

## AMPLIFIER DRP/3

This is a disc recording power amplifier used in **Mobile Recording Units T29 and T30** (See Item 6.3).

### Circuit

It is a single-stage amplifier employing four PX 25 valves connected in parallel push-pull. The input is applied via a screened transformer with a balanced loaded secondary circuit and the grids are connected to the outer ends of the secondary winding respectively via individual  $0.5\mu\text{F}$  condensers and  $5,000\Omega$  stabilising resistances. A monitoring output is obtained via an output transformer but the main output is obtained via choke-capacity coupling provided by the primary of the output transformer in conjunction with  $8\mu\text{F}$  condensers connected in the output leads. The main output is normally short-circuited via the inner springs of the jacks in order to ensure that there will be no standing charge left on the condenser plates.

The L.T. and H.T. supplies for operating the amplifier are obtained from D.C. machines and the grid negative supply from the main 100V battery, the positive pole of which is maintained at earth potential. The supplies are fed to the amplifier, via the supply unit SHL/1 which incorporates an H.T. smoothing circuit, by means of two cords fitted with Niphan connectors.

Milliammeter shunts are provided in each anode lead and keys enable the milliammeter to be connected across any of them so as to read the individual anode currents. Individual grid bias potentiometers are also provided for each valve.

### Impedances

Input impedance	..	..	..	..	..	(approx) 600 ohms
Output impedance (Main)	..	..	..	..	..	(approx) 1,250 ohms
Normal load impedance						
Main Output (cutter head impedance at 1,000 c/s)						(approx) 1,500 ohms

### Transformers

						<i>Impedance</i>	<i>Turns</i>
					<i>Number</i>	<i>Ratio</i>	<i>Ratio</i>
Input	..	..	..	..	194	1/320	1/17.9
Output	..	..	..	..	195	10,000/1	100/1

### Supply Data

<i>Valves</i>	<i>Grid Bias</i>	<i>Anode Current</i>	<i>Filaments</i>	
	Volts negative	mA (approx)	Volts	Amps
Four PX 25	Independently variable maximum value 50	60 (each valve)	4	2 (each valve)
	<i>Total</i>	240		8

### Working Voltage Gain

Testing Conditions

Main output loaded with 1,500 ohms and at  
a level of approximately +40 db.

**Gain at 1,000 c/s (main output)** .. .. **40 ± 2 db.**

