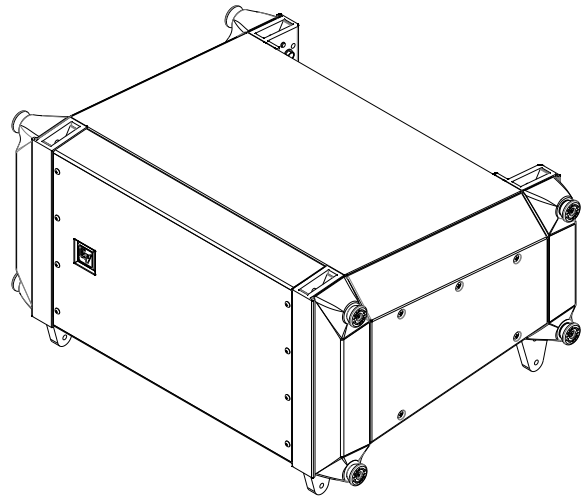


# X1-212/120



- **MBH** – Mid-Band Hydra Line Source Technology
- **WCH** – Wavefront-shaping Circular Hydra
- **IRS** – Integrated Rigging System
- Proprietary EV FIR-Drive



The X1-212/120 from Electro-Voice is a two-way vertical line array loudspeaker that can be used in a wide variety of applications where wide bandwidth, vertical and horizontal directivity control, and high efficiency are required in a compact cost-effective package.

The high frequency section of the X1-212/120 utilizes two (2) ND2R high-output 2-inch titanium compression drivers directly coupled to a pair of WCH Plane Wave Generators on a 120° waveguide optimized for uniform pattern control and smooth, linear response. The low frequency section utilizes a SMX2121 12-inch woofer which was developed using Finite Element Analysis optimization for motor, suspension, and electrical design to provide low distortion, high efficiency, and maximum intelligibility at high SPL. The woofer is coupled to an MBH which effectively emulates the acoustic behavior of a double line of four (4) 3-inch point sources to deliver superior mid-band coupling while maintaining the efficiency, power, and bandwidth of a 12-inch transducer. The passive crossover employs a steep, eighth order topology resulting in acoustic crossover slopes approaching 96-dB per octave for linear summation and smooth off-axis response with passive equalization for improved definition over the critical vocal range regardless of array size.

The X1-212/120 is an ideal cost effective solution for many live sound reinforcement and fixed-install applications. The vertical trapezoidal enclosure is constructed of weather-resistant birch plywood and coated with EVCoat for enhanced durability. The

enclosure features the IRS, a captive twist-lock multi-angle arraying system designed by Electro-Voice to significantly reduce load-in/load-out time of any size array. IRS has been engineered with the flexibility to deploy a system using the two (2) most common methods of array set-up:

- Compression method by using a pull-up kit (Sold separately).
- Fixed angles locked by using secondary rigging pins (Included).

X1-212/120 with IRS rigging is rated for use for up to 24 elements for normal arrays. **LAPS 3** or higher (Line Array Prediction Software) accurately provides fast array configuration for coverage results, rigging details, and allowed rigging configurations. It also provides information for the creation of steered/shaped subwoofer arrays.

The input panel provides dual Neutrik NL8 connectors for fast connectivity between loudspeakers. Passive/Bi-amp operation is selected via an internal connector.

The advanced acoustic and mechanical designs of X1 series loudspeakers, combined with LAPS 3, provide the tools and flexibility to easily design and deploy vertical line array systems.

X1-212/120 is designed to be used as a wide coverage system using all 120° elements, or as the near-field element in a combined line array positioned below 90° elements.

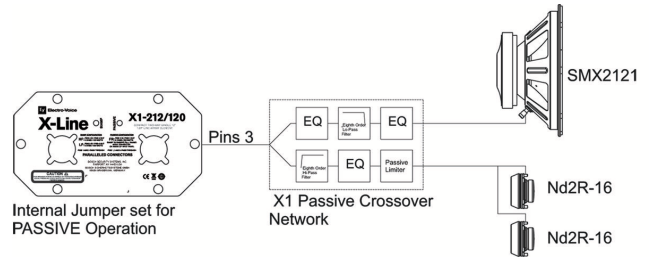
## Technical specifications

Freq. Response (-3 dB):	57 Hz - 16 kHz <sup>1</sup>
Horizontal Coverage:	120°
Vertical Coverage:	Array dependent
Recommended High-Pass Freq.:	50 Hz
Max Calculated SPL:	142 db Peak <sup>2</sup>
Configuration:	Passive, Bi-amp
Passive Crossover Freq.:	1600 Hz
Passive Axial Sensitivity:	98 dB (1 W/1 m) <sup>4</sup>
Passive Power Handling:	500 W Continuous, 2000 Peak <sup>5</sup>
Passive Impedance:	8 Ω (nominal), 6.4Ω (min)
LF Transducer:	SMX2121, 12-in (305 mm) driver
LF Axial Sensitivity:	98 dB (1 W/1 m) <sup>4</sup>
LF Power Handling:	400 W Continuous, 1600 W Peak <sup>3</sup>
LF Impedance:	8 Ω (nominal), 6.1 Ω (min)
HF Transducer:	2 x ND2R, 2-in (51 mm) diaphragm compression driver
HF Axial Sensitivity:	109 dB (1 W/1 m) <sup>4</sup>
HF Power Handling:	120 W Continuous, 480 W Peak <sup>3</sup>
HF Impedance:	8 Ω (nominal), 6.0 Ω (min)
Connectors:	Dual NL8 type connector
Enclosure:	13-ply weather resistant birch with EVCoat
Grille:	16 GA powder coated galvanized
Suspension:	IRS—Integrated Rigging System
Dimensions (H x W x D):	13.5 in x 28.77 in x 12.04 in (342.9 mm x 730.8 mm x 534.4 mm)
Net Weight:	92 lb (41.7 kg)
Shipping Weight:	106 lb (48 kg)

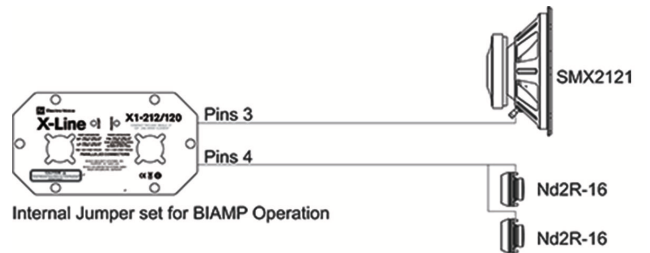
<sup>1</sup>Full-space anechoic array performance with FIR-Drive preset.  
<sup>2</sup>Full-space measurement of HF section of 4 elements. SPL adjusted for 1m distance.  
<sup>3</sup>AES 2-1984 and ANSI S4.26-1984 power test.  
<sup>4</sup>Full-space anechoic measurement of a single element.  
<sup>5</sup>EIA/ANSI RS-426A.

## System overview

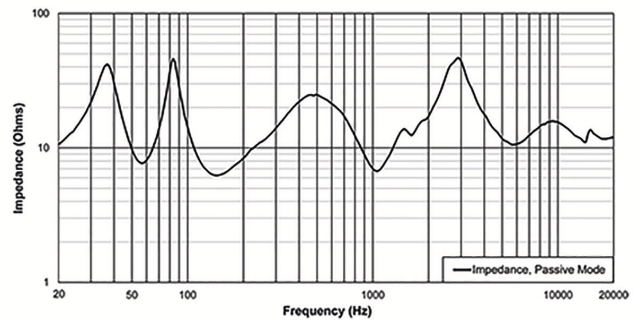
### Block Diagram Passive:



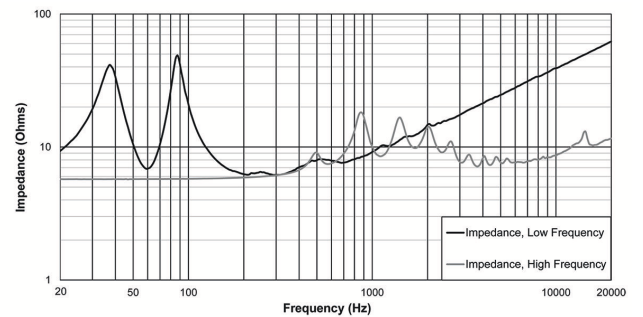
### Block Diagram Biamp:



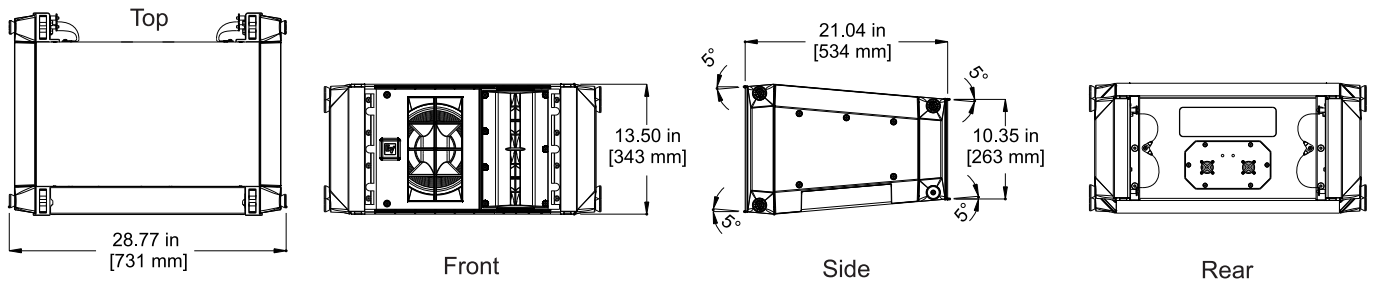
### Impedance Passive:



### Impedance Biamp:



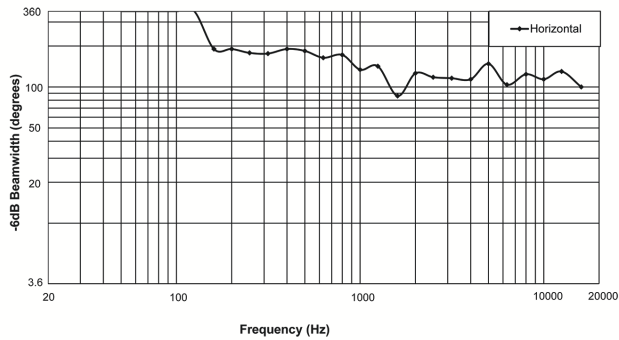
**Dimensions:**



**Notice!**

Acoustic measurement reference axis is the center of the grille.

**Beamwidth (Active):**



**Notice!**

Using X1-212/120 DSP FIR-Drive settings for the Beamwidth.



**Caution!**

This Electro-Voice loudspeaker should be suspended overhead only in accordance with the procedures and limitations specified. This system should be suspended with certified rigging hardware by an authorized rigging professional and in complete compliance with local, state, and federal overhead suspension ordinances.



**Notice!**

Do not mix X1 and X2 full-range loudspeaker model types in the same vertical array. Although enclosure and rigging is identical for X1 and X2 line array elements they are designed to use only one (1) model type in a vertical array.

**Architectural and Engineering Specifications:**

The loudspeaker system shall be a two-way passive or bi-amp system switchable by internal connector with dual NL8 type input connectors, where in bi-amp mode pins 4 +/- are wired to high-frequencies and pins 3 +/- are for low frequencies, pins 2 +/- and 1 +/- are wired as pass thru between the two input connectors and in passive mode pins 3 +/- are wired to a passive network and pins 4 +/-, 2 +/- and 1 +/- are wired as pass thru between the two input connectors. The passive network shall employ 8th order topology with equalization and high frequency protection, resulting in acoustical crossover slopes approaching 96 dB per octave. The system shall have a 12-inch low-frequency transducer with a nominal impedance of 8 ohms and a 2.5-inch aluminum wire voice coil shall be coupled to a Mid-Band-Hydra vertical and horizontal wave shaping device. Passive system power rating shall be 500 watts (per ANSI/EIA RS-426 A). The low-frequency transducer shall have a power-handling capacity of 400 watts (per AES 2-1984 and ANSI S4.26-1984). The high-frequency section shall employ two 2-inch aluminum wire voice coil compression drivers, each with a titanium dome, mounted on Wavefront-Shaping Circular Hydra planar wave generators coupled to a 120° horizontal by 10° vertical waveguide. The two high-frequency drivers shall be connected in parallel for a high-frequency section nominal impedance of 8 ohms, shall have a power handling capacity of 120 watts (per AES 2-1984 and ANSI S4.26-1984). The loudspeaker enclosure shall be constructed of 18 mm and 12 mm, birch plywood and shall be trapezoidal in shape. The wedge angle shall be 10°. The grille shall be constructed from 16 GA powder-coated galvanized backed with acoustically transparent fabric. The system shall be capable of very high-level operation with a bandwidth of 57 Hz to 16 kHz (-3 dB down point). The system dimensions shall be 730.8 mm (28.8 inches) wide by 342.9 mm (13.5 inches) high by 534.4 mm (21.0 inches) deep. The system shall employ four point integrated flying hardware with captive rigging pins for vertical line array system configuration. Net weight shall be 41.7 kg (92 lb). The loudspeaker shall be the X1-212/120 from Electro-Voice.

Compatible System Solutions:	
DX46	DX46 Loudspeaker Controller <sup>1</sup>
N8000-1500	N8000-1500 NETMAX Controller including DSP-2 Extension for a total of 1800 MIPS processing power, 120 V. * This must be ordered as two (2) separate items: (1) N8000 120 V and (1) DSP-2. <sup>1</sup>
DM-1	DM-1 NetMax Dante audio network module
TG7	Tour Grade 7 Power Amplifier <sup>1,3</sup>
TG5	Tour Grade 5 Power Amplifier <sup>1,2</sup>
RCM-28	OMNEO Network and DSP Module for Tour Grade Amplifiers
CPS2.12	CPS 2.12 Power Amplifier <sup>1,2</sup>
CPS4.10	CPS 4.10 Power Amplifier <sup>1,2</sup>
CP3000S	CP3000S 1600 W per channel Class-H power amplifier <sup>1,2</sup>
CP4000S	CP4000S 2100 W per channel Class-H power amplifier <sup>1,3</sup>
RCM-810	RCM-810 IRIS-Net remote control module for CPS Series amplifiers

<sup>1</sup>Contact your sales representative for available voltage versions.

<sup>2</sup>Maximum recommended two (2) elements in parallel for a 4 ohm load.

<sup>3</sup>Maximum recommended three (3) elements in parallel for a 2.6 ohm load.

## Ordering information

### **X1-212/120**

X1 compact 2-way 1x12-inch 120° line-array; black  
Order number **X1-212/120**

### **Accessories**

#### **X12TC-GRID**

Compact grid for up to 24 X1 or X2 tops, black  
Order number **X12TC-GRID**

#### **X12TE-GRID**

Extended grid for up to 24 X1 or X2 tops, black  
Order number **X12TE-GRID**

#### **X12PU-BGK**

Pull up bottom grid kit for X1/X2 tops, black  
Order number **X12PU-BGK**

#### **X12T-DOLLY**

Dolly for six X1 or X2 tops, black  
Order number **X12T-DOLLY**

**Represented by:**

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