VP. 22
BATTERY VARIABLE-MU H.F. PENTODE

RATING.
Filament Voltage ........................................ 2.0
Filament Current (Amps.) .............................. 0.1
Maximum Anode Voltage .............................. 150
Maximum Screen Voltage .............................. 150
*Mutual Conductance (mA/V) ......................... 1.4
* at Ea=120 ; Es=60 ; Eg=0.

OPERATING CONDITIONS.
Anode Voltage ........................................ 120
Screen Voltage (Initial) .............................. 60
Grid Bias ............................................. 1.5
Mutual Conductance (mA/V) ......................... 0.8
Anode A.C. Resistance (megohms) .................. 1.3
Anode Current (mA) .................................. 1.2
Screen Current (mA) .................................. 0.32
Mutual Conductance (µA/V) .......................... 10
 at Es=60 ; Eg= -8.
Mutual Conductance (µA/V) .......................... 28
 at Es=120 ; Eg= -15.

INTER-ELECTRODE CAPACITIES.
*Anode to Earth ....................................... 12.5 µµF
*Grid to Earth ......................................... 7.0 µµF
Anode to Grid ......................................... 0.0045 µµF
** "Earth " denotes the remaining earthy potential electrodes and
metallising joined to cathode.

DIMENSIONS.
Maximum Overall Length ................................ 103 mm.
Maximum Diameter ..................................... 32 mm.

GENERAL.
The VP.22 is a variable-mu screened Pentode for use as an H.F. amplifier in
battery operated receivers. The characteristics of the valve are identical except for the inter-electrode capacities, with those of the VP.210. The
bulb is of small dimensions and metallised. The valve is fitted with a
British Octal Base, the connections to which are given overleaf.

APPLICATION.
When used as a high frequency amplifier, the screen volts can be
obtained from a separate tapping on the high tension battery. It is pre-
ferable, however, to connect the screen to the full H.T. voltage through a
series dropping resistance. In calculating the value of this resistance, the
screen current may be taken to be one-quarter of the anode current.
An initial screen voltage of the order of 60 volts is recommended with a
minimum bias of 1-5 volts, this will rise to practically the full H.T. voltage
as the control grid is biased back to reduce mutual conductance. The
advantage of this method of screen supply, is that large signal handling
capacity is provided when the amplifier is operating at low gain, whilst the
total high tension consumption is relatively low when the valve is being
operated at minimum bias. In receivers provided with A.V.C. the initial
bias voltage of 1-5 volts will form part of the delay voltage. If desired,
this voltage may be slightly increased or decreased provided the initial
screen volts are suitably adjusted to give the required maximum gain.
The suppressor grid should be connected to earth (H.T. negative), or to
a potential negative to earth. The metallising should be connected to
H.T. negative.
BASING.

Pin No.1. Filament.
2. Omitted.
3. Anode.
4. Screen Grid.
5. Suppressor Grid.
6. Metal Coating.
7. Omitted.
8. Filament.

Top Cap. Control Grid.

Viewed from the free end of the base.