

CHICAGO

NEW EQUIPMENT TRANSFORMERS



CHICAGO TRANSFORMER DIVISION

Essex Wire Corporation

3501 ADDISON STREET

CHICAGO 18, ILLINOIS

TYPE INDEX

(for index by catalog numbers,
see back cover.)

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NOTE:

In addition to the line of New Equipment Transformers, above indexed, CHICAGO also manufactures complete lines of replacement-type transformers. These include power and audio transformers in conventional shield and open-frame mountings, television transformers, and vibrator transformers. The television units, while intended primarily for replacement purposes, are also useful for experimental work and set building.

Also available is a catalog line of hermetically-sealed transformers, which includes power transformers, bias transformers, filament transformers, and filter reactors with identically the same electrical characteristics as those listed on pages 4 and 5 of this catalog.

See your parts jobber or write us direct for catalogs of these other famous CHICAGO lines.

Some Facts about CHICAGO New Equipment Transformers

The CHICAGO transformers in this catalog are designed, as the title implies, primarily for use in new equipment, i.e. electronics gear either now in the process of development or built within recent years. Maximum adaptability to up-to-date applications was the goal of the designing engineers, with no compromise made between old and new-type circuit requirements. The results of this policy are reflected in these characteristics:

Power and audio ratings that precisely fit the requirements of today's most-used tubes;

Audio transformers with line and voice coil impedances that exactly match the ratings of the best of modern high fidelity speakers;

Observance of RMA standards for heat rise and lead color coding;

Streamlined, drawn steel cases, that look well with other modern set components and add to the appearance of any equipment.

Throughout this catalog, the ratings are conservative: CHICAGO New Equipment transformers will operate exactly as stated. This means that the coil windings are fully wound and amply insulated, and that cores are of sufficient size and thickness to insure that the transformers will operate up to their full ratings efficiently and with allowances for intermittent overloading.

It is hoped that the forward looking policies governing the design of these transformers will result in real value and satisfaction for you, the user.

In the Various Listings

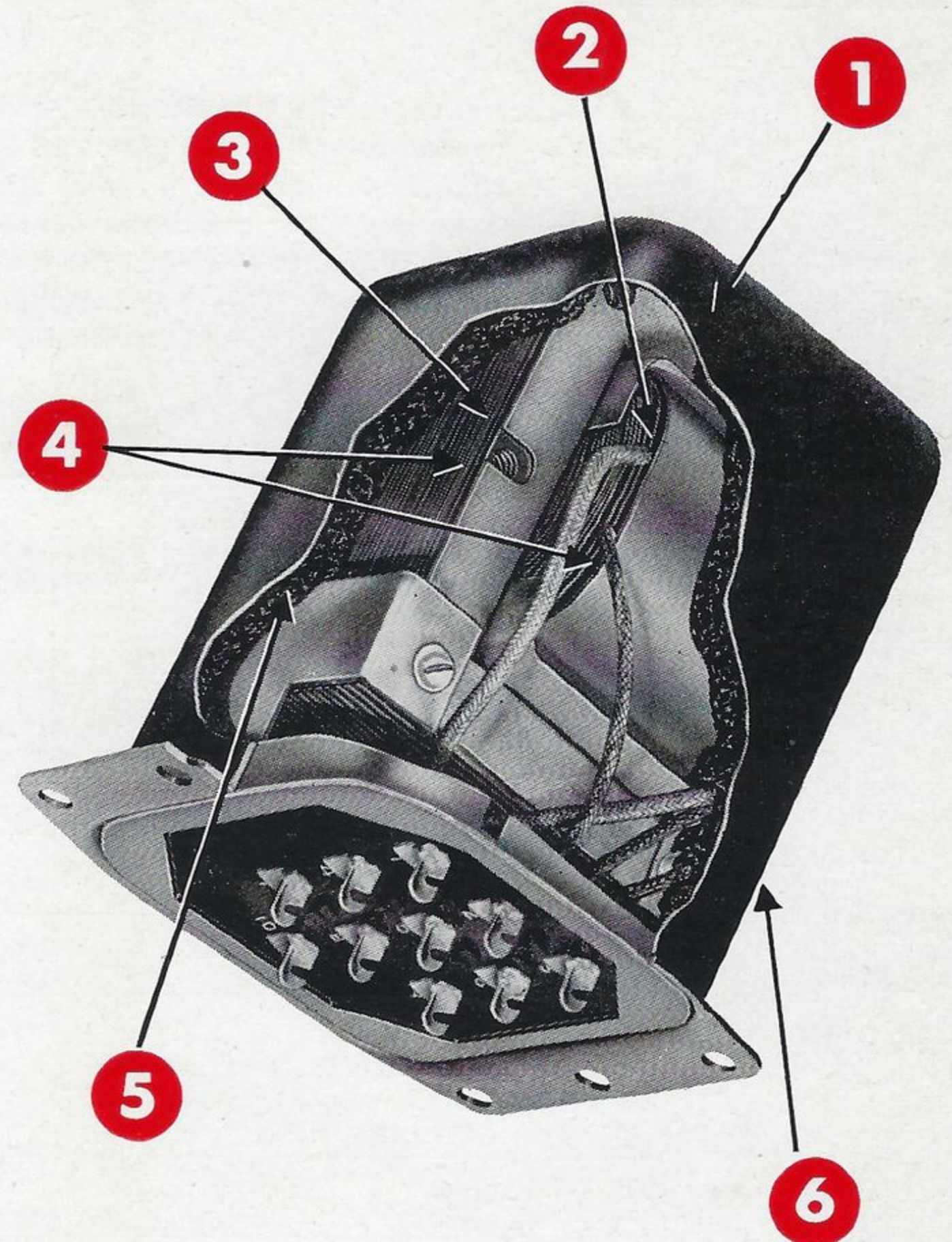
C-Type Mounting

Has ten-inch leads brought out through fibre board base cover. Leads are RMA color-coded for permanent identification of the windings; lead ends are stripped and tinned for easy soldering. Units are flange mounted.



Details of CHICAGO'S Sealed in Steel Construction

- 1** One-piece, drawn steel cases, used to mount all but the largest units, make CHICAGO New Equipment transformers distinctively different from conventionally mounted transformers. This use of the case-type construction is in keeping with the trend toward full enclosure and better protection for other up-to-date components in the electronics field. Among the outstanding advantages of the drawn steel case are the following: (1) "Steel wall" protection against atmospheric moisture, (2) Efficient magnetic and electrostatic shielding, (3) Unsurpassed strength and rigidity, proof against shock and vibration, (4) Convenience of mounting, (5) Compactness, and (6) Clean, streamlined appearance.
- 2** Coils are wound of high grade magnet wire on automatic, multiple-coil winding machines to achieve uniform and precise coil structures. The arrangement and spacing of each winding, determined by over 20 years of transformer engineering experience, makes CHICAGO coil designs outstanding for their efficiency and compactness. In power transformers, this efficiency in coil design contributes to cool operation and superior electrostatic shielding. In audio units, it results in a minimum of leakage and in the best possible coupling between windings, among other advantages. Acid-free and non-corrosive insulating materials are used, with extra insertions at all possible breakdown points.
- 3** Core is made of high grade, non-aging, silicon steel, the electrical properties of which are brought to a high degree of efficiency, after punching, by scientific heat-treating in CHICAGO'S own annealing furnaces.
- 4** Core and coil are vacuum-impregnated with varnish. Cycles of alternating vacuum and pressure, combined with heat, are used to remove all moisture from the coil and to insure its thorough permeation with varnish. High-temperature baking completes the process, which achieves a perfectly impregnated coil and a core locked against vibration.
- 5** Special, moisture-resistant compound fills the internal space not occupied by core and coil. Compound not only prevents corrosion by moisture, but also helps maintain coolness of the unit's operation. Conduction of heat from a Sealed in Steel transformer is faster than with conventional mountings where coil and core are surrounded by air.



- 6** Completed transformer has been checked by quality controls applied throughout its manufacture. Materials and workmanship have been inspected for conformance to specifications and the unit tested electrically at various stages of production. After final assembly, every CHICAGO transformer has undergone a set of rigid concluding tests which insure its efficient performance and readiness for a long and dependable operating life.

Three Sealed in Steel Mountings are Employed:

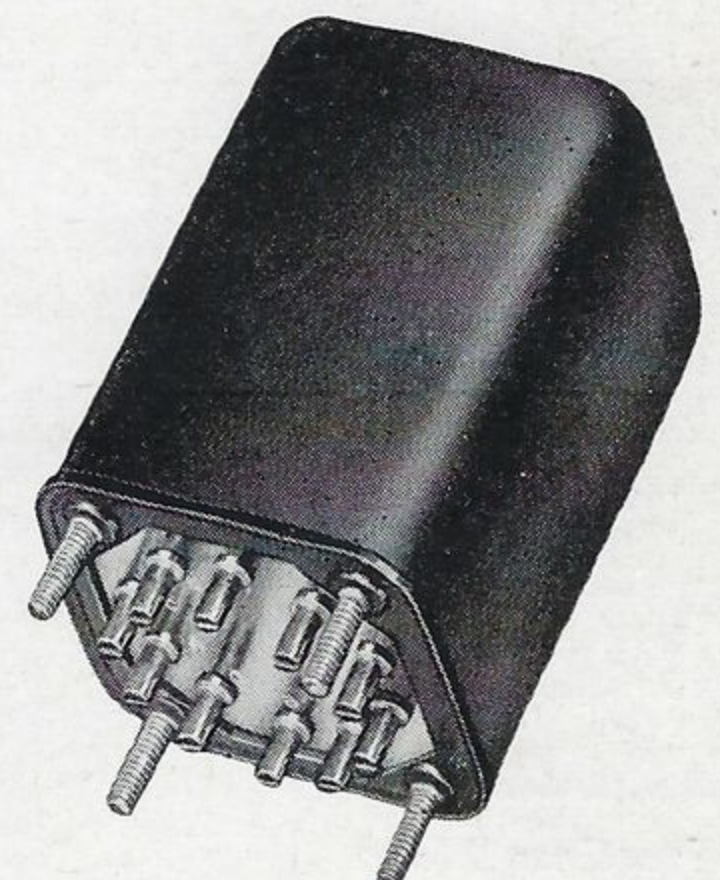
S-Type Mounting

Has a steel base cover, fitted with a phenolic terminal board and pressed into the case. Convenient solder lug terminals are all clearly identified by numerals engraved in the terminal board. Units are flange-mounted.



B-Type Mounting

Has steel base cover, bonded into the case by deep-seal soldering. Cover is fitted with phenolic terminal board which carries compact, solid steel, pin-type terminals. Units have sturdy mounting studs, take a minimum of space.





Transformers and Reactors . . .

The power transformers in the CHICAGO New Equipment line are designed to provide plate and filament supply for from two to sixteen of the tubes most used in up-to-date circuits. They are conservatively rated and will deliver full load at 60 cycles with a temperature rise not exceeding 50° C — well below the RMA recommended standard. Because of their Sealed in Steel

construction, they have excellent protection against corrosion by atmospheric moisture, industrial fumes, etc. and, in addition, add greatly to the finished, modern appearance of any equipment. For the convenience of designers, the current ratings of these power transformers and their mountings are perfectly matched in the series of filter reactors, opposite page.

Power Transformers

Primary 117 Volts, 50/60 Cycles

For Capacitor Input Systems

Catalog No.	High Voltage Secondary			Filaments				Mounting Type	Size	Wt. Lbs.	List Price
	A-C Volts	D-C Ma.	D-C V. Output	Rectifier Volts	Amps	No. 2 Volts	Amps	No. 3 Volts	Amps		
PCC-40	225-0-225	40	210	5	2	6.3CT	2			C 16	\$ 6.00
PSC-40										S 17 2½	8.50
PCC-55	270-0-270	55	260	5	2	6.3CT	2			C 16	6.50
PSC-55										S 17 3	10.00
PCC-60	300-0-300	60	285	5	2	6.3CT	3			C 18	7.50
PSC-60										S 19 4	10.50
PCC-70	335-0-335	70	320	5	2	6.3CT	3			C 18	8.00
PSC-70										S 19 4½	11.50
PCC-85	330-0-330	85	320	5	2	6.3CT	3			C 20	9.25
PSC-85										S 20 5	13.25
PCC-105	345-0-345	105	320	5	2	6.3CT	3.5			C 20	10.00
PSC-105										S 21 6	14.00
PCC-120	375-0-375	120	380	5	3	6.3CT	4			C 22	11.25
PSC-120										S 22 7	14.75
PCC-150	370-0-370	150	390	5	3	6.3CT	4	6.3CT	1	C 22	15.00
PSC-150										S 22 8	19.50
PCC-200	385-0-385	200	390	5	3	6.3CT	4.5	6.3CT	1	C 22	16.25
PSC-200										S 22 9¼	20.75
PCC-250	400-80-0 -80-400	250	410	5	6	6.3CT	7	5.0CT	2	C 23	20.00
PSC-250										S 23 15	24.00

For Reactor Input Systems

PCR-55	350-0-350	55	260	5	2	6.3CT	2			C 16	\$ 7.25
PSR-55										S 17 3	10.25
PCR-70	425-0-425	70	320	5	2	6.3CT	3			C 18	8.25
PSR-70										S 19 4½	11.75
PCR-85	440-0-440	85	325	5	2	6.3CT	3			C 20	9.50
PSR-85										S 20 5	13.50
PCR-105	445-0-445	105	325	5	2	6.3CT	3.5			C 20	10.25
PSR-105										S 21 6	14.25
PCR-120	500-0-500	120	400	5	3	6.3CT	4			C 22	11.50
PSR-120										S 22 7	15.00
PCR-150	505-0-505	150	400	5	3	6.3CT	4	6.3CT	1	C 22	15.25
PSR-150										S 22 8	19.75
PCR-200	520-0-520	200	410	5	3	6.3CT	4.5	6.3CT	1	C 22	16.50
PSR-200										S 22 9¼	21.00
PCR-300	550-370-75-0 -75-370-550	300	425	5	6	6.3CT	5	6.3CT	1	C 24	23.50
PSR-300										S 24 20	30.00

Primary 50/60 Cycles

Bias Transformers

Combination Plate & Filament Supply

Catalog No.	Primary Volts	High Voltage Secondary		Rectifier Filament	Mounting	Wt.,	List
		A-C Volts	D-C Ma.	Volts Amps.	Type Size	Lbs.	Price
1BC-150	115	180-160-140-120	150	5.0 3.0	C 18	5	\$ 8.25
1BS-150					S 19		13.00
2BC-150	230	180-160-140-120	150	5.0 3.0	C 18	5	8.00
2BS-150					S 19		12.75

for Power Supply Applications



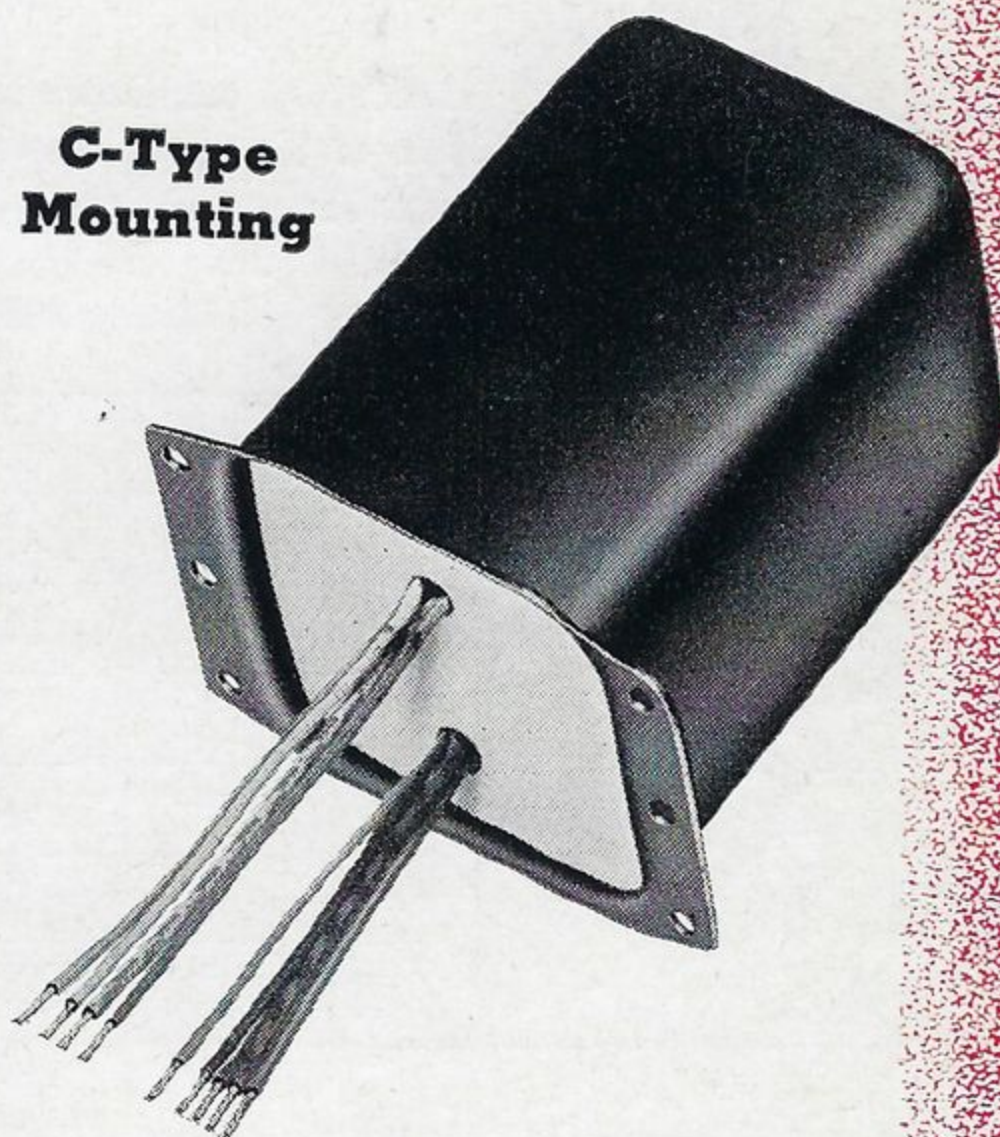
Filament Transformers

Ratings of CHICAGO filament transformers provide voltages and currents for heating a wide range of receiving and transmitting tubes. Units with secondaries rated for less than 6 amps have solder-lug terminals, as shown in the S-Type Mounting illustration at right; those with secondaries rated at more than 6 amps have screw-type terminals. Filament transformers Nos. F-210, F-210H, and F-520H are specially for high voltage rectifier supply. They have screw-type terminals, insulated on the secondaries with ceramic bushings.

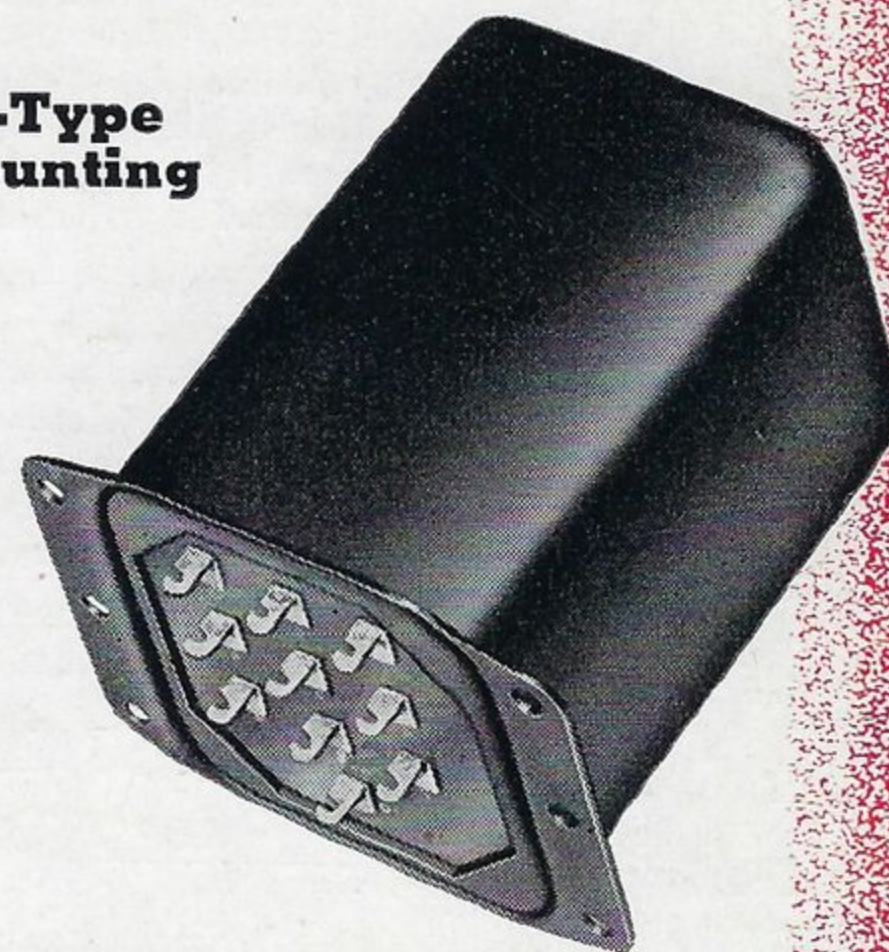
Primary 115/230 Volts, 50/60 Cycles

Catalog No.	Secondary Volts	Amps.	Insulation Volts RMS	Mounting Type Size	Wt. Lbs.	List Price
F-25	2.5 CT	5.25	3500	S 15	2	\$ 7.50
F-210	2.5 CT	10.	5000	S 17	3¼	10.75
F-210H	2.5 CT	10.	9000	S 19	4½	12.50
F-54	5.0 CT	4.0	2500	S 15	2¾	7.75
F-58	5.0 CT	10.	2500	S 17	3¼	10.75
F-516	5.0 CT	20.	2500	S 21	6½	15.50
F-520H	5.0 CT	20.	12000	S 24	13	25.00
F-530	5.0 CT	30.	2500	S 22	10½	20.00
F-65	6.3 CT	5.0	2500	S 17	3¼	9.00
F-610	6.3 CT	10.	2500	S 19	5	12.75
F-75	7.5 CT	5.0	2500	S 17	3¼	8.75
F-712	7.5 CT	12.	2500	S 21	6½	15.00
F-725	7.5 CT	25.	2500	S 22	12	20.50
F-104	10 CT	4.0	2500	S 17	3¼	9.25
F-106	10 CT	6.5	2500	S 19	5	12.75
F-1010	10 CT	10.	2500	S 21	6½	15.00
F-1110	11 CT	10.	2500	S 22	9½	16.00

C-Type Mounting



S-Type Mounting



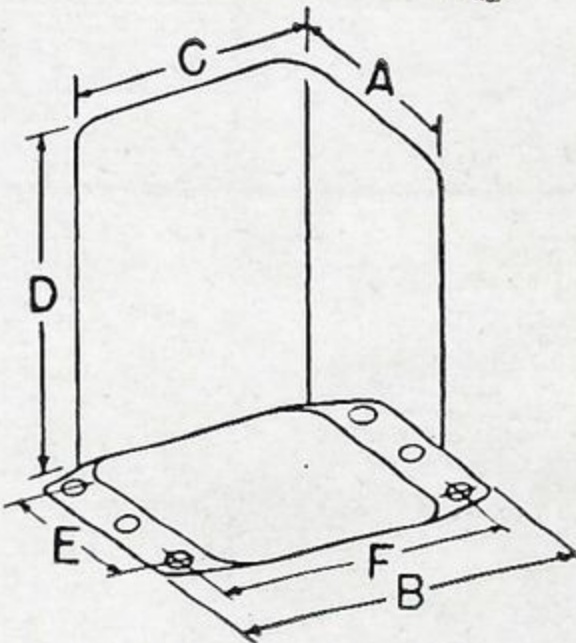
Filter Reactors

The design of CHICAGO New Equipment filter reactors provides maximum inductance for given current rating in the smallest possible size of unit. Their mountings and current ratings match with those of the power transformers, page 4.

Catalog No.	Inductance, Henries	Max. D-C Current, Ma.	D-C Resistance in Ohms	Insulation Test Volts RMS	Mounting Type Size	Wt. Lbs.	List Price
RC-1540	15	40	475	2500	C 12	1½	\$ 3.00
RS-1540					S 12		4.25
RC-1055	10	55	230	2500	C 12	2	3.50
RS-1055					S 13		4.75
RC-1555	15	55	420	2500	C 12	2	3.75
RS-1555					S 13		5.00
RC-1085	10	85	175	2500	C 14	2¾	4.25
RS-1085					S 15		5.75
RC-1585	15	85	285	2500	C 14	2¾	4.50
RS-1585					S 15		6.00
RC-8105	8	105	100	2500	C 16	3¼	5.00
RS-8105					S 17		6.25
RC-12105	12	105	170	2500	C 16	3¼	5.25
RS-12105					S 17		6.50
RC-8150	8	150	95	2500	C 18	5	7.00
RS-8150					S 19		8.50
RC-12150	12	150	150	2500	C 18	5	7.25
RS-12150					S 19		8.75
RC-8200	8	200	85	2500	C 20	6½	8.50
RS-8200					S 21		10.00
RC-12200	12	200	140	2500	C 20	6½	8.75
RS-12200					S 21		10.25
RC-8250	8	250	90	2500	C 22	8	11.00
RS-8250					S 22		12.50
RC-8300	8	300	70	2500	C 22	9½	13.50
RS-8300					S 22		15.50

C- and S-Type Dimensions

Case Size	Dimensions in Inches					
	A	B	C	D	E	F
12	2¼	2½	2½	2½	1½	2¾
13	2¼	2½	2½	2½	1½	2¾
14	2½	3	2¾	3½	1¾	2½
15	2½	3	2¾	3½	1¾	2½
16	2¾	3½	2½	3½	2	3½
17	2¾	3½	2½	3¾	2	3½
18	3¼	4	3	3¾	2¼	3½
19	3¼	4	3	4¼	2¼	3½
20	3½	4½	3½	4½	2¾	3¾
21	3½	4½	3½	4½	2¾	3¾
22	4½	5¼	4½	5½	2½	4¾
24	5½	5¾	4½	6½	3½	5¾





Step-Down and Isolation Transformers

Step-Down Transformers

CHICAGO step-down autotransformers solve the problem of operating standard 117-volt radios, amplifiers, and various electrical appliances from 220-volt power sources. They are particularly well adapted to use in Central and South American countries, where 220-volt

lines are frequently found, and where the Sealed in Steel construction of these units protects them against corrosion in excessively humid climates. Input side is equipped with 8-foot, rubber-covered cord and plug. Output side has standard female receptacle.

Primary 50-60 Cycles

Catalog No.	Input Voltage	Output Voltage	Rating, Continuous Duty	Case Size	Wt., Lbs.	List Price
SD-50	220-250	110-125	50 watts	16	3¼	\$ 8.25
SD-100	220-250	110-125	100 watts	20	5½	10.25
SD-150	220-250	110-125	150 watts	22	8½	12.00
SD-250	220-250	110-125	250 watts	22	9½	15.00
SD-500	220-250	110-125	500 watts	24	14½	20.00
SD-1000	220-250	110-125	1000 watts	26	32	40.00

Isolation Transformers

A sliding switch on each CHICAGO isolation transformer adjusts to either of three primary voltages, 125/115/105 volts. With the unit operating on a 115-volt line, the three switch positions also provide varying secondary voltages, 105/115/125 volts isolated from line. Thus, they are adaptable to two different general applications:

For faster, safer, easier servicing, these transformers, by isolating chassis ground from line ground, eliminate the hazard of shocks from AC-DC radio and television sets. When operated on a 115-volt line, the available 125 volts on the secondary helps show up faulty tubes, by overloading, while the 105 volts output is useful for checking oscillator performance.

Extra tip: The life of soldering irons is prolonged when plugged into a CHICAGO isolation transformer with switch set for low output voltage. For jobs requiring quick extra heat, flip the switch to over-line voltage.

For safe, efficient set operation where line volts run high or low, Chicago isolation transformers solve two frequent problems (1) How to provide normal power where rural line volts run high or low, and (2) how to remove the dangers of floating ground potentials. The isolated secondaries and three primary switch settings are ideal for this application.

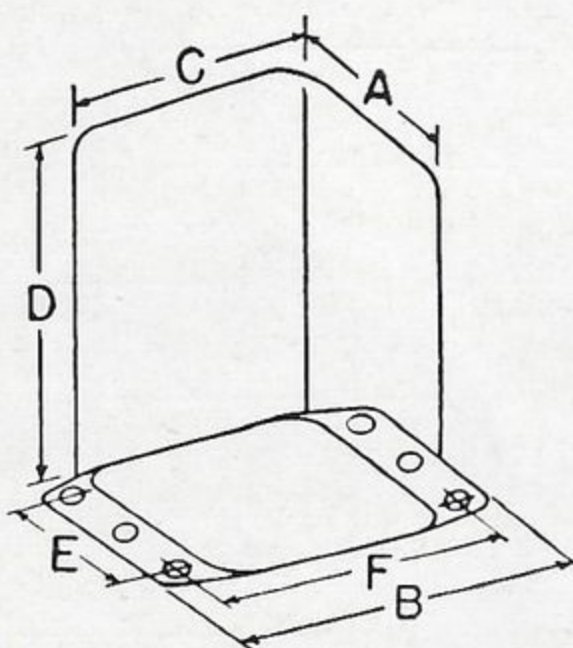
Eight-foot, rubber-covered cord and plug on primary. standard female receptacle on secondary.

Primary 50-60 Cycles

Catalog No.	Primary Voltage	Secondary Voltage	Rating, Continuous Duty	Case Size	Wt., Lbs.	List Price
IS-50	105/115/125	125/115/105*	50 watts	21	5	\$ 9.00
IS-100	105/115/125	125/115/105*	100 watts	22	8½	14.00
IS-150	105/115/125	125/115/105*	150 watts	24	14	21.00
IS-250	105/115/125	125/115/105*	250 watts	26	21	35.00

* With 115-volt primary.

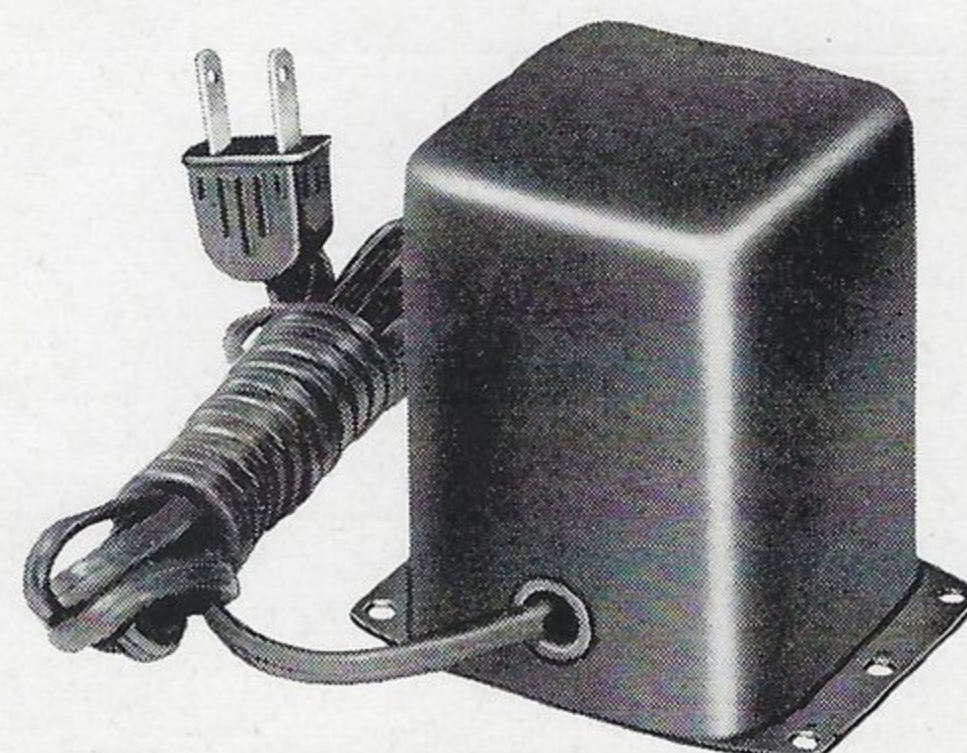
DIMENSIONS FOR STEP-DOWN AND ISOLATION TRANSFORMERS



Case Size	Dimensions in Inches					
	A	B	C	D	E	F
16	2⅞	3½	2⅛	3½	2	3⅛
20	3⅛	4⅞	3⅞	4⅞	2¾	3⅞
21	3⅛	4⅞	3⅞	4⅞	2¾	3⅞
22	4⅞	5¼	4⅞	5⅞	2½	4¾
24	5⅞	5⅞	4⅞	6⅞	3½	5⅞
26	6⅞	6½	5¼	7⅞	4¼	6



Isolation Transformer



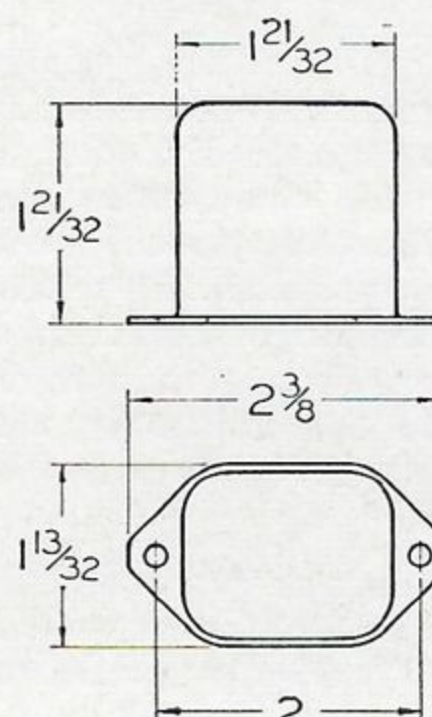
Step-Down Transformer

High Q Chokes for Dynamic Noise Suppressor Circuits

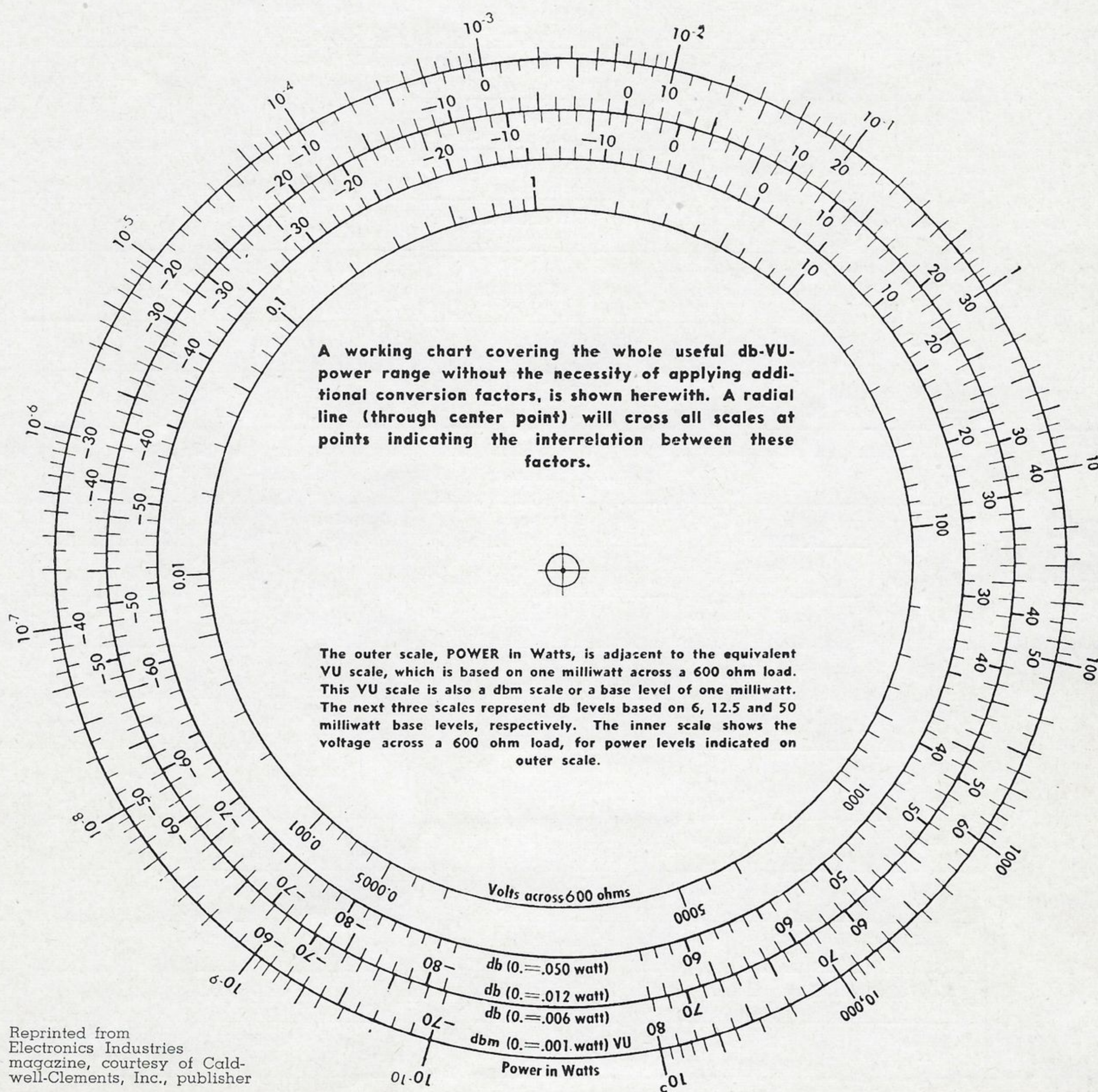
CHICAGO high Q chokes, Nos. NSI-1 and NSI-2, are designed specifically for use in dynamic noise suppressor circuits, but can be used with equal advantage in any tuned circuit requiring the given inductances.

Their inductance values, .8 and 2.4 henrys respectively, are accurate within $\pm 5\%$ with up to 15 ma d-c. The units have a minimum Q of 20.

Catalog No.	Inductance	Wt., Lbs.	List Price
NSI-1	.8 henrys	$\frac{3}{4}$	\$7.50
NSI-2	2.4 henrys	$\frac{3}{4}$	7.50



POWER-VU-db RELATIONSHIPS





Full Frequency Range Audio Transformers

For uniformly excellent response over the full frequency range, for very low percentage of distortion at all frequencies, and for high grade construction throughout, CHICAGO FF Range audio transformers are unsurpassed. Typical frequency response is within 0.5 db from 30 to 20,000 cycles, although maximum deviation from 0 for the respective units varies from 0.2 db to about 1.5 db. To indicate the extremely uniform response, actual test curves are given on pages 9, 10, and 11 for representative units.

Output impedance ratings match perfectly with those recommended as standard by RMA and used by many leading manufacturers of high fidelity speakers. A table

of representative high fidelity speaker ratings is given on the opposite page.

The design of the input transformers incorporates hum-bucking construction and inner alloy shields to provide maximum neutralization of stray magnetic fields.

A special Sealed in Steel construction, described under "B-Type Mounting," page 3, protects the coil windings from corrosion by atmospheric moisture. The compactness of this mounting is invaluable in confined chassis spaces.

Driver and modulation transformers for full frequency range broadcast transmitters are listed on page 14.

Input Transformers

Catalog No.	Application	Impedance Primary—Secondary	Operating Level§	Hum Reduction	Mounting Type Size	Wt., Lbs.	List Price
BI-1	Line to Single or Push-Pull Grids	*Pri: 600/150 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	-70 dbm.	B 13	2	\$22.00
BI-2	Line to Single or Push-Pull Grids	*Pri: 600/150 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	-90 dbm.	B 13	2	29.00
BI-3	Line bridging to Push-Pull Grids	*Pri: 8000/6000 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	-70 dbm.	B 13	2	23.00
BI-4	Line to Line	Pri: 600/150 ohms CT Sec: 500/150 ohms CT	+15 dbm.	-70 dbm.	B 13	2	21.00
BI-5	Line to Line	*Pri: 600/150 ohms CT *Sec: 600/150 ohms CT	+30 dbm.	-90 dbm.	B 18	3	30.00
BI-6	Interstage—P-P Pl. to Sgl. or P-P Grids	*Pri: 20,000 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	-70 dbm.	B 13	2	22.00
BI-7	Low imped. mike, pickup, or multiple line to grid	Pri: 50/150/250/600 Sec: 50,000 ohms	+15 dbm.	-70 dbm.	B 13	2	23.00
BI-8	Single Plate to Push-Pull Grids	Pri: 10,000 ohms Sec: 50,000 ohms	+15 dbm.	-70 dbm.	B 13	2	22.00
BI-9	Single Plate to Push-Pull Grids**	Pri: 10,000 ohms Sec: 50,000 ohms	+15 dbm.	-70 dbm.	B 19	4	26.00

* Split and balanced windings. ** Has D-C in primary; frequency response ± 2 db, 30—15,000 cycles.
§ 0 dbm. reference level equals 1 milliwatt.

Output Transformers

Catalog No.	Application	Impedance Primary—Secondary	Operating Level§	Output Tubes	Mounting Type Size	Wt., Lbs.	List Price
BO-1	Single plate to Line	†Pri: 15,000 ohms *Sec: 600/150 ohms CT	+15 dbm.	6C4's or equiv.	B 14	2	\$13.00
BO-2	Push-Pull Plates to Line	*Pri: 20,000 ohms CT *Sec: 600/150 ohms CT	+30 dbm.	6C5's or equiv.	B 16	2¾	19.00
BO-3	Push-Pull Plates to Line	Pri: 5,000 ohms CT *Sec: 600/150 ohms CT	+40 dbm.	6B4G's or equiv.	B 20	5	17.00
BO-4	Push-Pull Plates to Line	Pri: 7,500 ohms CT *Sec: 600/150 ohms CT ‡	+43 dbm.	6L6's or equiv.	B 20	5	18.00
BO-5	P-P Plates to Line or Voice Coil	*Pri: 10,000 ohms CT *Sec: 600/150 ohms CT and 16/8/4 ohms	+37 dbm.	6V6's or equiv.	B 19	4	24.00
BO-6	Push-Pull Plates to Voice Coil	Pri: 7,500 ohms CT Sec: 8/20 ohms	+43 dbm.	6L6's or equiv.	B 20	5½	23.00
BO-7	Line to Voice Coil	*Pri: 600 CT/150 ohms Sec: 8/20 ohms	+45 dbm.		B 20	6	22.00
BO-8	P-P Parallel Pl. to Line or Voice Coil	Pri: 1500 ohms CT Sec: 600/150/16/8/4 ohms	+45 dbm.	6B4G's or equiv.	B 21	6	30.00
BO-9	P-P Plates to Line or Voice Coil	*Pri: 5000/3000 ohms CT Sec: 600/150/16/8/4 ohms	+40 dbm.	6B4G's or equiv.	B 20	5	22.00
BO-10	P-P Low Level Plates to Line	Pri: 20,000 ohms CT *Sec: 600/150 ohms CT	+15 dbm.	6C5's or equiv.	B 13	2	21.00

* Split and balanced windings. † 0 to 10 ma. D-C. § 0 dbm. reference level equals 1 milliwatt.
‡ Has tertiary winding to provide 15% inverse feedback.

Frequency Response, 30 to 15,000 Cycles

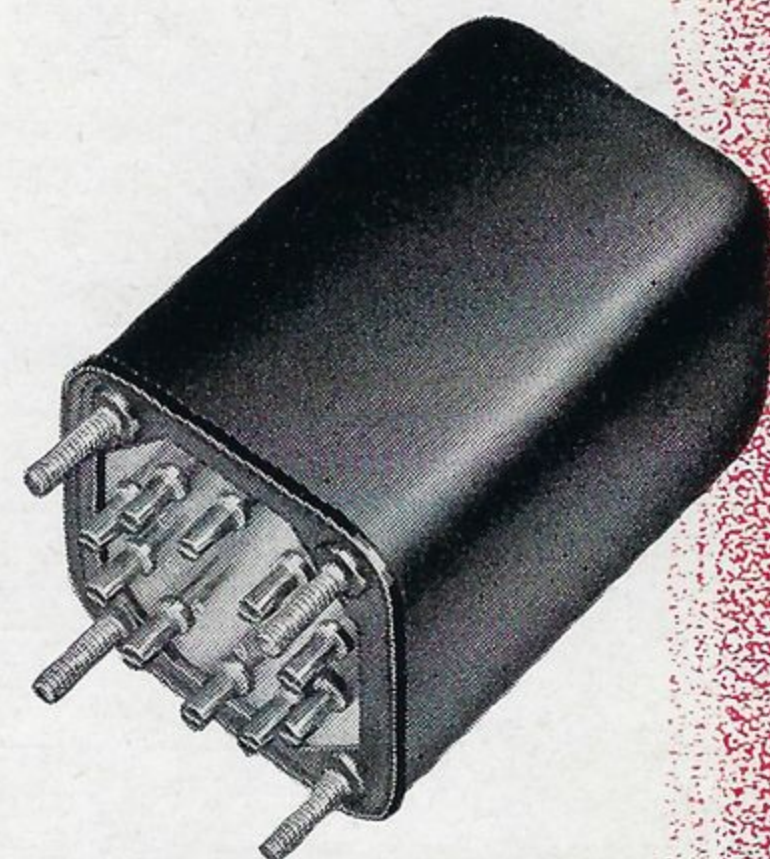
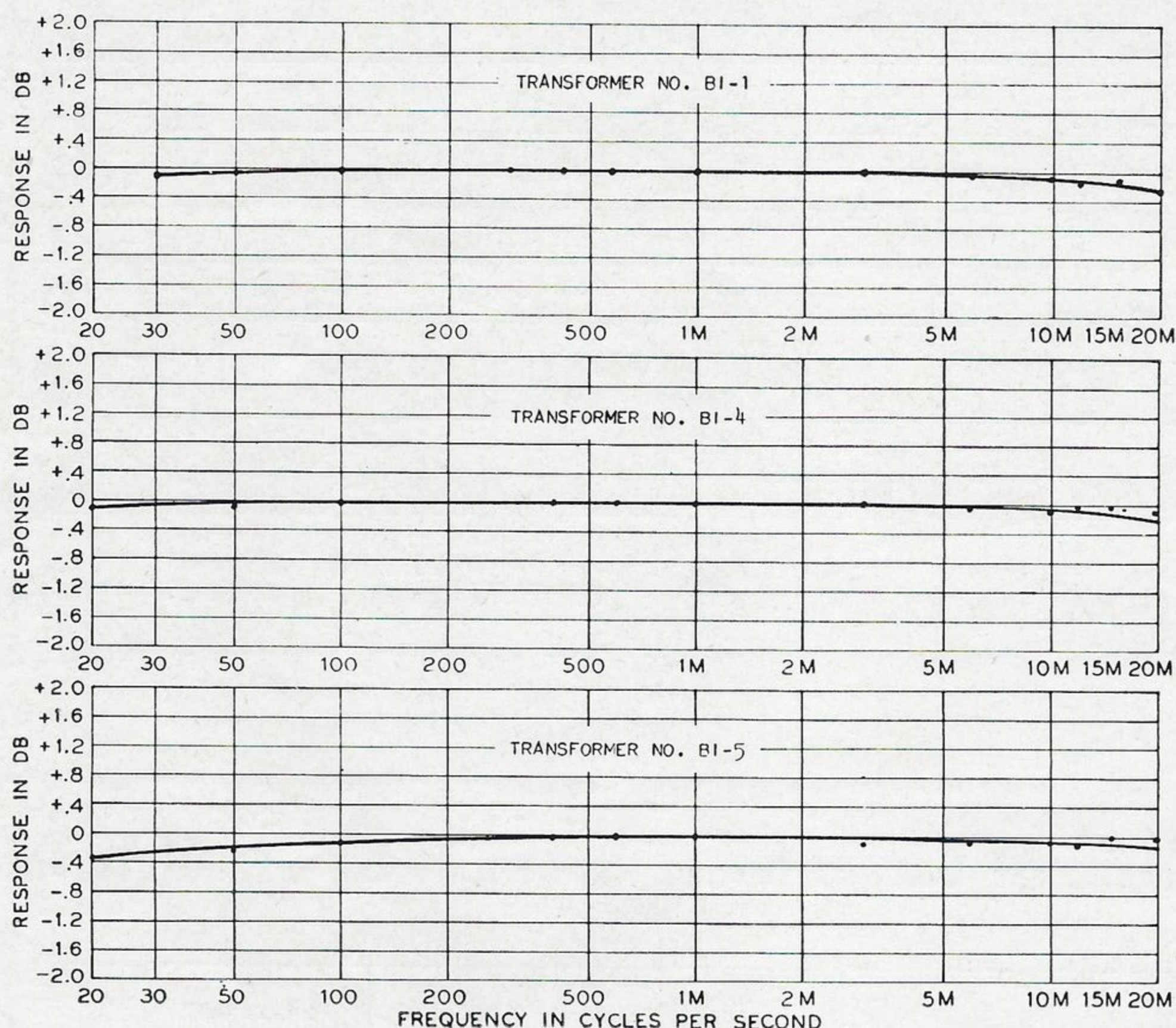


Typical Frequency Response Curves

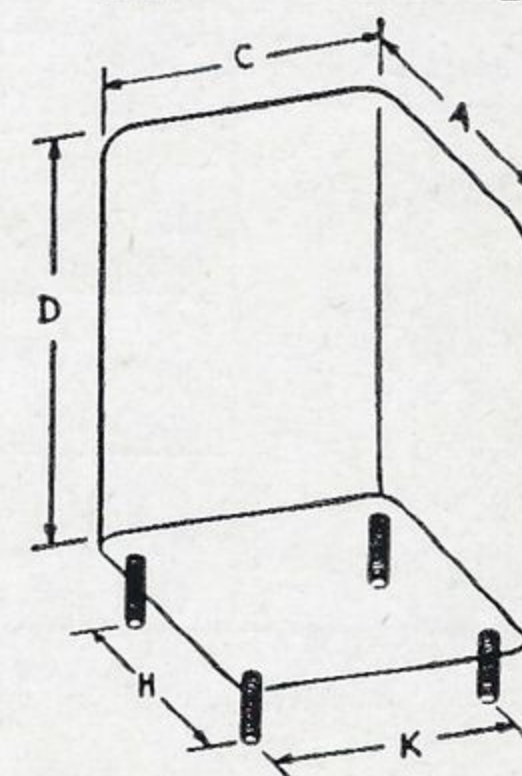
The curves below are drawn from data taken in actual laboratory tests. "Bread-board" style circuits were used, with tubes selected at random. In finished circuits, with lead lengths kept at minimum and with balanced tubes, frequency response may be better than shown in the curves.

Response scales are marked off in tenths of a db — with scales normally used, many of the curves would appear as straight lines. Test equipment used includes a Hewlett-Packard 200-C Oscillator, a General Radio 1923A Distortion Meter, and a Ballantine Model 300 VTVM.

INPUT TRANSFORMERS, NOS. BI-1, BI-4, and BI-5

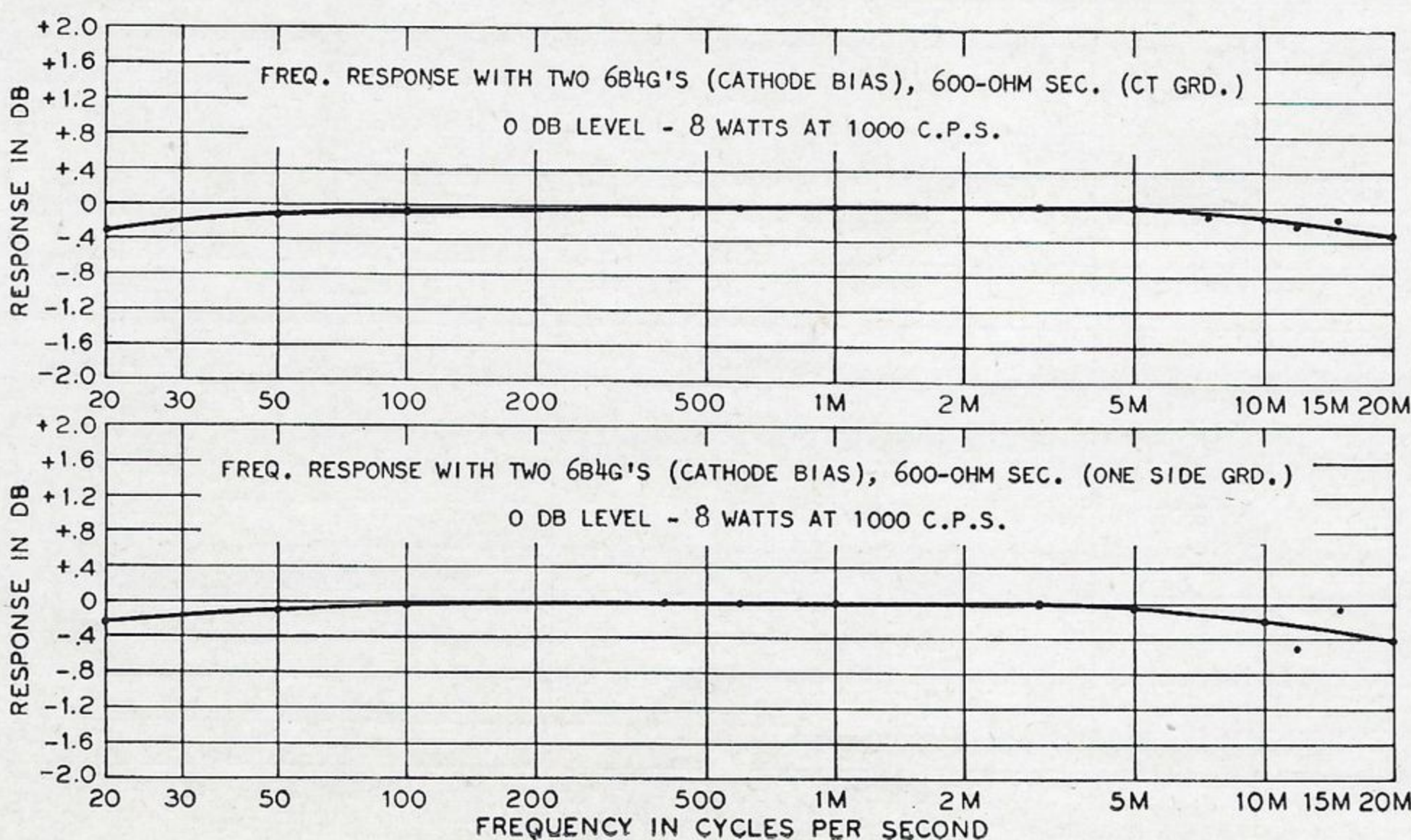


B-Type Mounting



Case Size	Dimensions in Inches					Stud Size
	A	C	D	H	K	
13	2 1/4	2 1/8	2 1/16	1 9/16	1 3/8	6-32
14	2 1/2	2 3/8	3 1/16	1 13/16	1 11/16	6-32
16	2 7/8	2 11/16	3 1/2	2	1 7/8	8-32
18	3 1/4	3	3 7/8	2 3/8	2 1/8	8-32
19	3 1/4	3	4 1/4	2 3/8	2 1/8	8-32
20	3 11/16	3 5/16	4 5/16	2 5/8	2 3/8	10-32
21	3 11/16	3 5/16	4 11/16	2 5/8	2 3/8	10-32

OUTPUT TRANSFORMER, NO. BO-3



Data on Representative High Fidelity Speakers

Model No.	Input Impedance	Watts Output
ALTEC LANSING		
600-B	8 ohms	20
604-B	16 ohms	30
JENSEN		
HNP-51	500-600 ohms	25
JAP-60	500-600 ohms	20
JAMES LANSING		
D-131	16 ohms	12
D-1002	16 ohms	25
RCA		
LC-1A	15 ohms	20
STEPHENS		
P-52FR	16 ohms	15
P-52HF	16 ohms	20
WESTERN ELECTRIC		
728B	4 ohms	30
756A	4 ohms	20



Public Address Range Audio Transformers

As indicated by the representative curves shown on the facing page, the frequency response of the transformers in this CHICAGO series is within .5 db from 50 to 10,000 cycles, the maximum range usually required for PA and other types of equipment.

The line and voice impedances used in the design of the output transformers are those recommended as standard by RMA. The 4, 8, and 16-ohm voice coil impedances can also be used with 3.2, 6, and 20-ohm speakers, respectively, without appreciable mismatch.

Driver Transformers

Catalog No.	Typical Driver Tubes	Primary Impedance	Max. D-C In Pri.	Ratio Pri./1/2 Sec.	Mounting Type Size	Wt., Lbs.	List Price
PCD-10 PSD-10	P-P 6N7's, 6A6's, 6J5's, 6C4's, etc.	20,000 ohms CT	10 ma.	3:1	C 14 S 14	2	\$ 5.00 7.25
PCD-25 PSD-25	P-P 6N7's, 6A6's, 6J5's, 6C4's, etc.	20,000 ohms CT	25 ma.	3:1	C 14 S 15	2 3/4	4.75 7.00
PCD-100 PSD-100	P-P 6B4G's, 45's, 2A3's, 6L6's, etc.	5,000/10,000 ohms CT	100 ma.	5:1	C 18 S 18	5	8.50 12.00

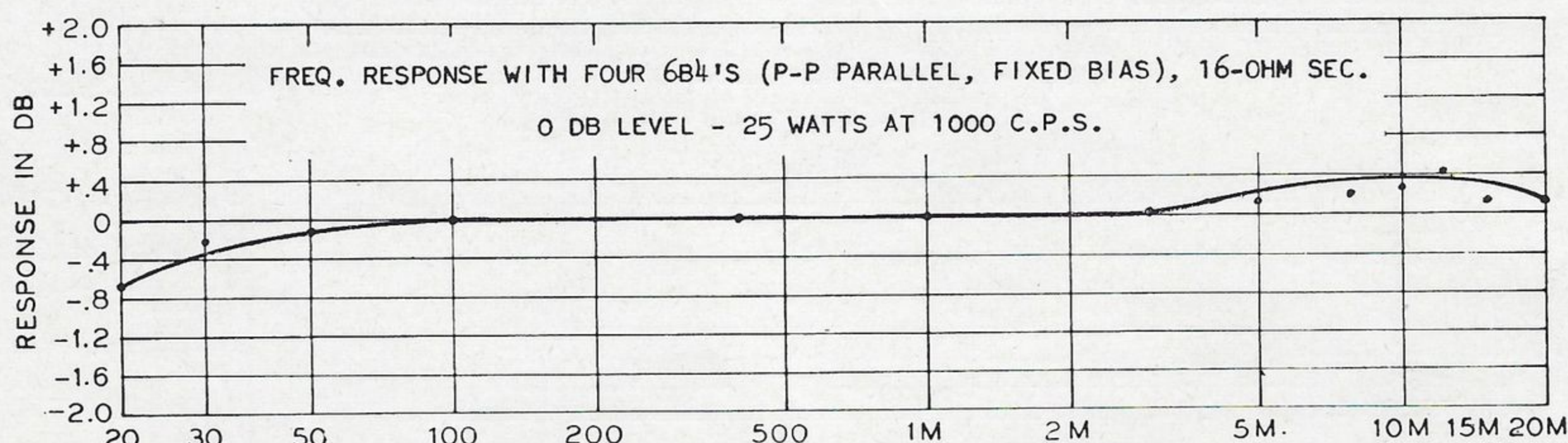
Output Transformers

Catalog No.	Typical Output Tubes	Class	Impedance Primary-Secondary	Max. D-C in Pri.	Power Level	Mounting Type Size	Wt., Lbs.	List Price
PCO-80 PSO-80	P-P 6B4G's, 6L6's P-P 6V6's, 6L6's	A ¹ AB	Pri: 5,000 ohms CT Sec: 600/150/ * 16/8/4 ohms	120 ma.	20 watts	C 20 S 20	6 1/2	\$11.00 15.00
PCO-150 PSO-150	P-P 6V6's, 6F6's P-P 6K6's	AB AB ¹	Pri: 10,000 ohms CT Sec: 600/150/ * 16/8/4 ohms	200 ma.	15 watts	C 19 S 19	5	9.50 13.50
PCO-200 PSO-200	P-P 6L6's P-P Parallel 6V6's	B AB ₂ †	Pri: 6,000 ohms CT Sec: 600/150/ * 16/8/4 ohms	250 ma.	30 watts	C 22 S 22	9	12.50 16.50

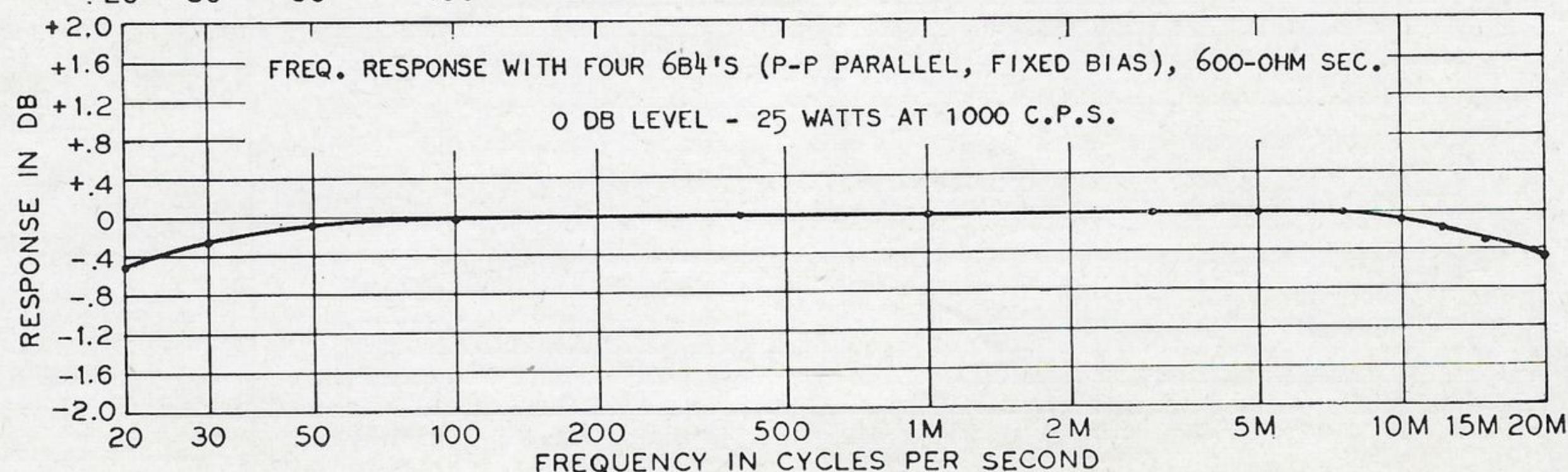
* Has tertiary winding to provide 10% inverse feedback. † For low distortion, used fixed bias.

Frequency Response Curves for FF Range Audio Transformers

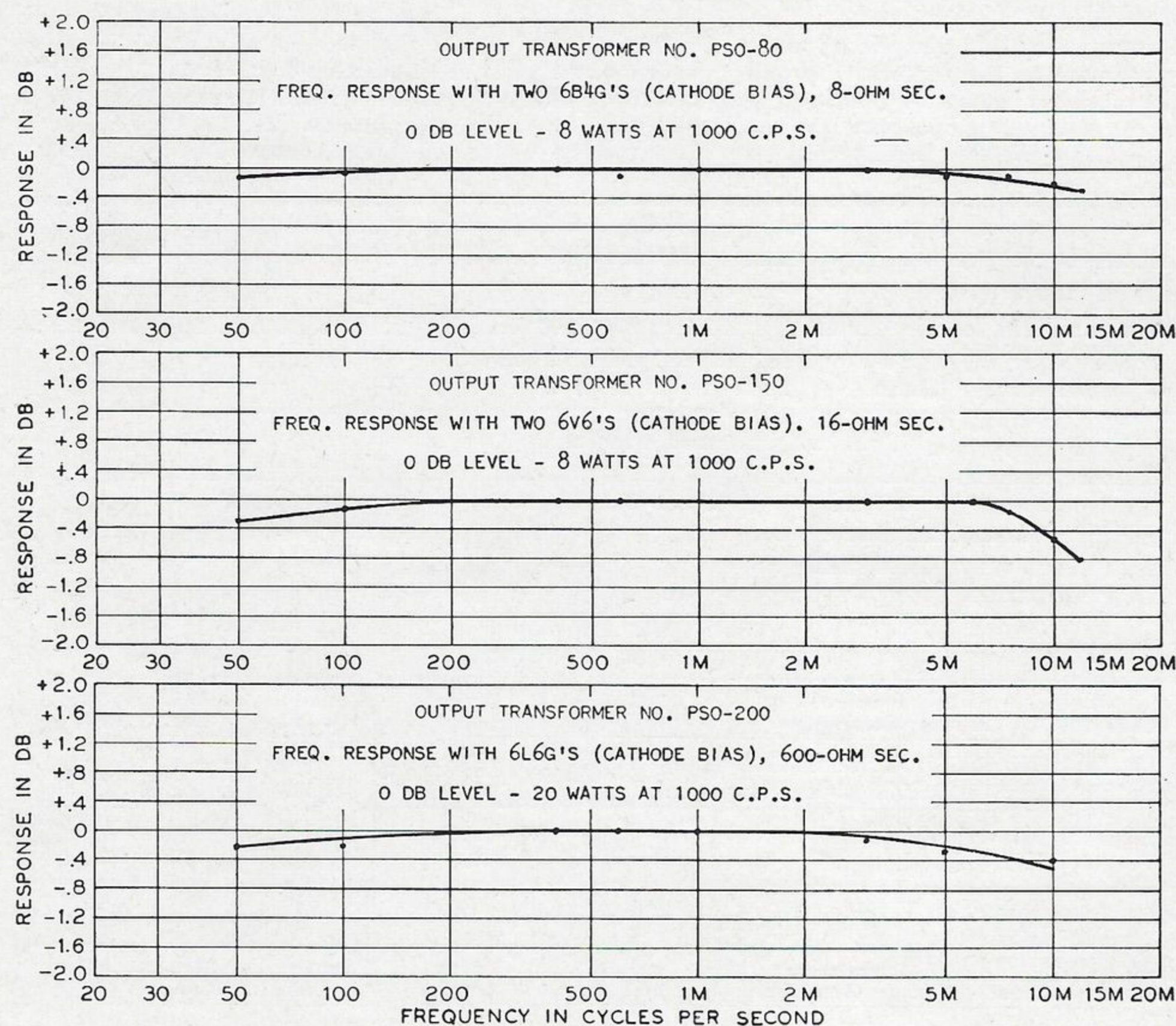
OUTPUT
TRANSFORMER
NO. B0-8



OUTPUT
TRANSFORMER
NO. B0-8



Frequency Response, 50 to 10,000 Cycles



**S-Type
Mounting**

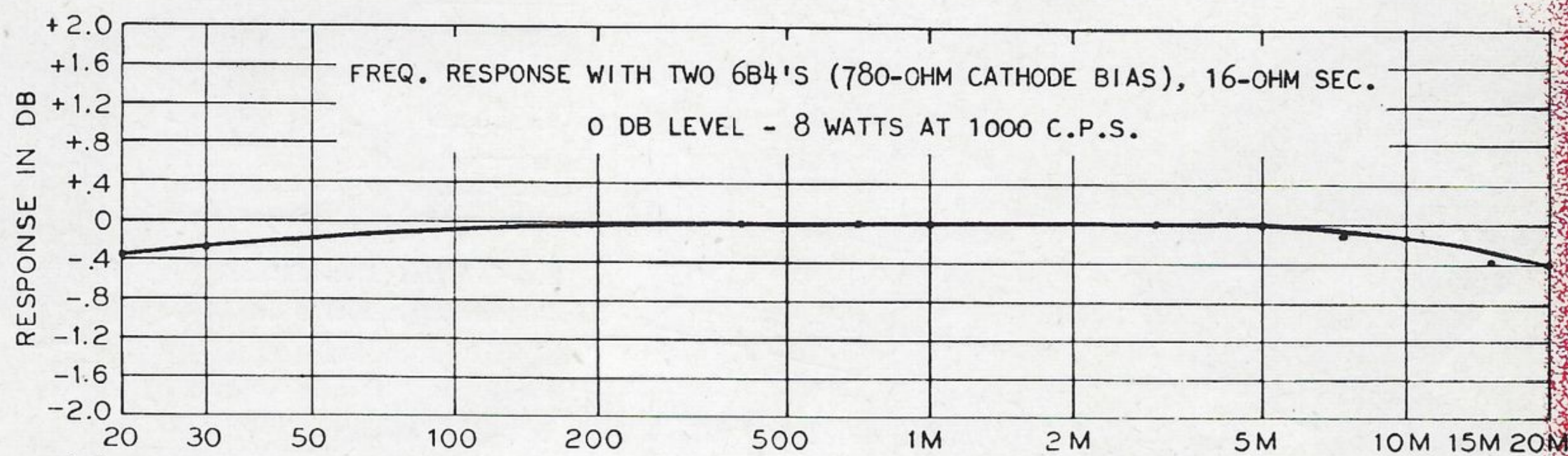
**C-Type
Mounting**

**Dimensions
for
S- and C-
Type
Mountings**

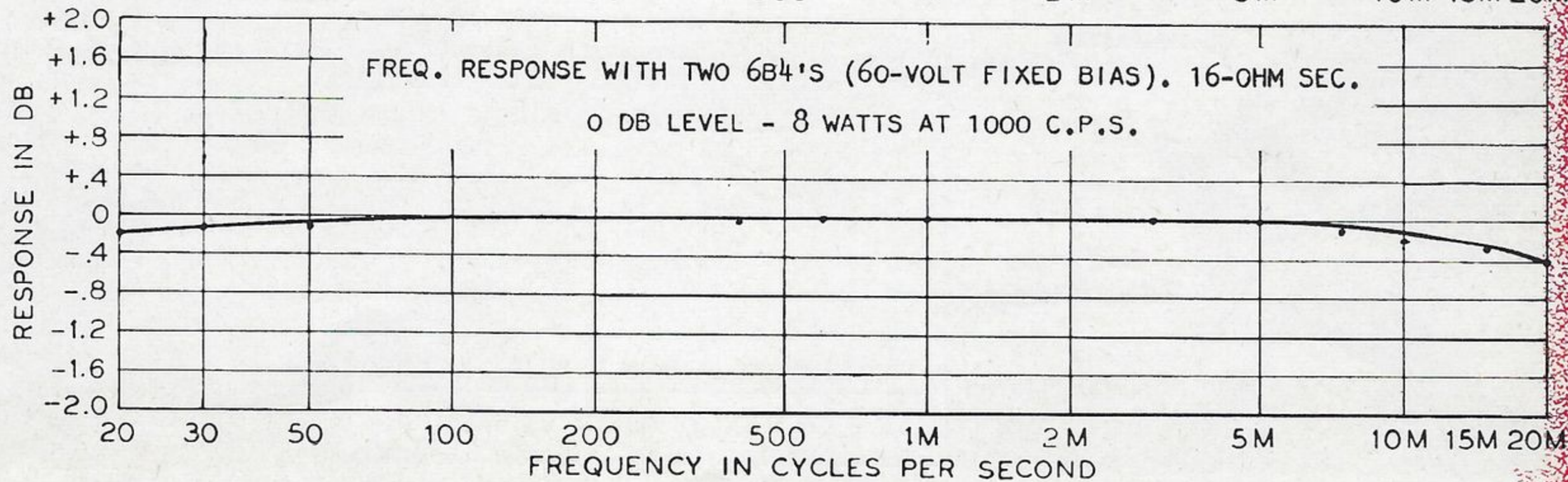
Case Size	Dimensions in Inches					
	A	B	C	D	E	F
14	2½	3	2¾	3⅛	1¾	2⅛
15	2½	3	2¾	3⅛	1¾	2⅛
18	3¼	4	3	3⅞	2¼	3½
19	3¼	4	3	4¼	2¼	3½
20	3⅛	4⅞	3⅞	4⅞	2¾	3⅞
22	4⅞	5¼	4⅞	5⅞	2½	4¾

(Continued from page 9)

**OUTPUT
TRANSFORMER
NO. B0-9**



**OUTPUT
TRANSFORMER
NO. B0-9**



The transformers and reactors on this and the opposite page are particularly adapted to use in receiving and transmitting equipment, such as amateur, police, railroad, and aircraft types. Frequency response for the input, output, driver and modulation transformers is

within ± 1 db over the stated voice range. All units, with the exception of Modulation Transformer No. CMS-2, are mounted in drawn steel cases for maximum protection and streamlined appearance. No. CMS-2 has a heavy duty, frame-and-shield construction.

Input Transformers

Catalog No.	Application	Impedances Primary-Secondary	Mounting Type	Size	Wt., Lbs.	List Price
CIC-1 CIS-1	Low Level Line to Single or P-P Grids	* Pri: 600/150 ohms * Sec: 100,000 ohms CT	C S	9 9	3/4	\$ 7.50 10.50
CIC-2 CIS-2	Low Level SB or DB Microphone to Sgl. or P-P Grids	Pri: 125/50 ohms, 80 ma. Sec: 125,000 ohms CT	C S	9 9	3/4	3.75 6.00

* Split and balanced windings.

Driver Transformers

Catalog No.	Application	Primary Impedance	Max. D-C in Pri.	Ratio Pri./1/2Sec.	Mounting Type	Size	Wt., Lbs.	List Price
CDC-1 CDS-1	P-P 2A3's, 6B4G's, etc. to P-P Grids	5,000 ohms CT	100 ma.	3:1	C S	17 17	3	\$5.75 8.25

Modulation Transformers

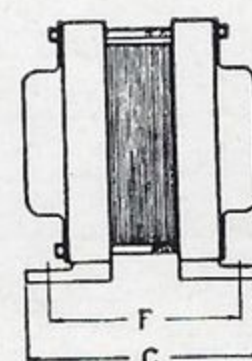
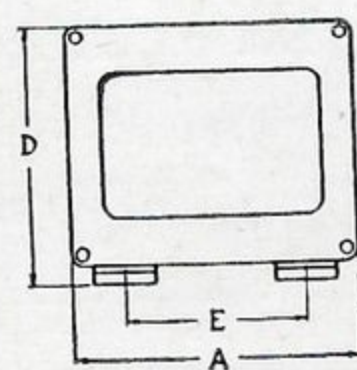
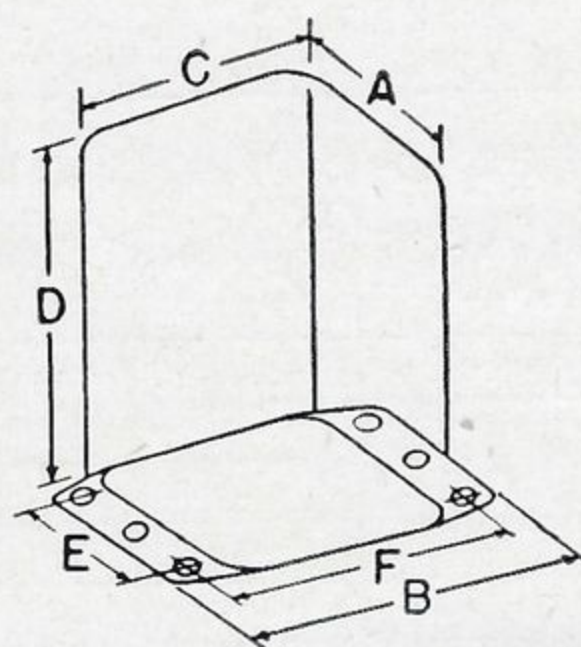
Class B Plates to Class C Load

Catalog No.	Typical Mod. Tubes	Impedances Primary-Secondary	D-C Ma. Pri.	D-C Ma. Sec.	Power Level	Mounting Type	Size	Wt., Lbs.	List Price
CMS-1	203A's, 805's, 75TL's, 203Z's	Pri: 9000/6700 ohms CT Sec: 8000/6000/4000 ohms	350	350	250 watts	SX	26	22	\$40.00
CMS-2	810's, 822's, etc.	Pri: 12,000 ohms CT Sec: 6250 ohms CT	400	400	500 watts	FS	65	43	75.00

Output Transformers

Sgl. Plate to Line or Voice Coil

Catalog No.	Typical Output Tubes	Class	Impedance Primary-Secondary	Max. D-C in Pri.	Power Level	Mounting Type	Size	Wt., Lbs.	List Price
COC-1 COS-1	Sgl. 6L6, 6V6, 25A6, etc.	A	Pri: 5,000 ohms Sec: 600/150/ 16/8/4 ohms	55 ma.	5 watts	C S	14 14	2 3/4	\$4.75 7.50
COC-2 COS-2	Sgl. 6F6, 6V6, 6N6, 6K6, 7B5	A	Pri: 8,000 ohms Sec: 600/150/ 16/8/4 ohms	55 ma.	5 watts	C S	14 14	2 3/4	5.00 7.75



FS-Type Mounting
(Modulation Transformer No. CMS-2)

DIMENSIONS FOR C-, S-, AND SX-TYPE MOUNTINGS

Size	Dimensions in Inches					
	A	B	C	D	E	F
9	1 1/2	1 1/2	1 1/2	2 1/8	CHO*	1 7/8
13	2 1/4	2 1/16	2 1/8	2 1/8	1 1/2	2 3/8
14	2 1/2	3	2 3/8	3 1/16	1 3/4	2 1/16
16	2 7/8	3 1/2	2 1/16	3 1/2	2	3 1/8
17	2 7/8	3 1/2	2 1/16	3 3/4	2	3 1/8
22	4 9/16	5 1/4	4 1/8	5 1/16	2 1/2	4 3/4
24	5 5/16	5 7/8	4 13/16	6 1/16	3 1/2	5 3/8
26	6 1/8	6 1/2	5 1/4	7 1/16	4 1/4	6

DIMENSIONS FOR FS-TYPE MOUNTING

65	7 1/2	7 13/16	7	4 3/4	6 7/8
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* CHO — Center hole only on each side.



S-Type Mounting

C-Type Mounting

SX-Type Mounting
(No. CMS-1)



Frequency Response, 200 to 3,500 Cycles

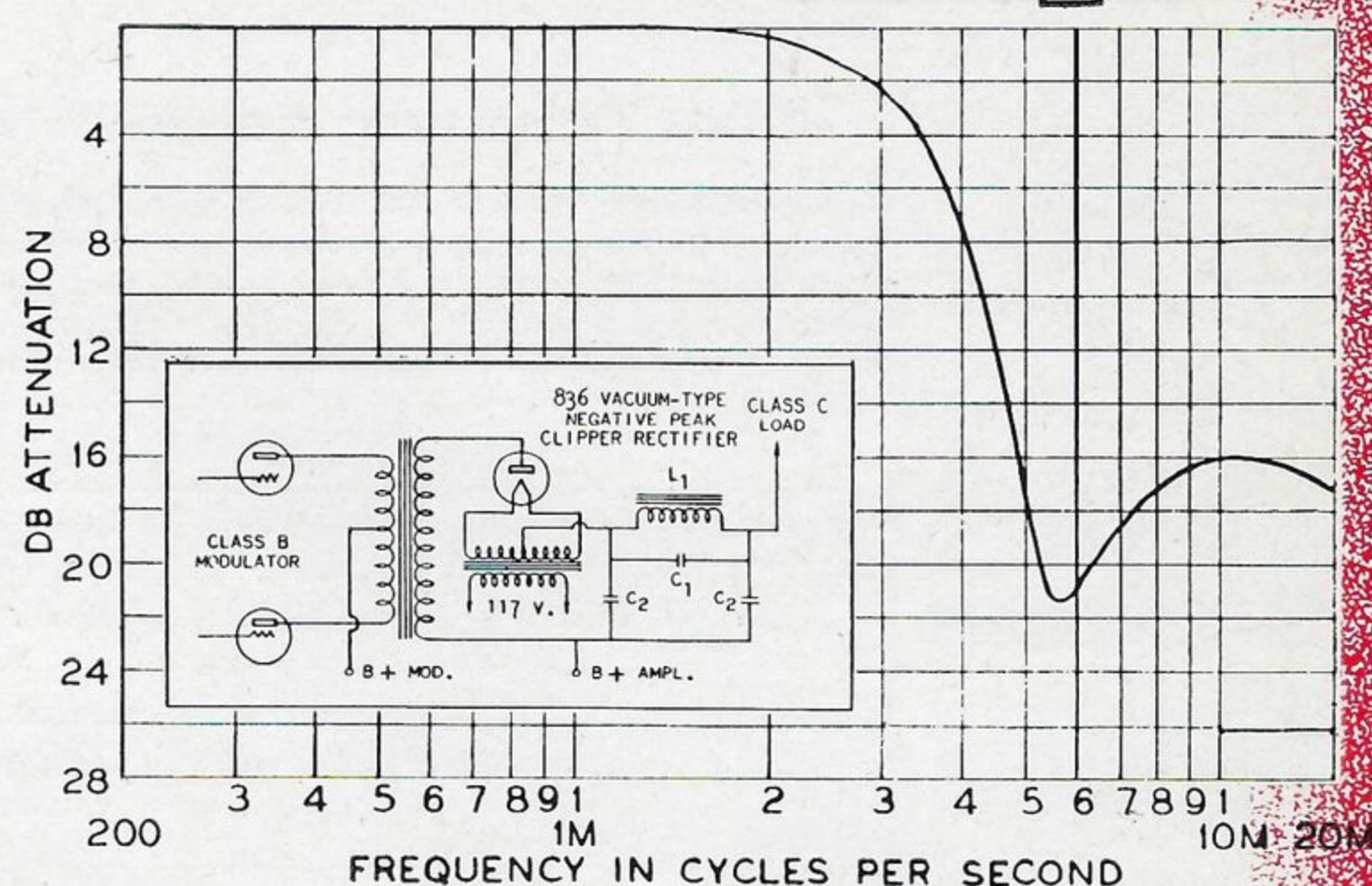


Splatter Chokes

- Eliminate splatter caused by heavy modulation.
- Limit band width to 3,000 cycles.
- Effectively increase "get through" ability of phone signals.
- Prevent negative peak clipping.

CHICAGO Splatter Chokes, Nos. SR-300 and SR-500, are designed specifically for use in high level "clipper" filters. Windings are tapped to cover an inductance range from .02 to 1.5 henries at relatively constant Q. Their insulation is adequate to withstand the high peak voltages developed during extended periods of extremely heavy modulation.

A high vacuum "clipper" rectifier precedes the filter and provides a proper gating effect, conducting at modulation levels up to 100%. When the modulation level exceeds 100%, the output of the modulator stage swings the instantaneous plate voltage on the final amplifier below zero. The rectifier then stops conducting and negative peak clipping is confined to the rectifier and is not imposed on the modulated amplifier. The filament transformer for the rectifier must have adequate insulation and should have low capacity between windings and winding to core. CHICAGO transformer No. F-520H, p. 5, is recommended.



Catalog No.	D-C Ma.	Insulation Volts	Inductance in Henries	Mounting Type	Size	Wt. Lbs.	List Price
SR-300	300	7,500	.02 to 1.5 Hy	(See Cut)	22	10	\$17.00
SR-500	500	10,000	.02 to 1.5 Hy	(See Cut)	24	16	\$22.00

Band Pass Filter No BPF-1 for optimum selectivity in CW reception.

Installed between the receiver or "Q 5'er" and head set, this band pass filter makes possible the ultimate in CW selectivity. Its effectiveness is shown by the dotted curve, right.

The filter is peaked at 650 cycles and operates from a low, medium, or high impedance source. The output is tapped at 500, 8,000, and 20,000 ohms to accommodate nearly all modern headphone impedances. A Q of 40 is obtained at 650 cycles by use of toroidal coils employing high permeability cores. Insertion loss is less than 3 db and remains constant under all conditions of matched impedance operation. A series blocking condenser of 1 mfd. minimum capacity should be inserted between receiver and filter input to prevent d-c from saturating the inductances. Complete instructions are supplied.

Unit has S-type mounting, shown on opposite page, but has pin-type terminals. Case size 16; weight 2 lbs. 6 ounces.

No. BPF-1.....List Price, \$35.00

Low Pass Filter No. LPF-1 for attenuating frequencies above 3,000 cycles in low level speech amplifiers.

Originally designed for commercial aircraft communications, this low pass filter can be advantageously employed as well in amateur, police, and other speech applications.

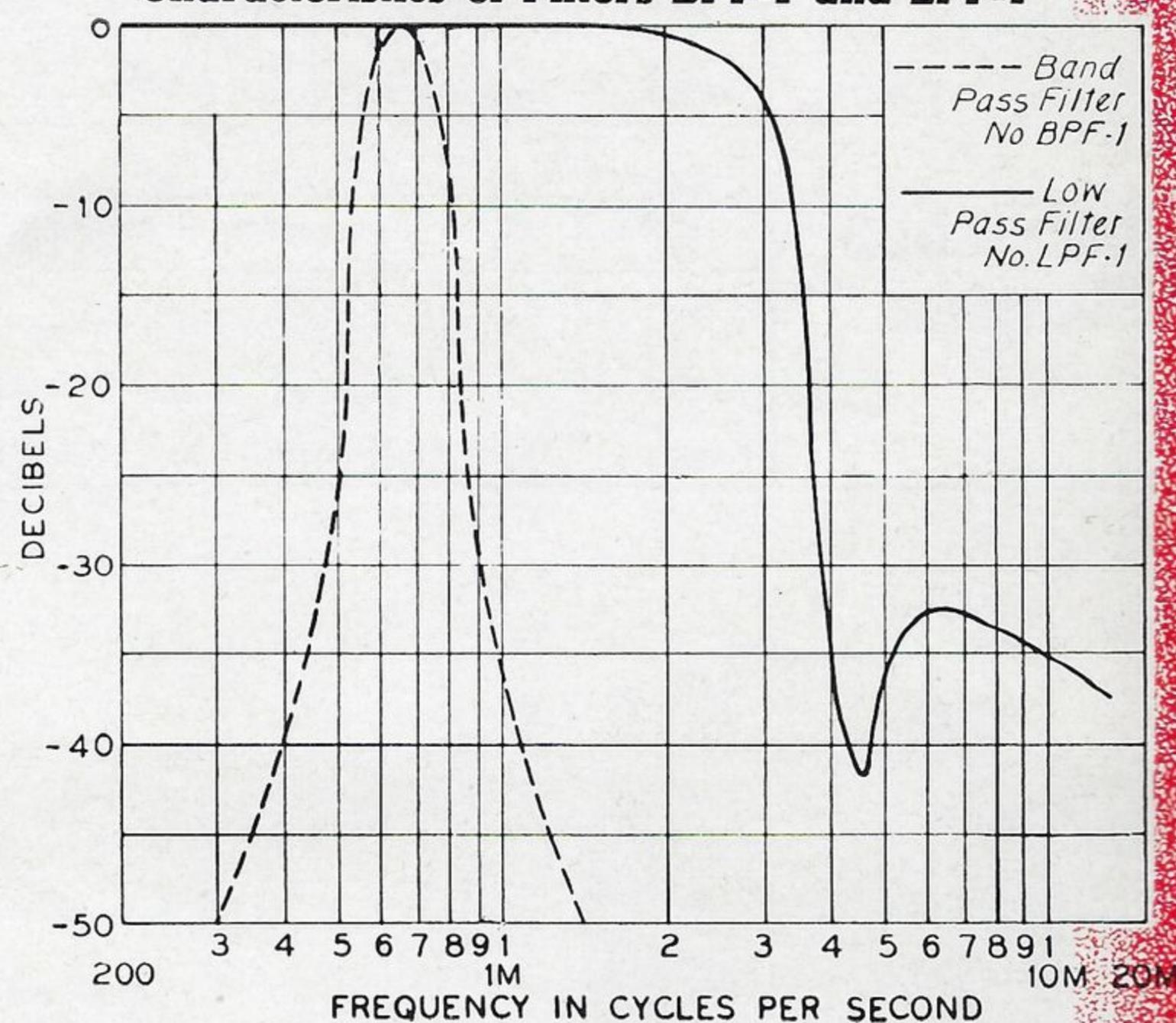
The filter operates out of a 15,000-ohm source impedance, e.g. the plate of a 6C5, 6J5, or triode-connected 6SJ7, etc., can be obtained when the 60,000-ohm secondary is connected to a 60,000-ohm grid or 500-ohm line. A step-up ratio of 2 to 1 can be obtained when the 60,000-ohm secondary is connected to a high impedance grid. The filter operates satisfactorily at signal levels up to -8 db.

The manner in which the filter can be connected is indicated in the diagram at right. Full instructions with each unit.

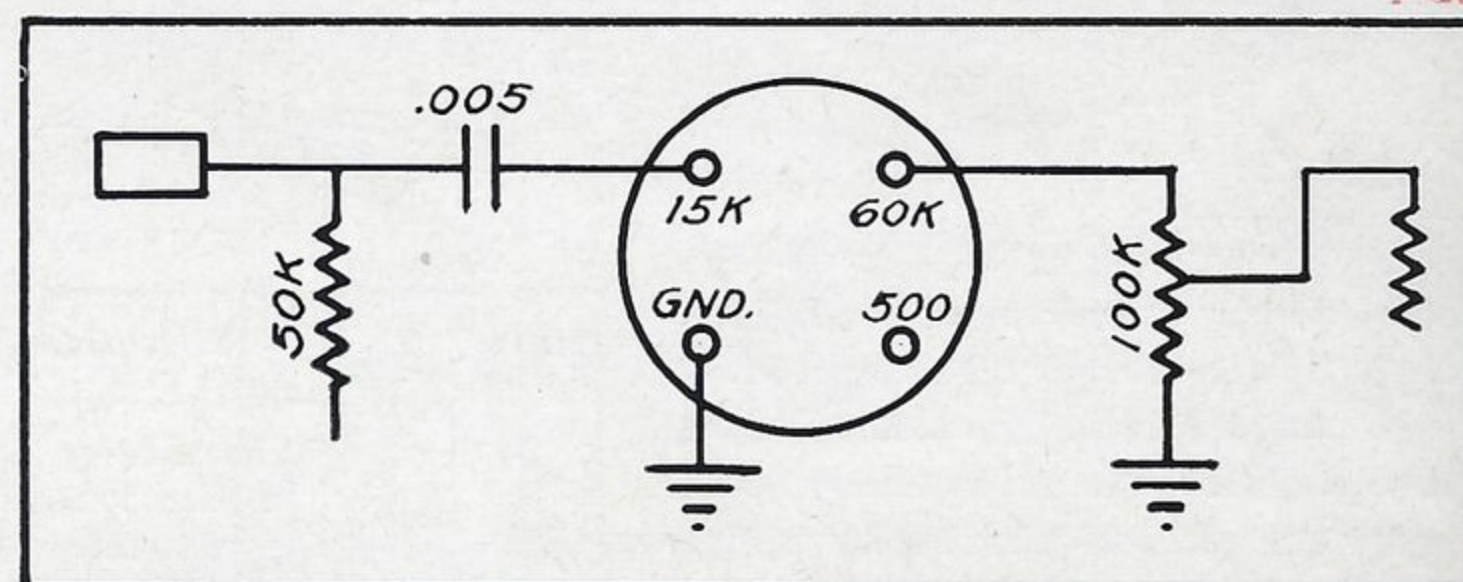
The filter is constructed as illustrated at S-Type Mounting, opposite page, but has solid-steel, pin-type terminals. Case size 13; shipping weight 3 lbs.

No. LPF-1.....List Price, \$10.00

Characteristics of Filters BPF-1 and LPF-1



(Below) Circuit Connections for Low Pass Filter LPF-1



Full Frequency Range Driver and Modulation Transformers

Ideally suited to the small-to-medium size, high fidelity broadcast station, the three matched sets of driver and modulation transformers listed below provide frequency response within ± 1 db over the range from 30 to 15,000 cycles. A uniformly low percentage of

distortion has been proven in use. Three specially designed modulation reactors complete the sets.

The conservative design and quality construction of these units assures years of trouble-free operation.

Driver Transformers

Catalog No.	In:	Recommended Application Tubes:	Ratio Pri./1/2 Sec.	Mounting Type Size	Wt., Lbs.	List Price
BD-1	250-watt transmitter	From two 2A3's, 6B4's, or similar P-P plates to Class B 838's, 805's, 203-A's	3.5:1	B 20	6	\$ 30.00
BD-2	1-KW transmitter	From four 2A3's, 6B4's, or similar P-P plates to two 833's or similar P-P grids	3:1	BX 24*	16	62.00
BD-3	5-KW transmitter	From four 845's, two 152-TL's or similar P-P plates to 891-R's or similar P-P grids	3.5:1	BX 26	22	160.00

* Similar to BX-Type mounting, but with screw terminals on a terminal board.

Modulation Transformers

Catalog No.	In:	Recommended Application With:	Mod. Tubes	Impedances (Pri. Plate to Plate)	Mounting Type Size	Wt., Lbs.	List Price
BM-1	250-watt transmitter	Driver Transformer BD-1	203-A, 838, 805, etc.	Pri: 7,500 ohms CT Sec: 5,000 ohms	BX 26	25	\$ 67.00
BM-2	1-KW transmitter	Driver Transformer BD-2	833-A, etc.	Pri: 9,000 ohms CT Sec: 7,500 ohms	FS 84	175	390.00 (net)
BM-3	5-KW transmitter	Driver Transformer BD-3	891-R, etc.	Pri: 13,500 ohms CT Sec: 10,250 ohms	WC	1100	1068.00 (net)

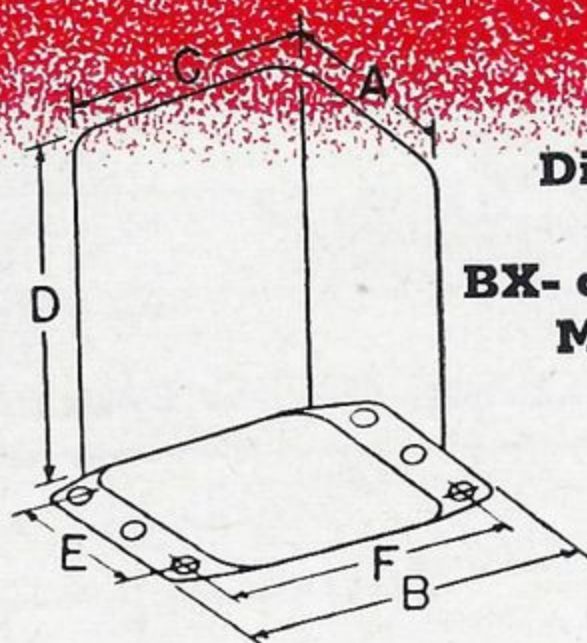
Modulation Reactors

Catalog No.	In:	Recommended Application With:	Inductance, Henries	D-C Ma.	Mounting Type Size	Wt., Lbs.	List Price
BR-1	250-watt Xmitter	Mod. Transformer BM-1	65	250	BX 28	41	\$ 97.00
BR-2	1-KW transmitter	Mod. Transformer BM-2	100	500	FS 81	165	185.00
BR-3	5-KW transmitter	Mod. Transformer BM-3	120	900	WC	1100	891.(net)



WC-Type Mounting

Modulation Transformers, and Reactors, Nos. BM-3 and BR-3 respectively, are mounted in large, oil-filled cases. Cases are constructed of heavy, welded steel plates. High voltage type bushings and terminals are employed.



Dimensions for BX- and SX-Type Mountings

Case Size	Dimensions in Inches					
	A	B	C	D	E	F
24	5 ⁵ / ₁₆	5 ⁷ / ₈	4 ¹³ / ₁₆	6 ¹ / ₁₆	3 ¹ / ₂	5 ³ / ₈
26	6 ¹ / ₈	6 ¹ / ₂	5 ¹ / ₄	7 ¹ / ₁₆	4 ¹ / ₄	6
28	7 ¹ / ₁₆	7 ⁷ / ₈	6 ¹ / ₈	8 ¹ / ₁₆	5	7



SX-Type Mounting

BX-Type Mounting



for Broadcast, Communications, and Industrial Use

Plate Transformers and Matching Reactors

The plate voltages and currents of the following CHICAGO Plate transformers fit the requirements of both commercial and ham transmitters and of many industrial applications, including induction heating and electronic control equipment. Both the transformers and the matching filter reactors are conserva-

tively designed and have ample insulation throughout. They operate with a temperature rise of 40°C at full load, 60 cycles, under CCS duty. Under ICAS conditions, the duty cycle is 15 minutes time on and 15 minutes time off, with the same temperature rise applying as under CCS duty.



Plate Transformers

Catalog No.	Max. Pri. VA	Secondary A-C Load Volts	D-C Volts after filter	D-C Ma. CCS	D-C Ma. ICAS	Mounting Type	Size	List Price
P-107	310	1150-0-1150 870-0-870	1000 750	250	350	FS	60	\$ 50.00
P-1512	550	1710-0-1710 1430-0-1430	1500 1250	300	425	FS	63	65.00
P-2520	915	2820-0-2820 2260-0-2260	2500 2000	300	425	FS	71	100.00
P-3025	1850	3450-0-3450 2850-0-2850	3000 2500	500	700	FS	81	175.00

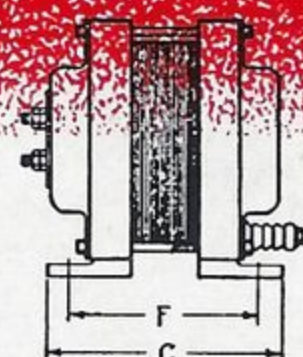
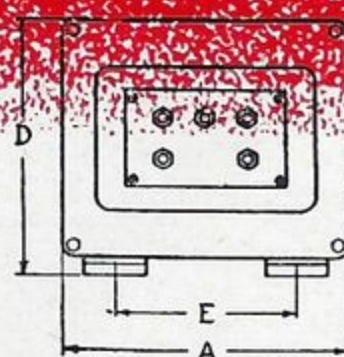
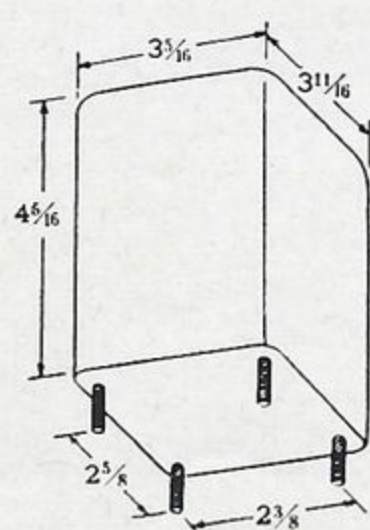
Filter Reactors

Catalog No.	Inductance in Henries	Max. D-C Ma.	D-C Resistance, Ohms	Insulation Volts RMS	Mounting Type	Size	Wt., Lbs.	List Price
R-67	6	700	35	10,000	FS	61	35	\$40.00
R-105	10	500	40	9,000	FS	62	35	35.00
R-65	6	500	35	9,000	FS	60	35	32.50
R-103	10	300	40	7,500	SX	26	22	20.00
R-63	6	300	35	7,500	SX	24	16	17.00



B-Type Mounting

(Driver Transformer No. BD-1)



Dimensions for FS-Type Mounting

Case Size	A	Dimensions in Inches C	D	E	F
60	7 1/2	6 5/16	7	4 3/4	5 1/2
61	7 1/2	6 7/8	7	4 3/4	5 5/16
62	7 1/2	7 1/8	7	4 3/4	6 1/4
63	7 1/2	7 1/2	7	4 3/4	6 11/16
71	8 7/8	8 1/8	8 1/2	5 1/2	6 1/2
81	11 1/2	10 1/4	10 1/2	7 1/2	8 1/4
84	11 1/2	13 1/16	10 1/2	7 1/2	11 1/16



FS-Type Mounting

Heavy duty, cast frames and formed steel shields are bolted to the core. Shield sections are compound filled to protect coil windings from corrosion by atmospheric moisture. Screw terminals on the primary side; bushing-insulated terminals on the secondary.

INDEX and LIST PRICES

of CHICAGO NEW EQUIPMENT TRANSFORMERS and REACTORS

by Catalog Number

Catalog No.	Page No.	List Price	Catalog No.	Page No.	List Price	Catalog No.	Page No.	List Price
POWER TRANSFORMERS								
1BC-150	4	\$ 8.25	IS-250	6	\$ 35.00	PSC-55	4	\$ 10.00
2BC-150	4	8.00	P-107	15	50.00	PSC-60	4	10.50
1BS-150	4	13.00	P-1512	15	65.00	PSC-70	4	11.50
2BS-150	4	12.75	P-2520	15	100.00	PSC-85	4	13.25
F-25	5	7.50	P-3025	15	175.00	PSC-105	4	14.00
F-54	5	7.75	PCC-40	4	6.00	PSC-120	4	14.75
F-58	5	10.75	PCC-55	4	6.50	PSC-150	4	19.50
F-65	5	9.00	PCC-60	4	7.50	PSC-200	4	20.75
F-75	5	8.75	PCC-70	4	8.00	PSC-250	4	24.00
F-104	5	9.25	PCC-85	4	9.25	PSR-55	4	10.25
F-106	5	12.75	PCC-105	4	10.00	PSR-70	4	11.75
F-210	5	10.75	PCC-120	4	11.25	PSR-85	4	13.50
F-210H	5	12.50	PCC-150	4	15.00	PSR-105	4	14.25
F-516	5	15.50	PCC-200	4	16.25	PSR-120	4	15.00
F-520H	5	25.00	PCC-250	4	20.00	PSR-150	4	19.75
F-530	5	20.00	PCR-55	4	7.25	PSR-200	4	21.00
F-610	5	12.75	PCR-70	4	8.25	PSR-300	4	30.00
F-712	5	15.00	PCR-85	4	9.50	SD-50	6	8.25
F-725	5	20.50	PCR-105	4	10.25	SD-100	6	10.25
F-1010	5	15.00	PCR-120	4	11.50	SD-150	6	12.00
F-1110	5	16.00	PCR-150	4	15.25	SD-250	6	15.00
IS-50	6	9.00	PCR-200	4	16.50	SD-500	6	20.00
IS-100	6	14.00	PCR-300	4	23.50	SD-1000	6	40.00
IS-150	6	21.00	PSC-40	4	8.50			
AUDIO TRANSFORMERS AND REACTORS								
BD-1	14	30.00	BO-6	8	23.00	COS-2	12	7.75
BD-2	14	62.00	BO-7	8	22.00	LPF-1	13	10.00
BD-3	14	160.00	BO-8	8	30.00	NSI-1	7	7.50
BI-1	8	22.00	BO-9	8	22.00	NSI-2	7	7.50
BI-2	8	29.00	BO-10	8	21.00	PCD-10	10	5.00
BI-3	8	23.00	BPF-1	13	35.00	PCD-25	10	4.75
BI-4	8	21.00	BR-1	14	97.00	PCD-100	10	8.50
BI-5	8	30.00	ER-2	14	185.00	PCO-80	10	11.00
BI-6	8	22.00	BR-3	14	891.00*	PCO-150	10	9.50
BI-7	8	23.00	CDC-1	12	5.75	PCO-200	10	12.50
BI-8	8	22.00	CDS-1	12	8.25	PSD-10	10	7.25
BI-9	8	26.00	CIC-1	12	7.50	PSD-25	10	7.00
BM-1	14	67.00	CIC-2	12	3.75	PSD-100	10	12.00
BM-2	14	390.00*	CIS-1	12	10.50	PSO-80	10	15.00
BM-3	14	1068.00*	CIS-2	12	6.00	PSO-150	10	13.50
BO-1	8	13.00	CMS-1	12	40.00	PSO-200	10	16.50
BO-2	8	19.00	CMS-2	12	75.00	SR-300	13	17.00
BO-3	8	17.00	COC-1	12	4.75	SR-500	13	22.00
BO-4	8	18.00	COC-2	12	5.00			
BO-5	8	24.00	COS-1	12	7.50			
FILTER REACTORS								
R-63	15	17.00	RC-8150	5	7.00	RS-1585	5	6.00
R-65	15	32.50	RC-8200	5	8.50	RS-8105	5	6.25
R-67	15	40.00	RC-8250	5	11.00	RS-8150	5	8.50
R-103	15	20.00	RC-8300	5	13.50	RS-8200	5	10.00
R-105	15	35.00	RC-12105	5	5.25	RS-8250	5	12.50
RC-1055	5	3.50	RC-12150	5	7.25	RS-8300	5	15.50
RC-1085	5	4.25	RC-12200	5	8.75	RS-12105	5	6.50
RC-1540	5	3.00	RS-1055	5	4.75	RS-12150	5	8.75
RC-1555	5	3.75	RS-1085	5	5.75	RS-12200	5	10.25
RC-1585	5	4.50	RS-1540	5	4.25			
RC-8105	5	5.00	RS-1555	5	5.00			

* Net Prices.