



Fig. 4. Complete amplifier with inverter-driver stage.

LIST OF PARTS

C ₁ , C ₇	20μf, 450V electrolytic	R ₉ , R ₁₁	400kΩ, ¼ watt
C ₂ , C ₃	0.1μf, 600V	R ₁₀	200Ω rheostat, 10 watt (Output bias adjustment)
C ₄	120μf, 150V electrolytic	R ₁₂ , R ₁₅	1kΩ, ¼ watt
C ₅ , C ₆	40μf, 450V	R ₁₃	100Ω, 5 watt
C ₈	40μf, 350V	R ₁₄	100Ω pot., 5 watt (Output cathode balance adjustment)
C ₉	40μf, 450V	R ₁₆	1MΩ pot. (Feedback adjustment)
C ₁₀	10μf, 600V	R ₁₇	4.7kΩ, ¼ watt
Ch ₁	5H, 300 ohm, 40mA choke	R ₁₈	15kΩ, 10 watt
Ch ₂	10H, 90 ohm, 200mA choke	S ₁	S.P.S.T. switch (Feedback disconnect)
R ₁	50kΩ, 1 watt	T ₁	Output transformer—(See text)
R ₂	68kΩ, ¼ watt	T ₂	Power transformer 375-0-375V, 200mA, heater as required
R ₃	500kΩ (volume control)	V ₁ , V ₂ , V ₇	6F7
R ₄	47kΩ, ½ watt	V ₃ , V ₄	1625
R ₅	100kΩ, 1 watt	V ₅	574
R ₆ , R ₈	220kΩ, 1 watt	V ₆	OB2
R ₇	50kΩ pot., ¼ watt	V ₇	6X4

7F7's. The essential symmetry of the l.t.c.p. stage suggested immediately the closure of the feedback loop through the grid circuit of the grounded-grid inverter, since satisfactory introduction of the feedback voltage into the input grid circuit is somewhat complicated by the presence of the volume control. Pentode, triode, and so-called "ultra-linear" operation of the output stage is provided by the alternative connections (A, B, and C, Fig. 4) for the screen grids of the 1625's.

Performance of the complete amplifier was checked

using a United Transformer Company's LS-55 transformer as a reference—a typical "good" transformer (reference 7 covers its use in the "ultra-linear" connection)—and a "universal replacement" type, unidentified by manufacturer's name or model designation, culled from the shop "junk box," as a kind of "worst possible" unit for evaluation of the system. Fig. 5 indicates the effectiveness of the system in providing adequate drive and stable operation at high corrective feedback levels.

The complete amplifier—a "bread-pan layout"—