

Electro-Voice[®]

guide to
high fidelity component speakers



Speaker selection chart

Basic Speaker	See Page	Response Hz	Nominal Resonance	Min. Encl. Vol. Cu. Ft.	Recommended Expansion		
					Tweeter	Midrange	See Pg.
8" Coaxial							
MC8	4	50-13,000	75	1	HF1	—	9
LS8	4	45-14,000	75	1	HF1	—	9
SP8B	4	35-15,000	60	1	BB1	—	9
8" Three-Way							
LT8	4	45-18,000	65	1	—	—	
12" Coaxial							
MC12	4	40-14,000	60	3	HF1	MF1	9
LS12A	4	40-14,000	60	3	HF1	MF1	9
SP12B	5	35-15,000	50	3½	BB1	BB4	9
SP12	5	30-15,000	45	4	BB1	BB4	9
12" Three-Way							
MT12	5	40-18,000	60	3	—	—	
LT12	5	40-18,000	60	3	—	—	
12TRXB	5	35-20,000	50	3½	—	BB4*	9
12TRX	5	30-20,000	45	4	—	BB4	9
15" Coaxial							
LS15	6	35-14,000	50	5½	HF1	MF1	9
SP15B	6	30-15,000	30	10	BB1	BB4	9
SP15	6	25-15,000	25	10	BB1	BB4	9
15" Three-Way							
LT15	7	35-18,000	40	5½	—	—	
15TRXB	7	30-20,000	30	10	—	BB4*	9
15TRX Mark II	7	30-20,000	33	5½	—	BB4	9
15TRX	7	25-20,000	25	10	—	BB4	9
Music Speakers							
SRO/12	8		60	2½	BB1 (2)	BB4	9
SRO/15	8		60	4	BB1 (2)	BB4	9

*Additional X36 required for proper tweeter operation

Don't miss
these
informative
pages

Building your speaker system with building block and step-up kits... **9**

A cabinet for your speaker... **12**

E-V enclosure plans and blueprints... **11**

Construct your own bass reflex enclosure... **12-13**

8" coaxial speakers

MC8 Michigan®

Small enough to fit anywhere; mounted in wall or cabinet. Radax™ coaxial speaker provides extended highs and wider dispersion. Response, 50-13,000 Hz. Nominal resonance, 75 Hz. Crossover, 6000 Hz. 24 watts peak. 8 ohms impedance. EIA Sensitivity rating, 46 dB. 8¼" diameter, 7" baffle opening. 3-3/16" depth behind panel. Net weight 4 lbs.

LS8 Wolverine®

Response, 45-14,000 Hz. Nominal resonance, 75 Hz. Crossover, 4500 Hz. 40 watts peak. 8 ohms impedance. EIA Sensitivity rating, 43 dB. 8-3/8" diameter, 7-1/8" baffle opening. 3½" depth behind panel. Net weight 3¾ lbs.



SP8B

Response, 35-15,000 Hz. Nominal resonance, 60 Hz. Crossover, 4500 Hz. 40 watts peak. 8 ohms impedance. EIA Sensitivity rating, 47 dB. 1 lb., 6 oz. ceramic magnet. 8-3/8" diameter, 7-1/8" baffle opening. 4¾" depth behind panel. Net weight 7 lbs.

8" three-way speaker

LT8 Wolverine

The unique tweeter employs a ring diaphragm which eliminates breakup distortion. Response, 45-18,000 Hz. Nominal resonance, 65 Hz. Crossovers: 2000 Hz mechanical, 5000 Hz electrical. 40 watts peak. 8 ohms impedance. EIA Sensitivity rating, 45 dB. 8¼" diameter, 7" baffle opening. 3-15/16" depth behind panel. Net weight 6½ lbs.



12" coaxial speakers

MC12 Michigan

Disperses crisp, clear highs and powerful bass, yet is shallow enough for wall mounting. Response, 40-14,000 Hz. Nominal resonance, 60 Hz. 40 watts peak. 8 ohms impedance. EIA Sensitivity rating, 46 dB. 12¼" diameter, 11" baffle opening. 3½" depth behind panel. Net weight 5 lbs., 8 oz.

LS12A Wolverine

Response, 40-14,000 Hz. Nominal resonance, 60 Hz. Crossover, 4500 Hz. 40 watts peak. 8 ohms impedance. EIA Sensitivity rating, 46 dB. 12¼" diameter, 11" baffle opening. 3-15/16" depth behind panel. Net weight 5½ lbs.



12" three-way speakers

SP12B*

Response, 35-15,000 Hz. Nominal resonance, 50 Hz. Crossover, 4500 Hz. 60 watts peak. 8 ohms impedance. EIA Sensitivity rating, 49 dB. 1 lb., 6 oz. ceramic magnet. 12¼" diameter, 11" baffle opening, 6¾" depth behind panel. Net weight 11½ lbs.

*U.S. Design Patent No. 197,716

SP12

Response, 30-15,000 Hz. Nominal resonance, 45 Hz. Crossover, 4000 Hz. 80 watts peak. 8 ohms impedance. EIA Sensitivity rating, 53 dB. 3 lb. Alnico V magnet. 12¼" diameter, 11" baffle opening. 7½" depth behind panel. Net weight 19 lbs.

MT12 Michigan

Combines superb dual-cone 12" loudspeaker with unique ring radiator tweeter. Brilliance control to adjust highs. Response, 40-18,000 Hz. Nominal resonance, 60 Hz. Crossover, 4,000 Hz. 40 watts peak. 8 ohms impedance. EIA Sensitivity rating, 46 dB. 12-1/8" diameter, 11" baffle opening. 5½" depth behind panel. Net weight 7 lbs.

LT12 Wolverine

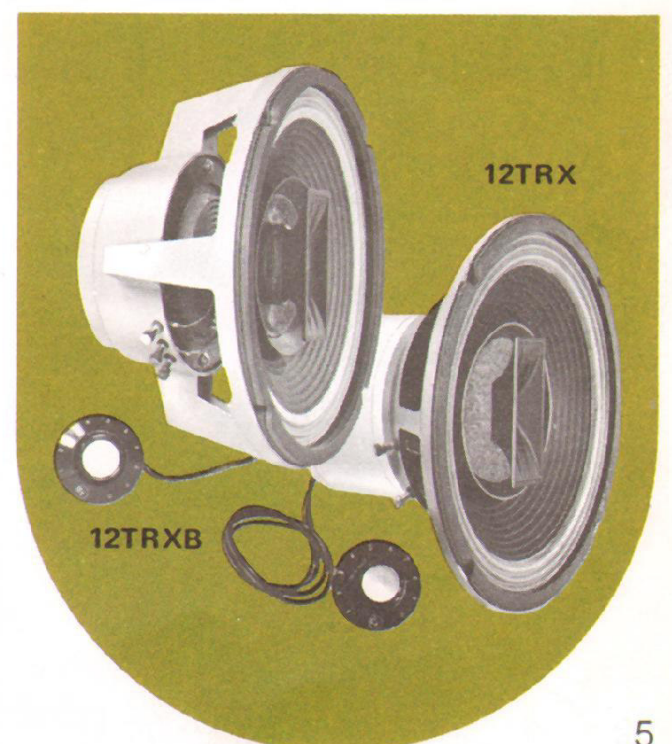
High quality, three-way speaker priced for the budget-minded. Response, 40-18,000 Hz. Nominal resonance, 60 Hz. Crossovers: 2000 Hz mechanical, 4000 Hz electrical. Brilliance control. 40 watts peak. 8 ohms impedance. EIA Sensitivity rating, 45 dB. 12-1/8" diameter, 11" baffle opening. 5¼" depth behind panel. Net weight 8 lbs.

12TRXB

Response, 35-20,000 Hz. Nominal resonance, 50 Hz. Crossovers: 2000 Hz mechanical and 3500 Hz electrical. With tweeter level control. 60 watts peak. 8 ohms impedance. EIA Sensitivity rating, 52 dB. Magnets: woofer, 1 lb., 6 oz. ceramic; tweeter, 3.16 oz. Alnico V. 12¼" diameter, 11" baffle opening. 7" depth behind panel. Net weight 14 lbs.

12TRX

Response, 30-20,000 Hz. Nominal resonance, 45 Hz. Crossovers: 2000 Hz mechanical and 3500 Hz electrical. With tweeter level control. 80 watts peak. 8 ohms impedance. EIA Sensitivity rating, 53 dB. Magnets: woofer, 3 lb. Alnico V; tweeter, 6.8 oz Alnico V. 12¼" diameter, 11" baffle opening. 7½" depth behind panel. Net weight 21 lbs.



15" coaxial speakers

LS15 Wolverine

Response, 35-14,000 Hz. Nominal resonance, 50 Hz. Crossover, 4500 Hz. 40 watts peak. 8 ohms impedance. EIA Sensitivity rating, 47 dB. 15-1/8" diameter, 14" baffle opening. 6-11/32" depth behind panel. Net weight 9 lbs.



LS15

SP15B

Response, 30-15,000 Hz. Nominal resonance, 30 Hz. Crossover, 3500 Hz. 60 watts peak. 8 ohms impedance. EIA Sensitivity rating, 51 dB. 1 lb., 6 oz. ceramic magnet. 15-1/8" diameter, 13 1/2" baffle opening. 9" depth behind panel. Net weight 12 lbs.



SP15B

SP15

Equipped with exclusive L-C circuit with level control to extend high-frequency response. Response, 25-15,000 Hz. Nominal resonance, 25 Hz. Crossover, 3500 Hz. 80 watts peak. 8 ohms impedance. EIA Sensitivity rating, 53 dB. 4 lb., 10 oz. ceramic magnet. 15-1/8" diameter, 13 1/2" baffle opening. 8-1/8" depth behind panel. Net weight 25 lbs.



SP15

15" three-way speakers

LT15 Wolverine

New design employs cone suspension in three planes for unsurpassed stability and linearity. Viscous-damped cloth suspension provides high compliance and low resonance for exceptional bass response. Sonophase™ tweeter spreads smooth, clean highs throughout the room. Response, 35-18,000 Hz. Nominal resonance, 40 Hz. Crossovers: 2000 Hz mechanical, 4000 Hz electrical. With brilliance control. 40 watts peak. 8 ohms impedance. EIA Sensitivity rating, 47 dB. 15-1/8" diameter, 14" baffle opening, 6-11/32" depth behind panel. Net weight 10 lbs.



15TRXB

Response, 30-20,000 Hz. Nominal resonance, 30 Hz. Crossovers: 2000 Hz mechanical and 3500 Hz electrical. With tweeter level control. 60 watts peak. 8 ohms impedance. EIA Sensitivity rating, 52 dB. Magnets: woofer, 1 lb., 6 oz. ceramic; tweeter, 3.16 oz. Alnico V. 15-1/8" diameter, 13 1/2" baffle opening. 9" depth behind panel. Net weight 14 lbs.



15TRX MARK II

Similar to the fine 15TRX except slightly less efficiency and bass response. Excellent value for superior sound. Response, 30-20,000 Hz. Nominal Resonance, 33 Hz. Crossovers: 2000 Hz mechanical, 3500 Hz electrical. With tweeter level control. 60 watts peak. 8 ohms impedance. EIA Sensitivity rating, 50 dB. Magnets: woofer, 1 lb., 6 oz. ceramic; tweeter, 3.15 oz. ceramic. 15-1/8" diameter, 13 1/2" baffle opening. 8 1/4" depth behind panel. Net weight 19 lbs.

15TRX

Response, 25-20,000 Hz. Nominal resonance, 25 Hz. Crossovers: 2000 Hz mechanical and 3500 Hz electrical. With tweeter level control. 80 watts peak. 8 ohms impedance. EIA Sensitivity rating, 55 dB. Magnets: woofer, 4 lb., 10 oz. ceramic; tweeter, 6.8 oz. Alnico V. 15-1/8" diameter, 13 1/2" baffle opening. 8 1/4" depth behind panel. Net weight 27 lbs.



Super bass driver

30W 30" Woofer

The only speaker manufactured today with the ability to reproduce cleanly and with adequate power the very lowest tones of the pipe organ, bass viol, and bass guitar. Produces sound that can be felt as well as heard. Response 15 to 300 Hz. Recommended crossover point, 100 Hz. Nominal resonance, 15 Hz. 200 watts peak. 8-16 ohms impedance. 4 ohms DC resistance. EIA Sensitivity, 54 dB. 9 lb., 4 oz. ceramic magnet. 29 $\frac{3}{4}$ " diameter, 28 $\frac{1}{4}$ " baffle opening. 13-3/8" depth behind panel. Net weight 34 lbs.



Music instrument speakers

Designed for rugged use in guitar, organ, and amplified instruments. EIA Sensitivity rating 3 dB better than other makes, equivalent of doubling amplifier power. Easily handle amplifiers of up to 300 watts as normally rated.

SRO/12TM 12" Speaker

EIA Sensitivity, 54 dB. Power handling capacity, 60 watts continuous sine wave, 150 watts continuous program, 300 watts peak. 8 ohms impedance. Magnet: 3 lb. Alnico V. 12 $\frac{1}{2}$ " diameter, 11" baffle opening. 7 $\frac{1}{2}$ " depth behind panel. Net weight 19 lbs.



SRO/15TM 15" Speaker

EIA Sensitivity, 55 dB. Power handling capacity, 60 watts continuous sine wave, 150 watts continuous program, 300 watts peak. 8 ohms impedance. Magnet: 4 lb., 10 oz. ceramic. 15-1/8" diameter, 13 $\frac{1}{2}$ " baffle opening, 8-1/8" depth behind panel. Net weight 25 lbs.



Building your speaker system

Whether high fidelity components are used initially or in upgrading later, Electro-Voice Building Block Kits provide a simple and effective means of expanding system performance.

A tweeter kit should be the first addition to a full-range speaker because it provides extension of response to the highest musical overtones. Exclusive E-V Diffraction Horns spread the extended highs throughout the room for better musical balance and improved stereo effect.

While tweeters extend frequency response, midrange units improve performance in the important middle frequencies to which the ear is most sensitive. E-V midrange kits smooth frequency response and reduce distortion, as well as provide control of midrange level. A complete three-way system offers the ultimate in flexibility and performance.

Models BB1 and BB4 are designed to match the efficiency and performance of Electro-Voice Deluxe and B-series speakers. Models HF1 and MF1 should be used with Wolverine (LS) and Michigan (MC) speakers. Specific recommendations are given in the Speaker Selection Chart on page 3.

Electro-Voice Building Blocks may be used with speakers of other manufacturers provided their impedance and EIA Sensitivity ratings are similar to E-V speakers.

Building block & step up kits

BB1 Tweeter building block

Extends high-frequency response beyond limits of audibility, provides more precise definition of vhf waveforms, and improves high-frequency dispersion. Includes T35 vhf horn/driver, X36 crossover, 8-ohm L-pad control, and wiring harness. Net weight 4 lbs.

BB4 Mid-range building block

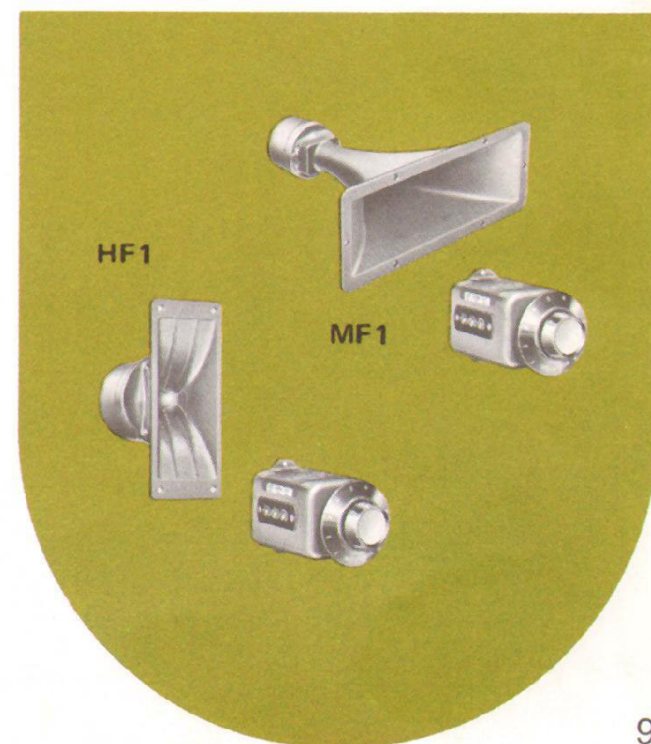
Includes all components for third step in building superb system. Divides audio range for maximum efficiency, lowering both harmonic and IM distortion. Includes T25A driver, 8HD midrange horn, X8 crossover, 8-ohm L-pad control, and wiring harness. Net weight 13 lbs.

HF1 High-frequency step-up kit

Can be added to any Wolverine or Michigan coaxial speaker. Consists of vhf driver, crossover/level control, wiring, mounting hardware, and instructions. Horn size: 5¼" x 2", pot diameter 2¼", overall depth 2¾". Net weight 2½ lbs.

MF1 Mid-range step-up kit

For addition to Wolverine or Michigan speakers. Consists of treble driver, crossover/level control, wiring, mounting hardware, and instructions. Horn size: 4" x 10½", pot diameter 2-3/8", overall depth, 9-3/8". Net weight 4¼ lbs.



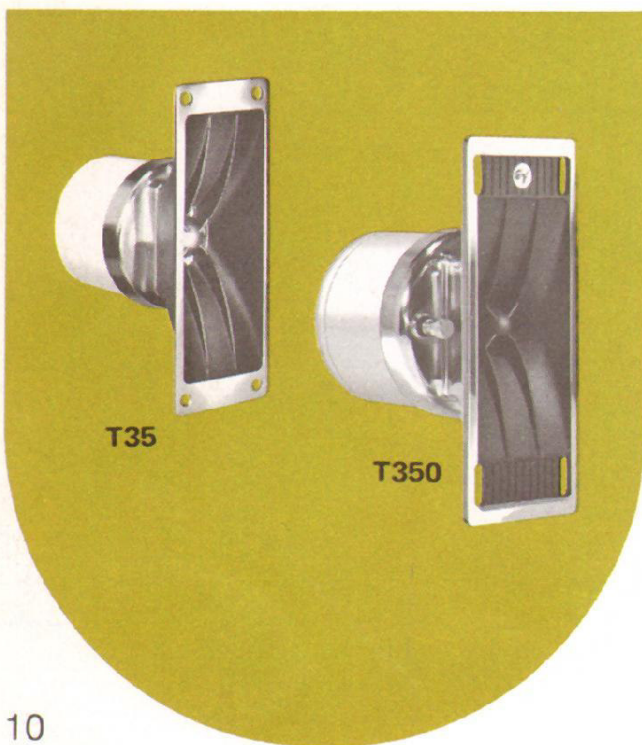
VHF horn/drivers

T35 VHF driver and horn

Response, 3500–20,000 Hz. 40 watts peak. 8 ohms impedance. EIA Sensitivity rating, 56 dB. 6.8 oz. Alnico V magnet. 5¼" h. x 2" w. Pot diameter, 2¼". Overall depth, 3-5/32". Net weight 2¼ lbs.

T350 VHF driver and horn

Adds very high frequencies with reserve power, extra sensitivity. For use in deluxe multiway systems having extended bass range. Response, 3500–23,000 Hz. 100 watts peak. 8 ohms impedance. EIA Sensitivity rating, 60 dB. 1 lb. Alnico V magnet. 7½" h. x 2-7/8" w. Pot diameter, 3½". Overall depth, 4-15/16". Net weight 7 lbs.



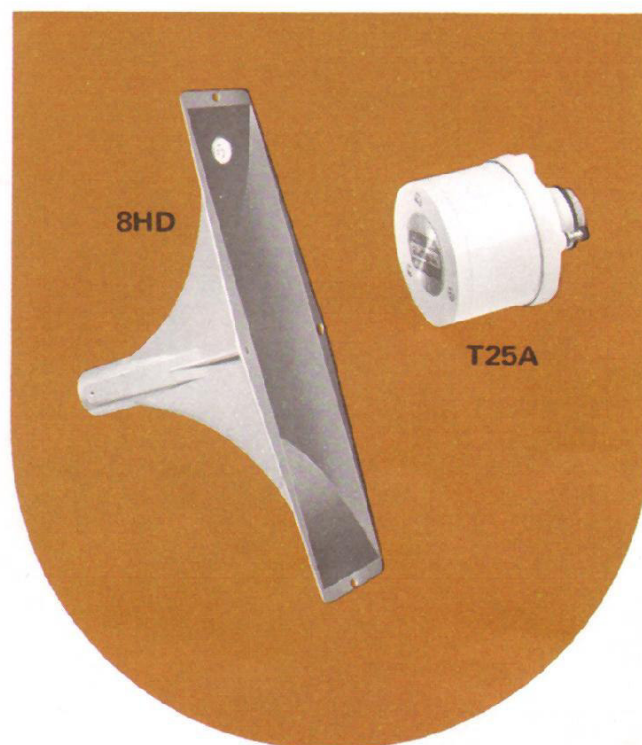
Midrange horn & driver

8HD Diffraction horn™

For use with T25A driver. Recommended crossover point, 800 Hz with an appropriate crossover network such as E-V Model X8. Actual horn cutoff, 600 Hz. Size: 15" h. x 4½" w. x 8¼" deep. Net weight 2-5/8 lbs.

T25A HF driver

Response, 700–10,000 Hz. 60 watts peak. 8 ohms impedance. EIA Sensitivity rating, 57 dB. 1 lb. Alnico V magnet. 3¾" diameter, 4½" deep. Net weight 4¾ lbs.



Accessories

X8 Crossover

Crossover point, 800 Hz. Impedance 8 ohms. Size: 4¾" h. x 4½" w. x 3-5/8" d. Net weight, 4 lbs.

X36 Crossover

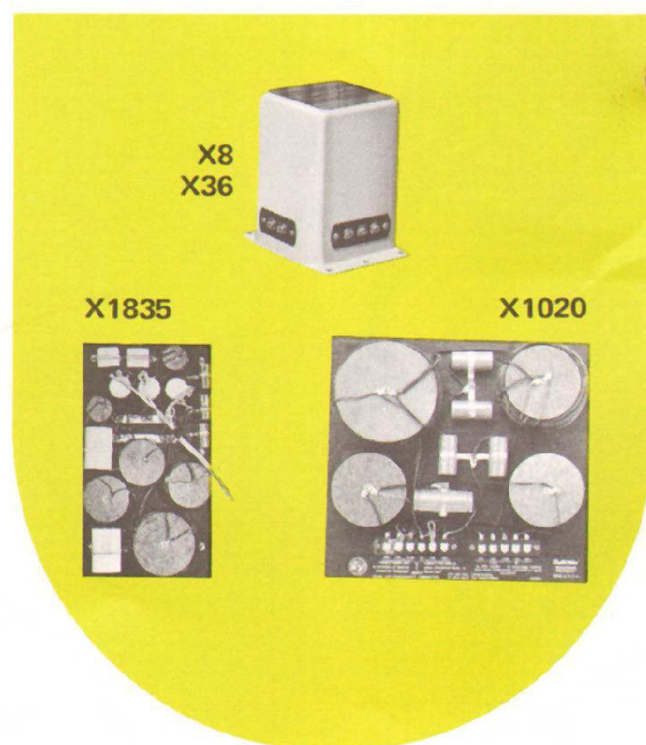
Recommended for use with vhf drivers. Crossover point, 3500 Hz. Impedance 8 ohms. Size: 3½" h. x 4½" w. x 3-5/8" d. Net weight, 1½ lbs.

X1020 Crossover

Provides crossover point of 100 or 200 Hz to permit 30W to be used as "super-woofer" with any existing system. Impedance 8 ohms. Size: 11" h. x 11¾" w. x 2¾" d. Net weight, 9 lbs.

X1835 Crossover

Crossover points, 100, 800 and 3500 Hz. Used in Patrician 800 system. Impedance 8 ohms. Size: 17" h. x 9½" w. x 3¾" d. Net weight, 8 lbs.



Enclosure plans

XT1 Stereo mixer transformer

Provides monophonic signal from two stereo channels for mono speaker system, common full-range bass system, or to reform the third or "center" channel originally used in many stereo recording techniques. Connect between amplifier outputs and speakers. Size: 4 $\frac{3}{4}$ " h. x 4 $\frac{1}{2}$ " w. x 3 $\frac{3}{4}$ " d. Net weight, 2 $\frac{1}{2}$ lbs.

AT38 Level control

8 ohm "L" pad. Continuously variable speaker control which maintains constant impedance match. For use with mid-bass, treble, and vhf drivers in multiway systems or remote speakers. Adjusts output level to individual taste. Net weight, 5 oz.

XT1



AT38



Plans or blueprints are available for building many styles of speaker enclosures for E-V or other similar units. Order through your dealer or direct from the Electro-Voice Advertising Department.

Aristocrat® 12" Corner enclosure

Folded corner horn enclosure for 12" woofer. Also accommodates midrange horn and tweeter. Use in corner extends bass response. 29 $\frac{1}{2}$ " h, 19" w, 16" d. Blueprint and assembly instructions.

Marquis™ 12" Along-the-wall enclosure

Ducted acoustic phase inverter enclosure for 12" woofer, also accommodates midrange horn and tweeter. 29 $\frac{1}{2}$ " h, 19" w, 15" d. Blueprint and assembly instructions.

Regency™ 15" Corner enclosure

Folded corner horn enclosure for 15" woofer, also takes midrange and tweeter horns. 29 $\frac{1}{2}$ " h, 33 $\frac{1}{2}$ " w, 12" d. Blueprint and assembly instructions.

MARQUIS

ARISTOCRAT
REGENCY

Patrician® 800

Construction blueprints for the superb "ultimate" speaker system. Uses 30" woofer, 12" midrange, 8" h.f. horn and vhf tweeter. 51" h, 33" w, 27 $\frac{3}{4}$ " d.

TB1/3

Music instrument speaker enclosures for one or two SRO/15 15" drivers. Tuned-port box for highest efficiency and extended bass. 43 $\frac{1}{2}$ " or 21 $\frac{3}{4}$ " h, 24" w, 15" d. Plans and parts lists

TB4

Dual 12" music instrument speaker enclosure. Tuned-port box to hold two SRO/12 speakers. 39" h, 22" w, 14" d. Plan and parts list.

TB2

Super bass speaker enclosure for 30W 30" woofer. Extends bass to 16 Hz for ultimate music reproduction or instrument use. Plan and parts list.

Eliminator™

Plan for building famous E-V music/p.a. folded horn speaker cabinet. Uses one SRO/15 15" woofer, 8" midrange and tweeters can be added. 37 $\frac{1}{2}$ " h, 22 $\frac{1}{2}$ " w, 23" d.

TB-1
TB-4

PATRICIAN 800

A cabinet for your speaker

No high fidelity loudspeaker is complete without a satisfactory enclosure. The enclosure is needed to isolate the speaker's rear radiation from the direct front radiation and thus prevent phase interference cancellation. In addition, the enclosure can actually improve the speaker's performance, especially by extending low-frequency response.

"Infinite baffle" installations

Speakers can be mounted into a rigid surface between two isolated volumes of air, such as in a wall between a room and closet or through a ceiling or door. This is called an "infinite baffle" as front and rear vibrations of the speaker are effectively isolated from each other. A space of 20 to 35 cubic feet behind the speaker is required for optimum performance.

E-V enclosure plans

Plans and blueprints are available for a number of E-V designed speaker cabinets. See page 11.

Bass reflex custom enclosures

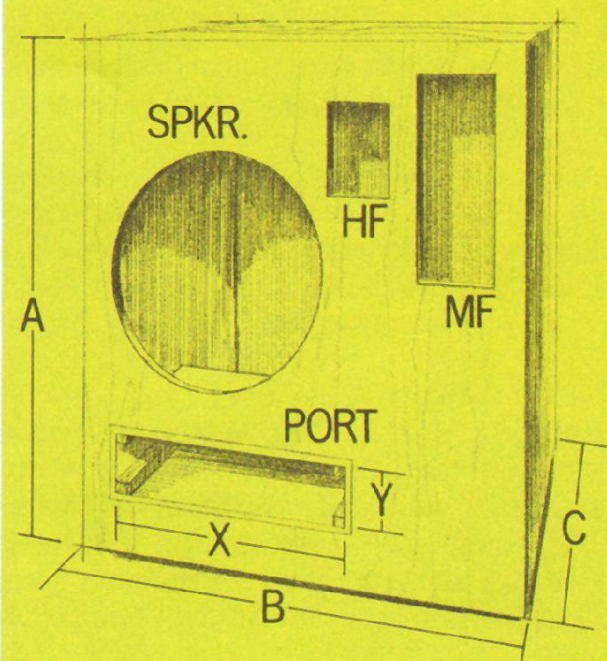
The most versatile type of speaker enclosure that is easily constructed at home is the bass reflex cabinet. In this system, air volumes behind and in front of the speaker are coupled so that interference is kept to a minimum and bass response is greatly extended. This type of system can be built in a wide variety of shapes and sizes and can be used to adapt existing furniture, standard cabinetry, and space in walls or bookshelves for good speaker performance.

Bass reflex cabinet dimensions

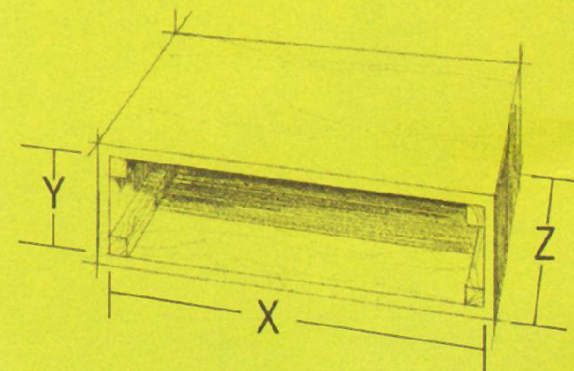
To the right are diagrams and dimensions to assist in the building of bass reflex enclosures for all Electro-Voice component loudspeakers. These are nominal dimensions — cabinets may be somewhat smaller or larger (with larger sizes resulting in better bass), but duct sizes must be refigured if cabinet dimensions are varied. For comprehensive instructions on figuring the entire range of possible cabinet sizes for each speaker, send Electro-Voice 25 cents and ask for Bass Reflex Bulletin 10A

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Archiv Michael Otto
HiFi-Classic.de

Cabinet dimensions and typical placement of panel cutouts



Construction of typical duct



All dimensions in inches

Speaker Model	Outside dimensions			Inside dimensions		
	Cabinet			Duct		
	A	B	C	X	Y	Z*
MC8/LT8	21.5	11.5	11.5	8.0	2.0	4.5
LS8	21.5	11.5	11.5	8.0	2.0	2.5
SP8B	21.5	11.5	11.5	8.0	2.0	7.0
SP12B/12TRXB	31.0	19.5	16.5	12.5	4.0	6.0
SP12/12TRX	31.0	19.5	16.5	12.5	4.0	9.0
LS12A/MC12	31.0	19.5	16.5	12.5	4.0	2.0
LT12/MT12	31.0	19.5	16.5	12.5	4.0	3.75
LS15, LT15	31.0	19.5	16.5	16.0	4.0	9.0
15TRX MARK II	31.0	19.5	16.5	16.0	4.0	7.375
SP15B/15TRXB	41.0	28.5	19.5	16.0	4.0	10.25
SP15/15TRX	41.0	28.5	19.5	16.0	4.0	10.25
SRO/12	31.0	19.5	16.5	16.0	4.0	1.375
SRO/15	31.0	19.5	16.5	20.0	4.0	1.675

*Total Duct Length, Including Thickness of Front Panel

Construction notes

1. Use $\frac{3}{4}$ -inch plywood. Solid lumber is likely to warp and cause difficulties later. The plywood should have tight cores and no less than five plies. The enclosure must be rigidly constructed with liberal application of glue blocks. All panels except the removable one for speaker access should be glued and screwed.

2. The loudspeaker mounting hole should be off center if possible to prevent standing waves in the cabinet.

3. The port should be close to the woofer cone opening if possible, although exact placement on the front panel is not critical.

4. The duct should be constructed of $\frac{1}{4}$ -inch or thicker plywood, using corner blocks for rigidity.

5. If separate tweeter or midrange drivers are to be added, proper cutouts should be provided. Generally these should be located near the top of the enclosure (nearest ear level when seated in normal listening position). For maximum horizontal dispersion from Electro-Voice diffraction horns, they should be oriented with long axis vertical. If the high-frequency drivers are not to be added until a later date, the cutouts should be covered on the inside of the enclosure by a removable panel of $\frac{1}{4}$ -inch plywood.

6. Line the interior surfaces, with the exception of the speaker panel, with a one- or two-inch thickness of acoustically absorbent material. Most high fidelity equipment dealers stock fiberglass or some similar material for this purpose. This may be applied with tacks or a staple gun.

7. The loudspeaker components should be mounted to the front panel by means of carriage or fin bolts. An alternative would be the use of ordinary machine screws and tee nuts.

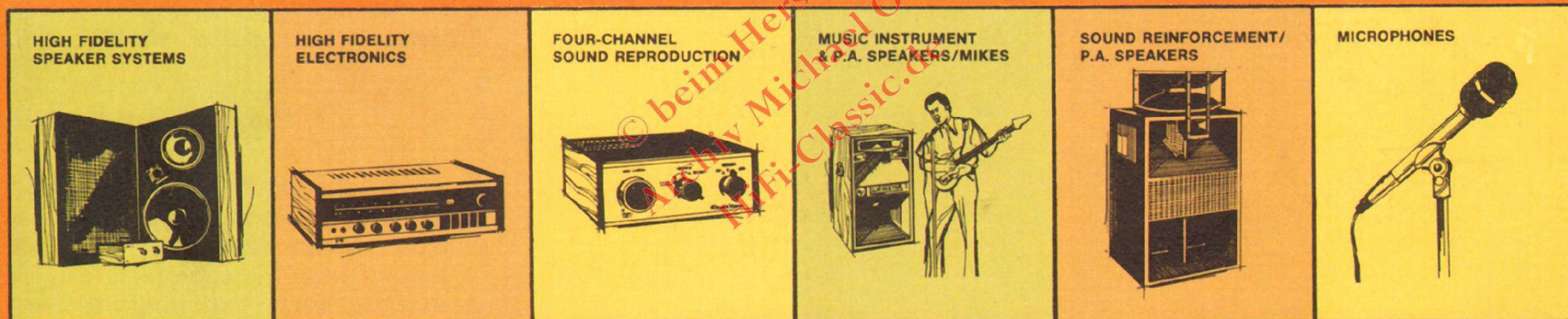
Warranty & Service

Electro-Voice high fidelity speakers are guaranteed for five years from date of original purchase against malfunction due to defects in workmanship and materials. If such malfunction occurs, speaker will be repaired or replaced (at our option) without charge for materials or labor if delivered to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finishes or malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

Electro-Voice also maintains complete facilities for non-warranty service on all products. Write or call Service Department for locations and instructions.

Information on other Electro-Voice products

Electro-Voice has long been a leading producer of electro-acoustic and communications equipment. Write for information on any E-V product.



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In Canada—EV of Canada LTD., 345 Herbert Street, Gananoque 2, Ontario / In Europe—Electro-Voice, S.A., Romerstrasse 49, 2560 Nidau, Switzerland

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