

EDISWAN

MAZDA

30L15

CASCADE RF DOUBLE TRIODE
Indirectly heated—for series operation

TENTATIVE

30L15

GENERAL

The 30L15 is a miniature based RF Double Triode having separate cathodes and shielded sections for use as a Cascade RF Amplifier in television receivers with AC/DC powered series connected heater chains.

RATING

Heater Current	(amps)	I_h	0.3
Heater Voltage	(volts)	V_h	7.0
Maximum Anode Voltage	(volts)	$V_a(\max)$	250
Maximum Anode Dissipation (either section)	(watts)	$P_a(\max)$	2.0
Maximum Cathode Current (each section)	(mA)	$I_k(\max)$	16
Maximum Grid Voltage (negative)	(volts)	$-V_{g1}(\max)$	-50
Maximum Grid to Cathode Resistance (Section 1)	(k Ω)	$R_{g'-k'}(\max)$	500
Maximum Grid to Cathode Resistance (Section 2)	(k Ω)	$R_{g''-k''}(\max)$	22*
Maximum Effective Grid to Earth Resistance (Section 2)	(k Ω)	$R_{g''-E}(\max)$	150†
Mutual Conductance	(mA/V)	g_m	9.0‡
Amplification Factor		μ	26‡

* With Grid Current Bias.

† With Potentiometer Bias from the HT line.

‡ Measured at $V_a=90$ V ; $I_a = 15$ mA ; $V_{g1} = -1.2$ V.

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Issue 1/2

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INTER-ELECTRODE CAPACITANCES (pF)

		§	§§
Grid'/Cathode', Heater, Shield	$c_{g'-k',h,s}$	3.1	4.1
Anode"/Cathode', Heater, Shield	$c_{a''-k',h,s}$	3.6	4.5
Anode'/Cathode', Heater, Shield	$c_{a'-k',h,s}$	1.9	2.8
Cathode"/Cathode', Heater, Shield	$c_{k''-k',h,s}$	5.4	6.3
Anode'/Grid'	$c_{a'-g'}$	1.5	1.5
Anode"/Cathode"	$c_{a''-k''}$	0.19	0.21
Anode'/Anode"	$c_{a'-a''}$	0.011	0.013
Grid'/Anode"	$c_{g'-a''}$	0.0058	0.0096

§ With holder capacity balanced out but with screening can.

§§ With screening can and ceramic holder. Plessey type CP/180024/3.

DIMENSIONS

Maximum Overall Length	(mm)	56
Maximum Diameter	(mm)	22.2
Maximum Seated Height	(mm)	49
Approximate Nett Weight	(ozs)	$\frac{1}{8}$
Approximate Packed Weight	(ozs)	$\frac{3}{4}$

MOUNTING POSITION—Unrestricted

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TENTATIVETYPICAL OPERATION

			Circuit 1†	Circuit 2‡
H.T. Supply Voltage	(volts)	$V_{a(b)}$	200	200
Anode Decoupling Resistor, Section 2	(ohms)		2200	3300
Anode Current	(mA)	I_a	15.3	14.8
Grid Bias Voltage, Section 1 (cathode resistor)	(volts)	V_g	-1.53	-1.2
Self Bias Resistor, Section 1	(ohms)	R_k	100	82
Combined Mutual Conductance ($\Delta I_a / \Delta V_{g1}$)	(mA/V)	g_m	8.5	8.6
Approx. A.G.C. Voltage to give Mutual Conductance of $100 \mu A/V$	(volts)		-7.0	-12.0
Input Capacitance (working)	(pF)	$C_{in(w)}$	6.0*	6.0*
Change in Input Capacitance by biasing to cut-off	(pF)	$\Delta C_{in(w)}$	1.2	1.2

* Inter-electrode capacity with holder capacity balanced out but with cylindrical screen can.

† With Potentiometer bias from the HT line for Valve Section 2.

‡ With Grid Current bias for Valve Section 2.

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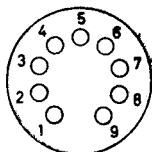
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BASE—Noval (B9A)

Viewed from
free end of pins



CONNECTIONS

Pin 1	Cathode 2	k''
Pin 2	Grid 2, Shield	g'',s
Pin 3	Anode 2	a''
Pin 4	Heater	h
Pin 5	Heater	h
Pin 6	Grid 1	g'
Pin 7	Cathode 1 Input	k'in
Pin 8	Cathode 1 Output	k'out
Pin 9	Anode 1	a'

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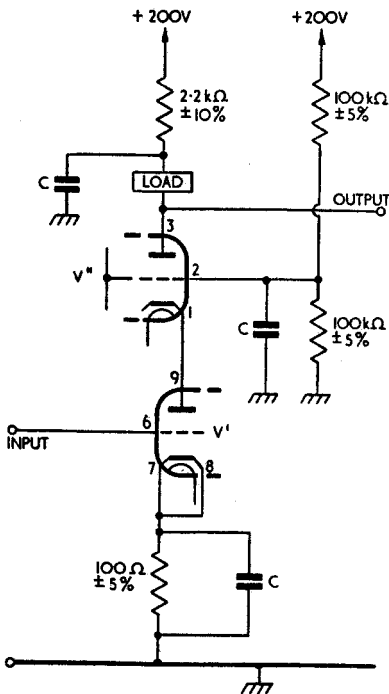
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TYPICAL 30L15 CASCADE BIAS CIRCUITS

Circuit 1

Valve section 2, Potentiometer Bias arrangement.



C = DECOUPLING CONDENSERS

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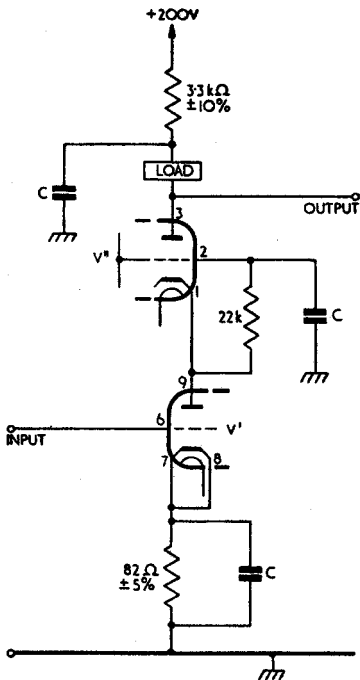
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Circuit 2

Valve section 2, Grid Current Bias arrangement.



C=DECOUPLING CONDENSERS

NOTE : Application of bias to section 1 in the Potentiometer Bias arrangement effectively controls both triodes giving this combination a shorter grid base than the Grid Current Bias arrangement.

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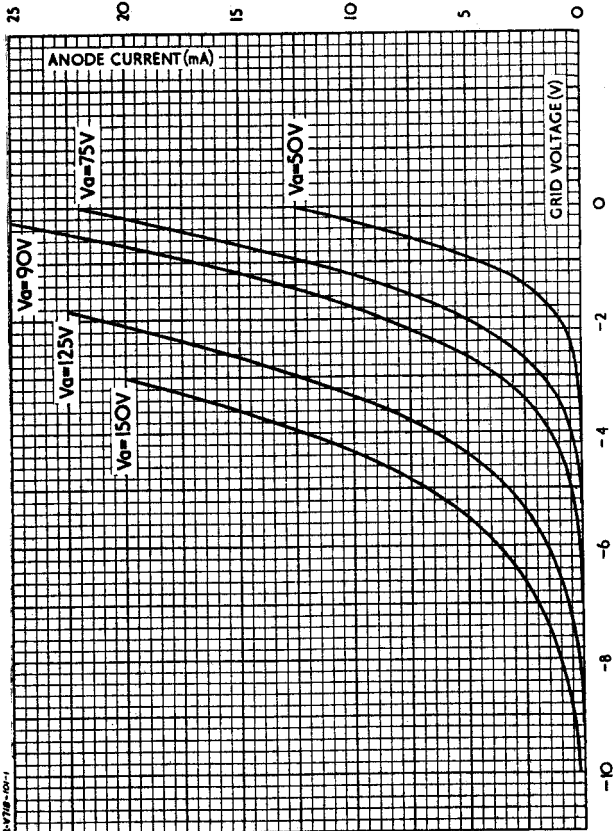
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CHARACTERISTIC CURVES: I_a/V_g
Each Section



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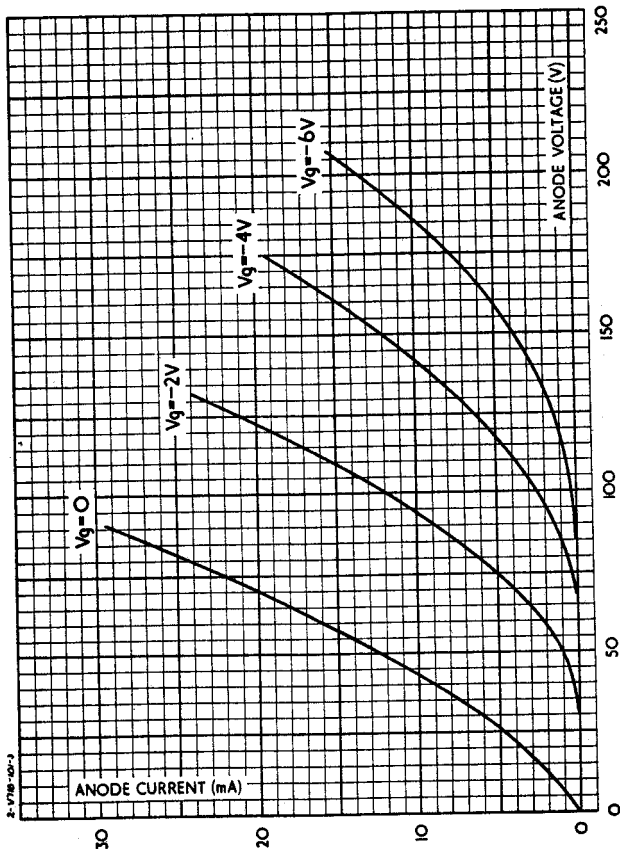
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CHARACTERISTIC CURVES: I_a/V_a

Each Section



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Issue 1/2

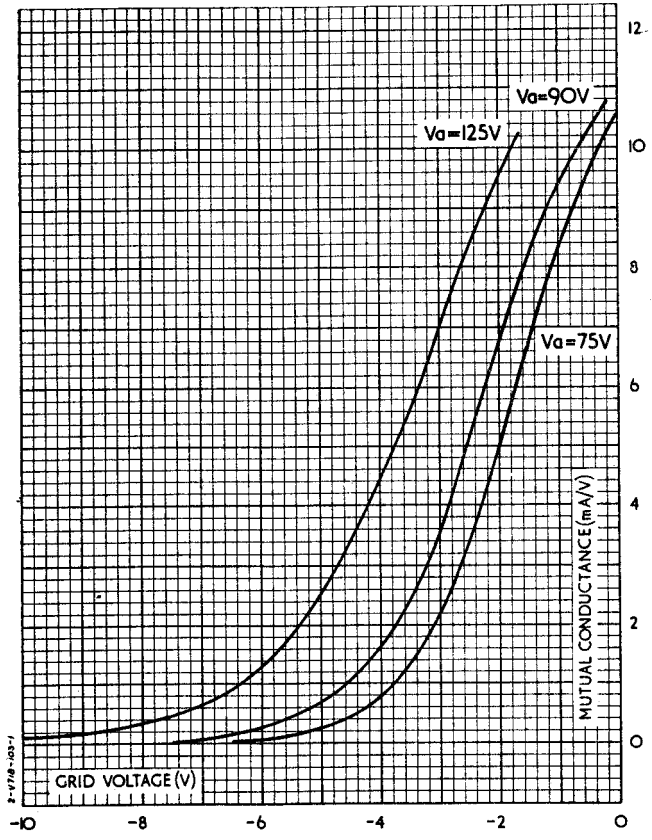
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CHARACTERISTIC CURVES: g_m/V_g
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