

EDISWAN**MAZDA****30L15**

CASCODE 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 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)	(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.

30L15

EDISWAN**MAZDA****30L15****CASCODE RF DOUBLE TRIODE****Indirectly heated—for series operation****TENTATIVE****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

EDISWAN**MAZDA****30L15**

CASCODE RF DOUBLE TRIODE
 Indirectly heated—for series operation
TENTATIVE

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 Conduct- ance ($\Delta I_a / \Delta V_{g1}$)	(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.

30L15

EDISWAN

MAZDA

30L15

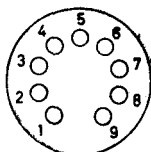
CASCODE RF DOUBLE TRIODE

Indirectly heated—for series operation

TENTATIVE

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'

EDISWAN

MAZDA

30L15

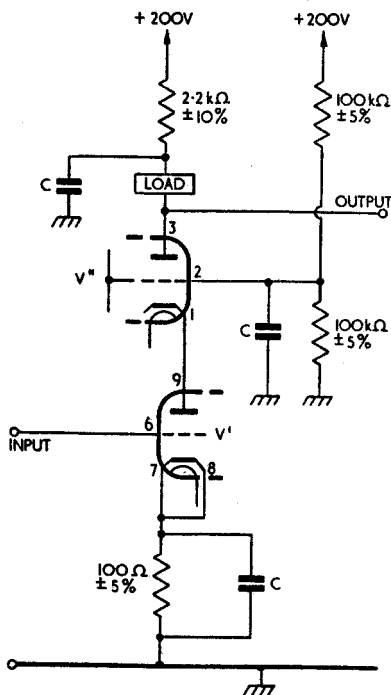
CASCODE RF DOUBLE TRIODE Indirectly heated—for series operation **TENTATIVE**

30L15

TYPICAL 30L15 CASCODE BIAS CIRCUITS

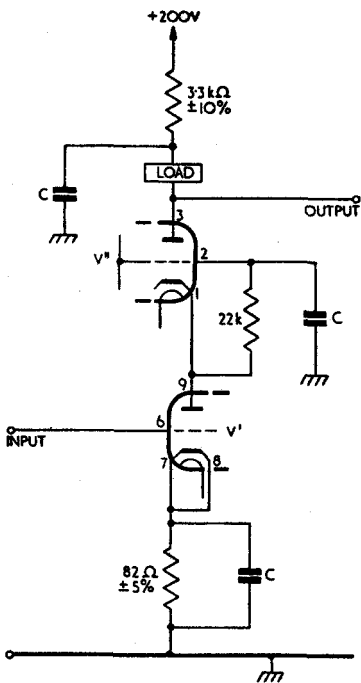
Circuit 1

Valve section 2, Potentiometer Bias arrangement.



C = DECOUPLING CONDENSERS

30L15

EDISWAN**MAZDA****30L15****CASCADE RF DOUBLE TRIODE****Indirectly heated—for series operation****TENTATIVE****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.

EDISWAN

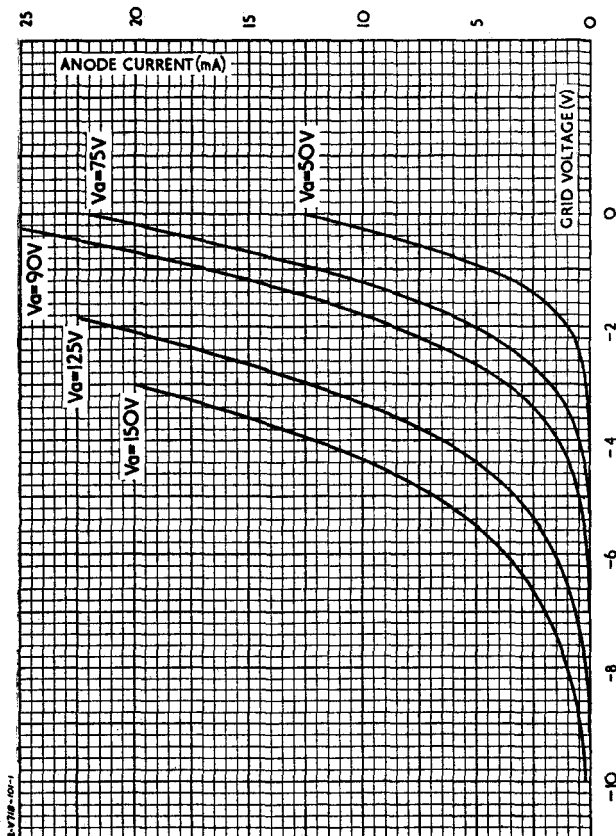
MAZDA

30L15

CASCADE RF DOUBLE TRIODE
Indirectly heated—for series operation
TENTATIVE

30L15

CHARACTERISTIC CURVES: I_a/V_g
Each Section



April 1960

Issue 1/2

ASSOCIATED ELECTRICAL INDUSTRIES LTD.
RADIO & ELECTRONIC COMPONENTS DIVISION

30L15

EDISWAN

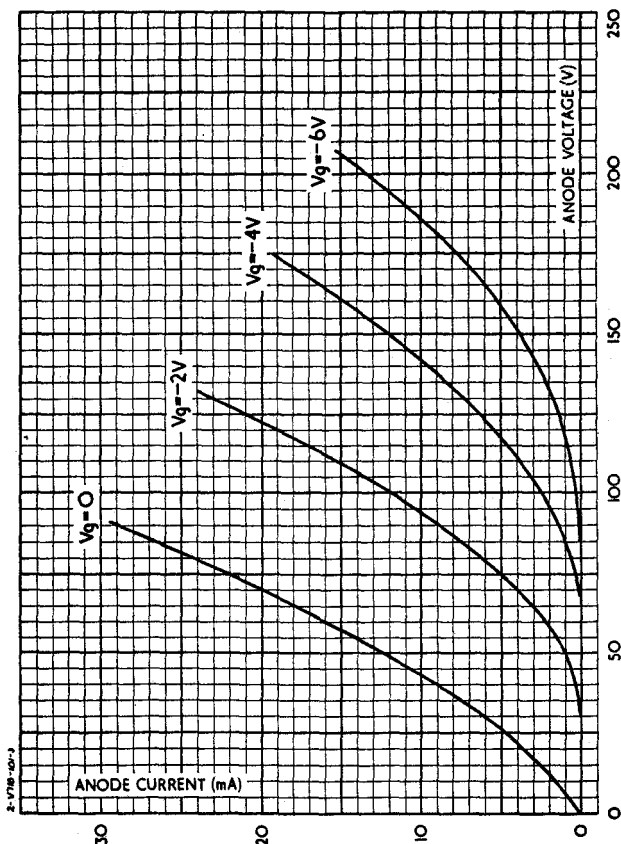
MAZDA

30L15

CASCADE RF DOUBLE TRIODE
Indirectly heated—for series operation
TENTATIVE

CHARACTERISTIC CURVES : I_a/V_a

Each Section



April 1960

Issue 1/2

ASSOCIATED ELECTRICAL INDUSTRIES LTD.
RADIO & ELECTRONIC COMPONENTS DIVISION

30L15

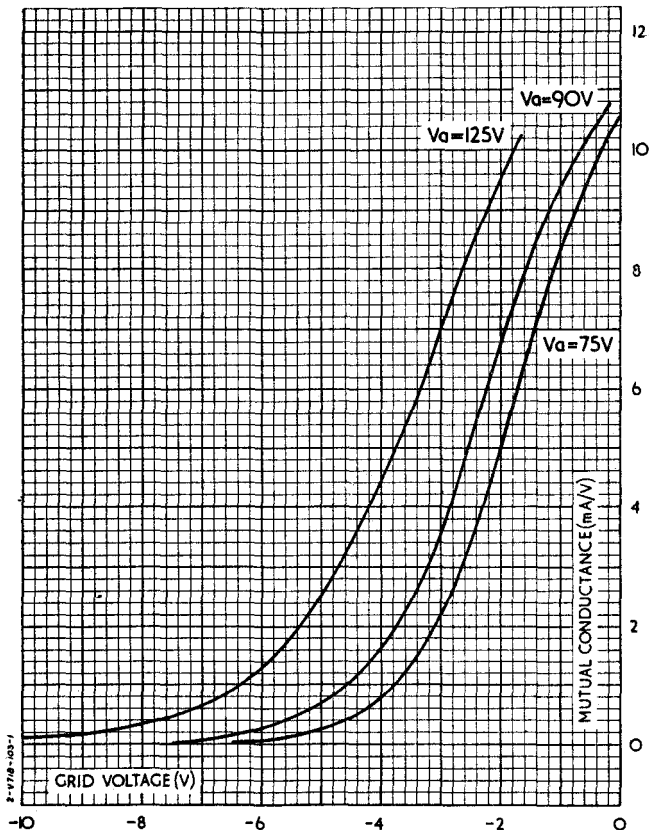
EDISWAN**MAZDA****30L15**

CASCADE RF DOUBLE TRIODE
Indirectly heated—for series operation

TENTATIVE

CHARACTERISTIC CURVES: g_m/V_g

Each Section



April 1960

Issue 1/2

ASSOCIATED ELECTRICAL INDUSTRIES LTD.

RADIO & ELECTRONIC COMPONENTS DIVISION