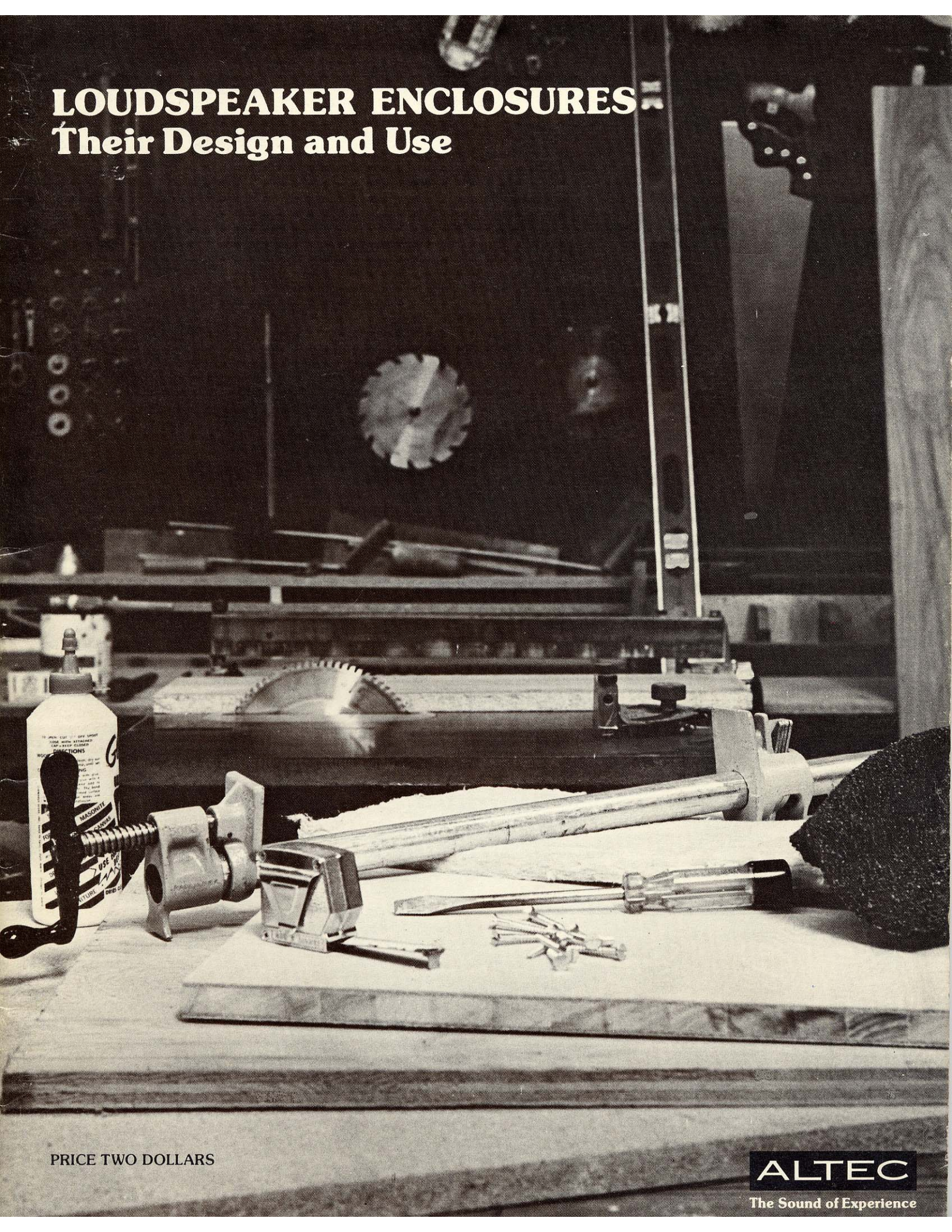


LOUDSPEAKER ENCLOSURES

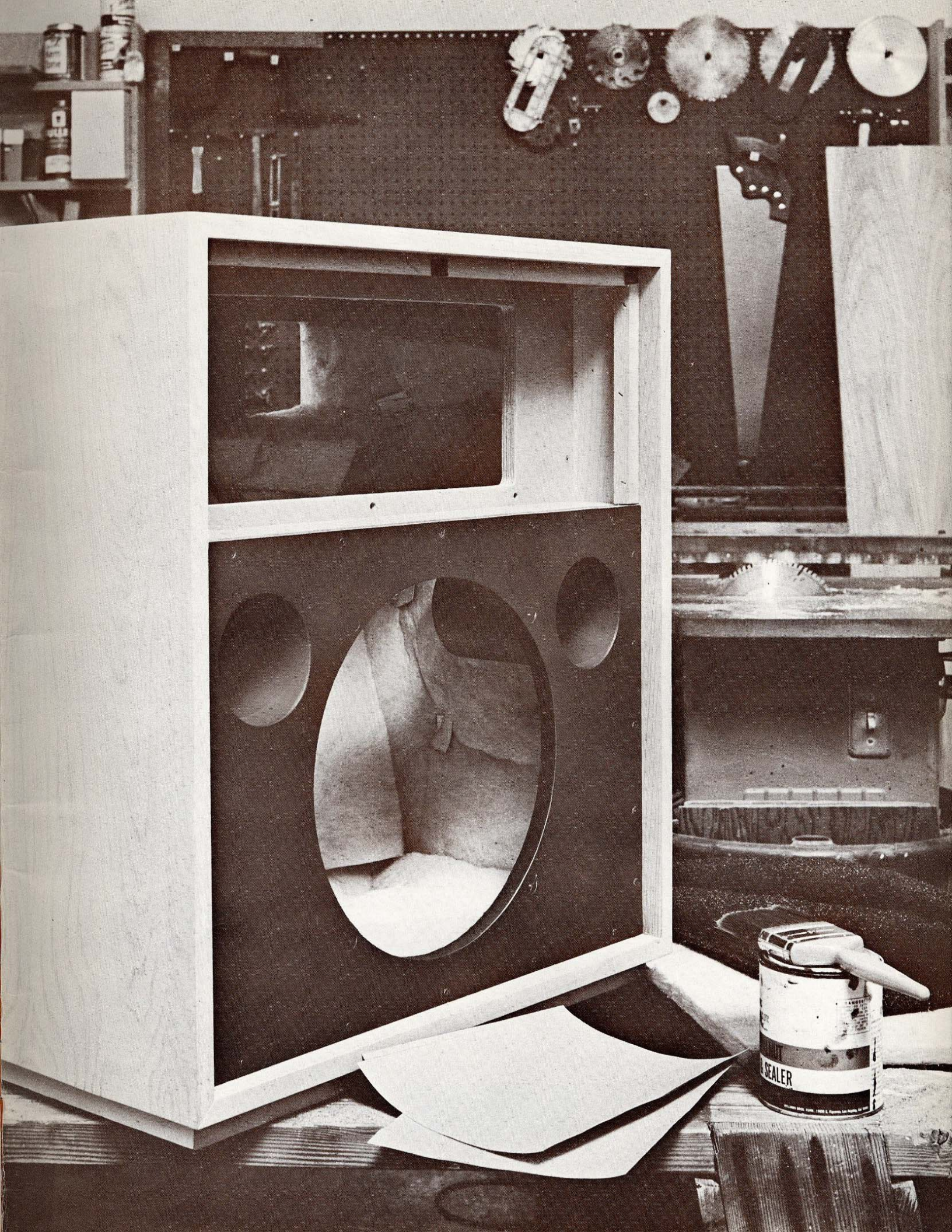
Their Design and Use



PRICE TWO DOLLARS

ALTEC

The Sound of Experience



...pot pourri...



Low Frequency Horns

The low frequency horn is the most efficient method to couple the loudspeaker to the air. The horn enclosure, however, requires more physical space than any other type, and is extremely complex for home construction techniques. Low frequency capability in the horn enclosure is directly related to enclosure size. Some available systems utilize the walls of listening room as an aid to low frequency extension, but, even so enclosure size remains large. While some of the Altec low frequency loudspeakers are adaptable to horn use, we do not recommend, nor are we able to provide, predictable data on home horn construction.

Karlson, Acoustic Labryinth, Resonant Folded Tube, Horn Loaded Port, Split Bent Horn, Drone Cone/Passive Radiator, Omnidirectional Diffuser... Many approaches to sound reproduction are available. It is our desire to provide those recommendations which will insure

excellent and predictable results. The variables are really too great to cover all, and so we pass by these concepts.

Combination Enclosures

The combination of two concepts in one enclosure is not usual, but Altec has long proven the value of one approach in its world famous "Voice of the Theatre" A-7 system. This approach uses a front-loaded low frequency horn in combination with bass reflex augmentation of the very low frequencies. This system uses a precise compression-type driver for reproduction of mid and high frequencies, which is mounted to cast aluminum sectoral horn. The A-7 system exhibits excellent phase relationship at the crossover frequency, and has exceptional efficiency and projection.

The front-loaded horn portion of the A-7 cabinet increases the efficiency of the low frequency loudspeaker in the range of 120 Hz upward to crossover. The bass

reflex portion of the cabinet is designed to augment those bass frequencies below the frequencies of the horn cut-off.

For the enthusiast who has application for sound reinforcement, in addition to home reproduction requirements, the time-proven A-7 cabinet and system is ideal. For music reproduction use only, we would recommend one of our home "Voice of the Theatre" designs for more effective low frequency response.

The most frequent question asked Altec, concerning this system, is the difference between mounting the high frequency horn/driver on top of the enclosure, or inside the inverted cabinet. The basic on-axis response will not be effected either way. Internal mounting does reduce somewhat the overall horizontal dispersion. The correct answer then depends primarily on the importance of the wide off-axis response in your application.

ALTEC RECOMMENDS

MODEL	EFFECTIVE PISTON AREA	FREE-AIR RESONANT FREQUENCY (HERTZ)	OVERALL DIMENSIONS	MOUNTING HOLE DIAMETER		BOLT CIRCLE DIAMETER	ENCLOSURE SIZE PARAMETERS (CUBIC FEET)				
				Front Mount	Rear Mount		A INFINITE BAFFLE	B DUCTED PORT BASS REFLEX	C REGULAR PORT BASS REFLEX	D INFINITE BAFFLE	RECOM- MENDED OPTIMUM
405A	10.3 sq. in.	95	4 $\frac{3}{8}$ " x 2 $\frac{1}{8}$ "	1 $\frac{5}{32}$ "	1 $\frac{5}{32}$ "	4 $\frac{11}{16}$ "	> .25	> .3		< 1.0	.3B
601-8D	82 sq. in.	39	12 $\frac{1}{4}$ " x 5 $\frac{13}{16}$ "	11 $\frac{1}{8}$ "	11 $\frac{1}{8}$ "	11 $\frac{1}{16}$ "	>2.5	<3.5	>3.5	<10.0	3.5C
414-8B	82 sq. in.	30	12 $\frac{1}{4}$ " x 5 $\frac{13}{16}$ "	11 $\frac{1}{8}$ "	11 $\frac{1}{8}$ "	11 $\frac{1}{16}$ "	>2.5	<3.5	>3.5	<10.0	3.5C
604E/8G	133 sq. in.	25	15 $\frac{5}{16}$ " x 11 $\frac{1}{8}$ "	—	13 $\frac{3}{4}$ "	14 $\frac{1}{16}$ "	>4.5	<6.0	>6.0	<12.0	9.0C
416-8B	133 sq. in.	25	15 $\frac{5}{16}$ " x 7 $\frac{1}{8}$ "	—	13 $\frac{3}{4}$ "	14 $\frac{1}{16}$ "	>4.5	<6.0	>6.0	<12.0	7.5C
411-8A	133 sq. in.	18	15 $\frac{5}{16}$ " x 5 $\frac{1}{16}$ "	14 $\frac{1}{8}$ "	13 $\frac{3}{4}$ "	14 $\frac{5}{8}$ "	>4.0			< 8.0	5.0D

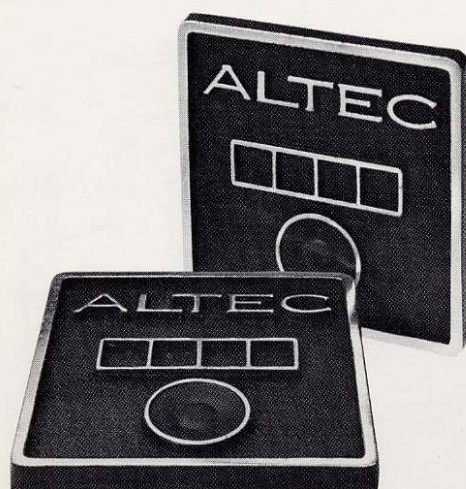
¹Use mounting baffle no greater than $\frac{1}{2}$ inch.

COMPONENT MATCHING

HIGH FREQUENCY SYSTEM — CONSISTING OF:			TO GO WITH LOW FREQUENCY WOOFER ¹ /OR EXTENDED RANGE	
HORN	DIVIDING NETWORK	AND DRIVER	STANDARD	WITH 30904 ATTENUATOR/EQUALIZER NETWORK
811B	N801-8D	Recommended 806-8A	419-8B	411-8A
		Alternate 802-8D	414-8A	
			420A	
			416-8A	
511B	N501-8A	Recommended 802-8D	419-8B	411-8A
		Alternate 806-8A	414-8A	
			420A	
			416-8A	

¹Where two low frequency woofers are used in one system, 16 ohm loudspeakers should be special ordered through your Altec Dealer.

...ENJOY...



Logo

Altec has created a special die-cast metal logo for those consumers wishing to add a factory name-plate to their completed system. We know the construction effort of the enclosure was executed with pride, and we have tried to create for you a logo of equal pride. These may be ordered directly from the factory at a prepaid cost of \$3.00 a pair. We do ask, for our files, a snapshot of your completed system.

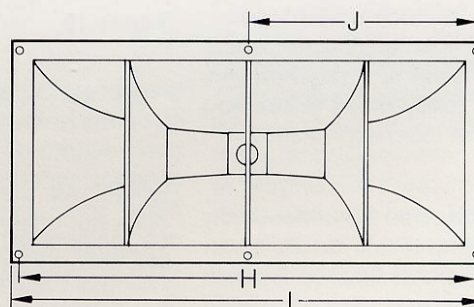
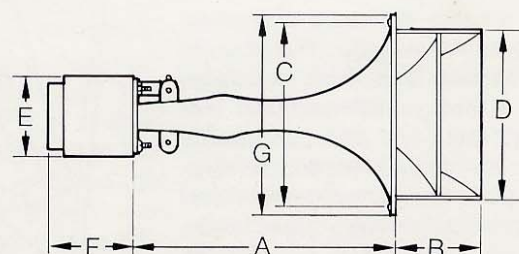
Make your check payable to:
ALTEC, SOUND PRODUCTS DIVISION—
and mail to:
ALTEC, SOUND PRODUCTS DIVISION
ATTENTION: HI FI MARKETING
1515 SOUTH MANCHESTER
ANAHEIM, CALIFORNIA 92803

SUMMARY

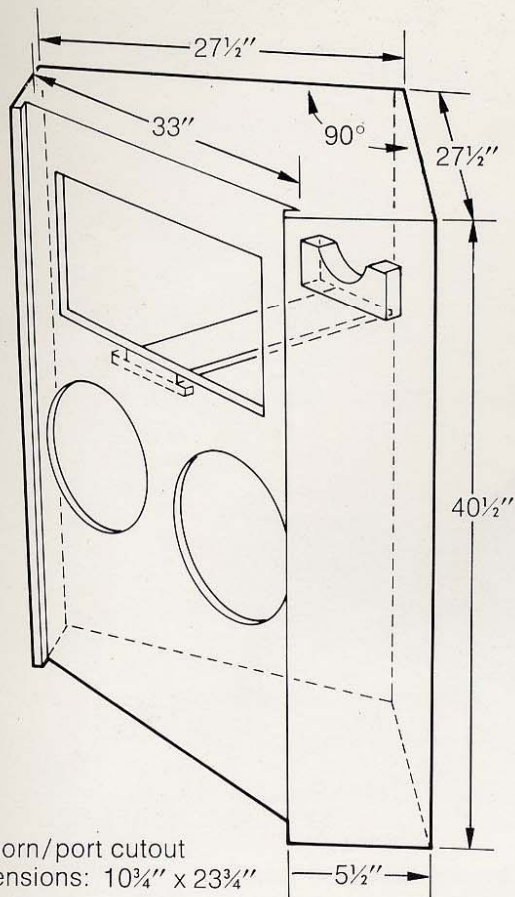
If you have access to a radial arm or table saw; can make a rigid, air tight box; and have the inclination—you can make your own loudspeaker enclosure. And it has only taken 32 pages to prove it. It can be easy and fun. It can save 40 to 60 percent of the cost of a given factory-built system.

There is a pride and sense of accomplishment in building your own enclosure not found in many endeavors. There is the opportunity to create, rather than accept what is available.

Most important: When it is finished and completed, it is ready to deliver the dynamics available from today's spectacular recordings with accuracy and power. You will hear your sound as never before . . . Enjoy!



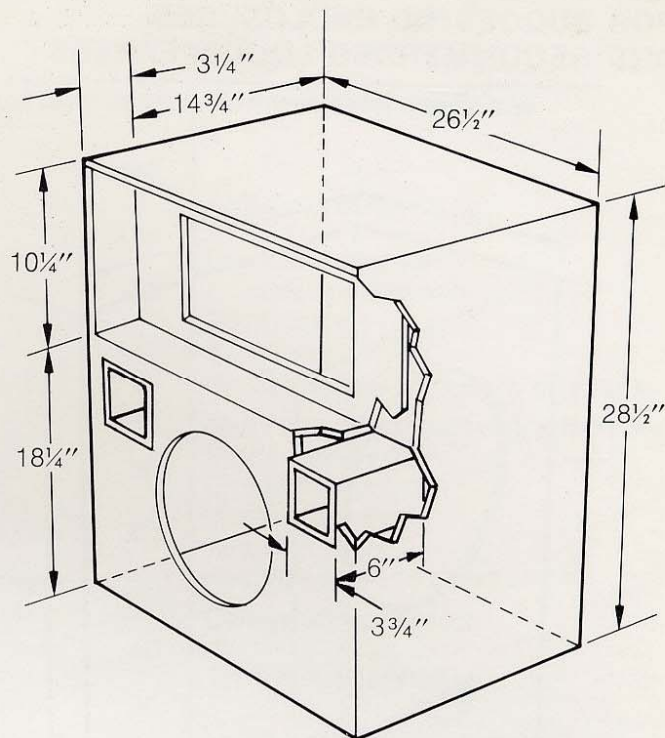
	811B	806-8A	511B	802-8D
A	10¼	—	13⅞	—
B	3¼	—	4⅞	—
C	8	—	9⅞	—
D	6⅞	—	9¼	—
E	—	4½	—	4½
F	—	3¼	—	3⅞
G	8⅞	—	10⅞	—
H	17¼	—	22⅞	—
I	18½	—	23½	—
J	8⅞	—	11⅞	—



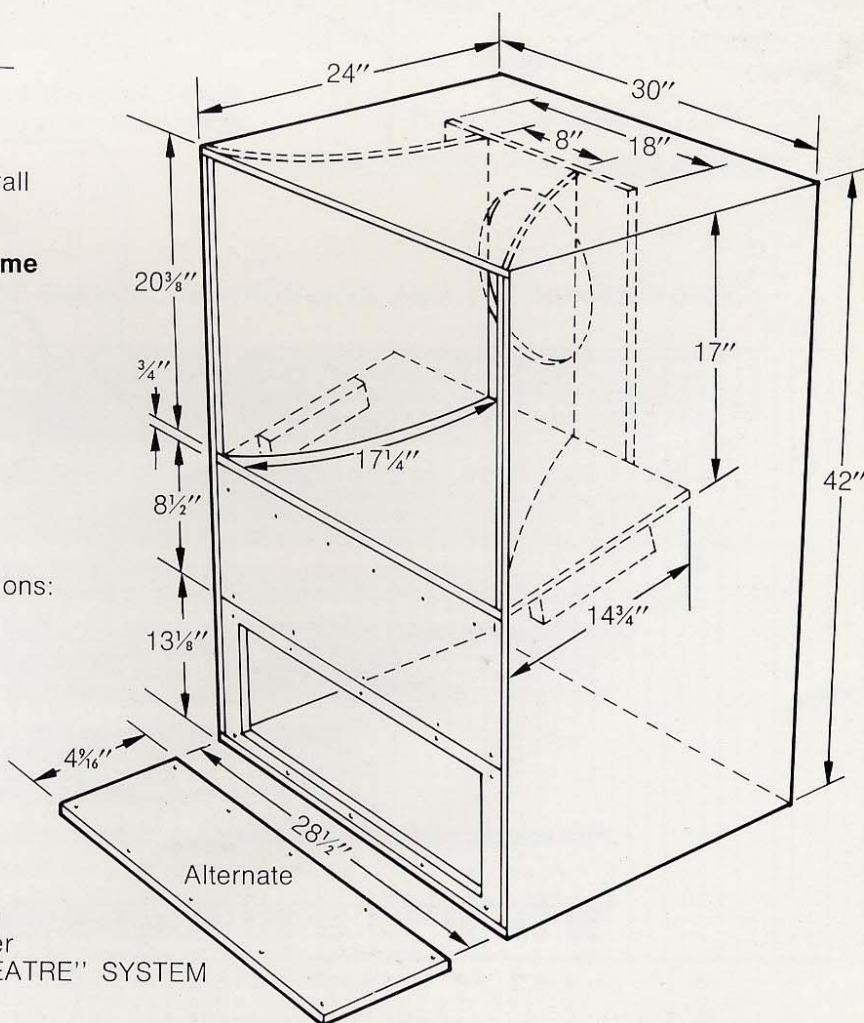
HF horn/port cutout
dimensions: $10\frac{3}{4}'' \times 23\frac{3}{4}''$

HF horn/driver support shelf measurements:
Mounting baffle to support cradle: $14\frac{1}{2}''$, overall
cradle width $6\frac{1}{2}''$, opening $4\frac{1}{2}'' \times 2\frac{1}{4}''$ radius

**500 Hz, double woofer, high efficiency home
"VOICE OF THE THEATRE" system.**



**800 Hz High efficiency home "VOICE OF THE
THEATRE" SYSTEM**



Standard port dimensions:
 $8\frac{1}{8}'' \times 26''$

Curved horn section
should be adequately
braced, not shown in
this drawing

Removable boards for
matching port to proper
"VOICE OF THE THEATRE" SYSTEM

**A-7 "VOICE OF THE THEATRE" For either 800 or 500 Hz systems. Shown
with alternate port board for internal mounting of A7-500-8A system.**

