

# 290E Driver-Loudspeaker

290E



Cut away view showing 15045A Transformer mounted in the 290E Driver-Loudspeaker

## Features

- 100 watt capacity
- High efficiency
- Field replaceable diaphragm
- Reduces system cost
- High intelligibility
- Weatherproof transformer housing
- Can be used in multiples
- 19 lbs. of Driver

The Altec 290E Driver Loudspeaker is a high quality permanent magnet unit of exceptionally high power handling capacity and efficiency primarily for outdoor use. It is designed for use with any of the Altec Lansing multicellular horns. The 290E finds wide application for public address speech reinforcement in large outdoor systems such as ball parks, race tracks, stadiums, etc.; ideally adaptable for voice warning systems for civil defense. As many as four of these 290E speakers may be mounted on a single horn to achieve continuous sound levels as high as 82.5 db one-half mile distant from the horn.

The moving element of the driver consists of a sturdy, weather-resistant phenolic diaphragm and aluminum ribbon voice coil using an aluminum coil form maximum heat dissipation at high power.

The entire voice coil diaphragm assembly can be replaced in the field by un-trained personnel without any special tools. The weather-proof cover on the rear of the speaker is drilled and tapped to house the 15045A matching transformer for 70 V line operation, see above.

A 4-foot cable, stripped and tinned at one end, enters the rear of the cover through a waterproof sealing gland, further insuring complete weather protection.

Experience has proven that the use of the 290E in large systems rather than a number of speakers of less capacity not only results in higher quality and in intelligibility but affords a reduction in overall system cost and upkeep.



A quality company of LTV Ling Altec, Inc.

1515 S. Manchester Ave., Anaheim, Calif. 92803  
New York



# ALTEC 290E

## SPECIFICATIONS

<b>Power:</b>	100 watts (above 300 Hz)
<b>Frequency Response:</b>	300-8,000 Hz
<b>Sound Pressure Level:</b>	114 db ref. .0002 dynes/cm <sup>2</sup> with 1 volt-ampere (1 watt) input, measured with warble frequency 500-2,500 Hz 4' from mouth of 30" trumpet; or 134 db at 100 watts.
<b>Impedance:</b>	4 ohms
<b>Voice Coil Diameter:</b>	2.8"
<b>Protection:</b>	Low frequencies should be attenuated by network providing 6 db slope per octave below 300 Hz when used at or near maximum power rating. (N500-C or N-500F Altec network or the 15045A transformer is recommended for this purpose).
<b>Usage:</b>	Weather proofed construction for outdoor use.
<b>Dimensions:</b>	Diameter 6½" Height 7½"
<b>Finish:</b>	Gray
<b>Weight:</b>	21 lbs.

## ACCESSORIES

30546 — 45° Weatherproof Throat Adaptor

15045A — 100 watt 70 v. Transformer

## ARCHITECTS AND ENGINEERS SPECIFICATIONS

The driver-loudspeaker shall employ a phenolic diaphragm and a voice coil of edge wound copper ribbon. The voice coil diameter shall be at least 2.8" in diameter and the voice coil gap shall have a flux density of at least 18,800 gauss. The entire diaphragm-voice coil assembly shall be field replaceable without special tools or skills. This shall be interpreted to mean that the speaker shall incorporate self-centering dowels to insure proper indexing. With 1 watt input, the speaker shall produce a sound pressure level of at least 114 db at a distance of four feet over the warble band of 500 to 2500 Hz. Single frequency measurements will not be acceptable under this specification. The frequency response shall be uniform over the range 300 to 8,000 Hz. The unit shall be capable of handling a continuous power level of 100 watts above 300 Hz.

Provision shall be incorporated to permit mounting an Altec 70 volt matching transformer on the speaker and the entire assembly shall be enclosed in a weatherproofed housing. Each driver loudspeaker shall be provided with a four foot cable, stripped and tinned at one end, and shall enter the rear of the cover through a waterproof sealing gland, providing complete protection against the entrance of water, dirt and dust. This speaker shall be used in conjunction with 500 Hz network or the 15045A transformer for low frequency protection. The driver-loudspeaker shall be 21 lbs. in weight.

Any driver loudspeaker not meeting the above specifications shall be deemed unacceptable under this specification.

The driver-loudspeaker shall be Altec Lansing Model 290E.

**NOTICE**  
We recommend that you obtain your Altec products from factory trained authorized Altec Sound Contractors and Distributors. This will assure you of proper installation, a continuing source of knowledgeable advice, service, and quick warranty protection.





## DESCRIPTION

The Altec 290-4G Compression Driver Loudspeaker has exceptionally high power-handling capacity and efficiency. The 290-4G, designed primarily for outdoor use with any of the Altec multicellular horns, may be used for public address speech reinforcement in large outdoor systems such as ball parks, race tracks and stadiums, and is ideal for voice warning systems.

Improvements in top plate and phasing plug designs allow the 290-4G to exhibit a more uniform and extended response characteristic over the 500-7000 Hz band, and 2 dB greater pressure sensitivity than provided by earlier 290 models. The 290-4G provides a minimum impedance of 4 ohms.

The diaphragm/voice coil assembly of the 290-4G can be replaced in the field by untrained

personnel without the use of special tools. Adjustable dowel pins allow each voice coil to be precisely centered in the voice coil gap, which has a flux density of 18,500 gauss derived from a 6.49-pound Alnico V magnet. The weatherproof cover on the rear of the speaker is drilled and tapped to house the Altec 15045A matching transformer for 70.7V line operation. A 4-foot cable, stripped and tinned at one end, enters the rear of the cover through a waterproof sealing gland, further ensuring complete weather protection.

When the 290-4G is used in large systems, rather than a number of speakers having lower sensitivity and/or less power capacity, the results are higher quality and intelligibility, and a reduction in overall system cost and upkeep.

## SPECIFICATIONS

<b>Power Rating:</b>	100 watts of band-limited pink noise (300-20,000 Hz) when mounted on Altec 300 or 500 Hz horn	<b>Construction — (cont'd.)</b>	
<b>Frequency Response:</b>	300-7000 Hz	<b>Diaphragm:</b>	Phenolic with phenolic roll-type suspension
<b>Pressure Sensitivity:</b>	106.5 dB SPL measured at 4' from mouth of Altec 311-90 horn with 1 watt input of band-limited pink noise from 500-3000 Hz (Ref.: 0 dB = 0.0002 dyne/cm <sup>2</sup> ). See appropriate Altec horn catalog sheets for specific pressure sensitivity when driver is combined with other horns.	<b>Voice Coil:</b>	2.8" diameter of edge-wound copper ribbon
<b>Minimum Impedance:</b>	4 ohms	<b>Dimensions:</b>	7.1" (17.9 cm) diameter 8.5" (21.8 cm) depth, less mounting studs
<b>Construction —</b>		<b>Weight:</b>	32 pounds (14.5 kg), without matching 70.7V transformer
<b>Magnet:</b>	6.49-pound Alnico V, 18,500 gauss flux density	<b>Finish:</b>	Gray "Hammertone" enamel
<b>Magnetic Structure Weight:</b>	28 pounds	<b>Mounting Data:</b>	Three 3/8"-24 x 1" studs, 120° apart on 3.25" centers
		<b>Accessories (must be ordered separately):</b>	Altec 30546 — 45° Weatherproof Throat Adapter Altec 15045A — 100 Watt 70.7V Transformer

## ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The compression driver loudspeaker shall meet the following performance criteria. Power rating, 100 watts of band-limited pink noise (300-20,000 Hz). Frequency response, uniform from 300 to 7000 Hz. Pressure sensitivity, 106.5 dB SPL when measured at 4' on axis from mouth of Altec 311-90 horn with 1 watt input of band-limited pink noise from 500-3000 Hz (Ref.: 0 dB = 0.0002 dyne/cm<sup>2</sup>). Minimum impedance, 4 ohms. The voice coil shall be 2.8" in diameter, of edge-wound copper ribbon, and shall operate in a magnetic gap having a flux density of 18,500 gauss derived from a 6.49-pound Alnico V magnet. The diaphragm shall be phenolic, and shall have phenolic roll-type suspension. Provision shall be incorporated to permit mounting an Altec 70.7V matching transformer on the speaker and the entire assembly shall be enclosed in a weatherproofed housing. Each driver loudspeaker shall be provided with a 4' cable, stripped and tinned at one end, and shall enter the rear of the cover through a waterproof sealing gland, providing complete protection against the entrance of water, dirt and dust. A machined phasing plug with 3 exponential acoustic slots shall serve as the pole piece and shall also be utilized to provide the proper phase relationship between the sound emanating from the center and edges of the diaphragm and voice coil assembly. The entire diaphragm and voice coil assembly shall be field replaceable without requiring special tools or skills; adjustable dowel pins shall allow each voice coil to be precisely centered in the voice coil gap.

The compression driver loudspeaker shall be the Altec Model 290-4G.

1515 SOUTH MANCHESTER AVENUE, ANAHEIM, CALIFORNIA 92803





# 290-8K/290-16K COMPRESSION DRIVER LOUDSPEAKERS



Registered U.S.  
Patent No. D239,537

## DESCRIPTION

The Altec 290-8K and 290-16K Compression Driver Loudspeakers have exceptionally high power-handling capacity and efficiency. The 290-8K and 290-16K, designed primarily for outdoor use with any of the Altec multicellular horns, may be used for public address speech reinforcement in large outdoor systems such as ball parks, race tracks and stadiums, and are ideal for voice warning systems.

Improvements in top plate and phasing plug designs allow the 290-8K and 290-16K to exhibit a more uniform and extended response characteristic over the 500-7000 Hz band. The 290-8K provides a minimum impedance of 8 ohms; the 290-16K, 16 ohms.

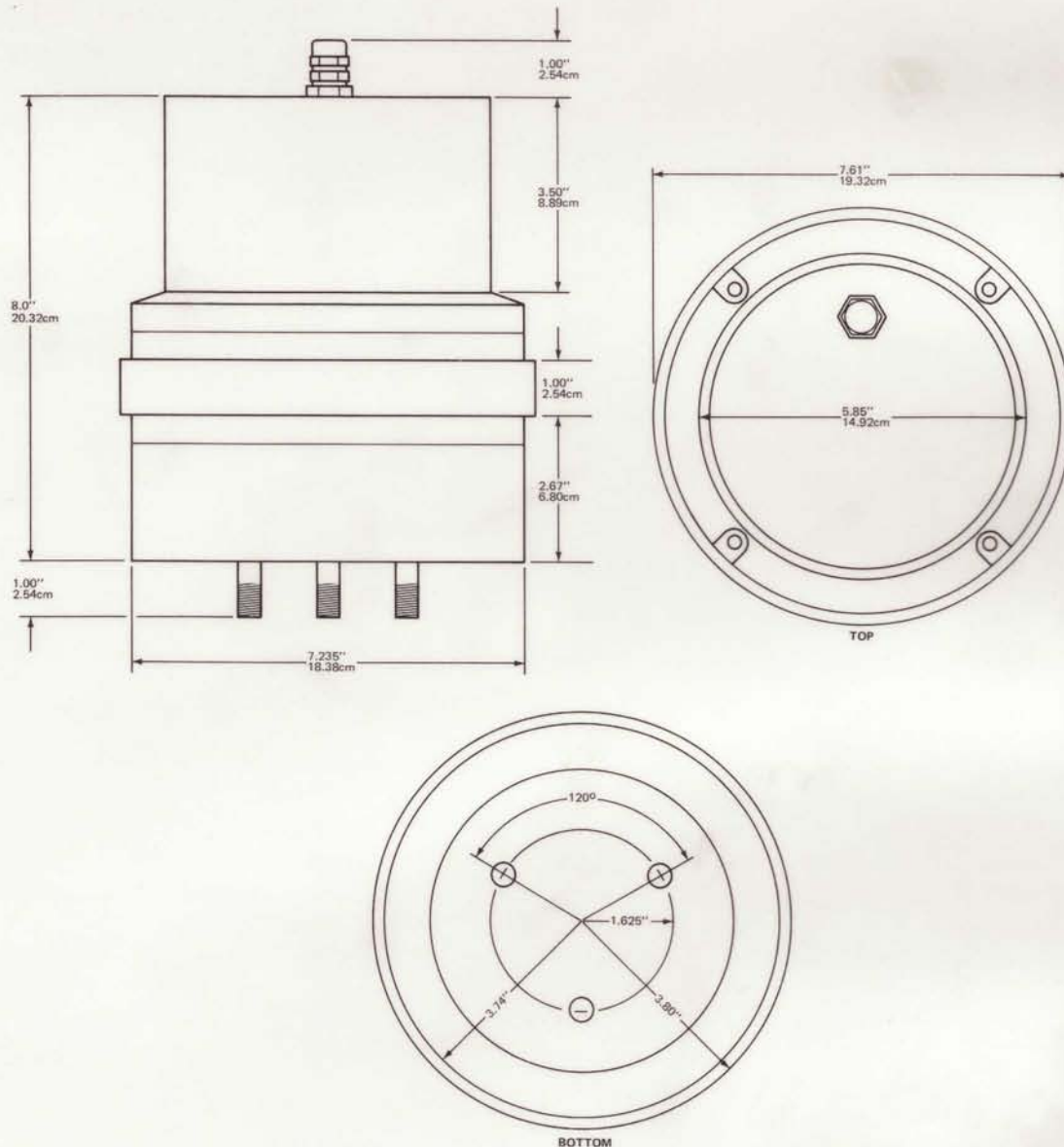
The diaphragm/voice coil assembly of the 290-8K and 290-16K can be replaced in the field by untrained personnel without the use of special tools. Adjustable dowel pins allow each voice coil to be precisely centered in the voice coil gap, which has a flux density of 18,500 gauss derived from a 6.87-pound Ferrite V magnet. The weatherproof cover on the rear of the speaker is drilled and tapped to house the Altec 15480 matching transformer for 70.7V line operation. A 4-foot cable can be installed through the rear of the cover via a waterproof sealing gland, further ensuring complete weather protection.

When the 290-8K and 290-16K are used in large systems, rather than a number of speakers having lower sensitivity and/or less power capacity, the results are higher quality and intelligibility, and a reduction in overall system cost and upkeep.

## SPECIFICATIONS

<b>Power Rating:</b>	100 watts of band-limited pink noise (300-10,000 Hz) when mounted on Altec 300 or 500 Hz horn
<b>Frequency Response:</b>	300-7000 Hz
<b>Pressure Sensitivity:</b>	106.5 $\pm$ 1.5 dB SPL measured at 4' from mouth of Altec 311-90 horn with 1 watt input of band-limited pink noise from 500-3000 Hz (Ref.: 0 dB = 0.0002 dyne/cm <sup>2</sup> ). See appropriate Altec horn catalog sheets for specific pressure sensitivity when driver is combined with other horns.
<b>Minimum Impedance:</b>	290-8K - 8 ohms 290-16K - 16 ohms
<b>Construction — Magnet:</b>	6.87-pound Ferrite V, 18,500 gauss flux density
<b>Construction — (cont'd.) Diaphragm:</b>	Phenolic with phenolic roll-type suspension
<b>Voice Coil:</b>	2.8" diameter of edge-wound copper ribbon
<b>Dimensions:</b>	7.61" (19.32 cm) diameter 8.5" (21.8 cm) depth, less mounting studs
<b>Weight:</b>	32 pounds (14.5 kg), without matching 70.7V transformer
<b>Finish:</b>	Gray "Hammertone" textured enamel
<b>Mounting Data:</b>	Three 3/8"-24 x 1" studs, 120° apart on 3.25" centers
<b>Accessories (must be ordered separately):</b>	Altec 30546 — 45° Weatherproof Throat Adapter Altec 15480 — 100 Watt 70.7V Transformer





### ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The compression driver loudspeaker shall meet the following performance criteria. Power rating: 100 watts of band-limited pink noise (300-10,000 Hz). Frequency response: uniform from 300 to 7000 Hz. Pressure sensitivity: 106.5 ±1.5 dB SPL when measured at 4' on axis from mouth of Altec 311-90 horn with 1 watt input of band-limited pink noise from 500-3000 Hz (Ref.: 0 dB = 0.0002 dyne/cm<sup>2</sup>). Minimum impedance: 4 ohms. The voice coil shall be 2.8" in diameter, of edge-wound copper ribbon, and shall operate in a magnetic gap having a flux density of 18,500 gauss derived from a 6.87-pound Ferrite V magnet. The diaphragm shall be phenolic, and shall have phenolic roll-type suspension. Provision shall be incorporated to permit mounting an Altec 70.7V matching transformer on the speaker and the entire assembly shall be enclosed in a weatherproofed housing. Each driver loudspeaker shall be provided

with a waterproof sealing gland, providing complete protection against the entrance of water, dirt and dust. A Tangerine phasing plug with 13 radial acoustic slots shall serve as the pole piece and shall also be utilized to provide the proper phase relationship between the sound emanating from the center and edges of the diaphragm and voice coil assembly. The entire diaphragm and voice coil assembly shall be field replaceable without requiring special tools or skills; adjustable dowel pins shall allow each voice coil to be precisely centered in the voice coil gap.

The compression driver loudspeaker shall be the Altec Model 290-8K.

The compression driver loudspeaker shall be the Altec Model 290-16K.



1515 SOUTH MANCHESTER AVENUE, ANAHEIM, CALIFORNIA 92803  
ALTEC CORPORATION

# 290-8L/290-16L COMPRESSION DRIVER LOUDSPEAKERS



## DESCRIPTION

The Altec 290-8L and 290-16L Compression Driver Loudspeakers have exceptionally high power-handling capacity and efficiency. The 290-8L and 290-16L, designed primarily for outdoor use with any of the Altec multicellular or large format Mantaray horns, may be used for public address speech reinforcement in large outdoor systems such as ball parks, race tracks and stadiums, and are ideal for voice warning systems.

Improvements in top plate and phasing plug designs allow the 290-8L and 290-16L to exhibit a more uniform and extended response characteristic over the 500-7000 Hz band. The 290-8L provides a minimum impedance of 8 ohms; the 290-16L, 16 ohms.

The diaphragm/voice coil assembly of the 290-8L and 290-16L can be replaced in the field by untrained personnel without the use of special tools. Adjustable dowel pins allow each voice coil to be precisely centered in the voice coil gap, which has a flux density of 1.85 tesla derived from a 6.87-pound Ferrite V magnet. The weatherproof cover on the rear of the speaker is drilled and tapped to house the Altec 15480 matching transformer for 70.7V line operation. A cable can be installed through the rear of the

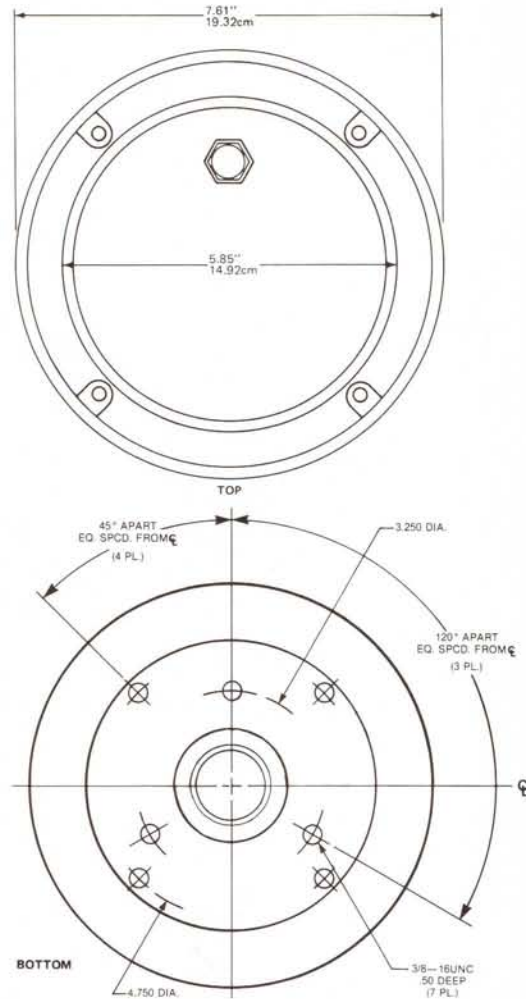
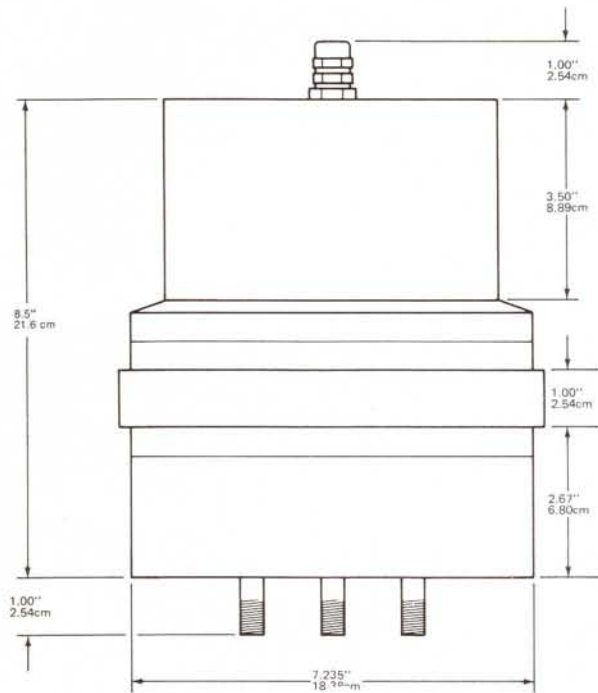
cover via a waterproof sealing gland, further ensuring complete weather protection.

When the 290-8L and 290-16L are used in large systems, rather than a number of speakers having lower sensitivity and/or less power capacity, the results are higher quality and intelligibility, and a reduction in overall system cost and upkeep.

## SPECIFICATIONS

<b>Power Rating:</b>	120 watts of band-limited pink noise (300-10,000 Hz) when mounted on Altec 300 or 500 Hz horn
<b>Frequency Response:</b>	300-7000 Hz
<b>Pressure Sensitivity:</b>	114 ± 1.5 dB SPL measured at 4' from mouth of Altec MR42B horn with 1 watt input of band-limited pink noise from 500-2500 Hz (Ref.: 0 dB = 20 μPa). See appropriate Altec horn catalog sheets for specific pressure sensitivity when driver is combined with other horns.
<b>Minimum Impedance:</b>	290-8L — 8 ohms 290-16L — 16 ohms
<b>Magnet:</b>	6.87-pound Ferrite V, 1.85 T flux density
<b>Diaphragm:</b>	Phenolic with phenolic roll-type suspension
<b>Voice Coil:</b>	2.8" diameter of edge-wound copper ribbon
<b>Dimensions:</b>	7.61" (19.32 cm) diameter 8.5" (21.6 cm) depth, less mounting studs
<b>Weight:</b>	32 pounds (14.5 kg), without matching 70.7V transformer
<b>Finish:</b>	Gray "Hammertone" enamel
<b>Mounting Data:</b>	User adjustable for Altec standard 3-hole throat or 4-hole throat.
<b>Accessories (must be ordered separately):</b>	Altec 30546 — 45° Weatherproof Throat Adapter Altec 15480 — 100 Watt 70.7V Transformer
<b>Replacement Diaphragm:</b>	23372 (8Ω) 34333 (16Ω)





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

The compression driver loudspeaker shall meet the following performance criteria. Power rating: 120 watts of band-limited pink noise (300-10,000 Hz). Frequency response: uniform from 300 to 7000 Hz. Pressure sensitivity: 114 ± 1.5 dB SPL when measured at 4' on axis from mouth of Altec MR42B horn with 1 watt input of band-limited pink noise from 500-2500 Hz (Ref.: 0 dB = 20 μPa). Minimum impedance: 8 ohms (290-8L); 16 ohms (290-16L). The voice coil shall be 2.8" in diameter, of edge-wound copper ribbon, and shall operate in a magnetic gap having a flux density of 1.85 tesla derived from a 6.87-pound Ferrite V magnet. The diaphragm shall be phenolic, and shall have phenolic roll-type suspension. Provision shall be incorporated to permit mounting an Altec 70.7V matching transformer on the speaker and the entire assembly shall be enclosed in a weather-proof housing. Each driver loudspeaker shall be provided with a water-proof sealing gland, providing complete protection against the entrance of water, dirt and dust. A Tangerine®

phasing plug with 13 radial acoustic slots shall serve as the pole piece and shall also be utilized to provide the proper phase relationship between the sound emanating from the center and edges of the diaphragm and voice coil assembly. The entire diaphragm and voice coil assembly shall be field replaceable without requiring special tools or skills; adjustable dowel pins shall allow each voice coil to be precisely centered in the voice coil gap.

The compression driver loudspeaker shall be the Altec Model 290-8L.

The compression driver loudspeaker shall be the Altec Model 290-16L.

ROW 1 (1 : 3)



ROW 2 (4 : 4)



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