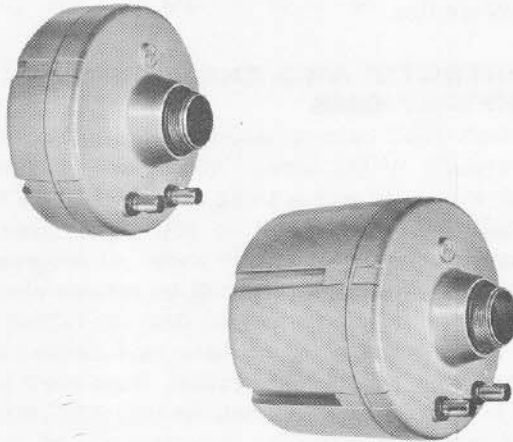




DESCRIPTION AND APPLICATIONS

The new DC30B series Electro-Voice convertible drivers are the result of the most modern high-fidelity engineering techniques applied to public address speakers. The characteristics of these drivers were chosen to accommodate the majority of sound jobs where moderate power handling, high efficiency, and wide range must be combined. Applications for this driver include gymnasiums, auditoriums, parks, playgrounds, factories, race tracks, parking lots, transportation terminals, fairs, indoor or outdoor meetings, etc. The tonal balance allows good musical reproduction while providing the rising frequency response necessary for clear, crisp voice projection. "Peaked" response is eliminated, however, for minimum listening fatigue and greatest articulation. Both high- and low-frequency range is limited only by the horn design.

Particularly recommended for highest quality are the E-V AC100 and FC100 compound horns. These horns feature less distortion and wider useful range than any other type. In addition, the coverage angle is uniquely flexible when difficult sound problems are encountered. Where maximum economy is desired, the Electro-Voice model AR150 or FR150 reentrant horns are recommended. The exclusive E-V ring reflector in the round aluminum AR150 extends the useful high-frequency range for superior voice articulation and musical balance. The FR150 features a fiberglass horn of rectangular shape with medium angle coverage.

The rugged, weather-resistant phenolic diaphragm in the DC30B series is virtually indestructible in even the most stringent service. Eighteen-percent extra efficiency is guaranteed by the use of edge-wise-wound ribbon wire rather than the conventional round-wire voice coil. A high-quality ceramic

FEATURES

- For use on any reentrant or convertible horn
- Edge-wound ribbon voice coils assure extra efficiency.
- Smooth response reduces feedback, adds to intelligibility.
- Wide range for better music reproduction.
- Rugged die-cast housing.

magnet is used to provide highest flux density in its class. The entire voice coil and diaphragm is held to absolute concentricity through exclusive E-V design and construction techniques utilizing automatic thermal compensation in voice coil assembly plus the most advanced manufacturing processes.

SPECIFICATIONS

	DC30B	DC30BT
Power Handling:		
sine wave, watts	20	20
program, watts	30	30
adjusted program, watts*	40	40
Sound Pressure Level:**		
Horn Type: AR150	126 db	126 db
FR150	120 db	120 db
FC100	117 db	117 db
AC100	123 db	123 db
Voice Coil Impedance, ohms:	16	16
Transformer Taps:	none	Watts Ohms
		30 167
		15 333
		5 1000
		2.5 2000
Frequency Response:		
FC100	150-10 kc	150-10 kc
AR150	190-8 kc	190-8 kc
Terminal Polarity:	T1-positive T2-negative	T1-positive T2-negative
Thread Size:		
front	1-3/8"-18	1-3/8"-18
rear	1-3/8"-18	1-3/8"-18
Finish:	Mesa Tan baked enamel	
Diameter:	5-1/2"	5-1/2"
O.A. Length:	3"	5-1/2"
Weight:	4-1/4 lb.	5-3/4 lb.

*With capacitor to limit diaphragm excursion below low-frequency horn cutoff.

**At 4' on axis with 1 cps sweep from 750 to 1250 cps at 30 watts.

The Model DC30BT includes a high quality transformer for matching the driver to a 70.7 volt line. Wattage taps include 2.5, 5, 15, and 30 watts and are selected by moving a single wire behind the clear plastic panel on the rear of the driver. Impedance of these taps are 167, 333, 1000, and 2000 ohms. Virtually no insertion loss is introduced by use of this transformer, and frequency response and power handling characteristics remain unchanged.

METHOD OF INSTALLATION

DC30B

Determine horn type to be used with this driver. Remove red plastic protective cap from front of driver. When used with compound horns, the threaded rear cap and plastic foam plug in the rear port should be removed. Connect only the low frequency (large horn) section of a compound horn to the rear opening of this driver. Connect the high frequency (small horn) section of a compound horn to the front opening of the driver. Tighten hand-tight so that the rubber gaskets are slightly compressed. Threads on both front and rear openings are 1-3/8" -18.

When used with all other types of horns the threaded plastic cap and foam plug on the rear of the driver should be left on and firmly hand-tightened. The front opening of the driver should be screwed into the full range horn so that the rubber gasket is depressed.

Connect a 16-ohm amplifier output to terminals T1 and T2. (Note: T1 gives forward diaphragm motion with positive voltage. T1 normally should be considered plus (+) and T2 as minus (-). Thread the cable through the plastic strain relief located below the terminals to reduce the possibility that the driver may accidentally be disconnected. It may be necessary to loosen the strain relief holding screw to fit the cable through the clamp. Small diameter cable can be knotted for safety.

DC30BT

Same as above except connect terminals T1 and T2 to a 70.7 volt line amplifier output. Remove clear plastic terminal cover plate from rear of driver. Move single wire to desired wattage tap to match loudness requirement of driver. Replace plastic cover plate. Make certain that total selected wattage of all drivers does not exceed wattage rating of amplifier. Total wattage should exactly equal amplifier output rating for maximum efficiency. Example: With a 60-watt amplifier and 4 DC30BT drivers each driver should be set on 15 watts if equal power at each speaker is desired. Another condition may require 3 DC30BT drivers set at 5 watts where low noise levels must be overcome, one DC30BT set at 15 watts where noise is higher and another set at 30 watts where highest noise is encountered. This combination of 5 drivers would

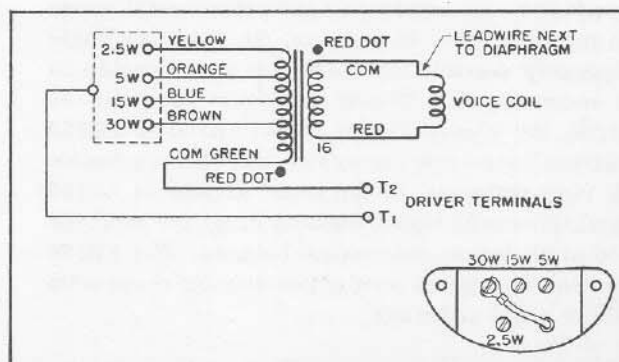
be fed from a 60-watt amplifier for best matching. This match will be correct even if the amplifier is only delivering a small amount of its total available power to the line.

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The driver shall have a uniform response of (B) when mounted in (A) horn. The sound pressure level at 4' on axis with a 1 cps sweep from 750 to 1250 cps at 30 watts shall be (C). The power handling capacity shall be 30 watts of program material. The nominal voice coil impedance shall be 16 ohms (include transformer data for DC30BT only). The transformer shall have taps marked in watts for 70.7 volt line operation. Taps shall be 30, 15, 5, and 2.5 watts and shall be 167, 333, 1000, and 2000 ohms, respectively. Insertion loss of the transformer shall not exceed .75 db.

Driver shall be of the convertible compound type having two separate sound openings. The front opening shall be suitable for frequencies above 1000 cps when coupled to the high frequency section of a compound horn or for full range when coupled to any other type of horn. The rear sound opening shall be suitable for frequencies below 1000 cps when coupled to the low frequency section of a compound horn. Rear sound opening shall have a threaded cap and plastic damping plug. Dual concentric centering of the diaphragm assembly shall be provided and field replacement shall be possible without special tools. Diaphragm shall be linen-base molded phenolic and voice coil shall be 2" edgewise wound ribbon wire.

The housing shall be die cast aluminum and shall be completely weatherproof. Spring-loaded terminals shall be phased. A cable strain relief shall be provided. The diameter of the driver shall be 5-1/2" and the length (E). Net weight shall be (F). Finish shall be Mesa Tan baked enamel. Electro-Voice Model (D) is specified.



DIAPHRAGM REPLACEMENT KITS

Complete kit for easy field maintenance of Electro-Voice drivers.

Part #83137 for DC30B and DC30BT.

