MAZDA
30F5

HIGH SLOPE SCREENED H.F. PENTODE
Indirectly heated—for series operation

GENERAL

The 30F5 is intended for use as a straight television pentode and is suitable for AC/DC series operation.

RATING

Heater Current (amps)	I_h	0·3
Heater Voltage (volts)	V_h	7·3
Maximum Anode Voltage (volts)	$V_{a(max)}$	250
Maximum Screen Voltage (volts)	$V_{g_2(max)}$	250
Maximum Anode Dissipation (watts)	$P_{a(max)}$	3§
Maximum Screen Dissipation (watts)	$P_{g_2(max)}$	1§
Maximum Heater to Cathode Voltage (volts) (r.m.s.)	$V_{h-k(max)}$	200†
Maximum Resistance Control Crid to Cathode (kΩ)	$R_{g-k(max)}$	600‡
Mutual Conductance (mA/V)	g_m	8.8*
Inner Amplification Factor	μ_{g_1,g_2}	55*

* At $V_a = V_{g_2} = 170$ volts. $V_{g_1} = -1{\cdot}85$

§ With a grid cathode resistance not exceeding 10,000 ohms

† From Cathode to higher potential heater pin

‡ With maximum anode dissipation 2 watts, maximum screen dissipation 0·5 watts and assuming a common anode and screen decoupling resistance of not less than 2,200 ohms ±10%

INTER-ELECTRODE CAPACITANCES (pF)

		‡	§
Grid/Earth	c_{in}	9·0	10·3
Anode/Earth	c_{out}	4·4	5·7
Anode/Grid	c_{g_1-a}	0·0073	0·0077

Inter-electrode Capacitances (*continued overleaf*)

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" Earth " denotes the remaining earthy potential electrodes, shields and heater joined to cathode.

‡ Inter-electrode capacitances with holder capacitance balanced out.

§ Total inter-electrode capacity including B9A ceramic holder without skirt or radial shield (Carr Fastener holder type 77/076).

DIMENSIONS

Maximum Overall Length (mm)	67.5
Maximum Diameter (mm)	22.2
Maximum Seated Height (mm)	6.5
Approximate Nett Weight (ozs)	$\frac{1}{2}$
Approximate Packed Weight (ozs)	1

MOUNTING POSITION—Unrestricted.

TYPICAL OPERATION

Anode Voltage (volts)	V_a	170
Screen Voltage (volts)	V_{g_2}	170
Grid Bias Voltage (volts)	V_{g_1}	—1·85
Anode Current (mA)	I_a	10
Screen Current (mA)	I_{g_2}	2·6
Mutual Conductance (mA/V)	g_m	8·8
Input Loss at 45 Mc/s (ohms)	$r_{g_1-k(w)}$	16,000*
Equivalent grid noise resistance (ohms)	R_{eq}	750

* With grid circuit ONLY returned to pin 3

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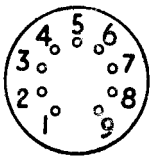
BULB—Clear

BASE—Noval (B9A)



Viewed from Free End of Pins

CONNECTIONS

Pin 1	Cathode	k
Pin 2	Control Grid	g1
Pin 3	Cathode	k
Pin 4	Heater	h
Pin 5	Heater	h
Pin 6	Shield	s
Pin 7	Anode	a
Pin 8	Screen Grid	g2
Pin 9	Suppressor Grid	g3

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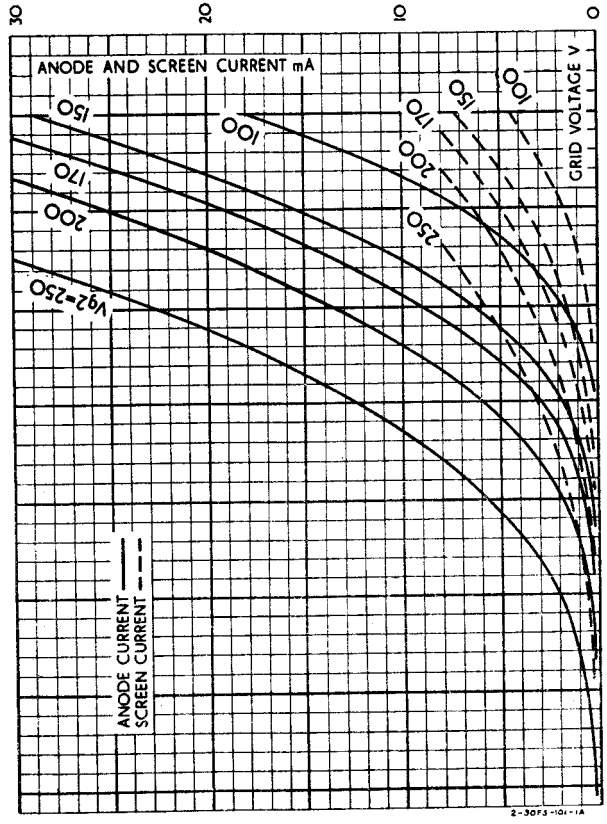
AVERAGE CHARACTERISTIC CURVES: Ia, Ig2/Vg

Va=250V.



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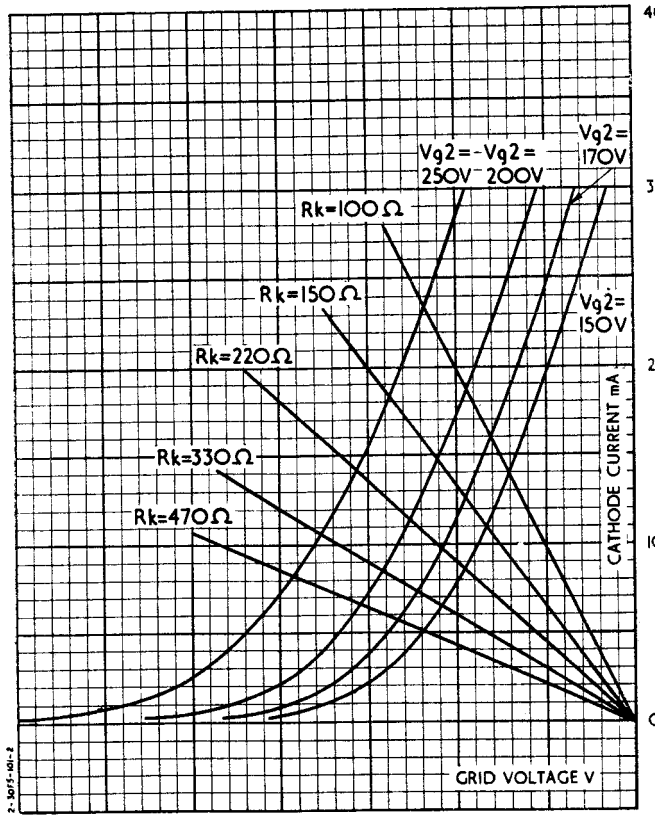
AVERAGE CHARACTERISTIC CURVES: I_k/V_g

Va=250V.

Screen to Anode Current Ratio=26% (approx.)



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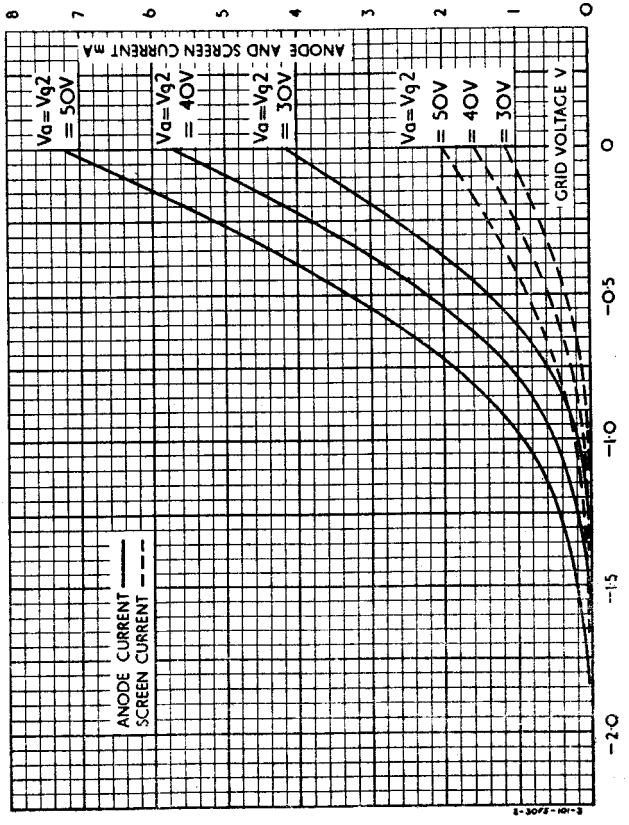
AVERAGE CHARACTERISTIC CURVES: Ia, Ig2/Vg



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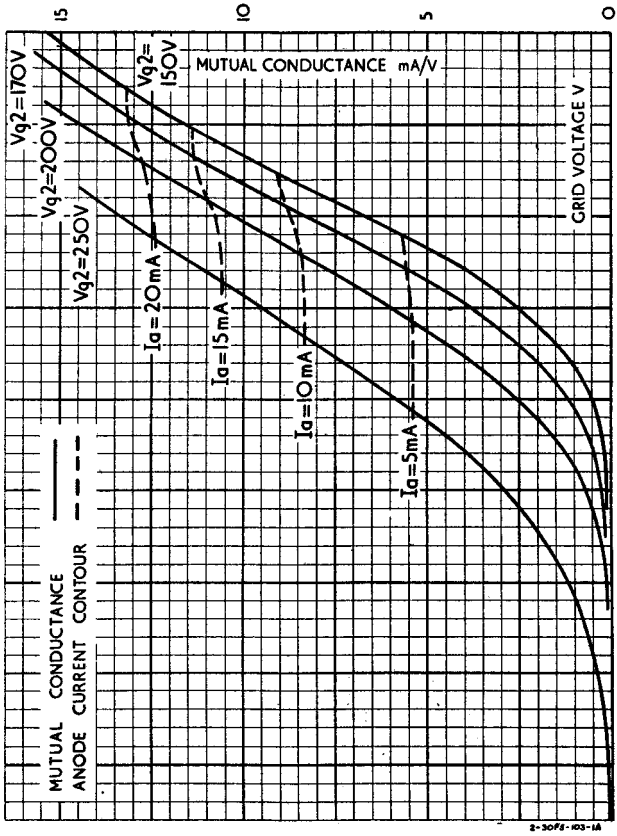
AVERAGE CHARACTERISTIC CURVES: gm/Vg

Va=250V.



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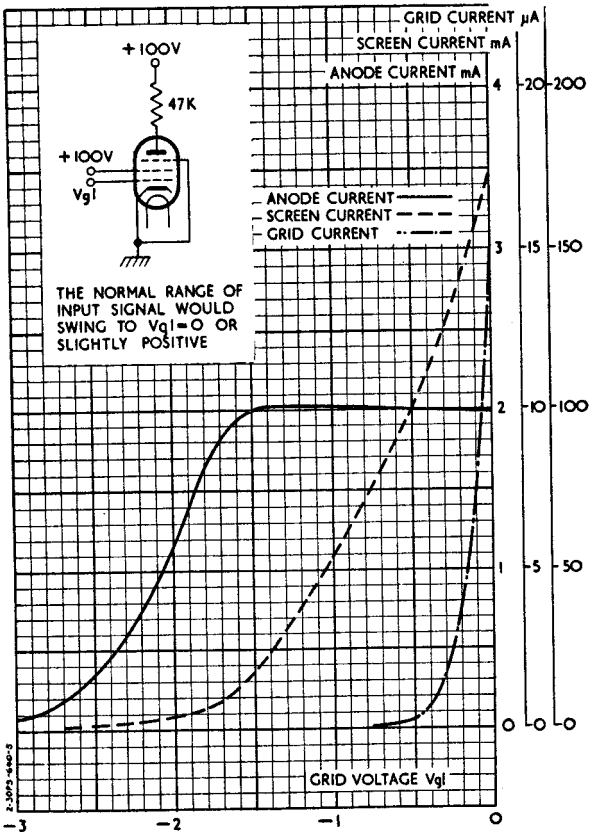
AVERAGE CHARACTERISTIC CURVES: Ia, Ig2, Ig1/Vg

Used as a limiter in a synchronising separator circuit.



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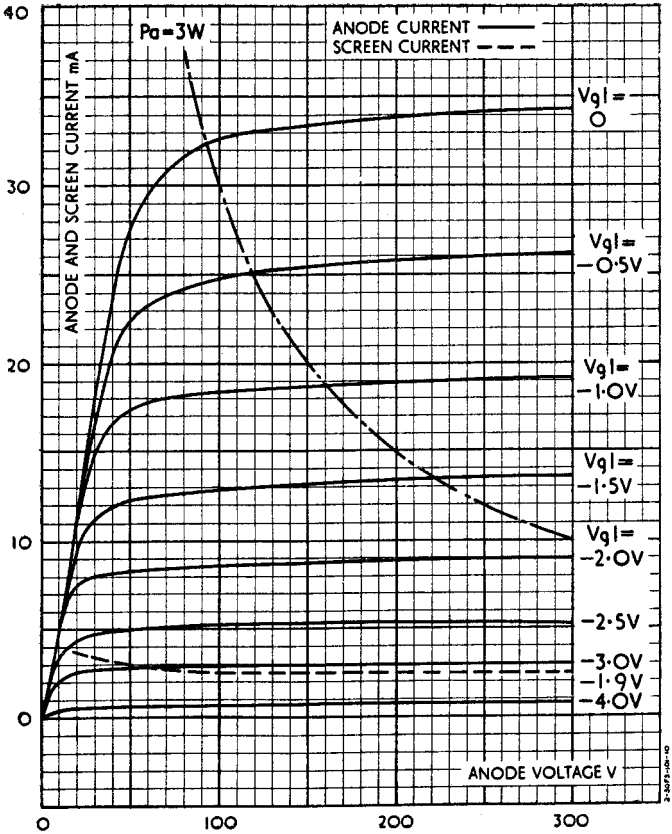
AVERAGE CHARACTERISTIC CURVES: Ia, Ig2/Va
Vg2=170V.



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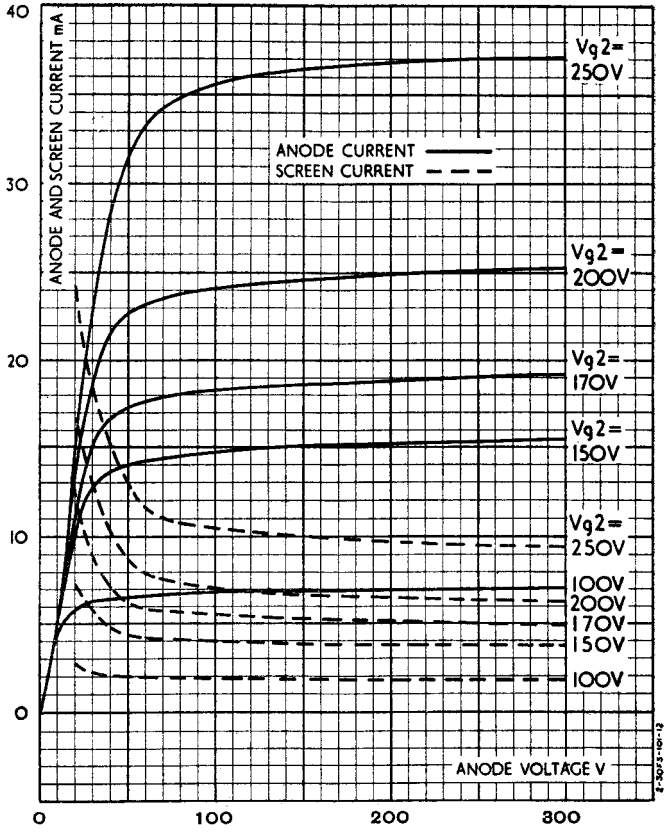
AVERAGE CHARACTERISTIC CURVES: Ia, Ig2/Va

$V_{g1} = -1{\cdot}0V.$



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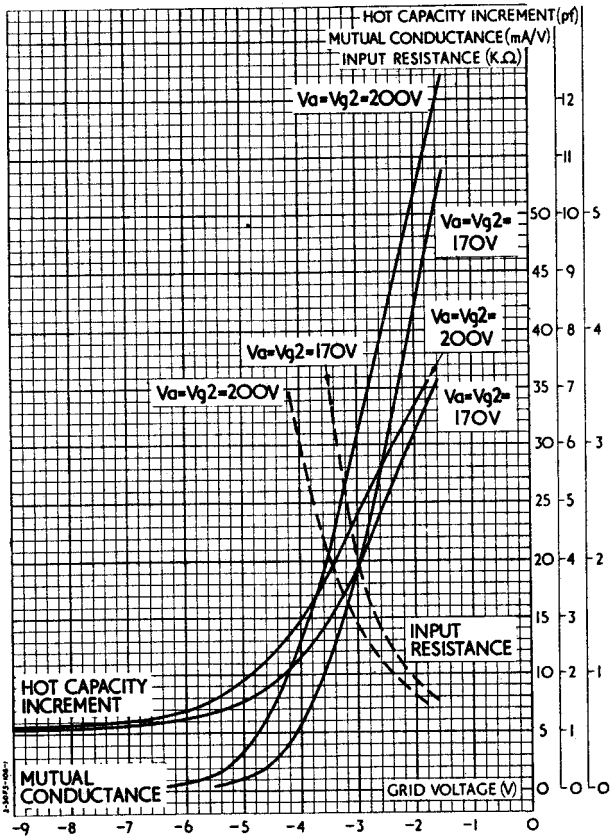
Average Characteristic Curves : r_{in}, g_m $\delta c/V_g$
f = 38 Mc/s
See also "Test Circuit" overleaf.



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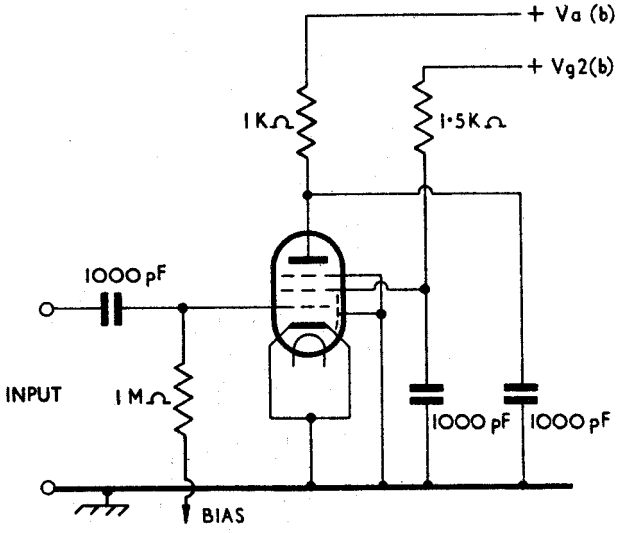
TEST CIRCUIT
for
Average Characteristics r_{in}, g_m $\delta c/V_g$
f = 38 Mc/s.



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