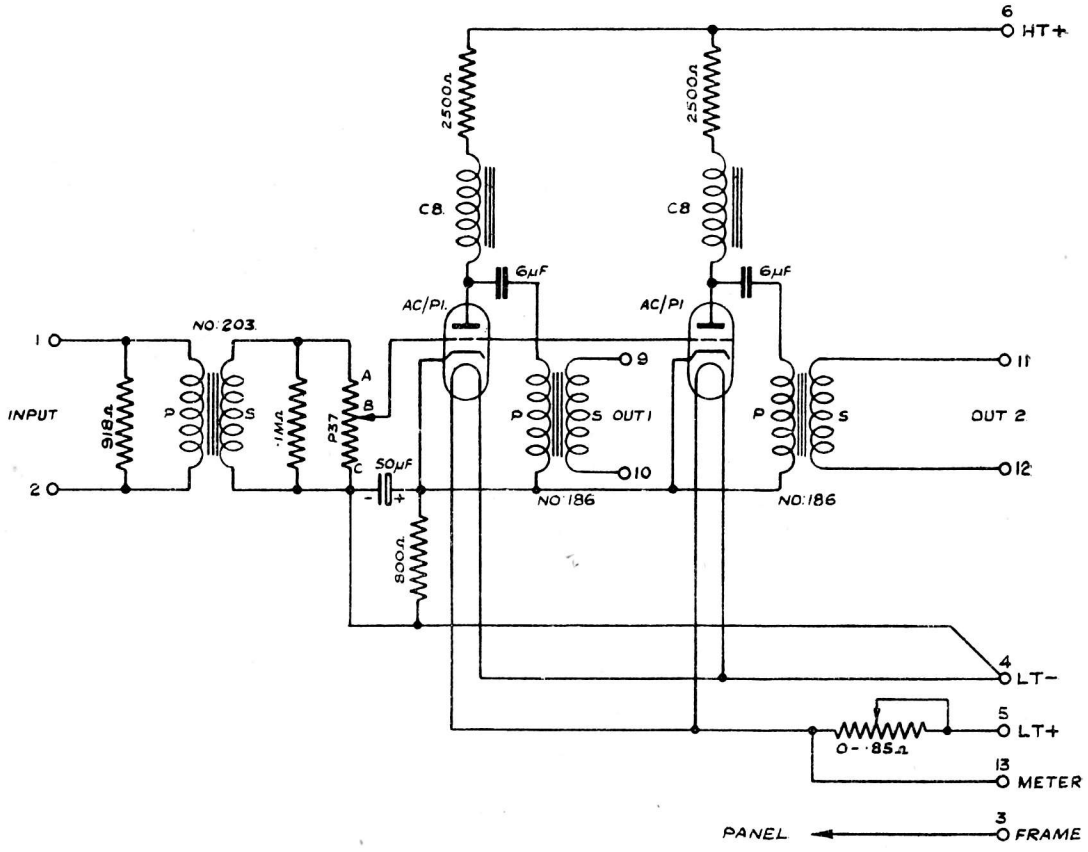
AMPLIFIER D/6



*Drawing A.*3193, *Issue* 1.

This amplifier is used at **London (Broadcasting House)** for terminating the relatively low-loss Maida Vale lines.

Circuit

It is a single-stage amplifier comprising two separate amplifiers with a common input transformer and volume control, the two valves being choke-capacity coupled to separate output transformers. The grid bias is automatic.

Impedances

Input impedance	(approx)	600 ohms
Output 1 impedance	(approx)	300 ohms
Output 2 impedance	(approx)	300 ohms
Normal load impedance *Output* 1	(approx)	600 ohms
Output 2	(approx)	3,000 ohms

Transformers

	Number	*Impedance Ratio*	*Turns Ratio*
Input	203	1/28.8	1/5.36
Output 1	186	8.05/1	2.83/1
Output 2	186	8.05/1	2.83/1

Volume Control

Type	*Total Resistance*	*No. of Studs*	*Loss per Stud*	*Loss on Lowest Stud*
P.37	100,000 Ω	21	2 db.	Infinite

Supply Data

Stage	*Valve*	*Automatic Grid Bias* Volts negative	*Anode Current* mA (approx)	*Filaments* Volts	Amps
1 (each)	ACP 1	30.5	19	4	1
			—		—
	Total		38		2

High Tension Supply .. .. 300 volts
Low Tension Supply .. .. 6 volts (adjusted to 4V by a series resistance)

600 Ohm Test Gain

Testing Conditions ..
Volume control set for maximum output
Loss Pads key set at **30 db.**
T.M.S. sending level .. .. zero

Gain at 1,000 c/s. *Outputs* 1 & 2 .. .. **13 ± 2 db.**
Gain at 50—5,000 c/s. .. .. .. ± 0.5 db. } Relative to gain at
5,000—9,000 c/s. .. .. .. ± 1.0 db. } 1,000 c/s.

Working Voltage Gain

Testing Conditions
Amplifier volume control set for maximum output
Output 1 loaded with 600 ohms
Output 2 loaded with 3,000 ohms
Outputs at approximately zero level.

Gain at 1,000 c/s. *Output* 1 .. .. .. **13 ± 2 db.**
Output 2 .. .. .. 15.5 ± 2 db.