

OK FOR FM

AMPLIFIER
130A
<i>Western Electric</i>

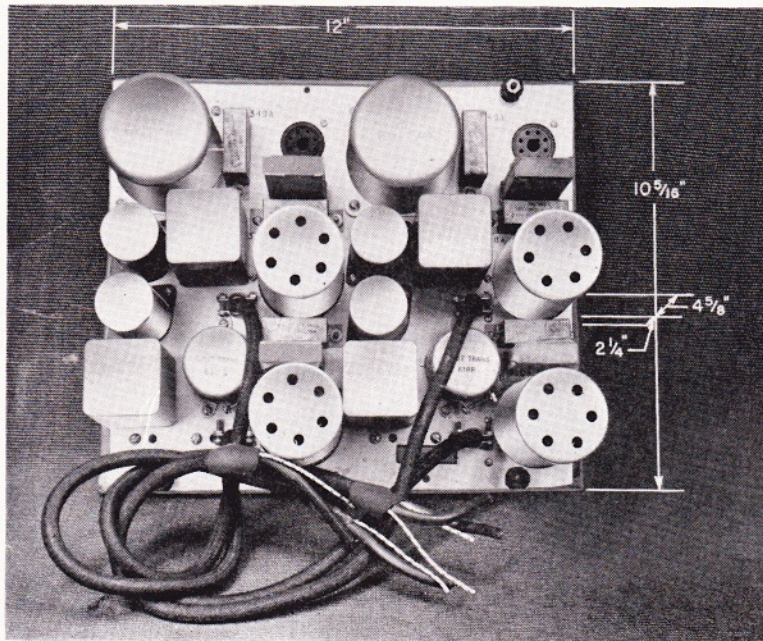
TWIN CHANNEL

MAIN AMPLIFYING

EQUIPMENT

for

SPEECH INPUT or
SOUND SYSTEMS



WESTERN ELECTRIC'S

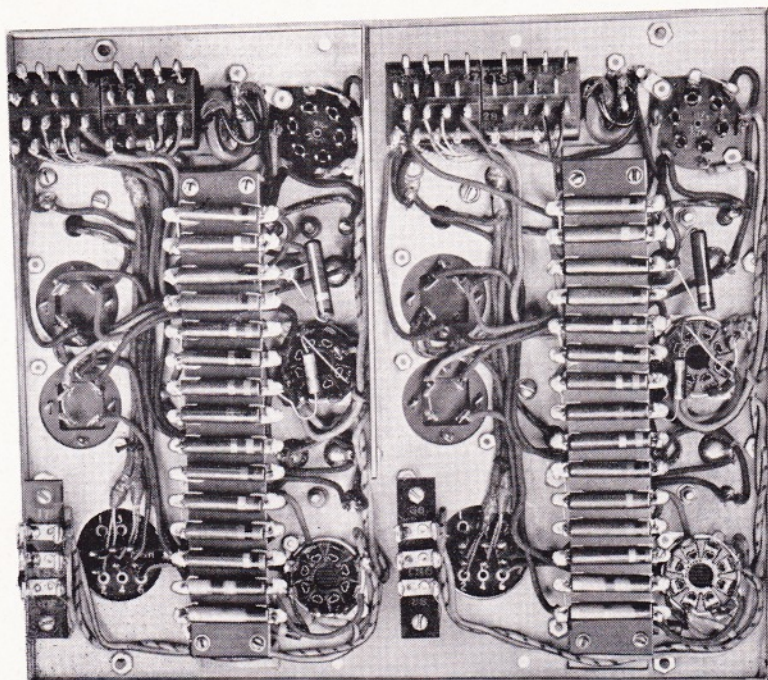
130A Amplifier incorporates two identical, electrically separate, three-

stage amplifier units, assembled on a common chassis for use as *Main Amplifiers* in systems where it is desirable to feed two separate programs through a single program production unit simultaneously. As an alternative arrangement, the 130A equipment may also be used to provide one regular and one emergency transmission channel for maximum assurance against program interruption.

Each amplifier element is arranged for its own interstage gain control which is intended as the master gain control for that channel. For greater operating convenience, two flexible, low capacitance concentric cables are supplied, one for each amplifier, which permit installing the gain controls a short distance away from the amplifier chassis.

In operation, cross talk between the two channels is held below audible levels through careful circuit design and expert selection of components. By the same

Western Electric



Wiring Side of the 130A Amplifier

means, a high signal to noise ratio and low harmonic distortion characteristic, comparable to that featured in units of the single channel type, have been achieved in this equipment.

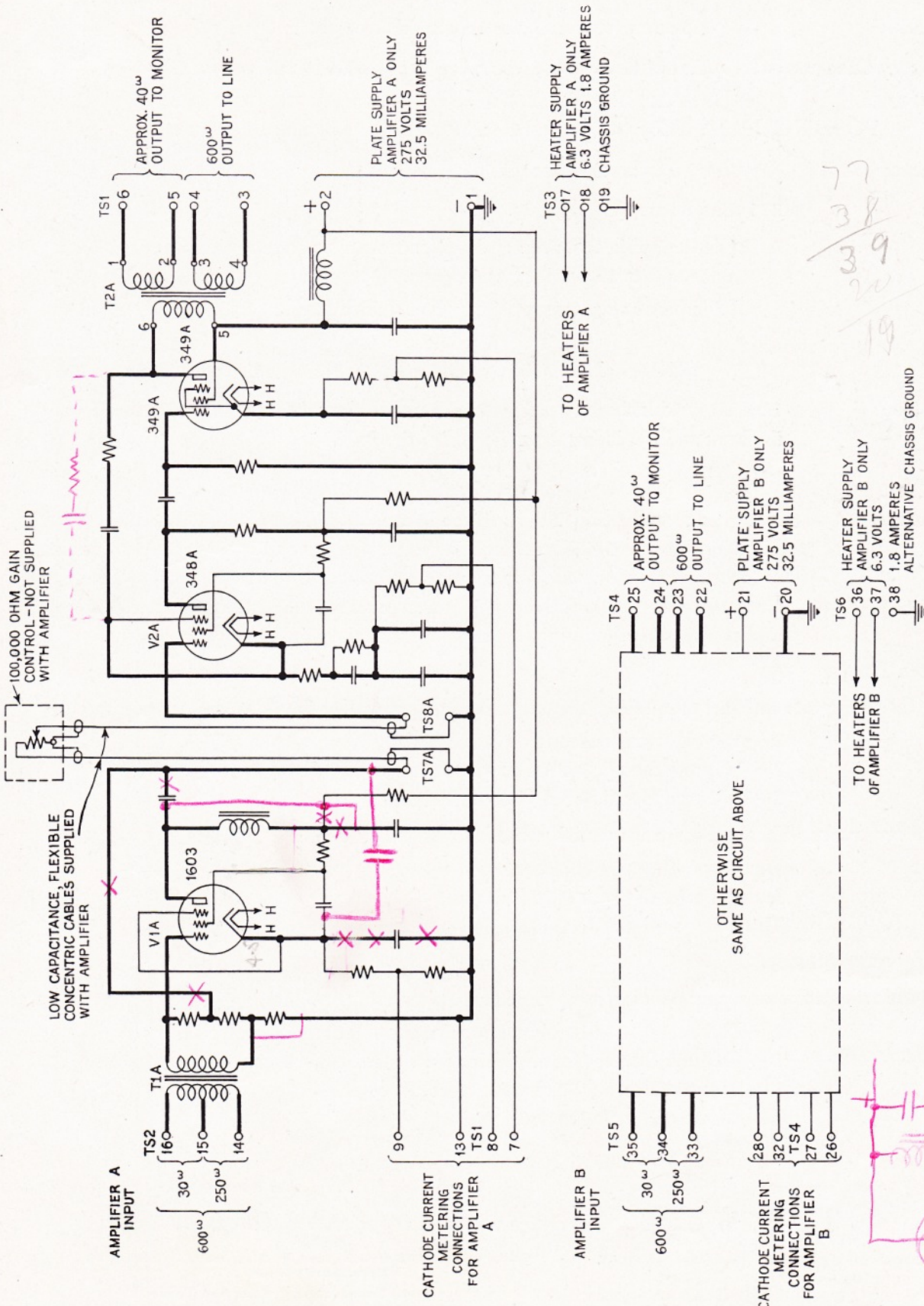
Designed for operation from an external power supply source, the 130A Amplifier offers an economical, space-saving solution to audio system problems involving duochannel operation.

TYPICAL ELECTRICAL CHARACTERISTICS FOR EACH AMPLIFIER UNIT

- Gain:** 77 db maximum.
- Gain Control:** Requires two (one for each amplifier unit) 100,000 ohm potentiometers (not furnished) mounted externally within a maximum distance of 20 inches from the front or rear of the chassis. This is a high impedance interstage gain control requiring low capacity wiring of definite value for each amplifier. Two flexible concentric cables having proper fixed length are provided for each amplifier unit extending from the vacuum tube side of the chassis.
- Operates From:** 30, 250 or 600 ohms.
- Operates Into:** Main output 600 ohms;
Monitor output 40 ohms (approximately).
- Output Power:** Main Output — Normal: 0.25 watt (+24 dbm*).
Maximum: 0.6 watt (+28 dbm*) with approximately 1 per cent harmonic distortion.
Monitor output 20 db less than main output.
(Isolation between main and monitor output is 20 db.)
- Output Noise:** (Main Output).

			Normal	Maximum	
Gain		47 db	57 db	67 db	77 db
Noise Level	unweighted	-62 dbm*	-56 dbm*	-47 dbm*	-37 dbm*
	weighted	-72 dbm*	-66 dbm*	-57 dbm*	-47 dbm*
Signal to Noise Ratio with Normal +24 dbm* Output	} unweighted	86 db	80 db	71 db	61 db
		weighted	96 db	90 db	81 db

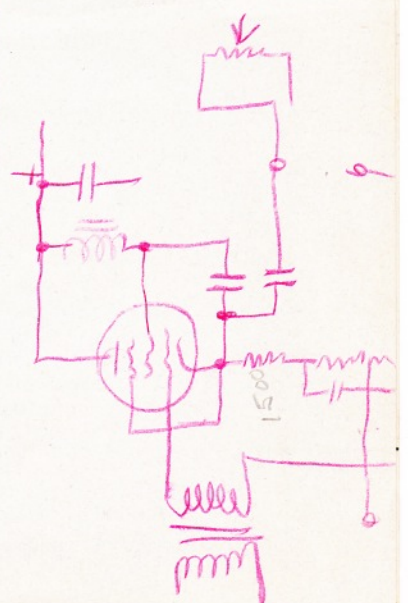
* (Ref. .001 watt)



130A AMPLIFIER SCHEMATIC

NOTE: 1ST STAGE CHANGED TO CATHODE FOLLOWER.

Handwritten notes: 38/29/19



- Crosstalk: Isolation between channels better than 60 db.
 Frequency Characteristic: Flat within 1 db over the range 30 to 15,000 cycles.

POWER SUPPLY FOR COMPLETE AMPLIFIER (two amplifier units)

- Filament: 6.3 volts, 3.6 amperes (dc or ac).
 Plate: 275 volts, 65 ma, dc.
 (Each amplifier unit can be supplied from a separate source if desired. Each unit requires 1.8 amp. filament and 32.5 ma, plate.)
 (Filament and plate supply may be obtained from 18 or 20 type Rectifier.)

EQUIPMENT CHARACTERISTICS

- Panel Size: 12 x 10 5/16 inches. The apparatus extends approximately 4 9/16 inches from the front and 2 1/4 inches from the rear of the panel.
 Weight: 17 1/4 pounds.
 Mounting: Designed for mounting in the 25 Type Speech Input Console unit. Can be adapted for mounting on a 177 Type Mounting Plate which requires 10 1/2 inches of vertical space on standard 19 inch racks or bay cabinets. (Capacity 1 amplifier per plate.) A 296 type Panel is required as a face mat for the Mounting Plate. Flexible rubber insulating mountings are supplied with the amplifier.

Vacuum Tubes:

The following vacuum tubes required for the operation of this amplifier should be ordered separately:

- 2 — 1603 Vacuum Tubes
- 2 — Western Electric 348A Vacuum Tubes
- 2 — Western Electric 349A Vacuum Tubes

In an emergency, if these tubes are not available, the following may be used:

- First Stage — 6C6 or 77 for 1603
- Second Stage — 6J7 or 1620 for 348A
- Third Stage — 6F6 for 349A

Accessory Equipment:

The following accessory equipment is recommended for use with this amplifier:

- 2 — IRC A21S 100,000 ohm Potentiometers (for gain controls)
- 1 — KS-10003 Meter (for measuring plate currents of vacuum tubes)
- 1 — Western Electric 177 type Mounting Plate
- 1 — Western Electric 296 type Panel

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