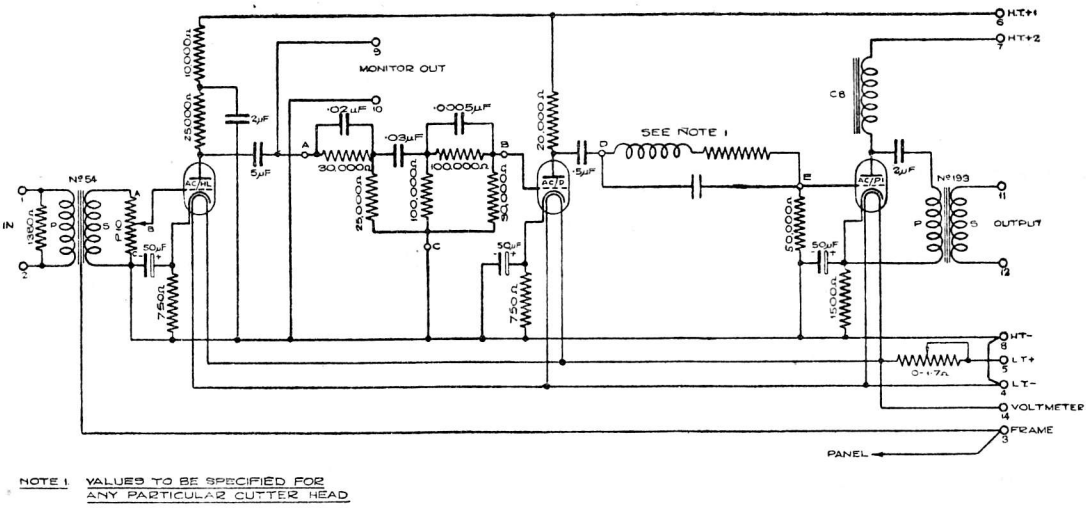
AMPLIFIER DR/1



NOTE 1 VALUES TO BE SPECIFIED FOR ANY PARTICULAR CUTTER HEAD

Drawing A.2998, Issue 5

This is a disc recording amplifier used at **Maida Vale.** Its input is connected to the programme source and its output to the input of the power amplifier DRP/1 which feeds the cutter head. The DR amplifier incorporates the frequency correction circuits designed, partly to reduce the low frequency response in order to prevent the cutter head from breaking through the walls between adjacent grooves in the record, and partly to provide correction for the non-linearity of the particular cutter head in use. The cutter head correction circuit is arranged as a self-contained unit having components of values specially designed for the particular cutter head and can be readily changed if the cutter head in use is changed.

Circuit

It is a three-stage resistance coupled amplifier with a screened input transformer and with the output of the final stage choke-capacity coupled to the output transformer. A monitoring output for headphones is provided by tapping across the output from the first stage. The volume control is provided in the input to the first stage, the bass-cutting correction circuit is connected in the input to the second stage and the circuit providing correction for the particular cutter head in use is connected to the input to the final stage. The grid bias is automatic.

Impedances

Input impedance	(approx)	1,200 ohms
Output impedance	(approx)	180 ohms
Normal load impedance	(approx)	620 ohms

Transformers

	Number	*Impedance Ratio*	*Turns Ratio*
Input	54	1/10.9	1/3.31
Output	193	16/1	4/1

Volume Control

Type	*Total Resistance*	*No. of Studs*	*Loss per Stud*	*Loss on Lowest Stud*
P 10	100,000Ω	10	4 db. each stud	Infinite

Supply Data

Stage	*Valve*	*Automatic Grid Bias* Volts negative	*Anode Current* mA (approx)	*Filaments* Volts	Amps
1	ACHL	2.4	3.2	4	1
2	ACP	5.6	7.5	4	1
3	ACP 1	30	20	4	1
		Total	30.7		3

High Tension Supply
H.T. + 1 (Stages 1 & 2) .. .. .. (approx) 275V rectified A.C.
H.T. + 2 (Output stage) .. .. .. (approx) 230V rectified A.C.
Low Tension Supply .. .. (approx) 6V (adjusted to 4V by series resistance)

Working Voltage Gain

Testing Conditions
Volume control set in position for maximum output.
Second stage of correction short-circuited (by connection from *D* to *E*).
Output loaded with 600 ohms
Level at input, at all test frequencies, adjusted to −14 db.

Gain at 1,000 c/s.	**36 ± 2 db.**	
Gain at 50 c/s.	−11.5 ± 1 db.	Relative to gain at 1,000 c/s
100 c/s.	−8.0 ± 1 db.	
250 c/s.	−4.2 ± 1 db.	
500 c/s.	−1.9 ± 1 db.	
2,000 c/s.	+2.0 ± 1 db.	
3,000 c/s.	+3.5 ± 1 db.	
4,000 c/s.	+4.7 ± 1 db.	
5,000 c/s.	+5.8 ± 1 db.	
6,000 c/s.	+6.7 ± 1 db.	
7,000 c/s.	+7.7 ± 1 db.	
8,000 c/s.	+8.5 ± 1 db.	