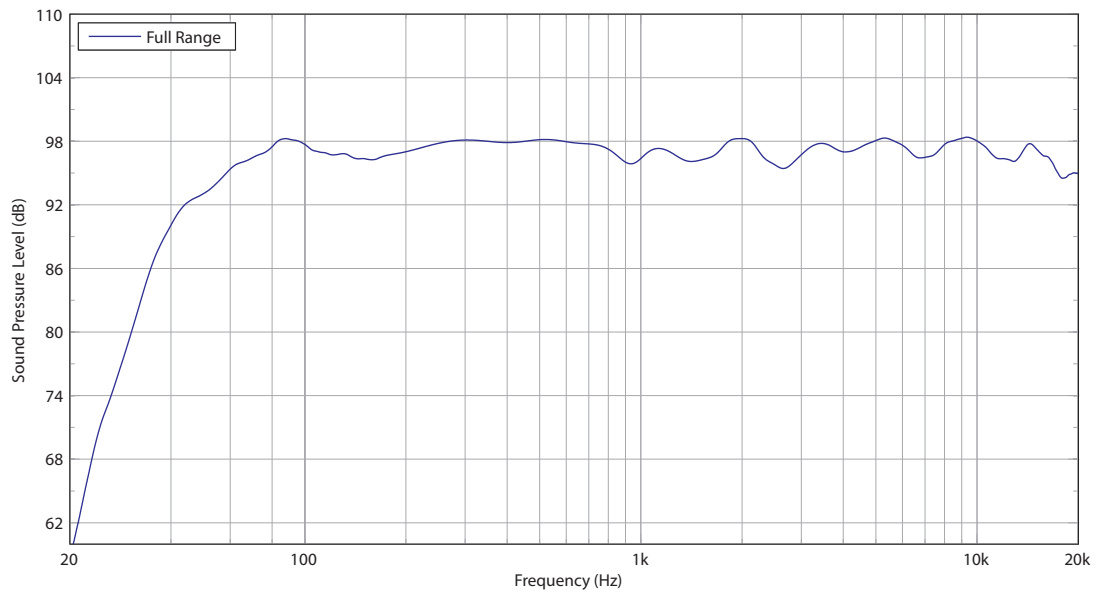
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Frequency Response Sensitivity 1 W / 1 m



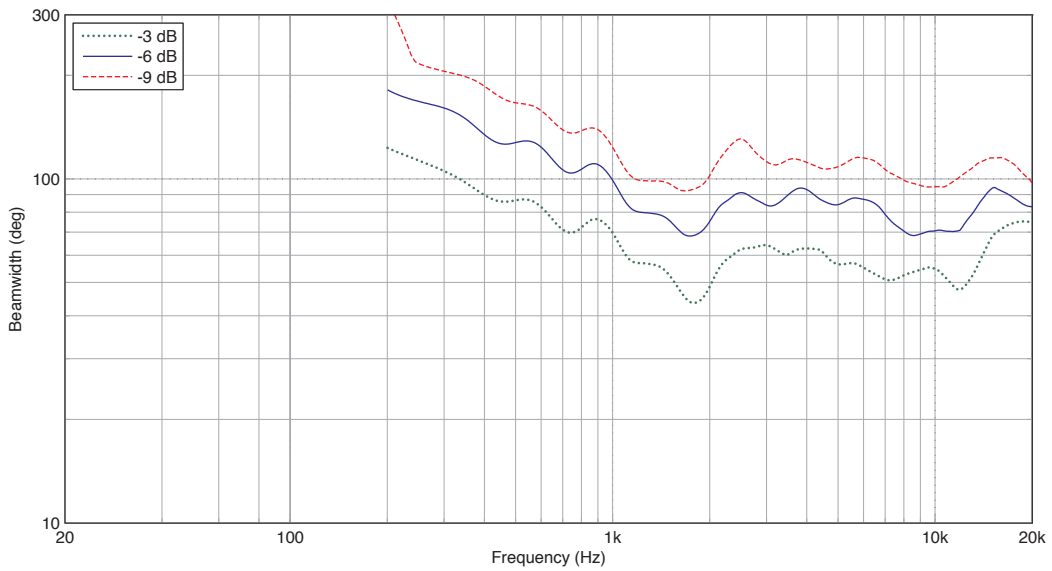
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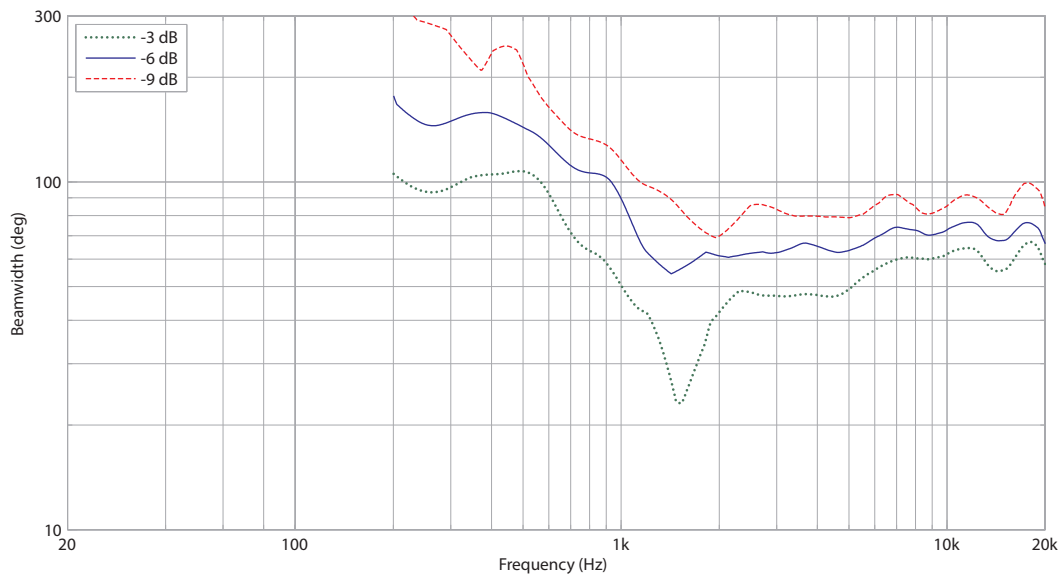
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Horizontal Beamwidth



Vertical Beamwidth

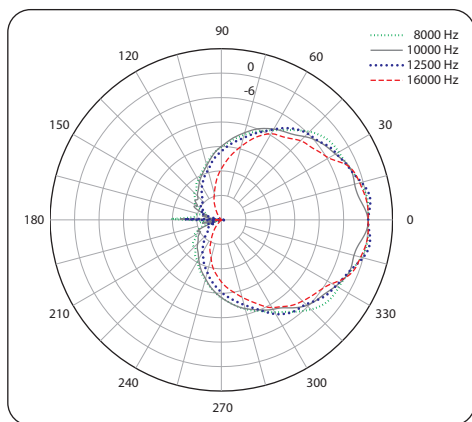
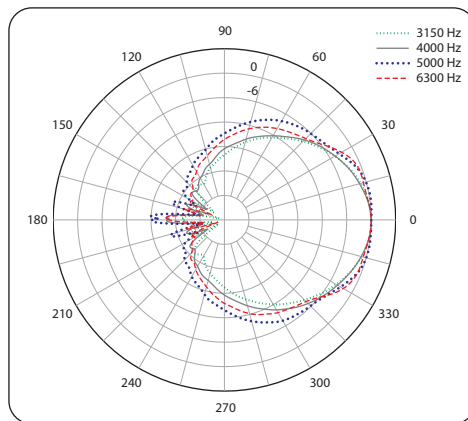
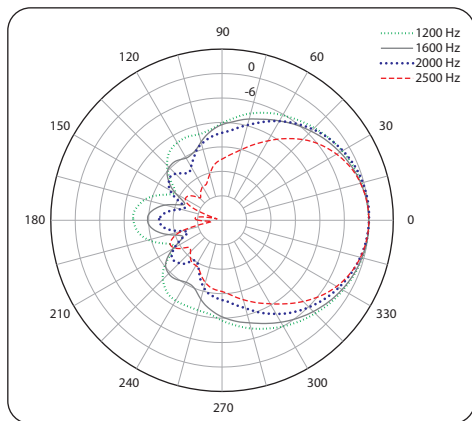
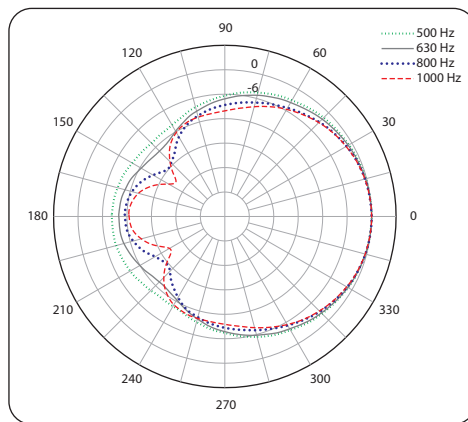
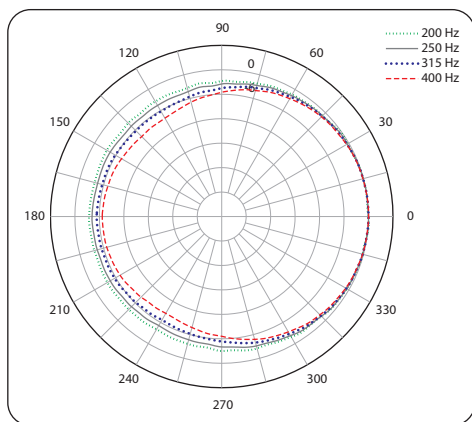


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Horizontal Polar Plots

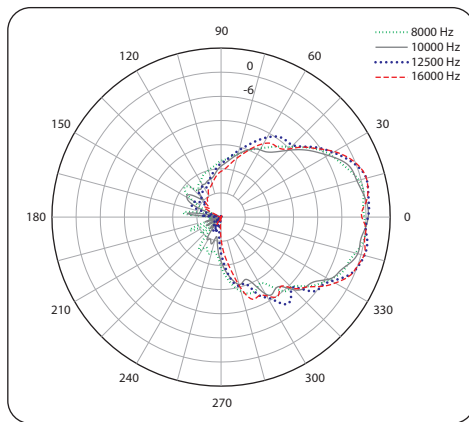
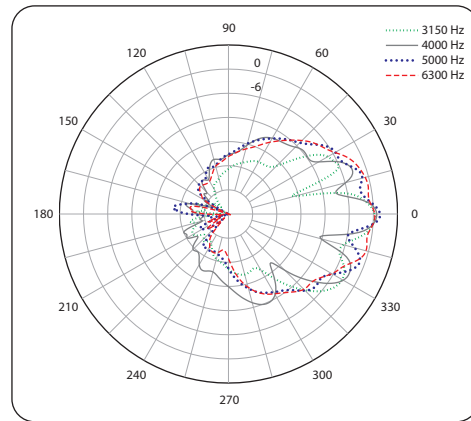
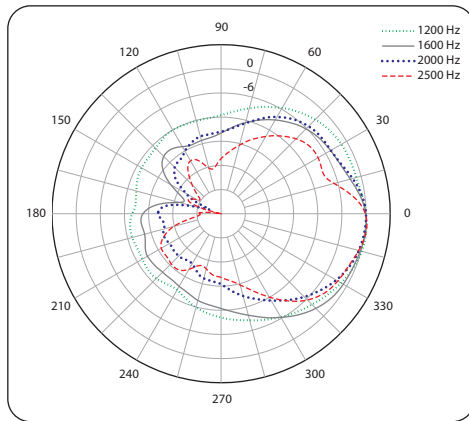
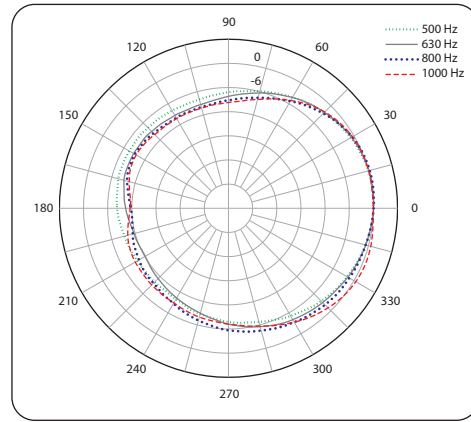
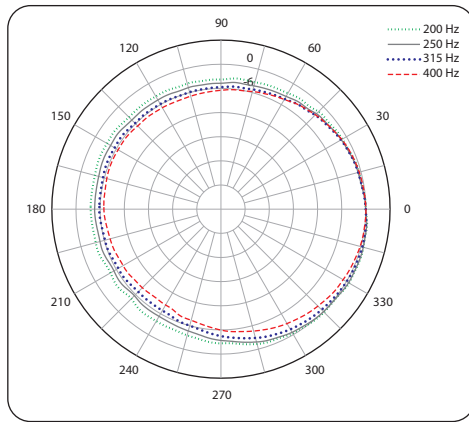


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Vertical Polar Plots



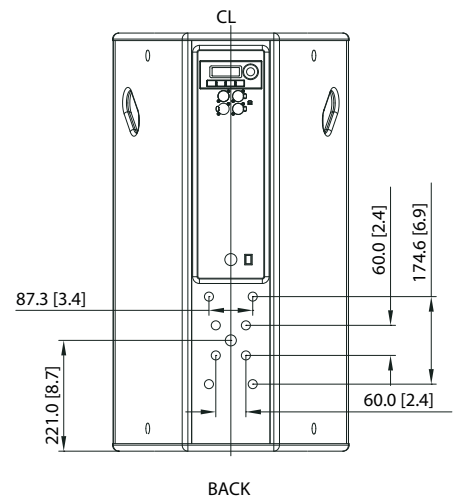
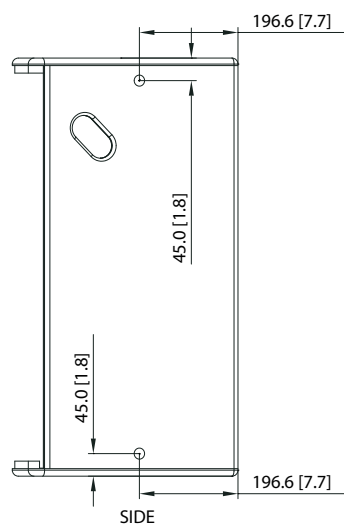
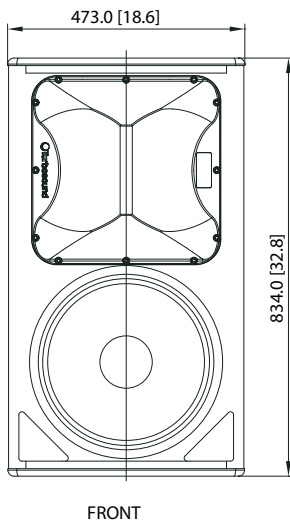
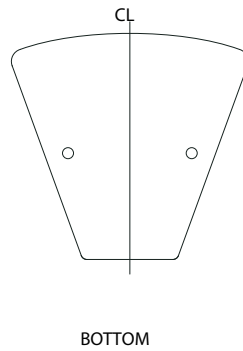
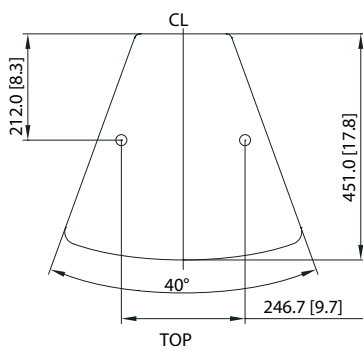
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Dimensions



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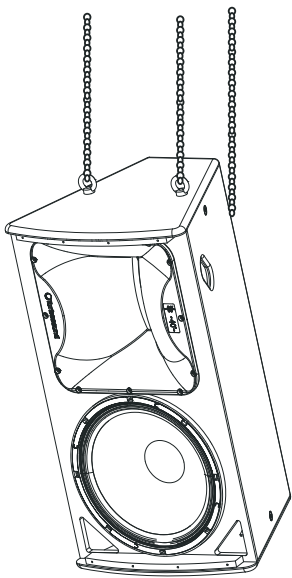
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Mounting and Rigging

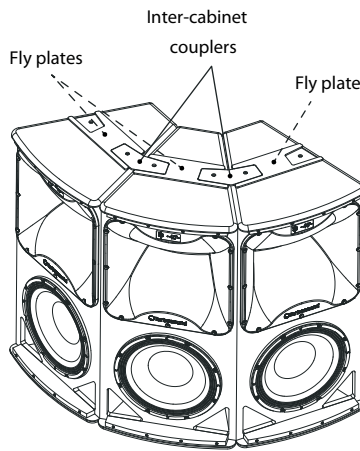
The cabinet is fitted with M8 x 8 and M10 x 9 internally-threaded rigging points that allow it to be rigged with optional shoulder eyebolts and mounted in many different configurations in permanent installations. The simplest method of rigging is to use the two M10 rigging points on the top, and a single pull-back rigging point in the centre of the rear panel. Adjustment of the length of the rear cable allows the cabinet to be angled for optimum room coverage. Cabinets may also be hung upside down if required.

The cabinet is compatible with industry standard wall and ceiling brackets which use 60 mm x 60 mm hole spacing.

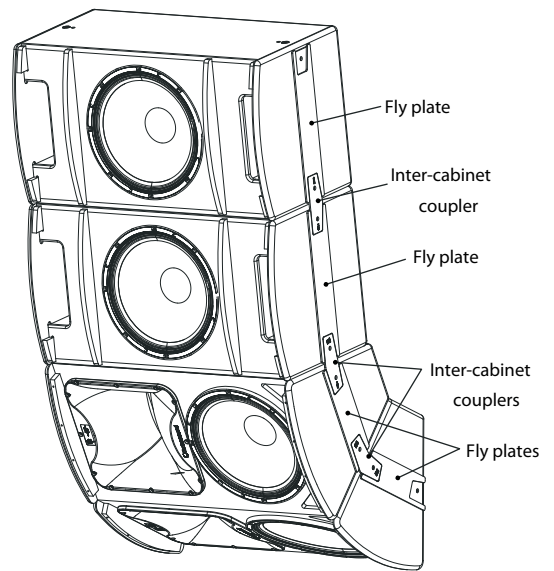
An array of two or more cabinets can be configured using optional **TURBOSOUND** flyplates and inter-cabinet couplers. These are fixed to the cabinet sides through the M10 rigging points, and assembled together in a 'daisy chain' fashion to build up the required array. The horns of each cabinet may be rotated through 90 degrees to optimise the coverage.



Suspension using M10 shoulder eyebolts on top and one at the rear.



Horizontal clusters using fly plates and inter-cabinet couplers on top and bottom.



Vertical array using fly plates and inter-cabinet couplers on left and right.

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Technical Specifications

System

Frequency response	41 Hz – 18 kHz \pm 3 dB 35 Hz – 20 kHz -10 dB
Nominal dispersion	90° H x 60° V @ -6 dB points, rotatable
Maximum SPL	133 dB peak
Crossover type	Active
Transducers	1 x 15" (394 mm) LF Driver 1 x 1.4" (36 mm) HF compression driver
Limiter	Independent HF, LF, peak and rms

Amplifier

Maximum output power*	2500 W
Type	Class-D
Protection	Short circuit, thermal

Connectors

Input/link	1 x Combo Jack/XLR 1 x XLR
Sensitivity	+4dBu or +14 dBu software switchable
Input impedance	40 k Ω balanced
Maximum input level	+22 dBu
Ultranet input/link	2 x RJ45
Mains supply	Neutrik powerCON 20A+

Controls

DSP	Rotary push-encoder and level control Buttons for Process, Setup, Exit, Enter
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User DSP Functions

Factory EQ presets	Positioning, Sound mode, FBQ
Display	LCD 128 x 32, blue, backlit
Delay	0 - 300 ms
Equalisation	High and low shelving EQ 2 x parametric EQ
Limiter	Zero attack input limiter
Presets	20 total presets, 19 user-definable
Crossover	High Pass L-R 24 dB/oct
Protection	Lock-out function for all settings

Ultranet Digital Network

Digital processing	
A/D conversion	24-bit, 44.1/48kHz sample rate
Converter type	24-bit, delta-sigma
System	
Signal	16 channels
Latency	< 0.9 ms
Frequency response	20 Hz to 20 kHz (+0 / -3 dB)
Dynamic range	typical 92 dB
Cabling	
Cables	Shielded CAT5
Cable length	max. 246 ft / 75 m recommended

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Power Supply

Power consumption	90 W @ 1/6 max power
Voltage (fuses)	
USA / Canada	120 V~, 60 Hz (T 15 A H 250 V)
UK / Australia / Europe	220-240 V~, 50/60 Hz (T 10 A H 250 V)
Korea / China	220-240 V~, 50/60 Hz (T 10 A H 250 V)
Japan	100 V~, 50/60 Hz (T 15 A H 250 V)

Enclosure

Dimensions (H x W x D)	834 x 473 x 451 mm (32.8 x 18.6 x 17.8")
Net weight	30.6 kg (67.3 lbs)
Construction	15 mm (5/8") Birch plywood
Finish	Semi matt white paint
Grille	Powder coated perforated steel
Flying hardware	M10 x 9, M8 X 8 points

Accessories

TCS152-FP (-WH) Fly plate kit for TCS152
TCS-FK1 (-WH) Inter-cabinet coupler kit for TCS122 or TCS152
TCS-FK2 (-WH) Inter-cabinet coupler kit for TCS115B with TCS122 or TCS152

*independent of limiters and driver protection circuits

†Only qualified personnel are allowed to modify the AC-Main cord and to adhere to all applicable national standards.

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Architecture & Engineering Specifications

The loudspeaker shall be of the full range, two-way, powered type, consisting of one 15" (394 mm) LF driver and one 1.4" (36 mm) HF compression driver. Performance specifications of a typical production unit shall meet or exceed the following: frequency response, measured with swept sine wave input, shall be flat within ± 3 dB from 41 Hz to 18 kHz and within -10 dB from 35 Hz to 20 kHz. Nominal dispersion, at -6 dB points, shall average 90° H x 60° V, rotatable. Maximum amplifier output power shall be 2,500 Watts peak, independent of limiters and driver protection circuits. Maximum SPL (peak), measured at 1 metre with music program, shall be 133 dB. Dimensions: 834 mm high x 473 mm wide x 451 mm deep (32.8" x 18.6" x 17.8"). Net weight: 30.6 kg (67.3 lbs). The loudspeaker system shall be the **TURBOSOUND** TCS152/96-AN-WH. No other loudspeaker shall be acceptable unless submitted data from an independent test laboratory verifies that the above combined performance / size specifications are equalled or exceeded.

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