

**DESCRIPTION**

The Altec 31B Sectoral Horn uniformly controls the sound projection angle and maintains excellent reproduction in the middle and high frequencies. Inexpensive and compact, the 31B is designed for speech and music reproduction in sound systems where wide angles of horizontal coverage and/or a low cutoff frequency are required. Applications include indoor or outdoor use in paging systems, factories, airports, arenas, stadiums, shopping centers, parking lots, two-way loudspeaker systems, theatres, auditoriums, restaurants, schools, churches, studios, concert halls, hotels, nightclubs, discotheques, and other wide range music systems.

A characteristic of a sectoral horn is that the horizontal beam width remains constant throughout the middle and high frequency range. In other types of horns, the beam becomes progressively sharper as the frequency increases until, at the higher frequencies, only a narrow area may be covered adequately. Because the dispersion pattern is controlled by the sectoral expansion, the full sound spectrum may be directed exactly where needed—and without the spray effect or horizontal diffraction usually found in folded or re-entrant horns.

Long acoustic length and 300 Hz cutoff adapt the 31B to high level operation with excellent projection. Distribution pattern is 120 degrees

horizontally and 40 degrees vertically. Construction is of light weight cast aluminum, carefully designed for complete freedom from resonance and ring. The single 90-degree bend permits compact and secure attachment to a pole or other vertical surface. A flange permits the 31B to be mounted in a cabinet or enclosure.

The 31B operates with the 288, 291 or 290 series drivers and 33710 adapter, or with the 731C driver and 27A adapter. Use of the Altec N-500F Network or 15480 Matching Transformer provides driver protection.

**SPECIFICATIONS**

**Sound Pressure Level at 10' on axis with 1 watt input of pink noise, band-limited from 500-3000 Hz (Ref.: 0 dB = 0.0002 dyne/cm<sup>2</sup>)—**

288 type driver:	99.6 SPL
291 type driver:	97.3 SPL
290 type driver	97.9 SPL
731C driver:	93.8 SPL

**Distribution Pattern—**

Horizontal:	120°
Vertical:	40°

**Cutoff Frequency:** 300 Hz

**Dimensions—**

31B only:	24¼" (61.60 cm) W x 7" (17.78 cm) H x 9¼" (23.50 cm) D
with 288 or 291 driver:	15-1/16" (38.30 cm) deep
with 290 driver:	17¾" (45.09 cm) deep
with 731C driver:	15⅝" (39.69 cm) deep

**Weight—**

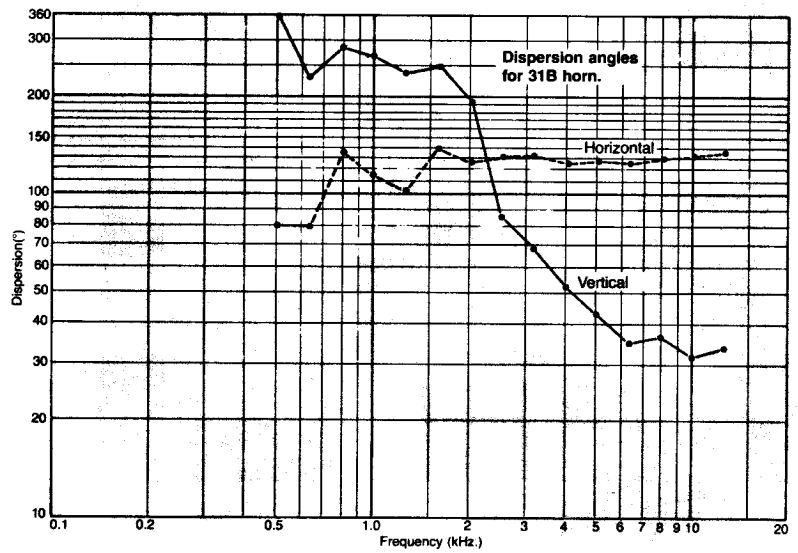
31B (shipping weight):	15.0 lbs (6.8 Kg)
31B (net weight):	13.5 lbs (6.1 Kg)
with 288 or 291 driver:	45.3 lbs (20.6 Kg)
with 290 driver:	46.8 lbs (21.3 Kg)
with 731C driver:	21.0 lbs (9.5 Kg)

**Color:** black

**Accessories:** 33710 throat adapter for 288, 291 or 290 series drivers  
27A throat adapter for 731C driver

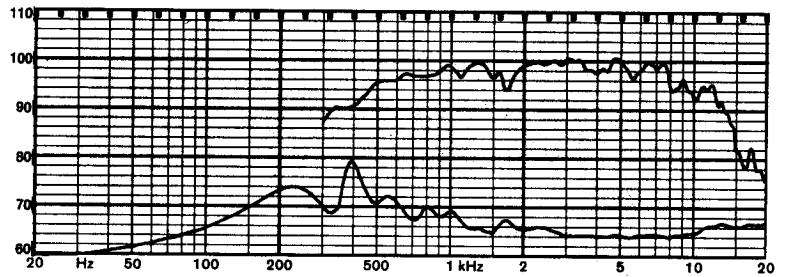
### Dispersion Angle vs Frequency

This graph displays the horizontal and vertical directivity control of the 31B Horn.

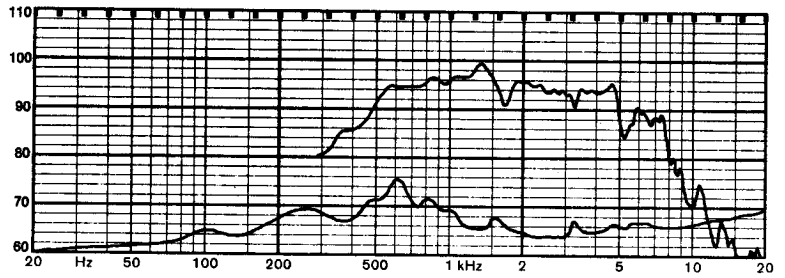


### Unequalized Frequency Response

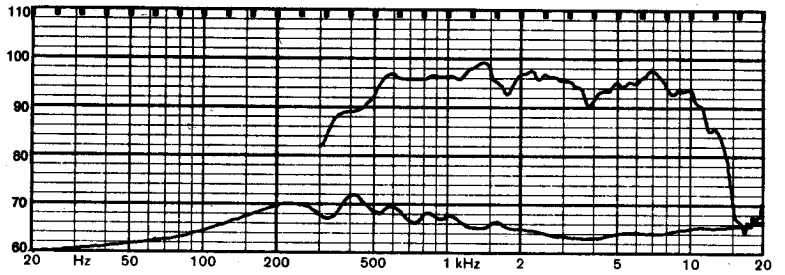
A. with Altec Lansing 288-16K Driver



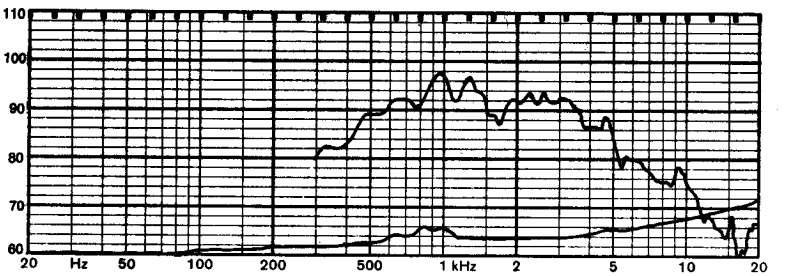
B. with Altec Lansing 290-16K Driver



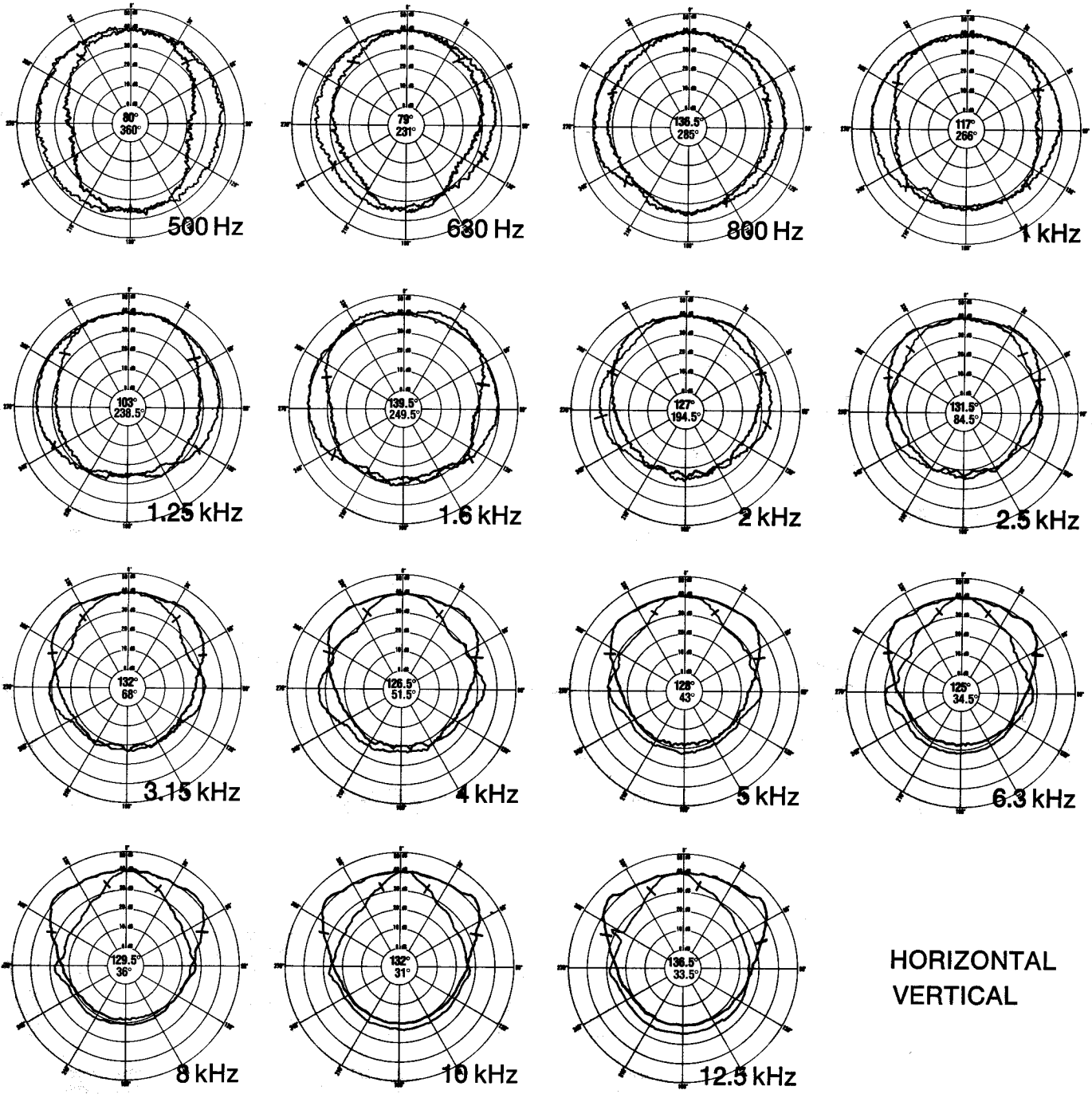
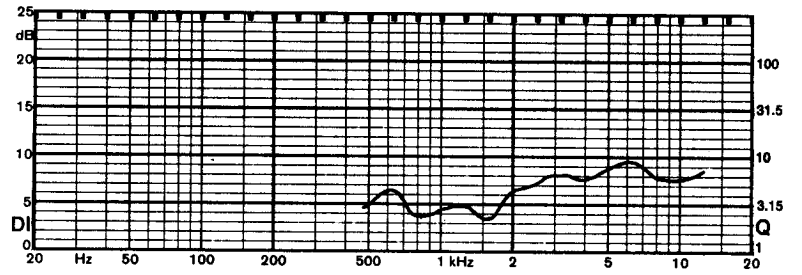
C. with Altec Lansing 291-16K Driver



D. with Altec Lansing 731C Driver

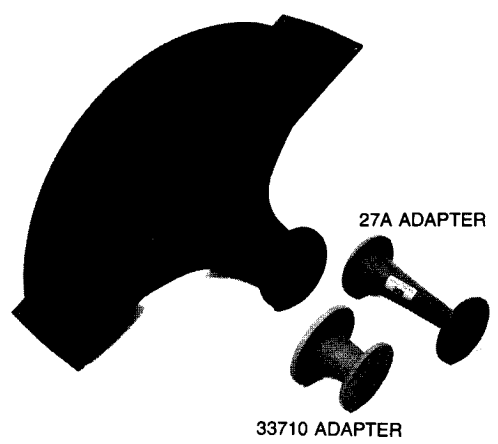
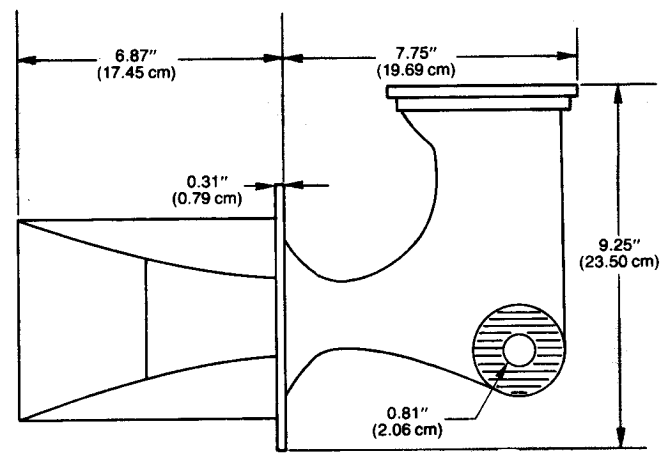
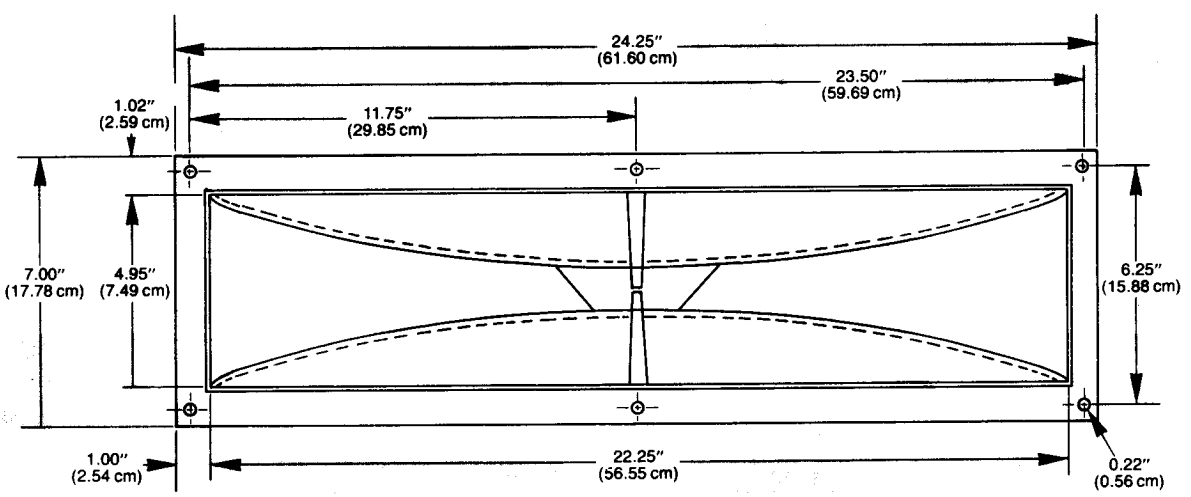
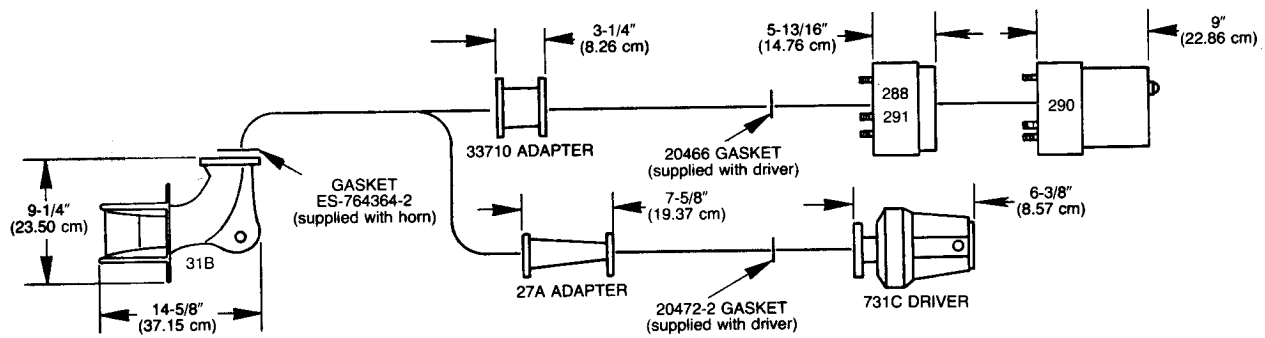


Q and D1 vs Frequency  
(D1 = 10 Log Q)



HORIZONTAL  
VERTICAL

Polar Response Charts (using 1/3 octave bands of pink noise)



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

The loudspeaker horn shall be furnished complete with receiver attachment. It shall be of the wide-angle, sectoral type and shall employ not more than one bend of not over 90°. Folded or re-entrant type horns will not be acceptable under this specification, and horns not of the sectoral type will not be acceptable. When equipped with the compression type

driver specified elsewhere, it shall produce a uniform sound pressure level of \_\_\_\_\_ dB at a distance of 10 feet for a one watt input. The distribution angle shall be 120° horizontally and 40° vertically. It shall have a low frequency cutoff of 300 Hz and shall be constructed of cast aluminum.

The horn shall be Altec Model 31B.



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