

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION MAP/CV858 ISSUE 2 DATED 27.7.48

AMENDMENT NO. 1

- (i) Top of Page: Amend "MINISTRY OF SUPPLY (D.C.D.)" to read Ministry of Aviation D.L.R.D./R.A.E.
- (ii) Specification Title: Amend "Specification MAP/CV858" to read "Specification MOA/CV858."
- (iii) Page 2 Capacitances: Against "Chc" in the column heading "Limits, Min." delete "3.3" and substitute "2.5."

December, 1964
N.253582

T.V.C. for R.A.E.

Specification MAP/CV858/Issue 2 Dated 27.7.48. To be read in conjunction with K1001.	<u>SECURITY</u>	
	<u>Specification</u> RESTRICTED	<u>Valve</u> UNCLASSIFIED

—————> Indicates a change

<u>TYPE OF VALVE</u> - Double Triode <u>CATHODE</u> - Indirectly Heated <u>ENVELOPE</u> - Glass-unmetalised <u>PROTOTYPE</u> - 6J6			<u>MARKING</u> See K1001/4	
<u>RATING</u>		Notes	<u>BASE</u> B7C	
Heater Voltage (V) 6.3 Heater Current (A) 0.45 Max. Anode Voltage (V) 330 Max. Anode Dissipation per Anode (W) 1.6 Mutual Conductance (mA/V) 5.6 Amplification Factor 38 Max. Frequency of Operation (Mc/s) 250			Pin	Electrode
			1	Anode 2
			2	Anode 1
			3	Heater
			4	Heater
			5	Control Grid 1
			6	Control Grid 2
			7	Cathode
<u>CAPACITANCES (pF)</u>			<u>DIMENSIONS</u> See K1001/AI/D4	
Cag	1.5	B		
Cgo	2.45	B		
Cho	5.4	B		
Cath+o	0.45	B		
Ca ₂ h+o	0.40	B		

NOTES

- A. $V_a = 100$; $V_g = 0$; Cathode resistor = 500.
 B. Measured without metal can.

To be performed in addition to those applicable in K1001.

	Test Conditions			Test	Limits		No. Tested	Note				
					Min.	Max.						
a	See K1001/AIII Measurements to be made in Adaptor Type 124.			<u>CAPACITANCES (pF)</u>			6	per week				
	Links to HP	Links to LP	Links to E.									
	2	5	1,3,4,7, 8,9,10, TC1,TC2						Ca ₁ g ₁	1.2	1.8	1
	1	6	2,3,4,5, 7,8,9, 10,TC1, TC2.						Ca ₂ g ₂	1.2	1.8	1
	5	3,4,7, 8,9	1,2,6, 10, TC1,TC2						Cg _{1c}	1.7	3.2	1
	6	3,4,7, 8,9	1,2,5, 10,TC1, TC2						Cg _{2c}	1.7	3.2	1
	3,4	7	1,2,5, 6,8,9, 10,TC1, TC2						Cho	3.3	7.5	1
	2	3,4,7	1,5,6, 8,9,10, TC1,TC2						Ca1h+c	0.25	0.65	1
1	3,4,7	2,5,6, 8,9,10, TC1,TC2	Ca2h+c	0.25	0.55	1						

	Test Conditions			Test	Limits		No. Tested	Notes
	Vh	Va	Vg		Min.	Max.		
b	6.3	0	0	Ih (A)	0.415	0.485	100% or S	
c	6.3	100	Auto-bias See Note 2	Ia (mA)	5.5	12.5	100%	2&3
d	6.3	250	-30	Ia (μ A)	-	75.0	100%	3
e	6.3	250	Auto-bias See Note 4	Reverse I _{g1} (μ A)	-	2.0	100%	3&4
f	6.3	100	Auto-bias See Note 2	g _m (mA/V)	4.0	7.3	100%	2,3, & 5
g	6.3	Strapped 10V. +ve D.C. applied		Emission (mA)	40.0	-	100%	3

NOTES

1. Measured without metal can.
2. Cathode bias resistor = 50 Ω .
3. Test voltages applied to both sections, each section being tested separately.
4. Cathode bias resistor = 500 Ω .
5. Cathode resistor shall be by-passed by a 1000 mfd. condenser.

DATA SHEET

Valve Electronic Type CV 858

TYPICAL OPERATING CONDITIONS

As Class A1, A.F. Amplifier - (per section)

Anode Voltage	100	Volts
Anode Current	8.5	mA
Amplification Factor	38	-
Anode Impedance	7,100	ohms
Mutual Conductance	5.3	mA/V
*Cathode Bias Resistor	50	ohms

*Value for both units operating under these conditions.

Note: The grid return resistance should never exceed 0.5 megohm. Operation of this valve with fixed bias is not recommended.

As Push-Pull R.F. Amplifier and Oscillator - Class C Telegraphy

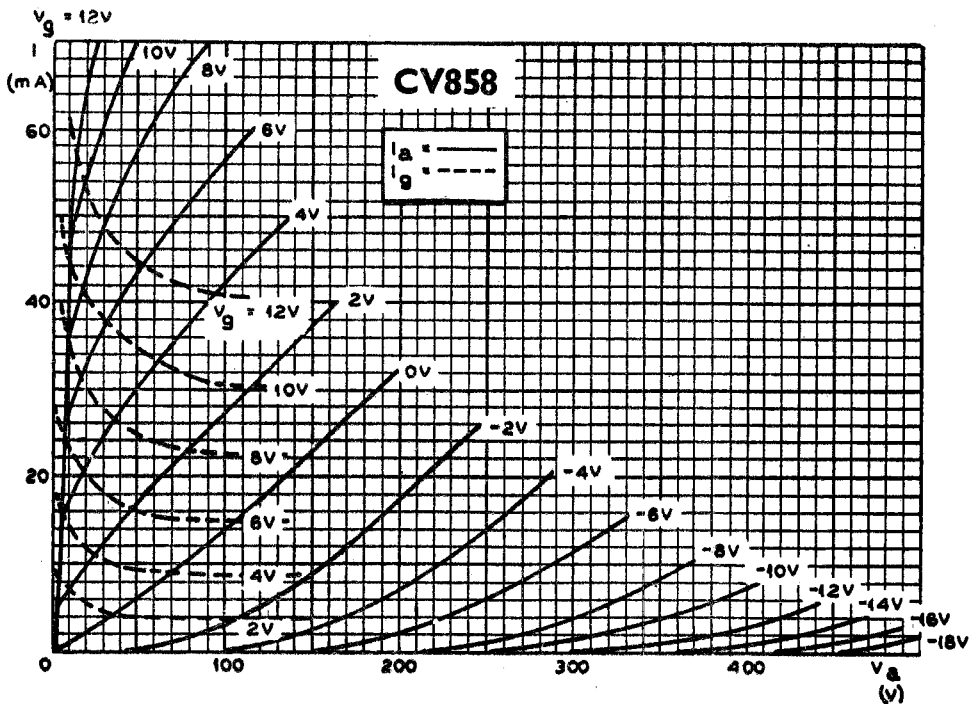
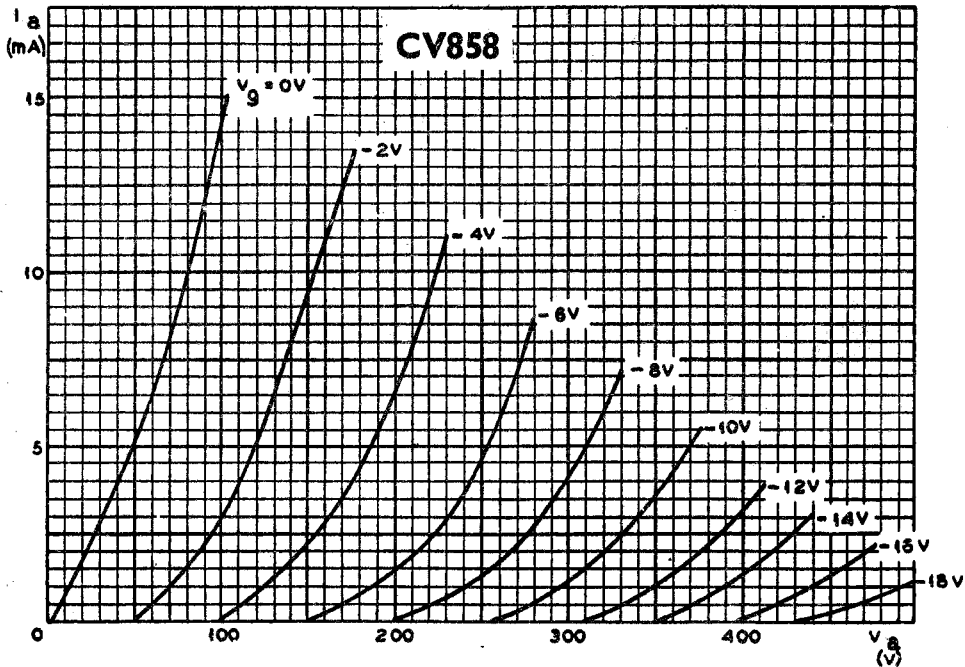
At frequencies up to 80 mc/s - Key down, without modulation

D.C. Anode Voltage	150	Volts
*D.C. Grid (G1) Voltage	-10	Volts
*Grid (G1) resistor to give above bias	625	ohms
*Cathode bias resistor to give above bias	220	ohms
Anode Current	2 x 15	mA
Grid (G1) Current	2 x 8.0	mA
Grid Input Power	0.35	watt
R.F. Power Output	3.5	watts

*These are alternative methods of biasing.

Notes

- (a) At 250 mc/s, an output of approx. 1.0 watt can be obtained from this valve as a push-pull oscillator, with $V_a = 150V$, $W_a = 2 \times 1.5W$ (max) and with a common grid resistor of 2,000 ohms.
- (b) With the grids in push-pull, and the anodes in parallel, this valve will operate as a mixer at frequencies up to 800 mc/s.



CV 858/a/2.