

T1368

# Mazda Radio Valve Engineering Dept.

Siemens Edison Swan Limited, Cosmos Works, Brimsdown, Middlesex

CHIEF ENGINEER'S OFFICE.

DATE 24th November, 1958.

T.D.S. No. 2-V718-0-16

SUBJECT

TENTATIVE

## VALVE TYPE 30L15

DIMENSIONS		M.M.	TYPE	Twin Triode.
OVERALL LENGTH	MAX.	56	CATHODE	Indirectly Heated.
DIAMETER	MAX.	22.2	USE	Cascode R.F. Amplifier.
SEATED HEIGHT	MAX.	49		

### RATING

Heater Volts		7.0	NOTE
Heater Current	(amps)	0.3	
Mutual Conductance	(mA/V)	9.0	A
Amplification Factor	(approx.)	26	A
Maximum Anode Volts		250	
Maximum Anode Dissipation	(Watts) (either Sect.)	2.0	
Maximum Cathode Current per Section	(mA)	16	
Maximum Grid to Cathode Resistance	(ohms) Section (1)	500,000	
Maximum Negative Grid Volts		50	
Maximum Effective Grid to Earth Resistance	(ohms) Section (2)	150,000	B
Maximum Grid to Cathode Resistance	(ohms) Section (2)	22,000	C

O. 3A

American Base E9-1 Bulb T6 1/2

CAPACITANCES				SYMBOL'S INDICATES SHIELD AND EARTH PARTS OF THE VALVE HOLDER MEASURED WITH VALVE COLD.	BASING		BASE, B.9.A. (NOVAL)	CAP.
ELECTRODES	* #	μF	#*		PIN	ELECTRODE		
g' TO k'hs	3.1	4.4		1	k"			
a" TO k'hs	3.6	4.5		2	g"b			
a' TO k'hs	1.9	2.8		3	a"			
k" TO k'hs	5.4	6.3		4	h			
a' TO g'	1.5	1.5		5	h			
a" TO k"	.19	.21		6	g'			
a' TO a"	.011	.013		7	k' in			
g' TO a"	.0058	.0096		8	k' out			
TO				9	a'			

MOUNTING POSITION: Unrestricted.

Basing 9DD

### TYPICAL CASCODE OPERATION. (See TDS No. 2-V718-0-3.)

Notes-

- A.  $V_a = 90v$   $I_a = 15mA$ .  $V_{g1} = -1.2V$ .
- B. With potentiometer bias from H.T. Line.
- C. Grid Current bias.

- \* Inter-electrode Capacity with holder capacity balanced out but with cylindrical screen can.
- \*\* Total capacity including ceramic B9A holder with cylindrical screen. (Flessey holder type CP. 180024/3)

INDICATES A CHANGE SINCE PREVIOUS ISSUE

V718

T.D.S. 012.

## Ediswan Mazda Applications Department

Siemens Edison Swan Limited, Cosmos Works, Brimsdown, Enfield, Middlesex.

SUBJECT

CHIEF ENGINEER'S OFFICE  
(APPLICATIONS)DATE: 8th December, 1958  
T.D.S. No. 2-4718-0-3

TENTATIVE

TYPICAL CASCODE OPERATION.

Input triode connected as a grounded cathode stage and coupled directly to section 2 connected as a grounded grid stage. The valve sections are series fed i.e. anode of section 1 connected directly to cathode of section 2.

O.3A

		<u>Circuit I.†</u>	<u>Circuit II.††</u>
H.T. Supply Voltage		200	200
Anode decoupling resistor, section 2.	(ohms)	2,200	3,300
Anode current	(mA)	15.3	14.8
Grid bias voltage, section 1. (supplied by cathode resistor)		-1.53	-1.2
Combined mutual conductance ( $\Sigma i_a / \Delta v_{g1}$ )	(mA/V)	8.5	8.6
Approx. A.G.C. Volts to give combined mutual conductance of 100 $\mu A/V$ .		-7	-12
Self bias resistor, section 1.	(ohms)	100	82
Input capacity working*	(pF)	6.0	6.0
Change in input capacity by biasing valve to cut off. (pF)		1.2	1.2

Notes.

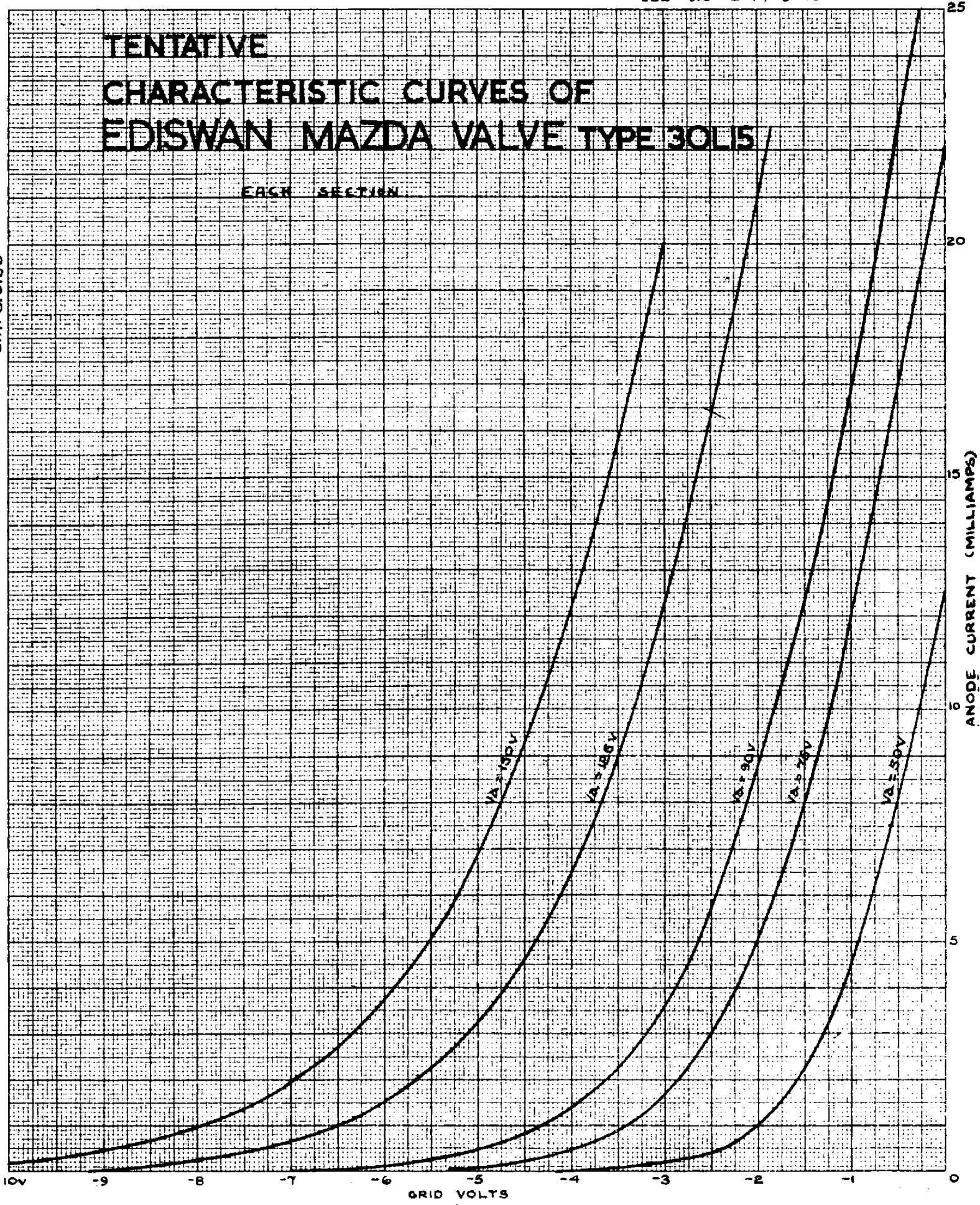
- †. Circuit I. Valve section 2, Potentiometer bias from H.T. line, see TDS. sheet 2-4718-210-1.
- ††. Circuit II. Valve section 2, Grid current bias, see TDS sheet 2-4718-210-1.
- \*. Inter-electrode capacity with holder capacity balanced out but with cylindrical screen can.

V718.

# TENTATIVE CHARACTERISTIC CURVES OF EDISWAN MAZDA VALVE TYPE 30L15

EACH SECTION

G.M. 3.6.58

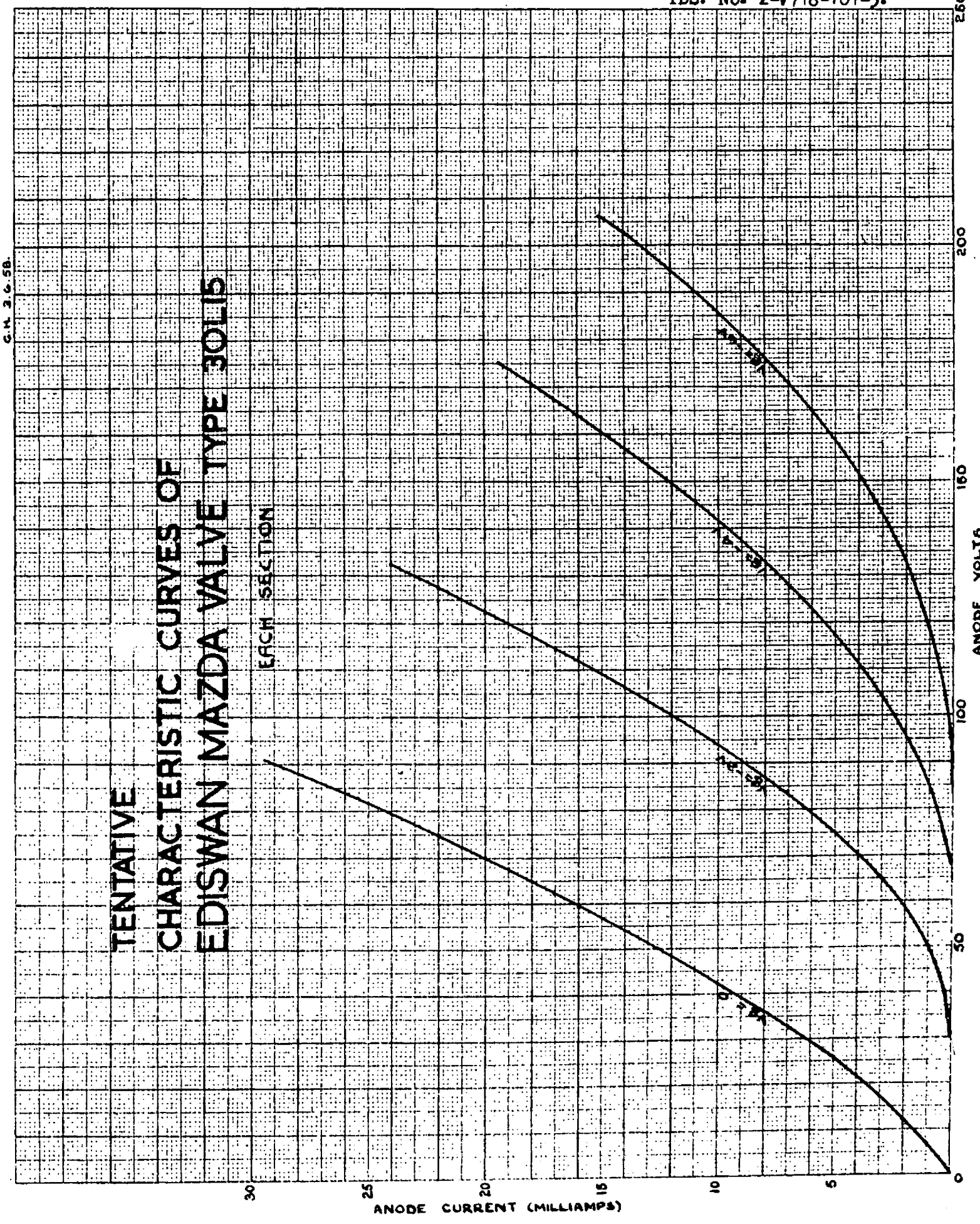


ANODE CURRENT (MILLIAMPERES)

GRID VOLTS

V718

D12/9 (V2)



TENTATIVE  
CHARACTERISTIC CURVES OF  
EDISWAN MAZDA VALVE TYPE 30L15

EACH SECTION

G.H. 3-6-58

ANODE CURRENT (MILLIAMPS)

ANODE VOLTAGE

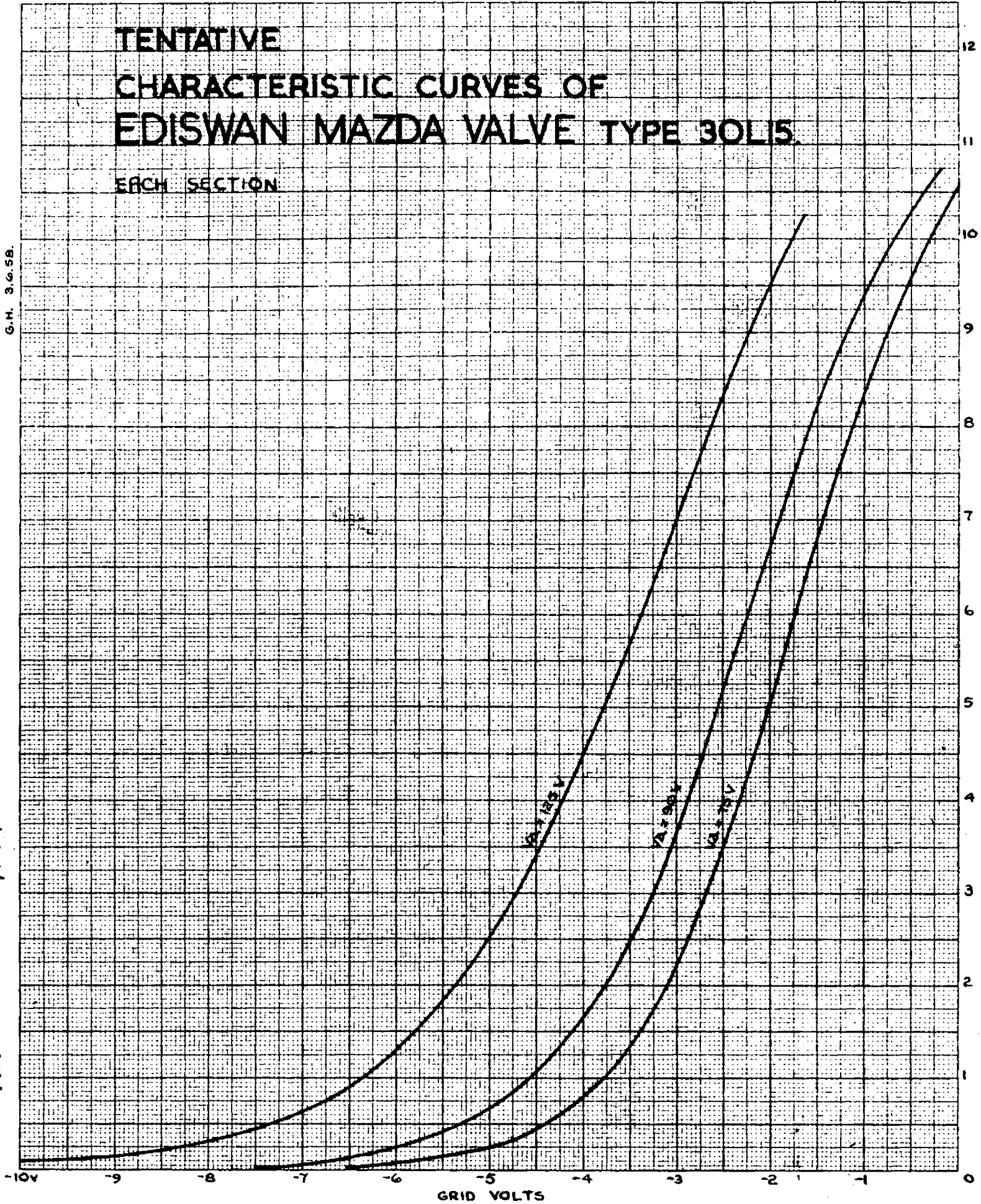
# TENTATIVE CHARACTERISTIC CURVES OF EDISWAN MAZDA VALVE TYPE 30L15.

ERCH SECTION

G.M. 3-6-58

DI<sub>2</sub>/I<sub>1</sub> (V<sub>2</sub>)

V<sub>F1</sub> 8



GRID VOLTS

MUTUAL CONDUCTANCE (mA/V)

Ediswan Mazda Applications Department

Siemens Edison Swan Limited, Cosmos Works, Brimsdown, Enfield, Middlesex.

SUBJECT

CHIEF ENGINEER'S OFFICE  
(APPLICATIONS)

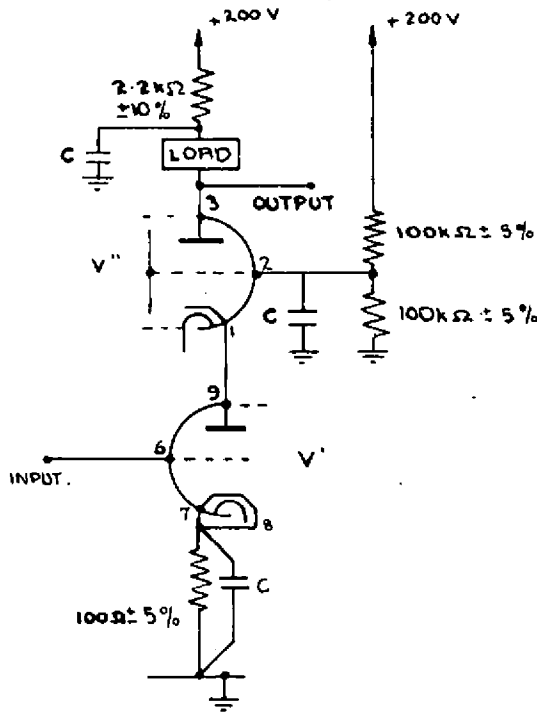
DATE: 11th December, 1958.  
T.D.S. No. 2-V718-210-1

TENTATIVE

TYPICAL 30L15 CASCODE BIAS CIRCUIT.

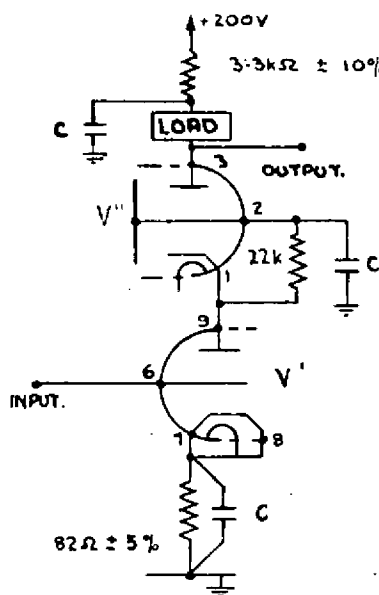
CIRCUIT.I.

Valve section 2, Potentiometer Bias Arrangement.



CIRCUIT.II.

Valve section 2, Grid Current Bias Arrangement.



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

O 3A

V718