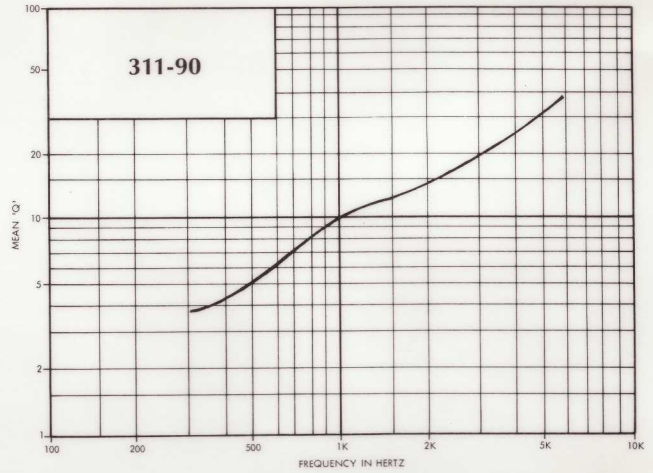
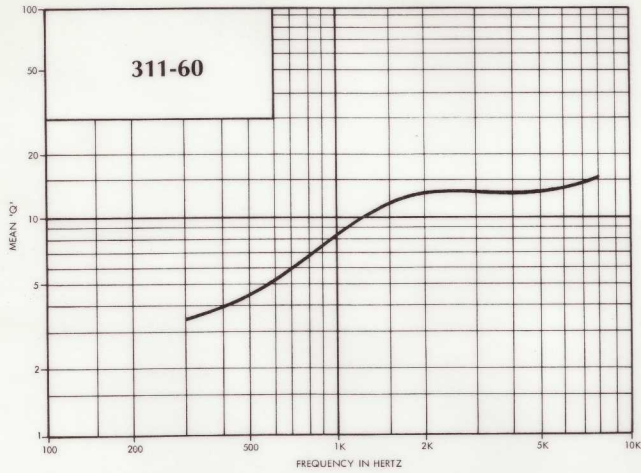
**DESCRIPTION**

The ALTEC 311-60 and 311-90 sectoral horns provide excellent control of sound distribution patterns and uniform frequency response within their rated coverage angles.

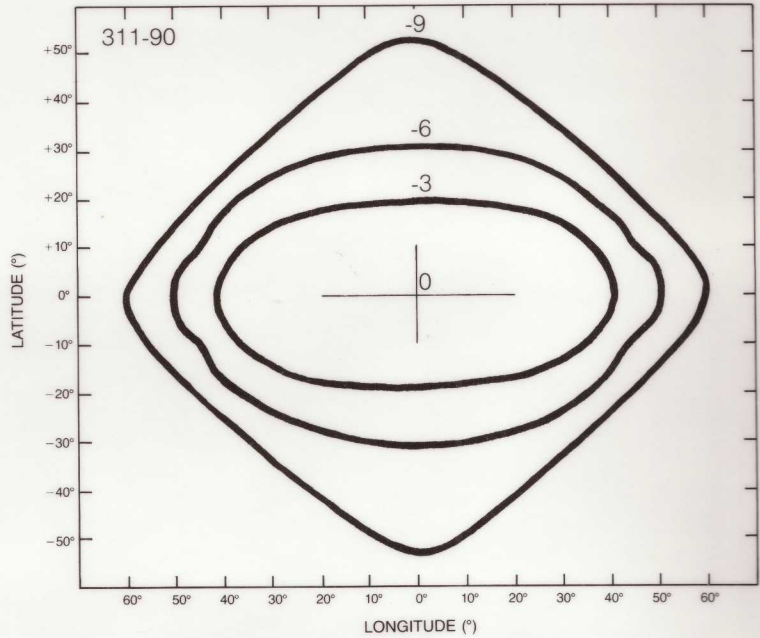
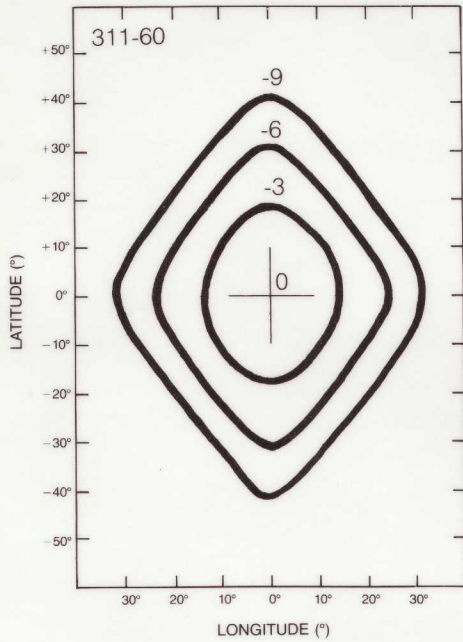
These horns employ a designed taper cutoff frequency of 220 Hz, and coverage patterns of 40°V x 60°H and 40°V x 90°H, respectively. Each is intended for use in systems crossing over at 300 Hz or higher, or each may be used alone with a phenolic-diaphragm driver in speech-only systems that include an appropriate high pass filter.

Each horn has an integral throat assembly that accepts a single 1.4-inch throat for mating with the ALTEC 288, 290 and 291 series of drivers. The 21216 adapter allows mounting of ALTEC 730 or 800 series 1-inch throat drivers, and the 30546 angle adapter provides 45° driver mounting for outdoor installations where protection from moisture accumulation is required.

Both horns are constructed of heavy cast aluminum, feature rugged built-in mounting ears, and are coated with Aquaplas to prevent resonance.



1. Q vs Frequency



2. Sound Level Contours in dB

ROW 1 (1 : 2)



ROW 2 (3 : 7)



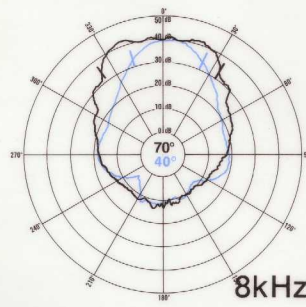
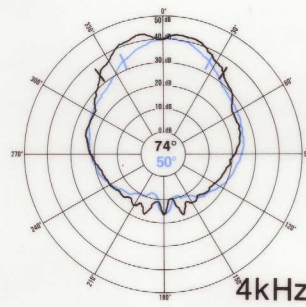
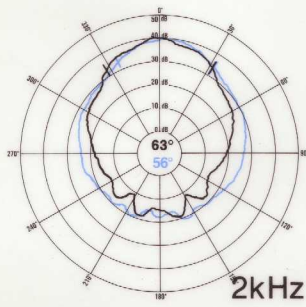
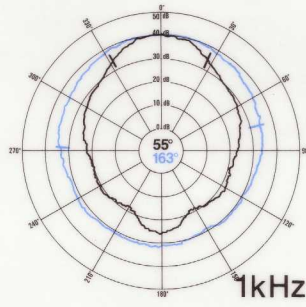
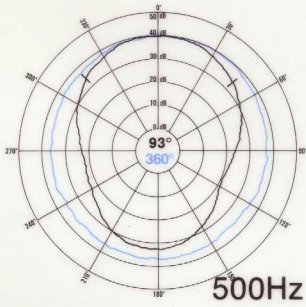
ROW 3 (7 : 12)



ROW 4 (12 : 12)

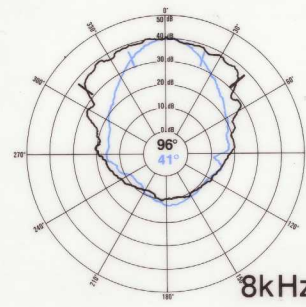
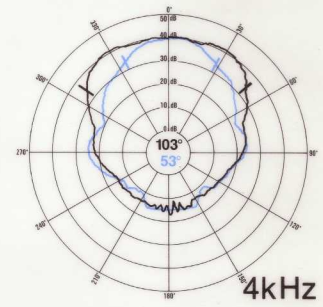
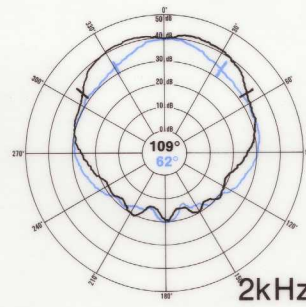
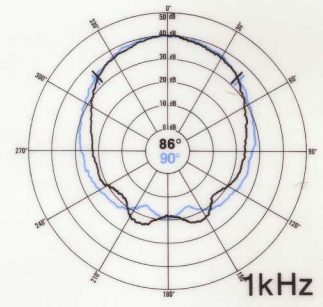
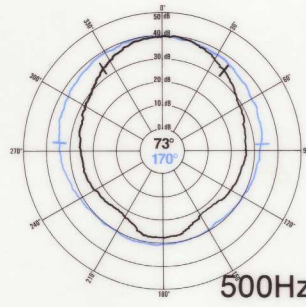


# 311-60



HORIZONTAL  
VERTICAL

# 311-90



HORIZONTAL  
VERTICAL

**SPECIFICATIONS**

**Distribution Pattern—**

**311-60:** 40° V x 60° H  
**311-90:** 40° V x 90° H

**Taper Cutoff**

**Frequency:** 220 Hz

**Pressure Sensitivity:**

Measured on axis in the far (free) field with 1 watt input of band-limited pink noise from 500-3000 Hz and calculated to 4' equivalent (Ref.: 0 dB = 0.0002 dyne/cm<sup>2</sup>)

**Pressure Sensitivity: (Continued)**

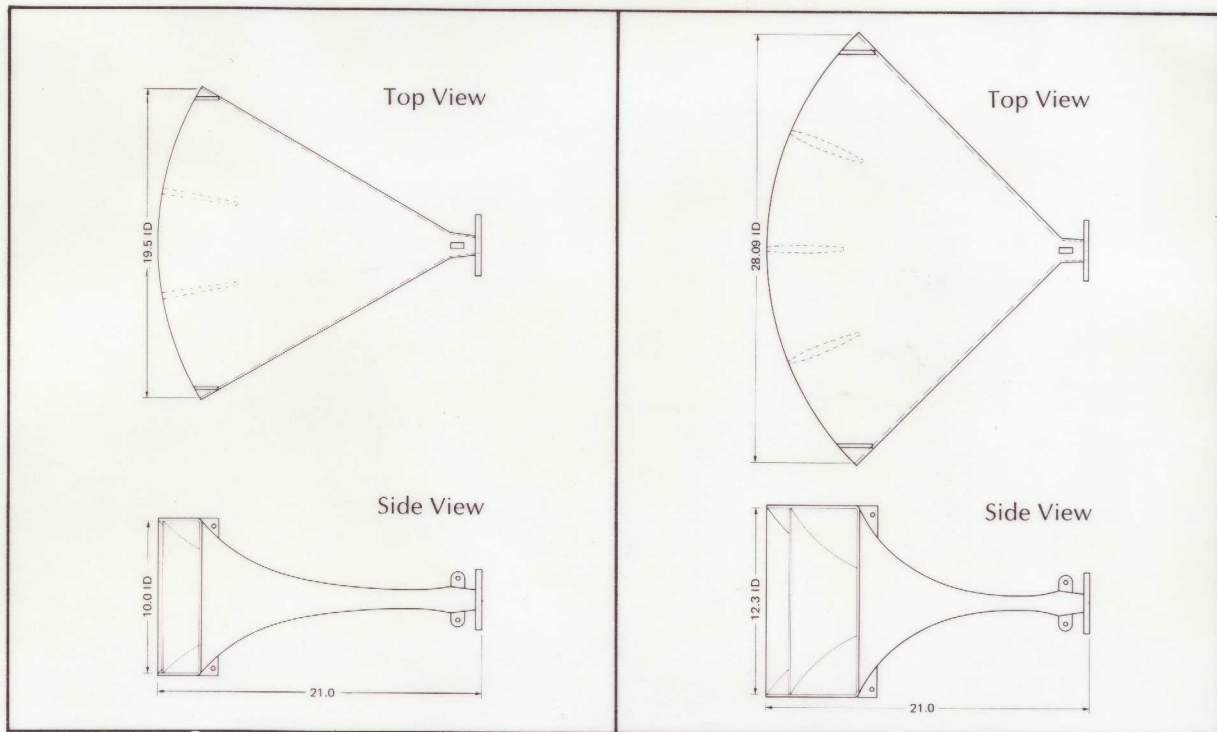
Driver	1W, 4' Rating dB SPL	
	311-60	311-90
288-8K		
or		
288-16K	111.5	109.0
290-4K	109.0	106.5
291-16K	110.5	108.0
730C	108.5	106.0

**Weight—**

**311-60:** 19½ pounds (8.85 kg)  
**311-90:** 20 pounds (9.07 kg)

**Accessories:**

ALTEC 21216 throat adapter  
 ALTEC 30546 weatherproof 45° angle adapter



311-60 DIMENSIONAL DRAWING

311-90 DIMENSIONAL DRAWING

**ARCHITECT'S AND ENGINEER'S SPECIFICATIONS**

The loudspeaker horn shall be of the sectoral type with exponential expansion and integral throat. It shall be constructed of heavy cast aluminum and treated with sound deadening material to ensure freedom from resonance. The horn shall meet the following performance criteria. Distribution pattern, 40° vertical x \_\_\_\_\_° horizontal. Taper cutoff frequency, 220 Hz. Pressure sensitivity, \_\_\_\_\_dB SPL when measured at 4' on axis

with 1 watt input of band-limited pink noise from 500-3000 Hz applied to an attached model \_\_\_\_\_ compression driver (Ref.: 0 dB = 0.0002 dyne/cm<sup>2</sup>). The loudspeaker horn shall be \_\_\_\_\_" H x \_\_\_\_\_"W x 21"D, and shall weigh \_\_\_\_\_pounds.

The loudspeaker horn shall be the ALTEC Model (311-60) (311-90).



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