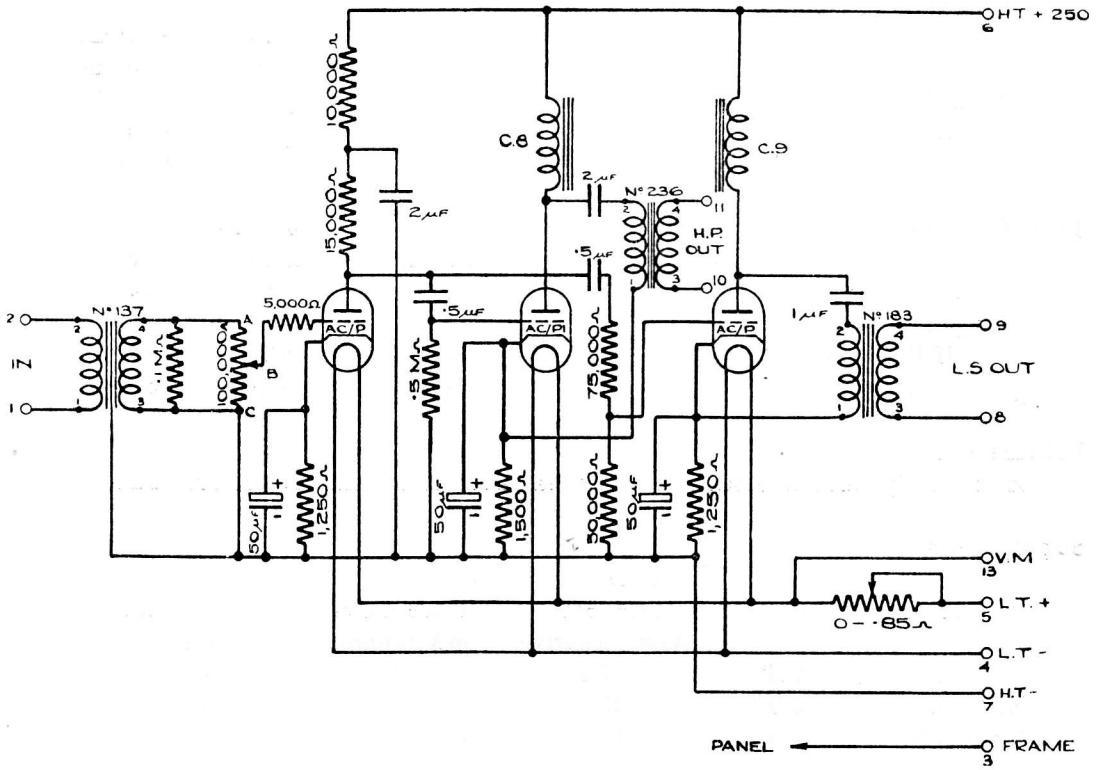
TRAP VALVE AMPLIFIER TV/13



Drawing A.4136, Issue 2

These amplifiers are used at **London (Maida Vale),** for connection in parallel with two TV/12 amplifiers across the incoming music lines from Broadcasting House carrying the National, Regional and Empire programmes, and provides two independent outputs for feeding housephone and loudspeaker circuits respectively. The maximum load for each of these circuits is as follows

Housephones	10 pairs of headphones
Loudspeakers	14 LSM/1 amplifiers

Circuit

It is a two-stage amplifier with two output stages connected in parallel via a resistance-capacity coupling in the output of the first stage which is transformer coupled to the line. The output stages are choke-capacity coupled to their respective output transformers. The volume control is provided in the input to the common first stage. The input to the loud-speaker output stage is applied via a fixed potentiometer which adjusts the volume applied to the stage to an appropriate value. The grid bias is automatic but is individual to each stage and the anode supply to the first stage is decoupled in the usual manner.

Impedances

Input impedance	(approx)	12,500 ohms
Output impedances		
H.P. output	(approx)	100 ohms
L.S. output	(approx)	110 ohms
Normal load impedances		
H.P. output		200 ohms
L.S. output		200 ohms

Transformers

	Number	*Impedance Ratio*	*Turns Ratio*
Input	137	1/4	1/2
Output			
H.P. output	236	25/1	5/1
L.S. output	183	44.9/1	6.7/1

Volume Control

Continuously variable potentiometer of resistance approximately 100,000 ohms.

Supply Data

Stage	*Valve*	*Automatic Grid Bias* Volts negative	*Anode Current* mA (approx)	*Filaments* Volts	Amps.
1	ACP	7.5	6	4	1
H.P. output	ACP1	27	18	4	1
L.S. output	ACP	15	12	4	1
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		Total	36		3

High Tension Supply	(approx)	250 volts
Low Tension Supply	(approx)	6 volts (adjusted to 4V by a series resistance)

Working Voltage Gain

Testing Conditions

Volume control set for maximum output.

H.P. output loaded with 200 ohms at approximately zero level.

L.S. output loaded with 200 ohms and at a level of approximately − 6 db.

Gain at 1,000 c/s.—H.P. output .. .. .. **18 ± 2 db.**
L.S. output .. .. .. **12 ± 2 db.**