

Outdoor Speakers

From the EVID™ 3.2 to the Sx600, EV offers excellent solutions for outdoor speaker needs. EV®'s Sx and ZX1 Series 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.



ZX1i

ZX1i

- 8"-2-way with DH2005 1,25" compression driver
- Integrated Quick SAM foeasy install and aiming
- 2 pattern 90x50 or 100 x 100
- Transformer version available (-T)



Sx300PI/PIX

Sx300PI/PIX

- Compact two-way, 12-inch, medium-throw full-range system
- Full-face, black powder-coated stainless steel grille, backed by a foam water shield, gives smooth appearance and a high degree of weather resistance
- 70.7/100-volt 100-watt transformer option with selectable taps (Sx300PIX)



ZX5PI

ZX5PI

- 15"-2 way with ND2, 2" compression driver &
- DVX3150 woofer
- 600W cont. power handling



Sx600PI/Sx600PIX

- Tw- element vertical line array
- Very high sensitivity (105 dB/1W/1m)
- High intelligibility
- Two 12" woofers
- DH2T driver on 65x65 degree Varipath horn
- All weather cabinet
- Super SAM mounting, 60° x 180° adjustable
- Waterproof connection by SJO cable with glandnut
- Internal 600 Watt transformer available (SX600PIX)



Sx600PI



EVID 4.2/4.2T

- 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

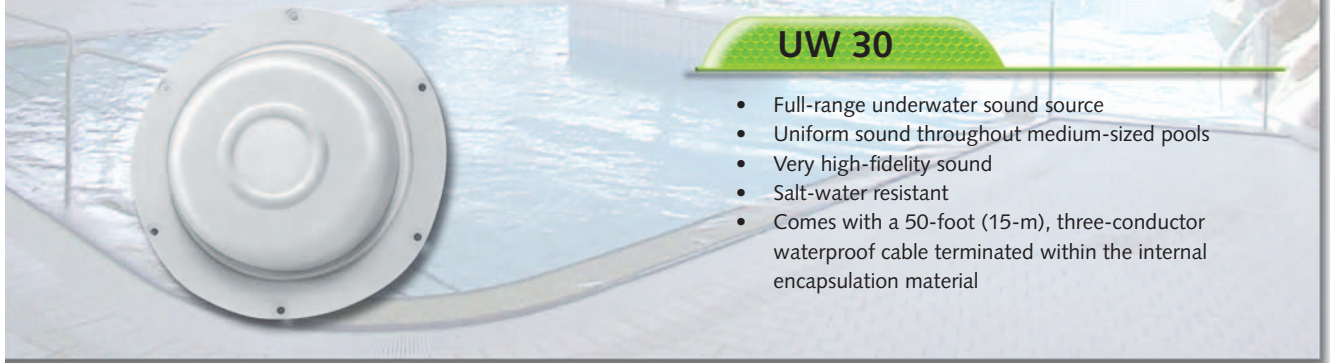
- Two-way, high-output full range
- High sensitivity
- 1" voice coil (titanium diaphragm) with Neodymium magnetic structure
- Full bandwidth overload protection for HF and LF
- Three-dimensional ellipse (for compact look)
- Comes with Strong Arm Mount (SAM™) and a hex key
- Suspension insert for SAM™;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



Underwater loudspeaker

The UW 30 represents a departure from conventional designs 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

Ultracompact 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.



S-40 B

- Two-way, full-range ultracompact
- 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



SPECIFICATIONS

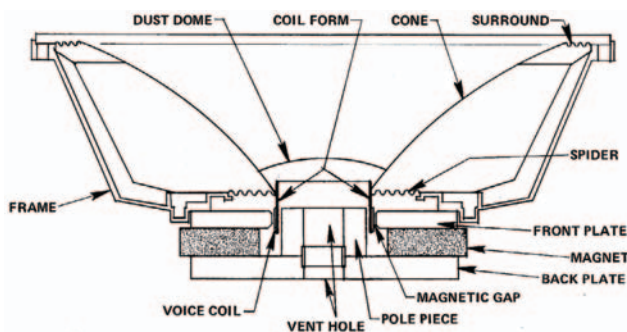
	UW 30	S-40
Frequency range	100 Hz–10 kHz	85 Hz–20 kHz (+/- 3dB)
Sensitivity (SPL 1W/1m)	—	85 dB
Max. SPL/1m (calc.)	—	113 dB
Long-term power handling	30 W	160 W
Short-term power handling	—	640 W
Coverage (H° x V°)	omni (underwater)	100° x 100°
Directivity Index	—	9.8 dB (+3.8/-3.6 dB)
LF driver	special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

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 aluminium frames with push terminals, and all feature Ring-Mode Decoupling™ (RMD™) except for the DL18MT and the EVX180B.



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	350 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)	98 dB	96 dB	98 dB	96 dB	95 dB
Maximum SPL	122.8 dB	120.8 dB	122.8 dB	121.4 dB	121.0 dB
Efficiency	5.92%	3.69%	5.60%	3.93%	2.66%
Frame front diameter	259.5 mm (10.22")	309.6 mm (12.19")	309.6 mm (12.19")	305.0 mm (15.16")	305.0 mm (15.16")
Magnet diameter	190.5 mm (7.50")	155.6 mm (6.13")	190.5 mm (7.50")	155.6 mm (6.13")	190.5 mm (7.50")
Overall depth	114.3 mm (4.50")	133.4 mm (5.25")	133.4 mm (5.25")	152.4 mm (6.00")	158.8 mm (6.25")
Mounting bolt circle diameter	244.5 mm (9.625")	293.7 mm (11.563")	293.7 mm (11.563")	369.9 mm (14.563")	369.9 mm (14.563")
Baffle cutout diameter	230.2 mm (9.063")	281.0 mm (11.063")	281.0 mm (11.063")	357.2 mm (14.063")	357.2 mm (14.063")
Net weight	6.5 kg (14.3 lbs.)	5.0 kg (11.1 lbs.)	6.7 kg (14.7 lbs.)	5.4 kg (12.0 lbs.)	6.9 kg (15.2 lbs.)

SPECIFICATIONS

DL18MT

EVX155

EVX180B

EVM12L

Black Label

Cone diameter	18" (457 mm)	15" (381 mm)	18" (457 mm)	12" (305 mm)
Coil diameter	2.5" (63.5 mm)	4" (101.6 mm)	4" (101.6 mm)	2.5" (63.5 mm)
Impedance	8 Ω	8 Ω	8 Ω	8 or 16 Ohms
Frequency range	35–800 Hz	40–2,000 Hz	30–800 Hz	80Hz–7kHz
Long-term power rating (EIA)	400 W	600 W	600 W	300 W
Short-term power rating	1,600 W	2,400 W	2,400 W	1200 W
Sensitivity (1 W @ 1 m)	96 dB	98 dB	98 dB	100 dB
Maximum SPL	122.0 dB	125.8 dB	125.8 dB	125 dB
Efficiency	2.9%	4.32%	3.4%	5.9%
Frame front diameter	460.5 mm (18.13")	385.0 mm (15.16")	460.5 mm (18.13")	309.6 mm (12.19")
Magnet diameter	190.5 mm (7.50")	209.6 mm (8.25")	8.25" (209.6 mm)	190.5 mm (7.5")
Overall depth	177.8 mm (7.00")	184.2 mm (7.25")	203.2 mm (8.00")	133.4 mm (5.25")
Mounting bolt circle diameter	441.3 mm (17.375")	369.9 mm (14.563")	441.3 mm (17.375")	293.7 mm (11.563")
Baffle cutout diameter	425.5 mm (16.750")	357.2 mm (14.063")	425.5 mm (16.750")	281.0 mm (11.063")
Net weight	7.2 kg (15.8 lbs.)	10.3 kg (22.8 lbs.)	10.6 kg (23.4 lbs.)	8.6 kg (19 lbs.)

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 ultraprecise tolerances, state-of-the-art modeling routines, and exceptionally talented engineering expertise. Manufac-

turing 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
- 300-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



ND6-8/ND6-16/ND6X

- Large-format neodymium compression driver
- 300-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
- ND6X from > 500Hz



DH2T

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



DH3/DH2010A

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

Horn Adaptors

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

SPECIFICATIONS

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

*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.



HP6040



HP420



HP64



HPT64

HP4020 HP6040 HP9040

- 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

HP420 HP640 HP940 HP1240

- 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

HP64 HP66 HP94

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

HPT64 HPT94

- 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

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	838 mm (33.0")	813 mm (32.0")	813 mm (32.0")	367 mm (14.4")	330 mm (13.0")	330 mm (13.0")
Width	813 mm (32.0")	711 mm (28.0")	679 mm (26.75")	610 mm (24.0")	711 mm (28.0")	533 mm (21.0")
Depth	1,252 mm (49.3")	808 mm (31.8")	808 mm (31.8")	749 mm (29.5")	437 mm (17.2")	285 mm (11.2")
Net weight	12.3 kg (27.0 lbs)	9.1 kg (20.0 lbs)	9.1 kg (20.0 lbs)	5.9 kg (13.0 lbs)	4.3 kg (9.5 lbs)	3.2 kg (7.0 lbs)

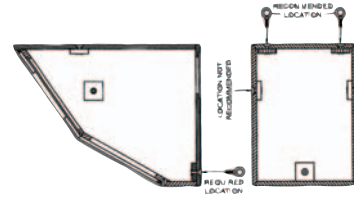
SPECIFICATIONS

	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	330 mm (13.0")	279 mm (11.0")	279 mm (11.0")	279 mm (11.0")	133 mm (5.25")	133 mm (5.25")
Width	533 mm (21.0")	224 mm (8.8")	224 mm (8.8")	222 mm (8.75")	133 mm (5.25")	133 mm (5.25")
Depth	265 mm (10.4")	220 mm (8.7")	165 mm (6.5")	220 mm (8.7")	104 mm (4.1")	101 mm (4.0")
Net weight	3.2 kg (7.0 lbs)	2.5 kg (4.5 lbs)	2.2 kg (4.8 lbs)	2.5 kg (4.5 lbs)	0.4 kg (0.8 lbs)	0.4 kg (0.8 lbs)

Flying Hardware

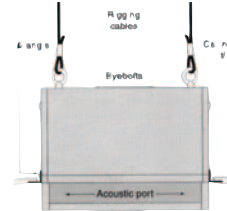
EVI 12/15

EBK-1 (Eyebolt-Kit)



EVID 12.1

1 Eyebolt is included.



Note: One 3/8"-16-thread forged steel eyebolt is included. A second is necessary!

FRI

4 Eyebolts included

FRX Systems

(Except FRX-122)

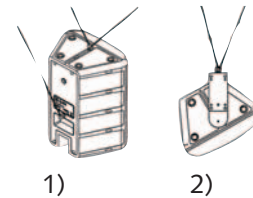
Single stud kit included

Sx 100/300 Sb 122

- 1) MB 100
- 2) MB 100 + MB 200

Security advice:

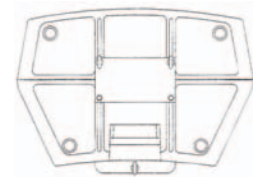
When flown by 90° (figure 2) don't use eyebolts only!



Sx 500 +

MB 700 - Kit contains:

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

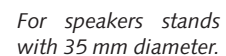
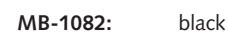
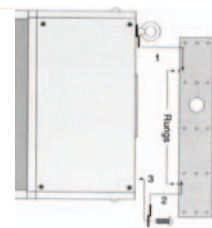
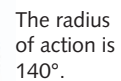


Security advice:

Do not screw MB 100 directly into M8 thread!

Note: Flying and suspending of speakers requires authorized personnel

LOUDSPEAKERS

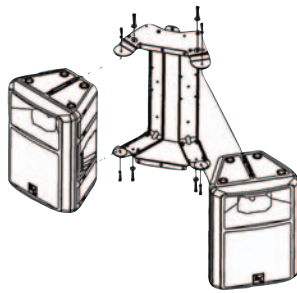


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Mounting hardware

Sx 100 / Sx 300 / Sb 122

Horizontal Cluster 120° (2 systems)



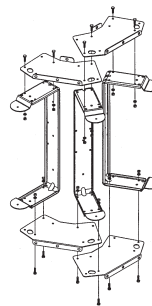
2 x MB 200 + 1 x MB 300 necessary

Wall or ceiling-mount



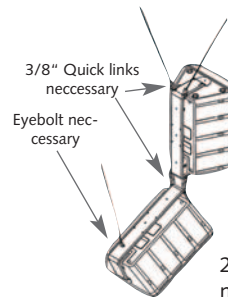
1 x MB 200 necessary

Horizontal Cluster 180° (3 systems)



3 x MB 200 + 2 x MB 300 necessary

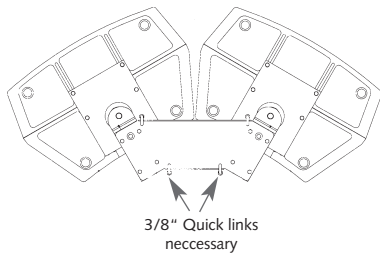
Vertical Cluster



2 x MB 200 necessary

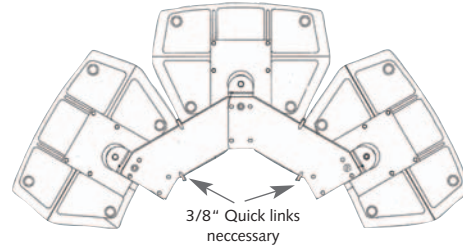
Sx 500 +

Horizontal Cluster 140° (2 systems)



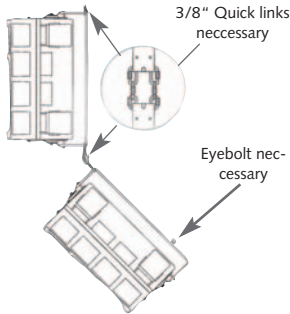
2 x MB 500 + 1 x MB 600 necessary

Horizontal Cluster 210° (3 systems)



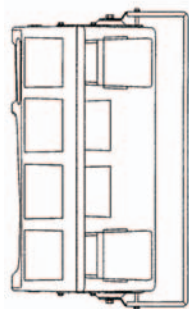
3 x MB 500 + 2 x MB 600 necessary

Vertical Cluster



2 x MB 500 necessary

Wall-mount



1 x MB 500 necessary

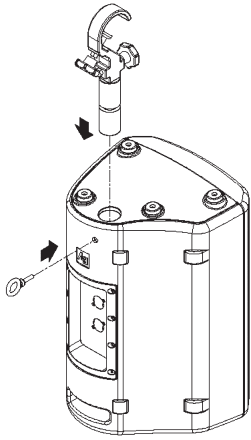
Sx-Series™ hardware-overview:

Sx 80	Sx 80 SM Sx 80 MBB Sx 80 MBW	Stand mount U-bracket U-bracket	black black white
Sx 100+	MB 200 B MB 200 W	U-bracket U-bracket	black white
Sx 300 Sb 122	MB 300 B MB 300 W	Array-kit (2 plates) Array-kit (2 plates)	black white
Sx 500 +	MB 500 MB 600	U-bracket Array-kit	black black

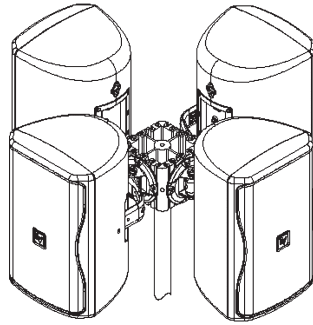
Note: Flying and suspending of speakers requires authorized personnel

Mounting hardware

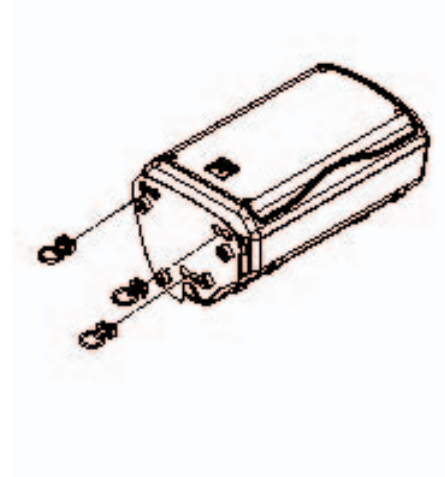
ZX1



ZX1-90 + CA-ZX



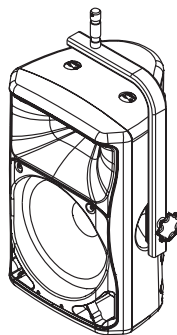
ZX1i + AB-ZE



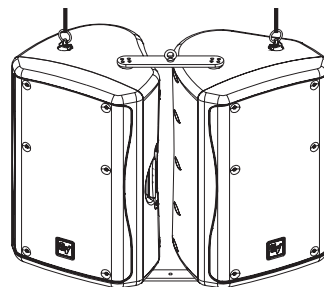
ZX5



MB5 Wall/Ceiling mounting bracket



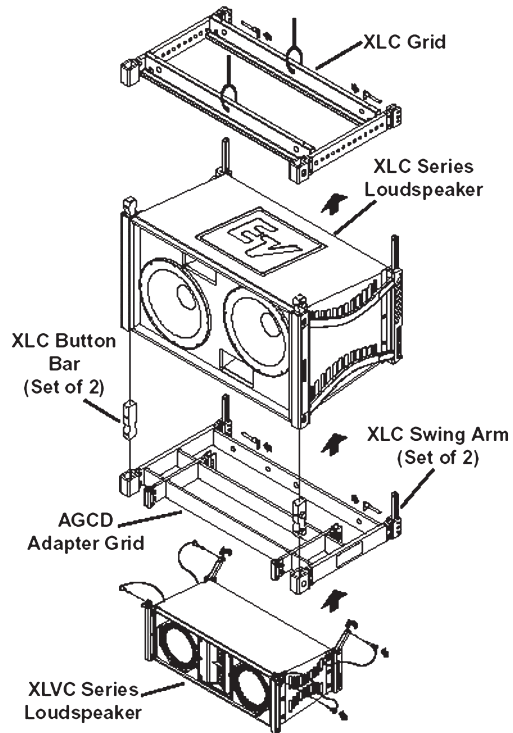
PSA-V using HA-5



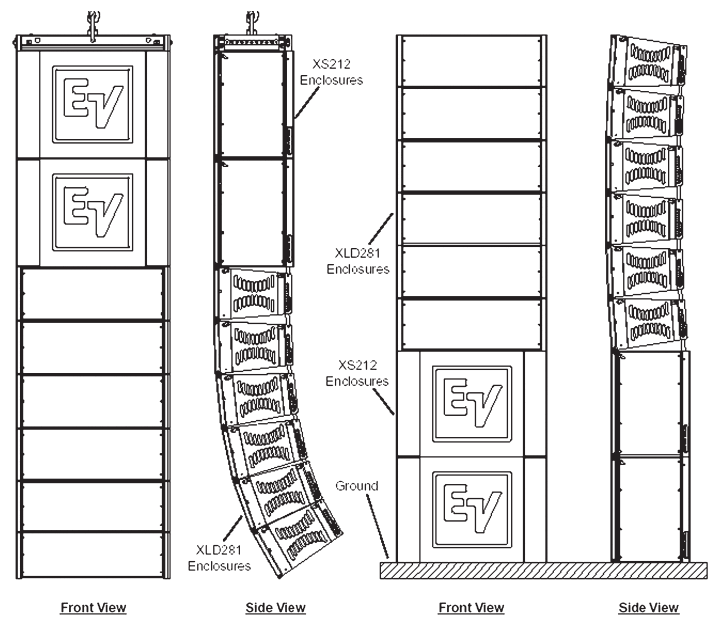
CB5 cluster bracket kit

Mounting hardware

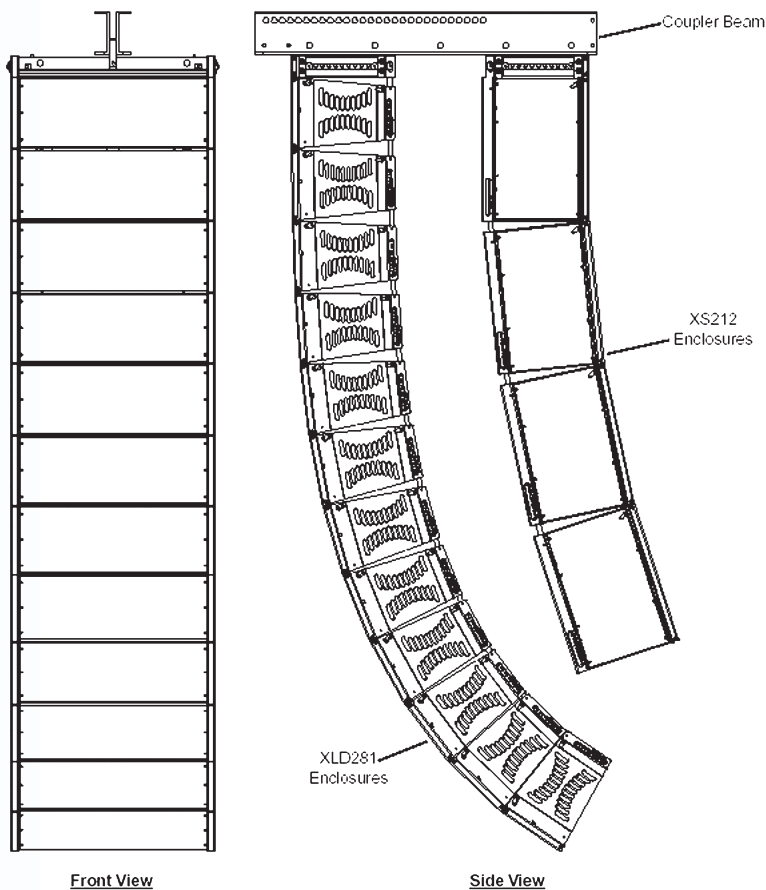
XLD281 + XLC215 + AGCD



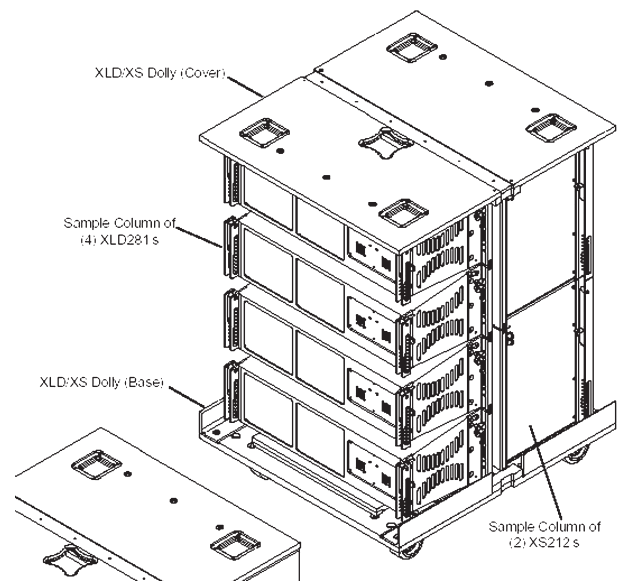
XLD281 + XS 212



XLD281 + XS212 + CBeam

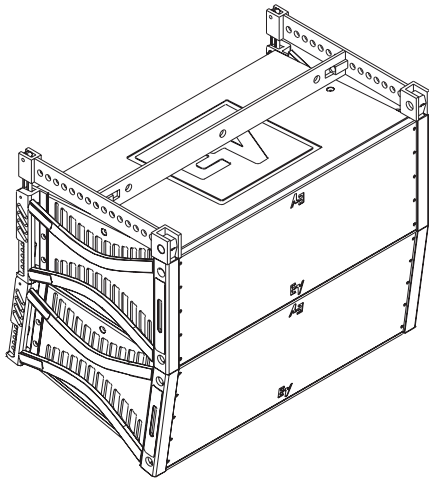


XLD281 + XS212 + Dolly



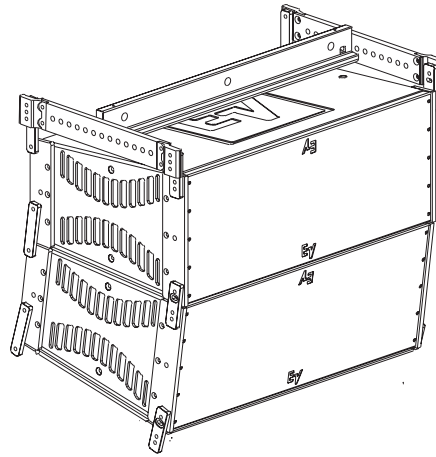
Mounting hardware

XLC Rigging



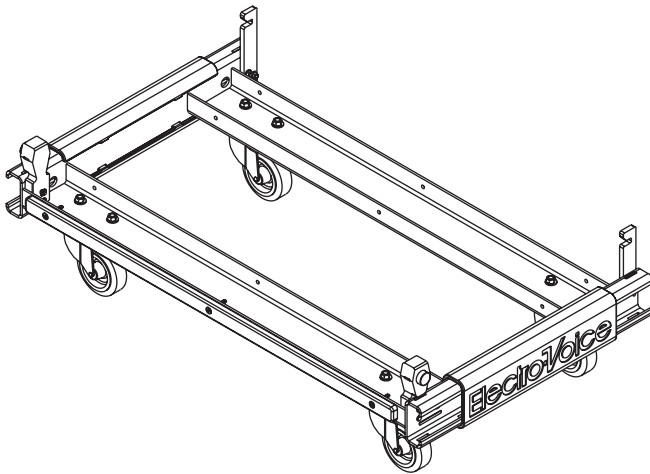
A-1 Grid for XLC
(other rigging hardware included with speaker)

XLCi Rigging

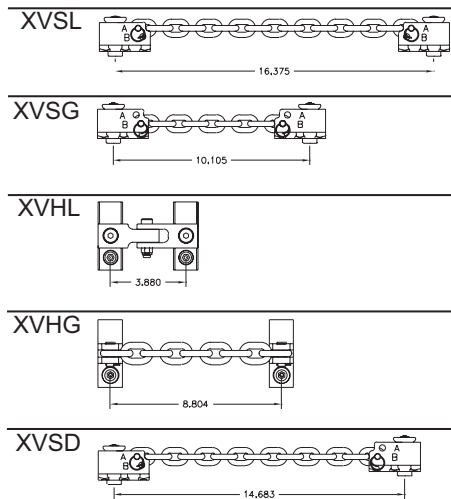


A-2 Grid for XLCi
(other rigging hardware included with speaker)

XLC Bottom Dolly



X-Line Rigging Accessories



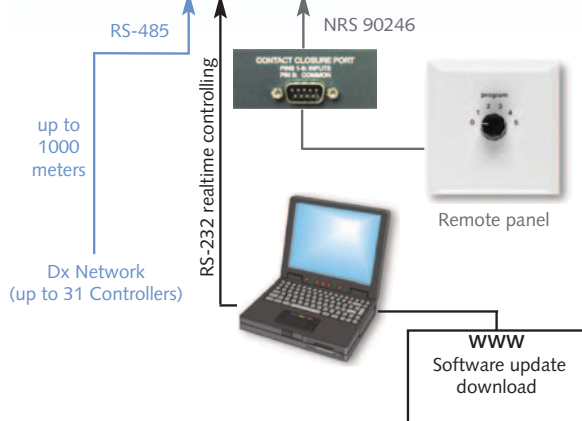
Dx38 (Digital Sound System Processor)

Digital Sound System Processor

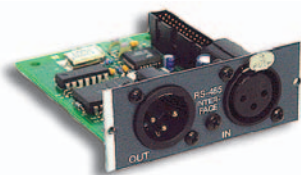
Dx38 sets standards for digital loudspeaker controllers and processors, providing 48-bit filter algorithms, 24-bit AD/DA conversion and a dynamic range of 115 dB. Dx38 can be used in networks of up to 31 controllers with a maximum networking distance of 1.000 meters. Real-time controlling and configuration 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 which includes current EV speaker and amp data.



RS-485 Remote Interface for Dx38



Available Options and Accessories:

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)	1.55V/+ 6 dBu
Maximum input voltage	24.5V/+30 dBu
Input impedance	20k ohms
Common mode rejection	> 40 dB
Output connectors	4 XLR (elec. balanced)
Output voltage (nominal)	1.55 V/+ 6 dBu
Maximum output voltage	8.7V/+ 21 dBu
Output impedance	< 100 ohms
Minimum load impedance	600 ohms
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 (1st or 2nd order), Phase invert (180°)
Digital Compressor	4 (1 each output) with graph
Digital Limiter	4 (1 each output) with graph
Delay	3 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 mm (WxHxD)	483.0 x 43.6 x 374.0 mm 1.72" x 1.9" x 14.75"
Weight net	5.0 kg (17.03 lbs.)

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.

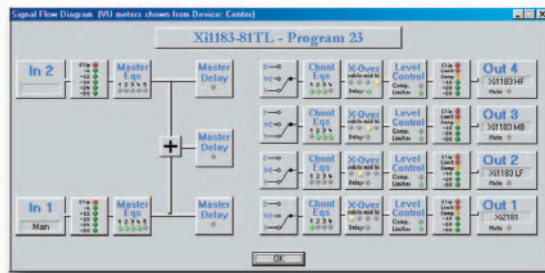
An additional tool is the SPL dispersion window for lower frequencies. Presets can even be prepared off-line in advance and need only a little tweaking once speakers are in place.

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 is supplying 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 (6dB/12dB-Peaking), hi- or lo-shelf (6/12dB) 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 x-over section provides a hi- and a lo-pass-filter per channel and an output delay for alignment. The dynamics sections

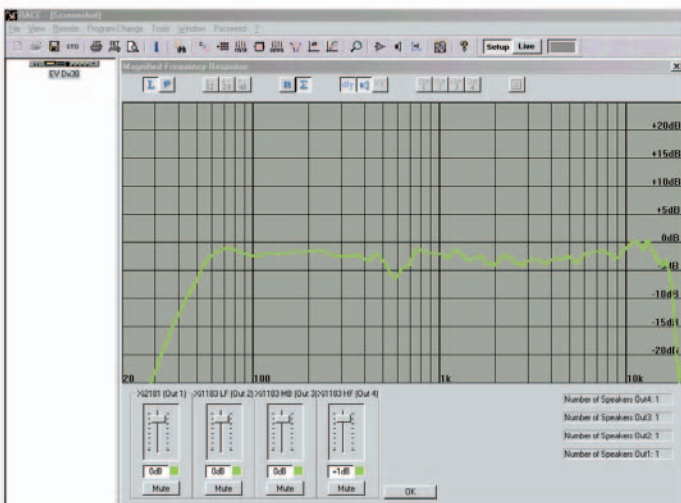


with independent compressor and limiter can be used for speaker protection.

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

Overall Frequency Response

The acoustical response of Xi1183/64 plus Xi2181 (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.



AC One Analog Controller

AC One Analog Audio Controller

The AC One analog audio controller has been designed to be used 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

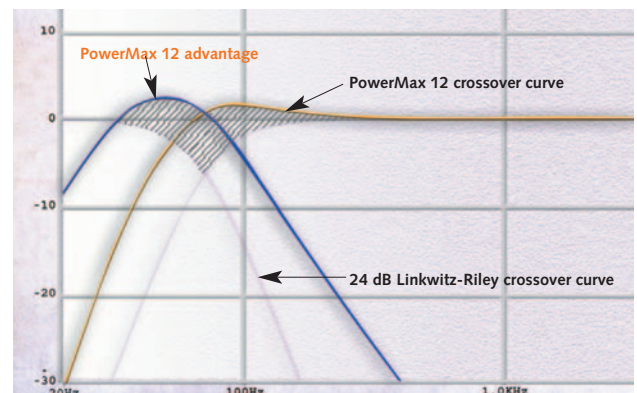
can fully separate, amplify, and reproduce the audio signal's frequency ranges. The PowerMax 12 crossover function brings the low-frequency performance of bigger systems to compact systems. The AC One guarantees highly economical system applications without loss of performance, and helps to save on application 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 EQ'ing 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.



AC One Options and 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 kΩ

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)	100–120V/220–240V
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)

Amplifiers

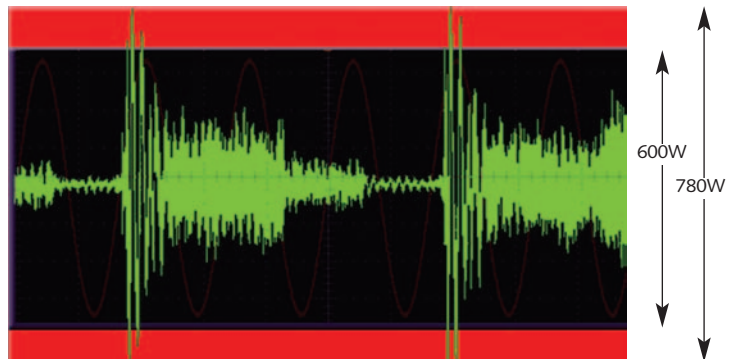
The Precision Series™ (P-Series), EV's top line of power amplifiers, has become a world standard in touring business. Their extreme reliability, high-level sound and durable design make them the amp of choice for the Rolling Stones' world concert tours. A two-year tour is torture for any piece of touring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

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

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 ohms load
- Bridge-mode operation on 4 ohms load
- High-level sound performance
- Extreme reliability
- Highest quality standards: German engineering

Dynamic Headroom



30% Dynamic headroom of a Q66 amplifier

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 up in a stable 3-RU zinc-plated steel housing with rear-mounted dB-scaled level controls.



SPECIFICATIONS

	Q 44	Q 66
Continuous rated power (1k Hz, THD 1 %)		
2 ohms	650 watts	850 watts
4 ohmsΩ	450 watts	600 watts
8 ohms	280 watts	380 watts
Continuous rated power (20 - 20k Hz, THD < 0,2%)		
4 ohms	350 watts	500 watts
8 ohms	230 watts	300 watts
Max. bridged output		
4 ohms	1,300 watts	1,700 watts
8 ohms	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)	20k Ω	20k Ω
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)	133 x 483 x 386 mm 5.25" x 19" x 15.7"	133 x 483 x 386 mm 5.25" x 19" x 15.7"
Net weight	15 kg (35.2 lbs.)	16 kg (35.2 lbs.)

PA Series Amplifiers

The PA series of compact commercial rack mount power amplifiers are designed for demanding sound reinforcement, background music/paging and public address system installations where long term reliability and flexibility is the ticket. These units are exceptional values, loaded with features and are easy to install in a variety of system designs. The models in the PA series range from 160 to 450

watts of power per channel in a compact 2RU package. All models have a variety of features which enables them to be customized to a wide range of demanding commercial sound and audio reinforcement applications. The PA1250T, PA2250T and PA2400T all provide 70/100V output capability using low distortion output transformers for wide bandwidth and minimal saturation.

- Balanced phoenix style input connectors – makes installation easy.
- A phoenix style connector block for all output modes.
- Models available from 160 to 450 watts per channel into 4 ohms or 70/100V.
- Bridge mode operation on all multi channel models provide power flexibility.
- Switch selectable hi-pass filter at either 50Hz or 300Hz meets any installation requirement.
- Independent rear panel level controls provided for each channel
- All models provide multi-voltage operation from 110-240vac.
- Integrated “rack ears” allow for rack mounting without additional accessories.



SPECIFICATIONS

	PA2450L	PA4150L	PA2400T	PA2250T	PA1250T
Number of Channels	2	4	2	2	1
Load Impedance	8/4 Ohms	8/4 Ohms	8/4 Ohms/100V/70V	8/4 Ohms/100V/70V	100V/70V
Rated output power (*rated load) THD<1%, 1kHz	220W/450W	100W/160W	215W/430W/430W/430W	135W/270W/270W/270W	270W/270W
Rated output power (*rated load) THD<0.2%, 20Hz – 20kHz	200W/400W	75W/150W	200W/400W/400W/400W	125W/250W/250W/250W	250W/250W
Slew rate at 1kHz V/μs	28	16	25/25/65/46	18/18/61/41	61/41
Frequency response -1dB, ref. 1kHz	<10Hz -40kHz	<10Hz -40kHz	65Hz -40kHz/65Hz -20kHz	65Hz -40kHz/65Hz -20kHz	65Hz -20kHz
Input impedance 20Hz – 20kHz, balanced	>20kohm	>20kohm	>20kohm	>20kohm	>20kohm
Input sensitivity @ rated output power or voltage, 1kHz	0dBu (775mV)	0dBu (775mV)	0dBu (775mV)	0dBu (775mV)	0dBu (775mV)
THD @ rated output power MBW=80kHz, 1kHz	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
IMD-SMPTE 60Hz, 7kHz	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
DIM30 3.15kHz, 15kHz	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Crosstalk ref. 1kHz, @ 10% rated output power	<-75dB	<-75dB	<-75dB	<-75dB	<-75dB
Dimensions (W x H x D)	483mm x 88mm x 406mm (19"x 3.5"x16")	483mm x 88mm x 406mm (19"x 3.5"x16")	483mm x 88mm x 406mm (19"x 3.5"x16")	483mm x 88mm x 406mm (19"x 3.5"x16")	483mm x 88mm x 406mm (19"x 3.5"x16")
Weight	16.5kg (36.34lbs)	18kg(39.65lbs)	26kg(57.27lbs)	23.5kg(51.76lbs)	16.5kg(36.34lbs)

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.



CPS2T

The CPS2T offers all the performance of the CPS2 and adds the capability of 70v/100v constant voltage operation. It also features Transformer Saturation Protection (TSP), which monitors the current demands of the 70v/100v matching transformer and can protect against overload and distortion. The exceptional reliability and performance of the CPS2T has made it the amplifier of choice for a wide variety of distributed audio installations such as convention centers, factories, warehouses, stadiums, office buildings, and the like. Anywhere large amounts of reliable 70v amplifier power is needed, the CPS2T can meet the spec easily.



CPS 1

(not shown)

The CPS1 can deliver up to 450 watts of power at 1kHz into 4 ohms. The CPS 1 has been extremely popular in smaller venues such as houses of worship, retail spaces, and entertainment venues where background or foreground music is needed.

CPS 2

(not shown)

The CPS2 incorporates all the advanced features of the CPS1 but can deliver up to 600 watts of power at 1kHz into 4 ohms.

CPS 2.4

The CPS2.4 is ideal for smaller full-range systems or larger mid/high frequency amplification in larger installations. The CPS2.4 is an ideal companion to the popular EVID line of premium surface-mount and ceiling speaker systems.

CPS 2.6

The workhorse of the line. Its 600 watts of compact power is perfect for mid-level full range installs.

CPS 2.8

At 800 watts per channel the CPS2.8 is the best value in the line. It can power a wide range of speaker cabinets either in multi-way or full-range modes for a large range of fixed installation jobs.

CPS 2.11

No power amplifier on the market can offer such a high level of power performance and reliability. At 1100 watts/channel the CPS2.11 can power large stadium, theater, and auditorium type installations with ease.

SPECIFICATIONS

	CPS1	CPS2	CPS2.4	CPS2.6	CPS2.8	CPS2.11	CPS2T
Maximum power (1k Hz; THD <1%)							
2 Ω	650 W	850 W	600 W	900 W	1,100 W	1,600 W	850 W
4 Ω	450 W	600 W	400 W	600 W	800 W	1,100 W (100V: 500W)	600 W (100V: 500W)
8 Ω	280 W	350 W	240 W	350 W	500 W	600 W	380 W
Rated power (20 Hz–20 kHz; THD <0.2%)							
4 Ω	350 W	500 W	300 W	500 W	700 W	900W	500 W (100V: 580W)
8 Ω	230 W	300 W	150 W	250 W	350 W	450 W	330 W
Maximum bridged output (1,000 Hz; <1% THD)							
4 Ω	1,300 W	1,700 W	1,240 W	1,800 W	2,200 W	3,200 W	1,700 W
8 Ω	900 W	1,200 W	800 W	1,200 W	1,600 W	2,200 W	1,200 W (100V: 1,160)
Slew rate	25 V/μs	30 V/μs	35 V/μs	35 V/μs	35 V/μs	35 V/μs	30 V/μs
Total harmonic distortion	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%	<0.05% (100V: <0.2%)
Intermodulation distortion (SMPTE)	<0.08%	<0.08%	<0.02%	<0.02%	<0.02%	<0.02%	<0.08% (100V: <0.3%)
Crosstalk (at 1,000 Hz)	<-80 dB	<-80 dB	<-80 dB	<-80 dB	<-80 dB	<-80 dB	<-80 dB
Input impedance (balanced)	20 kΩ	20 kΩ	20 kΩ	20 kΩ	20 kΩ	20 kΩ	20 kΩ
Signal-to-noise ratio (dB A-weighted)	>105 dB	>105 dB	103.5 dB	105.5 dB	107 dB	107 dB	>100 dB
Dimensions (W x H x D)	483 x 132.5 x 368.8 mm 19" x 5.22" x 15.22"	483 x 132.5 x 368.8 mm 19" x 5.22" x 15.22"	483 x 88.1 x 368.8 mm 19" x 3.5" x 15.22"	483 x 88.1 x 368.8 mm 19" x 3.5" x 15.22"	483 x 88.1 x 368.8 mm 19" x 3.5" x 15.22"	483 x 88.1 x 368.8 mm 19" x 3.5" x 15.22"	483 x 132.5 x 368.8 mm 19" x 5.22" x 15.22"
Net weight	15 kg (33.1 lbs.)	16 kg (35.3 lbs.)	13.5 kg (30.8 lbs.)	15 kg (33 lbs.)	16 kg (35.2 lbs)	8.15 kg (17.96 lbs.)	22.5 kg (49.6 lbs.)

Compact Precision Amplifiers

- Five models ranging from 2 x 600 W to 2 x 2000 W
- EV's legendary Precision Series sound
- 30% dynamic headroom
- Class-H design for less heat dissipation
- Very light and compact format
- High-precision detent front controls

- Dynamic audio limiter
- Robust construction & reliable design
- Unique protection package including Back-EMF protection

CP1200

With up to 2 x 600 watts into 2 Ohms and 2 x 400 watts into 4 Ohms dedicated for small fullrange cabinets and individual hi-frequency components in multiway systems. The CP1200 employs a conventional transformer power supply.

CP1800

Supplies up to 2 x 900 watts into 2 Ohms and 2 x 600 watts into 4 Ohms. Dedicated for smaller size full range speaker systems and hi-frequency components in multiway systems. The CP1800 uses a conventional transformer power supply.

CP2200

With up to 2 x 1100 watts into 2 Ohms and 2 x 800 watts into 4 Ohms, the CP2200 is not only a perfect complement to many fullrange speaker cabinets, but also mid- and hi-frequency components in larger concert-sound systems. The CP2200 employs a conventional transformer power supply.



CP3000 S/ CP4000 S

The CP3000 S & CP4000 S are not only the first Precision Series amplifier to use a switch-mode power supply, but they are also the first switch-mode amplifier with EV's Precision Series sound. With up to 2 x 2100 watts into 2 Ohms and 2 x 1500 watts into 4 Ohms, they are not only the most powerful in the line, but also the lightest model at only 17.96 lbs (8.15 kg).

SPECIFICATIONS

	CP4000S	CP3000S	CP2200	CP1800	CP1200
Maximum power (1k Hz; THD <1%)					
2 ohms	2100 W	1600 W	1100 W	900 W	600 W
4 ohms	1500 W	1100 W	800 W	600 W	400 W
8 ohms	900 W	600 W	500 W	350 W	240 W
Rated power (20 Hz–20 kHz; THD <0.2%)					
4 ohms	1200 W	900 W	700 W	500 W	300 W
8 ohms	600 W	450 W	350 W	250 W	150 W
Maximum bridged output (1,000 Hz; <1% THD)					
4 ohms	4200 W	3200 W	2200 W	1800 W	1200 W
8 ohms	3000 W	2200 W	1600 W	1200 W	800 W
Slew rate	35 V/μs	35 V/μs	35 V/μs	30 V/μs	25 V/μs
Total harmonic distortion	<0.05%	<0.05%	<0.05%	<0.05%	<0.05%
Intermodulation distortion (SMPTE)	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%
Crosstalk (at 1,000 Hz)	<-80 dB	<-80 dB	<-80 dB	<-80 dB	<-80 dB
Input impedance (balanced)	20 kΩ	20 kΩ	20 kΩ	20 kΩ	20 kΩ
Signal-to-noise ratio (dB A-weighted)	108 dB	107 dB	107 dB	105.5 dB	103.5 dB
Dimensions (W x H x D)	483 x 88.1 x 384 mm 19" x 3.5" x 15.5"	483 x 88.1 x 368.8 mm 19" x 3.5" x 15.22"	483 x 88.1 x 368.8 mm 19" x 3.5" x 15.22"	483 x 88.1 x 368.8 mm 19" x 3.5" x 15.22"	483 x 88.1 x 368.8 mm 19" x 3.5" x 15.22"
Net weight	8.70 kg (19.2 lbs)	8.15 kg (17.96 lbs.)	16 kg (35.2 lbs.)	15 kg (33 lbs.)	13.5 kg (30.8 lbs.)

Precision Series™ Linear Amplifiers

The Precision Series™ (P-Series) is EV's most popular series of 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)

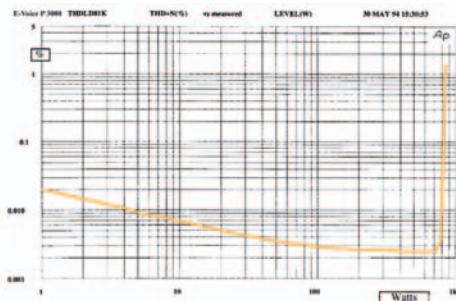


P 2000 / P 3000

- 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

	P1200	P 2000	P 3000
Continuous rated power (1k Hz, THD 1 %)			
2 ohms	800 watts	1200 watts	1800 watts
4 ohms	550 watts	900 watts	1300 watts
8 ohms	370 watts	560 watts	850 watts
Continuous rated power (20 - 20k Hz, THD < 0,1%)			
4 ohms	500 watts	800 watts	1200 watts
8 ohms	350 watts	500 watts	750 watts
Max. bridged output			
4 ohms	1600 watts	2400 watts	3600 watts
8 ohms	1100 watts	1800 watts	2600 watts
Slew rate	> 30 V / μ s	> 35 V / μ s	> 40 V / μ s
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 (20-20k Hz, balanced)	20k ohms	20k ohms	20k ohms
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	Speakon (Pin 1)	Speakon (Pin 1)	Speakon (Pin 1)
Dimensions mm (H x W x D)	88 x 483 x 390 mm	133 x 483 x 390 mm	133 x 483 x 390 mm
	3.5" x 18" x 16.8"	5.2" x 19" x 16.8"	5.2" x 19" x 16.8"
Net weight	17 kg (35.2 lbs.)	27 kg (57.3 lbs.)	29 kg (61.7 lbs.)

IRIS-Net

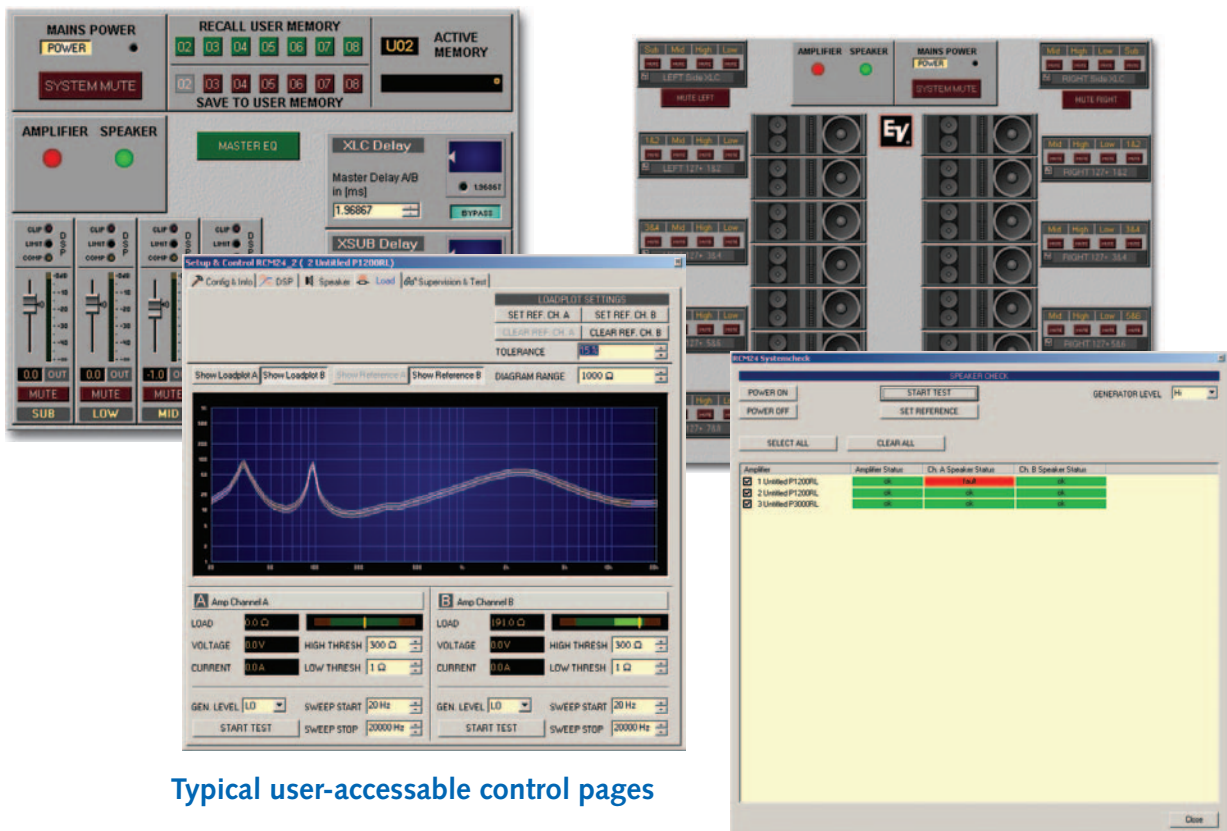
From the introduction of the first IRIS (Intelligent Remote Integrated Supervision) software platform for amplifiers in 2002, EV has been developing a robust audio control protocol and new innovative audio hardware.

The first was the RL line of remote controlled amplifier products. These amplifiers offered an amazing level of user control and monitoring, which brought reliability and ease of use to a wide range of users. Now EV is introducing the Net-

Max™ N8000, a comprehensive digital audio system controller — the next link in the IRISNet audio processing chain. IRIS-Net is EV's answer to the ever-increasing complexity of audio system designs. It is a comprehensive software platform, which encompasses a huge array of control options. All aspects of the audio chain are under its supervision and control. The key areas of signal processing, supervision and signal routing are all manipulated under its shell.



- IRIS (Intelligent Remote & Integrated Supervision) software for user-programmable, password-protectable control pages
- Remote control and supervision of up to 250 amplifiers over CAN network
- Built-in state-of-the-art digital signal processing (Filter, Crossover, Delay, Compressor, Limiter)
- Dynamic Range 115 dB
- RACE-processed presets for EV speakers available
- Realtime supervision of amplifier operation and loudspeaker load
- Automated system checks including full bandwidth measurement of connected loudspeakers
- Automated action procedures on critical operation modes are programmable



Typical user-accessible control pages

Unrivalled System Supervision

Impedance measurement of individual speaker component allows for comprehensive supervision of all speakers using system check function.

IRIS-Net



NETMAX

NETWORKED MATRIX SYSTEM

The new NetMax N8000 is the central player in the IRIS-Net solution. It offers an extremely flexible hardware platform that allows for field level customization of the unit to nearly any application. This customization goes far beyond what is

available today from other platforms. Everything from the matrix size and configuration to the processing power can be customized in the field, making it easy to design the best solution value for the customer.

Distributed vs. Central processing – The N8000 and IRIS-Net gives you both!

Now you don't have to make the choice as to where your processing power resides. IRIS-Net gives you the ability to choose BOTH! IRIS-Net enables you to process all or part of the audio signal in a central component like the NetMax N8000 or to conduct the processing and supervision remotely at the amplifier. This gives the system designer incredible flexibility in designing the system. You can now design the system for the ultimate in reliability or design for efficiency and value. The IRIS-Net solution gives you all the hardware and software pieces to accomplish both objectives.

Open Architecture – Extensively Tested

The IRIS-Net software platform has been extensively tested in a variety of venues. Even prior to its introduction the system hardware and software underwent extensive testing and scrutiny. The software interface and hardware component design were made with the user and designer in mind. The open architecture of the hardware and IRIS-Net user protocol allow for the seamless functioning of external devices within IRIS-Net and its hardware components.



N8000

Audio	32 Audio Channels 4 Audio Slots, modular 8-Channel Input and Output cards, analog or digital
Networking	Module Slot for optional CobraNet™ Interface 32 I/O Audio and Control
Safety / Redundancy	Internal Supervision, System Monitoring, Watchdog, Fault Output, Redundant Audio Network possible
Audio Inputs	8 analog audio inputs per module, line level, electronically symmetric
Audio Outputs	8 analog audio outputs per module, line level, electronically symmetric
Signal to Noise Ratio (A-weighted)	AI-1: 117 dB typical AO-1: 118 dB typical N8000 analog In to analog Out: 114 dB typical
Sample Rate	48 kHz internal, 32 kHz - 192 kHz external
Data Format	24 Bit linear A/D and D/A conversion, 48 Bit processing
INTERFACES	Ethernet ,CAN , RS-232 ,USB ,GPIO Control Port
Power Supply	100 - 240 V AC, 50/60 Hz
Power Consumption	90 W max. (incl. 2 x AI-1, 2 x AO-1, 1 x CM-1 modules)
Cooling	Left-to-right, 3-stage fan
Operating Temperature Range	32°F – 104°F (0 °C – 40 °C)
Dimensions (W x H x D)	19" x 3.5" x 15" (483 x 88.1 x 381 mm) 2 RU
Modules:	
AI-1 Analog Input Module	8 analogue audio inputs, line level, balanced 20kOhms
AO-1 Analog Output Module	8 analogue audio outputs, line level, balanced, 100 Ohms
DI-1 Digital Input Module	8 digital audio inputs (AES/EBU)
DO01 Digital Output Module	8 digital audio outputs (AES/EBU)
DSP-1 DSP Extension Module	DSP Extension Module (300 MIPS)
MI-1 Microphone Input Module	8 analogue audio mic/line inputs with phantom power

Precision Series Remote Amplifiers

Range of Amplifiers for High and Low Impedance Applications

P3000 RL

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

P1200 RL

The universal, with 2 x 600 watts into 4 ohms and 2 x 850 watts into 2 Ohms. 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.

P900 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.

P900 RT

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



SPECIFICATIONS

SPECIFICATIONS	P900 RL			P1200 RL			P3000 RL			P900 RT		P1200 RT	
	8Ω	4Ω	2Ω	8Ω	4Ω	2Ω	8Ω	4Ω	2Ω	100V	70 V	100V	70 V
Continous Output Power (1 kHz, THD 1%)	280 W	450 W	650 W	380 W	600 W	850 W	850 W	1300 W	1800 W	410 W	400 W	590 W	580 W
Rated Output Power (20 Hz-20 kHz, THD <0,2%)	230 W	350 W	-	300 W	500 W	-	750 W	1200 W	-	350 W	350 W	500 W	500 W
Maximum Bridged Output (1 kHz, THD 1%)	900 W	1300 W	-	1200 w	1700 W	-	2600 W	3600 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% (Inputsignal </= + 20 dBu)												
Protections	Hi-Temperature, DC, HF, Back EMF, Peak Current Limiter, Inrush Current Liminter, Power On Delay												
Cooling	3(4)-stage fan, front-to-rear cooling												
Input Sensivity and Impedance	1.55 V (+6dBu), 20 kOhm, 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						Speakon NL4			Barrier Strip			
Dimensions (Width x Height x Depth)	483 x 132.5 x 390 mm (52" x 19" x 15.4") (3 U)												
Net Weight	16 kg (35.3 lbs.)			17 kg (37.5 lbs.)			30 kg (66.2 lbs.)			24 kg (53 lbs.)		25 kg (55.1 lbs.)	

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

Tour Grade Amplifiers



- Up to 2 x 3500W max. cont. output
- Hi Efficiency and Sonic Excellence through Grounded-Bridge Class-H
- Design Microprocessor Controlled
 - Compound Thermal Protection
 - Auto Mains Input Voltage Select
 - Mains Circuit Breaker Supervision
- Front LCD-Panel for Operation Mode
- Set-up and Monitoring
- Slot for optional IRIS-Net™ Module
 - complete PC control (CAN,Ethernet)
 - state-of the art real time DSP (RCM26/28)
 - unique system diagnostics and supervision
 - compatible with all other IRIS-Net units
- Complete Protection Package
- Only 14,5 kg (32 lbs) for TG-7
- Designed and Made in Germany

Tour Grade amplifiers are designed for today's most demanding audio applications. They offer a unique combination of high output power, sonic excellence, high efficiency, as well as state-of the art, optional signal processing and system supervision via the IRIS-Net software suite, in a compact lightweight format. The switch-mode power supply has lots of headroom to ensure high dynamic outputs and reliable operation on extreme low loads.

Optional IRIS-Net™ (Intelligent Remote & Integrated Supervi-

sion-Network™) Modules available for the Tour Grade amplifiers open up a whole world of state-of-the-art DSP, remote control, networking and unique system supervision – down to an individual loudspeaker component. There will be several modules available: RCM-26 (DSP, AES/EBU input, GPIO, CAN-Bus), RCM-28 (DSP, GPIO, COBRA-Net™), RCM-20 (no DSP, CAN-Bus) to allow any combination of central control and supervision with central or decentralized signal processing.

SPECIFICATIONS	TG5			TG7		
	8Ω	4Ω	2Ω	8Ω	4Ω	2Ω
Continous Output Power (1 kHz, THD 1%)	850 W	1450 W	1900 W	1500 W	2500 W	3500 W
Rated Output Power (20 Hz-20 kHz, THD <0,2%)	600 W	1200 W	-	1050 W	2100 W	-
THD @ Rated Output Power	< 0.05%			< 0.05%		
DIM 30	<0.02%			<0.02%		
Signal-to-Noise Ratio	109 dB			111 dB		
Protections	Dynamic Audio Limiter, Hi-Temperature, DC, HF, Short Circuit, Back EMF,					
	Mains circuit breaker, Mains overvoltage					
Power Requirements:	100-240V, 50/60Hz (mains auto detection)					
Dimensions (Width x Height x Depth)	483 x 88.1 x 512 mm (19" x 3.46" x 20.9")					
Net Weight	14.4 kg (31.3 lbs.)			14.5 kg (32 lbs.)		

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 ohms	600 ohms	600 ohms	600 ohms	Low-Z balanced (250 Ohms)
Frequency Response (-3 dB)	50 - 18,000 Hz	50 - 18,000 Hz	50 - 18,000 Hz	50 - 18,000 Hz	50 - 20,000 Hz
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	—	Low-noise On/off-Switch	—	—	—
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 (5.8" x 0.9")	170 x 53 mm (6.7" x 2.1")	170 x 53 mm (6.7" x 2.1")	170 x 53 mm (6.7" x 2.1")	173 x 53 mm (6.7" x 2.1")
Weight net	340 g (0.75 lbs.)	306 g (0.67lbs.)	332 g (0.73 lbs.)	335 g (0.74 lbs.)	292 g (0.64 lbs.)



RE510

- Professional self-biased condenser vocal microphone
- Selectable low-end roll-off
- Supercardioid pattern
- Excellent off-axis rejection
- Wide dynamic range



RE410

- Versatile handheld condenser microphone
- Ideal for both vocals and spoken word use
- Cardioid pattern for excellent feedback rejection and acoustic isolation
- Warm-Grip™ handle for comfortable feel
- High-compliance shock mount effectively eliminates handling noise



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

	RE510	RE410	RE200
Element	Condenser (self-biased)	Condenser (self-biased)	True condenser
Polar pattern	Supercardioid	Cardioid	Cardioid
Impedance, Low-Z balanced	150 ohms	250 Ohms	200 ohms
Frequency Response (-3 dB)	50 - 20,000 Hz	50 - 20,000 Hz	50 - 18,000 Hz
Power Level (0dB = 1 m W/Pascal) at 1,000 Hz	-41 dB	—	-39 dB
Open Circuit Voltage (at 1,000 Hz)	5.6 mV/Pascal	3.2 mV/Pascal	10 mV/Pascal
Equivalent Noise (0 dB=20 micropascal)	18 dB SPL	26 dB SPL	21 dB SPL
Maximum SPL (1% distortion, 1,000 Hz)	140 dB SPL	140 dB SPL	130 dB
Power requirement (Phantom power)	12 - 52 VDC	24 - 48 VDC	12 - 52 VDC
Current Consumption	N/A	N/A	3.5 mA
Magnetic Circuit	N/A	N/A	N/A
Specials	transformerless output device	—	AcoustiDYM, transform- erless output device
Filters	switchable low-freq roll-off	switchable low-freq roll-off	—
Case Material	Metal	Metal	Metal
Finish	Warm-Grip black handle	Warm-Grip black handle	Semi-gloss camera black
Included accessories	Stand adapter, zippered vinyl carrying pouch	Stand adapter, zippered vinyl carrying pouch	Stand adapter, windscreen
Connector type	3-pin XLR	3-pin XLR	3-pin XLR
Dimension (Length x max. Diameter)	180 x 50 mm 7.09" x 1.97"	182 x 51 mm 7.10" x 1.99"	137 x 28 mm 5.39" x 1.10"
Weight net	215 g (0.47lbs.)	260 g (0.57lbs.)	185 g (0.41 lbs.)

Wired Microphones

N/DYM® Series

N/DYM® Series is different to 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/D267 a/as

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

N/D367 s

- Dedicated for female voices
- On/off-switch (as version)
- Includes accessories

N/D478

- Universal microphone
- Ideal to mic drums, percussion or guitars, also as vocal "spare" mic
- Smooth response
- 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/D767 a

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

N/D868

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

SPECIFICATIONS

	N/D267 a/as	N/D367 s	N/D468	N/D478	N/D767 a	N/D868	N/D967
Element	Dynamic	Dynamic	Dynamic	Dynamic	Dynamic	Dynamic	Dynamic
Polar pattern	Cardioid	Cardioid	Supercardioid	Cardioid	Supercardioid	Cardioid variant	Supercardioid
Impedance, Low-Z balanced	300 ohms	300 ohms	150 ohms	300 ohms	300 ohms	150 ohms	
Frequency Response (-3 dB), close response	45 - 15,000 Hz	25 - 20,000 Hz	30 - 22,000 Hz	45 - 15,000 Hz	35 - 22,000 Hz	20 - 10,000 Hz	50 - 13,000 Hz
Frequency Response (-3 dB), far response	100 - 15,000 Hz	55 - 20,000 Hz	60 - 22,000 Hz	100 - 15,000 Hz	70 - 22,000 Hz	—	120 - 13,000 Hz
Output Level(0dB = 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	2.9 mV/Pascal	3.1 mV/Pascal	1.0 mV/Pascal	4.0 mV/Pascal
Equivalent Noise (0 dB=20 micropascal)							
A-weighted	—	< 17 dB SPL	< 14 dB SPL	—	—	< 17 dB SPL	< 16 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	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 7.13" x 2.05"	181 x 52 mm 7.13" x 2.05"	115 x 52 mm 4.53" x 2.05"	181 x 52 mm 7.13" x 2.05"	181 x 52 mm 7.13" x 2.05"	133 x 60 mm 5.24" x 2.36"	173 x 52 mm 6.81" x 2.05"
Weight net	238 g (0.52 lbs.)	200 g (0.44 lbs.)	190 g (0.42 lbs.)	247 g (0.54 lbs.)	260 g (0.57 lbs.)	295 g (0.65 lbs.)	205 g (0.45 lbs.)

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

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, RE50 N/D-B (N/DYM® version)

- 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

	RE20	RE27	635A(N/D)	RE50/B	RE50N/D-B
Element	Dynamic	Dynamic	Dynamic	Dynamic	Dynamic
Polar pattern	Cardioid	Cardioid	Omnidirectional	Omnidirectional	Omnidirectional
Impedance, Low-Z balanced	150 ohms	150 ohms	150 ohms	150 ohms	150 ohms
Frequency Response (-3 dB)	45 - 18,000 Hz	45 - 20,000 Hz	80 - 13,000 Hz	80 - 13,000 Hz	80 - 13,000 Hz
Power Level (0dB = 1 m W/Pascal) at 1,000 Hz	- 57 dB	- 51 dB	- 55 dB (- 51 dB)	- 55 dB	- 51 dB
Open Circuit Voltage (at 1,000 Hz)	1.5 mV/Pascal	3.1 mV/Pascal	— (2.0 mV/Pascal)	—	2.0 mV/Pascal
Magnetic Circuit	—	N/DYM®	Alnico(N/DYM®)	Alnico	N/DYM®
Specials	Variable-D®	Variable-D®	— (Acoustalloy®)	Dyna-Damp	Dyna-Damp™
Filters	Tilt-down EQ	3 selectable EQs			
Case Material	Steel	Steel	Steel	Aluminum	Aluminum
Finish	Fawn beige	Satin nickel	Fawn beige (A) Semi-gloss black (A/B)	Semi-gloss camera black	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, hard-shell case	Stand adapter zippered vinyl carrying pouch, hard-shell case	Stand adapter zippered vinyl carrying pouch, hard-shell case
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 8.54" x 2.13"	217 x 54 mm 8.54" x 2.13"	151 x 36 mm 5.94" x 1.41"	197 x 49 mm 7.76" x 1.92"	197 x 49 mm 7.76" x 1.92"
Weight net	737 g (1.62 lbs.)	709 g (1.56 lbs.)	170 g (0.37 lbs.)	269 g (0.59 lbs.)	269 g (0.59 lbs.)

EV® Studio / Live Mics



Raven

The EV® Studio / Live Mics Raven™ is a stylish dynamic microphone designed to capture the character of live and studio vocals. It is also the perfect microphone for live and studio instruments. The Raven incorporates the collaborative design work from the top industry microphone engineers to provide unparalleled performance in a stunning package.

- Dynamic mic with studio detail and clarity
- Cardioid pattern with excellent off-axis rejection
- Unique double swivel-mounted design for ideal positioning
- Great for voice or instrument
- Innovative visual design

Cardinal

The EV® Studio / Live Mics Cardinal™ is a cardioid condenser designed to capture the detail of both voice and instrument in live sound or studio applications. Employing Class A, discrete ultra-low noise amplifier circuitry, the Cardinal's smooth and detailed performance is sure to please even the most discerning artists and engineers.

- Pressure gradient cardioid condenser
- Class-A discrete ultra-low noise circuitry
- Unique double swivel-mounted design for ideal positioning
- Innovative visual design with cherry finish
- Great for voice or instruments



SPECIFICATIONS

Raven

Cardinal

Element	Dynamic	Condenser (self-biased)
Polar pattern	Cardioid	Cardioid
Impedance, Low-Z balanced	335 ohms	50 Ohms
Frequency Response (-3 dB)	45 - 16,000 Hz	35 - 20,000 Hz
Open Circuit Voltage (at 1,000 Hz)	3.2 mV/Pascal	10 mV/Pascal
Equivalent Noise (0 dB=20 micropascal)	N/A	-25 dB SPL
Maximum SPL (1% distortion, 1,000 Hz)	162 dB SPL	148 dB SPL
Power requirement (Phantom power)	N/A	48 VDC
Current Consumption	N/A	1.8mA
Finish	Black	Cherry Wood
Connector type	3-pin XLR	3-pin XLR

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 an 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.

RE90 H (Black) RE90 HW (White)

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



RE90 L

- Lavalier 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



Actual size

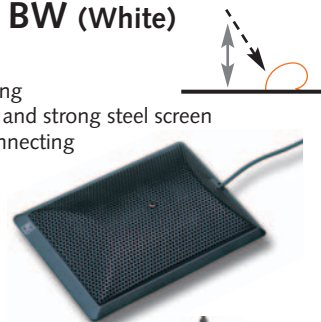
RE90 P-12 (281mm) RE90 P-18 (443mm)

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



RE90 B (Black) RE90 BW (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



RE92 H (Black) RE92 HW (White)

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



RE92 L

- Premium quality lavalier cardioid 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



SPECIFICATIONS

RE90 B

RE90 H

RE90 L

RE90 P

RE92 H

RE92 L

Element	Back electret condenser (Half-) Cardioid	Back electret condenser Cardioid	Back electret condenser Omnidirectional	Back electret condenser Cardioid	Back electret condenser Cardioid	Back electret condenser Cardioid
Polar pattern	(Half-) Cardioid	Cardioid	Omnidirectional	Cardioid	Cardioid	Cardioid
Impedance, Low-Z balanced	200 ohms	200 ohms	100 ohms	200 ohms	250 ohms	250 ohms
Frequency Response (-3 dB)	80 - 15,000 Hz	75 - 15,000 Hz	50 - 18,000 Hz	70 - 15,000 Hz	40 - 20,000 Hz	40 - 20,000 Hz
Power Level (0dB=1 m W/Pascal) at 1kHz	- 33 dB	- 30 dB	- 34 dB	- 43 dB		
Open Circuit Voltage (at 1,000 Hz)	25 mV/Pascal	27 mV/Pascal	12.6 mV/Pascal	4.5 mV/Pascal	5.6mV	5.6mV
Equivalent Noise (0 dB=20 micropascal)A-weighted	< 25 dB SPL	< 25 dB SPL	< 29 dB SPL	< 28 dB SPL	< 30 dB SPL	< 30 dB SPL
Maximum SPL (1% distortion, 1kHz)	127 dB	120 dB	130 dB	130 dB	>135 dB	>135 dB
Power requirement (Phantom power)	9 - 52 VDC	9 - 52 VDC	9 - 52 VDC	9 - 52 VDC	24 to 52 Volt Phantom	24 to 52 Volt Phantom
Current Consumption	2.5 mA	2.0 mA	1.0 mA	2.5 mA	6 mA	6 mA
Specials	transformerless output device	external pre-amp	external pre-amp	transformerless output device	external preamp	external preamp
Case Material	Heavy-duty zinc diecast	Steel	Polycarbonate resin	Steel		
Finish	Nonreflecting black or white	Low-gloss black or white	Nonreflecting black	Nonreflecting black	nonreflective black or white	nonreflective black or white
Included accessories	180 cm thin and	760 cm braided cable	Gig bag flexible cable	Windscreen, double-sided tape	mounting hardware	mounting hardware
Connector type	3-pin XLR	3-pin XLR	3-pin XLR	3-pin XLR	3-pin XLR	3-pin XLR
Dimension (length x diameter)	128 L x 94 W x 16 H mm 5.04" x 3.70" x 6.30"	37 x 13 mm 1.46" x 0.51"	6 x 5 mm 0.24" x 0.20" (gooseneck)	P-12: 281 x 6.4 mm P-12: 11.06" x 0.25" P-18: 443 x 6.4 mm P-18: 17.44" x 0.25" (mic only)	32.1 x 10.5mm 1.26" x 0.41"	24.1 x 10.5mm 0.95" x 0.41"
Weight net	358 g (0.79 lbs.)	157 g (0.35 lbs.)	34 g (0.07 lbs)	P-12: 400 g (0.88 lbs.) P-18: 528 g (1.16 lbs.)	240 g (0.53lbs.) total	160 g (0.35 lbs.) total

PolarChoice™

All PolarChoice™ microphones feature dual capsule design for user-selectable polar pattern: omnidirectional, cardioid, supercardioid and hypercardioid - all in one mic!

The PolarChoice™ Desktop is a free-standing podium style microphone, firmly anchored in place by its elegantly designed base. Select one of four polar patterns (omni, cardioid, super-cardioid or hyper-cardioid), via the easy to access switch. All patterns feature identical voicing, eliminating the need to retune the sound system. The PC-Desktop can also be interfaced to an auto-mixer for use in those large and difficult, multiple microphone installations.

The free standing and movable PolarChoice™ Desktop can be used anywhere a gooseneck or podium style mic is needed, but a permanent installation is not possible, required or desired. Whether it's a boardroom conference table, videoconference facility, training room, house-of-worship altar, or even on a podium - with the PolarChoice™ Desktop, anything is possible.

Desktop

- Integrated deskstand and configurable switch, for use with standard XLR cables 5", 12" & 18" gooseneck versions

Satellite

- Integrated deskstand and configurable switch for use with plug-in EV wireless belt packs, 5", 12" & 18" gooseneck versions



The PolarChoice™ satellite brings the benefits of wireless to the boardroom, conference center, or podium. The PolarChoice™ Satellite is a free-standing gooseneck-style microphone, firmly anchored in place by its elegantly designed base. This low-profile foundation hides PolarChoice™ Satellite's most powerful feature: space for a wireless transmitter. Turn the base over to reveal the specially designed compartment for housing a Telex or Electro-Voice bodypack transmitter. Connect the microphone to the bodypack, set up the wireless channel, and place PC Satellite anywhere an easy-to-use microphone is required. No longer do you have to cut holes in tables, run long cables, or compromise the architectural integrity of an installation. With the PolarChoice™ Satellite, anything is possible.

XLR

- 3-pin XLR, available with 12" & 18" gooseneck

PLUS

- Shipped with both XLR and flange mount accessory plus configurable ON/OFF switch, 5", 12" & 18" gooseneck versions

FL

- Flange mounting, available with 12" & 18" gooseneck



XLR-12 | PLUS-12 | PLUS-18 | FL-12

SPECIFICATIONS

PolarChoice™ Desktop

PolarChoice™ Satellite

PolarChoice™

Element type	Back electret condenser	Back electret condenser	Back electret condenser
Selectable Polar Patterns	Omni, Cardioid, Supercardioid, Hypercardioid	Omni, Cardioid, Supercardioid, Hypercardioid	Omni, Super-, Hyper, Cardioid
Impedance	200 Ohms	200 Ohms	200 ohms
Frequency Response	50 Hz - 20 kHz (mic system)	50 Hz - 20 kHz (mic system)	75 - 15,000 Hz
Open Circuit Voltage	5.6 mV/Pascal	5.6 mV/Pascal (mic system)	5.6 mV/Pascal
Equivalent Noise	< 26 dB SPL (A-weighted)	< 26 dB SPL (A-weighted, mic system)	< 28 dB SPL
Max. SPL	>135 dB	>135 dB (mic system)	130 dB
Power requirement	24 to 52 Volt Phantom Power	5 V DC from Beltpack	9 - 52 VDC
Current Consumption	3 mA	3 mA	2.8 mA
Finish	Nonreflective Black	Nonreflective Black	Steel-Nonreflecting black
Included Accessories	Multiport Windscreen	Multiport Windscreen	Windscreen, two-piece shock mount CPSM-Kit depends on version
Connector Type	3-pin XLR	TA4F	
Dimensions	45 x 114 x 178 mm (HWD) excl. gooseneck 1.77" x 4.49" x 7.01" (HWD) excl. gooseneck	45 x 114 x 178 mm (HWD) excl. gooseneck 1.77" x 4.49" x 7.01" (HWD) excl. gooseneck	PC-12: 299 x 6.4 mm (11.77" x 0.25") PC-18: 461 x 6.4 mm (18.15" x 0.25") (gooseneck)
Weight	690 g (1.52 lbs.)	690 g (1.52 lbs.) + beltpack	PC-12: 411 g (0.91 lbs.) PC-18: 539 g (1.19 lbs.)

Professional Wireless Microphones



Single & Dual Receiver

- Optimized analog audio path developed to provide the truest representation of a wired microphone sound possible in a wireless system.
- REV-Link™ PC software for remote monitoring, control and programming over a CAN bus connection through a UCC-1 converter or Netmax N8000.
- Factory set channel groups allow up to 16 systems to operate simultaneously in one frequency band. For groups up to 44 systems, 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
- REV-D Dual Receiver includes antenna pass through jacks so up to six receivers can be connected to just two antennas. All required cables are included.
- 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 Posi-Phase™ Diversity System for maximum range and audio quality.
- Combination Tone plus Amplitude squelch for maximum flexibility.
- Balanced XLR line level output and 1/4-inch unbalanced line-level outputs adjustable from the front panel to match the application.
- Guitar mode matches the optimized instrument audio with the REV-BP bodypack.
- Internal universal switching power supply, headset monitoring jack, and DC power on antenna input jacks for optional RF amplifier
- Integrated rack mount ears and front mount antenna cables included.
- Three-Year Limited Warranty.



Bodypack Transmitter

Transmitter Features

- Cast magnesium case is extremely light and durable with a cell phone style beltclip or flat metal clip for comfortable wearing options.
- Backlit LCD display and three control buttons mounted inside the battery housing make programming a channel or frequency is quick and easy.
- Software controlled Guitar mode switches in a 20dB pad, moves the low end response down to 30Hz and changes the audio circuit to optimized guitar mode.
- 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.
- 5 or 50mW selectable RF output power so you can optimize range or maximize the number of systems on stage.
- Unique Smart-Battery circuit means there is no way to put the 9V battery in wrong.
- Battery level gauge always visible on the LCD display. Low battery LED will light when the battery needs a replacement.
- RF transmit power and audio gain are controlled from the LCD screen controls, no tools required.

Handheld

Handheld Features

- A rugged, fully machined aluminum handle about the size and shape of a wired microphone encourages proper microphone technique for better performances.
- Optimized analog audio path developed to provide the truest representation of a wired microphone sound possible in a wireless system.
- Interchangeable microphone RC2 head allows a choice of elements to fit the vocalist's style and environment. Microphone choices include:
 - N/DYM® 767a, N/DYM 967, RE-410, RE-510
- Backlit LCD display controlled by three buttons mounted out of harm's way inside the battery compartment.
- RF transmit power and audio gain are controlled from the LCD screen controls, no tools required.
- Battery level gauge always visible on the LCD display.
- Two AA batteries power the REV-H for over ten hours of continuous use.
- 5 or 50mW selectable RF output power so you can optimize range or maximize the number of systems on stage.

Professional Wireless Microphones



REV-S

Single Receiver

Controls Front Panel: Rear Panel:	On/Off, Menu, Set, Up, Down Buttons 1/4 in. output level
Indicators LCD Backlit Display:	Group, Channel, Diversity, Label, Set-up 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 Frequency Range:	A Band 680 - 709 MHz D Band 798.1 - 821.9 MHz B Band 722 - 746 MHz E Band 841.1 - 864.9 MHz
Number of Channels:	950 possible (programmable in 25kHz 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 Frequency Response:	100 - 15 kHz +/- 2 dB Microphone 30 - 15 kHz +/- 2 dB Instrument
Audio Output Level: Line Level Balanced	8 mV - 0.775V RMS @ 100 kohm load -10 dBV max (@ 40kHz deviation)
Distortion:	Less than 0.5% (@ 1kHz, 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 in. H x 7.50 in. W x 8.38 in. D 43.69 mm H x 190.50 mm W x 212.85 mm D

REV-D

Dual Receiver

Additional Audio Output:	Adjustable Balance Line Level at XLR
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 in. H x 16 in. W x 12 in. D 43.69 mm H x 406.4 mm W x 304.8 mm D

REV-BP

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 3k ohm
RF Output: Normal: High:	5 mW typical 50 mW typical
Case Material:	Cast Magnesium
Size:	3.75 in. H x 2.6 in. W x 0.9 in. D 94 mm H x 66 mm W x 23 mm D

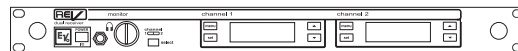
REV-H

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/D 767a Dynamic or EV RE510 or EV RE410 Condenser
RF Output: Normal: High:	5 mW typical 50 mW typical
Size:	10.5 in. (26.8 cm) long

REV-D Receiver

Front

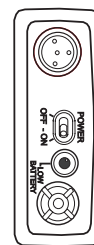


Back

REV-BP Bodypack Transmitter

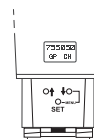


Front



Top

REV-H Handheld Transmitter



Panel



REV-1

Accessories and Parts

	Model #
Omnidirectional MicroMini™ Lapel Mic:	RE90TX
Unidirectional Lapel Mic:	RE92TX
Headworn Cardioid Condenser Mic:	HM7
1/2 Wave Rx Antenna:	FA-1
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
Dynamic heads for REV-H:	RC2-767a , RC2-967
Condenser head for REV-H:	RC2-410 , RC2-510
Mic Stand Adapter for CSH-1000:	MFEV

UHF Wireless Microphone System

RE-2 UHF systems provide groups of up to 10 simultaneous, harmonized channels per frequency bands.

Besides individual components, following complete sets, including transmitter and receiver are available :

RE2-N2	Receiver + N/D267a handheld transmitter
RE2-N7	Receiver + N/D767a handheld transmitter
RE2-410	Receiver + RE410 handheld transmitter
RE2-G	Receiver + bodypack transmitter + MAC-G3 guitar cord
RE2-BP	Receiver + bodypack transmitter
RE2-L10	Receiver + bodypack transmitter + OLM10 lavalier mic
RE2-L21	Receiver + bodypack transmitter + ULM21 lavalier mic
RE2 Combo	Receiver + N/D267a handheld +bodypack transmitter + ULM21 lav.mic

RE-2 Receiver

- One-touch Auto-ClearScan
- Programmable in 25kHz steps across 28 MHz operating bandwidth
- Backlit LCD displays the Group, Channel, Frequency, transmitter battery level, diversity operation, and RF and Audio signal level meters
- Balanced XLR audio output for Microphone or Line level signals and a 1/4-inch line level jack
- Fourth-generation Posi-phase™ diversity and advanced audio circuits
- Unique "Guitar" setting
- Detachable 1/4 wave antennas

RE-2 UHF Transmitter

- Unique "smart" battery
- LCD Displays Group and Channel, Frequency, or Battery Level
- Low battery LED
- One On/Off button that also acts as a mute
- On/Off button can be disabled

RE-2 UHF Handheld

- Available with four different microphone elements
- N/DYM 267a Dynamic element
- RE 410 Condenser
- RE 410 Condenser
- NDYM® 767a Dynamic premium vocal microphone with VOB™ (Vocal-Optimized-Bass)
- Internal 1/2-wave antenna



RE-2 UHF Bodypack

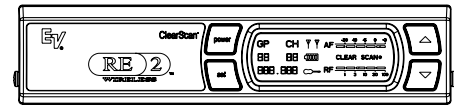
- Cell phone style beltclip
- Optional pouches available
- A wide selection of lapel and headworn microphone accessories are available

UHF Wireless Microphone System

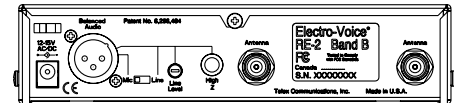
RE 2

RE-2 Receiver

Receiver Type	Synthesized PLL	
Frequency Range (RF)	A Band 648 – 676 MHz D Band 798 – 822 MHz	B Band 696 – 724 MHz E Band 841 – 865 MHz
Number of Channels	1112 possible channels Programmable in 25 kHz steps	
Modulation	± 40 kHz	
Diversity	Digital Posi-Phase™ True Diversity	
RF Sensitivity	< 1.0 mV for 12 dB SINAD	
Image Rejection	> 60 dB	
Squelch	Tone Code plus Amplitude	
Ultimate Quieting	> 100 dB	
FCC Certification	Approved under Part 15	
Power Requirements	12 V AC/DC 300 mA	
Antennas	Detachable 1/4 wave	
Dimensions	43.69 cm H x 190.50 mm W x 150 mm D 1.72" H x 7.50" W x 5.9" D	



Front



Back

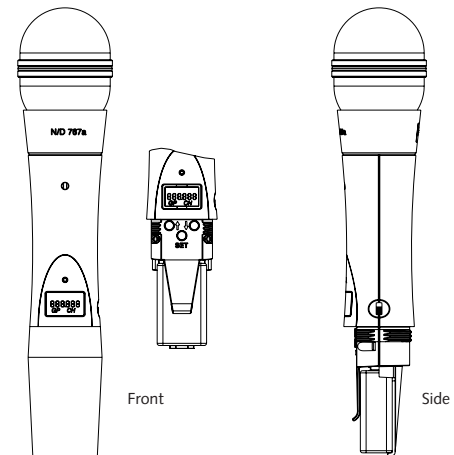
RECEIVER

Audio Parameters

Frequency Response	50 – 15 kHz ± 2 dB
Balanced Output (max @ 40 kHz deviation)	
Mic Position	-10 dBV
Line Position	Adjustable 10 mV-2V RMS
Unbalanced Output	Adjustable 10 mV-1V RMS
Distortion	<1.0%, 0.5% typical (ref 1 kHz, 40 kHz deviat)
Signal-to-Noise Ratio	>100 dB A Weighted
Dynamic Range	>100 dB
Transmitters, Bodypack (BPU-2) and handheld (HTU-2)	
Radiated Output	30 mW typical
Microphone Head Electro-Voice 767a	N/D 767a Supercardioid N/DYM Dynamic
Microphone Head Electro-Voice 267a	N/D 267a Versatile Cardioid Dynamic
Microphone Head Electro-Voice RE 410	RE 410 Classic Cardioid condenser
Microphone Head Electro-Voice RE 510	RE 410 Supercardioid condenser
Standard Lavalier Microphone	EV RE 90Tx MicroMini™ Omni-Directional Condenser
TA4 Connector Wiring	Pin 1: Ground; Pin 2 Mic Input; Pin 3: +5V bias; Pin 4: +5V bias through a 3kW resistor
Audio Gain Adjustment	40 dB (handheld 26 dB)
Power Requirements	9 Volt Alkaline Battery
Battery Life (Typical)	> 8 hours with 9-Volt Alkaline Typical
Bodypack Antenna	Flexible external 1/4 wave
Handheld Antenna	Internal 1/2 wave
Dimensions (Handheld)	24.0 cm (9.4 in.) Long
Dimensions (Bodypack)	96.5 mm H x 66 mm W x 23.4 mm D 3.8 in. H x 2.6 in. W x 0.92 in. D

Transmitters, Bodypack

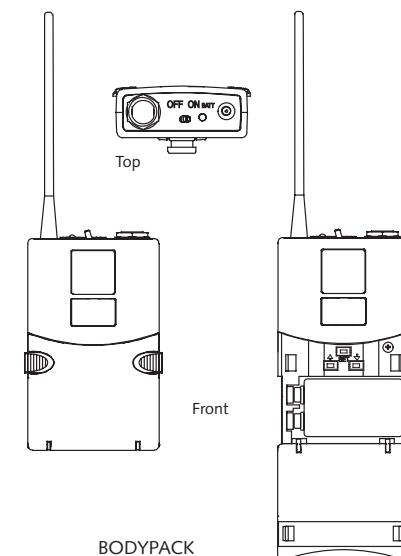
Radiated Output	Normal 5 mW typical High 50 mW typical
Interchangeable Microphone Heads	767a Supercardioid N/DYM Dynamic RE 510 Supercardioid Condenser
Bodypack Antenna	Detachable Flexible external 1/4 wave
Handheld Antenna	Internal 1/2 wave
Dimensions (Handheld)	26.8 cm (10.5 in.) Long
Dimensions (Bodypack)	Cast Magnesium 96.5 mm H x 66 mm W x 23.4 mm D3.8 in. H x 2.6 in. W x 0.92 in. D



Front

Side

HANDHELD



Top

Front

BODYPACK

RE97Tx & RE920Tx

RE97 Tx Mini Mic

- Extremely lightweight earworn microphone
- Almost invisible
- Available in beige, brown and black
- Wear on left or right ear
- Omnidirectional for smooth, natural sound



RE920Tx Horn Mic

- Unidirectional horn mic
- High SPL handling
- Custom clip for mounting



Lavalier & Headset Mics



OLM 10

- Lavalier mic
- Includes shown accessories



ULM 21

- Lavalier mic
- Includes shown accessories



RE 90 TX

- Lavalier mic
- Top-class
- Ultra-miniature
- Includes shown accessories



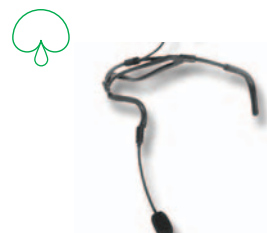
RE92 TX

- Lavalier mic
- Hi-Performance
- Includes shown accessories



HM 2

- Headset mic
- Includes shown accessories



HM 7

- Headset mic
- Top-class
- Super lightweight and comfortable
- Includes shown accessories

SPECIFICATIONS

	OLM 10	ULM 21	RE 90 TX	RE92 TX	HM 2	HM 7
Element	Back electret condenser	Back electret condenser	Back electret condenser	Back electret condenser	Back electret condenser	Back electret condenser
Polar pattern	Omnidirectional	Cardioid	Omnidirectional	Cardioid	Cardioid	Supercardioid
Impedance, Low-Z balanced	---	80 - 16.000 Hz	---	---	---	---
Frequency Response (-3 dB)	t.b.a.	t.b.a.	50 - 18.000 Hz	t.b.a.	30 - 18.000 Hz (12mm)	100 - 15.000 Hz
Output Level (0dB = 1mW/Pascal) 1.000 Hz)	---	---	---	---	---	---
Open Circuit Voltage (at 1.000 Hz)	t.b.a.	2.5 mV/Pascal	12.6 mV/Pascal	t.b.a.	4.0 mV/Pascal	7.0 mV/Pascal
Maximum SPL (THD)	t.b.a.	120 dB (1% THD)	130 dB (1% THD)	t.b.a.	120 dB (1% THD)	120 dB (3% THD)
Power requirement (Phantom power)	from Bodypack	from Bodypack	from Bodypack	from Bodypack	from Bodypack	from Bodypack
Current Consumption	t.b.a.	t.b.a.	---	t.b.a.	max. 0.5 mA @ 9 VDC	---
Specials	---	---	Sub-miniature	---	---	Ultra-lightweight
Case Material (Capsule enclosure)	Plastic	Plastic	Polycarbonate resin	Metal	Plastic	Plastic
Finish	Nonreflecting black	Nonreflecting black	Nonreflecting black	Nonreflecting black	Nonreflecting black	Nonreflecting black
Included accessories	approx. 180 cm permanently attached cable, windscreen, universal tie clip	approx. 180 cm permanently attached cable, windscreen, universal tie clip	approx. 180 cm permanently attached cable, windscreen, universal tie clip, tie tac	approx. 180 cm permanently attached cable, windscreen, universal tie clip	approx. 120 cm permanently attached cable, windscreen, cable clip	approx. 120 cm permanently attached cable, windscreen, cable clip
Optional Accessories	---	---	---	---	---	---
Connector type	4-pin TA4F	4-pin TA4F	4-pin TA4F	4-pin TA4F	4-pin TA4F	4-pin TA4F
Dimension (Length x Diameter)	t.b.a.	0.71 in. x 0.29 in.	.025 in. x 0.19 in.	0.948 in. x 0.412 in.	---	---
Weight net	t.b.a.	t.b.a.	34 g	t.b.a.	25 g	70 g

Accessories



RC767a



RC510



BC1000

WP1000



MSSA



AN-Flex



AN-Sflex

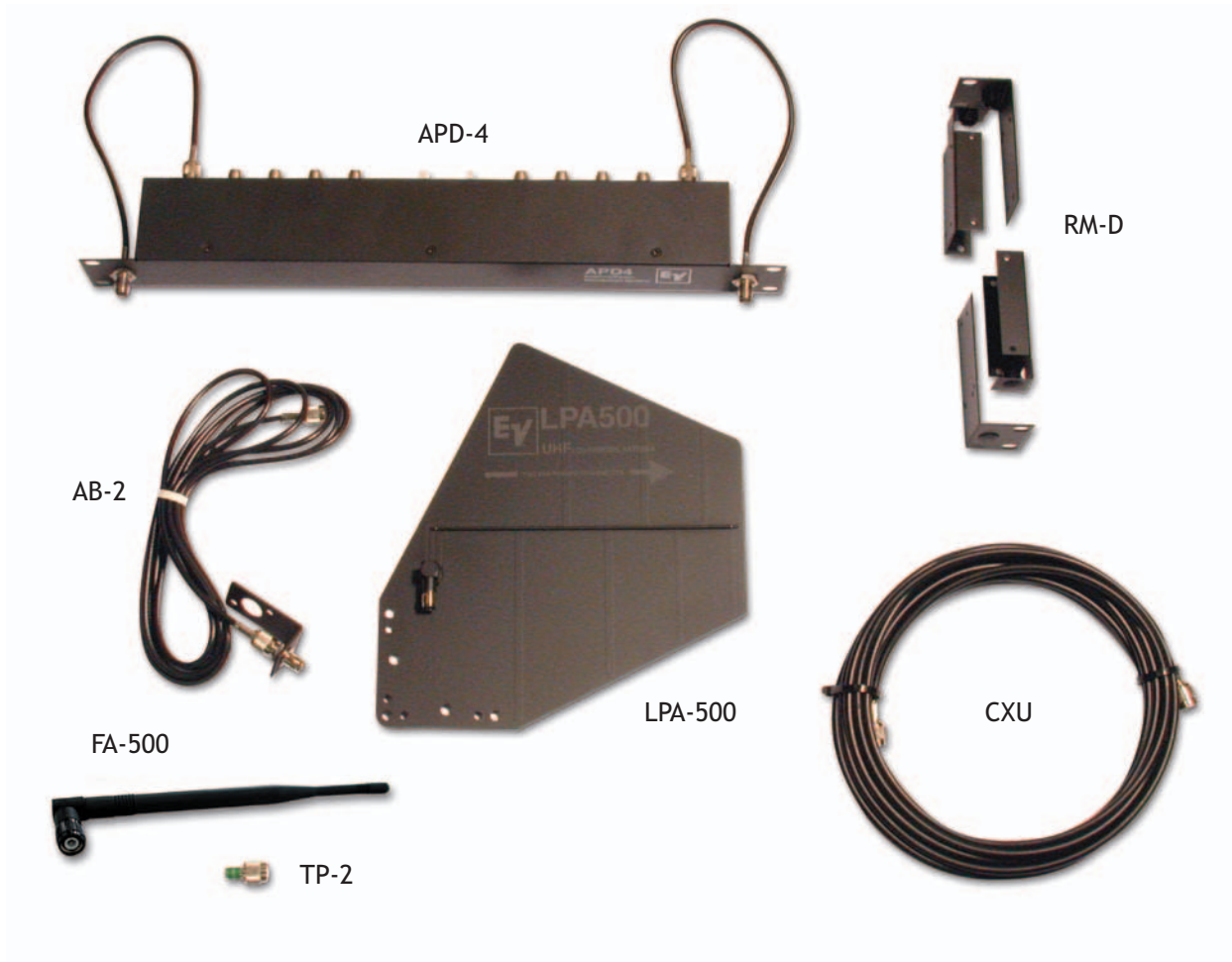


MAC-2



MAC-G2/G3

Accessories

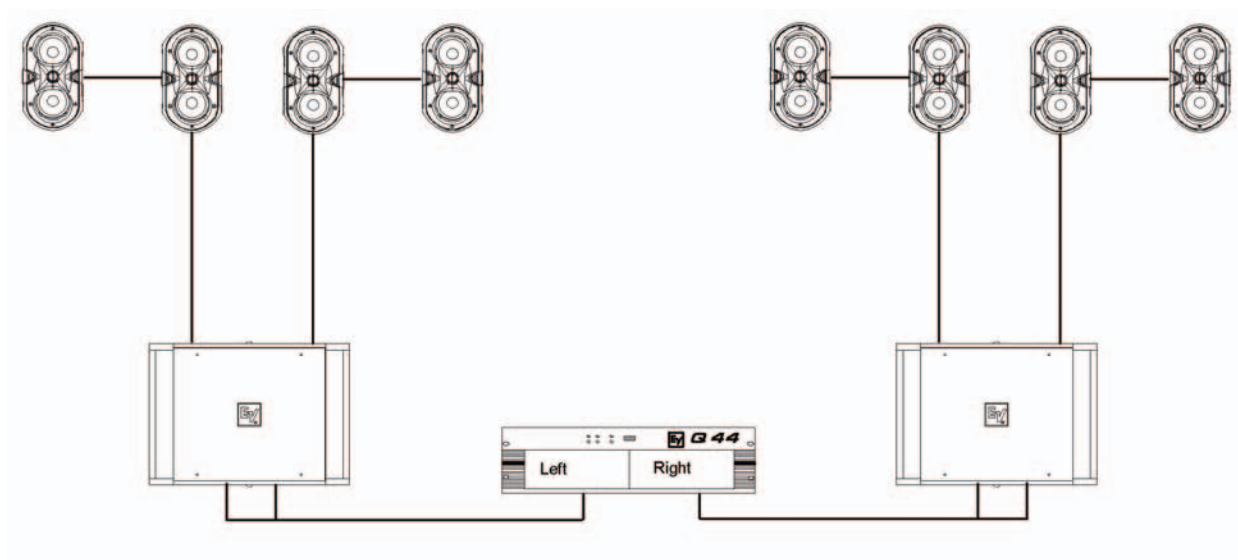


Electro-Voice Wireless Accessories - Antennas etc.

APD-4	UHF Antenna/power distribution system (provides power and RF signals for 4 units) for use with RE-2 & RE-1
RM-D	Rack-mount kit - double (for two receivers) works with RE-2, RTM-1000 and RE-1 receivers
AB-2	Universal mounting bracket for 1/2-wave antennas, with 10-foot coax cable
LPA-500	Directional log periodic antenna with mounting hardware and 10-foot coax
FA-500	1/2-wave UHF antenna
TP-2	50 ohm TNC termination plug for use with APD-4
CXU-X	Low-loss coax cable (X designates length, 25ft = 8 m, 50ft = 16 m)

Single-Amp Drive – Stereo

Music Pub, Cafe (Foreground Music)

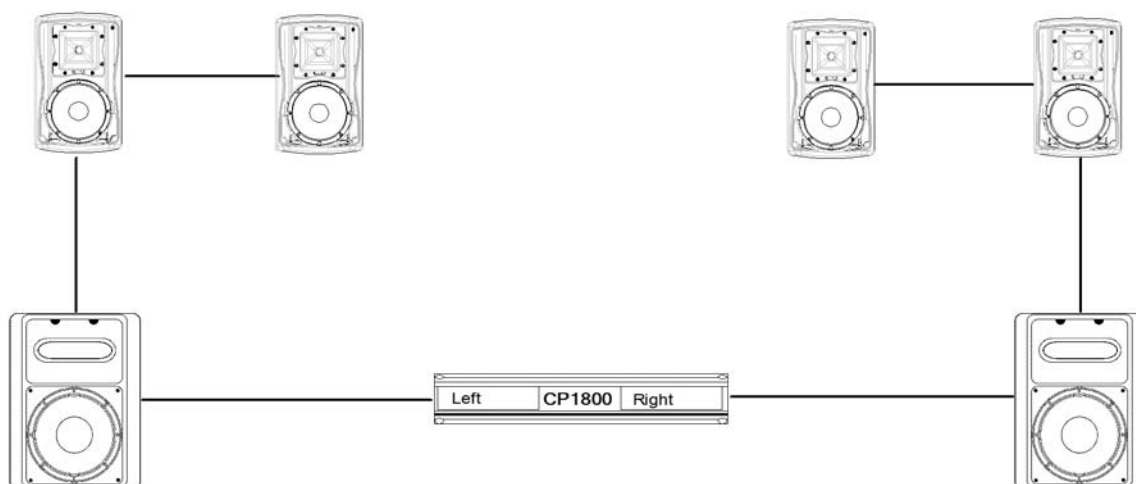


Cabinets	8 EVID 4.2, 2 EVID 12.1
Amplifiers	1 Q44 or CPS1
Controllers	–
Cabling	10 2-wire long, 4 2-wire short
Accessories	(AB-62 for 180°, or AB64 for 360° Array)

Horizontal Coverage	8 x 90°, or 4 x 180°, or 2 x 360°
Typical Distance	8 to 15 m
Total Amp Power	900 W
Options	could also be used with only two 4.2's per side for smaller rooms, but high sub level requirement
Comments	inputs on 12.1 in parallel

Full Range with sub

Music Bar, Cafe, Small Disco

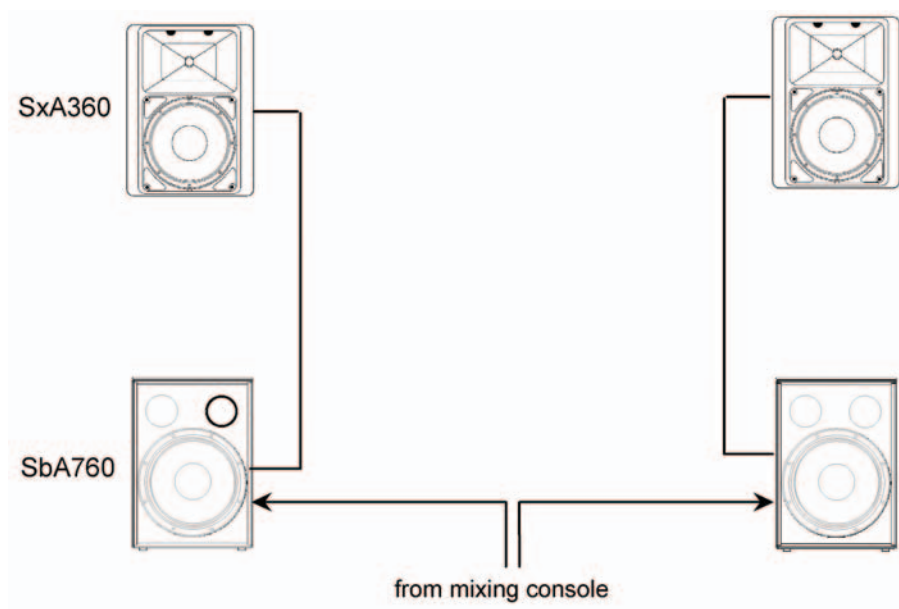


Cabinets	4 x ZX1i, 2 x Sb122
Amplifiers	1 x CP1800 (or Q66/CPS2)
Controllers	none
Cabling	6x 2-wire
Accessories	none (bracket included in ZX1i)

Horizontal Coverage	4 x 90° or 4x 100°
Typical Distance	10 m to 15 m
Total Amp Power	2 x 800W = 1600W
Options	
Comments	available in black or white, SB122 can be mounted with MN-200 bracket

3-Way Stereo

Ultracompact Hi-Power System

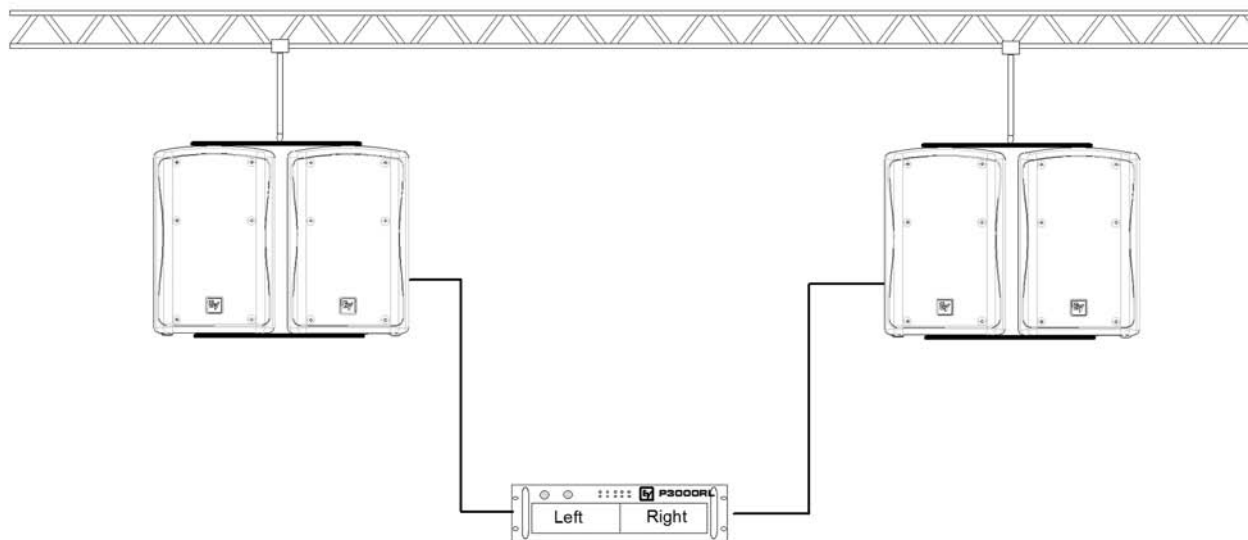


Cabinets	2 x SxA360, 2 SbA760
Amplifiers	none (included in cabinets)
Controllers	none (included in cabinets)
Cabling	2 x XLR-XLR
Accessories	2 x 100BK, 2 x MB200 + TC04

Horizontal Coverage	2 x 65°
Typical Distance	15 m to 20 m
Total Amp Power	2 x 150W + 350W + 760W = 2520W
Options	Expandable with 2 SbA760 for more Sub-Bass, and/or 2 SxA360 for wider coverage
Comments	most compact, very powerful system

Fullrange Cluster

Small to Medium Club

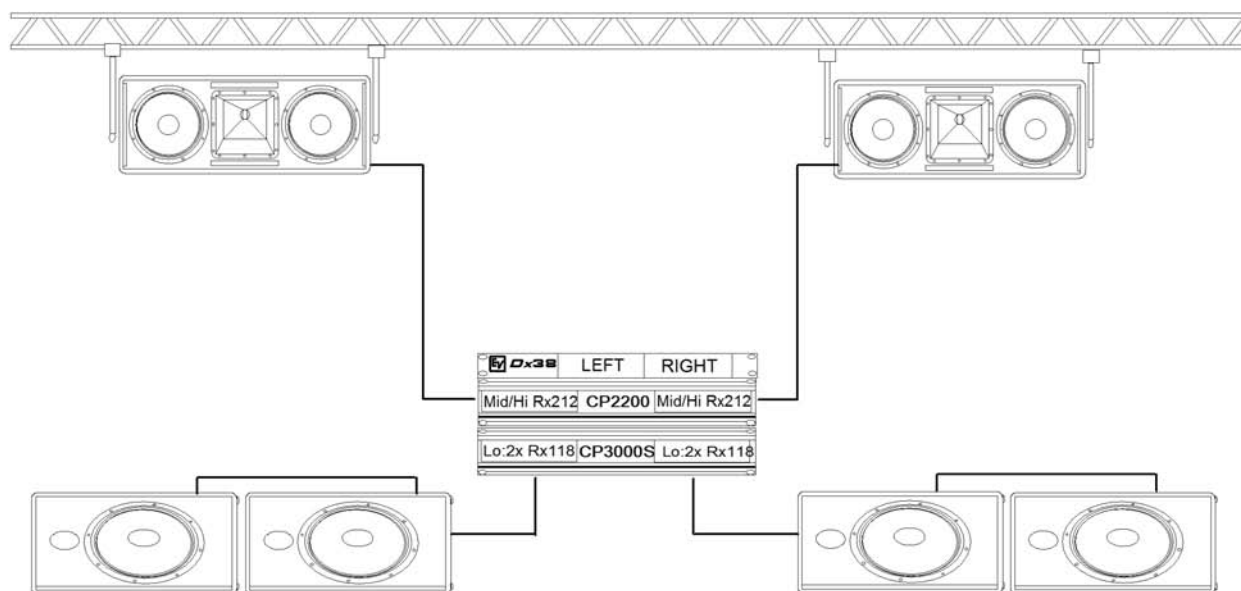


Cabinets	4 x ZX5-60
Amplifiers	1 x P3000RL
Controllers	internal (RCM24) with IRIS-Net™ Remote
Cabling	2 x NL4 long, 2 x NL2 short
Accessories	2x CV-5

Horizontal Coverage	2 x 120°
Typical Distance	20 m to 25 m
Total Amp Power	2 x 1,200W = 2,400W
Options	Add-on Subwoofer(P2, Rx218 & P3000RL)
Comments	Full remote & Supervision through IRIS-Net

2-Way Stereo

Club, Disco Dance Floor- lower ceiling



Cabinets 2 x RxH212/75, 4 x Rx118S

Amplifiers 1 x CP2200, 1 x CP3000S

Controllers 1 x Dx38

Cabling 4 x NL4 long, 2x NL4 short

Accessories 2 x Rx Rigging Kit

Horizontal Coverage 2 x 75°

Typical Distance 15 m to 20 m

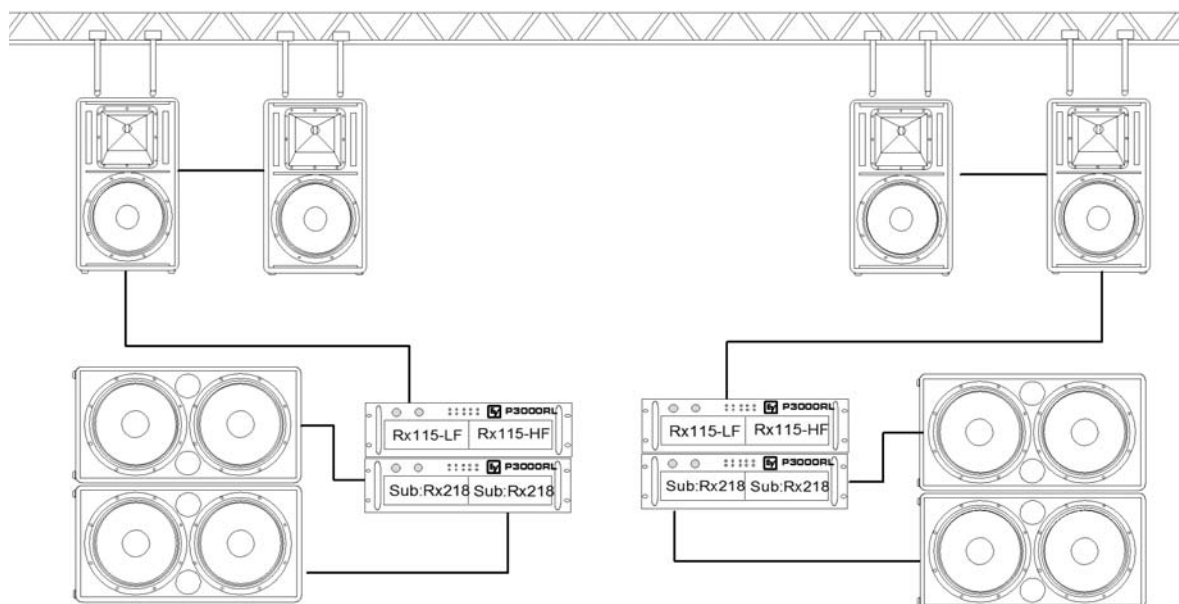
Total Amp Power 2 x 1,900W = 3,800W

Options 3-Way stereo operation with 2 P3000RL & 1 P1200RL

Comments Double up amps and cabinets for larger rooms

3-Way Stereo

Standard PA for Concert & Disco



Cabinets 4 x Rx115/75, 4 x Rx218S

Amplifiers 4 x P3000RL/TG5

Controllers internal (RCM24)

Cabling 8 x NL4 long

Accessories 4 x Rx Rigging Kit, 4 x Rx Wheel Kit

Horizontal Coverage 2 x 100° to 150°, or 4 x 75°

Typical Distance 15 m to 20 m

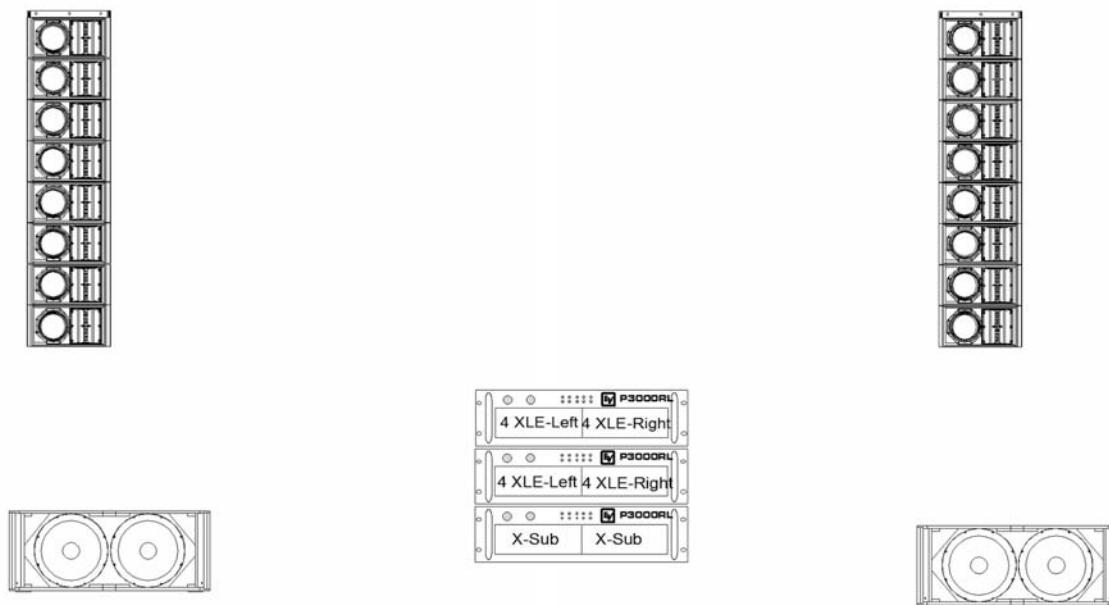
Total Amp Power 2 x 4,200W = 8,400W

Options 2 way stereo operation with 3 P3000RL

Comments Full Remote & Supervision with IRIS-Net

2-Way Stereo Line Array

Medium Size Venues for Music and Speech

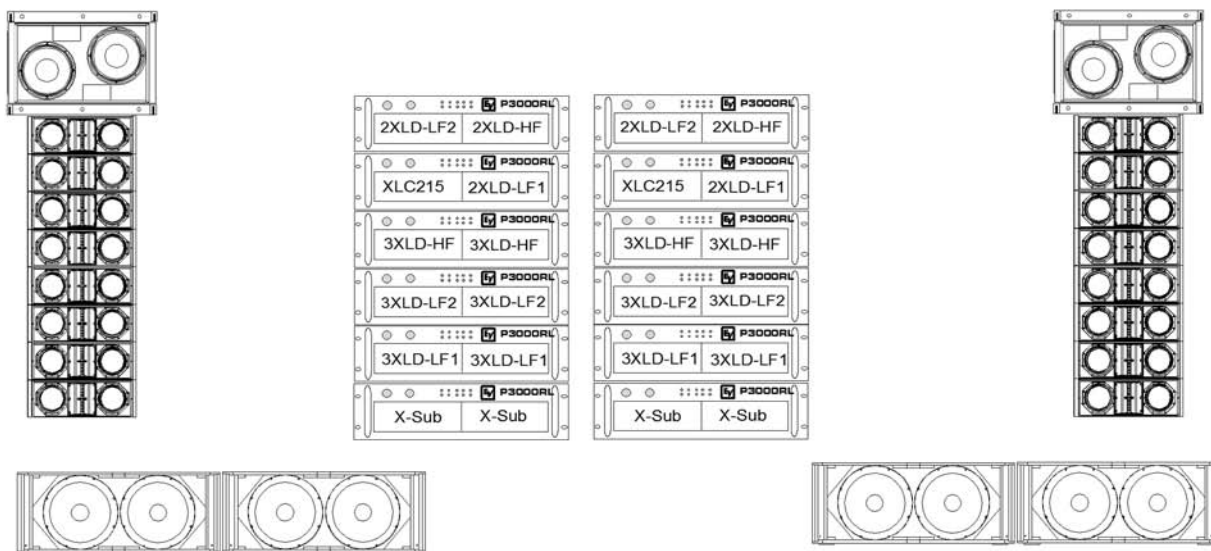


Cabinets	16 x XLE181, 2 x X-Sub
Amplifiers	3 x P3000RL
Controllers	internal (PCM24)
Cabling	6 x NL4 long, 4 x NL4 short
Accessories	2 x XLE-Grid, UCC-1

Horizontal Coverage	2 x 120°
Typical Distance	25 m to 30 m (see LAPS for details)
Total Amp Power	2 x 14,400W = 28,800W
Options	12 TG5 or TG7 amps, 12 CP3000S/4000S + 4 Dx38
Comments	very powerful, compact system, expandable

4-Way Stereo + Sub

Very Compact Line Array System

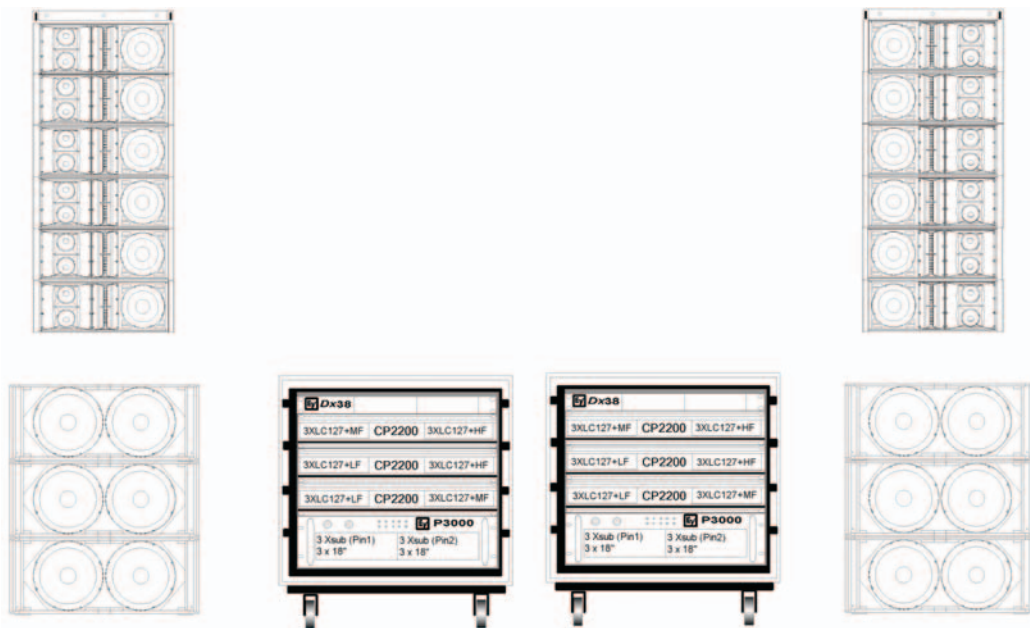


Cabinets	16 x XLD281, 2 x XLC215, 4 x X-Sub
Amplifiers	12 x P3000RL
Controllers	Internal (RCM24) IRIS-Net™
Cabling	12 x NL4 short, 8 x NL8 long
Accessories	2 x XLC grid, 2 x AGCD

Horizontal Coverage	2 x 120°
Typical Distance	25 m to 30 m
Total Amp Power	2 x 14,400W = 28,800W
Options	12 TG5 or TG7 amps, 12 CP3000S/4000S + 4 Dx38
Comments	Very powerful, compact system, expandable

4-Way Stereo

Compact Line-Array for mid-sized venues

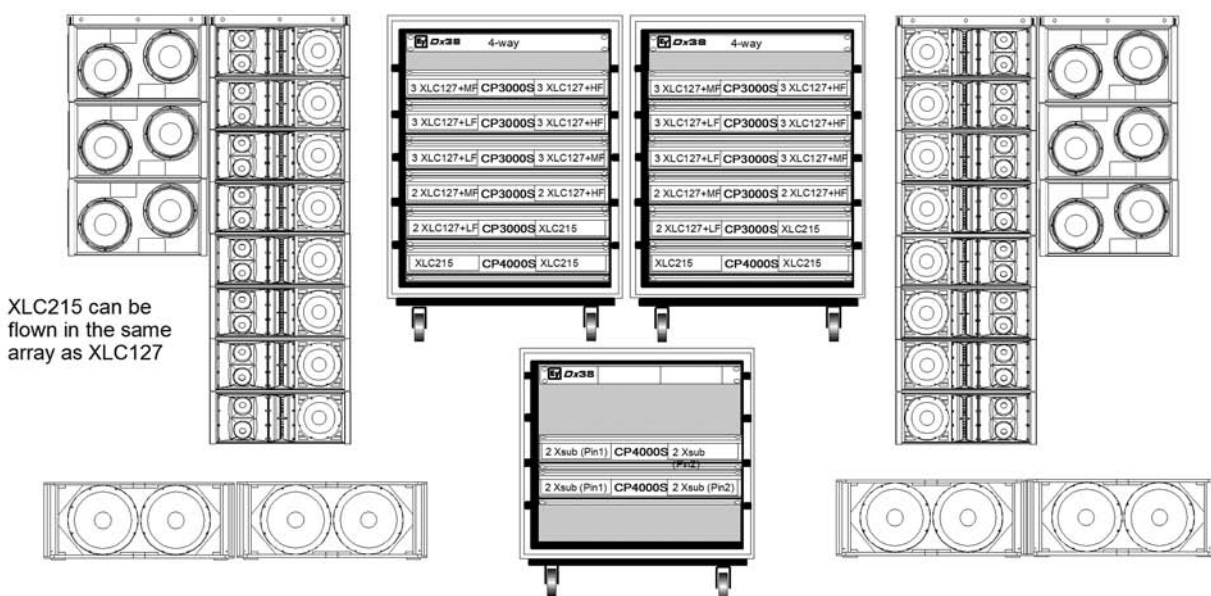


Cabinets	12 XLC127+, 6 Xsub
Amplifiers	6 CP2200, 2 P3000
Controllers	2 Dx38
Cabling	6 NL8 long, 12 NL8 short, 2 XLC grids,
& Accessories	12 dollies 127 (or 2 bottom dollies), 2 Xline dollies

Horizontal Coverage	2 x 120°
Typical Distance	30 m to 50 m
Total Amp Power	2 x 7,000W = 14,000W
Options&Comments	-

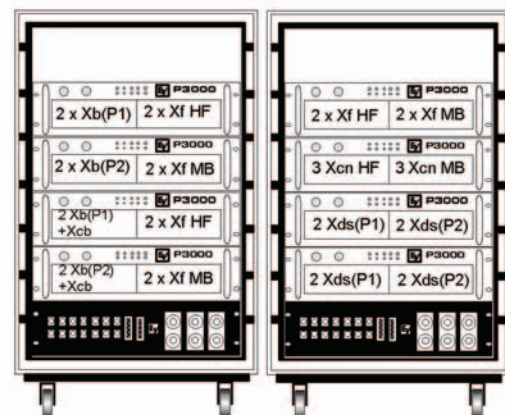
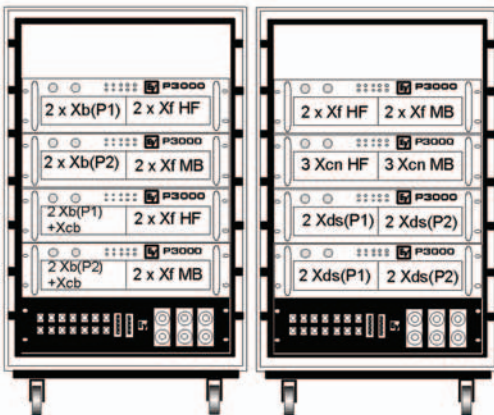
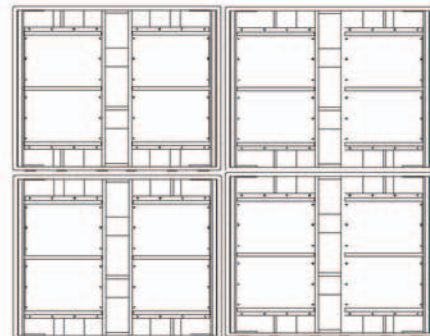
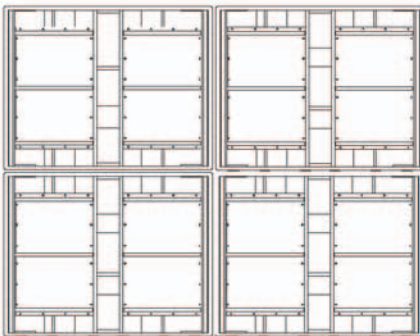
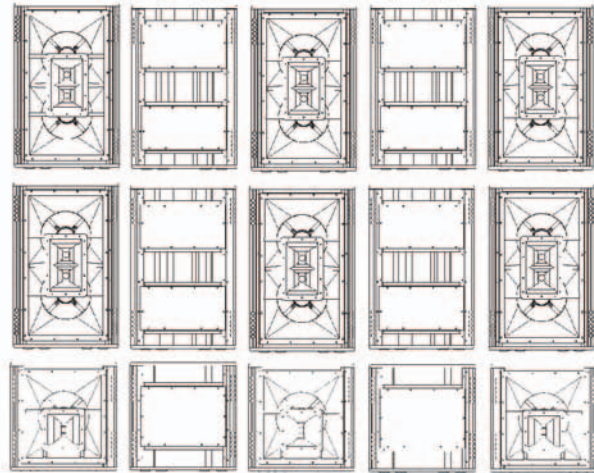
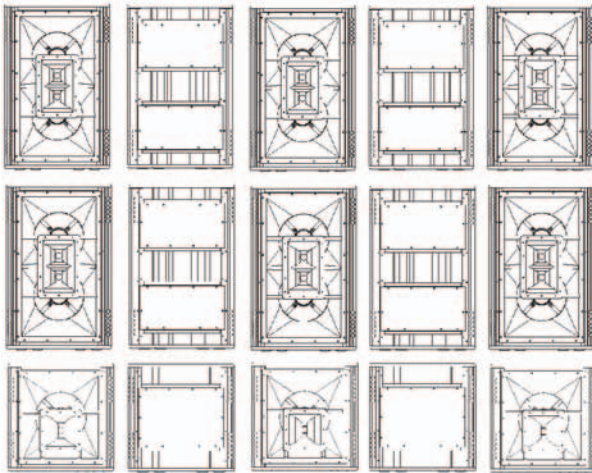
4-Way Stereo + Sub

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



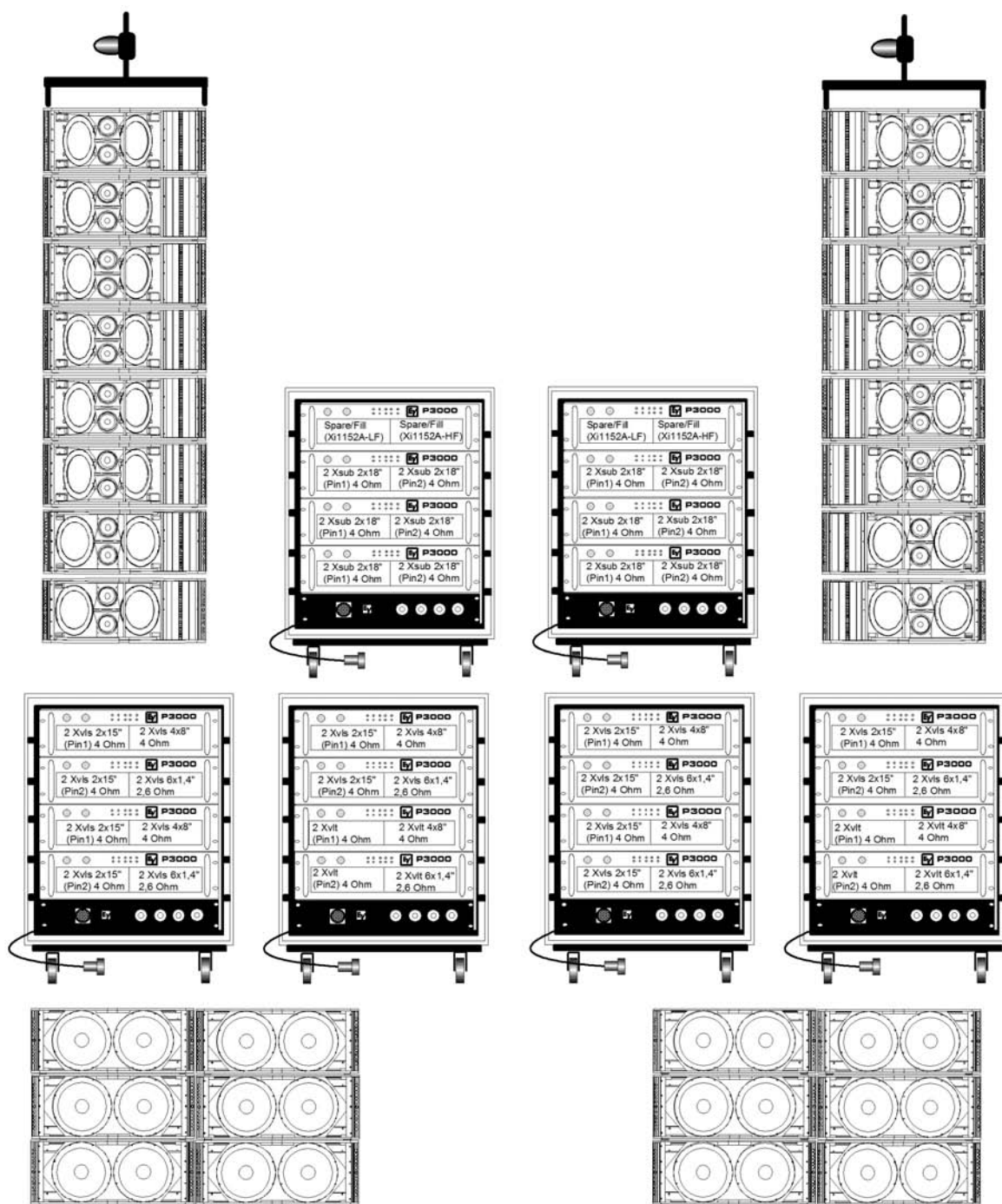
Cabinets	16 XLC127+/DVX, 6 XLC215, 4 Xsub
Amplifiers	10 CP3000S, 4 CP4000S
Controllers	3 Dx38
Cabling	6 NL8 long, 14 NL8 short, 4 XLC grids,
	6 XLC bottom dollies, 1 Xline dolly

Horizontal Coverage	2 x 120°
Typical Distance	30 m to 50 m
Total Amp Power	2 x 17,100W = 34,200W
Options&Comments	XLC127+ can be driven also with P1200RL Xsub with P3000RL could use 14 CP4000S or 14 P3000RL or 14 TG5/7



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	60 m to 70 m
Total Amp Power	2 x 16.950W = 33.900W
Options	Xsubs can be used instead of Xds



Cabinets: 12 Xvls, 8 Xvlt, 12 Xsub
Amplifiers: 24 P3000 (= 6 X-Line Amp Racks)
Controllers: 4 DX38, or 2 DN9848(or RCM24/26-IRIS-Net™)
Cabling: 16 NL8 long, 16 NL8 short
Accessories:

Horizontal Coverage: 2 x 90° (120° nearfield)
Typical Distance: 50m to 100m (depending on the rigging heights)
Total Amp Power: 2 x 28,800 W = 57,600 W
Options: Full Remote & Supervision through IRIS-Net™ with 24 P3000RL or TG7 amplifiers
Comments: Number of subs depending on music style

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 1 racing to develop new technologies, Electro-Voice uses its work in the concert sound and touring industries to do the same. 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® treatment produces an acoustic signal that is much freer 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

Vertical Beam Shaping

(2- or 3-element line array)

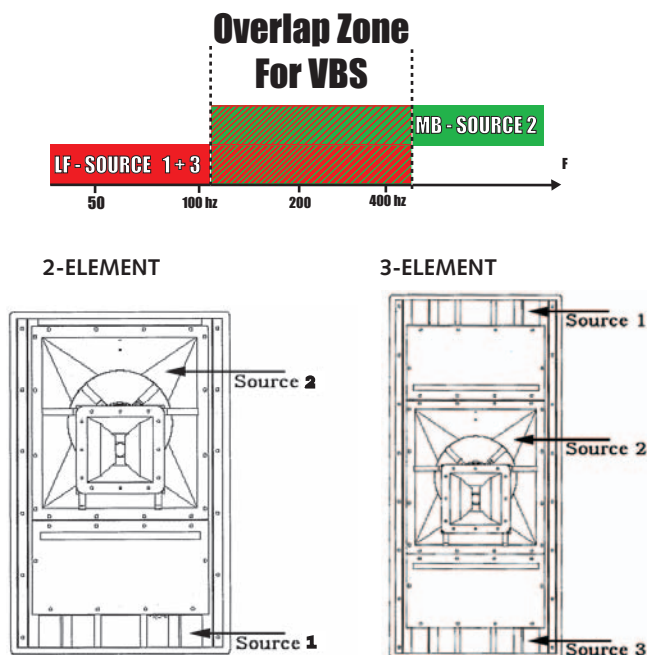
VBS

Vertical Beam Shaping (VBS) is a frequency overlap configuration of the dual-woofer three-way systems of Xi-Series™. It 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 configured for VBS, 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 minimised. 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 theatres where lavalier microphones are traditionally used under centre 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".



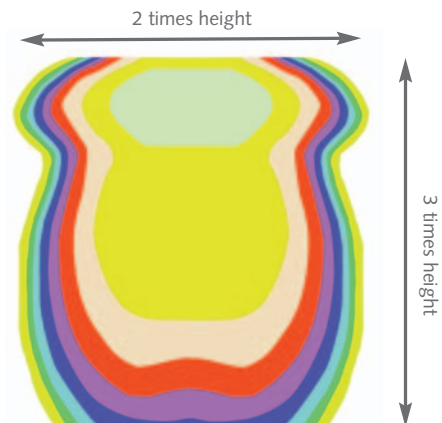
Vari Intense®

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 ear pain 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.



covered floor 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 (-6dB 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/1m.

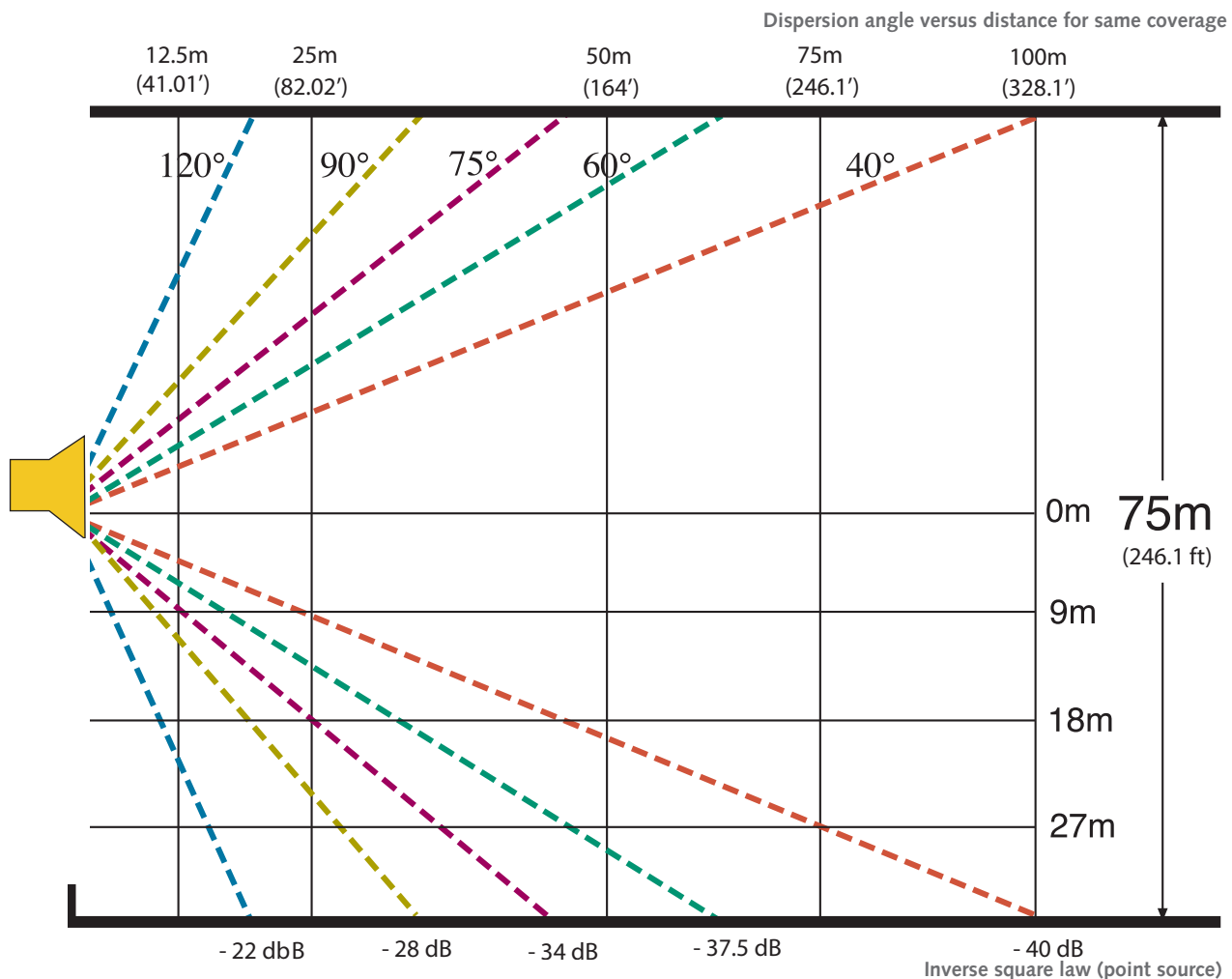
3. **Question:** "At what distance is a (i.e.) 75 meters width reached, using different loudspeakers with different coverage angles?"

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...**



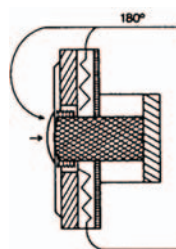
Microphone Technologies

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.

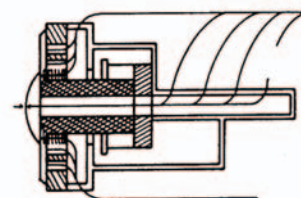
Variable-D®

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 uncoloured 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.



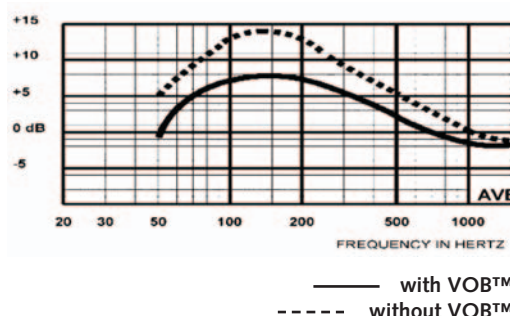
Normal mic



Variable-D® mic

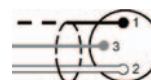
VOB™

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.



PIN - Arrangements

Electronic



Balanced (XLR)

Pin 1: Shield
Pin 2: Hot
Pin 3: Cold

Microphones



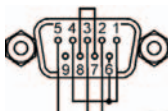
Balanced (XLR)

Pin 1: Shield
Pin 2: Signal +
Pin 3: Signal -

TA4F (not shown)
used in N/DYM
wireless

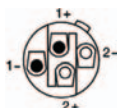
Pin 1: Common
Pin 2: Audio
Pin 3: Bias
Pin 4: Not used

PC interface (RS 232)



Pin 1: parallel to 4 + 6
Pin 2: Tx D
Pin 3: Rx D
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



Fullrange

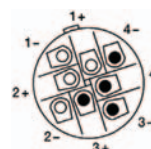
Pin 1: LF/HF +/-
Pin 2: Not connected

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 MICRAPHONE APPLICATION TABLE

M I C S		A P P L I C A T I O N S														BROAD CAST									
VOICE SOUND REINFORCEMENT							VOICE STUDIO		INSTRUMENT																
Female							Male		Rock	Jazz	Speech	Choir	Vocal	Speech	Kick Drum	Snare	Toms	HiHat/ Overhead	Guitar Amp	Saxophone/ Woodwinds	Trumpet/ Brass	Piano	Accordion	Guitar/ Strings	ENG
Cobalt Co5	+	+																							
Cobalt Co7	+	+	+	+																					
Cobalt Co9	+	+	+																						
Cobalt Co11	+	+			+	+												+						+	
N/D 367s	++	+	+	+	+								+												
N/D 267a(s)	+	+	+	+												+									
N/D 767a	++	++	+		+								+												
N/D 967	+	+	++																						
Raven		+	+										+										++	+	
Cardinal	++	++	+	++	+	+	+					++	++					++		+			++	++	
N/D 468																								+	
N/D 868															++										
N/D 478																+	+	+	+				+		
Cobalt Co4																	+				+			+	
RE 200						+	+											++				++	+	++	
RE 20							++	++	++	++	++	++	+	+	++	++	+		++	++	++	++	++	++	
RE 27										++	++	++	+	+	++	++	+		++	++	++	++	++	++	
RE410	++	++	+		+	+				+		+	+					+		+			+	+	
RE 510	++	++			++	+	+						+	+		+		++	+	+	+	+	++	++	
RE 50B/NDB																									++
635A (B) / NDB																									++
RE16						++	+							+											+

+ recommended

++ optimal



Americas

Headquarter Americas

Telex Communications, Inc.
12000 Portland Ave South,
Burnsville, MN 55337, USA
USA—Ph: 1-800-392-3497
Fax: 1-800-955-6831

Canada—Ph: 1-866-505-5551

Fax: 1-866-336-8467

Latin America—

Ph: 1-952-887-5532,
Fax: 1-952-736-4212

Europe, Africa & Middle-East

Headquarter EAME

EVI Audio GmbH

Hirschberger Ring 45,
D-94315, Straubing, Germany
Phone: +49 9421 706-0,
Fax: +49 9421 706-265

France: EVI Audio France S.A.,

Parc de Courcerin,
Allée Lech Walesa,
F 77185 Lognes, France
Phone: +33 1-6480-0090
Fax: +33 1-6006-5103

UK: Shuttlesound,

4 The Willows Centre,
Willow Lane, Mitcham,
Surrey CR4 4NX, UK
Phone: +44 208 646 7114
Fax: +44 208 254 5666

Asia & Pacific Rim

Headquarter Asia

Singapore:

Telex Communications
(SEA) Pte Ltd
38C Jalan Pemimpin
Singapore 577180
Tel: (65) 6319 0621
Fax: (65) 6319 0620

Japan: EVI Audio Japan Ltd.
5-3-8 Funabashi, Setagaya-Ku,
Tokyo, Japan 156-0055
Phone: +81 3-5316-5020,
Fax: +81 3-5316-5031

Hong Kong:

Telex EVI Audio (HK) Ltd.
Unit 5,1/F, Topsail Plaza
11 On Shum Street
Shek Mun, Shatin HK
Phone: +852 2351-3628,
Fax: +852 2351-3329

China: Telex EVI Audio (Shanghai) Ltd.

Room 2210-2215, Tower B,
Far East International Plaza,
No. 317, Xianxia Road, Shanghai,
China, PC: 200051
Phone: +86 21-6235-1677
Fax: +86 21-6235-1676