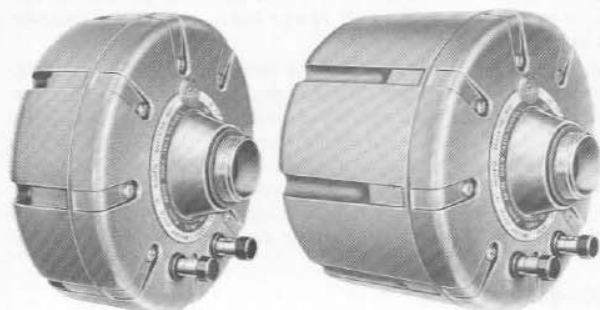




DC50
DC50-45

Fig. 1

DC50T

Fig. 2

The new DC-50 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 critical sound jobs where very high power handling, high efficiency and wide range must be combined. Applications for this driver include gymnasiums, auditoriums, parks, playgrounds, factories, parking lots, race tracks, 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.

These new drivers achieve a new high in versatility being ideally suited for any reentrant, multicell or conventional horn as well as the exclusive E-V compound horns. Conversion is easily accomplished in the field without tools. No compromise is made with performance in any horn type. Conversion from reentrant to compound applications is made by merely removing the threaded back cap and plastic damping plug.

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 DC50 series is virtually indestructible in even the most stringent service. 18% extra efficiency is guaranteed by the use of edgewise-wound ribbon wire rather than the conventional round-wire voice coil. A double power ceramic 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.

This remarkable uniformity allows easy field replacement of diaphragm assemblies without special tools or experience. In

FEATURES

- **Convertible** — Use on any reentrant or compound horn.
- **Efficient** — uses double-power ceramic magnets plus edgewise-wound ribbon voice coils.
- **Smooth response** — reduces feedback, increases intelligibility.
- **Wider range** — more realistic reproduction of voice or music.
- **Rugged** — die cast housing for maximum strength.
- **Easy maintenance** — new self-centering dual-concentric diaphragm assembly for fast, accurate field service.

addition increased reliability makes Electro-Voice drivers the choice where trouble-free operation is of paramount importance.

Convenience of installation is assured with push-type connectors with polarity clearly marked plus a plastic cable strain relief for a neater appearing and more reliable installation.

The DC50 series is normally available with 16-ohm nominal impedance. It is also available with a 45-ohm voice coil (DC50-45) for use with 45-50 ohm lines as part of an intercom or talk back system.

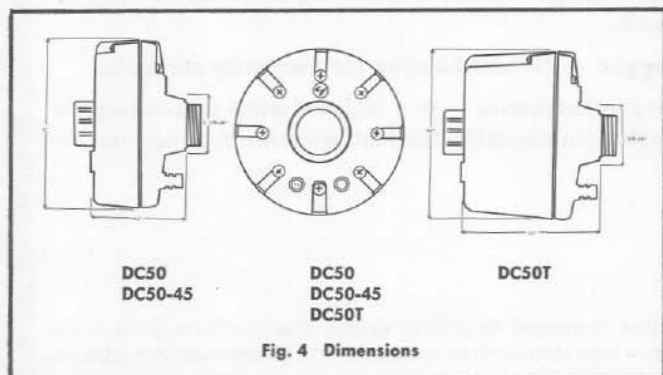
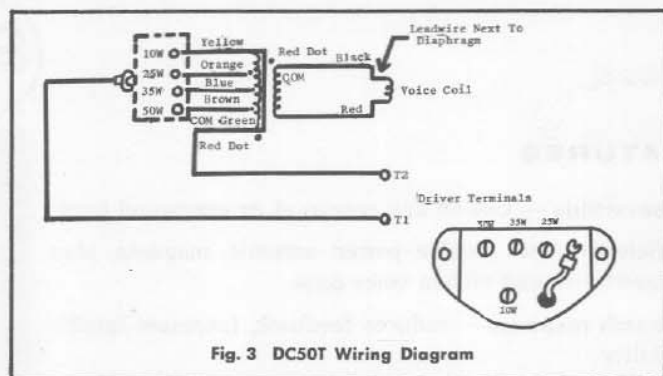
The Model DC50T includes a high quality transformer for matching the driver to a 70.7 volt line. Wattage taps include 10, 25, 35 and 50 watts and are selected by moving a single wire behind the clear plastic panel on the rear of the driver. Impedances of these taps are 100, 143, 200 and 500 ohms. Virtually no insertion loss is introduced by use of this transformer, and frequency response and power handling characteristics remain unchanged.

SPECIFICATIONS

		DC50	DC50-45	DC50T
Power Handling:	sine wave, watts	35	35	35
	program, watts	50	50	50
	adjusted program, watts*	70	70	70
Sound Pressure Level:	Horn Type			
	at 4' on axis with			
	1 cps sweep from 750	AR150 130db	130db	130db
	to 1250 cps at 50 watts	FR150 127db	127db	127db
		FC100 127db	127db	127db
Voice Coil Impedance, ohms:		16	45	16
Transformer Taps:		none	none	
				Watts
				50
				35
				25
Frequency Response in				10
				500
Terminal Polarity:	FC100	140-11kc	140-11kc	140-11kc
	AR150	180-9kc	180-9kc	180-9kc
Thread Size:				
	Front (Full Range on Hi Frequency)	1 3/8"-18	1 3/8"-18	1 3/8"-18
Finish:	Rear (Lo Frequency compound)	1 3/8"-18	1 3/8"-18	1 3/8"-18
Diameter:		6 1/4"	6 1/4"	6 1/4"
O.A. Length:		4 1/4"	4 1/4"	6"
Weight, Net:		8 lbs.	8 lbs.	9 1/4 lbs.

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

Electro-Voice® ENGINEERING DATA/TYPE DC50 CONVERTIBLE DRIVERS



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 50 watts shall be (C). The power handling capacity shall be 50 watts of program material. The nominal voice coil impedance shall be (E). (Include transformer data for DC50T only). The Transformer shall have taps marked in watts for 70.7 volt line operation. Taps shall be 50, 35, 25 and 10 watts and shall be 100, 143, 200, and 500 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 6 1/4" and the length (F). Net weight shall be (G.) Finish shall be Mesa Tan baked enamel. Electro-Voice Model (D) is specified.

(A) HORN TYPE	(B) FREQUENCY RESPONSE	(C) SOUND PRESSURE LEVEL	(D) MODEL	(E) VOICE COIL IMPEDANCE	(F) OVERALL LENGTH	(G) NET WEIGHT
FC100	140-11,000 cps	124 db	DC50	16 ohms	4 1/4"	8 lbs.
AC100	140-11,000 cps	130 db	DC50-45	45 ohms	4 1/4"	8 lbs.
FR150	180-9,000 cps	129 db	DC50T	16 ohms	5"	9 1/4 lbs.
AR150	180-9,000 cps	133 db				

INSTRUCTIONS FOR USE

DC50

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 1/8"-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.

DC50-45

Same as above except connect terminals T1 and T2 to a 45-50 ohm amplifier output.

DC50T

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 100-watt amplifier and 4 DC50T drivers each driver should be set on 25 watts if equal power at each speaker is desired. Another condition may require 4 DC50T drivers set at 10 watts where low noise levels must be overcome, one DC50T set at 25 watts where noise is higher, another set at 35 watts for more penetration and three set at 50 watts where highest noise is encountered. This combination of 9 drivers would be fed from a 250-watt amplifier for best matching. This match would be correct even if the amplifier is only delivering a small amount of its total available power to the line.

ACCESSORIES

Model AD-1 — Driver adapter allows use of any Electro-Voice driver on horns having a thread size of 1 1/8"-18 (WE-RCA etc.). Shipping Weight 2 1/2 lbs.

Model TH — Transformer Housing. Provides neat weatherproof mounting of any E-V transformer. Mount vertically or horizontally on any flat surface or on horn bracket. Exclusive wattage indicator tells power setting at a glance. No soldering required with E-V transformers. Size: 4" h., 5" w., 3 1/2" d. Net Weight, 1 lb. 11 oz. Shipping Weight, 2 1/2 lbs.

Model TR5 — 5 watt 70.7-volt line transformer. Primary impedances 1000, 2000, 4000, 8000 ohms; 5, 2.5, 1.25 and .675-watt line power taps. 4, 8 and 16 ohms secondary impedances. Accepts solderless terminals in TH housing. Frequency response ± 2 db, 35-20,000 cps. Insertion loss 0.8 db. Overall dimensions 2" x 1 1/4" x 1 1/8". Mounting hole centers, 1 3/4". Shipping Weight, 1 lb.

Model TR15 — Same as TR5 except 15-watt capacity with primary impedances of 333, 500, 1000, 2000 ohms and 15, 10, 5, 2.5-watt line power taps. Overall dimensions 1 3/4" h., 2 3/8" w., 2 5/8" d. Mounting hole centers, 2 3/8". Shipping weight, 1 1/2 lbs.

Model TR30 — Same as TR5 except 30-watt capacity with primary impedances of 167, 250, 500, 1000 ohms and 30, 20, 10 and 5-watt line power taps. Overall dimensions 1 3/4" h., 2" w., 2 5/8" d. Mounting hole centers, 2 3/8". Shipping weight, 1 1/2 lbs.

Model TR50 — Same as TR5 except 50-watt capacity with primary impedances of 100, 125, 200, 333 ohms and 50, 40, 25 and 15-watt line power taps. Overall dimensions 2" h., 2 5/8" w., 2 3/4" d. Mounting hole centers, 2 3/8". Shipping Weight, 2 lbs.

DIAPHRAGM REPLACEMENT KITS

Complete kit for easy field maintenance of Electro-Voice drivers. Part No. 8574 for DC50 and DC50T
Part No. 8619 for DC50-45