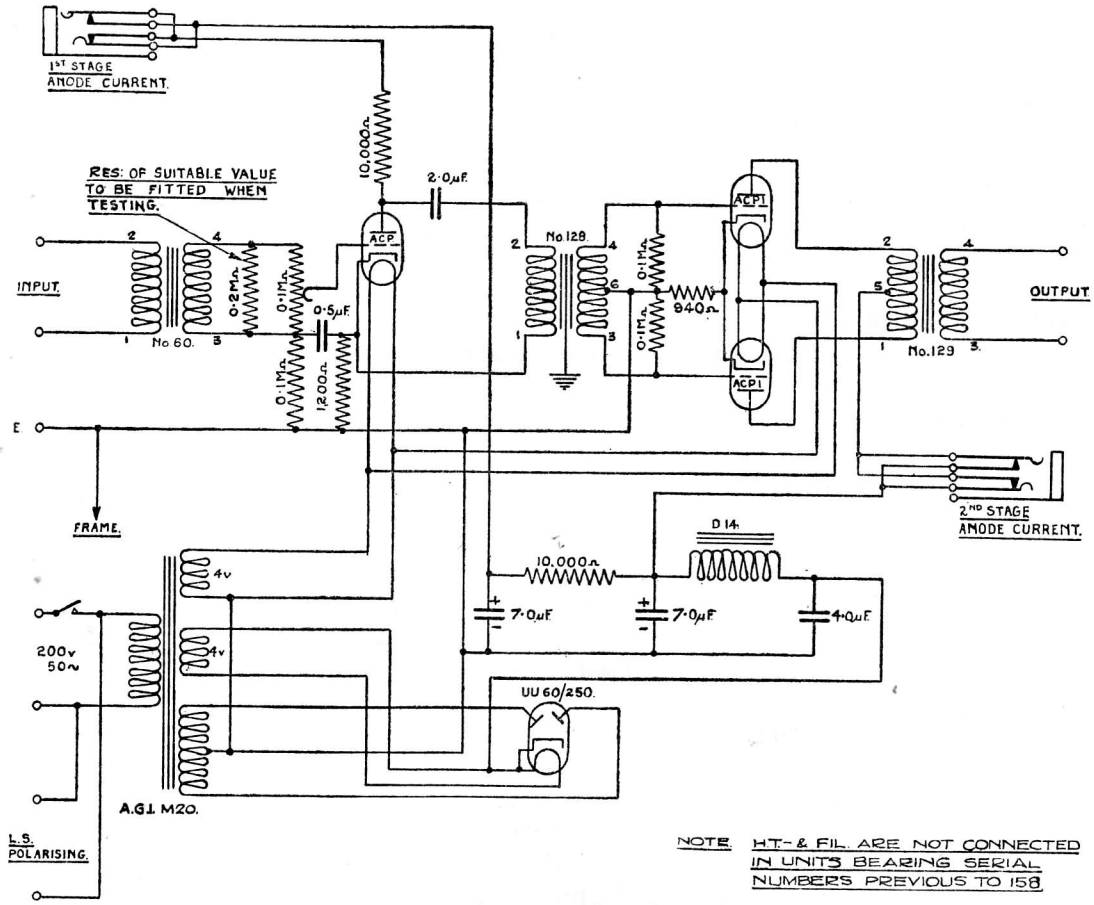
AMPLIFIER LSM/1



Drawing A.830, Issue 9

This is an A.C. mains-operated loudspeaker amplifier used for quality checking and talk-back purposes. It is used at all studio offices having an A.C. mains supply.

Circuit

It comprises two stages of which the second employs two valves in push-pull. The volume control is connected in the grid circuit of the first stage across the loaded secondary winding of the input transformer and the valve is resistance-capacity coupled to the inter-stage transformer. The supplies are obtained from a mains unit of conventional design, A.C. being used for heating the filaments. The rectified A.C. is applied to the anodes via a smoothing filter, followed in the case of the first stage by a decoupling circuit. The current supplied to the loudspeaker for polarising purposes is A.C. since the loudspeaker incorporates its own rectifier and smoothing circuit.

Impedances

Input impedance	(approx)	2,400 ohms
Output impedance	(approx)	11 ohms
Normal load impedance (loudspeaker input)	(approx)	12 ohms

Transformers

	Number	*Impedance Ratio*	*Turns Ratio*
Input	60	1/30.3	1/5.5
Interstage	128	1/16	1/4
Output	129	600/1	24.5/1

Volume Control

Continuously variable potentiometer of resistance 100,000 ohms (approx).

Supply Data

Stage	*Valve*	*Automatic Grid Bias* Volts negative	*Anode Current* mA (approx)	*Filaments* Volts	Amps
Amplifier					
1	ACP	7.5	6.3	4	1
2	2—ACP 1	31.0	16.5 (each valve)	4	1 (each valve)
		Total	39.3		3
Rectifier					
	UU60/250 or UU/4			4	2

A.C. Supply .. .. 50 c/s, 200—240 volts
(The transformer primary should be tapped according to the voltage of the supply)

Current drawn from A.C. mains (approx).

Amplifier	0.25 amperes
Loudspeaker	0.15 amperes
Total	0.40 amperes

Working Voltage Gain

Testing Conditions

Volume control set for maximum output.

Output loaded with 12 ohms and at a level of approximately + 4 db.

Gain at 1,000 c/s. .. .. 20 ± 2 db.