

MINISTRY OF SUPPLY - DLRD(A)/RRE

VALVE ELECTRONIC

CV 492

Specification MOS(A)/CV492 Issue 5 Dated 24.11.53 To be read in conjunction with K1001.	<u>SECURITY</u> <u>Specification</u> <u>Valve</u> UNCLASSIFIED UNCLASSIFIED
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—————> Indicates a change

TYPE OF VALVE - High μ , Double Triode				<u>MARKING</u>		
CATHODE - Indirectly-heated				See K1001/4		
ENVELOPE - Glass - Unmetallised				Additional Marking - 12AX7 (See Note F)		
PROTOTYPE - 12AX7				<u>BASE</u>		
RTMA DESIGNATION - 12AX7				B9A		
<u>RATING</u>				<u>CONNECTIONS</u>		
				Note		
				Pin	Electrode	
Heater Voltage	(V)	12.6	A	1	A (b)	
Heater Current	(A)	0.15	A	2	G (b)	
Max. Anode Voltage	(V)	330	D	3	C (b)	
Max. No-Load Anode Voltage	(V)	550	D	4	H	
Max. Anode Dissipation	(W)	1.1	B ₂ D	5	H	
Max. Heater-Cathode Voltage	(V)	200	D	6	A (a)	
Max. Cathode Current	(mA)	20	B ₂ D	7	G (a)	
Mutual Conductance	(mA/V)	1.6	C	8	C (a)	
Amplification Factor		100	C	9	HCT	
Anode Impedance	(ohms)	62500	C			
				<u>DIMENSIONS</u>		
				See K1001/A1/D4		
<u>CAPACITANCES (pF)</u>				Dimension (mm)	Min.	Max.
Ca-g		1.7	E	A	-	56.0
Cg-e		1.6	E	B	-	22.4
Ca(a) - e		0.46	E			
Ca(b) - e		0.34	E			
				<u>MOUNTING POSITION</u>		
				Any		
<u>NOTES</u>						
A. Centre-tapped heater.						
B. Each section, measured without metal screen.						
C. Measured at: $V_a = 250V$; $V_{g1} = -2V$; ($I_a = 1.2 \text{ mA}$).						
D. Absolute maximum value.						
E. Measured without a metal screen.						
F. In addition to the requirements of K1001/4, the RTMA designation shall also be clearly and indelibly marked on the valve.						

CV492/5/1

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To be performed in addition to those applicable in K1001

Test Conditions				Test	Limits		No. Tested	Note
	Links to H.P.	Links to L.P.	Links to E.		Min.	Max.		
a				<u>CAPACITANCES (pF)</u> Ca(a) - g(a) Ca(b) - g(b) Cg(a) - e Cg(b) - e Cafa - e Ca(b) - e			Results to be recorded and collated	1
b	Vh (V)	Va (V)	Vg1 (V)	Ih (A)	.138	.162	100% or S	
	12.6	0	0					
c	12.6	For other conditions see Note 2.		<u>Heater-Cathode Insulation</u> Leakage current (μA)	-	20	100%	3
d	12.6	250	-2	Ia (mA)	0.75	1.75	100%	3
e	12.6	250	-4	Ia (μA)	0	35	100%	3
f	12.6	250	-2	Reverse Ig (μA)	-	1.0	100%	4
g	12.6	250	-2	gm (mA/V)	1.25	2.05	100%	3
h	12.6	250	-2	μ	85	115	20 per week	3
j	6.3	30 max.	30	Emission (mA)	55	-	100%	3,5
k	12.6	For other conditions see Note 6.		<u>AC Amplification</u> Va (V)	8.4	-	6 per week	3

NOTES

- Measured without a metal screen.
- Vhc = ± 100V through a resistance of not greater than 100K.
- Each section shall be tested separately. Section not under test to be connected to the active cathode.
- Anode (a) shall be connected to anode (b); grid (a) to grid (b) and cathode (a) to cathode (b). Of the total current not more than 0.5 μA shall be present in any one section.
- Test voltages shall be applied only for sufficient time to obtain a steady reading.
- The test shall be made with an input of 200 mV AC at f = 60-2000 cps through a 0.1 μF condenser. Grid resistor = 10 megohms; Anode load resistor = 500K; Vht = 100V DC; Vg = 0.

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Valve Electronic Type CV 492

TYPICAL OPERATING CONDITIONS (PER SECTION)

Anode Voltage	100	250	Volts
Anode Current	0.5	1.2	mA
Grid Voltage	-1.0	-2.0	Volts
Anode Impedance	80,000	62,500	Ohms
Mutual Conductance	1.25	1.6	mA/V
Amplification Factor	100	100	-

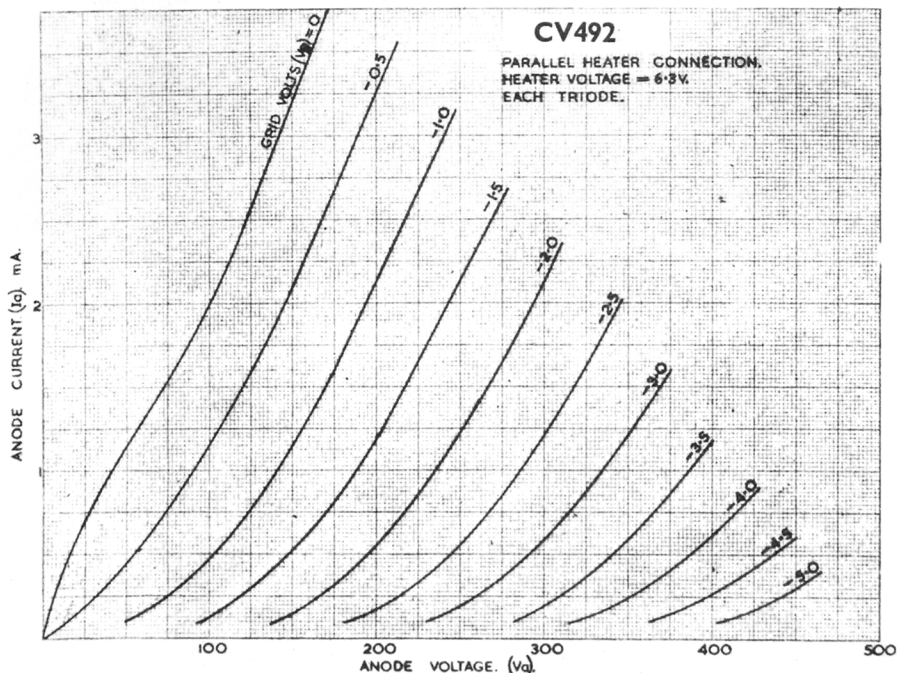
Operation as Resistance Coupled Amplifier

Anode Supply Voltage	100	250	Volts
Anode Load Resistor	0.25	0.25	Megohms
Cathode Bias Resistor	6,500	3,000	Ohms
Peak Output	10	50	Volts
Stage Gain	45	60	-

The two triodes may be used in cascade provided that separate bias resistors and separate cathode resistor by-pass condensers are used and all grid and anode wiring is kept short.

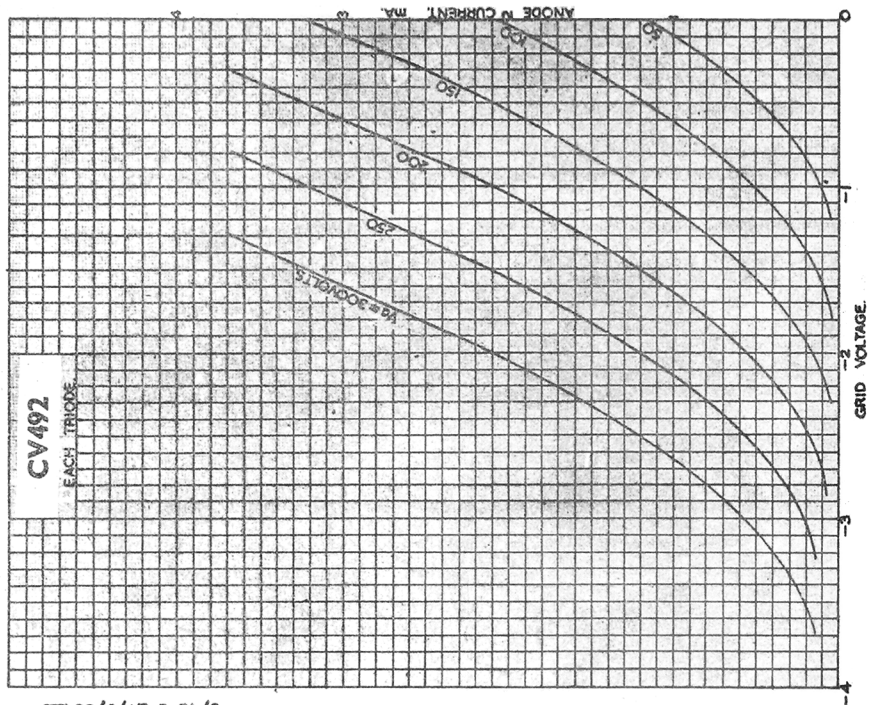
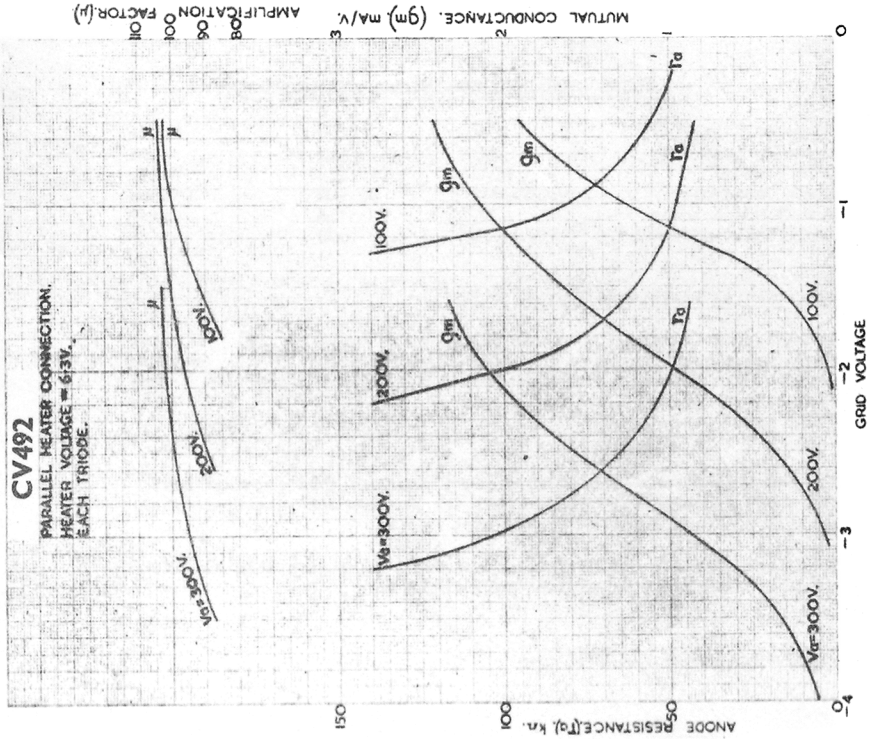
This type of valve can be used successfully as a paraphase amplifier or as a phase splitter in push pull circuits.

Mounting Position - Any.

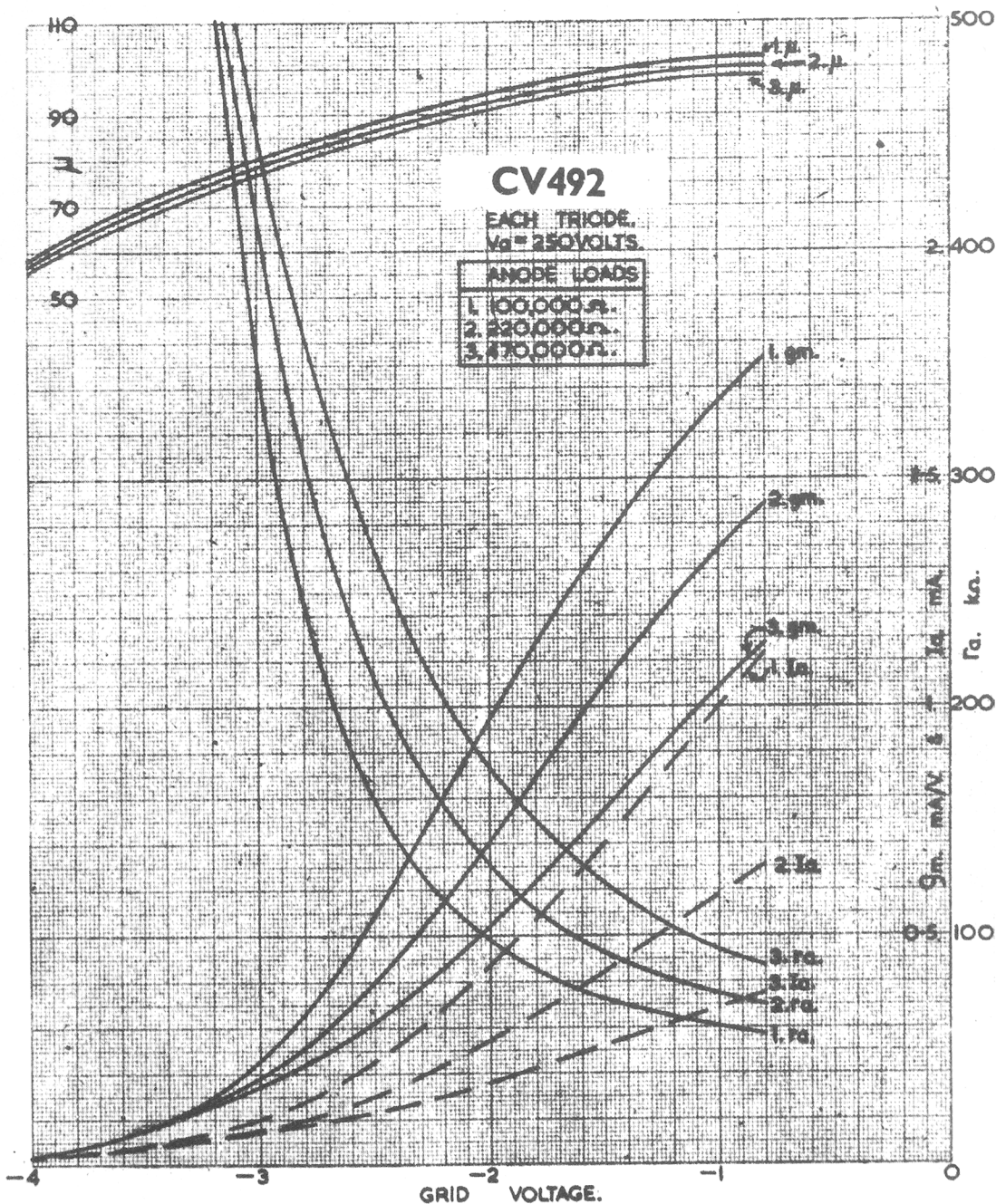


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