PROFESSIONAL SOUND SYSTEM

TOA

Constant Directivity Horn

Model LE-940, LE-640, LE-420

GENERAL DESCRIPTION

Employing TOA's unique technology, the LE series constant directivity horns can meet even professional's stringent standards that always require precise directivity control, high efficiency and high quality sounds. Their ideal applications include theaters, concert halls, auditoriums, churches, and movie houses.

Different formulas are used to optimize the horizontal and vertical side wall contours. Also, both side walls are so arranged that a mouth is an equiphase surface, permitting a sound wave to leave the horn open end at the same instant.

These combine together to make the geometry ideal for maintaining uniform directivity over the rated frequency range and high efficiency especially in the low frequency range.

Each horn is intended for use in systems with crossover at 500Hz or higher in the HFD-260 use and at 800Hz or higher in the HFD-220 use, and ensures uniform frequency response over the full frequency range from 630Hz to 16kHz at any point within the rated coverage angle. The horns have a controlled coverage angle of 90 degrees horizontally by 40 degrees vertically (LE-940), 60° × 40° (LE-640), or 40° × 20° (LE-420).

Each horn comes with a cast-aluminum throat with diameter of 2" (49mm) for mating with TOA HFD-260-8, -16, HFD-220-8 or -16 high-frequency compression driver. The horn bell is constructed of fiberglas reinforced plastic.

The horn bell and throat, both having sufficient thickness, suppress resonance.

FEATURES

1. TOA's unique horn design.
2. Excellently controlled horizontal and vertical dispersion over the frequency range of 630Hz to 16kHz.
3. High efficiency and smooth frequency responce.
4. 2" (49mm) throat diameter.
5. Resonance-free, rigid construction.
6. Mounting holes.

EQUALIZATION

When using the LE series constant directivity horns in combination with the HFD-260-8, -16, HFD-220-8 and -16, and with TOA Integrated sound processor "SAORI", set the horn equalizer built in the digital channel divider module, long delay type (IS-110DL4, IS-110DL2) of the "SAORI" as shown the table below.

	LE-940	LE-640	LE-420
HFD-260-8 HFD-260-16	TYPE 1	TYPE 1	TYPE 2
HFD-220-8 HFD-220-16	TYPE 6	TYPE 6	TYPE 7

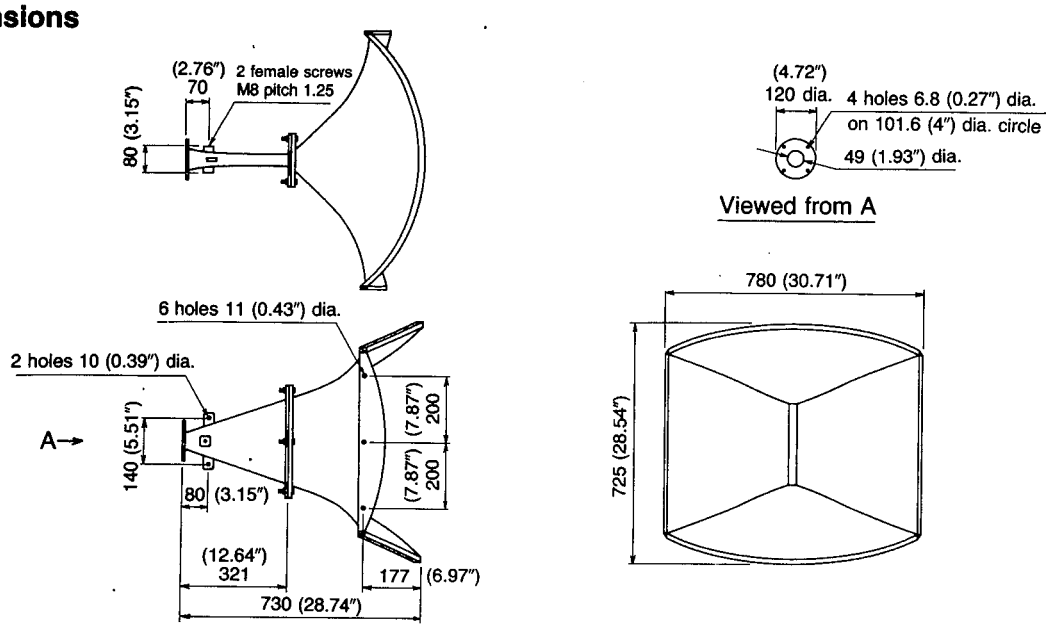
SPECIFICATIONS

Model		LE-940	LE-640	LE-420
Horizontal Coverage Angle		90° (+22°,–6°) (630Hz~20kHz)	60° (+15°,–4°) (630Hz~16kHz)	40° (+13°,–1°) (630Hz~16kHz)
Vertical Coverage Angle		40° (+15°,–0°) (630Hz~20kHz)	40° (+16°,–2°) (630Hz~20kHz)	20° (+8°,–3°) (1kHz~16kHz)
Recommended Crossover Frequency		500Hz or more (HFD-260-8 or HFD-260-16 is used.) 800Hz or more (HFD-220-8 or HFD-220-16 is used.)		
Throat Diameter		49 mm (2")		
Applicable Driver		HFD-260-8, HFD-260-16, HFD-220-8 or HFD-220-16		
Construction	Horn Bell	Fiberglas reinforced plastic (FRP)		
	Horn Throat	Cast-Aluminum		
Dimensions (H × W × D)		725 × 780 × 730 mm (28.54" × 30.71" × 28.74")	725 × 780 × 730 mm (28.54" × 30.71" × 28.74")	725 × 780 × 1,378 mm (28.54" × 30.71" × 54.25")
Weight		13 kg (28.7 lb.)	12 kg (26.5 lb.)	17 kg (37.5 lb.)
Accessories		Hexagonal bolts M8 × 40.....6, Hexagonal nuts M8.....6 Flat washers 8 dia.....12, Spring washers 8 dia.....6		

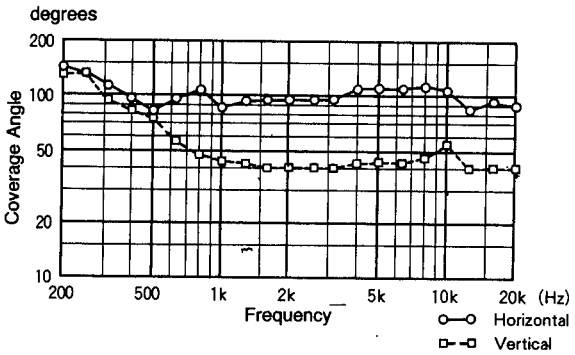
* Specifications are subject to change without notice.

[LE-940]

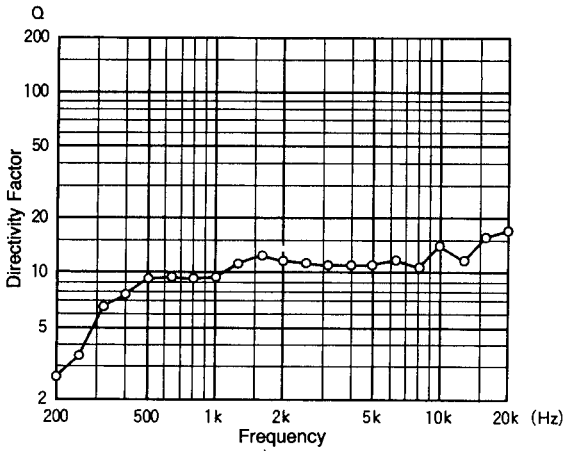
• Dimensions



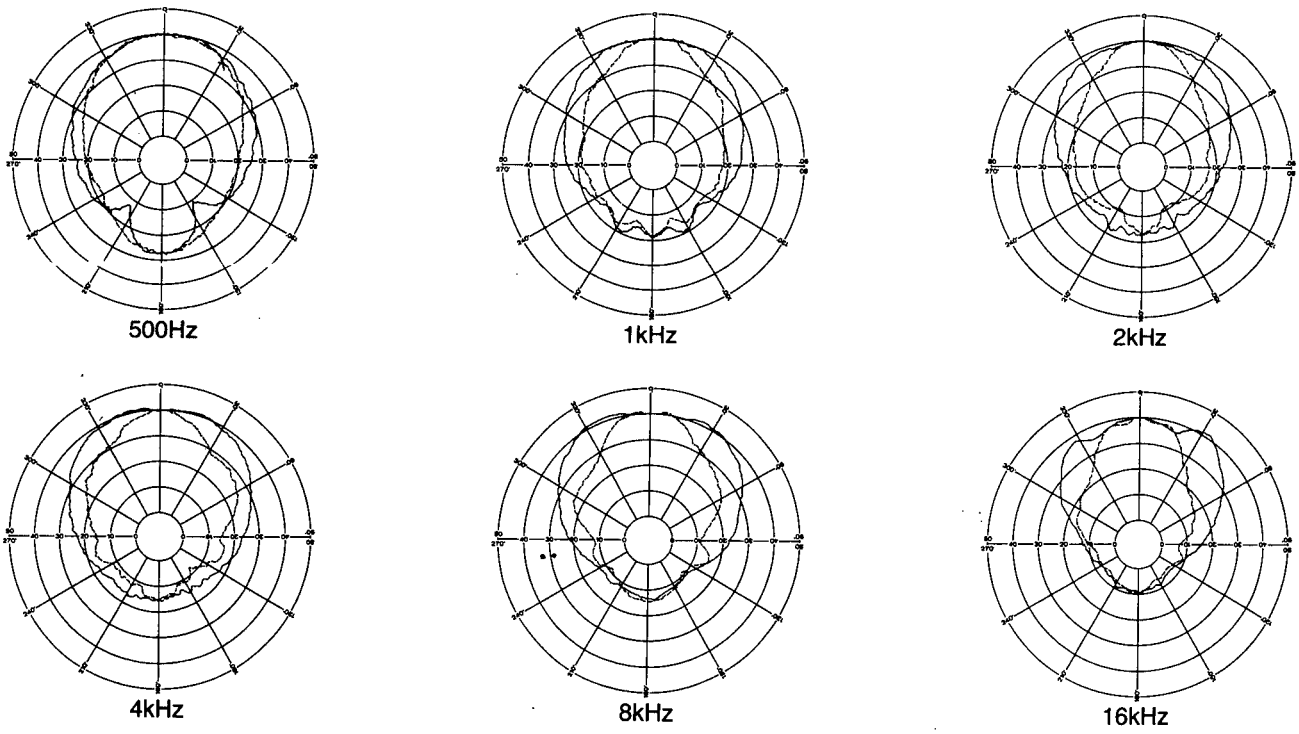
• Coverage Angle vs Frequency (−6dB)



• Directivity Factor vs Frequency (Q)

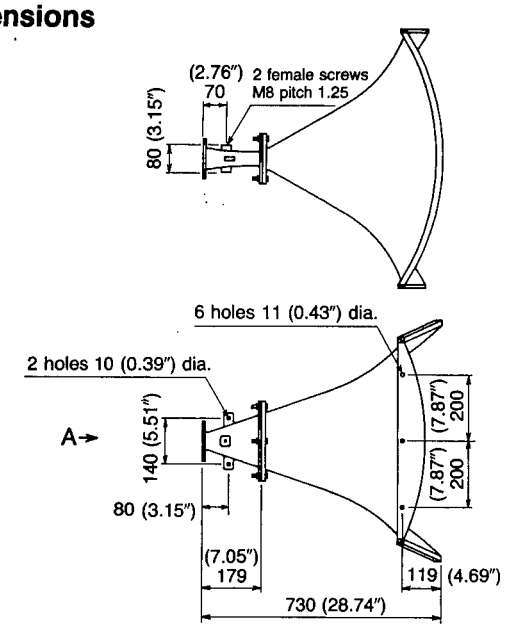


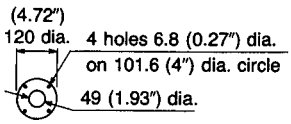
• Polar Response (1/3 Octave Pink Noise) —— Horizontal --- Vertical



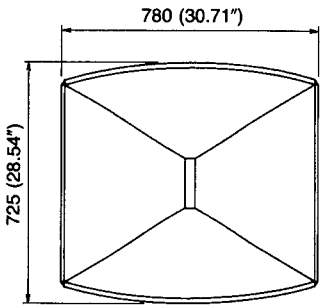
[LE-640]

• Dimensions

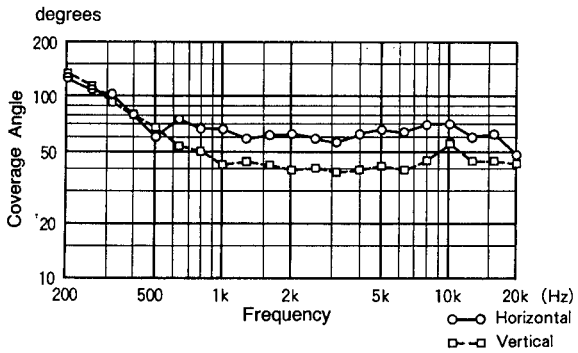




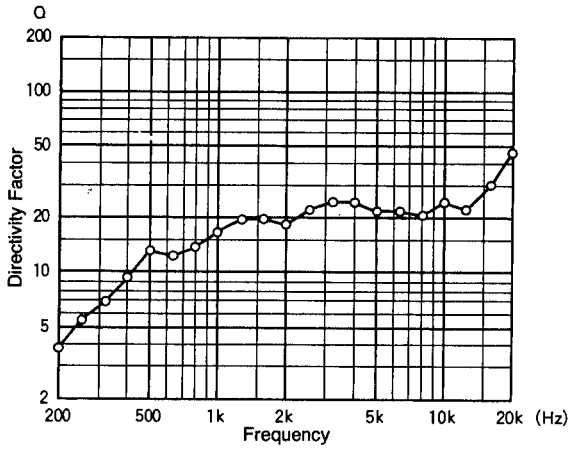
Viewed from A



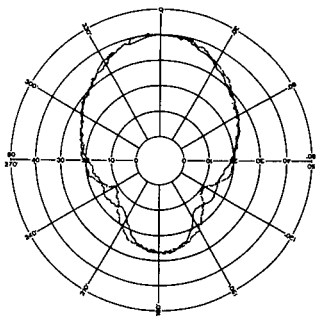
• Coverage Angle vs Frequency (−6dB)



• Directivity Factor vs Frequency (Q)



• Polar Response (1/3 Octave Pink Noise) — Horizontal --- Vertical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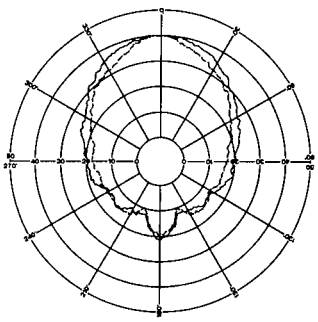
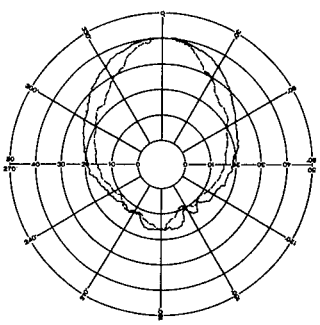

1kHz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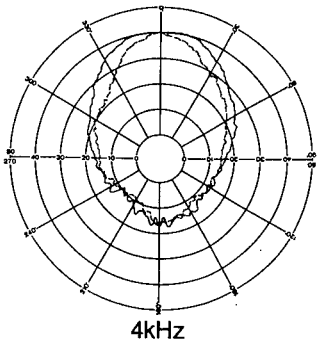
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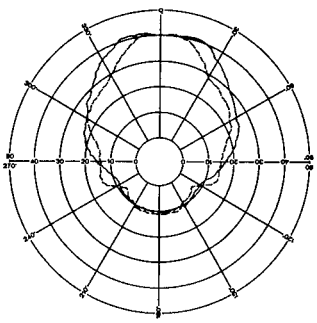
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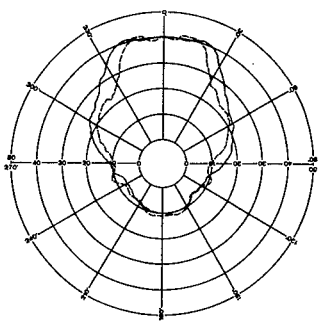
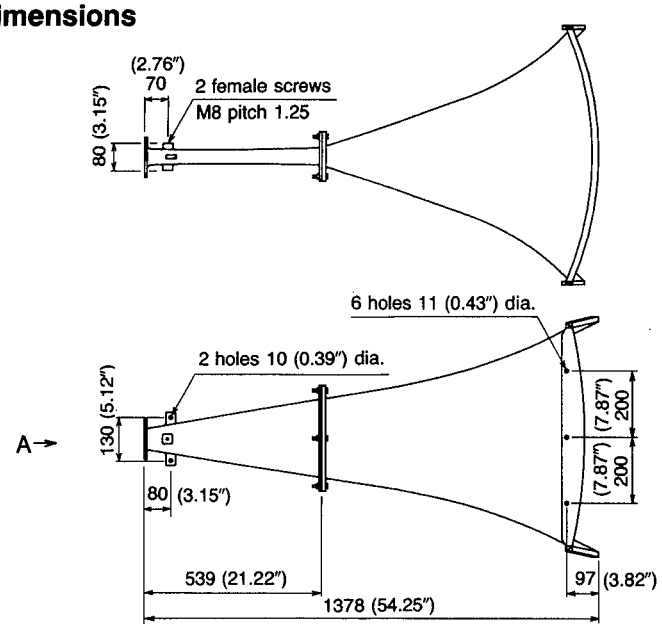
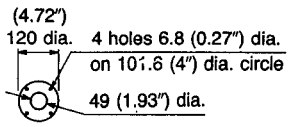

16kHz

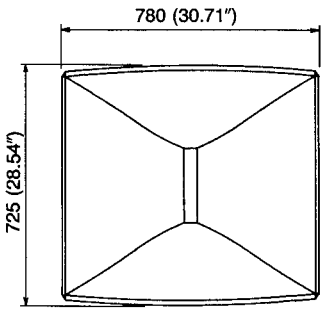
[LE-420]

• Dimensions

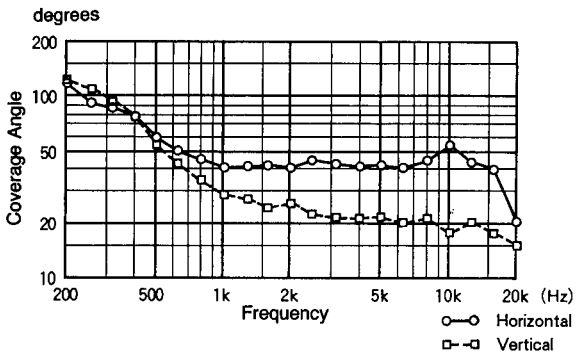




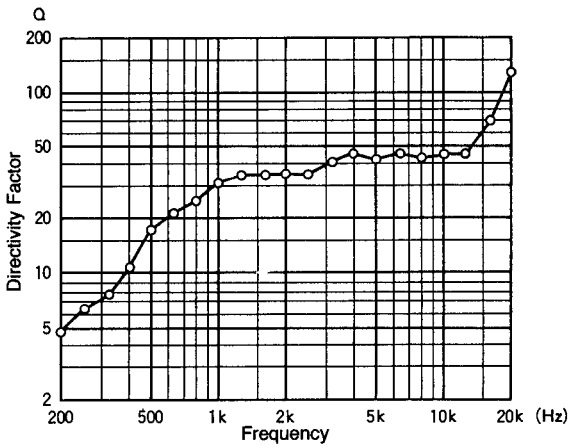
Viewed from A



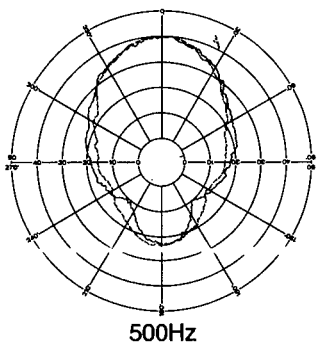
• Coverage Angle vs Frequency (−6dB)



• Directivity Factor vs Frequency (Q)



• Polar Response (1/3 Octave Pink Noise) — Horizontal --- Vertical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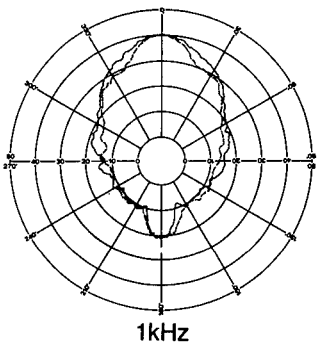
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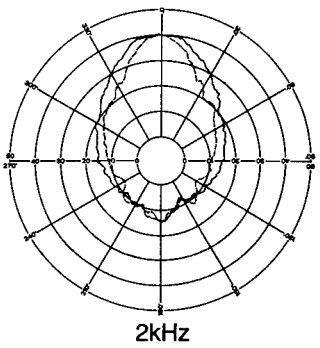
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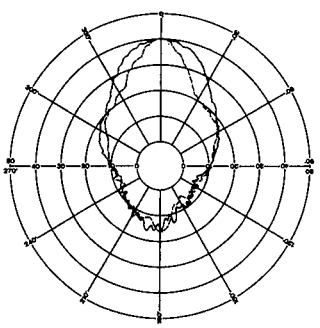
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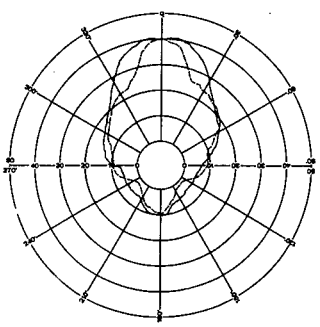
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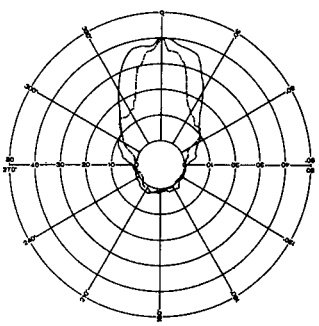
16kHz

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