EDISWAN
MAZDA
30C15

V.H.F. TRIODE PENTODE FREQUENCY CHANGER
Indirectly heated—for series operation

TENTATIVE

GENERAL

The 30C15 is an indirectly heated triode pentode frequency changer on a B9A base, the triode being identical to that in the 30C1. By careful selection of base connections and internal design to minimise pentode cathode lead inductance effects, the valve is made particularly suitable for printed circuits and can be used with advantage in wired circuits. It is intended for use in AC or DC powered V.H.F. Television Receivers having series connected heaters.

RATING

			Triode	Pentode
Heater Current	(amps)	I_h	0.3	
Heater Voltage	(volts)	V_h	9.0	
Maximum Anode Voltage	(volts)	$V_{a(max)}$	250	250
Maximum Screen Voltage	(volts)	$V_{g2(max)}$		175
Maximum Cathode Current	(mA)	$I_{k(max)}$	14	14
Maximum Anode Dissipation	(watts)	$P_{a(max)}$	1.5	1.7
Maximum Screen Dissipation	(watts)	$P_{g2(max)}$		0.5
Mutual Conductance	(mA/V)	g_m	5.0*	8.5†
Amplification Factor		μ	20	
Maximum Heater/Cathode Voltage	(volts r.m.s.)	$V_{h\text{-}k(max)}$	200	

* Measured at $V_a = 100$ V. $I_a = 14$ mA.
† Measured at $V_a = 170$ V. $V_{g2} = 170$ V. $I_a = 10$ mA.

INTER-ELECTRODE CAPACITANCES (pF)

		§	†
Grid 1/All	$c_{g1\text{-}all}$	6.7	7.6
Anode Pentode/All	$c_{ap\text{-}all}$	5.0	6.0
Grid 1/Anode Pentode	$c_{g1\text{-}ap}$	0.014	0.017
Grid Triode/Earth	$c_{gt\text{-}E}$	3.2	4.0
Anode Triode/Earth	$c_{at\text{-}E}$	3.2	4.0
Grid Triode/Anode Triode	$c_{gt\text{-}at}$	1.6	1.8

§ Capacities with holder capacity balanced out but with a cylindrical screening can.
† Total capacity including a B9A Ceramic holder with a cylindrical screen (Plessey CP 180024/3).

"Earth" denotes the electrodes of any second valve section and the remaining earthy potential electrodes of the section under measurement, heater and shields joined to cathode.

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DIMENSIONS

Maximum Overall Length	(mm)	56
Maximum Diameter	(mm)	22.2
Maximum Seated Height	(mm)	49
Approximate Nett Weight	(ozs)	$\frac{1}{2}$
Approximate Packed Weight	(ozs)	$\frac{3}{4}$

MOUNTING POSITION — Unrestricted

TYPICAL OPERATION — As Frequency Changer with Oscillator Volts applied to Grid 1.

Pentode

Supply Voltage	(volts)	$V_{a(b)}$	200
Anode Voltage (Decoupling Resistance 4.7 kΩ)	(volts)	V_a	164
Screen Voltage (R_{g2} = 27 kΩ)	(volts)	V_{g2}	138
Grid 1 Resistance for Grid Current Bias	(kΩ)	R_{g1}	100
Grid 1 Current	(μA)	I_{g1}	31
Conversion Conductance	(μA/V)	g_c	3450
Heterodyne Volts Peak		$V_{het(pk)}$	3.7
Anode Current (approx)	(mA)	I_a	7.7
Screen Current (approx)	(mA)	I_{g2}	2.3

Triode

Anode Voltage	(volts)	V_a	120
Anode Current (mean)	(mA)	I_a	6.0

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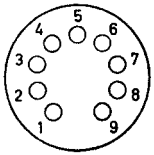
BULB—Clear

BASE—Noval (B9A)



Viewed from Free End of Pins

CONNECTIONS

Pin 1	Pentode Cathode and Pin 8	k_p and Pin 8
Pin 2	Pentode Grid 2	g_{2p}
Pin 3	Pentode Anode	a_p
Pin 4	Heater	h
Pin 5	Heater	h
Pin 6	Triode Anode	a_t
Pin 7	Triode Grid	g_{1t}
Pin 8	Triode Cathode, Shield, Pentode Cathode and Grid 3	k_t, g_{3p}, s, k_p
Pin 9	Pentode Grid 1	g_{1p}

The basing has been specially arranged to minimise pentode cathode lead inductance effects.