



LONG RANGE HORN ARRAY SPEAKER

Z-HA Series

Crystal Clear.
From Near to Far.



Loud. Clear. Unmistakable – Even in Noise.

When communication must cut through distance, wind, and industrial noise, TOA's Horn Array Speakers deliver unmatched clarity and reach. Engineered for large-scale outdoor environments, these speakers project highly intelligible sound across hundreds of meters, while minimizing noise spill to nearby areas. With precision-directivity and durable construction, they are trusted in ports, factories, stadiums, and beyond.



Reach Distant Areas

Array effect allows clear sound to reach distant areas with high precision.



Covers Wide Spaces

Wide 90-degree horizontal coverage reaches broad areas clearly and efficiently.



Directs Sound

High vertical directivity delivers sound only where it's needed — not where it's not.

TOA Horn Array Speaker

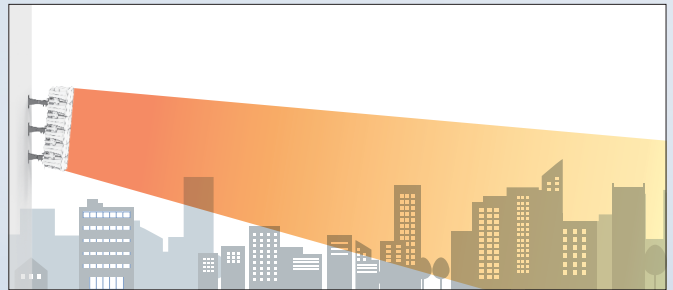
The Z-HA Series is designed to deliver **clear, powerful sound where it's needed most, reaching far distances without overwhelming nearby listeners**. Its wide horizontal coverage minimizes dead zones, reducing the number of speakers required and maximizing cost performance. Thanks to precise vertical directivity, sound stays focused, avoiding excessive loudness directly below the speaker while ensuring that every listener, near or far, hears messages clearly and confidently. Ideal for **stadiums, transport hubs, ports, and large outdoor spaces**, the Z-HA Series turns challenging environments into spaces where communication is effortless and reliable.

The diagram below compares the sound dispersion of a conventional speaker (left) and the Z-HA Series (right). As shown, conventional speakers often concentrate excessive volume directly beneath the unit, creating uncomfortable noise for nearby listeners while still failing to deliver clear sound at a distance. The Z-HA Series, by contrast, uses horn array technology to project audio powerfully and clearly across long distances, while keeping sound levels balanced and comfortable near the speaker. This ensures that announcements remain intelligible, consistent, and pleasant for everyone in the coverage area — from those standing close by to those listening far away.

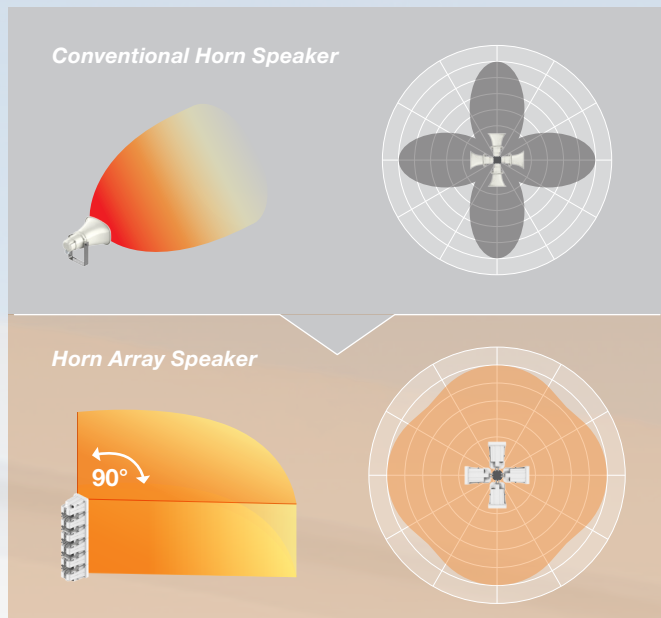
Sound Dispersion of the Conventional Horn Speaker



Sound Dispersion of the Horn Array Speaker



Sound dispersion comparison



Emergency announcements in large parks



The Z-HA Series delivers more than performance — it delivers peace of mind. From daily use to critical emergencies, its clear and controlled sound ensures messages reach everyone who needs to hear them. With TOA's horn array technology, it stands as a trusted solution for safer and more connected public spaces.

Images are for the Japanese market and may differ in specifications or colors.

Long Range Array Speaker

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Horn array for clear long-range voice projection
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IP66-rated for harsh outdoor use
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Weatherproof durability with double drip-proof design
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Wide horizontal coverage for broad-area public address applications
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Built-in high-pass filter for speaker protection

Z-HA1060-AS



Z-HA2240-AS

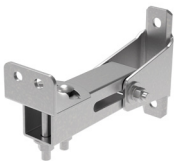


Specifications	Z-HA1060-AS	Z-HA2240-AS
Rated Input	60 W	240 W
Rated Impedance	100 V line: 170 Ω (60 W), 330 Ω (30 W) 70 V line: 83 Ω (60 W), 170 Ω (30 W)	100 V line: 42 Ω (240 W), 83 Ω (120 W) 70 V line: 21 Ω (240 W), 42 Ω (120 W)
Sensitivity	111 dB (1 W, 1 m) (500 Hz - 5 kHz, IEC60268-5)	115 dB (1 W, 1 m) (500 Hz - 5 kHz, IEC60268-5)
Max. SPL	128 dB (60 W, 1 m) (500 Hz - 5 kHz, IEC60268-5)	138 dB (240 W, 1 m) (500 Hz - 5 kHz, IEC60268-5)
Frequency Response	520 Hz - 4.6 kHz (-10 dB), 350 Hz - 11 kHz (-20 dB)	490 Hz - 4.2 kHz (-10 dB), 280 Hz - 8 kHz (-20 dB)
Speakers Component	Horn speaker unit X 8	Horn speaker unit X 6
Operating Temperature	-20 °C to +55 °C (-4 °F to 131 °F)	
Dust/Water Protection	IP66	
Connection	Speaker Cable (4-core cabtype cord 2 m (6.56 ft))	
Finish	Case: Aluminum, white (RAL 9016 equivalent), salt-resistant, paint Front grille: Aluminum, white (RAL 9016 equivalent), paint, Bolts: Stainless steel	Case: FRP, white (RAL 9016 equivalent), paint Front grille: Aluminum, white (RAL 9016 equivalent), paint, Bolts: Stainless steel
Dimensions	167 (W) X 1233 (H) X 140.5 (D) mm (6.57" X 48.54" X 5.53") (excluding projection)	215 (W) X 1110 (H) X 309 (D) mm (8.46" X 43.7" X 12.17") (excluding projection)
Weight	14 kg (30.86 lb) (unit only)	33 kg (72.75 lb) (unit only)
Option	Speaker mounting bracket: YS-1100A	

Notes: The speaker must be installed upright or facing down. Installing the speaker in any other position may render the drainage hole ineffective, eventually leading to an electrical failure or other damage.

Optional Accessory

The YS-1100A speaker mounting bracket is necessary for installing the speakers on a wall or a pole.



Scan for more info



Specifications are subject to change without notice.