MINISTRY OF ~~SUPPLY (D.G.D.)~~ AVIATION DEPARTMENT

VALVE ELECTRONIC

CV858

Amdt

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

Amdt 1

→ Indicates a change

TYPE OF VALVE - Double Triode

CATHODE - Indirectly Heated

ENVELOPE - Glass-unmetallised

PROTOTYPE - 6J6

MARKING

See K1001/4

RATING		Notes
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	A
Amplification Factor	38	A
Max. Frequency of Operation (Mc/s)	250	
CAPACITANCES (pF)		
Cag	1.5	B
Cgc	2.45	B
Chc	5.4	B
Ca1h+c	0.45	B
Ca_2h+c	0.40	B

BASE

B7G

Pin	Electrode
1	Anode 2
2	Anode 1
3	Heater
4	Heater
5	Control Grid 1
6	Control Grid 2
7	Cathode

DIMENSIONS

See K1001/AI/D4

NOTES

A. Va = 100; Vg = 0; Cathode resistor = 50Ω.

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							
	Links to HP	Links to LP	Links to E.	CAPACITANCES (pF)				
	2	5	1,3,4,7, 8,9,10, TC1,TC2	Ca_1g_1	1.2	1.8		1
	1	6	2,3,4,5, 7,8,9, 10,TC1, TC2.	Ca_2g_2	1.2	1.8		1
	5	3,4,7, 8,9	1,2,6, 10, TC1,TC2	Cg_1c	1.7	3.2	6	1
	6	3,4,7, 8,9	1,2,5, 10,TC1, TC2	Cg_2c	1.7	3.2	per	1
	3,4	7	1,2,5, 6,8,9, 10,TC1, TC2	Chc	~~3.3~~ 2.5	7.5	week	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

TESTS (Contd.)

CV858

	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 (μA)	-	75.0	100%	3
e	6.3	250	Auto-bias See Note 4	Reverse Ig1 (μA)	-	2.0	100%	3&4
f	6.3	100	Auto-bias See Note 2	gm (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 = 50Ω.
3. Test voltages applied to both sections, each section being tested separately.
4. Cathode bias resistor = 500Ω.
5. Cathode resistor shall be by-passed by a 1000 mfd. condenser.

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION MAP/CV858 ISSUE 2 DATED 27.7.48

AMENDMENT NO.1

(i) Tope 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.

JAB 3/65

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

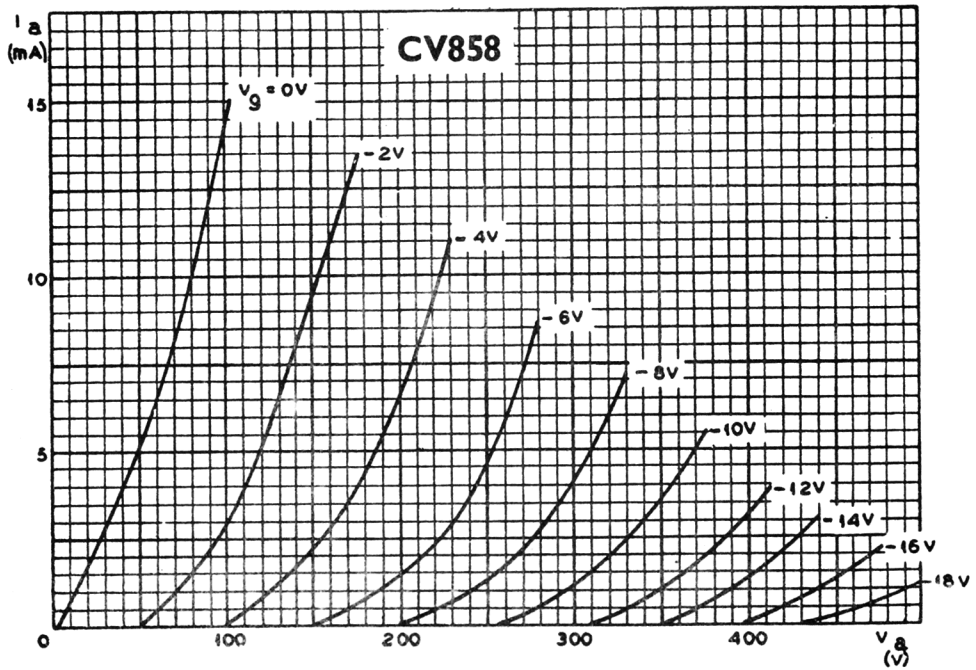
D.C. Anode Voltage	150	Volts
*D.C. Grid (G1) Voltage	-10	Volts
*Grid (G1) resistor to give above bias	625	ohms
*Cathode bias resistor to give above bias	220	ohms
Anode Current	2 x 15	mA
Grid (G1) Current	2 x 8.0	mA
Grid Input Power	0.35	watt
R.F. Power Output	3.5	watts

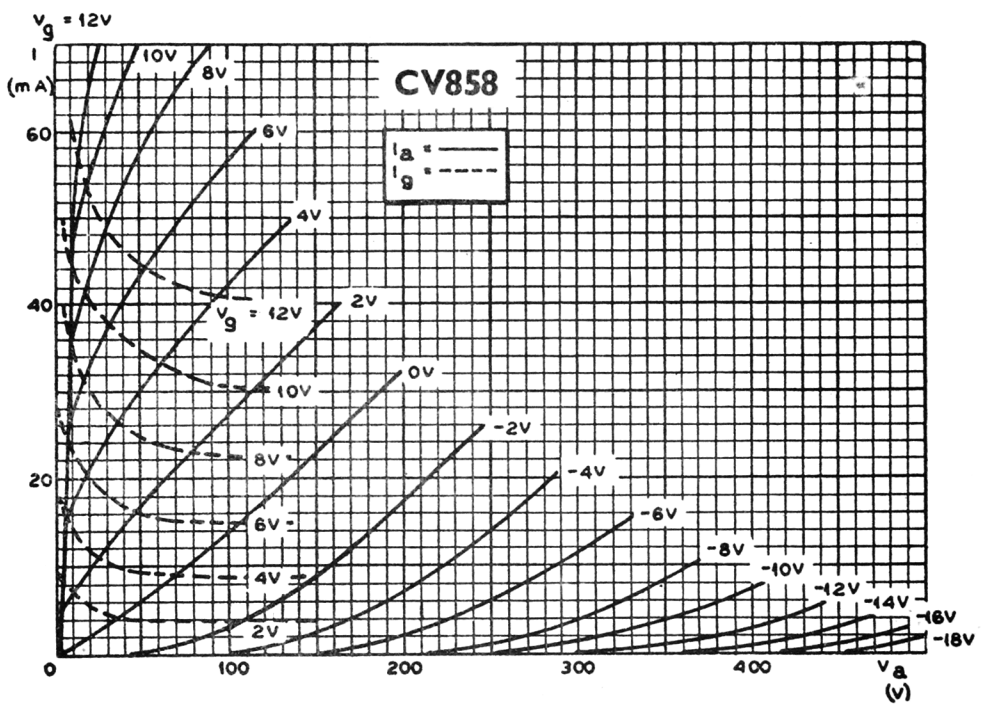
*These are alternative methods of biassing.

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 x 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 600 mc/s.


CV858
Ia (mA)
15
10
5
0
100
200
300
400
Va (V)
Vg = 0V
-2V
-4V
-6V
-8V
-10V
-12V
-14V
-16V
-18V


CV858
Ia =
Ig =
Vg = 12V
10V
8V
6V
4V
2V
0V
-2V
-4V
-6V
-8V
-10V
-12V
-14V
-16V
-18V
I (mA)
60
40
20
0
100
200
300
400
Va (V)

CV 858/a/2.