



TRANSFORMERS

for

AUDIO AMPLIFICATION
AND TRANSMISSION



BULLETIN 1002B

APRIL, 1935

TRANSFORMERS

for

AUDIO AMPLIFICATION AND TRANSMISSION

The Standard



of Excellence

The American Transformer Company

178 Emmet Street, Newark, N. J., U. S. A.

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SPECIAL INSTRUCTIONS FOR ORDERING

Transformers should be specified by Type No. except in telegrams. Code words may be substituted for Type Nos. in telegrams so as to reduce the number of words, but it is requested that the message be written in the following style in order to avoid errors, viz.—SHIP EXPRESS COLLECT ONE EACH CODE DINT WAXEN LATCH UNCODE. Be sure to check spelling of every code word carefully.

List prices in bulletin are subject to the Company's standard discounts to the trade. Prices are f.o.b. factory and remittance should be sufficient to cover shipping charges. A cash discount of 2% is allowed on C.O.D. shipments. Approximate shipping weights are given in table of dimensions.

Unless instructions accompany your order the Company will use its judgment as to the method of shipment.

Terms are net 30 days or 2% discount for payment within 10 days. Unless credit has already been established shipments will be sent C.O.D.

Do not return apparatus to the Company either for repair or credit without first writing for shipping instructions.

Export orders and requests for quotations on equipment to be exported should be referred to Ad. Auriema, Inc., 116 Broad St., New York City.

All prices are subject to change without notice except that formal quotations remain open for 30 days.

AmerTran DeLuxe Components for Audio Amplification

Highest Quality Transformers and Reactors for Wide Band Sound Reproduction in Broadcast,
Recording, Laboratory and Custom Built Amplifiers.

Including

Types D and DA Audio transformers offering ± 1 dB variation
Type OP Audio units for outside pick-up and portable service
Type P Custom-built precision audio transformers
Type L Audio and filter reactors
Types W, WA, and H Plate and filament supply transformers

USERS of high quality amplifier parts will find in AmerTran's De Luxe Line of transformers and reactors the most advanced designs together with the most complete listing available. These units, which have been considered the "Standard of Excellence" in the broadcasting field for more than twelve years, have been thoroughly revised so as to offer standard equipment for every precision requirement. The line now includes three distinct types of shielded alloy-core audio units with frequency response characteristics uniform within ± 1 dB or better, throughout the audio band.

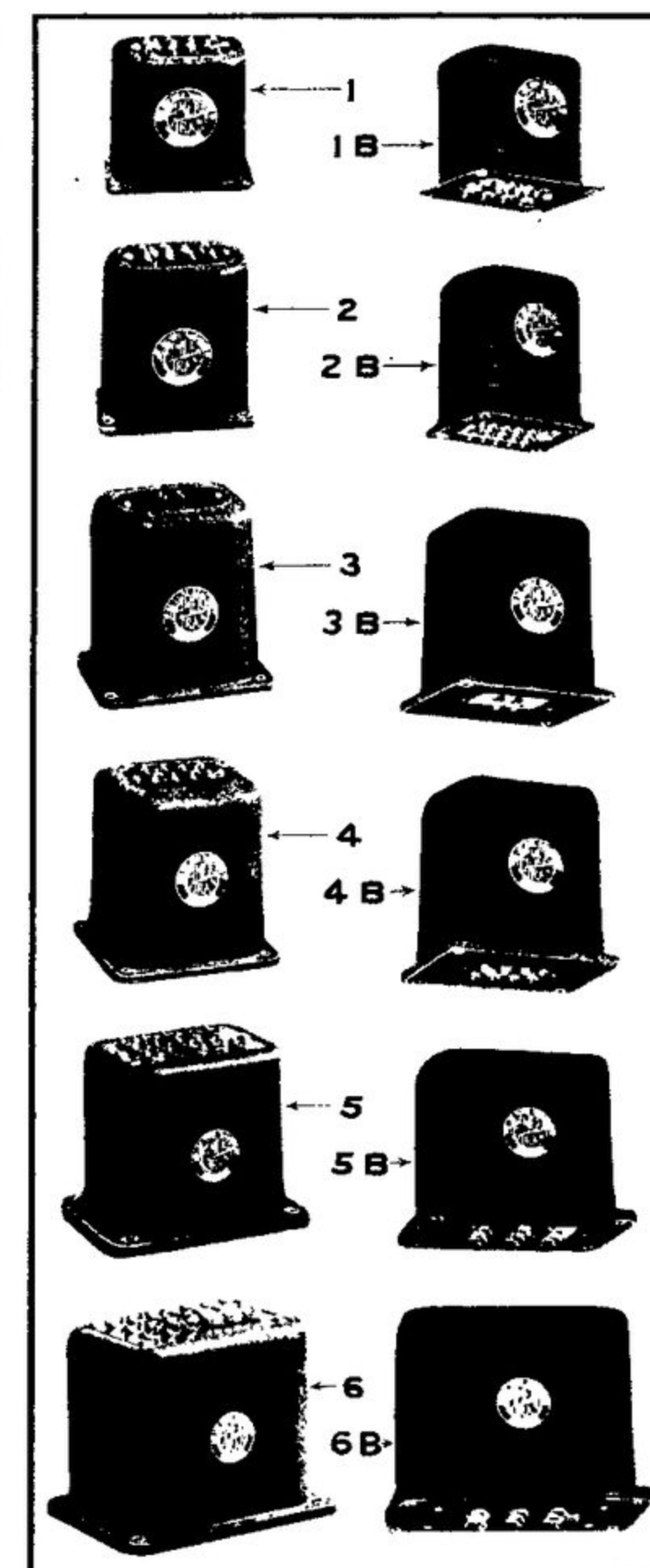
Standard De Luxe transformers, identified as Types D and DA, are designed to meet all usual requirements in the construction of high fidelity amplifiers. With a frequency range of 30 to 12000 cycles and response uniform within ± 1 dB, they are of distinctly higher quality than any standard transformer available previous to 1934.

Miniature De Luxe transformers (Type OP) have been developed to meet the demand for small size, light weight, high quality audio units to be used in the construction of outside pick-up and portable amplifiers. These units have frequency characteristics equalling standard De Luxe types but have slightly higher insertion loss due to their small size.

Precision De Luxe transformers (Type P) are custom-built audio units which offer features heretofore unattained in any audio transformer. These units have frequency response characteristics more uniform than standard de luxe types, are more completely shielded, and have lower insertion losses. They establish a "new standard of performance" for those desiring the ultimate in transformer design.

In addition to the three types of audio units described above, the De Luxe line includes a complete assortment of reactors and power supply transformers. All units with the exception of the Miniature types are furnished in attractive mountings of similar appearance as illustrated on the right. Miniatures are mounted in a special reversible casting illustrated elsewhere in this bulletin.

In addition to De Luxe audio units AmerTran also manufactures SilCor transformers and reactors to satisfy the demand for moderately priced equipment for use where precision results are not the prime requisite. SilCor Transformers are unshielded silicon core units designed to give good performance over the band of 60 to 8000 cycles—see pages 27-31.



AmerTran Standard DeLuxe Line

General Specifications

Frequency Characteristics: Every unit is designed to give uniform response within ± 1 dB from normal at 800 cycles throughout the band of 30 to 12000 cycles. For all transformers operated with a loaded secondary the characteristic stated is a function of power—not of voltage transfer—obtained by careful design and with a minimum of insertion loss, rather than through tuning the secondary.

Coordinated Designs: The AmerTran De Luxe Line is so designed that the slight rising or falling characteristic of one transformer is compensated by the opposite characteristic in other units with which it would be used in an amplifier. Therefore, a properly designed amplifier using AmerTran De Luxe components throughout will have practically uniform response over the entire audio band. Such an amplifier will also have higher gain as input and interstage transformers may be operated without a loading resistor across the secondary winding.

Electromagnetic Shielding: All types are available in shielded mountings of standard $\frac{1}{8}$ inch thickness which provide efficient protection against cross-talk and hum pick-up. For extreme low-level operation completely shielded units (Cases 2 and 2B) are furnished on special order. To meet the demand for small light weight units standard types are also supplied in drawn aluminum mountings.

Electrostatic Shielding: A copper ground shield is placed between the primary and secondary windings of all mixing, line-to-grid, plate-to-line and bridging transformers to prevent the passage of stray capacitive and static currents from primary to secondary and to provide a balance to ground.

Moistureproof Construction: Absolute protection against corrosion in all climates is provided by a special process of manufacture. The method employed avoids any appreciable increase in the distributed capacity of the winding notwithstanding the fact that the transformer core and coil is enclosed in a special moistureproof compound.

Core Structure: Core laminations of the best quality high-permeability alloy are used in all units except high-level output transformers. For the latter types a special alloy of steel has been selected. In all cases the core is operated at a flux density low enough to insure that the third harmonic amplitude will not exceed 1% at the lowest frequency impressed.

Coil Structure: All units have a coil structure which provides low distributed capacity, low capacity coupling and high inductive coupling. Where centertap connections are required two leads are always brought out, these being from separate sections of coils which are so arranged as to give absolute magnetic and inductive symmetry and balance—centertaps are never taken from within a winding. Taps are provided on many types to increase the flexibility of the transformer and this is accomplished without impairing the frequency characteristics or efficiency. Where d.c. is apt to be applied to a coil the wire size is sufficient to insure ample current carrying capacity with low d.c. resistance.

Electrical Efficiency: Careful design combined with liberal use of high-grade materials gives these units a very low insertion loss—as low as 1 dB on many types. These units are also designed to have a very constant input impedance throughout the audio band, a high relation between open-circuit and leakage inductance, and negligible wave-form distortion and phase shifts. These features combined with the unusually extended straight-line frequency characteristic insure real efficiency. The low leakage inductance also makes it possible to place transformers close together in an amplifier without causing oscillation or regeneration.

IMPORTANT NOTICE

AmerTran transformers and reactors are subject to continuous improvement and the Company reserves the right to furnish the revised type if the transformer ordered has been discontinued. Transformers in which minor changes have been made bear the same type number; if major changes are made the type number is altered by the addition of a letter. For example, in this catalog Type D-98 is replaced by DA-93. In all cases the revised transformer may be substituted for the original.

All dB levels listed in this catalog are referred to zero level of 0.006 watts —1.73 volts across 500 ohms.

In stating frequency characteristics the plus or minus value is referred to the Company's standard reference frequency of 800 cycles per second.



STANDARD AMERTRAN DE LUXE MOUNTINGS

Weights and Dimensions

AmerTran DeLuxe Transformers and Reactors are mounted in cases of symmetrical design which permits the assembly of neatly balanced apparatus of pleasing construction in a thoroughly professional manner. Cases are finished in black and vary in size as indicated in the tabulation below.



Case No.	Casting No.	Terminals at	DIMENSIONS IN INCHES			Mounting Holes	Metal	WEIGHT IN LBS.				List Price (Case only)
			Height	Length	Width			(Case only) Net	Ship	(With Trans.) Net	Ship	
1	12305-2	top	3 $\frac{1}{4}$	3 $\frac{1}{4}$	2 $\frac{1}{4}$	2" by 2"	Alum.	$\frac{1}{4}$	1 $\frac{1}{2}$	2	3	\$1.50
1B	14403-2	base										
1 $\frac{1}{4}$ B	25052-1	top	3 $\frac{1}{4}$	3"	2"	3 by 2 $\frac{1}{4}$	Alum.	$\frac{5}{8}$	2"	2 $\frac{1}{2}$	4	2.50
1 $\frac{1}{4}$ B	25053-1	base										
1 $\frac{1}{4}$ B	25052-2	top	3 $\frac{1}{4}$	3"	2"	3 by 2 $\frac{1}{4}$	Alloy	1 $\frac{1}{2}$	3"	3	5	2.50
1 $\frac{1}{4}$ B	25053-2	base										
2	22486	top	4 $\frac{1}{4}$	3"	2"	3 by 2"	Alloy	3 $\frac{1}{2}$	5 $\frac{1}{2}$	6	8	4.50
2B	22485	base										
3	22354	top	4"	4 $\frac{1}{4}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$ by 3	Alum.	1	3	8	11	2.50
3B	22355	base										
4	22200	top	4"	4 $\frac{1}{4}$	4 $\frac{1}{4}$	3" by 8"	Alloy	2"	4 $\frac{1}{4}$	3	11	8.25
4B	22210	base										
4 $\frac{1}{4}$ B	23665	top	4	4 $\frac{1}{4}$	4 $\frac{1}{4}$	3" by 3 $\frac{1}{4}$	Alloy	2"	4 $\frac{1}{4}$	8	11	3.25
4 $\frac{1}{4}$ B	23670	base										
5	22460	top	5	5 $\frac{1}{4}$	4 $\frac{1}{4}$	4" by 3"	Alum.	1 $\frac{1}{2}$	6"	10	15	3.75
5B	22459	base										
6	22462	top	5 $\frac{1}{4}$	6 $\frac{1}{4}$	4 $\frac{1}{2}$	5" by 4"	Alum.	2	9	13	20	4.50
6B	22461	base										
6 $\frac{1}{4}$ B	22731	base	6 $\frac{1}{4}$	6 $\frac{1}{2}$	5 $\frac{1}{4}$	5" by 4 $\frac{1}{4}$	Alum.	2 $\frac{1}{2}$	10	16	25	5.00

NOTES: All Cases (except Nos. 1, 1B, 2 and 2B) are castings of $\frac{1}{8}$ " thickness. Cases Nos. 1 and 1B are drawn aluminum. Cases Nos. 2 and 2B are castings which completely shield the transformer at top, sides and base with $\frac{1}{4}$ " of metal; leads are brought out through narrow slots concealed by the terminal board.

Weights given include average transformer mounted in case.

List price is for replacement case complete with terminal board; also deduction allowance if transformer is desired unmounted; also for adjusting list price of standard transformer to special case. When transformer is furnished in special case a service charge of \$1.00 net is also made.

AMERTRAN DE LUXE MIXING AUDIO TRANSFORMERS

(Low level line matching)

Frequency characteristic uniform within ± 1 dB from 30 to 12000 cycles

Application	Primary Ohms Impedance	Secondary Ohms Impedance	Max. DB level	PRI. MA. D.C.		Case No.	Code Word	Type No.	List Price
				Max. Unbalance	Max. per leg				
Carbon mike, low-imped. pick-up or line to Adj. line	500/125 or 200/50	500/125 or 200/50	+20	2.5	100	1	Dint	D-91	\$14.00
						1B	Dird	D-91B	14.00
						1 $\frac{1}{4}$ B	Dire	D-91C	15.00
2- or 3- position parallel 200 ohm mixer to Adj. line	100/25 or 67/17	500/125 or 200/50	+20	2.5	100	1	Dish	D-92	15.00
						1B	Dich	D-92B	15.00
						1 $\frac{1}{4}$ B	Dive	D-92C	16.00
High or low imped. pick-up or series mixer to Adj. line	4000/1000 or 2000/500	500/125 or 200/50	+20	1	25	1	Dole	DA-93	15.00
						1B	Dolt	DA-93B	15.00
						1 $\frac{1}{4}$ B	Dome	DA-93C	16.00
Dynamic microphone or 200 ohm mixer to adjustable line	67/17 or 30/7 $\frac{1}{2}$	500/125 or 200/50	+20	2.5	100	1	Dore	D-66C	18.00
						1 $\frac{1}{4}$ B	Dorp	D-66CB	18.00
						2	Dory	D-66S	20.00
Velocity ribbon microphone to adjustable line	0.2/0.05	500/125 or 200/50	+20	2.5	100	1 $\frac{1}{4}$ B	Doth	D-67C	18.00
						2	Dour	D-67CB	16.00
						2B	Dout	D-67S	20.00
							Dove	D-67SB	20.00

NOTE: 1. Both primary and secondary windings of above types are wound in two or more sections and impedances are given for both series and parallel connection of coils, viz.—500/125—500 ohms series connected or 125 ohms parallel connected.

AMERTRAN DE LUXE LINE-TO-GRID AUDIO TRANSFORMERS

Frequency characteristic uniform within ± 1 dB from 30 to 12000 cycles

Application	Primary Ohms Impedance	Secondary Ohms Impedance	Max. DB level	PRI. MA. D.C.		Case No.	Code Word	Type No.	List Price
				Max. Unbal- ance	Max. per leg				
Carbon mike, low-imped. pick-up or line to single grid	500/125 or 200/50	100000/25000	+10	2.5	100	1	Deed	D-81	\$12.00
						1B	Deem	D-81B	12.00
						1½	Deep	D-81C	13.00
						1½B	Deer	D-81CB	18.00
Adjustable line to push-pull amplifier or power grids	500/125 or 200/50	200000/50000	+10	2.5	100	1	Deil	D-82	17.00
						1B	Dele	D-82B	17.00
						1½	Dell	D-82C	18.00
						1½B	Demi	D-82CB	18.00
Adjustable line to push-pull 30 or 50 watt power stage	500/125 or 200/50	100000/25000	+20	2.5	100	1	Dere	D-83	17.00
						1B	Derm	D-83B	17.00
						1½	Dern	D-88C	18.00
						1½B	Desk	D-88CB	18.00
High or low imped. pick-up to single grid	4000/1000 or 2000/500	100000/25000	+10	1	25	1	Diaz	DA-24	17.00
						1B	Dibs	DA-84B	17.00
						1½	Dice	DA-84C	18.00
						1½B	Dido	DA-84CB	18.00
Dynamic microphone or 200 ohm mixer to single grid	67/17 or 30/7½	50000/12500	0	2.5	100	1½	Dike	D-144C	18.00
						1½B	Dill	D-144CB	18.00
						2	Dime	D-144S	20.00
						2B	Dine	D-144SB	20.00

NOTES: 1. Both primary and secondary windings are wound in two or more sections and impedances are given for both series and parallel connection of coils, viz—500/125—500 ohms series connected or 125 ohms parallel connected.

2. These transformers may be operated either with or without a loading resistor across the secondary winding. If resistor or attenuator is used it should have a resistance equal to that of the secondary impedance.

AMERTRAN DE LUXE INTERSTAGE AUDIO TRANSFORMERS

Frequency characteristic uniform within ± 1 dB from 30 to 12000 cycles

Application	Primary Ohms Impedance	Secondary Ohms Impedance	Turns Ratio	Max. DB Level	PRI. MA. D.C.			Case No.	Code Word	Type No.	List Price
					Recom. unbal- ance	Max. unbal- ance	Max. per leg				
Single 10000 ohm amplifier tube plate to single grid	10000/2500	90000/22500	series 1:3 parallel 1:1.5	+15	0.2	3	-----	1	Dace	D-11	\$10.00
								1B	Dadlo	D-11B	10.00
								1½	Day	D-11C	11.00
								1½ B	Daft	D-11CB	11.00
Single 10000 ohm amplifier tube plate to single grid	10000/2500	160000/40000	series 1:4 parallel 1:2	+15	0	3	-----	1	Dais	D-12	10.00
								1B	Dale	D-12B	10.00
								1½	Dame	D-12C	11.00
								1½ B	Damp	D-12CB	11.00
Single 10000 ohm amplifier tube plate to p-p grids	10000/2500	250000/62500	1:2½ e.s.c.	+15	0	3	-----	1	Dank	D-21	10.00
								1B	Dare	D-21B	10.00
								1½	Darg	D-21C	11.00
								1½ B	Dark	D-21CB	11.00
Single 10000 ohm plate to Single grid or p-p grids	10000/2500	40000/10000	series 1:2 parallel 1:1 Push-pull 1:1 e.s.c.	+15	0	3	-----	1	Dart	D-22	17.00
								1B	Dash	D-22B	17.00
								1½	Data	D-22C	18.00
								1½ B	Date	D-22CB	18.00
P-P plates 10000 ohm to P-P grids	20000/5000	45000/11250	1:1½	+20	0	0.5	8	1	Bavy	D-51	12.00
								1B	Bawn	D-51B	12.00
								1½	Bawt	D-51C	18.00
								1½ B	Baze	D-51CB	13.00
P-P plates to P-P grids in 30 or 50 watt stage	20000/5000	20000/5000	1:1	+20	0	0.5	10	1	Bear	D-53	17.00
								1B	Deas	D-53B	17.00
								1½	Debt	D-53C	18.00
								1½ B	Deca	D-53CB	18.00

NOTES: 1. "Amplifier plate" includes all 10,000 ohm general purpose tubes such as 01A, 26, 27, 30, 37, 55, 56, or 85.
2. "Power tube grid" includes all class "A" power tubes offering 15 watts output in push-pull or less, i.e., 50, 2A3, 210, 245, etc.
3. "Grids of 30 or 50 watt power stage" includes types 211 and 845; also parallel push-pull 50 or 2A3.
4. Parallel feed should be employed for best results when operating out of single tube (except biased detector). D. C. in primary causes poor response at low frequencies.

AMERTRAN DE LUXE INTERSTAGE DRIVER AUDIO TRANSFORMERS

Frequency response uniform within ± 1 dB from 30 to 12000 cycles

Application				PRI. MA. D.C.								
Works out Class "A" Driver	Feeds into Class "B" Grids	Primary Ohms Impedance	Turns Ratio	Secondary Ohms Impedance	Max. DB	Max. Un- balance	Max. per leg	Cass No.	Code Word	Type No.	List Price	
Single	30 to 19											
	49 to 49	20000/5000—3.35/2.84:1		10000/2500					{1	Didst	D-128	\$17.00
	37 to 79	16000 ————2.95/2.5:1		7000/1750	+22	0	—		{1B	Dight	D-123B	17.00
	46 to 46, 59	12000/8000—2.6/2.2:1							{1½	Digit	D-123C	18.00
	89 to 79								{1½ B	Dijon	D-128CB	18.00
Single	53 to 53	20000/5000—5/4:1							{1	Dingo	DA-122	17.00
	56 to 53	15000 ————4.3/3.5:1		4850/1212					{1B	Ditto	DA-122B	17.00
	00 to 89	11000/2750—3.7/3:1		8240/810	+21	0	—		{1½	Dirge	DA-122C	18.00
	59 to 46, 59								{1½ B	Disme	DA-122CB	18.00
P-P	45 to 10, 46, 59								{1	Ditty	DA-121	17.00
	46 to 10, 46, 59	8000/2000—2.24/2.18:1		1600/400	+28	4	36		{1B	Divan	DA-121B	17.00
	59 to 10, 46, 59	4000/1000—1.58/1.5:1		1440/360					{1½	Dives	DA-121C	18.00
									{1½ B	Divot	DA-121CB	18.00

NOTES: 1. Both primary and secondary windings are wound in two or more sections and impedances are given for both series and parallel connection of coils, viz—20000/5000=20000 ohms series connected or 5000 ohms parallel connected.

2. Ratio stated for transformer operating out of single driver is primary turns to one half secondary turns; overall ratio is given for transformer operating out of push-pull driver stage.

3. Each transformer is provided with taps on the secondary winding for changing the ratio so that the amplifier may be adjusted for most efficient operating condition. Primary taps are for changing the input impedance so as to match the driver tube.

AMERTRAN DE LUXE AUDIO REACTORS

Application		Inductance (Henrys)	D. C. M.A.		D. C. Ohms	RMS Test Volts	Cass No.	Code Word	Type No.	List Price	
Type	Use With Type Tubes		Max. Un- balance	Max. per leg							
For use either as parallel feed reactors or isolation reactors for B+ lead in amplifier	01A, 26 27, 30, 87, 55, 56, 85, or 864	300	3	—	6000	1000	1 1B 1½ 1½ B	Lact Lade Lady Laic	L-243 L-248B L-243C L-243CB	\$8.00 8.00 9.00 9.00	
		350	5	—	4000	1000	1 1B 1½ 1½ B	Lair Lake Lama Lamb	L-244 L-244B L-244C L-244CB	10.00 10.00 11.00 11.00	
		650	5	—	3180	1000	3 3B	Lamp Land	L-245 L-245B	20.00 20.00	
		12A, 31, 37	150	10	—	2500	1000	1 1B 1½ 1½ B	Lane Lang Lapp Lash	L-248 L-248B L-248C L-248CB	8.00 8.00 9.00 9.00
	10	100	20	—	674	2500	8 3B	Lass Lach	L-249 L-249B	12.00 12.00	
	Power Tubes	40	60	—	674	2500	3 8B	Land Lava	L-241 L-241B	12.00 12.00	
	Push-pull output reactors	Power Tubes	400/100	6	60	674	2500	8 3B	Lawk Lawn	L-261 L-261B	12.00 12.00
		57 or 77	4000/1000	0	12	9000	1000	4 4B	Leaf Leag	L-262 L-262B	20.00 20.00
	Grid impedance		1500	0	—	6000	500	1 1B	Leal Leap	L-246 L-246B	8.00 8.00
	Isolation reactor for use with carbon microphones		Swinging	20	—	68	500	1 1B 1½ 1½ B	Lear Leda Lily Leon	L-250 L-250B L-250C L-250CB	8.00 8.00 9.00 9.00

NOTES: 1. Improved results will be obtained from amplifiers in which AmerTran De Luxe Transformers are used if a parallel feed circuit is employed when working out of a single tube, so as to prevent unbalanced d.c. from saturating the special high-permeability alloy core of the transformer. The above parallel-feed reactors in conjunction with a 0.25 mfd. by-pass condenser are recommended as most satisfactory.

2. It is recommended that an isolation reactor be used in each B+ lead in a.c. operated amplifiers. Parallel feed reactors are recommended for the purpose, except that a filter reactor must be used in the B+ lead to the output stage where plate current exceeds 40 mA.

8. Push-pull output reactors are centertapped and the inductance of the whole winding as well as each half is given above, viz.—400/100 henry=400 henry series connected or 100 henry parallel connected.

4. Types L-243, L-245, L-246, L-250, and L-262 have high-permeability alloy cores.

AMERTRAN DE LUXE PLATE-TO-LINE AUDIO TRANSFORMERS

(Class "A"—Low Level)

Frequency characteristic uniform within ± 1 dB from 30 to 12000 cycles

Application	Primary Ohms Impedance	Secondary Ohms Impedance	Max. DB level	Recom. Unbal.	Max. Unbal.	PRI. MA. D.C. per leg	Case No.	Code Word	Type No.	List Price
Biased detector such as, 01A, 27, 30, 37, 56 to Adj. line	50000/12500	500/125 or 200/50	0	0.2	3	—	{1B 1 1/2 B 1 1/4 B	Dowl Down Doxy Doze	D-31 D-31B D-31C D-31CB	\$12.00 12.00 13.00 12.00
Single or push-pull 864 to adjustable line	30000/7500	500/125 or 200/50	+15	0	3	10	{1B 1 1/2 B 1 1/4 B	Dram Dray Draw Dray	D-22 D-22B D-23C D-23CB	17.00 17.00 18.00 18.00
Single or P-P 01A, 26, 27, 80 37, 55, 56, 85 to Adj. line	20000/5000	500/125 or 200/50	+20	0	8	10	{1B 1 1/2 B 1 1/4 B	Drib Drip Drop Drow	D-61 D-61B D-61C D-61CB	12.00 12.00 18.00 13.00
Single 210, 12A to adjustable line	10000/2500	500/125 or 200/50	+24	18	18	—	{1B 1 1/2 B 1 1/4 B	Drum Duad Dual Duck	D-24 D-24B D-24C D-24CB	17.00 17.00 18.00 18.00
Single 31 to adjustable line	7000/1750	500/125 or 200/50	+20	12.8	12.8	—	{1B 1 1/2 B 1 1/4 B	Duel Duet Duff Duke	D-35 D-35B D-35C D-35CB	17.00 17.00 18.00 18.00

NOTE: 1. Both primary and secondary windings are in two or more sections and impedances are given for both series and parallel connection of coils, viz.—500/125=500 ohms series connected or 125 ohms in parallel.
2. Parallel plate feed should be employed for best results when using single tube if table recommends 0 mA. unbalanced d.c. in primary.

AMERTRAN DE LUXE LINE-TO-SPEAKER AUDIO TRANSFORMERS

Frequency response uniform within ± 1 dB from 30 to 15000 cycles

Application	Primary Ohms Impedance	Secondary Ohms Impedance	Max. DB	Case No.	Code Word	Type No.	List Price
4 1/2 watt audio line to one or several parallel connected dynamic loud speakers	500/125	15/7 1/2/5/3%	+28	{1B 1 1/2 B 1 1/4 B	Dorie Douai Dough Douve	D-136 D-136B D-136C D-136CB	\$14.00 14.00 15.00 15.00
15-watt audio line to one or several parallel connected dynamic loud speakers	500/125	15/7 1/2/5/3%	+24	{4 1/4 B 4 1/2 B	Dover Dowdy	D-135 D-135B	20.00 20.00
30-watt audio line to one or several parallel connected dynamic loud speakers	500	15/7 1/2/5/3% 3/2 1/2/2 1/4/1 1/2 1 2/3/1 1/2/1 1/3 1 1/4	+37	{4 1/4 B 4 1/2 B	Dowel Dower	D-131 D-131B	24.00 24.00
30-watt audio line to one or several parallel connected 500 ohm loads	500/125	500/250/167/ 125/100/87	+37	{5 5B	Downa Dowry	D-124 D-124B	24.00 24.00
15-watt audio line to one or several parallel connected 4000 ohm loads	500	4000/2000/1335/ 1000/300/668 571/500/445/ 400/364/333	+24	{4 1/4 B 4 1/2 B	Doyen Doyle	D-183 D-133B	24.00 24.00

AMERTRAN DE LUXE BRIDGING AUDIO TRANSFORMERS

Application	Primary Ohms Impedance	Secondary Ohms Impedance	Turns Ratio	Max. DB Level	Max. Pri. MA. D.C. Unbal.	Case No.	Code Word	Type No.	List Price
For bridging 200 ohm line to single grid	4000/1000	100000/25000	1:5	+10	0	{1 1/2 B 1 1/4 B	Drake Drama	D-71C D-71CB	\$13.00 18.00
For bridging 500 ohm line to single grid	8000/3000	100000/25000	1:3 1/2	+10	0	{1 1/2 B 1 1/4 B	Drave Dreen	D-72C D-72CB	18.00 18.00

NOTE: 1. Please refer to Note No. 1 under "Plate-to-Line Transformers" above.

AMERTRAN DE LUXE OUTPUT AUDIO TRANSFORMERS

(Class "A" and Class "B")

Frequency characteristic uniform within ± 1 dB from 30 to 15000 cycles

Work Out of Type Tubes Push Pull	Primary Ohms Impedance	Secondary Ohms Impedance	Max. DB level	Max. Unbalance	Max. per leg	M.P.P.C. Class "B"	Case No.	Code Word	Type No.	List Price
Triodes 10, 12A, 46, 49, 89; pentodes 33, 38; Class "B" 49	20000/5000 or 12000/3000 or 20000/5000 or 12000/3000	500/125	+29	2	22	50	{1 1/2 B 1 1/4 B	Dacia Daker	DA-101C DA-101CB	\$16.00 16.00
Triodes 10, 12A, 49, Pentodes 38	20000 ct	10 1/2	+28	2	20	—	{1 1B	Derby Deter	D-44 D-44B	12.00 12.00
Pentodes 2A5, 6A4, 33, 41, 42, 47, 89; Class "B" 79	16000/4000 or 14000/3500 or 16000/4000 or 14000/3500	500/125	+31	3	34	90	{1 1/2 B 1 1/4 B	Dally Damon	DA-105C DA-105CB	16.00 16.00
Triodes 211	14000/3500	500/250/125	+39	10	80	—	{6 6B	Davit Dearn	D-57 D-57B	55.00 55.00
Triodes 59; Class "B" 19 46, 53, 59, 89	10000/2500 or 6000/1500	500/125 or 15/7 1/2/5/3% /1 1/4	+35	10	100	200	{4 1/4 B 4 1/2 B	Debar Debit	DA-142 DA-142B	20.00 20.00
Triodes 845	8500/2125	500/250/125	+39	10	80	—	{6 6B	Decoy Decry	D-56 D-56B	55.00 55.00
Triodes 31, 45 50, 71; Pentodes 43	8000/2000	500/125 or 15/7 1/2/5/3% /1 1/4	+33	5	60	—	{4 1/4 B 4 1/2 B	Deify Deign	DA-102 DA-102B	20.00 20.00
Triodes 31, 45 71; Pentodes 43	8000/2000	10 1/2	+28	3	36	—	{1 1B	Deity Delay	D-43 D-43B	12.00 12.00
Class "B" 10	7000/1750	500/125	+37	12	—	250	{5 5B	Delos Delta	D-143 D-143B	40.00 40.00
2A3 fixed bias or 2A3 self bias	5000/1250 or 8000/750	500/125 or 15/7 1/2/5/3% /1 1/4	+34	5	60	—	{4 1/4 B 4 1/2 B	Demur Denay	DA-103 DA-103B	20.00 20.00
Parallel P-P Tubes 50 or 2A3 fixed or self bias	2500/625 or 1500/375	500 or 15/7 1/2/5/3% /1 1/4	+37	10	120	—	{5 5B	Denis Dense	DA-104 DA-104B	25.00 25.00

NOTES 1. Both primary and secondary windings of all types (except D-43 and D-44) are wound in two or more sections and impedances are given for both series and parallel connections of coils, viz.—500/125=500 ohms series connected or 125 ohms parallel connected.
2. When using these transformers with push-pull tubes best results are obtained when plate current is carefully balanced. These transformers may also be used with single tubes if a parallel plate feed circuit is used.
3. The tabulation indicates the proper transformer to use with the more popular types of tubes operated push pull. However, there is a transformer which offers a sufficiently accurate impedance match for practically every power tube manufactured, whether it is used singly or push pull.
4. If transformer has two secondary windings full output may be obtained from either but only one should be used at one time, except that a 15-ohm monitor speaker may be connected to the 1 1/4 or 3% ohm taps when using the 500-ohm secondary.

AMERTRAN DE LUXE PLATE-FILAMENT (POWER) TRANSFORMERS

AmerTran Plate-Filament (Power) Transformers described in the tabulation on the next page have been designed to meet the power supply requirements of practically all types of a.c. operated receivers and amplifiers up to 50 watts output. It is the most complete line of high-quality units available and incorporates several important features which are not available in other standard equipment.

These units are designed with a low core density and provide good regulation over a wide range of operating conditions with the result that (1) minimum hum due to stray magnetic fields is experienced, (2) voltages are very constant from no-load to full-load conditions, (3) minimum mechanical vibration of the laminations, and (4) low core loss.

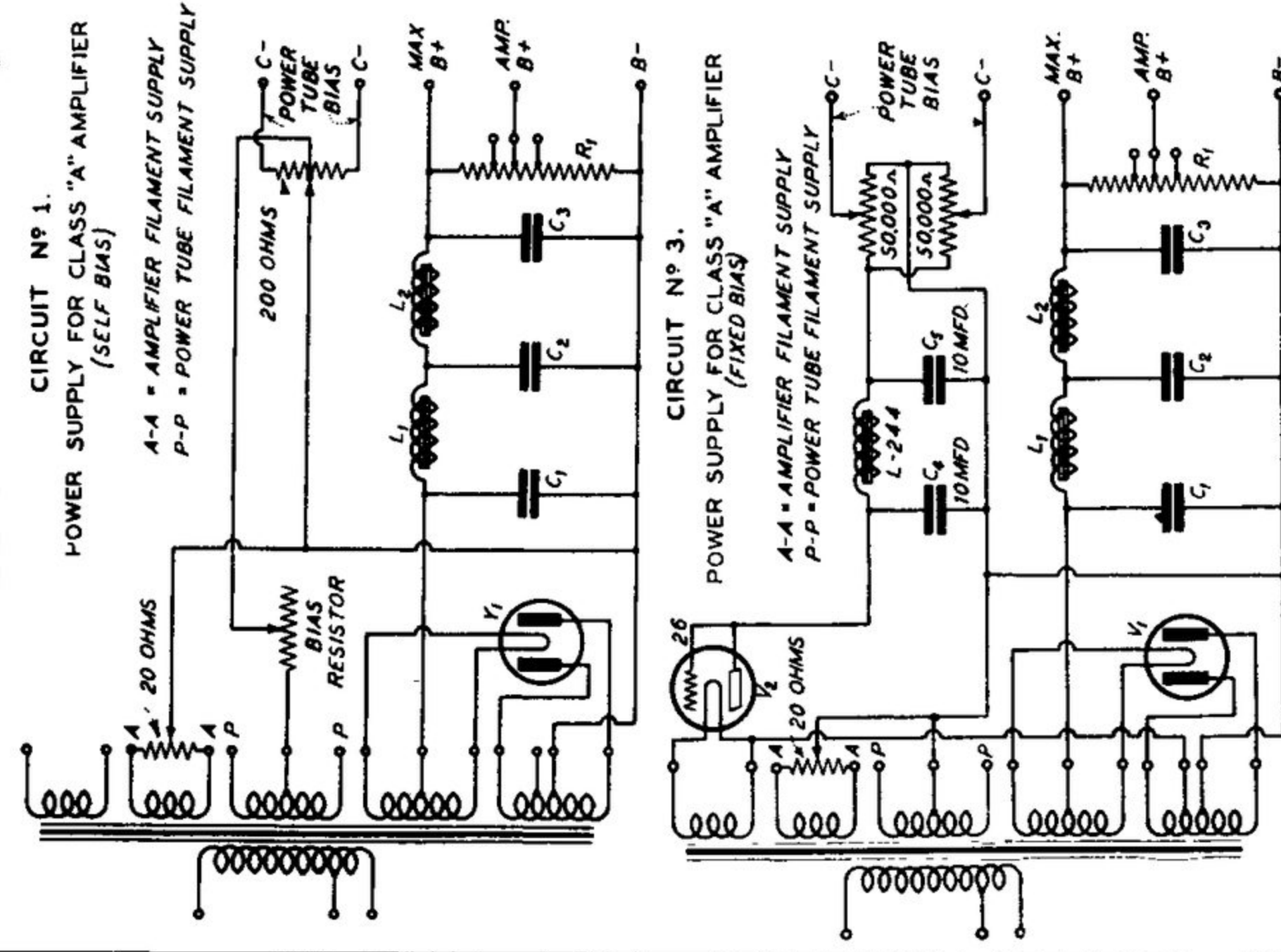
Shielding in these units includes not only the usual electrostatic shield or copper band placed between the primary and secondary windings but also efficient electromagnetic shielding secured by mounting the transformer in heavy aluminum castings, these being a much lower resistance than cast iron which is frequently used. Transformers suitable for use with Class "A" amplifier tubes are provided with a special plate tap and 1 1/2 volt filament winding which permits the use of a type 26 tube as a bias rectifier, thus avoiding the need for using make-shift circuits which have been published. Other electrical features include low-voltage primary tap and accurate center taps on plate, rectifier filament and power tube filament windings.

GENERAL			RATING			OPERATING DATA									
TERM.	Type No. at TOP	Type No. Mounting Code Word	W-301 5 WAFER	WA-311 5 WAGER	WA-321 6 WAGES	W-313 6 WAIST	WA-341 6 WATCH	W-302 6 WATER	W-314 6 WATTS	W-315 special WAWER	W-332 special WAXEN	WL-351 5 WEIGH			
TERM.	Type No. at BASE	Type No. Mounting Code Word	W-301B 5B WAGON	WA-311B 5B WAIVE	WA-321B 6B WAKEN	W-313B 6B WALTZ	WA-341B 6B WAYNE	W-302B 6B WELTH	W-314B 6B WEDGE	Parallel P-P 250 or 210	Push-Pull 845 or 211	WL-351B 5B WELSH			
Type With Power Tube Type	S 45, 47, 59 79, 41, 42, 2A5	S 45, 47, 59 2A3, 2A5, 53	P 45, 47, 59 2A3, 2A5, 53	P 45, 47, 59 2A3, 2A5, 53	P 45, 47, 59 2A3, 2A5, 53	Parallel P-P 45, 2A3, etc.	Full Output from 83/523	Class "B" 46 or 59	Push-Pull 250 or 210	Parallel P-P 250 or 210	Push-Pull 845 or 211	Bias Supply for 50 or 2A3			
List Price	\$22.00	\$25.00	\$27.00	\$27.00	\$27.00	\$32.00	\$27.00	\$26.00	\$28.00	\$36.00	\$55.00	\$15.00			
Elec. Rating	70 Va.	110 Va.	170 Va.	170 Va.	230 Va.	230 Va.	192 Va.	178 Va.	200 Va.	336 Va.	495 Va.	3 Va.			
Primary Winding	120 110 v. 50 60 cyc.	120 110 v. 50 60 cyc.	120 110 v. 50 60 cyc.	120 110 v. 50 60 cyc.	120 110 v. 50 60 cyc.	120 110 v. 50 60 cyc.	120 110 v. 50 60 cyc.	120 110 v. 50 60 cyc.	120 110 v. 50 60 cyc.	120 110 v. 50 60 cyc.	124 110 v. 50 60 cyc.	115 v. 50/60 cyc.			
Plate Winding	300-300 v. 55 mA, RMS	400-400 v. 85 mA, RMS	425-425 v. 115 mA, RMS	425-425 v. 115 mA, RMS	460-460 v. 175 mA, RMS	500-500 v. 175 mA, RMS	500-500 v. 175 mA, RMS	550-550 v. 115 mA, RMS	600-600 v. 115 mA, RMS	700-700 v. 175 mA, RMS	1750-1750 v. 141 mA, RMS	100 v. 10 mA. 70 v. tap			
Rectifier Tube Filament Supply	2.5 v. ct 3 amps.	5 v. ct 3 amps.	5 v. ct 3 amps.	5 v. ct 3 amps.	5 v. ct 3 amps.	2.5 v. ct 10 amps.	2.5 v. ct 3 amps.	2.5 v. ct 5 amps.	7.5 v. ct 2.5 amps.	7.5 v. ct 5 amps.	Use in Conjunction With Type H-551 Filament Transformer	Self Contained 280 henry 10 mA. 3700 ohm Filter Reactor			
Power Tube Filament Supply	6.3 v. ct 2.5 amps.	2.5 v. ct 5 amps.	2.5 v. ct 5 amps.	2.5 v. ct 5 amps.	2.5 v. ct 10 amps.	2.5 v. 10 amps.	2.5 v. 10 amps.	2.5 v. 10 amps.	2.5 v. 10 amps.	2.5 v. 10 amps.	2.5 v. 10 amps.	2.5 v. 10 mA. 70 v. tap			
Amp. and Tuner Filament Supply	2.5 v. 5 amps.	2.5 v. 5 amps.	2 (2.5 v.) 5 & 10 amps.	2 (2.5 v.) 5 & 10 amps.	2.5 v. 10 amps.	2.5 v. 10 amps.	2.5 v. 10 amps.	2.5 v. 10 amps.	2.5 v. 10 amps.	2.5 v. 10 amps.	2.5 v. 10 amps.	2.5 v. 10 mA. 70 v. tap			
Bias Rectifier Filament Supply	1.5 v. 1 amp.	1.5 v. 1 amp.	1.5 v. 1 amp.	1.5 v. 1 amp.	1.5 v. 1 amp.	1.5 v. 1 amp.	1.5 v. 1 amp.	1.5 v. 1 amp.	1.5 v. 1 amp.	1.5 v. 1 amp.	1.5 v. 1 amp.	1.5 v. 1 amp.			
CIRCUIT	1 2	1 3 2	1 3 2	1 3 2	1 3 2	1 3 2	1 2	2	1 3	1 3	1	4			
Plate Rectifier	82, 84	82, 84	82, 84	82, 84	82, 84	82, 84	82, 84	82, 84	82, 84	82, 84	82, 84	82, 84			
Bias Rect. (air 3)															
OHMMETER from FILTER	330	230	230	230	230	230	230	230	230	230	230	230			
TYPE FILTER RECTIFIER	L ₁	L ₁	L ₁	L ₁	L ₁	L ₁	L ₁	L ₁	L ₁	L ₁	L ₁	84 or 62			
	L ₂	L ₂	L ₂	L ₂	L ₂	L ₂	L ₂	L ₂	L ₂	L ₂	L ₂	10 max.			
	C ₁	C ₁	C ₁	C ₁	C ₁	C ₁	C ₁	C ₁	C ₁	C ₁	C ₁	Complete with its own Reactor			
	C ₂	C ₂	C ₂	C ₂	C ₂	C ₂	C ₂	C ₂	C ₂	C ₂	C ₂	C ₂			
	C ₃	C ₃	C ₃	C ₃	C ₃	C ₃	C ₃	C ₃	C ₃	C ₃	C ₃	C ₃			
MF, CAPA- CITY	R ₁	R ₁	R ₁	R ₁	R ₁	R ₁	R ₁	R ₁	R ₁	R ₁	R ₁	C ₄ 10 MFD. C ₄ 10 MFD.			
Bleeder	10,000 ohms											25,000 ohms			

NOTES: Taps marked with asterisk (*) supply voltage to plate of bias rectifier. Slant line (/) indicates "either or"; example circuit 1/3 = either circuit #1 or #3. "cl" indicates center tap. "S₁" indicates single power tube "p₁" or "p₂" indicates push pull power tubes.

Taps marked with asterisk (*) supply voltage to plate of bias rectifier. Slant line "S" indicates single power tube "P" or "P-P" indicates push pull power tubes

Power Supply Circuits Using AmerTran DeLuxe Components



The standard power-supply circuits above are designed for use with AmerTran De Luxe components and meet the requirements of practically all types of a.c.-operated receivers and amplifiers. The proper transformers, reactors, condensers, and resistors to use for obtaining various voltages are listed in the tabulation on the preceding page. Please note that "C" bias compensation is provided for all class "A" power tubes.

AMERTRAN DE LUXE FILTER REACTORS

AmerTran DeLuxe Reactors listed below are conservatively rated to give full inductance with full rated d.c. current flowing and 2 volts a.c. impressed. The resistance is as low as possible consistent with economical design and efficient electromagnetic shielding is provided by a heavy cast-aluminum case which, due to its low resistance, is much more efficient than cast iron which is frequently offered. It is most important that these facts

be known when designing a filter circuit, as ratings of henrys and d.c. mA. are of no value unless it is known that the inductance is obtained when rated d.c. exists; not merely no-load inductance and the current carrying capacity of the wire. Low resistance makes possible maximum voltage at the output of the filter and efficient shielding materially increases the effectiveness of the filter circuit.

D.C. MA.	Henrys	D.C. Ohms	RMS Test Volts	Notes	Case No.	Code Word	Type No.	List Price
40	40	800	2500	1	{1 1/4 1 1/4 B	Label Labor	L-217 L-217B	\$7.50 7.50
60	45	625	2500	1	{3 3B	Ladle Lager	L-218 L-218B	8.00 8.00
100/200	32/8	450/112	2500	2	{5 5B	Laird Laity	L-234 L-234B	12.00 12.00
120	14	210	2500	1	{3 3B	Lance Lanch	L-216 L-216B	8.00 8.00
160	10	160	2500	1	{3 3B	Lapel Larva	L-219 L-219B	10.00 10.00
175	5/25	160	2500	3	{3 3B	Lassa Lasso	L-220 L-220B	10.00 10.00
250	14	130	5000	1	{6 6B	Latch Lathe	L-215 L-215B	18.00 18.00
320	8	65	2500	1	{6 6B	Latin Laugh	L-212 L-212B	18.00 18.00
500	10	30	2500	1	Spec.	Laver	L-214	40.00
2500	0.05	0.5	2500	1	{3 3B	Leave Ladge	L-211 L-211B	8.00 8.00
120	14	210	2500	4	{6 6B	Layer Laach	L-231 L-231B	15.00 15.00
120	14	210	2500	4	{6 6B	Learn Lease	L-233 L-233B	15.00 15.00
60	45	625	2500	4	{6 6B	Leash Least	L-232 L-232B	15.00 15.00

NOTES: 1. Smoothing filter choke. 2. Two-section smoothing filter choke for series or parallel connection. 3. Swinging filter choke. 4. Double smoothing filter choke—two separate chokes in one case.

AMERTRAN DE LUXE FILAMENT TRANSFORMERS

AmerTran DeLuxe Filament Transformers are designed with a low core density to meet the most exacting requirements. These units maintain rated output voltage within 5% and the center connection, where provided, is in the exact electrical center of the secondary winding.

The temperature rise during continuous operation at full load does not exceed 55° C. Efficient electromagnetic shielding is provided by a heavy cast aluminum mounting which has a much lower resistance than cast iron frequently used for the purpose.

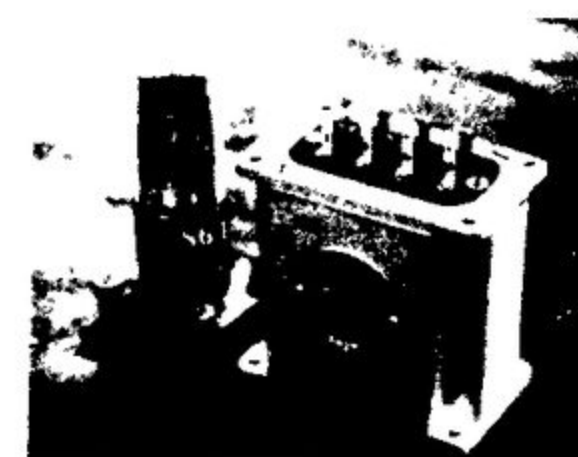
VA. Rating	PRIMARY RATING Volts	Cycles	SECONDARY RATING Volts	Amps.	RMS Test Volts	Case No.	Code Word	Type No.	List Price
20	115	50/60	1.5 ct	13	2500	{1 1/4 1 1/4 B	Halve Haply	H-524 H-524B	\$7.50 7.50
20	115	50/60	2.5 ct	8	2500	{1 1/4 1 1/4 B	Hardy Harem	H-525 H-525B	7.50 7.50
20	115	50/60	5 ct	4	2500	{1 1/4 1 1/4 B	Harpy Harry	H-521 H-521B	7.50 7.50
20	115	50/60	6.3 ct	3	2500	{1 1/4 1 1/4 B	Harsh Haste	H-522 H-522B	7.50 7.50
20	115	50/60	7.5 ct	2.5	2500	{1 1/4 1 1/4 B	Hasty Hatch	H-523 H-523B	7.50 7.50
20	115	50/60	10 ct	2	2500	{1 1/4 1 1/4 B	Haunt Haven	H-526 H-526B	7.50 7.50
62	120/100	50/60	{2.5 ct 2.5 2.5	{5 10 10	2500	{5 5 B	Havoc Hazel	H-582 H-582B	18.00 18.00
65	120/100	50/60	10 ct	6.5	5000	{5 5B	Heady Heart	H-541 H-541B	16.00 16.00
90	120/100	50/60	{10 ct 2.5 ct	{6.5 10	{5000 5000	{6 6B	Hades Habit	H-551 H-551B	21.00 21.00

AmerTran Miniature DeLuxe Line

General Specifications

AmerTran Miniature De Luxe Transformers have been developed to satisfy the demand for small sized, light weight audio equipment to be used in portable outside pick-up amplifiers. They are high quality units of special construction which lends itself to special purpose for which the line has been designed.

Type OP1 mounting which is used on all AmerTran Miniature De Luxe units is a light weight aluminum casting of the reversible type which may be mounted with terminalson top for exposed wiring or at the base for concealed wiring. The mechanical specifications of the transformer are as follows:



Base dimensions 1 1/2 by 2 1/2 inches
Height of case 2 1/2 inches
Height over terminals 3 1/2 inches
Mounting dimensions 1 1/2 by 2 1/2 inches
Type mounting Reversible
Metal used Cast Aluminum
Average net weight 20 oz.
Shipping weight 2 lbs.



The frequency characteristics of these units are uniform within ± 1 dB from normal at 800 cycles throughout the band of 30 to 12000 cycles. Designs are coordinated so that a slight rising or falling characteristic in one unit is compensated by the opposite characteristic in other units with which it is associated. Higher gain may also be obtained as input and interstage transformers may be operated without an attenuator or resistor shunting the secondary.

All types with the exception of interstage units have copper ground shields between the primary and secondary windings to provide efficient electrostatic shielding, and a lead is brought from this shield to the terminal board. Electromagnetic shielding is secured through special construction and without the use of heavy cast alloy mountings.

Both primary and secondary windings are wound in two or more carefully balanced sections and at least four leads are brought out from each winding to permit series or parallel connection of the coils. Taps are also provided on many designs to increase the flexibility and this is accomplished without impairing the frequency characteristics.

AMERTRAN MINIATURE DE LUXE AUDIO TRANSFORMERS—TYPE OP

Frequency characteristics uniform within ± 1 dB from 30 to 12000 cycles.

MIXING AUDIO TRANSFORMERS

Application	Primary Ohms Impedance	Secondary Ohms Impedance	Max. DB Level	PR. MA. D.C.			Refer Notes	Case No.	Code Word	Type No.	List Price
				Un-bal.	Max. per leg						
Carbon mike, low-imped. pick-up or line to Adj. line	500/125 or 200/50	500/125 or 200/50	+20	0	100	1		OP-1	Oahu	OP-391	\$16.50
Dynamic mike or parallel 3 pos., 200 ohm mixer to Adj. line	67/17 or 30/7 1/2	500/125 or 200/50	+20	0	100	1		OP-1	Ober	OP-392	16.50

INTERSTAGE TRANSFORMERS

Application	Primary Ohms Impedance	Secondary Ohms Impedance	Max. DB Level	PR. MA. D.C.			Refer Notes	Case No.	Code Word	Type No.	List Price
				Un-bal.	Max. per leg						
Single 15000 ohm plate to single or push-pull grids	15000/3750	60000/15000	+15	0	—	1, 4, 5, 7		OP-1	Oise	OP-371	16.50
Single 10000 ohm plate to single or push-pull grids	10000/2500	40000/10000	+15	0	—	1, 4, 6, 7		OP-1	Okra	OP-372	16.50

Note. Please refer to notes on page 14.

AMERTRAN MINIATURE DE LUXE AUDIO TRANSFORMERS—TYPE OP

Frequency characteristics uniform within ± 1 dB from 30 to 12000 cycles.

LINE-TO-GRID TRANSFORMERS

Application	Primary Ohms Impedance	Secondary Ohms Impedance	Max. DB Level	PR. Un- bal- ance	MA. per leg	D.C. Refer Notes	Case No.	Code Word	Type No.	List Price
Carbon mike, low-imped. pick-up or adjustable audio line to single amplifier grid	500/125 or 200/50	100000/25000 with Secondary loaded	+10	0	100	1 & 2	OP-1	Oboe	OP-381	16.50
	500/125 or 200/50	100000/25000 with Secondary unterminated	+10	0	100	1 & 3	OP-1	Ogee	OP-382	16.50
Dynamic mike or parallel 3 position 200 ohm mixer to single amplifier grid	67/17 or 30/7½	50000/12500 with Secondary loaded	+10	0	100	1 & 2	OP-1	Ogle	OP-383	16.50
	67/17 or 30/7½	50000/12500 with Secondary unterminated	+10	0	100	1 & 3	OP-1	Ogre	OP-384	16.50

OUTPUT TRANSFORMERS

Application	Primary Ohms Impedance	Secondary Ohms Impedance	Max. DB Level	PR. Un- bal- ance	MA. per leg	D.C. Refer Notes	Case No.	Code Word	Type No.	List Price
Single 31 plate to Adj. line	7000/1750	500/125 or 200/50	+20	13	—	1	OP-1	Olaf	OP-361	16.50
Single 12A plate to adjustable line	10000/2500	500/125 or 200/50	+20	8	—	1	OP-1	Oleo	OP-362	16.50
Single or push pull 15000 ohm plates to Adj. line	30000/7500	500/125 or 200/50	+20	0	8	1, 5, 7	OP-1	Olla	OP-363	16.50
Single or push pull 10000 ohm plates to Adj. line	20000/5000	500/125 or 200/50	+20	0	8	1, 6, 7	OP-1	Oman	OP-364	16.50
Single or push pull 31 plates to Adj. line	8000/2000	500/125 or 200/50	+20	0	12.3	1 & 7	OP-1	Omar	OP-365	16.50

PARALLEL FEED AUDIO REACTORS

Application	Rating	Case No.	Code Word	Type No.	List Price
For parallel feed with 864, 30, 27, 56, etc.	300 Henry at 4 mA. d.c.	{ 4600 ohms d.c. 500 volt test }	OP-1	Omen	OP-355 8.50
For parallel feed with 12A, 31, etc.	150 Henry at 10 mA. d.c.	{ 2250 ohms d.c. 500 volt test }	OP-1	Omer	OP-356 8.50

- NOTES: 1. Both primary and secondary windings are wound in two or more sections and impedances are given for both series and parallel connection of coils, viz—500/125—500 ohms series connected or 125 ohms parallel connected. All transformers (except interstage types) have electrostatic shield between primary and secondary and shield connection is brought out to terminal board.
2. Where table specifies "with secondary loaded" a resistor or attenuator of equal value to the secondary impedance must be used.
3. Where table specifies "with secondary unterminated" neither a resistor nor attenuator should be connected across the secondary.
4. Effective turns ratio of 1:2 when working from 1 plate to 1 grid; ratio is 1:1 (effective) between 1 plate and push-pull grids.
5. "15000 ohm plate" includes tubes such as 864.
6. "10000 ohm plate" includes tubes such as 01A, 26, 27, 30, 37, 55, 56, 85, etc.
7. Parallel plate feed must be employed for best results when operating out of single tube if 0 mA unbalance is specified; plate current of push-pull tubes should be carefully balanced.

AmerTran Precision DeLuxe Line
General Specifications

AmerTran Precision De Luxe Audio Transformers compare with the highest grade standard transformers in exactly the same manner that a tailored suit compares with a ready-made product. They are custom-built units manufactured on special order from carefully tested standard designs by highly skilled workmen, and each unit is individually tested in our laboratory to insure perfect results. They employ an entirely different core and coil structure than is used in standard transformers as well as special materials selected for each type of design.

Due to the steady increase in demand for units of this construction during the past two years it has been decided to set up the standard ratings. In this way it is possible for us to reduce the cost to the user and give more prompt delivery by avoiding the necessity for engineering work on each order received in a large number of cases. However, we will always continue to wind this class of equipment by hand so as to offer full advantage of the carefully worked out design features by permitting the coil winders' skill to be manifest in each unit.

Frequency Characteristics: Every unit is designed to give uniform response within $\pm \frac{1}{2}$ dB from normal at 800 cycles throughout the band of 30 to 16000 cycles. This specification is the maximum variation whereas a majority of the designs actually have far better characteristics. As this characteristic may be obtained without the use of shunt resistors on input and interstage transformers, appreciably higher gain per stage is possible with these units.

Coordinated Designs: Because each unit is individually wound on customers' special orders, designs are coordinated to a greater degree than is possible with a standard product which is carried in stock. In other words, the slight rising or falling characteristic in one unit is compensated by the opposite characteristic in other units with which it is used in an amplifier. This makes possible the construction of an amplifier with better than ± 1 dB variation through the audio band.

Operating Range: Each unit is designed to operate efficiently at any level from -90 dB to the maximum level indicated in the tabulation. At extremely low levels "Precision" designs are especially recommended because of their self shielding feature.

Electrical Efficiency: In every respect these units are designed to offer the highest possible electrical efficiency. They establish entirely new standards for low insertion loss, regulation, constant input impedance at all frequencies, low wave-form distortion, negligible phase shifts, and low leakage inductance.

Electrostatic Shielding: All designs (except interstage transformers) have copper ground shields incorporated in the coil structure between the primary and secondary windings. Separate leads are brought to the terminal board from this shield and from the core. This provides a perfect balance to ground and prevents the passage of stray capacitive and static currents.

Electromagnetic Shielding: These transformers are self-shielded electro-magnetically through special construction and without the necessity of heavy alloy cases. Tests show that unmounted units of this type actually are freer from hum pick-up than standard transformers mounted in a fully shielded case. There is also the added advantage of light weight and small size because the heavy metal case is not required.

All-Climate Construction: Not only is complete protection provided against corrosion in all climates but these units are also built to withstand severe changes in temperature. These two chief causes of failure are overcome by special precautions in winding and assembling the transformers followed by completely enclosing the core and coils in a moistureproof compound after a thorough drying out process.

Coil Structure: Both primary and secondary windings are divided into several separate sections which are so arranged as to give perfect magnetic and inductive symmetry and balance. This construction insures maximum inductive coupling with minimum distributed capacity and low capacity coupling and to a large degree explains the excellent frequency characteristics. At least four leads are brought out from each winding, so as to permit series or parallel connection of the coils and increase the flexibility of the unit. In many cases taps are also provided and this is accomplished without impairing the frequency characteristic. In all cases the wire size is sufficient to insure ample current carrying capacity with low d.c. resistance.

Core Structure: Special high permeability alloy laminations are used in all types and the core itself is operated at densities low enough to insure negligible third harmonic amplitudes at the lowest frequency impressed. The physical proportions of the core also differ from standard types and this explains many of the features of these units.

AMERTRAN PRECISION DE LUXE AUDIO TRANSFORMERS

New Self-Shielded
constructionFrequency response uniform within
 $\pm \frac{1}{2}$ dB from 30 to 16000 cycles.Suitable for —90 dB
level and higher

MIXING AUDIO TRANSFORMERS

Designed to Work out of	Primary Ohms Impedance	PRI. MA. D.C. Unbalance per leg	Secondary Ohms Impedance	Max. DB Level	Case No.	Code Word	Type No.	Price
Carbon mike, low-imped. pick-up or audio line	500/125 or 200/50	0.5	100	500/125 or 200/50	+10	1	Peer	P-491
2- or 3-position series 50- or 200-ohm mixer	600/150 or 400/100	0.5	100	500/125 or 200/50	+10	1	Pees	P-492
250 ohm RCA mike or 3-position 50-ohm series mixer	250/62½ or 150/37½	0.5	100	500/125 or 200/50	+10	1	Pelf	P-493
3-position parallel 200-ohm mixer or 30-ohm dynamic mike	67/17 or 30/7½	0.5	100	500/125 or 200/50	+10	1	Pell	P-494
Velocity ribbon mike without matching transformer	0.2/0.05	0.5	100	500/125 or 200/50	+10	1	Pelt	P-495
Pick-up units or 2- or 4-position 500-ohm mixer	4000/1000 or 2000/500	0.5	25	500/125 or 200/50	+10	1	Pent	P-496
For feeding from one line to two or three lines	500/125 or 200/50	0.5	100	Two 500/125	+20	1	Peon	P-497
				Three 500/125	+20	1	Peri	P-498
				Two 200/50	+20	1	Peru	P-499
				Three 200/50	+20	1	Peso	P-500

NOTES: 1. Both primary and secondary windings are wound in two or more sections and impedances are given for both series and parallel connection of coils, viz—500/125=500 ohms series connected; 125 ohms parallel connected.

LINE-TO-GRID AUDIO TRANSFORMERS

Designed to Work out of	Primary Ohms Impedance	PRI. MA. D.C. Unbalance per leg	Secondary Ohms Impedance	Designed to Work into	Max. DB Level	Case No.	Code Word	Type No.	Price
Carbon mike, low-imped. pick-up or audio line	500/125 or 200/50	0.5	100	75000/18750	1 gr—loaded	+10	1	Pard	P-481
				75000/18750	1 gr—unterm.	+10	1	Park	P-482
				150000/37500	2 gr—loaded	+20	1	Parr	P-483
				150000/37500	2 gr—unterm.	+20	1	Pash	P-484
2- or 3-position series 50- or 200-ohm mixer	600/150 or 400/100	0.5	100	75000/18750	1 gr—loaded	+10	1	Pate	P-485
				75000/18750	1 gr—unterm.	+10	1	Paul	P-486
250 ohm RCA mike or 3-position 50-ohm series mixer	250/62½ or 150/37½	0.5	100	75000/18750	1 gr—loaded	+10	1	Pawk	P-487
				75000/18750	1 gr—unterm.	+10	1	Pean	P-488
3-position parallel 200-ohm mixer or 30-ohm dynamic mike	67/17 or 30/7½	0.5	100	75000/18750	1 gr—loaded	+10	1	Pear	P-489
				75000/18750	1 gr—unterm.	+10	1	Peat	P-471
Pick-up units or 2- or 4-position 500-ohm mixer	4000/1000 or 2000/500	0.5	25	75000/18750	1 gr—loaded	+10	1	Peck	P-472
				75000/18750	1 gr—unterm.	+10	1	Peep	P-473

NOTES: 1. Both primary and secondary windings are wound in two or more sections and impedances are given for both series and parallel connection of coils, viz—500/125=500 ohms series connected; 125 ohms parallel connected.

2. "Precision" line-to-grid transformers are of two distinct types which are not interchangeable. The "loaded" type is designed for use with an attenuator or resistor of equal value to the secondary impedance connected in shunt with the secondary. The "unterminated" type is designed for use without any form of resistor in shunt with the secondary. When properly operated both types give exactly the same amount of gain in an amplifier.

Price Schedule
AMERTRAN
PRECISION DE LUXE
TRANSFORMERS

Quantity (Any one Type No.)	Unit Net Price
1 or 2	\$12.50
3 to 5	11.00
6 to 11	10.00
12 to 23	8.50
24 or more	7.00

Net prices see table.
Shipment in one week.

AMERTRAN PRECISION DE LUXE AUDIO TRANSFORMERS

New Self-Shielded
constructionFrequency response uniform within
 $\pm \frac{1}{2}$ dB from 30 to 16000 cycles.Suitable for —90 dB
level and higher

INTERSTAGE AUDIO TRANSFORMERS

Application	Primary Ohms Impedance	Secondary Ohms Impedance	Turns Ratio	PRI. MA. D.C. Unbalance per leg	Max. DB Level	Case No.	Code Word	Type No.	Price
Single plate to single grid	10000/2500	90000/22500	1:3	0	+15	1	Paca	P-451	For net prices see table. Shipment in one week.
Single plate to single grid	10000/2500	40000/10000	1:2	0	+15	1	Pace	P-452	
Single plate to p-p grids	10000/2500	160000/40000	1:2 e.s.c.	0	+15	1	Pach	P-453	
P-P plates to P-P grids	20000/5000	45000/11250	1:1.5	0.25	10	+20	Pact	P-454	
P-P plates to P-P grids	20000/5000	20000/5000	1:1	0.25	10	+20	Pali	P-455	

NOTES: 1. Both primary and secondary windings are wound in two or more sections and impedances are given for both series and parallel connection of coils, viz—500/125=500 ohms series connected; 125 ohms parallel connected.

2. Above types are designed to operate out of Class "A" general-purpose 10000-ohm amplifier plates, such as 01A, 26, 27, 30, 37, 55, 56, 76, or 85, and to feed into similar amplifier grids or the grids of power tubes.

PLATE-TO-LINE AUDIO TRANSFORMERS

Application Use with Type Tubes	Primary Ohms Impedance	Secondary Ohms Impedance	Pri. Matches Plates	Max. DB Level	PRI. MA. D.C. Unbalance per leg	Case No.	Code Word	Type No.	Price
06A, WE-262A 30000/7500	500/125 or 200/50	{	1 or p-p	+15	0	5	1	Pall	P-461
			Single	+10	5	—	1	Palm	P-462
01A, 26, 27, 30, 55, 56, 76, or 85	20000/5000	{	1 or p-p	+20	0	10	1	Palp	P-463
			Single	+15	10	—	1	Paly	P-464
10, 12A	10000/2500	{	1 or p-p	+28	0	22	1	Pane	P-465
			Single	+24	22	—	1	Pang	P-466
31, 45, or WE-205D	8000/2000	{	1 or p-p	+28	0	40	1	Pant	P-467
			Single	+24	12.3	—	1	Para	P-468

NOTES: 1. Both primary and secondary windings are wound in two or more sections and impedances are given for both series and parallel connection of coils, viz—500/125=500 ohms series connected; 125 ohms parallel connected.

2. Where 0 mA. unbalanced d.c. is specified parallel feed must be used when working out of a single tube and push-pull tubes must be carefully balanced. Where design permits unbalanced d.c. in primary direct feed must be used when working out of a single tube.

AMERTRAN PRECISION DE LUXE LINE EQUALIZERS

Application	Rating	Calibrated at level of	Guaranteed Accuracy	Case No.	Code Word	Type No.	Price
For correcting the deficiencies of remote lines at higher frequencies	Resonant at 6000 cycles	0 dB	1%	1	Pica	P-441	Net prices see table. Shipment in 1 week.
	Resonant at 7000 cycles	0 dB	1%	1	Pict	P-444	
	Resonant at 8000 cycles	0 dB	1%	1	Pied	P-445	

SPECIAL PRECISION DE LUXE AUDIO TRANSFORMERS

AmerTran is pleased to furnish transformers of similar construction to those listed above to meet special requirements. Units with special ratings can be furnished in approximately two weeks from receipt of your order and the cost is ten per cent more than a standard unit of equivalent dB rating. The Company is also fully equipped to manufacture HiQ (low a.c. resistance) reactors for use in low- and hi-pass filters, resonant trap circuits, and special equalizers.

AmerTran Transformers for "Class B"

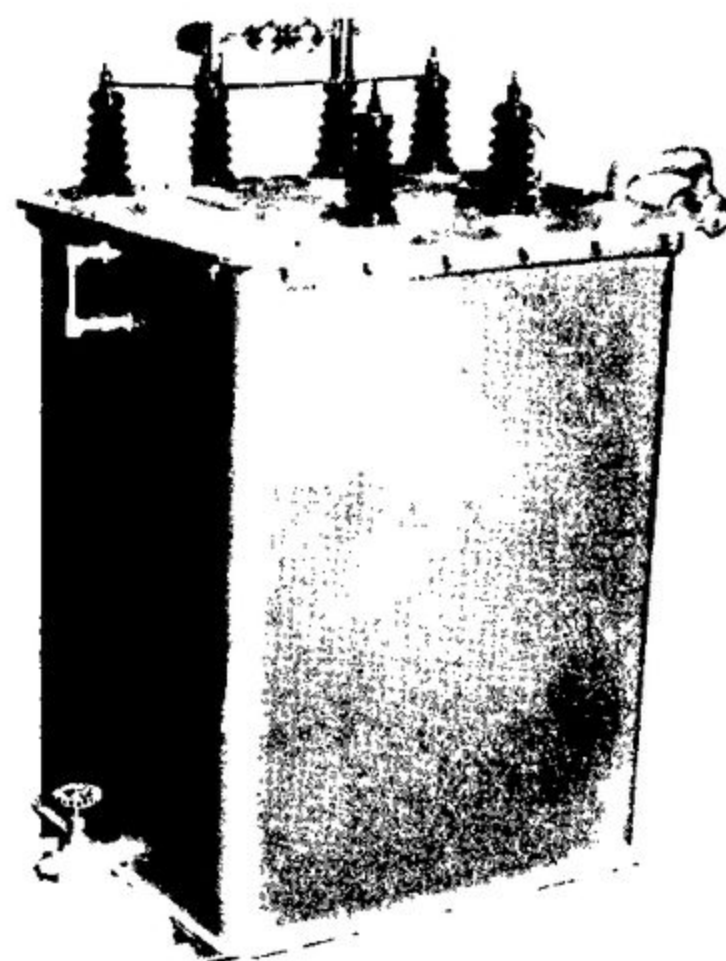


Fig. 7—AmerTran oil-immersed class "B" modulation transformer for operation at +65 dB—used in 25 Kw. transmitter.

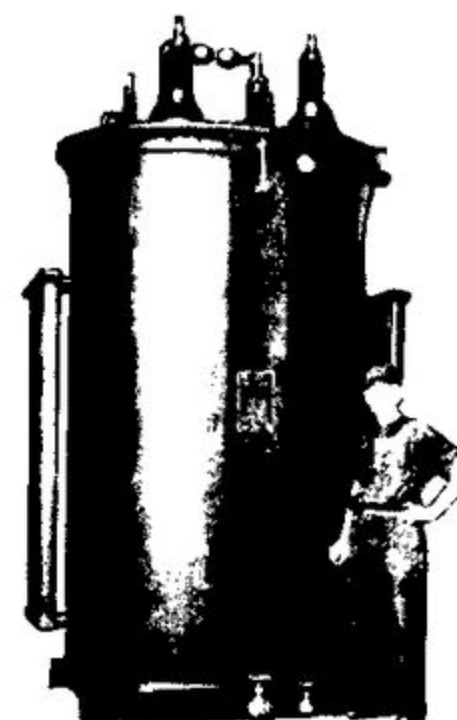


Fig. 8—Right: Largest AmerTran class "B" transformer. Rated at +78.8 dB, it will modulate a 500 Kw. transmitter.

bushings. This permits insulation testing at a voltage which is considerably in excess of any peak which might be experienced in actual practice. The housing is a welded aluminum tank which provides complete r.f. shielding.

The windings in AmerTran class "B" transformers are carefully subdivided and balanced so as to insure low distributed capacity, low capacity coupling and high inductance coupling. In the output transformers the primary impedance is maintained constant over the entire audio band and the same phase angle exists in both sections of the winding which are balanced within 0.5%. Wire used in all windings is of a size which insures low d.c. resistance and ample current capacity.

High efficiency is insured from all units by their excellent regulation, low insertion loss and their unusually extended straight-line frequency characteristics. Actual tests show an insertion loss of less than 1 dB and frequency characteristics uniform within ± 0.5 dB from 20 to 16,000 cycles. The accompanying tabulation gives the average frequency characteristic of a standard output transformer as com-

Frequency Characteristic of Average Transformer

Frequency in cycles per second	Variation from normal at 800 cycles
20	—0.3 dB
30	—0.2 dB
40	—0.1 dB
100 to 6000	0.0 dB
8000	—0.1 dB
10000	—0.2 dB
16000	—0.4 dB
20000	—0.6 dB

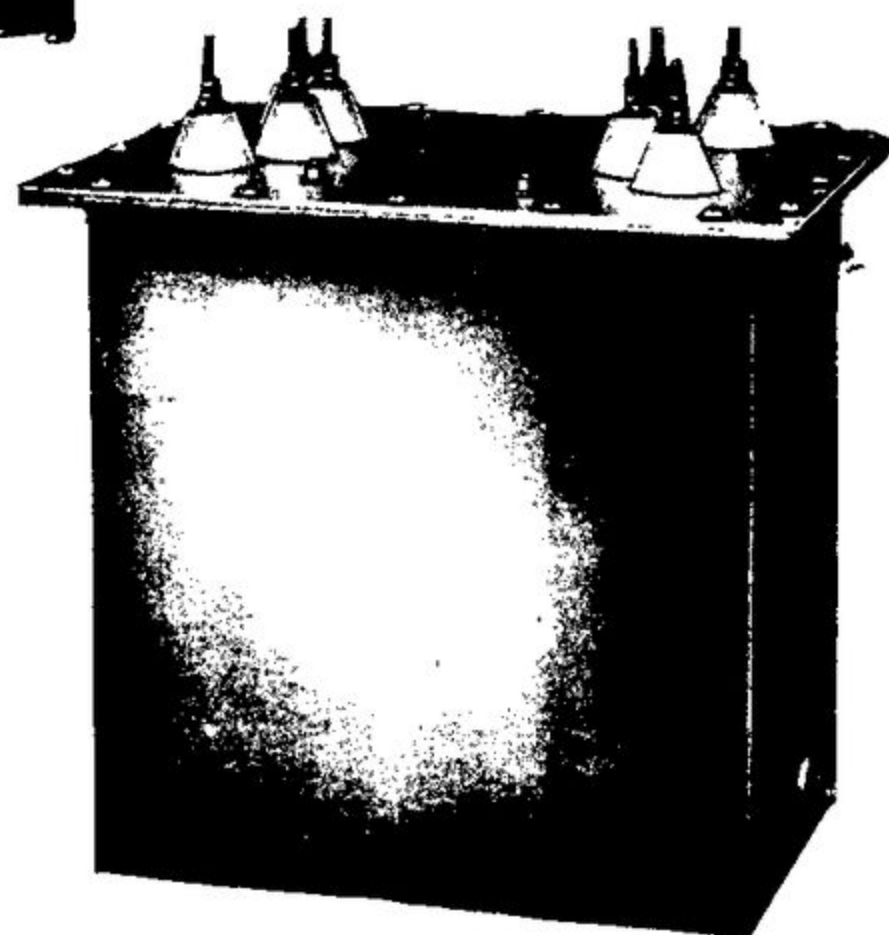


Fig. 9—Typical AmerTran oil-immersed class "B" modulation transformer. This +50 dB unit will modulate a 1 Kw. transmitter.

WITHOUT fear of contradiction AmerTran is proud to claim that it has designed and manufactured a large majority of the class "B" modulation sets in use in the larger broadcasting stations of this country. The Class "B" output transformers furnished for this purpose have ranged in size from small +44 dB units for stations of 100 watts output to a +78.8 dB transformer which was designed for use in a 500,000 watt transmitter.

AmerTran Class "B" modulation sets comprise three units, namely, a driver input transformer, class "B" output transformer, and modulation reactor. Electrical designs for these sets for all sizes of stations have been worked out after carefully considering all of the determined factors in class "B" operation. Use of these units in transmitters is assurance of more economical operation combined with highly satisfactory frequency characteristics.

The two units illustrated in Figs. 7 and 9 on this page are typical of the type of equipment which is being furnished. The transformer cores are composed entirely of high permeability alloy laminations. This is the only magnetic material entering into the construction and is largely responsible for the excellent frequency characteristics. All output transformers (and input units rated at +48 dB and above) are of oil-immersed construction and fitted with suitable

Modulation in Broadcast Transmitters

pared with its normal response at 800 cycles. Transformers are operated without d.c. in the secondary in conjunction with a parallel-feed modulation reactor.

In the tabulation below are listed the eleven standard sizes of modulation sets required by present day broadcast transmitters. Our files contain carefully tested designs covering transformers of each of these standard ratings but type numbers have not been assigned because slight changes in the impedance ratio are necessary in most cases. Therefore, in addressing inquiries to the company it is requested that you furnish data on the (1) tube or impedance of the circuit or line feeding the input transformer, (2) class "B" tubes you plan to use, (3) resistance of the load into which the output transformer works, (4) frequency and power output of your transmitter, and (5) sketch showing desired circuit arrangement.

Standard Class "B" Ratings for Broadcast Service

Size Transmitter	Input Transformer	Output Transformer
100 watts	+33 dB	+44 dB
250 watts	+33 dB	+46 dB
500 watts	+39 dB	+49 dB
1000 watts	+42 dB	+51 dB
2500 watts	+45 dB	+56 dB
5000 watts	+48 dB	+59 dB
10000 watts	+51 dB	+62 dB
25000 watts	+54 dB	+66 dB
50000 watts	+57 dB	+69 dB
100000 watts	+60 dB	+71.3 dB
500000 watts	+64 dB	+78.8 dB

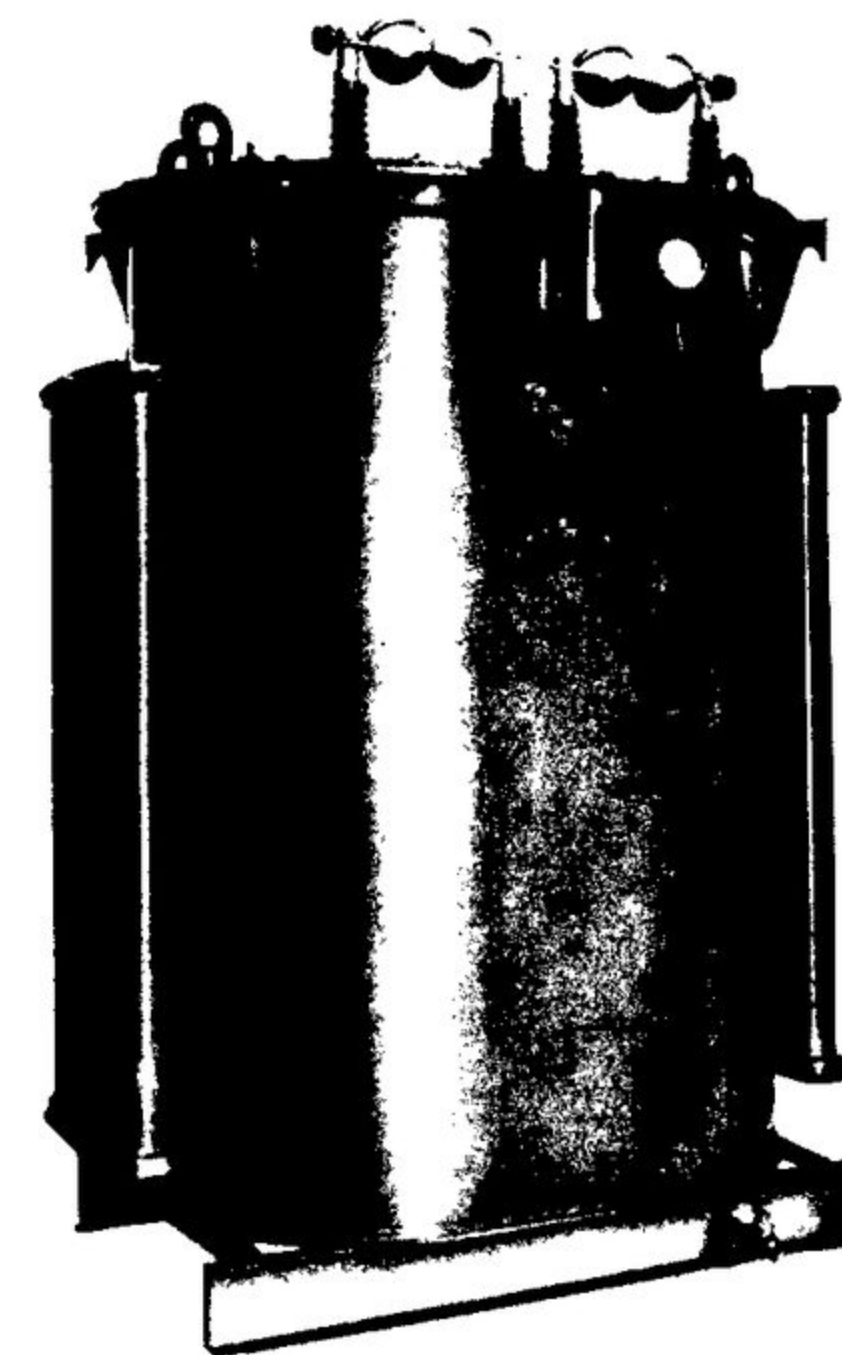
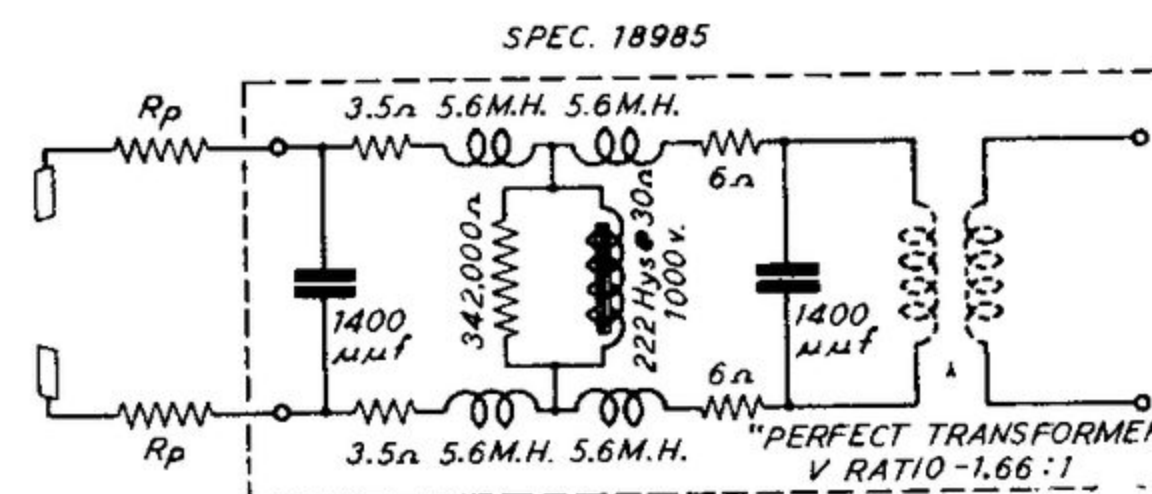
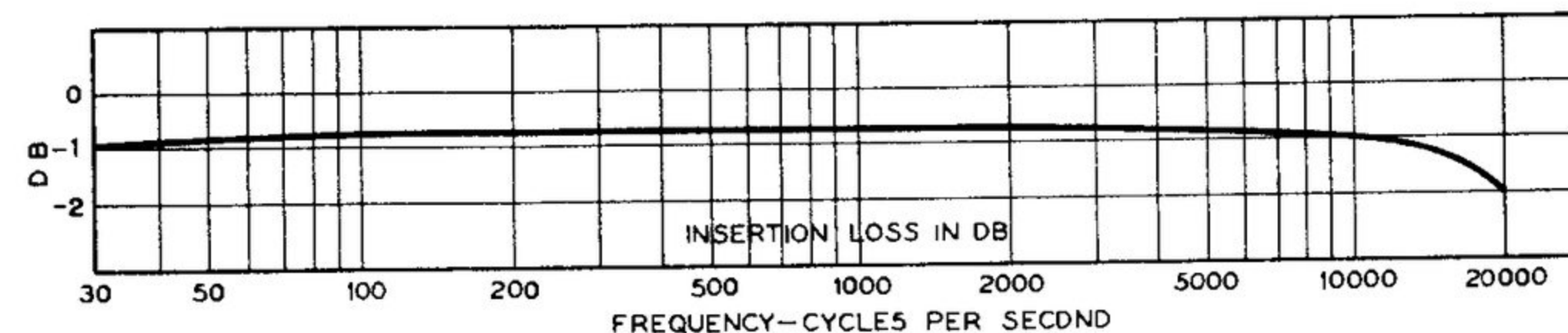


Fig. 10—Large class "B" modulation transformer for use in a 100 kw. transmitter. As indicated by the data below this large AmerTran unit has characteristics which compare favorably with the best small transformer.



The frequency response curve above and network diagram on the left were prepared from test data taken on the large class "B" modulation transformer shown on this page. AmerTran's ability to engineer large equipment as successfully as small units is demonstrated conclusively by these data.

Large Oil-Immersed Equipment

IN ADDITION to the standard air-insulated transformers described in this bulletin, American Transformer Company is also fully equipped to manufacture large oil-immersed plate transformers and retard coils for broadcast station service. On this page are illustrated a few examples of the type of equipment which we furnish regularly to radio stations throughout the world.



Fig. 11—Single-phase, oil-immersed plate transformer of type regularly furnished in sizes from 25 to 500 kva.



Fig. 13—Special outdoor-type, three-phase, oil-immersed plate transformer.

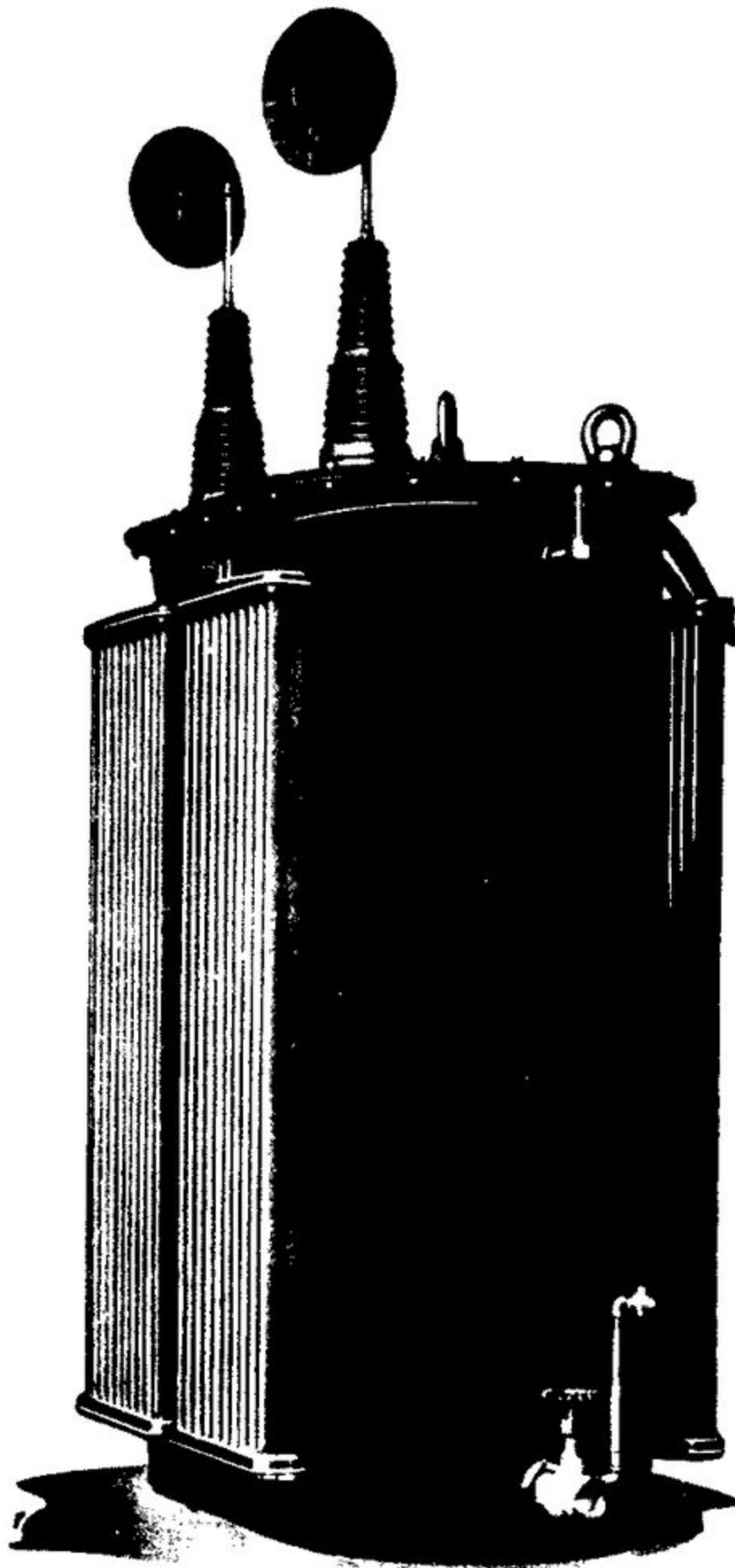


Fig. 15—This single-phase, oil-immersed plate transformer delivers 100,000 volts at 375 kva.

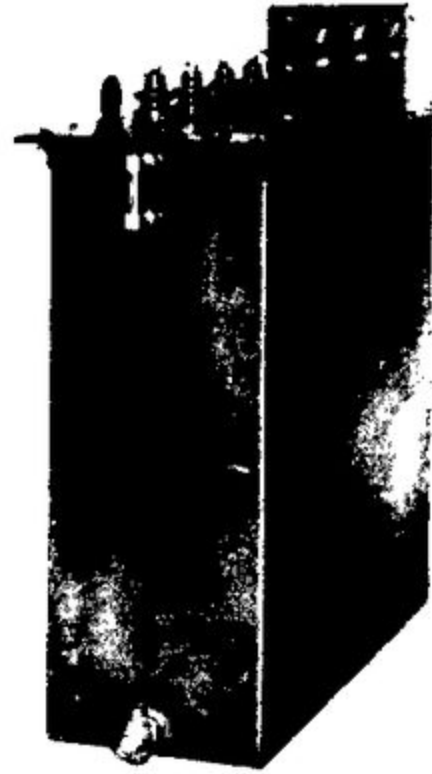


Fig. 12—Three-phase, oil-immersed plate transformer of type manufactured in sizes up to 300 kva, and for potentials up to 50 kv.

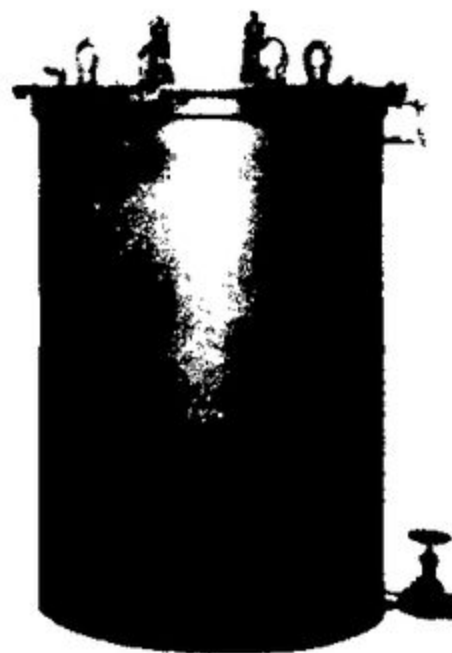


Fig. 14—Large oil-immersed plate retard coil insulated to withstand 50,000 volts.

Special Broadcast Station Equipment

AMERICAN Transformer Company not only manufactures transformers and reactors but also offers many other types of special equipment for use in broadcasting stations. The line includes all types of rectifiers, voltage regulators, high-voltage testing equipment, and special control apparatus. Six popular special items are illustrated below.



Fig. 16—Transformer-type motor-operated voltage regulator makes it possible to reduce power without shutting down the transmitter.

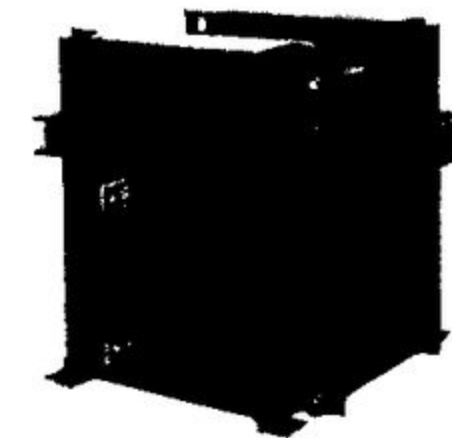


Fig. 19—Typical air-insulated filament retard coil—sizes up to 2000 amperes.



Fig. 18—Rectifier panel for furnishing completely filtered plate, filament and bias voltages to a broadcast transmitter.



Fig. 21—Precision rectifier for furnishing completely filtered plate voltage to low-level speech input amplifiers.

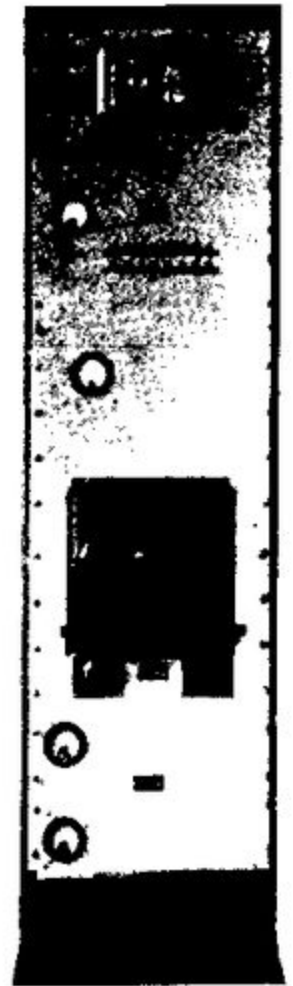


Fig. 17—Rectifier panel for furnishing completely filtered filament voltage to speech input amplifiers. Sizes up to 100 amperes.

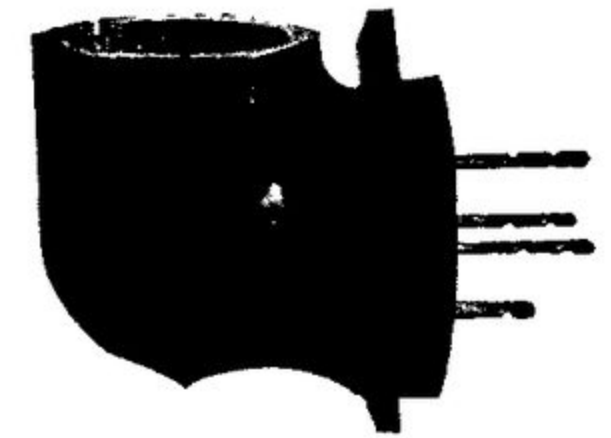


Fig. 20—AmerTran front-of-panel tube socket for type 845 and 211 power tubes. List price \$18.75.

Miscellaneous Air-Insulated Apparatus

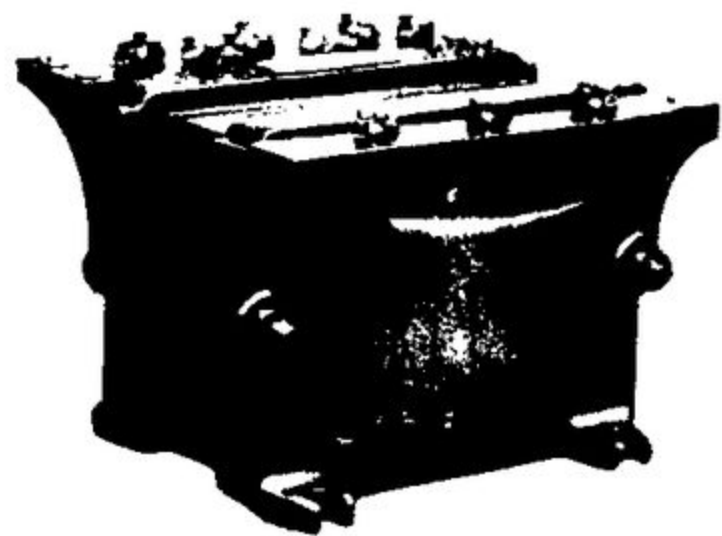


Fig. 22—Standard open-type mounting for small plate and filament transformers and reactors.



Fig. 23—Closed-type mounting used for small plate and filament transformers and reactors.



Fig. 24—Closed-type mounting used for large air-cooled, single phase plate transformers and reactors.

Fig. 25—Special air-insulated filament transformer designed to withstand 40000 volts test.

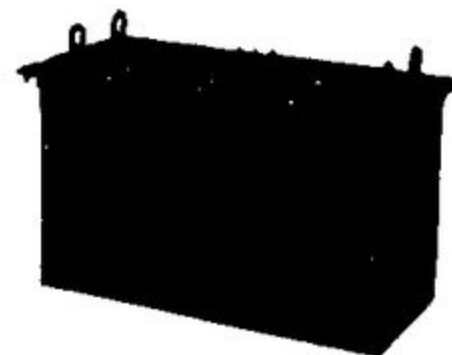


Fig. 26—Weatherproof mounting used for plate transformers and filter reactors.

Fig. 27—Standard mounting for three-phase, air-insulated plate transformers.



Fig. 28—Small AmerTran modulation reactor. Aluminum casting provides efficient radio frequency shielding.

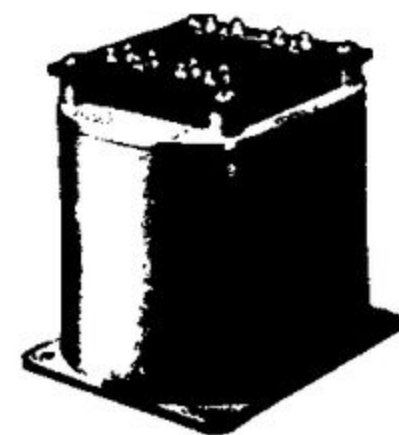


Fig. 29—Enclosed type air insulated, single-phase plate transformer for rectifier service.

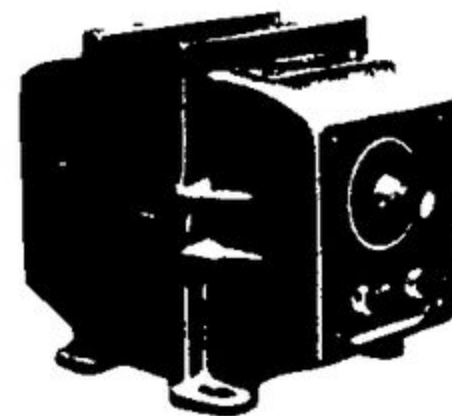


Fig. 30—Special shielded audio transformers are frequently furnished in this type of mounting.

AMERTRAN PLATE TRANSFORMERS FOR TRANSMITTING

Single phase, air insulated, self cooled, 55° C. Rise, 5% regulation fully enclosed type.

APPLICATION	D.C. Output	Use Rectifier	PRIMARY WINDING			SECONDARY WINDING			Code Word	Type No.	List Price
			Pri. VA.	Input Volts	Cycles	A.C. Volts Each Side Center (split winding)	RMS Amps.	Sec. VA.			
Refer to Table below for data on D.C. volts and amperes with various circuits	'66	178	115/230	50/60	900/ 725/ 600	0.142	255	5000	Wane	W-630	\$26.00
	'66	297	115/230	50/60	1500/1350/1250	0.142	424	7500	Wade	W-620	36.00
	'66	594	115/230	50/60	3000/2600/2300	0.142	848	15000	Waft	W-621	65.00
	'66	594	115/230	50/60	1500/1350/1250	0.284	848	7500	Wage	W-622	42.00
	'66	1192	115/230	50/60	3000/2600/2300	0.284	1700	15000	Waif	W-623	92.00
	'72	1040	115/230	50/60	1500/1350/1250	0.497	1482	7500	Wail	W-624	54.00
	'72	2080	115/230	50/60	3000/2600/2300	0.497	2970	15000	Wain	W-625	112.00
	'72	1470	115/230	50/60	1500/1350/1250	0.707	2120	7500	Wait	W-626	72.00
	'72	2965	115/230	50/60	3000/2600/2300	0.707	4240	15000	Wake	W-627	130.00
	'72	2450	115/230	50/60	1500/1350/1250	1.170	3500	7500	Wale	W-628	94.00
	'72	4900	115/230	50/60	3000/2600/2300	1.170	7000	15000	Walk	W-629	155.00

- NOTES: 1. Both primary and secondary windings are in two sections which may be connected either in series or parallel.
2. All transformers are of fully enclosed construction and leads are brought out through suitable bushings. Electrostatic shields are placed between primary and secondary windings.

OPERATING DATA FOR AMERTRAN PLATE TRANSFORMERS

Rectifier Circuit used	Bank Size	D.C. Amperes from Filter	D.C. Volts Output		No deduction for drop in filter circuit*	
			Formula for D.C. Volts	3000 v. trans.	1500 v. trans.	900 v. trans.
Single Phase, Full wave	1 Trans.	1.41 x RMS Amps. of Transformer	0.90 x A. C. side center	2700	1350	800
			volts one	2160	1215	650
			side center	2075	1125	540
Three Phase, Half Wave, Double "Y"	3 Trans.	1.73 x RMS Amps. of 1 Transformer	1.17 x A. C. volts one	3500	1750	1050
			side center	3040	1580	850
			side center	2690	1460	700
Three Phase Full Wave	3 Trans.	1.225 x RMS Amps. of 1 Transformer	2.34 x A. C. volts one	7000	3500	2100
			side center	6080	3160	1690
			side center	5380	2920	1400

NOTE: D. C. output voltages listed above assume sine wave input and zero voltage drop in rectifier tube. The actual voltage obtained at the output of the filter will be from 3% to 8% less and will depend largely upon the d. c. resistance of the filter reactors used. For circuits refer to accompanying diagrams.

AMERTRAN FILTER REACTORS FOR TRANSMITTING

Rated inductance obtained with full rated d.c. flowing.

Inductance Henrys	D.C. Amps.	Approximate D.C. Ohms	Connected	Equivalent VA. Size	Refer Notes	Test Volts RMS	Code Word	Type No.	List Price
10	0.200	110		76	1	{ 7500 { 15000	Lere Lett	L-640 L-641	\$14.00 17.50
20	0.200	150		152	1	{ 7500 { 15000	Levi Levo	L-642 L-643	15.00 19.00
30	0.200	240	series {	227	1, 2	{ 7500 { 15000	Lewd Lias	L-644 L-645	23.00 28.00
7½	0.400	60	parallel }						
15	0.400	95		454	1	{ 7500 { 15000	Lieb Lief	L-646 L-647	25.00 31.00
20	0.350	200	series {	465	1, 2	{ 7500 { 15000	Lien Lieu	L-648 L-649	27.00 33.00
5	0.700	50	parallel }						
10	0.700	60		930	1	{ 7500 { 15000	Life Lift	L-650 L-651	40.00 50.00
20	0.500	140	series {	950	1, 2	{ 7500 { 15000	Lilt Lima	L-652 L-653	42.00 52.00
5	1.000	35	parallel }						
10	1.000	45		1900	1	{ 7500 { 15000	Limb Lime	L-654 L-655	58.00 72.00
20	0.800	100	series {	2435	1, 2	{ 7500 { 15000	Lima Limy	L-656 L-657	67.00 84.00
5	1.600	25	parallel }						
10	1.600	35		4860	1	{ 7500 { 15000	Lind Ling	L-658 L-659	110.00 137.00
16	1.430	60	series {	6200	1, 2	{ 7500 { 15000	Link Lint	L-660 L-661	130.00 160.00
4	2.860	15	parallel }						

- NOTES: 1. Resistance values are approximate and are not guaranteed—high test units will have slightly higher d.c. resistance.
2. These units may be connected in series for normal rating or in parallel for double current with one quarter the resistance.

AMERTRAN TRANSMITTING FILAMENT HEATING TRANSFORMERS

The filament heating transformers listed below have been especially designed for use in radio transmitters and rectifying circuits where mercury-vapor tubes are used. All types are designed to maintain rated voltage within 5% and the temperature rise during continuous operation at full load is less than 30° C. Owing to the fact that they may be used in circuits having higher peak voltages than usual, a large margin of safety is built into the insulation. Another feature is the low-voltage primary tap which permits the use of a rheostat in series for closer regulation.

Single-phase, air-insulated, self-cooled, 30° C. rise, 5% regulation, closed construction.

APPLICATION Use with Type Tube	V.A. Rating	PRIMARY Volts and Cycles	SECONDARY Volts Amps.	RMS Volts Test	Code Word	Type No.	List Price
1-'66	12½	100/120/200/240 v. 50/60 cyc.	2½ ct. 5	5000 12000 20000	Haak Hack Hadj	H-561 H-562 H-563	\$12.00 14.00 20.00
2-'66	25	100/120/200/220 v. 50/60 cyc.	2½ ct. 10	5000 12000 20000	Haet Haft Haig	H-564 H-565 H-566	14.00 16.00 23.00
3-'66	37½	100/120/200/240 v. 50/60 cyc.	2½ ct. 15	5000 12000 20000	Haik Hail Haje	H-567 H-568 H-569	15.00 18.00 26.00
1-'72	50	100/120/200/240 v. 50/60 cyc.	5 ct. 10	12000 20000	Hake Halo	H-570 H-571	19.00 28.00
2-'72 or 1-'69	100	100/120/200/240 v. 50/60 cyc.	5 ct. 20	12000 20000 35000	Hals Hame Hank	H-572 H-573 H-574	22.00 31.00 40.00
3-'72	150	100/120/200/240 v. 50/60 cyc.	5 ct. 30	12000 20000 35000	Hark Harl Harp	H-575 H-576 H-577	25.00 35.00 45.00
3-'69	300	100/120/200/240 v. 50/60 cyc.	5 ct. 60	35000	Hasp	H-578	50.00
10, 800, 825 or RK-18	49	100/120/200/240 v. 50/60 cyc.	7½ ct. 6½	5000	Hach	H-579	16.00
	98	100/120/200/240 v. 50/60 cyc.	7½ ct. 13	5000	Haud	H-580	18.00
'45, '42A '11 or 03A	65	100/120 50/60 cyc.	10 ct. 6½	5000	Heady	H-541	16.00
04A or '49	110	100/120/200/240 v. 50/60 cyc.	11 ct. 10	5000	Head	H-581	18.00

NOTE: 1. Transformers in sizes up to 100 Va. insulated for 12000 volts or less will be mounted cases similar in appearance to standard De Luxe audio and power transformers (see page 3). Larger units and transformers tested at 20000 volts and above will be mounted in closed frames similar to Fig. 25.
2. Transformers similar to the above but with special primary or secondary voltage ratings are available on special order at 20% additional list for a unit having the same Va. rating and insulation test.

RECTIFIER CIRCUIT OPERATING DATA

RECTIFIER CIRCUIT	Diagram No.	No. of Tubes	Max. Input Volts RMS (E _i)	D.C. Volts (E ₂) Not deducting filter drop	Max. D.C. Output current
Single-phase, full-wave	Fig. 1	2	35.3% MPIV*	90% E _i	63.6% MPPC*
Single-phase, full-wave (bridge type)	Fig. 2	4	70% MPIV*	90% E _i	63.6% MPPC*
Single-phase, half-wave (voltage doubling)	Fig. 3	2		Variable**	
Three-phase, half-wave	Fig. 4	3	41% MPIV*	117% E _i	82.7% MPPC*
Three-phase, half-wave (double "Y"—6-phase)	Fig. 5	6	41% MPIV*	117% E _i	191% MPPC*
Three-phase, full-wave	Fig. 6	6	41% MPIV*	234% E _i	95.5% MPPC*

*MPIV—Maximum peak inverse voltage rating of rectifier tube.

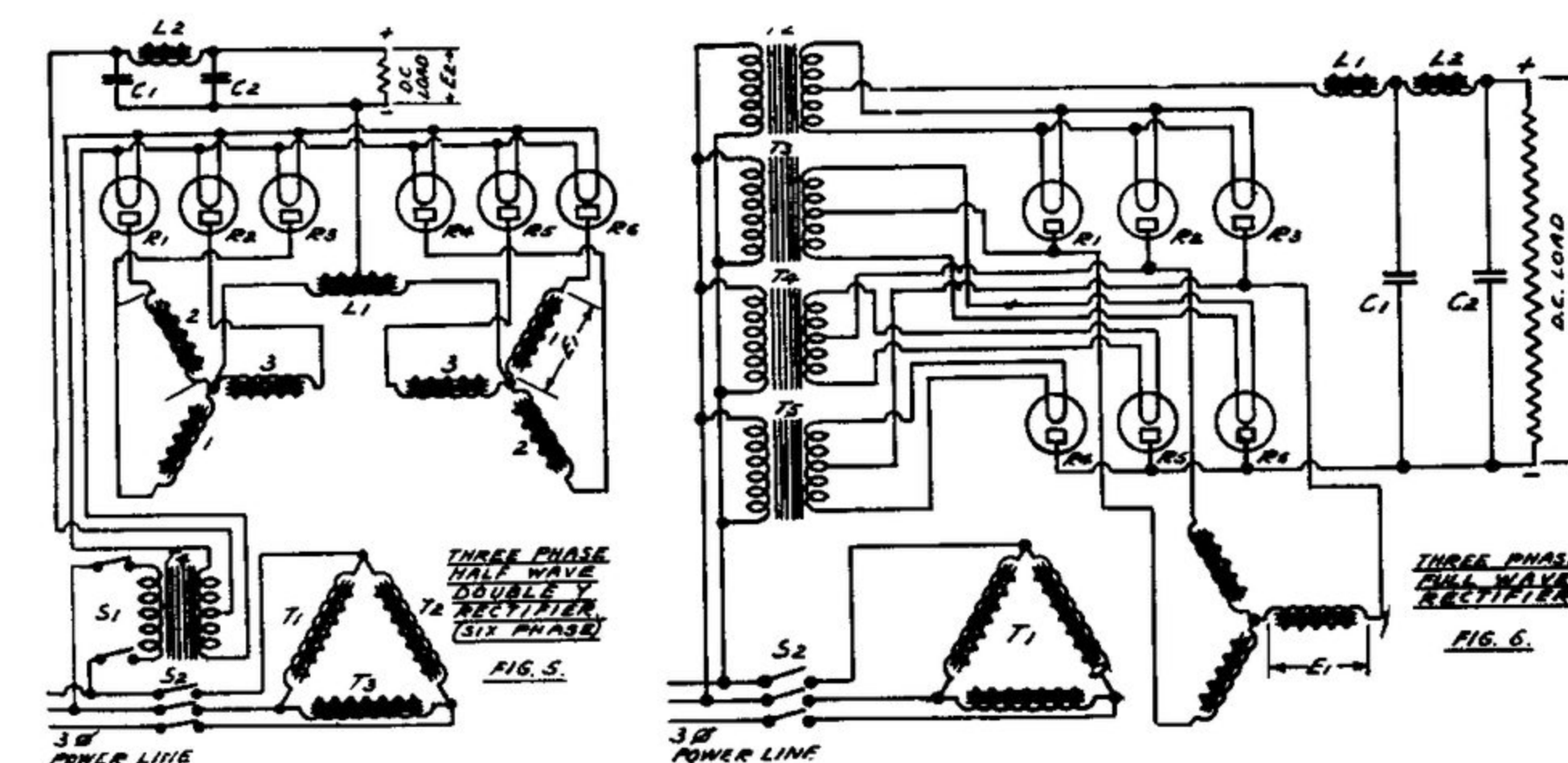
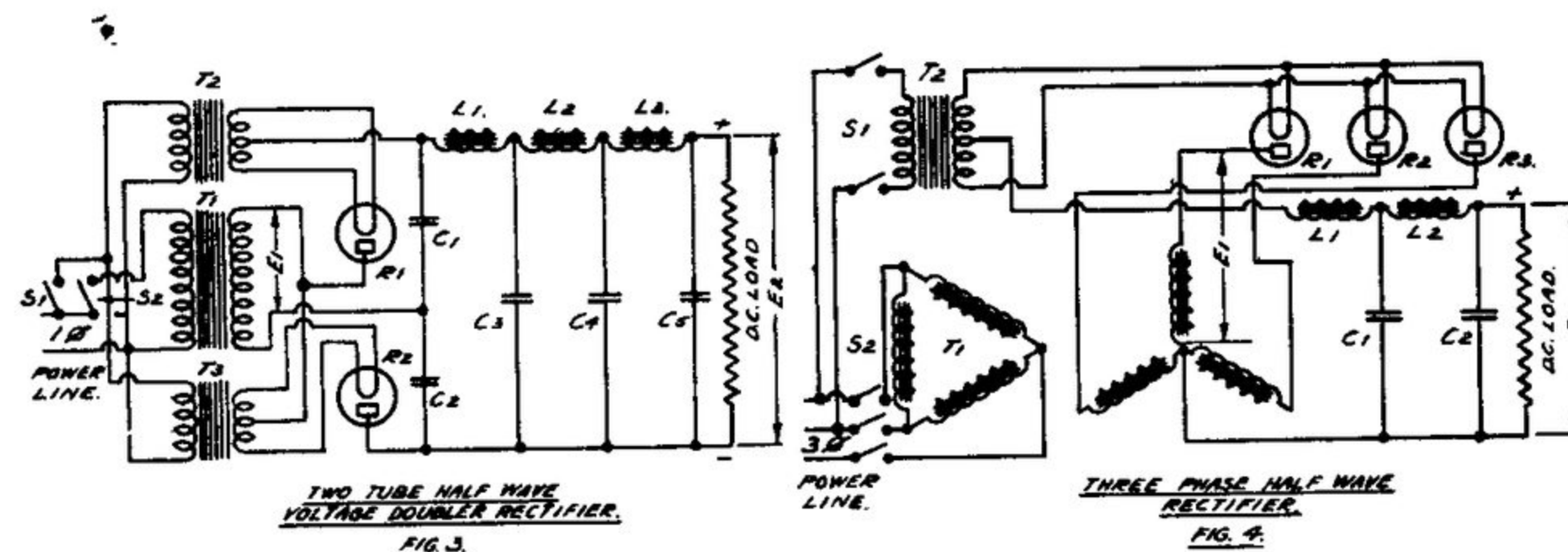
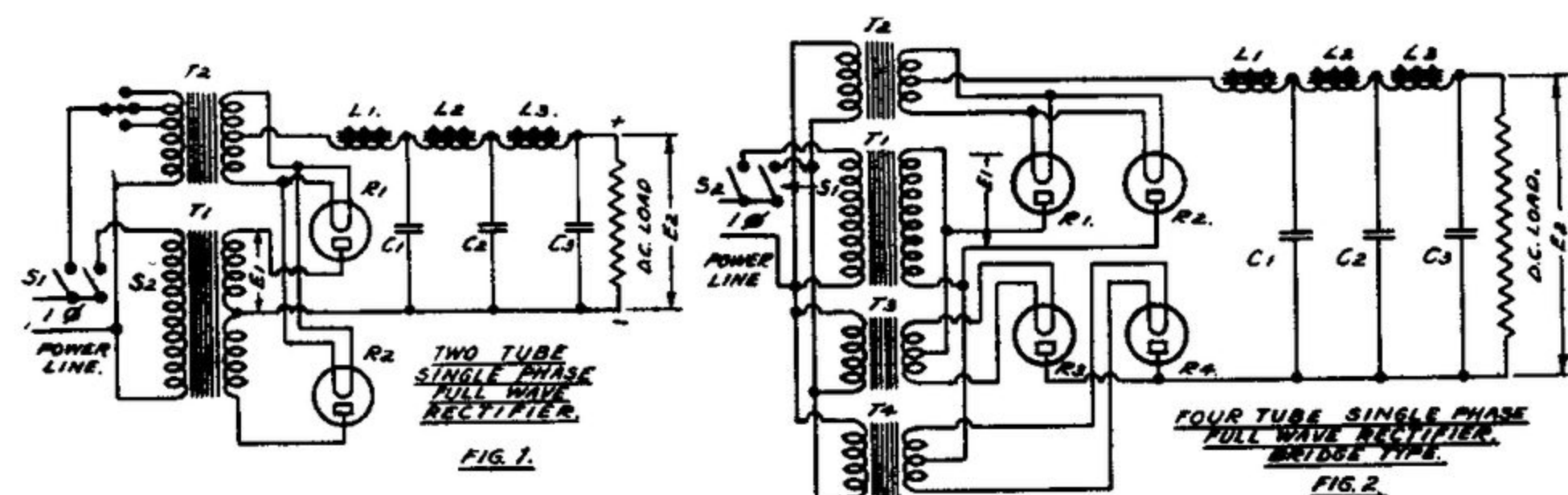
MPPC—Maximum peak plate current rating of rectifier tube.

**Depends on size of C₁ & C₂.

NOTES CONCERNING OPERATION OF THREE-PHASE RECTIFIER CIRCUITS:

1. Must be used with "T" type filter reactors the parts of which may have smaller values than reactors used in single-phase circuits.
2. The interphase reactor acts as the first choke.
3. Plate transformer should preferably be three single-phase units with delta-connected primaries and star-connected secondaries. If desired a three-phase transformer may be used.
4. Switch S₁ should be closed first; S₂ is closed 40 seconds after S₁.

Rectifier Circuits for Transmitters



For operating data please refer to table on facing page.

AmerTran Rectifier-Filter Units

TYPE R-601 DYNAMIC FIELD SUPPLY

This compact unit is designed to furnish current to energize the field coils of either one or two dynamic loud speakers. The equipment (Fig. 30) is mounted on a compact chassis of rugged construction and is finished in black crackle. (CODE WORD—RACE)

Input voltage 115 volts, 50/60 cycles
 Filtered d.c. output 1.5 Amps. at 7.5 or 15 volts
 Rectifier tube AmerTran Type EL-22.5
 Dimensions Base 6½" by 7½"; Height 7½"
 Approximate weight 19 lbs. net; 41 lbs. shipping
 List Price (with tube) \$56.00

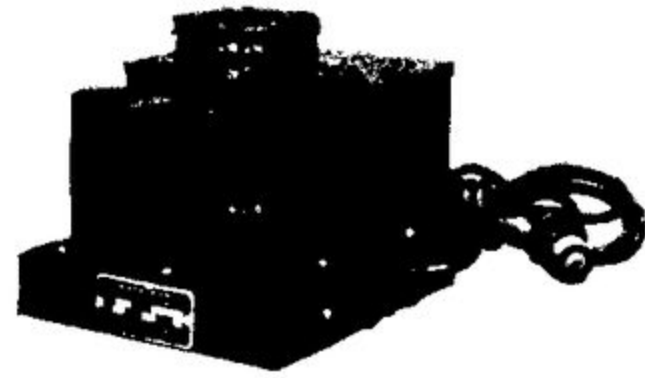


Fig. 30—Power Supply (Type R-601) to furnish filtered d.c. field current to one or two dynamic loud speakers.

TYPE R-602 DYNAMIC FIELD SUPPLY

In large public address installations where as many as nine dynamic loud speakers are sometimes required, AmerTran Type R-602 will be found ideal. It is arranged so that its output may be adjusted quickly and accurately to supply filtered d.c. to energize from one to nine dynamic loud speaker field coils. Features include accurate meter for checking field current, four-point primary switch for compensating line voltages, twelve position regulator for adjusting output voltage, fully enclosed in rugged sheet-metal housing design for wall mounting. (CODE WORD—RACK)

Input voltage 100/124 volts, 50/60 cycles
 Filtered d.c. output 1.5 Amps. at 60 volts Max.
 Voltage control Adjustable from 7.5 to 60 volts in 12 steps
 Rectifier tube AmerTran Type EL-5B
 Dimensions Wall space 21" by 11"; depth 7½"
 Approximate weight 58 lbs. net; 90 lbs. shipping
 List Price (with tube) \$260.00

TYPE R-603 FILAMENT SUPPLY

In low-level amplifiers less hum will be experienced in the output if the amplifier tubes (27, 56 and similar) are heated with filtered d.c. instead of the usual a.c. AmerTran Type R-603 filament supply is designed to furnish adequately filtered d.c. for this purpose. The equipment (Fig. 31) is of compact construction and is finished in black crackle. (CODE WORD—RAIL)

Input voltage 100/124 volts, 50/60 cycles
 Filtered d.c. output 1.75 Amps. at 12 volts
 Rectifier tube AmerTran Type EL-22
 Dimensions Base 9½" by 4½"; height 6½"
 Approximate Weight 17 lbs. net; 35 lbs. shipping
 List Price (with tube) \$60.00

AMERTRAN RECTIFIER TUBES

AmerTran Type EL rectifier tubes have been especially designed for use with AmerTran rectifier equipment and are available to persons or firms who have purchased this equipment. In ordering any of the tubes listed below kindly give the type and serial number of the item of AmerTran equipment with which it is used. All tubes are of the argon-gas type.

Type Rectifier	Peak Inverse Volts	Peak Plate Amperes	Normal d.c. output (Amperes)	Code Word	Type No.	User's Net Price
Full wave	80	4.5	1.5	Eads	EL-22	5.00*
Full wave	80	7.5	2.5	Earl	EL-22.5	6.00*
Full wave	370	3.0	1.0	East	EL-302.5	7.00*
Full wave	80	15.0	5.0	Easy	EL-5C	8.00*
Full wave	100	27.0	9.0	Eath	EL-10A	16.00*
Full wave	340	15.0	5.0	Ebon	EL-5B Std.	16.00*
Full wave	370	20.0	5.0	Ebro	EL-5B H.D.	22.50*
Half wave	750	96.0	16.0	Eche	EL-16B	37.50*

*Price is not subject to regular trade discounts, as tubes are sold for replacement only.



Fig. 31—Power Supply (Type R-603) to furnish filtered d.c. for heating filaments in low-level input amplifiers.

AmerTran SilCor Components for Audio Amplification

Moderately Priced Apparatus to Meet Requirements in Amplifier, Public Address,
Radio Receiver and Amateur Installations.

including

Audio Transformers..... Type Z
 Filter and Audio Reactors..... Type U
 Plate and Filament Transformers..... Type J

SILCOR Audio Components are offered to satisfy the demand for amplifier parts of better than average quality at a moderate price. Designed by the same engineers who developed AmerTran De Luxe Audio Transformers and manufactured from quality materials with the same skilled workmanship, these units are ideal for use in radio receivers, public-address amplifiers, amateur transmitters, and industrial electronic devices.

Only liberally designed units capable of doing a real job in the fields where their use is suggested have been included in the AmerTran SilCor line—they should not be confused with small replacement transformers in fancy oversized mountings. Audio units will give uniform response within ± 2 dB from 60 to 8000 cycles; filter units give rated inductance with full rated d.c. flowing, and power units have better than 10% regulation and will deliver rated voltage continuously at full load and with a temperature rise not exceeding 55° C.

Mountings for SilCor units represent a new departure in reversible transformer cases for the medium priced field. Four sizes are used for the line, all being symmetrical in appearance, of similar construction and finished with eggshell black enamel in a thoroughly professional manner. Being rectangular and without protruding mounting lugs, the cases are of minimum size for the transformers which they house. They may be mounted with terminals at either the top or base with concealed screws for a permanent job or with exposed screws and detachable mounting plate for a temporary installation. With SilCor parts neatly balanced equipment of pleasing appearance may be assembled in the manner dictated by commercial practice.

When considered from the electrical viewpoint the designs offered in the SilCor line will be found very flexible, highly practical and up-to-the-minute in every particular. Most important, you know exactly what you are buying, as the rating of each unit includes definite values in dB, Va, or henrys as well as turns ratios, impedance ratios, voltages and currents. Extra flexible designs which are so universal that the efficiency is impaired have been avoided.

TABLES OF WEIGHTS AND DIMENSIONS

Case No.	Drawing	DIMENSIONS IN INCHES			Mounting Holes	Weight (Lbs.)	
		Height	Length	Width		Net	Ship
S-1	23988	2½	2½	2½	2 by 2¼	2	3
S-2	23989	3½	3½	2½	2¼ by 2½	3½	4½
S-3	23990	4½	4½	3½	2½ by 3½	6½	9
S-4	23991	5½	5½	3½	3¼ by 4¾	12	15

Note:—Weights given above include average transformer mounted in case.

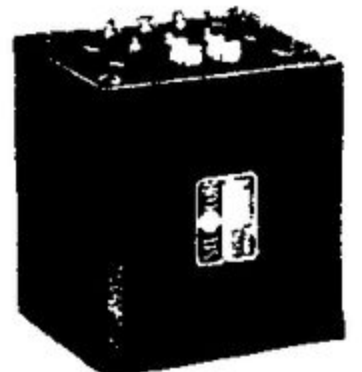
SilCor Transformers and Reactors are not intended as substitutes for AmerTran De Luxe parts but are to fill a definite need for moderately priced equipment where precision results are not the prime requisite. AmerTran will continue to recommend "De Luxe" and "Precision" components for use in broadcasting, recording and laboratory equipment and in other applications where it is desired to cover a wide range of audio frequencies, viz—30 to 16,000 cycles or over.



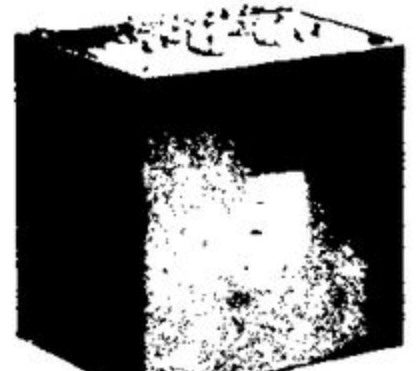
Mounting S-1



Mounting S-2



Mounting S-3



Mounting S-4

Note: A detachable mounting plate is furnished with every SilCor Transformer.

MIXING AUDIO TRANSFORMERS

Type	List
J-791 500* 333 235 200* 125 or 50 ohms primary to 500* 333 235 200* 125 or 50 ohms secondary, maximum level 20 dB (S-1)	7.00

NOTE: Impedances marked with an asterisk (*) have center-taps.

LINE-TO-GRID AUDIO TRANSFORMERS

(Class "A")

J-771 500* 333 235 200* 125 or 50 ohms to single grid, 15 dB (S-1)	6.50
J-781 500* 333 235 200* 125 or 50 ohms to push-pull grids, 20 dB (S-1)	7.50
J-811 2000* 1000 or 500 ohm pick-up unit to single grid, 15 dB (S-1)	7.75

NOTE: Primary impedances marked with asterisk (*) have center-taps. Reflected impedance of secondary of Types J-771 and J-811 is 100,000 ohms; of Type J-781 (series connected) 200,000 ohms.

INTERSTAGE AUDIO TRANSFORMERS

(Class "A")

J-711 Detector or single plate to single grid, 1:3½ ratio, 15 dB (S-1)	\$5.50
J-721 Single plate to push-pull grids, 1:2 ratio e.s.c., 15 dB (S-1)	6.00
J-751 Push-pull plates to push-pull grids, 1:1.15 ratio, 20 dB (S-1)	7.00

NOTE: Above types are designed to work out of plates of general-purpose triodes, such as 01A, 26, 27, 30, 37, 55, 56, or 85 type tubes and into the grids of suitable Class "A" amplifiers.

INTERSTAGE DRIVER AUDIO TRANSFORMERS

(Class "A" to Class "B")

J-783 Class "A" plate to Class "B" grids, 5:1 or 2.66:1 ratio, 19 dB (S-1)	7.75
5:1 ratio matches: Single 53 or 56 to Class "B" 53 2.66:1 ratio matches: Single 30 to Class "B" 19 Single 49 to Class "B" 49's	
J-784 Class "A" plate to Class "B" grids, 3.7:1 or 3:1 ratio, 21 dB (S-1)	7.75
3.7:1 ratio matches: Single 89 to Class "B" 89's 3:1 ratio matches: Single 59 to Class "B" 46's or 59's	
J-785 Class "A" plate to Class "B" grids, 2.6:1 or 2.2:1 ratio, 22 dB (S-1)	7.75
2.6:1 ratio matches: Single 37 to Class "B" 79 2.2:1 ratio matches: Single 46 to Class "B" 46's or 59's Single 89 to Class "B" 79	
J-753 Class "A" plates to Class "B" grids, 2.11:1 ratio, 28 dB (S-1)	7.75
2.11:1 ratio matches: Push-pull 45, 46 or 59 plates to Class "B" 46's or 59's	

NOTE: Ratio stated for transformers working out of single plate is primary turns to one-half secondary turns; overall ratio is given for transformer (J-753) working out of push-pull plates.

AUDIO REACTORS (CHOKE COILS)

Z-901 Parallel-feed audio choke, 300 henrys at 5 mA d.c., 5000 ohms d.c. resistance. For use with general-purpose tubes (S-1)	5.50
Z-906 Parallel-feed audio choke, 32 henrys at 100mA d.c., 450 ohms d.c. resistance. For use with power tubes (S-3)	6.50
Z-911 Center-tapped audio choke, 300 henrys over-all inductance without unbalanced d.c., 5000 ohms d.c. resistance, Max. d.c. per leg 15 mA. For p-p output from amplifier tubes (S-1)	6.00
Z-912 Center-tapped audio choke, 100 henrys over-all inductance with 6 mA. unbalanced d.c., 220 ohms d.c. resistance, Max. d.c. per leg 00 mA. For p-p output from power tubes (S-1)	6.00
Z-914 Center-tapped audio choke, 1300 henrys over-all inductance without unbalanced d.c., 9500 ohms d.c. resistance, Max. d.c. per leg 10 mA. For p-p output from type 57 or 77 plates (S-3)	12.00

NOTE: Please read explanation of ratings under Filter Reactors.

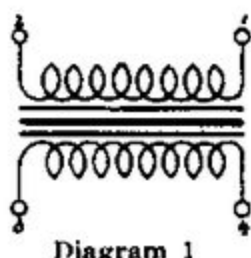


Diagram 1

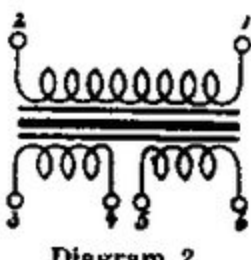


Diagram 2

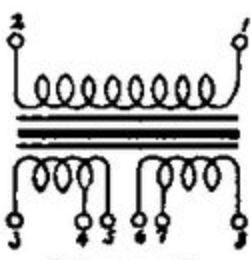


Diagram 3

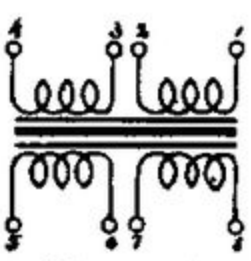


Diagram 4

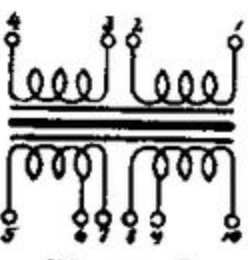


Diagram 5

Note: Please refer to "Numerical Listing" of SilCor Transformers for diagram number, case number and code word.

PLATE-TO-LINE AUDIO TRANSFORMER

(Low Level—Class "A")

Type	List
J-761 20 dB, 20,000* or 5,000 ohms primary 500* 333 235 200* 125 or 50 ohms secondary Normal d.c. per primary leg should not exceed 10 mA. (S-1)	\$7.50
20,000 ohms matches: Biased detector plate or Class "A" triodes (single or push-pull):—01A, 26, 27, 30, 37, 55, 56, or 85	

OUTPUT AUDIO TRANSFORMERS

(Class "A" and "B")

Below is described the most flexible line of output audio transformers ever offered as standard equipment. The seven transformers listed have been arranged so that there is a sufficiently accurate impedance match available to meet the requirements of every standard power tube, whether it is used singly or in push-pull, as a triode or pentode, or in Class "A" or Class "B" amplification. The impedances have been set so that there is an exact match for critical (pentode and Class "B") tubes, and for non-critical Class "A" tubes there is frequently a selection of impedances within the range which provides large output with minimum distortion.

The secondary windings of these transformers will be found equally as flexible as the primary. The six types designed for use with high power output tubes have three secondary sections which may be connected to furnish power to either a 500 ohm line or to one or several dynamic loud speaker voice coils.

NOTE: Center-tap connections are provided where impedances are marked with an asterisk (*). Use parallel feed when transformer (except J-732) is used with a single power tube.

J-871 30 dB, 20,000* 16,000* 5,000 or 4,000 ohms primary 500 ohms and/or 15*, 7½, 5, 3½ or 1½ ohms secondary (S-2) Normal d.c. per primary leg should not exceed 48 mA.	8.00
20,000 ohms matches: Class "A" p-p triodes:—10, 12A or 49 Class "A" p-p pentodes:—38	
16,000 ohms matches: Class "A" p-p pentodes:—6A4 or 41	
5,000 ohms matches: Single triode:—59	
4,000 ohms matches: Single triode:—45, 50 or 71 Single pentode:—43	
J-872 31 dB, 14,000* 12,000* 3,500 or 3,000 ohms primary 500 ohms and/or 15*, 7½, 5, 3½ or 1½ ohms secondary (S-2) Normal d.c. per primary leg should not exceed 62 mA. Max. peak plate current per leg (Class B) not over 90 mA.	8.00
14,000 ohms matches: Class "A" p-p pentodes:—2A5, 42, 47 or 89 Class "B":—79	
12,000 ohms matches: Class "A" p-p pentodes:—33 or 59 Class "A" p-p triodes:—46 or 89 Class "B":—49	
J-873 28 dB, 10,000* 8,000* 2,500 or 2,000 ohms primary 500 ohms and/or 15*, 7½, 5, 8½ or 1½ ohms secondary (S-2) Normal d.c. per primary leg should not exceed 62 mA. Max. peak plate current per leg (Class B) not over 90 mA.	8.00
10,000 ohms matches: Class "A" p-p triodes:—59 Class "B":—19 or 89 Single triode:—10, 12A or 49 Single pentode:—38	
8,000 ohms matches: Class "A" p-p triodes:—31, 45 or 71 Class "A" p-p pentodes:—43	
2,500 ohms matches: Single triode:—2A3	
2,000 ohms matches: Single tetrode: 48	
J-874 35 dB, 10,000* 6,000* 2,500 or 1,500 ohms primary 500 ohms and/or 15*, 7½, 5, 3½, or 1½ ohms secondary (S-2) Normal d.c. per primary leg should not exceed 98 mA. Max. peak plate current per leg (Class B) not over 200 mA.	8.00
10,000 ohms matches: Class "B":—53	
6,000 ohms matches: Class "A" p-p triodes:—50 Class "B":—46 or 59 Single triode:—46 or 89 Single pentode:—33 or 59	

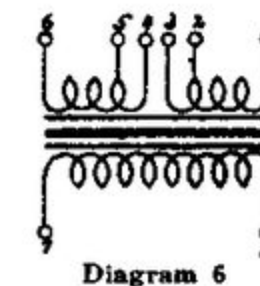


Diagram 6

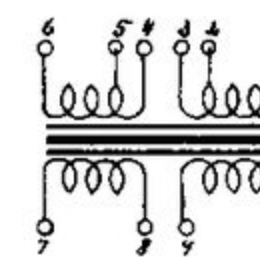


Diagram 7

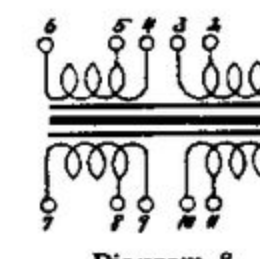


Diagram 8

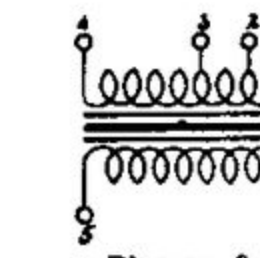


Diagram 9

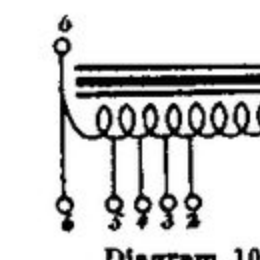


Diagram 10

Note: Please refer to "Numerical Listing" of SilCor Transformers for diagram number, case number and code word.

OUTPUT AUDIO TRANSFORMERS

Type	(Class "A" and "B") Continued	List
J-875	34 dB, 5,000* 3,000* 1,250 or 750 ohms primary 500 ohms and/or 15*, 7½, 5, 3% or 1¼ ohms secondary (S-2) Normal d.c. per primary leg should not exceed 122 mA 5,000 ohms matches: Class "A" p-p triodes:—2A3 (self bias) 3,000 ohms matches: Class "A" p-p triodes:—2A3 (fixed bias)	8.00
J-876	37 dB, 2,500* 1,500* 625 or 375 ohms primary 500 ohms and/or 15*, 7½, 5, 3% or 1¼ ohms secondary (S-3) Normal d.c. per primary leg should not exceed 200 mA 2,500 ohms matches: Class "A" parallel p-p (4) triodes:—50 or 2A3 (self bias) 1,500 ohms matches: Class "A" parallel p-p (4) triodes:—2A3 (fixed bias)	11.00
J-732	27 dB, 7,000 ohms primary to 15*, 7½, 5, 3% or 1¼ ohms secondary Use parallel feed if d.c. in primary exceeds 34 mA. (S-1) 7,000 ohms matches: Single triode:—31 Single pentode:—33, 42, 47 or 89	\$7.50

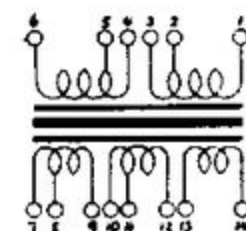


Diagram 11



Diagram 12

LINE-TO-SPEAKER AUDIO TRANSFORMERS

J-831	34 dB (15 watts), 500 ohms to 15, 7½, 5, or 3% ohms (S-1)	9.00
J-733	37 dB (30 watts) 500 ohms to 15, 7½, 5, 3% or 1¼ ohms (S-2)	12.50

NOTE: Type J-831 is an auto-transformer; Type J-733 is of double wound construction. Both types match 500 ohm audio lines to one or several (parallel connected) 15-ohm voice coils; install near loud speakers when same are located remote from the amplifier.

FILTER REACTORS (CHOKE COILS)

Z-902	4 henrys at 200 mA. d.c., 80 ohms d.c. resistance (S-2) (Commercial rating 10 henrys)	5.00
Z-903	6 henrys at 160 mA. d.c., 120 ohms d.c. resistance (S-2) (Commercial rating 15 henrys)	5.00
Z-904	14 henrys at 90 mA. d.c. 300 ohms d.c. resistance (S-2) (Commercial rating 30 henrys)	5.00
Z-905	Class "B" input filter choke, Max. d.c. 200 mA., 110 ohms d.c. resistance, 2½ henrys at 200 mA., 15 henrys at 10 mA. (S-2)	5.00
Z-913	Two-section filter choke—for series or parallel connection Series: 32 henrys at 100 mA. d.c., 450 ohms d.c. resistance Parallel: 8 henrys at 200 mA. d.c., 112 ohms d.c. resis. (S-3)	6.50

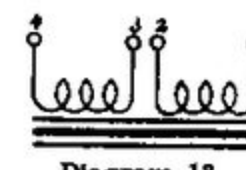


Diagram 13

NOTE: Filter choke ratings given are for inductance with FULL RATED D.C. CURRENT FLOWING AND 10 VOLTS A.C. IMPRESSED. In the design of filter circuits choke ratings of henrys and d.c. amps. are of no value unless it is known that the stated inductance is obtained when rated d.c. exists; not merely no-load inductance and the current carrying capacity of the wire.

PLATE-FILAMENT (POWER) TRANSFORMERS

U-971	68Va. 115-volt, 60 cycle primary—600*/300 volts (75mA. d.c.) plate 2½*/1¼ volts at 3 amps.—rectifier filament 6.3*/3.15 volts at 2½ amps.—power tube filaments 2½ volts at 5 amps.—amplifier tube filaments (S-3) Supplies amplifier using Class "B" 79 or single 45, 47 or 59	10.00
U-972	108 Va. 115-volt, 60 cycle primary—800*/400 volts (120 mA. d.c.) plate 5*/2½ volts at 3 amps.—rectifier filament 2½*/1¼ volts at 5 amps.—power tube filaments 2½ volts at 5 amps.—amplifier tube filaments (S-3) Supplies amplifier using Class "A" push-pull 45, 47 or 59	12.00
U-981	167 Va. 115-volt, 60 cycle primary—850*/425 volts (160 mA. d.c.) plate 5*/2½ volts at 3 amps.—rectifier filament 2½*/1¼ volts at 5 amps.—power tube filaments 2½ volts at 5 amps.—amplifier tube filaments 2½ volts at 10 amps.—radio tuner filaments (S-4) Supplies amplifier using Class "A" push-pull 2A3	16.00
U-973	182 Va. 115-volt, 60 cycle primary—1150*/575 volts (160 mA. d.c.) plate 5*/2½ volts at 3 amps.—rectifier filament 2½*/1¼ volts at 5 amps.—power tube filaments 2½ volts at 10 amps.—amplifier tube filaments (S-4) Supplies amplifier using Class "B" 46 or 59	14.00

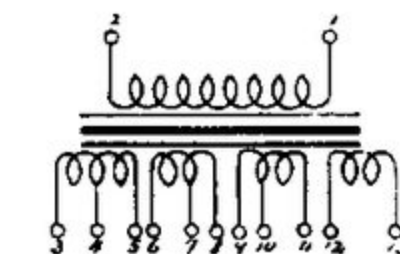


Diagram 14

Note: Please refer to "Numerical Listing" of SilCor Transformers for diagram number, case number and code word.

PLATE-FILAMENT (POWER) TRANSFORMERS

Type	(Continued)	List
U-974	198 Va. 115-volt, 60 cycle primary—1200*/600 volts (160 mA. d.c.) plate 7½*/3¼ volts at 2½ amps.—rectifier tube filament 7½*/3¼ volts at 2½ amps.—power tube filaments 2½ volts at 10 amps.—amplifier tube filaments (S-4) Supplies amplifier using Class "A" push-pull 10 or 50	14.00
UZ-961	Bias voltage supply unit for use with type 26 rectifier, 115-volt, 60 cycle primary; 100/70-volt, 10-mA. plate; 1½-volt, 1-amp. filament; 230-henry, 10-mA., 3700-ohm filter reactor (S-3)	10.00

NOTE: Voltages marked with an asterisk (*) have center-taps.

FILAMENT-HEATING TRANSFORMERS

U-722	20 Va., 115-volt, 60-cycle primary, 2½/1¼-volt, 8 amp. secondary (secondary center-tapped), 2,500 volt test (S-1)	5.50
U-723	20 Va. 115-volt, 60-cycle primary 5/2½-volt, 4 amp. secondary (secondary center-tapped), 2,500 volt test (S-1)	5.50
U-724	20 Va., 115-volt, 60-cycle primary, 6.3/3.15-volt 3 amp. secondary (secondary center-tapped), 2,500 volt test (S-1)	5.50
U-725	20 Va., 115-volt, 60-cycle primary, 7½/3¼-volt, 2½ amp. secondary (secondary center-tapped), 2,500 volt test (S-1)	5.50
U-726	20 Va., 115-volt, 60-cycle primary, 1½/¾-volt, 13-amp. secondary (secondary center-tapped) 2,500 volt test (S-1)	5.50

STEP-DOWN AUTO-TRANSFORMERS

U-991	75 Va., 230-volt, 60-cycle primary to 115-volt secondary (S-2)	6.00
U-992	125 Va., 230-volt, 60-cycle primary to 115-volt secondary (S-3)	7.00
U-993	175 Va., 230-volt, 60-cycle primary to 115-volt secondary (S-3)	9.00

Numerical Listing—AmerTran SilCor Transformers and Reactors

Type	Rating	General	Electrical Description	Case	Diag.	List	Code
J-711	15 dB	Interstage Class "A"	1 pl to 1 gr—1:3½	S-1	1	\$5.50	Jabber
J-721	15 dB	Interstage Class "A"	1 pl to 2 gr—1:2 e.s.c.	S-1	2	6.00	Jeckal
U-722	20 Va	Filament Transformer	115 v. to 2½ v. ct—2500 t	S-1	17	5.50	Ullster
U-723	20 Va	Filament Transformer	115 v. to 5 v. ct—2500 t	S-1	17	5.50	Umbles
U-724	20 Va	Filament Transformer	115 v. to 6.3 v. ct—2500 t	S-1	17	5.50	Umpire
U-725	20 Va	Filament Transformer	115 v. to 7½ v. ct—2500 t	S-1	17	5.50	Unbend
U-726	20 Va	Filament Transformer	115 v. to 1½ v. ct—2500 t	S-1	17	5.50	Unyoke
J-732	27 dB	Plate to Speaker	7000 w to 15/1¼ w	S-1	3	7.50	Jacket
J-733	37 dB	Line to Speaker	500 w to 15/1¼ w	S-2	3	12.50	Jaguar
J-751	20 dB	Interstage Class "A"	2 pl to 2 gr—1:1.15	S-1	4	7.00	Jangle
J-753	28 dB	Interstage Driver	2 pl to 2 gr—2.11:1	S-1	4	7.75	Jargon
J-761	20 dB	Plate(s) to Line	20000 w to 500/50 w	S-1	5	7.50	Jasper
J-771	15 dB	Line to Grid	500/50 w to 100000 w	S-1	6	6.50	Jejune
J-781	20 dB	Line to Grids	500/50 w to 200000 w	S-1	7	7.50	Jerkin
J-783	19 dB	Interstage Driver	1 pl to 2 gr—5/2.66:1	S-1	3	7.75	Jersey
J-784	21 dB	Interstage Driver	1 pl to 2 gr—3.7/3:1	S-1	3	7.75	Jesuit
J-785	22 dB	Interstage Driver	1 pl to 2 gr—2.6/2.2:1	S-1	3	7.75	Jockey
J-791	20 dB	Line to Line (Mixer)	500/50 w to 500/50 w	S-1	8	7.00	Jocous
J-811	15 dB	Line to Grid	2000/500 w to 100000 w	S-1	9	7.75	Jocund
J-831	34 dB	Line to Speaker	500 w to 15/3¼ w (auto)	S-1	10	9.00	Joggle
J-871	30 dB	Plates to Line & Sp.	20000/16000 w—500 & 15/1¼ w	S-2	11	8.00	Joiner
J-872	31 dB	Plates to Line & Sp.	14000/12000 w—500 & 15/1¼ w	S-2	11	8.00	Jostle
J-873	29 dB	Plates to Line & Sp.	10000/8000 w—500 & 15/1¼ w	S-2	11	8.00	Jounce
J-874	35 dB	Plates to Line & Sp.	10000/6000 w—500 & 15/1¼ w	S-2	11	8.00	Juggle
J-875	34 dB	Plates to Line & Sp.	5000/3000 w—500 & 15/1¼ w	S-2	11	8.00	Jumble
J-876	37 dB	Plates to Line & Sp.	2500/1500 w—500 & 15/1¼ w	S-3	11	11.00	Jungle
Z-901	300 Hy	Audio Reactor	5 mA. d.c., 3300 ohms	S-1	12	5.50	Zaffer
Z-902	4 Hy	Filter Reactor	200 mA. d.c., 80 ohms	S-2	12	5.00	Zealot
Z-903	6 Hy	Filter Reactor	160 mA. d.c., 120 ohms	S-2	12	5.00	Zenith
Z-904	14 Hy	Filter Reactor	90 mA. d.c., 300 ohms	S-2	12	5.00	Zephyr
Z-905	3 Hy	C1 B Filter Reactor	200 mA. d.c., 90 ohms	S-2	12	5.00	Zigzag
Z-906	32 Hy	Audio Reactor	100 mA. d.c., 450 ohms	S-3	12	6.50	Zincic
Z-911	300 Hy	Audio Reactor (c.t.)	15 mA. d.c., 3300 ohms (*)	S-1	13	6.00	Zither
Z-912	100 Hy	Audio Reactor (c.t.)	60 mA. d.c., 220 ohms (**)	S-1	13	6.00	Zodiac
Z-913	32/8 H	Filter Reactor (c.t.)	100/200mA., 450/112 ohms	S-3	13	6.50	Zouave
Z-914	1800 H	Audio Reactor (c.t.)	10 mA. d.c., 9500 ohms (***)	S-3	13	12.00	Zounds
UZ-961	2.5 Va	Bias Voltage Pack	115 v to 100/70/1.5 & 280 Hy	S-3	18	10.00	Ursine
U-971	68 Va	Power Transformer	115 v to 600/6.3/2.5/2.5 v	S-3	14	10.00	Uplift
U-972	108 Va	Power Transformer	115 v to 800/5/2.5/2.5 v	S-3	14	12.00	Uplish
U-973	182 Va	Power Transformer	115 v to 1150/5/2.5/2.5 v	S-4	14	14.00	Uproar
U-874	198 Va	Power Transformer	115 v to 1200/7.5/7.5/2.5 v	S-4	14	14.00	Uproot
U-981	167 Va	Power Transformer	115 v to 850/5/2½/2½/2½ v	S-4	15	16.00	Upshot
U-991	75 Va	Auto-Transformer	230 v to 115 v	S-2	16	6.00	Upward
U-992	125 Va	Auto-Transformer	230 v to 115 v	S-3	16	7.00	Urbene
U-993	175 Va	Auto-Transformer	230 v to 115 v	S-3	16	9.00	Utmost

* 15 mA. d.c. per leg— ** 60 mA. d.c. per leg— ***10 mA. d.c. per leg—

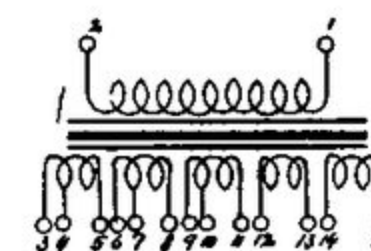


Diagram 15

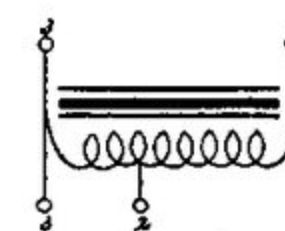


Diagram 16

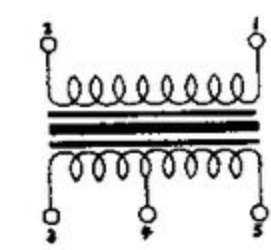


Diagram 17

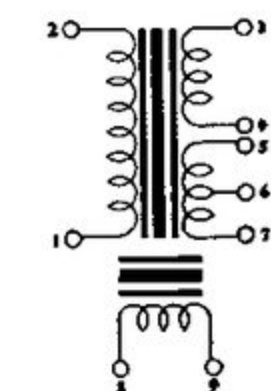


Diagram 18

Note: Please refer to "Numerical Listing" of SilCor Transformers for diagram number, case number and code word.

AmerTran Sales Offices

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