The 362 RFP 15 Valve.

By G. McLean Wilford (G2WD) *.

The 362 *Valve Company* are now manufacturing a smaller edition of their 60-watt R.F. Pentode, and this will no doubt appeal to many operators of low-power stations. The output rating for this new valve, known as the RFP 15, is given as 15 watts, a figure which appears to be as conservative as that quoted for the maximum anode voltage.

The operating data follows :—

Filament volts	4
Filament amps.	1
Max. anode volts	500
Max. screen volts	300
Max. anode input	25 watts
Max. anode dissipation ...	15 watts

The physical dimensions are the same as for the larger valve, but the anode structure is quite different, being of the lattice type peculiar to several other valves produced by this firm.

The pin connections are as for a standard 5-pin base :—

Filament pins	Normal
Grid pin	Normal
Anode pin	Screen grid
Centre pin	Suppressor grid
Cap	Anode

The sample valve submitted was tested at varying anode and screen voltages from 400 to 600 volts, the screen voltage varying from 150 to 275 volts from the lower to the higher anode voltages. The circuit used was a normal P.A. with capacity coupling form the exciter-multiplier unit. Link coupling was also tested and the valve behaved perfectly with either method.

Using a dummy aerial the valve was operated on 3.5, 7, 14 and 28 Mc., and on each frequency sufficient output was obtained to drive a pair of RFP 60's in push-pull to their full rated output. The valve was also tested by itself as a P.A. on an open aerial, and with a maximum input of 30 watts, an aerial current of .8 amp. was registered at the ends of 45 ft. Zepp feeders attached to a 66-ft. top. This current was obtained on 3.5, 7 and 14 Mc., whilst on 28 Mc. a figure of .55 amp. was registered.

The valve was next tested for telephony operation using suppressor grid modulation and worked very well indeed, an average input of 25 watts on 7 Mc., giving an aerial current of .5 amp. Several good reports were received as regards signal strength and speech quality. The modulator used was that described for the Tri-tet transmitter in the February, 1936, issue of this Journal.

The valve was operated from both auto and battery bias ; it was found that 25 to 30 volts negative on the control grid was ample. The suppressor was biassed 30 volts positive for c.w. and the same amount negative for suppressor grid phone. The valve is very easy to drive, 3-5 milli-amps. being ample to fully excite it. A slight tendency to " blue-glow " was noticed, but this is due to electronic bombardment and does not appear to have any effect on the operation.

The valve should prove generally popular due to its ability to give a very good R.F. output.

* Head of Transmitter Design Section R.E.S.