EDISWAN
MAZDA

30L15
CASCODE RF DOUBLE TRIODE
Indirectly heated—for series operation

TENTATIVE

GENERAL

The 30L15 is a miniature based RF Double Triode having separate cathodes and shielded sections for use as a Cascode 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)	(kΩ)	$R_{g'-k'(max)}$	500
Maximum Grid to Cathode Resistance (Section 2)	(kΩ)	$R_{g''-k''(max)}$	22*
Maximum Effective Grid to Earth Resistance (Section 2)	(kΩ)	$R_{g''-E(max)}$	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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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)	$\frac{1}{2}$
Approximate Packed Weight	(ozs)	$\frac{3}{4}$

MOUNTING POSITION—Unrestricted

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TYPICAL 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 ($\Delta Ia/\Delta Vg1$)	(mA/V)	gm	8.5	8.6
Approx. A.G.C. Voltage to give Mutual Conductance of 100μA/V	(volts)		—7.0	—12.0
Input Capacitance (working)	(pF)	$C_{in(w)}$	6.0*	6.0*
Change in Input Capacitance by biassing 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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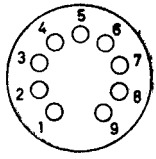
BASE—Noval (B9A)

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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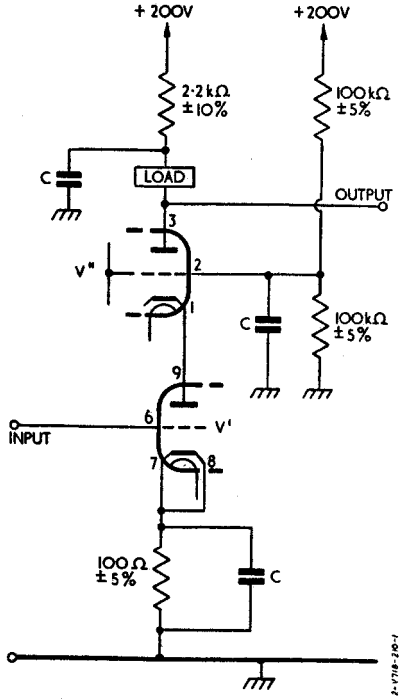
TYPICAL 30L15 CASCODE BIAS CIRCUITS

Circuit 1

Valve section 2, Potentiometer Bias arrangement.



C = DECOUPLING CONDENSERS

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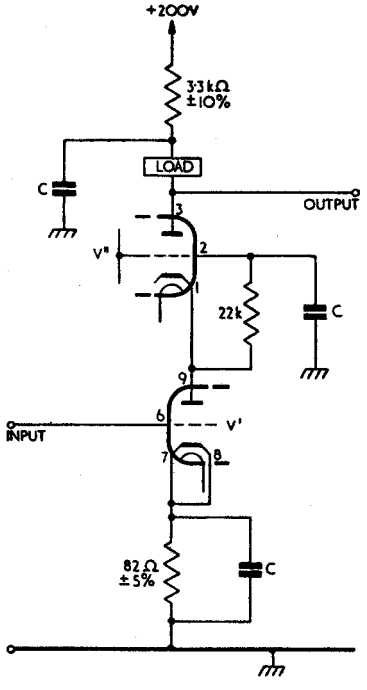
Circuit 2

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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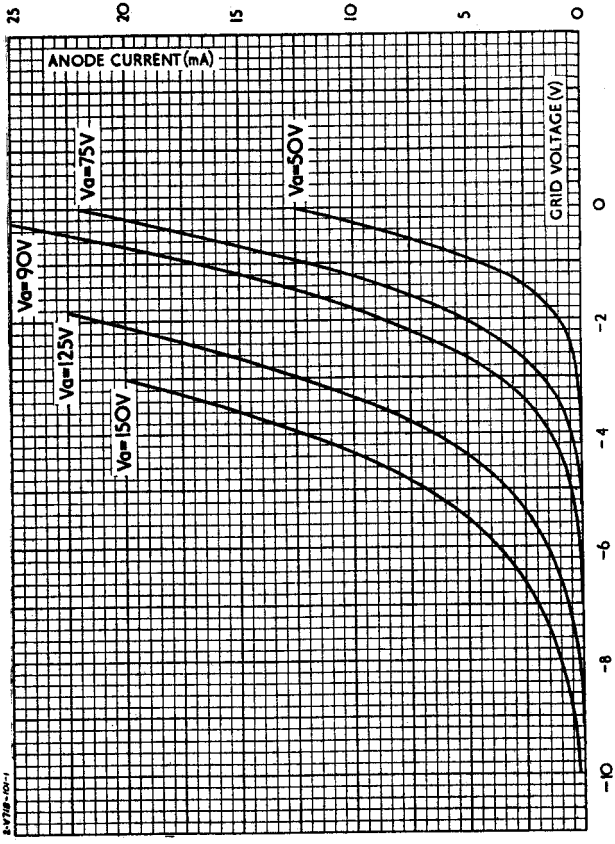
CHARACTERISTIC CURVES: I_a/V_g

Each Section



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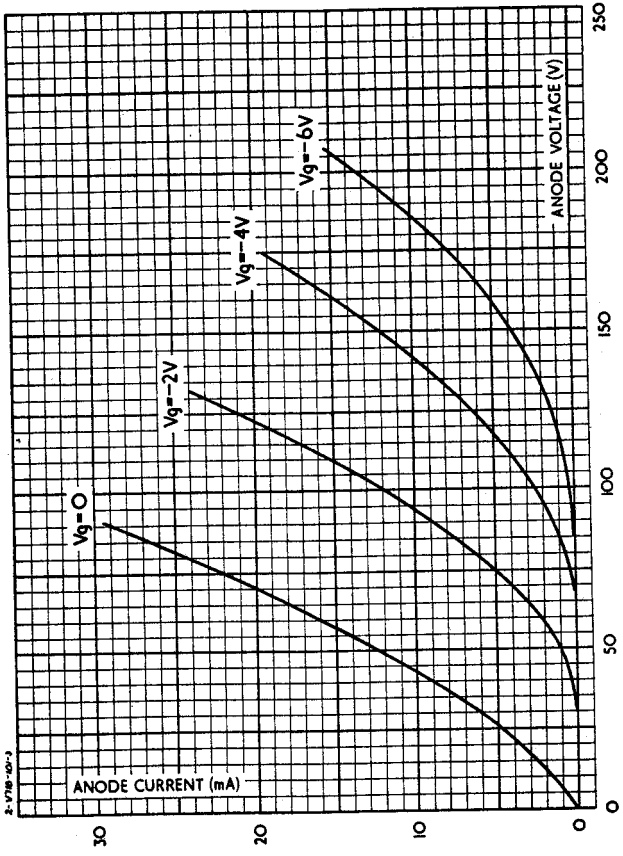
CHARACTERISTIC CURVES: I_a/V_a

Each Section



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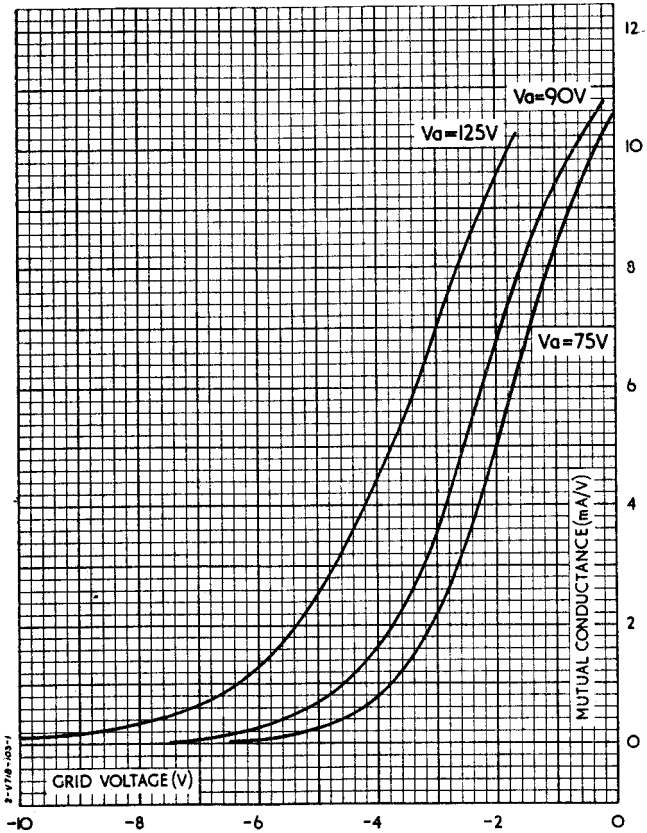
CHARACTERISTIC CURVES: g_m/V_g
Each Section



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