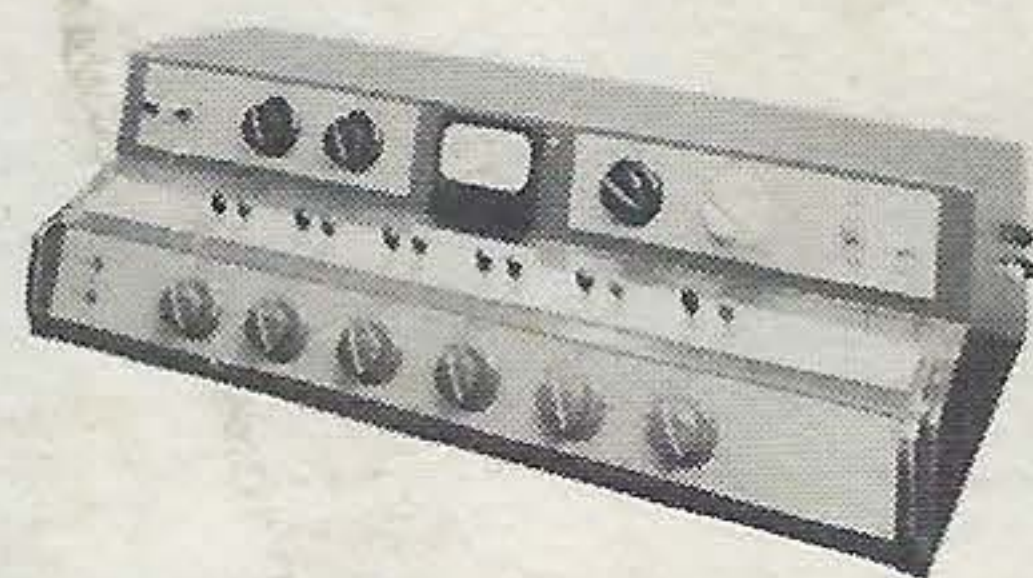
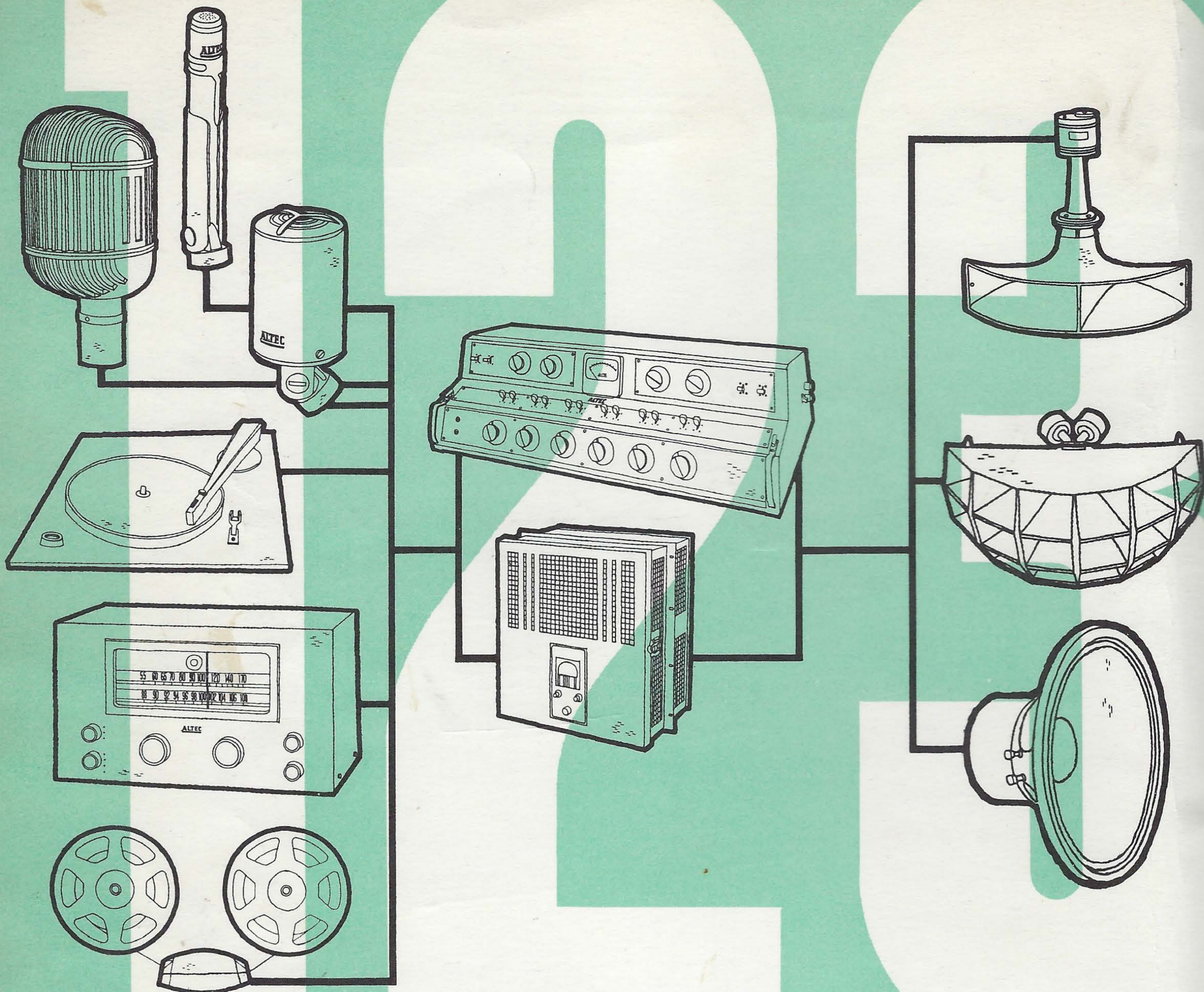


ENGINEERED SOUND PRODUCTS

ALTEC[®]
LANSING CORPORATION



THOMPSON
RADIO



every sound system has three basic components, the sound source, amplification and reproduction. To achieve maximum performance each of these components must be of the highest quality. Altec microphones, amplifiers and loudspeakers are recognized as the finest by professional users in the broadcast, recording, public address and motion picture industries. This famous Altec Lansing quality is your assurance of the highest audio quality, reliability, long life and low upkeep.

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M-20 MICROPHONE SYSTEM

The M-20 "Lipstik" Microphone System provides all of the outstanding features of the famous Altec M-11 System with the latest developments in miniaturization and printed circuit applications making it the smallest quality microphone on the market. It is literally no larger than a lipstick and is practically invisible when mounted on a regular microphone stand. In addition, it's equipped with a fountain pen clip so that it may be carried on the coat lapel or tie, or hidden underneath the tie, corsage, or other ornaments. Its quality and ruggedness are without peer.

M-20 Microphone System components are as follows:

21D microphone

Type: condenser
Frequency Range: 20 to 15,000 cycles
Pickup: omnidirectional
Hum: not susceptible to magnetic fields
Capacitance: 6 mmf.
Dimensions: Length $\frac{3}{8}$ "; Diameter $\frac{5}{8}$ "; Weight $\frac{1}{4}$ oz.
Finish: stainless steel

165A base

The 165A Base contains the sub-miniature impedance matching vacuum tube and provides the interconnection between the 21D Microphone and the P-525A Power Supply. The attached flexible 10 foot cable is covered with an abrasion resistant fiber glass webbing.

Tube: 1-5840
Finish: anodized gray

166A stand attachment

The 166A Stand Attachment provides swivel stand holder for Lipstik Microphone.

Mounting: $\frac{5}{8}$ "—27 thread
Finish: gray plastic

P-525A power supply

The P-525A Power Supply supplies necessary voltages to 165A Base and 21D Microphone.

Power Requirements: 117 Volts 60 Cycles 15 Watts

System output level from power supply:

Unbalanced:

High impedance (10,000 ohms or higher)...—30 db re 1 v/10 dynes/cm² (open circuit voltage—not power measurement)
 600 ohms.....—49 dbm/10 dynes/cm²
 150 ohms.....—53 dbm/10 dynes/cm²
 30 ohms.....—59 dbm/10 dynes/cm²

Balanced:

Using 4665 Plug-in Transformer for
 30, 150 or 600 ohms.....—48 dbm/10 dynes/cm²

Output impedance: 30, 150, 600 balanced; 30, 150, 600, 10,000 ohms unbalanced.

Dimensions: Height 2 $\frac{3}{8}$ "; Width 8 $\frac{5}{8}$ "; Depth 7 $\frac{1}{2}$ "

lipstik microphone accessories (order separately when required)

4665 Plug-in Transformer for balanced output.

11853 Rack Mounting Assembly holds two P-525A Power Supplies; requires 3 $\frac{1}{2}$ inches of rack space.

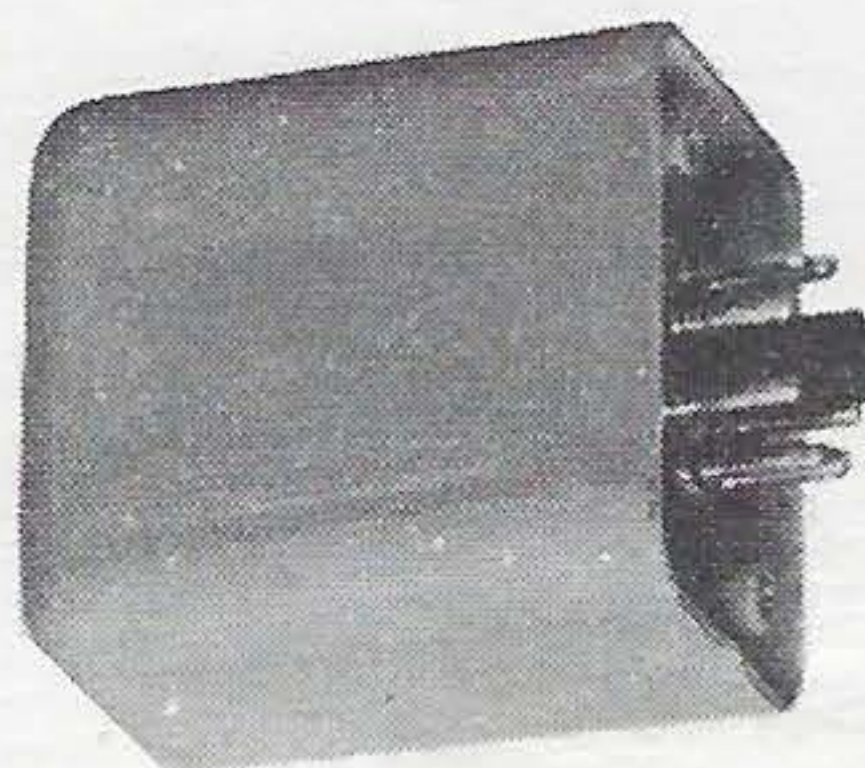
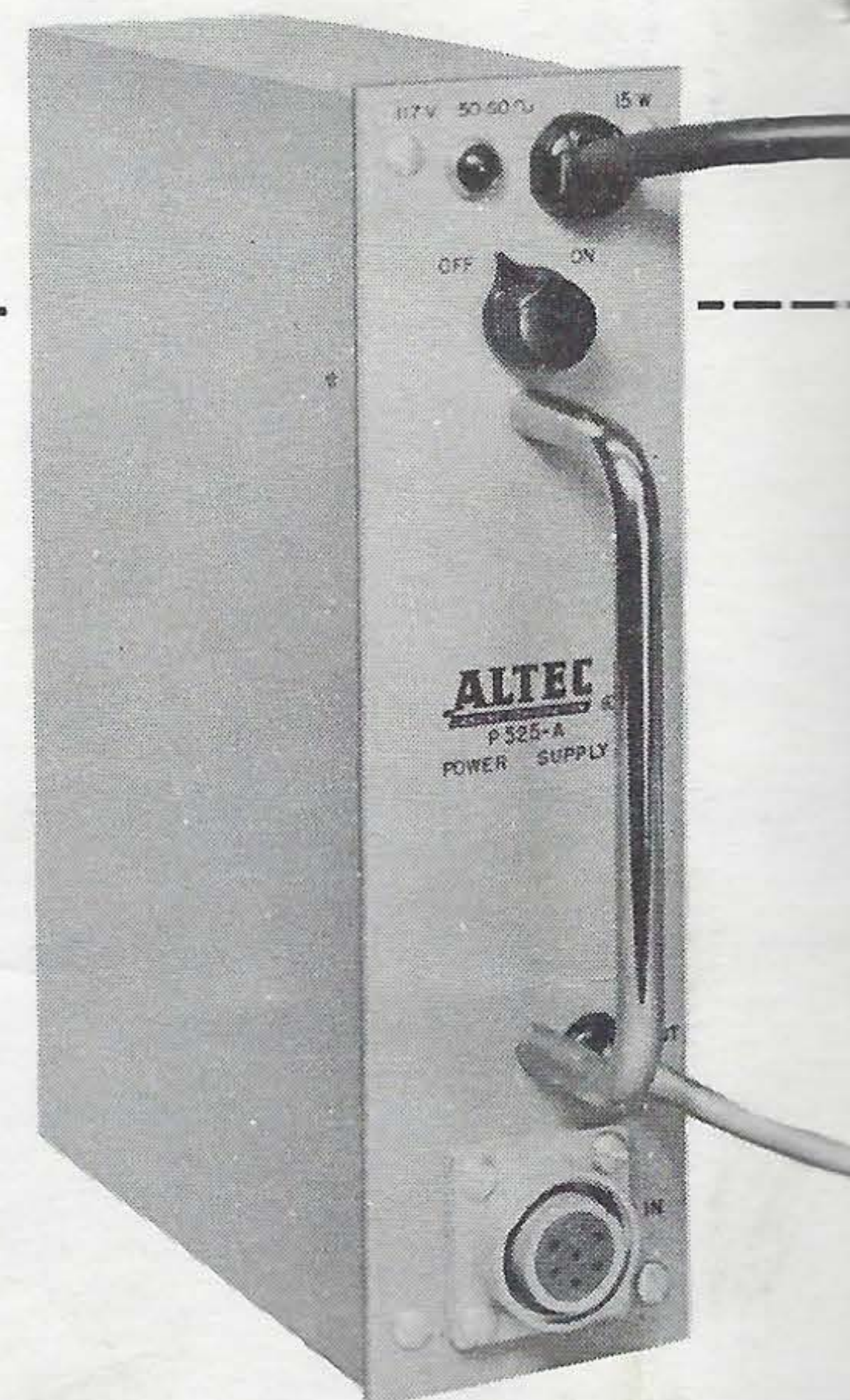
167A Extension Cable with connectors (uses 5426 Cable).

Length: 25 feet

1883-H6 Cable—slim fiber glass covered cable as supplied with 165A Base.

See microphone accessories for stands and stand adapters.

1
microphones



ALTEC
LANSING CORPORATION

M-11 MICROPHONE SYSTEM

The Altec M-11 Microphone System using the 21C Microphone represents the ultimate in quality reproduction. Its graceful, slender shape presents a minimum of obstruction when used on a microphone stand and it fits comfortably in the hand for mobile use. In addition to its wide, smooth frequency range and beautiful appearance, the M-11 System is omnidirectional in pickup characteristic, is completely shock and blast resistant, and not affected by strong winds, magnetic fields, or dampness. The M-11 Microphone System represents the highest development in microphone art for quality, performance, appearance, and dependability.

150A
BASE

152A
CABLE
SET

P-518A

152A cable set

for stand mounting microphone

Mounting: 5/8"—27 thread
Length: 25 feet
Weight: 1 lb. 11 ozs.

OR 153A cable set

for hanging suspension mounting of the microphone system (may also be ordered extra as extension cable for the 152A Cable Set)

Length: 25 feet
Weight: 1 lb. 11 ozs.

P-519A

M-11 Microphone System components are as follows:

21C microphone

Type: condenser
Frequency range: 20 to 15,000 cycles
Pickup: omnidirectional
Hum: not susceptible to magnetic fields
Capacitance: 6 mmf.
Dimensions: Length 3/8"; Diameter 5/8"
Weight: 1/4 oz.
Finish: stainless steel

150A base

The 150A Base contains a vacuum tube used as a cathode follower and an 8 pin Cannon Connector for connection of the microphone to the power supply.

Tube: 1-6AU6
Dimensions: Length 8 3/16"; Diameter 1 1/8"
Weight: 5 3/4 ozs.
Finish: Satin black

P-518A power supply

supplies necessary voltages to 150 Base and 21C Microphone

Power Requirements: 117 Volts 60 Cycles AC
System output level from power supply: -48 dbm/10 dynes/cm²
Output impedance: 30, 150/250, 500/600 ohms
Low frequency cutoff: 20, 40, 120 cycles
Dimensions: Height 7 1/2"; Width 8 1/4"; Depth 6"
Weight: 11 1/2 lbs.

OR P-519A rack mounting power supply

—same electrical characteristics as P-518A

Dimensions: Height 3 1/2"; Width 19"; Depth 6 9/16"
Weight: 11 1/2 lbs.

accessories (order separately when required)

5426 Multi-conductor Cable for use between microphone base and power supply to extend 25 feet standard length of 152A or 153A Cable Set.

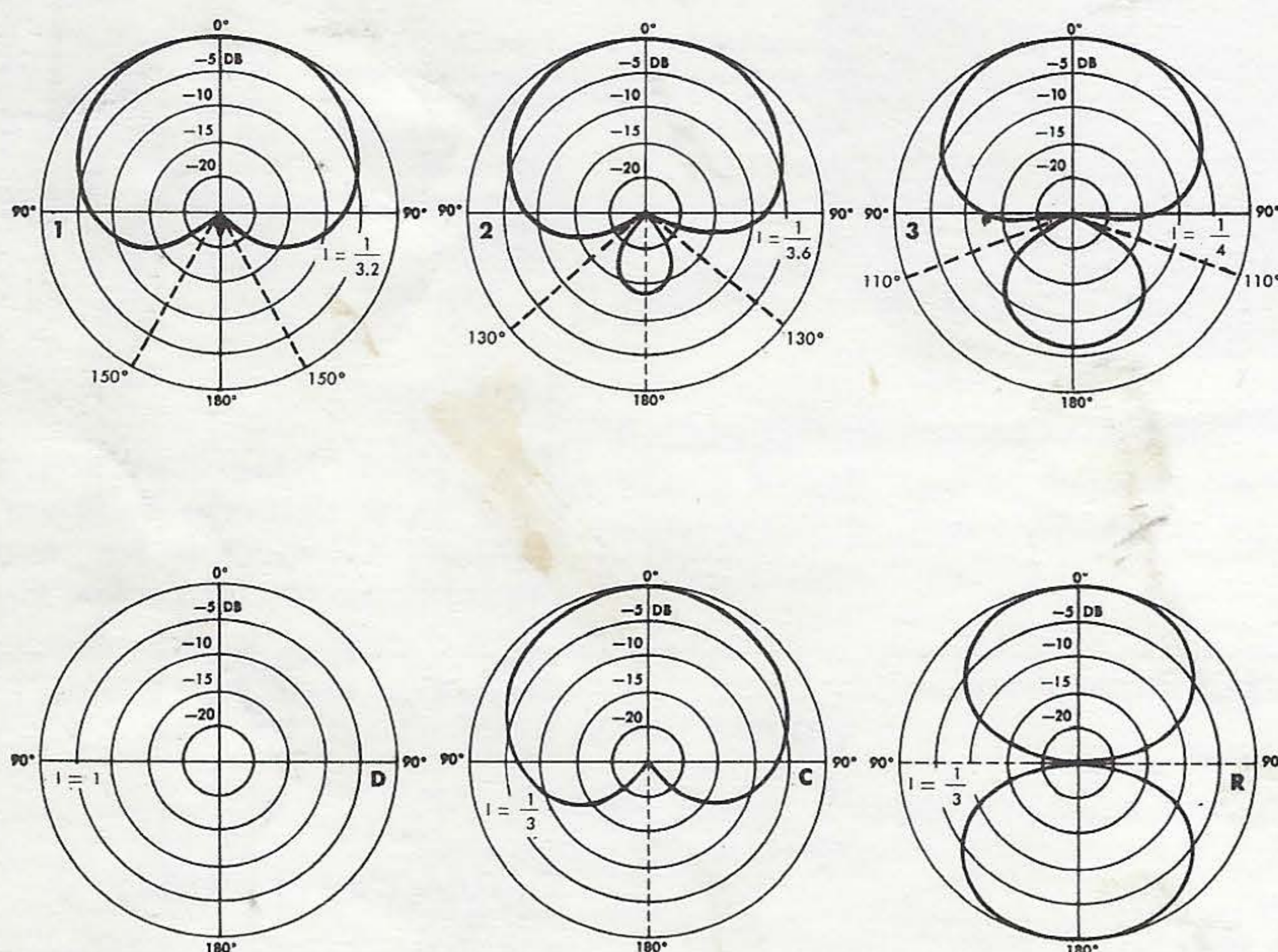
See microphone accessories for stands and stand adapters.



639 CAROID MICROPHONE

The Altec 639 Microphone is a combination of a dynamic pressure element and an improved ribbon type velocity element. The high quality, wide variety of directional patterns and excellent discrimination have made this microphone the most popular of all directional broadcast quality units. The different directional patterns are easily selected through a screwdriver operated switch on the back of the microphone.

Type: Cardioid
Frequency response: 40 to 10,000 cycles
Output impedance: 25/50 ohms
Output level: -56 dbm/10 dynes/cm²
Discrimination: Average front to back 20 db
Hum: -120 db (ref: 10⁻⁸ gauss)
Dimensions: Height 7½" (including plug)
 Width 3⅞"
 Depth 4⅞"
Weight: 3¼ lbs.
Finish: Dark gray
Mounting: Stand or suspension mounting. See microphone accessories for necessary adaptors.



Order 639A for three directional patterns; 639B for six directional patterns.



633 DYNAMIC MICROPHONE

The 633 "salt shaker" is famous for its ruggedness, dependability, quality, and economical price. It is normally omnidirectional, but the addition of the 8B Baffle provides a semidirectional pattern.

Type: Dynamic
Frequency response: 35 to 12,000 cycles
Output impedance: 633A—30 ohms
 633C—30, 150/250 ohms
Output level: -58 dbm/10 dynes/cm²
Dimensions: Length 3½"
 Diameter 2"
Weight: 633A—10 oz.
 633C—13 oz.
Finish: Gray
Mounting: See microphone accessories for mounting adaptors.

M-14 HIGH INTENSITY MICROPHONE SYSTEM

This scientific instrument has been designed for the measurement of sound pressures that are beyond the dynamic range of the normal commercial microphone. It is particularly applicable for the measurement of high explosive blasts, drop forges, horns and sirens, and the analysis of the characteristics of the noises created by jet engines and the like. The microphone may be operated without danger from -30° F. to 300° F. The microphone system is supplied with its own frequency calibration curve.



M-14 Microphone System components are as follows:

21BR

21BR-180 microphone

Type: condenser
Sound pressure range: 45 to 180 db.
Frequency range: 5 to 20,000 cycles
Pickup: omnidirectional
Hum: not susceptible to magnetic fields
Capacitance: 6 mmf.
Dimensions: Length $\frac{3}{8}$ "; Diameter $\frac{5}{8}$ "; Weight $\frac{1}{4}$ oz.
Finish: stainless steel

OR 21BR-200 microphone

Specifications same as 21BR-180 with following exceptions

Sound pressure range: 45 to 200 db
Frequency range: 5 to 25,000 cycles

157A base

Contains subminiature impedance matching tube and 25 feet of cable for the interconnection of microphone and P-524A Power Supply.

Tube: 1-5840
Finish: anodized

157A
BASE



P-524A power supply

This power supply supplies the necessary voltages to the impedance matching tube of the 157A Base and to the condenser microphone. The microphone output is presented to following equipment from the power supply.

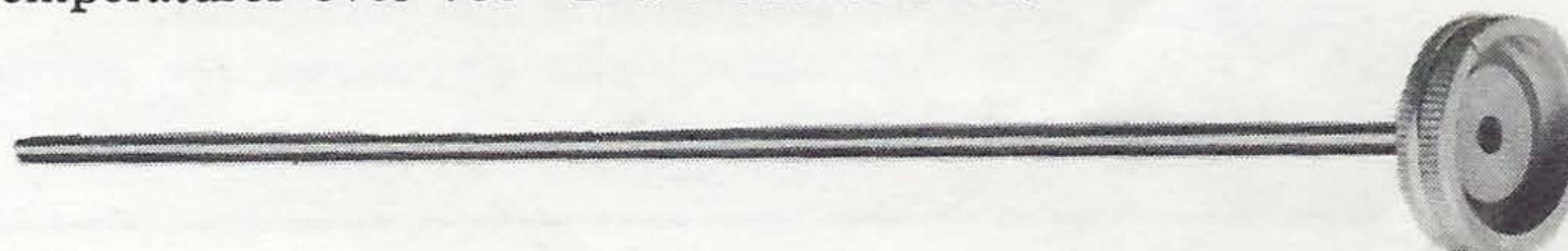
Power requirement: 117 volts 60 cycles 50 watts
System output level from power supply: 21BR-180— -66db re 1 volt/dyne/cm² (open circuit)
 21BR-200— -86db re 1 volt/dyne/cm² (open circuit)
Output impedance: 62.5/75, 125/150, 250/300, 500/600 ohms, or 10,000 ohms or higher.
Dimensions: Height $7\frac{1}{2}$ "; Width $8\frac{1}{4}$ "; Depth 6"
Weight: 11 $\frac{1}{2}$ lbs.



accessories (order separately when required)

159B probe tube

This tube threads to the end of the microphone and provides a point source or may be used for the measurement of sound pressures where continuous temperatures over 700° F are encountered.



M-16 MEDICAL MICROPHONE SYSTEM

This microphone system is for use in cardiovascular research, diagnosis, and teaching. It finds wide use for the recording of heart sounds for future reference by the diagnostician and for reproduction over a loudspeaker system for the instruction of medical students and doctors.

M-16 Microphone System components are as follows:

21BR-150 microphone

Type: condenser
Frequency range: 5 to 18,000 cycles
Pickup: omnidirectional
Hum: not susceptible to magnetic fields
Capacitance: 6 mmf.
Dimensions: Length $\frac{3}{8}$ "; Diameter $\frac{5}{8}$ "; Weight $\frac{1}{4}$ oz.
Finish: stainless steel

165A base

Contains impedance matching tube; provides interconnection between microphone and power supply. Has 10 foot cable.

Tube: 1-5840
Finish: anodized gray

P-525A power supply

Supplies necessary voltages to 165A Base and condenser microphone.

Power requirements: 117 volts 60 cycles 15 watts
System output level from power supply: -56 db re 1 volt/dyne/cm² (open circuit)
Output impedance: 10,000 ohms unbalanced
 30, 150, 600 ohms balanced (requires 4665 Transformer)
Dimensions: Height $2\frac{3}{8}$ "; Width $8\frac{3}{4}$ "; Depth $7\frac{1}{2}$ "

2A microphone attachment

Provides air tight connection between 21BR-150 Microphone and standard Reiger Bowles Stethoscope Head.



accessories (order separately when required)

4665 Plug-in Transformer
 Provides balanced output of 30, 150 or 600 ohms.

167A Extension Cable with Connectors
 Length: 25 feet

ALTEC
 LANSING CORPORATION

670A CARDIOID MICROPHONE



The 670A Microphone provides highest quality performance at moderate cost. Three directional patterns; omnidirectional, Figure 8, and cardioid, are easily selected by means of adjusting screw at back of microphone. In addition to these three distinct patterns it is possible by shutter adjustment between the patterns to shift the null point of the microphone over a 90° angle and effectively suppress undesirable sounds. The screw-driver switch located under the nameplate permits selection of proper output impedance.

Type:	cardioid ribbon
Frequency response:	uniform 30-15,000 cycles in the cardioid position.
Output impedance:	30/50, 150/250 ohms
Output level:	-58 dbm/10 dynes/cm ²
Discrimination:	average front to back 18 db.
Hum:	-130 dbm ref 10 ⁻³ gauss
Dimensions:	Height 6½" including swivel, Width 2½", Depth 3¾"
Weight:	1¼ lbs.
Finish:	dark gray
Mounting:	⅝"-27 swivel head

See microphone accessories for stands and stand adapters.

660 DYNAMIC MICROPHONE



The 660 Dynamic Microphone is a rugged, efficient unit of broadcast quality. In addition to studio use, it is adapted for public address and outdoor use where its high output level, excellent signal-to-noise ratio, and durability are particularly advantageous.

See microphone accessories for stands and stand adapters.

Type:	dynamic
Frequency response:	35 to 12,000 cycles
Output level:	-57 dbm/10 dynes/cm ²
Output impedance:	660A—30 ohms 660B—30, 150/250, or 20,000 ohms
Length:	4" including swivel, Diameter 1⅞"
Weight:	660A—11 ozs. 660B—13 ozs.
Finish:	satin silver

671A VELOCITY MICROPHONE



The 671A Microphone represents a new high in compact velocity microphones providing good broadcast quality, high signal-to-noise ratio, and extremely low hum pickup. These features make it exceptionally valuable in the most difficult situation.

Type:	velocity
Frequency response:	30 to 16,000 cycles
Directivity:	Figure 8 pattern
Impedance:	30/50, 150/250 ohms
Output level:	-56.5 dbm/10 dynes/cm ²
Hum:	-130 dbm ref 10 ⁻³ gauss
Dimensions:	Height 4½" including swivel head, Width 2½", Depth 3¾"
Weight:	14 ozs.
Finish:	dark gray

MICROPHONE ACCESSORIES

22C floor stand

Heavy weight, rugged floor stand, gray base with chrome stand. Adjustable from 35" to 64". Has ⅝" x 24 thread and is equipped with ⅝" x 27 adapter.



24C desk stand

Gray finish. Short desk stand provides minimum microphone height on speakers' tables, etc. Has ⅝" x 24 thread and adaptor for ⅝" x 27 thread.



10821 gale screen

For use on 21C and D microphones to provide suppression of wind noises under extreme conditions.



632C DYNAMIC MICROPHONE

The 632C has been carefully designed to properly fill the requirements for a close talking, rugged microphone for use in announcing and public address systems. The microphone is not intended for music pickup, but provides the ideal close talking microphone for indoor and outdoor use, public address, roving announcers, paging, etc.

Type:	Dynamic
Frequency response:	100 to 10,000 cycles
Output impedance:	30 ohms
Output level:	-58 dbm/10 dynes/cm ²
Dimensions:	Length 2 1/8"
	Width 2"
Finish:	Gray
Weight:	8 1/4 ozs.
Mounting:	See microphone accessories for necessary adaptors.

MICROPHONE ACCESSORIES



311A plug

For use in 633 and 632 microphones, makes it possible to interchange these microphones with the 639.

712A adaptor

Used with 442A Jack, it provides greater mounting security.

8B attachment

3 1/4" baffle provides semidirectional response from 633 Microphone.

11A attachment

Provides swivel, suspension mounting for the 639 Microphone. It may also be used on microphone stands when tilting of the microphone is desired. Has 3/8"-24 male thread.

713A adaptor

This slotted connector permits the microphone cord to run outside of the microphone stand so that it is not necessary to disconnect the cord assembly when removing the microphone from the stand.

10994 adaptor

For use in mounting 632C and 633 Microphones to W. E. telephone-type stand.

KS-1200 cover

Black, dust-proof cover for protection of 639 Microphone.

23A desk stand

Slender desk stand particularly adapted for use with 633 or 632 microphone. Has 3/8"-24 female thread.

Dimensions: Height 7 1/2"
Diameter 5"

172A repeating coil

High quality impedance matching device for use in low level circuits, particularly between microphone and amplifier.

Frequency range: 30 to 15,000 cycles
Power capacity: .045 watts (+16 dbm) at 30 cycles
Insertion loss: approximately 1 db
Dimensions: Length 2 7/8"
Diameter 1 3/4"
Weight: 12 ozs.
Finish: Black

442A jack

Provides termination of microphone cord. When used with 712A Adaptor, it properly connects to bottom of 639 Microphone and also to 311A Plug as used on 633 and 632 microphones.

9A swivel attachment

Is used with 633 and 632 microphones. Provides a 90 degree swivel. May be attached directly to microphone or used with 311A Plug, 442A Jack, and 712A Adaptor. Has 3/8"-24 male thread.



303C AM-FM RADIO TUNER

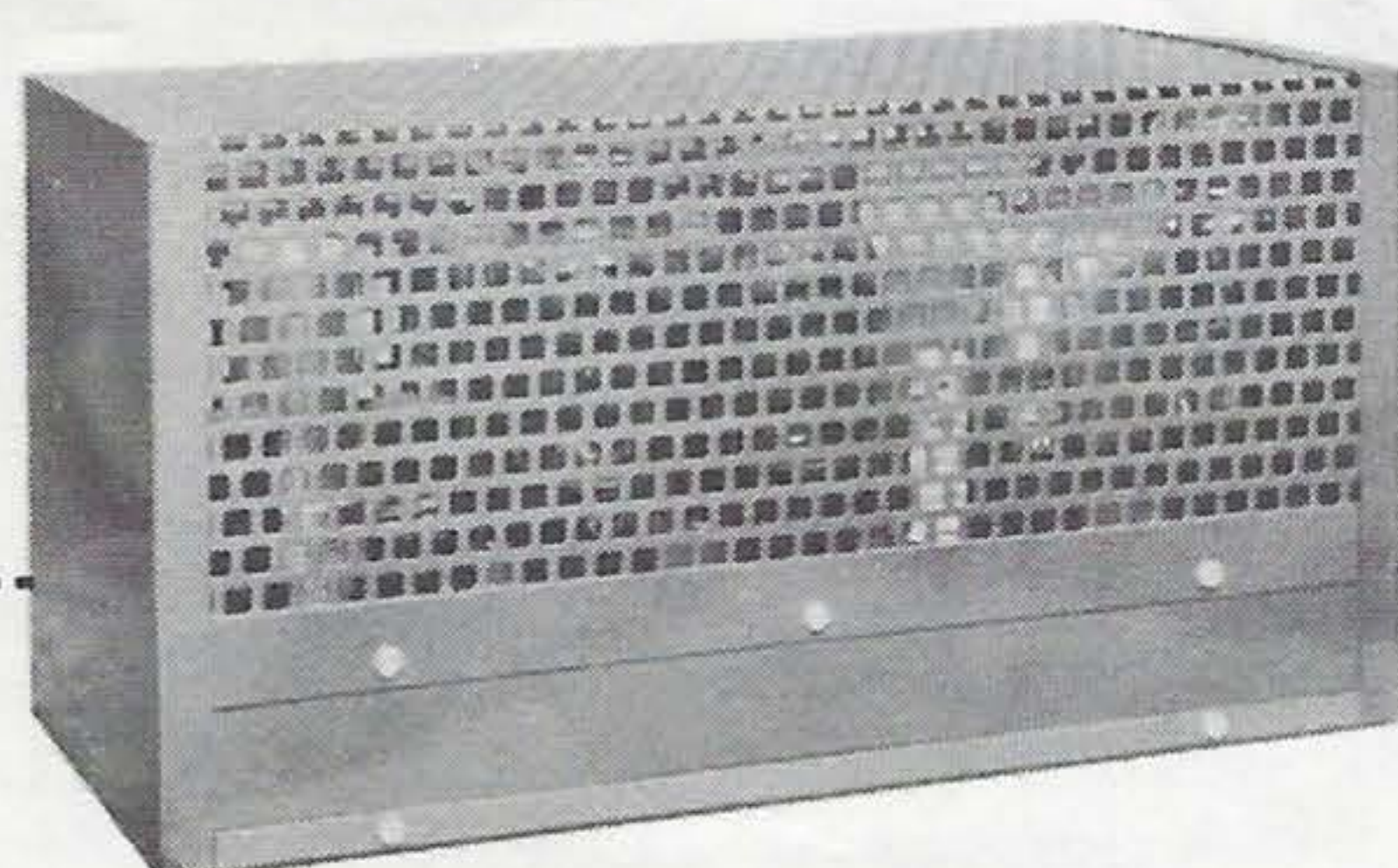
and phonograph control unit

Sharp selectivity, exceptional sensitivity, maximum fidelity, and precise control are all incorporated in the 303C Tuner, designed for use in custom built-in home music systems. The phonograph control unit includes a multi-stage preamplifier, equalization for all types of recordings, selection of various inputs and high frequency and low frequency controls. This combination insures highest quality of reproduction from radio phonograph or magnetic tape. The 303C is an essential component of the finest home music systems. Approved by Underwriters' Laboratory. For use with Altec A-333A Amplifier and any Altec speaker.

1
am-fm tuner

A-333A

303C



technical data

Broadcast Range:	AM: 540-1720 Kilocycles FM: 88-108 Megacycles
FM Sensitivity:	Absolute—0.8 microvolt Quieting—6.0 microvolts
External Inputs:	Phonograph—magnetic or ceramic Spare—Television, high level microphone, tape, etc.
Output:	Cathode follower for matching into input of high impedance power amplifier (50,000 ohms or greater)
Tubes:	AM: 2-6BA6; 1-6AL5; 1-6BE6 FM: 1-6BQ7A; 1-12AT7; 2-6BA6; 1-6AU6; 1-6AL5; 1-6AB4 Audio: 1-12AU7; 1-12AX7 Rectifier: 1-6X4 Tuning Eye: 1-6U5/6G5
Equalization:	For all types of recordings and crossover frequencies of 250, 500, (AES-LP), 800 cycles
Controls:	Variable control of rise and droop in both treble and bass response; continuously variable volume control. Switching AFC in and out of circuit accomplished by setting selector to positions "FM with AFC" or "FM" as desired.
Power Supply:	117V-50/60 cycles—65 watts
Dimensions:	15 $\frac{1}{8}$ " long, 8 $\frac{5}{8}$ " high, 9 $\frac{3}{4}$ " deep
Shipping Weight:	26 lbs.
Finish:	Control panel has durable baked enamel finish in satin brass color. Hammertone brown metal cover. Control knobs are brass faced with brown bakelite ring.
Accessories:	1 six-foot two-conductor cord equipped with matching plugs for connecting to Altec A-333A Power Amplifier. 1 Dummy AC switch plug for use with Altec A-333A Power Amplifier.
Gain:	64.5 db.
Frequency Response:	0-1 db, 20-22,000 cycles. Flat within 3 db up to 100,000 cycles.
Power:	27 watts with less than 5% harmonic distortion. 20 watts with less than 2% harmonic distortion. 15 watts with less than $\frac{1}{2}$ % harmonic distortion.
Input:	For 303C AM-FM Tuner.
Output:	4, 8 or 16 ohms.
Power Supply:	117V, 50-60 cycles, 110 watts.
Tubes:	1-6SJ7; 1-6J5; 2-6L6G; 1-VR75/OA3; 1-5U4G.
Dimensions:	13 $\frac{5}{8}$ " long, 7 $\frac{1}{4}$ " high, 6 $\frac{1}{4}$ " deep
Weight:	20 lbs. 10 oz.
Finish:	Gray

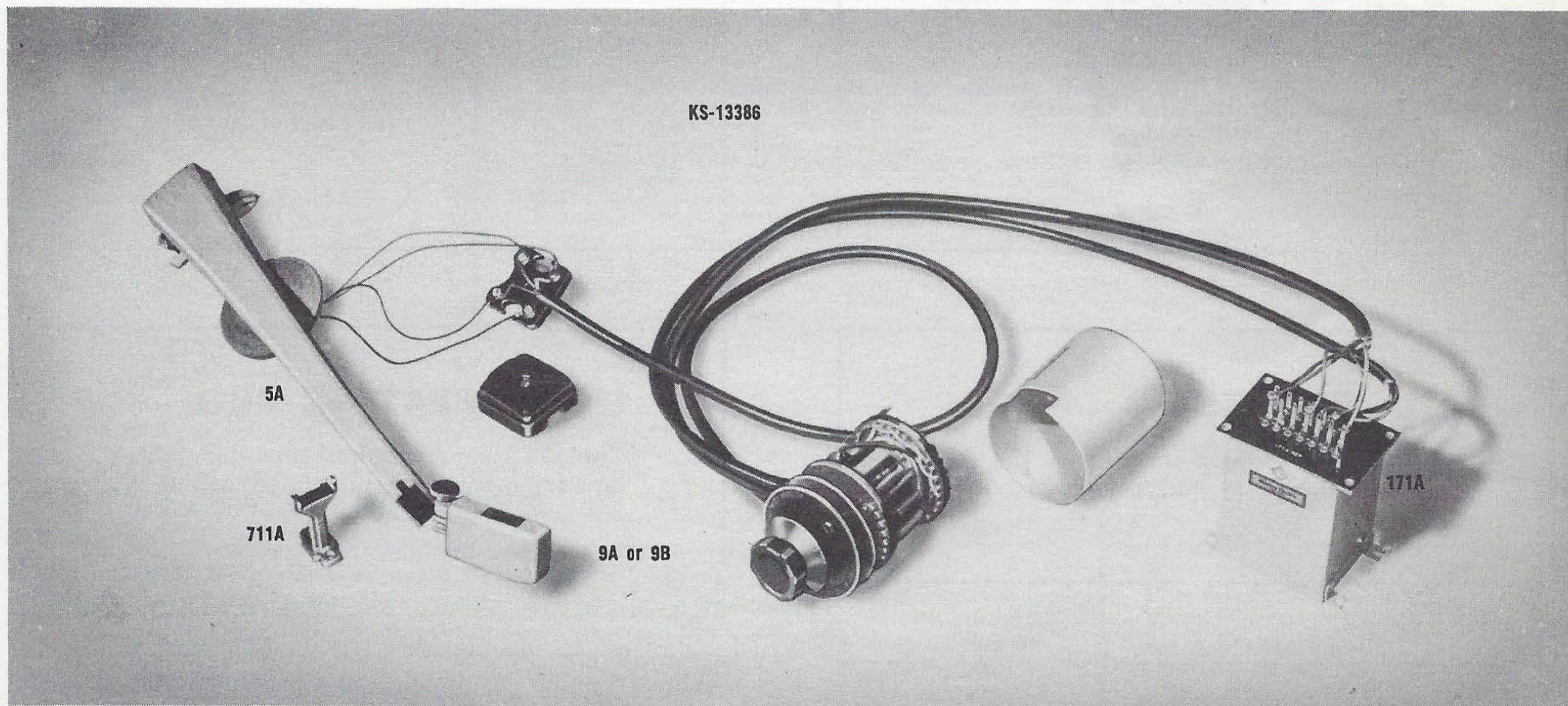
10626 assembly for rack mounting 303-C Tuner occupies 10 $\frac{1}{2}$ " of rack space.

1

reproducer

109 REPRODUCER GROUP

The 109 reproducer group is a professional record reproducing combination for both vertical and lateral-cut recordings with its own equalizer equipment. A total of seven equalization curves are available: five for lateral-cut recordings and two for vertical-cut recordings. The 109 reproducer group is available in two combinations. The 109A reproducer consists of 9A reproducer, 5A arm, 711A bracket, KS-13386 equalizer and cable assembly, and 171A repeating coil. The 109B reproducer group is identical except that it is supplied with the 9B reproducer. The 9A reproducer is a 2 mil. diamond stylus and is preferred when the majority of reproduction will be from vertical-cut records although it performs extremely well on lateral-cut records. The 9B has a 2½ mil. sapphire stylus for improved signal-to-noise ratio on the reproduction of lateral recordings.



specifications	
Stylus pressure:	35 grams
Output noise:	45 db below signal level on good transcriptions
Operating facility:	Vertical or lateral-cut to 16" diameter
Output level:	Dependent upon record
Load impedance:	30, 250 or 500/600 ohms
Dimensions:	9A or B reproducer and 5A arm Length 18½" Width 2" maximum, 7/8" minimum Height 4" Base 3" diameter. Height adjustable for platter height above table from ¾" to 2"
Weight:	4 lbs.

9 TYPE REPRODUCER

Dynamic moving coil reproducer with suppression of lateral movement during vertical reproduction and suppression of vertical movement during lateral reproduction.

Stylus: 9A—2 mil. diamond
9B—2½ mil. sapphire
Weight: ½ lb.

5A REPRODUCER ARM

The 5A arm has sufficient mass for stable tracking and full low frequency reproduction and is counter-balanced to provide a 35 gram stylus pressure with the 9 type reproducer. It is equipped with a 4 pin jack to receive the reproducer.

Length: from stylus to pivot 13½"
Weight: 3½ lbs.
Finish: Aluminum

KS-13386 EQUALIZER

This equalizer and cable assembly provides seven reproducing positions; two for vertical and five for lateral-cut records.

Length: Body 3¾"
Shaft 1¾"
Diameter: Body 3"
Shaft ¼"
Finish: Aluminum with black dial plate and black knob

711A BRACKET

A T-shaped armrest to support the 5A arm and 9 type reproducer when not in use.

171A REPEATING COIL

The 171A repeating coil provides output taps for feeding circuit impedance of 30, 250 or 500/600 ohms.

Dimensions: 3¼" x 5⅝" x 3⅞"

706A GUARD

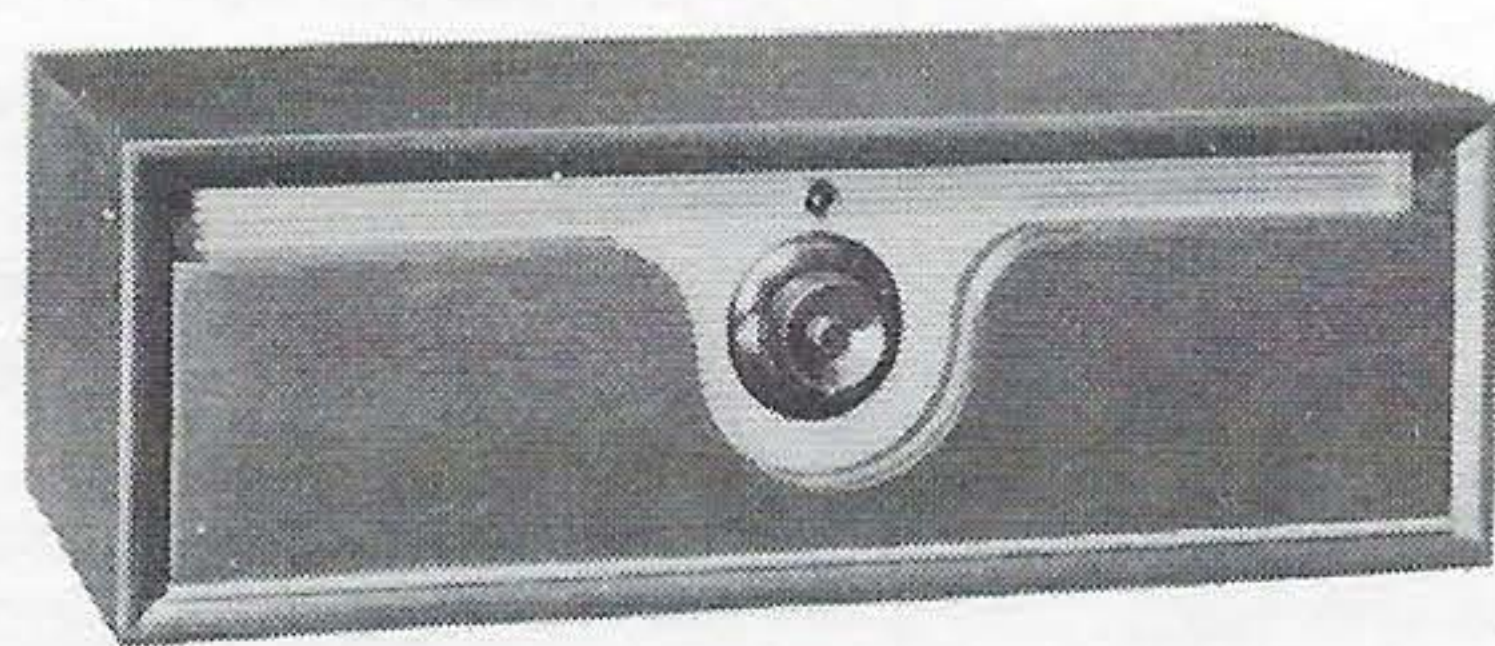
This extremely desirable accessory controls the vertical movement of the arm and makes it impossible for the stylus to rest on any surface other than that of the recording. It is impossible to drop the stylus on the turntable panel, the turntable itself, or for the reproducer to strike the edge of the turntable, or drive pins or holes. The 706A guard must be ordered separately.

712A BRACKET

This supporting bracket should be ordered in addition to the 109 reproducer group when there is insufficient table area to properly mount the 5A arm. This bracket provides a vertical mounting facility for the 5A arm, support for the arm base, and a guard which protects the rear end of the arm from accidental contact.

A-440A CONTROL PREAMPLIFIER

This high fidelity preamplifier mounted in a beautiful furniture cabinet provides maximum control from a variety of inputs for custom music installations. Tape monitoring facilities and other special features make the A-440A the most flexible preamplifier available. It is designed primarily to use with the A-340A Power Amplifier.



amplifiers

specifications

Gain:

- 1 KC, tone controls flat
 1. Low level, equalized (phono) 60 db (.0015 volts in for 1.5 volts out)
 2. Low level, flat (mic.) 63.5 db (.001 volts in for 1.5 volts out)
 3. High level (TV, tape, radio) 26 db (.075 volts in for 1.5 volts out)

Power Output:

30 volts rms maximum with 200,000 ohm load

Frequency Response:

Flat, or equalized for magnetic pickup (25 combinations) plus bass and treble tone control

Input Impedance:

High level inputs (3) 200,000 ohm level control
 Low level inputs (2) 47,000 ohm grid resistor

Load Impedance:

10,000 ohms minimum (both main and recorder outputs)

Output Impedance:

Cathode follower, 1,000 ohms nominal (both outputs)

Noise Level:

High level inputs, volume max. better than 95 db below 1.5 volts output
 Phono inputs, volume max. better than 95 db below 1.5 volts output

Controls:

- 1—Selector switch for choice of inputs and low frequency crossover.
 1—High frequency equalizer switch, total combinations high and low, 25.
 1—Two-position phono or mic. selector switch.
 1—Volume or loudness control with ganged power switch.
 1—Three-position switch for "loudness" or "volume" control and tape monitor facility.
 1—Continuously variable treble boost or attenuate tone control.
 1—Continuously variable bass boost or attenuate tone control.
 5—Level controls for balancing input signals.

Power Supply:

117 volts, 60 cps, 15 watts

Tubes:

2—12AY7, 1—12AU7

Dimensions:

4 3/4" H, 14 3/8" W, 6 7/8" D

Color:

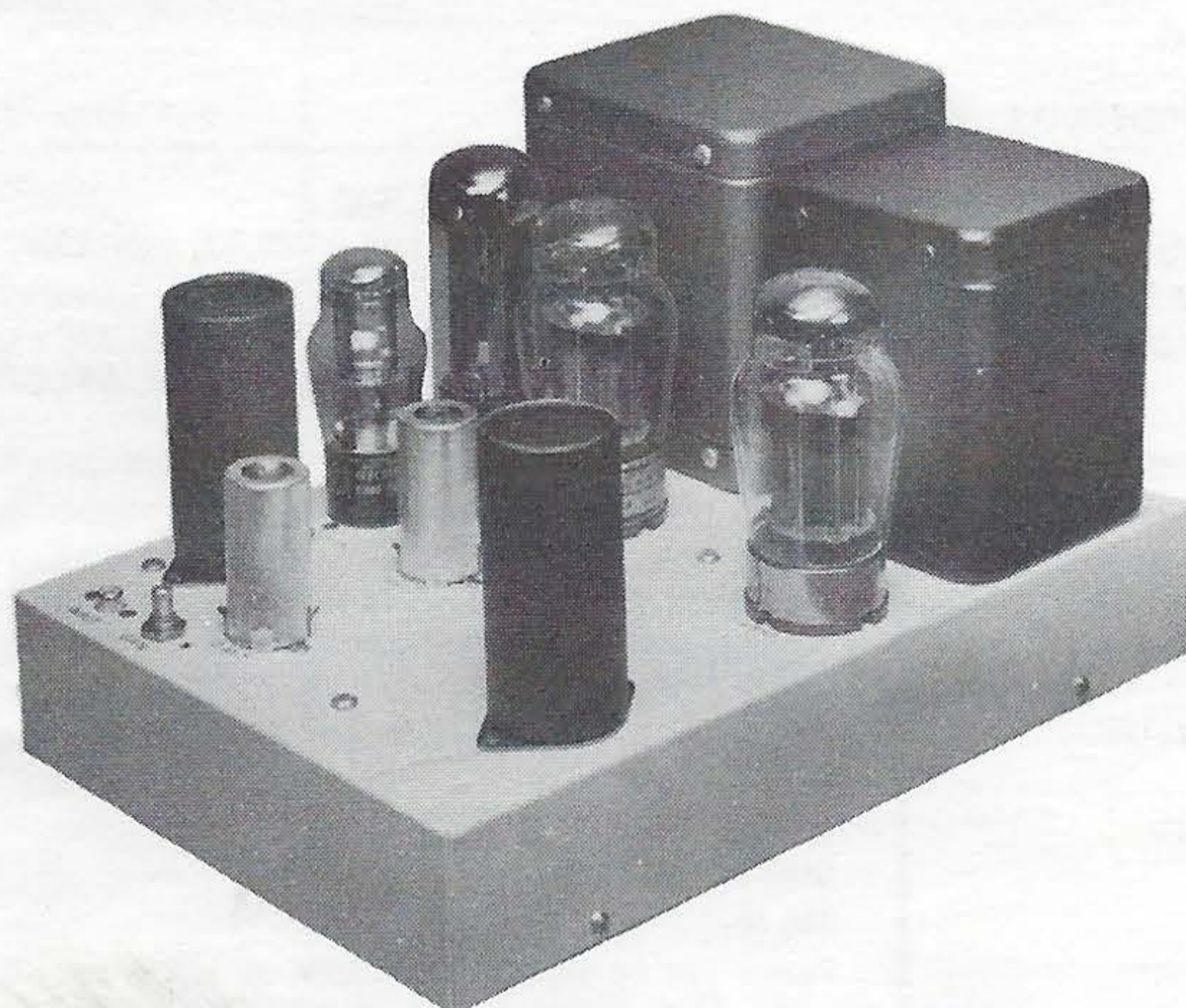
Mahogany or blond wood cabinet

Weight:

9 1/3 lb.

A-340A POWER AMPLIFIER

This 35 watt power amplifier is designed primarily for use in high fidelity music systems although it may be used for recording or any other purpose where ultra high quality is a desirable feature. Normally it is controlled by a preamplifier such as the Altec A-440A. Simplified circuitry and use of high capacity components provides this amplifier with exceptional stability and long life.



specifications

Gain:

66.5 db from a 200,000 ohm generator

Input Sensitivity:

1.3 volts rms for rated output

Power Output:

35 watts at less than 1/2% thd, 30-15,000 cps

Frequency Response:

± 1 db, 5 to 100,000 cps

Input Impedance:

200,000 ohm potentiometer

Load Impedance:

8 and 16 ohms

Output Impedance:

Adjustable from —4 to +4.5 ohms on 8 ohm tap. Less than .52 ohms on 16 ohm tap.

Damping Factor:

Greater than 35 on 16 ohm tap, +1.8 through infinity to —2.0 on 8 ohm tap.

Noise Level:

—50 db: 95 db below rated output

Controls:

Volume Control, continuously variable composition, R_c control, continuously variable, wire wound.

Power Supply:

117 volts, 60 cps, 160 watts

Tubes:

1—12AY7, 1—12AU7, 2—6550, 1—5U4GB, 1—0A3/VR75

Dimensions:

6 3/4" H, 8 1/4" W, 12 1/2" D

Color:

Dark green hammertone

Weight:

21 1/2 lb.

A-339A AMPLIFIER

The A-339A is a compact 10 watt amplifier, preamplifier and control unit, mounted in a table model furniture cabinet, for use in small high fidelity music systems. It provides three inputs and complete equalization, tone, and loudness controls for comprehensive quality control. The phono input is equalized for use with magnetic pickup and for various types of recordings.

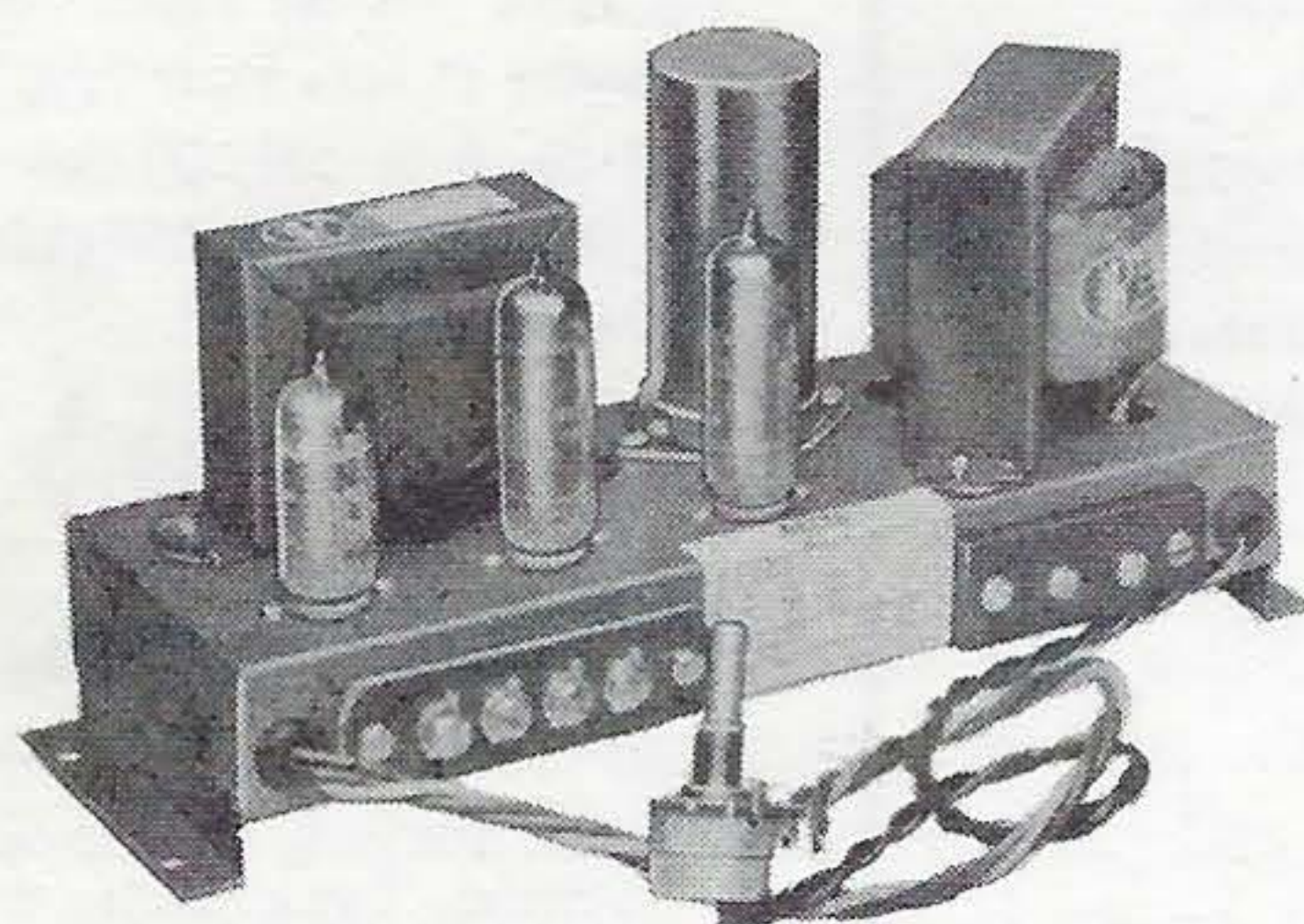
specifications

Gain:	1 KC, tone controls flat 1. Mic. or phono input: 94 db from 50,000 ohm source (.007 volts in for rated output) 2. Radio or tape input: 70 db from 200,000 ohm source (.023 volts in for rated output)
Power Output:	10 watts at less than 2% thd, 100-7,500 cps, 5 watts at less than 2% thd at 50 cps
Frequency Response:	20-20,000 cps, ± 1 db radio or tape input, 50-15,000 cps, ± 1 db mic. input, phono positions equalized
Input Impedance:	Mic. and phono input—50,000 ohms Radio or tape inputs—200,000 ohm potentiometer
Load Impedance:	4, 8 or 16 ohms
Output Impedance:	Approximately $\frac{1}{2}$ ohm on 16 ohm tap
Damping Factor:	30 (on 16 ohm tap)
Noise Level:	Better than 77 db below rated output on high level inputs Better than 59 db below rated output on low level input, with maximum setting of level and loudness controls
Controls:	3-Level controls, loudness control with power switch, continuously variable boost or attenuate bass and treble controls, 7-position input selector switch with 4 positions for different phono equalization characteristics.
Power Supply:	117 volts, 60 cps, 75 watts
Tubes:	1—12AY7, 1—12AU7, 1—12AX7, 2—6CM6, 1—6AX5GT
Dimensions:	4 $\frac{7}{8}$ " H, 13" W, 9 $\frac{3}{4}$ " D
Color:	Mahogany or blond wood
Weight:	9 lb.



A-336A MONITOR AMPLIFIER

This small amplifier, designed for specific use, provides power to a monitor loudspeaker. It is not supplied with any sort of case and must be mounted inside the 625 monitor speaker cabinet or some other suitable enclosure as a guard against shock hazard.

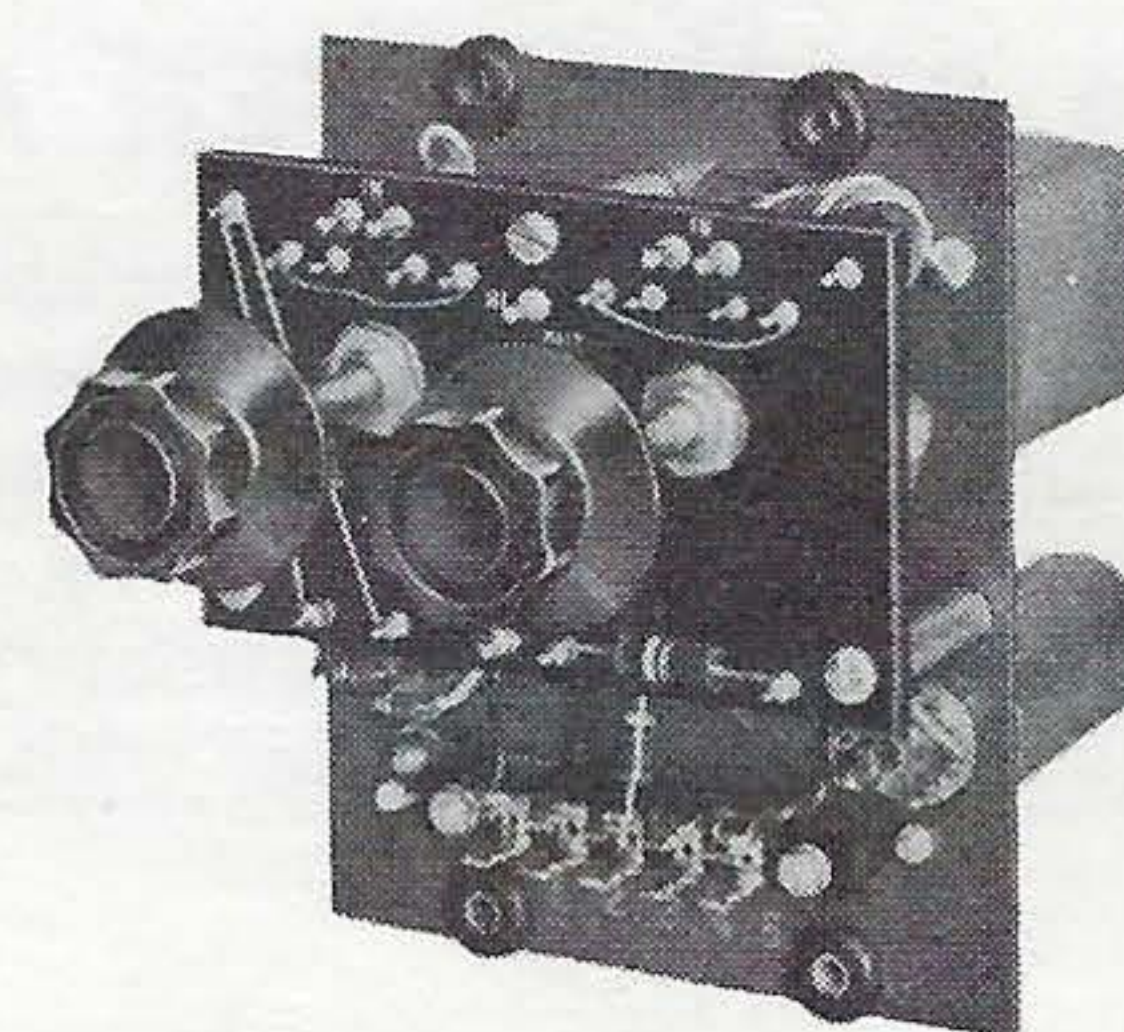


specifications

Gain:	43.5 db from a 10,000 ohm source
Input Sensitivity:	1.2 volts rms for rated output
Power Output:	3 $\frac{3}{4}$ watts at less than 5% thd, voice frequency range
Frequency Response:	± 1 db, 40-20,000 cps
Input Impedance:	10,000 ohm potentiometer
Load Impedance:	8 ohms
Noise Level:	—22 dbm: 57.8 db below rated output
Controls:	Volume Control, continuously variable, composition
Power Supply:	117 volts, 50/60 cps, 30 watts
Tubes:	1—6AQ5, 1—6AQ6, 1—6X4
Dimensions:	4 $\frac{3}{4}$ " H, 3" W, 9" D
Color:	Gray hammertone
Weight:	4 $\frac{3}{4}$ lb.

1510A PREAMPLIFIER MIXER

The 1510A Preamplifier has two low noise input channels with individual gain controls on each channel and a single output circuit for use in public address and commercial sound systems. When used with the 1520 or 1530 power amplifiers, it mounts directly on the power amplifier chassis and receives its power supply from the power amplifier. When used separately the 530A Power Supply is required.



specifications

Gain:	47 db into a 100,000 ohm load
Power Output:	23.0 volts rms maximum into a 100,000 ohm load
Frequency Response:	± 1 db, 30-15,000 cps
Source Impedance:	Each channel 30/50, 125/150, 250/300, 500/600 ohms Center tap available for 125/150 and 500/600 ohm connections
Load Impedance:	10,000 ohms minimum
Output Impedance:	10,000 ohms nominal
Noise Level:	Output noise —73 dbm into a 100,000 ohm load Equivalent input noise —120 dbm
Controls:	Volume Control, continuously variable composition. One each channel.
Power Supply:	300 vdc at 5 ma, 6.3 vac at 0.45 a.
Tubes:	1—12AY7, 1—5879
Dimensions:	5 $\frac{3}{8}$ " H, 4 $\frac{1}{8}$ " W, 5" D
Color:	Gray hammertone
Weight:	2 $\frac{3}{4}$ lb.
Accessories:	Power can be supplied by 1520A or 1530A amplifiers or the 530A power supply. Preamplifiers can mount on 1520A or 1530A amplifiers or in rack on 10956 rack mounting assembly. Above items must be ordered separately.

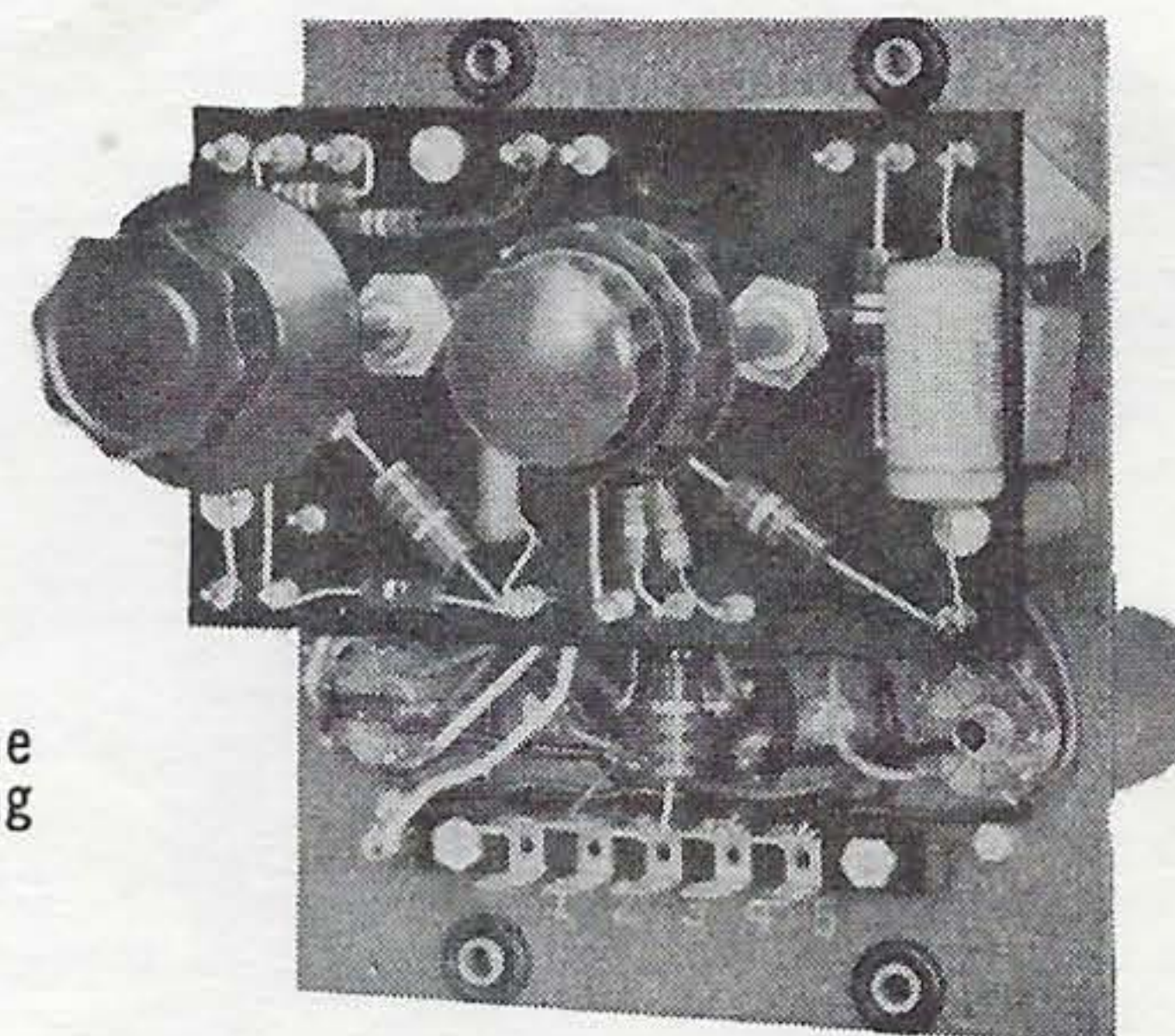
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LANSING CORPORATION

1511A PREAMPLIFIER

The 1511A Preamplifier provides a single phono input equalized for variable reluctance pickups with gain control and bass and treble controls, input #2 can also be used as bass and treble tone controls to serve all elements of the 1500 Series Amplifiers System. It can be mounted on and receives its power from the 1520A or 1530A power amplifiers, or can be used with the 1540A Line Amplifier and 530A Power Supply in custom installations.

specifications

Gain:	Input #1: 43 db voltage gain into 100,000 ohm load at 1,000 cps, tone controls normal. Input #2: 0 db voltage gain into 100,000 ohm load, tone controls normal.
Power Output:	15 volts rms, maximum into 100,000 ohm load
Frequency Response:	Input #1: equalized for magnetic pickup Input #2: flat response
Input Impedance:	Input #2: 200,000 ohms
Source Impedance:	Input #1: magnetic pickup
Load Impedance:	Not less than 10,000 ohms
Output Impedance:	Cathode follower, 1,000 ohms nominal
Noise Level:	Equivalent input noise —100 dbm
Controls:	Volume Control, continuously variable composition, input #1 only. Separate bass and treble controls with concentric shafts, input #1 and #2.
Power Supply:	300 vdc at 12 ma, 6.3 vac at 0.6 a.
Tubes:	2—12AY7
Dimensions:	5 $\frac{3}{16}$ " H, 4 $\frac{3}{16}$ " W, 5" D
Color:	Gray hammertone
Weight:	1 $\frac{3}{4}$ lb.
Accessories:	Power can be supplied by 1520A or 1530A amplifiers or the 530A power supply. The 1511A can mount on 1520A or 1530A amplifiers or in rack on 10956 rack mounting assembly. Above items must be ordered separately.



1520A POWER AMPLIFIER

The 1520A is a 35 watt power amplifier of rack mounting construction and is capable of delivering full rated power with very low distortion for public address and commercial sound systems. Facilities are provided on the control panel for the mounting of one 1510A Preamplifier or one 1511A Preamplifier, or one 1550 Apparatus Unit. It will provide power for three 1510A Preamplifiers. Special strapping provides low frequency roll-off when amplifier is used with large public address horns requiring low frequency protection.



specifications

Gain:	75 db from 100,000 ohm source
Input Sensitivity:	.34 volts rms for rated output
Power Output:	35 watts at less than 2% thd, 50-15,000 cps 30 watts at less than 5% thd, 40-50,000 cps
Frequency Response:	± 1 db, 20-20,000 cps ± 2 db, 10-200,000 cps
Input Impedance:	100,000 ohm potentiometer
Load Impedance:	4, 8, 16 ohms and 70 v line
Output Impedance:	Less than 20% of nominal load impedance
Noise Level:	—43 dbm: 88 db below rated output
Controls:	Volume Control, continuously variable, composition
Power Supply:	105/117/125 volts, 60 cps, 230 watts
External Power Available:	300 vdc at 15 ma, 6.3 vac at 1.35 a.
Tubes:	1—12AY7, 2—6SN7, 2—6L6G, 1—5U4G
Dimensions:	10 $\frac{1}{2}$ " H, 19" W, 9" D
Color:	Metallic gray
Weight:	55 lb.
Special Features:	Provides mounting for one 1510A or 1511A pre-amplifier or one 1550A apparatus unit.

1530A POWER AMPLIFIER

The 1530A is a 70 watt amplifier. Its control panel has facilities for the mounting of two 1510A Preamplifiers, two 1511A Preamplifiers, two 1550 Apparatus Units, or any combination of two of these units. Power is available to operate as many as six 1510A Preamplifiers or four 1510A Preamplifiers and one 1511A Preamplifier. The control panel contains power switch, master volume control, pilot light, fuse, and mounting holes for the controls of 1510A or 1511A Preamplifiers. Special strapping provides low frequency roll-off when amplifier is used with large public address horns requiring low frequency protection. The 1530A mounts in either the 101F Relay Rack or the 1560A Console.



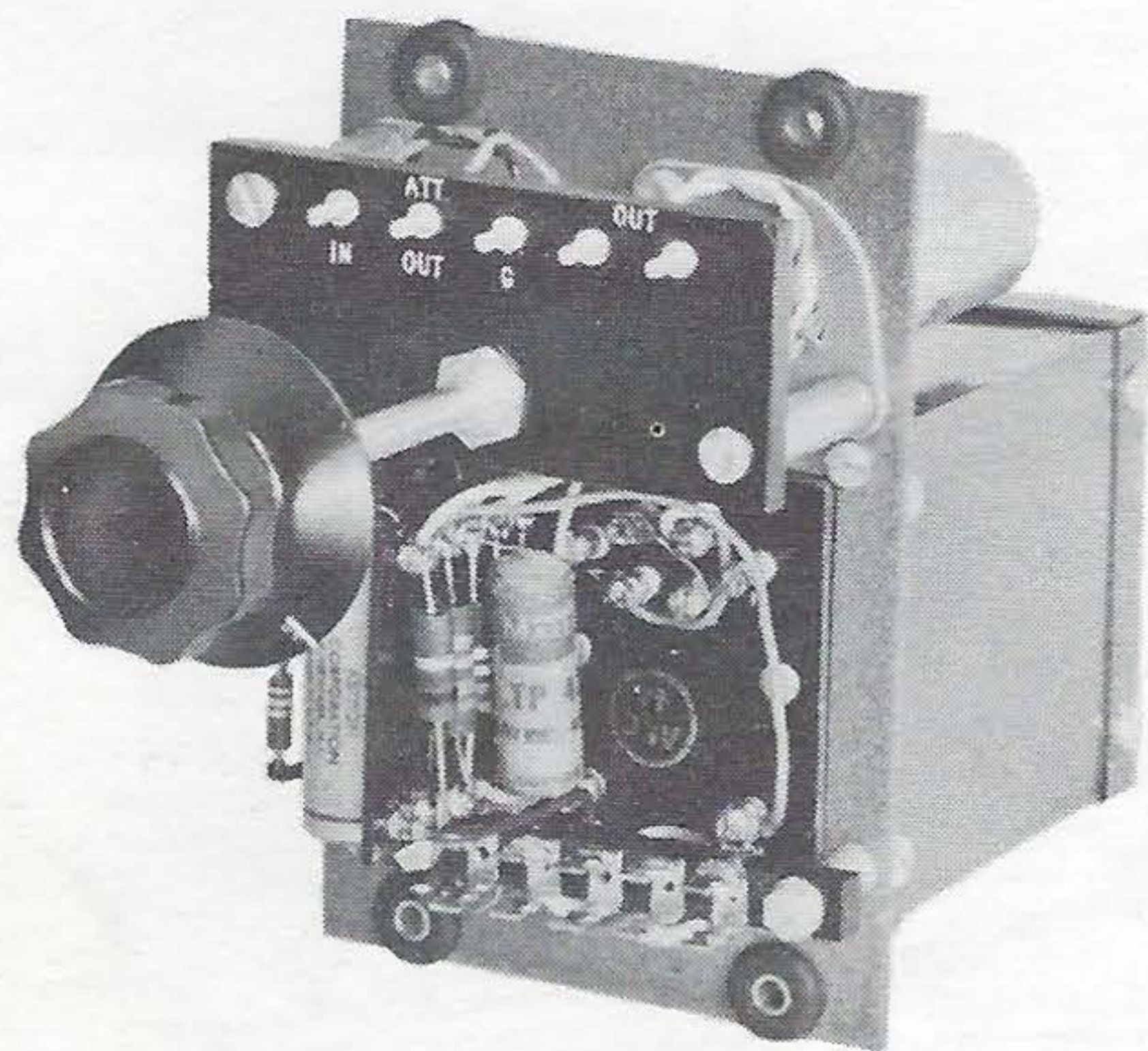
specifications

Gain:	75 db from 100,000 ohm source
Input Sensitivity:	.5 volts rms for rated output
Power Output:	70 watts at less than 2% thd, 60-15,000 cps
Frequency Response:	± 1 db, 20-20,000 cps
Input Impedance:	100,000 ohm potentiometer
Load Impedance:	4, 8, 16 ohms and 70 v line
Output Impedance:	Less than 20% of nominal load impedance
Noise Level:	—43 dbm: 91.5 db below rated output
Controls:	Volume Control, continuously variable, composition
Power Supply:	105/117/125 volts, 60 cps, 280 watts
External Power Available:	300 vdc at 30 ma, 6.3 vac at 2.7 a.
Tubes:	1—12AY7, 1—6SN7GT, 2—6146, 2—5R4GY, 1—OA3/VR75, 1—OC3/VR105
Dimensions:	14" H, 19" W, 9" D
Color:	Metallic gray
Weight:	60 lb.
Special Features:	Provides mounting for two 1510A, 1511A or 1550A apparatus units.

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1540A LINE AMPLIFIER

The 1540A is a two-stage line amplifier featuring low distortion and high signal-to-noise ratio. It provides the ideal microphone to line mixing amplifying system when used with the 1510A Preamplifier. It is capable of feeding telephone or other transmission lines which require levels up to +25 dbm. It mounts on either the 10956 Assembly or in the 1560A Console.



specifications

Gain:
Input Sensitivity:
Power Output:
Frequency Response:
Input Impedance:
Load Impedance:

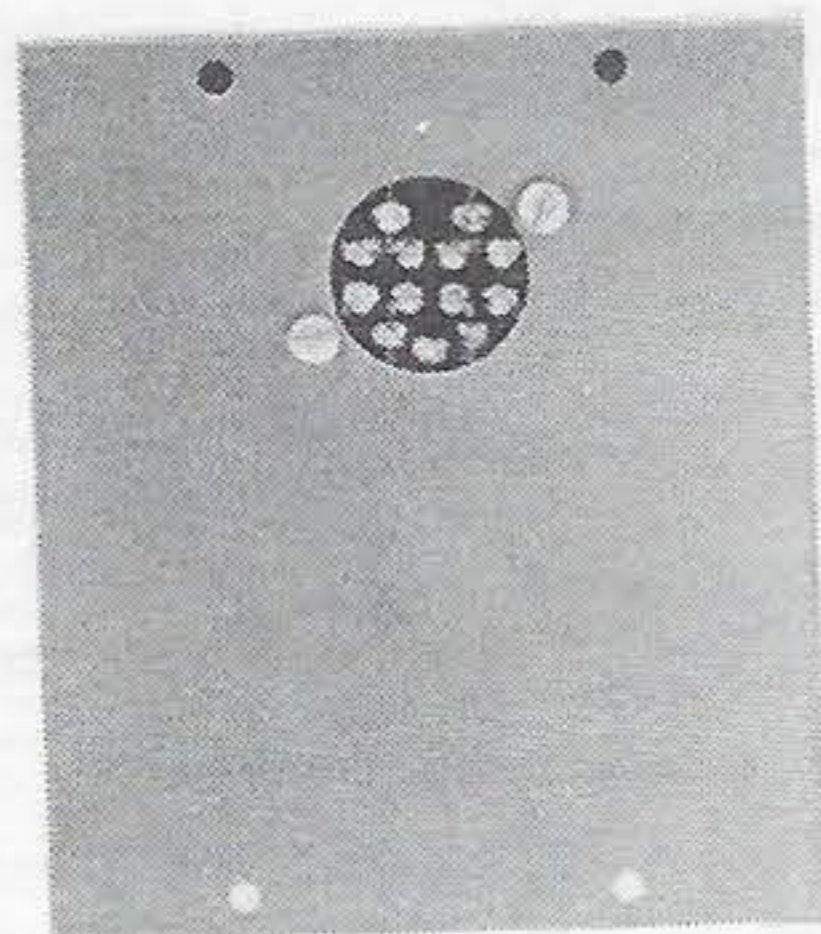
Noise Level:
Controls:
Power Supply:
Tubes:
Dimensions:
Color:
Weight:
Accessories:

65 db from a 100,000 ohm source
56 millivolts rms for +20 dbm out
+22 dbm at less than 2% thd, 20-20,000 cps
 ± 1 db, 20-20,000 cps
100,000 ohm potentiometer
62.5/75, 125/150, 250/300, 500/600 ohms. Center tap available on 500/600 ohm connection.
—55 dbm: 80 db below rated output
Volume Control, continuously variable, composition
300 vdc at 12 ma, 6.3 vac at 0.45 a.
1—6AU6, 1—6C4
5 $\frac{3}{16}$ " H, 3 $\frac{1}{2}$ " W, 6 $\frac{1}{4}$ " D
Gray hammertone
3 $\frac{1}{2}$ lb.
530A power supply. Must be ordered separately.

amplifiers

1550A APPARATUS UNIT

The 1550A is a line-to-grid transformer on a mounting plate having 90 db shielding to external magnetic fields. It may be mounted on either 1520A or 1530A Amplifier, or the 10956 Assembly or 1560A Console. It is used to match low impedance lines to the input of the 1520A, 1530A, or low impedance lines to the output of 1510 or 1511 preamplifiers.



Power output:
Frequency response:
Input impedance:

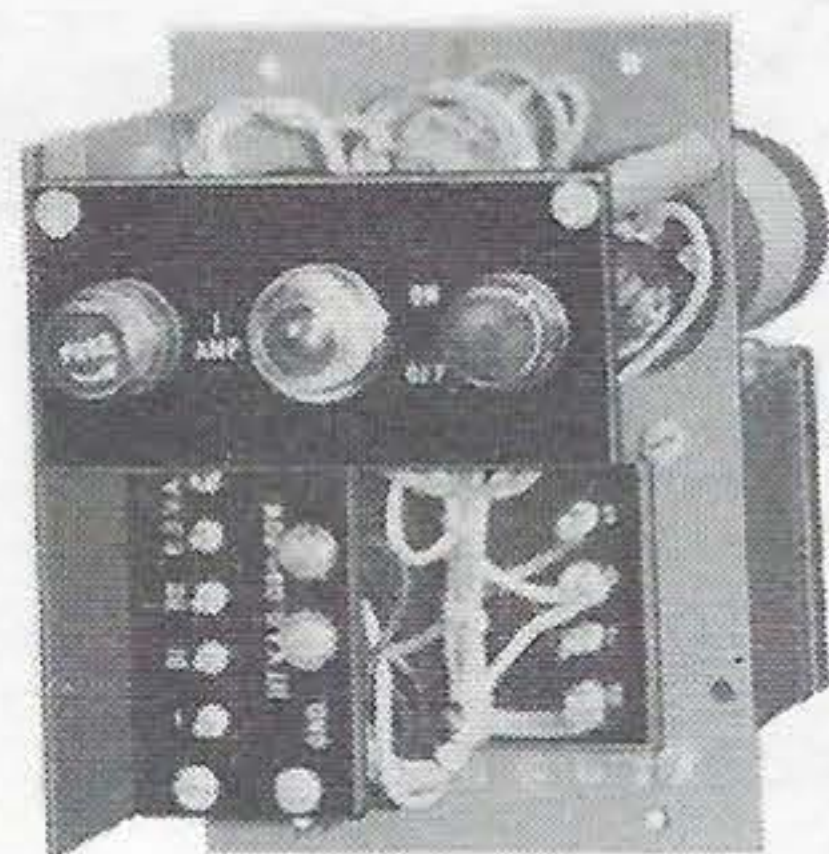
Load impedance:

Dimensions:
Color:
Weight:

Maximum operating level +8 dbm
 ± 1 db, 10-30,000 cps
30/ 50, 125/150, 250/300, or
500/600 ohms. C.T. available on
125/150 and 500/600 ohms.
17,500/21,000 or 70,000/84,000
ohms C.T.
4 $\frac{7}{16}$ " x 5 $\frac{3}{16}$ " x 3 $\frac{1}{2}$ "
Blue gray
1 lb.

530A POWER SUPPLY

The 530A Power Supply is used to provide the necessary power in the 1510A, 1511A, or 1540A when these units are not used in conjunction with the 1520A or 1530A Power Amplifiers. It is equipped with power switch, pilot light, and fuse. Mounts in 10956 Assembly.



Power Supply:
External Power Available:

Tubes:
Dimensions:
Color:
Weight:

117 volts, 50/60 cps, 40 watts at full load
300 vdc at 50 ma, 6.3 vac at 2.3 a.
Two B+ terminals provide separate filtering
Ripple less than .001 v at term.
B1 with 20 ma current.
Ripple less than .02 v at term.
B2 with 50 ma current.
1—6X4
5 $\frac{3}{16}$ " H, 3 $\frac{1}{2}$ " W, 6 $\frac{3}{4}$ " D
Blue gray
4 $\frac{1}{2}$ lb.

1560A CONSOLE MOUNTING ASSEMBLY

This assembly houses the complete 1500 System in a console-type enclosure for use on a desk or table. It will accommodate one 1520A or one 1530A Power Amplifier and the equivalent of four 1510A, 1511A, 1540A, or 1550 units, or any combination of these units.

Dimensions:

Color:
Weight:

Height 10 $\frac{1}{4}$ "
Width 24"
Depth 21 $\frac{3}{4}$ "
Blue gray
40 lb. without amplifiers



10956 MOUNTING ASSEMBLY

Rack mounting frame for use with 1510A, 1511A, 1540A, 1550A and 530A when the mixer controls of these units are mounted separately. The front mat has a cut-out to expose the fuse, pilot light, and power switch of the 530A Power Supply.

10968 MOUNTING ASSEMBLY

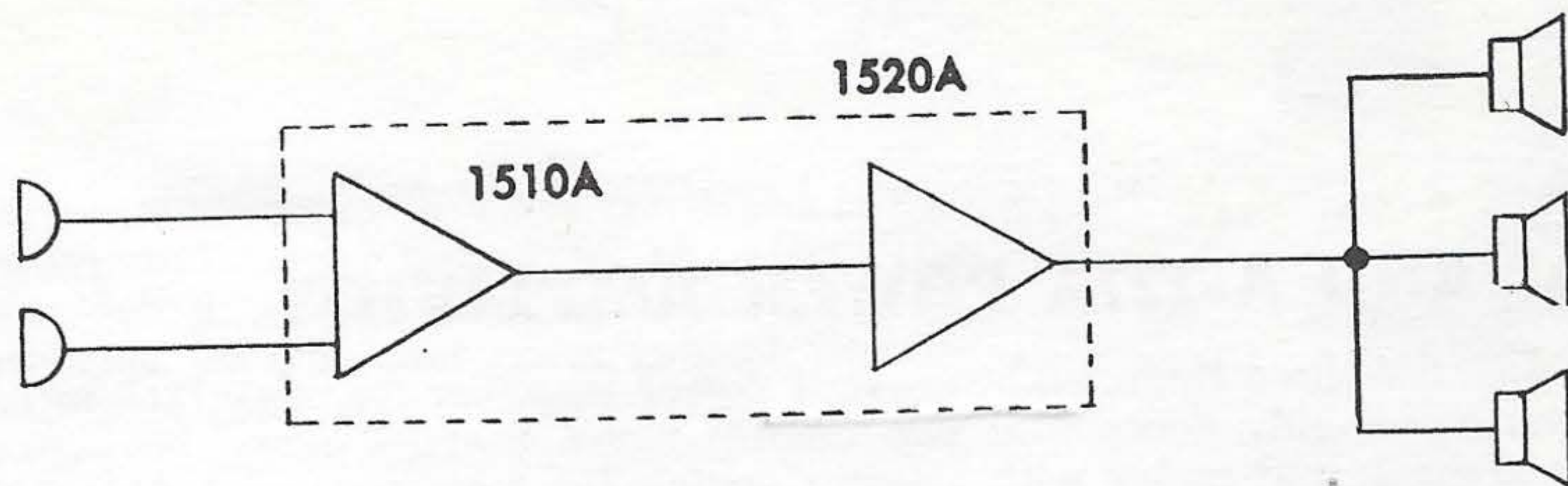
Same as 10956, but without front mat cut-out for 530A Power Supply controls.

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1500 SERIES AMPLIFIERS (PAGES 12 TO 14) EXAMPLES OF BUILDING BLOCK FLEXIBILITY

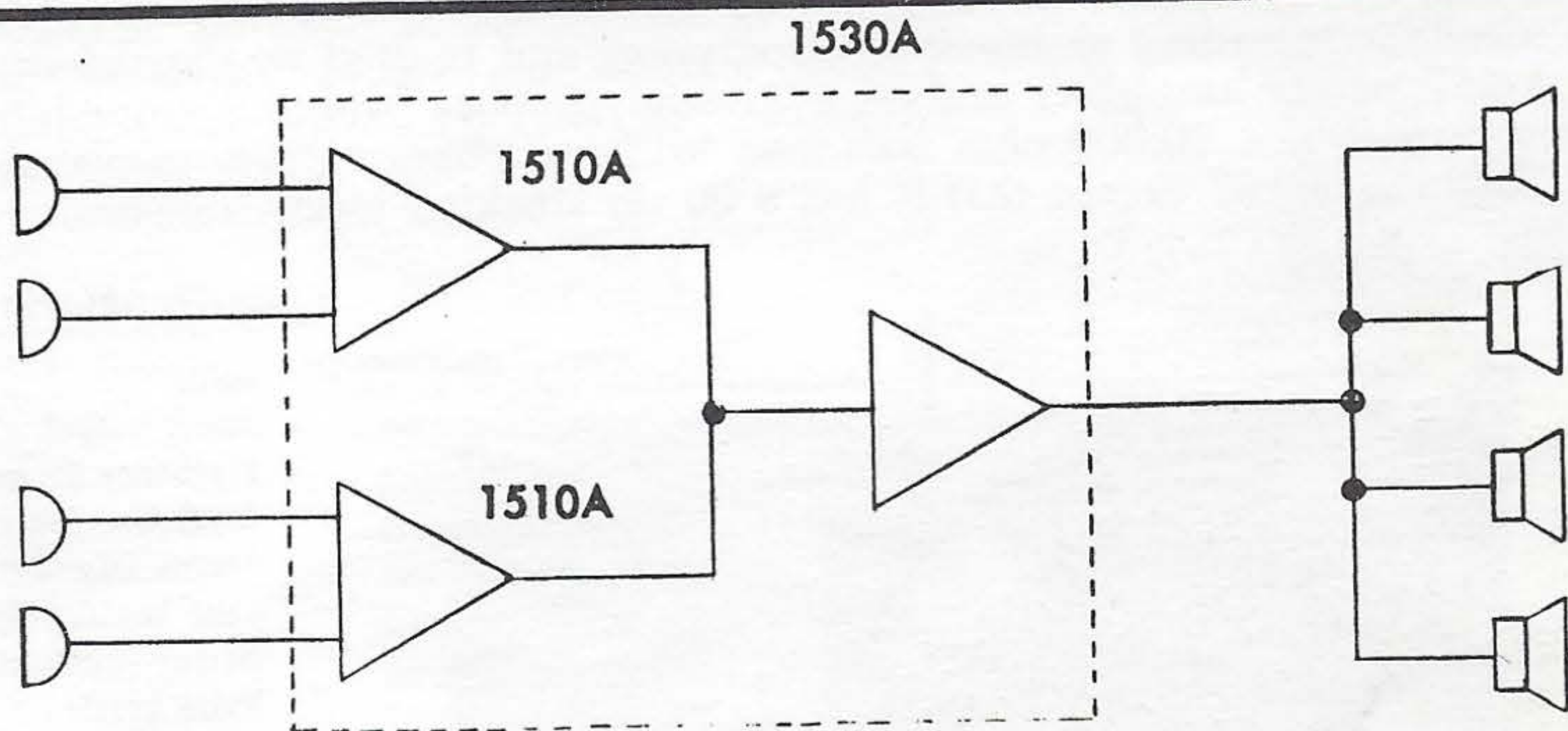
1

TWO MICROPHONES TO SPEAKERS
WITH PREAMPLIFIER MOUNTED ON
POWER AMPLIFIER CHASSIS.



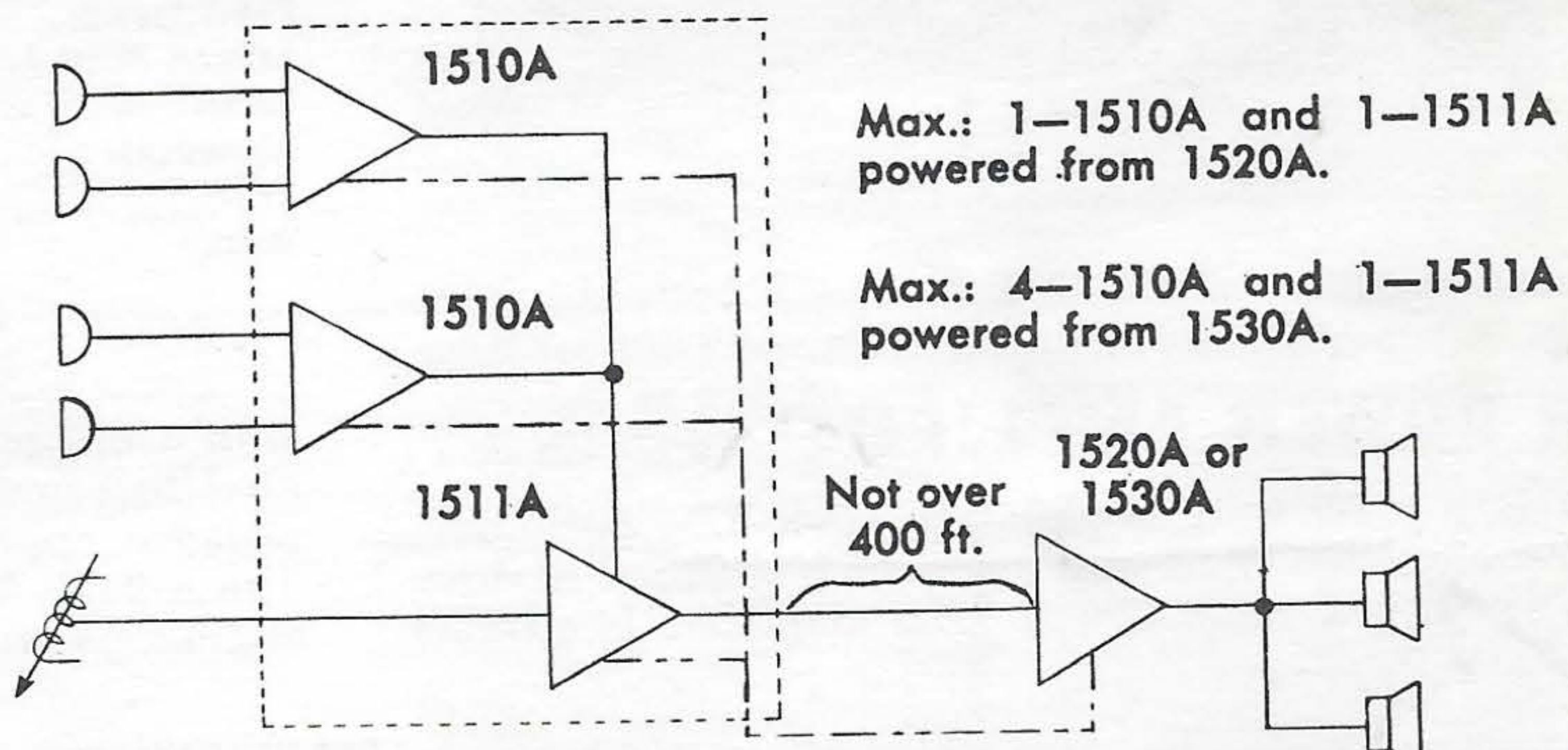
2

FOUR MICROPHONES TO SPEAKERS
WITH PREAMPLIFIERS MOUNTED ON
POWER AMPLIFIER CHASSIS.



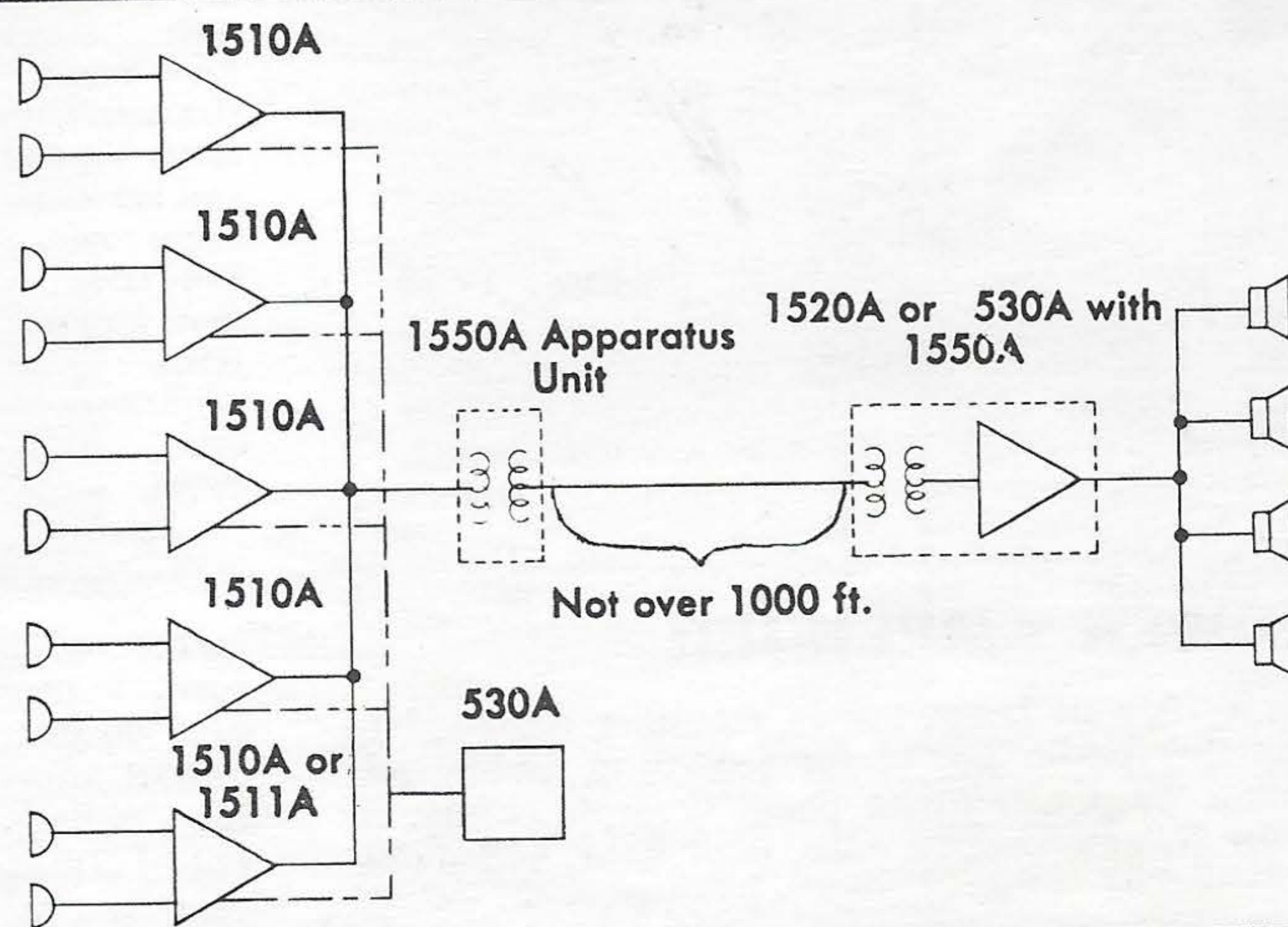
3

EXTERNAL PREAMPLIFIERS, MICRO-
PHONES AND RELUCTANCE TYPE
PHONO PICK-UP (POWERED FROM
POWER AMPLIFIERS WITH LIMITED
SEPARATION).



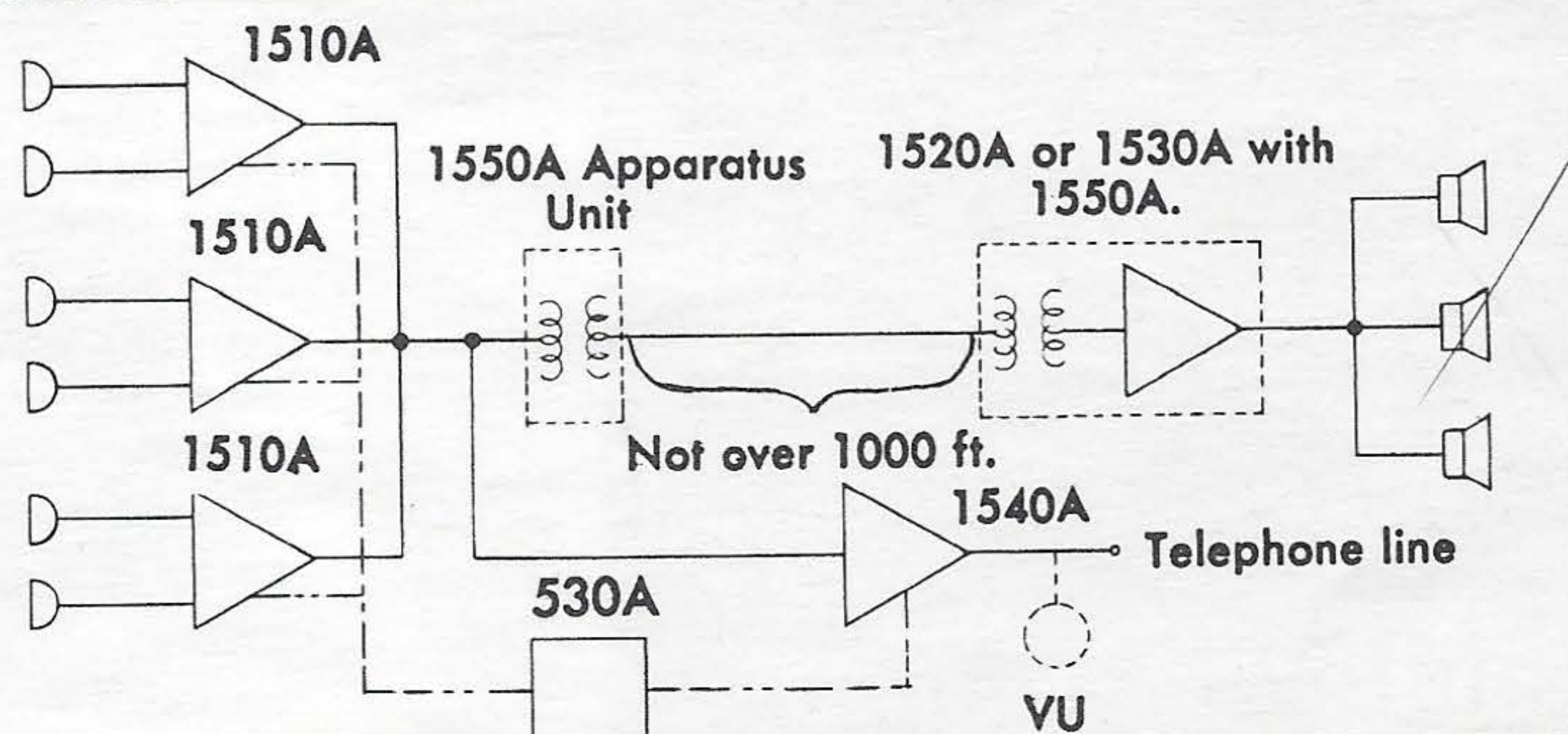
4

REMOTE PREAMPLIFIERS
(MIXING CONSOLE)



5

MULTIPLE SYSTEM WITH REMOTE
PREAMPLIFIERS, SOUND REINFORCE-
MENT AND LINE AMPLIFIER FOR
BROADCAST LOOP.

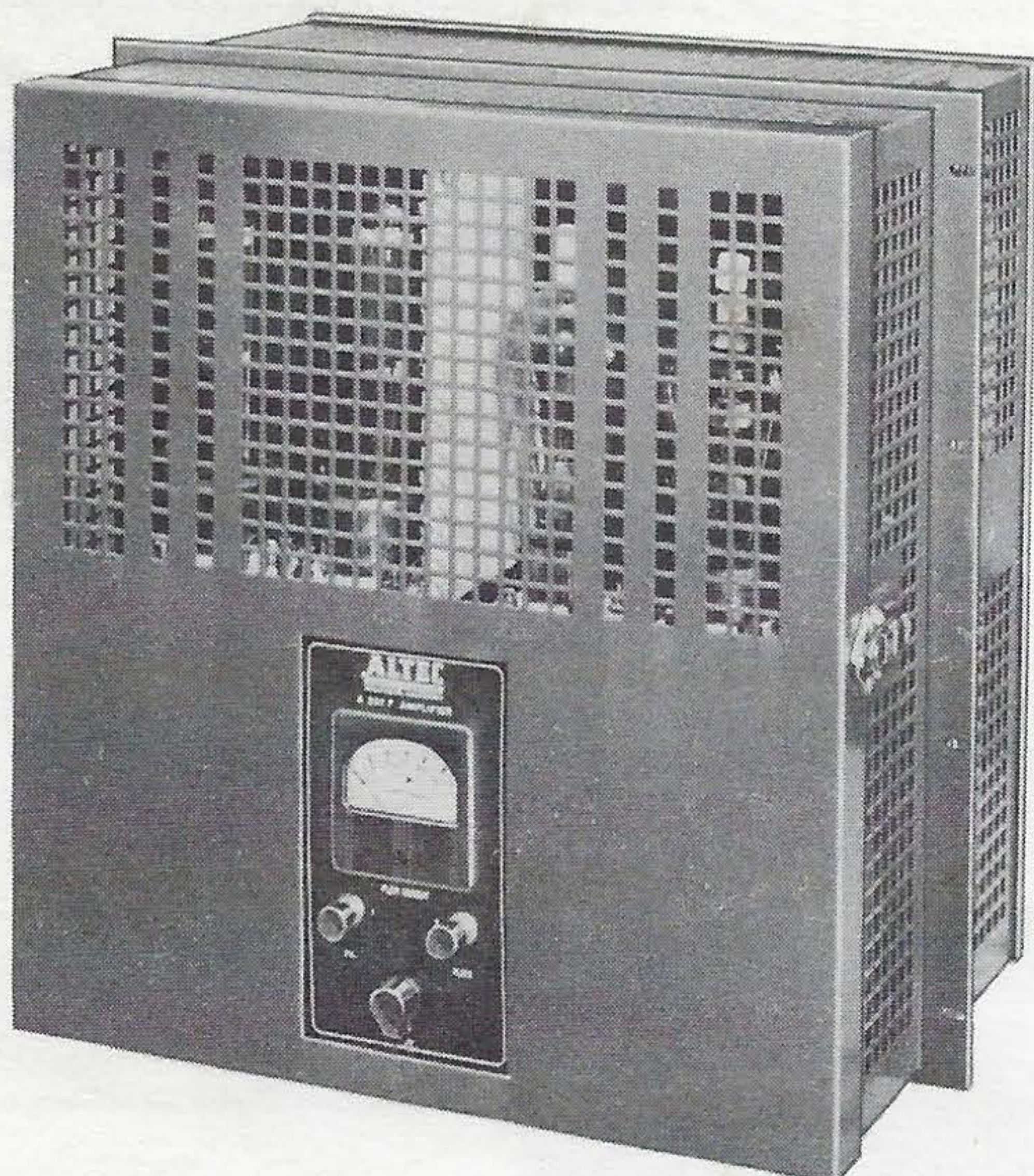


SINGLE
STAGE

2²
805
TUBES
amplifiers

A-287 POWER AMPLIFIER

The A-287W is a 250 watt single stage, class B power amplifier with a self-contained power supply. It requires a driver amplifier of a minimum undistorted output of 15 watts. The A-287W is for rack mounting; the A-287WS is provided in a wall mounting cabinet. Safety switches on the front cover protect personnel from high voltage elements of the amplifier. The front panel contains power switch and meter for testing vacuum tubes. The A-287W provides power for sound systems in the largest indoor and outdoor installations. Two may be operated in parallel for 500 watt output.



specifications

Gain:	12 db
Power Output:	250 watts at less than 5% thd
Frequency Response:	± 1 db, 100-10,000 cps
Source Impedance:	14, 56, 125, 220 or 500 ohms
Load Impedance:	2.25, 5, 9, 20 ohms (70 v line)
Noise Level:	-20 dbm: 74 db below rated output
Power Supply:	105/117/130 volts, 50/60 cps, 700 watts
Tubes:	2-805, 2-866A
Dimensions:	A-287W—19 $\frac{1}{4}$ " H, 19" W, 12 $\frac{1}{2}$ " D A-287WS—24" H, 20 $\frac{1}{16}$ " W, 13" D
Color:	Metallic gray
Weight:	A-287W—141 lb., A-287WS—176 lb.

A-322C LIMITER AMPLIFIER

The A-322C allows higher average level recording, broadcast, and public address amplification without danger of distortion, feedback, or damage to speaker load. It operates as a true linear amplifier up to a specified level and limits the volume

output beyond this point. 100% db limiting meter may also be used for tube testing. Both input and output gain controls are provided as well as a switch that provides equalization for the NARTB high frequency recording pre-emphasis.



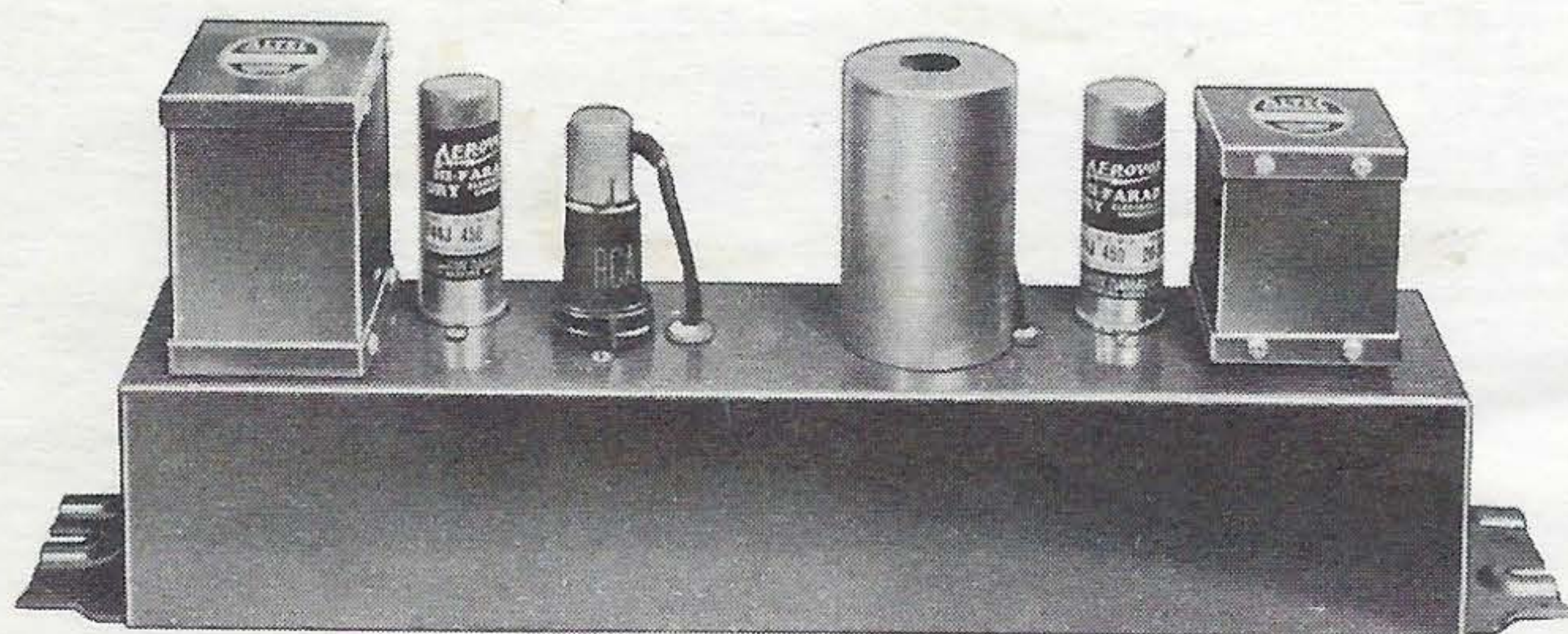
specifications

Gain:	68 db at 1,000 cps, equalizer out 60 db at 1,000 cps, equalizer in (31 db less gain from bridging input)
Limiting Threshold:	Normal, +25.2 dbm High, 33.2 dbm
Frequency Response:	± 1 db, 20-20,000 cps, equalizer out NAB recording characteristic, equalizer in.
Source Impedance:	600 ohms
Load Impedance:	600 ohms
Attack Time:	.0002 second
Limiting Ratio:	10:1
Noise Level:	-37 dbm: 62 db below normal limiting threshold
Controls:	Input, "Bridged T" attenuator, 30 steps, 1 db per step, 30 db total, with detent Output, "Bridged T" attenuator, 20 steps, 1 db per step, 20 db total, with detent
Power Supply:	275 vdc at 100 ma regulated, 6.3 vac at 2.0 a.
Tubes:	2-1612, 2-6J7, 2-6V6GT, 1-6H6GT, 1-6SN7GT
Dimensions:	10 $\frac{1}{2}$ " H, 19" W, 9 $\frac{1}{2}$ " D
Color:	Metallic gray
Weight:	25 lb.
Accessories:	Regulated power supply type P-511. Must be ordered separately.

A-420A PREAMPLIFIER

The A-420A is a two-stage, fixed gain preamplifier requiring 3 $\frac{1}{2}$ inches of space on a standard relay rack. Due to the high degree of transformer shielding, the preamplifier may be used

in regions of high stray magnetic fields without danger of pickup. The A-420A Preamplifier is particularly applicable for use with the A-127 Amplifier which has facilities to supply the A-420A with the necessary plate and filament voltages.



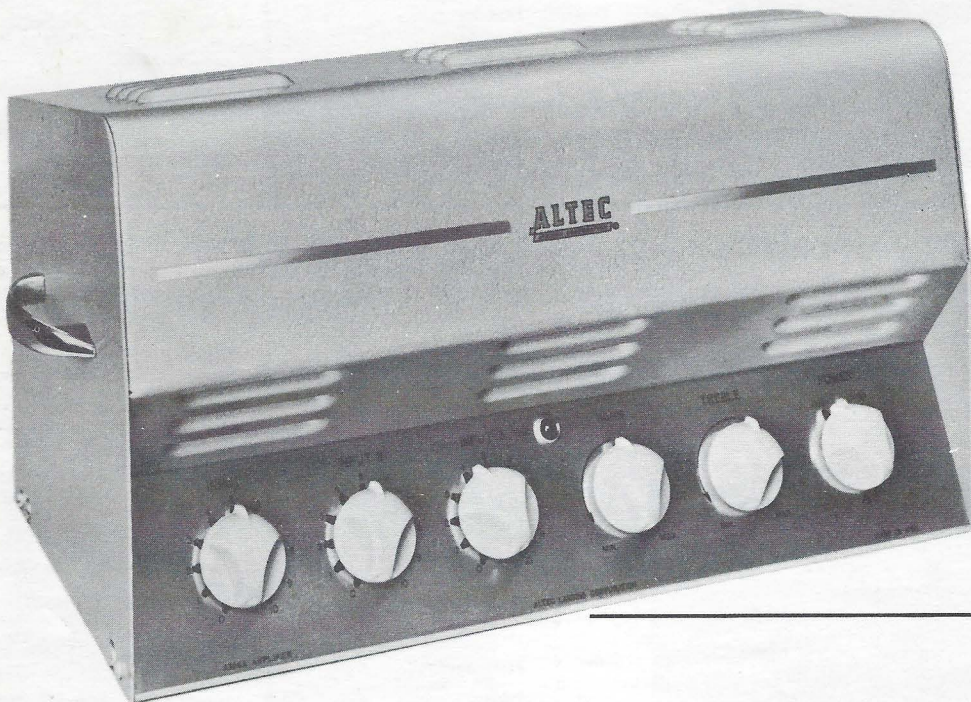
specifications

Gain:	40 db (47 db with Input transformer termination removed)
Power Output:	+6 dbm at less than 1% thd
Frequency Response:	± 1 db, 20-20,000 cps at 40 db gain ± 1 db, 20-10,000 cps at 47 db gain
Source Impedance:	30/36, 250/300, 500/600 ohms
Load Impedance:	62.5/75, 125/150, 250/300, 500/600 ohms Center Tap available for 250/300 and 500/600 ohm connection
Noise Level:	Output Noise —83 dbm: 80 db below rated output (40 db gain) Equivalent input noise —123 dbm
Power Supply:	270-350 vdc at 6 ma, 6.3 vac at 0.6 a.
Tubes:	2-6J7 or 1620
Dimensions:	3 $\frac{1}{2}$ " H, 19" W, 7 $\frac{1}{2}$ " D
Color:	Metallic gray
Weight:	12 lb.

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A-326 AMPLIFIER

This amplifier provides maximum quality and flexibility for small portable or permanent public address installations. 2 microphone inputs and one high level input for radio or phonograph, with individual volume controls permit its use in comprehensive systems. Separate bass and treble tone controls are provided. The slanted panel provides easy control, and protection of the knobs during transportation. The A-326A amplifier is for low impedance microphone inputs. The A-326B amplifier is for high impedance inputs.



typical specifications

Code:	A-326A A-326B	Type: P.A. Amplifier
Gain:	A-326A, Input 1 & 2 A-326B, Input 1 & 2 A-326A & B, Input 3	104 db 99 db from a 10,000 ohm source 74 db from a 500,000 ohm source
Power Output:	20 watts at less than 2% thd, 100-15,000 cps	
Frequency Response:	±2 db, 30-15,000 cps	
Input Impedance:	A-326B, Input 1 & 2 A-326A & B, Input 3	100,000 ohms 500,000 ohm potentiometer
Source Impedance:	A-326A, Input 1 & 2, 30/50, 250, 600 ohms	
Load Impedance:	4, 8, 16, 250 ohms (70v line)	
Noise Level:	A-326A, Input 1 & 2 A-326B, Input 1 & 2 A-326A & B, Input 3	—13 dbm —15 dbm —38 dbm
Controls:	1—Bass, 1—Treble, 3—Mixing Potentiometers, continuously variable, composition	
Power Supply:	117 volts, 60 cps, 110 watts	
Tubes:	3—5879, 1—6C4, 2—6L6G, 1—5U4G	
Dimensions:	7¾" high, 14½" wide, 7½" deep	
Color:	Aluminum Hammertone	
Weight:	21 lb.	

P-511 POWER SUPPLY

Regulated DC power supply designed to accurately maintain a value of adjustable high voltage direct current over a wide range of primary voltage variations such as are usually incurred in commercial power lines. This rack mounting unit is particularly suited for use with the A-322C Limiter Amplifier which requires accurately regulated plate supply for stable operation and is ideal whenever a closely regulated supply of fixed voltage is needed.



specifications

Power Supply:
External Power Available:

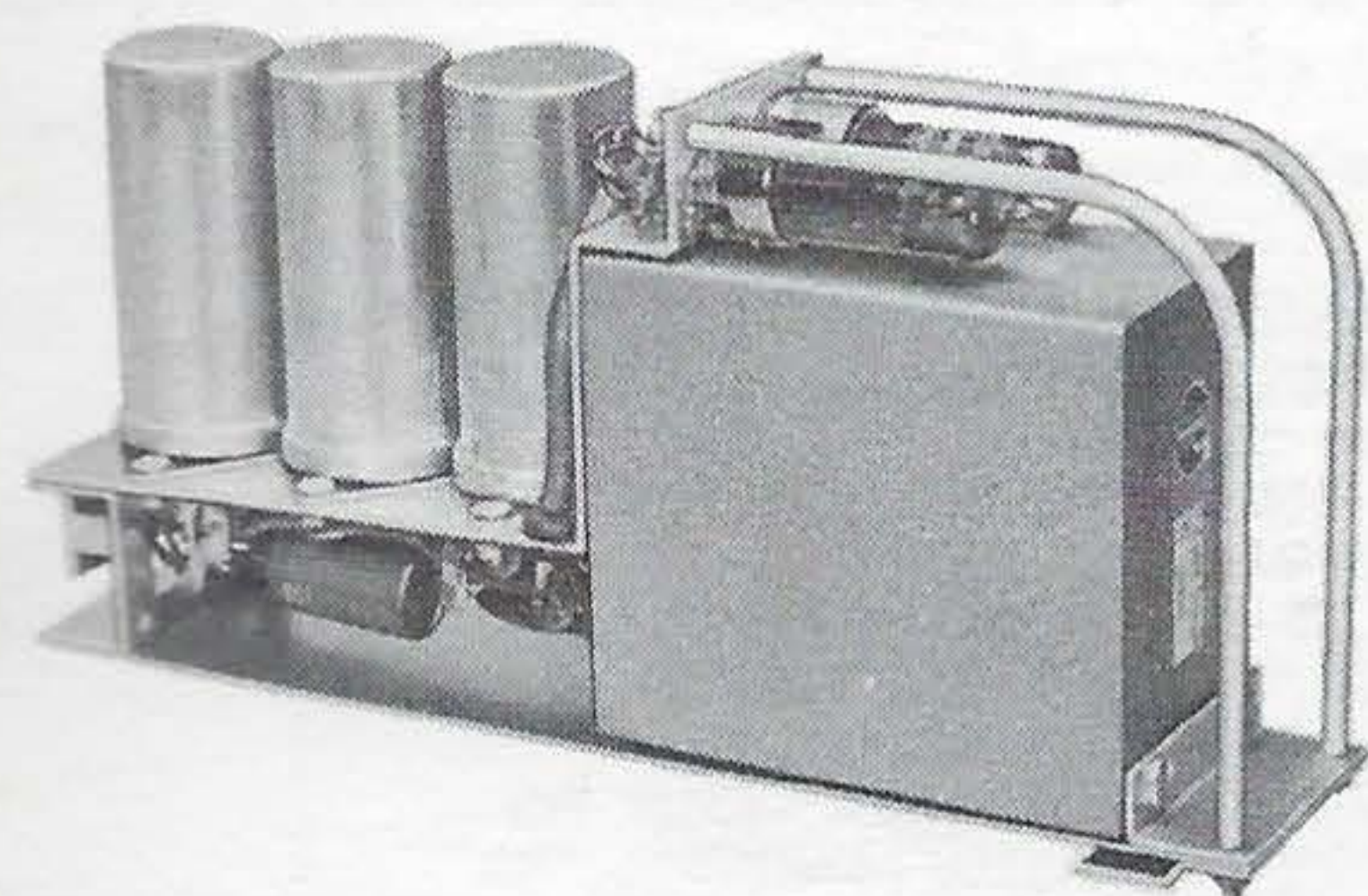
105/117/130 volts, 50/60 cps, 120 watts
275 vdc at 100 ma, and 6.3 vac at 3.0 a., dc output regulated to 1% from no load to full load, and $\pm 10\%$ line voltage change.

Tubes:
Dimensions:
Color:
Weight:

Less than .001 v ripple on dc output at full load
1-6SJ7, 1-6AS7G, 1-OC3/VR105, 1-5U4G
5 $\frac{1}{4}$ " H, 19" W, 8 $\frac{1}{2}$ " D
Blue gray
23 $\frac{1}{2}$ lb.

P-522B POWER SUPPLY

This is a plug-in power supply used in the 250A and 230B Consoles and in custom installations where the A-428B and A-429B preamplifier and line amplifiers are used. The 11302 Cover Tray and Receptacle must be ordered separately.



specifications

Power Supply:
External Power Available:

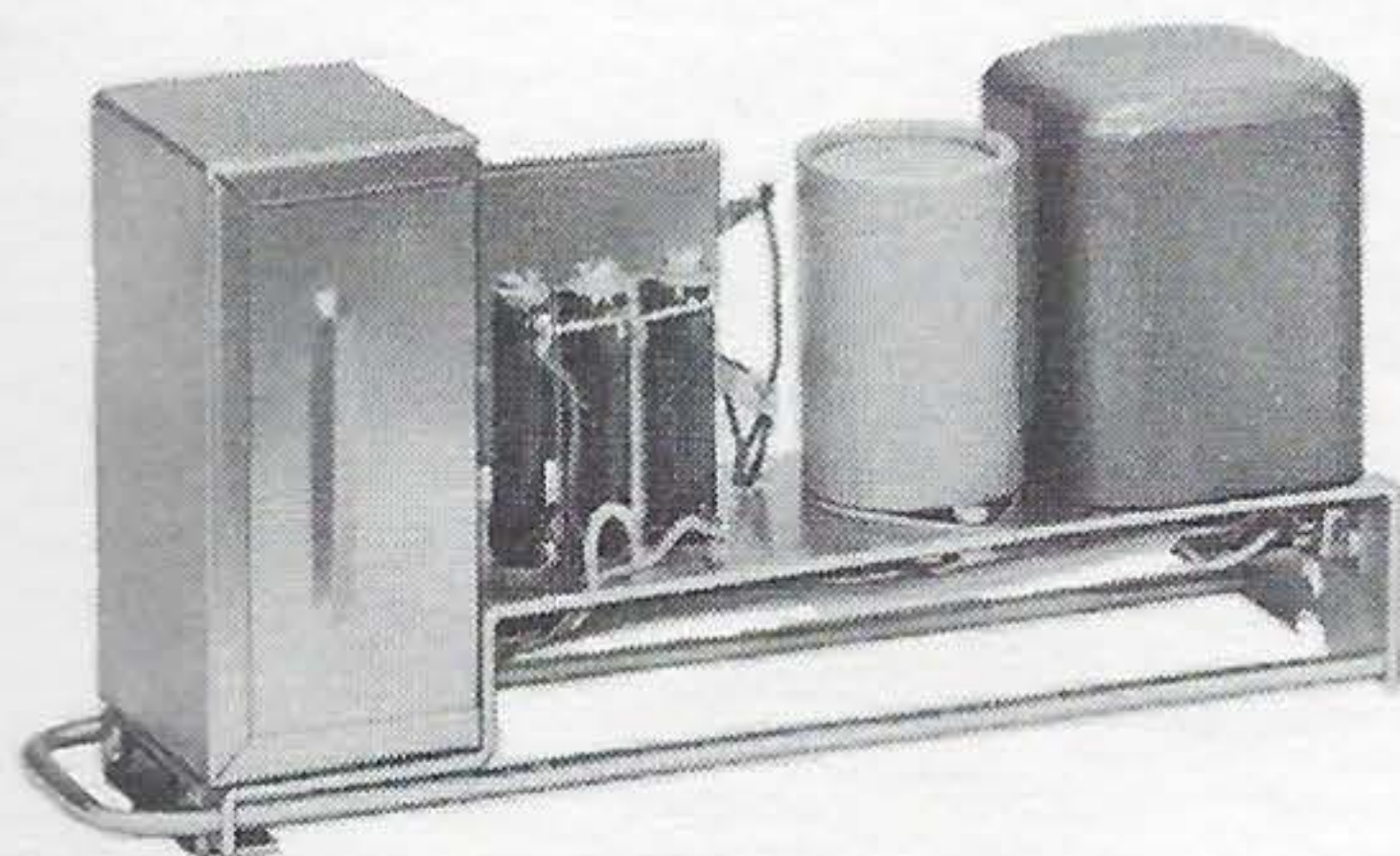
117 volts, 60 cps, 80 watts at full load
270 vdc at 135 ma, 6.3 vac at 4.9 a. or 270 vdc at 95 ma and 6.3 vac at 4.9 a. or 260 vdc at 40 ma and 6.3 vac at 4.9 a.
0.2 v ripple on 270 v output when delivering 135 ma to load; and less than .001 v on 260 v output when delivering 40 ma to load.

Tubes:
Dimensions:
Color:
Weight:
Accessories:

2-6X4
4 $\frac{1}{4}$ " H, 2 $\frac{1}{4}$ " W, 10" D
Cadmium plate
6 lb.
11302 Cover Tray

P-523B POWER SUPPLY

The P-523B provides voltages for relays and regulating lights in the monitor and control circuits of special input equipment. Has three relays and load substitution resistors for monitor loudspeaking muting. Used in 230B and 250A Consoles. Has plug-in features. 11302 Cover Tray and Receptacle must be ordered separately. It may be mounted in 11338 Assembly.



specifications

Power Supply:
External Power Available:

117 volts, 60 cps, 20 watts at full load
12 vdc at 1,200 ma (12 vdc at 1,000 ma when 3 internal relays are operated)

Tubes:
Dimensions:
Color:
Weight:
Accessories:

Selenium rectifier
4 $\frac{1}{4}$ " H, 2 $\frac{1}{4}$ " W, 10" D
Cadmium plate
3 $\frac{1}{2}$ lb.
11302 Cover Tray

15036 REPEAT COIL

Used in the 250A Console and must be ordered separately. Frequency response ± 1 db 5-85,000 cps. Electrostatic shield. Astatic balance and electro-magnetic shield provide approximately 50 db magnetic shielding. Attenuates longitudinal currents 80 db in balanced circuit in frequency range up to 70,000 cps. Insertion loss 0.4 db.

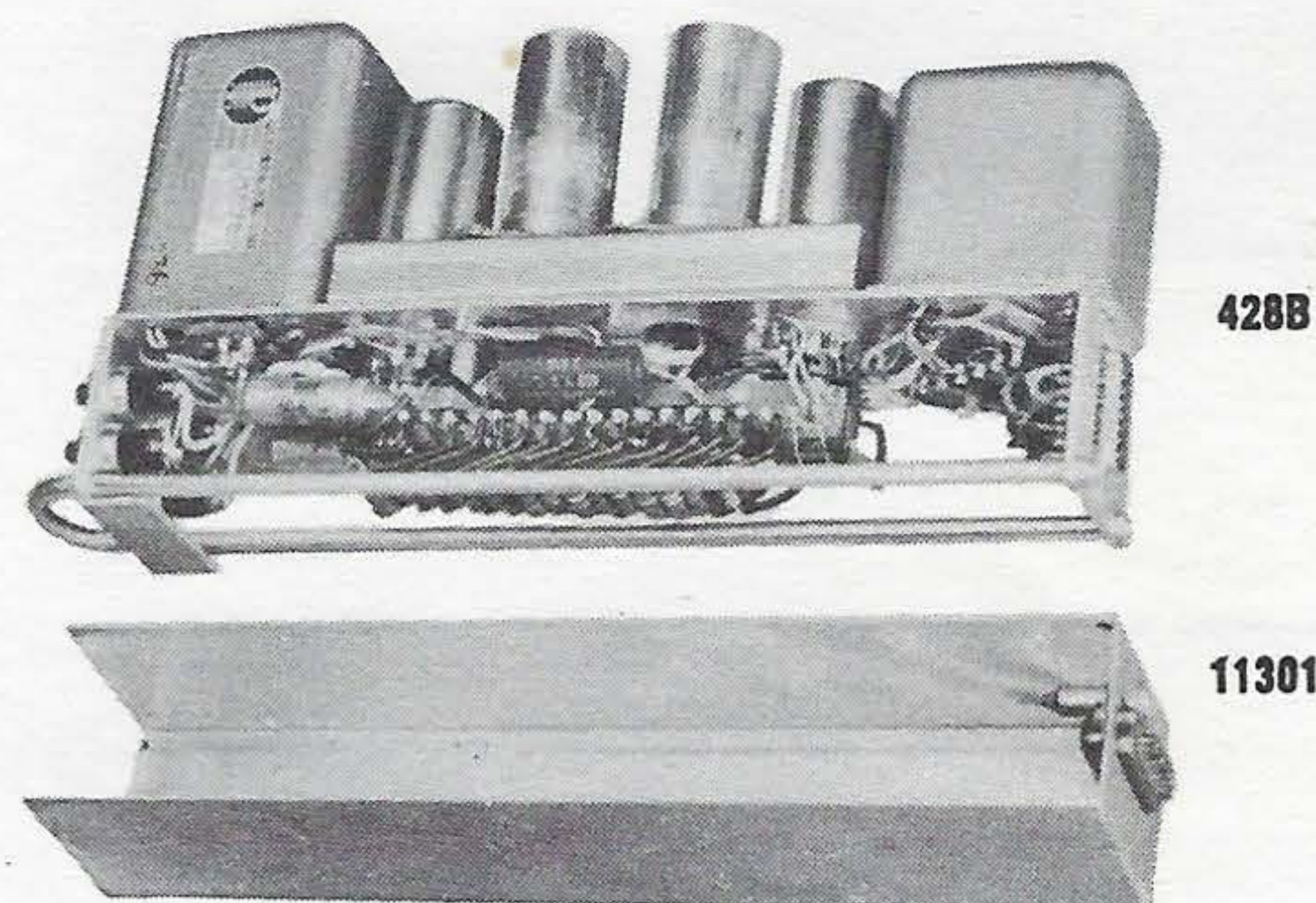
Impedance, Ohms		Max. Level	PRI. DC. MA per winding		Dimensions, In.			Wt. Lb.
Pri.	Sec.		Max.	Unbal.	H	D	W	
500 C.T.	500 C.T.	+23 dbm	100	0	3 $\frac{1}{4}$	1 $\frac{1}{2}$	2	1 $\frac{1}{4}$
125 C.T.	125 C.T.							
or	or							
600 C.T.	600 C.T.							
150 C.T.	150 C.T.							

A-428B PREAMPLIFIER

The A-428B is a miniature plug-in preamplifier designed primarily for use in the 250A Console or for use with the 11338 Assembly for custom, broadcast, recording, and large public address system installations. It is equipped with a plug connector so that it can be quickly inserted or removed when used with the 11301 Assembly.

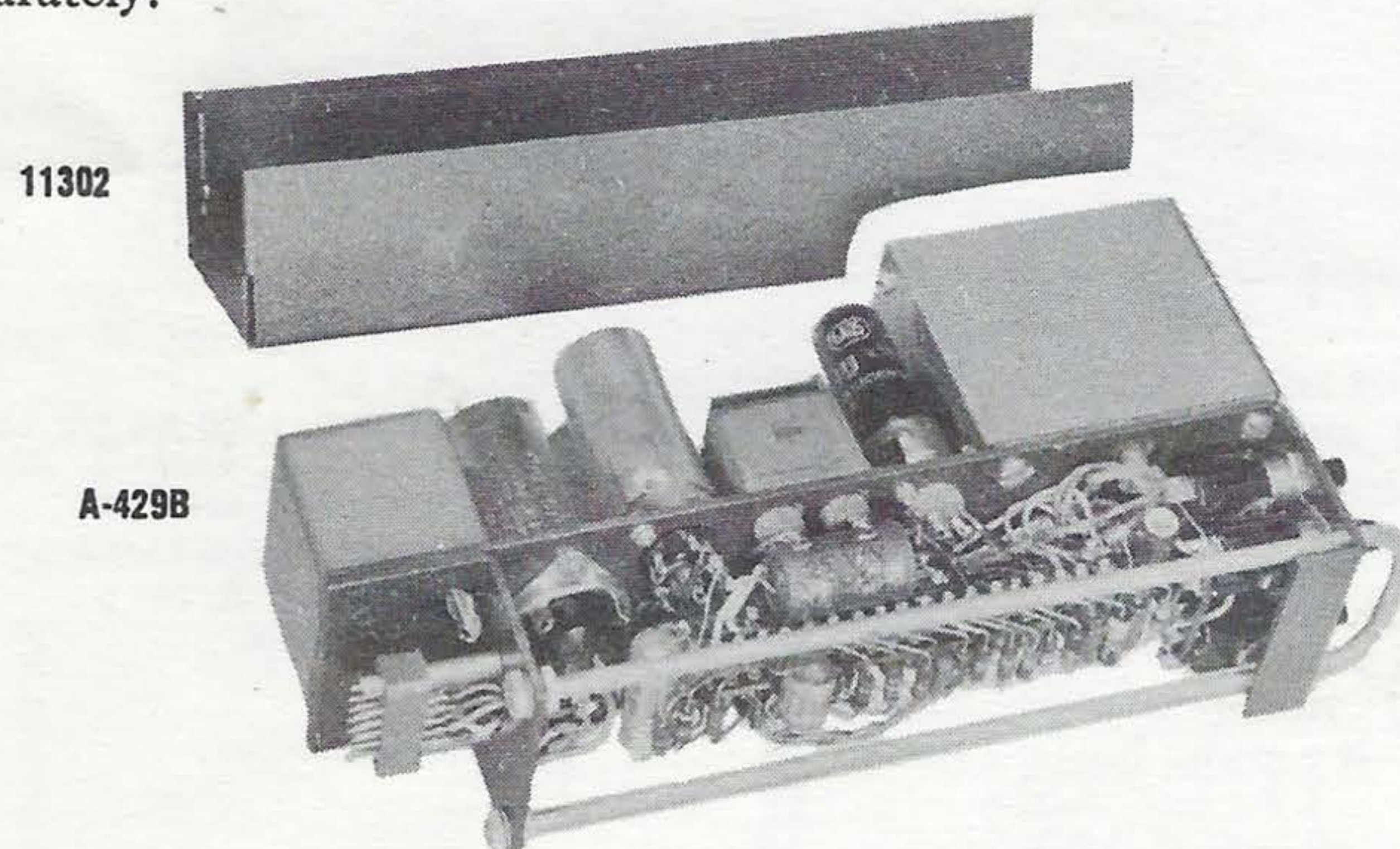
specifications

Gain:	40 db normal. May be connected for 34 db
Power Output:	+20 dbm at less than 1/2% thd, 50-15,000 cps +20 dbm at less than 1% thd, 30-15,000 cps
Frequency Response:	± 1 db, 20-20,000 cps
Source Impedance:	30/50, 125/150, 250/300, 500/600 ohms. Center tap available for 125/150 and 500/600 ohm connections
Load Impedance:	30/50, 125/150, 250/300, 500/600 ohms. Center tap available for 250/300 and 500/600 ohm connections
Noise Level:	Output noise —80 dbm: 100 db below rated output Equivalent input noise —120 dbm
Controls:	Push button switches for testing tube currents using external meter (meter not supplied)
Power Supply:	260 vdc at 10 ma, 6.3 vac at 0.6 a.
Tubes:	2—12AY7
Dimensions:	4 3/4" H, 1 1/2" W, 10" D
Color:	Cadmium plate
Weight:	3 lb.
Accessories:	Cover tray and mating receptacle. Must be ordered separately as 11301 assembly.



A-429B LINE OR MONITOR AMPLIFIER

The A-429B is a miniature plug-in amplifier used in the 250A Console or for custom installation when mounted in the 11338 Assembly. It may be used as either a line amplifier or monitor amplifier. Cover tray and receptacle must be ordered separately.



specifications

Gain:	50 db
Power Output:	Line amplifier connection, +30 dbm at less than 1/2% thd, 30-15,000 cps. Monitor amplifier connection, +39 dbm (8 watts) at less than 1% thd, 50-15,000 cps
Frequency Response:	± 1 db, 20-20,000 cps
Source Impedance:	30/50, 125/150, 250/300, 500/600 ohms. Center tap available for 125/150 and 500/600 ohm connections
Load Impedance:	125/150 and 500/600 ohms. Center tap available for 500/600 ohm connection
Noise Level:	—60 dbm: 90 db below rated line output, 99 db below rated monitor output
Controls:	Push button switches for testing tube currents using external meter (meter not supplied)
Power Supply:	270 vdc at 35 ma, 6.3 vac at 1.2 a. (line amplifier connection) 270 vdc at 70 ma, 6.3 vac at 1.2 a. (monitor amplifier connection)
Tubes:	1—12AY7, 2—6AQ5
Dimensions:	4 3/8" H, 2 1/4" W, 10" D
Color:	Cadmium plate
Weight:	4 1/2 lb.
Accessories:	P-522 power supply; 11302 cover and mating receptacle (one required for each amplifier and power supply). For line amplifier connection, one 4,500 ohm, 10 watt resistor. Above items must be ordered separately.

11301 ASSEMBLY

This assembly provides mounting facility for the A-428B Preamplifier and contains the necessary mating receptacle.

11302 ASSEMBLY

This assembly provides the mounting facility, receptacle, and cover for the A-429B, P-522B, or P-523B.



2
consoles

250A CONSOLE

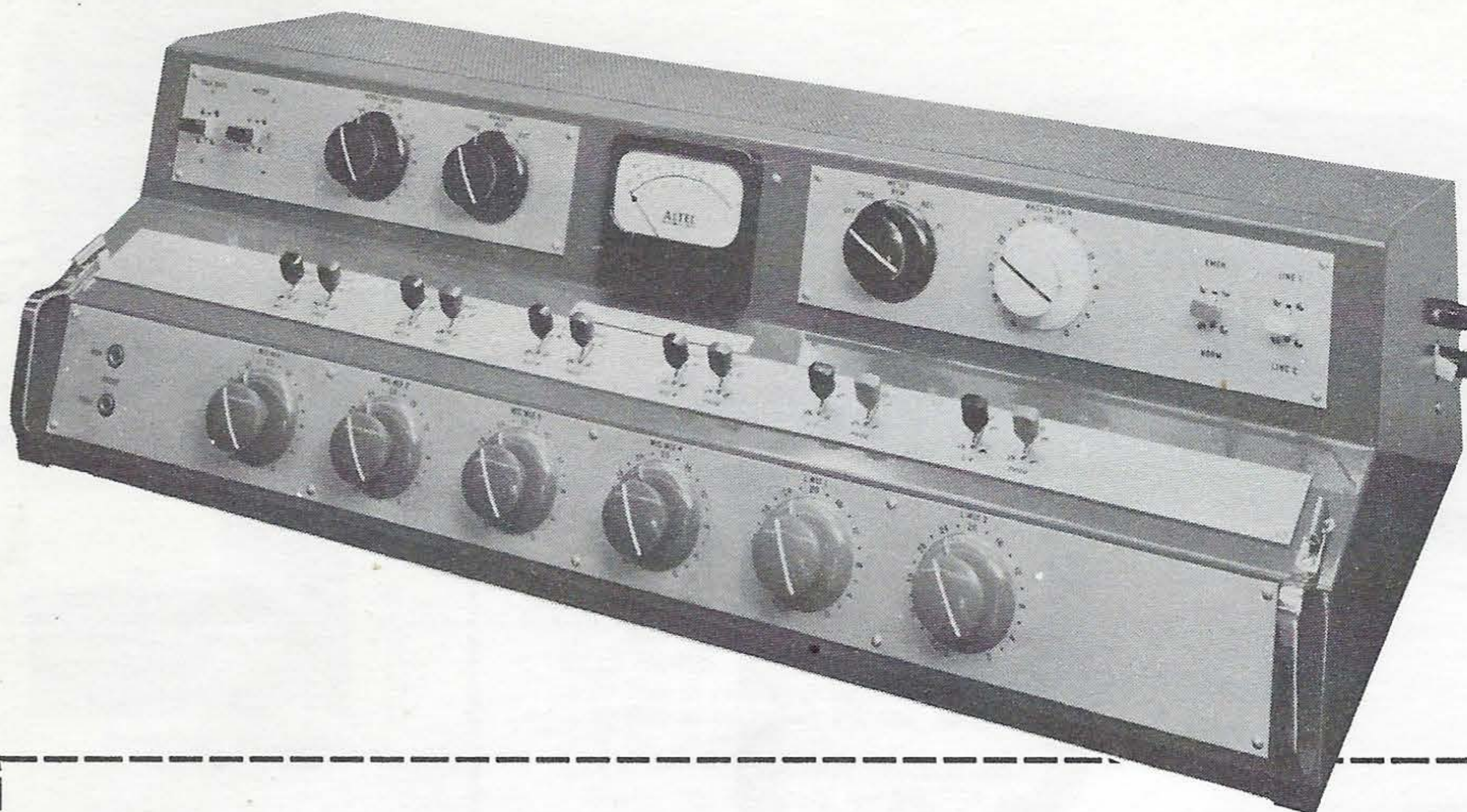
The handsomely compact 250A Console contains the following plug-in units: five A-428B Preamplifiers for microphone preamplification, two 428B Preamplifiers for boosters, two A-429B Line Amplifiers, and one A-429B 8 watt monitor amplifier, two P-522B Power Supplies, and one P-523B Power Supply. These provide a total of nine mixing controls and eighteen input channels. As equipped, five of the mixing controls connect with ten low level microphone inputs. Each of the other four mixers connect to one line input and one utility input. Two of these line inputs can be converted for microphone use by the insertion of two extra A-428B Preamplifiers in the pre-wired receptacles. These two extra A-428B Preamplifiers must be ordered separately. The output of any of the mixer controls can be switched to either of two output channels.

Each output channel has its own master mixing control and illuminated VU meter and a phone jack for headset monitoring. In addition, an independent channel for loudspeaker monitoring of either output, any of the incoming lines, or the cue circuits, is provided. This channel may also be used to feed cue programs back to the remote line circuits or for talk-back, or either of the two studio loudspeaker circuits. The console is wired for four 15036 line input repeating coils which must be ordered separately as extra equipment. All controls are color-coded according to function and placed for the most efficient and convenient operation. The hinged top and face of the console provides immediate access to all parts. Tube checking facilities are provided. The 250A Console is completely self-contained.

(See brochure for complete information.)

specifications

Gain:	100 db, microphone inputs: 60 db, utility inputs: 40 db, remote line inputs
Power Output:	+20 dbm at less than 1/2% thd, 30-15,000 cps +24 dbm at less than 1% thd, 30-15,000 cps
Frequency Response:	± 1 db, 30-15,000 cps
Source Impedance:	30/50, 125/150, 250/300, 500/600 ohms, mic. inputs. 600 ohms all other inputs (150 or 600 ohms when repeat coils are installed)
Load Impedance:	600 ohms, line, audition or cueing outputs 2, 4, 8, 16 ohms, loudspeaker outputs
Noise Level:	70 db below +18 dbm output (mixer and master controls adjusted for 68 db net gain)
Controls:	5 mic. mixers, 4 line mixers, 2 master gain controls, audition & monitor gain controls. Complete input keying, talkback, monitor, audition, cueing and line switching facilities.
Power Supply:	117 volts, 60 cps, 200 watts
External Power Available:	12 vdc for relay operation
Tubes:	17—12AY7, 6—6AQ5, 4—6X4
Dimensions:	8 1/2" H, 48" W, 17" D above table top; table 55" x 32" x 27" high
Color:	Console: blue gray; table top: dark green
Weight:	Console and table: 280 lb.
Special Features:	All amplifiers and power supplies are self-contained, plug-in type. Uses A-428B and A-429B amplifiers. Two line input channels are wired to accept additional preamplifiers which must be ordered separately. Contains 8 watt monitor amplifier, 2—4 1/2" illuminated V.U. meters, and two line amplifiers. Normally used for two-studio operation. Two separate programs may be transmitted simultaneously.



2
consoles

230B CONSOLE

The 230B Console exceeds F.C.C. standards of quality and has generous safety factors to insure long life and reliability. With its compactness and low height it does not interfere with vision when placed between the control room and the studio. The color-coded mixing knobs and controls are logically grouped and properly spaced for the fastest possible operation. The hinged front panel permits fast servicing of mixing pots, switches and tubes, and immediate access to the plug-in power supplies. Eight low level microphone or turntable inputs are controlled by four mixing knobs. The other two knobs control four line inputs thus providing a control of twelve inputs with facilities for mixing six at any one time. The output channel can be switched to either of two output lines and automatically connects the control room telephone to the unused line. The eight watt monitor amplifier normally used for talk-back and public address can be instantly switched to replace the line amplifier in case of emergency. The large VU meter monitors the program output channel, remote lines, or the plate supply and relay supply voltages. Cue in circuits are provided on the line input controls. The 230B Console is completely self-contained. (See brochure for more complete information.)

specifications

Gain:	100 db, microphone inputs: 45 db, line-level inputs
Power Output:	+20 dbm at 1/2% thd, 30-15,000 cps +24 dbm at 1% thd, 30-15,000 cps
Frequency Response:	± 1 db, 20-20,000 cps, any input to program output
Source Impedance:	30/50, 125/150, 250/300, 500/600 ohms, mic. inputs. 600 ohms, line level inputs (150 or 600 ohms if repeat coils are used)
Load Impedance:	150 or 600 ohms, line outputs. 2, 4, 8, 16 ohms, loudspeaker outputs.
Noise Level:	74 db below +24 dbm (mixer and master controls adjusted for 70 db net gain)—Equivalent input noise —120 dbm.
Controls:	4 mic. mixers, 2 line-level mixers, monitor & program master gain controls. Complete input keying, talkback, monitor & audition facilities.
Power Supply:	117 volts, 60 cps, 100 watts
External Power Available:	12 vdc for relay operation
Tubes:	10—5879, 4—6AQ5, 2—6X4
Dimensions:	9 3/4" H, 36 1/4" W, 18" D
Color:	Blue gray
Weight:	90 lb.
Special Features:	All amplifiers, power supplies and loudspeaker relays are contained within the 230B Console. 8 watt monitor amplifier is provided. Illuminated 4 1/2" V.U. meter. Provision for 8 mic. and 4 line-level inputs, 2 separate output lines, 3 separate loudspeaker lines.

220B PORTABLE CONSOLE

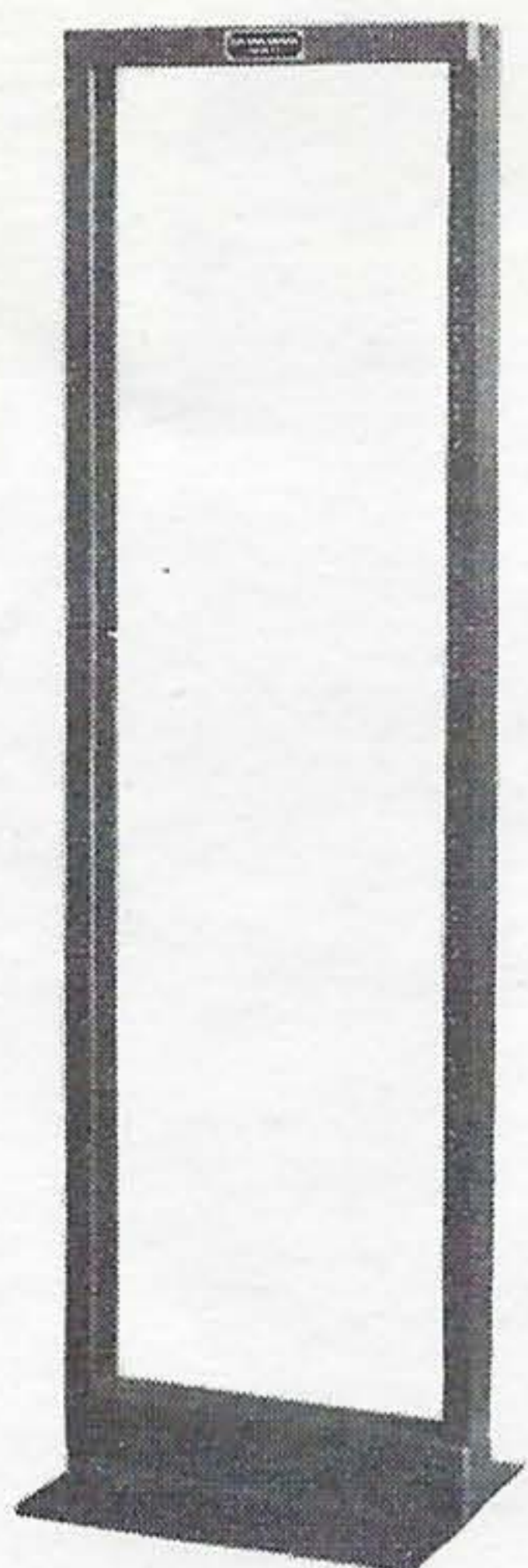
The 220B meets all requirements for field use in AM, FM, and TV remote pickup. Wired for high level mixing, it incorporates two 1510A Preamplifiers, one 1540A Line Amplifier, 530A Power Supply, a large illuminated VU meter and a master volume control providing control of four microphone inputs. It may be operated from either 110 volts AC or from an external battery supply. Facilities are provided for headphone monitoring. The sturdy carrying case fully protects all controls, plugs and meter, and has space for headset and cable, and a complete complement of fuses and tubes. The 220B may be ordered with either AB carbon or Daven mixing potentiometers.



specifications

Gain:	102 db maximum, each channel
Power Output:	+25 dbm at 2% thd, 50-7,500 cps
Frequency Response:	± 1 db, 30-15,000 cps
Source Impedance:	30/50, 125/150, 250/300, 500/600 ohms, each channel
Load Impedance:	125/150 or 500/600 ohms
Noise Level:	70 db below +18 dbm output (mixer and master controls adjusted for 68 db gain)
Controls:	4—100,000 ohm mixer pots & 100,000 master gain (specify whether AB Carbon or Daven type). Switches for selection of 150 or 600 ohm outputs and AC or battery operation.
Power Supply:	117 volts, 50/60 cps, 50 watts, or 270 v and 6 v batteries
Tubes:	2—12AY7, 2—5879, 1—6AU6, 1—6C4, 1—6X4
Dimensions:	12 1/4" H, 24 1/2" W, 6 1/2" D
Color:	Black leatherette
Weight:	26 1/2 lb.
Special Features:	220B Console is a portable speech input mixer feeding 150 or 600 ohm lines. There are 4 microphone inputs, a line output, and phones output. A 4 1/2 inch illuminated V.U. meter is provided.

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101F RACK

A rugged relay rack for the mounting of amplifiers, pre-amplifier assemblies, etc., has 36 units (63 in.) of rack space. Dimensions—68 $\frac{1}{2}$ " high, 20 $\frac{1}{4}$ " wide, 15" deep at base.

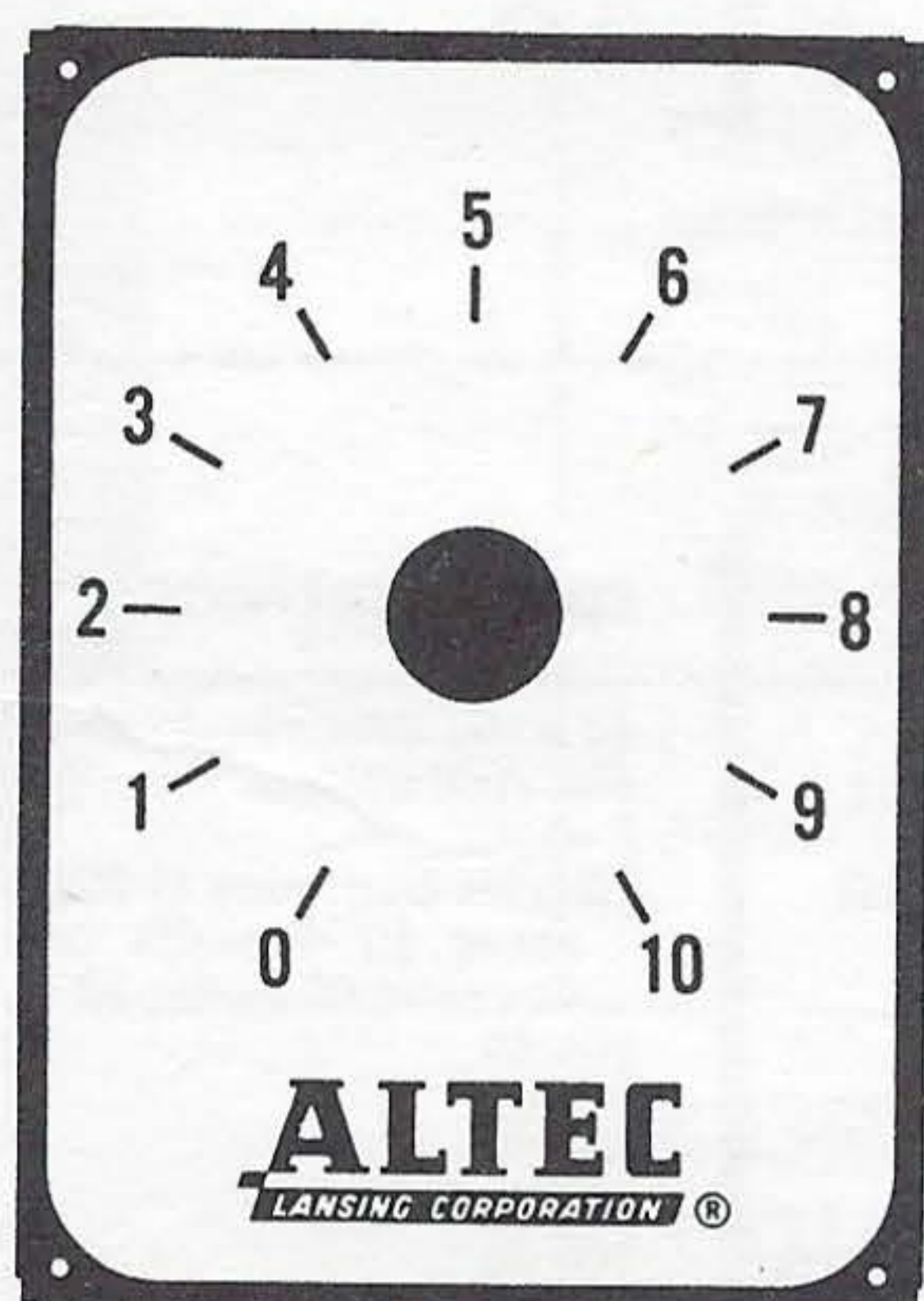


10403 CABINET

Metal wall cabinet supplied with A-287WS Amplifier. May be purchased separately to convert A-287W to wall mounting. Dimensions—23 $\frac{1}{8}$ " high, 20 $\frac{1}{8}$ " wide, 13" deep.

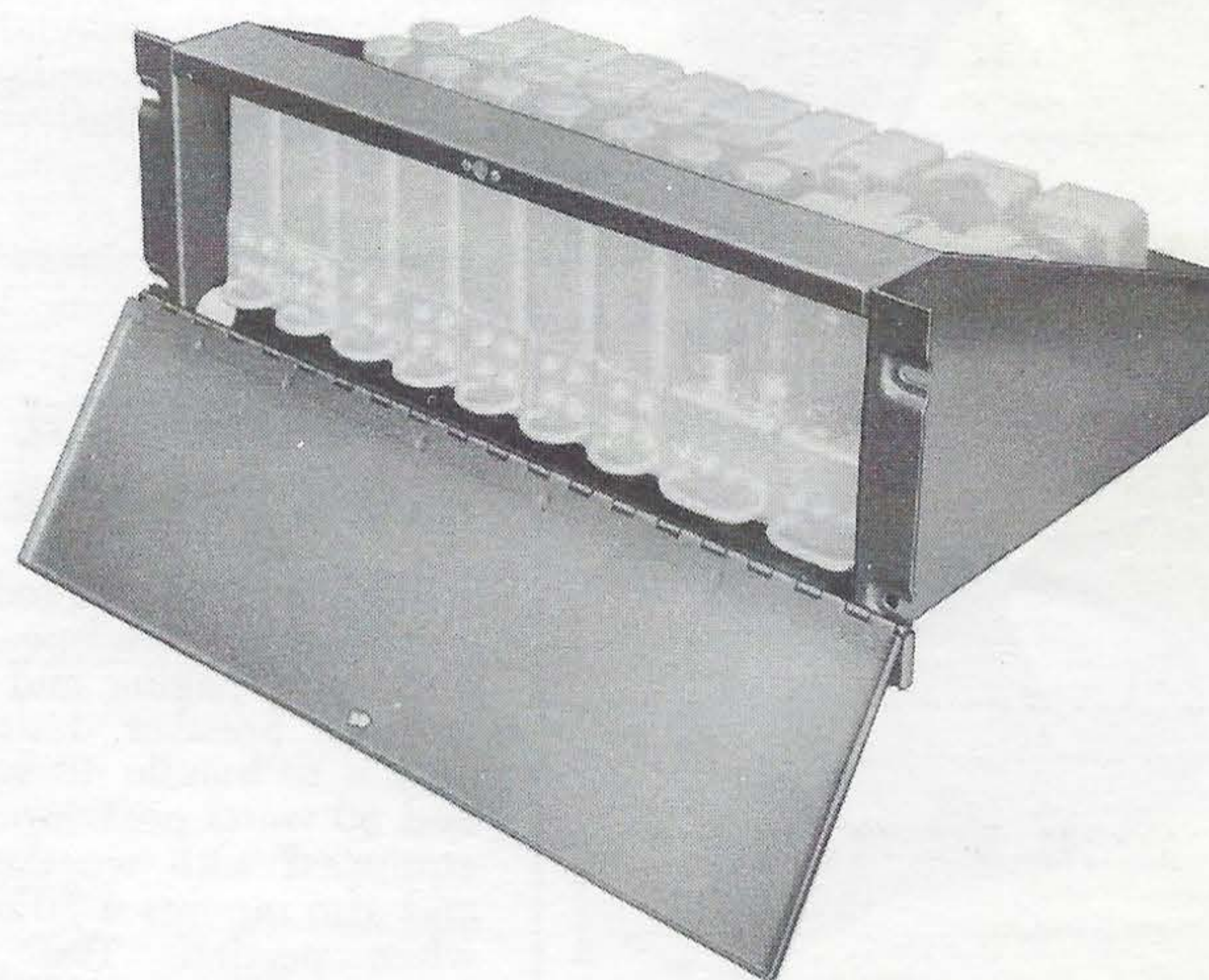
10447 CABINET

A heavily constructed wall cabinet supplying 13 units (22 $\frac{3}{4}$ in.) of rack space. Dimensions—24 $\frac{3}{4}$ " high, 24" wide, 13" deep.



11026 DIAL PLATE

Metal plate for volume control for use in custom installations. Dimensions—2 $\frac{1}{2}$ " high, 11 $\frac{1}{8}$ " wide.



11338 ASSEMBLY

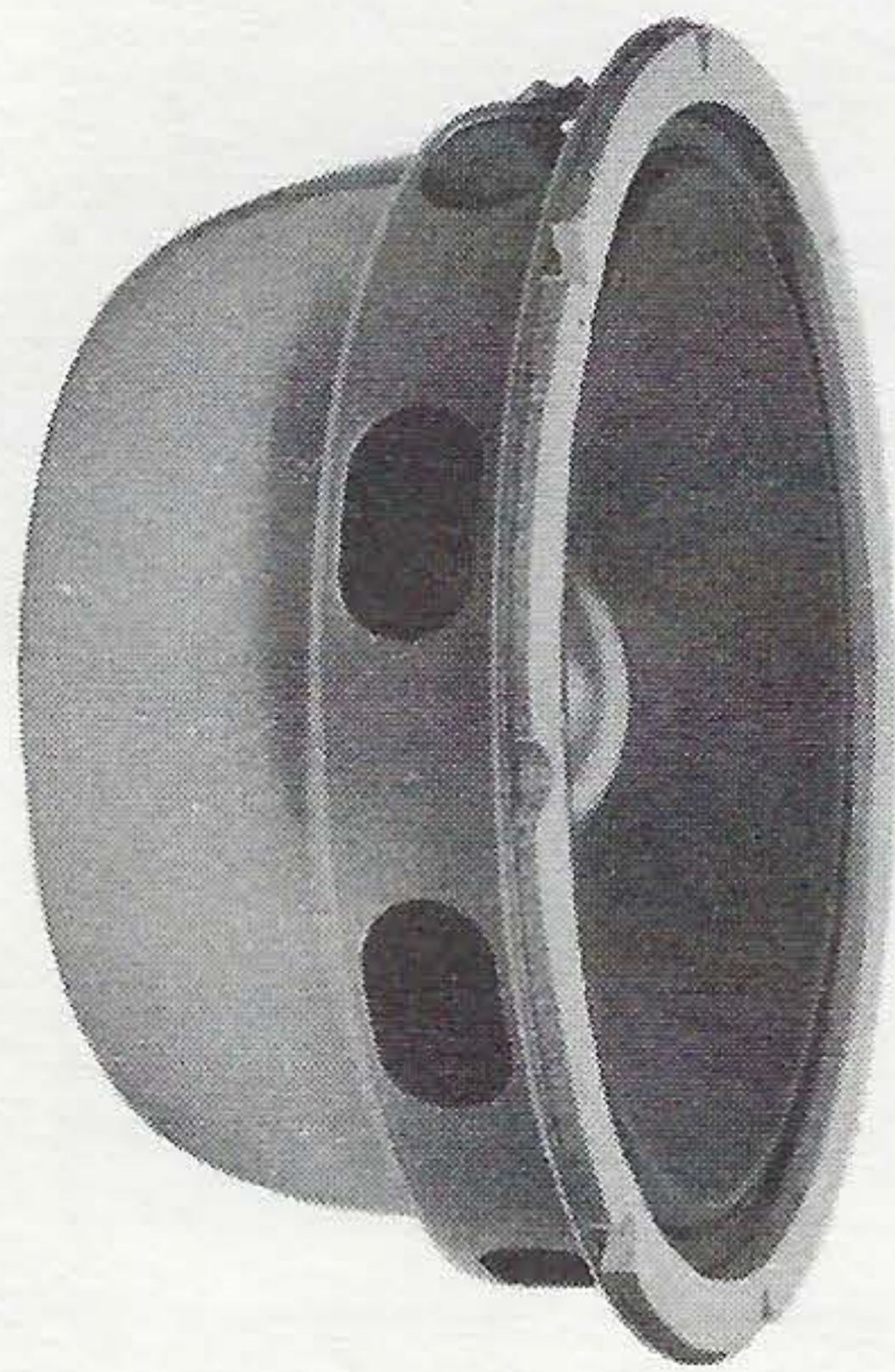
This relay rack mounting assembly provides mounting facilities for the A-428B, A-429B Plug-in Amplifiers, and the P-522A and P-523B Plug-in Power Supplies in custom installations. The assembly will hold a maximum of nine 11301 Trays for the A-428B or a maximum of six 11302 Trays. The trays and receptacles are permanently mounted on the assembly and wiring gutters and heavy duty terminals are provided in the frame. The 11338 Assembly does not include cover trays and plugs, and they must be ordered separately. Dimensions—7" high, 19" wide, 12 $\frac{3}{8}$ " deep.

BLANK PANELS

These plain metal panels are finished in standard Altec colors and provide a finished appearance to relay racks when the entire rack is not filled with equipment. All panels are drilled with standard relay rack mounting holes and are 19" wide.

- 10339 Panel—1 $\frac{3}{4}$ " high
- 10281 Panel—3 $\frac{1}{2}$ " high
- 10282 Panel—5 $\frac{1}{4}$ " high
- 10283 Panel—7" high
- 10284 Panel—8 $\frac{3}{4}$ " high
- 10440 Panel—10 $\frac{1}{2}$ " high
- 10441 Panel—12 $\frac{1}{4}$ " high

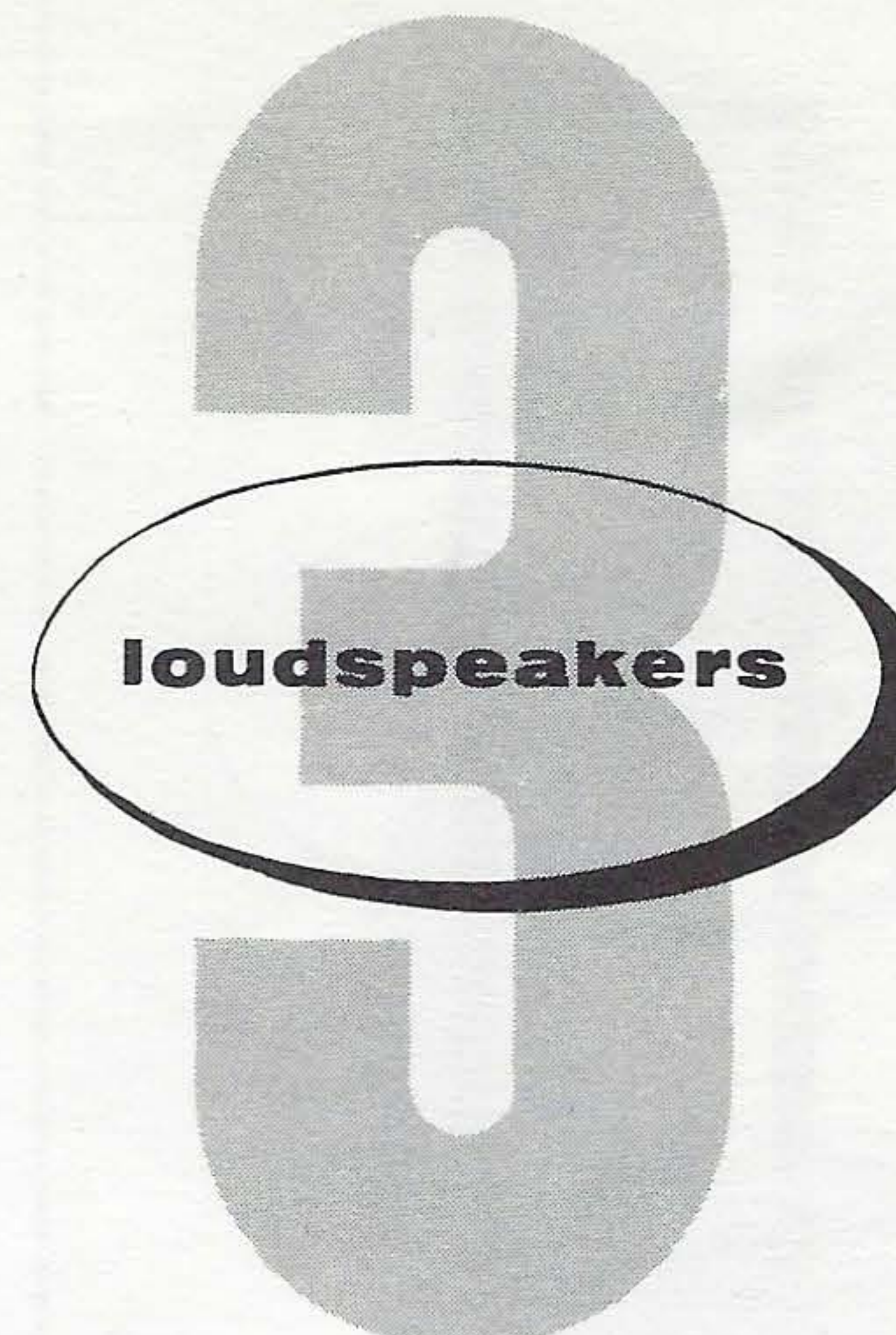




400B LOUDSPEAKER

This is the ideal speaker for those critical uses where price, space, weight, etc., prohibit the use of a larger unit. It has found wide acceptance in low level paging, public address and music systems. Its high efficiency, due to the large magnet and the Altec exclusive dia-cone principles result in a frequency range and operating efficiency much higher than is normally expected in a speaker of this size.

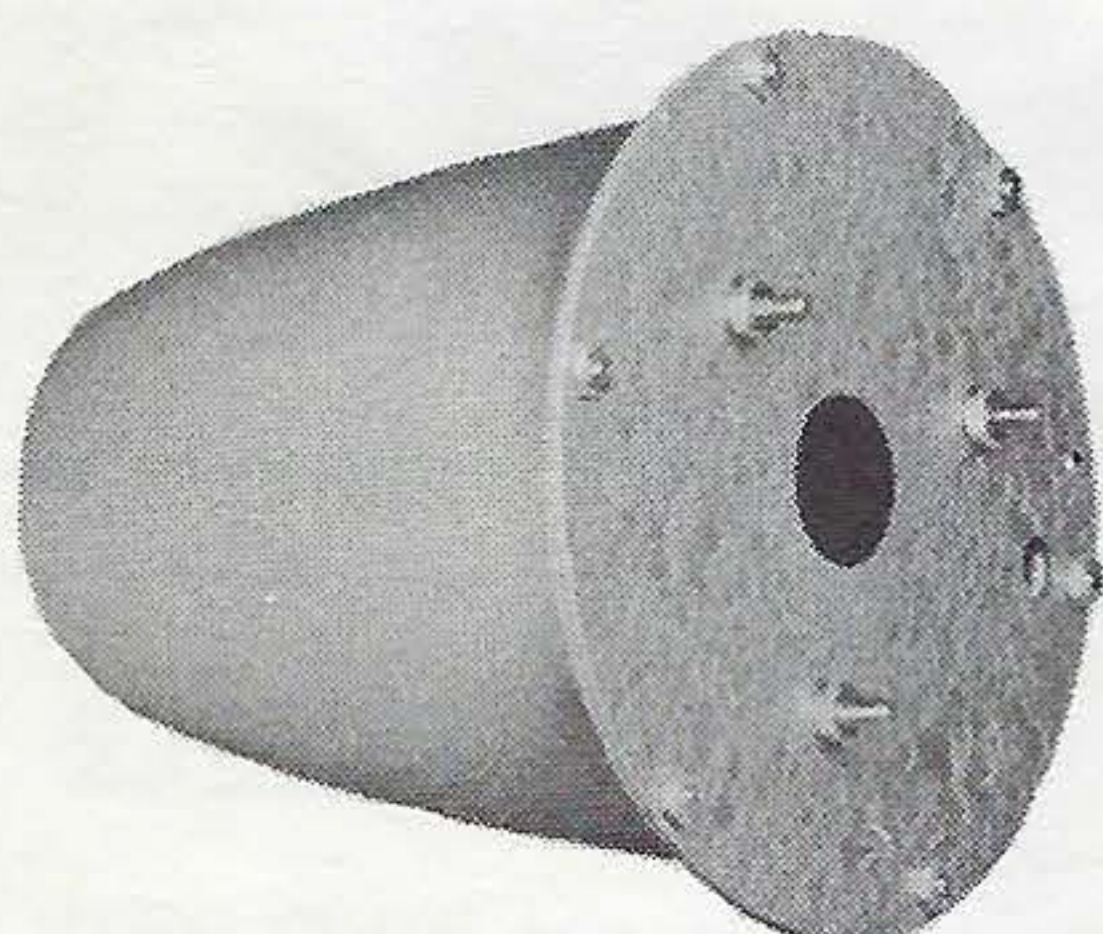
	specifications
Power rating	12 watts
Impedance	8 ohms
Diameter	8 1/4"
Mounting Hole Diameter	6 7/8"
Depth	3 5/8"
Weight	4 lbs.



600B LOUDSPEAKER

This 12" speaker, using the Altec dia-cone principle for high frequency reproduction, and large voice coil and magnet, provides efficiency and frequency range that make it ideal for home use, industrial applications and public address installations. Its specifications match ideally for use with the A-326 amplifier.

	specifications
Power Rating	20 watts
Impedance	8 ohms
Diameter	12 1/4"
Mounting Hole Diameter	10 1/4"
Depth	5 1/4"
Weight	12 lbs.



730A DRIVER LOUDSPEAKER

A high quality, ruggedly constructed, weatherproof loudspeaker for use in high level paging and public address systems. Speaker design features enable it to handle 40 watts continuous and 80 watts peak input. The 730A is equipped with weatherproof housing and also mounts a 70 volt transformer when needed. The 15037X transformer must be ordered as a separate item.

(See "Matching Transformers" for data on 15037X, 70 volt transformer.)

	specifications
Power	40 watts continuous; 80 watts peak.
Frequency Response	200-7000 cycles.
Impedance	8 ohms.
Average Sound Level	(Warble frequency of 200-5000 cycles; level above 10 ⁻¹⁶ watts per Sq. CM; rated power of 40 watts; 30 ft. on axis)
With 30A Horn	104 db
With 40A Horn	107 db
With 31A Horn	102 db
With 32A Horn	104 db
With KS-12024 Horn	106 db
With KS-12025 Horn	105 db
Dimensions	Diameter 5 7/8"; Height 7"
Finish	Gray



30A HORN 40A HORN

Heavy duty double re-entrant horns for efficient overall performance; constructed of strong weatherproof, non-resonant material; equipped with heavy mounting bracket.

	specifications
30A HORN	
Air Column	2 1/2'
Spherical Distribution	50°
Low Frequency Cutoff	175 cycles
Dimensions	Diameter 14"; length 12"; weight 8 lbs. (Includes 3A attachment)
40A HORN—	
Air Column	same as 30A horn in larger model for extending low frequency range.
Spherical Distribution	3 1/2'
Low Frequency Cutoff	50°
Dimensions	135 cycles
	Diameter 21"; length 15"; weight 9 1/2 lbs. (Includes 3A attachment)
3A ATTACHMENT	adapts 730A Driver Speaker to other types of re-entrant horns.





755A LOUDSPEAKER

The wide frequency response of this extremely compact 8 inch loudspeaker, only 3 inches deep, makes it ideal for low level multiple speaker installations for the reproduction of music or voice.

Power:	8 watts
Impedance:	4 ohms
Diameter:	8 $\frac{3}{4}$ "
Mounting Hole Diameter:	7 $\frac{5}{8}$ "
Depth:	3 $\frac{1}{8}$ "
Weight:	5 lbs.

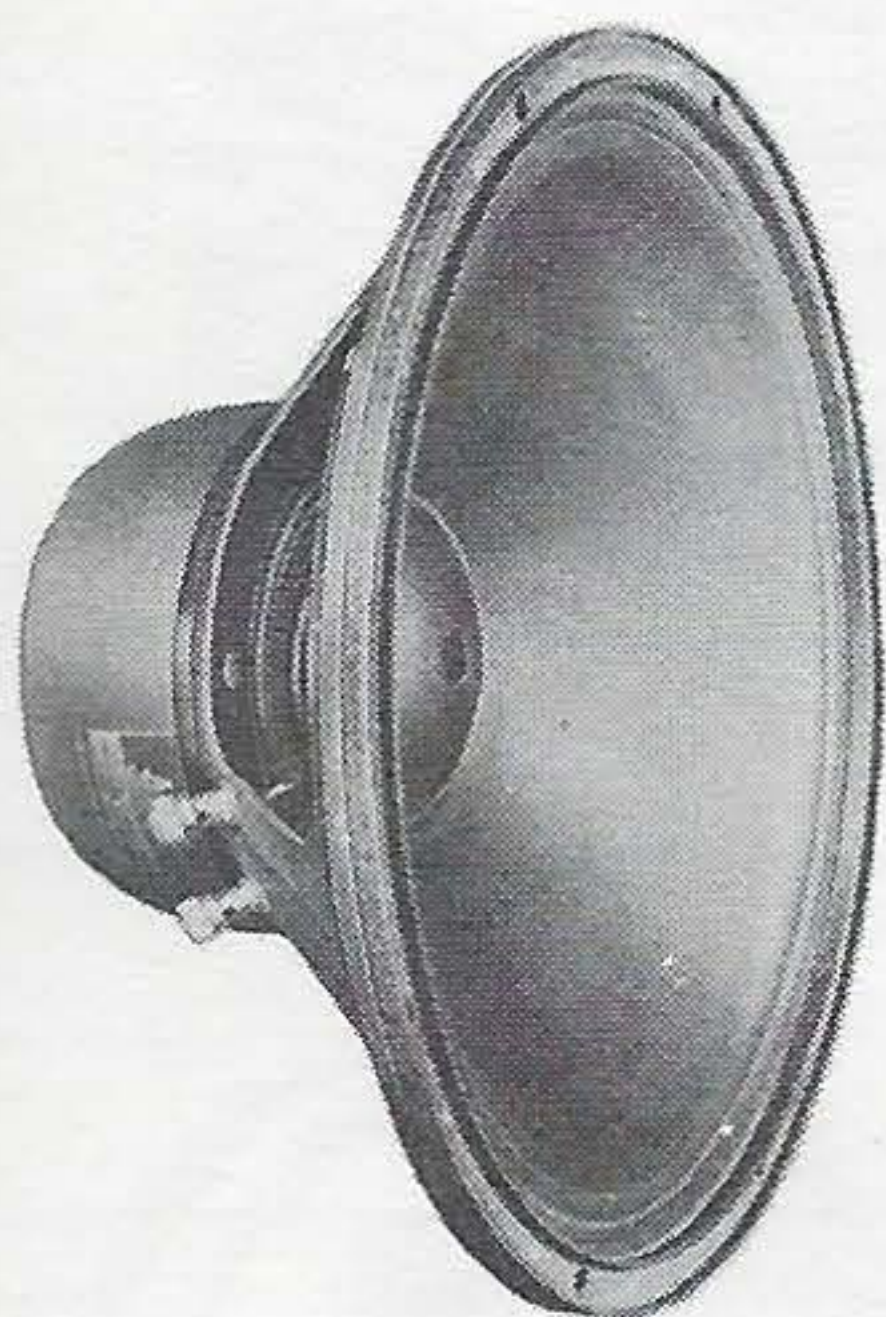
loudspeakers



515 LOUDSPEAKER

A heavy-duty loudspeaker designed especially for efficient reproduction of low frequencies in large, high power, two-way high fidelity speaker systems. For maximum efficiency it should be mounted in an Altec low frequency horn.

Power:	35 watts (peak 50 watts)
Impedance:	16 ohms
Diameter:	15 $\frac{3}{8}$ "
Mounting Hole Diameter:	13 $\frac{1}{4}$ "
Depth:	7"
Weight:	26 lbs.



803A LOUDSPEAKER

These 15" units are designed to provide the smoothest possible response in a limited range from 30 to 800 cycles. The 803A Speaker is used extensively in Altec "Voice of the Theatre" Systems and in the 820C and A-7 Systems for the home. The cone is specially treated to allow wide excursions for undistorted bass response. The 803A is an ideal bass speaker for public address when mounted in an Altec low frequency horn.

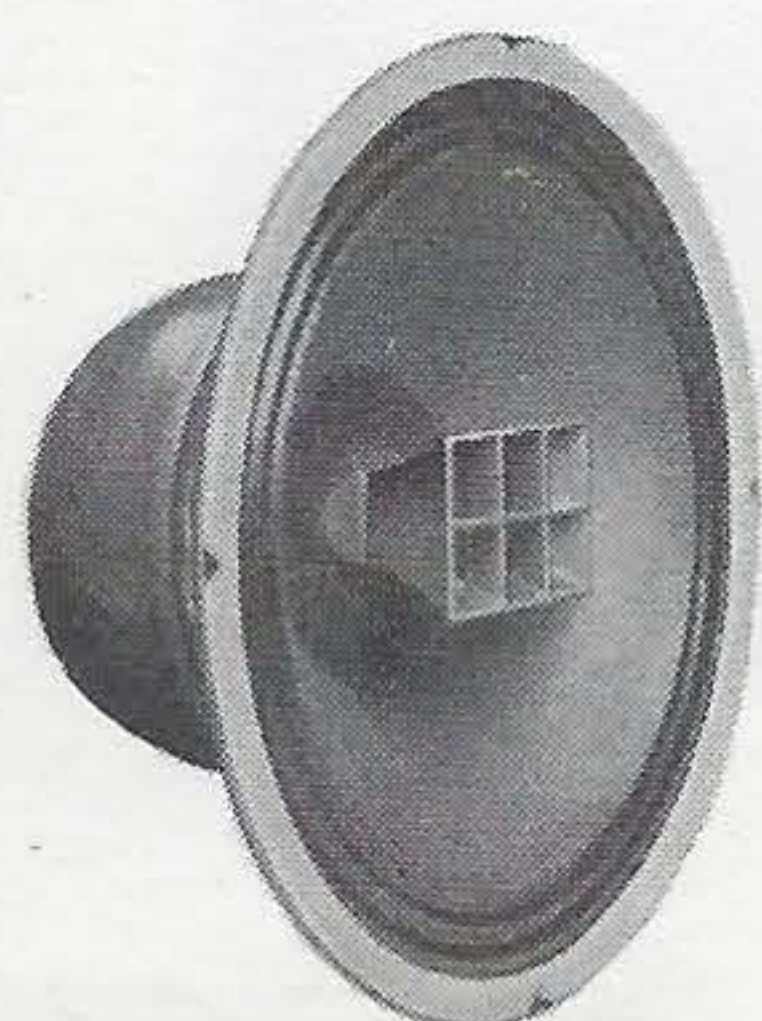
Power:	30 watts
Impedance:	16 ohms
Diameter:	15 $\frac{3}{8}$ "
Mounting Hole Diameter:	13 $\frac{1}{4}$ "
Depth:	7"
Weight:	17 $\frac{1}{2}$ lbs.



603B DIA-CONE LOUDSPEAKER

An economically priced all range speaker unit with outstanding quality and performance characteristics. This Dia-cone speaker has many of the Altec "exclusive" design features found in the professional 604C Duplex. Add to a superbly smooth frequency response the multicellular horn for wide and smooth distribution of high frequencies, the large 15" cone for full bass, the large Alnico V permanent magnet and its massive circular magnetic circuit and the popularity of this fine speaker is easily understood.

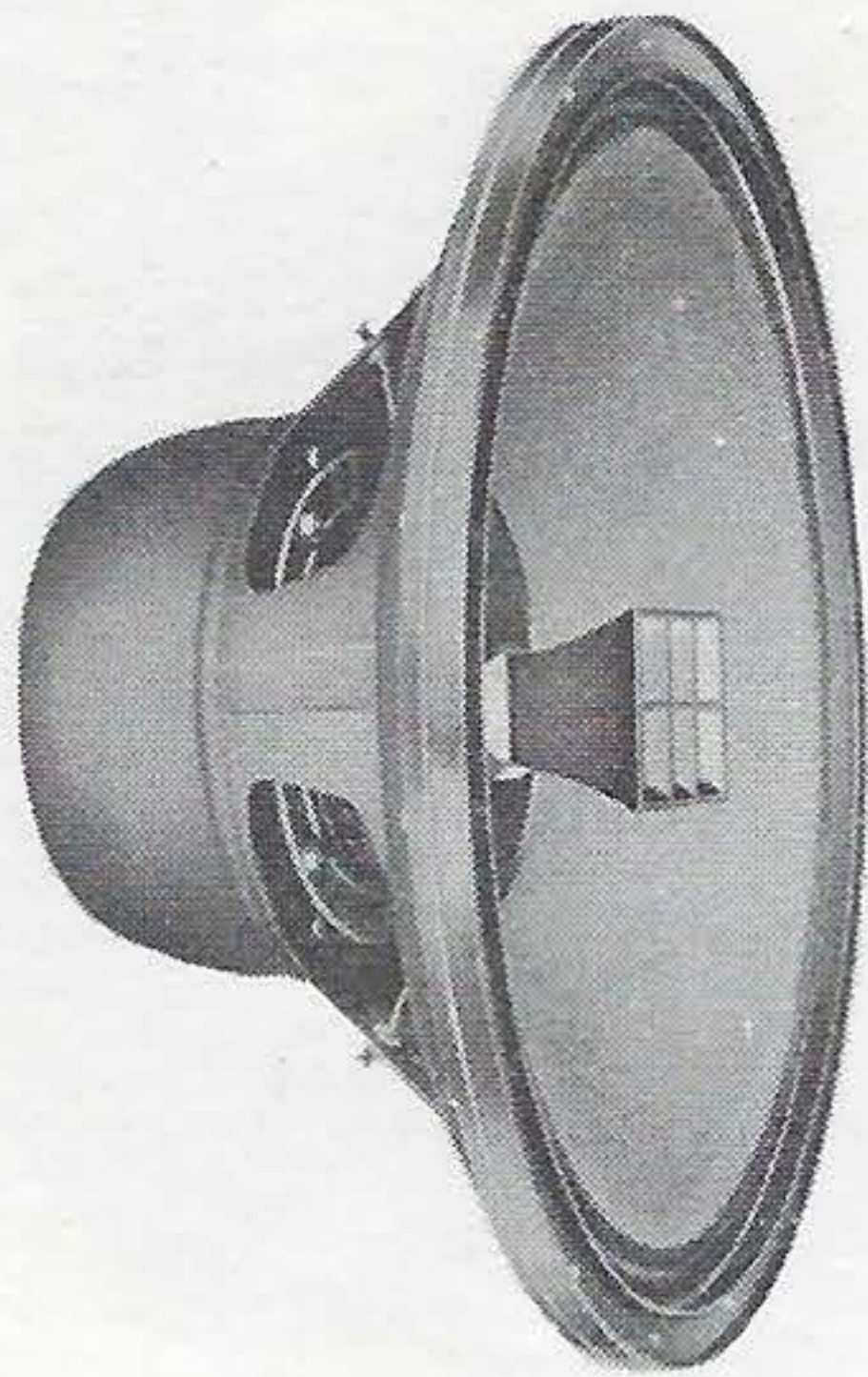
Power:	30 watts
Impedance:	8 ohms
Horizontal Distribution:	60°
Vertical Distribution:	40°
Diameter:	15 $\frac{3}{8}$ "
Mounting Hole Diameter:	13 $\frac{1}{4}$ "
Depth:	7"
Weight:	18 lbs.



601A DUPLEX LOUDSPEAKER

This speaker combines in one superlative unit an efficient 12" low frequency speaker with the 3000A high frequency driver unit and horn and a 3000 cycle crossover network. Unconditionally guaranteed frequency response: 30 cycles-22,000 cycles.

Power:	20 watts (30 watts peak)
Impedance:	8 ohms
Horizontal Distribution:	90°
Vertical Distribution:	40°
Diameter:	12 $\frac{1}{4}$ "
Mounting Hole Diameter:	10 $\frac{3}{4}$ "
Depth:	5 $\frac{5}{8}$ "
Weight:	17 lbs. with network

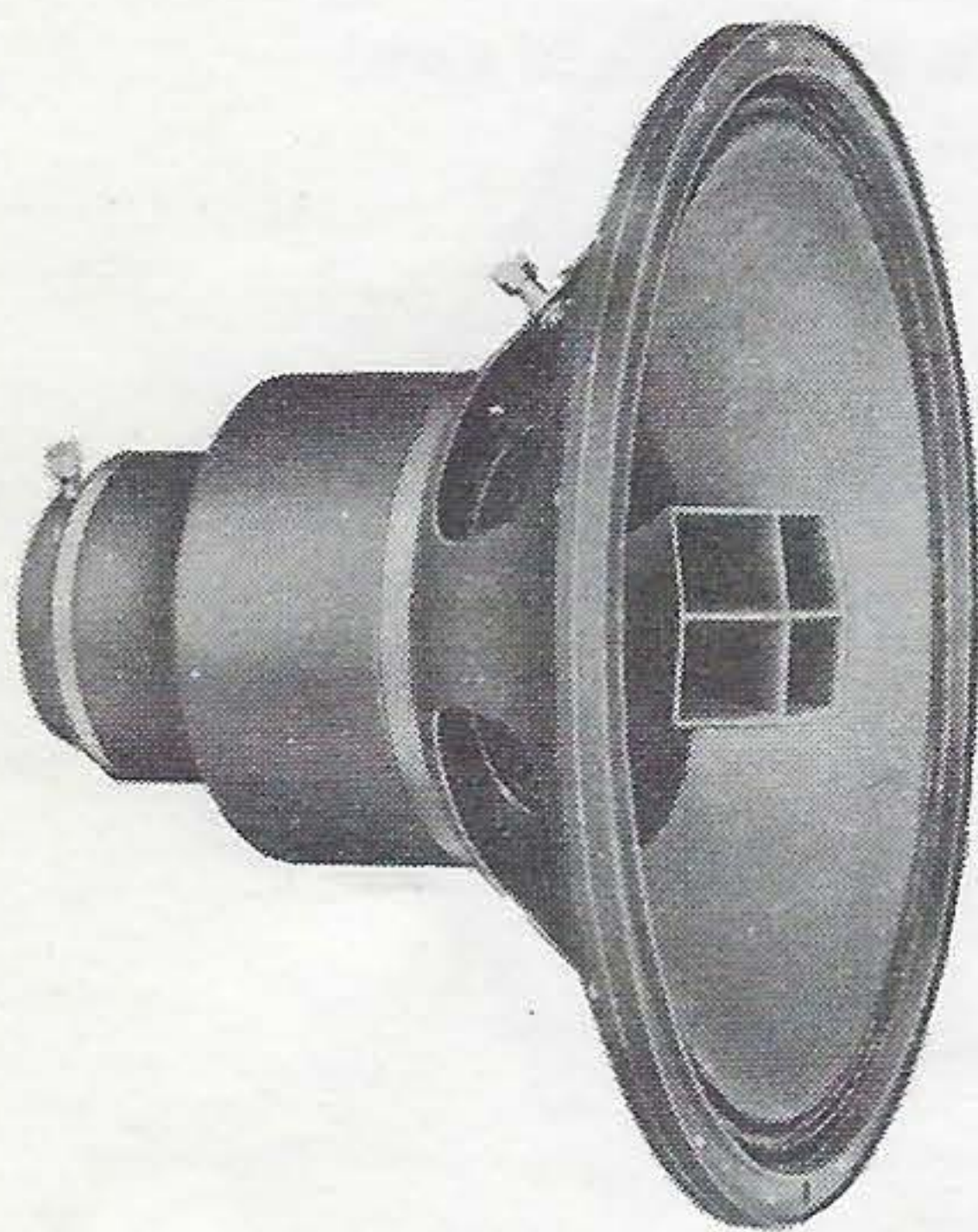


602A DUPLEX LOUDSPEAKER

A companion piece to the 601A and identical in every way with the exception that it is mounted on a 15" frame and uses a 15" cone with a larger low frequency magnet for more efficient reproduction of very low frequency bass music. It has a 30 to 22,000 cycle range.

Power:	25 watts (35 watts peak)
Impedance:	8 ohms
Horizontal Distribution:	90°
Vertical Distribution:	40°
Diameter:	15 $\frac{3}{16}$ "
Mounting Hole Diameter:	13 $\frac{1}{4}$ "
Depth:	7 $\frac{1}{4}$ "
Weight:	25 lbs. with network

loudspeakers



604C DUPLEX LOUDSPEAKER

The 604C is the newest model of the famous professional type Altec 604 "Duplex" speaker which has long been the quality standard of the audio industry. An improved 15" cone and newly designed exponential multicellular horn and 1600 cycle network make it possible for the 604C "Duplex" to now have a guaranteed frequency response from 30 cycles to 22,000 cycles. Further design improvements enable this speaker to handle 50 watts of peak power without distortion. This speaker has no peer for high quality music and monitoring systems.

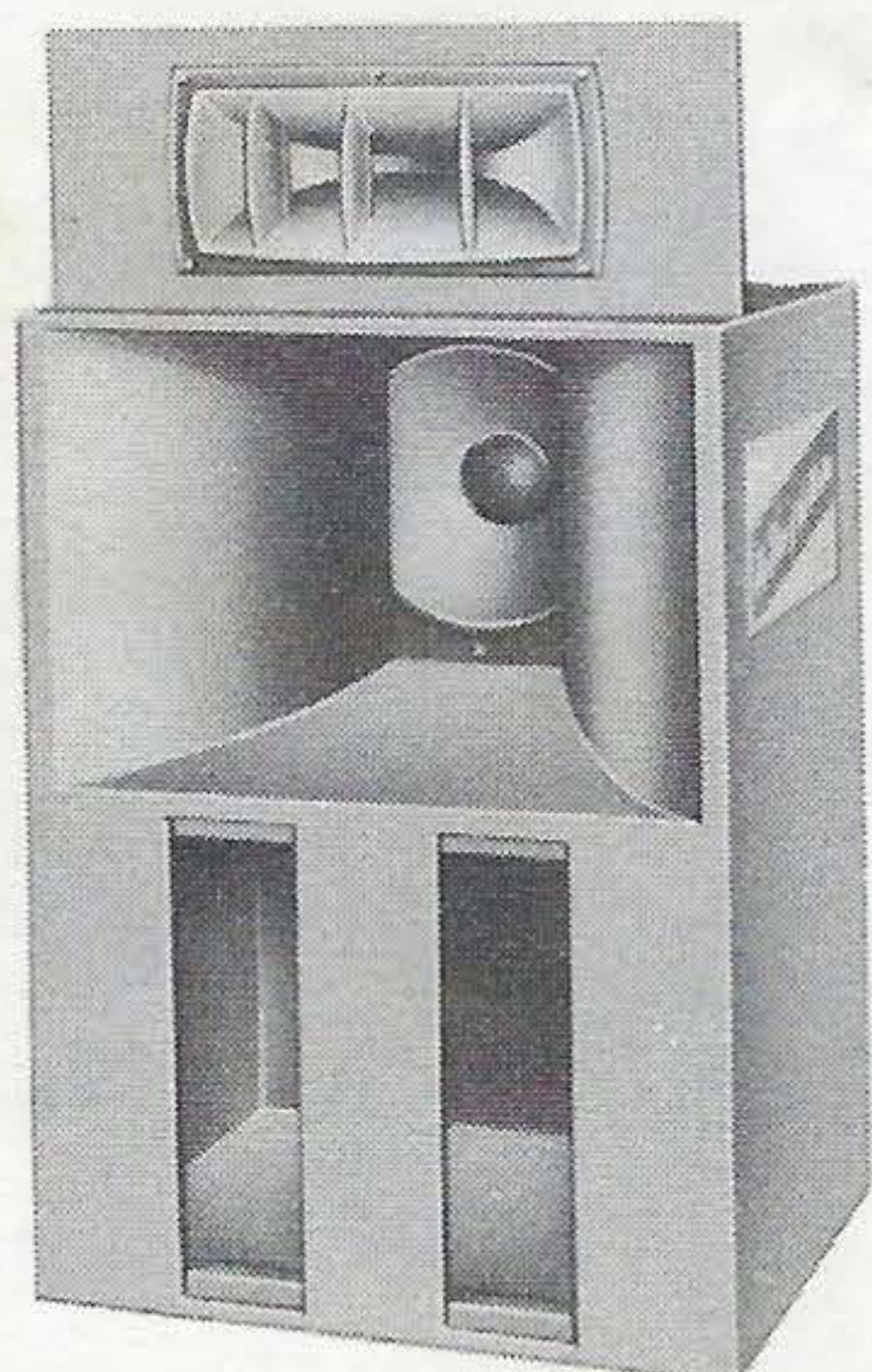
Power:	35 watts (50 watts peak)
Impedance:	16 ohms
Horizontal Distribution:	90°
Vertical Distribution:	40°
Diameter:	15 $\frac{3}{16}$ "
Mounting Hole Diameter:	13 $\frac{1}{4}$ "
Depth:	11 $\frac{1}{8}$ "
Weight:	40 lbs. with network



700A LOUDSPEAKER SYSTEM

This well-designed, compact Hi-Fi two-way speaker system in a table model furniture cabinet provides exceptional performance and is well suited for use in music systems where quality is important and it is not practical to conceal the loudspeakers. The system consists of a 10" bass speaker with a 3000 cycle dividing network and the Altec 3000A driver, and is guaranteed to reproduce all tones up to 22,000 cycles.

Power:	20 watts
Impedance:	8 ohms
Dimensions:	11 $\frac{1}{4}$ " high 22 $\frac{3}{4}$ " wide 10 $\frac{1}{8}$ " deep
Finish:	Mahogany or blond

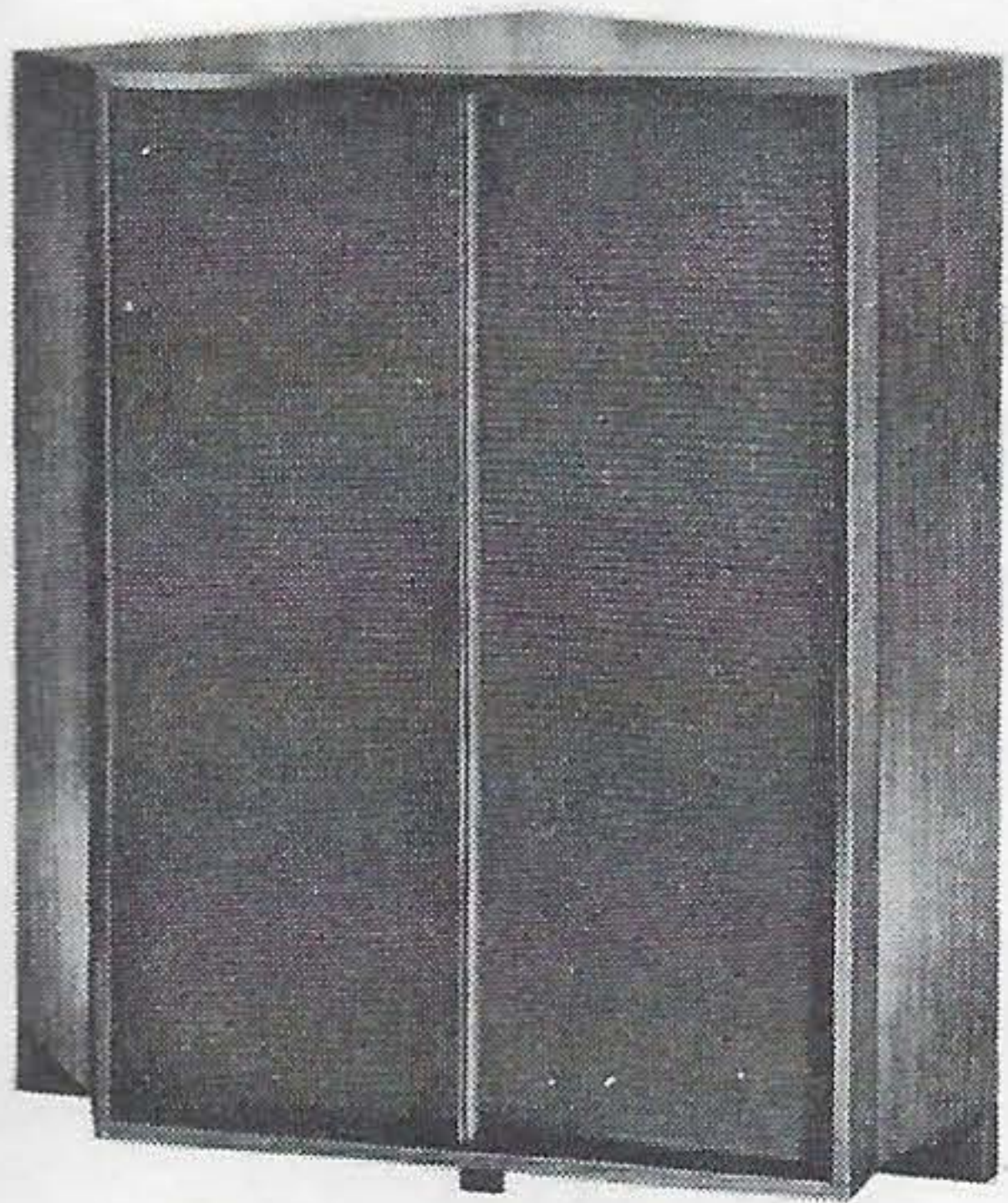
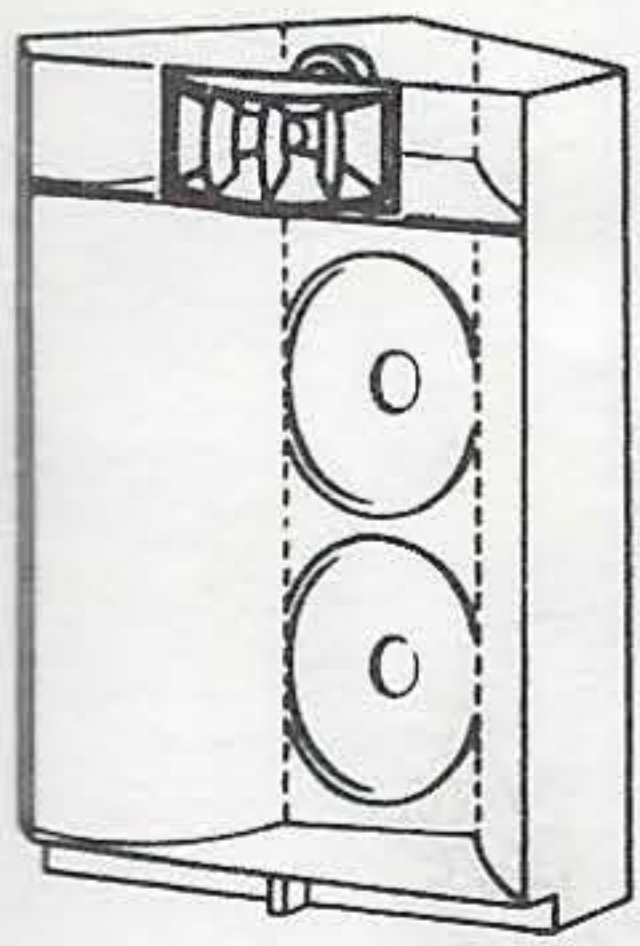


A-7 "Voice of the Theatre" LOUDSPEAKER SYSTEM

The A-7 "Voice of the Theatre" Speaker System is a newly designed two-way system using the 802C Driver on the H-811B Horn, one 15 inch 803A Low Frequency and the N-800D dividing network, compactly combined in a utility cabinet. It is the smallest model of the famous Altec "Voice of the Theatre" Systems used in first-run theatres all over the world. The A-7 provides the low cost, economical answer for big system quality in custom installation.

Power rating:	25 watts
Impedance:	16 ohms
Horizontal Distribution:	90°
Vertical Distribution:	40°
Dimensions:	54" high 30" wide 24" deep
Finish:	Gray
Weight:	180 lbs.

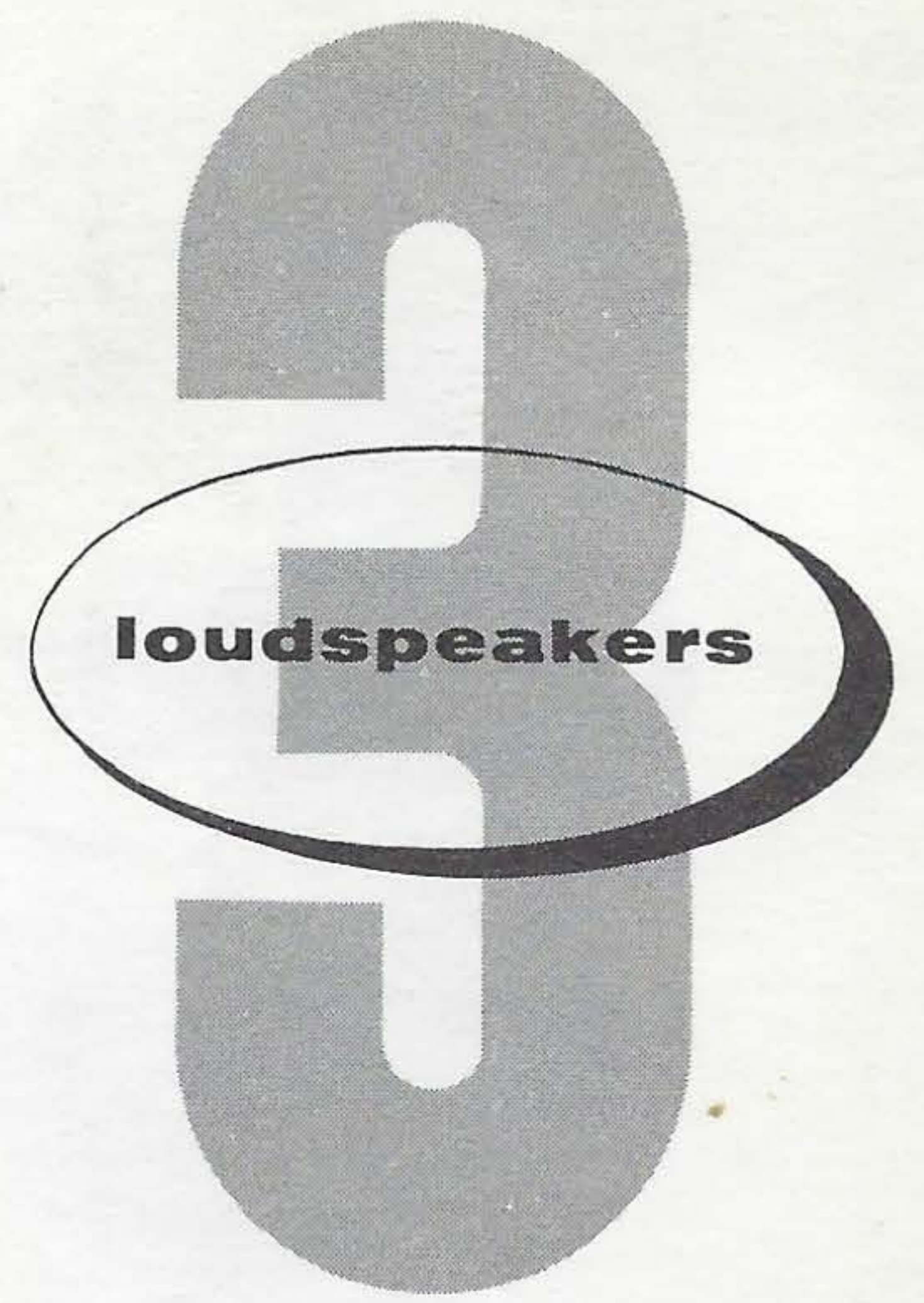
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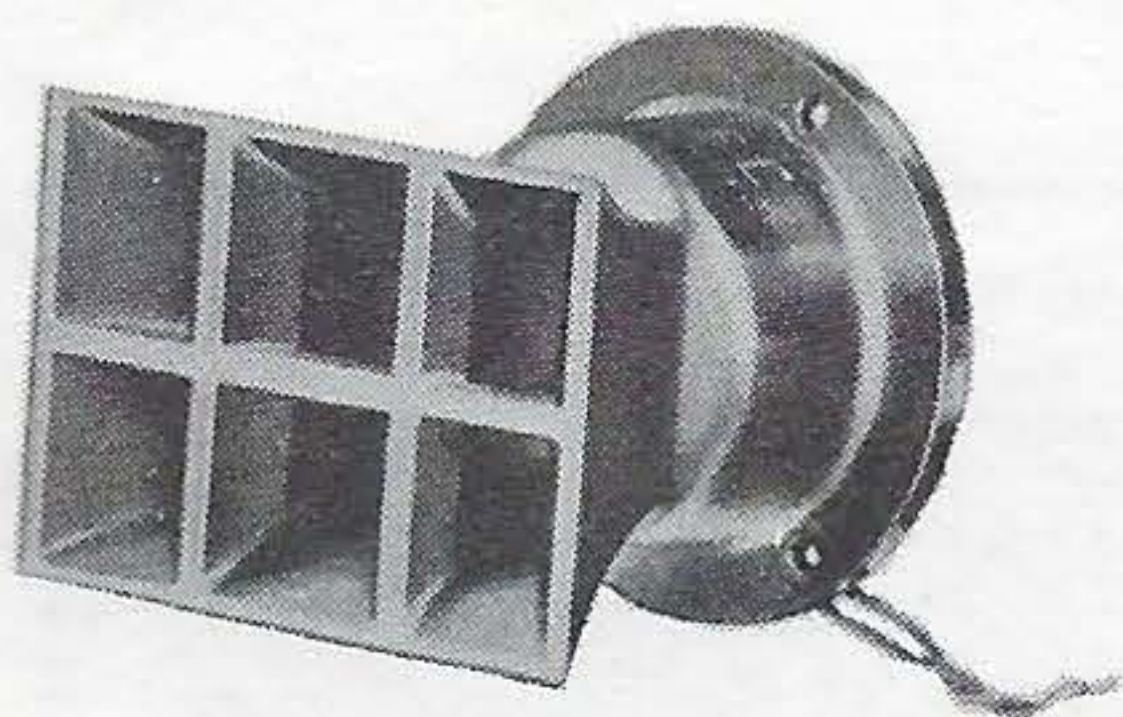
820C LOUDSPEAKER SYSTEM

The 820C System, an improved version of the famous 820A System, consists of an exclusively designed direct radiating low frequency horn in a bass reflex cabinet, an 802C High Frequency Unit mounted on the H-811B Sectoral Horn, two 15 inch 803A Low Frequency Units, and an 800D Dividing Network. The 820C is unconditionally guaranteed to reproduce all of the tones from 30 to 22,000 cycles. The quality furniture finish and tasteful corner design of the 820 Speaker System makes it ideal for use in large living, music, and recreation rooms, small auditoriums, clubs—in fact any location where the ultimate in high fidelity reproduction is desired.

Power rating:	30 watts
Impedance:	16 ohms
Horizontal Distribution:	90°
Vertical Distribution:	40°
Dimensions:	47 $\frac{3}{8}$ " high
	42 $\frac{1}{4}$ " wide
	29" deep
Finish:	Mahogany
Weight:	230 lbs.



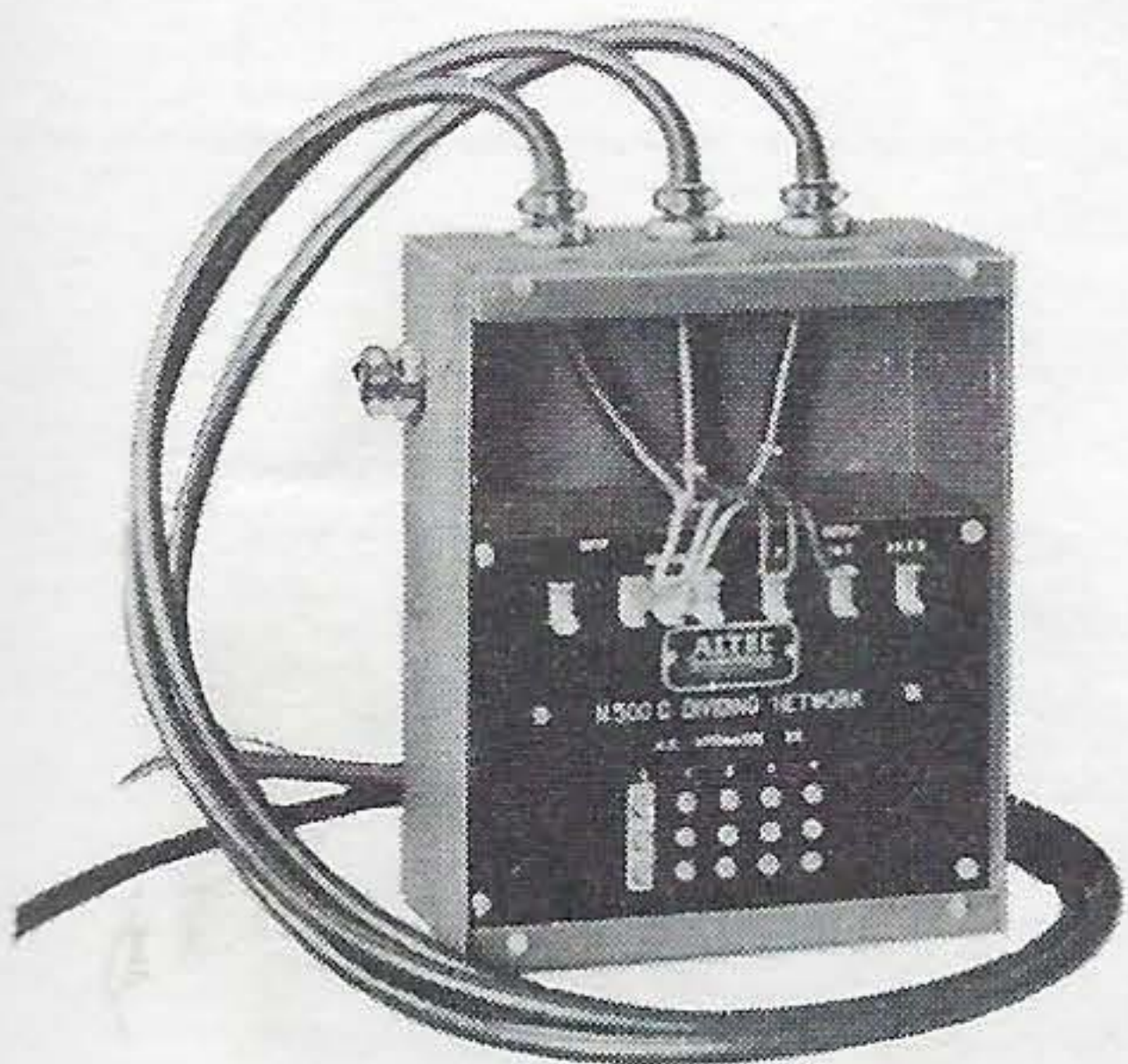
(Also available without furniture cabinet.)



3000A HIGH FREQUENCY SPEAKER

This amazingly compact and efficient high frequency speaker smoothly covers the range from 3000 to 22,000 cycles. It is also used in the well-known Altec 601A and 602A Duplex and 700A Melodist Speaker. The N-3000A Dividing Network is required and must be ordered separately.

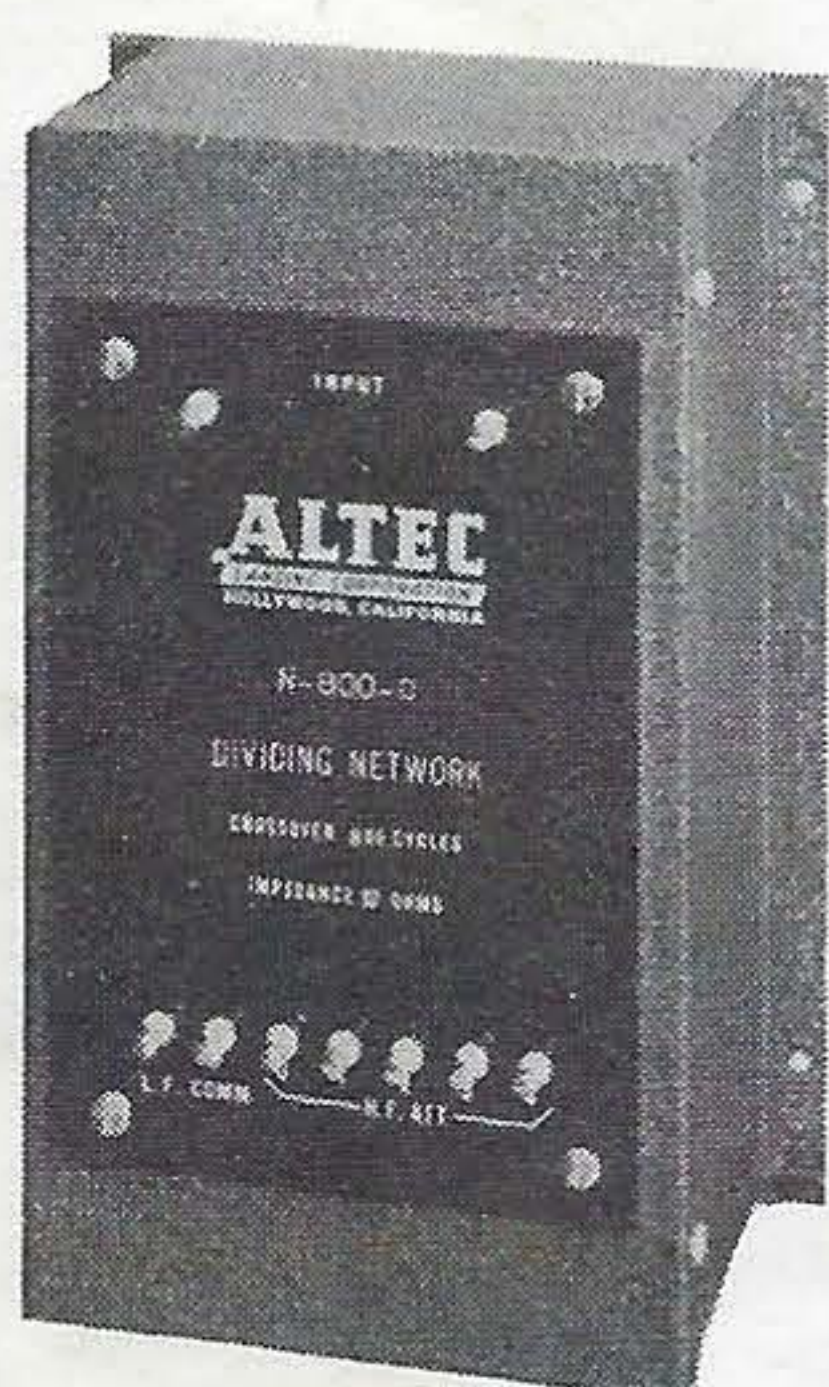
Power:	20 watts
Impedance:	8 ohms
Horizontal Distribution:	90°
Vertical Distribution:	40°
Dimensions:	2 $\frac{5}{8}$ " high
	2 $\frac{7}{8}$ " wide
	3" deep



N-500C DIVIDING NETWORK

This dividing network can be used for crossover in 500 cycle two-way systems using the 515 or 803 low frequency speakers and 288 or 290 high frequency driver. It can also be used to provide low frequency protection for Altec driver loudspeakers when they are used for high level paging and public address.

Crossover:	500 cycles
Impedance:	16 ohms
Dimensions:	10" high
	8" wide
	4 $\frac{1}{16}$ " deep



N-800D DIVIDING NETWORK

The dividing network provides a smooth crossover between the Altec 802C High Frequency Driver and the 803A Low Frequency Speaker in the construction of custom speaker systems. The network has four 1 db attenuation steps in the high frequencies for individual adjustment.

Crossover:	800 cycles
Impedance:	16 ohms
Dimensions:	6" high
	4 $\frac{3}{4}$ " wide
	2 $\frac{5}{8}$ " deep

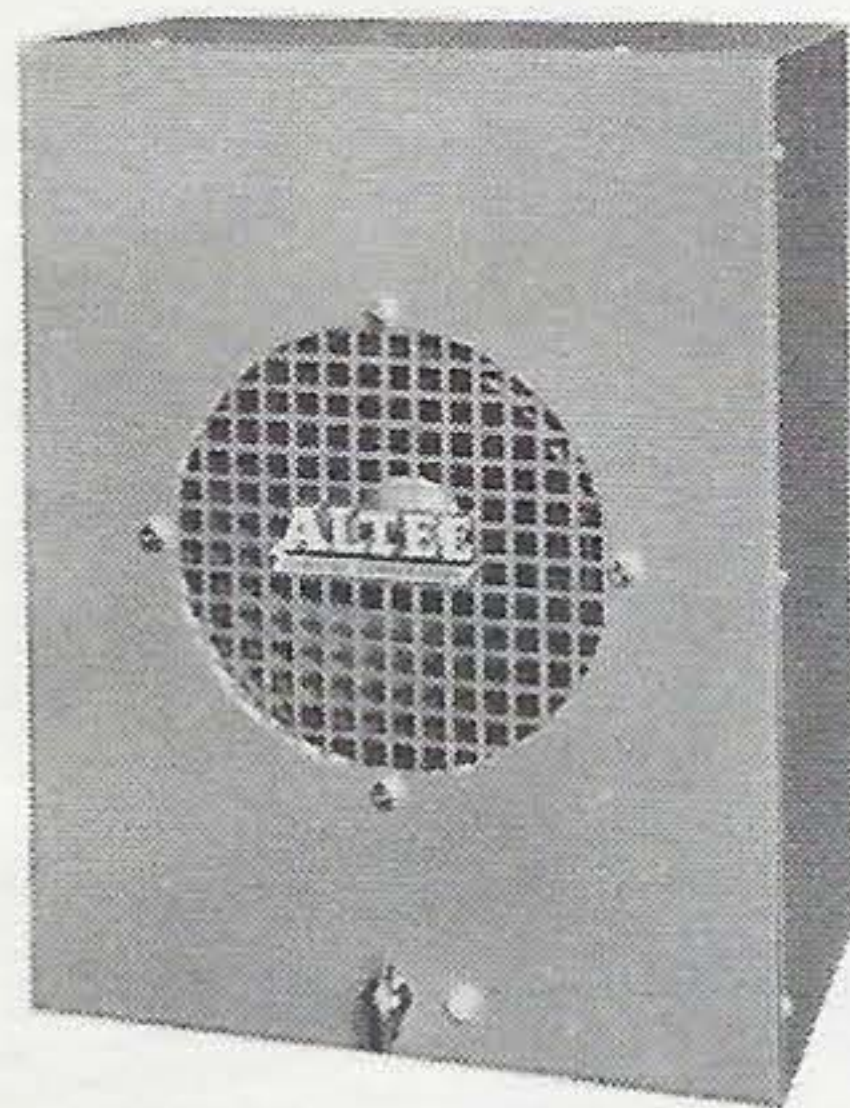


N-3000A DIVIDING NETWORK

A highly efficient low price dividing network for use with the Altec 3000A High Frequency Speaker. It properly separates low and high frequencies with maximum crossover smoothness and protection in two-way custom systems.

Impedance:	8 ohms
Dimensions:	3 1/8" high 2 5/8" square

loudspeakers



625 MONITOR SPEAKER

The 625 monitor speaker consists of an Altec 400B 8" Dia-cone speaker mounted in a compact metal cabinet. It is ideal as a basic monitor, particularly in the speech ranges. The cabinet has facilities for mounting of the A-336A monitor amplifier.

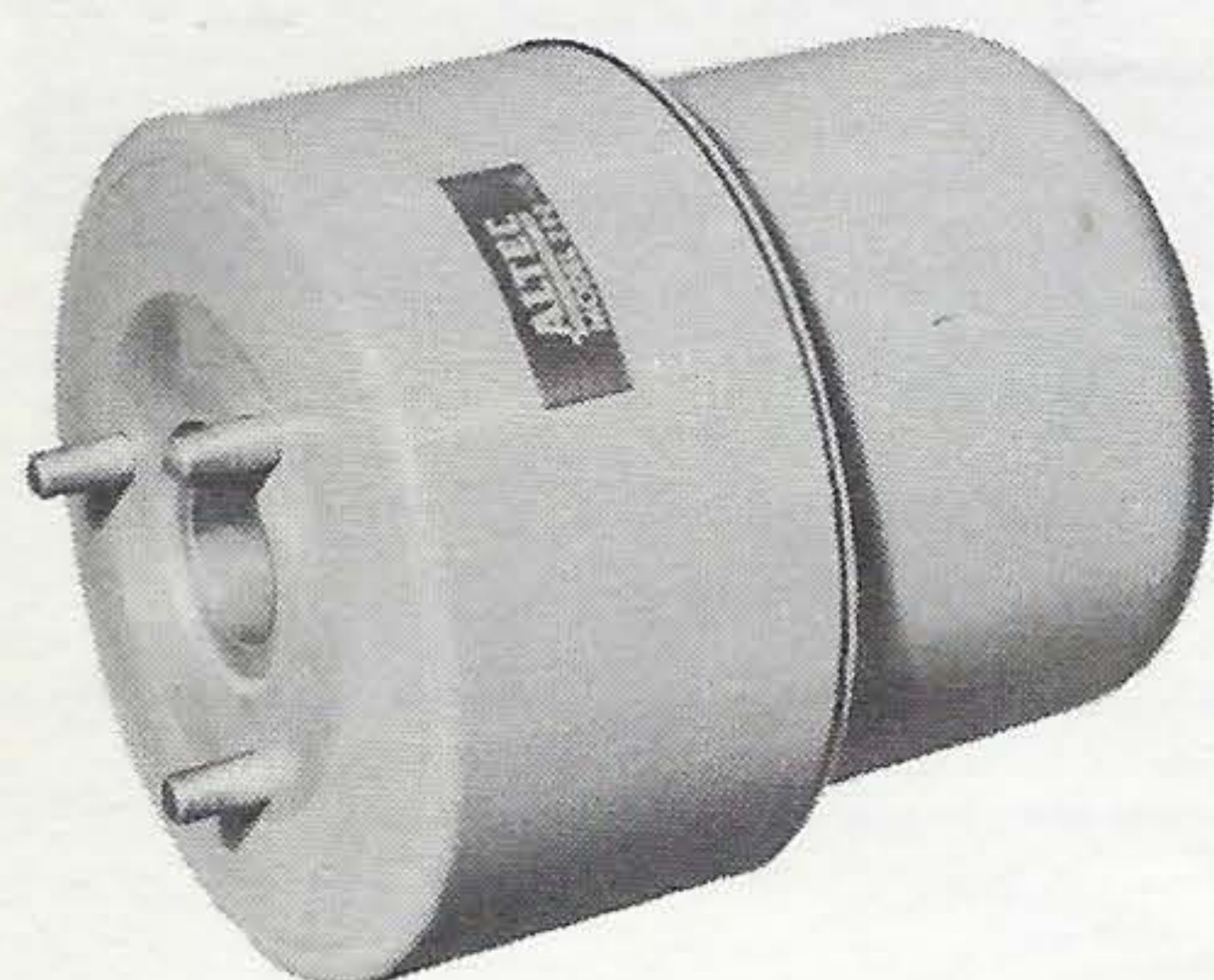
Dimensions:	12 1/4" wide 16 1/8" high 9 5/8" deep
Color:	Gray
Weight:	With speaker 24 lbs.



288B DRIVER LOUDSPEAKER

The 288B is a driver speaker for use with Altec horns in public address and high quality sound systems. The diaphragm assembly is field replaceable so there is no necessity of returning the entire unit for repair in case of damage.

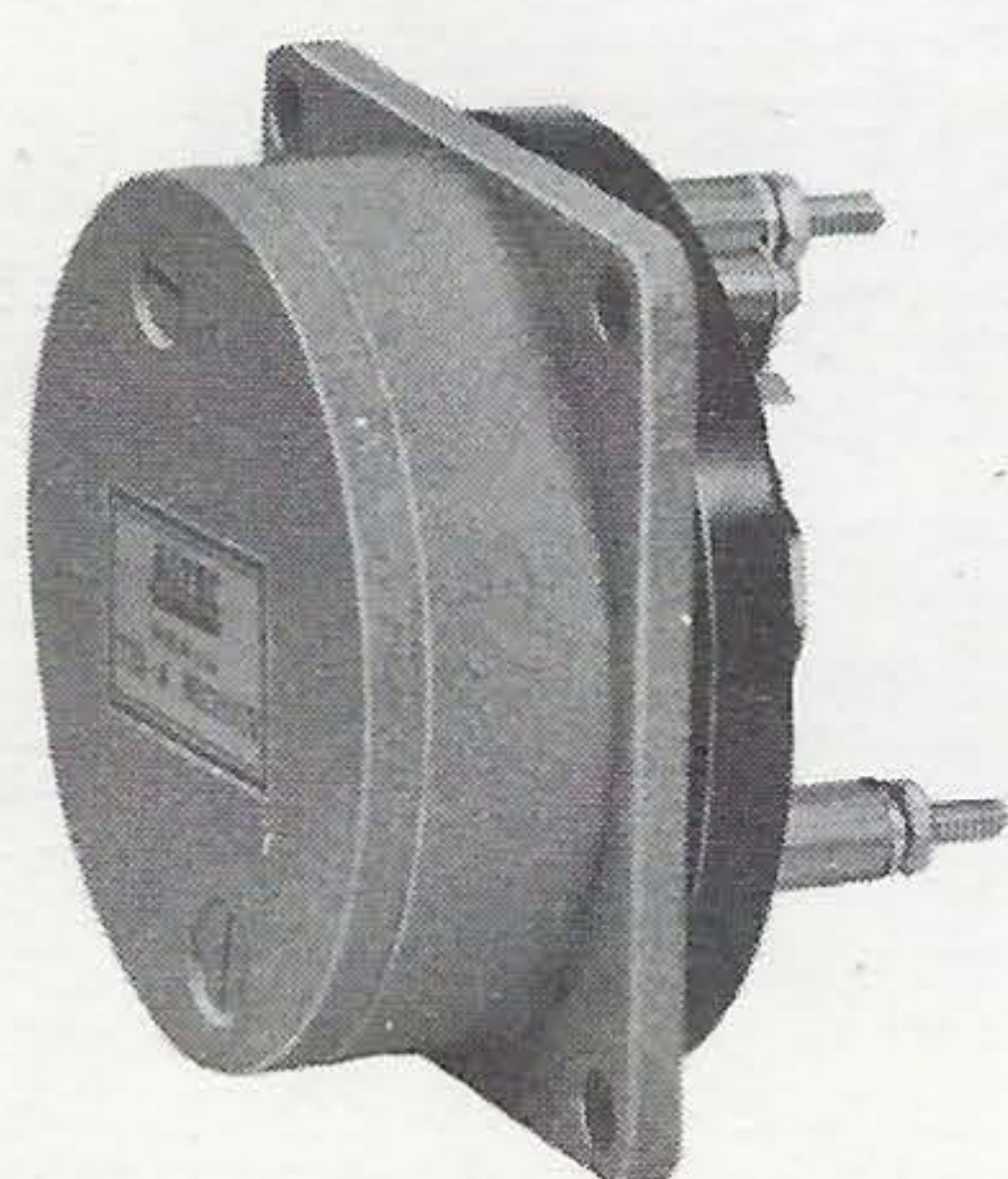
Power:	40 watts (above 500 cycles)
Frequency Response:	500-12,000 cycles
Impedance:	24 ohms
Average Sound Level:	(Warble frequency 500-2,500 cycles 4' from mouth of 30" trumpet) 115.2 db ref. .0002 dynes/cm ²
Dimensions:	Diameter 6 1/2" Height 4 7/8"
Finish:	Gray
Weight:	20 lbs.



290C DRIVER LOUDSPEAKER

The 290C is an extremely high powered, permanent magnet driver speaker of very high efficiency for use on Altec Lansing horns. It is the ideal unit for high level announcing or public address systems in large or noisy areas. The diaphragm and voice coil assembly is field replaceable. The weather-proof housing is drilled to mount matching transformer #15045. This transformer matches the 4 ohm impedance of the speaker to either a 16 ohm line or 70 volt line and must be ordered separately.

Power:	100 watts (above 300 cycles)
Frequency Response:	300-8,000 cycles
Impedance:	4 ohms
Average Sound Level:	(Warble frequency 500-2,500 cycles 4' from mouth of 30" trumpet) 111.5 db ref. .0002 dynes/cm ²
Dimensions:	Diameter 5 7/8" Height 7"
Finish:	Gray
Weight:	19 lbs.



720A DRIVER LOUDSPEAKER

A high quality driver loudspeaker with moderate power handling capacities for use on Altec horns in announcing and public address systems.

Power:	30 watts (above 500 cycles)
Frequency Response:	500-6,500 cycles
Impedance:	8 ohms
Average Sound Level:	(Warble frequency 500-2,500 cycles 4' from mouth of 30" trumpet) 110.5 db ref. .0002 dynes/cm ²
Dimensions:	Diameter 4 1/4" Height 3 1/4"
Finish:	Gray
Weight:	4 lbs.

ALTEC
LANSING CORPORATION



802C DRIVER LOUDSPEAKER

The 802C provides exceptionally high quality for use as a high frequency driver in two-way high fidelity systems.

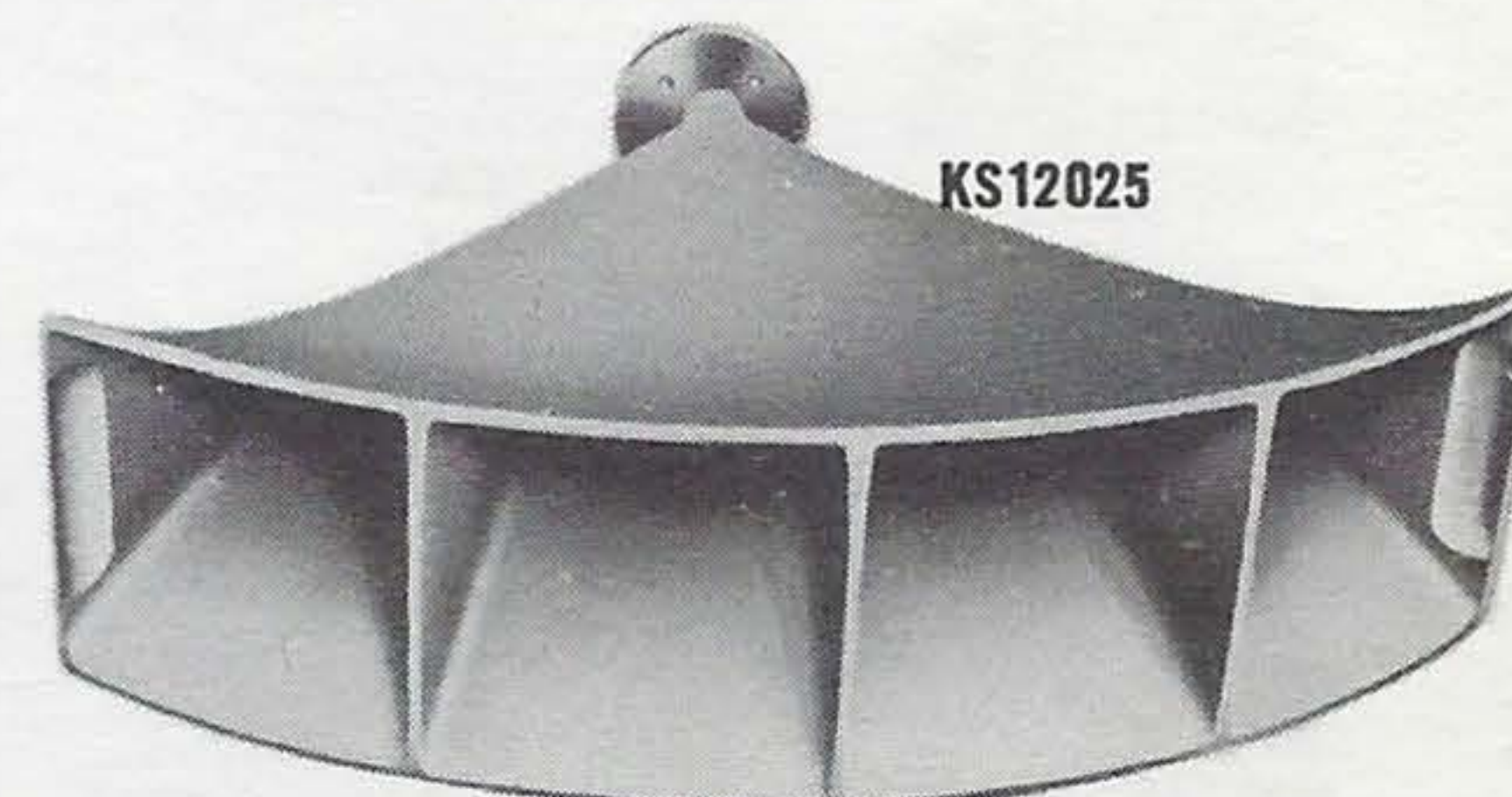
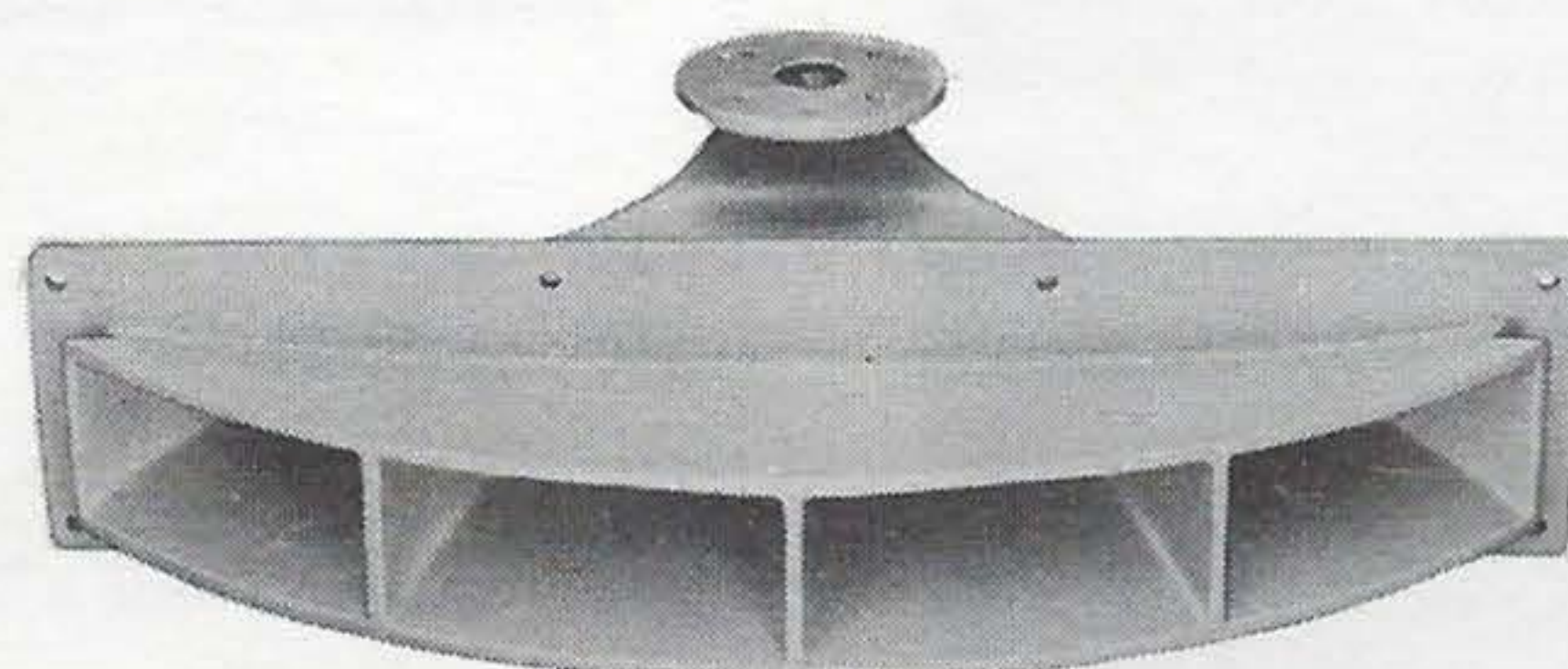
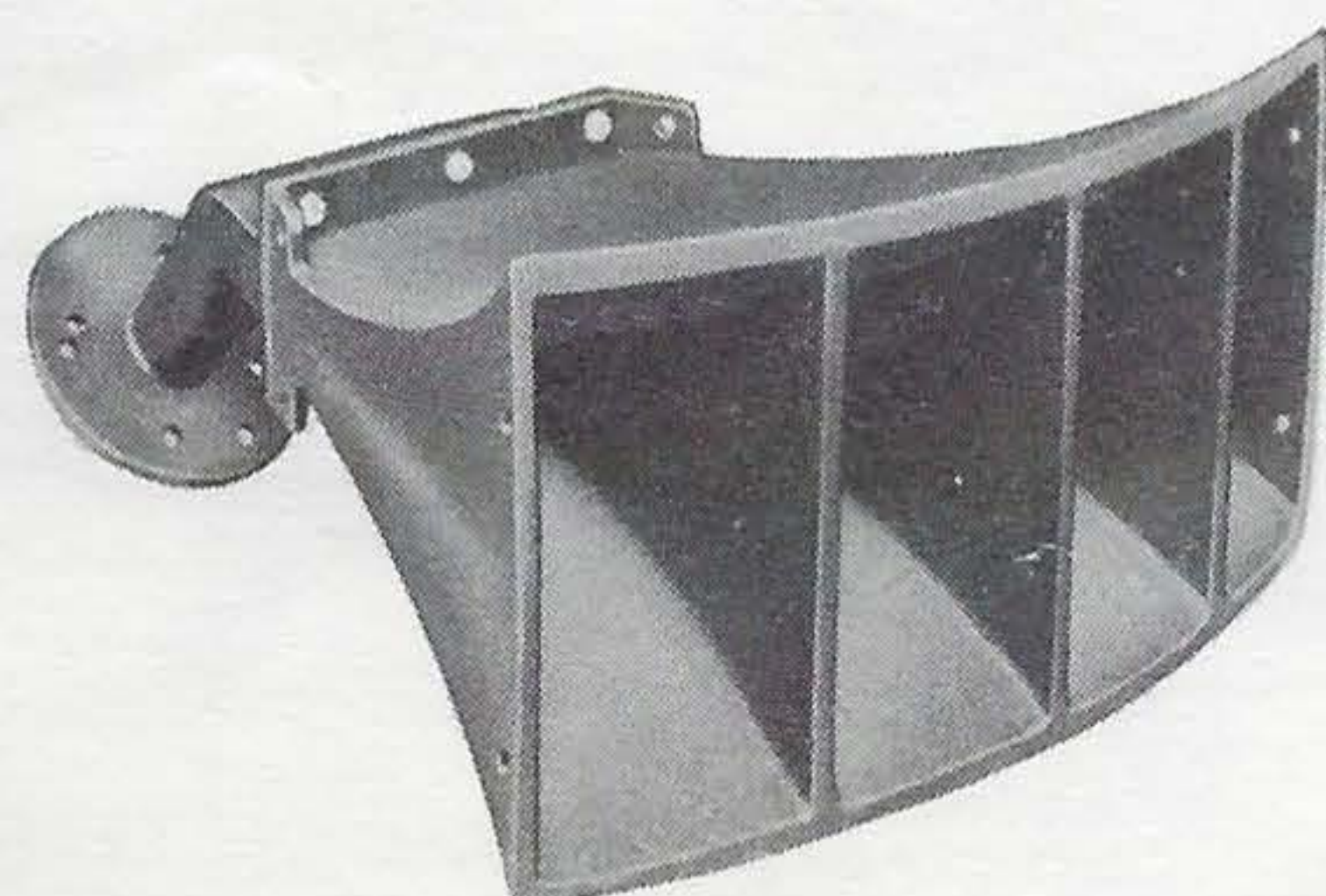
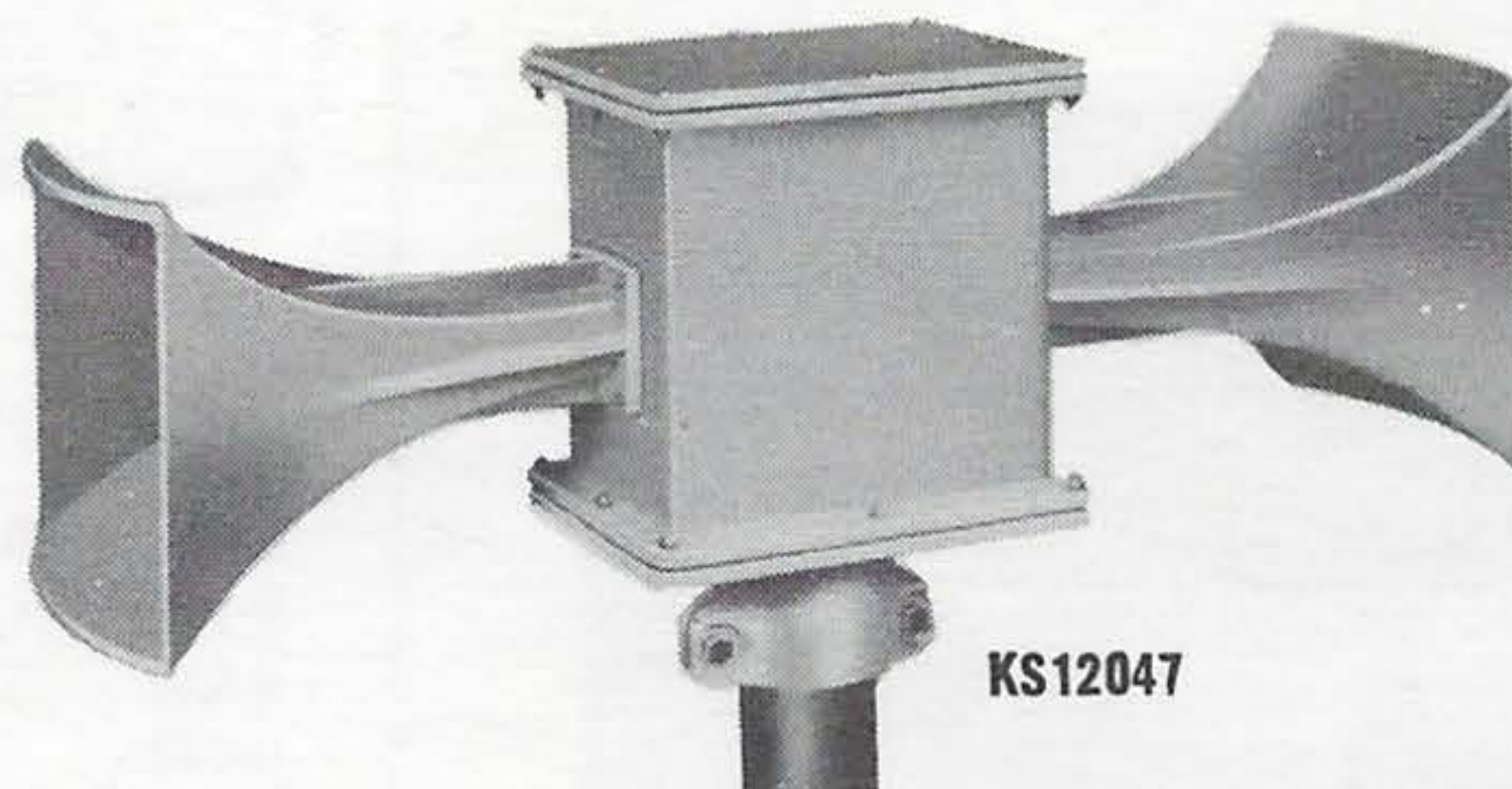
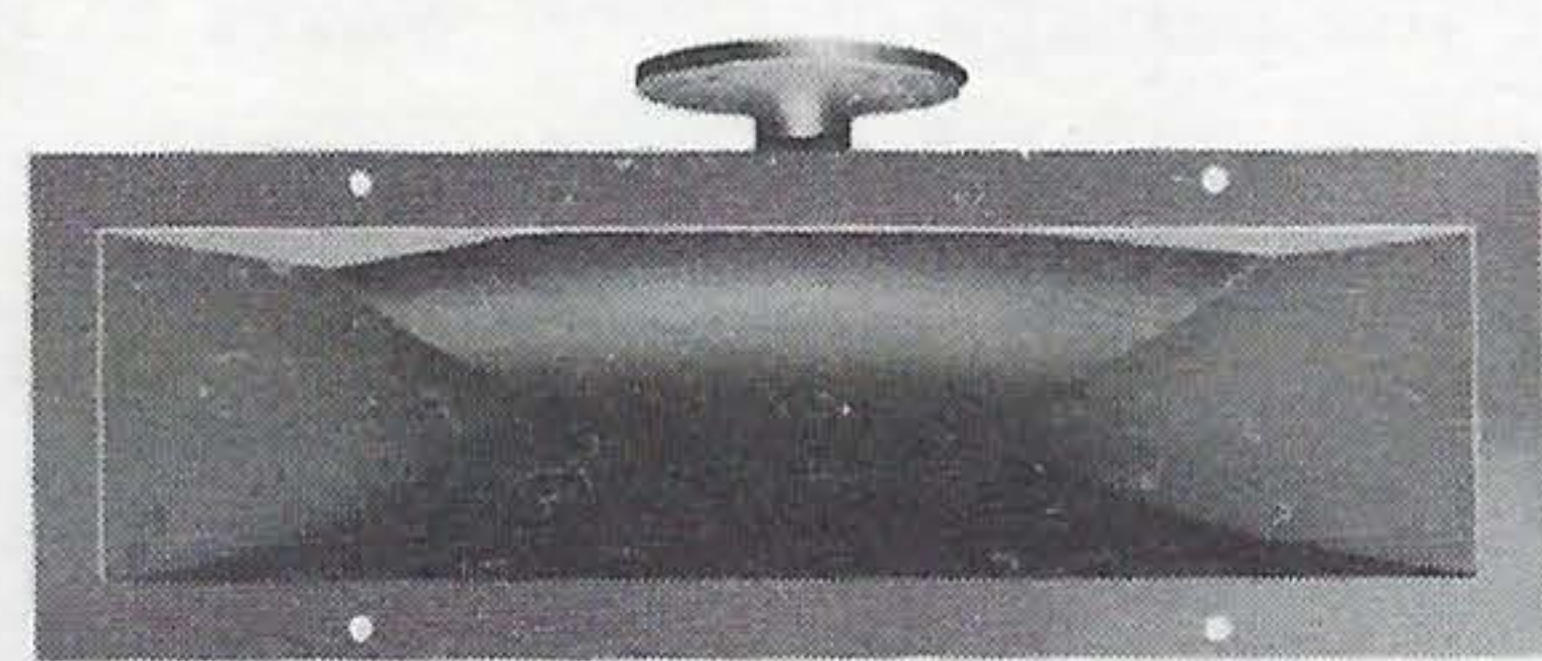
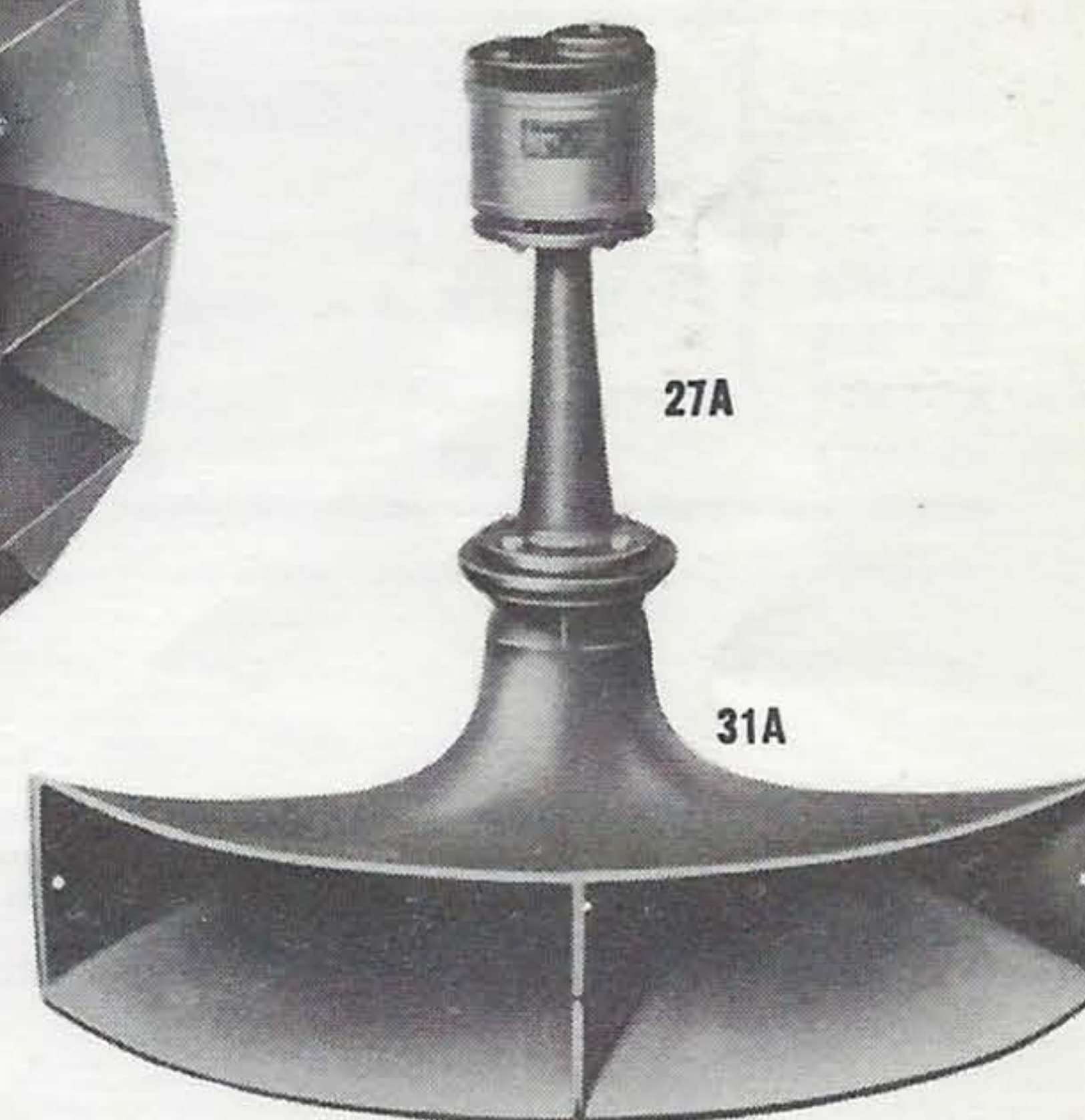
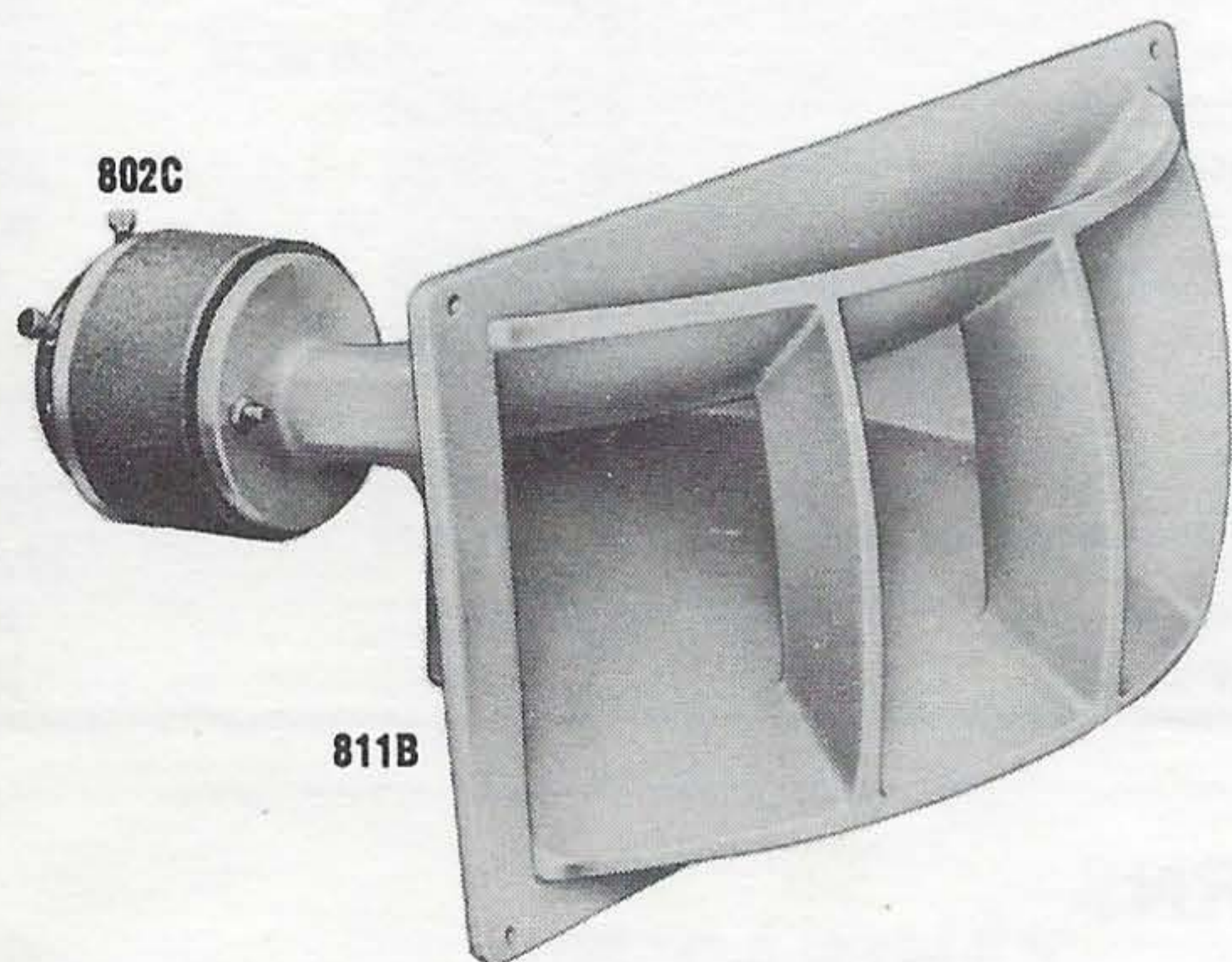
Power:	30 watts (above 800 cycles)
Frequency Response:	800-22,000 cycles
Impedance:	16 ohms
Average Sound Level:	(Warble frequency 500-2,500 cycles 4' from mouth of 30" trumpet) 111.7 db ref. .0002 dynes/cm ²
Dimensions:	Diameter 4½" Height 3⅛"
Finish:	Gray
Weight:	7 lbs.

loudspeakers

HORNS

Altec Lansing Corporation manufactures twenty different horns for use with Altec Lansing driver loudspeakers. These horns vary in distribution pattern, low frequency cut-off, and in the number of units that can be mounted on them for higher powered installations. All of the horns are notable for their

heavy weather-resistant construction that keeps them free from all resonances and vibrations that might distort the audio output of the driver loudspeaker. Except where otherwise noted, throats must be ordered separately.

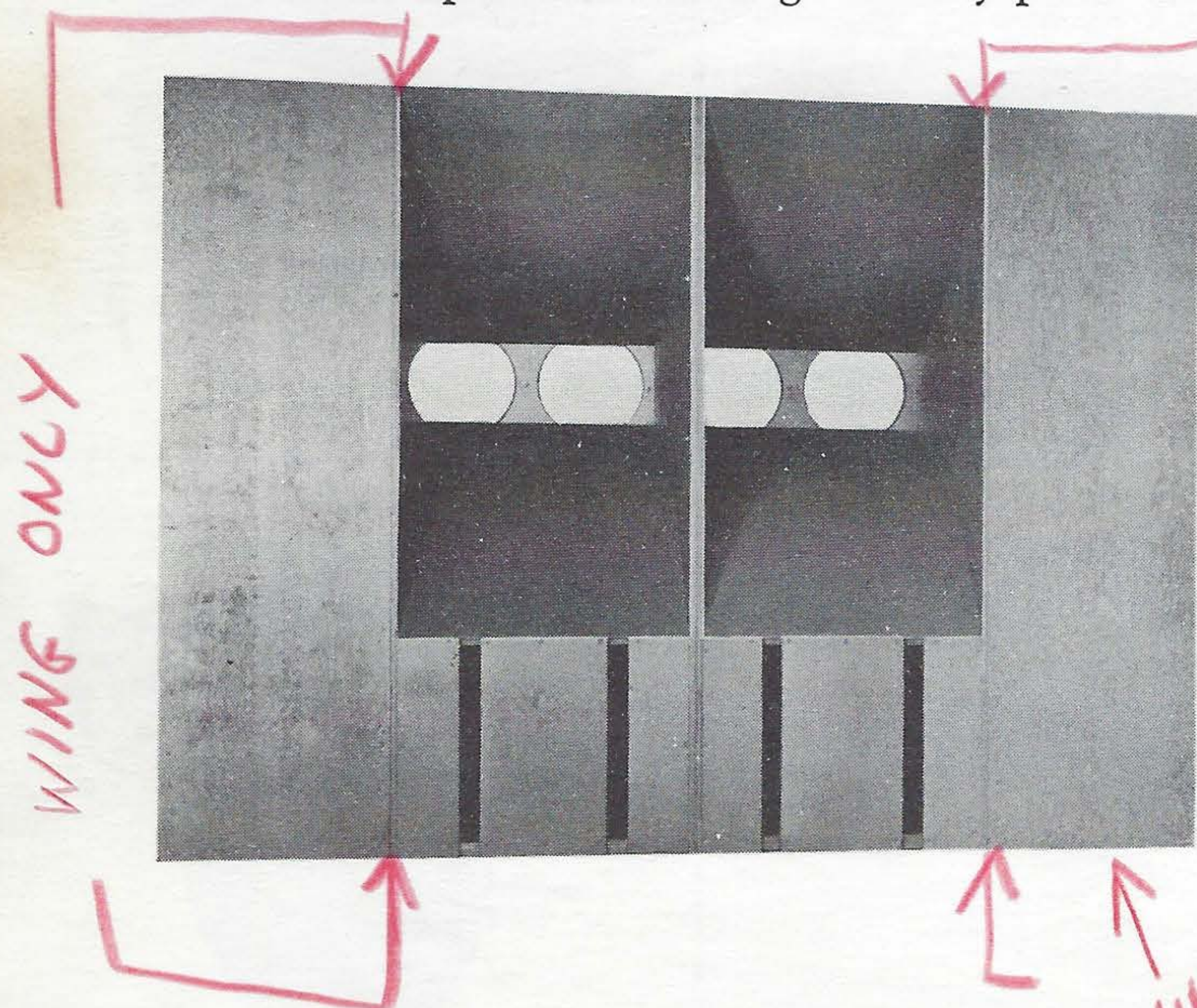


MODEL	APPLICABLE DRIVER SPEAKERS	TYPE	DISTRIBUTION	L.F. CUTOFF	DIMENSIONS L.W.H.	THROAT CODE NUMBER			NET WEIGHT
						1 unit	2 units	4 units	
803	288B 290C 802C	2 x 4 multicell	35° x 70°	300 cycles	26½x32x17½	30162			99
804		2 x 4 multicell	40° x 80°	400 cycles	23½x32x17½		30172		73
805		2 x 4 multicell	40° x 80°	500 cycles	17½x24½x14¾	30162			47
811B		Sectoral	40° x 90°	800 cycles	14x18¾x8⅝				10
1003	288B 290C	2 x 5 multicell	35° x 90°	300 cycles	25½x38x17½	30210	30170		120
1004		2 x 5 multicell	40° x 100°	400 cycles	21x38½x17½			(2) 30170	90
1005		2 x 5 multicell	40° x 100°	500 cycles	17¼x30x14¾	30210	30170		55
1203B		2 x 6 multicell	35° x 105°	300 cycles	27x45¼x17½	30210	30170		152
1504	288B 290C	3 x 5 multicell	60° x 105°	400 cycles	21x38¾x25			(2) 30170	165
1505		3 x 5 multicell	60° x 105°	500 cycles	16¾x30½x20	30166	30172		90
1803		3 x 6 multicell	53° x 105°	300 cycles	27½x44x25	30166	30172		250
1804		3 x 6 multicell	60° x 125°	400 cycles	23½x44x25			(2) 30170	241
30A	720A 730A	2½' re-entrant	50° spherical	200 cycles	12x14 diam.	(3A included)			8
40A		3½' re-entrant	50° spherical	150 cycles	15x21 diam.	(3A included)			9½
31A		Sectoral	40° x 120°	300 cycles	15x23x9	27A			9½
32A		Sectoral	60° x 90°	500 cycles	9x16x7				5
KS-12024	720A	Sectoral	40° x 50°	500 cycles	15x13x7				7½
KS-12025		Sectoral	40° x 80°	500 cycles	18x24x7				12½
KS-12027		Sectoral	40° x 90°	500 cycles	14x20x3				10
KS-12047		Bi-directional	30° x 45°	500 cycles	31⅝x9½x13⅙				24

LOW FREQUENCY HORNS

These enclosures are bass reflex cabinets with a front loaded horn and are the proper enclosure for the 515 or 803A loudspeaker in full range two-way public address systems.

The enclosures are equipped with removable wings to reduce the passage of sound waves to the rear of the cabinet.



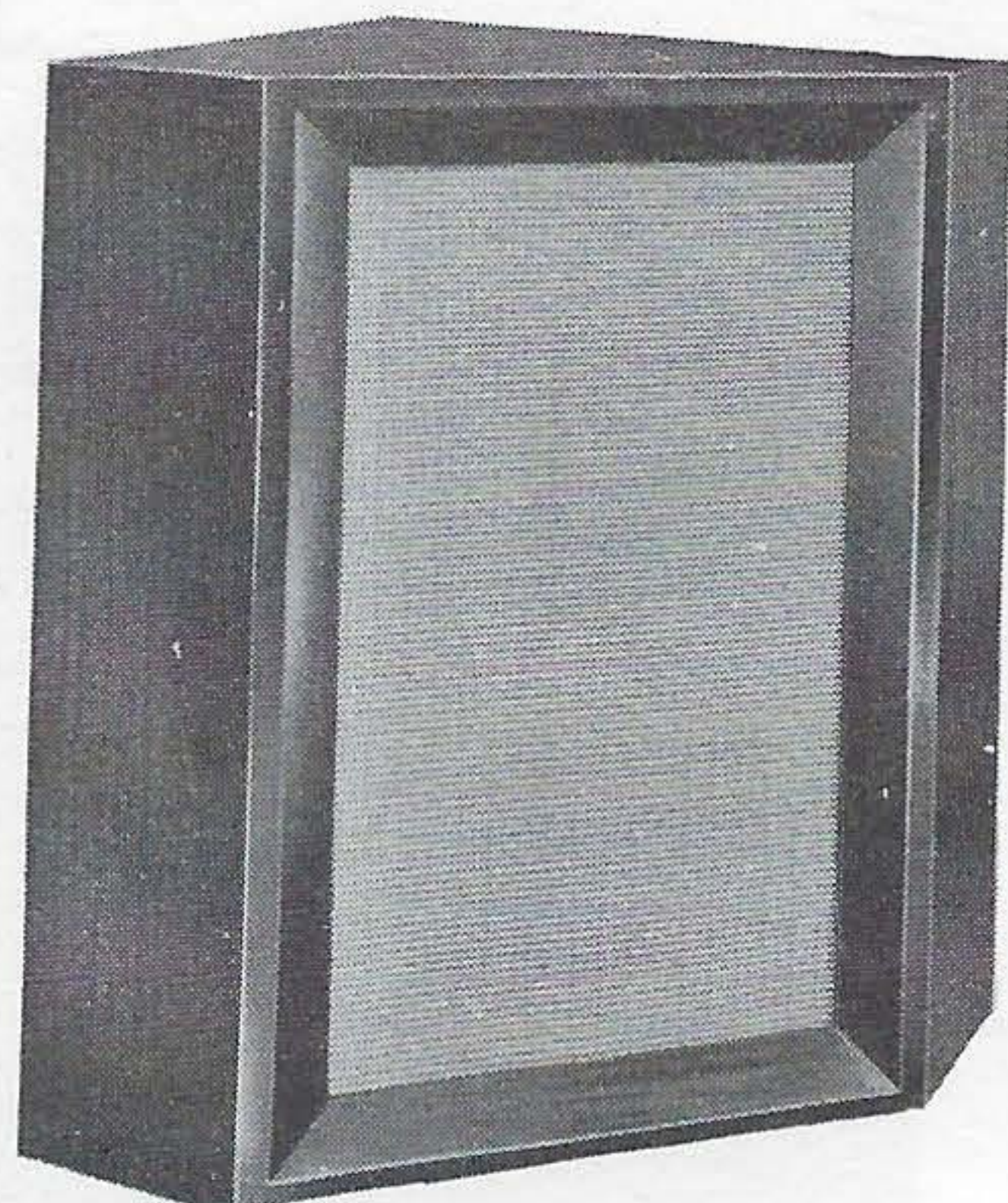
H-410

	HEIGHT	WIDTH		DEPTH	NET WEIGHT
		with wings	without wings		
H-110 with stand	87"	73¼"	50"	35½"	400 lbs.
H-210	84"	80½"	32½"	39½"	560 lbs.
H-410	84"	103"	65"	39½"	890 lbs.
H-610	84"	135½"	97½"	39½"	1220 lbs.
H-825	42"		30"	24"	100 lbs.

CABINETS

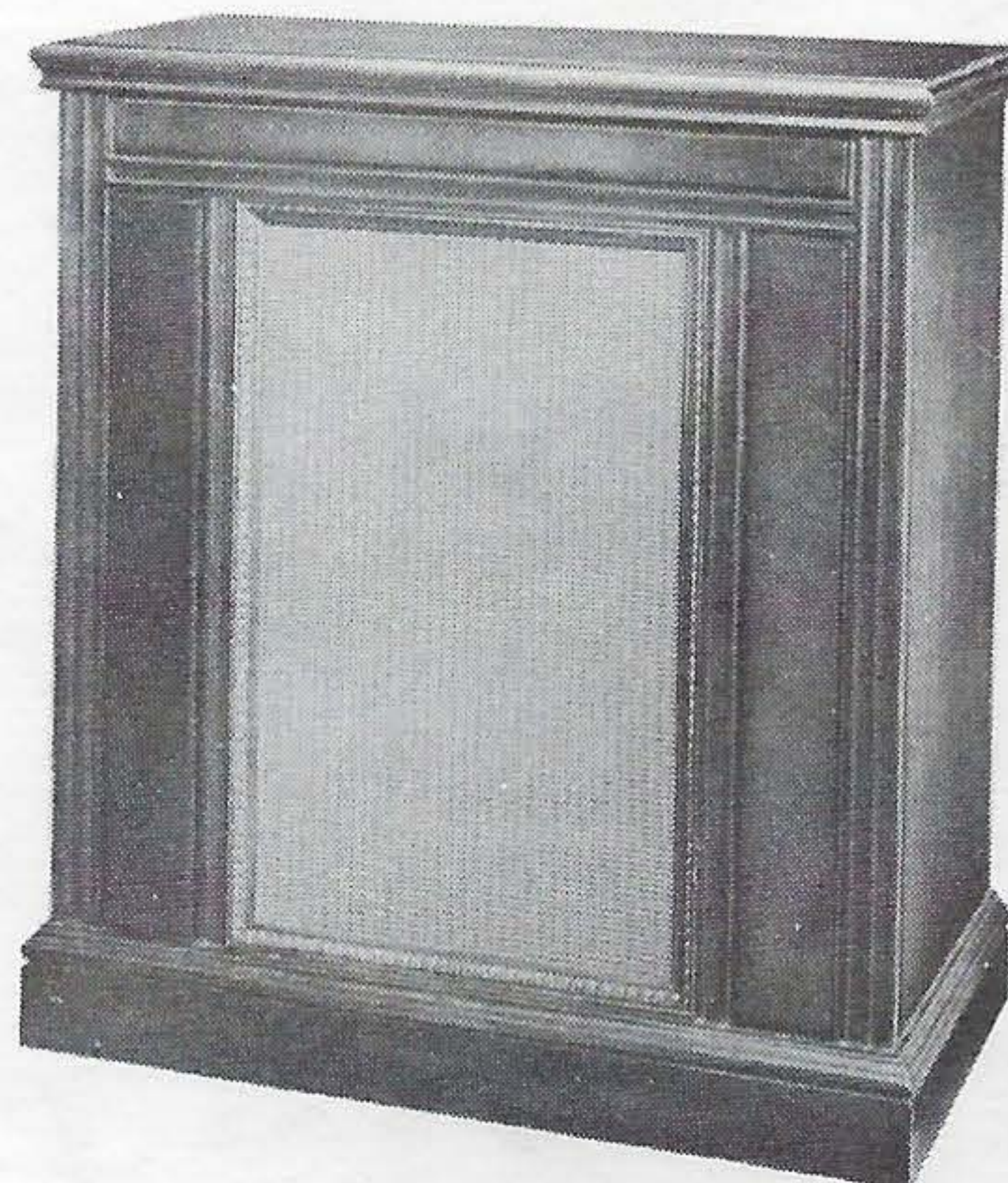
These bass reflex cabinets have been carefully engineered in Altec's acoustic laboratory to realize the maximum available quality from all Altec 12 and 15 inch Dia-cone and Duplex loudspeakers. Their tasteful design and beautiful finish will harmonize with the finest furnishings.

606 CORNER CABINET



Dimensions: 36½" x 36" x 23½"
Finish: Mahogany, walnut, or limed oak

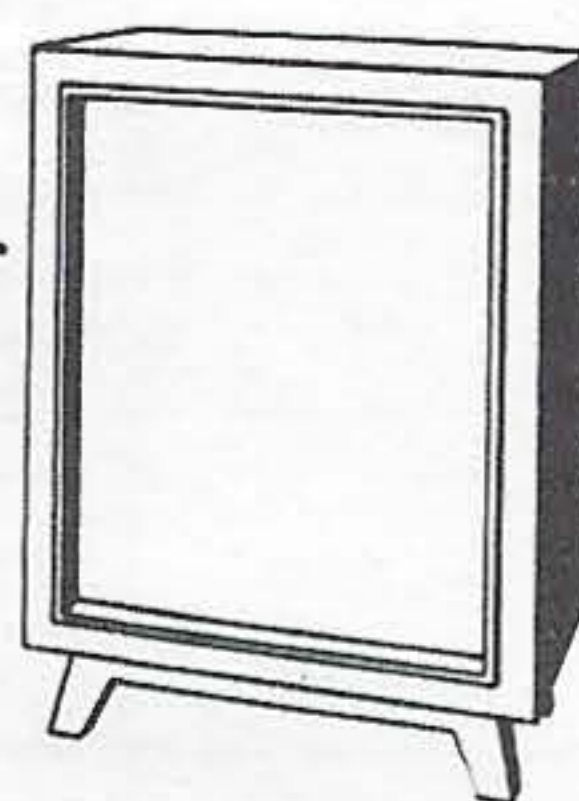
607 CABINET



Dimensions: 35" x 31" x 17"
Finish: Mahogany or walnut

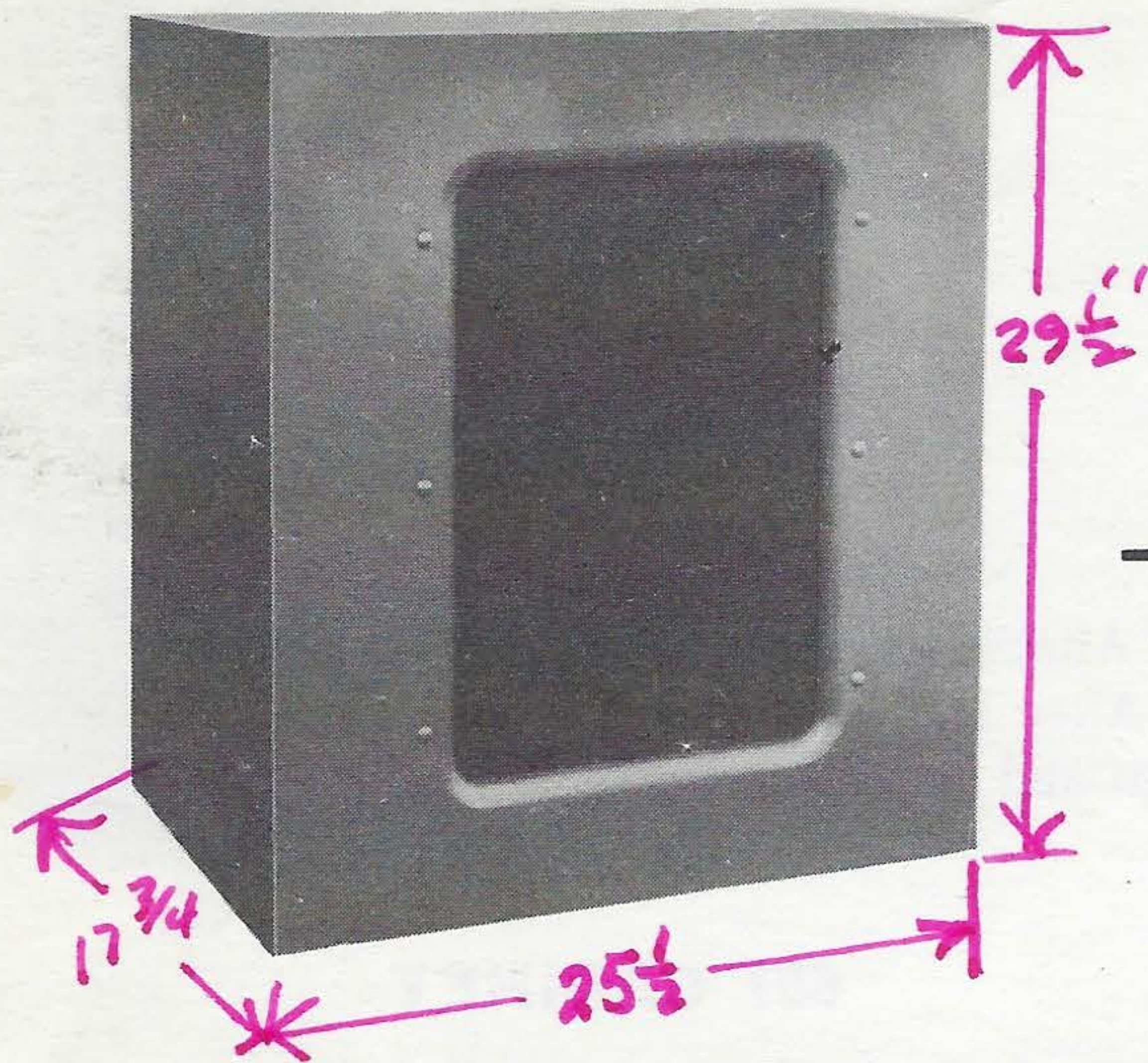
608 CABINET

(Can be used either vertically or horizontally, with or without legs)



Dimensions: Cabinet 30" x 36" x 16½"
Legs 5" high
Finish: Natural alder or matte walnut

For 15" speakers use 606A, 607A or 608A cabinet.
For 12" speakers use 606B, 607B or 608B cabinet.



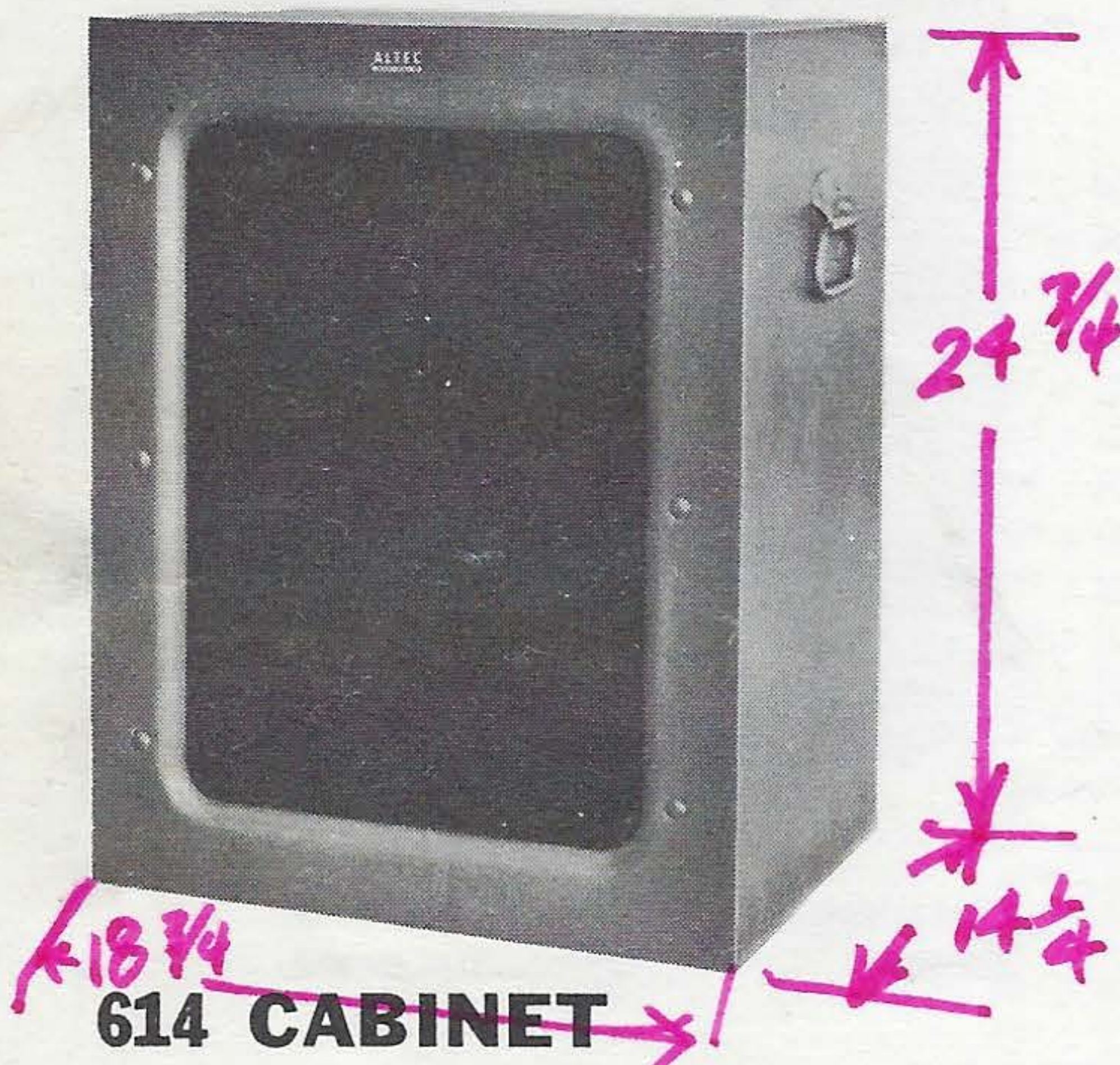
612 CABINET

A heavy weight, highly efficient utility cabinet, providing maximum quality.

Dimensions
Finish
Weight

Height 29½"; width 25½"; depth 17¾"
Gray
63 lbs.
(Order 612A for 15" speakers; 612B for 12" speakers.)

speaker
cabinets

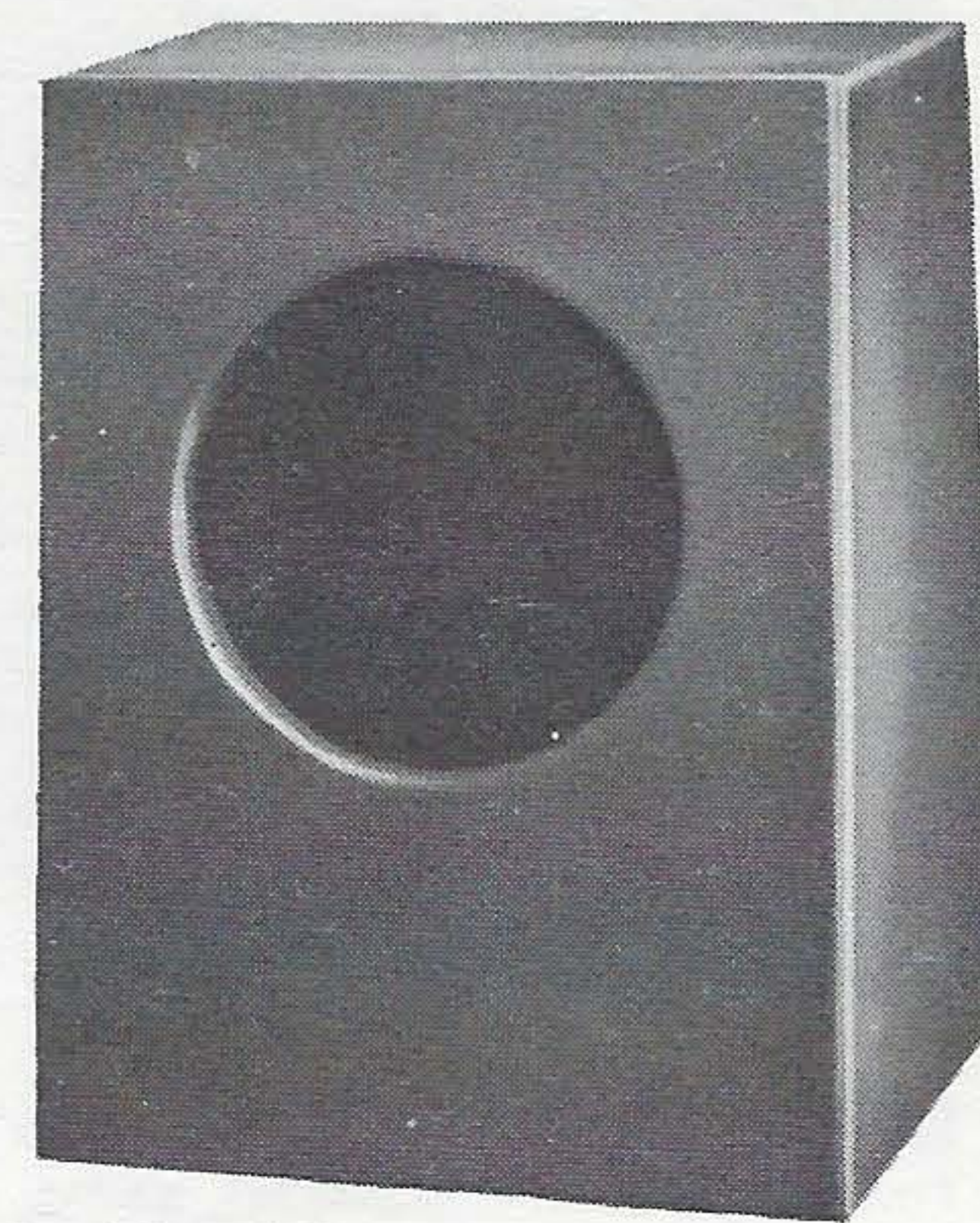


614 CABINET

The finest portable utility cabinet for 8, 12 and 15" speakers.

Dimensions
Finish
Weight

Height 24¾"; width 18¾"; depth 14¼"
Gray
39 lbs.
(Order 614A for 15" speakers; 614B for 12"; 614C for 8" speakers.)



618 CABINET

Extremely compact utility cabinet for 8" and 12" loudspeakers. It provides maximum possible bass response in a small enclosure.

Dimensions
Finish
Weight

Height 22"; Width 17"; Depth 13¼"
Gray
22 Lbs.
(Order 618B for 12" speakers; 618C for 8" speakers.)

622B WALL CABINET

A compact, ruggedly constructed cabinet for wall mounting where space is at a premium. Heavy construction and careful design provide optimum quality.

Dimensions
Finish
Weight

Width 22"; Height 17"; Depth 13¼" maximum, 7½" minimum.
Brown
22 Lbs.
(For 12" speakers only.)

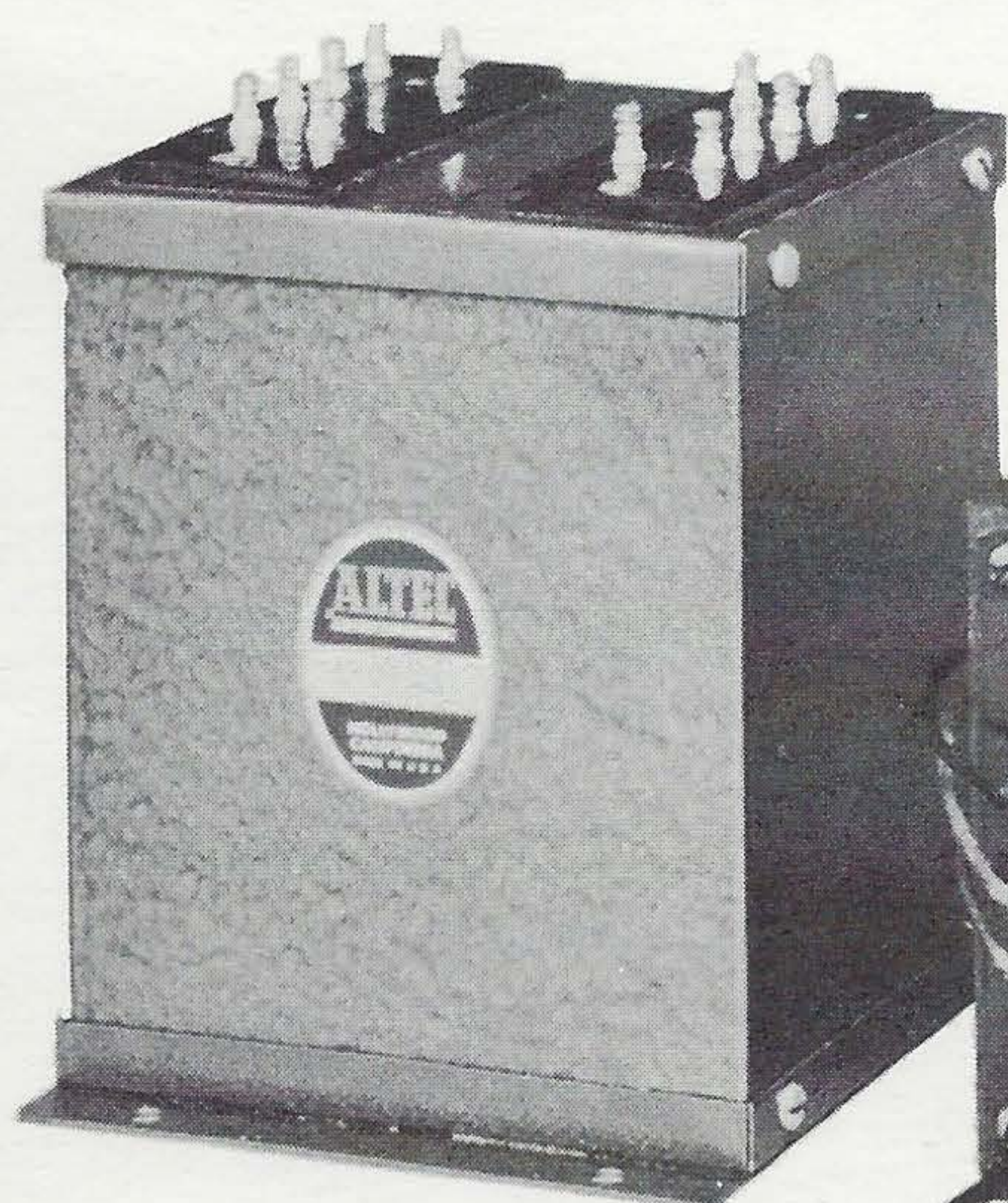


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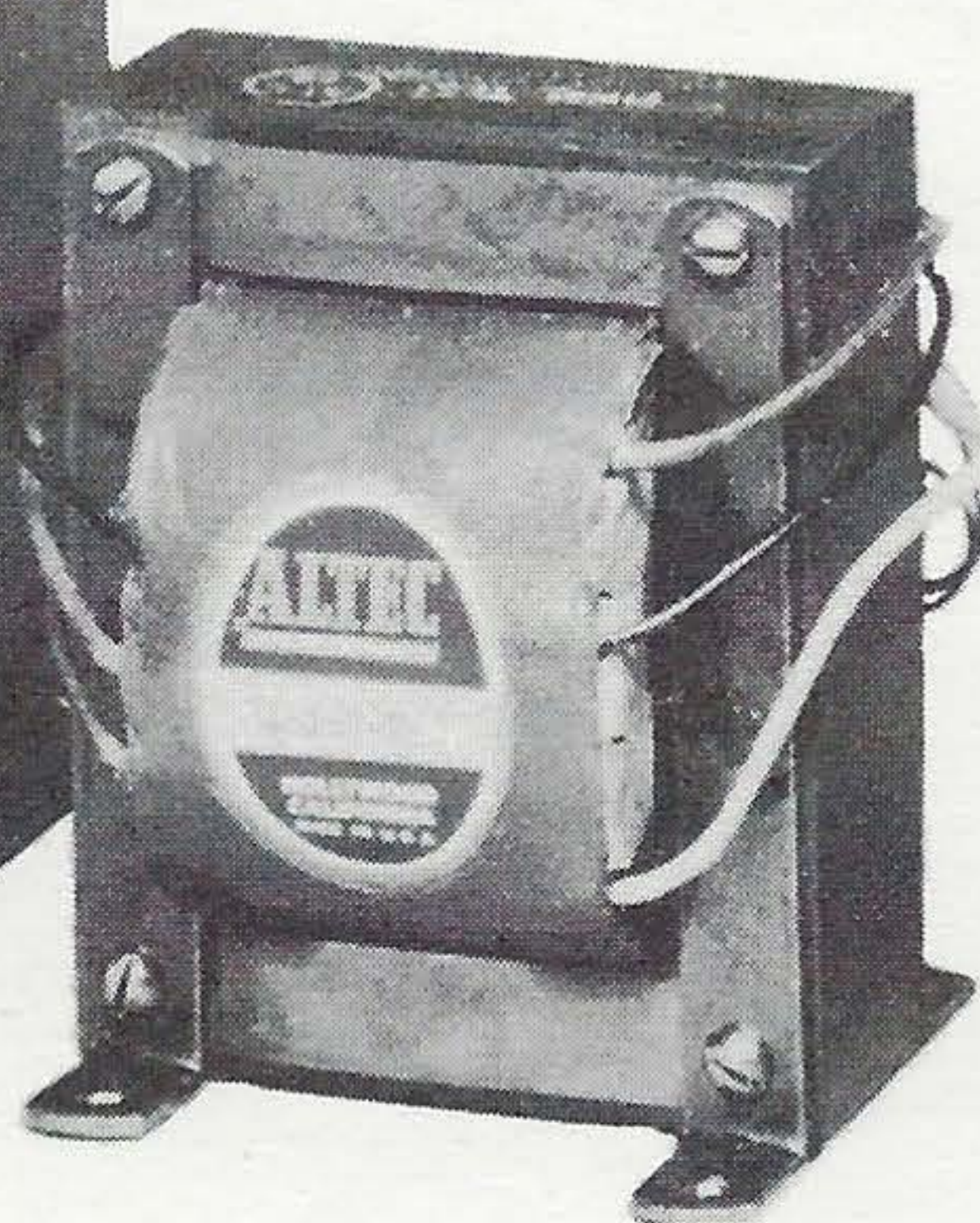
70 VOLT MATCHING TRANSFORMERS

For use in RETMA standardized sound distribution systems. Matching transformer is required for each loudspeaker. Transformer should be selected to provide the proper power capacity for each loudspeaker.

70 volt
transformers



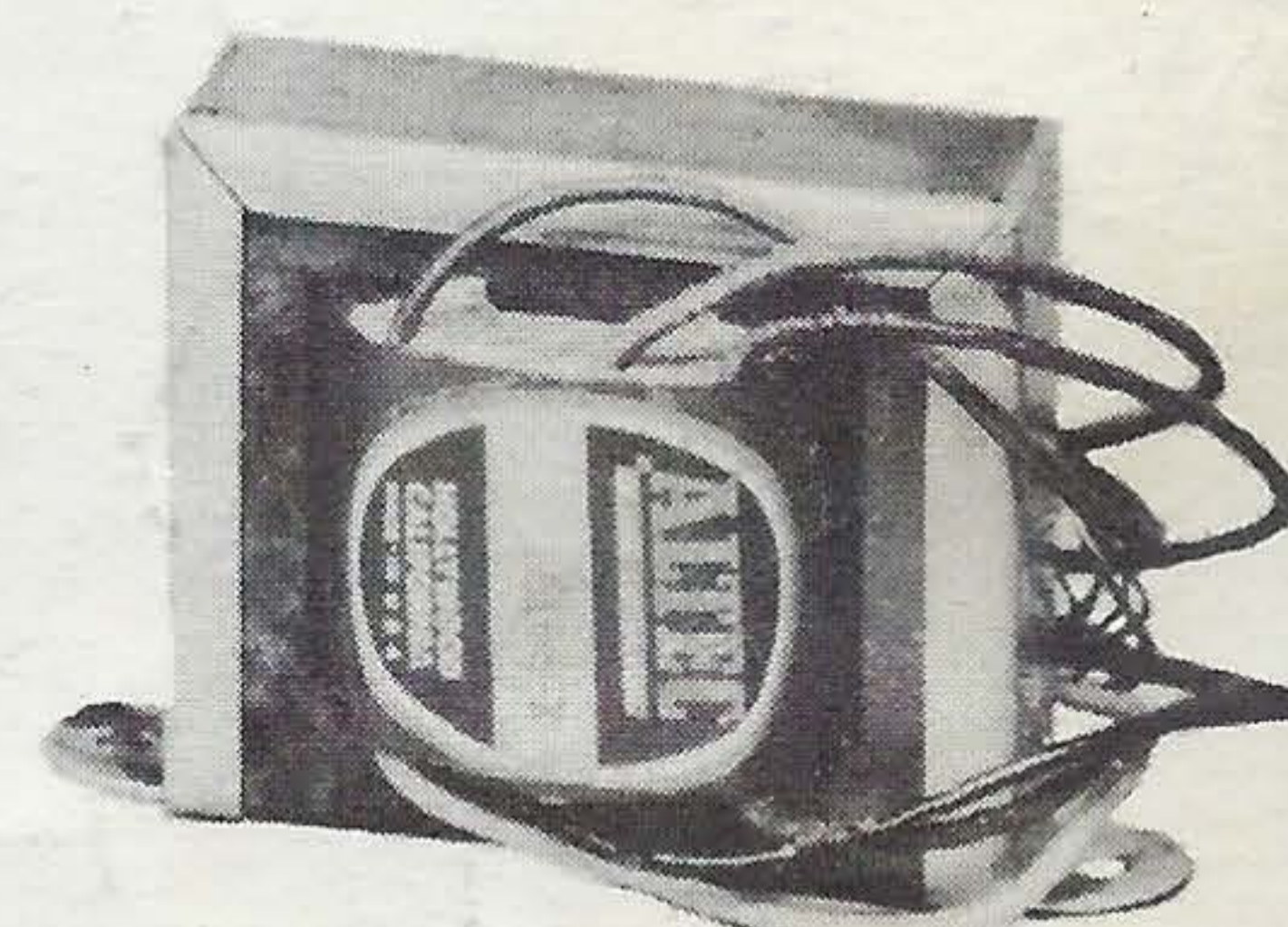
CASE S



CASE E



CASE Q



CASE X

diaphragm and voice coil assemblies

These are the field replaceable diaphragm and voice coil assemblies for Altec loudspeakers. This replacement should be undertaken only by qualified service men.

20248 Diaphragm and Voice Coil Assembly (For 515 & 604-B.L.F.)
20275 Diaphragm and Voice Coil Assembly (For 802-B-C & 604 H.F.)
20419 Diaphragm and Voice Coil Assembly (For 603B)
20464 Diaphragm and Voice Coil Assembly (For 600B)
20476 Diaphragm and Voice Coil Assembly (For 803A)
20502 Diaphragm and Voice Coil Assembly (For 604B-C H.F.)
20509 Diaphragm and Voice Coil Assembly (For 400B)
20592 Diaphragm and Voice Coil Assembly (For 601A L.F.)
20593 Diaphragm and Voice Coil Assembly (For 602A L.F.)
20603 Diaphragm and Voice Coil Assembly (For 604C L.F.)
20607 Head Assembly (For 730A)
BL-163147 Diaphragm and Voice Coil Assembly (For 713C)
ES-670650-2 Diaphragm and Voice Coil Assembly (For 720A)
BO-162761 Diaphragm and Voice Coil Assembly (For 755A)
20303 Diaphragm and Voice Coil Assembly (For 555)
20517 Diaphragm and Voice Coil Assembly (For 290)
20548 Diaphragm and Voice Coil Assembly (For 290B)
20646 Diaphragm and Voice Coil Assembly (For 290C)

Type Number	Freq. Range	Impedance, Ohms		Audio, Watts		Dimensions, In.			Wt. Lbs.
		Pri.	Sec.	Max.	70V Line	H	D	W	
15037X	30 15,000	4000 C.T. 2000 C.T. 1500 1000 C.T. 500-250 125	16-12-8 4-2	10 (Note 3)	1 1/4-2 1/2 3 1/4-5 10-20 40	2 5/8	4 1/8	2 7/8	2 1/2
16166Q	30 15,000	10,000 C.T. 7500 5000 C.T. 2500 1250	16-12-8 4-2	4	1/4-1/2 2/3-1 2-4	4 1/8	3 3/16	3 1/16	2 1/4
16166X	30 15,000	10,000 C.T. 7500 5000 C.T. 2500 1250	16-12-8 4-2	4	1/4-1/2 2/3-1 2-4	2 3/8	3 3/4	2 1/4	1 3/4
16167E	30 15,000	1600 C.T. 1200 800 C.T. 400-200	16-12-8 4-2	24	3-4 6-12 24	3 3/8	3	3 3/4	4 1/4
16167Q	30 15,000	1600 C.T. 1200 800 C.T. 400-200	16-12-8 4-2	24	3-4 6-12 24	4 3/8	3 3/8	3 1/2	6
16168E	30 15,000	625 C.T.-470 312 C.T.-156 78	16-12-8 4-2	64	8-11 16-32 64	4 3/4	4 7/8	3 3/8	9
16168S	30 15,000	625 C.T.-470 312 C.T.-156 78	16-12-8 4-2	64	8-11 16-32 64	5 3/8	4 7/8	5 5/8	11 1/4

Notes:

1. Suffix letter indicates case type.
2. Insertion loss not more than 0.6 db on all transformers.
3. Rated 20 watts 50-15,000 cps; 40 watts 150-15,000 cps.



ALTEC®
LANSING CORPORATION

**microphones • amplifiers • control consoles •
loudspeakers • horns • am-fm tuners • scientific
instruments • theatre systems • public
address systems • high fidelity systems • transformers**

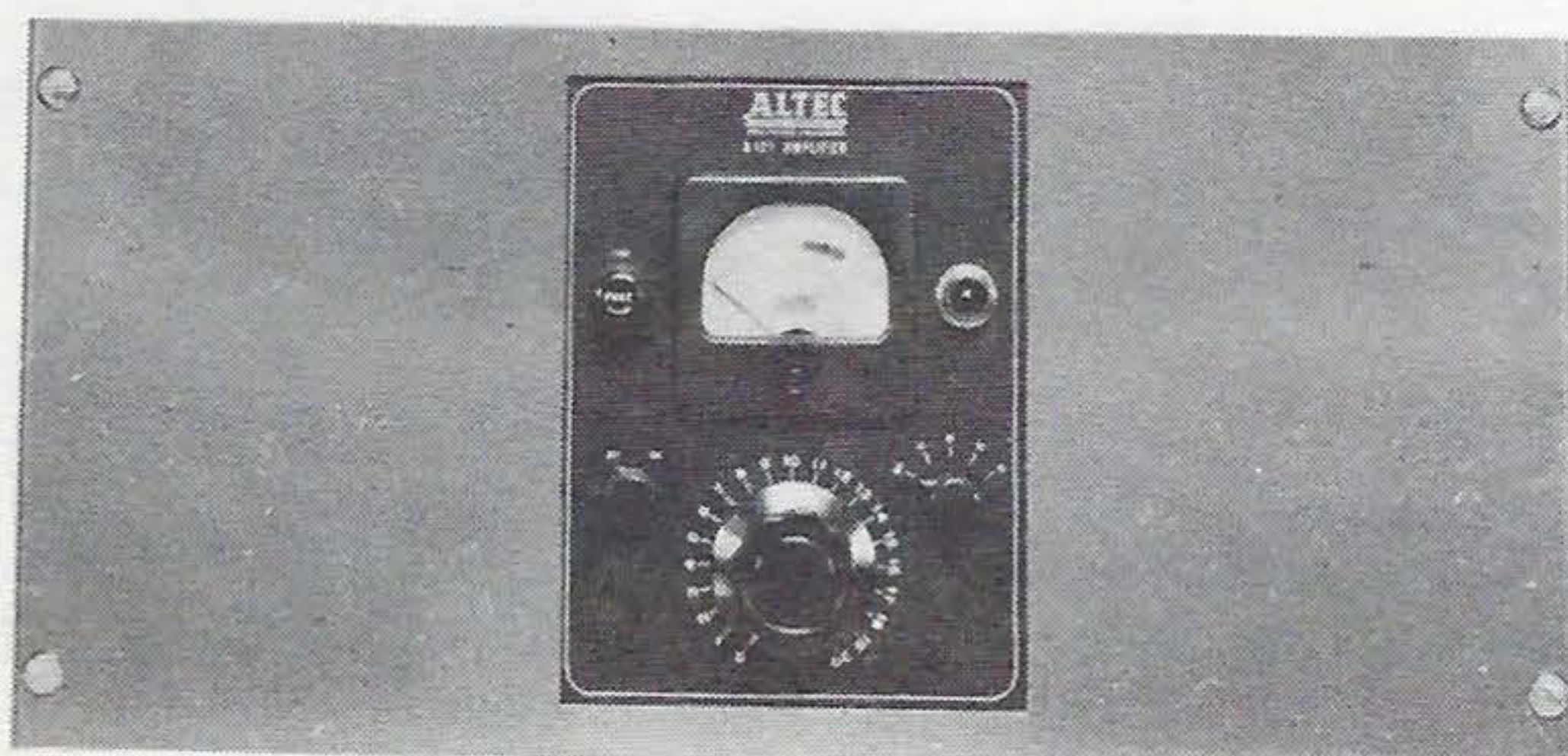
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PRINTED IN U.S.A.

AL-1269

A-127 AND A-127A POWER AMPLIFIER

The A-127 is a three stage, eighteen watt power amplifier for relay rack or cabinet mounting. All parts are readily accessible. The control panel contains power switch, pilot light, fuse, volume control, and meter with selector switch for tube testing. A balancing potentiometer allows tubes to be balanced for maximum power and minimum hum. The A-127 type amplifier is ideal for recording or monitoring purposes and is used as the driver amplifier for the Altec A-287 power amplifiers and as a general purpose bridging amplifier. When used for bridging purposes, a 50,000 ohm balanced bridging connection is provided. The A-127A is identical to the A-127 except that it has a 90 db shielded input transformer.

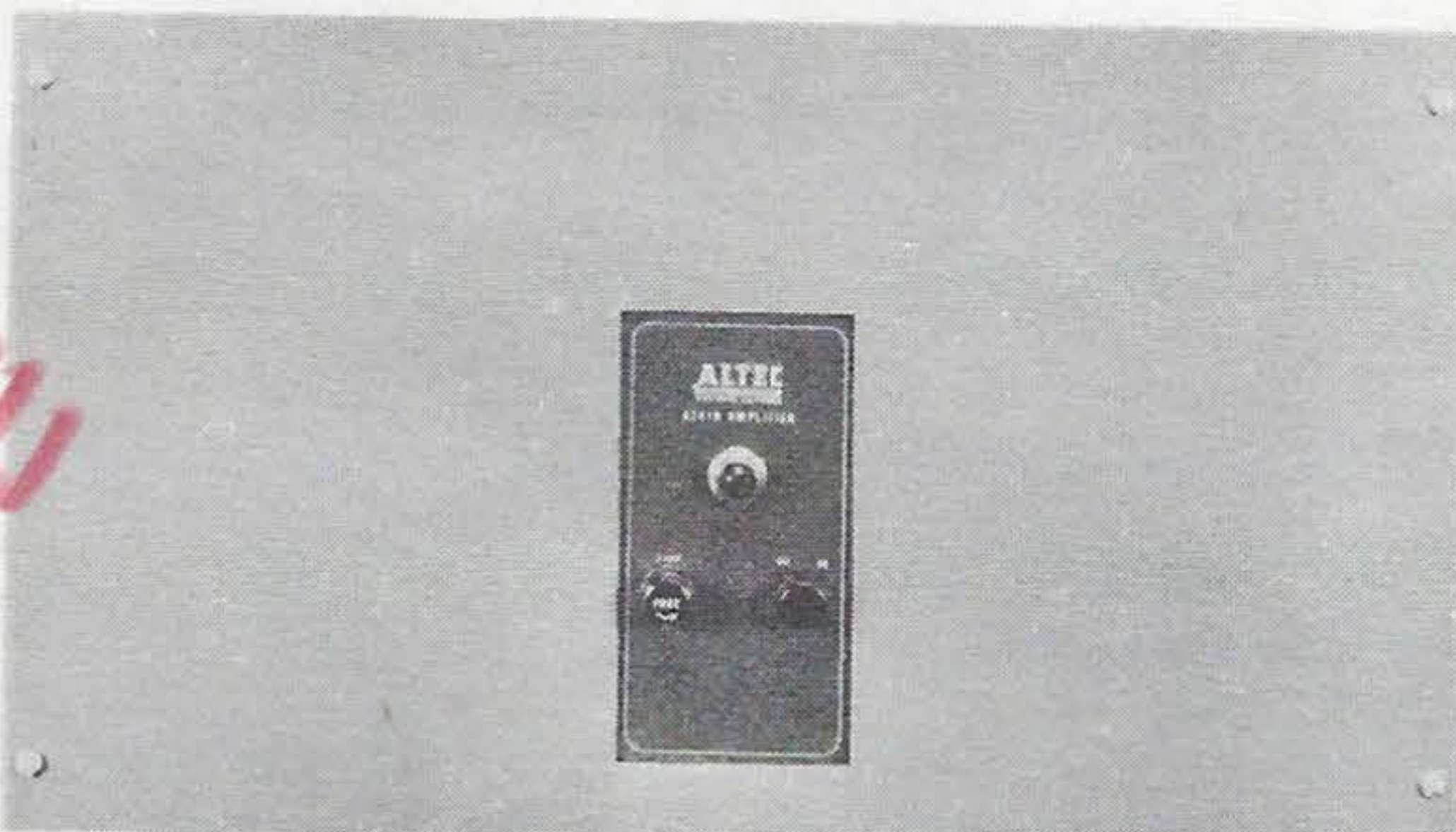


specifications

Gain:	66 db
Power Output:	18 watts, 2% thd, 35-7,000 cps
Frequency Response:	± 1 db, 20-20,000 cps
Input Impedance:	A-127—100,000 ohm potentiometer
Source Impedance:	A-127A—30/36, 250/300, 500/600 ohms
Load Impedance:	14, 56, 125, 220, 500 ohms
Output Impedance:	Less than 50% of nominal load impedance
Noise Level:	—45 dbm: 85 db below rated output
Controls:	Volume Control, 20 steps, 2 db per step, last step infinity, with detent
Power Supply:	105/117/130 volts, 50/60 cps, 100 watts
External Power Available:	350 vdc at 20 ma, 6.3 vac at 2.5 a.
Tubes:	1—6J7, 1—6J5, 2—6L6G, 1—5U4G
Dimensions:	8 $\frac{3}{4}$ " H, 19" W, 7" D
Color:	Metallic gray
Weight:	18 lb.

A-247B POWER AMPLIFIER

The A-247B is a 68 watt single stage class AB₂ push pull, beam power amplifier. A 15 watt amplifier is required to drive the A-247B and will drive two A-247B amplifiers in parallel



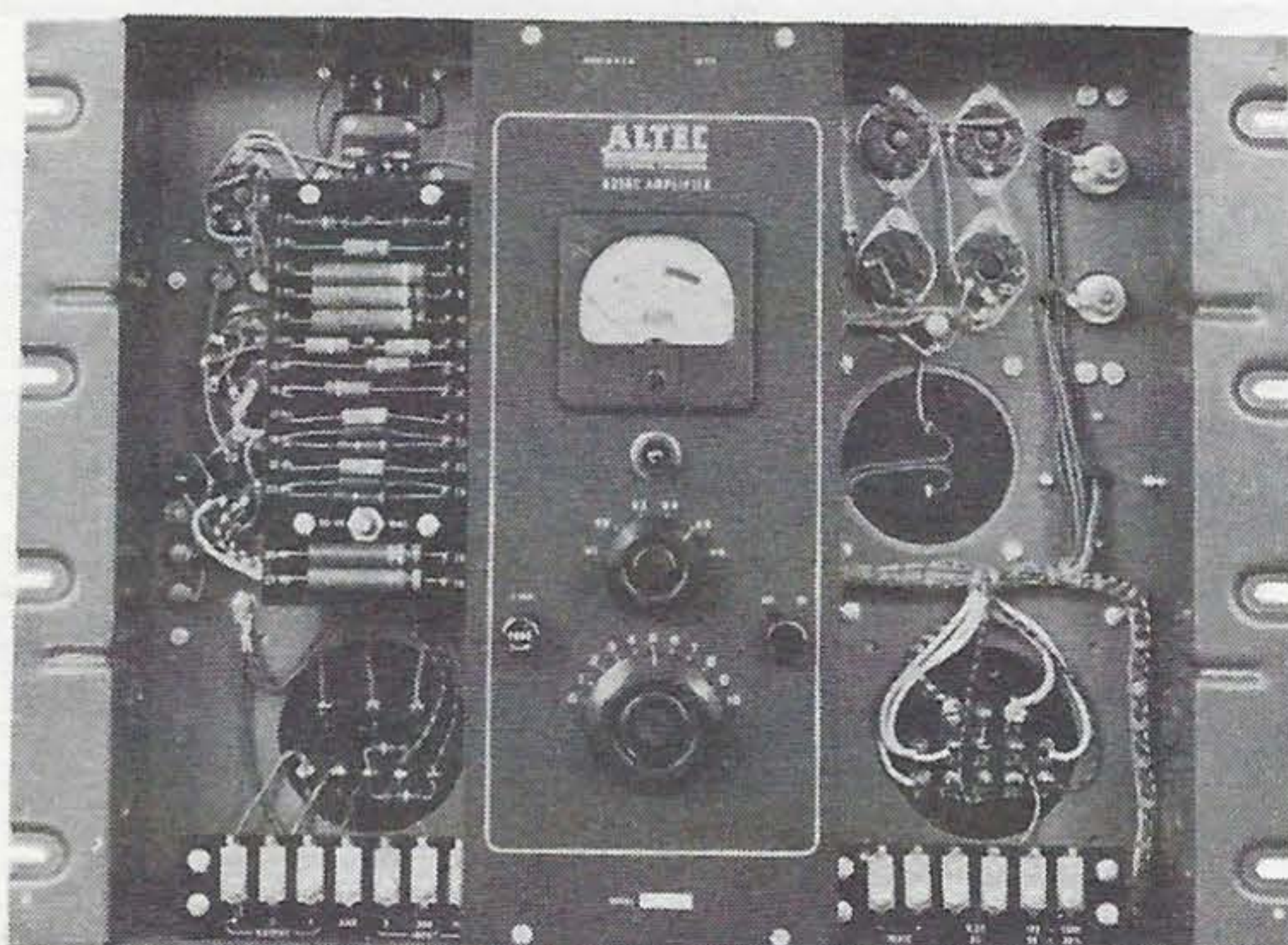
with a full power output of 150 watts. Negative feedback is used to provide low distortion and to make the output impedance approximately equal to the rated load impedance. The A-247B finds application for high level paging and public address systems.

specifications

Gain:	9.4 db from a 16 ohm source
Power Output:	68 watts, 2% thd, 50-10,000 cps
Frequency Response:	± 1 db, 20-20,000 cps
Source Impedance:	12-16 ohms
Load Impedance:	4, 8, 16 ohms
Output Impedance:	Equal to nominal load impedance
Noise Level:	—27 dbm: 75 db below rated output
Power Supply:	105/117/125 volts, 50/60 cps, 245 watts
Tubes:	2—807, 2—5R4GY, 2—OD3/VR150
Dimensions:	10 $\frac{1}{2}$ " H, 19" W, 8 $\frac{1}{2}$ " D
Color:	Metallic gray
Weight:	56 lb.

A-256C POWER AMPLIFIER

The A-256C is a 75 watt beam power amplifier designed to provide high quality audio power for recording, public address and monitor purposes. Front panel controls consist of power switch, 20 db gain control, fuse, pilot light, and moni-



toring switch and meter for tube testing. The A-256C features a peak clipping circuit to prevent overdriving in the final output stage. The A-256C is normally supplied with an output impedance of 4, 8, or 16 ohms. When specified, it will be supplied with the TM-226 Transformer, providing an output of 500 ohms or 70 volt line.

specifications

Gain:	50 db: 30 db bridging a 500 ohm line
Power Output:	75 watts, 2% thd, 55-10,000 cps
Frequency Response:	± 1 db, 20-20,000 cps
Source Impedance:	500 ohms
Load Impedance:	4, 8, 16 ohms (500 ohms and 70 v line output available on special order)
Output Impedance:	Less than 50% of nominal load impedance
Noise Level:	—45 dbm: 94 db below rated output
Controls:	"Bridged T" attenuator, 10 steps, 2 db per step, 20 db total, with detent
Power Supply:	105/117/130 volts, 50/60 cps, 260 watts
External Power Available:	300 vdc at 5 ma, 6.3 vac at 0.6 a.
Tubes:	2—6SJ7, 2—6SN7, 2—807, 2—5R4GY, 4—OD3/VR150, 1—6AL5
Dimensions:	14" H, 19" W, 9" D
Color:	Metallic gray
Weight:	60 lb.