

MESSENGER[™] PRO

Brochure

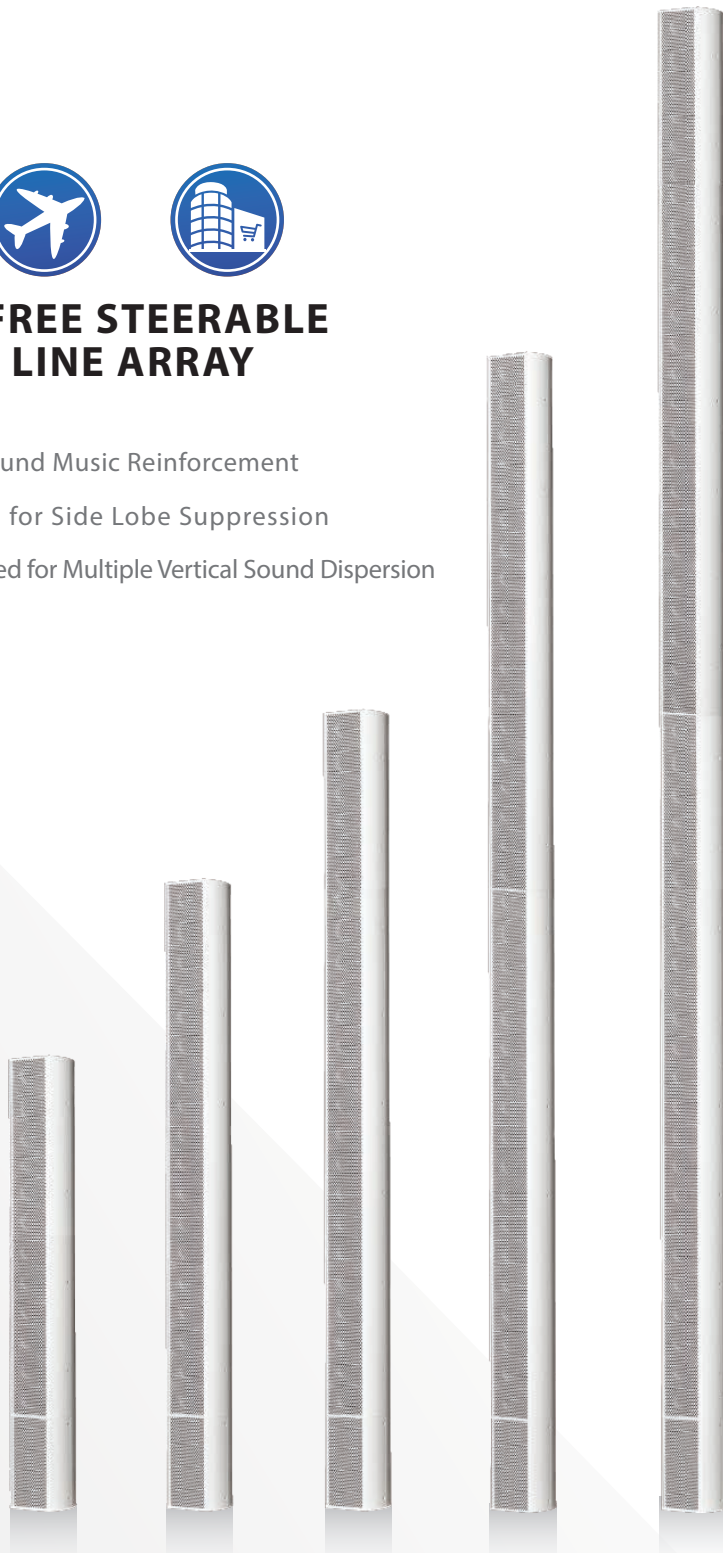


SIDE LOBE FREE STEERABLE DIGITAL LINE ARRAY

Speech & Background Music Reinforcement

Patented Algorithm for Side Lobe Suppression

Up to Three Lobes Can be Created for Multiple Vertical Sound Dispersion



MESSENGER G2 / MESSENGER SG2

FEATURES

- Specially designed for high quality speech and background music applications in reverberant acoustic environments
- Beam steering ±45 degrees up to 3 lobes simultaneously
- Variable control of vertical dispersion between 45 and 5 degrees
- Variable acoustic centre 9 steps, from asymmetrical to symmetrical
- Ambient noise sensing for automatically adjusts of output volume
- Support EASE DLL, for advanced room acoustic simulations
- Internal HF carrier loudspeaker surveillance/Temperature sensor with frost protection/Ambient noise sensor (optional)
- Integrated DSP control with Noise Gate, Delay, PEQ, Limiter, Ethernet IGMP Audio Stream, VoIP Receive, Ducker, DNM

MESSENGER G2 (ALL IN ONE TYPE)

M	12 Active Channels - 5.6ft (1.7m) 94 dB to 82ft (25m)
L	18 Active Channels - 7.9ft (2.4m) 94 dB to 98.4ft (30m)
XL	24 Active Channels - 10.2ft (3.1m) 94 dB to 131.2ft (40m)
2L	36 Active Channels - 15.4ft (4.7m) 94 dB to 196.9ft (60m)
2XL	48 Active Channels - 20.3ft (6.2m) 94 dB to 229.7ft (70m)

MESSENGER SG2 (SEPARATED TYPE)

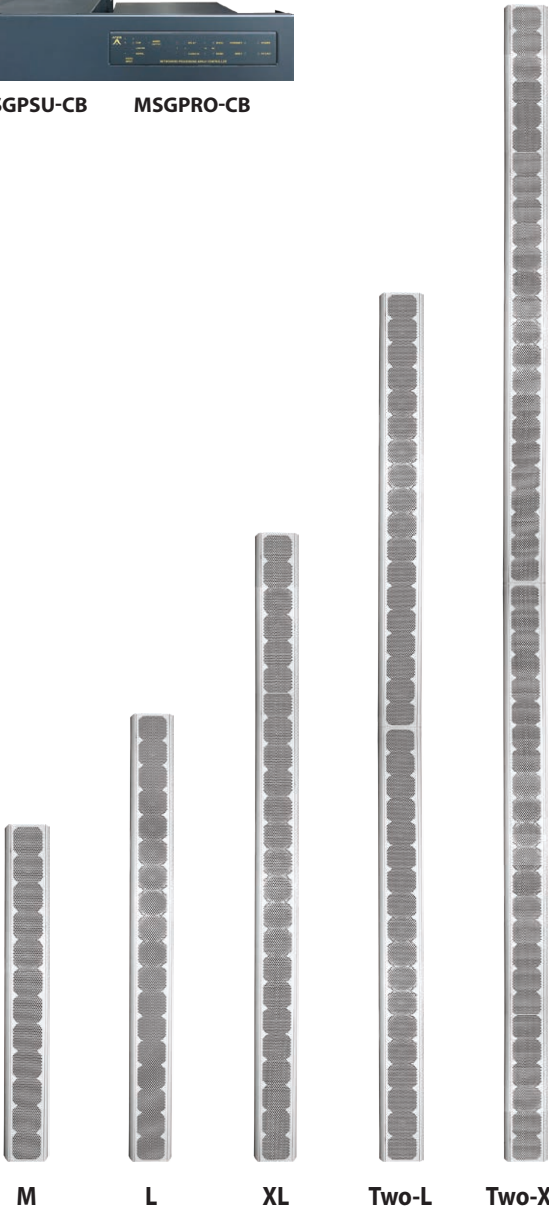
M	12 Active Channels - 4.6ft (1.4m) 94 dB to 82ft (25m)
L	18 Active Channels - 6.6ft (2.0m) 94 dB to 98.4ft (30m)
XL	24 Active Channels - 8.9ft (2.7m) 94 dB to 131.2ft (40m)
2L	36 Active Channels - 13.5ft (4.1m) 94 dB to 196.9ft (60m)
2XL	48 Active Channels - 17.7ft (5.4m) 94 dB to 229.7ft (70m)

CONTROL BOX & POWER SUPPLY BOX

MSGPSU-CB	External Power Box
MSGPRO-CB	External DSP Control Box



MSGPSU-CB MSGPRO-CB



ORBIT

FEATURES

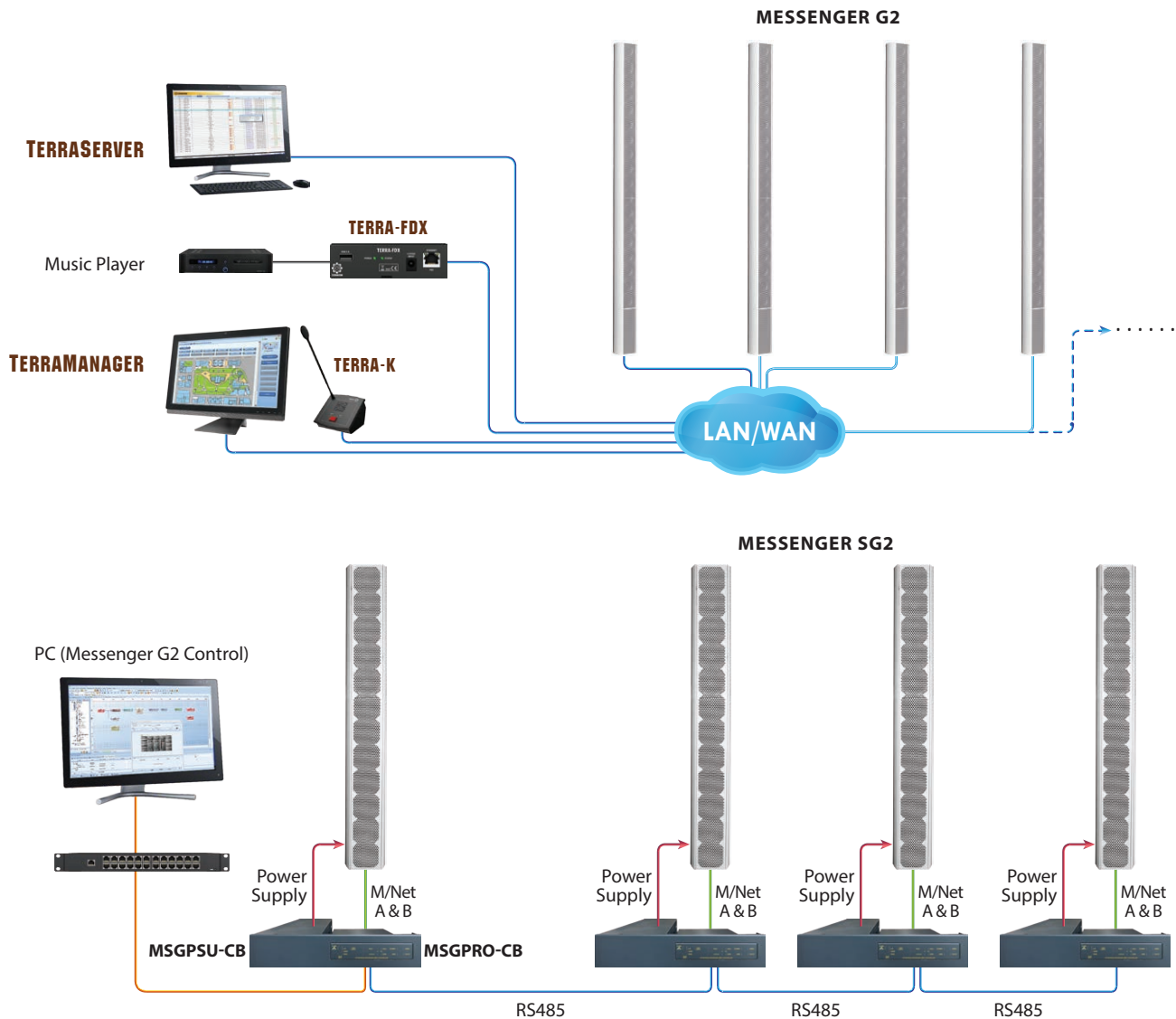
- Designed for high quality speech and background music applications in reverberant acoustic environments
- Tightly controlled beam up to 3 degrees, and can be shaped in 9 steps
- Asymmetrical and symmetrical arrangement by means of software control
- Integrated DSP control with 8 band of PEQ, noise gate, delay rooms, peak limiter, VOXcontrol on priority input and level raising microphone for ambient noise sensing
- Adaptable acoustic centre can be freely moved over the array to match lobe shape with the listening area
- 24VDC input for battery back-up, 20 kHz input surveillance
- Internal HF carrier loudspeaker surveillance
- Ambient noise sensor and temperature sensor with frost protection
- Battery surveillance
- Fault report contact
- Audio and data transmission via Ethernet for detailed status report
- PC based setup (up to 32 x Orbit units on the bus)
- Support EASE DLL & CATT DLL for room acoustic simulations
- SPL stays within ± 2 dB variation over a distance of at least 60m

ORBIT

M	3 rows of 12 loudspeakers, 1003 mm, 94 dB to 10m circle
L	3 rows of 18 loudspeakers, 1669 mm, 94 dB to 15m circle



SYSTEM DIAGRAM



TECHNICAL SPECIFICATIONS

MESSNEGNER G2/SG2

ELECTRICAL

- AC power input: 210 ~ 230 VAC (5%/-10%)
- Power consumption (AC)

M	211W
L	277W
XL	343W
2L	554W
2XL	686W

- DC power input: 16 VDC ~ 27 VDC
- Power consumption (DC)

M	201W
L	263W
XL	326W
2L	526W
2XL	653W

AUDIO CHARACTERISTICS

- A/D-D/A bit resolution: 24 bit
- Sampling rate: 48 kHz
- Internal processing: 32 bit (floating points)
- Frequency response: 100 ~ 22 kHz
- Max. SPL: 93 dBA ± 1 dB
- Max. input/output level: 18 dBu
- Input impedance (balanced): 10k ohm
- Output impedance (balanced): 90 ohm

INTERNAL AMPLIFIER

- Type: 24 Class-D amplifier channels
- Power rating: 70W
- Amplifier quantity: 4 x 6 pcs (6 channels per amplifier board)

DSP PROCESSING

- Component: Input, Output, PEQ, Ethernet IGMP, Audio Stream, VoIP Receive, Standard Mixer, Ducker, DNM, Limiter, Selector, Delay
- Pre-delay: 1,000 ms
- Equalizing: 8 bands PEQ
- Peak limiter: Level adjustable
- Mute: audio on/off
- Signal indicators: Clipping/Audio/Limiter/Noise-gate
- Input signal surveillance
- Input line detection: 20 kHz, 18 kHz and 20 kHz standard on-board surveillance

MECHANICAL

- Coverage angle
 - Vertical: 5, 7, 10, 15, 20, 25, 30, 35, 40, 45 degree
 - Horizontal: 145 degree (for all units)
- Lobe shaping (centered on driver): 1, 4, 6, 9, 13, 16, 19, 21, 24
- Lobe steering: -45° to 0° to 45°
- Speaker type: 4.25"
 - (dual-cone with inverted surround, weatherproof, aluminum)

MECHANICAL

- Dimension

	MESSENGER G2	MESSENGER SG2
M	12 Loudspeakers 1700 mm	12 Loudspeakers 1361 mm
L	18 Loudspeakers 2400 mm	18 Loudspeakers 2033 mm
XL	24 Loudspeakers 3100 mm	24 Loudspeakers 2705 mm
2L	36 Loudspeakers 4700 mm	36 Loudspeakers 4066 mm
2XL	48 Loudspeakers 6200 mm	48 Loudspeakers 5410 mm

- Dimension (W x H x D)

MSGPRO-CB	MSGPSU-CB	MSGPSU-CB
208 x 42.6 x 254.9 mm	185 x 86.8 x 460.7 mm	436 x 88 x 47.9 mm

- Weight (net/shipping)

	MESSENGER G2 (all in one type)	MESSENGER SG2 (loudspeakers only)	Messenger SG2 (total gross weight)
M	27/35 kg	24.2/29 kg	50.3 kg
L	38/47 kg	36.5/41 kg	62.4 kg
XL	48/58 kg	44.5/51.9 kg	73.2 kg
2L	76/94 kg	71.1/82.1 kg	124.7 kg
2XL	96/116 kg	88.9/103.8 kg	146.4 kg

- Weight (net/shipping)

	MSGPRO-CB	MSGPSU-CB
M/L/XL	14/15 kg	5.4/6.3 kg
2L/2XL	28/30 kg	10.8/12.6 kg

- Mounting: 1 set of wall bracket
- Color: RAL9016

ORBIT

CHARACTERISTICS

- 24 Class-D amplifier channels with 70 watt
- SPL coverage stays within 1dB variation
- Variable acoustic centre
- Triple lobe control
- RS485 link
- Remote access by TCP/IP interface
- Dual mode power supply + battery backup (24 VDC)
- Frequency response: 90 ~ 18000 H z
- Max. SPL: 93 dBA ± 1dB
- Dual audio input: 0 dB with contact
- DSP module: ADSP21369-400 2.4 G ops 400 tabs/filter/24 CH

TECHNICAL SPECIFICATIONS

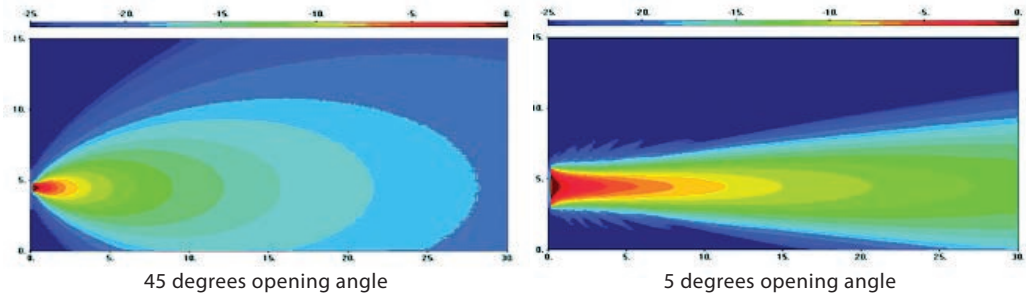
- AC power input: 230 VAC
- DC power input: 24 VDC
- Pre-delay: 1000 ms
- Equalizing: 8 band PEQ
- Peak limiter: level adjustable
- Mute: audio on/off
- Signal indicators: Clipping/Audio/Limiter/Noise-gate
- Surveillance: amps, input signal, router, processor, watchdog, active feedback on drivers (optional), emergency backup
- Input line detection, 18 ~ 20 kH z (adjustable)
- Noise-sensing: on-board

LOBE SHAPING BY MESSENGER PRO DESIGN SOFTWARE

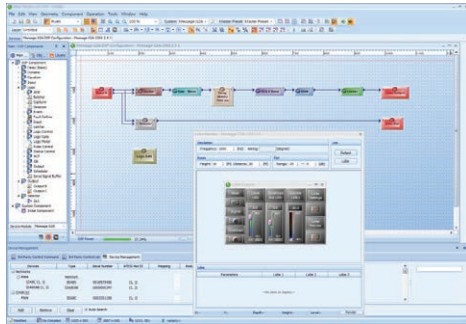
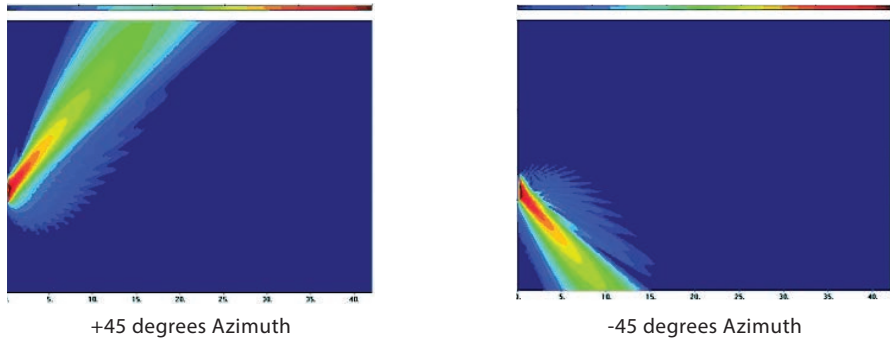
The acoustical centre of the array can be adjusted to match exactly for the acoustic requirements of the installation, the mounting height and other environmental needs. Each driver centre of the array is separately powered and processed, therefore, all the lobe shape variations between a symmetrical and an asymmetrical arrangement can be made with the simple selection of combo-box in the Messenger Pro software.

DIRECTIONAL ACTIVE DSP ARRAY SYSTEM

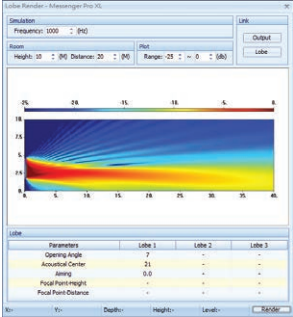
Different Opening Angles
A variety of opening angles from 45° to 5° with a single Lobe



Accurate Beam Steering
A variety of opening angles from 45° to 5° with a single Lobe

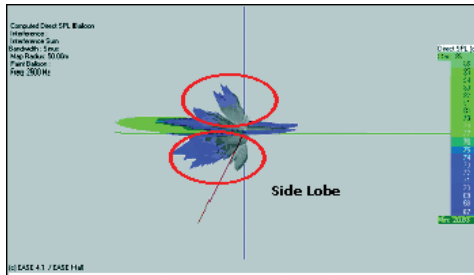


Messenger Pro Design Software



Windows-based PC Setup

PATENTED SIDE LOBE SUPPRESSION



Conventional DSP Line Arrays

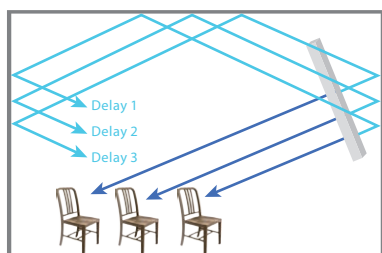


Messenger Pro with Patented Algorithm

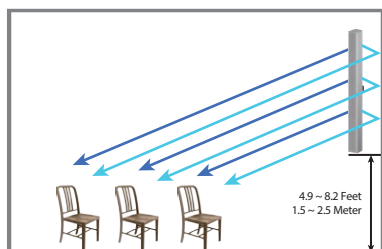
SMARTVOX-II-30/60

FEATURES

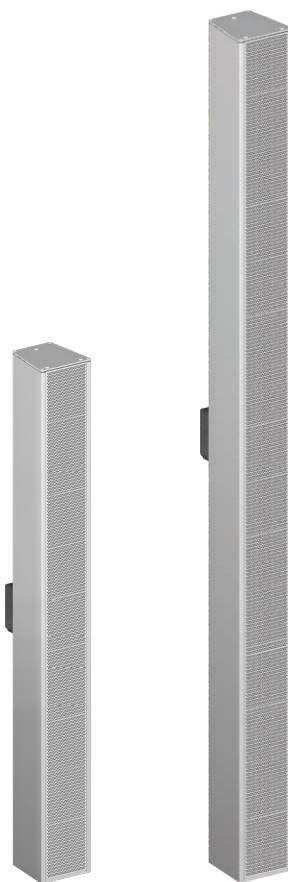
- Filtering technique based on Messenger Pro™ patent algorithm
- Wide dispersion coverage
- Built-in 50V/70V/100V transformer
- Constant sound level and precise sound direction pattern in vertical placement
- With higher 'direct-to-reverb' ratios, and lead to a higher intelligibility figure (STI)



Sound Field of Ordinary Column Line Array (figure 1)



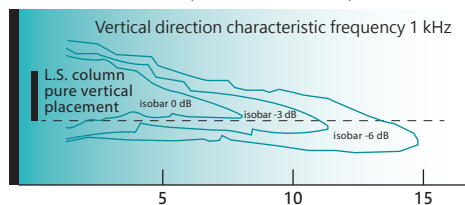
Sound Field of SMARTVOX-II-30/60 Line Array (figure 2)



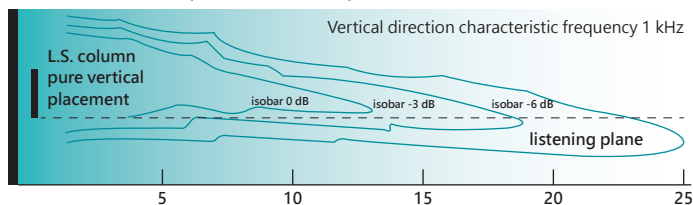
SMARTVOX-II-30

SMARTVOX-II-60

Distance in meters (SMARTVOX-II-30)



Distance in meters (SMARTVOX-II-60)



TECHNICAL SPECIFICATIONS

ELECTRICAL

- Voltage: 50/70/100 volts
- Max. power consumption
 - SMARTVOX-II-30: 30W
 - SMARTVOX-II-60: 60W
- Frequency response: 200 Hz ~ 10 kHz
- Horizontal coverage: 120 degrees
- Q factor/Di: 14.1/11.5 dB
- SPL @ 1W/1M, test signal bandwidth 200 ~ 10 kHz
 - 30W: 87.7 dB
 - 60W: 90.2 dB

MECHANICAL

- Dimensions (H x W x D)
 - SMARTVOX-II-30: 847 x 100 x 152 mm (33 x 4 x 6 inch)
 - SMARTVOX-II-60: 1416 x 100 x 152 mm (56 x 4 x 6 inch)
- Weight
 - SMARTVOX-II-30: 6.9 kg (15.2 lbs)
 - SMARTVOX-II-60: 9.3 kg (20.5 lbs)
- Colour: RAL 9016
- Finish: Aluminum with iron bracket

ENVIRONMENTAL

- Operating temperature: -5 °C ~ +55 °C (+23 °C ~ +131 °C)
- Storage temperature: -40 °C ~ +70 °C (-40 °C ~ +158 °C)
- Relative humidity: 20% to 95%
- Air pressure: 600 to 1100 hPa

ORDERING INFORMATION

Messenger G2 (All in One Type)

MESSENGER-M	DIGITAL LINEAR SPK ARRAY-M all in one(G2)
MESSENGER-L	DIGITAL LINEAR SPK ARRAY-L all in one(G2)
MESSENGER-XL	DIGITAL LINEAR SPK ARRAY-XL all in one(G2)
MESSENGER-2L	DIGITAL LINEAR SPK ARRAY-2L all in one(G2)
MESSENGER-2XL	DIGITAL LINEAR SPK ARRAY-2XL all in one(G2)

Messenger SG2 (Separated Type)

MSGPRO-M	DIGITAL LINEAR SPEAKER ARRAY-M External BOX & PSU
MSGPRO-L	DIGITAL LINEAR SPEAKER ARRAY-L External BOX & PSU
MSGPRO-XL	DIGITAL LINEAR SPEAKER ARRAY-XL External BOX & PSU
MSGPRO-2L	DIGITAL LINEAR SPEAKER ARRAY-2L External BOX & PSU
MSGPRO-2XL	DIGITAL LINEAR SPEAKER ARRAY-2XL External

Control Box & Power Supply Box

MSGPRO-CB	MESSENGER External DSP Control Box
MSGPSU-CB	MESSENGER External Power Box

* MSGPRO-CB and MSGPSU-CB are applicable for MESSENGER SG2 (separated type) only.

ORBIT

ORBIT-M	Orbit-M with External Box
ORBIT-L	Orbit-L with External Box

SMARTVOX-II

SMARTVOX-II-30	Vertical Line Array Loudspeaker/30W
SMARTVOX-II-60	Vertical Line Array Loudspeaker/60W

APPLICATIONS

- Airports
- Large Train Stations
- House of Worship
- Large Scale Halls
- Shopping Malls
- Industrial Halls



REFERENCES

- Sagrada Familia, Barcelona
- Liverpool Cathedral, UK
- Frankfurt Airport, Germany
- Nice Côte d'Azur Airport, Nice
- Hong Kong Airport, China
- Ski Dubai, UAE
- Oval Stadium, London
- St. John's Cathedral, Valletta



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