electronic ETC tube corp.

5CSP- CATHODE RAY TUBE

The ETC Type 5CSP- cathode ray tube contains a 5" diameter flat screen, and a single electrostatic focused type gun with which is supplied three pairs of electrostatic deflection plates.

This tube was designed for use with the uniformly rotating drum type camera, making possible, through the application of a very low frequency sawtooth voltage to one pair of deflection plates, the recording of very high frequency pulses, which are incidentally applied to a second pair of deflection plates which deflect the beam in the same direction as the first pair, on a spiral time base. The third pair of plates, which are outermost with respect to the gun, deflect the beam at right angles to the first and second pairs, and is used primarily for positioning.

The use of the 5CSP- cathode ray tube eliminates the need for any mechanical displacement of the camera drum ordinarily required to accomplish a spiral sweep, and greatly simplifies the signal amplifier problem. When two pair of plates are used, as in the 5CSP-, the signal amplifier need be designed to pass only the signal pulse band. Application of the low frequency sawtooth required to accomplish the spiral time base is made independent.

While this tube can be supplied with the various commercial phosphors, its major application to photographic recording dictates the use of the P11 phosphor in most instances, or the P5 phosphor when the signals are of such a frequency as to require an appreciably shorter decay characteristic than is obtainable with the P11.

GENERAL CHARACTERISTICS

Electrical Data

Heater Voltage	6.3 Volts
Heater Current	.6 Amperes
Focusing Method	Electrostatic
Deflecting Method	Electrostatic

Phosphor	P5	P11
Fluorescence	Blue	Blue
Phosphorescence	Blue	Blue
Persistence	Very Short	Short

Direct Interelectrode Capacitances, Bogie

Grid to all other electrodes	7.6 mmfd
D1 to D2	1.1 mmfd
D3 to D4	1.2 mmfd
D5 to D6	0.8 mmfd

from JEDEC release #2403, March 9, 1959

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Mechanical Data

Overall Length	17-1/4" ± 3/8"
Greatest Diameter of Bulb	5-1/4" ± 3/32"
Minimum Useful Screen Diameter	4-1/2"
Bulb Contacts	J1-22
Neck Contacts	C1-2
Base	B11-66

Base Alignment

Positive voltage on D1 deflects beam approximately toward pin #3.
Positive voltage on D3 deflects beam approximately toward position between pins #1 and #11.
Positive voltage on D5 deflects beam approximately toward position between pins #1 and #11.

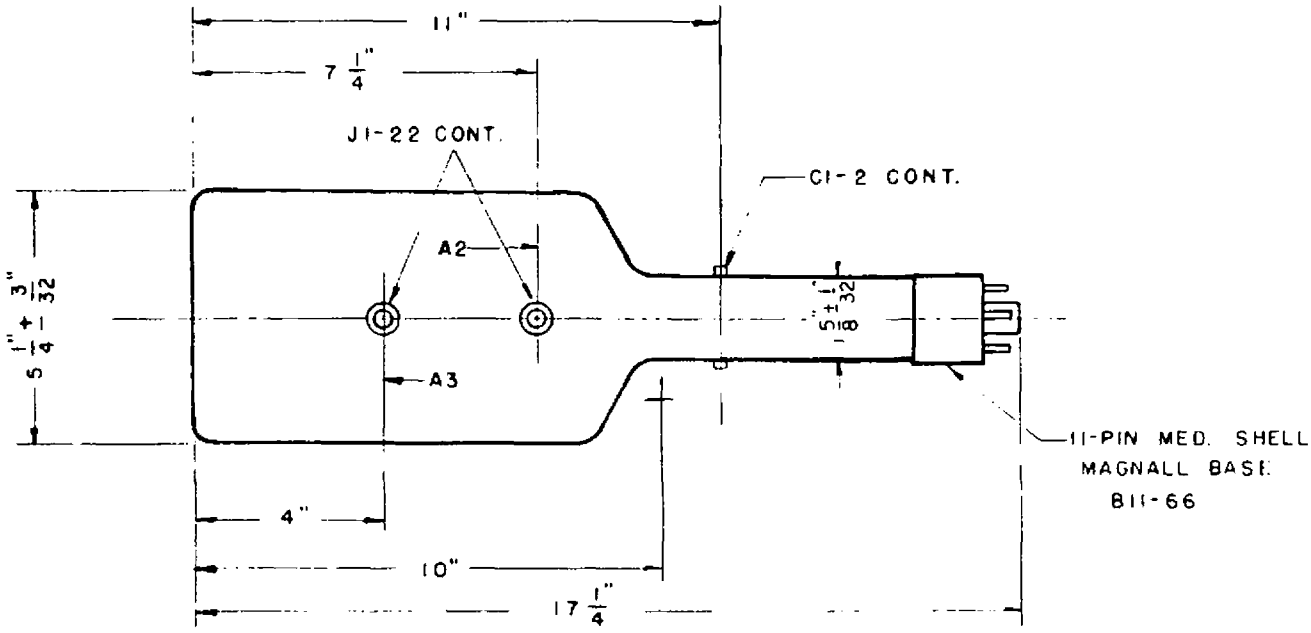
Bulb Contact Alignment

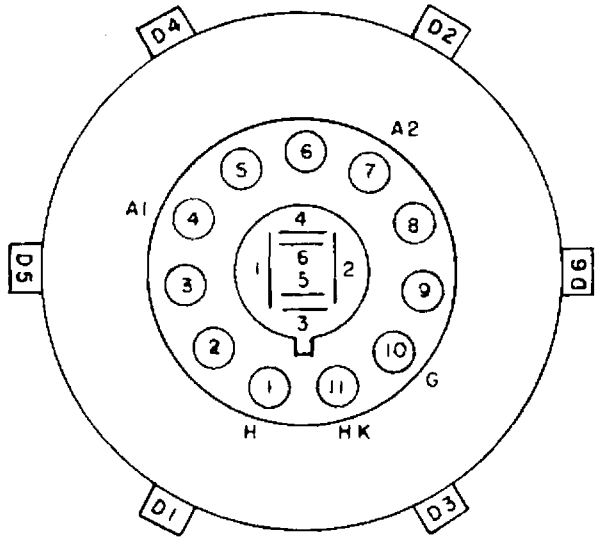
Snap terminals contact alignment with 3D4 trace ± 10 degrees.

TYPICAL OPERATING CONDITIONS

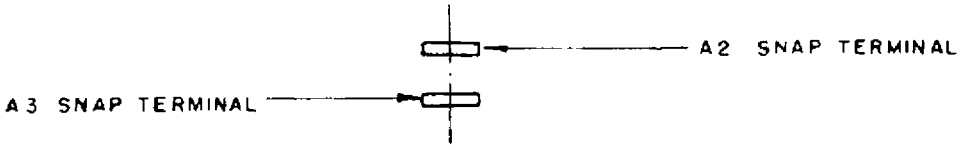
Anode #3 Voltage (Eb3)	3000	4000	Volts DC
Anode #2 Voltage (Eb2)	1500	2000	Volts DC
Anode #1 Voltage for focus when Ec1 is 75% of cutoff	400	575	V-DC ± 20%
Grid Voltage (Ec1) for beam cutoff	-56	-75	V-DC ± 20%
Deflection Factors			
D1 and D2	72	100	V-DC/in ± 20%
D3 and D4	72	100	V-DC/in ± 20%
D5 and D6	110	160	V-DC/in ± 20%

Spot Position (Undeflected) Within 15 millimeters square.





BOTTOM VIEW OF BASE & NECK CONNECTIONS.



NOTE

+1D2 TOWARDS PIN # 3
+3D4 TOWARDS PIN # 1 & 11

ELECTRONIC TUBE CORPORATION
PHILADELPHIA, PA.

TITLE: 5CSP TUBE OUTLINE DRAWING

TOLERANCES DEC.	FRAC. 1/4"	ANG.
ENG.	DATE 1-4-57	APP. J. Warren
DR. J. E. G JR	SCALE 1/4" = 1"	DRAWING NO. A-1659
CKD. J. Warren	REV. WAS 51UCP	