2003

Step up to EV!

It's late afternoon, and a few men in fedoras are examining blueprints in the basement of an Indiana tire company. It's hot. It's dusty. The year is 1927, and these are the humble beginnings of Electro-Voice. While the history of EV may read like classic "rags-to-riches" pulp fiction, it is still a real tale of American success. Over the course of time, EV has grown into one of today's dominant, worldwide forces in the design and manufacturing of top-quality products for broadcast, studio recording, touring sound, permanently installed sound reinforcement and music playback systems. Recognized the world over as a leader in audio technology, EV is ubiquitous in performing arts centers, sports facilities, houses of worship, cinemas, live music and dance clubs, transportation centers and theatres.

EV's reputation for providing superior audio product and dedication to innovation continues today. EV, now a product brand of Telex Communications, Inc., shares technology with other Telex product brands: Dynacord, Klark-Teknik, Midas, RTS and TELEX.

1934 — EV invents the hum-bucking coil for microphones (still a standard almost 70 years later).

1940s — EV introduces noise cancellation to microphones; revolutionizes tank and aircraft communications.

1954 — EV introduces Variable-D® microphone technology, a means of eliminating the up-close bass boost of conventional, single-D directional microphones — for high vocal intelligibility under the typical varying conditions of use in churches and meeting rooms.

1963 — EV receives an award from the Academy of Motion Picture Arts and Sciences for the development of a shotgun microphone — the 642 Cardiline® — which significantly advances the quality of sound on film.

1974 — EV develops constant-directivity (CD) horns. For the first time, a loudspeaker maintains its rated coverage angles over a wide frequency range, for significantly more uniform sound quality and higher intelligibility throughout the audience.

1986—EV revolutionizes concert sound reinforcement by introducing Manifold Technology®. In each of four bandpasses covering the entire frequency range, the output of four loudspeakers is flawlessly combined – or "manifolded"– into a single horn or low-frequency enclosure. The result is – in a physical package a fraction of the size of conventional concert rigs – four times the acoustic output without the drastically uneven coverage of multiple acoustic sources "stacked" for more output.

1990s—EV invents RMD™ technology (Ring-Mode Decoupling), a revolutionary anodyne to sonic distortion and coloration. Speaker system resolution and clarity increases by minimizing fundamental resonant frequencies.

2000—EV invents VOB™ technology (Vocal-Optimized Bass), an innovative mechanical design that significantly reduces proximity effect, allowing for greater vocal intelligibility and instrumental clarity. EV also invents ClearScan™, a revolutionary innovation in wireless technologies that enables automatic, frequency agile selection of the best of ten UHF channels.

2001 - EV introduces RACE technology (Realtime Acoustic Cluster Editor), a synergetic concept of correlating digital crossover and filter design with realworld loudspeaker behavior. Results are predictability and precise control of magnitude, phase and directivity of complex loudspeaker arrays.

2002 - EV launches IRIS, Intelligent Remote & Integrated Supervision, a system combining remote amplifier control and supervision with digital signal processing built into the amplifiers. Complex RACE loudspeaker data is processed for perfect match of transducer parameters and their electrical driving force.

CONTENTS

Product feature symbols

Weather-resistant

Also available in white

Available with high-quality 70/100 volt transformer

Speaker can be flown. See product features and Hardware (pages 48 - 51)

Mounting hardware available or included. See product features and Hardware (pages 48 - 51)

Passive or biamped operation

Designed for multi-way active operation using EV® Dx38 digital controller (page 61)

Rotatable constant-directivity horn or identical horizontal/vertical directivity control (i.e. 65° x 65°)

Ring Mode Decoupling (RMD™) ensures high performance and vocal clarity at any SPL. See page 83.

Microphone polarities


Cardioid


Supercardioid


Hypercardioid


Omnidirectional

INDEX

CONTENTS

Gladiator®

Gladiator Series 15” Two-Way and 18” Subwoofer

RMD® Ring-Mode Decoupling

Key Features

- 3-way system design using one amplifier channel allows 2-way full-range + sub to run on one amp channel
- 131 dB Max SPL
- RoadWood™ Enclosures are rugged and lightweight
- Steel pole included
- Steel grilles

Gladiator 115 2-Way

- High output EV-15FR 15” woofer
- 60° x 40° controlled coverage
- DH2010 compression driver for extended HF and reliability
- High sensitivity, 99 dB
- 400 Watts continuous, 1,600 Watts peak power rating

G115

Gladiator 118 Sub

- EVS-185 18” woofer with high power 4-layer voice coil
- Extended low-end response to 32 Hz
- Built-in crossover for use as 3-way system
- 400 Watts continuous, 1,600 peak power rating
- Boosts LF output to 134 dB

G118

SPECIFICATIONS	G115 / G118[3]
Freq. Response (-3 dB)[2]:	46 Hz - 20 kHz/42 Hz - 160 Hz
Freq. Range (-10 dB)[2]:	35 Hz - 20 kHz/32 Hz - 600 Hz
Power Handling, Continuous[1]:	400 W
Power Handling, Peak[1]:	1,600 W
Dispersion:	60° x 40°/Omnidirectional
Sensitivity (SPL 1W/1m):	99 dB
Impedance (Nominal, Min.):	8 Ω/8 Ω, 6.5 Ω
Max Calculated SPL:	131 dB
Enclosure:	Roadwood™ Covered in Heavy Duty Black Carpet

SPECIFICATIONS	G115 / G118[3]
Connectors:	Speakon® NL4
Grille:	Powder-Coated Steel
G115 Dimensions (H x W x D):	29.9” x 17.3” x 22.0” (760mm x 438mm x 559mm)
G118 Dimensions (H x W x D):	29.9” x 20.0” x 23.3” (760mm x 508mm x 591mm)
Net Weight:	75.0 lbs. (34.1 kg)/80.0 lbs.. (36.3 kg)
Shipping Weight:	80.0 lbs.. (36.3 kg)/85.0 lbs.. (38.6 kg)

[1] EIA-RS426A
[2] Frequency response 1/2 space
[3] All specifications equal for both models, except where noted or split.

Force i®

Force i is much more than speakers and a power amp. It's a professional, live performance sound system with components that were designed to play together. Consider this: Most lower-priced sound systems depend on two-way speakers to carry the extra load of providing high, middle, and low-end frequencies. Force i does what pro concert systems do—delivers its bass through a dedicated subwoofer—without requiring a separate amp and crossover. The sound is incredible; with extended, thundering bass that no system without a sub can beat. The EV Eliminator i power amp features LPN processing that enhances the performance of the Force i speakers. And all Force i enclosures were designed with comfortable, ergonomic handles and a very cool appearance. The features of the individual Force i system components are impressive enough on their own. But imagine all these great features, all this innovative engineering and technology, coming together to make your music sound better than you imagined. That's what puts Force i ahead of any other sound "system" in its price range.

Like a compact touring system, Force i gives you concert-proven Electro-Voice technology that's used by bands playing stadiums and concert halls around the world:

- **EV's exclusive Ring-Mode Decoupling (RMD®) technology** ensures that Force i speakers deliver smooth vocals and pristine mids with perfect reproduction of overtones. You can't see RMD (it's part of each driver and enclosure) but you'll hear the sonic difference it makes with every note.
- **Pure EV components** — titanium compression drivers that have toured the world, Constant-Directivity horns that maintain their coverage, woofers with four-layer voice coils. Force i has solid-as-a-vault, precisely-tuned EV enclosures made of patented RoadWood™ that's lighter and stronger than what other systems in Force i's price range use.

Metal stand mounts built into all Force i speakers help you assemble an awesome-sounding system in a small footprint.

RMD® Ring-Mode Decoupling

FORCE i®

ELIMINATOR® i STEREO POWER AMPLIFIER

SPECIFICATIONS	Force® i Two-Way	Force® i Sub	Force® i Monitor
Frequency Response (-3 dB)	50 Hz–20 kHz	36–210 Hz	85 Hz–17 kHz
Power Handling			
Continuous	250 watts	350 watts	200 watts
Peak	1,000 watts	1,400 watts	800 watts
Max. Output Capability	130 dB	131 dB	128 dB
Dispersion	80° x 55°	Omnidirectional	55° x 80°
Sensitivity	100 dB	100 dB	99 dB
Impedance	8 Ω	8 Ω	8 Ω
Dimensions			
Inches	25.5 x 18.25 x 15.2	25.5 x 20.4 x 23.75	21.5 x 14.2 x 9.7
Millimeters	648 x 465 x 386	648 x 518 x 597	546 x 361 x 246
Net Weight	46 lbs. (20.9 kg)	69 lbs. (31.3 kg)	28 lbs. (12.7 kg)

SPECIFICATIONS	Eliminator® i
MAXIMUM BRIDGED OUTPUT	
8 Ω	1,200 watts
4 Ω	1,700 watts
CONTINUOUS RATED POWER	
Dual 4 Ω	600 watts per channel
Dual 2 Ω	850 watts per channel
Headroom	>30% in any mode
Distortion @ rated power	<0.03%
Weight	35.2 lbs. (16 kg)

Sx Series™

EV popularized the concept of lightweight high-performance speakers of compact size, using injection-molded structural-foam enclosures with rounded, user-friendly contours and featuring molded-in horns and attachment/rigging points. EV´s structural-foam enclosures produce minimal resonance. Sx systems (Sx300 and Sx500) have sensitivities as high as 100 dB/1W/1m (Sx300 limited pink noise) and the PI and PIX versions are especially designed for outdoor use. The horn´s unique Varipath™ throat geometry helps direct driver output to the corners of the room. The Array brackets – and especially the Unique Mounting Hardware – allows for a highly flexible and quick install. For a uniform array appearance Sx100, Sx300 and Sb121 have the same dimensions and attachment points. The Sx80 is made of injection-molded, high-impact polystyrene and is designed for the optional stand mount adapter, Sx80 SM, to be retrofitted. The structured black surface is paintable. The accessories SH Sx300 (Protection Cover) and F200 (Monitor Foot) fit the Sx100/300 and Sb121. All systems are protected by a perforated powder-coated metal grille. The front of the PI and PIX variants are covered by a powder-coated, full-face stainless steel grille backed with foam.

Sx80

Weather Resistant
White
Flying hardware
mounting hardware
dedicated for active X-over
RMD

PI version

- 2-Way Full-range
- Vented LF enclosure
- 1" voice coil (titanium diaphragm)
- PRO™ Driver protection
- HF-horn features Varipath™
- Trapezoidal
- Compact dimensions
- 7 x M6 and 4 x M5 inserts
- Available with Neutrik® Speakon® connector (Sx80BE), 1/4" connector (Sx80BP), weather-resistant (Sx80PI), weather-resistant with transformer (Sx80PIX), transformer only (Sx80TB), in white with transformer (Sx80TW), in white with Neutrik® Speakon® connector (Sx80WE), and in white with 2/4" connector (Sx80WP).

Sx100+E

White
Flying hardware
mounting hardware
90° Horn rotatable
RMD

- 2-Way Full-range
- Vented LF enclosure
- 1.3" voice coil (titanium diaphragm)
- PRO™ Driver protection circuit
- HF-horn features Varipath™
- Trapezoidal (25° per side)
- Physical characteristics of Sx300 but slightly lower sensitivity
- 4 x M8 x 1.25 attachment inserts
- Neutrik® Speakon® connectors

Sx300

Weather Resistant
White
Flying hardware
mounting hardware
90° Horn rotatable
RMD

- 2-Way Full-range
- High Sensitivity
- Ultra-linear frequency response
- Vented LF enclosure
- 1.3" voice coil (titanium diaphragm)
- PRO™ Driver protection circuit
- HF-horn features Varipath™
- Trapezoidal (25° per side)
- 4 x M8 x 1.25 attachment inserts
- Overview of variants see right spread sheet
- Available with Neutrik® Speakon® connector (Sx300E), weather-resistant (Sx300PI), weather-resistant with transformer (Sx300PIX), in white with Neutrik® Speakon® connector (Sx300WE).

Sx250

Flying hardware
mounting hardware
90° Horn rotatable
RMD

- 2-Way Full-range
- Extended bass response
- 15" DL-Woofer
- 1.3" titanium diaphragm
- 80° x 55° horn pattern
- 18mm plywood enclosure
- Rugged Futura™ finish
- Five sided, multi-angle cabinet
- Built-in stand mount
- Suspendible using optional SK-1 kit

Sx500+

Flying hardware
Mounting Accessories
Ω/Ω Biampable
RMD

- 2-Way High-Output Full-range
- High sensitivity
- Short horn-loaded, vented LF enclosure
- Asymmetric CD-horn aimed downward by 10°
- 2" voice coil (titanium diaphragm)
- PRO™ Driver protection circuit
- HF-horn features Varipath™
- Multi angled array housing
- 8 x M8 x 1.25 attachment points

Sx500+PI

Weather Resistant
Flying hardware
Mounting Accessories
Ω/Ω Biampable
RMD

- Performs like Sx500 + yet weather proofed version for outdoor applications
- Weather-resistant woofer (DL15SxW)
- Polyester mesh water shield
- Comes with foam part plugs for increased water resistance

Sb121

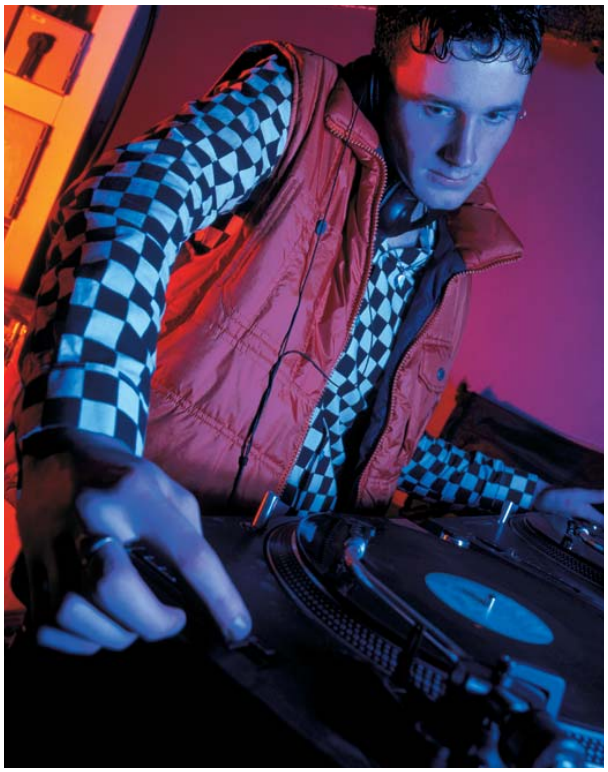
Flying hardware
mounting hardware
dedicated for active X-over
RMD™

- Subwoofer
- Direct radiating vented design
- Trapezoidal (25° per side)
- Recommended low-pass between 100 Hz - 200 Hz (12dB/Oct.)
- 4 x M8 x 1.25 attachment points

Sb180

dedicated for active X-over

- 18" subwoofer
- EVX-180B woofer: same as X-Array™, with 4" voice coil and 2" peak excursion
- 31 Hz useable bass response
- Futura™ finish
- Stand mount (top)
- 34" pole included



Feature overview for Sx-Series™

	Flying hardware	mounting hardware	White	70/100 V	90° Horn rotatable	Weather Resistant	Biampable	RMD™	input connectors	accessories
Sx80B/W	X	X	X					X	push-pins	Sx80 SM/UMH
Sx80BE	X	X						X	Speakon®	Sx80 SM
Sx80TB/TW	X	X	X	1.9/3.8/7.5/ 15/30/60 W				X	covered barrier strip	Sx80 SM
Sx80PI	X	X				X		X	covered barrier strip	Sx80 SM
Sx80PIX	X	X		1.9/3.8/7.5/ 15/30/60 W		X		X	covered barrier strip	Sx80 SM
Sx100+E/W	X	X	X		X			X	2 Speakon®	F200/SH Sx300
Sx300E/EW	X	X	X		X			X	2 Speakon®	F200/SH Sx300
Sx300PI	X	X			X	X		X	2 Speakon®	F200/SH Sx300
Sx300PIX	X	X		100/140/200W (100V taps)	X	X		X	2 Speakon® (100V taps via Pin arrangement)	F200/SH Sx300
Sx250	X	X			X			X		
Sx500+	X	X					X	X	Speakon®	
Sx500PI+	X	X				X	X	X	Speakon®	
Sb121	X	X						X	Speakon®	SH Sx300
Sb180									Speakon®	

SPECIFICATIONS

	Sx80	Sx100+	Sx300	Sx250	Sx500+	Sx600PI	Sb121	Sb180
Frequency Range (-10 dB)	51 Hz - 20 kHz	55 Hz - 20 kHz	55 Hz - 20 kHz	50 Hz - 20 kHz	43 Hz - 16 kHz	100 Hz - 18 kHz	43 - 500 Hz	31 - 250 Hz
Recommended High-Pass Frequency	51 Hz (12 dB/Oct.)	55 Hz (12 dB/Oct.)	55 Hz (12 dB/Oct.)	45 Hz (12 dB/Oct.)	43 Hz (12 dB/Oct.)	80 Hz	43 Hz (12 dB/Oct.)	31 Hz (12 dB/Oct.)
Axial Sensitivity SPL 1W/1m (Biamp mode)	92 dB	98 dB	100 dB	99 dB	100 dB (100/107 dB)	105 dB	95 dB	99 dB
Max. SPL / 1m (calc.); full space	121 dB (100V: 110 dB)	127 dB	131 dB (100V: 123 dB)	130 dB	132 dB	138 dB	126 dB	126 dB
Continuous Power Handling (low Z) (100V resp. Biamp)	175 W (60 W/100V)	200 W	300 W (200 W/100V)	350 W	400 W	600 W	300 W	600 W
Peak Power Handling (Peak), low Z	700 W	800 W	1,200 W	1,400 W	1,600 W	2,400 W	1,200 W	2,400 W
Coverage (nominal -6 dB) H° x V°	90° x 65° (CD Horn)	65° x 65° (CD Horn)	65° x 65° (CD Horn)	80° x 55° (CD Horn)	75° x 60° (Asym. CD Horn)	65° x 65°	essentially omni	essentially omni
Directivity Index (800 - 16.000 Hz)	9.2 dB (+2.3/-3.9 dB)	11.1 dB (+2.4/-4.1 dB)	11.1 dB (+2.4/-4.1 dB)	9.6 dB (+2.5/-3.5 dB)	11.6 dB (+3.0/-6.9 dB)	11.3 dB	—	—
LF Driver	8"	12"	12" (DL12Sx)	15" (DLH15BFH)	15" (DLX155X)	2 x 12"	12" (DL12Sx)	18"
HF Driver	1" (DH2005)	1" (DH2010A)	1" (DH2010A)	1.25" (DH2010A)	2" (DH2T)	1"	—	—
Crossover Frequencies (slope in Biamp mode)	2,200 Hz	1,500 Hz	1,500 Hz	1,600 Hz	1,600 Hz (24 dB/Oct.)	1,800 Hz	—	—
Nominal Impedance (nontransformer)	8 Ω	8 Ω	8 Ω	8 Ω	8 Ω	4 Ω	8 Ω	8 Ω
Minimum Impedance (nontransformer)	7.2 Ω	5.6 Ω	6.0 Ω	7.5 Ω	5.2 Ω	3.5 Ω	6.0 Ω	6.0 Ω
Input Connections	see above	see above	2 Neutrik® NL4	2 Neutrik® NL4	2 Neutrik® NL4	SJO cable/gland nut	2 Neutrik® NL4	2 Neutrik® NL4
Dimensions (H x W at front x D)	400 x 292 x 222 mm 15.75" x 11.5" x 8.75"	586 x 429 x 312 mm 23.1" x 17" x 12.3"	586 x 429 x 312 mm 23.1" x 17" x 12.3"	625 x 429 x 312 mm 24.6" x 17" x 12.3"	625 x 431 x 330 mm 33" x 26.5" x 17.63"	1163 x 429 x 312 mm 45.8" x 17" x 12.3"	586 x 429 x 312 mm 23.1" x 17" x 12.3"	603 x 576 x 807 mm 23.75" x 22.5" x 31.75"
Net Weight	18 lbs.. (8.2 kg [T/PIX: 9.3 kg])	32 lbs.. (14.5 kg)	39 lbs.. (17.7 kg [PIX: 21.7 kg])	40 lbs.. (18.2 kg)	69 lbs.. (31.3 kg)	80 lbs. (36.3 kg)	32.2 lbs.. (14.6 kg)	102 lbs.. (46.3 kg)

SxA Series

SxA100+

The most versatile 12" 2-way powered speaker

- Very compact, lightweight, and robust polypropylene enclosure
- Full-range 65 Hz – 20 kHz for front-of house or monitor (with F200 monitor adapter)
- Steel front-grille
- Biamped with 350 W + 80 W peak power for a very dynamic "musical" response
- Mixable microphone and line inputs
- Line output to connect additional powered speakers
- 2-band EQ for customized settings
- 65° x 65° CD horn from the famous Sx300 for an outstanding acoustic performance, highest intelligibility even in larger or more reverberant rooms.
- Fully compatible with Sx mounting hardware and accessories
- Pole-mount adapter
- SxA carry bag with room for cabling and accessories (optional)

SxA250

Compact 15" 2-way powered speaker

- 7-ply plywood enclosure with Futura™ cover, extremely scratch resistant
- 5-side enclosure with 45° monitor angle
- Full-range 55 Hz – 20 kHz, for front-of-house or monitor applications
- Elegant closed front grille with foam back
- Biamped with 350 W + 80 W peak power for a very dynamic "musical" response
- Mixable microphone and line inputs
- Line output to connect additional powered speakers
- 2-band EQ for customized settings
- EV DL15 woofer
- DH2010A 1.25" driver with 80° x 55° CD-Horn
- SK1 rigging kit can be retrofitted for handles for easy suspension
- Pole-mount adapter

SxA180

Powered subwoofer

- Compact direct-radiating 18-inch woofer with extended bass response
- Includes storage compartment with removable dolly board and casters to make transportation easy
- 650 W dynamic power amp delivers 126 dB maximum output capability
- Built-in crossover with variable frequency
- Separate line and high-pass outputs for filtering output to full-range systems and easy signal routing
- Includes 34-inch pole for elevating EV full-range speakers without separate stands
- Rugged plywood enclosure with Futura™ polyurethane finish

SbA750

Powered subwoofer

- 750 W amplifier power
- Compact ergonomic size for easy transportation
- 15" DL woofer
- Built-in stereo crossover with PowerMax12 filter
- LPN-filter for extended bass response
- Dynamic Limiter and full protection package
- Integrated pole mount
- Futura™ cover cabinet with four wheels

SPECIFICATIONS

	SxA100	SxA250	SxA180	SbA750
Frequency Response (-10 dB)	50 Hz - 20 kHz	55 Hz - 20 kHz	38 - 120 Hz	45 - 150 Hz
Rated Output Power				
long term	LF150 W/HF 50 W	LF150 W/HF 50 W	LF 650 W	750 W
10 ms. burst	LF350 W/HF 80 W	LF350 W/HF 80 W	LF 300 W	
Max. Sound Pressure Level	124 dB	126 dB	126 dB	128 dB
HF Coverage (nom.)	65° x 65°	80° x 55°	—	—
Components				
LF	12" woofer	DL15BFH	18" (450 mm)	DL15Y
HF	DH2010A	DH2010A	—	
Inputs	Microphone Input (XLR)	Microphone Input (XLR)		2 x XLR/jack combo input
	Line Level Input (XLR/1/4")	Line Level Input (XLR/1/4")	Line Level Input (XLR)	2 x XLR slave through
	XLR out (slave)	XLR out (slave)	XLR out	2 x XLR Mid/Hi out
Level Controls	Mic Level (-35 dBu to 0 dBu	Mic Level (-35 dBu to 0 dBu		—
	Master Level (- ∞ to 0 dB)	Master Level (- ∞ to 0dB)	- ∞ to +10 dB	—
2-Band EQ	LF: +/- 6 dB	LF: +/- 6 dB	—	—
	HF: +/- 4 dB	HF: +/- 4 dB	—	—
Power Requirement	110-130 VAC, 50-60 Hz	110-130 VAC, 50-60 Hz	110-130 VAC, 50-60 Hz	100 V, 120 V, 230 V, 240 V
	or 220-240 VAC, 50-60 Hz 600 W	or 220-240 VAC, 50-60 Hz 600 W	or 220-240 VAC, 50-60 Hz 700 W	
Dimensions (height x width x depth)	23.1" x 16.9" x 12.3"	24.6" x 17.9" x 13.1"	31.5" x 21" x 23.5"	23.7" x 16.9" x 26.2"
	586 x 429 x 312 mm	625 x 437 x 333 mm	800 x 533 x 596 mm	603 x 428 x 665 mm
				23.7" x 16.9" x 26.2" (w/wheels)
				(603 x 428 x 665 mm [w/wheels])
Weight (net)	43 lbs.. (19.5 kg)	49 lbs.. (22.2 kg)	88 lbs.. (44.5 kg)	94.7 lbs. (43 kg)

Eliminator i®

Back in the late 60s, the EV Eliminator started a revolution. In 1999, the new Eliminator **i** continued its success. Eliminator **ii** has a linear frequency response below 50 Hz and an overlapped second LF woofer with a cut off at 700 Hz to avoid acoustical interferences in the midrange.

Eliminator **i** is black carpet-covered, constructed of EV's RoadWood. The Eliminator **i** family, except Eliminator **ii**, have a 35 mm stand mount, Eliminator **i** Sub comes with a 45 cm steel pole and contains a combined electrical/acoustical low-pass filter designed for parallel combinations especially with the Eliminator **i**. A well-designed crossover with power-tracking protection provides great sound with fail-safe operation.

Eliminator i

90° Horn rotatable

KMD™

- Full-range loudspeaker
- Two-way, high-output, 350 watt stage system
- Features a 15-inch, low-frequency driver and constant-directivity high-frequency horn for clear, up-front sound that cuts through difficult acoustic environments
- Black carpeted enclosure presents minimal front cross section
- Easy to transport
- Rugged, tour-grade construction, heavy metal grille, and corner protection

Eliminator i Sub

90° Horn rotatable

KMD™

- Subwoofer
- Single 18-inch high-output woofer designed to complement Eliminator i and ii full-range cabinets
- Integral low-pass crossover filter, combined with unique acoustic design, allows parallel operation with full-range systems for tight, punchy bass

Eliminator ii

KMD™

- Dual full-range loudspeaker
- Two-way, high-output, 600 watt stage system
- Dual 15-inch drivers provide very smooth output at lower frequencies with low distortion
- Constant-directivity high-frequency horn
- Black carpeted enclosure presents minimal front cross section
- Easy to transport
- Rugged, tour-grade construction, heavy metal grille, and corner protection

Eliminator kW

KMD™

- High-output subwoofer
- Dual 18-inch high-excursion drivers
- Designed for mobile DJs and bands who demand high-output/SPL and extended base response
- Features oversized vent for greater output with less cone excursion
- Sealed pocket wheels and rear-mounted handles make transportation easy

SPECIFICATIONS

	Eliminator i	Eliminator i Sub	Eliminator ii	Eliminator kW
Frequency Range (-10 dB)	45 Hz - 20 kHz	38 - 100 Hz	45 - 20 kHz	35 - 160 Hz
Recommended High-Pass Frequency	40-50 Hz (18 dB/Oct.)	40-50 Hz (18 dB/Oct.)	40 Hz (18 dB/Oct.)	—
Axial Sensitivity SPL 1 W/1 m	99 dB	100 dB	100 dB	101 dB
Max. SPL /1 m (calc.); full space	99 dB	134 dB	100 dB	137 dB
Continuous Power Handling	350 W	400 W	600 W	1,000 W
Peak Power Handling (Peak)	1,400 W	800 - 1,000 W	2,400 W	4,000 W
Coverage (nominal -6 dB) H° x V°	60° x 40° (CD horn)	Essentially omni	60° x 40° (CD Horn)	Essentially omni
LF woofer (transducer)	15" (DL15BFH)	18" (DL18BFH)	2 x 15" (DL15BFH)	2 x 18" (DL18MT)
HF throat diameter (transducer)	1" (DH2010A)	1" (DH2010A)	—	—
Crossover Frequencies	1,600 Hz	—	700/1.600 Hz	160 Hz
Nominal Impedance	8 Ω	8 Ω	4 Ω	4 Ω
Minimum Impedance	5.3 Ω	5.1 Ω	3.3 Ω	—
Input Connections	Parallel 1/4" phone jacks	1/4" phone input 1/4" phone output to Elim. i	Parallel Neutrik® NL4	Parallel Neutrik® NL4
Dimensions (H x W x D)	30.25" x 16.9" x 24" 768 x 429 x 609 mm	33.8" x 17.25" x 24.13" 859 x 438 x 610 mm	45.8" x 16.9" x 24.0" 1,162 x 429 x 609 mm	45.7" x 22.5" x 23.7" 1160 x 572 x 602 mm
Net Weight	76 lbs.. (34.4 kg)	95 lbs.. (43.1 kg)	48.1 kg	145 lbs.. (65.8 kg)

QRx Series

QRx Series is designed from the bottom up as an ultralinear and highly flexible audio system controlled by P-Series controller amps which are based on the world-famous Precision Series™. QRx Series incorporates premium EV components, including the DH7 which uses the same 3" diaphragm as the famous ND-6 driver used in X-Array™. There are new special features which are well-founded. These include the ergonomical formed safe-grip handle which make handling much more comfortable and are much safer than standard handles. Precision™ Series controller amps are the first choice to power QRx Series. Other high quality amplifiers can be used to power QRx Series using an external controller such as the Dx38. QRx Series is the first choice for professional mobile applications or high-quality Pro Sound permanent installations.

QRx Series are black-painted 18-ply plywood with a black powder-coated metal grille backed with foam. All subs house a hidden pole-mount in the top handle. A threaded steel pole is available. All QRx tops and the QRx218S subwoofer are flyable using L-Track. The L-Track is on the top and the bottom of QRx 112/75 and QRx115/75. Two L-Tracks fit on the top of the QRx212/75 and also on the side of the QRx218S. The new asymmetric and fully rotatable CD horn allows the QRx to be flown horizontally, upside down or vertically. The operation mode (passive/biamp) of the tops is easily selected on the external input panel. The QRx112/75 and the QRx115/75 have a polemount and can also be used as floor monitors.

QRx112/75

Flying hardware

Ω/Ω Biampable

90° Horn rotatable

RMD™

Easy operation mode selection

- 2-Way High-Output Full-range
- High Sensitivity
- Ultra-linear frequency response
- Solid bass below to 50 Hz (-10 dB)
- Vented LF enclosure
- Asymmetric CD-horn aimed downward by 10°
- 3" voice coil (titanium diaphragm)
- Protection circuit for HF-driver
- Easy external operation mode selection
- 5-side multi-angled housing with monitor slant
- Comes with L-Track hardware and single-stud Ancra fitting

QRx212/75

Flying hardware

Ω/Ω Biampable

RMD™

- 2-Way Highest-Output Full-range
- High Sensitivity
- Ultra-linear frequency response
- Extended bass response below to 43 Hz (-10 dB)
- Vented LF enclosure
- Asymmetric CD-horn aimed downward by 10°
- 3" voice coil (titanium diaphragm)
- Protection circuit for HF-driver
- Easy external operation mode selection
- Trapezoidal (10° per side)
- Comes with L-Track hardware and single-stud Ancra fitting

QRx115/75

Flying hardware

Ω/Ω Biampable

90° Horn rotatable

RMD™

QRx as monitor

- 2-Way High-Output Full-range
- High Sensitivity
- Ultra-linear frequency response
- Solid bass below to 45 Hz (-10 dB)
- Vented LF enclosure
- Asymmetric CD-horn aimed downward by 10°
- 3" voice coil (titanium diaphragm)
- Protection circuit for HF-driver
- Easy external operation mode selection
- 5-side multi-angled housing with monitor slant
- Same front width as QRx118S for unique front appearance
- Comes with L-Track hardware and single-stud Ancra fitting

QRx118S

dedicated for active X-over

RMD™

- Subwoofer
- Direct radiating vented design
- High Sensitivity
- Solid bass below to 36 Hz (-10 dB)
- Rectangular
- Equipped with features shown below

QRx218S

dedicated for active X-over

RMD™

- Subwoofer
- Direct radiating vented design
- High Sensitivity
- Solid bass below to 35 Hz (-10 dB)
- Rectangular
- Also perfect in combination with large HP and MH horns
- Equipped with features shown below
- Optional rigging hardware available

QRx153

Flying hardware

RMD™

- Three-way, high-output, full-range loudspeaker
- Biamp only
- Solid bass to 42 Hz (-10 dB)
- Vented LF enclosure
- Asymmetric CD horn aimed downward by 10°
- 3" HF voice coil (titanium diaphragm)
- Protection circuit for HF driver
- Trapezoidal cabinet (15° per side) for tight-pack situations
- Comes with L-track hardware and single-stud Ancra fittings

P1202 controller amp configured with QRx modules

QRx subwoofer features

Rubber feet

Safe grip handle

The dedicated amps for QRx series are the Precision Series™ controller amplifiers. They guarantee maximum performance, ultralinear frequency response, and optimized operation safety on the strength of EV's dynamic limiter and VCP (voice coil protection).

SPECIFICATIONS	QRx112/75	QRx115/75	QRx153	QRx212/75	QRx118 S	QRx218S
Frequency Range (-10 dB)	52 Hz - 18 kHz	45 Hz - 15 kHz	42 Hz - 20 kHz	50 Hz - 15 kHz	38 - 250 Hz	35 - 250 Hz
Frequency Range (-3 dB) with controller amp	46 Hz - 18 kHz	48 Hz - 18 kHz	50 Hz - 161 Hz	43 Hz - 18 kHz	36 - 130 Hz	35 - 135 Hz
Recommended High-pass frequency	45 Hz (12 dB/Oct.)	45 Hz (12 dB/Oct.)	—	45 Hz (12 dB/Oct.)	36 Hz (12 dB/Oct.)	35 Hz (12 dB/Oct.)
Recommended controller module (P-Series amp)	M-112	M-115	M-153	M-212	M-118S	M-218S
Axial Sensitivity SPL 1W/1m (Biamp operation)	98 dB (100/112 dB)	98 dB (101/112 dB)	98/105 dB —	102 dB (102/112 dB)	95 dB —	102 dB —
Max. SPL / 1m (calc.); full space	131 dB	130 dB	130 dB	136 dB	133 dB	139 dB
Continuous Power Handling	300 W (300 W/75 W)	400 W (400 W/75 W)	400 W/150 W/150 W	600 W (600 W/75 W)	600 W	1,200 W
Peak Power Handling (Biamp)	1,200 W (1,200/300 W)	1,600 W (1,600/300 W)	1,600 W/600 W/600 W	2,400 W (2,400/300 W)	2,400 W	4,800 W
Coverage (nominal -6 dB) H° x V°	75° x 50° (asym. CD horn)	75° x 50° (asym. CD horn)	75° x 50° (asym. CD horn)	75° x 50° (asym. CD horn)	essentially omni	essentially omni
LF woofer (transducer)	12" (DL12BFH)	15" (DL15ST)	15" (DL15ST)	2 x 12" (DL12BFH)	18" (EVX-180B)	2 x 18" (DL18MT)
HF throat diameter (transducer)	3" (DH7)	3" (DH7)	8" MF8 MF/ 3" DH7 HF	3" (DH7)	---	---
Crossover Frequencies (slope in Biamp mode)	1,500 Hz (24 dB/Oct.)	1,500 Hz (24 dB/Oct.)	1,200 Hz	1,500 Hz (24 dB/Oct.)	100 Hz (24 dB/Oct.)	100 Hz (24 dB/Oct.)
Nominal Impedance (Biamp mode)	8 Ω (8 Ω/8 Ω)	8 Ω (8 Ω/8 Ω)	8 Ω/12 Ω/12 Ω	4 Ω (4 Ω/8 Ω)	8 Ω	4/8 Ω
Input Connections	2 Neutrik® NL4	2 Neutrik® NL4	2 Neutrik® NL4	2 Neutrik® NL4	2 Neutrik® NL4	2 Neutrik® NL4
Dimensions (H x W at front x D)	26.6" x 15.36" x 14.77" 675 x 390 x 372 mm	29.9" 17.72" x 16.02" 759 x 450 x 407 mm	41.5" x 18.4" x 19.12" 1,240 x 467 x 485 mm	38.98" x 15.47" x 14.77" 990 x 390 x 375 mm	29.9" x 17.74" x 26.63" 760 x 450 x 677 mm	40" x 22.05" x 23.6" 1,015 x 560 x 599
Net Weight (subs without wheel kit)	58 lbs.. (26.0 kg)	71 lbs.. (32.0 kg)	97 lbs.. (47 kg)	80 lbs.. (36.5 kg)	100 lbs.. (47.5 kg)	150 lbs.. (68 kg)

T-Series

T-Series is optimized for the best performance and price for the mobile audio market. It uses the finest EV components: DL woofers, HP horns and the DH2T 2" coil compression driver. All HF drivers are protected by the famous PRO™ circuit. T221M is made of 13-ply, T251+/T252+ are made of 7-ply. All cabinets are black-carpet covered except T221M which is black texture-painted. T251+/T252+ are trapezoidal 10° per side. T251+ features a stand mount. T-Series is protected by a black full-face perforated heavy-duty metal grille.

T18

- 18" LF system
- DL18MT 18" woofer adds more bass impact to other T-Series™ systems
- Unique SubScoop™ enclosure combines the low-frequency extension of a vented box with the punch and throw of horn loading
- Includes mounting socket and 30" steel pole for full-range satellite systems

T221

Ω/Ω Biampable

90° Horn rotatable

RMD™

- Two-way, 12", medium-throw, full-range system
- High-performance 12" woofer
- Integral stand-mount adapter accommodates the optional 100BK stand
- Biampable
- For T221M floor monitor version, see page 41

T251+

Ω/Ω Biampable

RMD™

- Two-way, 15" medium-throw, full-range system
- DL15RMD 15" woofer for great bass and a high degree of midrange clarity
- Integral stand-mount adapter fits the optional 100BK stand
- RMD™
- Biampable

T252+

Ω/Ω Biampable

90° Horn rotatable

RMD™

- Two-way, dual-15", medium-throw, full-range system
- Dual DL15RMD woofers combine for powerful bass output and high sensitivity
- Frequency shading (roll-off) of the lower woofer above 400 Hz keeps midrange output clean and free of interference lobes
- Biampable

MTL-1X

dedicated for active X-over

- Dual-18" low-frequency system
- Unique SubScoop™ enclosure combines the punch and directionality of a horn with the extended response of a vented box
- EVX-180B ultrahigh-performance 600-watt woofers for maximum output
- Optional HSMT-1 suspension kit

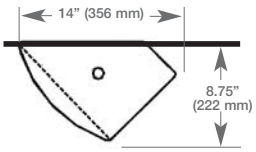
SPECIFICATIONS

	T18	T221	T251	T252+	MTL-1X
Frequency Range (-10 dB)	33 - 250 Hz	70 Hz - 16 kHz	45 Hz - 16 kHz	44 Hz - 16 kHz	38 - 160 Hz
Recommended High-Pass Frequency	33 Hz (12 dB/Oct.)	80 Hz (12 dB/Oct.)	45 Hz (12 dB/Oct.)	44 Hz (12 dB/Oct.)	38 Hz (12 dB/Oct.)
Axial Sensitivity SPL 1 W/1 m (Biamp operation)	99 dB	100 dB (100/112 dB)	98 dB (98/112 dB)	101 dB (101/112 dB)	101 dB
Max. SPL /1 m (calc.); full space	132 dB	133 dB	130 dB	136 dB	137 dB
Continuous Power Handling	400 W	400 W (400 W/60 W)	400 W (400 W/60 W)	800 W (800 W/60 W)	1,200 W
Peak Power Handling (Peak)	1,600 W	1,600 W	1,600 W	3,200 W	4,800 W
Coverage (nominal -6 dB) H° x V°	Omnidirectional	60° x 40° (CD Horn)	60° x 40° (CD Horn)	60° x 40° (CD Horn)	Omnidirectional
Directivity Index		9.5 dB (+2.0/-1.5 dB) 800 Hz - 16 kHz	12.6 dB (+9.4/-9.3 dB) 500 Hz - 16 kHz	12.6 dB (+9.4/-9.3 dB) 500 Hz - 16 kHz	
LF woofer (transducer)	18" (DL18MT)	12" (---)	15" (DL15ST)	2 x 15" (DL15ST)	2 x 18" (EVX-180B)
HF throat diameter (transducer)	—	1" (DH2T)	1" (DH2T)	1" (DH2T)	—
Crossover Frequencies (slope in Biamp mode)	250 Hz or below —	2,600 Hz (12 dB/Oct. LP, 18 dB/Oct. HP)	1,200 Hz (24 dB/Oct.)	1,200 Hz (24 dB/Oct.)	160 Hz or below —
Nominal Impedance (Biamp mode)	8 Ω	8 Ω (8 Ω/8 Ω)	8 Ω (8 Ω/8 Ω)	4 Ω (4 Ω/8 Ω)	4 Ω
Minimum Impedance (Biamp mode)	6.6 Ω	7 Ω (7 Ω/6.3 Ω)	6 Ω(6 Ω/6.3 Ω)	3.2 Ω (3.2 Ω/6 Ω)	3 Ω
Input Connections	1/4"	2 four-pin Speakon®	2 four-pin Speakon®	2 four-pin Speakon®	2 four-pin Speakon®
Dimensions (H x W at front x D) (in floor position)	32.8" x 24.8" x 24.5" 833 x 630 x 609 mm	28.1" x 16.4" x 18.9" 714 x 417 x 480 mm	32.2" x 19.2" x 23.6" 818 x 488 x 599 mm	49.0" x 19.2" x 23.6" 1,245 x 488 x 599 mm	45.8" x 22.5" x 29.9" 1,160 x 572 x 758 mm
Net Weight	109 lbs.. (49.4 kg)	55 lbs.. (22.3 kg)	78.1 lbs.. (35.5 kg)	114 lbs.. (52.0 kg)	165 lbs.. (75 kg)

FRi/FRi+ Series

FRi-2082

- Two-way, full-range
- Vented LF enclosure
- 1" voice coil (titanium diaphragm)
- Low profile slant design
- 45° angle allows underbalcony, on-wall and stage monitoring applications
- Comes with mounting bracket
- 2 x 3/8"-16 suspension points
- For FRi-28LPM floor monitor version, see page 40



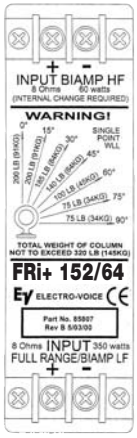
FRi-122/64/85 / FRi+122/64/66/94

FRi-122/64/85

- Two-way, full-range
- Vented LF enclosure
- 2" voice coil (titanium diaphragm)
- Trapezoidal (15° per side)
- Comes with 4 eyebolts
- 12 x 3/8"-16 suspension points
- 85 pattern horn **not** rotatable

FRi+122/64/66/94

- Two-way, full-range loudspeaker
- Switchable between full range and biamp
- Vented LF enclosure
- 3" voice coil (titanium diaphragm)
- Trapezoidal cabinet (15° per side)
- Comes with four eyebolts
- Twelve 3/8"-16 suspension points



Input panel for FRi+122/64 and FRi+152/64

FRi-152/64/85 / FRi+ 152/64/66/94

FRi-152/64/85

- Two-way, full-range
- Solid bass down to 42 Hz (-10 dB) allows pure full-range performance
- Vented LF enclosure
- 2" voice coil (titanium diaphragm)
- Trapezoidal (15° per side)
- Comes with 4 eyebolts
- 12 x 3/8"-16 suspension points
- 85 pattern horn **not** rotatable

FRi+152/64/66/94

- Two-way, full-range loudspeaker
- Solid bass to 42 Hz (-10 dB) allows pure full-range performance
- Switchable between full range and biamp
- Vented LF enclosure
- 3" voice coil (titanium diaphragm)
- Trapezoidal cabinet (15° per side)
- Comes with four eyebolts
- Twelve 3/8"-16 suspension points

FRi+181S

FRi+181S

- Subwoofer
- Vented slot load design
- Built-in low-pass filter (switchable for biamp operation)
- Trapezoidal (7.5° per side)
- Comes with 4 eyebolts
- 16 x 3/8"-16 suspension points

SPECIFICATIONS

	FRi-2082	FRi-122/64/85 / FRi+122/64/66/94	FRi-152/64/85 / FRi+152/64/66/94	FRi+181S
Frequency Range (-10 dB)	55 Hz - 20 kHz	50 Hz - 15 kHz	42 Hz - 15 kHz	36 - 160 Hz
Recommended High-Pass Frequency	50 Hz (12 dB/Oct.)	50 Hz (12 dB/Oct.)	40 Hz (12 dB/Oct.)	36 Hz (12 dB/Oct.)
Axial Sensitivity SPL 1W/1m (Biamp mode)	93 dB	97 dB (97/112 dB)	98 dB (98/112 dB)	97 dB
Max. SPL /1 m (calc.); full space	122 dB	128 dB	129.5 dB	129 dB
Continuous Power Handling (Biamp op.)	200 W	300 W (300 W/60 W)	350 W (350 W/60 W)	400 W
Peak Power Handling (Peak)	800 W	1,200 W	1,400 W	1,600 W
Coverage (nominal -6 dB) H° x V°	100° x 100° (CD Horn)	60° x 40°/80° x 50° (FRi) 60° x 40°/60° x 60°/90° x 40°(FRi+)	60° x 40°/80° x 50° (FRi) 60° x 40°/60° x 60°/90° x 40°(FRi+)	300° x 270°
LF woofer (transducer)	2 x 8" (---)	12" (DL12BFH)	15" (DL15BFH)	18" (DL18BFH)
HF throat diameter (transducer)	1" (compr. driver)	1" (DH2T)/3" (DH7) (FRi+)	1" (DH2T)/3" (DH7) (FRi+)	---
Crossover Frequencies	2,800 Hz	1,600 Hz	1,600 Hz	130 Hz
Nominal Impedance (Biamp)	8 Ω	8 Ω (8 Ω/8 Ω)	8 Ω (8 Ω/8 Ω)	8 Ω
Input Connections	Barrier strips	Dual barrier strips	Dual barrier strips	Dual barrier strips
Dimensions (H x W at front x D)	8.75" x 24.5" x 14" 222 x 620 x 356 mm	28" x 15.9" x 17.6" 711 x 401 x 445 mm	28" x 19" x 23.2" 711 x 483 x 589 mm	28" x 23.5" x 30" 711 x 597 x 762 mm
Net Weight	40 lbs.. (18.2 kg)	60 lbs.. (27.3 kg)	70 lbs.. (31.8 kg)	100 lbs.. (45.5 kg)

FRX+ Systems

FRX+ Series loudspeakers are designed for applications in critical reverberant spaces where excellent directivity control is desired. Typical small-sized speaker systems are not able to maintain their rated coverage angles below 2000 Hz. Their wide beamwidth in the low mid-band creates serious degradation of speech intelligibility and clarity of music.

FRX+PI cabinets are weatherized for use in outdoor areas or areas of high humidity/high moisture. This version features a layered stainless steel grille, water-resistant foam, treated woofer, aluminum and stainless exterior hardware, and gasket-sealed terminal cover with gland nut.

EV's FRX+ systems solve these problems, providing excellent wideband directivity control.

The all horn-loaded, coaxial design supplies sufficient radiation surface to enable narrow coverage angles down to 500 Hz with moderate cabinet sizes.

FRX+ 640/660/940 cabinets are texture-painted 7-ply plywood with powder-coated steel grille backed with foam. FRX-122 has a cloth-covered grille.

A contractor-installable transformer option is available.

FRX+640 (60° x 40°)

FRX+660 (60° x 60°)

FRX+940 (90° x 40°)

Flying hardware

Ω/Ω Biampable

90° Horn rotatable

RMD

- Two-way, high-output, full-range loudspeaker
- High sensitivity: 105 dB (passive); 109 HF/105 LF (biamp)
- Coaxial horn-loaded
- Vented LF horn enclosure
- 2" voice coil (titanium diaphragm)
- Trapezoidal cabinet (15° per side)
- L-Track hardware (top/bottom)
- Two single-stud Ancra® fittings included
- 3/8"-16 suspension point (rear)
- Same dimensions as FRX-181 for uniform array appearance
- PRO™ Driver protection circuit
- Time Path™ phasing plug
- Pattern control to 500 Hz
- Dx38 presets for excellent directivity control
- Available in weatherized version (FRX+640 PI, FRX+660 PI, FRX+940 PI)

FRX+181

Flying hardware

dedicated for active X-over

RMD

- Subwoofer
- Direct-radiating vented design
- Trapezoidal cabinet (15° per side)
- L-Track hardware (top/bottom)
- Two single-stud Ancra® fittings included
- 3/8"-16 suspension point (rear)
- Same dimensions as FRX+640/660/940 for uniform array appearance
- Solid response to 35 Hz (-10 dB)
- Max. crossover point of 800 Hz allows combinations with HP horns.
- Coverage angles are greater than 100° x 100° at 800 Hz

SPECIFICATIONS	FRX+640	FRX+660	FRX+940	FRX+181
Frequency range (-3 dB)	60 Hz - 15 kHz	60 Hz - 15 kHz	60 Hz - 15 kHz	37 Hz - 2.2 kHz
Recommended high-pass frequency	—	—	—	32 Hz (12 dB/Oct.)
Sensitivity (SPL 1 W/1 m) (biamped)	105 dB (109 Hz/105 LF)	105 dB (110 Hz/105 LF)	105 dB (110 Hz/105 LF)	100 dB
Max. SPL/1m (calc.)	134 dB	133 dB	133 dB	132 dB
Continuous power handling (biamped)	400 W (400 W/60 W)	400 W (400 W/60 W)	400 W (400 W/60 W)	400 W
Peak power handling	1,600 W	1,600 W	1,600 W	1,600 W
Coverage (H° x V°) (asym. CD Horn)	60° x 40°	60° x 60°	90° x 40°	omni
Directivity Index	14.1 dB (+1.9/-3.5 dB) 500 Hz–16 kHz	13.7 dB (+2.5/3.3 dB) 500 Hz–16 kHz	13.4 dB (+2.9/-3.2 dB) 500 Hz–16 kHz	3.8 dB 50 Hz–200 Hz
LF driver	15" (DL15XT)	15" (DL15XT)	15" (DL15XT)	18" (DL18MT)
HF driver	1" (DH2T)	1" (DH2T)	1" (DH2T)	—
Crossover frequencies (passive mode)	1,350 Hz	1,350 Hz	1,350 Hz	80 Hz (Linkwitz-Reilly)
Nominal impedance (biamped)	8 Ω (8 Ω/8 Ω)	8 Ω (8 Ω/8 Ω)	8 Ω (8 Ω/8 Ω)	8 Ω
Input connections	Dual barrier strips	Dual barrier strips	Dual barrier strips	Dual barrier strips
Dimensions (H x W at front x D)	31" x 28.3" 26" 787 x 719 x 660 mm	31" x 28.3" 26" 787 x 719 x 660 mm	31" x 28.3" 26" 787 x 719 x 660 mm	31" x 28.3" 26" 787 x 719 x 660 mm
Net weight	152 lbs.. (68.95 kg)	152 lbs.. (68.95 kg)	152 lbs.. (68.95 kg)	100 lbs.. (45.5 kg)

EVI Vari Intense®

EVI-28

- Two-way, full-range loudspeaker
- Vented LF enclosure
- 1.3" voice coil (titanium diaphragm)
- PRO™ Driver protection circuit
- Time Path™ phasing plug
- Multi-angled housing
- Stacked, frequency-shaded woofers maintain vertical coverage angle down to 500 Hz with 120° (typical 180°); ideal for reverberant rooms
- Five 3/8"-16 hanging points

EVI-12

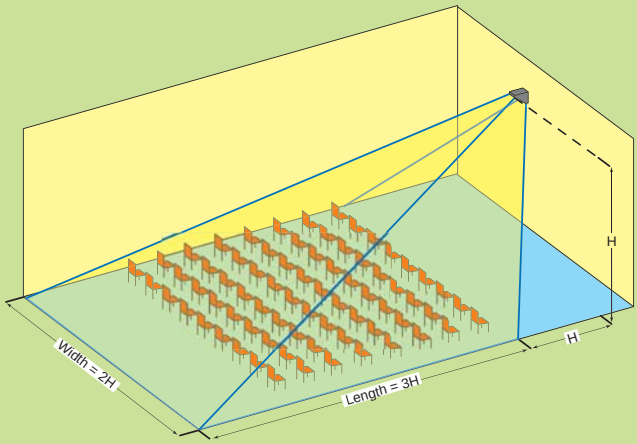
- Two-way, full-range loudspeaker
- High sensitivity
- Vented LF enclosure
- 1" voice coil (titanium diaphragm)
- PRO™ Driver protection circuit
- Time Path™ phasing plug
- Multi-angled housing
- Five 3/8"-16 hanging points

EVI-15

- Two-way, full-range loudspeaker
- High sensitivity
- Vented LF enclosure
- 1" voice coil (titanium diaphragm)
- PRO™ Driver protection circuit
- Time Path™ phasing plug
- Multi-angled housing
- Five 3/8"-16 hanging points

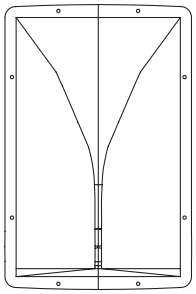
Electro-Voice®'s unique EVI Vari Intense® (VI) speakers are engineered to replace additional long-throw horns or delayed sources in many rooms. The EVI Vari Intense® series provides an economical solution for permanent installations that require coverage over a rectangular area. In a typical room, the distance from the loudspeaker to the last row is two or more times that to the front row, resulting in a substantial loss in level and intelligibility at the rear. The VI horn delivers 6 to 8 dB more SPL to the back of the room, overcoming the level loss without resorting to the expense and complexity of additional speaker systems or components. The problem is old; EV®'s solution is new. EVI is perfect for conference centers, houses of worship, halls, and other venues where evenly distributed SPL is essential. EVI systems are made of 18 mm 13-ply birch plywood (EVI 28: 12 mm 9-ply), texture-painted with a powder-coated metal grille.

A simple 3-2-1 rule-of-thumb applies for determining EVI coverage patterns: The pattern's width will equal twice the height of the room, and the pattern's length will equal three times the height. See the illustration below.



EVI Vari Intense® coverage pattern (3-2-1 Rule):

If speaker height = H, then coverage length = 3H, coverage width = 2H, and first row coverage = 1H



VI Horn

SPECIFICATIONS

	EVI-12	EVI-15	EVI-28
Frequency range (-10 dB)	45 Hz – 20 kHz	45 Hz – 20 kHz	62 Hz – 20 kHz
Recommended high-pass frequency	—	—	—
Sensitivity (SPL 1 W/1 m)	100 dB	100 dB	93 dB
Max. SPL/1 m (calc.)	130 dB	130 dB	123 dB
Continuous power handling	250 W	250 W	250 W
Peak power handling	1,000 W	1,000 W	1,000 W
Coverage (H° x V°)	60° x 65°	60° x 65°	65° x 65°
LF driver	12" (SG12)	15" (SG12)	2 x 8"
HF driver	1" (DH2010A)	1" (DH2010A)	1 x 1" (DH2010A)
Crossover frequency	2,000 Hz	2,000 Hz	2,000 Hz
Nominal impedance (minimum)	8 Ω	8 Ω	8 Ω
Input connections	screw terminal	screw terminal	screw terminal
Dimensions (H x W at front x D)	21.8" x 14" x 27.5" 554 x 356 x 699 mm	23" x 16.9" x 30.2" 584 x 429 x 766 mm	13.9" x 19.5" x 20.6" 353 x 496 x 523 mm
Net weight	48 lbs.. (21.8 kg)	53 lbs.. (24.0 kg)	36 lbs.. (16.3 kg)

Xi-Series™

Premium touring-quality sound. Install it anywhere.

Inspired by the most demanded features of EV's acclaimed X-Array™ touring systems, the Xi-Series™ incorporates a potent combination of very-high-output short-, medium- and long-throw "cells," in two- and three-way configurations, all with EV's unique RMD™ (Ring-Mode Decoupling). Dual L-track suspension hardware optimizes Xi for permanent installation and portable applications of small-to-medium size.

The Xi-Series™ three-way systems may be "tripole" or "dipole" configured to extend the vertical coverage-angle control to as low as 125 Hz—well below that permitted by the mid-bass horn alone (about 800 Hz) and unprecedented performance in a one-box system. Tripole configuration of the dual-woofer three-way systems provides the best directivity improvement, achieved by the vertically spaced low-frequency sources which flank the mid-bass horn operating alone at low frequencies and by appropriately overlapping the LF and MB sources in the mid bass, e.g., 125 to 540 Hz. The required signal processing is available in EV Dx38, EV RL Series amplifiers, and Klark Teknik DN9848 digital processors, which contain dual all-pass filters required for proper configuration.

The single-woofer three-way systems may be dipole configured. This is achieved by overlapping the woofer and mid-bass sources in the appropriate frequency ranges.

Xi-1082

mounting hardware

RMD™

- 2-Way Full-range
- Vented LF enclosure
- 1.3" voice coil (titanium diaphragm)
- Typical under-balcony slant also perfect for front-stage and near-field use
- 2 x 3/8"-16 mounting bracket inserts
- Optional mounting bracket

Xi-1122/85F

Flying hardware

dedicated for active X-over

RMD™

- 2-Way Full-range
- Vented LF enclosure
- 3" voice coil (titanium diaphragm)
- Integrated stand mount
- Trapezoidal (15° per side)

Xi-1123/106F

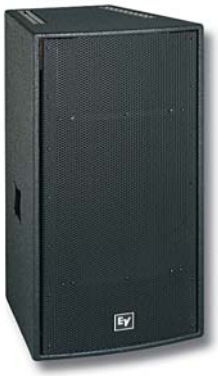
Flying hardware

Ω/Ω Biampable

dedicated for active X-over

90° Horn rotatable

RMD™



- 3-Way High-Output Full-range
- Vented slot load designed LF enclosure
- Horn-loaded MB/HF section fully rotatable
- 3" voice coil (titanium diaphragm)
- Bypassable MB/HF passive X-over
- Dipole mode brings vertical directivity control below to 250 Hz
- Excellent directivity 500 Hz – 16 kHz
- Trapezoidal (9° per side)

Xi-1152/64F (60° x 40°)

Xi-1152/94F (90° x 40°)

Flying hardware

dedicated for active X-over

90° Horn rotatable

RMD™

- 2-Way Full-range
- Solid bass below to 50 Hz (-3 dB)
- Vented LF enclosure
- 3" voice coil (titanium diaphragm)
- Integrated stand mount
- Trapezoidal (15° per side)

Xi-1183/64F

Flying hardware

dedicated for active X-over

90° Horn rotatable

RMD™

- 3-Way High-Output Full-range
- Vented slot load designed LF enclosure
- Coaxial horn-loaded MB/HF section fully rotatable
- 3" voice coil (titanium diaphragm)
- Dipole mode brings vertical directivity

  control below to 200 Hz (Xi-1153/64)
- Excellent directivity control
- Trapezoidal (9° per side)

For Xi-specs, see page 20

Xi-1191

Xi-1191F

dedicated for active X-over

RMD™

- Subwoofer
- Vented design
- Step-down tuning allows fundamental low-end below to 28 Hz (-3 dB)
- Superior linear excursion capability
- Accurate transient detail
- Trapezoidal (9° per side)
- Xi-1191F includes flying hardware
- Flying version **built to order**

Xi-2123/106F

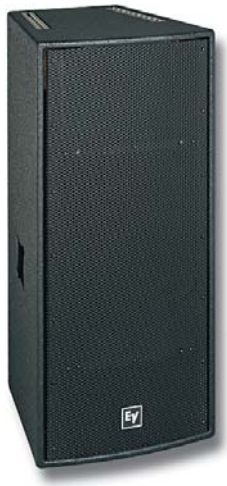
Flying hardware

Ω/Ω Biampable

dedicated for active X-over

90° Horn rotatable

RMD™



- 3-Way High-Output Full-range
- Vented slot load designed LF enclosure
- Horn-loaded MB/HF section fully rotatable
- 3" voice coil (titanium diaphragm)
- Bypass-able MB/HF passive X-over
- Tripole™ mode brings vertical directivity control below to 160 Hz
- Excellent directivity 160 Hz – 16 kHz
- Trapezoidal (9° per side)

Xi-2153/64F

Flying hardware

dedicated for active X-over

90° Horn rotatable

RMD™

- 3-Way High-Output Full-range
- Vented slot load designed LF enclosure
- Coaxial horn-loaded MB/HF section fully rotatable
- 3" voice coil (titanium diaphragm)
- Tripole™ mode brings vertical directivity control below to 150 Hz
- Excellent directivity control
- Trapezoidal (9° per side)

For Xi-specs, see page 20

Xi-2181 (non-flying)

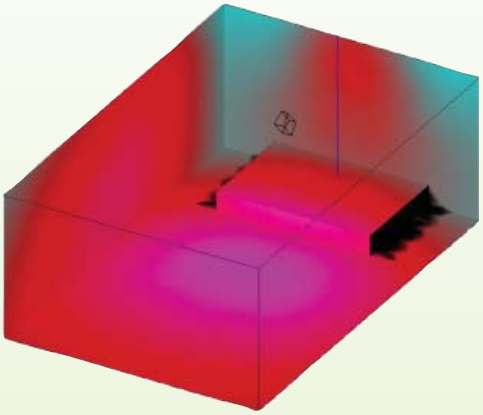
Xi-2181F (flying)

Flying hardware

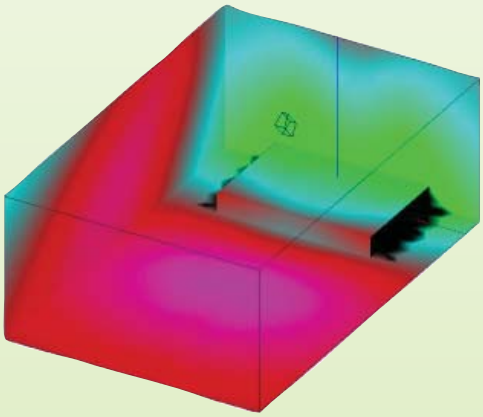
dedicated for active X-over

RMD™

- Subwoofer
- Manifolded, vented design
- Superior linear excursion capability
- Accurate transient detail
- Trapezoidal (9° per side)
- Flying version **built to order**



SPL radiation at 250 Hz without tripole configuration



SPL radiation at 250 Hz with tripole configuration

Xi-Series™ Specifications

SPECIFICATIONS	Xi-1082	Xi-1122/85F	Xi-1123/106F
Frequency Range (-3 dB)	50 Hz - 20 kHz	60 Hz - 16 kHz	80 Hz - 16 kHz
Recommended High-Pass Frequency	60 - 80 Hz (12 dB/Oct.)	Dx 38 preset	Dx 38 preset
Axial Sensitivity SPL 1W/1m	90 dB	99/110 dB	98/109/112 dB
Max. SPL /1m (calc.); full space	118 dB	130/135 dB	129/140/137 dB
Continuous Power Handling	175 W	300/75 W	300/300/75 W
Peak Power Handling (Peak)	700 W	1,200/300 W	1,200/1,200/300 W
Coverage (nominal -6 dB) H° x V°	90° x 40° (CD Horn)	80° x 55° (CD Horn)	100° x 60° (CD Horn)
Directivity Index	11.2 dB (+1.8/-2.7 dB) 2 - 20 kHz	10.9 dB (+1.2/-2.9 dB) 1.2 - 16 kHz	10.3 dB (+1.4/-1.2 dB) 500 Hz - 16 kHz
LF woofer (transducer)	8" (---)	12" (DL12ST)	12" (DL12ST)
MB woofer (transducer)	—	—	10" (DL10X)
HF throat diameter (transducer)	1" (DH3)	1.4" (DH7-16)	1.4 (DH7-16)
Crossover Frequencies	3,500 Hz (passive)	Dx 38 preset	Dx 38 preset
Nominal Impedance	8 Ω	8 Ω/16 Ω	12 Ω/16 Ω/16Ω
Minimum Impedance	5.8 Ω	8.5 Ω/13.4 Ω	8.7 Ω/9.6 Ω/12.4 Ω
Input Connections	barrier strip	Neutrik® NL4	Neutrik® NL8
Dimensions (H x W at front x D)	19.23" x 9.25" x 11.23" 235 x 488 x 285 mm	23" x 14.7" x 14" 584 x 375 x 356 mm	31.54" x 17.92" x 18.24" 801 x 456 x 473 mm
Net Weight	28 lbs. (13.3 kg)	69 lbs. (31.3 kg)	125 lbs. (56.8 kg)

SPECIFICATIONS	Xi-1152/64/94F	Xi-1183/64F	Xi-1191/Xi-1191F
Frequency Range (-3 dB)	50 Hz - 16 kHz	48 Hz - 16 kHz	37 - 160 Hz
Recommended High-Pass Frequency	Dx 38 preset	Dx 38 preset	Dx 38 preset
Axial Sensitivity SPL 1W/1m	98/113 dB; 98/112 dB	94/107/112 dB	94 dB
Max. SPL /1m (calc.); full space	132 dB	128/138/137 dB	128 dB
Continuous Power Handling	600/75 W	600/300/75 W	600 W
Peak Power Handling (Peak)	2,400/300 W	2,400/1,200/300 W	2,400 W
Coverage (nominal -6 dB) H° x V°	60° x 40° (CD Horn); 90° x 40°	60° x 40° (CD Horn)	essentially omni
Directivity Index	13.4 dB (+1.3/-2.3 dB) 1,200 - 16,000 Hz	13.3 dB (+1.4/-1.1dB) 800 - 16,000 Hz	2.7 dB (+1.0/-0.6dB) 63 - 100 Hz
LF woofer (transducer)	15" (EVX-155)	18" (EVX-180B)	18" (EVX-180B)
MB woofer (transducer)	—	12" (DL12ST)	—
HF throat diameter (transducer)	2" (DH7-16)	1.4" (DH7-16)	—
Crossover Frequencies	Dx 38 preset	Dx 38 preset	Dx 38 preset
Nominal Impedance	8 Ω/16 Ω	8 Ω/16 Ω/16Ω	8 Ω
Minimum Impedance	6.3 Ω/14.0 Ω	7.7 Ω/8.7 Ω/13.1 Ω	6.7 Ω
Input Connections	2 Neutrik® NL4	2 Neutrik® NL8	2 Neutrik® NL8
Dimensions (H x W at front x D)	29.88" x 17.73" x 16.28" 759 x 450 x 413 mm	36" x 23.07" x 29.88" 914 x 586 x 759 mm	36" x 23.07" x 29.88" 914 x 586 x 759 mm
Net Weight	90 lbs. (40.8 kg)	205 lbs. (93.0 kg)	150 lbs. (68.0 kg)

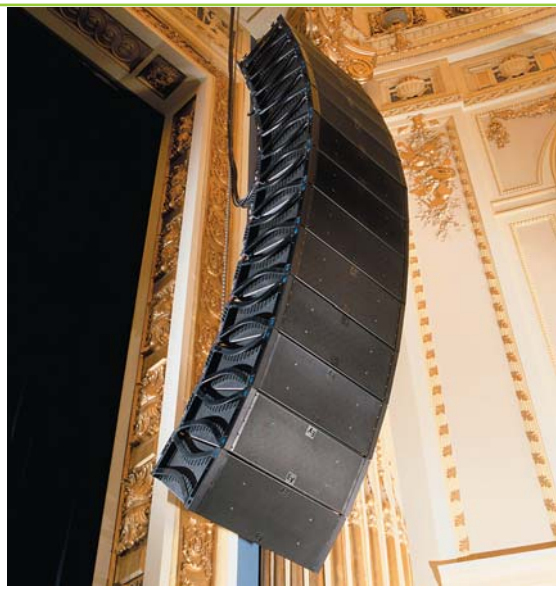
SPECIFICATIONS	XI-2123/106F	Xi-2153/64F	Xi-2181/Xi-2181F
Frequency Range (-3 dB)	80 Hz - 16 kHz	45 Hz - 16 kHz	37 - 200 Hz
Recommended High-Pass Frequency	Dx 38 preset	Dx 38 preset	Dx 38 preset
Axial Sensitivity SPL 1W/1m	101/109/112 dB	96/107/112 dB	99 dB
Max. SPL / 1m (calc.); full space	135/140/137 dB	133/138/137 dB	136 dB
Continuous Power Handling	600/300/75 W	1,200/300/75 W	1,200 W
Peak Power Handling (Peak)	2,400/1,200/300 W	4,800/1,200/300 W	4,800 W
Coverage (nominal -6 dB) H° x V°	100° x 60° (CD Horn)	60° x 40° (CD Horn)	essentially omni
Directivity Index	10.1 dB (+1.6/-3.5 dB) 800 Hz - 16 kHz	13.4 dB (+1.4/-1.2 dB) 63 - 100 Hz	3.4 dB (+1.4/-0.9dB) 63 - 200 Hz
LF woofer (transducer)	2 x 12" (DL12ST)	2 x 15" (EVX-155)	2 x 18" (EVX-180B)
MB woofer (transducer)	10" (DL10X)	12" (DL12ST)	—
HF throat diameter (transducer)	1.4 (DH7-16)	1.4" (ND6-16)	—
Crossover Frequencies	Dx 38 preset	Dx 38 preset	Dx 38 preset
Nominal Impedance	6 Ω/16 Ω/16 Ω	4 Ω/16 Ω/16 Ω	2 x 8 Ω
Minimum Impedance	4.7 Ω/10.3 Ω/12.6 Ω	3.8 Ω/8.9 Ω/13.1 Ω	2 x 6.0 Ω
Input Connections	2 Neutrik® NL8	2 Neutrik® NL8	2 Neutrik® NL8
Dimensions (H x W at front x D)	31.54" x 17.92" x 18.24" 1,007 x 456 x 463 mm	48.54" x 23.07" x 29.88" 1,233 x 586 x 759 mm	36" x 23.07" x 29.88" 914 x 586 x 759 mm
Net Weight	125 lbs. (68.0 kg)	250 lbs. (113.4 kg)	184 lbs. (83.5 kg)

The XLCi System

While big brother X-Line serves all the acoustical needs of the largest venues and arenas, EV's compact line array XLCi was designed to match the demands for easy setup and transportation combined with outstanding sonic results in a variety of venue sizes.

System features:

- Wide constant horizontal coverage pattern of 120°
- Bi-amped or tri-amped
- Concept ensures precise aiming
- Complimentary software aiming package



XLCi 127 / XLCi 127+

Install hardware shown

Main Cabinet

This cabinet is the main component of an XLCi line array. Starting with a minimum of four cabinets, a typical array size uses six to eight boxes. The three-way axis-asymmetric design includes a single EV DL-12 low-frequency/mid-bass woofer optimized for this cabinet. Two 6.5" horn-loaded drivers in a vertical array comprise the mid-frequency bandpass.

The XLCi 127+ utilizes two ND6 (3" voice-coil) neodymium compression drivers loaded on two Hydra™ plane wave generators. With a horizontal coverage of 120°, the XLCi system accurately covers wide areas while maintaining excellent imaging and lobe-free coverage. The XLCi 127+ is equipped with an internal crossover for mid-bass and high-frequency to allow for either biamp or triamp operation.

The 127 is identical to the XLCi 127+, except for the 2 DH2T (2" voice-coil) compression drivers loaded on two Hydra elements. The XLCi 127 utilizes also an internal x-over for biamp or triamp use, although it is mainly recommended for biamp operation. The XLCi 127 should not be combined with the XLCi 127+ in the same hang.

XLC i 118

Touring hardware shown

Subwoofer

The XLCi 118 is a direct radiating design using the legendary EVX180B 18-inch woofer. The XLCi 118 utilizes the same rigging and has 1.5 times the height of the XLCi 127 main cabinet. This allows a hang of XLCi 118s to be flown adjacent to the main hang at a 3:2 ratio, maintaining aesthetic requirements for equal hang heights. Flying subwoofers benefits in a more even front-to-back SPL distribution.

Technical Specifications for XLC Cabinets

SPECIFICATIONS	XLCi 127	XLCi 127+	XLCi 118
Horizontal Coverage	120°	120°	300°
LF Power Handling	300 W cont./1,200 W peak	300 W cont./1,200 W peak	600 W cont./2,400 W peak
MB Power Handling	200 W cont./800 W peak	200 W cont./800 W peak	—
HF Power Handling	120 W cont./480 W peak	150 W cont./600 W peak	—
Sensitivity (LF/MB/HF)	95 dB/101 dB/110 dB	95 dB/101 dB/110 dB	96 dB/102 dB*
Max. SPL (calc.)	126/130/137 dB	126/130/138 dB	130/136 dB*
LF Transducer	1 x 12" DL 12 ST	1 x 12" DL 12 ST	1 x 18" EVX180B
MB Transducer	2 x 6.5" DM 65	2 x 6.5" DM 65	—
HF Transducer	2 x DH2T -16	2 x ND6-16	—
Connectors	2 Neutrik® NL8	2 Neutrik® NL8	2 Neutrik® NL8
Enclosure Material	Futura®-coated plywood	Futura®-coated plywood	Futura®-coated plywood
Grille	Powder-coated steel	Powder-coated steel	Powder-coated steel
Environmental Specs	IEC 529 IP24 MIL STD 810	IEC 529 IP24 MIL STD 810	IEC 529 IP24 MIL STD 810
Dimensions (H x W x D)	362 x 952.5 x 572 mm 14.25" x 37.5 " x 22.5"	362 x 952.5 x 572 mm 14.25" x 37.5" x 22.5"	546 x 952.5 x 572 mm 21.5" x 37.5" x 22.5"
Net Weight	116 lbs. (52.7 kg)	111 lbs. (50.4 kg)	120 lbs. (54.5 kg)
Shipping Weight	121 lbs. (55.0 kg)	116 lbs. (63.6 kg)	140 lbs. (63.6 kg)
*Half space environment			

Technical Specifications for Four-Cabinet XLCi 127+ Array

Specification	4 x XLCi 127 Array
Frequency Range (-3 dB)	70 Hz–18 kHz
Sensitivity (1 W/1 m)	112.5 dB
Max Calculated SPL (1 W/1 m)	135 dB cont./141 dB peak
Horizontal Coverage	120°
Vertical Coverage	Splay dependent
LF Power (recommended)	EV® P2000
MB Power (recommended)	EV® P2000
HF Power (recommended)	EV® P2000

Recommended System Drive for XLCi

Cabinet:	XLCi 127, XLCi 127+	XLCi 118
LF:	P2000 / P1200 RL	—
MB:	P2000 / P1200 RL	—
LF:	P2000 / P1200 RL	P3000 / P3000 RL
System Controller:	DN9848, Dx38 or EV Precision Series Remote Amplifiers (RL)	

MH-Series Stadium Horns

MH-Series stadium horns are designed for large-scale stadiums and arenas where high-fidelity sound and directivity control from low mid-bass frequencies and below are absolutely essential. In 1974, EV pioneered the concepts of constant directivity (horn angles that are constant with frequency) and Manifold® technology (which combines the outputs of multiple transducers into one source). Large-format MH horns incorporate both in several horn/driver systems. Medium-format MH horns are excellent for short/medium throw applications or as infills for large-format MH-horns.

Medium-format MH-Series horns

MH medium-format horns have a high Q and uniform directivity control down to 500 Hz. The mid-bass section features an Aperiodic Enhancer™ phase plug which extends the high-end output to blend seamlessly into the coaxial high-frequency section. The HF section contains a small-format HP horn with EV's patented Transplanar™ design to provide exceptionally smooth frequency response. The one-piece main horn bell is a black polyester/fiberglass laminate with composite reinforcement. Up to three pieces can be paralleled in active or passive mode without a minimum impedance load at the amplifier.

MH640C/MH640P (60° x 40°)

MH660C/MH660P (60° x 60°)

MH940C/MH940P (90° x 40°)

- Two-way, extraordinary output mid/high CD horn system
- High sensitivity: 107 dB/1 W/1 m
- Coaxial horn-loaded
- P version has passive crossover
- Water-resistant Kevlar® epoxy cone
- MB horn features Aperiodic Enhancer™ phase plug
- 2" voice coil (titanium diaphragm)
- HF driver protection circuit
- Uniform directivity control to 500 Hz
- All models have same dimensions for uniform-looking arrays
- Integral 4-point hanging hardware in polyester-powder-coated steel

SPECIFICATIONS	MH640C/P	MH660C/P	MH940C/P
Frequency range (-10 dB)	150 Hz – 20 kHz	150 Hz – 20 kHz	150 Hz – 20 kHz
Recommended high-pass frequency	160 Hz (24 dB/Oct.)	160 Hz (24 dB/Oct.)	160 Hz (24 dB/Oct.)
Sensitivity (SPL 1 W/1 m)	107/111 dB; 107 dB	107/111 dB; 107 dB	107/111 dB; 107 dB
Max. SPL/1m (calc.)	138 dB	138 dB	138 dB
Continuous power handling	300 W/60 W; 300 W	300 W/60 W; 300 W	300 W/60 W; 300 W
Peak power handling	1,200 W/240 W; 1,200 W	1,200 W/240 W; 1,200 W	1,200 W/240 W; 1,200 W
Coverage (H° x V°)	60° x 40° (CD Horn)	60° x 60° (CD Horn)	90° x 40° (CD Horn)
Directivity Index (500 Hz – 20 kHz)	13.7 dB (+1.6/-2.8 dB)	13.7 dB (+1.6/-2.8 dB)	12.6 dB (+3.8/-4.0 dB)
LF driver	10" (DL10X)	10" (DL10X)	10" (DL10X)
HF driver	2" (DH2T-8)	2" (DH2T-8)	2" (DH2T-8)
Crossover frequencies (slope in biamp mode)	1,600 Hz (24 dB/Oct.)	1,600 Hz (24 dB/Oct.)	1,600 Hz (24 dB/Oct.)
Nominal impedance	16 Ω/8 Ω; 8 Ω	16 Ω/8 Ω; 8 Ω	16 Ω/8 Ω; 8 Ω
Input connections	Dual barrier strips	Dual barrier strips	Dual barrier strips
Dimensions (H x W at front x D)	27" x 27" x 28" 686 x 686 x 711 mm	27" x 27" x 28" 686 x 686 x 711 mm	27" x 27" x 28" 686 x 686 x 711 mm
Net weight (Large format: without HF driver)	60 lbs.. (27.2 kg)	60 lbs.. (27.2 kg)	60 lbs.. (27.2 kg)

Large-format MH-horns

MH large-format horns feature Manifold® technology, have a very high Q and uniform directivity control. Because of their large mouth size, MH horns maintain their beamwidth to very low frequencies – below to 250 Hz – reducing bass spillover and increasing intelligibility. The HF-section contains an appropriate medium-format HP-horn that accepts EV two-inch-exit single or dual drivers of the designer´s choice, extending response to 20 kHz. **HF drivers and adapters must be ordered separately (see page 45).** The dual driver doubles HF output, important for very long throws. N/DYM® drivers offer the ultimate output in the upper octaves, important when contemporary music is to be heard over long distances. The large horn size also provides frequency response to 100 Hz, typically eliminating the need for supplemental low-frequency systems. The mid-bass section features Aperiodic Enhancer™ phase plug. It is responsible for the extended high-frequency response of the mid-band section. It makes use of the fact that only the apex of the cone (near the voice coil) is in motion at higher frequencies, and automatically adjusts the acoustic loading to maximize acoustic output.

The main horn bell is a one-piece black polyester and fiberglass with fiberglass rib reinforcement. An integral grille-protection screen built into the manifold chamber protects the mid-bass for mechanical damage. To get low-frequency extension one octave lower, the recommended subwoofer is the QRx-218S.

MH4020AC (40° x 20°)

MH6040AC (60° x 40°)

MH9040AC (90° x 40°)

- 2-way extra ordinary output CD-horn
- Coaxial horn-loaded
- High sensitivity
- High maximum SPL
- Full-range down to 100 Hz (-10 dB)
- Mid-Bass section features Aperiodic Enhancer™ and Manifold® Technology
- Water resistant (incl. Kevlar® epoxy cone)
- HF-horn with 2-inch throat diameter (Driver is of the designer´s choice)
- Excellent uniform directivity control down to low frequencies
- Same front dimensions for uniform appearance when used in arrays
- Integral 18-point hanging hardware in polyester-powder-coated steel for flexible mounting

Weather Resistant

Flying hardware

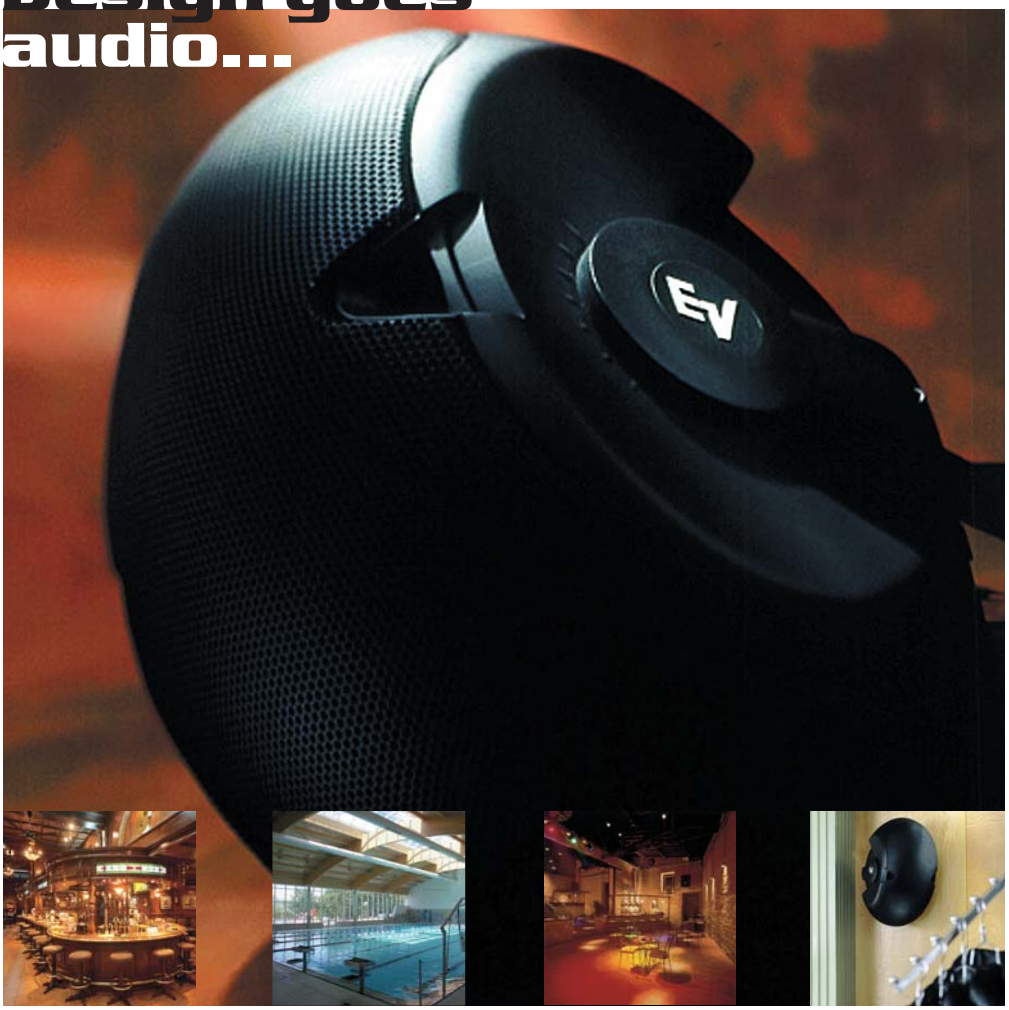
dedicated for active X-over

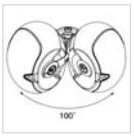
KMD™

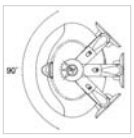
SPECIFICATIONS	MH4020AC	MH6040AC	MH9040AC
Frequency Range (-10 dB)	100 Hz - 20 kHz	100 Hz - 20 kHz	100 Hz - 20 kHz
Recommended High-Pass Frequency	130 Hz (24 dB/Oct.)	130 Hz (24 dB/Oct.)	130 Hz (24 dB/Oct.)
Axial Sensitivity SPL 1 W/1 m	109 dB	107 dB	105 dB
Max. SPL / 1m (calc.); full space	146 dB	141 dB	139 dB
Continuous Power Handling (Mid-Bass)	1,200 W	600 W	600 W
Peak Power Handling (Peak) (Mid-Bass)	4,800 W	2,400 W	2,400 W
Coverage (nominal -6 dB) H° x V°	40° x 20° (CD Horn)	60° x 40° (CD Horn)	90° x 40° (CD Horn)
Directivity Index (500 - 20.000 Hz)	18.0 dB (---/---)	13.8 dB (+0.9/-1.1 dB)	10.2 dB (+0.9/-1.1 dB)
LF woofer (transducer)	4 x 10" (DL10X)	2 x 10" (DL10X)	2 x 10" (DL10X)
HF throat diameter (horn type)	2" (HP420A)	2" (HP640)	2" (HP940)
Crossover Frequencies (slope)	1,600 Hz (24 dB/Oct.)	1,250 Hz (24 dB/Oct.)	1,250 Hz (24 dB/Oct.)
Nominal Impedance (mid-bass)	2 x 8 Ω	8 Ω	8 Ω
Minimum Impedance (mid-bass)	2 x 3.1 Ω	5.9 Ω	5.9 Ω
Input Connections	heavy-duty copper cable	heavy-duty copper cable	heavy-duty copper cable
Dimensions (H x W at front x D)	59" x 39" x 73.9" 1,500 x 991 x 1,880 mm	59" x 39" x 73.9" 1,500 x 991 x 1,873 mm	59" x 39" x 60.4" 1,500 x 991 x 1,534 mm
Net Weight (without HF-driver)	237 lbs.. (108 kg)	165 lbs.. (75 kg)	165 lbs.. (75 kg)

EV Innovative Design

Design goes audio...







- **Dual woofers** for extended bass, greater power handling and output.
- **Coherent Coverage Waveguide** horn design on models 4.2 and 6.2.
- **Dual low-frequency ports** provide extended bass output.
- **Treated woofer cones** for added weather resistance and increased reliability.
- **Durable zinc-plated steel grille.**
- **Cast aluminum Strong-Arm-Mount™** (SAM™) system provides excellent strength and reliability.
- **Over 100 degrees of swing and 90 degrees of rotation** for incredible installation flexibility.
- **Simple keyed hex head adjustments** make installations quick and easy.
- **Titanium dome tweeters with neodymium magnet** structures provide clean highs and added weather resistance.
- **One-piece ABS cabinet** provides outstanding strength and acoustic rigidity.
- **Smooth lines and innovative cosmetic design** complement any décor or environment.
- **Magnetically shielded transducers** allow placement close to sensitive equipment.

SPECIFICATIONS	EVID 3.2/T	EVID 4.2/T	EVID 6.2/T	EVID 12.1/P	EVID SOS 3.2
Frequency response (-10 dB)	85 Hz – 20 kHz	65 Hz – 20 kHz	62 Hz – 20 kHz	40 Hz – 140 Hz	85 Hz – 20 kHz
Sensitivity (SPL @ 1 W/1 m)	87 dB	89 dB	94 dB	100 dB	87 dB
Max. SPL/1 m (calc.)	108 dB	113 dB	118 dB	122 dB	108 dB
Continuous power handling	150 W	200 W	300 W	180/180 W	150 W
Peak power handling	600 W	800 W	1,200 W	720/720 W	600 W
Transformer taps (transformer version only)	70V: 5 W 100V: 10 W	70V: 3.75 W 70V/100V: 7.5 W, 15 W, 30 W	70V: 7.5 W 70V/100V:15 W, 30 W, 60 W	— —	70V: 5 W 100V: 10 W
Coverage (H° x V°)	140° x 100°	120° x 80°	100° x 80°	—	140° x 100°
LF driver	2 x 3.5" (90 mm)	2 x 4" (100 mm)	2 x 6" (100 mm)	12" (300 mm)	2 x 3.5" (90 mm)
HF driver	0.75" (20 mm)	1" (25 mm)	1" (25 mm)	—	0.75" (20 mm)
Nominal impedance (non transformer version)	8 Ω	8 Ω	8 Ω	8 Ω (12.1)	8 Ω
Minimum impedance (non transformer version)	6 Ω	6 Ω	6 Ω	6 Ω (12.1)	6 Ω
Input connections	spring terminal	spring terminal	spring terminal	spring terminal (12.1)	1/4" connector
Dimensions (H x W at front x D)	9.2" x 5.1" x 6.5" 234 x 127 x 165 mm	12.2" x 6.9" x 8.5" 310 x 175 x 216 mm	16.5" x 9" x 11.75" 419 x 228 x 298 mm	16.25" x 23" x 12" 412 x 584 x 305 mm	9.2" x 5.1" x 6.5" 234 x 127 x 165 mm
Net weight (incl. mounting bracket)	3.3 lbs.. (1.5 kg)	8.5 lbs.. (3.9 kg)	12 lbs.. (5.3 kg)	40 lbs.. (18.1 kg)	3.3 lbs.. (1.5 kg)
Shipping weight (pair)	8.6 lbs.. (3.9 kg)	19 lbs.. (8.6 kg)	27 lbs.. (12.3 kg)	48 lbs.. (20 kg)	8.6 lbs.. (3.9 kg)

EVID 3.2/3.2T

- Two-way full range
- Vented LF enclosure
- 0.75" voice coil (titanium diaphragm) with neodymium magnetic structure
- Full-bandwidth overload protection for HF and LF
- Three-dimensional ellipse (for compact look)
- Magnetically shielded for video applications
- Comes with Strong Arm Mount (SAM™) and a hex key
- Suspension insert for SAM™; safety point on rear side
- S.O.S. version's volume control, 1/4" connector, and stand-mount adapters enable use as mic-stand monitor.

EVID 4.2/4.2T

- Two-way full range
- Vented LF enclosure
- 1" voice coil (titanium diaphragm) with neodymium magnetic structure
- HF section features Coherent Coverage Waveguide™ to minimize interference
- Full bandwidth overload protection for HF and LF
- Three-dimensional ellipse (for compact look)
- Magnetically shielded for video applications
- Comes with Strong Arm Mount (SAM™) and a hex-key
- Suspension insert for SAM™, safety point on rear side

EVID 6.2/6.2T

- Two-way, high-output full range
- Vented LF enclosure
- High sensitivity
- 1" voice coil (titanium diaphragm) with neodymium magnetic structure
- HF section features Coherent Coverage Waveguide™ to minimize interference
- Full bandwidth overload protection for HF and LF
- Three-dimensional ellipse (for compact look)
- Magnetically shielded for video applications
- Comes with Strong Arm Mount (SAM™) and a hex key
- Suspension insert for SAM™; safety point on rear side

EVID 12.1/12.1P

- Subwoofer
- Dual-voice-coil, high-excursion transducer
- High sensitivity
- Built-in stereo crossover with high-pass output
- Trapezoidal
- Comes with mounting bracket (passed EIA 636 at a safety factor of 8:1) for on-wall or corner mounting
- One safety 3/8"-16 eyebolt included
- Suspension inserts and 2 x 3/8" hanging inserts
- Available in powered version (EVID 12.1P) with 300 W (continuous) internal amplifier.

EVID SOS 3.2

Mic Stand Personal Monitor

The EVID SOS 3.2 is a new approach to personal monitors! Its unique design enables the use of only one stand for the microphone and monitor. It frees up stage space and puts the monitor closer to the performer for additional clarity. The SOS 3.2 handles 75 watts of power and features a 1/4" input connector for easy connection to the amplifier. In addition, the performer can precisely adjust the speaker volume level using the L-Pad adjustment on the back of the unit.

The compact design of the SOS 3.2 makes it unobtrusive on stage and easy to pack and carry. The SOS 3.2 package includes the EVID SOS 3.2 speaker, all stand mounting adapters and a shock mount mic clip ready for use on your favorite boom-mount mic stand.

EVID Accessories

Premium Surface-Mount Speakers

Mounting Brackets

AB-34 and AB-64 360-degree Kits

The AB-34 and 64 series kits feature a 4-sided powder-coated steel mounting assembly allowing 4 EVID speakers to be mounted in an array to cover a 360-degree pattern. The mount offers additional flexibility in EVID system designs. The AB-34 works with the EVID 3.2 series and can be used with a threaded rod for suspension from the ceiling. The AB-64 is used with the EVID 4.2 or 6.2 series speakers and can be used with a speaker stand tripod or hung from the ceiling using a threaded rod as shown. All necessary accessories and parts needed for use are included.

AB-32 and AB-62 180-degree Kits

The AB-32 and AB-62 series kits feature a 2 sided powder coated steel mounting assembly allowing for 2 EVID speakers to be mounted in an array to cover a 180-degree pattern. The AB-32 works with the EVID 3.2 series and can be used with a threaded rod for suspension from the ceiling. The speakers can then be positioned on the bracket to cover a variety of patterns to best serve the installation requirements. The AB-62 allows the EVID 4.2 or 6.2 series speakers to be used with a speaker stand tripod or hung from the ceiling using a threaded rod as shown. All necessary accessories and parts needed for use are included.

Tabletop Stands

HS-3 Horizontal Tabletop Stand

The HS-3 horizontal tabletop stand allows the EVID 3.2 or 4.2 orientation on a table, meter bridge, desk, bookshelf or other flat surface. Ideal for portable applications, the stands are made of steel for strength and durability and include rubber feet to protect surfaces. Sold in pairs.

VS Series Vertical Tabletop Stands

The VS series vertical tabletop stands are available for any EVID full-range model. The stands allow the EVID speakers to be easily used on a table, desk, bookshelf or other flat surface in a vertical configuration. Ideal for portable applications, the stands are made of plastic-coated steel for strength and durability. Sold in pairs.

Other Accessories

TC Series Terminal Covers

The TC-4 and TC-6 terminal covers protect the input connections on the EVID speakers from the long-term effects of moisture. The covers are available for the EVID 4.2 and 6.2 series models. The covers easily attach to the rear input panel of the speaker and include a weatherproof cable connector.

MA-3 Mic Stand Adapter

The MA-3 is a microphone stand adapter that allows use of the EVID 3.2 with a standard boom mount microphone stand. Two adapter pieces allow a solid and secure junction between the microphone boom on one side and the microphone stand side on the other.

EVID Ceiling Speakers

The Intelligible Choice

No matter what the installation calls for the new EVID ceiling speaker line can fill the need. Each model is unique and designed to meet the toughest "problem" job specifications. Sonically superior and esthetically pleasing, the EVID ceiling speaker line has no match. From the compact, powerful C4.2 to the exclusive waveguide coupled design of the C8.2HC (patent pending) for high ceiling environments; the EVID ceiling line will solve any installation requirement. The EVID ceiling speaker line was designed with the contractor and listener in mind. Great sound, simple installation, and exceptional value are all part of every model.

The key features

- Acoustically matched to the EVID surface mount speaker line
- Regardless of the acoustic and esthetic requirements there is an EVID ceiling monitor system to fit the requirements
- Solves any installation challenge
- Either 70V/100V or 8 ohm operation is standard on every model of the EVID ceiling speaker line. No need to buy or stock special versions!
- All installation accessories commonly needed for most jobs are included! No expensive add-ons are necessary!

EVID C4.2

Perfect for conventional rooms. Excellent bandwidth in an esthetically, unobtrusive installation profile. Its compact design fits in tight areas. Fully rated for use in air handling spaces. Its 4" woofer and waveguide coupled titanium coated dome tweeter give smooth, wide frequency response. The enclosure is ported and tuned to provide surprising bass response in such a compact package. Features an easy 3-point mounting system for quick installations. Comes complete with mounting support ring and tile rails. No additional accessories needed for most installations.

EVID C8.2

Never before has a ceiling speaker system delivered such a full range punch. Its specially tuned enclosure and 8" woofer provide amazing bass response. The 1" waveguide coupled tweeter give smooth controlled coverage out to 18 kHz. Perfect for installations where a flush mount design is desired but demand for high quality audio exists. Features a 4-point mounting system which makes installations fast and easy. Comes complete with mounting support ring and tile rails. No additional accessories needed for most installations.

EVID C8.2LP

The EVID C8.2LP is the same as the C8.2, but with a low-profile back can (3" shorter in depth) for tight-fitting ceiling spaces.

EVID C8.2HC

The EVID C8.2HC is ideal for high ceiling and reverberant "problem" rooms. It's exclusive ported, waveguide coupled 8" driver provides for excellent intelligibility and definition. The 8.2HC's patent pending design provides great coverage control throughout the voice range and above. No other speaker system provides the combination of excellent pattern control, wide bandwidth, high power handling and compact design like the C8.2HC. Features a secure 4-point mounting system which makes installations fast and easy. Comes complete with mounting support ring and tile rails. No additional accessories needed for most installations.

EVID C10.1

The C10.1 packs a large 150 W subwoofer in a tuned high performance enclosure to give amazing low frequency performance down to 45Hz. The 10.1 is one of the only quick mount ceiling TRUE subwoofers available on the market. Flexible installation, and powerful low-end performance make this an ideal companion to any EVID model. Features a secure 4-point mounting system which makes installations fast and easy. Comes complete with mounting support ring and tile rails. No additional accessories needed for most installations.

SPECIFICATIONS

	EVID C4.2	EVID C8.2	EVID C8.2LP	EVID C8.2HC	EVID C10.1
LF Transducer	4" (100 mm)" Polypropylene cone	8" (200 mm) Polypropylene cone	8" (200 mm) Polypropylene cone	8" (200 mm) Polypropylene cone +Waveguide	10" (254 mm) Polypropylene cone
HF Transducer	0.75" (19 mm)"	1" (25 mm)	1" (25 mm)	1" (25 mm)	10" (24 mm) LF
	Ti Mylar Laminate Dome	Ti Mylar Laminate Dome	Ti Mylar Laminate Dome	Ti Mylar Laminate Dome	—
Frequency Response	65 Hz - 20 kHz	50 Hz - 20 kHz	50 Hz - 20 kHz	50 Hz - 20 kHz	45 - 180 Hz
Power Handling(8 Ω)	80 W (overload protected)	100 W (overload protected)	100 W (overload protected)	100 W (overload protected)	150 W
Coverage Pattern	130° conical	110° conical	110° conical	75° conical (@ >1 kHz)	180°
Sensitivity (1 W/1 m)	86 dB	91 dB	91 dB	93 dB	94 dB
Input Configuration	8 Ω, 70 V, 100 V	8 Ω, 70 V, 100 V	8 Ω, 70 V, 100 V	8 Ω, 70 V, 100 V	8 Ω, 70 V, 100 V
Transformer Power Taps (W)	1.88, 3.75, 7.5, 15, 30	1.88, 3.75, 7.5, 15, 30	1.88, 3.75, 7.5, 15, 30	7.5, 15, 30, 60	7.5, 15, 30, 60
Dimensions (H x Dia.)	6.9" x 7.1" (176 x 181mm)	10" x 10.6" (178 x 270 mm)	7.0" x 10.6" (255 x 270 mm)	11.9" x 12.8" (303 x 320 mm)	11.9" x 12.8" (303 x 320 mm)
Weight	6 lbs.. (2.7 kg)	11 lbs.. (5.0 kg)	11 lbs.. (5.0 kg)	13.2 lbs.. (6.0 kg)	15.5 lbs.. (7.0 kg)
Acoustic Design	Ported cabinet,internally damped Two-Way, inc. passive crossover				Dual ported cabinet, internally damped
Cabinet Construction	Steel enclosure and UL94V-0 rated baffle and bezel				
Mounting System	Integrated 3-point toggle anchors				
Grille Construction	Powder coated steel				
Available Colors	White (paintable surface)				

Outdoor Speakers

From the EVID™ 3.2 to the Sx600PI, EV offers excellent solutions for outdoor speaker needs. EV®'s Sx-Series (PI and PIX) bring the sound of indoor speakers out into the fresh air, and can be used for portable and fixed installations such as major theme parks. The new EVID line provides visual style and audio substance not only indoors, but also in any outdoor environment and in humid indoor environments such as pools and saunas. Both families include transformer options.

Sx80PI/PIX

Weather Resistant
70/100 V
RMD
mounting hardware
Flying hardware

- Ultra-compact two-way, 8-inch, short-throw system
- Black powder-coated full-face stainless steel grille, with foam backing and a polyester mesh water shield
- Paintable, black polystyrene enclosure
- 70.7/100-volt 60-watt transformer option with selectable taps (Sx80PIX)

Sx300PI/PIX

Weather Resistant
70/100 V
RMD
mounting hardware
Flying hardware

- Two-way, 12-inch, medium-throw, full-range system
- Black powder-coated full-face stainless steel grille, with foam backing and a polyester mesh water shield
- 500 Hz directional control from vented LF horn
- Paintable, black polystyrene enclosure
- 70.7/100-volt 100-watt transformer option with selectable taps (Sx80PIX)

Sx500PI+

Weather Resistant
Flying hardware
RMD
mounting hardware

- Two-way, 15-inch, medium-throw, full-range system
- Paintable black, polystyrene enclosure
- A baseball-stadium favorite
- Weather-resistant woofer (DL15 5 x W)
- Black powder-coated full-face stainless steel grille, with foam backing and a polyester mesh water shield
- 500 Hz directional control from vented LF horn
- Comes with foamport plugs for increased water resistance

Sx600PI/PIX

Weather Resistant
Flying hardware
Mounting Accessories
Ω/Ω Biampable
RMD

- Two element vertical line array package
- Very high sensitivity (105 dB/1W/1m)
- High intelligibility
- Two 12" woofers
- DH2T driver on 65° x 65° Varipath horn
- All-weather cabinet
- SuperSAM™ mounting, 60° x 180° adjustable
- Waterproof connection by SJO cable with gland nut
- Internal 600 Watt transformer available (SX600PIX)
- For specifications, see page 9

EVID 3.2/3.2T

Weather Resistant
White
70/100 V
mounting hardware

- Two-way full range
- 0.75" voice coil (titanium diaphragm) with neodymium magnetic structure
- Full-bandwidth overload protection for HF and LF
- Three-dimensional ellipse (for compact look)
- Comes with Strong Arm Mount (SAM™) and a hex key
- Suspension insert for SAM™; safety point on rear side

EVID 4.2/4.2T

Weather Resistant
White
70/100 V
mounting hardware

- Two-way full range
- 1" voice coil (titanium diaphragm) with neodymium magnetic structure
- Full bandwidth overload protection for HF and LF
- Three-dimensional elliptic (for compact look)
- Comes with Strong Arm Mount (SAM™) and a hex-key
- Suspension insert for SAM™, safety point on rear side

EVID 6.2/6.2T

Weather Resistant
White
70/100 V
mounting hardware

- Two-way, high-output full range
- High sensitivity
- 1" voice coil (titanium diaphragm) with neodymium magnetic structure
- Full bandwidth overload protection for HF and LF
- Three-dimensional ellipse (for compact look)
- Comes with Strong Arm Mount (SAM™) and a hex key
- Suspension insert for SAM™; safety point on rear side

Outdoor Speakers

Underwater Loudspeaker

The UW 30 represents a departure in the design of underwater sound sources. Its unique, patented design uses the case´s structural enclosure as the sound transducer. Underwater speakers are required equipment for many activities in commercial, luxury resort pools and synchronized swimming events or instructions in Olympic pools. They are used for water ballets and similar water shows. UW 30 has a high-fidelity sound with low distortion, and the effect of music played underwater through it is truly enchanting.

The outer case of UW 30 is made of high-impact ABS and is pool-blue in color. All internal components are sealed inside the speaker through a "hot-melt" process, allowing it to be used in fresh- or salt-water pools or ocean environments. Sound dispersion is up to 30 x 30 feet (10 x 10 m) under water. Operating depth is up to 10 feet (3 m), with a recommended depth of 4 feet (1.2 m). Note: For overload protection, install a 25-ohm, 20-watt resistor in parallel with a 1.5-amp, fast-blowing fuse in series with the speaker.

UW 30

- Full-range underwater sound source
- Uniform sound throughout medium-sized pools
- Very high-fidelity sound
- Salt-water resistant
- Comes with a 50-foot (15-m), three-conductor waterproof cable terminated within the internal encapsulation material

Ultra-Compact Monitor System

EV®'s S-40 produces maximum frequency response with an extended bass response. The sensitivity, therefore, is slightly less than with a regularly tuned box. The S-40 is made of black or white high-impact polystyrene structural foam protected with a full-size, matching front grille. The transformer taps of the T-Version are selected externally with a switch, as shown below.

S-40 B

S-40 T/B

- Two-way, full-range ultra-compact
- Ultra-linear frequency response
- Vented LF enclosure
- Full bandwidth protection circuit for woofer and tweeter
- Ferrofluid-cooled soft-dome tweeter
- Trapezoidal
- 2 x 1/4"–20 suspension points
- Available with transformer (S-40TB), in white (S-40W), and in white with transformer (S-40TW).

External tap selector

SPECIFICATIONS

	UW 30	S-40
Frequency range	100 Hz – 10 kHz	85 Hz – 20 kHz (+/- 3dB)
Sensitivity (SPL 1W/1 m)	—	85 dB (T-version: 84 dB)
Max. SPL/1 m (calc.)	—	113 dB (T-version: 99 dB)
Continuous power handling	30 W	160 W (T-version: 30 W)
Peak power handling	—	640 W
Transformer taps (transformer version)	—	30/15/7.5/3.7/1.9 W (100V)
Coverage (H° x V°)	omni (underwater)	100° x 100°
Directivity Index	—	9.8 dB (+3.8/-3.6 dB) 2 kHz–20 kHz
LF driver	special type	5.25"
HF driver	—	1" Softdome
Crossover frequencies	—	3,500 Hz
Nominal impedance (low Z version)	8 Ω	4 Ω
Minimum impedance (low Z version)	—	3.7 Ω
Input connections	waterproof cable	spring terminal
Dimensions (H x W at front x D)	7.19" (diameter) x 2.61" (D) 183 mm [diameter] x 66 mm [D]	9.8" x 7" x 5.9" 249 x 178 x 150 mm
Net weight (including mounting bracket)	4 lbs.. (1.8 kg)	5.7 lbs.. (2.6 kg [T-version: 3.3 kg])

Cinema Systems

Electro-Voice loudspeakers are as much a part of cinema as "going to the movies" is part of our popular culture. For example, it would be hard to believe Jurassic Park without those thunderous dinosaur steps, or to imagine not hearing Judy Garland sing "Somewhere Over the Rainbow" in the classic film The Wizard of Oz.

For decades, EV has provided theaters worldwide with properly designed screen channel and surround loudspeakers that meet or exceed Dolby® and THX™ standards. In the 1970s, Electro-Voice was the first to offer to the cinema industry Constant Directivity™ horns and smaller, more efficient low-frequency systems using Thiele-Small parameters. In the 1990s, EV was the first to bring asymmetrical horns to 3-way systems in our Variplex line of screen channel loudspeakers. In 2002, we proudly introduced the first all-passive, 3-way, Variplex screen system, requiring only one amplifier channel. Technological innovations from the EV Engineering Group continue strongly today, just as they have since 1927.

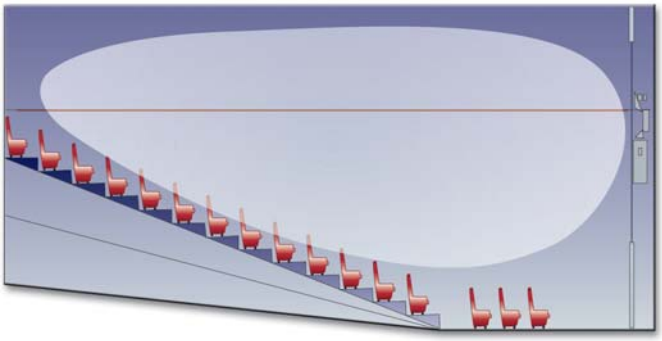
We know cinema, from the largest theater chains, to the most prestigious film festivals, even to being the official sound of ShoWest. Electro-Voice Cinema Systems provide the highest quality sound to bring the movies to life.

Variplex II XL™

- Three-way, high-output stage system
- High-output MB and HF drivers
- ADC technology provides uniform MF/HF front-to-back coverage
- Ring-Mode Decoupling™ improves vocal clarity and intelligibility
- THX® approved
- Digital Dynamics Capable™

RMD™

THX CINEMA



Vertical Dispersion - projection straight to the audience

Rectangular horizontal coverage, with even front-to-back SPL distribution

Variplex II™

- Three-way stage system
- ADC technology provides uniform MF/HF front-to-back coverage
- Ring-Mode Decoupling™ improves vocal clarity and intelligibility
- Passive MB/HF crossover for biamping
- THX® approved
- Digital Dynamics Capable™

RMD™

THX CINEMA

Variplex M™

- Matinee Series™
- 3-way system designed for mid-sized rooms
- Provides all benefits of a three-way design, including the unique asymmetric directed coverage of all Variplex systems
- Can be operated passive 3-way, biamp or triamp.

RMD™

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For Cinema specs, see page 33

Two-Way Systems

Electro-Voice® two-way screen systems offer flexibility in size and high-quality sound output for a variety of cinema applications. The TS9040D-LX and the TS550D-LX, both large-format systems, feature very high efficiency and are THX®-compatible. The medium-format TS940D includes a passive crossover, and the small-format TS992E's innovative flat-cabinet design saves considerable space behind the screen. For efficiency, wide-ranging application solutions, and incredible sound quality, nothing beats EV screen systems.

Two-Way Systems for Large Rooms

TS550D

TS550D-LX

- Large format two-way system
- High power handling capability for large rooms
- THX® approved
- Biamped operation only
- Digital Dynamics Capable™
- Wide, smooth frequency response

RMD™

THX CINEMA

TS9040D-LX

- Large-format, two-way screen system
- Provides excellent acoustical performance in large or small rooms
- THX® approved
- Digital Dynamics Capable™
- Wide, smooth frequency response

RMD™

THX CINEMA

Two-Way Systems for Small to Medium Venues

TS940D

- Medium-format, two-way screen system
- HP940T horn/ND6 driver
- XEQ-504 crossover for single-channel operation
- Smooth, accurate sound
- Passive crossover for single-channel operation

RMD™

TS992E

- Small-format, two-way screen system
- DH2T HF driver with HP99C horn
- TL15-1ESX LF system
- 10" depth: low-profile system (254 mm)
- Passive crossover for single-channel operation

RMD™

For Cinema specs, see page 33

Cinema Systems

TL880D

TL880DM

- Very-low-frequency subwoofer
- Direct radiating vented design
- High acoustic output to below 20 Hz (-10 dB) allows real low end effects (TL880D only)
- THX® approved (TL880D only)
- Matinee Series™: TL880DM

TL440

TL440M

- Very-low-frequency subwoofer
- Direct radiating vented design
- High acoustic output featuring single EVX180B woofer (TL440 only)
- THX® approved (TL440 only)
- Matinee Series™: TL440M

TL18-1ES

- Low-frequency subwoofer
- Direct radiating vented design
- 38 Hz low end for rich bass
- Ultrathin depth designed for use with TS992E system

Surround Loudspeakers

SL12-2V

SL10-2V

- High-output, two-way surround loudspeaker
- Versatile suspension and safety options
- 15° slanted cabinet
- Exceptionally wide and smooth frequency response
- SL12-2V has 12" woofer
- SL10-2V model has 10" woofer
- THX® compatible
- Digital Dynamics Capable™

TL6.2M

- Full-Bandwidth overload protection
- Strong-Arm-Mount™ for easy, flexible aiming
- Lightweight, unobtrusive plastic enclosure
- Easy access input terminals

Cinema Systems Specifications

SPECIFICATIONS	Variplex II XL	Variplex II	Variplex M
Frequency Range	34 Hz - 16 kHz	34 Hz - 16 kHz	45 Hz - 18 kHz
Sensitivity, 1W/1 m (LF/MF/HF)	104/109/112 dB	101/109/112 dB	104 dB
Max.SPL/1 m (calc.) (ave./peak)	136/141 dB	130/136 dB	127/133 dB
Crossover Frequency	500 Hz /1,300 Hz	500 Hz /1,300 Hz	500 Hz
Continuous Power Handling (LF/MF/HF)	1,600/400/75 W	800/400/75 W	500/300 W
Peak Power Handling (LF/MF/HF)	6,400/1,600/300 W	3,200/1,600/300 W	2,000/1,200 W
Coverage Horizontal (long axis/short axis)	90°	90°	90°
Coverage Vertical (up/down)	20°/30°	20°/30°	20°/30°
HF driver	ND6-8	ND6-8	DH2T
MF driver	2 x EVS-8HP	2 x EVS-8HP	2 x EVS8D
LF driver	4 x DL15ST	2 x DL15ST	2 x EVS-15G
Nominal Impedance	2 x 4/4/8 Ω	4/4/8 Ω	4/4 Ω
Dimensions (Height/Width/Depth) in mm	82.3" x 23.5" x 18.4" 2,090 x 1,150 x 511 mm	69.5" x 25.5" x 15.6" 1,765 x 648 x 396 mm	69.5" x 25.5" x 15.6" 1,765 x 648 x 396 mm
Weight (net)	306 lbs.. (139 kg)	163 lbs.. (74 kg)	160 lbs.. (72.6 kg)

SPECIFICATIONS	TS550D-LX	TS940D	TS992E
Frequency Range	30 Hz - 20 kHz	32 Hz - 20 kHz	30 Hz - 20 kHz
Sensitivity, 1W/1m (LF/HF)	100/111 dB	100 dB	96 dB
Max.SPL/1m (calc.) (ave./peak)	131/137 dB	129/135 dB	122/128 dB
Crossover Frequency	500 Hz	500 Hz, internal	1,200 Hz, internal
Continuous Power Handling (LF/HF)	1,200/75 W	800 W	400 W
Peak Power Handling (LF/HF)	4,800/300 W	3,200 W	1,600 W
Coverage (H x V)	90° x 40°	90° x 40°	90° x 90°
HF driver	ND6X-8	ND6- X	DH2T
LF driver	2 x EVX155	2 x DL15ST	DL15ST
Nominal Impedance	4/8 Ω	4 Ω	8 Ω
Dimensions (H/W/D) in mm	71.5" x 26.8" x 37.3" 1,816 x 681 x 947 mm	53.3" x 22.5" x 17.6" 1,354 x 572 x 447 mm	50.8" x 26.8" x 10" 1,289 x 681 x 254 mm
Weight (net)	165 lbs.. (74.8 kg)	133 lbs.. (60.4 kg)	97 lbs.. (43.9 kg)

SPECIFICATIONS	TL880D	TL880DM	TL440	TL440M	TL18-IES
Frequency Range	23 Hz - 80 Hz	27 Hz - 80 Hz	33 Hz* - 80 Hz	27 Hz - 80 Hz	38 Hz - 2.0 kHz
Sensitivity, 1 W/1 m (full/half-space)	99/105 dB	99/105 dB	96/102 dB	96/102 dB	96/102 dB
Max.SPL/1 m (calc.) (ave./peak)	136/142 dB	133/139 dB	130/136 dB	127/133 dB	128/134 dB
Continuous Power Handling	1,200 W	700 W	600 W	350 W	400 W
Peak Power Handling	4,800 W	2,800 W	2,400 W	1,400 W	1,600 W
Coverage (<125 Hz)	omnidirectional	omnidirectional	omnidirectional	omnidirectional	omnidirectional
LF driver	2 x EVX180B	2 x EVS-18S	1 x EVX180B	1 x EVS-18S	1 x DL18-MT
Nominal Impedance	4 Ω	4 Ω	8 Ω	8 Ω	8 Ω
Dimensions (Height/Width/Depth)	47.6" x 30" x 23.8" 1,210 x 762 x 605 mm	47.5" x 30" x 23.8" 1,207 x 762 x 605 mm	39.5" x 22.5" x 22" 1,003 x 572 x 559 mm	39.5" x 22.5" x 22" 1,003 x 572 x 559 mm	47" x 26.7" x 10" 1,193 x 680 x 254 mm
Weight (net)	160 lbs.. (72.6 kg)	156 lbs.. (70.8 kg)	108 lbs.. (49 kg)	98 lbs.. (44.5 kg)	95 lbs.. (43 kg)

* 24Hz in step-down mode

SPECIFICATIONS	SL12-2V	SL10-2V	SL6.2M
Frequency Range	70 Hz - 20 kHz	60 Hz - 20 kHz	48 Hz - 20 kHz
Sensitivity, 1 W/1 m	93 dB	93 dB	90 dB
Max.SPL/1 m (calc.) (ave./peak)	116/121 dB	113/119 dB	111/177 dB
Continuous Power Handling	200 W	100 W	125 W
Peak Power Handling	800 W	400 W	500 W
Coverage (H x V)	100° x 90°	100° x 100°	100° x 100°
LF driver	12" woofer	10" woofer	6" woofer
HF driver	DH2010A	1" compression dr.	1" driver on waveguide
Nominal Impedance	8 Ω	8 Ω	8 Ω
Dimensions (Height/Width/Depth)	21" x 18.7" x 13" 535 x 476 x 335 mm	18.75" x 12.5" x 10.81" 476 x 318 x 275 mm	16.5" x 9" c 11.7" 419 x 228 x 198 mm
Weight (net)	47 lbs.. (21.4 kg)	23.1 lbs.. (10.5 kg)	10 lbs.. (4.5 kg)

X-Array™

X-Array™ speaker systems provide world class performance and flexibility for concert touring systems.

The X-Array™ X-Series™ represents important advancements in concert-sound reinforcement technology. The design goals called for the highest acoustic output capability with the highest fidelity in a relatively lightweight, compact enclosures that were easy to array. The individual systems, drivers, horns, enclosures, rigging hardware and system configurations were designed from the ground up specifically for this high-performance application. For additional easier handling special speaker dollies are available. RMD™ was another ingenious development when X-Array™ was "born". EV's traditional top-down development strategy brings this essential acoustic advantage "down" through other EV products. X-Array™ has unprecedented acoustic output and excellent directivity control.

Rigging for big hangs: unique rear-hinge rigging for fast, easy and secure rigging. A 64-box hang goes up or down in 30 minutes. Front rigging straps control vertical aiming, rear fixed hinge makes tilting easy. Mating positioning recesses on cabinet tops and bottoms help to assemble and disassemble an array on the ground, a layer at a time. A detailed 25-page "flying manual and structural ratings" handbook is available. The X-Array™ one-person rigging hardware is TÜV approved.

Neodymium magnetics: for lighter weight and maximum acoustic output. All 12-inch mid-bass transducers are the ND12A, for a 3-dB average increase in output. Neodymium in the ND5-16 compression driver increases output in the upper octaves. The ND5-16 driver features a 3.5" titanium diaphragm.

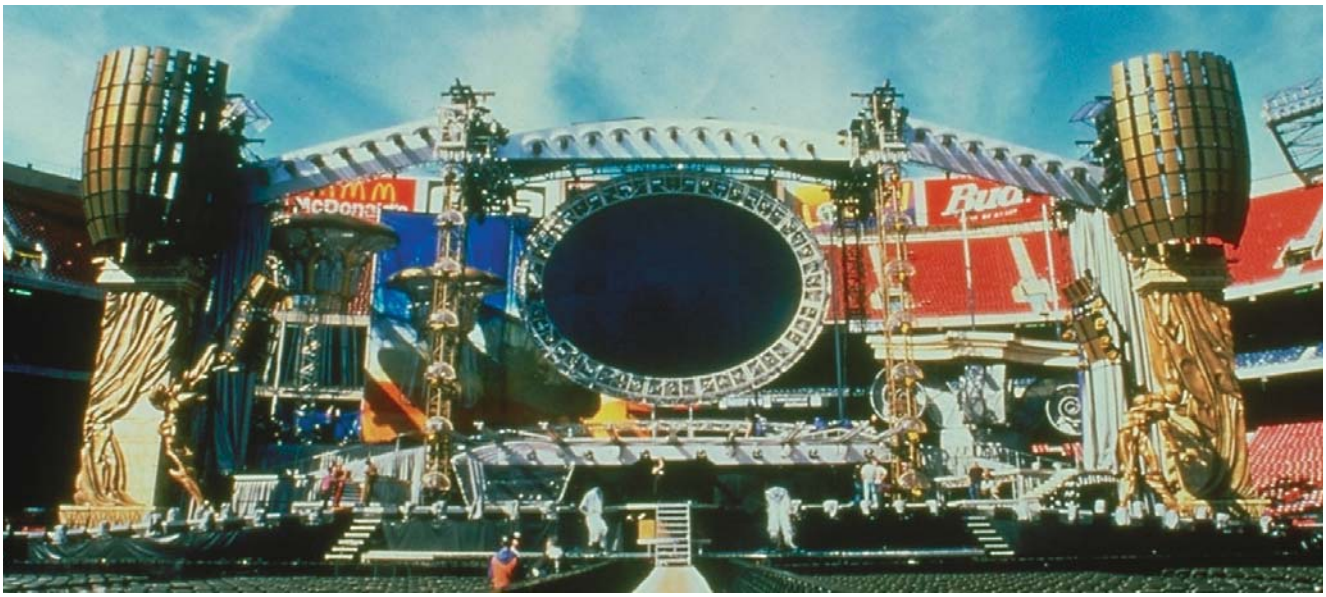
Amping and Controller: X-Array™ is powered by EV's world famous Precision Series™ and controlled by Klark Teknik DN 9848 digital 4-in/8-out controller, Electro-Voice Dx38, or Precision Series Remote amplifiers for flexible and easy configurations. Flyable amp racks are available.

X-Array™ is made of 13-ply birch plywood finished in black textured paint and protected by a powder-coated steel front grille backed with foam.



SPECIFICATIONS	Xf	Xn	Xcn	Xb
Frequency Range (-3 dB)	140 Hz - 20 kHz	48 Hz - 20 kHz	125 Hz - 20 kHz	37 - 200 Hz
Recommended High-Pass Frequency	125 Hz	50 Hz	125 Hz	40 Hz
Axial Sensitivity SPL 1 W/1 m	112/116 dB	95/110/112 dB	110/112 dB	98.5 dB
Max. SPL/1 m (calc.); full space	146/144 dB	123/135/131 dB	135/131 dB	129 dB
Continuous Power Handling	600/150 W	600/300/75 W	300/75 W	1.200 W
Peak Power Handling (Peak)	2,400/600 W	2,400/1,200/300 W	1,200/300 W	4,800 W
Coverage (nominal -6 dB) H° x V°	40° x 20° (CD Horn)	60° x 40° (CD Horn)	60° x 40° (CD Horn)	240° x 300° (63-200 Hz)
Directivity Index	17.2 dB (+2.0/-2.7 dB) 800 Hz - 16 kHz	13.7 dB (+1.4/-1.4 dB) 800 Hz - 16 kHz	13.4 dB (+2.0/-1.8 dB) 800 Hz - 16 kHz	3.4 dB (+1.4/-0.9 dB) 63 - 200 Hz
LF woofer (transducer)	—	18" (EVX-180B)	—	2 x 18" (EVX-180B)
MB woofer (transducer)	2 x 12" (ND12A)	12" (ND12A)	12" (ND12A)	—
HF throat diameter (transducer)	2 x 1.4" (ND6-16)	1.4" (ND6-16)	1.4" (ND6-16)	—
Crossover Frequencies	125 Hz	125 Hz	1,760 Hz	125 Hz
Nominal Impedance	8 Ω/8 Ω	8 Ω/16 Ω/16 Ω	16 Ω/16 Ω	2 x 8 Ω
Minimum Impedance	4.9 Ω/7.0 Ω	6.5 Ω/9.4 Ω/14.0 Ω	9.9 Ω/12.9 Ω	2 x 6.4 Ω
Input Connections	2 Neutrik® NL8 Speakon®	2 Neutrik® NL8 Speakon®	2 Neutrik® NL8 Speakon®	2 Neutrik® NL8 Speakon®
Dimensions (H x W at front x D)	36" x 23" x 29.8" 1,067 x 584 x 759 mm	36" x 23" x 29.8" 1,067 x 584 x 759 mm	23.46" x 23" x 29.8" 596 x 584 x 759 mm	36" x 23" x 29.8" 1,067 x 584 x 759 mm
Net Weight	192 lbs.. (87.1 kg)	192 lbs.. (87.1 kg)	134 lbs.. (60.8 kg)	184 lbs.. (83.5 kg)

SPECIFICATIONS	Xcb	Xds	Xw12	Xw15
Frequency Range (-3 dB)	37 - 200 Hz	32 - 200 Hz	60 Hz - 16 kHz	50 Hz - 16 kHz
Recommended High-Pass Frequency	40 Hz	40 Hz	60 Hz	50 Hz
Axial Sensitivity SPL 1 W/1 m	95 dB	100 dB	99/110 dB	99/110 dB
Max. SPL/1 m (calc.); full space	123 dB	131 dB	130/135 dB	133/135 dB
Continuous Power Handling	600 W	1,200 W	300/75 W	600/75 W
Peak Power Handling (Peak)	2,400 W	4,800 W	1,200/300 W	2,400/300 W
Coverage (nominal -6 dB) H° x V°	300° x 270° (63-200 Hz)	180° x 200° (63-200 Hz)	55° x 80° (CD Horn)	55° x 80° (CD Horn)
Directivity Index	2.7 dB (+1.0/-0.6 dB) 63 - 200 Hz	4.8 dB (+2.1/-1.7 dB) 63 - 200 Hz	11.6 dB (+2.3/-2.1 dB) 1.2 - 16 kHz	11.6 dB (+3.0/-3.6 dB) 1.2 - 16 kHz
LF woofer (transducer)	18" (EVX-180B)	2 x 18" (EVX-180B)	12" (DL12ST)	15" (EVX-155)
MB woofer (transducer)	—	—	—	—
HF throat diameter (transducer)	—	—	1.4" (DH7-16)	1.4" (DH7-16)
Crossover Frequencies	125 Hz	80 Hz	1,250 Hz	1,250 Hz
Nominal Impedance	8 Ω	2 x 8 Ω	8 Ω/16 Ω	8 Ω/16 Ω
Minimum Impedance	5.6 Ω	2 x 6.1 Ω	8.2 Ω/10.5 Ω	7.2 Ω/14.3 Ω
Input Connections	2 Neutrik® NL8 Speakon®	2 Neutrik® NL8 Speakon®	4 Neutrik® NL8 Speakon®	2 Neutrik® NL8 Speakon®
Dimensions (H x W at front x D)	23.46" x 23" x 29.8" 596 x 584 x 759 mm	36" x 28.9" x 29.8" 914 x 1,166 x 759 mm (in floor position)	14.11" x 23" x 16.1" 358 x 584 x 409 mm (in floor position)	18" x 25.36" x 18.13" 389 x 644 x 461 mm
Net Weight	123 lbs.. (55.8 kg)	267 lbs.. (121.0 kg)	62 lbs.. (28.2 kg)	70 lbs.. (31.8 kg)



Xf

Flying hardware

dedicated for active X-over

RMD™

- 2-way exceptional output far-field
- MB/HF section horn-loaded
- Identical height as Xn, Xb
- Excellent directivity control
- Trapezoidal (9° per side)

Xf, Xn and Xb look identical

Xn

- 3-way extraordinary output near-field
- MB/HF section horn-loaded and rotatable
- Identical height as Xf, Xb
- Excellent directivity control
- Trapezoidal (9° per side)

Xb

- High-output LF cabinet
- Manifolded, vented design
- Identical height as Xn, Xf
- Accurate transient detail
- Trapezoidal (9° per side)

Xcn

Flying hardware

dedicated for active X-over

RMD™

Xcn and Xcb look identical

- 2-Way high-level output near-field
- Identical height as Xcb
- MB/HF section identical to Xn and rotatable
- Excellent directivity control
- Trapezoidal (9° per side)

Xcb

- High-output subwoofer
- Manifolded, vented design
- Identical height as Xcn
- Equivalent to half of an Xb
- Accurate transient detail
- Trapezoidal (9° per side)

Xds

dedicated for active X-over

RMD™

- Extraordinary output low-end sub
- Manifolded, vented design
- Accurate transient detail
- Trapezoidal (18° per side)
- Designed for ground stacking

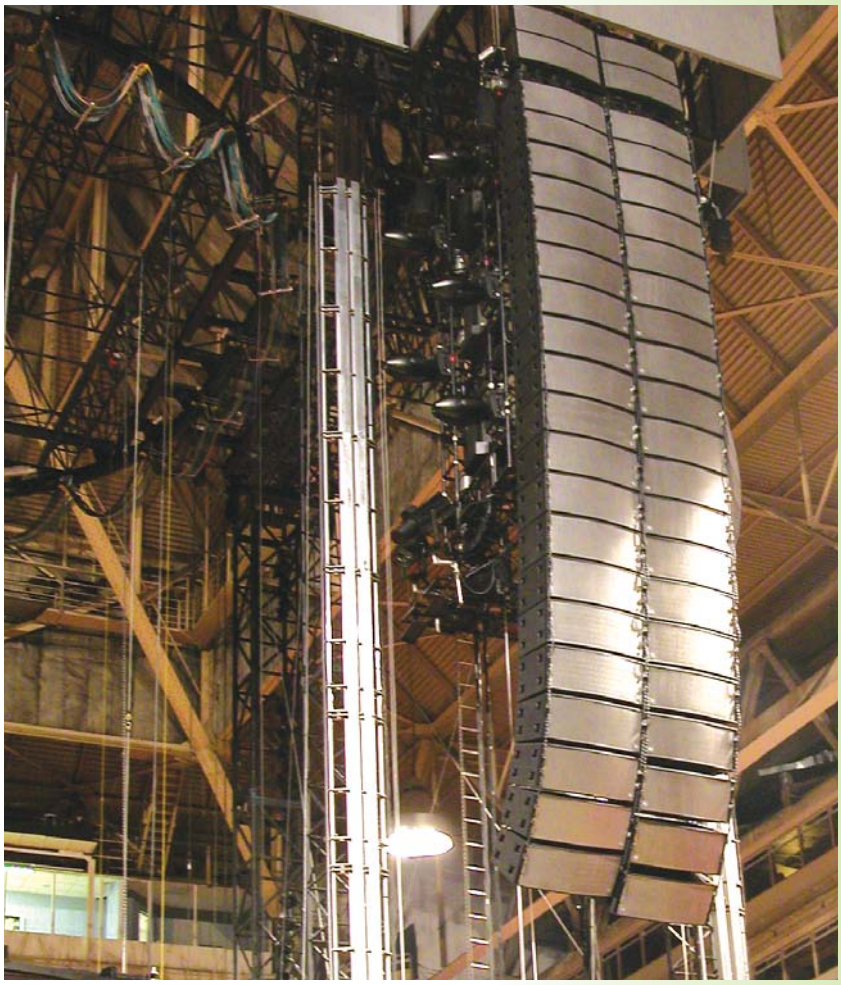
Xw12/Xw15

dedicated for active X-over

RMD™

- 2-way high-output floor monitor
- Vented LF enclosure
- 3.5" voice coil (titanium diaphragm) for low distortion
- Two symmetrical 55° angles

X-Line™



X-Line™

Development of the EV® X-Line™ system was driven by the need for a high-level concert touring enclosure that combines the sonic impact and vocal intelligibility of the renowned X-Array™ system with the uniform, predictable coverage that only a line-array configuration can deliver. The EV engineering team set out to develop the next generation of line-array systems, combining their years of experience in the development of X-Array with the absolute latest state-of-the-art technologies. As a matter of course, X-Line features the essential acoustical advantage of RMD™.

The X-Line system was designed to provide wide horizontal dispersion (90°) from a single vertical line array while providing exceptionally coherent wavefront summing in the vertical plane. At the heart of X-Line is a newly developed high-frequency wavefront alignment and summation device – the Hydra™ – that provides planar and time-coherent signal addition. The broad bandwidth vertical planar summing provides uniform sound field distribution throughout the listening area.

Stereo imaging is improved by the X-Line´s full-bandwidth mid-bass loading. Extended low-frequency polar control produces more uniform power response, further enhancing overall system intelligibility. The overall power response of the X-Line is very uniform across a wide frequency spectrum, making possible the system´s very musical sonic character.

If every performance space conformed to the same acoustic ideal, any linear loudspeaker array would suffice. But every arena, concert hall, and stadium is a unique space, and the one-box, one-dimensional design of most linear arrays just can´t adapt. X-Line is different. X-Line lets you match the acoustical solution to the acoustical environment.

X-Line lets you stack Xvls enclosures at the top of an array for long throw with a 90° horizontal included angle, followed by Xvlt enclosures for the shorter throw and 120° horizontal coverage needed at the J-curve of the array. Beneath the array, Xfil enclosures provide downfill coverage that maintains the vertical integrity of the array. Completing the X-Line system are Xsub subwoofers that can be flown next to the main array or ground stacked.

X-Line is made of 13-ply birch plywood with structural aluminum reinforcement finished with a rugged foam-backed steel grille to protect the drivers. A user's guide with detailed specifications is available on request. Electro-Voice recommends using the Klark Teknik™ DN9848 or EV's Dx38 as the system controller, along with EV P3000 power amplifiers, for amplification.

Xvls

- High-output, three-way line-array component
- Rectangular cabinet designed for upper section of linear array
- 90° horizontal coverage pattern ideal for long-throw applications
- EV® Hydra™ time-synchronized HF vertical plane-wave generator provides excellent far-field summing
- Ring Mode Decoupling® (RMD®) provides level-independent fidelity, greater midbass clarity, and high frequency accuracy
- Rigging allows for rapid venue load-in and load-out (linking hardware included)

Xfil1/Xfil2

- High-output, two-way line-array component
- Downfill system designed to complement a line array of Xvls and Xvlt systems for near-field assignment with 120º horizontal coverage
- Wide 40° vertical coverage with voicing similar to other X-Line™ models for smooth transition from near-field to mid-field
- Ring Mode Decoupling® (RMD®) provides level-independent fidelity, greater midbass clarity, and high-frequency accuracy
- Rigging allows for rapid venue load-in and load-out (linking hardware included)
- Mirror-imaged Xfil1 and Xfil2 models for left and right sides.

Xvlt

- High-output, three-way line-array component
- Five-degree trapezoidal cabinet design for lower "J" section of linear array
- 120° horizontal coverage typical for medium-throw assignment
- EV Hydra™ time-synchronized HF vertical plane wave generator provides excellent far-field summing
- Ring Mode Decoupling® (RMD®) provides level-independent fidelity, greater midbass clarity, and high frequency accuracy
- Rigging allows for rapid venue load-in and load-out (linking hardware included).

Xsub

- High-output, line-array subwoofer component
- Rectangular cabinet with footprint identical to other X-Line systems
- Can be flown or ground-stacked with non-flying version
- Rigging allows for rapid venue load-in and load-out (linking hardware included)

SPECIFICATIONS

	Xvls	Xvlt	Xfil1/Xfil2	Xsub
Frequency range (-3 dB)	40 Hz – 18 kHz	40 Hz – 18 kHz	40 Hz – 18 kHz	33 – 400 Hz
Recommended high-pass frequency	50 Hz	50 Hz	50 Hz	33 Hz
Sensitivity (SPL 1 W/1 m) (LF/MB/HF)	101 dB/111 dB/118 dB	101 dB/111 dB/117 dB	101 dB/107 dB/112 dB	100/106 dB*
Max. SPL/1m (calc.) (LF/MB/HF)	132 dB/139 dB/142 dB	132 dB/139 dB/141 dB	132 dB/135 dB/134 dB	131/137 dB*
Continuous power handling (LF/MB/HF)	1,200 W/600 W/225 W	1,200 W/600 W/225 W	1,200 W/600 W/150 W	1,200 W
Peak power handling (LF/MB/HF)	4,800 W/2,400 W/900 W	4,800 W/2,400 W/900 W	4,800 W/2,400 W/600 W	4,800 W
Coverage (H° x V°)	90° x 5°	120° x 9°	120° x 40°	200° x 325°
LF driver	2 x EVX155Plt	2 x EVX155Plt	2 x EVX155Plt	2 x EVX-180B
MB driver	2 x ND08	2 x ND08	2 x ND08	—
HF driver	3 x ND6-16	3 x ND6-16	2 x ND6-16	—
Crossover frequencies	220 Hz/1,250 Hz	220 Hz/1,250 Hz	220 Hz/1,250 Hz	80 Hz
Nominal impedance	2 x 8 Ω/8 Ω/5.3 Ω	2 x 8 Ω/8 Ω/5.3 Ω	2 x 8 Ω/8 Ω/8 Ω	2 x 8 Ω
Input connections	2 Neutrik® NL8	2 Neutrik® NL8	2 Neutrik® NL8	2 Neutrik® NL8
Dimensions (H [front/rear] x W x D)	19.46"/19.46" x 49" x 29.15" 494.3/494.3 x 1244.6 x 740.4 mm	19.46"/16.92" x 49" x 29.15" 494.3/429.7 x 1244.6 x 740.4 mm	19.46"/16.92" x 49" x 29.15" 494.3/429.7 x 1244.6 x 740.4 mm	19.46"/19.46" x 49" x 29.15" 494.3/494.3 x 1244.6 x 740.4 mm
Net weight	257 lbs. (117 kg)	253 lbs. (115 kg)	253 lbs. (115 kg)	202 lbs. (92 kg)

* 1/2-space

The X^{LC} System

While big brother X-Line serves the all acoustical needs of the largest venues and arenas, EV's full bandwidth compact line array X^{LC} was designed to match the demands for easy setup and transportation combined with outstanding sonic results in a variety of venue sizes.

System features:

- Wide constant horizontal coverage pattern of 120°
- Outstanding imaging; bi- or tri-ampable
- Totally integrated rigging hardware
- Rigging concept enables precise control of vertical line source pattern

Technical Specifications for XLC Cabinets

SPECIFICATIONS	Xlc 127	Xlc 127+	Xlc 118
Horizontal Coverage	120°	120°	300°
LF Power Handling	300 W cont./1,200 W peak	300 W cont./1,200 W peak	600 W cont./2,400 W peak
MB Power Handling	200 W cont./800 W peak	200 W cont./800 W peak	—
HF Power Handling	120 W cont./480 W peak	150 W cont./600 W peak	—
Sensitivity (LF/MB/HF)	95 dB/101 dB/110 dB	95 dB/101 dB/110 dB	96 dB/102 dB*
Max. SPL (calc.)	126/130/137 dB	126/130/138 dB	130/136 dB*
LF Transducer	1 x 12" DL12ST	1 x 12" DL12ST	1 x 18" EVX180B
MB Transducer	2 x 6.5" DM 65	2 x 6.5" DM 65	—
HF Transducer	2 x DH2T -16	2 x ND6-16	—
Connectors	2 Neutrik® NL8	2 Neutrik® NL8	2 Neutrik® NL8
Enclosure Material	Futura®-coated plywood	Futura®-coated plywood	Futura®-coated plywood
Grille	Powder-coated steel	Powder-coated steel	Powder-coated steel
Environmental Specs	IEC 529 IP24 MIL STD 810	IEC 529 IP24 MIL STD 810	IEC 529 IP24 MIL STD 810
Dimensions (H x W x D)	14.25" x 39 " x 22.5" 362 x 991 x 572 mm	14.25" x 39 " x 22.5" 362 x 991 x 572 mm	21.5" x 39" x 22.5" 546 x 991 x 572 mm
Net Weight	116 lbs.. (52,7 kg)	111 lbs.. (50,4 kg)	120 lbs.. (54.5 kg)
Shipping Weight	121 lbs.. (55,0 kg)	116 lbs.. (63,6 kg)	140 lbs.. (63,6 kg)

*Half space environment

X^{LC} 127+ / X^{LC} 127

Main Cabinet

This cabinet is the main component of an X^{LC} line array. Starting with a minimum of four cabinets, a typical array size uses six to eight boxes. The three-way axis-asymmetric design includes a single EV DL-12 low-frequency/mid-bass woofer optimized for this cabinet. Two 6.5" horn-loaded drivers in a vertical array comprise the mid-frequency bandpass.

The X^{LC} 127+ utilizes two ND6 (3" voice-coil) neodymium compression drivers loaded on two Hydra™ plane wave generators. With a horizontal coverage of 120°, the X^{LC} system accurately covers wide areas while maintaining excellent imaging and lobe-free coverage. The X^{LC} 127+ is equipped with an internal x-over for mid-bass and high-frequency to allow for either biamp or triamp operation.

The 127 is identical to the X^{LC} 127+, except for the 2 DH2T (2" voice-coil) compression drivers loaded on two Hydra elements. The X^{LC} 127 also uses an internal crossover for biamp or triamp use. The X^{LC} 127 should not be combined with the X^{LC} 127+ in the same hang.

X^{LC} 118

Subwoofer

The X^{LC} 118 is a direct radiating design using the legendary EVX180B 18-inch woofer. The X^{LC} 118 utilizes the same rigging and has 1.5 times the height of the X^{LC} 127 main cabinet. This allows a hang of X^{LC} 118s to be flown adjacent to the main hang at a 3:2 ratio, maintaining aesthetic requirements for equal hang heights. Flying subwoofer benefits include in a more even front-to-back SPL distribution.

Technical Specifications for Four-Cabinet X^{LC} 127+ Array

SPECIFICATIONS	4 x X^{LC} 127+ Array
Frequency Range (-3 dB)	70 Hz–18 kHz
Sensitivity (1 W/1 m)	112.5 dB
Max Calculated SPL (1 W/1 m)	135 dB cont./141 dB peak
Horizontal Coverage	120°
Vertical Coverage	Splay dependent
LF Power (recommended)	EV® P2000
MB Power (recommended)	EV® P2000
HF Power (recommended)	EV® P2000

Recommended System Drive for X^{LC}

SPECIFICATIONS		
Cabinet:	X^{LC} 127, X^{LC} 127+	X^{LC} 118
LF:	P2000 / P1200 RL	-
MB:	P2000 / P1200 RL	-
LF:	P2000 / P1200 RL	P3000 / P3000 RL
System Controller:	Dx38, DN9848 or DSP Controlled Precision Series Amplifiers (RL)	

Floor Monitors

The following two pages give you an overview of EV's professional floor monitors. All monitors shown have optimized monitor angles and as is typical with EV, have very low feedback properties. For technical details or information about recommended high-pass frequencies, refer to the pages listed below.

Sx250/SxA250

RMD™

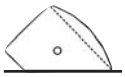
Flying hardware

- 350 W (continuous)/ 150 W + 50 W powered
- 15" / 1"
- max. SPL 130 dB/1m
- 45° monitor angle

FRi-28LPM

RMD™

mounting hardware



100° x 100°

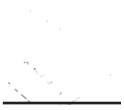
- 2 x 8"/1"
- 200 W (continuous)
- Max. SPL 122 dB/1 m (calc.)
- 45° monitor angle

QRx 112/75

Ω/Ω Biampable

RMD™

Flying hardware



75° x 50°

- Perfect for high performance monitoring in concert sound applications
- 12"/1.4"
- 350 W (continuous)
- Max. SPL 131 dB/1m (calc.)
- 55° (approx.) monitor angle
- Integrated stand mount allows flexible usage
- Note: in monitor position rotate the horn so the 35° dispersion is pointing upwards
- Note: enable high-pass (mid/high-mode) at controller amp module M-112 when used on floor

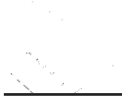
QRx 115/75

Ω/Ω Biampable

RMD™

Flying hardware

75° x 50°



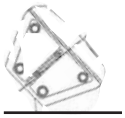
- Perfect for high performance monitoring in concert sound applications
- 15"/1.4"
- 450 W (continuous)
- Max. SPL 133 dB/1 m (calc.)
- 55° (approx.) monitor angle
- Integrated stand mount allows flexible usage
- Note: in monitor position rotate the horn so the 35° dispersion is pointing upwards
- Note: enable high-pass (mid/high-mode) at controller amp module M-115 when used on floor

Sx100 and Sx300 (shown with F200)

wh White

RMD™

65° x 65°



- Symmetrical horn allows flexible usage with tripod for floor-monitor
- 12"/1"
- Sx300: 300 W (continuous) Sx100+: 200W (continuous)
- Sx300: Max. SPL 132 dB/1 m (calc.)
- 50° (approx.) monitor angle
- SH SX300 black protection cover (option)
- F200 monitor feet necessary

SxA100+

RMD™

- Built-in 2-way amplifier (150 W + 50 W cont.; 380 W + 80 W peak)
- 12" / 1"
- max. SPL 124 dB/1 m
- 50° (approx.) monitor angle
- SH SX300 black protection cover (option)
- F200 monitor feet necessary

T221M

Ω/Ω Biampable

RMD™

55° x 80°

- Two-way, 12", medium-throw, full-range system
- High-performance 12" woofer
- Biampable

Xw12

dedicated for X active X-over

RMD™

55° x 80°

- Perfect for highest performance monitoring in concert sound applications
- 12"/1.4"
- 300/75 W (continuous)
- Max. SPL 130 dB/1 m (calc.)
- Two 55° angles allows symmetrical monitor set-ups
- Dedicated digital controller is Dx38

Xw15

dedicated for X active X-over

RMD™

55° x 80°

- Perfect for highest performance monitoring in concert sound applications
- 15"/1.4"
- 600/75 W (continuous)
- Max. SPL 133 dB/1 m (calc.)
- Two 55° angles allows symmetrical monitor set-ups
- Dedicated digital controller is Dx38

Eliminator Monitor

dedicated for X active X-over

RMD™

- 2-way, 15-Inch Speaker
- Versatile design allows for use as a floor monitor or stand-mounted main PA speaker
- 80° x 55° CD horn provides usable monitor angles of 50° and 65°
- Integral stand-mount adapter
- 350-watt, continuous power rating
- HF driver protection
- Available with Neutrik® Speakon® connector (Eliminator Monitor E)

Force i Monitor

dedicated for X active X-over

RMD™

- Low profile and compact size for minimum footprint; even fits on the smallest stages
- 12-inch woofer has clean, yet punchy sound
- 150 watts continuous, 300 watts program, 600 watts peak power handling
- Two projection angles — 50° and 65° — depending on orientation of enclosure gives you extra placement flexibility
- Built-in stand mount for front-of-house or sidefill use
- Lightweight — only 28 pounds (12.7 kg) — and easy to carry
- Available with Neutrik® Speakon® connector (Force i Monitor E)

Mic Stand Personal Monitor

The EVID SOS 3.2 is a new approach to personal monitors! Its unique design enables the use of only one stand for the microphone and monitor. It frees up stage space and puts the monitor closer to the performer for additional clarity. The SOS 3.2 handles 75 watts of power and features a 1/4" input connector for easy connection to the amplifier. In addition, the performer can precisely adjust the speaker volume level using the L-Pad adjustment on the back of the unit.

The compact design of the SOS 3.2 makes it unobtrusive on stage and easy to pack and carry. The SOS 3.2 package includes the EVID SOS 3.2 speaker, all stand mounting adapters and a shock mount mic clip ready for use on your favorite boom-mount mic stand.

Subwoofers

• Available in powered version (EVID 12.1P) with 650 W internal amplifier

Application	EVID 12.1 Installation	EVID C10.1 Installation Ceiling	FRi+181S Installation Concert Sound	FRX+181 Installation Concert Sound
Woofer Type	1 x 12" slot loaded	1 x 10"	1 x 18"	1 x 18"
Power Handling cont.	2 x 175 W	150 W	400 W	400 W
Sensitivity(1 W/1 m)	100 dB**	94 dB*	97 dB/103 dB*	100 dB/102 dB*
Max. SPL (peak)	125 dB **	122 dB *	129 dB/135 dB*	132 dB /134 dB*
Internal Crossover	stereo w/ hi pass out	low pass	low pass	no
Flying	no	no	eyebolts	L-track

Application	Eliminator i Sub Installation Pro Music	Eliminator KW Installation Pro Music
Woofer Type	1 x 18"	2 x 18"
Power Handling cont.	400 W	1,000 W
Sensitivity(1 W/1 m)	100 dB/104 dB*	101 dB/107 dB*
Max. SPL (peak)	98 dB/101 dB*	137 dB/143 dB*
Internal Crossover	low pass	no
Flying	no	no

Application	Sb121 Installation Pro Music	Sb180 Installation Pro Music	SxA180 Installation Pro Music	SbA750 Installation Pro Music
Woofer Type	1 x 12"	1 x 18"	1 x 18"	1 x 15"
Power Handling cont.	300 W	600 W	300 W	750 W amplifier
Sensitivity (1 W/1 m)	95 dB/101 dB*	99 dB		
Max. SPL (peak)	126 dB/132 dB*		126 dB	128 dB/134 dB*
Internal Crossover	no	no	80 - 120 Hz	built-in active
Flying	Optional SX Hardware	no	eyebolts	no

* 1/2-space SPL, ** 1/4-space SPL

Subwoofers

QRx118S / QRx218S

Application	Installation Pro Music, Concert Sound	Installation Pro Music, Concert Sound
Woofer Type	1 x 18"	2 x 18"
Power Handling cont.	600 W	1,200 W
Sensitivity (1 W/1 m)	99 dB /104 dB*	102 dB /105 dB*
Max. SPL (peak)	133 dB /138 dB*	139 dB /140 dB*
Internal Crossover	no	no
Flying	no	optional

Xb / Xcb / Xds

Application	Installation Concert Sound	Installation Concert Sound	Installation Concert Sound
Woofer Type	2 x 18"	1 x 18"	2 x 18"
Power Handling cont.	1,200 W	600 W	1,200 W
Sensitivity (1 W/1 m)	98.5 dB /104.5 dB*	95 dB /101 dB*	100 dB /106 dB*
Max. SPL (peak)	129 dB / 141 dB*	123 dB /135 dB*	131 dB /143 dB*
Internal Crossover	no	no	no
Flying	X-Array rigging	X-Array rigging	no

Xi-1191(F) / Xi-2181(F) / Xsub(F) / XLC118/XLCi118

Application	Installation Concert Sound	Installation Concert Sound	Concert Sound Installation	Concert Sound Installation
Woofer Type	1 x 18"	2 x 18"	2 x 18"	1 x 18"
Power Handling cont.	600 W	1,200 W	1,200 W	600 W
Sensitivity (1 W/1 m)	94 dB /100 dB*	99 dB /105 dB*	103 dB /106 dB*	96 dB /102 dB*
Max. SPL (peak)	128 dB /134 dB*	136 dB /140 dB*	134 dB /143 dB*	130 dB /136 dB*
Internal Crossover	no	no	no	no
Flying	L-track in F-version (built to order)	L-track in F-version (built to order)	X-Line rigging, F-version.	XLC rigging

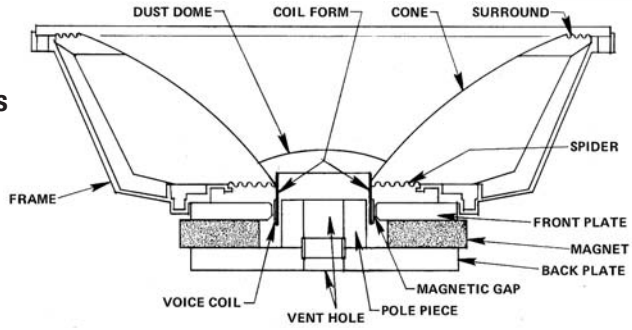
* 1/2-space SPL

Components

Woofers

EV component woofers are high-efficiency designs highly refined from years of development and field experience. They employ extended-length voice coils for high-impact reproduction of dynamic low-frequency program. All woofers feature proprietary heat-transfer systems for unmatched power capacity and reliability. Kevlar®-fiber-composite cones are used to provide structural strength to resist collapse during explosive dynamic peaks and to provide internal mechanical damping to minimize resonances that can change the character of the sound at high levels. DL and EVX woofers are made of cast aluminum frames with push terminals, and all feature Ring-Mode Decoupling™ (RMD™) except for the DL18MT and the EVX180B.

Speaker Parts



SPECIFICATIONS	DL10X	DL12BFH	DL12ST	DL15BFH	DL15ST
Cone diameter	10" (254 mm)	12" (305 mm)	12" (305 mm)	15" (381 mm)	15" (381 mm)
Coil diameter	2.5" (63.5 mm)	2.5" (63.5 mm)	2.5" (63.5 mm)	2.5" (63.5 mm)	2.5" (63.5 mm)
Impedance	8 Ω	8 Ω	8 Ω	8 Ω	8 Ω
Frequency range	100 – 2,000 Hz	60 – 2,500 Hz	60 – 2,000 Hz	45 – 2,000 Hz	45 – 2,000 Hz
Long-term power rating (EIA)	300 W	300 W	300 W	900 W	400 W
Short-term power rating	1,200 W	1,200 W	1,200 W	1,400 W	1,600 W
Sensitivity (1 W @ 1 m)	97 dB	96 dB	98 dB	96 dB	95 dB
Maximum SPL	121.8 dB	120.8 dB	122.8 dB	122.0 dB	121.0 dB
Efficiency	4.21%	3.69%	5.60%	3.93%	2.66%
Frame front diameter	10.22" (259.5 mm)	12.19" (309.6 mm)	12.19" (309.6 mm)	15.16" (305.0 mm)	15.16" (305.0 mm)
Magnet diameter	7.50" (190.5 mm)	6.13" (155.6 mm)	7.50" (190.5 mm)	6.13" (155.6 mm)	7.50" (190.5 mm)
Overall depth	4.50" (114.3 mm)	5.25" (133.4 mm)	5.25" (133.4 mm)	6.00" (152.4 mm)	6.25" (158.8 mm)
Mounting bolt circle diameter	9.625" (244.5 mm)	11.563" (293.7 mm)	11.563" (293.7 mm)	14.563" (369.9 mm)	14.563" (369.9 mm)
Baffle cutout diameter	9.063" (230.2 mm)	11.063" (281.0 mm)	11.063" (281.0 mm)	14.063" (357.2 mm)	14.063" (357.2 mm)
Net weight	14.3 lbs. (6.5 kg)	11.1 lbs. (5.0 kg)	14.7 lbs. (6.7 kg)	12.0 lbs. (5.4 kg)	15.2 lbs. (6.9 kg)

SPECIFICATIONS	DL18MT	EVX155	EVX180B
Cone diameter	18" (457 mm)	15" (381 mm)	18" (457 mm)
Coil diameter	2.5" (63.5 mm)	4" (101.6 mm)	4" (101.6 mm)
Impedance	8 Ω	8 Ω	8 Ω
Frequency range	35–800 Hz	40–2,000 Hz	30–800 Hz
Long-term power rating (EIA)	400 W	600 W	600 W
Short-term power rating	1,600 W	2,400 W	2,400 W
Sensitivity (1 W @ 1 m)	94 dB	95 dB	95 dB
Maximum SPL	120 dB	122.8 dB	122.8 dB
Efficiency	4.0%	2.49%	2.25%
Frame front diameter	18.13" (460.5 mm)	15.16" (385.0 mm)	18.13" (460.5 mm)
Magnet diameter	7.50" (190.5 mm)	8.25" (209.6 mm)	8.25" (209.6 mm)
Overall depth	7.00" (177.8 mm)	7.25" (184.2 mm)	8.00" (203.2 mm)
Mounting bolt circle diameter	17.375" (441.3 mm)	14.563" (369.9 mm)	17.375" (441.3 mm)
Baffle cutout diameter	16.750" (425.5 mm)	14.063" (357.2 mm)	16.750" (425.5 mm)
Net weight	15.8 lbs. (7.2 kg)	22.8 lbs. (10.3 kg)	23.4 lbs. (10.6 kg)

Components

Compression Drivers

Electro-Voice is one of a handful of professional audio companies that can design high-performance compression drivers. Compression drivers are the most difficult audio transducers to design. Their unique requirements call for ultra-precise tolerances, state-of-the-art modeling routines, and exceptionally talented engineering expertise. Manufacturing techniques are frequently pushed to process limits, and materials are formed and stabilized with cutting-edge systems and controls. Each EV compression driver's parameters are tightly controlled to ensure world-class performance, thus putting the drivers at the top of their class in every respect.

DH7-8/DH7-16

- Large-format ceramic compression driver
- 75-watt power rating
- 3" titanium diaphragm
- 1.4" or 2" exit diameter for use on almost any high-performance horn
- Excellent for use with direct-radiator or horn-loaded LF and MB sections

DH2T-8/DH2T-16

- One-inch exit screw-on, medium-format compression driver
- 40-watt power rating
- 2" titanium diaphragm
- High performance on a wide variety of thread-on horn designs

Horn Adapters

- from 1.4" bolt-on to 2" bolt-on ADH6
- from 1" screw-on to 2" bolt-on ADH5
- from 1" screw-on to 1.4" bolt-on ADH3

ND6-8/ND6-16

- Large-format neodymium compression driver
- 75-watt power rating
- 3" titanium diaphragm
- 1.4" or 2" exit diameter for use on almost any HP horn
- EV's highest-performance compression driver gives world-class performance in any application
- Use above 1 kHz

DH3/DH2010A

- One-inch exit screw-on, small-format compression driver
- 20-watt power rating
- 1.25" titanium diaphragm
- Excellent extended-bandwidth HF driver for multi-way loudspeaker systems

ND6X-8/ND6x-16

- Large-format neodymium compression driver
- 75-watt power rating
- 3" titanium diaphragm
- 1.4" or 2" exit diameter for use on almost any HP horn
- EV's highest-performance compression driver gives world-class performance in any application
- Use above 500 Hz

SPECIFICATIONS	DH7-8/DH7-16	ND6-8/ND6-16	DH2T-8/DH2T-16	DH3/DH2010A	ND6X-8/ND6x-16
Frequency response	1,000 Hz – 20 kHz	1,000 Hz – 20 kHz	1,200 Hz – 20 kHz	1,500 Hz – 20 kHz	500 Hz - 20 kHz
Crossover frequency (minimum)	1,000 Hz	1,000 Hz	1,200 Hz	1,500 Hz	500 Hz
Midband sensitivity*	111 dB	112 dB	112 dB	111 dB	—
Long-term power rating (AES)	75 W	75 W	40 W	20 W	75 W
Short-term power rating	300 W	300 W	160 W	80 W	300 W
Impedance	8/16 Ω	8/16 Ω	8 Ω	8 Ω	16 Ω
Throat diameter	1.4"/2.0" adapter (35 mm)	1.4"/2.0" adapter (35 mm)	1.0" (25 mm)	1.0" (25 mm)	1.38" (35 mm)
Diaphragm diameter	3.0" (76 mm)	3.0" (76 mm)	2.0" (50 mm)	1.25" (32 mm)	3.0" (76 mm)
Overall diameter	6.5" (165 mm)	5.2" (132 mm)	5.2" (132 mm)	4.5" (107 mm)	5.2" (132 mm)
Overall depth	2.7" (69 mm)	2.7" (69 mm)	3.5" (89 mm)	3.5" (89 mm)	2.7" (69 mm)
Net weight	10.0 lbs.. (4.54 kg)	5.5 lbs.. (2.5 kg)	5.0 lbs.. (2.27 kg)	3.4 lbs.. (1.5 kg)	5.5 lbs.. (2.5 kg)
Shipping weight	11.0 lbs.. (5 kg)	6.0 lbs.. (2.72 kg)	5.5 lbs.. (2.5 kg)	3.8 lbs.. (1.73 kg)	6.0 lbs.. (2.72 kg)

*Average from 1,000 Hz–5 kHz on HP6040 horn (DH3 average from 1,500 Hz–5 kHz on HPT64 horn)

HP Horns

The HP horn series is a refinement of the concept of "constant directivity," which, in 1974, EV was the first to introduce. For the first time, horn coverage angles were truly uniform over a wide frequency range. In the HP series, unique beamwidth-control vanes within the horn throat form a waveguide that eliminates the narrowing of coverage angle – beaming – that occurs in other 2-inch-throat horns. EV's patented Transplanar™ design provides exceptionally smooth frequency response. HP horns or variants thereof are used throughout the EV speaker system lines. Each HP horn features an integral die-cast metal throat encapsulated in the fiberglass sidewalls. This unitized construction provides very high strength and low weight.

HP4020 HP6040 HP9040

HP6040

- Large-format two-inch horns
- The ultimate in dispersion control, with control of rated dispersion angle down to 500 Hz, both horizontally and vertically
- Directivity control to 500 Hz maximizes vocal intelligibility and musical clarity in difficult acoustic environments

HP64 HP66 HP94

HP64

- Small-format two-inch horns
- Use as primary HF horns in compact sound systems
- Beamwidth control to ~2,000 Hz

HP420 HP640 HP940 HP1240

HP640

- Medium-format two-inch horns
- Vertical dimensions have been reduced, for use when space constraints preclude the use of large-format horns
- Horizontal directional control maintained to ~500 Hz
- Vertical control to ~1,500 Hz

HPT64 HPT94

HPT64

- Very-small-format one-inch horns
- Use in three- and four-way systems with DH3 driver for tweeter and supertweeter applications
- Directional control to 3,000 Hz

Note: Horns shown out of proportion to each other

SPECIFICATIONS

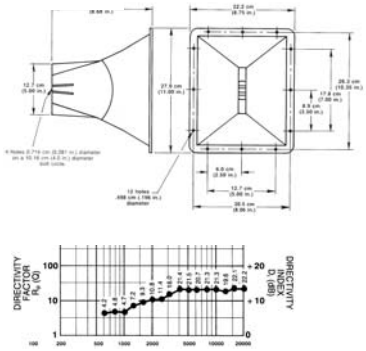
	HP4020	HP6040	HP9040	HP420	HP640	HP940
Coverage (H° x V° nominal)	40° x 20°	60° x 40°	90° x 40°	40° x 20°	60° x 40°	90° x 40°
Directivity Factor (average)	45.1 (+12.7, -18.9) (500 Hz – 20 kHz)	25.8 (+17.9, -5.9) (500 Hz – 20 kHz)	12.1 (+4.6, -3.7) (500 Hz – 20 kHz)	47.7 (+25.9, -23.5) (1,250 Hz – 20 kHz)	20.6 (+11.3, -3.3) (1,250 Hz – 20 kHz)	11.9 (+3.6, -3.0) (1,250 Hz – 20 kHz)
Directivity Index (average)	16.4 dB (+1.2, -2.2) (500 Hz – 20 kHz)	14.1 dB (+2.3, -1.1) (500 Hz – 20 kHz)	10.8 dB (+1.4, -1.6) (500 Hz – 20 kHz)	16.8 dB (+1.9, -3.0) (1,250 Hz – 20 kHz)	13.1 dB (+1.9, -0.7) (1,250 Hz – 20 kHz)	10.7 dB (+1.2, -1.2) (1,250 Hz – 20 kHz)
Useable low-frequency limit	200 Hz	500 Hz	400 Hz	400 Hz	400 Hz	400 Hz
Throat entrance	2" bolt-on	2" bolt-on	2" bolt-on	2" bolt-on	2" bolt-on	2" bolt-on
Height	33.0" (838 mm)	32.0" (813 mm)	32.0" (813 mm)	14.4" (367 mm)	13.0" (330 mm)	13.0" (330 mm)
Width32.0" (813 mm)	28.0" (711 mm)	26.75" (679 mm)	24.0" (610 mm)	28.0" (711 mm)	21.0" (533 mm)	
Depth	49.3" (1,252 mm)	31.8" (808 mm)	31.8" (808 mm)	29.5" (749 mm)	17.2" (437 mm)	11.2" (285 mm)
Net weight	27.0 lbs.. (12.3 kg)	20.0 lbs.. (9.1 kg)	20.0 lbs.. (9.1 kg)	13.0 lbs.. (5.9 kg)	9.5 lbs.. (4.3 kg)	7.0 lbs.. (3.2 kg)

SPECIFICATIONS

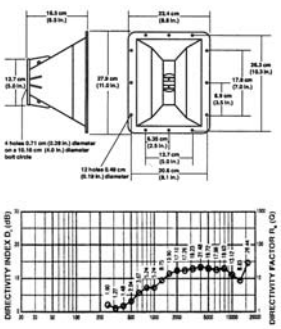
	HP1240	HP64	HP66	HP94	HPT64	HPT94
Coverage (H° x V° nominal)	120° x 40°	60° x 40°	60° x 60°	90° x 40°	60° x 40°	90° x 40°
Directivity Factor (average)	8.6 (+2.5, -2.1) (1,250 Hz – 20 kHz)	18.1 (+4.1, -8.8) (1,600 Hz – 20 kHz)	17.9 (+10.5, -9.3) (1,600 Hz – 20 kHz)	10.1 (+5.8, -1.8) (1,600 Hz – 20 kHz)	15.8 (+5.2, -4.9) (3,150 Hz – 20 kHz)	11.6 (+5.0, -2.5) (3,150 Hz – 20 kHz)
Directivity Index (average)	9.34 dB (+1.1, -1.2) (1,250 Hz – 20 kHz)	12.6 dB (+0.9, -2.9) (1,600 Hz – 20 kHz)	12.5 dB (+2.0, -3.0) (1,600 Hz – 20 kHz)	10.0 dB (+2.0, -0.8) (1,600 Hz – 20 kHz)	12.0 dB (+1.2, -1.6) (3,150 Hz – 20 kHz)	10.6 dB (+1.6, -1.0) (3,150 Hz – 20 kHz)
Useable low-frequency limit	400 Hz	650 Hz	650 Hz	800 Hz	1,600 Hz	1,600 Hz
Throat entrance	2" bolt-on	2" bolt-on	2" bolt-on	2" bolt-on	1" bolt-on	1" bolt-on
Height	13.0" (330 mm)	11.0" (279 mm)	11.0" (279 mm)	11.0" (279 mm)	5.25" (133 mm)	5.25" (133 mm)
Width	21.0" (533 mm)	8.8" (224 mm)	8.8" (224 mm)	8.75" (222 mm)	5.25" (133 mm)	5.25" (133 mm)
Depth	10.4" (265 mm)	8.7" (220 mm)	6.5" (165 mm)	8.7" (220 mm)	4.1" (104 mm)	4.0" (101 mm)
Net weight	7.0 lbs.. (3.2 kg)	4.5 lbs.. (2.5 kg)	4.8 lbs.. (2.2 kg)	4.5 lbs.. (2.5 kg)	0.8 lbs.. (0.4 kg)	0.8 lbs.. (0.4 kg)

Small format horns

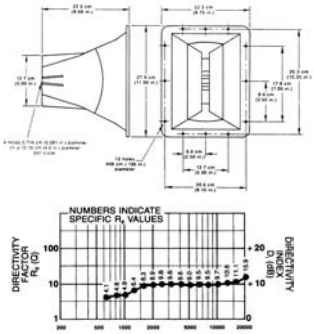
HP 64



HP 66



HP 94



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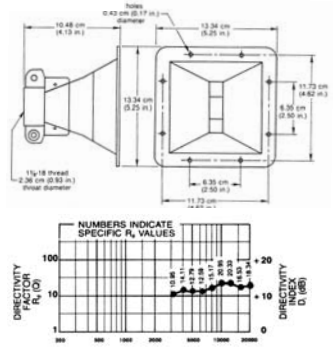

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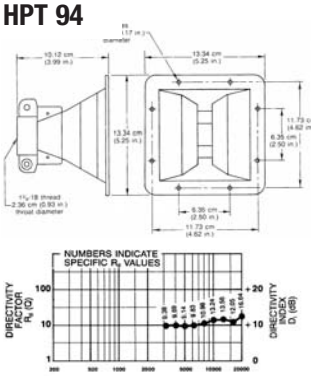
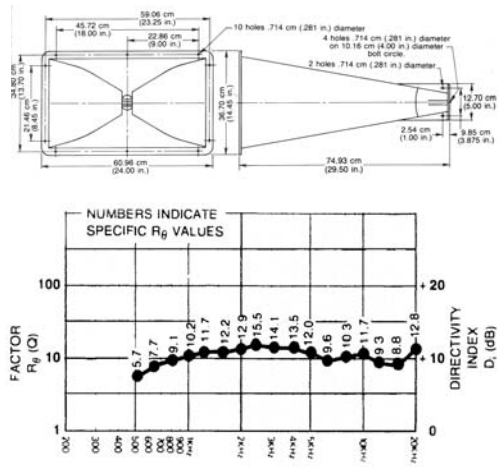
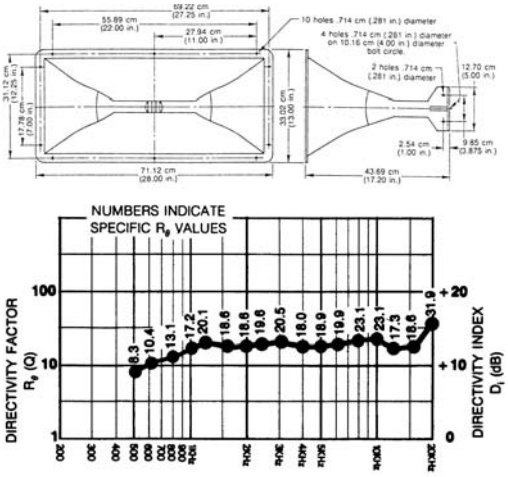


Medium format horns

HP420



HP640



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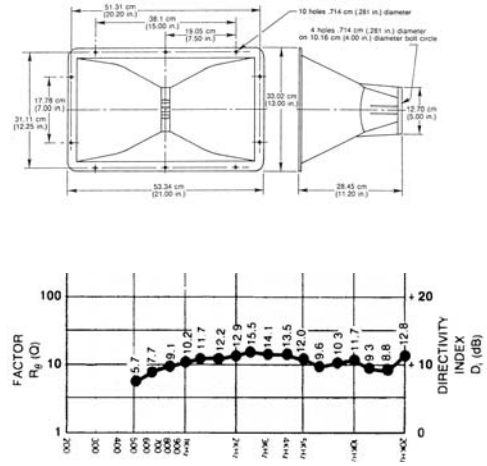
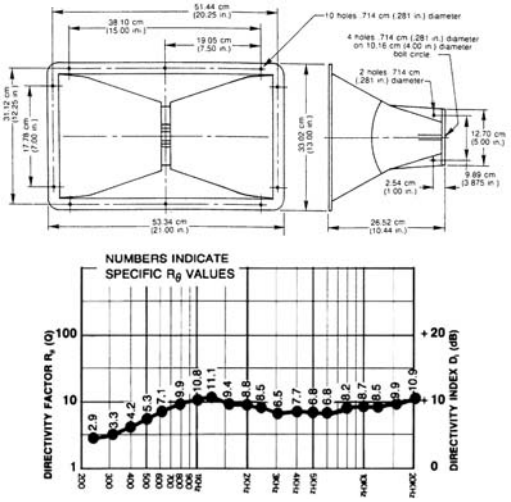


HP1240



Hardware

MUSIC INDUSTRY

Force i™

100BK	Speaker stand for EV systems with integral stand mount (or Sx80MB stand-mount adapter for Sx80) or any system up to 110 lbs.. (1-3/8-inch shaft diameter), black

Sx Series™

100BK	Speaker stand for EV systems with integral stand mount (or Sx80MB stand-mount adapter for Sx80) or any system up to 110 lbs.. (1-3/8-inch shaft diameter), black
F200	Monitor feet for Sx100, Sx300 and Sx300a (pair)
G500	Full-face steel grille for Sx500, black (for indoor use only)
Mb100	Forged eyebolt attachment kit (set of three) for single sb121, Sx100, or Sx300
Mb200	Wall/ceiling U-bracket kit for Sb121, Sx100, Sx300 and Sx300a, black
Mb200W	Wall/ceiling U-bracket kit for Sb121, Sx100, Sx300 and Sx300a, white
Mb300	Horizontal array kit for side-by-side arraying of two Sb121, Sb121a, Sx100+, Sx300 or Sx300a (use a second Mb300 to array three systems; the Mb300 requires one Mb200 U-bracket kit per speaker system), black
Mb300W	Horizontal array kit for side-by-side arraying of two Sb121, Sb121a, Sx100+, Sx300 or Sx300a (use a second Mb300 to array three systems; the Mb300 requires one Mb200 U-bracket kit per speaker system), white
Mb500	Wall/ceiling U-bracket for Sx500+, black
Mb600	Horizontal array kit for side-by-side array of two Sx500+s (use more Mb600s to array up to six systems; the Mb600 requires one Mb500 U-bracket kit per speaker system), black
Mb700	Forged eyebolt attachment kit (set of three) for a single Sx500, black
PD500	Padded case for Sx500+
PDSx	Padded case for Sx100, Sb121, Sb121a, Sx300 and Sx300a
Sk1	Suspension kit for SxA250
Sx80MBB	Wall/ceiling U-bracket for Sx80, black
Sx80MBW	Wall/ceiling U-bracket for Sx80, white
Sx80SM	Stand-mount adapter for Sx80
Sxzb	Zippered tote bag for SxA100, Sx100+, Sx300, or two Sx80 cabinets
VPC500	Vinyl cover for Sx500+
VPCSx	Vinyl cover for Sx100, Sb121, Sb121a, Sx300 and Sx300a

T-Series™

100BK	Speaker stand for EV systems with integral stand mount (or Sx80MB stand-mount adapter for Sx80) or any system up to 110 lbs.. (1-3/8-inch shaft diameter), black

FIXED INSTALL

EVI Vari Intense®

EBK-1	Eyebolt kit of three 3/8-16 forged shoulder bolts
EVI-12MB-BLK	Mounting bracket for EVI-12, black
EVI-12MB-WH	Mounting bracket for EVI-12, white
EVI-15MB-BLK	Mounting bracket for EVI-15, black
EVI-15MB-WH	Mounting bracket for EVI-15, white
EVI-28MB-BLK	Wall/ceiling U-bracket for EVI-28, black
EVI-28MB-WH	Wall/ceiling U-bracket for EVI-28, white

Horns: Throat Adapters

ADH3	1" screw-on entrance to 1.4" bolt-on exit
ADH5	1" screw-on entrance to 2" bolt-on exit
ADH6	1.4" screw-on entrance to 2" bolt-on exit
MTA-22	Manifold horn adapter for two-driver coupling: Two 1.4" bolt-on entrances to 2" bolt-on exit

Xi Hardware

Mb-1082	Wall/Ceiling mounting bracket for Xi-1082

X^{LC}i Accessories

X^{LC}i Grid A2	Aluminum grid comprises two side arms and two spreader bars. Supports 16 cabinets at 8:1 safety margin.

COMMERCIAL

EVID Ceiling Speaker Hardware

RPK-42	Rough-in package for new construction (C4.2 only; package of 2).
RPK-82	Rough-in package for new construction (C8.2/C8.2LP only; package of 2).
RPK-810	Rough-in package for new construction (C8.2HC/C10.1 only; package of 2).
RR-42	Rough-in mounting plate for new construction (C4.2 only; package of 4).
RR-82	Rough-in mounting plate for new construction (C8.2/C8.2LP only; package of 4).
RR-810	Rough-in mounting plate for new construction (C8.2HC/C10.1 only) (package of 4).

S Series

S-40MBB	Wall/ceiling/stand U-bracket for S-40, black (pair)
S-40MBW	Wall/ceiling/stand U-bracket for S-40, white (pair)

CONCERT

X-Array™ X-Series™

Xrhg	Grid rigging hinge (attaches rear of top X-Array X-Series to the rear of a compatible grid)
Xrhl	Linking rigging hinge (attaches two X-Array X-Series systems at the rear)
Xrhp	Pickup rigging hinge (creates custom assemblies to attach to the rear of the top X-Array X-Series system when an ATM Fly-Ware™ grid is not used)
Xrsl	Long rigging strap (used at front of two X-Array X-Series systems to adjust their relative vertical angle)
Xrss	Short rigging strap (attach the rear of the top X-Array X-Series system to the ATM Fly-Ware grid)

X-Line™

Xdol/b	X-Line bottom dolly
Xdol/f	X-Line grille face dolly
Xlgd	X-Line grid (steel)
Xvhg	Rear grid rigging hinge (joins rear of top X-Line cabinet to compatible hanging grid; use in pairs)
Xvhl	Rear linking hinge (couples two X-Line cabinets at the rear; use in pairs)
Xvsg	Front grid rigging chain (joins top X-Line cabinet to compatible hanging grid; use in pairs)
Xvsl	Front linking chain (used to couple X-Line cabinets and adjust their relative vertical angle; use in pairs)

X^{LC} Hardware

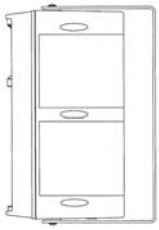
XCOV 118	Weather-resistant cover fits X^{LC}118. Sold only in pairs.
XCOV 127	Weather-resistant cover fits X^{LC}127 or Xlc127+. Sold only in pairs.
XFD 118	X^{LC}118 grille-face dolly. Sold only in pairs.
XFD 127	X^{LC}127/127+ grille-face dolly. Sold only in pairs.
X^{LC} Grid A1	Aluminum grid comprises two side arms and two spreader bars. Supports 16 cabinets at 8:1 safety margin.

Hardware

wh White

Sx80

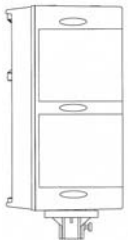
Wall or ceiling mount



For cost effective installation.

Sx 80 MBB black
Sx 80 MBW white

Stand mount



For speakers stands with 35 mm diameter.

Sx 80 SM black

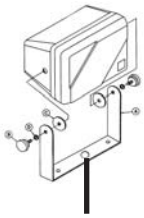
Sx250/SxA250

RK-2 Rigging Kit

wh White

S-40

Wall, ceiling or stand mount

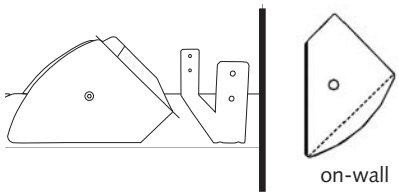


Note: The threat diameter can be reduced with a standard 5/8-inch screw adapter for different mic stand types.

S-40 MB/B: black
S-40 MB/W: white

FRi-2082

Under balcony or on-wall mount

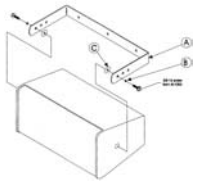


on-wall

The 100° x 100° dispersion angle allows one to install FRi-2082 vertically on the wall as well. Mounting bracket **comes with FRi-2082.**

Xi-1082

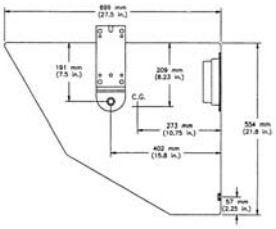
Under balcony or on-wall mount



MB-1082: black
Optional bracket

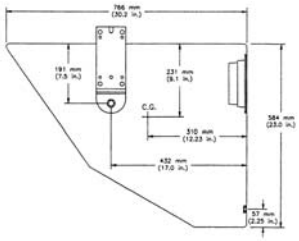
wh White

EVI-12 Ceiling mount



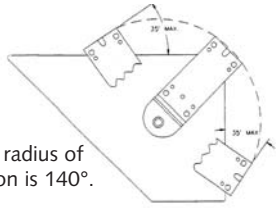
EVI-12MBB black
EVI-12MBW white

EVI-15 Ceiling mount



EVI-15MBB black
EVI-15MBW white

EVI-28 Wall or ceiling mount



The radius of action is 140°.

EVI-28MBB black
EVI-28MBW white

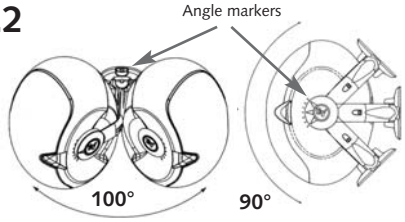
EBK-1

Optional eyebolt kit of three 3/8"-16 forged shoulder eyebolts

wh White

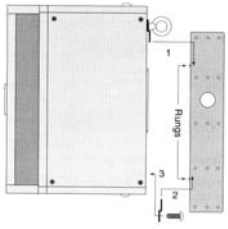
EVID 3.2/4.2/6.2

SAM™ **comes with each EVID™** system and includes a hex-key-tool. SAM™ has angle markers to make installation easier.



EVID 12.1

Bracket passed EIA 636 at a safety factor of 8:1. The Bracket for on-wall or corner mounting and a safety eyebolt comes with EVID 12.1.

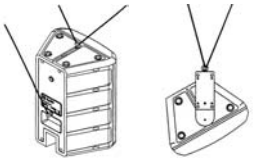


Note: Flying and suspending of speakers requires authorized personnel

Hardware

Sx100/300

1) MB 100
2) MB 100 + MB 200
Security advice:
When flown by 90° (figure 2) don't use eyebolts only!

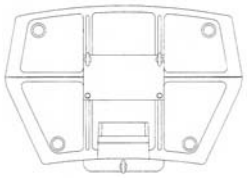


1) 2)

Sx500+

MB 700 - Kit contains:

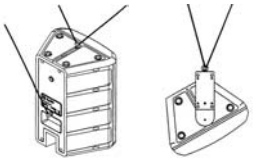
3 lifting eyebolts
1 mounting plate
1 pull-up mounting plate



Security advice:
Do not screw MB 100 directly into M8 thread.

Sb121

1) MB 100
2) MB 100 + MB 200
Security advice:
When flown by 90° (figure 2) don't use eyebolts only!



1) 2)

FRi 122/152/181

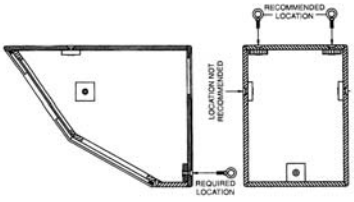
4 Eyebolts included

FRX+Systems

2 single stud Ancra fittings included

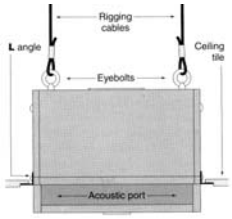
EVI 12/15

EBK-1 (Eyebolt Kit)
(3 eyebolts)



EVID 12.1

1 bracket and 1 eyebolt is included for safety tether.



Note: One 3/8"-16-thread forged steel eyebolt is included for safety tether.
A second eyebolt is necessary if suspending face-down in ceiling.

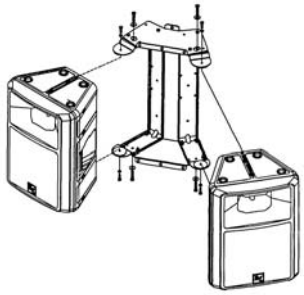
Note: Flying and suspending of speakers requires authorized personnel

Hardware

Sx100/Sx300/Sb121

Horizontal Cluster 120° (2 systems)

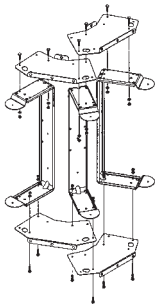
wh White



2 x MB 200 + 1 x MB 300 necessary

Horizontal Cluster 180° (3 systems)

wh White



3 x MB 200 + 2 x MB 300 necessary

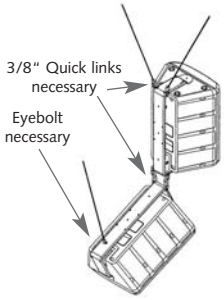
Wall or ceiling-mount

wh White

1 x MB 200 necessary

Vertical Cluster

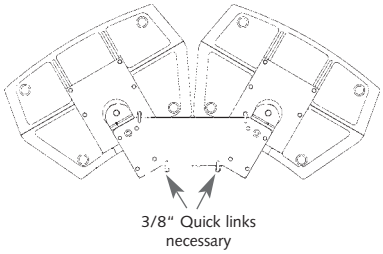
wh White



2 x MB 200 necessary

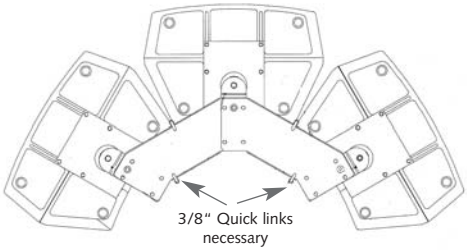
Sx500+

Horizontal Cluster 140° (2 systems)



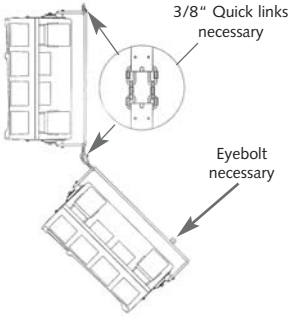
2 x MB 500 + 1 x MB 600 necessary

Horizontal Cluster 210° (3 systems)



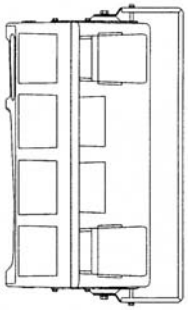
3 x MB 500 + 2 x MB 600 necessary

Vertical Cluster



2 x MB 500 necessary

Wall-mount



1 x MB 500 necessary

Sx-Series™ hardware overview:

Sx 80	Sx80SM	Stand mount	black
	Sx80 MBB	U-bracket	black
	Sx80 MBW	U-bracket	white
Sx100+	MB 200 B	U-bracket	black
Sx300	MB 300 B	Array-kit (2 plates)	black
Sb121	MB 300 W	Array-kit (2 plates)	white
Sx500 +	MB 500	U-bracket	black
	MB 600	Array-kit	black

Note: Flying and suspending of speakers requires authorized personnel

Amplifiers

The Precision Series™ (P-Series) — EV's top line of power amplifiers — has become a world standard in touring business. Their extreme reliability, high-level sound and durable design made them the amp of choice for the Rolling Stones´ world concert tour. A two-year tour is torture for any piece of touring equipment and EV's speakers and amplifiers did an outstanding job, and not only from an acoustical point of view. In the two-year period, one fuse blew in only one of the amplifiers.

All EV amps are equipped with a unrivaled and complete protection and safety package for maximum sound performance. Their technical specs represent the highest league of professional power amplifiers. Precision Series™ guarantees among other things outstanding transient response for unsophisticated sound reproduction of the original signal and extremely low dynamic distortion ensuring excellent sound quality. Q-Series and CPS-Series are based on Precision Series™.

Q-Series

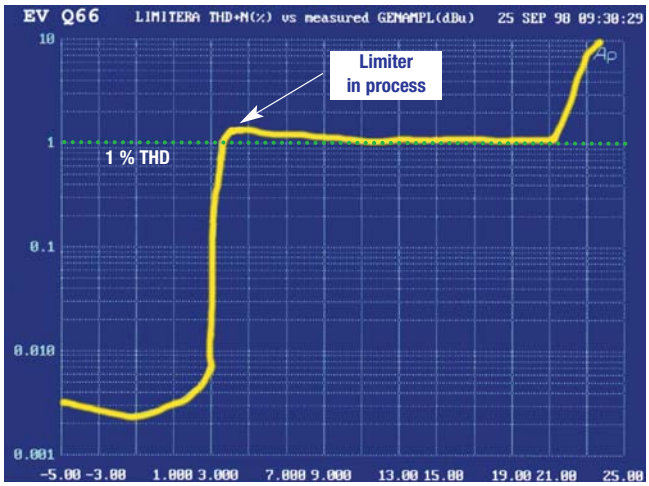
Q-Series is based on EV's world famous P-Series. They contain all features listed above and guarantee the same high quality, in cost effective packages of 2 x 450 W and 2 x 600 W output power.

Q-Series comes with a stable 3 RU zinc plated steel housing with rear-mounted dB-scaled level controls.

All EV-Amplifiers feature:

- Dynamic audio limiters (shown right)
- Switchable limiter time constant (P-Series)
- Peak current limiters
- Inrush current limiters
- Turn-on delay ("soft-start")
- Excessive high frequency (RF) protection
- Excessive Back-EMF protection
- DC fault protection
- Shorted loads protection
- High temperature protection controls thermal overload of the power transistors and the transformer
- Low-noise 3-stage resp. 4-stage fans with front-to-rear airflow
- Up to 30% headroom of power capability
- Generous power-supply construction
- Flexible Input routing (mono parallel, stereo)
- Stable and safe operation on 2 Ω load
- Bridge-mode operation on 4 Ω load
- Highest quality standard "Made in Germany"
- High-level sound performance
- Extreme reliability

Dynamic Limiter



Dynamic limiters limit THD to 1% max. for input signals up to 21 dBu gain.

SPECIFICATIONS	Q 44	Q 66
Continuous rated power (1 kHz, THD 1 %)		
2 Ω	650 watts	850 watts
4 Ω	450 watts	600 watts
8 Ω	280 watts	380 watts
Continuous rated power (20 - 20 kHz, THD < 0,2%)		
2 Ω	450 watts	650 watts
4 Ω	350 watts	550 watts
8 Ω	230 watts	300 watts
Max. bridged output		
4 Ω	1,300 watts	1,700 watts
8 Ω	900 watts	1,200 watts
Slew rate	> 25 V / µs	> 30 V / µs
Total Harmonic Distortion	< 0.05 %	< 0.05 %
Intermodulation Distortion (SMPTE)	< 0.08 %	< 0.08 %
DIM 30	< 0.03 %	< 0.03 %
Damping factor 100 Hz / 1000 Hz	> 300 / > 200	> 300 / > 200
Crosstalk (at 1.000 Hz)	< 80 dB	< 80 dB
Signal-to-noise ratio (dB A-weighted)	> 105 dB	> 105 dB
Input Impedance (balanced)	20 kΩ	20 kΩ
Input Sensitivity (0 dBu factory setting)	0 dBu / +6 dBu	0 dBu / +6 dBu
Input connectors, parallel out	XLR in/out	XLR in/out
Output connectors	Speakon® (Pin 1)	Speakon® (Pin 1)
Dimensions (H x W x D)	5.25" x 19" x 15.17" 133 x 483 x 386 mm	5.25" x 19" x 15.17" 133 x 483 x 386 mm
Net weight	35.2 lbs.. (15 kg)	35.2 lbs.. (15 kg)

Contractor Precision Series (CPS) Amplifiers

The CPS Series are high-performance amplifiers with unmatched dynamic range capability, ensuring the most reliable operation favored by sound contractors in all sound reinforcement applications.

The CPS Series achieves its outstanding dynamic range through the use of our unique nonlinear signal monitor. This feature limits amplifier distortion to less than 1 percent, eliminating the "hard-edged" clipping which can destroy most speaker systems. The amplifier's power supply is specifically designed to deliver high peak signals, proving a burst signal output capability headroom more than 30% over their average continuous rating.

CPS 1

- Rear-mounted, dB-scaled level controls
- Retrofit kits available (crossover cards)
- THX® approved

CPS 2

- Rear-mounted, dB-scaled level controls
- Retrofit kits available (crossover cards)
- THX® approved

CPS 3

- Front-mounted, dB-scaled level controls
- Comes with cover knobs for control trims
- Dual power supply
- THX® approved

CPS 4

- Front-mounted, dB-scaled level controls
- Comes with cover knobs for control trims
- Dual power supply
- THX® approved

CPS2T

- High-quality, high-Z output amplifier
- Unique TSP protection circuit, which secures against low-frequency distortion by measuring the transformer saturation at each power level
- Brings CPS quality and performance to 100/70-volt applications

CPS 1 Back

CPS 2 Back

CPS 3 Back

CPS 4 Back

CPS 2T Back

SPECIFICATIONS

	CPS1	CPS2	CPS3	CPS4	CPS2T
Maximum power (1k Hz; THD <1%)					
2 Ω	650 W	850 W	1,200 W	1,800 W	850 W
4 Ω	450 W	600 W	900 W	1,300 W	600 W (70V: 500)
8 Ω	280 W	350 W	560 W	850 W	380 W
Rated power (20 Hz–20 kHz; THD <0.2%)					
2 Ω	450 W	650 W	1,000 W	1,500	650 W
4 Ω	350 W	500 W	800 W	1,200 W	500 W (70V: 580)
8 Ω	230 W	300 W	500 W	750 W	33 W
Maximum bridged output (1,000 Hz; <1% THD)					
4 Ω	1,300 W	1,700 W	2,400 W	3,600 W	1,700 W
8 Ω	900 W	1,200 W	1,800 W	2,600 W	1,200 W (100V: 1,160)
Slew rate	25 V/µs	30 V/µs	35 V/µs	40 V/µs	30 V/µs
Total harmonic distortion	<0.05%	<0.05%	<0.05%	<0.05%	<0.05% (100V: <0.2%)
Intermodulation distortion (SMPTE)	<0.08%	<0.08%	<0.01%	<0.01%	<0.08% (100V: <0.3%)
Crosstalk (at 1,000 Hz)	<-80 dB	<-80 dB	<-70 dB	<-80 dB	<-80 dB
Input impedance (balanced)	20 kΩ	20 kΩ	20 kΩ	20 kΩ	20 kΩ
Input Connectors	XLR parallel in/out phoenix type	XLR parallel in/out phoenix type	XLR parallel in/out	XLR parallel in/out	XLR parallel in/out phoenix type
Output Connectors	4-pole barrier strip	4-pole barrier strip	Neutrik® Speakon® (Pin 1)	Neutrik® Speakon® (Pin 1)	12-pole terminal block (inc. 12-pole removable plug)
Signal-to-noise ratio (dB A-weighted)	>105 dB	>105 dB	>105 dB	>105 dB	>105 dB
Dimensions (H x W x D)	5.2" x 19" x 15.2" 133 x 483 x 386 mm	5.2" x 19" x 15.2" 133 x 483 x 386 mm	5.2" x 19" x 15.4" 133 x 483 x 390 mm	5.2" x 19" x 15.4" 133 x 483 x 390 mm	5.2" x 19" x 15.2" 133 x 483 x 386 mm
Net weight	33.1 lbs. (15 kg)	35.3 lbs. (16 kg)	59.5 lbs. (27 kg)	63.9 lbs. (29 kg)	49.6 lbs. (22.5 kg)

Precision Series™ Linear Amplifiers

The Precision Series™ (P-Series) is EV's top line of linear power amplifiers. Their extreme reliability, high-level sound and durability make them the professional's choice among rental companies and musicians.

For flown applications in the touring market, rear rack mount kits are available to help stabilize the rack frame and ensure safe transportation.

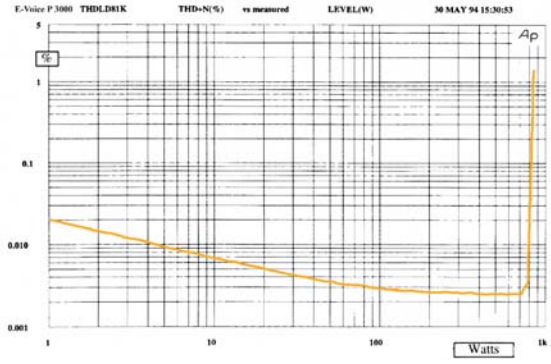
P 1200

- Compact, 2 RU chassis
- Switchable limiter constant (fast/slow)
- Switchable Lo- and Hi-cut filter
- Input transformer optional (NRS 90176)
- Selectable input sensitivity with 26 dB constant gain option (internal)

P 2000 / P 3000

- Dual power-supply
- Switchable limiter constant (fast/slow)
- Switchable Lo- and Hi-cut filter
- Input transformer optional (NRS 90176)
- Selectable input sensitivity with 26 dB constant gain option (internal)

THD + N versus power output of a P 3000.



SPECIFICATIONS

	P 1200	P 2000	P 3000
Continuous rated power (1 kHz, THD 1 %)			
2 Ω	800 watts	1,200 watts	1,800 watts
4 Ω	550 watts	900 watts	1,300 watts
8 Ω	370 watts	560 watts	850 watts
Continuous rated power (20 - 20 kHz, THD < 0,1%)			
2 Ω	600 watts	1,000 watts	1,500 watts
4 Ω	500 watts	800 watts	1,200 watt
8 Ω	350 watts	500 watts	750 watts
Max. bridged output			
4 Ω	1,600 watts	2,400 watts	3,600 watts
8 Ω	1,100 watts	1,800 watts	2,600 watts
Slew rate	> 30 V / µs	> 35 V / µs	> 35 V / µs
Total Harmonic Distortion	< 0.05 %	< 0.05 %	< 0.05 %
Intermodulation Distortion (SMPTE)	< 0.01 %	< 0.01 %	< 0.01 %
DIM 30	< 0.01 %	< 0.01 %	< 0.01 %
Damping factor 100 Hz / 1000 Hz	> 400/ > 300	> 400/ > 300	> 400/ > 300
Crosstalk (at 1,000 Hz)	< -70 dB	< -70 dB	< -70 dB
Signal-to-noise ratio (dB A-weighted)	> 105 dB	> 105 dB	> 105 dB
Input Impedance (20-20 kHz, balanced)	20 kΩ	20 kΩ	20 kΩ
Input Sensitivity (0 dBu factory setting)	0 dBu / +6 dBu / +26 dB constant gain	0 dBu / +6 dBu / +26 dB constant gain	0 dBu / +6 dBu / +26 dB constant gain
Input connectors, parallel out	XLR in/out	XLR in/out	XLR in/out
Output connectors	Neutrik® Speakon® (Pin 1)	Neutrik® NL4MP Speakon®	Neutrik® NL4MP Speakon®
Dimensions (H x W x D)	3.5" x 18" x 16.8" 88 x 483 x 390 mm	5.2" x 19" x 16.8" 133 x 483 x 390 mm	5.2" x 19" x 16.8" 133 x 483 x 390 mm
Net weight	35.2 lbs.. (17 kg)	57.3 lbs.. (27 kg)	61.7 lbs.. (29 kg)

Precision Series™ Modular Amplifiers

P 1202

- Dual channel
- Modular controller amp concept
- Input transformer optional (NRS 90208)
- Without controller cards, useable as linear amp with fixed +6 dBu input sensitivity

P 1201

- Single channel
- Modular controller amp concept
- Input transformer optional (NRS 90208)
- Without controller cards, useable as linear amp with fixed +6 dBu input sensitivity

Control Modules

M-115

These controller cards provide customized system equalization, crossover design, and EV's unique voice-coil protection circuit (VCP) for use with EV loudspeakers (modules for QRx speakers are currently available). Cards for full-range systems feature a switchable 3,000 Hz (Q = 1, -3 dB) DIP-EQ and a flush-mounted operation mode switch. Each module also includes a "1-in-2" switch on the PCB board, allowing it to drive both channels of a P1202 independently while using only one controller card. Note that when a module is used, the amplifier's input sensitivity changes to 0 dBu.

The modular P-Series guarantees the same quality and performance standards as the linear P-Series but they are designed for dedicated EV systems, e.g. QRx Series. They combine the highest quality signal control, maximum speaker/operation safety and the extreme reliability of "linear" Precision-Series™ but all in a modular-controlled amplifier concept. All this adds up to maximum flexibility and an economic alternative to digitally controlled amp racks. Rear rack mount kits are available in a 15.5-inch version (NRS 90235) or 18-inch version (NRS 90223) to help stabilize the rack frame and ensure safe transportation.

SPECIFICATIONS	P 1201	P 1202
Continuous rated power (1 kHz, THD 1 %)		
2 Ω	1,600 watts	850 watts
4 Ω	1,200 watts	600 watts
8 Ω	750 watts	380 watts
Continuous rated power (20 - 20 kHz, THD < 0.2%)		
2 Ω	1,300 watts	650 watts
4 Ω	1,000 watts	500 watts
8 Ω	500 watts	300 watts
Max. bridged output		
4 Ω	N/A	1700 watts
8 Ω	(single channel)	1200 watts
Slew rate	> 40 V / µs	> 30 V / µs
Total Harmonic Distortion	< 0.05 %	< 0.05 %
Intermodulation Distortion (SMPTE)	< 0.08 %	< 0.08 %
DIM 30	< 0.03 %	< 0.03 %
Damping factor 100 Hz /1,000 Hz	> 300/ > 200	> 300/ > 200
Crosstalk (at 1,000 Hz)	---	---
Signal-to-noise ratio (dB A-weighted)	> 106 dB	> 106 dB
Input Impedance (20-20 kHz, balanced)	20 kΩ	20 kΩ
Input Sensitivity (without module)	6 dBu fix	6 dBu fix
Input connectors, parallel out	XLR in/out	XLR in/out
Output connectors	Neutrik® NLMP Speakon®	Neutrik® NLMP Speakon®
Dimensions (H x W x D)	5.2" x 19" x 16.8" 133 x 483 x 390 mm	5.2" x 19" x 16.8" 133 x 483 x 390 mm
Net weight (without modules)	37.5 lbs.. (17 kg)	37.5 lbs.. (17 kg)

SPECIFICATIONS	M-112	M-115	M-212
Dedicated for	QRx-112/75	QRx-115/75	QRx-212/75
Operation function	Full-range / Mid-High	Full-range / Mid-High	Full-range / Mid-High
Frequency Response (-6 dB) Full-range mode	27 Hz - 50 kHz	25 Hz - 50 kHz	27 Hz - 50 kHz
Frequency Response (-6 dB) Mid-High mode	75 Hz - 50 kHz	75 Hz - 50 kHz	75 Hz - 50 kHz
Adjustable gain-range	-85 dB to + 6 dB	-85 dB to + 6 dB	-85 dB to + 6 dB
S/N Ratio	< 105 dB	< 105 dB	< 105 dB
THD + N	< 0.05 %	< 0.05 %	< 0.05 %

SPECIFICATIONS	M-118S	M-218S	M-153
Dedicated for	QRx-118S	QRx-218S	QRx-153
Operation function	Subwoofer	Subwoofer	Bi-amp
Frequency Response (-6 dB) Full-range mode	25 Hz - 90 kHz	25 Hz - 90 kHz	27 Hz - 50 kHz
Frequency Response (-6 dB) Mid-High mode	---	---	40 Hz - 50 kHz
Adjustable gain-range	-85 dB to + 6 dB	-85 dB to + 6 dB	-85 dB to + 6 dB
S/N Ratio	< 108 dB	< 108 dB	< 105 dB
THD + N	< 0.05 %	< 0.05 %	< 0.05 %

Compact Precision Amplifier CP2200

CP2200

Available May 2003

Introducing the CP2200, EV enters a new era of compact and lightweight professional amplifiers. Similar to the famous P-Series, the CP2200's electrical reliability and mechanical ruggedness are only surpassed by its sonic qualities.

- 2 x 1100 W/2 Ω
- Class H design
- Lightweight: 15 kg
- 2 rack units high (3-1/2")

SPECIFICATIONS

	CP2200		
Load Impedance	8 Ω	4 Ω	2 Ω
Maximum Midband Output Power THD = 1%, 1 kHz, Dual Channel	500 W	800 W	1,100 W
Rated Output Power THD < 0.1%, 20 Hz ... 20 kHz	350 W	700 W	–
Maximum Single Channel Output Power Dynamic-Headroom, IHF-A	625 W	1,200 W	2,200 W
Maximum Single Channel Output Power Continuous, 1 kHz	550 W	950 W	1,500 W
Maximum Bridged Output Power THD = 1%, 1 kHz	1,600 W	2,200 W	–
Maximum RMS Voltage Swing THD = 1%, 1 kHz		72 V	
Power Bandwidth THD = 1%, ref. 1 kHz, half power @ 4 W		10 Hz - 60 kHz	
Voltage Gain, ref.1 kHz		32.8 dB	
Input Sensitivity at rated power @ 8W, 1 kHz		+ 4 dBu (1.23 Vrms)	
THD at rated output power, MBW = 80 kHz, 1 kHz		< 0.05%	
IMD-SMPTE 60Hz, 7 kHz		< 0.02%	
DIM30 3.15 kHz, 15 kHz		< 0.01%	
Maximum Input Level		+22dBu (9.76 Vrms)	
Crosstalk ref. 1 kHz, at rated output power		< -80dB	
Frequency Response ±1 dB, ref. 1 kHz		15 Hz - 40 kHz	
Input Impedance active balanced		20 kΩ	
Damping Factor 1 kHz		> 300	
Slew Rate		35 V/µs	
Signal to Noise Ratio Amplifier A-weighted, input sensitivity +4 dBu		105 dB	
Power Requirements		240, 230 V,120 V or 100 V; 50 Hz ... 60 Hz (factory configured)	
Power Consumption at 1/8 maximum output power @ 4 W, +10%		660 W	
Protection		Audio limiters, High temperature, DC, HF, Back-EMF, Peak current limiters, Inrush current limiters, Turn-on delay	
Cooling		Front-to-rear, 4-stage-fans	
Dimensions (W x H x D)		3.5" x 18" x 15.7" 483 x 88.1 x 386.8 mm	
Weight		35.2 lbs.. (15 kg)	

Precision Series Remote Amplifiers

Electro-Voice has 75 years of experience in the design and manufacturing of loudspeakers and microphones. But many are not aware that Electro-Voice has 50 years of design experience in power amplifiers and more than 20 years in digital audio processing.

An unwavering commitment to satisfying customer needs made Electro-Voice become a leading manufacturer of sound reinforcement systems for stadiums, arenas, multi-purpose venues, theaters and cinemas around the globe. Due to their sonic purity and extreme reliability EV's amplifiers became established with top concert-sound and professional installation projects worldwide. The Precision Series is the flagship of EV's amplifier product line. An uncompromising design for the highest level of demand.

The new DSP Controlled P Series amplifiers combine legendary performance with an uncompromised remote control and system supervision capability. Utilizing state-of-the-art technologies from our signal processor developments (dynamics >114 dB) we guarantee to provide superior audio performance.

DSP Controlled Precision Series Amplifiers

- Remote control and supervision of up to 250 amplifiers via one or multiple PCs.
- Central supervision of all amplifiers and connected loudspeakers (system check)
- State-of-the-art signal processing (Filter, Delay, Level, Dynamics)
- Display of the acoustical response of EV speakers in real-time (RACE)
- Integration with life-safety systems and control of external equipment
- Exceptional audio performance and extreme reliability

RCM-24:
The Digital Engine with more than 115 dB Dynamics

Remote Control

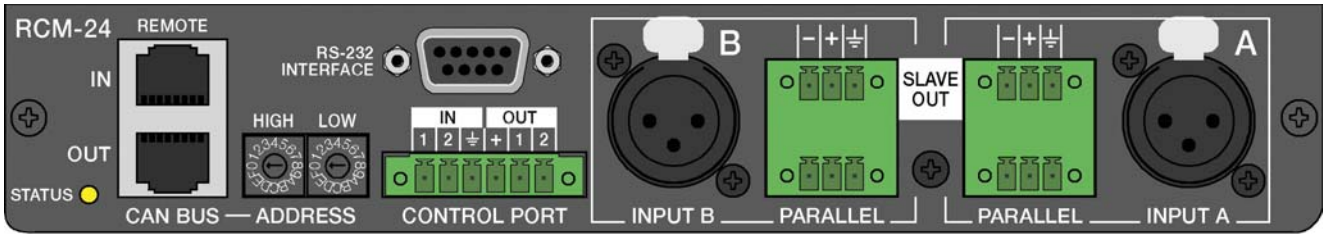
- Remote control of all amplifier parameters
- Centralized system configuration
- Preset and program change for different applications
- Control via one or multiple PC's with discretionary access control

Signal Processing

- 12 filters, 2 delays, compressor and limiter per channel
- RACE Processed Presets for EV speakers available

Total Supervision

- All amplifier operation modes are controlled and monitored
- Automated action procedures on critical operation modes are programmable
- Full time supervision of loudspeaker lines for short-circuit and interrupt
- Full frequency bandwidth measurement of speaker impedance and display of impedance curve showing tolerances



In and out jacks for CAN bus on RJ45 connectors - CAT-5 cabling (includes audio monitoring signal) RS-232 interface to connect to media control systems

Control port with GP in and out termination (0 to 5V) for external control, free programmable functionality (i.e. integration into life-safety and evacuation systems). Audio signal input on XLR connector, parallel out and DSP out on Phoenix connector.

AD/DA-conversion in 24 bit resolution and 128-times oversampling (linear phase); internal word length 48 bit. This allows the RCM-24 to offer a total dynamic in exceed of 115 dB, an unequalled value for digital signal processing in power amplifiers.

Precision Series Remote Amplifiers

Range of Amplifiers for High and Low Impedance Applications

P3000 RL

The flagship, with 2 x 1300 watts into 4 and 2 x 1800 watts into 2 ohms, the digital controlled version of the legendary P3000 amplifier. Speaker outputs on Speakon® NL4 connectors.

P1200 RL

The universal with 2 x 600 watts into 4 and 2 x 850 watts into 2 Ohms. Speaker outputs on barrier strip.

R900 RL

Featuring 2 x 450 watts into 4 and 2 x 650 watts into 2 ohms the P900RL is dedicated for HF drive in multi-way systems. Speaker outputs on barrier strip.

P1200 RT

High impedance output for 100/70V-lines with 2 x 590 watts.

The dynamic limiter circuit includes the output transformer and limits THD to 1% maximum. Speaker outputs on barrier strip.

R900 RT

High impedance output for 100/70V-lines with 2 x 410 watts.

Speaker output on barrier strip.

IRIS Software

I.R.I.S. (Intelligent Remote Integrated Supervision) software allows configuration, control, and monitoring or up to 250 EV Remote Amplifiers from one central location

UCCI

USB to CAN bus interface for remote controlled amps.

SPECIFICATIONS

	P900 RL			P1200 RL			P3000 RL			P900 RT		P1200 RT	
	8Ω	4Ω	2Ω	8Ω	4Ω	2Ω	8Ω	4Ω	2Ω	100 V	70V	100 V	70V
Continuous Output Power (1 kHz, THD 1%)	280 W	450 W	650 W	380 W	600 W	850 W	850 W	1,300 W	1,800 W	410 W	400 W	590 W	580 W
Rated Output Power (20 Hz-20 kHz, THD <0,2%)	230 W	350 W	450 W	300 W	550 W	650 W	750 W	1,200 W	1,500 W	350 W	350 W	500 W	500 W
Maximum Bridged Output (1 kHz, THD 1%)	900 W	1,300 W	-	1,200 w	1,700 W	-	2,600 W	3,600 W	-	-	-	-	-
THD @ Rated Output Power	< 0.05%									<0.1%	<0.2%	<0.1%	<0.2%
DIM 30	<0.03%						<0.01%			<0.2%	<0.3%	<0.2%	<0.3%
Intermodulation (SMPTE)	<0.08%						<0.001%			<0.1%	<0.3%	<0.1%	<0.3%
Signal to Noise Ratio	> 105 dB									>100 dB			
Frequency Response (-1 dB)	20 Hz - 20 kHz									45 Hz - 20 kHz			
Dynamic Audio Limiter	THD < /= 1% (Input signal < /= + 20 dBu												
Protections	Hi-Temperature, DC, HF, Back EMF, Peak Current Limiter, Inrush Current Limiter, Power On Delay												
Cooling	3(4)-stage fan, front-to-rear cooling												
Input Sensitivity and Impedance	1.55 V (+6 dBu), 20 kΩ, XLR Input												
Maximum Input Level	8.7 V (+21 dBu)												
Serial Interface	Network: CAN, 2 RJ45 (CAT-5 Cabling), RS-232 for media control systems												
Control Logic in and Outputs	2 x 0V 5V free configurable, Easy-Remote												
Loudspeaker Connectors	Barrier Strip						Neutrik® Speakon® NL4			Barrier Strip			
Dimensions (Width x Height x Depth)	52" x 19" x 15.4" (483 x 132,5 x 390 mm) (3Ru)												
Net Weight	35.3 lbs.. (16 kg)			37.5 lbs.. (17 kg)			66.2 lbs.. (30 kg)			53 lbs.. (24 kg)		55.1 lbs. (25 kg)	

All measurements both channels driven into 8 ohms unless other specified.

Signal Processors

EV supplies the full spectrum of equipment for complete sound reinforcement reliability and performance. To ensure the best sound possible in your application, consider EV's innovative signal processing.

EQ-131

- Boost and cut 1/3-octave graphic EQ
- Variable-Q active filter sets allow effective equalization
- Each of the 31 1/3-octave filters provides 12 dB of boost or cut at ISO frequencies 20-20,000 Hz
- Excellent signal-to-noise ratio
- IEC connector allows compatibility with AC connections anywhere
- Integral fuseholder doubles as the voltage selector to for use anywhere

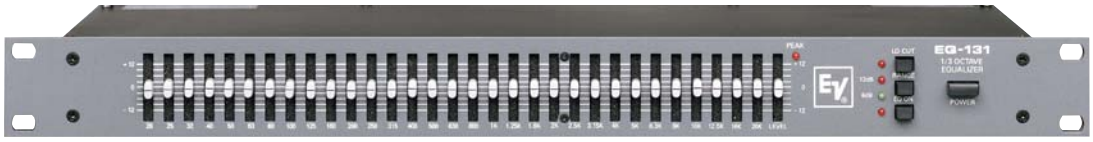
EQ-215

- Boost and cut 1/3-octave graphic EQ
- Variable-Q active filter sets allow effective equalization
- Each of the 15 2/3-octave filters provides 12 dB of boost or cut at ISO frequencies 25-16,000 Hz
- Excellent signal-to-noise ratio
- IEC connector allows compatibility with AC connections anywhere
- Integral fuseholder doubles as the voltage selector for use anywhere

EQ-231

- Boost and cut 1/3-octave graphic EQ
- Variable-Q active filter sets allow effective equalization
- Each of the 31 1/3-octave filters provides 12 dB of boost or cut at ISO frequencies 20 -20,000 Hz
- Excellent signal-to-noise ratio
- IEC connector allows compatibility with AC connections anywhere
- Integral fuseholder doubles as the voltage selector for use anywhere

EQ-131



EQ-215

EQ-231

SPECIFICATIONS

	EQ-131	EQ-215	EQ-231
Functions	Graphic EQ	Graphic EQ	Graphic EQ
Input/Outputs	1 in/1 out	2 in/2 out	2 in/2 out
Signal-to-Noise	>97 dB	>97 dB	>97 dB
Filter Slope	Variable Q	Variable Q	Variable Q
Connectors	Balanced XLR & 1/4-inch	Balanced XLR & 1/4-inch	Balanced XLR & 1/4-inch
Features	Low-cut filter	Low-cut filter	Low-cut filter
Height	1.73" (44 mm)	1.73" (44 mm)	3.46" (88 mm)
Width	19.0" (483 mm)	19.0" (483 mm)	19.0" (483 mm)
Depth	9.24" (235 mm)	9.24" (235 mm)	9.24" (235 mm)
Net Weight	7.48 lbs.. (3.4 kg)	6.0 lbs.. (2.7 kg)	8.8 lbs.. (4.0 kg)

AC One Analog Audio Controller

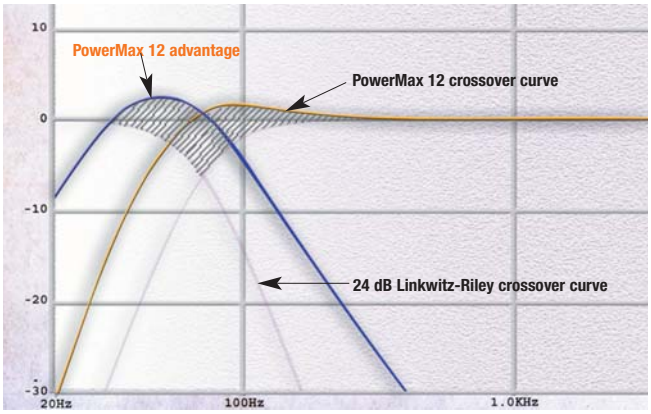
AC One Analog Audio Controller

The AC One analog audio controller has been designed for use in high-performance applications that employ small- to medium-size full-range systems with subwoofers. Its excellent audio performance, dynamic range of 117 dB, extremely low noise level, and outstanding price-performance ratio make the AC One an advantageous alternative to conventional crossover and controller solutions. It is possible to meet the tough demands of modern audio applications – such as high sound pressure level, coverage, and sound quality – only by using a biamped loudspeaker system which can fully separate, amplify, and reproduce the audio signal´s frequency ranges. The PowerMax 12 crossover function brings the low-frequency performance of bigger systems to compact systems. The AC One guarantees highly economical system applications without loss of performance, and helps to save on application space.

Inputs and outputs are active balanced. The inputs can be fitted with optional high-quality input transformers (NRS 90208). The outputs feature output relays which protect against unwanted noise in case of power failure.

The PowerMax 12 Advantage and its Unique EQ Section

The new PowerMax 12 crossover function (patents pending) makes the best possible use of amplifier output power and loudspeaker transmission capacities. Compared to other regular crossover designs on the market, PowerMax 12 delivers an extra 3 dB SPL at the crossover point, something which cannot be achieved by normal equalization alone. In addition, speaker overload and amplifier clipping are dramatically reduced. The PowerMax 12 crossover function silences the oft-heard complaint: “It needs more punch and definition.” In addition, a 12-dB (Q: 1.0) lo-cut filter and a unique 3-band equalizer featuring the patented LPN filter allows for flexible, easy, and quick system adjustments.



Accessories

Part number	Option/accessory
PA 1	Clear acrylic cover
NRS 90208	Input transformer

SPECIFICATIONS — AC One

Crossover type	2-way stereo + sub mono
Crossover frequency (sweepable)	45 –160 Hz
Crossover filter type	PowerMax 12
Filter options (adjustable)	Lo-cut/3-band EQ
Frequency response (-3 dB @ 1 kHz)	16 Hz–150 kHz
Nominal gain	0 dB
Maximum gain	+12 dB
Dynamic range (+20 dBu, a-weighted)	117 dB
THD + N (20 Hz–20 kHz, +6 dBu)	<0.02%
THD + N (typical, +6 dBu)	0.003%
Crosstalk attenuation	>80 dB
Mute switch rejection	>90 dB
Level control attenuation	>80 dB
Input impedance	20 k Ω

SPECIFICATIONS — AC One

Maximum level (inputs: A, B)	+20 dBu
Rated level (inputs: A, B)	+6 dBu
Gain range (inputs: A, B)	-∞ to +6 dB
Output impedance (HI, LO, SUB)	75 Ω
Maximum level (outputs: HI, LO, SUB)	+20 dBu
Rated level (outputs: HI, LO, SUB)	+6 dBu
Gain range (outputs: HI, LO, SUB)	-∞ to +6 dB
Input/output connectors	XLR (active balanced)/ Inputs with parallel out
Power consumption	17 W
Power requirements 50-60 Hz (switchable)	100–120 V/220–240 V
Dimensions (H x W x D)	1.72” x 19” x 8.92” 43.6 x 483 x 226.5 mm (1 RU)
Net weight	7.07 lbs (3.2 kg)

Dx38 (Digital Sound System Processor)

Digital Sound System Processor

Dx 38 sets standards for digital loudspeaker controllers and processors, providing 48-bit filter algorithms, 24-bit AD/DA conversion and a dynamic range of 115 dB. Dx38 can be used in networks of up to 31 controllers with a maximum networking distance of 1,000 meters. Real-time controlling and configuration is either via the front panel or PC via RS-232, MIDI or RS-485 bus for networking.

Dx38 is a 2 in / 4 out controller with a virtual third input source. It has a mono sum of both input channels to maximize flexibility. Two configuration modes allow clearer handling for different qualified users. 30 user memories and 50 factory presets can be managed.

The Dx38 comes with a detailed manual plus RACE software including current EV speaker and amp data.

RS-485

RS-485 Remote Interface for Dx38

DCN 485

DCN 485 PC Converter (RS-485 to RS-232)

Accessories

Available Options and Accessories:

PA 1	Acrylic glass cover 19"/1 RU
NRS 90244	Input transformer
NRS 90247	RS-485 network interface
NRS 90246	Contact Closure interface for external "User preset" selection; 8 contacts (pin 1-8: activation, pin 9: common)

SPECIFICATIONS Dx 38

Controller type	2 (+1) in / 4 out
Data format	24-bit linear AD/DA conversion 48-bit processing
A/D conversion	24-bit / sigma-delta (linear phase) 128 times oversampling
D/A conversion	24-bit / sigma-delta 128 times oversampling
Sampling rate	48 kHz
DSP type	2 x 24-bit Motorola
Frequency response	20 - 20 kHz (- 0.5 dB)
Dynamic Range (typical)	115 dB
THD (without input transformer)	< 0,01 %
THD (with input transformer)	< 0,05 %
Input connectors	2 XLR (elec. balanced), parallel out
Input voltage (nominal)	1.55 V / + 6 dBu
Maximum input voltage	24.5 V / + 30 dBu
Input impedance	20k Ω
Common mode rejection	> 40 dB
Output connectors	4 XLR (elec. balanced)
Output voltage (nominal)	1.55 V / + 6 dBu
Maximum output voltage	8.7 V / + 21 dBu
Output impedance	< 100 Ω
Minimum load impedance	600 Ω
Frequency crossovers (slopes)	6, 12, 18, 24 dB/oct.
Frequency crossovers (designs)	Butterworth, Bessel, Linkwitz-Riley
Filters (In- and Outputs)	26 (full) parametric Equalizers, Low-Shelving EQ (6, 12 dB slope), LPN (Lowpass-Notch) switchable, Hi-Shelving EQ (6, 12 dB slope), Lo-Cut filter (6 or 12 dB slope), B6 alignment, Hi-Cut filter (6 or 12 dB slope), All-Pass filter (1 st or 2 nd order), Phase invert (180°)
Digital Compressor	4 (1 each output) with graph
Digital Limiter	4 (1 each output) with graph
Delay3 master delays (2 ms - 900 ms)	4 channel delays (0 ms - 900 ms)
Delay-increment	21 µsec.
MIDI in/out/thru	Data dump, Master / Slave operation, Remote Control
Graphic LCD with LED-background light	122 x 32 dots
Locking function	via key-lock
Dimensions (WxHxD)	1.72" x 19" x 14.75" 483.0 x 43.6 x 374.0 mm
Weight net	17.03 lbs. (5.0 kg)

RACE Software

RACE

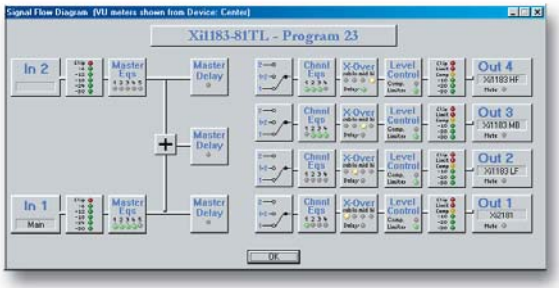
Software for Dx38

RACE is a professional audio tool to generate presets for speaker systems. In addition to the clear display of all used filters, delay and level settings, each output can be assigned with the acoustic data (phase and frequency response) of the individual speaker component.

This pure speaker data has been measured in free space. RACE then calculates the complex summation of all used filters, level and delay settings applied to these components. Thus the display on the screen is not only the electrical filter response but, for the first time, the actual true acoustic response of the component. Any change of parameter values is visible and audible in real time.

An additional tool is the SPL dispersion window for lower frequencies. Presets can even be prepared off-line in advance and need only a little tweaking once speakers are in place. RACE enables engineers to seamlessly integrate room influence, speaker positioning and parameter settings and a RACE Processed Preset is a guarantee for a solid, accurate basis from which to begin system tuning. EV supplies these presets for all current EV speaker systems, even if the needed combination is not part of the 50-factory preset of the Dx38.

Signal Flow Diagram



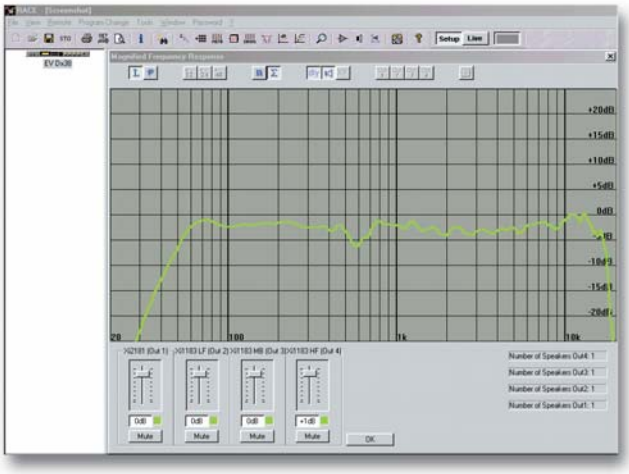
The signal flow diagram provides a clear overview of all available parameters. Immediately after the input metering there are five master equalizers per input available. Each of these filters can be set as hi- or lo-pass (6 dB/12 dB-Peaking), hi- or lo-shelf (6/12 dB) or as a fully parametric eq. Each activated filter is signaled by a green LED symbol.

Each input, or the sum of both inputs, can be delayed separately up to 900ms with the master delay. The fully flexible routing allows each input as well as the sum to be routed to any of the four outputs. Four filters per output are available with same filter functions as the master eq. In addition, an all-pass filter for phase corrections can be selected. The crossover section provides a hi- and a lo-pass-filter per channel and an output delay for alignment. The dynamics sections with independent compressor and limiter can be used for speaker protection.

The output meter display works like the whole editor in real-time. Level control and mute are available per channel.

All of these parameters on the Dx38 can easily be edited via the front control panel without using a pc. Once you try RACE however, you may never want to work without it!

Frequency Response

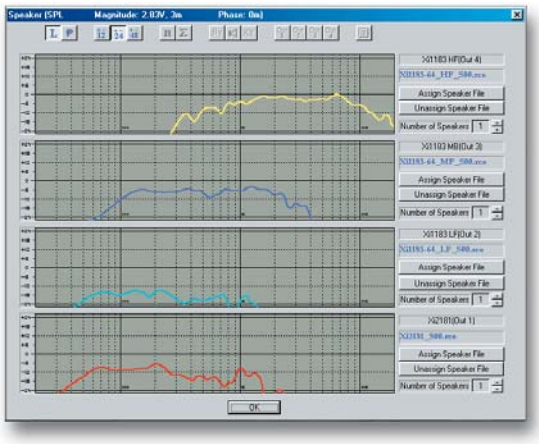


Overall Frequency Response

This example shows the acoustical response of Xi-1183/64 plus Xi-2181 (4-way) using the big Bode-Plot. Any change of parameters like level, filter or delays is displayed immediately. Even very complex array settings can be tuned simply and accurately.

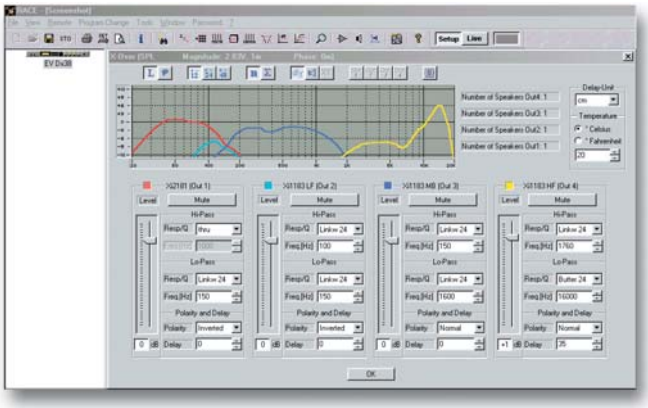
Download RACE software for the Dx38 for free from www.electro-voice.de

Real-Time Acoustical Cluster Editor



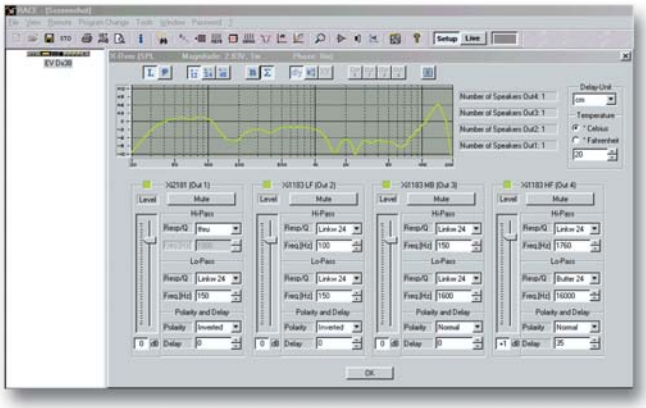
Speaker Assignment

In order to display the acoustical response of the complete system, the acoustical data of each speaker component (phase and magnitude) is assigned to the appropriate output. The data is measured in a free field. All influences of filter functions, levels and delay settings are then calculated. Thus RACE displays the acoustical response of a speaker system including all parameters used on the Dx38, but without any room influence – in real-time. This display is exclusive for EV speaker systems and helps to determine how to optimize the use of all digital parameter functions.



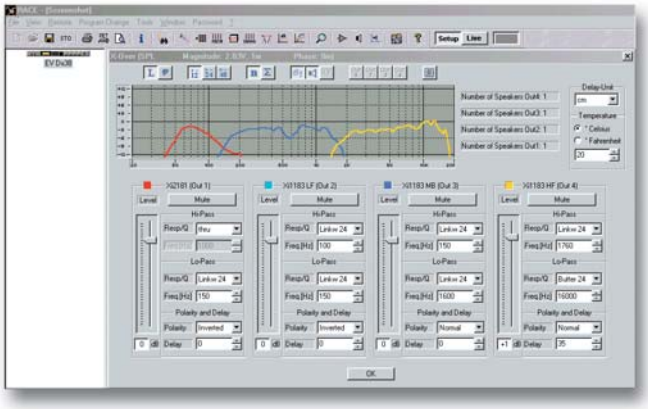
Filter Functions

This example shows 4-way set-up with Xi-1183 (3-way) plus Xi-2181 (Sub). Clearly displayed are the filter functions of each output including the master and channel eq settings. The resolution can be switched between ±12 dB, ±24 dB, or ±48 dB. It's also possible to change between frequency or phase response. Outputs of non-relevant speakers for this system can be removed from view. This example uses all four outputs. This preset is slightly complex as it uses, in addition to conventional x-overs, a wide overlap of Sub (Xi-2181) and Lo (Xi-1183LF).



Summation

This example shows for a 4-way set-up with Xi-1183 (3-way) plus Xi-2181 (Sub). Clearly displayed are the filter functions of each output including the master and channel eq settings. The resolution can be switched between ±12 dB, ±24 dB, or ±48 dB. It's also possible to change between frequency or phase response. Outputs of non-relevant speakers for this system can be removed from view. This example uses all four outputs. This preset is slightly complex as it uses, in addition to conventional crossovers, a wide overlap of Sub (Xi-2181) and Lo (Xi-1183LF).



Acoustical Response

However, adding the acoustical data of the raw components and amplifiers to this file, the display shows the real acoustical response caused by the actual parameter settings. Any change of a parameter is visible and audible immediately. The big advantage of this view is the independence of any room influence.

RACE is an industry first and unique in that the software shows the true frequency response of EV components in real-time as they behave in a free field.

Wired Microphones

N/DYM® Series

N/DYM® Series is different from other microphones. Excellent and clear sound, comfortable and safe handling, N/DYM® magnetic structure, EV's unique VOB™ technology and studio sound performance mark EV´s N/DYM® Series.

As part of a fixed installation, in studios, or on the road, EV N/DYM® microphones outperform any other microphone in their class.

N/D267a

N/D267as

- Vocal and speech microphone
- Entry into the world of high-performance mics
- Includes accessories
- On/off-Switch (as version)

N/D367s

- Premium vocal microphone
- Strong low-frequency response
- Great for female vocals
- On/off-Switch
- Includes accessories

N/D767a

- Top-class vocal microphone
- Multi-stage shock mount for unmatched low-handling noise
- Condenser mic performance
- Includes accessories

N/D967

- Concert sound vocal mic
- Highest gain before feedback
- Ultra low handling noise
- Includes accessories

N/D468

- Instrument microphone
- Unique "moving head"
- Extreme low self-noise
- Accurate response, even in high SPLs
- Includes accessories

N/D478

- Universal microphone
- Ideal to mic drums, percussion or guitars, also as vocal "spare" mic
- Smooth response
- Includes accessories

N/D868

- Designed specifically for kickdrums
- RE20 capsule type
- Extended "lows" to tighten mixes
- Frequency response typically eliminates the need of an EQ
- Extreme low self-noise
- Includes accessories

SPECIFICATIONS

	N/D267a/as	N/D367s	N/D767a	N/D967	N/D468	N/D478	N/D868
Element	Dynamic	Dynamic	Dynamic	Dynamic	Dynamic	Dynamic	Dynamic
Polar pattern	Cardioid	Supercardioid	Supercardioid	Cardioid	Supercardioid	Cardioid variant	Supercardioid
Impedance, Low-Z balanced	300 Ω	300 Ω	300 Ω	—	150 Ω	300 Ω	150 Ω
Frequency Response (-3 dB), close response	45 Hz - 15 kHz	25 Hz - 20 kHz	35 Hz - 22 kHz	50 Hz - 13 kHz	30 Hz - 22 kHz	45 Hz - 15 kHz	20 Hz - 10 kHz
Frequency Response (-3 dB), far response	100 Hz - 15 kHz	55 Hz - 20 kHz	70 Hz - 22 kHz	120 Hz - 13 kz	60 Hz - 22 kHz	100 Hz - 15 kHz	—
Output Level(0 dB = 1 m W/Pascal) at 1,000 Hz	- 52 dB	- 53 dB	51 dB	- 52 dB	- 51 dB	- 52 dB	- 52 dB
Open Circuit Voltage (at 1,000 Hz)	2.9 mV/Pascal	2.2 mV/Pascal	3.1 mV/Pascal	4.0 mV/Pascal	3.1 mV/Pascal	2.9 mV/Pascal	1.0 mV/Pascal
Equivalent Noise (0 dB=20 micropascal) A-weighted	—	< 17 dB SPL	—	< 16 dB SPL	< 14 dB SPL	—	< 17 dB SPL
Magnetic Circuit	N/DYM®	N/DYM®	N/DYM®	N/DYM®	N/DYM®	N/DYM®	N/DYM®
Case Material	Metal	Metal	Metal	Metal	Metal	Metal	Metal
Finish	Nonreflecting black	Nonreflecting black	Nonreflecting black	Nonreflecting black	Nonreflecting black	Nonreflecting black	Nonreflecting black
Included accessories soft zippered carrying pouch	Stand adapter, soft zippered carrying pouch	Stand adapter, soft zippered carrying pouch	Stand adapter, soft zippered carrying pouch	Stand adapter, soft zippered carrying pouch	Stand adapter, soft zippered carrying pouch	Stand adapter, soft zippered carrying pouch	Stand adapter, soft zippered carrying pouch
Connector type	3-pin XLR	3-pin XLR	3-pin XLR	3-pin XLR	3-pin XLR	3-pin XLR	3-pin XLR
Dimension (Length x max. Diameter)	181 x 52 mm	181 x 52 mm	181 x 52 mm	173 x 52 mm	115 x 52 mm	181 x 52 mm	133 x 60 mm
Weight net	238 g	200 g	260 g	205 g	190 g	247 g	295 g

Wired Microphones

Cobalt™ Series

SPECIFICATIONS

	Co4	Co5	Co7	Co9	Co11
Element	Dynamic	Dynamic	Dynamic	Dynamic	Self-biased condenser
Polar pattern	Cardioid	Cardioid	Cardioid	Cardioid	Cardioid
Impedance, Low-Z balanced	600 Ω	600 Ω	600 Ω	600 Ω	Low-Z'balanced (250 Ω)
Frequency Response (-3 dB)	50 Hz - 18 kHz	50 Hz - 18 kHz	50 Hz - 18 kHz	50 Hz - 18 kHz	50 Hz - 20 kHz
Open Circuit Voltage (at 1,000 Hz)	2.2 mV/Pascal	2.8 mV/Pascal	3.2 mV/Pascal	3.2 mV/Pascal	4 mV/Pascal
Magnetic Circuit	N/DYM®	N/DYM®	N/DYM®	N/DYM®	N/A
Power requirement (Phantom power)	N/A	N/A	N/A	N/A	24 to 48 Vdc
Specials	— On/off-Switch	Low-noise	—	—	—
Case Material	Die cast zinc	Die cast zinc	Die cast zinc	Die cast zinc	Die cast zinc
Finish	cobalt	cobalt	cobalt	cobalt	cobalt
Included accessories	Stand adapter, zippered vinyl carrying pouch hard-shell case	Stand adapter, zippered vinyl carrying pouch hard-shell case	Stand adapter, zippered vinyl carrying pouch hard-shell case	Stand adapter, zippered vinyl carrying pouch hard-shell case	Stand adapter (black) gig bag
Optional accessories	—	—	—	—	
Connector type	3-pin XLR	3-pin XLR	3-pin XLR	3-pin XLR	3-pin XLR
Dimension (Length x max. Diameter)	148 x 23 mm	170 x 53 mm	170 x 53 mm	170 x 53 mm	173 x 53 mm
Weight net	340 g	306 g	332 g	335 g	292 g

Live Interview Mics

EV's 635 and RE50 microphones are famous in broadcast, television, and radio OBs (outside broadcasts). These microphones set world standards especially for ENG (electronic news production) and EFP (electronic field production). They are extremely rugged, can withstand high humidity, temperature extremes and corrosive effects such as salt-air yet provide excellent sound performance.

RE50/B, RE50N/D

- N/DYM® for greater output (RE50 N/D)
- No muddy lows when used near lips
- Dyna-Damp™ for extremely effective handling noise isolation
- On-camera use with 422 A desk stand
- Acoustalloy® diaphragm material for very smooth response over a wide frequency range
- Withstands high humidity; temperature extremes, corrosive salt air
- Integrated four-stage pop-filter
- Integral windscreen and blast filter
- Comes with accessories

635A (beige) 635A/B (black)

- Linear frequency response
- Completely pop-free performance
- Four-stage pop and dust filter
- Internal effective shock absorber
- Comes with accessories

635N/D-B

- Uniform 80 - 13,000 Hz frequency response
- N/DYM® magnetic for greater output
- Acoustalloy® diaphragm material for very smooth response over a wide frequency range
- Integral windscreen and blast filter
- Comes with accessories

SPECIFICATIONS

	635A(B)	635N/D-B	RE50/B	RE50N/D-B
Element	Dynamic	Dynamic	Dynamic	Dynamic
Polar pattern	Omnidirectional	Omnidirectional	Omnidirectional	Omnidirectional
Impedance, Low-Z balanced	150 Ω	150 Ω	150 Ω	150 Ω
Frequency Response (-3 dB)	80 Hz - 13 kHz	80 Hz - 13 kHz	80 Hz - 13 kHz	80 Hz - 13 kHz
Power Level (0 dB = 1 mW/Pascal) at 1,000 Hz	- 55 dB	- 51 dB	- 55 dB	- 51 dB
Open Circuit Voltage (at 1,000 Hz)	—	2.0 mV/Pascal	—	2.0 mV/Pascal
Magnetic Circuit	Alnico	N/DYM®	Alnico	N/DYM®
Specials	—	Acoustalloy®	Dyna-Damp Memraflex	Dyna-Damp™
Filters	—	—	—	—
Case Material	Steel	Steel	Aluminum	Aluminum
Finish	Fawn beige (A) Semi-gloss black (A/B)	Semi-gloss camera black	Semi-gloss camera black	Semi-gloss camera black
Included accessories	Stand adapter	Stand adapter zippered vinyl carrying pouch hard-shell case	Stand adapter zippered vinyl carrying pouch hard-shell case	Stand adapter
Connector type	3-pin XLR	3-pin XLR		
Dimension (Length x max. Diameter)	151 x 36 mm	148 x 36 mm	197 x 49 mm	197 x 49 mm
Weight net	170 g	170 g	269 g	269 g

Wired Microphones

RE-Series

RE Series is the first choice of microphones for smooth and accurate reproduction. Its unique and famous sound performance makes it a favorite in the broadcast, studio and touring business. EV's Variable-D® design used in the RE20 and RE27 N/D broadcast studio products was developed to ensure true and accurate response across all frequencies without the up-close boominess associated with "proximity effect". As a result, these microphones have become the industry standard for radio studios worldwide.

RE20

- Variable-D® for minimal proximity effect
- True cardioid with no coloration at 180° off-axis
- Ultra-flat frequency response
- Studio condenser response
- Large diaphragm
- Hum-bucking coil
- Integral wind and blast filter
- Switchable EQ (-4.5 dB, 400-100 Hz)
- Comes with accessories

RE27 N/D

- Variable-D® for minimal proximity effect
- N/DYM magnetic circuit brings 6 dB more sensitivity
- Ultra-flat frequency response
- Studio condenser performance
- Large diaphragm
- 3 selectable filters: -6 dB, 250-100 Hz / gentle roll-off 12 dB, 1000-100 Hz and a -3 dB high frequency roll-off
- Integral wind and blast filter
- Comes with accessories

RE510

- Large diaphragm self-biased condenser microphone
- Clear, natural sound
- Great for vocals or instrument
- Live and studio use
- Selectable low-end roll-off
- Supercardioid pattern
- Excellent off-axis rejection
- Wide dynamic range

RE16

- Variable-D Dynamic Supercardioid handheld
- Great for podium or handheld use
- Unique blast filter makes close-up use possible without popping
- Uniform response independent of angle
- Humbucking coil reduces electromagnetic hum pickup
- Bass roll-off switch
- Memraflex grille means screen keeps its shape

RE200

- High-end transducer based on world standard studio microphone RE2000
- Very low self-noise
- AcoustiDYM™ shock-mount system
- Ultralow-mass, gold-laminated diaphragm
- Transformerless output device
- Rear response 15 dB below the front axis at 1,000 Hz
- Comes with accessories

SPECIFICATIONS

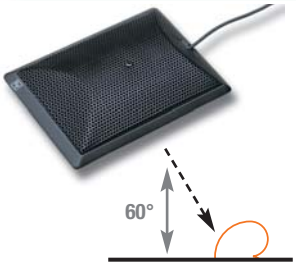
	RE20	RE27N/D	RE510	RE16	RE200
Element	Dynamic	Dynamic	Condenser (self-biased)	Dynamic	True condenser
Polar pattern	Cardioid	Cardioid	Supercardioid	Supercardioid	Cardioid
Impedance, Low-Z balanced	150 Ω	150 Ω	150 Ω	150 Ω	200 Ω
Frequency Response (-3 dB)	45 Hz - 18 kHz	45 Hz - 20 kHz	50 Hz - 20 kHz	80 Hz - 15 kHz	50 Hz - 18 kHz
Power Level (0 dB = 1 m W/Pascal) at 1,000 Hz	- 57 dB	- 51 dB	-41 dB	-56 dB	- 39 dB
Open Circuit Voltage (at 1,000 Hz)	1.5 mV/Pascal	3.1 mV/Pascal	5.6 mV/Pascal	1.4 mV/Pascal	10 mV/Pascal
Equivalent Noise (0 dB=20 micropascal)	—	—	18 dB SPL	—	21 dB SPL
Maximum SPL (1% distortion, 1,000 Hz)	—	—	140 dB SPL	150 dB	130 dB
Power requirement (Phantom power)	N/A	N/A	12 - 52 VDC	—	12 - 52 VDC
Current Consumption	N/A	N/A	N/A	N/A	3.5 mA
Magnetic Circuit	—	N/DYM®	N/A	N/A	N/A
Specials	Variable-D®	Variable-D®	transformerless output device	—	AcousticDYM™, transformerless output device
Filters	Tilt-down EQ	3 selectable EQs	switchable low-freq roll-off	—	—
Case Material	Steel	Steel	Metal	Steel	Metal
Finish	Fawn beige	Satin nickel black handle	Warm-Grip	Fawn beige micomatte	Semi-gloss camera black
Included accessories	Stand adapter, zippered vinyl carrying pouch, hard-shell case	Stand adapter, zippered vinyl carrying pouch, hard-shell case	Stand adapter, zippered vinyl carrying pouch	Stand adapter, zippered vinyl pouch Model 310A	Stand adapter windscreen
Connector type	3-pin XLR	3-pin XLR	3-pin XLR	3-pin XLR	3-pin XLR
Dimension (Length x max. Diameter)	217 x 54 mm	217 x 54 mm	180 x 50 mm	187 x 45.2 x 19.1 mm	137 x 28 mm
Weight net	737 g	709 g	215 g	227 g	185 g

Wired Microphones

The RE90 series brings the famous sound performance of EV's legendary RE series to fixed installations. EV's RE90 microphones are the most natural-sounding microphones on the market for public speaking, etc. and as a matter of course for professional theatrical productions. Ergonomically and architecturally designed, EV has married functionality with aesthetics making RE series the traditional favorite among sound contractors, architects and sound engineers. RE90 microphones are designed for the highest-quality applications with linear frequency response and excellent, high gain-before-feedback. All microphones guarantee a uniform polar pattern across the range, high sensitivity, low self-noise and provide a transformerless output device. The high-quality pre-amps are highly-resistant to electrical noise and radio frequency interference (RFI). RE90 L and RE90 H have a external pre-amp housing into the XLR connector. Gooseneck microphones have an all metal construction to substantially reduce noise from stray magnetic fields and RFI.

RE90B (Black)

RE90BW (White)



- Boundary layer
- Ultra-thin profile (16 mm) housing with rubber nonslip bottom pad and strong steel screen
- Internal terminal block for disconnecting cable to insert thru holes
- Integrated pop filter
- Ideal working angle 60° off-axis
- Comes with accessories

RE90H (Black)

RE90HW (White)

- Hanging microphone
- External Pre-amp
- Very uniform polar pattern
- Includes an installation guide
- Comes with accessories

RE90L

- Lavaliere microphone
- Sub-miniature capsule design
- Capsule provides superior EMI/RFI shielding
- Very light-weight yet extremely reliable
- External pre-amp with very low current consumption
- Comes with accessories

RE90P-12 (281mm)

RE90P-18 (443mm)

- Gooseneck podium microphone
- Also perfect for instruments on-stage i.e. acoustic guitar or choir
- Uniform frequency response and polar pattern
- Strutted (yet flexible) ultra-thin gooseneck
- Integrated two-stage pop-filter
- Comes with accessories

PolarChoice™ Series

New & Improved!

- Four selectable polar patterns
- Gooseneck podium microphone
- Consistent on-axis response
- Includes accessories
- Mounting options:
  - — XLR (PC-12/18 XLR); flange mount (PC-12/18FL); XLR or flush mount (PC Plus-12/18)
  - — PC Plus-12/18 includes programmable mute on/off switch. Can be either XLR or flush mounted.

SPECIFICATIONS

	RE90B	RE90H	RE90L	RE90P	PolarChoice™
Element	Back electret condenser	Back electret condenser	Back electret condenser	Back electret condenser	Back electret condenser
Polar pattern	(Half-) Cardioid	Cardioid	Omnidirectional	Cardioid	Omni, Cardioid, Super, or Hypercardioid
Impedance, Low-Z balanced	200 Ω	200 Ω	100 Ω	200 Ω	200 Ω
Frequency Response (-3 dB)	80 Hz - 15 kHz	75 Hz - 15 kHz	50 Hz - 18 kHz	70 Hz - 15 kHz	50 Hz - 15 kHz
Power Level (0 dB=1 m W/Pascal) at 1,000 Hz	- 33 dB	- 30 dB	- 34 dB	- 43 dB	- 44 dB
Open Circuit Voltage (at 1,000 Hz)	25 mV/Pascal	27 mV/Pascal	12.6 mV/Pascal	4.5 mV/Pascal	5.6 mV/Pascal
Equivalent Noise (0 dB=20 micropascal) A-weighted	< 25 dB SPL	< 25 dB SPL	< 29 dB SPL	< 28 dB SPL	< 26 dB SPL
Maximum SPL (1% distortion, 1,000 Hz)	127 dB	120 dB	130 dB	130 dB	135 dB
Power requirement (Phantom power)	9 - 52 VDC	9 - 52 VDC	9 - 52 VDC	9 - 52 VDC	9 - 52 VDC
Current Consumption	2.5 mA	2.0 mA	1.0 mA	2.5 mA	2.8 mA
Specials output device	transformerless	external pre-amp	external pre-amp output device	transformerless output device	transformerless
Case Material	Heavy-duty zinc diecast	Steel	Polycarbonate resin	Steel	Steel
Finish	Nonreflecting black	Low-gloss black or white	Nonreflecting black	Nonreflecting black	Nonreflecting black
Included accessories	180 cm thin flexible cable	760 cm braided cable tape	Gig bag shock mount CPSM-Kit	Windscreen, double-sided	Windscreen, and mounting hardware
Connector type	3-pin XLR	3-pin XLR	3-pin XLR	3-pin XLR	3-pin XLR or hardwired
Dimension	128 L x 94 W x 16 H mm	37 L x 13 D mm 18: 443 x 6.4 mm	6 L x 5 D mm 18: 461 x 6.4 mm (gooseneck)	12: 281 x 6.4 mm (gooseneck)	12: 299 x 6.4 mm
Weight net	358 g	157 g	34 g	400 g/528 g	411 g/539 g

Wired Microphone Accessories

EV Wired Microphone Accessories

422A	Desk stand with rubber shock mount - accepts mic stand clamps, black
309A	Suspension shock mount for RE20, RE27, black
323S	Mic stand clip for 1.0 inch diameter microphones (RE50, BK-1), black
MSA-NDV	Mic stand clip for tapered microphones (N/DYM®), black. Same as MSA-COV mic stand clamp for Cobalt® microphones (Co5, Co7, Co9. Co11)
311	Mic stand clamp for all EV 3/4-inch diameter microphones (635A, RE16, RE200, N/D468), black
MSA-COI	Stand clamp for Cobalt® Co4 instrument microphone, black
320	Stand clamp for RE20, RE27, N/D868
376/379	Windscreen pop filter, 376 - gray, 379-1 - black, 379-2 - red.
CPSM	Shock mount for RE90P and PolarChoice™ gooseneck mics, black
FMK	Flange mount for RE90P and PolarChoice™ gooseneck mics, black
368	Drum mic mounting clamp (N/D468, N/D478), black
314E	(not pictured) Windscreen pop filter for use with 635 series mics, gray

Wired Microphone Accessories

309A	Suspension shock mount for RE20, RE27N/D, black
311	Stand clamp for all EV 3/4-inch diameter microphones (635A, RE16, RE200, N/D468), black
313	Shock-mount for stand clamp for EV 3/4-inch diameter microphones (635A, RE16, RE200)
320	Stand clamp for the RE20, RE27N/D, black
368	Mic clip for N/D468
422A	Desk stand with rubber shock mount that accepts microphone stand clamps, black
CPSM	Shock mount for RE90P-12, RE90P-18, PolarChoice™12, PolarChoice™18
FMK	Flange mount for RE90P-12, RE90P-18, PolarChoice™12, PolarChoice™18
MSA-COI	Stand clamp for Cobalt Co4 instrument microphone
MSA-COV	Stand clamp for Cobalt vocal microphones (Co5, Co7 and Co9)
MSA-NDV	Stand clamp for 1-inch diameter microphones (BK-1, RE50) and tapered microphones (N/DYM series vocal mics), gray
314E	Windscreen for 635A, gray
376	Windscreen pop filter for MC series, RE16, RE50, N/D167B, N/D267, N/D367, N/D767
379-1	Black windscreen pop filter for MC series, RE16, RE50, N/D167B, N/D267, N/D367, N/D767
379-2	Red windscreen pop filter for MC series, RE16, RE50, N/D167B, N/D267, N/D367, N/D767
MBS-C05	Replacement ball screen for Cobalt Co5
MBS-C07	Replacement ball screen for Cobalt Co7
MBS-C09	Replacement ball screen for Cobalt Co9

Professional Wireless Microphones

Receiver

RE 1 WIRELESS™

- Optimized channel groups allow up to 16 systems to operate simultaneously in one frequency band. For groups larger than 16, EV can help with the coordination and custom groups are easily programmed.
- Programmable in 25 kHz steps across 24 MHz operating bandwidth, there are over 950 possible channels so you can always find a clear channel.
- Advanced ClearScan™, automatic group and channel selections, allows quick, simple setup.
- Backlit LCD Display shows the Sound Engineer the Group/Channel, transmitter battery status, diversity operation, RF and Audio level meters, and space for a custom name (2 lines, 10 characters each).
- Specially designed "Sound Check" mode provides the ability for one person to walk test the microphone in the performance space with tangible results.
- Patented DSP Secure-Phase™ Diversity System for maximum range and audio quality.
- Balanced XLR microphone output and 1/4-inch unbalanced adjustable line-level output to match the application.
- CDR-1000 Dual Receiver includes internal power supply, headphone monitoring jack, balanced line-level output, antenna pass through, DC power on antenna jacks for optional RF amplifier, and RE-OneLink™ PC software for remote monitoring and control.
- Rackmount hardware included.
- Three-Year Limited Warranty.

Transmitter

Transmitter Features

- Unique "smart" battery circuit in the transmitters means there is no way to put the battery in wrong.
- LCD display and the same four control buttons as the receiver so programming a channel or frequency is quick and easy.
- Low battery LED will light when the battery needs a replacement.
- One on/off switch that also acts as a mute, great for pauses in presentations and worship services.
- On/off button can be disabled to prevent accidental turnoffs during a performance.
- Normal and High power transmit means you use just enough power for the application, which maximizes the number of simultaneous systems and limits RF spill over into adjacent buildings/theaters.

Handheld Features

- Interchangeable microphone head allows a choice of elements to fit the vocalist's style and environment.
- N/DYM® 767a premium dynamic vocal microphone with VOB™ (Vocal-Optimized Bass), excellent gain-before-feedback for high SPL stages.
- The new RE510 premium condenser vocal microphone for experienced vocalists, spoken word and quieter stages.
- Internal 1/2-wave antenna for excellent range; stays out of harm's way.
- An over-molded Warm-Grip™ handle reduces handling noise and encourages proper microphone technique for better performances.

Bodypack Features

- Cast magnesium housing weighs only ounces but is durable enough to take the pounding on tour.
- Detachable 1/4-wave antenna allows for easy replacement or using different antenna options.
- Cell phone style beltclip included for quick and easy attachment. Optional pouches also available for wearing under costumes or for more vigorous applications.
- EV has a wide selection of lapel and headworn microphones and microphone accessories to go with the RE-1 bodypack transmitter.

Unique Guitar Bodypack Features

- Dual band compander circuit provides the audio bandwidth required to cover the lows of a bass guitar to the highs of a solid body.
- Mic/Instrument switch adds a 20 dB pad in the transmit path so the standard bodypack can be used for microphone and guitars.
- Guitar patch cord featuring George L's® cable with right angle and straight plugs included to fit your guitar.

CSR-1000 Receiver

Controls	
Front Panel:	On/Off, Menu, Set, Up, Down Buttons
Rear Panel:	1/4 in. output level
Indicators LCD	Group, Channel, Diversity, Label, Set-up
Backlit Display:	Transmitter Battery Level, Audio Signal Amplitude and RF Signal Strength, Squelch
Connectors	
Back Panel:	1/4 in. unbalanced adjustable line level output XLR balanced mic level output USB programming port
Antennas:	Detachable 1/4 wave
RF Specifications	D Band 798.1 – 821.9 MHz
Frequency Range:	E Band 841.1 – 864.9 MHz
Number of Channels:	950 possible (programmable in 25 kHz steps) per band
Diversity:	DSP SecurePhase True Diversity
Squelch:	Tone Code plus Adjustable Amplitude
Receiver Type:	Synthesized PLL Agile UHF
RF Sensitivity:	<0.8uV for 12 dB SINAD
FCC Type Acceptance:	Approved under Part 15
Audio Specifications	100 Hz – 15 kHz +/- 2 dB Microphone
Frequency Response:	30 Hz – 15 kHz +/- 2 dB Instrument
Audio Output Level:	
Line Level	8 mV - 0.775V RMS @ 100 k ohm load
Balanced	-10 dBV max (@ 40 kHz deviation)
Distortion:	Less that 0.5% (@ 1 kHz, 40 kHz deviation)
Signal to Noise Ratio:	> 110 dB (A)
Dynamic Range:	>100 dB
General Specifications	
Power Supply:	External 12 VAC 750mA in-line with cord
Size:	1.72" H x 7.50" W x 8.38" D 43.69 H x 190.50 W x 212.85 D mm

CDR-1000 Features

Additional Audio Output:	Adjustable Balance Line Level at XLR/Mic
Additional Controls:	1/4 in. Headset Jack with Selector and Volume Control
Antenna Output:	TNC
Powered Antenna Inputs:	12Vdc,15mA
Power Supply:	Internal, Universal Cord
USB Monitoring & Control:	RE-OneLink Software
Size:	1.72" H x 16" W x 12" D 43.69 H x 406.4 W x 304.8 D mm

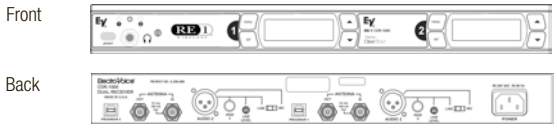
CSB-1000 Bodypack Transmitter

Controls:	Power On/Off, Audio Gain Adjustment with 40 dB range, Transmit Power Switch, Microphone/Instrument Switch (0,-20 dB), Menu, Set, Up, Down Buttons
Indicators:	Red LED Low Battery Indicator, LCD displays one of the following: Channel/Group, Frequency, or Battery Level
Battery Life:	8 hours with 9V alkaline typical
Antenna:	External 1/4 wave detachable
Connector:	TA4F input for microphone Pin 1 ground, Pin 2 Mic input Pin 3 +5V Bias, Pin 4 +5V through 3 kΩ
RF Output:	
Normal:	5 mW typical
High:	50 mW typical
Case Material:	Cast Magnesium
Size:	3.75" H x 2.6" W x 0.9" D 94 H x 66 W x 23 D mm

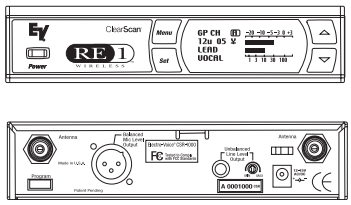
CSH-1000 Handheld Transmitter

Controls:	Power On/Off, Audio Gain Adjustment with 40 dB range Transmit Power Switch, Menu, Set, Up, Down Buttons
Displays:	Red LED Low Battery Indicator, LCD displays one of the following: Channel/Group, Frequency, or Battery Level
Battery Life:	8 hours with 9V alkaline typical
Antenna:	Internal 1/2 wave
Microphone Elements:	EV N/D767a Dynamic or RE510 Condenser
RF Output:	
Normal:	5 mW typical
High:	50 mW typical
Size:	10.5" (26.8 cm) long

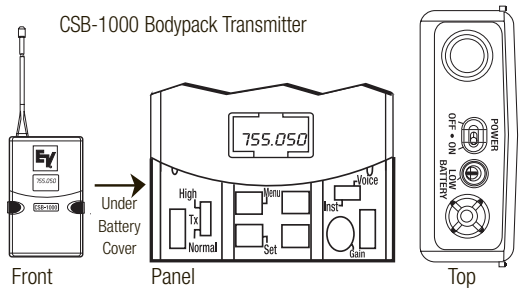
CDR-1000 Receiver



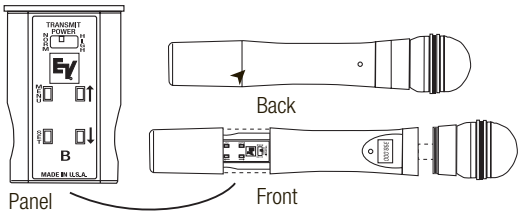
CSR-1000 Receiver



CSB-1000 Bodypack Transmitter



CSH-1000 Handheld Transmitter



RE-1 Accessories and Parts

	Model #
Omnidirectional MicroMini™ Lapel Mic:	RE90TX
Headworn Cardioid Condenser Mic:	HM7
1/2 Wave Rx Antenna	FA-500
1/2 Wave Antenna Bracket:	AB-2
UHF Antenna Amplifier	UAA-500
Antenna /Pwr Distribution	APD- 4
Termination Plug For APD-4:	TP-2
Directional Rx Antenna (450-900 MHz):	LPA-500
Low Loss Coaxial Antenna Cable:	CXU-25 ft CXU-50 ft
1/4 Wave Super-Flex Tx Antenna:	AN-Sflex
Bodypack Pouch:	WP-1000
Guitar Cord:	MAC-G2
767a Dynamic Head for CSH-1000:	RC767A
RE510 Condenser Head for CSH-1000:	RC510
Mic Stand Adapter for CSH-1000:	MSA-1000

Wireless Microphones

N/DYM® Series

The N/DYM® Series UHF Wireless is a 10-channel frequency-agile system that provides professional quality performance at affordable price levels! N/DYM wireless also features the latest in wireless technical innovations — ClearScan™ auto channel select. ClearScan greatly simplifies system set-up by automatically scanning and selecting a clear channel for trouble-free operation. The handheld systems feature EV's famous N/DYM elements for great sound and performance.

Transmitters

N/DYM® wireless transmitters feature adjustable audio gain control, on/off and mute switches, up to ten hours of battery life on a single 9-volt battery, rotary channel-select switch and low-battery indicator. Bodypack transmitters feature a flexible 1/4-wave whip antenna, while the handheld transmitters contain an internal high efficiency antenna.

Receiver

The N/DYM® wireless receiver is housed in a half-rack-wide metal housing and features Secure-Phase™ diversity for clear, drop-out-free audio. Fixed, front-mount antennas for quick system set-up; balanced, mic-level XLR output; level adjustable, unbalanced, 1/4" output; a seven-segment, LED channel display; adjustable squelch control; Transmit and Diversity LED indicators and channel-change lockout. Single or double rack-mount kits are also available (RM-S and RM-D).

SPECIFICATIONS — Receiver: NRU

Controls	
Front Panel	Channel-set button: increments channel setting by one; also used to activate ClearScan™ and channel-change lockout
Rear Panel	Squelch adjust
Antennas	1/4 -wave, fixed front mount
Displays/Indicators	Channel set: seven-segment LCD
Diversity LED's:	A or B lights to indicate when diversity circuitry switches from one antenna to the other.
Tx On LED:	lights when carrier signal is present.
RF Signal Strength:	4 segment LED lights to show strength of received RF signal.
Audio Signal Strength:	4 segment LED lights to show audio signal amplitude
Receiver Type	Synthesized PLL
Size (receiver housing)	190 mm (7.5") x 145 mm (5.75") x 43 mm (1.7")

SPECIFICATIONS — UHF Transmitters:

NBPU, NHTU-N7, NHTU-N2

Radiated RF Output	10-15 mW typical
Adjustments and Controls	On/off switch, Audio mute switch Audio gain pot with 40-dB adjustment range, Rotary channel switch
Displays/Indicators	Power on/low battery LED (red LED flashes upon turn on;) LED stays lit when low-battery voltage impacts system performance.
Battery Life	8-10 hours with 9-Volt alkaline
Bodypack Antenna	Flexible external 1/4 -wave
Handheld Microphone Antenna	Internal 1/2 -wave
TA4 Connector Wiring (on bodypack only)	Pin 1: ground; Pin 2: mic input; Pin 3: +5-Volt bias; Pin 4: +5-Volt bias fed through a 3,000-ohm resistor for two-wire electret mics
Size (handheld transmitter)	273 mm (10.75") long
Size (bodypack transmitter) (hwd)	114 mm (4.5") x 66 mm (2.6") x 32 mm (1.25") (no antenna)
Handheld Transmitter Microphone Elements:	
NHTU-N7	N/D 767a dynamic cardioid
NHTU-N2	N/D 267a dynamic cardioid

Bodypack Transmitter Microphone Elements: Can be used with any compatible microphone elements. See above for TA4F Pin-out wiring.

Wireless Microphones

N/DYM® NRSCU System

The SCU Receiver features detachable rear-panel mount antennas, front panel RF and Audio level displays, an all metal case, and rack mount hardware is included.

APD-4

Antenna Distribution System

- Drives up to four NRSCU or MS3000 diversity receivers using a single pair of antennas to conserve rack space and eliminate the "antenna farm." (8 TNC output and 2 front mount TNC cables included, 1/2 wave antennas sold separately.)
- Supports "cascade" arrangement of multiple APD-4 splitters to allow you to drive up to 16 receivers using just 2 antennas.
- Power outputs for up to four receivers help conserve power strip space. (4 cables included)

ADVANCED ClearScan™

ClearScan™ is the latest in wireless technical innovations from EV. With the simple touch of a button, ClearScan automatically scans the airwaves and quickly selects the best of 10 UHF channels.

SPECIFICATIONS — Wireless Receiver

Operating Frequencies	D Band: 800.3 – 813.9 MHz E Band: 854.9 – 861.75 MHz
Number of Selectable Channels	10
Diversity	True diversity with Secure-Phase™
RF Sensitivity	<0.8 µV for 12 dB SINAD
Audio	
Frequency Response	50-15,000 Hz ±2 dB
Audio Output, Balanced (XLR)	–20 dBV (600-ohm load)
Distortion	Less than 0.5%
Signal/Noise Ratio	94 dB
Dynamic Range	100 dB

SPECIFICATIONS — Receiver: NRSCU

Controls	
Front Panel	Channel-set button: increments channel setting by one; also used to activate ClearScan™ and channel-change lockout
Rear Panel	Squelch adjust
Antennas	1/4 -wave, detachable on rear panel. Note: (remote antennas and antenna splitters can be used with this product)
Displays/Indicators	Channel set: seven-segment LCD
Diversity LED's:	A or B lights to indicate when diversity circuitry switches from one antenna to the other.
Tx On LED:	lights when carrier signal is present.
RF Signal Strength:	4 segment LED lights to show strength of received RF signal.
Audio Signal Strength:	4 segment LED lights to show audio signal amplitude
Receiver Type	Synthesized PLL
Size (receiver housing)	190 mm (7.5") x 145 mm (5.75") x 43 mm (1.7")

RTM-1000 Remote Test Wireless System

Reduce the hassle and improve the results of your pre-concert soundchecks with the Electro-Voice® RTM-1000 Remote Test Wireless System. The RTM-1000 provides a wireless link between your calibrated measurement microphone and audio analyzer. That means you can quickly test multiple locations from the front row to the nosebleed seats in the time it would take to haul long mic cables to just one spot.

- Wireless link between test microphone and audio analyzer allows faster, easier measurement of large performance spaces
- Optional 48V phantom power supply works with any measurement microphone
- Non-companded transmission does not affect audio quality

The key feature of the RTM-1000 is that it defeats the compander on both the receiver and bodypack transmitter. Wireless mic systems normally use companding (compressing/expanding) to stuff more dynamic range through narrow wireless channels. But companding can also add coloration or distortion to the signal. The RTM-1000 defeats the compander circuit, leaving the signal from mic to analyzer unchanged.

The RTM-1000 system includes a bodypack transmitter in a rugged cast magnesium case with a mic stand mounting strap and a TA4F-to-XLR adapter cable to accommodate most calibrated microphones. The RTM-1000 receiver includes two detachable 1/4-wave antennas, and can be rack-mounted with optional hardware.

RTM-1000 System

- Mounting strap
- TA4F-to-XLR adapter cable
- AC Adapter (as pictured at right)

RTM-1000 Transmitter

RTM-1000 Transmitter is shown with the mounting strap and cable adapter. (Microphone and mic stand not included)

Optional 48V phantom power supply.

SPECIFICATIONS — RTM-1000

Receiver

Controls	
Front Panel:	Power On/Off
Rear Panel:	Group, Channel, Frequency
Indicators	
Diversity Lights:	Indicates antenna phase relationship
Audio Meter:	Shows audio signal level from the transmitter
RF Meter:	Shows the RF signal strength
Connectors	XLR balanced output
Antennas	Detachable 1/4- wave ground independent
RF Specifications	
Frequency:	722-746 mHz
Diversity:	Full True Diversity
RF Sensitivity:	<0.5uV for 12 dB SINAD
FCC type acceptance:	Approved under Part 15
Audio Specifications	(compander active)
Frequency Response:	30 Hz – 15 kHz ± 1 dB
Audio Output Level:	-50 dBm to –10 dBm into 200 Ω
Distortion:	Less that 0.5%
Dynamic Range:	100 dB
Audio Specifications	(compander inactive)
Signal to Noise Ratio:	57 dB typical

Transmitters

Controls	Power on/off switch Transmit Power Audio gain adjustment with 40 dB range
Indicators	Red LED low battery indicator, Group, Channel, Frequency
Battery Life	7 hours with 9-volt alkaline
Antenna	1/4-wave detachable
Connector	Microphone input 4-Pin TA4F
	Pin 1: ground; Pin 2: Mic input;
	Pin 3: +5V bias; Pin 4: +5V through 3k Ω
RF Output	5 mW or 50 mW max
Size	3.75" x 2.6" x .09" (96 mm x 66 mm x 23 mm)

Cobalt Wireless Microphones

VHF Cobalt® Wireless Systems

The R100 VHF systems operate in the frequency band between 174.100 and 185.350 MHz (channels 7-8 in the TV band). With the R100 Series, having EV wireless freedom has never been more affordable, cost-effective or practical. The R100's rock-solid RF performance is the result of superior design and state-of-the-art manufacturing. The R100 receiver can also be rack mounted with the optional RMR accessory kit.

UHF Cobalt® Wireless Systems

The R200 UHF systems operate in the 710.000-721.350 MHz band (channels 54-55 in the TV band). The chief advantage of the UHF band is that there are far fewer chances of interference problems since the frequency range is less crowded. With the R200U systems, there is a wider selection of premium high-performance microphones for better audio performance plus the receivers have 1/4-inch unbalanced and balanced mic-level 3-pin XLR-type output connectors. The R200 receiver can also be rack mounted with the optional RMR accessory kit.

Cobalt® Handheld Transmitters

Cobalt handheld systems combine EV's classically styled, ergonomically contoured transmitter with famous EV microphone transducers. Separate on/off and mute switches give you operational flexibility and eliminate popping common in single switch transmitters. The R100 and R200 systems feature the Co7 dynamic and Co11 condenser microphones.

Cobalt® Bodypack Transmitters

Cobalt bodypacks have options to fit virtually any wireless application. Each system features an oversized switch for easy, silent muting and a separate on/off switch. R100 systems offer hardwired lavaliere (lapel) condenser microphones and a 1/4-inch instrument plug. R100 headworn and all R200 bodypacks come with TA4 connectors to allow easy interchangeability of mics. There is a collection of lavaliere and headworn microphones for R200 systems to perfectly meet any requirement.

Cobalt® Instrument Systems

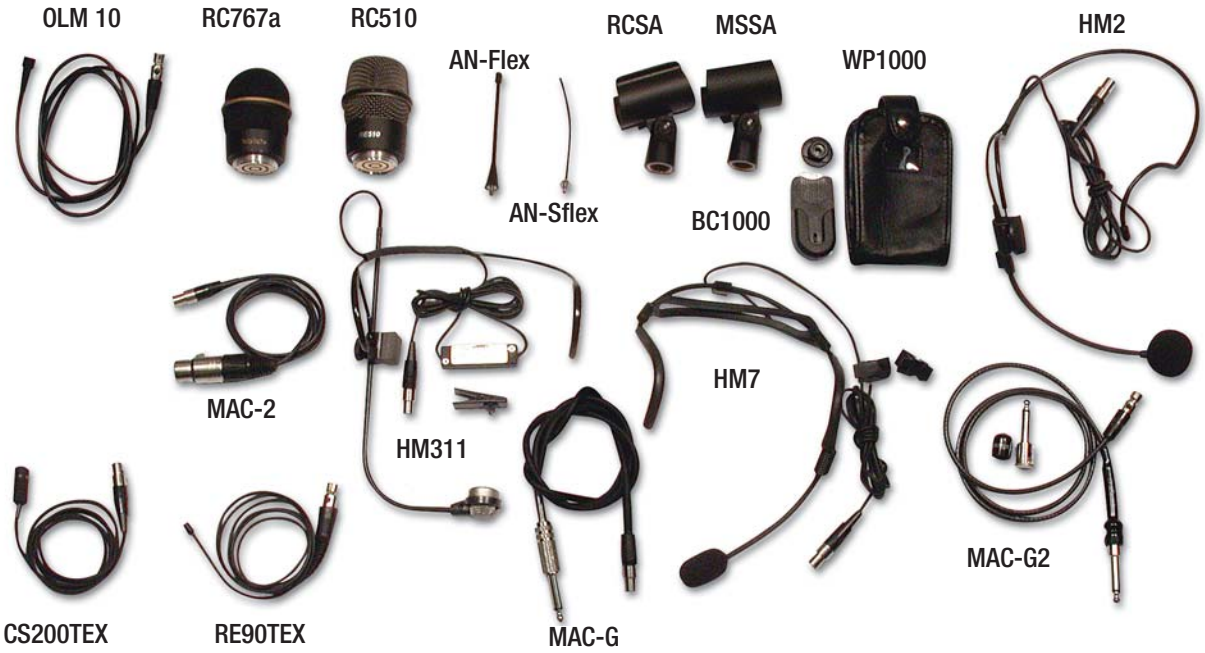
Most wireless guitar systems are just a microphone bodypack with a 1/4-inch connector. The Cobalt instrument systems are designed specifically to bring out the transient detail and wide dynamics of a guitar. The companding circuit provides wide dynamic range and accurately captures the "plugged in" essence of the instrument's sound.

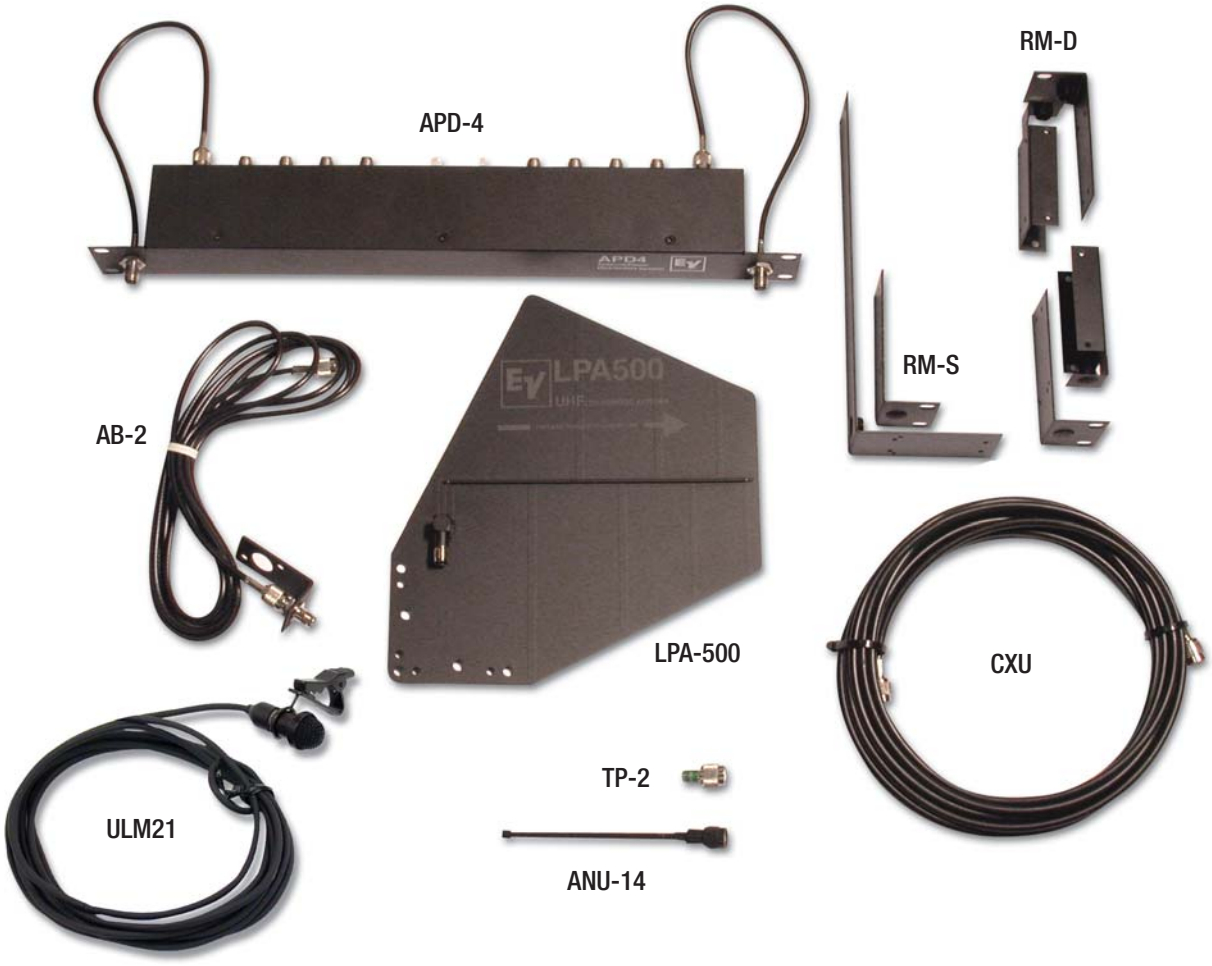
R200 XTU Universal Plug-On UHF Transmitter

With EV's XTU UHF transmitter, you can turn most any dynamic or electret microphone into a wireless by simply plugging it into the XLR connector. The XTU has a gain adjustment control with wide range to allow optimum level matching to your microphone.

SPECIFICATIONS	R100	R200
RF Frequency Range:	174.100-203.200 MHz (11 stock frequencies)	710.100-721.350 MHz (8 stock frequencies)
Audio Frequency Response:	20 Hz-15 kHz +/- 2 dB	20-15 kHz +/- 2 dB
Harmonic Distortion:	<0.5%	<0.5%
Radiated RF Output:	35-45 mW typical, 50 mW maximum	35-45 mW typical, 50 mW maximum
Audio Output Level:	.775 V rms into 100 kΩ load	.775 V rms into 100 kΩ load
Battery Life:	8-12 hours typical	8-12 hours typical
Available Systems:	R100VHC7 Electro-Voice Co7 Handheld Dynamic	R200UHC7 Electro-Voice Co7 Handheld Dynamic
	R100VHC11 Electro-Voice Co11 Handheld Condenser	R200UHC11 Electro-Voice Co11 Handheld Condenser
	R100VL Electro-Voice OLM10 Lavaliere Condenser	R200UL Electro-Voice ULM20 Lavaliere Condenser
	R100VE Electro-Voice HM2 Headworn Condenser	R200UE Electro-Voice HM2 Headworn Condenser
	R100VG Electro-Voice Guitar System	R200UG Electro-Voice Guitar System R200UT Electro-Voice Plug-On System

Wireless Microphone Accessories





Wireless Microphone Accessories

OLM 10
- Lavaliere mic
- Includes shown accessories

ULM 21
- Lavaliere mic
- Includes shown accessories

CS 200TX
- Lavaliere mic
- Hi-Performance
- Includes shown accessories

RE 90 TX
- Lavaliere mic
- Top-class
- Ultra-miniature
- Includes shown accessories

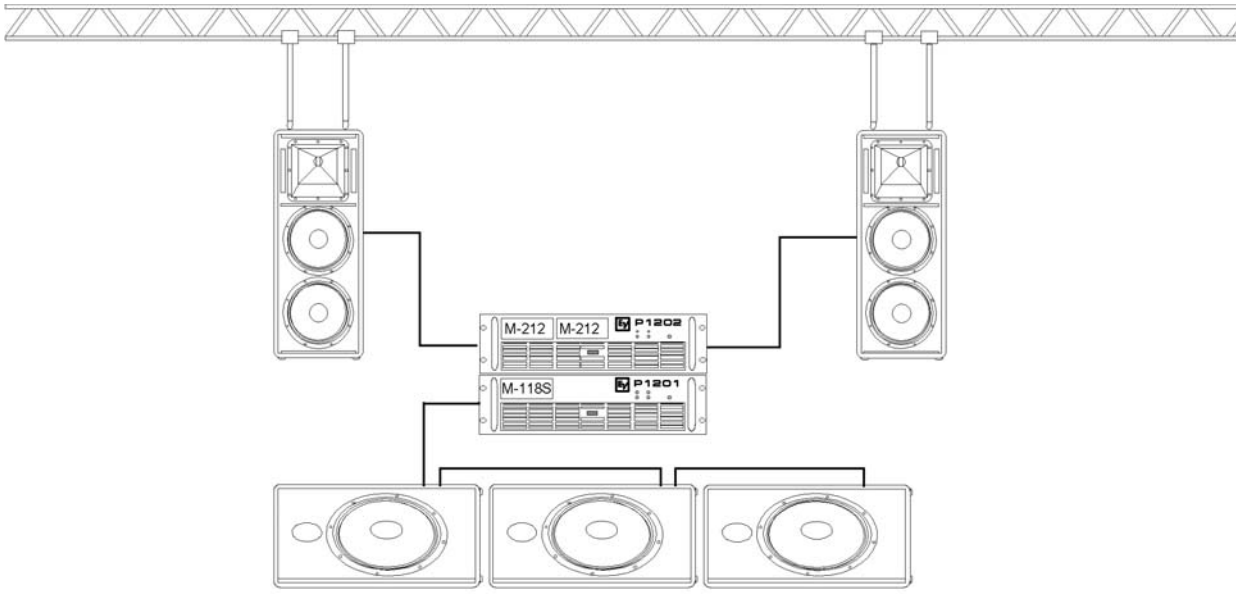
HM 2
- Headset mic
- Includes shown accessories

HM 7
- Headset mic
- Top-class
- Super light weight and comfortable
- Includes shown accessories

OLM10	Omnidirectional lavaliere condenser mic with TA4F wired for R200, N/DYM and MS3000 wireless
ULM21	Unidirectional lavaliere condenser mic with TA4F wired for R200, N/DYM and MS3000 wireless
RE90TX	MicroMini™ omnidirectional condenser lavaliere mic with TA4F wired for R200, N/DYM, MS3000, and RE-1 wireless
CS200TEX	Cardioid condenser lavaliere mic with TA4F wired for R200, N/DYM and MS3000 wireless
HM2	Headworn condenser cardioid mic with TA4F wired for R200, N/DYM and MS3000 wireless
HM7	Headworn condenser cardioid mic with TA4F wired for R200, N/DYM, MS3000, and RE-1 wireless
HM311	Crown® model CM-311 touring level headworn condenser cardioid mic with TA4F for R200, N/DYM, MS3000, and RE-1 wireless
RC767a	RC767a dynamic microphone cartridge for the RE-1 series CSH-1000 handheld
RC510	RC510 electret condenser microphone cartridge for the RE-1 series CSH-1000 handheld
MAC-2	XLR to TA4F adapter cord
MAC-G	3-feet guitar cord, TA4F to 1/4-inch N/DYM NBPU-G
MAC-G2	George L™ guitar cable for the RE-1 bodypack transmitter
WP-1000	Leather pouch for RE-1 bodypack transmitter
RCSA	Stand adapter for handheld transmitter models N/DYM, MS-3000, R100, and R200 Series
MSSA	Deluxe stand adapter for handheld transmitters
MSA-1000	Mic stand adapter for the RE-1 series CSH-1000 handheld
BC-1000	Beltclip with tab and screw for the WT-1000
AN-Flex A	1/4-wave RE-1 bodypack transmitter antenna - 'A' band
AN-Flex B	1/4-wave RE-1 bodypack transmitter antenna - 'B' band
AN-Sflex A	1/4-wave RE-1 bodypack transmit antenna super flex - 'A' band
AN-Sflex B	1/4-wave RE-1 bodypack transmit antenna super flex - 'B' band
APD4	Antenna/power distribution system (supplies 4 units) for use with NRSCU, MS3000, and RE-1 wireless
TP-2	TNC 50 ohm termination plug for APD4
TNC	TNC connector for Antenna Cable Connections
FA-500	1/2-wave antenna (300-900 MHz)
AB-2	Universal mounting bracket for 1/2 wave antenna with 10' coax cable for MS3000 wireless
LPA500	Log periodic antenna with hardware
CXU-25	25-foot volt-loss cable with TNC connector
CXU-50	50-foot (15.24m) volt-loss coax cable with TNC connector
CXU-75	75-foot volt-loss cable with TNC connector
CXU-100	100-foot (30.4m) volt-loss coax cable with TNC connector
RM-D	Rack-mount kit - double (works with N/DYM, RTM-1, and MS3000 receivers)
RM-S	Rack-mount kit - single (works with N/DYM, RTM-1 and MS3000 receivers)
RMR	Rack-mount adapter kit for R100 and R200 receiver

2-Way Stereo (Mono Sub)

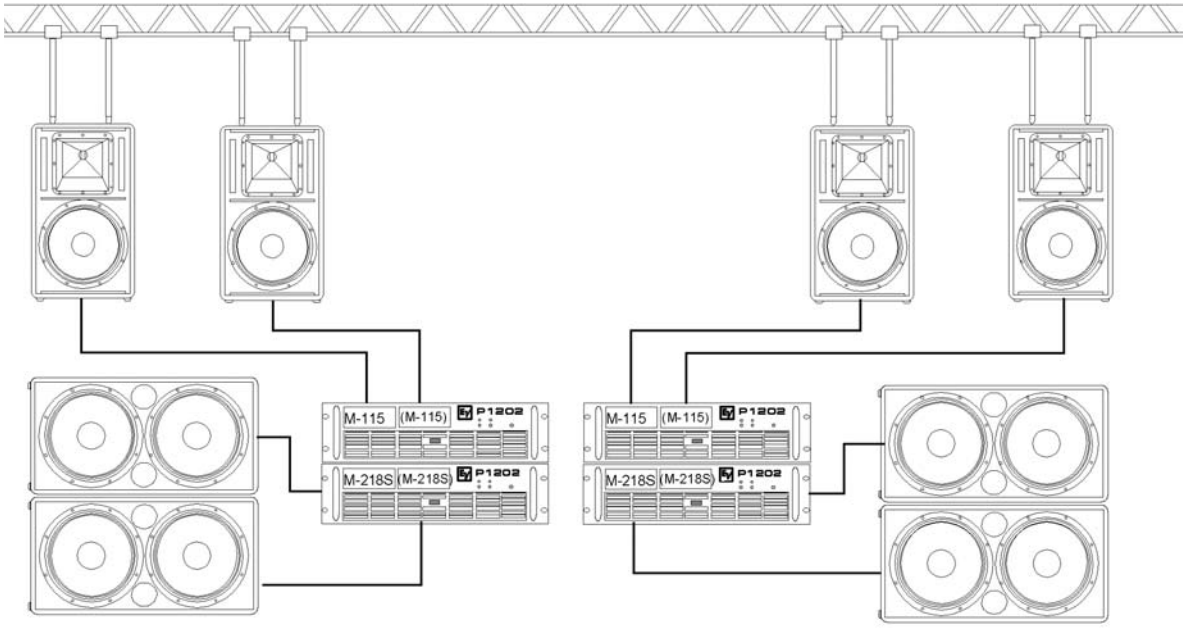
Pop Band, or Disco in smaller room



Cabinets	2 x QRx212/75, 3 x QRx118S	**Horizontal Coverage**	2 x 75°
Amplifiers	1 x P1201, 1 x P1202	**Typical Distance**	15 m to 20 m
Controllers	2 x M-212 & 1 x M-118 Module	**Total Amp Power**	2 x 600 W + 1,500 W = 2,700 W
Cabling	3 x NL4 long, 2 x NL4 short	**Options**	
Accessories	2 x QRx Rigging Kit, 3 x QRx Wheel Kit	**Comments**	System could be doubled for larger rooms

2-Way Stereo

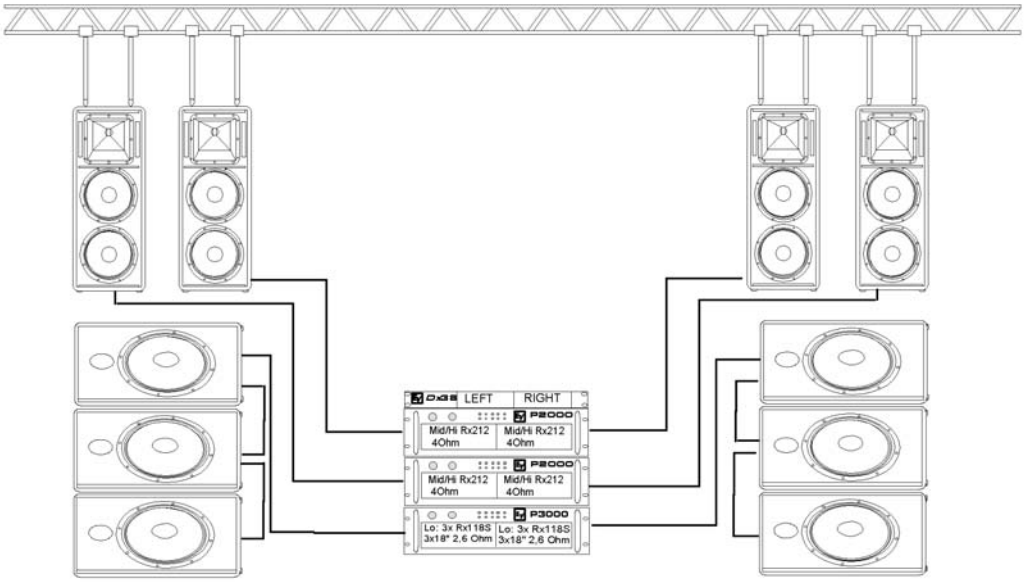
Standard PA for Concert & Disco



Cabinets	4 x QRx115/75, 4 x QRx218S	**Horizontal Coverage**	2 x 100° to 150°, or 4 x 75°
Amplifiers	4 x P1202	**Typical Distance**	15 m to 20 m
Controllers	2 x M-115 & 2 x M-218 Module	**Total Amp Power**	2 x 1,900 W = 3,800 W
Cabling	8 x NL4 long	**Options**	add 2 M-115 & M-218 Modules to split system into two separate systems
Accessories	4 x QRx Rigging Kit, 4 x QRx Wheel Kit	**Comments**	

2-Way Stereo

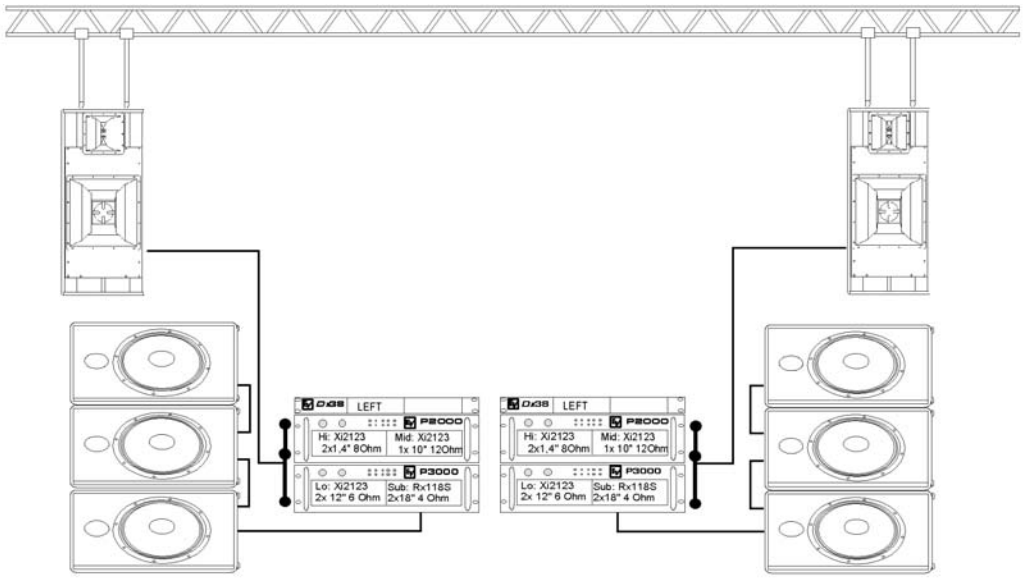
Pop/Rock-Band, Medium Dance Floor



Cabinets	4 x QRx212/75, 6 x QRx118S	**Horizontal Coverage**	2 x 100° to 150°, or 4 x 75°
Amplifiers	2 x P2000, 1 x P3000	**Typical Distance**	20 m to 25 m
Controllers	1 x Dx38	**Total Amp Power**	2 x 3,100 W = 6,200 W
Cabling	6 x NL4 long, 4 x NL4 short	**Options**	
Accessories	4 x QRx Rigging Kit, 6 x QRx Wheel Kit	**Comments**	

4-Way Stereo

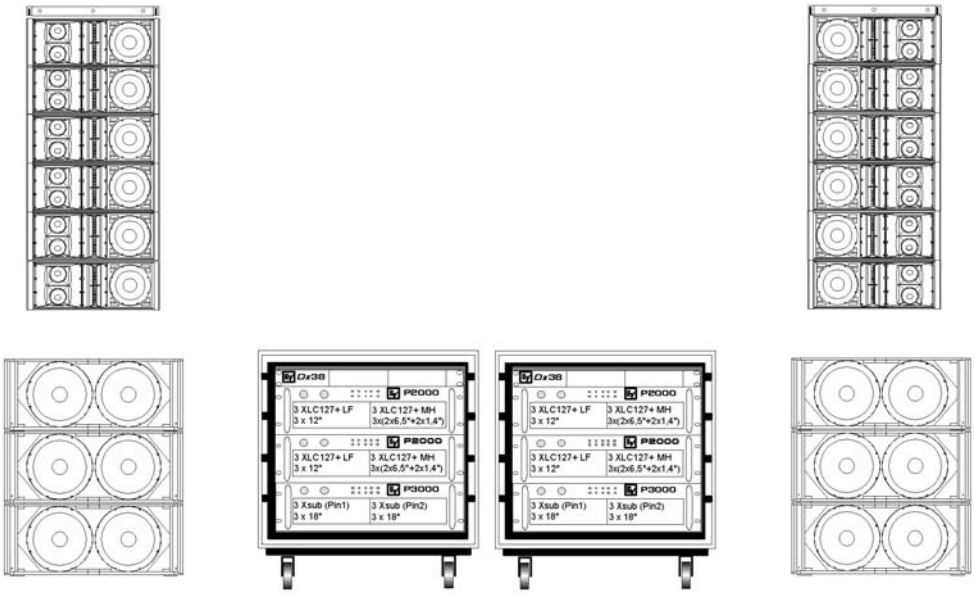
Compact Hi-Resolution System



Cabinets	2 x Xi2123/106, 6 x QRx118S	**Horizontal Coverage**	2 x 100° (single source no interference!)
Amplifiers	2 x P2000, 2 x P3000	**Typical Distance**	25 m to 30 m
Controllers	2 x Dx38	**Total Amp Power**	2 x 3,000 W = 6,000 W
Cabling	2 x NL4 long, 4 x NL4 short, 2 NL8 long	**Options**	Second Xi2123 per side could be added for wider or higher coverage
Accessories	4 x Xi-DSK, 6 x QRx Wheel Kit	**Comments**	

3-Way Stereo

Compact Line-Array for mid-sized venues

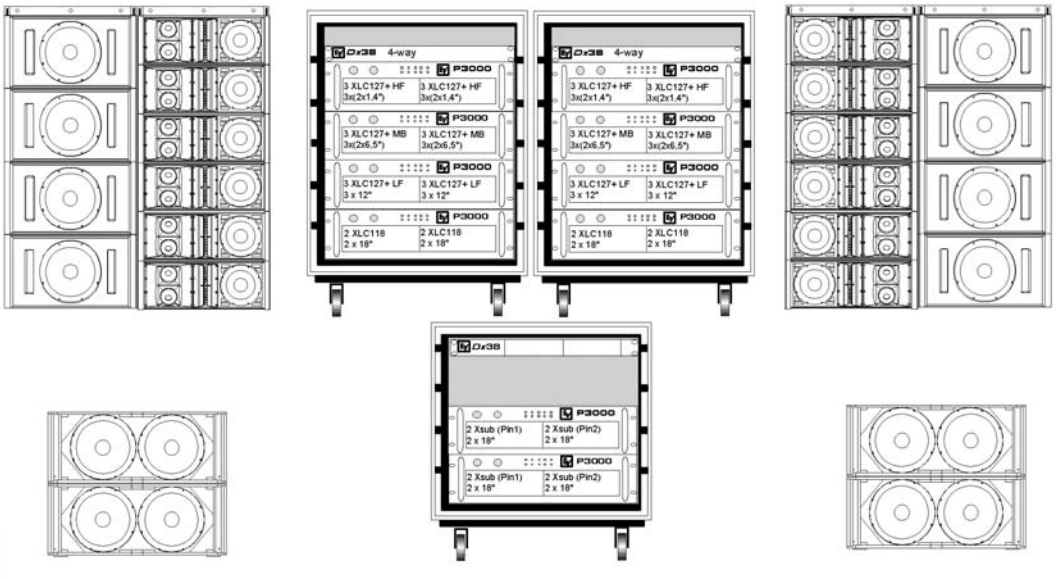


Cabinets	12 X^{LC}127+, 6 Xsub
Amplifiers	4 P2000 (or CP2200), 2 P3000
Controllers	2 Dx38
Cabling & Accessories	6 NL8 long, 12 NL8 short, 2 X^{LC} grids, 12 dollies 127 (or 2 bottom dollies), 2 Xline dollies

Horizontal Coverage	2 x 120°
Typical Distance	30 m to 50 m
Total Amp Power	2 x 7,000 W = 14,000 W
Options&Comments	X^{LC}127+ could be triamped using three CP2200 per side for more headroom

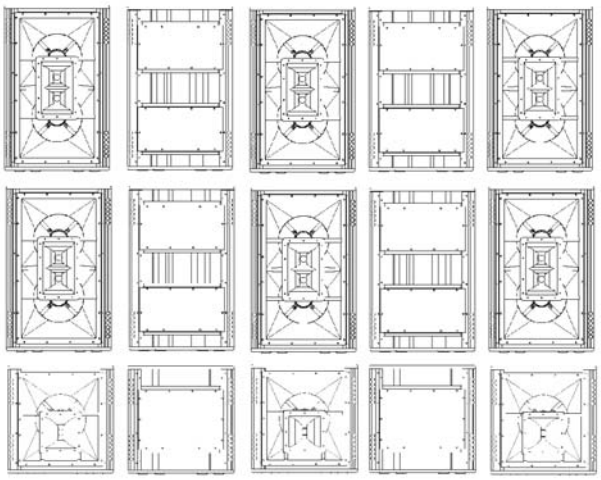
4-Way Stereo+Sub

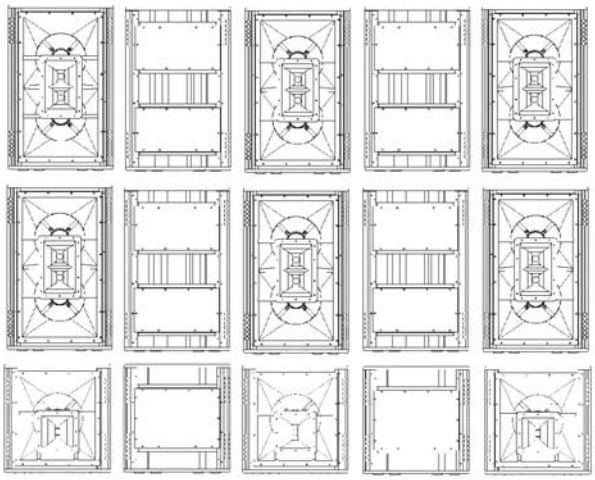
Compact Line-Array for mid sized venues, higher SPL's

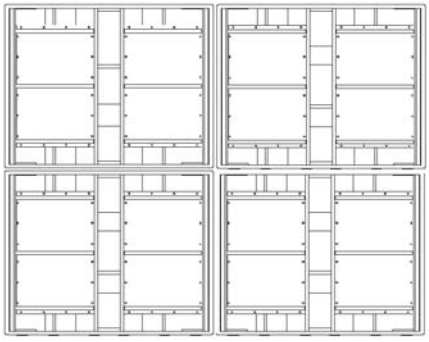


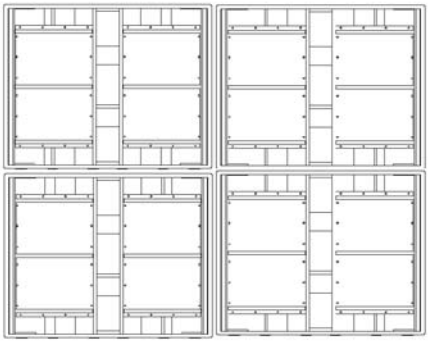
Cabinets	12 X^{LC}127+, 8 X^{LC}118, 4 Xsub
Amplifiers	10 P3000 (or 4 P3000, 6 CP2200)
Controllers	3 Dx38
Cabling & Accessories	6 NL8 long, 10 NL8 short, 4 X^{LC} grids, 12 dollies 127 8 dollies 118 (or 6 bottom dollies), 1 Xline dolly

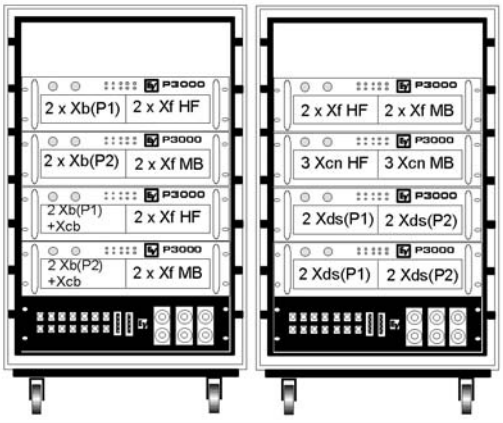
Horizontal Coverage	2 x 120°
Typical Distance	30 m to 50 m
Total Amp Power	2 x 12,000 W = 24,000 W
Options&Comments	For rock 'n' roll add more subs

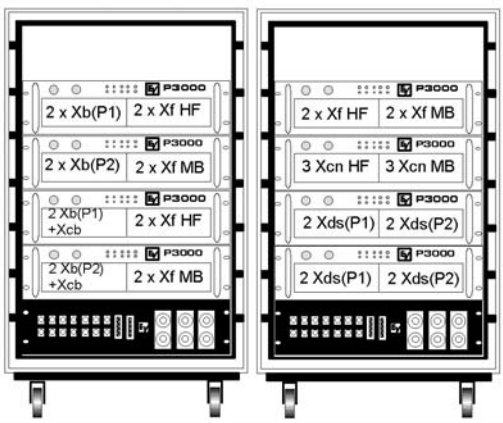










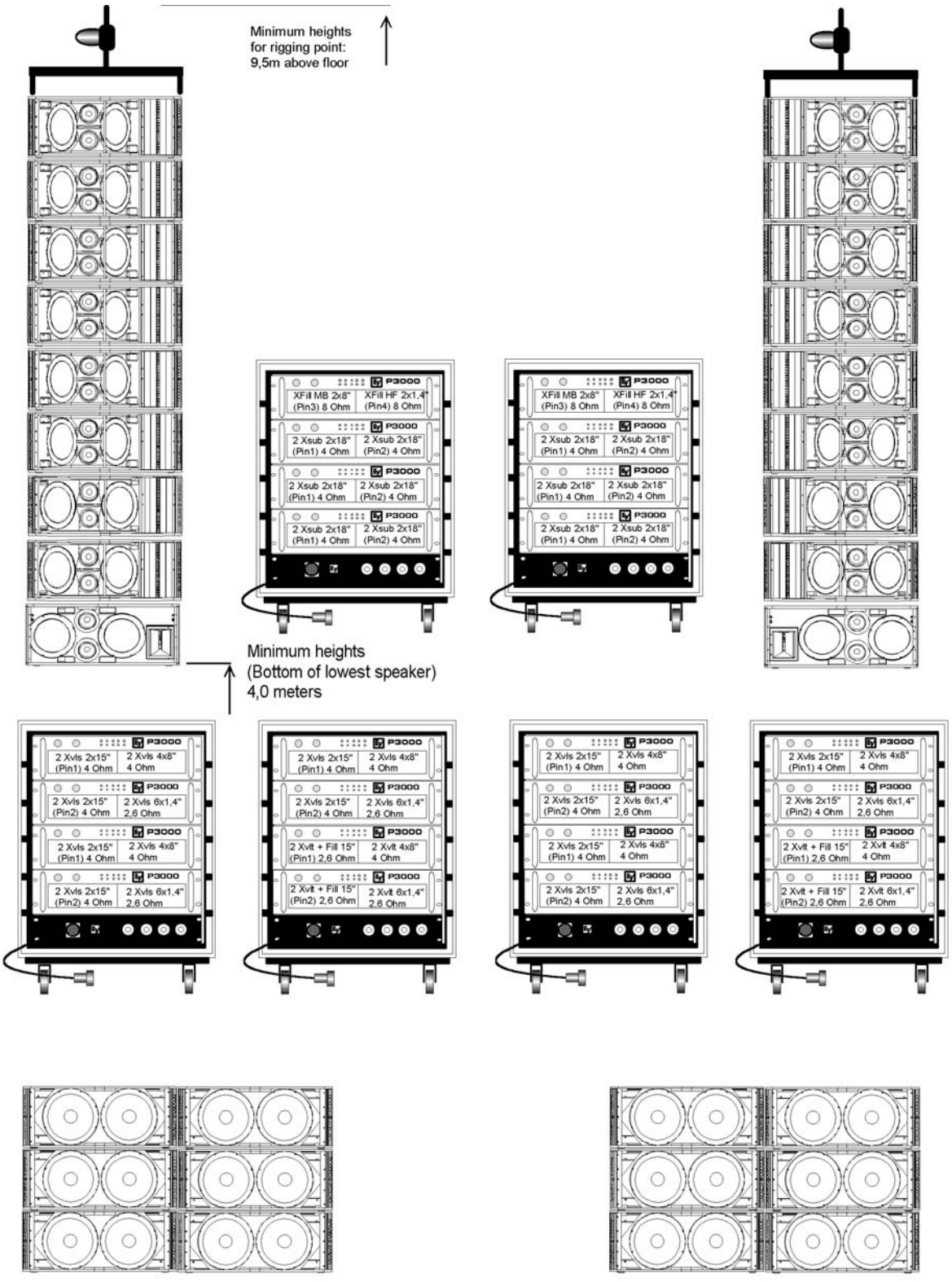


Cabinets:	12 xf, 8 xb, 4 Xcn, 4 Xcb, 8 Xds
Amplifiers:	14 x P3000 (= 4 X-Array System Racks)
Controllers:	4 x Dx-38 / 2 DN9848
Cabling:	10 x NL8 long, 24 NL8 short
Accessories:	10 Grids, 20 Xrhg & Xess, 40 Xrhl & Xesl, 14 Dollies

Horizontal Coverage:	2 x 100° to 120°
Typical Distance:	60m to 70m
Total Amp Power:	2 x 16.950W = 33.900W
Options:	x subs could be used instead of xds

8-Way Stereo, Line Array

Large Venue, Concert Sound



Cabinets:	12 Xvls, 8 Xvlt, 12 Xsub, Xfill 1 & 2	**Horizontal Coverage:**	2 x 90° (120° nearfield)
Amplifiers:	12 P3000 (= 6 X-Line Amp Racks)	**Typical Distance:**	50m to 100m (depending on the rigging heights)
Controllers:	4 Dx38, or 2 DN9848	**Total Amp Power:**	2 x 28,800 W = 57,600 W
Cabling:	16 NL8 long, 16 NL8 short	**Options:**	Number of Xsubs depending on music style
		Comments:	Use of Xfil depending on array heights

Speaker Technologies

Ring Mode Decoupling® (RMD®)

Electro-Voice pioneered Ring Mode Decoupling (RMD®) as a result of experience gained through years of high-level concert system design. The acclaimed EV X-Array™ was the "test bed" for RMD® research. Just as automotive companies use Formula One racing to develop new technologies, Electro-Voice uses its work in the concert sound and touring industries to develop new technologies. The goal of that basic research is to bring those new technologies into all aspects of the sound reinforcement industry.

All loudspeaker components display unwanted vibrational modes – or resonances – that produce both frequency and time-domain distortions. A time-domain distortion is most often described by loudspeaker users as a "ringing" in the system. This ringing is usually most audible through the vocal fundamental range, and users commonly attempt to "cure" the ringing mode through equalization. Unfortunately such attempts remove not only the time-domain distortion, or ringing, but also parts of the musical signal as well. The net result is that musical information is lost.

RMD® is a series of techniques developed by Electro-Voice engineers to deal with the time-domain distortion at its source. The basic problem is mechanical in nature. As a result, the only really effective solution is also mechanical. When acoustic resonances are encountered, the only effective solution is an acoustic remedy. The same applies to electrical resonances: The solution must be electrical.

RMD® RING-MODE DECOUPLING

RMD® treatment produces an acoustic signal that is much more free of mechanical and acoustical ringing modes. The result is a level of fidelity – particularly through the critical vocal range – that is more coherent and "in your face." Another benefit of RMD® technology is a much higher degree of level independence. Many front-of-house engineers have noted that system equalization needs to change with system output levels. The louder the system is driven, the more EQ changes become necessary to maintain system voicing (that is, the system sounds different at higher power levels). RMD® greatly minimizes the changes in system voicing that occur with level changes. Systems with RMD®, therefore, display a high degree of level-independent fidelity and a very audible improvement in vocal clarity as well.

Power handling ratings

Accurately specifying power handling ratings presents a challenge with odds typically worse than those in a game of chance. Each manufacturer rates its components in its own particular way. While responsible manufacturers always qualify their testing methods, this offers little help to users not familiar with the different test methods.

Electro-Voice has used an EIA-based rating for many years. It offers a reasonably good combination of mechanical (excursion) and thermal (heat) stress measurements. The ratings supplied with EV components are very conservative, and require a full eight-hour test cycle to generate.

However, Electro-Voice does not limit its power testing to EIA methods. Long term continuous musical testing of rated program limits is typically performed for 200-hour durations. EV engineers also perform mixed-signal testing, a combination of continuous noise (EIA- or AES-based shaped spectrum signals) and low-frequency impulsive signals (such as kick drums). Mixed signal tests often represent typical program material, and the resulting measurements relate better to real-world conditions.

The most useful power handling rating is that of the program material specification. This rating relates well to "in the field" situations for most musical programs. It should always be remembered that no test method or rating spec will universally describe every situation. Extreme power levels can produce either mechanical or thermal failures with any manufacturer's components.

Manifold Technology®

In 1986, Electro-Voice revolutionized concert sound reinforcement by introducing Manifold Technology®. In each of the four bandpasses covering the entire frequency range, the output of four loudspeakers was flawlessly combined – or "manifolded" – into a single horn (such as a large-format MH horn) or low-frequency enclosure. The result was a physical package, a fraction of the size of conventional concert rigs but with four times the acoustic output. This eliminated the drastically uneven coverage that occurs when multiple acoustic sources are stacked to gain more output. Manifold Technology® came into its own particularly in smaller-sized locations or installations, where low-frequency output was limited by the space available.

Speaker Technologies

Dipole and Tripole™ Technology

(2- or 3-element line array)

Tripole configuration of the dual-woofer three-way systems of Xi-Series™ provides the best directivity improvement, achieved by the vertically spaced low-frequency sources which flank the mid-bass horn operating alone at low frequencies and by appropriately overlapping the LF and MB sources in the mid bass, e.g., 125 to 540 Hz. The single-woofer three-way systems may be dipole configured, achieved by overlapping the (single) woofer and mid-bass source in the appropriate frequency ranges. This physical orientation of three sources, together with appropriate amplitude shading and filter combinations, produces vertical directivity control to below 125 Hz.

The resulting interferences of normal overlapped speakers are completely minimized. The sonic advantages of this combination are significant. Precisely controlled radiation patterns at low frequencies prevent reverberant energy in the 125- to 600-Hz range from degrading vocal fundamentals. The pattern control achieved by this three-source, single-enclosure "array" prevents the critical distance from moving "forward" (toward the source) as wavelengths become significant in size with respect to the radiation device, and pattern control is lost. This is the case with conventional system designs. The other primary advantage is that down to 125 Hz, acoustic output under the enclosure is a full 12 dB or more below on-axis levels.

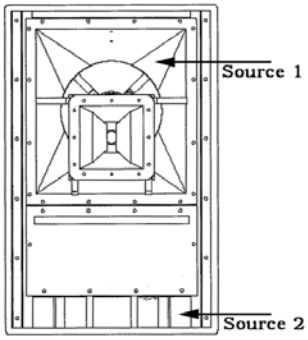
This results in greatly improved gain-before-feedback levels on stage especially in theaters where lavaliere microphones are traditionally used under center speakers. In conventional systems where "under enclosure" levels are comparable to on-axis levels, system intelligibility is even compromised at the source (microphone) because of poor loudspeaker directivity control and subsequent "spill over".

Vari Intense®

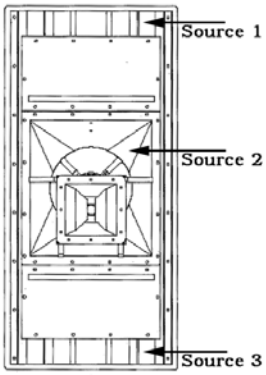
EV's unique Vari Intense® (VI) technology has a lot of advantages in most applications of "typical sized" rooms. Vari Intense® provides a rectangular coverage pattern. The unique, patented throat and flare structure of the VI horn delivers a 6 to 10 dB hotter signal to the rear of the room. The resulting even front-to-back SPL eliminates ear-strain at the back of the sitting area and painful ears at the front. One VI horn replaces two standard systems that reduce costs and eliminates destructive interference which occurs between long and short throw horns or multi-sourced horizontal arrays. The downward aimed horn delivers sound only to the floor plan where the audience is and provides uniform direct-field SPL and significantly reduces the amount of sound reverberating off the ceiling. This provides an increase in mid- to high-frequency intelligibility of 6 dB in most applications.

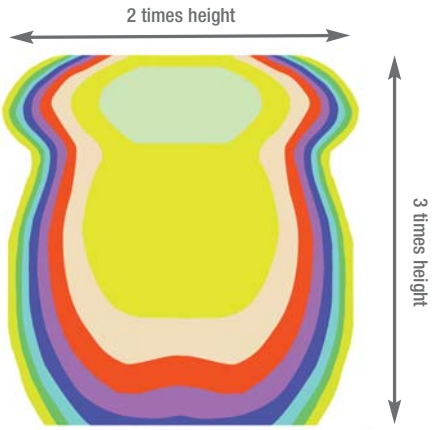
To plan with Vari Intense® systems is very easy. The height of the room defines the size of the floor plan covered with one speaker. The area covered would be a width coverage of two times the height of the ceiling and depth, or throw, three times the height of the ceiling. Therefore a Vari Intense® speaker mounted centrally, parallel to the floor, at a height of 3 meters, would cover a room with equal SPL, 6 meters wide by 9 meters long. Aiming the speaker down by 15 degrees at the same 3 meter height will produce an even floor plan SPL that is 3 meters wide by 6 meters long and tilting it back by 15 degrees, at the same height, produces a floor plan SPL of 6 meters wide by 15 meters long. Normally the loudspeaker is mounted approximately 0.6 to 0.8 times the height back from the first row and has a nominal angle of the top of the enclosure parallel to the floor or slightly (2 to 3 degrees) tilted back.

Dipole



Tripole™





floor coverage plan of a VI horn

Speaker, Distances, and Horns

This graph should help you to get a feeling of coverage angles, loss in SPL and covered areas.
The following questions can be answered:

1. ***Question:*** "What coverage angle is needed to cover a width of X meters by the maximum possible distance to the audience of Y meters?" Helpful when the install position of the speakers and the area to cover are predetermined.

   Solution: Possible distance to the audience is a maximum of 12 meters. Covered width should be approx. 36 meters (2 x 18 meters). A system that provides 120 degrees coverage is needed.

2. ***Question:*** "Which system is needed when the distance to the audience and the target SPL is known?" Helpful when the install position of the speakers is known and a pre-defined SPL is required.

   Solution: Inverse square law of a point source (-6 dB when doubling the distance) helps to define the loss in SPL at a distance of X meters. The pre-determined SPL at listening level (the audience) should be 100 dB. Distance to the speaker is approx. 50 meters (i.e. open-air, arena etc). The loss in SPL after 50 meters is approx. 33 dB, therefore the system has to provide a continuous SPL of 133 dB/1 m.

3. ***Question:*** "At what distance is a (i.e.) 75 meters width reached, using different loudspeakers with different coverage angles?

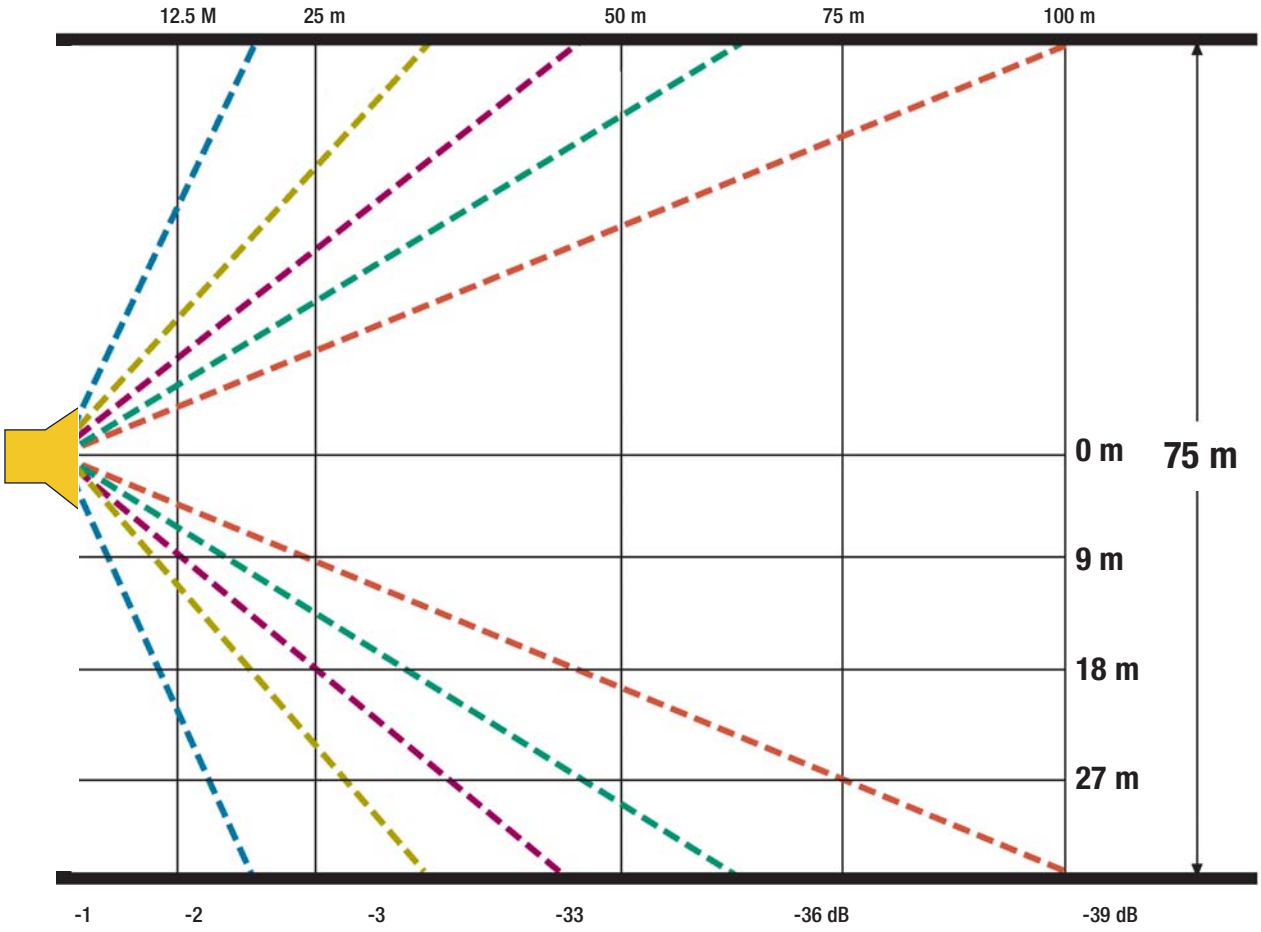
   Solution: A 120 degrees system provides a covered width of 75 meters after approx. 22 meters. A 40 degree system provides same width after approx. 100 meters.

4. ***Furthermore*** *(based on point 3):* "What´s the loss of SPL in both cases?"

   Solution: Approx. 25 dB for the 120 degrees and approx. 40 dB for the 40 degrees system. To achieve a pre-determined SPL of 105 dB, when an area of 75 meters needs to be covered, the 120 degrees system has to deliver > 130 dB and the 40 degrees system > 145 dB. In explanation: A job for MH 4020 which provides 146 dB maximum.

5. *And others…*

Dispersion angle versus distance for same coverage



Inverse square law (point source)

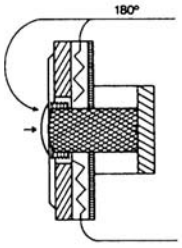
Microphone Technologies

In 1934, Electro-Voice invented the hum-bucking coil for microphones, still an industry standard almost 70 years later. The invention was the beginning of EV's success in building microphones, but not the end. Electro-Voice continues to set new standards for microphone design today. Electro-Voice was the first manufacturer to use neodymium-based magnet structures (N/DYM®) in its microphones, thus achieving higher output and condenser-like qualities such as crystal clarity and reliable performance. Electro-Voice's goals in developing microphone technologies have always been the same: providing highest sound quality, achieving better and more comfortable handling for the user, and continuing the company's tradition of legendary reliability and warranty support. Its long list of patents attests to its success in meeting these goals.

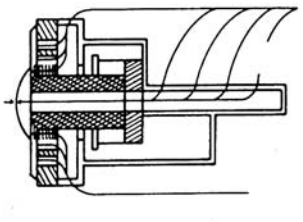
Variable-D®

Normal microphones generate increased bottom end when used close up. This is typically called the "proximity effect." While some lead vocalists like this effect and use it to enhance their performance, it is attainable only in closeup situations. When the distance between the microphone and the source is extended, the sound quality changes dramatically. Electro-Voice's patented Variable-D® eliminates this disadvantage. On the rear side of the diaphragm there is a perforated pipe (interference duct) with precise sonic slots at set distances. The duct provides maximum damping which is completely uncolored and undistorted at 180-degree off-axis, ensuring the same frequency response as if the source was nearly on-axis.

Variable-D® designed microphones can be used very close to other sound sources with no loss in clarity or definition. This makes them the preferred choice for tight vocals and challenging instruments such as brass. Variable-D® microphones like the RE20 and RE27 are favorites with broadcast show hosts, vocal booths, voice-over studios, and professional touring or rental companies.



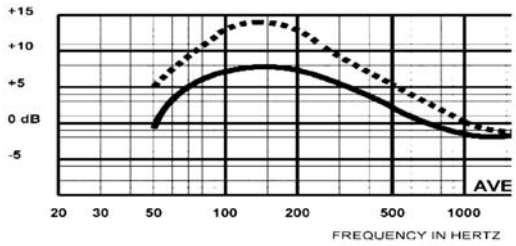
Normal mic



Variable-D® mic

VOB™

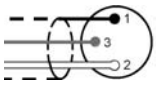
Electro-Voice's unique VOB™ technology (Vocal-Optimized Bass) reduces low-frequency distortion in the microphone's output. Critical damping of the low-frequency resonant peak results in a microphone that replaces the "muddiness" found in competitive models with greater warmth and increased vocal intelligibility. With a wider range of working distances than other microphones, this intelligibility ensures a clean, clear, consistent sound that "cuts through the mix." VOB™ counteracts proximity effect, sibilance, and P-popping, thus assuring maximum vocal intelligibility and musical clarity.



——— **with VOB™**
- - - - - **without VOB™**

PIN - Arrangements

Electronic



Balanced (XLR)
Pin 1: Shield
Pin 2: Hot
Pin 3: Cold

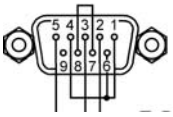
Microphones

Balanced (XLR)
Pin 1: Shield
Pin 2: Signal +
Pin 3: Signal -

TA4F (not shown)
used in N/DYM wireless

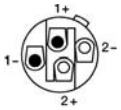
Pin 1: Common
Pin 2: Audio
Pin 3: Bias
Pin 4: Not used

PC interface (RS 232)



Pin 1: parallel to 4 + 6
Pin 2: TxD
Pin 3: RxD
Pin 4: parallel to 1 + 6
Pin 5: common
Pin 6: parallel to 1 + 4
Pin 7: parallel to 8
Pin 8: parallel to 7

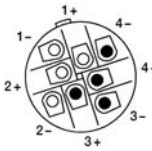
Speakers



Full-range Pin 1: LF/HF +/-
Pin 2: Not connected

Biamp Pin 1: LF Section +/-
Pin 2: HF Section +/-

Subwoofer Pin 1: LF input +/-



System

Pin 1 in: LF +/- Pin 2! out
Pin 2 in: LF +/- Pin 1! out
Pin 3 in: MB+/- Pin 3 out
Pin 4 in: HF +/- Pin 4 out

EV MICROPHONE APPLICATION TABLE

MICS	APPLICATIONS																	
	VOICE SOUND REINFORCEMENT						VOICE STUDIO		INSTRUMENT									BROAD CAST
	Female	Male	Rock	Jazz	Speech	Choir	Vocal	Speech	Kick Drum	Snare	Toms	HiHat/ Overhead	Guitar Amp	Saxophone/ Woodwinds	Trumpet/ Brass	Piano	Accordeon	Guitar/ Strings	ENG
Cobalt Co4										+	+		+					+	
Cobalt Co5	+	+																	
Cobalt Co7	+	+	+	+															
Cobalt Co9	+	+	+																
Cobalt Co11	+	+		+	+							+		+				+	
N/DYM 367s	++	+	+	+															
N/DYM 267a(s)	+	+	+							+									
N/DYM 767a	++	++	+	+			+												
N/DYM 967	+	+	++																
N/DYM 468										++	++		++	+	+		+	+	
N/DYM 868									++										
N/DYM 478										+	+		+				+		
RE 200B					+	+						++				++	+	++	
RE 20						++		++	++	++	+		++	++	++		++	++	
RE 27						++	+	++	++	++	+		++	++	++		++	++	
RE 510	++	++		++	+	+	+	+		+		++	+	+	+	+	+	++	
RE 1000RE 90B					+				+							+			
RE 90H						++													
RE 90L					++									+			++		
RE 90P-12/-18					++														
Polarchoice-12/-18					++													+	
RE 50B/NDB																			++
635																			++

+ recommended
++ optimal

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