ELECTRONIC TUBE REFERENCE

CV9422

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA
2 SECTIONS
CONSTRUCTION
CATHODERAY-CATHODERAY

Ruggedized direct-view storage tube with approximately four-inch useful viewing screen. Designed for persistent stored-image display, it retains electronically written information for later viewing rather than requiring continuous refresh.

General characteristics

BASE DESIGNATION	—	**BASE PINS**	—
NOMINAL HEATER	6.3 V / —	**PARALLEL HEATER**	— / —
HEATING	Indirect	**SERIES OPERATION**	Not specified
CATHODE ARRANGEMENT	Separate cathodes	**SECTION CONSTRUCTION**	Dissimilar

Section ratings

SECTION1 Cathode Ray

No fixed ratings recorded.

Writing-gun section; published electrode ratings/capacitances preserved in parameters.

SECTION2 Cathode Ray

No fixed ratings recorded.

Flood-gun/storage/display section; published electrode ratings/capacitances preserved in parameters.

The data should be read in conjunction with the Storage Tube Preamble. The E713B isa direct view storage tube with a useful viewing screen diameter of 4 inches (102mm). It is of ruggedized construction and is designed t©

SOURCE OPERATING CONDITIONS

1971 English Electric Valve

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1971 ENGLISH ELECTRIC VALVE

Section 1 · Cathode Ray

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
recurrent waveforims 1o half tone pictures	**1**	recurrent waveforims 1o half tone pictures. The writing gun beam is magneti-
Heater voltage	**6.3 v**	Heater voltage 6.3 6.3 v
Heater current	**600 mA**	Heater current 0.8 0.6 A
cathode 1o all other electrodes	**4**	cathode 1o all other electrodes 4.0 - oF
grid 1 to all other electrodes	**70 pF**	grid 1 to all other electrodes - 70 - pF
Writing gun grid 1 to writing gun Lamude*	**1.5 pF**	Writing gun grid 1 to writing gun Lamude* 1.5 - pF
Heater voltage	**6.6 v**	Heater voltage 6.0 6.6 v
Grid 3 voltage (negative value)	**2000 v**	Grid 3 voltage (negative value) 2000 v
Grid 2 voltage	**2**	Grid 2 voltage . 200 2
Grid 1 voltage	**1**	Grid 1 voltage
Heater voltage	**6.6**	Heater voltage 6.6
Viewing screen voltage	**12**	Viewing screen voltage . 12
Grid 4 {collector mesh} voltage	**300**	Grid 4 {collector mesh} voltage 300
Grid 3A voltage	**300**	Grid 3A voltage 300
Grid 3 voltage	**300**	Grid 3 voltage 300
Grid 1 voltage	**150**	Grid 1 voltage 150
heater positive with respect to cathode	**125**	heater positive with respect to cathode 125
heater negative with respect to cathode	**125**	heater negative with respect to cathode 125

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode current	**10**	Cathode current . 10
Viewing screen dissipation	**6**	Viewing screen dissipation 6.0
Grid 3 voltage {usual range fcrfocusi*	**700**	Grid 3 voltage {usual range fcrfocusi* 400 to 700
Grid 2 voltage	**0**	Grid 2 voltage 0
Grid 1 voltage (range for wnllng beamCUt-off)	**-55**	Grid 1 voltage (range for wnllng beamCUt-off) —30 10 —55
Cathode voltage	**-1800**	Cathode voltage —1800
Writing beamn current {50V modulation)	**50**	Writing beamn current {50V modulation)
Cathode current (50V moduldmon)	**50**	Cathode current (50V moduldmon)
Screen voltage	**10**	Screen voltage 10
Grid 4 fcollector mesh) voltage	**225**	Grid 4 fcollector mesh) voltage 225
Grid 3A voltage	**150**	Grid 3A voltage 150
Grid 1 vottage	**30**	Grid 1 vottage 30
Screen current for full brightness	**0.4 mA**	Screen current for full brightness 0.4 mA
Cathode current	**375 mA**	Cathode current . 375 mA
Grid 4 twriting gun) is intarnally connected to grid 2 {flood qun)	**2**	Grid 4 twriting gun) is intarnally connected to grid 2 {flood qun)
The viewing screen supsly impedance should be less than M2 to pre-	**2**	The viewing screen supsly impedance should be less than M2 to pre-
vent excessive changes i1 screen voltage during erasure	**1**	vent excessive changes i1 screen voltage during erasure.
With manual erasure {approximately 1 second) and the screen voltage	**1**	With manual erasure {approximately 1 second) and the screen voltage
flood gun grids 2, 3, 3A and 4 should be preset to the Tixed values given	**4**	flood gun grids 2, 3, 3A and 4 should be preset to the Tixed values given
maximum uniform disolay over the screen. The voltage of grid 3	**3**	maximum uniform disolay over the screen. The voltage of grid 3

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
of grid 1 and grid 3A voltages may assist in obtaining the most uniform	**3**	of grid 1 and grid 3A voltages may assist in obtaining the most uniform
charging and can occur when a pulse exceeding 20 volts in amplitude	**20 a**	charging and can occur when a pulse exceeding 20 volts in amplitude
electrode from its supply and connecting it to the flood gun grid 4 through	**4**	electrode from its supply and connecting it to the flood gun grid 4 through
The writing gun cathode is operated at a polential in the region of —1.5 to	**-1.5 a**	The writing gun cathode is operated at a polential in the region of —1.5 to
—2.3kV; consequently the heater supply should be adequately insulated. The	**-2.3**	—2.3kV; consequently the heater supply should be adequately insulated. The
cathode supply must be free from ripple 10 prevent modulation of the writing	**10**	cathode supply must be free from ripple 10 prevent modulation of the writing
Green	**1**	Green Grid 1 Brown Heater
Brown	**1**	Brown Heater Green Grid 1
White	**3**	White Grid 3
Grey	**2**	Grey Grid 2
1 Grid 3 {flood gun)	**3**	1 Grid 3 {flood gun)
3 Grid 3A {flood gun)	**3**	3 Grid 3A {flood gun)
4 Grid 4 {floed qun}	**4**	4 Grid 4 {floed qun}
5 Grid 2 (flood gun)	**2**	5 Grid 2 (flood gun)

Tube Tinker

An independent reference for electronic tubes, vacuum tubes, and their source documents.

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