TEST SPECIFICATIONS FOR TYPE T4650 SERIES CATHODE RAY TUBE

All the given specifications refer to the following test voltages (measured with respect to cathode).

	ELECTRODE	PIN	VOLTAGES
	Post Accelerator	None	17,650 VDC ± 5%
R04	Geometry Electrode	10	2,450 to 2,550 VDC**
R04	Post Accelerator Grid	12	2,300 ± 10 VDC
	Isolation Shield & D3D4 Shield	7	2,485 VDC ± 5 VDC
	Average of (D1D2 Plates / (D3D4 Plates	None	2,500 ± 4 VDC 2,485 ± 4 VDC
	Astigmatism Electrode	5	2,450 to 2,550 VDC***
* R03	Focusing Electrode	4	450 to 670 VDC***
	Accelerator Electrode	8	2,500 VDC ± 5 VDC*
	Heater Voltage	1, 14	6.3 VAC ± 0.3 V RMS

* In an actual test set-up, the cathode voltage may vary ± 1% of the above voltage.

** Recommended Range. Adjust for best geometry.

*** Recommended Range. Adjust for best overall focus.

REVISIONS	03	04						
Mod. No.	4320	4344						
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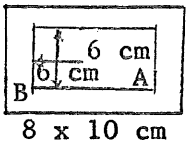
Pages Changed	1,3.	1,2,4.						

TEST CHARACTERISTICS		CONDITIONS	SPECIFICATIONS
R Phosphor defects			See P.S.8-0598
Wrinkled Mesh and Mesh Profile			No visible distortion allowed that is detrimental to the overall aesthetic value or which causes an obvious degradation of the display.
Gun-Graticule Alignment. Grdt: Internal Fixed		Align trace on left side of graticule.	± 3° (± 2.5 minor divisions)
Trace Alignment			
High Voltage connection to Screen			See P.S.8-0595
Cathode Interface			See P.S.8-0595
H-K Leakage			See P.S.8-0595
Trace Orthogonality			± 1.4° (± 1.0 minor division)
Geometry		With a normal 8 x 10 cm square raster or time markers.	Maximum deviation from straight line: Horiz: 0.5 minor division. Vert: 0.5 minor division
Horizontal Resolution		Resolution is checked with time mark generator set at 100 μs and time/sweep switch at 5.0 ms. I_b = 1 μA	175 markers visible in 10 major divisions.
Spot Centering		Horizontal	Within ± 2.5 minor divisions from geometric center.
Spot Centering		Vertical	Within ± 2.5 minor divisions of geometric center.

R-02

TEST CHARACTERISTICS		CONDITIONS	SPECIFICATIONS
D3D4 Scan (Vertical)		At 8 Div. scan, maximum beam interception per plate. I_b = 1 μA	50%
D1D2 Scan (Horizontal)		At 10 div. scan, maximum beam interception per plate. I_b = 1 μA	50%
D3D4 Deflection Factor (Vertical)		At optimum geometry. Range meter setting = 50.	2.75 to 3.25 V/Div (22.0 to 26.0 V/Scan)
D1D2 Deflection Factor (Horizontal)		At optimum geometry. Range meter setting = 50.	6.8 to 8.4 V/Div. (68 to 84 V/Scan)
Grid #1 Cutoff		Visual extinction of undeflected focused spot (unblanking off)	75 - 105V
Cathode Current		With grid #1 drive of 50V from cutoff, use following table: V_{co} 75 - 80 81 - 85 86 - 90 91 - 95 96 -100 101 -105	I_k (Minimum) .49 mA .46 mA .42 mA .39 mA .37 mA .34 mA
R-03 Beam Current		With a small display approximately 2 x 2 Div to avoid current interception by the deflection plates and erroneous reading at I_k = 0.5 mA	$I_b \geq 20$ μA
Linearity (Vertical)		Maximum (with 2 horizontal lines 2 major divisions apart vertically.	0.5 minor div.
Burrs			See P.S.8-0595

	TEST CHARACTERISTICS		CONDITIONS	SPECIFICATIONS
	Helix Flare			See P.S.8-0595
	Gun Flare			See P.S.8-0595
	Grid Emission			See P.S.8-0595
R	Vertical Trace Width and mesh coating quality.		With I_b = 1 μA, triggered 1 kHz square wave, amplitude 2 major div.  8 x 10 cm	Area A = .050" Max. Area B = .065" Max. No spurious emission or devious ghost image evident when trace is scanned vertically.
R	Photographic Writing Speed		QA Sample Only, measure at 65V Drive	C31A, P31 cm/μS Min. C31A, P11 cm/μS Min.
	Rod Charge			See P.S.8-0595
	After Test Phosphor Check			See P.S.8-0595
R	D3D4 Effective Capacitance		Measure on QA Sample Only.	6.5 pf Max.
R	D1D2 Effective Capacitance		Measure on QA Sample Only.	12.5 pf Max.
	Linearity (Horiz.)		Measure on QA Sample Only.	± 5% deviations from average of center 8 major Div.