

Z77

Osram

VALVES

Z77 SCREENED PENTODE

DESCRIPTION

Type Z77 is an indirectly heated high slope pentode mounted on the miniature B7G base, and is primarily intended for use in wide-band high frequency amplifiers.

RATINGS

| | Pentode connected | Triode connected | |
|-------------------------------|----------------------|---------------------|------------|
| Heater Voltage | 6.3 | 6.3 | volts |
| Heater Current | 0.3 | 0.3 | amp |
| Heater/Cathode Voltage | 150 | 150 | peak volts |
| Anode Voltage | 250 | 250 | max. volts |
| Anode Dissipation | 2.5 | 3.3 | max. watts |
| Screen Voltage | 250 | | max. volts |
| Screen Dissipation | 0.8 | | max. watt |
| Impedance | 0.3* | 0.01† | megohm |
| Amplification Factor | | 75† | |
| Mutual Conductance | 7.5* | 7.5† | mA/V |

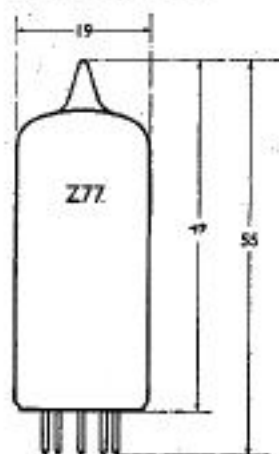
*measured at $V_a = V_{g_2} = 250$; $I_a = 10$ mA

†measured at $V_a + V_{g_2} = 250$; $V_{g_1} = -2$

Capacitances (taken on cold valve with external screening):

| | | |
|--------------------------------------|-------|------------|
| Grid to all other electrodes | 7.4 | approx. pF |
| Anode to all other electrodes | 3.1 | " " |
| Anode to Grid | 0.009 | " " |

DIMENSIONS



All dimensions are in mm, and are the maximum except where otherwise stated.

BASE



View looking on underside of base.

B7G

- Pin 1: Control grid, g_1
- 2: Cathode
- 3: Heater
- 4: Heater
- 5: Anode
- 6: Suppressor grid, g_3
- 7: Screen grid, g_2

TYPE Z77

OPERATING CONDITIONS

| Class A Amplifier | | Pentode connected | | Triode connected | |
|---------------------------------|-----|-------------------|------|------------------|-------|
| Anode Voltage | ... | 250 | 200 | 250† | volts |
| Anode Current (no signal) | ... | 10 | 8.3 | 12.5† | mA |
| Anode Dissipation (no signal) | ... | 2.5 | — | — | watts |
| Suppressor Grid Voltage | ... | 0 | 0 | — | volts |
| Screen Grid Voltage | ... | 250 | 200 | — | volts |
| Screen Grid Current (no signal) | ... | 2.5 | 2.1 | — | mA |
| Screen Dissipation (no signal) | ... | 0.63 | 0.42 | — | watts |
| Cathode Bias Resistance | ... | 160 | — | 160 | ohms |
| Control Grid Voltage | ... | -2 | -1.5 | -2 | volts |

† combined anode and screen ratings.

CLASS A AMPLIFIER. PENTODE CONNECTION

| | | | |
|------------------------------|-----|--------|-------|
| Anode and Suppressor Voltage | ... | 28 | volts |
| Screen Voltage | ... | 8 | volts |
| Anode Current | ... | 0.75 | mA |
| Screen Current | ... | 0.15 | mA |
| Anode Load Resistance | ... | 22,000 | ohms |
| Cathode Bias Resistor | ... | 2,200 | ohms |
| Gain | ... | 30 | db |

MIXER. PENTODE CONNECTION

Series injection to control grid

| | | | |
|------------------------|-----|-----|------------|
| Anode Voltage | ... | 250 | volts |
| Screen Voltage | ... | 250 | volts |
| Suppressor Voltage | ... | 0 | volts |
| Anode Current | ... | 4.5 | mA |
| Screen Current | ... | 1.5 | mA |
| Cathode Bias Resistor | ... | 680 | ohms |
| Oscillator Voltage | ... | 4.5 | peak volts |
| Conversion Conductance | ... | 2.7 | mA/V |

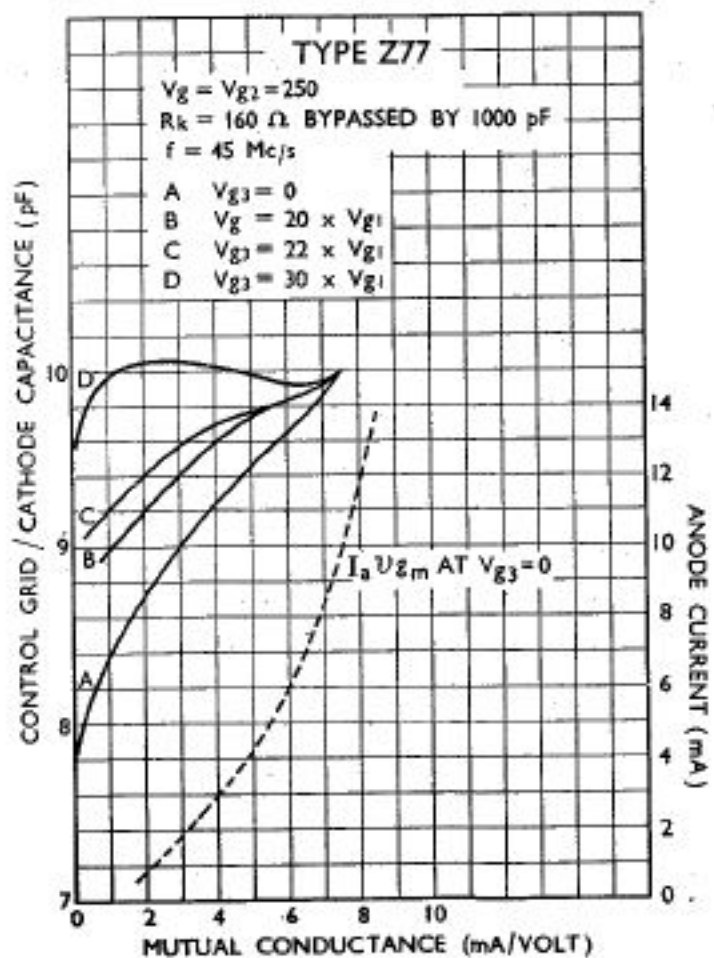
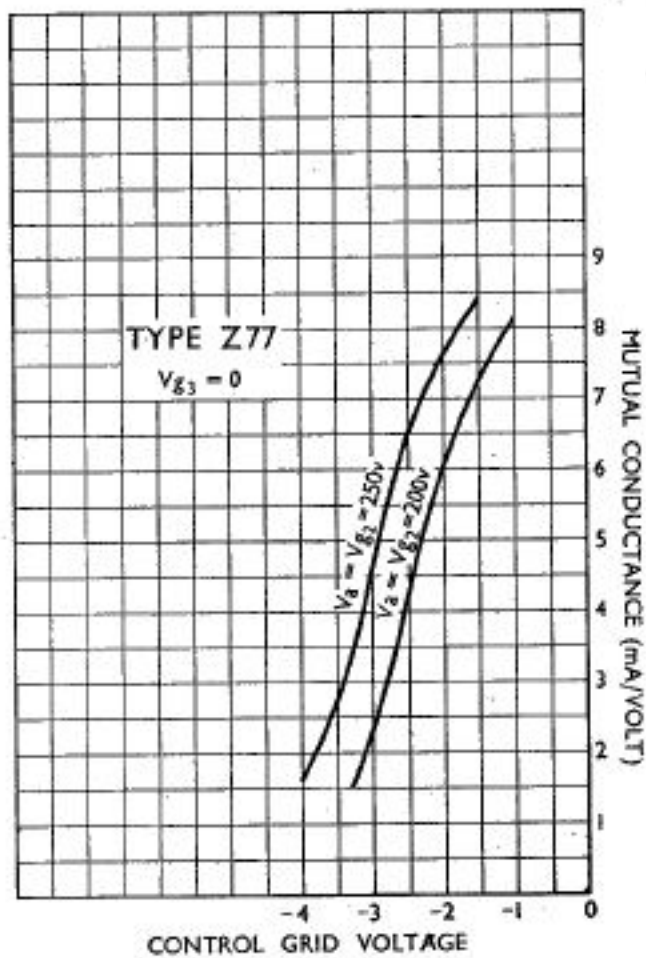
GENERAL

| | | | |
|-------------------------------------|-----|-------|------|
| Control Grid to Cathode Capacitance | ... | 10 | pF |
| Anode to Cathode Capacitance | ... | 3 | pF |
| Heater to Cathode Capacitance | ... | 4 | pF |
| Input Resistance at 45 Mc/s. | ... | 9,000 | ohms |
| Equivalent Noise at Control Grid | ... | 1,000 | ohms |

All above measured at $V_a = V_{g_2} = 250$; $V_{g_3} = 0$; $I_a = 10$ mA.

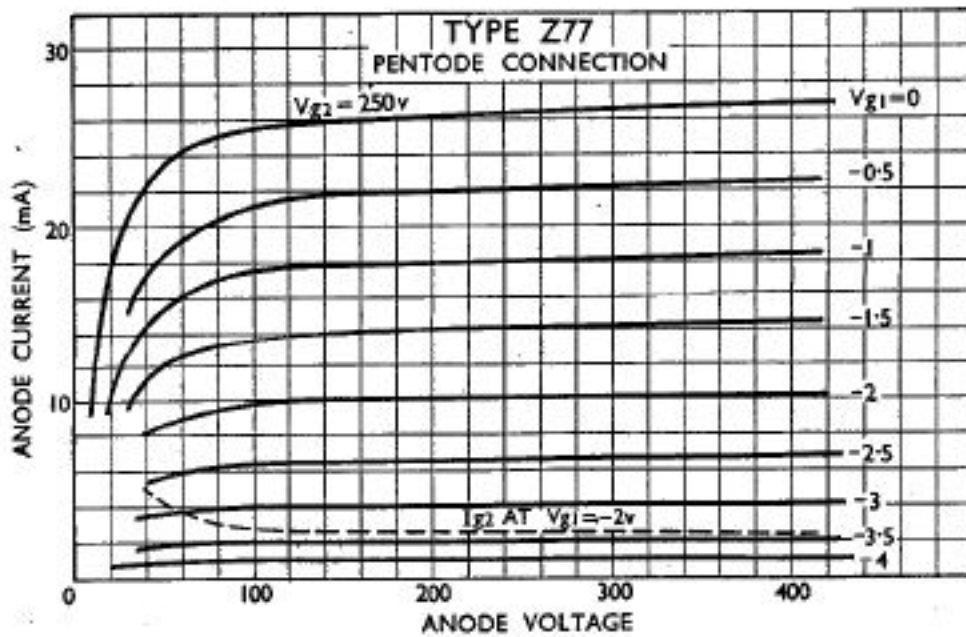
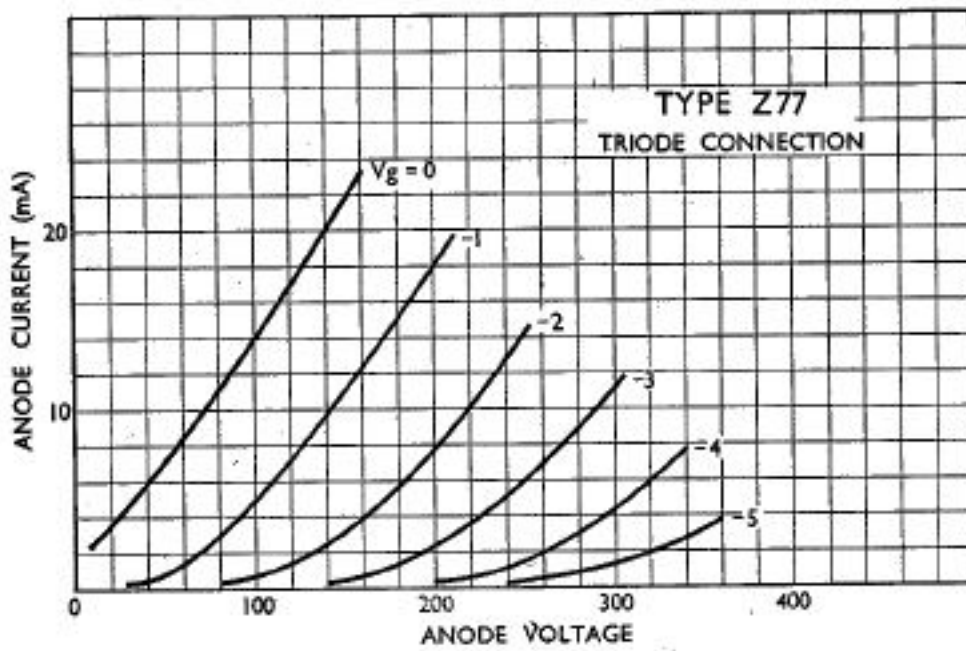
Under conditions of maximum anode and screen dissipation, the effective external control grid-to-cathode resistance should not exceed 0.5 megohm with auto-bias, or 0.1 megohm with fixed bias.

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CHARACTERISTIC CURVES OF AVERAGE VALVE.

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