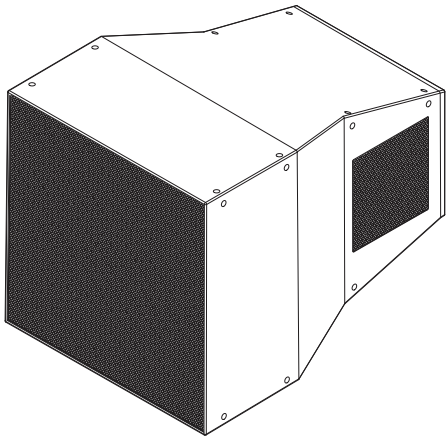


MTS-6154-43CPWB Loudspeaker  
cardioid 40x30 PW blk



Electro-Voice

- Full-range, high-output, horn-loaded loudspeaker with exact directivity for very long throw applications
- Lossless Hydra™ waveform converter couples dual coaxial compression drivers to a constant directivity (CD) waveguide with pattern control to below 350 Hz
- Four woofers couple to the same waveguide, creating a true point source with substantial bass response
- Optimized acoustic design, amplifier matching, and DSP to ensure perfectly controlled SPL and coverage, even at full output
- Full-bandwidth directivity control cardioid versions reduce sound spill and improve dynamics, sound quality and speech intelligibility



The MTS-6154-43CPWB is a full-range, high-output, point-source loudspeaker with exact directivity for very-long-throw applications. MTS is the product of a holistic system approach. Acoustic design, amplifier matching, and digital processing are optimized with proprietary software to ensure precisely distributed SPL that is balanced and controlled throughout the entire coverage area, even at full output. Four slot-loaded, 15-inch high efficiency low-frequency drivers are coupled to the same full-range constant directivity waveguide as two coaxial mid/high frequency compression drivers. This creates a true point-source with substantial bass response, eliminating the need for subwoofers in many applications. The three-way MTS-6154-43CPWB is augmented by a cardioid low-frequency chamber at the rear of the cabinet, resulting in full-range directivity with reduced spill outside the intended pattern, improved intelligibility, and increased low-frequency output. The speaker's coverage pattern is 40° x 30° . The loudspeaker can deliver 152 dB peak (music, with low-frequency response that extends to 50 Hz at -10 dB) and 155 dB peak (speech).

The speaker is typically configured in triamp mode with the two front low-frequency inputs driven as a single 4 ohm load. The installer could also drive the front low-frequency inputs separately using two cable runs to minimize signal losses over long distances. The loudspeaker is designed for indoor or for outdoor use under an overhang or roof. All MTS loudspeakers have an IP55 rating, indicating that they are impervious to dust and water ingress. MTS is engineered for use with Dynacord IPX series amplifiers. Proprietary speaker settings and limiter functions ensure exceptional performance with long-term reliability at extremely high output levels. A package of design files is provided for advanced system simulation in venues. Electro-Voice PREVIEW Loudspeaker Software is the fastest and most accurate way to create acoustic designs with MTS.

Parts included

Quantity	Component
1	Full-range horn-loaded speaker
1	Gland nut cover
1	Installation manual
1	Warranty card

Technical specifications

Frequency response (-3 dB) <sup>1</sup> :	55 Hz - 18 kHz
Frequency range (-10 dB) <sup>1</sup> :	50 Hz - 20 kHz
Max. SPL (music) <sup>2</sup> :	152 dB
Max. SPL (speech) <sup>3</sup> :	155 dB
Coverage (H x V):	40° x 30°
Input connections:	LF1, LF2, MHF, LF Cardioid
Minimum required amplifier channels 3 (LF1 + LF2 wired parallel):	
LF1 maximum input power (20 ms avg) <sup>4</sup> :	1250 W
LF1 maximum peak input voltage <sup>5</sup> :	150 V
LF1 nominal input impedance:	8 Ω
LF2 maximum input power (20 ms avg) <sup>4</sup> :	1250 W
LF2 maximum peak input voltage <sup>5</sup> :	150 V
LF2 nominal input impedance:	8 Ω
MHF maximum input power (20 ms avg) <sup>4</sup> :	1250 W
MHF maximum peak input voltage <sup>5</sup> :	140 V
MHF nominal input impedance:	6 Ω
LF cardioid maximum input power (20 ms avg) <sup>4</sup> :	1250 W
LF cardioid maximum peak input voltage <sup>5</sup> :	150 V
LF cardioid nominal input impedance:	8 Ω
Connectors:	10 AWG (6 mm²) Phoenix/ Euroblock input and pass through
Enclosure:	Weather resistant birch plywood with EVCoat
Grille:	16 gauge stainless steel with hydrophobic screen
Suspension:	(32) M10 hard points
Color:	RAL 9005 Black
Dimensions (H x W x D):	1092 mm x 1092 mm x 1494 mm (43.0 in x 43.0 in x 58.8 in)
Net weight:	198 kg (436 lbs)
Shipping weight:	245 kg (541 lbs)
Weatherization:	PW: indoor/outdoor partial exposure (under roof)
Ingress Protection (IP) rating:	55

<sup>1</sup>Full space with MTS full range preset.

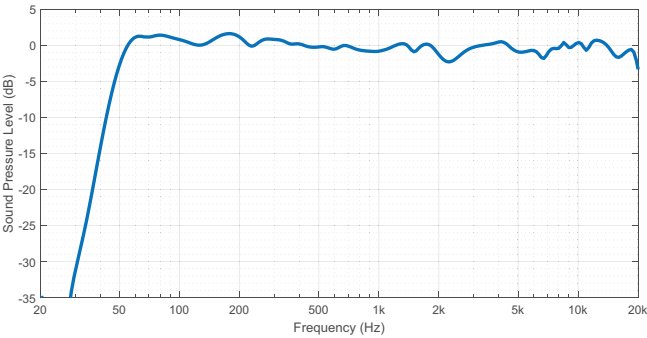
<sup>2</sup>Peak SPL measured full space at 4 m and referenced to 1 m. 12 dB crest factor broadband pink noise.

<sup>3</sup>Peak SPL measured full space at 4 m and referenced to 1 m. 12 dB crest factor 100-5k Hz pink noise.

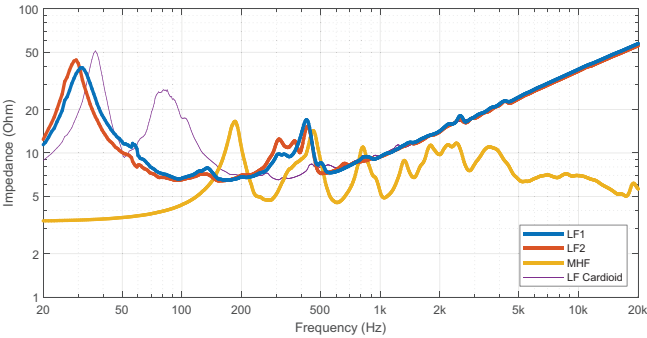
<sup>4</sup>Required amplifier power for maximum output.

<sup>5</sup>Electro-Voice 500 hour accelerated life test.

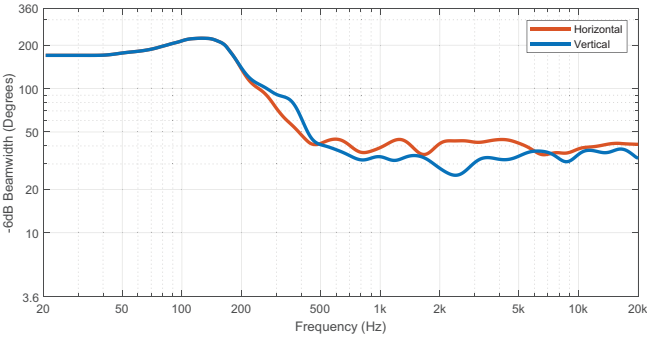
Frequency response



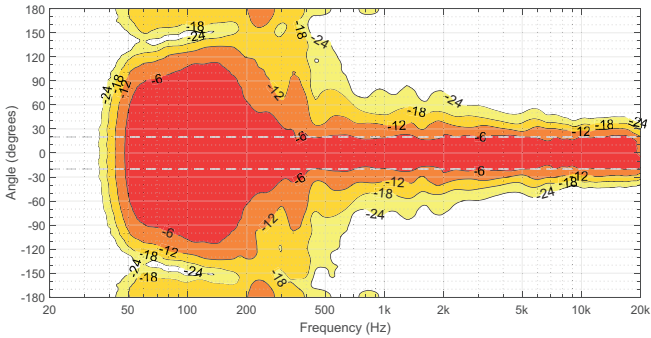
Impedance response



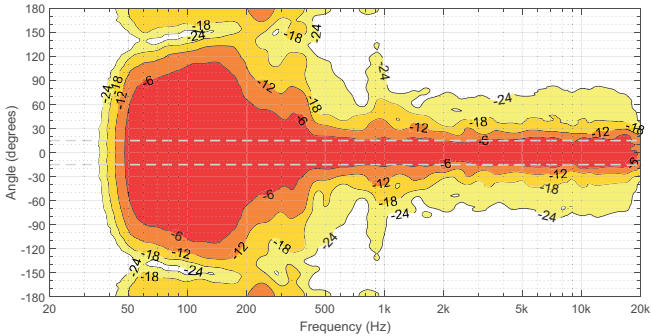
Beamwidth



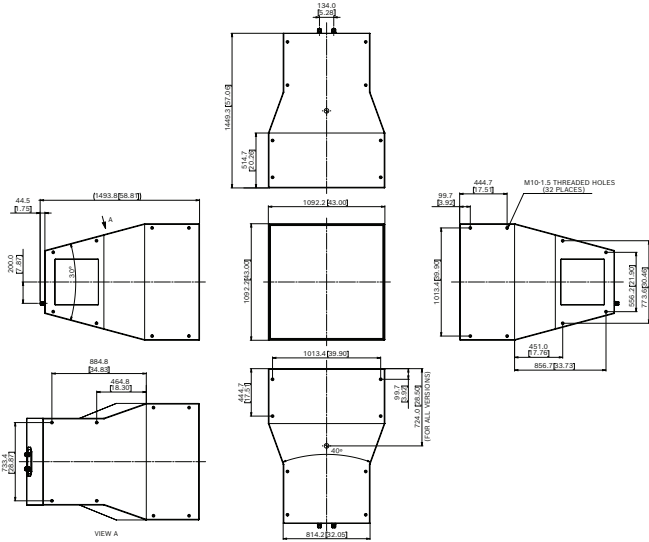
Horizontal spatial frequency response



Vertical spatial frequency response



Dimensions



Amplifier configurations

Amplifier	IPX 20:4	IPX 10:4	IPX 5:4	IPX 10:8
Total no. of speakers	2	2	1	2
Channel				
1	LF1 (2 boxes)	LF1 (2 boxes)	LF1 (1 box)	LF1 (1 box)
2	LF2 (2 boxes)	LF2 (2 boxes)	LF2 (1 box)	LF2 (1 box)
3	MHF (2 boxes)	MHF (2 boxes)	MHF (1 box)	MHF (1 box)
4	LF CARDIOD (2 boxes)	LF CARDIOD (2 boxes)	LF CARDIOD (1 box)	LF CARDIOD (1 box)
5				LF1 (1 box)
6				MHF (1 box)
7				LF2 (1 box)
8				LF CARDIOD (1 box)
Monitoring and processing	Per Pair	Per Pair	Per Box	Per Box
Worst case Max SPL reduction (dB)	0 (3 dB Headroom)	0	0	0

Architectural and engineering specifications

The loudspeaker system shall be a three-way, bi-amplified design augmented with an integral low-frequency cardioid chamber. It is equipped with dual Phoenix-type input connectors, wherein connector terminals 1 +/- and 2 +/- are wired to two separate pairs of 15-inch low-frequency transducers, terminals 3 +/- are wired to a passive crossover that feeds two mid/high-frequency coaxial compression drivers, and terminals 4 +/- are wired to an additional pair of 15-inch woofers in the cardioid chamber.

The mid-high-frequency ring radiator coaxial drivers shall be coupled to a 40° x 30° constant directivity arc-source horn through a low-loss waveform converter. Each mid/high-frequency compression driver shall be constructed with concentric voice coils: a 100 mm voice coil driving an annular diaphragm for midrange frequencies and a 65 mm voice coil driving a separate annular diaphragm for high frequencies. The mid/high-frequency coaxial compression drivers shall be wired in parallel and driven through a passive network with a crossover point of 3.6 kHz, presenting a nominal 6 Ohm load. The maximum peak input voltage and maximum input power to the mid/high frequency section shall be 140 volts and 1250 Watts, respectively. The six 15-inch low-frequency drivers shall all be constructed with three-inch voice coils. Four of the woofers shall be slot-loaded and co-entrant on the same arc-source horn to which the mid/high-frequency compression drivers are coupled. Two of the woofers shall be mounted on the sides of the cabinet toward the rear in a separate acoustical chamber. Each of the three pairs of low-frequency transducers shall be wired in parallel for a nominal 8 Ohm load. The maximum peak input voltage and maximum input power to the each of the low-frequency pairs shall be 150 volts and 1250 Watts. The cabinet shape shall be 30° trapezoidal in the vertical aspect, mirroring the loudspeaker’s acoustic coverage pattern. The loudspeaker system shall have a protective EVCoat black finish applied to completely seal the cabinet exterior, making it suitable for installation under a roof or overhang such that it is only indirectly exposed to the elements. The grilles shall be constructed using 16 gauge perforated stainless steel and shall be assembled with a hydrophobic screen backing. The loudspeaker shall have an ingress protection rating of IP55 when installed at a minimum 5° down angle. The loudspeaker system shall include a moisture-proof gland nut cover that accepts cable diameters between 9 mm (0.35 in.) and 19 mm (0.74 in.).

When driven by the manufacturer’s recommended amplification and signal processing, the system shall be capable of producing 152 dB peak SPL output for an

input signal comprising full-range pink noise with a 12 dB crest factor. The loudspeaker’s -3 dB bandwidth corner frequencies shall be 55 Hz and 18 kHz; the end points for -10 dB bandwidth shall be 50 Hz and 20 kHz. For a 12 dB crest factor pink noise input that has been band limited from 100 Hz to 5 kHz, the maximum peak SPL output shall be 155 dB.

The system shall exhibit a cardioid polar pattern at low frequencies, such that output is significantly reduced in the rear hemisphere. At off-axis positions between 135° and 180° relative to the main axis, acoustic output shall be reduced by 12 dB or more for frequencies below 200 Hz.

The system shall employ 32 M10 hard points for attachment to cable support systems or structural framing. Net weight shall be 198 kg (436 lbs.) The loudspeaker dimensions shall be 1092 mm (43.0 in.) high by 1092 mm (43.0 in.) wide by 1494 mm (58.8 in.) deep. The loudspeaker shall be the MTS-6154-43CPWB from Electro-Voice.

Complementary products

MTS-4153-43PWB Loudspeaker high output 40x30 PW blk

MTS-4153-64PWB Loudspeaker high output 60x40 PW blk

MTS-6154-64CPWB Loudspeaker cardioid 60x40 PW blk

Compatible system solutions

X12I-128-B 2x18" Install sub black

X12I-128-FGB 2x18" Install sub black FG

Compatible system solutions, electronics

Dynacord IPX10:4 DSP power amplifier 4x2500W, install

Dynacord IPX20:4 DSP power amplifier 4x5000W, install

Dynacord IPX10:8 DSP power amplifier 8x1250W, install

Dynacord IPX5:4 DSP power amplifier 4x1250W, install

Compatible system solutions, software

Dynacord SONICUE control software

Electro-Voice PREVIEW Loudspeaker software

Ordering information

MTS-6154-43CPWB Loudspeaker cardioid 40x30 PW blk

Full-range, point-source, three-way loudspeaker with integrated cardioid low-frequency chamber, 40° x 30° coverage, partially weatherized, black  
Order number **MTS-6154-43CPWB | F.01U.386.396**

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