



ELECTRONIC TUBE REFERENCE

E713B

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 in demanding electronic equipment.

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 is a direct view storage tube with a useful viewing screen diameter of 4 inches (102mm). It is of ruggedized construction and is designed to

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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 wnlng beamCUt-off)	-55	Grid 1 voltage (range for wnlng 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 moduldmn)	50	Cathode current (50V moduldmn)
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 il screen voltage during erasure	1	vent excessive changes il 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 potential in the region of -1.5 to	-1.5 a	The writing gun cathode is operated at a potential 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 {flood gun}	4	4 Grid 4 {flood gun}
5 Grid 2 (flood gun)	2	5 Grid 2 (flood gun)

TUBE TINKER

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