VTC
PRO AUDIO

www.vtcproaudio.com

Contents

From Vision to Creation

VTC Pro Audio represents the pinnacle of the evolution of loudspeaker design. The latest CAD technology, loudspeaker measurement equipment and acoustic modeling software was used to bring industry leading designs to the forefront of the professional touring and installation enclosure market.

Some of the most respected names in loudspeaker and horn technology in the world today came together to bring to life our vision… to create cabinets, hardware and processing of unmatched quality to market at price points with wide practical commercial appeal.

VTC Pro Audio cabinets, hardware and rigging are designed and manufactured with pride in North America to the strictest quality control standards and are distributed worldwide by Yorkville Sound.

Technology

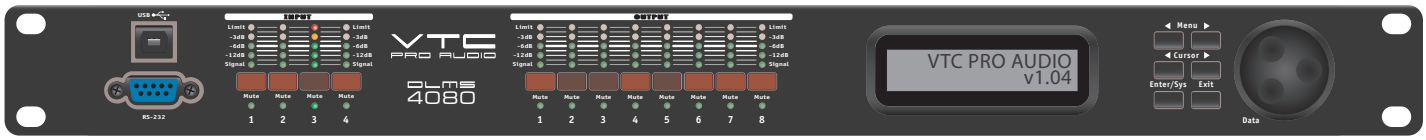
Technological innovation is at the forefront of all of VTC Pro Audio products. Groundbreaking patented and subwoofer designs push the envelope of speaker systems performance.

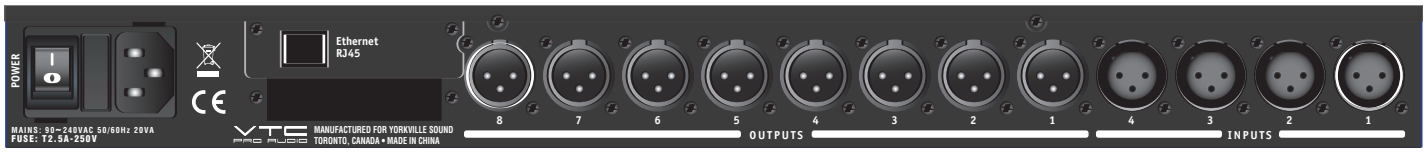
The latest hardware and software technologies available today are used to maintain the highest level of quality and consistency. Solid modeling packages like Rhino, IronCAD and EASE were used to create 3D computer renderings long before products were built, solving any cosmetic & ergonomic design issues long before the first pieces of plywood were cut.

Audio Precision test equipment and PC's running LMS, TEF and CLIO ensure unmatched performance and consistency throughout the comprehensive and complete testing process done to each and every VTC Pro Audio product.

DLMS 4080

4 Input/ 8 Output Digital Loudspeaker Management System





Features:

- 4 In / 8 Out Configuration
- Independent Gain, Delay & Phase Control of each Input & Output
- 2 Tunable Crossovers on each Input & Output (24 Total)
- 8 Tunable Parametric EQ Filters on each Input (32 Total)
- 31-band Graphic EQ on each Input
- 8 Additional Tunable EQ Filters on each Output (Selectable Parametric, Hi/Low Shelving, All Pass - 64 Total)
- USB, RS232 and Ethernet Connectivity
- PC Based ProControl Visual Editing Software Included
- Full Front Panel Parameter Control
- Security Lockout

The DLMS4080 Digital Loudspeaker Management System handles total control of the Elevation Series. The four Inputs and eight outputs of the DLMS4080 can be routed in multiple configurations to meet any system requirement. Full control and configuration of the system is achieved in real time from the front panel or with the intuitive ProControl graphic user interface software via the on-board RS232, Ethernet or USB port when more complex system control is required.

General Specifications:

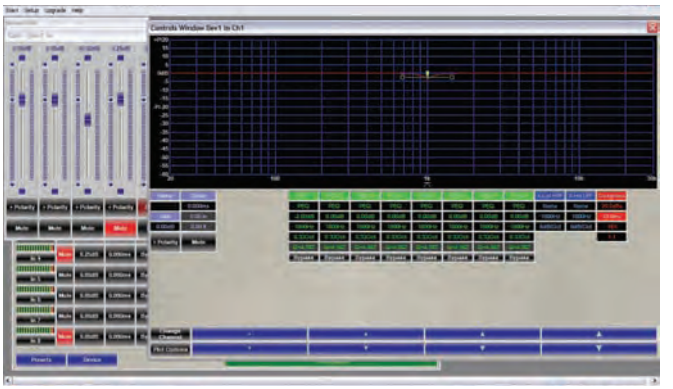
Type	4 Input / 8 Output Digital Speaker Processor	Maximum Input/Output Level	+20 dBu
Audio Connectors	3-pin XLR Balanced (All inputs and Outputs)	Number of Programs	30
Computer Interface Options	USB / RS-232 / Ethernet CAT-5	Security Lock	Yes
Crossover Filters	24 (2 per Input / Output)	Display	2x16 Character Backlit LCD
Programmable EQ Filters	96 (8 per Input/Output) Parametric, Shelving and All Pass	Level Meters	12 (1 per Input / Output) 5-segment LED
Graphic EQ	4 (1 per Input) 31-band 2/3 Octave	Front Panel Buttons	Mute/Edit Controls / Menu Controls
Input Compressors	4 (1 per Input) Tunable 1:1 to 40:1 Ratio	Dial Encoder	Embedded Thumbwheel
Output Limiters	8 (1 per Output) 40:1 Ratio	Power	90-240VAC (50/60Hz) / Standard IEC Connector
Delay	12 (1 per Input / Output) 0 to 650ms	Dimensions (in)	19 x 1.75 x 9
Gain	-40db to +15dB in 0.25dB steps	Dimensions (mm)	48.5 x 4.5 x 23
Frequency Response	+/- 0.1dB (20Hz - 30kHz)	Weight (lbs / kg)	10 / 4.6
Dynamic Range	115dB Type (unweighted)		*Specifications subject to change without notice.*

Operation and System Control

Every input on the DLMS4080 has individual gain, delay and polarity control per channel as well as a fully tunable 8-filter parametric EQ, a separate 31-band graphic EQ, a 2-pole tunable crossover and channel compression.

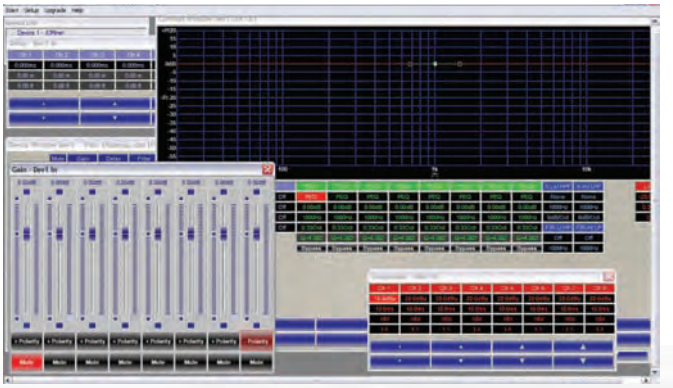
Each of the 8 processor output channels offer fully independent input source selection, independent gain, delay and polarity control, an additional 8-filter EQ (selectable parametric, hi & lo shelving or All Pass) per channel, tunable 2-pole crossover and a 40:1 output limiter. Precise frequency control is achieved down to a 1Hz resolution.

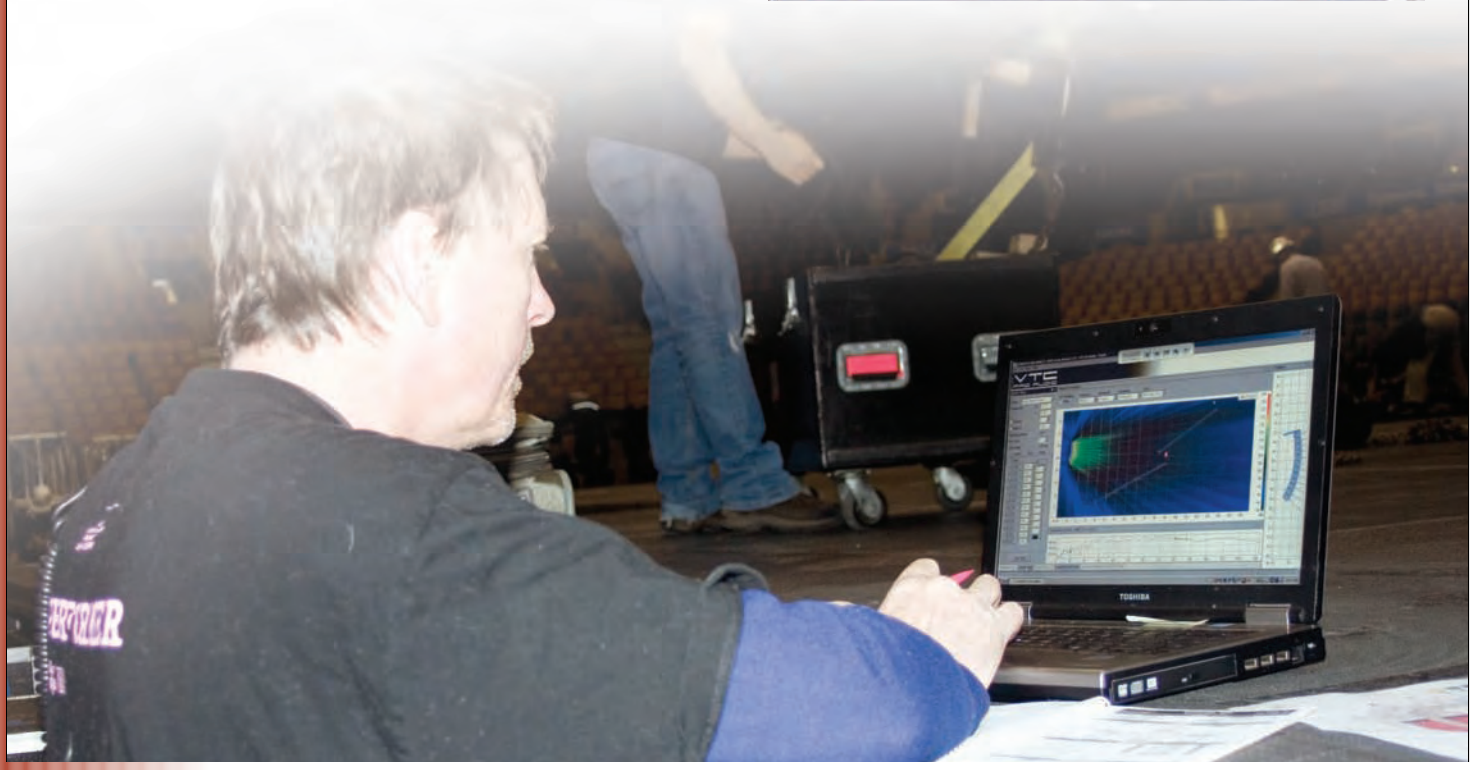
Multiple system setups can be stored in 30 onboard memory locations and the DLMS4080 has an onboard lockout for full system security when used in installation applications.



VTC ProControl System Software

Direct connection to any WindowsXP or Vista based PC can be achieved through integrated RS232, Ethernet or USB inputs on the DLMS4080 (drivers included). The intuitive VTC ProControl software that ships with the processor allows complete control of all parameters of the VTC DLMS4080 processor from any PC or laptop. Ideal for setting up a touring system or tuning and aligning a complex multiple array installation, the VTC ProControl software allows complete visual editing of all crossover points, limiters, EQs and delay settings in real time.





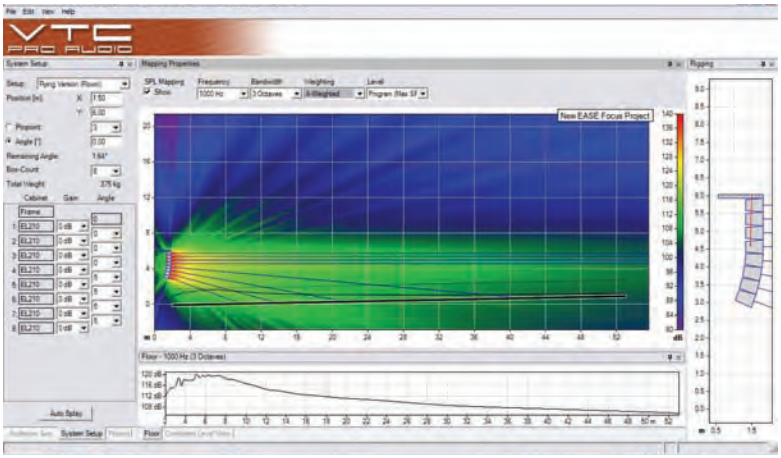
EASE Focus Aiming & Prediction Software

VTC ProAudio has partnered with Software Design Ahnert GmbH to offer its EASE Focus acoustic simulation software free of charge to users of VTC Elevation Series line array systems.

EASE Focus software allows modeling of an acoustic source in a simple two-dimensional view to assist optimizing a system for any particular venue. It predicts the direct field created by the complex addition of individual loudspeakers or array components in a large system and allows system installers using this package to determine the proper flying or mounting points and the correct dispersion angles for the enclosures.

EASE Focus provides accurate predictions of line array performance using the same acoustic engine as EASE, the industry standard software for simulating and designing acoustic environments and sound systems.

The purpose of EASE Focus is to provide the end user with a tool that allows effective prediction of the array performance in any given venue.



Features:

- System Aiming with a color mapped display
- Detailed rigging display with a full printed report
- Displayed SPL's over audience area
- COM and tilt angle calculation for selected audience locations
- Interactive frequency response cursors and EQ capabilities
- Auto splay functions

EASE Focus provides a range of vital acoustic calculations including:

- SPL in 1/3rd octaves, octaves, 3 octaves, broadband
- RMS, program and peak levels
- Flat and A-weighted levels
- Air attenuation according to ISO 9613
- Amplitude shading
- Optimized SPL calculation routines for interactive aiming.

The program is based on the Microsoft.NET platform, and requires .NET Framework 1.1. EASE Focus runs best in a Microsoft Windows XP/2000 environment, but will also run under earlier Windows versions provided they have the latest system updates

The scientific base of EASE Focus stems from EASE, the professional electro and room acoustic simulation software developed by Acoustic Design Ahnert (ADA), Berlin, Germany. EASE Focus software is created by ADA's sister company, Software Design Ahnert GmbH (SDA) Berlin, Germany.

EASE Focus Aiming Software is publicly available and it is free to download from the VTC website, vtcproaudio.com.

ELEVATION SERIES

EL210

Features:

- Paraline High Frequency Horn Element (patent pending)
- Highly Efficient Synergy Horn Design (patent pending)
- 10° Vertical Directivity Adjustable In 1° Steps
- 90° Horizontal Directivity
- Available in Touring and Fixed Installation Versions
- Excellent for All Throw Distances
- Unparalleled Clarity, Intelligibility & Precision
- Advanced DLMS4080 Digital Loudspeaker Management System
- Unequaled Price/Size/Flexibility/Performance Ratio
- 5/8-inch Baltic Birch Cabinet Construction
- Designed and Manufactured for VTC Pro Audio in North America

Medium Format Line Array Enclosure

Elevation Series line array cabinets solve the limitations presented in conventional loudspeaker design using the Synergy Horn and Paraline lens technologies invented by Tom Danley and licensed to VTC Pro Audio and Yorkville Sound.

This Elevation Series design concept delivers the highly effective performance of a single horn/driver system with high sensitivity (efficient power transfer), a well-defined, predictable coverage with exceptionally flat frequency response and excellent directivity control. This makes the combined Synergy Horn and Paraline lens technologies the ideal basis for a truly modular vertical line array loudspeaker enclosure.

Available in either touring array versions (EL210t) or as an install cabinet (EL210i) the Elevation Series enclosures built in North America by Yorkville Sound using B&C 10-inch drivers, and BMS compression drivers mounted to the patented Paraline horn lens and 5/8-inch void free marine grade Baltic birch plywood.

Specifications:

Configuration	Passive Bi-amplified (processor controlled)
Driver Components (HF)	80 watt, 16 ohm driver - 1.75-inch annular polyester diaphragm w/1-inch exit - Neodymium magnet assembly (x2)
Driver Components (L/M/F)	600 watt, 16 ohm 10-inch woofer w/ 2.5-inch voice coil Neodymium magnet assembly (x2)
Continuous Power	HF: 160 Watts LF: 1200 Watts
Nominal Impedance	HF: 8 ohms LF: 8 ohms
Frequency Response	55 Hz - 20 kHz (*with recommended DSP processing*)
Sensitivity (measured 1w/1m)	HF: 113dB (*single cabinet measured in free space*) LF: 98dB (*single cabinet measured in free space) (LF drivers connected in parallel)*
Calculated Max Output (Average)	HF=135dB LF=128dB

Nominal Coverage	Horizontal: 90° / Vertical: 10°
Vertical:	10° per cabinet, (total system vertical coverage dependent on number of elements used and configuration. - *recommended 3 box minimum)*
Enclosure Material	5/8-inch 11-ply Baltic birch plywood
Finish	Black Ultrathane paint
Grille	Perforated, formed powder coated steel
Connectors:	Neutrik Speakon® NL4 in parallel (x2)
Pin Configuration:	Bi-Amp LF: 1+/1 / HF: 2+/2-
Attachment Points:	Integral, adjustable rigging system, vertical splay adjustable in 1° increments from 0° to 10°
Dimensions (DWH x backW, inches)	19.5 x 28.4 x 15.3 x 11.9
Dimensions (DWH x backW, cm)	49.5 x 72.1 x 38.9 x 30.2
Weight (lbs/kg)	89 / 40.5

Specifications subject to change without notice.

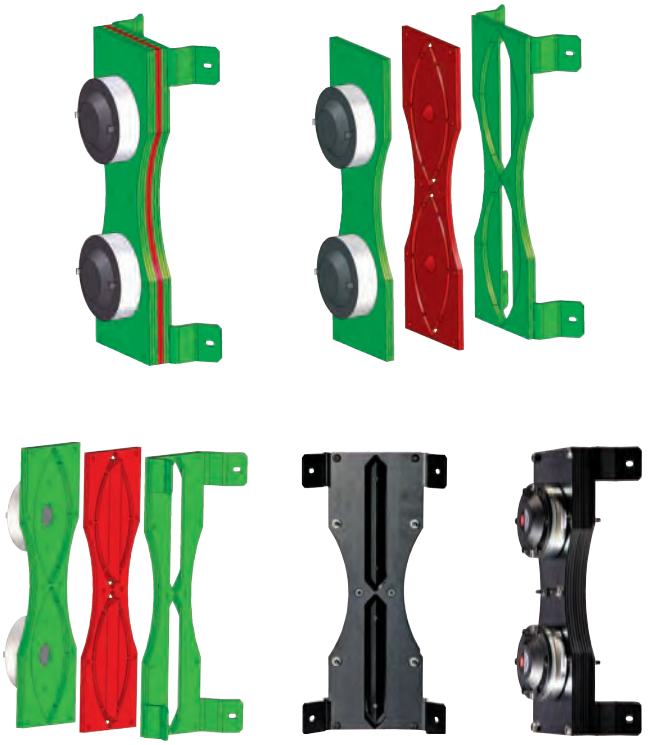
Paraline Element

One of the most difficult aspects in the design of a line array loudspeaker is finding an effective way to control the vertical dispersion characteristics of the high frequency material. In order for a line array cabinet to be effective, the horizontal dispersion must be wide enough to deliver effective room coverage, but the vertical dispersion must be tightly focused and leave the loudspeaker in a narrow, virtually flat front wave that seamlessly couples with waves emanating from the cabinets immediately above and below in the array. If this is done effectively, then program from a line of cabinets leaves the system as a combined, single wave known as an Isowave, in perfect phase with a minimum of cabinet interference, comb filtering or lobing.

A conventional high frequency horn design, like that used in typical point source loudspeaker designs, creates a wave with far too much curve as it leaves the cabinet to work in a line array system. To modify a conventional horn to create a wave as focused and as narrow as required for effective coverage in a line array, the horn would have to be far to long to be physically practical to build, to move or to use in any loudspeaker system.

The Paraline horn lens, designed and patented by Tom Danley is capable of producing a wavefront shape of a horn that in conventional terms would be metres long using an element less than one inch deep. It creates the desired exit wavefront curvature in a small fraction of the normally required path length and effectively takes care of the impractical depth needed to make an array of horns that sum into a non-interfering source.

When combined with the Synergy Horn, the Paraline element controls the vertical dispersion and the Synergy Horn controls the focused and controlled horizontal dispersion.

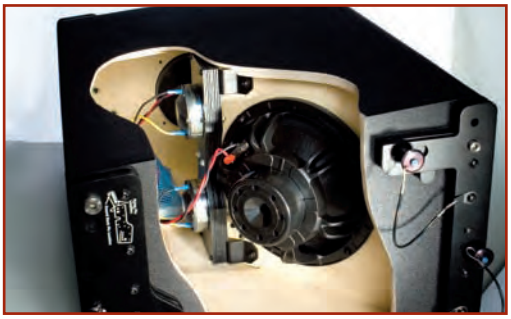


Synergy Horn

Reproducing the frequency spectrum from below 100 Hz to beyond 20 kHz typically requires that multiple drivers of varying sizes, each best suited to reproduce a particular frequency region, be used in a typical full range PA enclosure. Virtually every loudspeaker design puts the individual drivers (direct radiators) and/or horn mouths at different physical locations in the enclosure. In such designs it is difficult to maintain a uniform radiation pattern through the crossover region from one device to the next and maintain a controlled, phase coherent output from the cabinet. This limitation of conventional loudspeaker design is magnified when multiple boxes are arrayed.

Elevation Series line array cabinets solve the limitations presented in conventional loudspeaker design using Synergy horn (patent pending) design. The Synergy Horn, designed by Tom Danley and licensed by Danley Sound Labs, successfully couples the radiation from multiple drivers into a single horn. This delivers the highly effective performance of a single horn/driver system with high sensitivity (efficient power transfer), excellent directivity control and the ideal basis for a truly modular line array enclosure.

This coaxial Synergy Horn arrangement nests a Paraline high frequency horn driver inside a larger mid frequency horn, essentially utilizing the entire front area of the enclosure as the horn mouth for both. This maximizes the horn size, improving directional control at lower frequencies (longer wavelengths) while maintaining reasonable overall enclosure size.



ELEVATION SERIES

ELS212

Features:

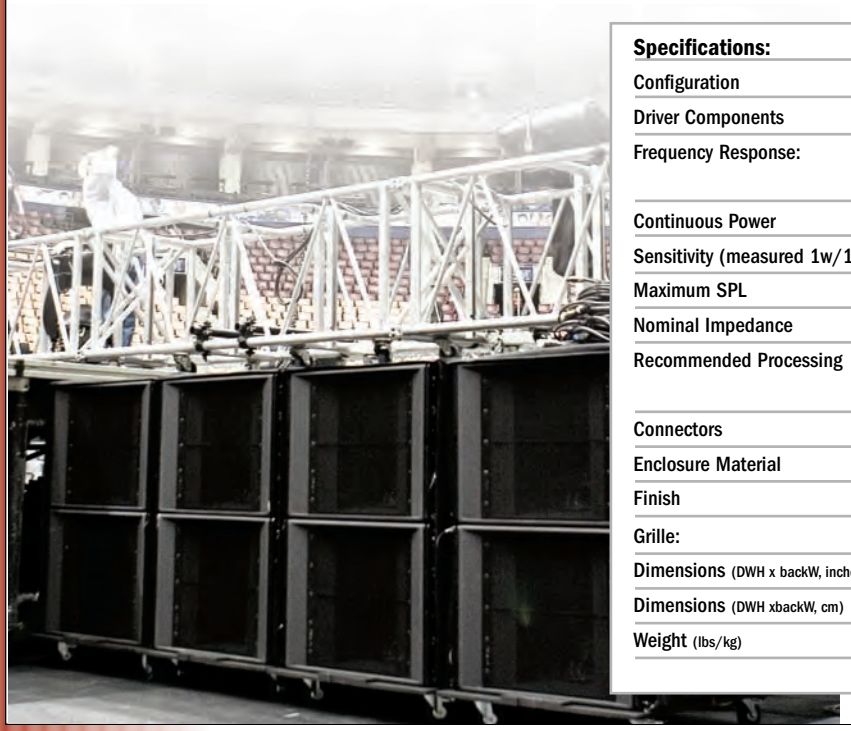
- Tapped Horn Subwoofer design (patent pending)
- Available in Touring and Fixed Installation Versions
- Excellent for All Throw Distances
- Low distortion w/ exceptionally high SPL
- Unparalleled Clarity, Definition & Punch
- Advanced DLMS4080 Digital Loudspeaker Management System
- Unequaled Price/Size/Flexibility/Performance Ratio
- 5/8-inch Baltic birch cabinet construction
- Designed and Manufactured for VTC Pro Audio in North America

Tapped Horn Subwoofer

The Elevation Series ELS212t (touring) and ELS212i (installation) Subwoofers are dual 12-inch, 4 ohm, 1600-watt subwoofers with long excursion neodymium woofers capable of achieving 134db SPL down to 40Hz at -3db.

The ELS212 Subwoofer uses an innovative new technology developed by Tom Danley called a Tapped Horn design (patent pending). The Tapped Horn maximizes driver efficiency by allowing radiation from the rear of the driver to enter the system at a tap, located further down the horn flare towards the mouth.

Built for long term reliability in even the most demanding touring application (ELS212t) or fixed installation (ELS212i), the Elevation Series Tapped Horn subwoofers use high quality proprietary 12-inch neodymium drivers by 18 Sound and are built in North America using a solid void-free marine grade Baltic birch plywood cabinet construction.



Specifications:

Configuration	Tapped Horn Passive Subwoofer
Driver Components	12-inch Long Excursion Neodymium Woofers (x2)
Frequency Response:	40Hz-200Hz (-3dB)
	35Hz-260Hz (-10dB)
Continuous Power	1600 watts Program
Sensitivity (measured 1w/1m)	103dB
Maximum SPL	134 dB
Nominal Impedance	4 Ohms
Recommended Processing	20Hz High pass @ 24dB/Octave Linkwitz – Reilly
	90Hz to 100Hz Low pass @ 24dB/Octave Linkwitz – Reilly
Connectors	Neutrik Speakon® NL4MPR in parallel (x2)
Enclosure Material	5/8-inch 11-ply Baltic birch
Finish	Black Ultrathane paint
Grille:	Perforated formed powder coated steel
Dimensions (DWH x backW, inches)	33 x 28.4 x 22.5
Dimensions (DWH xbackW, cm)	83.8 x 72.1 x 57.2
Weight (lbs/kg)	169.5 / 77

Specifications subject to change without notice.

Tapped Horn Subwoofer Design

Horns have been used for decades in sound reinforcement to increase the loading on the loudspeaker driver. This is done to increase the power transfer from the driver to the environment in which the sound is radiated. For maximum power transfer to occur an impedance match between the loudspeaker driver and the free air in which it is operating must be established. A horn is the means to this impedance match. For a horn to operate properly it must not be acoustically small compared the frequencies (wavelengths) it is to radiate.

Conventional horn design is based on this assumption. To meet this requirement the horn needs to be at least one-half wavelength long at the low frequency cut-off of the horn and the circumference of the mouth must be at least one wavelength. When used for low frequency (long wavelength) reproduction this can make for a very large unwieldy horn that can becomes impractical to build or to move in real world applications.

A common practice used in conventional subwoofer design is to reduce horn size to only one-quarter of a wavelength long at the low frequency cut-off. This “short cut” has some very interesting and not entirely desirable effects on a horn’s performance. The net result is that, while there is output from a “short cut” subwoofer horn design in its low frequency range, the horn will not yield efficient power transfer until it begins to reproduce higher frequencies closer to one-half wavelength long relative to the horn dimensions.

In order for a quarter wavelength horn design to be driven efficiently, it is imperative that we understand the conditions presented to the driver at the horn’s throat and match these conditions for maximum power transfer.

A quarter wavelength resonance will have a velocity minimum at the throat compared to the half wavelength resonance that will have a velocity maximum at the throat. The velocity minimum condition requires that the proper loudspeaker driver have a much stronger motor (larger magnet) and a larger moving mass than conventional horn theory dictates. The downside is that this driver is not at all well suited to drive a conventional horn, and once the frequencies present in the audio program increase to the point that the horn is at least one-half wavelength a conventional horn is exactly what we have. Any efficiencies gained in the extremely low end with a heavier driver is quickly lost as frequency rises.

Since it is obvious that no loudspeaker driver that can change physical size, weight and mechanical parameters depending on frequency, the solution is to reinvent the horn, not the driver.

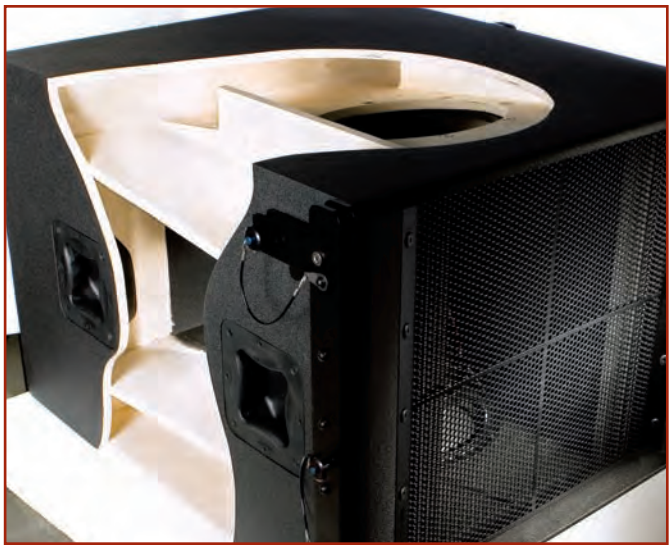
Enter the Tapped Horn Subwoofer Technology

The Elevation Series Tapped Horn Subwoofer (patent pending) allows the radiation from the rear side of the driver to enter the horn at a location (tap) sufficiently far away from the throat (where the front side is driving the horn) and closer to the mouth.

Since the rear of the driver is much closer to the mouth of the horn, at very low frequencies it is effectively de-coupled from the system and its radiation does not affect the total output. As frequency increases the situation changes and the rear of the driver begins to be coupled to the horn.

When the frequency is such that the horn is one-half wavelength long the rear of the driver is fully coupled to the horn. The pressure from the front and rear of the driver are of reverse polarity; a 180° phase shift at all frequencies. The pressure from the front of the driver (at the throat) and the pressure from the rear of the driver (close to the mouth) are now approximately one-half wavelength apart. This represents a phase shift of 180°. At this frequency both the front and rear of the driver are driving the horn in phase. When this happens the driver’s radiating surface area (Sd), as far is the horn is concerned, had significantly increased (almost doubled). Since the driver radiates from the front and back of the diaphragm, this yields very different driver parameters than when at the one-quarter wavelength resonance condition.

In real world applications where the measured SPL is comparable for a conventional vented horn and a tapped horn design, the diaphragm excursion of the driver is greatly reduced due to the acoustical loading of the horn. This decrease in excursion will translate directly into lower distortion and far higher output capability from the Tapped Horn.



ELEVATION SERIES

ELB8 Flying / Stacking Bumper

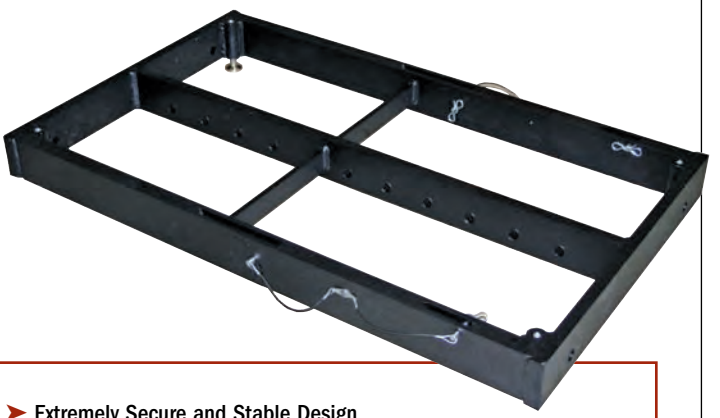
The ELB8 bumper can handle up to 12 EL210t cabinets in a flown straight vertical array. Elevation Series ELS212t subwoofers can be flown in the same vertical array with the EL210t full range enclosures for fully flown touring systems and arrays flown from portable lifts. The versatile ELB8 bumper can be used to build secure, level vertical ground stacks.

Features:

- Small Format Flying Grid Custom Designed for Elevation Series Cabinets
- Supports Arrays up to 681kg (1500lbs)
- Ideal Solution for Flying Compact Arrays with Portable Lifts & Telescoping Towers
- Excellent Platform for Ground Stacking EL210t Cabinets
- Extremely Secure and Stable Design
- Ideal for Quick Setup & Teardown
- Ground Stack Leveling Feet Included

ELB16 Flying / Stacking Bumper

The ELB16 bumper can handle up to 18 EL210t boxes in a flown straight vertical array. Elevation Series ELS212t subwoofers can be flown in the same vertical array with the EL210t full range enclosures for convenient fully flown touring systems. The versatile ELB16 bumper is also the ideal platform for building secure, level vertical ground stacks for venues where a flown array is not the most cost effective system solution.



Features:

- Heavy Duty Flying Grid Custom Designed for Elevation Series Cabinets and Subwoofers
- Supports Arrays up to 729kg (1675 lbs)
- Excellent Platform for Ground Stacking Arrays
- Extremely Secure and Stable Design
- Ideal for Quick Setup & Teardown
- Ground Stack Leveling Feet Included

Specifications:	ELB8	ELB16
Capacity (lbs/kg) 5:1 ratio	1500lbs / 681kg (*equivalent to 12 EL210t cabinets*)	1675 / 729 (*equivalent to 18 EL210t cabinets in straight vertical array*)
Materials	Steel Tube Construction	Aluminum Alloy 5083-H321 6061-T6 or Equivalent
Finish	Black Powder coat	Black Powder coat
Included Accessories	4 x stainless steel leveling Feet	4 x stainless steel leveling Feet
	4 x Jergens stainless steel pins with lanyards	4 x Jergens stainless steel pins with lanyards
	4 bowtie cotter pins	4 bowtie cotter pins
Dimensions (in)	29 x 31.5 x 4	51.70 x 28.92 x 4
Dimensions (cm)	73.66 x 80 x 10.2	131.3 x 73.5 x 10.2
Weight (lbs/kg)	72 / 32.6	105 / 47.3

Specifications subject to change without notice.

VTC CMS Rackmount Cable Management Systems

The VTC CMS442i/o and CMS440i/o are the most effective solutions to handle the physical inputs and outputs of a DLMS4080 processor and configured power amplifier rack. XLR inputs as well as Speakon™ outputs are all mounted on the front panels for quick disconnect from the rig, while all processor inputs and power amplifier outputs are connected to the rear of the CMS chassis, safely inside the rack and pre-wired for the specific cabinet array.

In a complex touring application where quick setup and tear down is important to the bottom line, the VTC Cable Management Systems are essential for expediting the load in and load out. All bi-amplified cabinet amplifiers and bridged power amplifiers can be configured carefully and expertly in their racks before being sent to the gig. Tying in speaker arrays is as simple as connecting a 4-pole Speakon™ to every bi-amplified cabinet or in the case of the CMS442i/o, a 2-pole Speakon™ to each subwoofer from the clearly marked front panel.

The VTC CMS Cable Management Systems also minimize the possibility of wiring and amplifier configuration errors in the field and allows less experienced techs to tie in speaker arrays without close supervision. XLR Thru-puts allow quick scaling of large systems when additional racks & cabinet arrays are required.

Features:

- The most effective way to handle the physical inputs and outputs of a processor and power amplifier rack
- Speeds up setup and teardown in complex touring systems
- Available in two iterations, CMS442i/o with full-range and subwoofer outputs for Front-of-House arrays, or CMS440i/o configured for side-fill, center fill and monitor systems.
- XLR inputs as well as Speakon™ outputs are mounted on the front panel for quick connect
- All processor inputs and power amplifier outputs are connected to the rear and housed safely inside the rack
- Tying in to speaker arrays is as simple as connecting a Speakon™ cable to enclosures
- Minimizes the possibility of configuration errors in the field

CMS442i/o 4-input / 4 + 2 output Cable Management System

Designed for Elevation Series Line Arrays, the VTC CMS442i/o handles the physical inputs and outputs of a DLMS4080 processor and power amplifiers for a typical 8 x EL210 / 4 x ELS212 system. All inputs and outputs are mounted on the front panel for quick disconnect from the rig, while all processor inputs and power amplifier outputs are connected to the rear of the VTC CMS442i/o chassis inside the rack and pre-wired for the specific array.

CMS440i/o 4-input / 4-output Cable Management System

The VTC CMS440i/o handles the physical inputs and outputs of a DLMS4080 processor and power amplifier rack configured for Inception Series C4 cabinets. All inputs and outputs are mounted on the front panel for quick disconnect from the rig, while all processor inputs and power amplifier outputs are connected to the rear of the VTC CMS440i/o chassis inside the rack and pre-wired for even the most complex bi-amplified monitor, sidefill and centerfill clusters.

INCEPTION C4

Features:

- 1080 Watts Continuous Power Handling
- Coherent Wavefront Single Source Design
- Versatile Cabinet Design Allows the C4 to work as a Wedge Monitor, Side-Fill, Front-of-House or Center-fill Applications
- Full 60° x 60° Coverage from 2.5-inch Titanium Diaphragm Horn
- Passive/Active Switch for Single Amp Channel or True Bi-amped Cabinet Operation
- 5/8-inch (15mm) 11-ply Russian Birch Plywood Cabinet Construction
- Two All-metal Speaker Stand Adaptors
- Heavy Gauge Perforated All-Metal Grille
- Integrated Handles
- Rugged Nylon Glides

15-inch Co-ax Monitor / Side-fill Loudspeaker Enclosure

The VTC Inception Series C4 15-inch coax loudspeaker enclosure is one of the most versatile multi-purpose cabinets in the VTC line. Capable of delivering 1080 watts (continuous power) in an extremely compact and versatile cabinet, the Inception Series C4 will function as a low profile wedge monitor, as a compact front-of-house cabinet or as an ideal side fill / front fill loudspeaker.

The Neodymium magnet coaxial driver delivers 180 watts of high frequency program with full 60° x 60° degree coverage from the 2.5-inch titanium diaphragm horn assembly. The 15-inch Neodymium woofer component delivers an additional 900 watts of low frequency support.

An Active / Passive Bypass Switch on the input panel allows the VTC C4 enclosure to run as a full range cabinet with its internal passive crossover network, making it ideal for repeater and side fill applications where quick plug and play connection to a single amp channel is required. In Active mode, the internal crossover is bypassed allowing efficient bi-amp operation of the C4 for critical monitoring and sound reinforcement applications.

Two integrated 1 3/8-inch (3.5cm) pole mount adaptors allow the C4 to be oriented as required on standard heavy-duty speaker stands for side and center-fill applications where maximum SPL and coverage is required from a compact cabinet source.

Built for touring applications, the 45lb (20.5kg) VTC C4 uses a solid 5/8-inch (15mm) 11-ply Russian Birch plywood cabinet construction; integrated handles and a heavy-gauge perforated all metal grille to protect the speaker components.

Specifications:

Driver Components:	(HF) 180 watt, 8 Ohm driver w/ 2.5-inch voice coil, Titanium Diaphragm w/ 1.4-inch exit - Neodymium magnet assembly (LF) 900 watt, 8 Ohm 15-inch woofer w/ 3.5-inch voice coil- Neodymium magnet assembly
Continuous Power	HF: 180 watts LF: 900 watts
Nominal Impedance	HF: 8 ohms LF: 8 ohms
Frequency Response	60Hz - 20 KHz (with recommended processing)
Sensitivity (measured 1W1M)	HF: 110dB LF: 98dB
Calculated Max Output (average)	HF: 132dB LF: 127dB
Nominal Coverage	Horizontal: 60 Degrees Vertical: 60 Degrees
Weight (lbs / kg)	45 / 20.5

Specifications subject to change without notice.

INCEPTION N4

Features:

- 1420 Watt 15 / 2-inch Cabinet Configuration
- 60 Degree Trapezoidal Enclosure
- Passive/Active Switch for Single Amp Channel or True Bi-amped Cabinet Operation
- 5/8-inch (15mm) 11-ply Russian Birch Plywood Cabinet Construction
- 20 Integrated Flypoints
- Innovative Installation Hardware Available for Single Cabinet, Dual Cabinet or Cluster Hangs
- All-metal Speaker Stand Adaptor
- Heavy Gauge Perforated All-Metal Grille
- Integrated Handles
- Rugged Nylon Glides

15 / 2-inch Trapezoidal Loudspeaker Enclosure

The VTC Inception Series N4 15 / 2-inch loudspeaker enclosure delivers 1420 watts (continuous power) in an extremely versatile trapezoidal cabinet design. The Inception Series N4 is the ideal high power point source full range cabinet for front-of-house, installation or sidefill applications.

An Active / Passive Bypass Switch on the input panel allows the VTC N4 to operate as a full range cabinet with its internal passive crossover network, making it ideal for repeater and side fill applications where quick plug and play connection to a single amp channel is required. In Active mode, the internal crossover is bypassed allowing efficient bi-amp operation of the N4 for critical monitoring and sound reinforcement applications.

An integrated 1 3/8-inch (3.5cm) pole mount adaptor allows the N4 to be used on standard heavy-duty speaker stands for side and center-fill applications where maximum SPL and coverage is required from a compact cabinet source.

Built for touring applications, the 80lb (36.4kg) VTC N4 uses a solid 5/8-inch (15mm) 11-ply Russian Birch plywood cabinet construction; integrated handles and a heavy-gauge perforated all metal grille to protect the speaker components.

Specifications:

Driver Components:	(HF) 8 Ohm driver w/ 3-inch voice coil, Titanium Diaphragm w/ 1.4-inch exit - Neodymium magnet assembly (LF) 8 Ohm 15-inch woofer w/ 4-inch voice coil- Neodymium magnet assembly
Power	HF: 110 watts nominal / 220 watts continuous LF: 600 watts nominal / 1200 watts continuous
Nominal Impedance	HF: 8 ohms LF: 8 ohms

Frequency Response	50Hz - 20 KHz (with recommended processing)
Sensitivity (measured 1W1M)	HF: 110dB LF: 98dB
Calculated Max Output (average)	HF: 133dB LF: 129dB
Nominal Coverage	Horizontal: 60 Degrees Vertical: 50 Degrees
Weight (lbs / kg)	80 / 36.4

Specifications subject to change without notice.

V-Series Power Amplifiers

Designed specifically to meet the demands of heavy-duty live sound reinforcement touring systems and large-scale installations, VTC ProAudio V-Series amplifiers use a proven Class-H topology to deliver reliable, high headroom output power. Engineered for VTC ProAudio by Yorkville Sound and manufactured at their Canadian factory, V-Series amplifiers are the culmination of Yorkville's forty-plus years of professional audio design expertise and manufacturing experience.

Engineered with a low noise signal path and a high current, reduced stray magnetic field toroidal transformer to reduce potential hum and noise, the multi -tier power conversion design delivers superior transient response and low measured distortion - equal to the best of analog amplifier design.

An 'impedance aware' design deals with the realities of driving typical reactive speaker loads and addresses the associated problems such as thermal shutdown, inductive 'snap-back', and premature current limiting. V-Series amplifiers will easily drive reactive phase shifted loads while remaining fully protected against accidental short circuits.

An advanced protection scheme ensures the loudspeaker won't experience harmful DC offset voltages while protecting the amplifier from abnormal load, AC power brownout, and high temperature failures. A user-defeatable transparent peak limiter lowers distortion at high power operating conditions, and provides ample protection for the loudspeaker's components. A 'soft turn-on' circuit eliminates transient damage to connected loudspeaker systems and prevents nuisance circuit breaker-tripping during the amplifier's power up procedure.

The computer-optimized (Silentfan™) front-to- rear cooling system incorporates ultra-quiet, variable-speed internal fans ensuring that the output power transistors operate with ample thermal margin. For ease of maintenance the amplifiers are supplied with long-life, faceplate-mounted, user serviceable, air intake filters. Front panel Power, Protect, Activity and Clip LED's are bright and easy to see and all knobs are recessed for safe, easy transportation.

Features:

- Easily drives reactive phase shifted loads
- Advanced protection schemes including DC voltage load, thermal and breaker protection
- User-defeatable peak limiter that is transparent below clipping levels
- 'Soft turn-on' circuit eliminates damage to loudspeakers and prevents nuisance breaker-tripping
- Computer-optimized Silentfan™ front-to-rear cooling system
- Long-life, faceplate-mounted, user serviceable, air intake filters
- Front panel Power, Protect, Activity and Clip LED's
- Speakon™ outputs
- Balanced XLR & 1/4-inch TRS Balanced inputs & parallel thru-puts
- Sturdy all-steel construction

V42 Power Amplifier

Delivering 1200 watts per channel into 2-ohm loads, or 2400 watts bridged into a 4-ohm load, the VTC V42 is the ideal solution for powering the Elevation Series EL210 mid or high frequency components.

A proven Class-H amplifier topology, high current toroidal transformer, ample filter capacitance and advanced protection schemes ensure maximum fidelity, extremely high headroom and unmatched long-term reliability, in even the most demanding live sound or fixed installation application.

V44 Power Amplifier

Built using the same proven Class-H topology as the VTC V42, the VTC V44 delivers 1200 watts per channel into a 4-ohm load (2400 watts bridged into 8-ohms) - making it the ideal solution when maximum power is required in 8 or 4 ohm loads.

V64 Power Amplifier

Delivering 2000 continuous watts per channel (3625 watts burst) at 4 Ohms, the VTC V64 is the ideal solution for powering ELS212 subwoofers in touring systems or fixed installations. A massive high-current toroidal transformer and ample filter capacitance used along with the Class-H topology ensures maximum energy conversion to the loudspeaker. Manufactured using only high quality components the VTC V64 delivers high headroom and increased fidelity with extremely low noise, making it ideally suited for a wide variety of high-power applications.

Specifications:	V42	V44	V64
Amplifier Type	Class-H	Class-H	Class-H
Continuous Average Power @ 8 Ohms	475 Watts (x2) Both Channels Driven	750 Watts (x2) Both Channels Driven	1250 Watts (x2) Both Channels Driven
Continuous Average Power @ 4 Ohms	750 Watts (x2) Both Channels Driven	1200 Watts (x2) Both Channels Driven	2000 Watts (x2) Both Channels Driven
Continuous Average Power @ 2 Ohms	1200 Watts (x2) Both Channels Driven	-	-
Continuous Average Power Bridged	2400 Watts @ 4 Ohms	2400 Watts @ 8 Ohms	-
Burst Average Power @ 8 Ohms	625 Watts (x2) Both Channels Driven	1200 Watts (x2) Both Channels Driven	2000 Watts (x2) Both Channels Driven
Burst Average Power @ 4 Ohms	1200 Watts (x2) Both Channels Driven	2175 Watts (x2) Both Channels Driven	3625 Watts (x2) Both Channels Driven
Burst Average Power @ 2 Ohms	2175 Watts (x2) Both Channels Driven	-	-
Burst Average Power Bridged (Watts)	4350 Watts @ 4 Ohms	4350 Watts @ 8 Ohms	-
Frequency Response (+/- 1dB)	20-20,000 Hz	20-20,000 Hz	20-20,000 Hz
Hum and Noise (un-weighted / A-weighted)	-103 dB / -106 dB	-103 dB / -106 dB	-106dB / -109 dB
THD 1 kHz @ 4 Ohms	0.01%	0.01%	0.01%
THD - 20Hz-20kHz @ 4 Ohms	less than 0.1%	less than 0.1%	less than 0.1%
Slew Rate	25 V/uS	25 V/uS	50 V/uS
Slew Rate Bridged	50 V/uS	50 V/uS	-
Damping Factor (30 Hz - 400 Hz @ 8 Ohms)	600	600	600
Crosstalk (1kHz / 20Hz-20kHz)	-75 / -60 dB	-75 / -60 dB	-75 / -60 dB
Input Impedance (Balanced/Unbalanced)	20,000/10,000 Ohms	20,000/10,000 Ohms	20,000/10,000 Ohms
Input Sensitivity (Vrms) For Full Power Out	1.2V	1.7V	2.2Vrms
Max Voltage Gain	32 dB	32 dB	32 dB
CMRR @ 60Hz (min/typical)	48 / 56 dB	48 / 56 dB	48 / 56 dB
Protection	DC, Load, Thermal, Peak Limiter	DC, Load, Thermal, Peak Limiter	DC, Load, Thermal, Peak Limiter
High Pass Filter	40Hz, 12dB Octave	40Hz, 12dB Octave	40Hz, 12dB Octave
Inputs - XLR	2	2	2
Inputs - 1/4" Jacks	2	2	2
Speakon Outputs	2 (Channel 1, Channel2)	2 (Channel 1, Channel2)	2 (Channel 1, Channel2)
Power Consumption (typical/max)	1130/1800 Watts	1130/1800 Watts	1800/3000 Watts
Rack Spaces	2	2	3
Transformer Type	Toroidal	Toroidal	Toroidal
Dimensions (inches)	19 x 17.3 x 3.5 x 16.2	19 x 17.3 x 3.5 x 16.2	19 x 18.5 x 25 x 18.2
Dimensions (cm)	48.3 x 43.9 x 8.9 x 41	48.3 x 43.9 x 8.9 x 41	48.3 x 47 x 13.3 x 46.2
Weight (lbs / kg)	41 / 18.6	43 / 19.8	66.1 / 30

Specifications subject to change without notice.

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