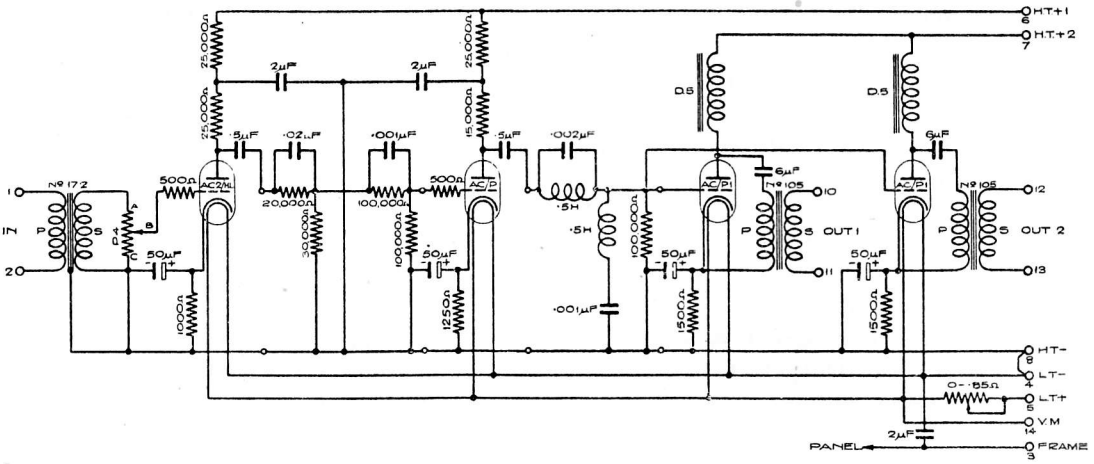
AMPLIFIER BRP/2



Drawing A.2782, Issue 8

This is the tape reproducing amplifier used at **Maida Vale.** It incorporates the necessary frequency correction to secure that the overall frequency characteristic from the input of the recording amplifier BRC/2 to the output of the reproducing amplifier BRP/2, including the recording and reproducing heads, will be sensibly flat.

Circuit

It is a three-stage resistance coupled amplifier with a screened input transformer and two output stages choke-capacity coupled to their respective output transformers. The volume control is provided in the input to the first stage and the frequency correction is introduced partly in the input to the second stage and partly in the common input to the output stages. The grid bias is automatic and is individual to each valve.

Impedances

Input impedance	(approx)	20,000 ohms
Output impedance	(approx)	180 ohms
Normal load impedance	(approx)	600 ohms

Transformers

	Number	*Impedance Ratio*	*Turns Ratio*
Input	172	1/5.08	1/2.25
Output (1 & 2)	105	20/1	4.47/1

Volume Control *Type*	*Total Resistance*	*No. of Studs*	*Loss per Stud*		*Loss on Lowest Stud*
P4	100,000Ω	21	Down to Stud 5	2db	Infinite
			Studs 5—4	3db	
			4—3	4db	
			3—2	6db	
			2—1	7db	

Supply Data

Stage	*Valve*	*Automatic Grid Bias* Volts negative	*Anode Current* mA (approx)	*Filaments* Volts	Amps
1	AC 2 HL	1.5	1.5	4	1
2	ACP	4.4	3.5	4	1
3	ACP 1	31.5	21	4	1
(each)					
			—		—
	Total		47.0		4

High Tension Supply
H.T. + 1 (Stages 1 & 2) .. .. .. (approx) 200 volts
H.T. + 2 (Output stage) .. .. (approx) 245 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.
Output loaded with 600 ohms and at a level of approximately − 5 db.

Gain at 1,000 c/s.	**38 ± 2** db.	
Gain at 50 c/s.	−4.5 ± 1 db.	Relative to gain at 1,000 c/s.
100 c/s.	−3.2 ± 1 db.	
200 c/s.	−2.5 ± 1 db.	
500 c/s.	−1.5 ± 1 db.	
2,000 c/s.	+2.0 ± 1 db.	
4,000 c/s.	+4.8 ± 1 db.	
5,000 c/s.	+5.5 ± 1 db.	
6,000 c/s.	+4.5 ± 1 db.	
7,000 c/s.	+1.0 ± 1 db.	
8,000 c/s.	−5.0 ± 1 db.	