

New! "MULTI-BAND" TRANSMITTER

by THORDARSON

INSTANTANEOUS BAND-SWITCHING FROM FRONT OF PANEL

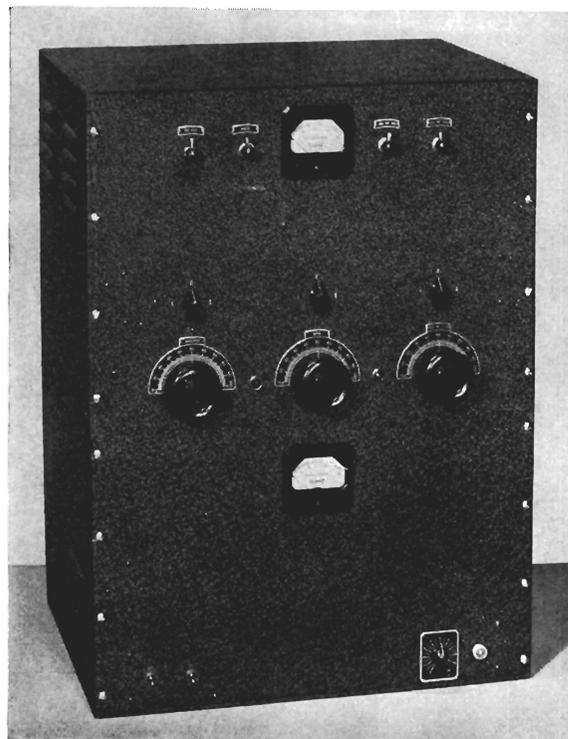
- Any 3 pre-selected amateur bands can be panel switched.
- Operates efficiently from 10 to 160 meters.
- 100 watts input on all bands.
- Single meter reads all plate currents as well as grid current of final stage.
- Power supply and R-F section on one chassis.
- Band-Switching feature optional, regular plug-in coils may be used.
- Tube lineup: 6L6G—6L6G—TZ-40.

PHONE OPERATION

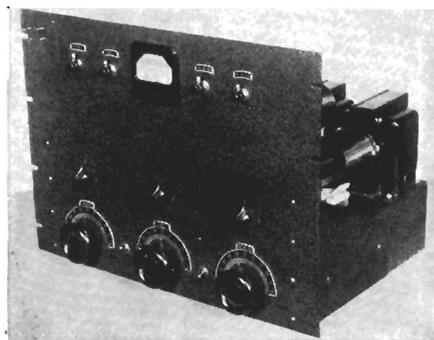
- Plate modulation by a separate unit using a pair of 6L6's.

RADIO FREQUENCY UNIT

This unit may be plate modulated for phone operation by the 6L6 modulator shown below, or it may be operated as a complete CW transmitter. The band-switch feature permits almost instantaneous switching over any three pre-determined bands, the desired bands being selected by inserting the proper coils. A single power transformer tapped for two rectifier circuits supplies power to the entire R. F. section. A conventional 6L6-G crystal oscillator is capacity coupled to a 6L6-G buffer-doubler which in turn is also capacity coupled to a Taylor TZ-40, providing ample output on all bands including 10 meters. A meter switching arrangement permits metering of all circuits as well as providing an "off" position for the "tune-up" procedure. Fixed neutralization is provided so that no readjustment is required in changing bands. For CW the cathode circuits of both the oscillator and the buffer-doubler stages are keyed simultaneously. If the band-switch feature is not desired, provision is made for the use of regular plug-in coils.



Complete Transmitter



R. F. Unit

THORDARSON FOUNDATION UNIT

Includes punched chassis and panel, brackets, mounting strips, grommets, and complete instructions for constructing and using the R. F. unit.

T-17K21 List Price \$12.00

T-17K21G — (Same as above but with grey panel). List Price 12.50

KIT OF THORDARSON TRANSFORMERS AND CHOKES

KT-101 List Price \$28.25

KIT OF COMPONENT PARTS

Other than Thordarson parts, foundation unit, tubes, cabinet and crystals. Includes Barker-Williamson final plate coils for any three bands.

PL-100 List Price \$109.00

CABINET

Will house complete transmitter including radio frequency and modulator units as illustrated above.

CAB-102 List Price \$16.25

MODULATOR UNIT

Ample power for plate modulation of the R. F. unit is provided by this 6L6 modulator. Fixed bias is accomplished through a separate bias rectifier, and ample driving power is obtained from the single triode connected 6F6. Hum is at an absolute minimum, and transients usually encountered with 6L6's in class AB₂ have been entirely eliminated. This renders speech clear, natural, and free of distortion. For phone operation, the two line switches of the R. F. unit are replaced with jewels and the filaments and the plates of both units are controlled simultaneously by the two switches on the modulator panel. This measure simplifies operation and allows rapid control of the transmitter. Connections between the two chassis are easily made by regular connector strips.

THORDARSON FOUNDATION UNIT

Includes punched chassis and panel, brackets, mounting strips, grommets and complete instructions for constructing and using the modulator unit.

T-17K22 List Price \$9.00

T-17K22G—(Same as above but with grey panel) List Price \$9.50

KIT OF THORDARSON TRANSFORMERS AND CHOKES

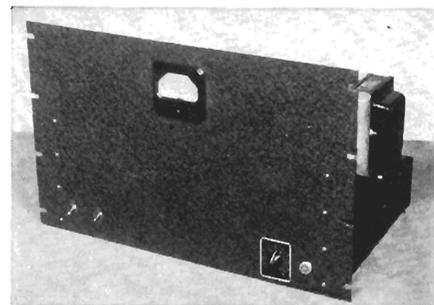
KT-201 List Price \$38.00

KIT OF COMPONENT PARTS

Other than Thordarson transformers, foundation unit and tubes.

PL-200 List Price \$31.00

SEE DETAILED PARTS LIST ON REVERSE SIDE



Modulator Unit

COMPLETE INSTRUCTION BOOK

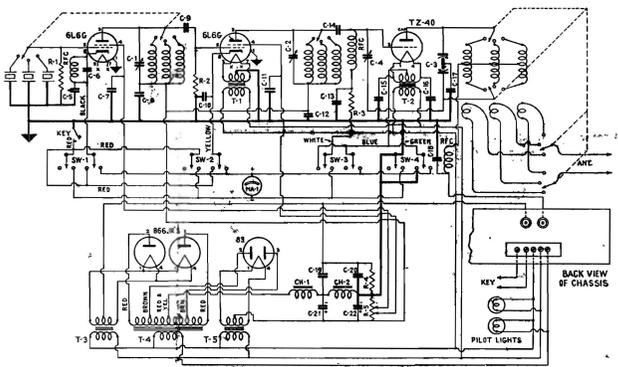
Full details of building data, photos, diagrams and layout.

SD-386A List Price 25c

Parts List and Schematic Drawings for Multi-Band Transmitter

Radio Frequency Unit

THORDARSON COMPONENTS



Foundation Unit

Includes punched chassis and panel, brackets, mounting strips, grommets, and complete instructions for constructing and using the R. F. unit.

- T-17K21.....List Price \$12.00
- T-17K21G — (Same as above but with grey panel).....List Price 12.50

Transformers and Chokes

No.	Description	List Price
T-1	T-19F97	Fil. transf. \$ 2.00
T-2	T-19F93	Fil. transf. 2.25
T-3	T-19F88	Fil. transf. 1.75
T-4	T-19F57	Plate transf. 10.00
T-5	T-19F91	Fil. transf. 2.25
CH-1	T-75C51	First choke 5.00
CH-2	T-75C51	Second choke 5.00

RESISTORS

DIAGRAM NO.	VALUE IN OHMS	WATTS	TYPE	LIST PRICE
R-1	50,000	1	IRC BT-1	\$0.20
R-2	50,000	10	Ohmite Red Davil	.40
R-3	2,500	25	Ohmite Wire Wound	.75
R-4	100,000	50	Ohmite Wire Wound	1.45
R-5	20,000	50	Ohmite Semi-variable	1.50

CONDENSERS

Diagram No.	Mfd.	Voltage Rating	Description	List Price
C-1	Var. Cond.	National TMS-250		\$ 3.00
C-2	Var. Cond.	National TMS-250		3.00
C-3	Var. Cond.	National TMC-200D		10.00
C-4	Neut. Cond.	Johnson 13G45		2.25
C-5	.001	1000 V Mica	Aerovox 1455 or C-D 4-6D1	.40
C-6	.0001	1000 V Mica	Aerovox 1455 or C-D 4-6T1	.35
C-7	.001	1000 V Mica	Aerovox 1455 or C-D 4-6D1	.40
C-8	.001	1000 V Mica	Aerovox 1455 or C-D 4-6D1	.40
C-9	.001	1000 V Mica	Aerovox 1455 or C-D 4-6D1	.40
C-10	.001	1000 V Mica	Aerovox 1455 or C-D 4-6D1	.40
C-11	.001	1000 V Mica	Aerovox 1455 or C-D 4-6D1	.40
C-12	.005	1000 V Mica	Aerovox 1455 or C-D 4-6D5	.55
C-13	.001	1000 V Mica	Aerovox 1455 or C-D 4-6D1	.40
C-14	.001	1000 V Mica	Aerovox 1455 or C-D 4-6D1	.40
C-15	.001	1000 V Mica	Aerovox 1455 or C-D 4-6D1	.40
C-16	.001	1000 V Mica	Aerovox 1455 or C-D 4-6D1	.40
C-17	.001	5000 V Mica	Aerovox 1457 or C-D 4-25D1	1.50
C-18	.001	5000 V Mica	Aerovox 1457 or C-D 4-25D1	1.50
C-19	2.	1500 V Oil fil.	Aerovox 1505 (2" can)	3.90
C-20	2.	1500 V Oil fil.	Aerovox 1505 (2" can)	3.90
C-21	4.	600 V Elect.	Aerovox GL600	1.85
C-22	4.	600 V Elect.	Aerovox GL600	1.85

MISCELLANEOUS PARTS

No.	Description	List Price
3	5-contact sockets, Amphenol #S5 @ 12c	\$.36
5	4-contact sockets, Amphenol #S4 @ 12c	.60
2	Octal sockets, Amphenol #S8 @ 15c	.30
5	4-contact isolantite sockets Amphenol SS4 @ 40c	2.00
8	Feed thru insulators, Johnson #55 @ 30c	2.40
4	Feed thru insulators, Johnson #42 @ 20c	.80
3	RF chokes, National R100 @ 60c	1.80
1	4" shaft extension, Yaxley RS243	.30
1	2-gang band switch, Centralab #2543	2.70
1	1-gang band switch, Centralab #2542	1.70
1	Coil turret, Barker Williamson, Model "B"	12.50
1	160 meter coil* Barker Williamson 160BL—center linked	4.25
1	80 meter coil* Barker Williamson 80 BL—center linked	4.00
1	40 meter coil* Barker Williamson 40 BL—center linked	3.50
1	20 meter coil* Barker Williamson 20 BL—center linked	3.00
1	10 meter coil* Barker Williamson 10 BL—center linked	3.00
1	2 1/4" Coto-Coil wheel C1-45, with indicator plate C1-47 marked "OSC. PLATE"	2.00
1	2 1/4" Coto-Coil wheel C1-45, with indicator plate C1-47 marked "BUFFER PLATE"	2.00
1	2 1/4" Coto-Coil wheel C1-45 with indicator plate C1-47 marked "PWR. AMP. PLATE"	2.00

NOTE: Miscellaneous items required, in addition to above, include hook up wire, nuts, screws, 5000 volt transmitter cable, solder, etc. See instruction sheet SD-386 for detailed listing.

*Only three Barker Williamson coils supplied with PL-100 kit. Specify coils desired.

Approximate List Price Complete (Less Tubes, Cabinet and Crystals) \$149.25

Modulator Unit

THORDARSON COMPONENTS

Foundation Unit

Includes punched chassis and panel, brackets, mounting strips, grommets and complete instructions for constructing and using the modulator unit.

- T-17K22.....List Price \$9.00
- T-17K22G — (Same as above but with grey panel).....List Price 9.50

Transformers and Chokes

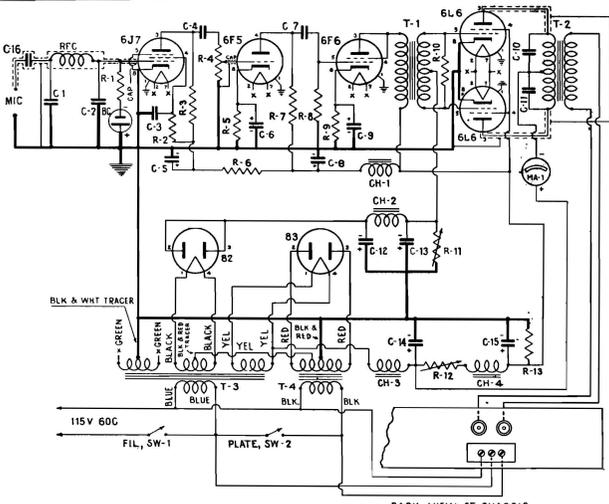
No.	Description	List Price
T-1	T-67D78	Driver transf. \$ 3.00
T-2	T-11M75	CHT Mod. transf. 12.50
T-3	T-79F84	Filament transf. 4.75
T-4	T-84P60	Plate transf. 7.75
CH-1	T-74C30	Third choke 1.50
CH-2	T-75C49	Bias choke 1.50
CH-3	T-75C51	First choke 5.00
CH-4	T-68C07	Second choke 2.00

RESISTORS

Diagram No.	Value in Ohms	Watts	Type	List Price
R-1	5 meg.	1/2	IRC BT-1/2	\$0.17
R-2	3 meg.	1	IRC BT-1	.20
R-3	250,000	1	IRC BT-1	.20
R-4	500,000	Vol. cont.	IRC 13-133	1.00
R-5	2,000	1	IRC BT-1	.20
R-6	20,000	1	IRC BT-1	.20
R-7	100,000	1	IRC BT-1	.20
R-8	250,000	1	IRC BT-1	.20
R-9	750	10	IRC type AB	.40
R-10	10,000	2	IRC BT-2	.30
R-11	1,500	25	Ohmite sem. var.	.85
R-12	2,500	25	Ohmite sem. var.	.85
R-13	25,000	50	Ohmite wirew'nd	1.25

CONDENSERS

Diagram No.	Mfd.	Voltage Rating	Description	List Price
C-1	.0001	500 V Mica	A'vox. 1467 or C-D 5W-5T1	\$.15
C-2	.0001	500 V Mica	A'vox. 1467 or C-D 5W-5T1	.15
C-3	.04	400 V Paper	A'vox. 484 or C-D DT-4S4	.15
C-4	.1	400 V Paper	A'vox. 484 or C-D DT-4P1	.20
C-5	8	450 V Elect.	A'vox. PBS 450 or C-D JR508	.95
C-6	10	25 V Elect.	A'vox. PR25 or C-D ED-2100	.50
C-7	.1	400 V Paper	A'vox. 484 or C-D DT-4P1	.20
C-8/C-15	8-8	450 V Du. El.	A'vox. 2G	1.60
C-9	10	50 V Elect.	A'vox. PR50	.65
C-10	.002	1000 V Mica	A'vox. 1455 or C-D 4-6D2	.45
C-11	.002	1000 V Mica	A'vox. 1455 or C-D 4-6D2	.45
C-12	8	200 V Elect.	A'vox. PBS 200 or C-D JR 208	.80
C-13	8	200 V Elect.	A'vox. PBS 200 or C-D JR 208	.80
C-14	8	600 V Elect.	A'vox. GL600	2.60
C-16	.01	400 V Paper	A'vox. 484 or C-D DT-4S1	.15



MISCELLANEOUS PARTS

No.	Description	List Price
1	R.F. Choke, National R-100	.60
1	Mic. Connector, Amphenol MC1F	.50
1	Mic. Connector Amphenol PCIM	.30
1	Bias Cell, Mallory #F7	.30
1	Bias Cell holder, Mallory #GB-1A	.10
1	1 1/2" Bar knob, black streamlined	.15
1	AC Line cord and plug Belden #1725	.50
5	Octal sockets, Amphenol S8 @ 15c	.75
2	4-contact sockets, Amphenol S4 @ 12c	.24
2	Metal tube grid caps @ 10c	.20
1	Dial plate, Crowe #566	.20
2	Feed thru insulators, Johnson #55 @ 30c	.60

NOTE: Miscellaneous items required, in addition to above include hook up wire, nuts, screws, 5000 volt transmitter cable, solder, etc. See instruction sheet SD-386 for detailed listing.

Approximate List Price Complete (Less Tubes) \$78.00

Note: The brands and types specified in the parts list were used in the original laboratory models. Parts of equivalent quality may be substituted except where physical limitations prohibit.

Total Approximate List Price of Complete Thordarson 100-Watt Multi-Band Transmitter \$243.50 (Including Cabinet, but Less Tubes and Crystals)

THORDARSON ELECTRIC MFG. CO.

500 WEST HURON STREET

CHICAGO, ILLINOIS

SD-378D 10M 5-39

Printed in U. S. A.

Amateur Speech Amplifier by **THORDARSON**

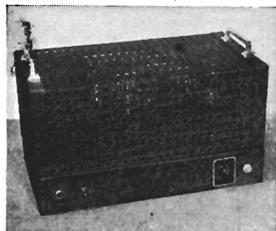
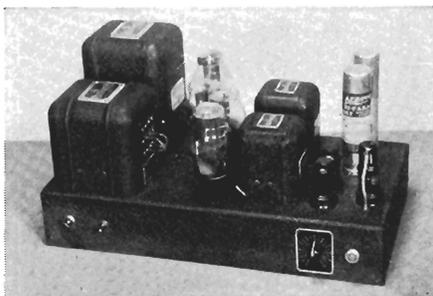
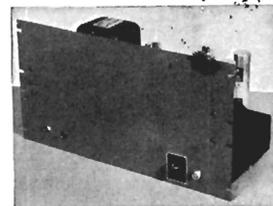


Table Mounting With Metal Screen Cover



“BUILD IT YOURSELF”



Relay Rack Mounting With Panel

The Most Complete and Versatile Speech Amplifier Ever Offered to the Amateur

CHOICE OF THREE CIRCUITS

**PEAK LIMITING CIRCUIT — OVERMODULATION CONTROL CIRCUIT —
CONVENTIONAL CIRCUIT**

Thordarson has engineered this truly universal amateur speech amplifier in keeping with the modern trend in transmitter design. **THIS SPEECH AMPLIFIER IS THE MOST VERSATILE EVER OFFERED TO THE AMATEUR: IT MAY BE USED WITH THE POPULAR OVER-MODULATION CONTROL CIRCUIT OR IT MAY BE USED AS A PEAK LIMITING AMPLIFIER.** Both of these circuits eliminate over-modulation and side band splatter and at the same time effectively increase the average side band power of the transmitter. The over-modulation control circuit (Fig. 1) operates in conjunction with the class C stage: the necessary delay bias for correct operation is contained in the speech amplifier. The peak limiting amplifier (Fig. 2) is designed with a self-contained circuit so that once properly adjusted, over-modulation and resulting distortion are impossible. The speech amplifier incorporating either of the above circuits may be easily assembled, with the assurance that the troubles usually encountered in the design of speech equipment have been entirely eliminated. The regular instruction sheet also contains a circuit with instructions for the assembly of a conventional type speech amplifier.

CHOICE OF MOUNTING:

Many amateurs place their speech equipment on the operating table and run a 500 ohm line to the

modulator, while others mount the entire transmitter in one rack. The mounting flexibility of the Thordarson amateur speech amplifier makes either choice possible as shown in the above illustrations. This flexibility also extends to the choice of transformers. The chassis is built to accommodate an output transformer with a 500 ohm line or the multi-match or universal type driver transformers having variable ratios.

C. H. T. OR REGULAR THORDARSON TRANSFORMERS:

The chassis accommodates either the C.H.T. transformers with their matched case design and plug-in features or the regular line of amateur transformers. Driver transformers with variable ratios are also available in either the C.H.T. or the regular line.

FOR USE WITH ANY TRANSMITTER:

With the present trend toward the use of high mu low drive class B modulator tubes the 2A3 output stage provides ample driver power for even the largest class B modulator. The use of these low plate resistance triodes in the output stage provides an excellent source of good driving regulation. The multi-match or universal ratio feature insures the correct matching of the driver to the class B stage.

(See Opposite Side for Schematic Drawings and Parts List)

THORDARSON ELECTRIC MFG. CO.
CHICAGO, ILLINOIS

SCHEMATIC DRAWINGS AND PARTS LIST

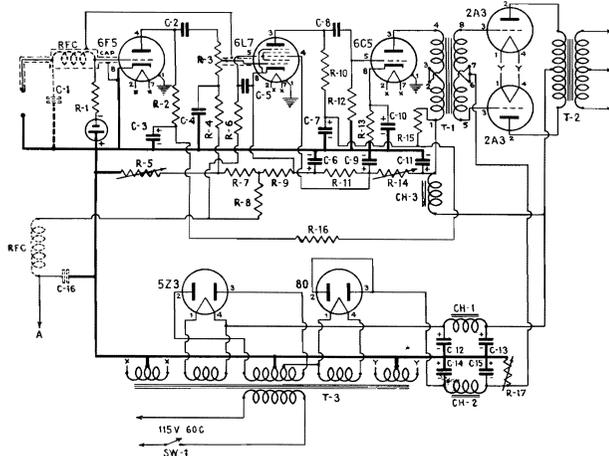


Fig. 1 — With over-modulation control.

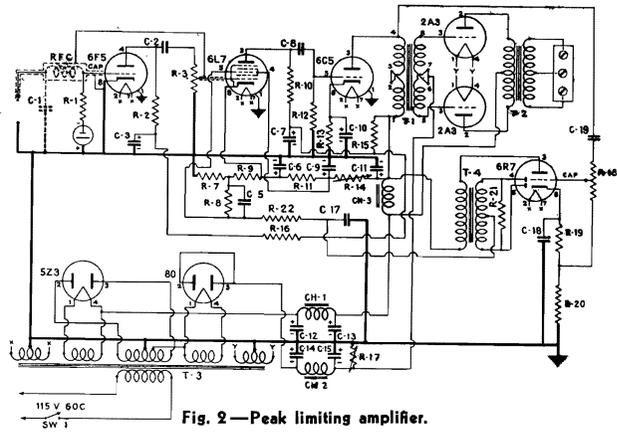


Fig. 2 — Peak limiting amplifier.

THORDARSON FOUNDATION UNIT

- 1 Amplifier Chassis (punched)
 - 1 Terminal Strip (3 terminals)
 - T-17K20 Foundation Unit..... List Price \$5.00
- Includes wiring and assembly instructions.

OPTIONAL EQUIPMENT

- T-10K20 — Metal Screen Cover..... \$5.50
- T-10K50 — Pair Chromium Handles..... \$1.90
- T-17K24 — Panel 19" x 10 1/2"..... \$2.10
- T-17K23 — Chassis bottom plate with rubber feet..... \$1.50

KIT OF THORDARSON TRANSFORMERS AND CHOKES

- KT-301-C C.H.T. Types for Over-Modulation Control.. \$34.75
- KT-301-CP C.H.T. Types for Peak Limiting..... 36.25
- KT-302-R Regular Types for Over-Modulation Control. 24.25
- KT-302-RP Regular Types for Peak Limiting..... 25.75

The above transformer kits include an output transformer with a 500 ohm winding. If a driver transformer is desired instead of the 500 ohm output transformer use T-15D76, T-15D77, T-15D78 or T-15D79 for KT-301-C and KT-301-CP and subtract \$1.00 from the prices listed above. Similarly use T-19D01, T-19D02, T-19D03, or T-19D04 for KT-302-R and KT-302-RP and add \$2.00 to the indicated prices. In the event that neither the over-modulation control circuit nor the peak limiting is desired use the KT-301-C and the KT-302-R kits for the conventional type amplifier circuit.

C. H. T. TYPES

LIST	LIST
T-1—T-15A74	\$ 6.50
T-2—T-15S90 for 500 ohm output or T-15D76-77, etc.	9.25
T-3—T-15R05	10.50
T-4—T-78D46	1.50
CH-1—T-15C54	5.50
CH-2—T-75C49	1.50
CH-3—T-74C30	1.50

REGULAR TYPES

LIST	LIST
T-15A74	\$ 6.50
T-67554 for 500 ohm output or T-19D01-02, etc., univer al driver series	6.00
T-87R85	7.00
T-78D46	1.50
T-74C29	3.75
T-75C49	1.50
T-74C30	1.50

† Omit for overmodulation control circuit.

NOTE — The parts list shown is for the amplifier with either the over-modulation control (Fig. 1) or the peak limiting (Fig. 2) circuits; complete drawings, photos, parts lists and instructions for easy assembly of either of the above circuits are contained in Instruction Book SD-387. List price, 15c.

The brands and types specified in the parts list were used in the original laboratory models. Parts of equivalent quality may be substituted except where physical limitations prohibit.

KIT OF COMPONENT PARTS

- PL-300M (Over Modulation Control)..... List Price \$22.50
 - PL-300P (Peak Limiting)..... List Price \$22.50
- The above kits consist of the corresponding parts listed below.

RESISTORS

	OHMS	WATTS	TYPE	LIST
R-1	5 Meg.	1/2	IRC BT-1/2	.17
R-2	250,000	1	IRC BT-1	.20
R-3	500,000	Vol. Cont.	IRC 13-133	1.00
*R-4	500,000	1	IRC BT-1	.20
*R-5	10,000	25	Ohmite Semi Var.	.95
*R-6	500,000	1	IRC BT-1	.20
R-7	350	10	Ohmite Brown Devil	.40
R-8	500,000	1	IRC BT-1	.20
R-9	150	10	Ohmite Brown Devil	.40
R-10	100,000	1	IRC BT-1	.20
R-11	4,000	10	Ohmite Brown Devil	.40
R-12	250,000	1	IRC BT-1	.20
R-13	500	1	IRC BT-1	.20
R-14	12,000	25	Ohmite Semi Var.	.95
R-15	20,000	1	IRC BT-1	.20
R-16	20,000	1	IRC BT-1	.20
R-17	2,500	25	Ohmite Semi Var.	.85
†R-18	500,000	Vol. Cont.	IRC 13-133	1.00
†R-19	1,000	1	IRC BT-1	.20
†R-20	2,500	1	IRC BT-1	.20
†R-21	10,000	1	IRC BT-1	.20
†R-22	100,000	1	IRC BT-1	.20

* Omit for overmodulation control circuit.
† Omit for peak limiting amplifier.

CONDENSERS

	MFD.	VOLTAGE	TYPE	LIST
C-1	.0001	500 V Mica	A'vox 1467 or C-D 5W 5T1	.15
C-2	.1	400 V Paper	A'vox 484 or C-D DT-4P1	.20
C-3	8	450 V Elect.	A'vox PBS 450 or C-D JR508	.95
*C-4	.5	200 V Paper	A'vox 284 or C-D DT-4P5	.30
C-5	.5	400 V Paper	A'vox 484 or C-D DT-4P5	.35
C-6	8-8	450 V Elect.	A'vox PBS450 or C-D JR508	.95
C-7, C-11	8-8	450 V Dual Elect.	A'vox 2G	1.60
C-8	.1	400 V Paper	A'vox 484 or C-D DT-4P1	.20
C-9	8	450 V Elect.	A'vox PBS450 or C-D JR508	.95
C-10	10	25 V Elect.	A'vox PR25 or C-D ED-2100	.50
C-12, C-13	8-8	450 V Dual Elect.	A'vox 2G	1.60
C-14	8	200 V Elect.	A'vox PBS200 or C-D JR208	.80
C-15	8	200 V Elect.	A'vox PBS200 or C-D JR208	.80
*C-16	.0001	500 V Mica	A'vox 1467 or C-D 5W-5T1	.15
†C-17	.1	400 V Paper	A'vox 484 or C-D DT-4P1	.20
†C-18	10	25 V Elect.	A'vox PB25 or C-D ED-2100	.50
†C-19	.1	400 V Paper	A'vox 484 or C-D DT-4P1	.20

† Omit for overmodulation control circuit.
* Omit for peak limiting amplifier.

MISCELLANEOUS PARTS

- 1 Mic. Input Connector, Amphenol MC1F..... .50
- 1 Mic. Input Connector, Amphenol PC1M..... .30
- 1 Red jewel and bracket, Yaxley No. 310R..... .30
- 1 Bias Cell, Mallory No. F7..... .30
- 1 Bias Cell Holder, Mallory No. GB-1A..... .10
- 1 1/4" Bar Knob, black streamlined..... .15
- 1 SPST toggle switch, H & H No. 20992..... .30
- 1 AC Line Cord and plug, Belden No. 1725..... .50
- †3 Metal tube grid caps @ 10c..... .30
- 2 Metal tube shields, ARHCO No. 92 @ 20c..... .40
- 1 Dial Plate, Crowe No. 566..... .20
- *2 RF Chokes, National R-100 @ 60c..... 1.20
- *1 Feed-thru insulator, Johnson No. 55..... .30
- †4 Octal sockets, Amphenol S8 @ 15c..... .60
- 4 4 contact sockets, Amphenol S4 @ 12c..... .48
- 1 6.3 Volt pilot light, Mazda No. 40..... .15

TUBE COMPLEMENT: 1-6F5, 1-6L7, 1-6C5, 2-2A3, 1-5Z3, 1-80, †1-6R7.

† Omit one for overmodulation control circuit.
* Omit one for peak limiting amplifier.

Total Approximate List Price (with peak limiting circuit) \$53.25
With over-modulation control \$51.75

Less tubes and metal cover, with regular type transformers and 500 ohm output. For C. H. T. type transformers add \$10.50 List.

THORDARSON ELECTRIC MFG. CO.

500 WEST HURON STREET CHICAGO, ILLINOIS