

EDISWAN**MAZDA****30C17****V.H.F. TRIODE PENTODE FREQUENCY CHANGER****Indirectly heated—for series operation****TENTATIVE****30C17****GENERAL**

The 30C17 is an indirectly heated, Triode Pentode Frequency Changer of Frame Grid construction. It is intended for use in television tuners, in which the gain of the frequency changer is controlled from the A.G.C. line. The pentode section has a variable- μ -characteristic. As the basing of the 30C17 is identical to that of 30C15, it can be used in place of the 30C15 in existing tuners, in which case the gain increase on Bands I and III will be 3.5 to 4.0 dB.

RATING

		Triode	Pentode	
Heater Current	I_h		0.3	A
Heater Voltage	V_h		7.4	V
Maximum Anode Voltage	$V_a(\max)$	250	250	V
Maximum Screen Voltage	$V_{g2}(\max)$		230	V
Maximum Cathode Current	$I_k(\max)$	18	18	mA
Maximum Heater/ Cathode Voltage	$V_{h-k}(\text{rms})\max$		200	V
Mutual Conductance	g_m	8.5*		mA/V
Amplification Factor	μ	20		
Maximum Anode Dissipation	$P_a(\max)$	2	1.7	W
Maximum Screen Dissipation	$P_{g2}(\max)$		0.5	W

*Measured at $V_a=100V$. $I_a=15mA$.

December, 1960

ADVANCE DATA

Associated Electrical Industries Limited

RADIO & ELECTRONIC COMPONENTS DIVISION

30C17

EDISWAN**MAZDA****30C17****V.H.F. TRIODE PENTODE FREQUENCY CHANGER**

Indirectly heated—for series operation

TENTATIVE**INTER-ELECTRODE CAPACITANCES (pF)†**

Grid 1/All other electrodes	c_{g1-all}	6.6
Anode Pentode/All other electrodes	c_{ap-all}	3.1
Grid 1/Anode Pentode	c_{g1-ap}	0.008
Anode Triode/Earth	c_{at-E}	2.6
Grid Triode/Earth	c_{gt-E}	3.5
Anode Pentode/Grid Triode	c_{ap-gt}	0.002
Grid Triode/Anode Triode	c_{gt-at}	1.8
Anode Pentode/Anode Triode	c_{ap-at}	0.01
Grid 1/Grid Triode	c_{g1-gt}	0.01
Grid 1/Anode Triode	c_{g1-at}	0.005

† With fully shielded socket, and can.

DIMENSIONS

Maximum Overall Length	56 mm
Maximum Diameter	22.2 mm
Maximum Seated Height	49 mm

MOUNTING POSITION—Unrestricted.

TYPICAL OPERATION—Frequency Changer at 200 Mc/s,
 Oscillator Voltage applied to Grid 1.

Pentode

Supply Voltage	$V_{a(b)}$	200	V
Anode Voltage (Decoupling Resistance, $R_a = 4.7k\Omega$)	V_a	170	V
Screen Voltage ($R_{g2} = 22k\Omega$)	V_{g2}	155	V
Cathode Bias Resistance	R_k	100	Ω
Grid 1 Resistance	R_{g1}	4.7M	Ω
Grid 1 Current	I_{g1}	0.6	mA
Anode Current (approx)	I_a	6.4	μA
Screen Current (approx)	I_{g2}	2.0	mA
Grid Voltage for Conversion Conductance Reduction 10 : 1	V_{g1}	-6.7	V

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TENTATIVE

Triode

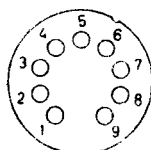
Anode Voltage	V_a	100	V
Anode Current	I_a	5.0	mA

NOTES

Conversion Conductance at 1 Mc/s (V_b , R_a , R_{g1} , R_{g2} as above) = 4.9 mA/V. Shield completely surrounds pentode.

Basing arranged to minimise pentode cathode lead inductance effects.

BASE—Noval (B9A)



CONNECTIONS

Pin 1	Pentode Cathode and Pin 8	k_p , Pin 8
Pin 2	Screen Grid	g_2
Pin 3	Pentode Anode	a_p
Pin 4	Heater	h
Pin 5	Heater	h
Pin 6	Triode Anode	a_t
Pin 7	Triode Control Grid	g_t
Pin 8	Triode Cathode, Suppressor Grid, Shield, Pentode Cathode	k_t , g_3 , s , k_p
Pin 9	Pentode Control Grid	g_1

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