

PRICE 20 CENTS*

RCA

STORAGE TUBES and CATHODE-RAY TUBES



RADIO CORPORATION OF AMERICA
ELECTRON TUBE DIVISION

HARRISON, N. J.

*OPTIONAL LIST PRICE

BOOKLET ICE-270

RCA STORAGE TUBES AND CATHODE-RAY TUBES

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Phosphor P1 produces a brilliant spot having yellowish-green fluorescence and medium persistence. Types having this phosphor are particularly useful for general oscillographic applications in which recurrent wave phenomena are to be observed visually.

Phosphor P2 is a medium-short persistence screen which exhibits yellowish-green fluorescence and phosphorescence. The phosphorescence may have useful persistence for over a minute under conditions of adequate excitation and low-ambient illumination. Types utilizing this phosphor are particularly useful for observing either low- or medium-speed non-recurring phenomena.

Phosphor P4-Sulfide Type is a highly efficient screen having white fluorescence and medium-short persistence. Types having this phosphor are of particular interest for television picture tubes.

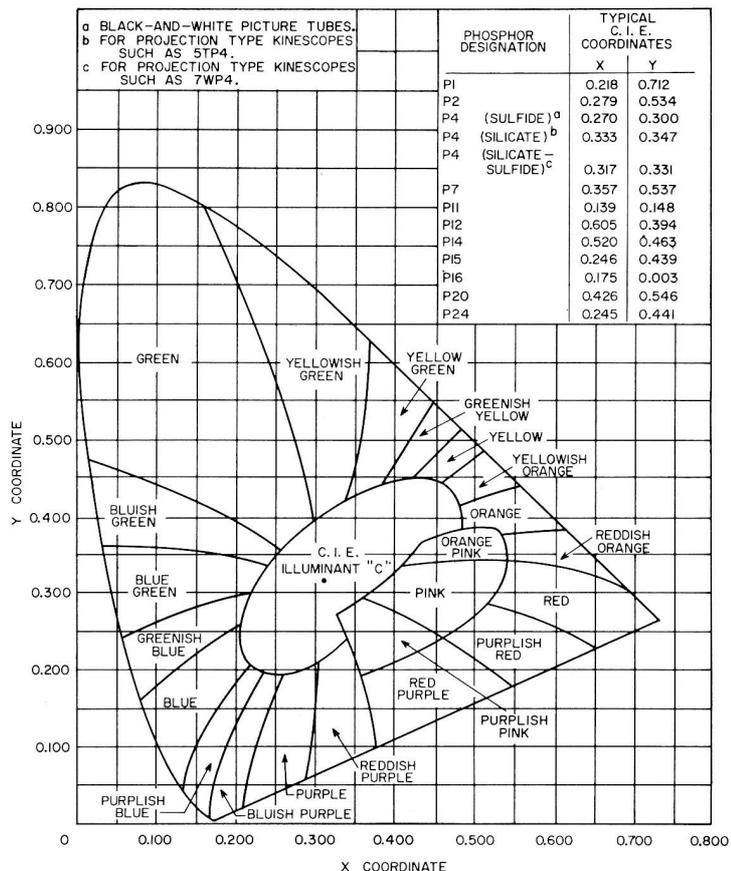
Phosphor P4-Silicate Type exhibits white fluorescence and has medium to medium-short persistence. Types having this phosphor are of particular interest for projection-type kinescopes.

Phosphor P4-Silicate-Sulfide Type exhibits white fluorescence and has medium to medium-short persistence. Types having this phosphor are of particular interest for projection-type kinescopes.

Phosphor P7 is a long-persistence, cascade (two-layer) screen. During excitation by the electron beam, this phosphor produces a white fluorescence. After excitation, the screen exhibits a yellowish-green phosphorescence which persists for several minutes. Types having this phosphor are particularly useful where either extremely low-speed recurrent phenomena or medium-speed non-recurrent phenomena are to be observed.

Phosphor P11 emits high intensity actinic blue fluorescence and has medium-short persistence to permit its use in all photographic applications except those in which film moves at high speed. P11 screens, because of their unusually high brightness characteristic, may also be used for visual observation of phenomena.

Description of Persistence and Time to Decay to 10% of Initial Brightness — Very long, 1 second and over; Long, 100 millisecond to 1 sec; Medium, 1 millisecond to 100



According to JEDEC Publication No. 16 "Optical Characteristics of Cathode Ray Tube Screens".

Phosphor P12 is a long-persistence phosphor which exhibits both orange fluorescence and phosphorescence. Types utilizing this phosphor are particularly useful for observing low- and medium-speed recurring phenomena.

Phosphor P14 is a medium-persistence cascade (two-layer) screen. During excitation by the electron beam, this phosphor exhibits purplish-blue fluorescence. After excitation, it exhibits a yellowish-orange phosphorescence which persists for a little over a minute. Types utilizing this phosphor are particularly useful for observing either low- and medium-speed non-recurring phenomena or high-speed recurring phenomena.

Phosphor P15 emits radiation in the visible green region and in the invisible near-ultraviolet region. The ultraviolet radiation has very-short persistence which is appreciably shorter than that of the visible radiation. This phosphor finds application in flying-spot cathode-ray tubes.

Phosphor P16 has bluish-purple as well as near-ultraviolet fluorescence and phosphorescence with very-short persistence. This phosphor has a stable, exponential decay characteristic and is particularly useful for the high-speed scanning requirements of a flying-spot video-signal generator.

Phosphor P20 has high luminous efficiency, yellow-green fluorescence and medium to medium-short persistence. The screen may be used in applications requiring relatively short persistence and good visual efficiency.

Phosphor P24 is a short-persistence phosphor with green fluorescence and phosphorescence. Its spectral-energy emission characteristic has sufficient range to provide usable energy over the visible spectrum required for generating color signals from color transparencies.

millisec; Medium short, 10 microsec to 1 millisec; Short, 1 microsec to 10 microsec; Very short, less than 1 microsec.

STORAGE TUBES

Type	Description ^a	Maximum Dimensions		Max. High Voltage Electrode ^b Volts	Number of Beams	Operational Information
		Overall Length Inches	Envelope Diam. Inches			
DISPLAY STORAGE TUBES — Direct-View Types						
2028	Data supplied on request.					
4412	10" direct-view type having integral magnetic shield and "potted" semiflexible leads with attached connectors. Is designed to withstand severe environmental conditions of altitude, temperature, humidity, and vibration and shock. Intended for use in applications requiring a bright, non-flickering display of stored information. Writing gun is electrostatic-focus-and-deflection type. Viewing gun floods screen, controls storage function, and brightness of display. Viewing screen employs P20 phosphor. ^d	20.75	10.88 ^c	10000	2	At 9000 volts on screen produces display having brightness of 130 footlamberts, good resolution in half-tone displays. Tube face is painted opaque except for centered 5.6" x 6.4" rectangle. Writing speed of about 30,000 in/sec.
6866	5" direct-view type. Intended for use in applications requiring a bright, non-flickering display of stored information. Writing gun is electrostatic-focus-and-deflection type. Viewing gun floods screen, controls storage function, and brightness of display. Insulated flexible lead for screen and 2 recessed small cavity caps. Thirtyfour 31-pin base. Viewing screen employs P20 phosphor. ^d	15-1/2	5-1/16	11000	2	At 10,000 volts on screen produces full 4"-diameter display having brightness of 2500 footlamberts, good resolution in half-tone displays. Writing speed of about 300,000 in/sec "freezes" μ sec. transients.
7183	5" direct-view type. Intended for use in applications requiring a bright, non-flickering display of stored information. Writing gun is electrostatic-focus, magnetic-deflection type. Viewing gun floods screen, controls storage function, and brightness of display. Insulated flexible leads for screen and backplate. Small-button neoditetrar 8-pin writing-gun base, small miniature 7-pin viewing-gun base. Viewing screen employs P20 phosphor. ^d	11.62	5.06	10000	2	At 8500 volts on screen produces full 4"-diameter display having brightness of 1500 footlamberts, good resolution in half-tone displays.
7268	5" direct-view type having integral magnetic shield. Is designed to withstand severe environmental conditions of altitude, temperature, humidity, and vibration and shock. Intended for use in applications requiring a bright, non-flickering display of stored information. Has two writing guns, and one viewing gun. Electrostatic-focus, electrostatic-deflection type. Double tier 25-pin base. Viewing screen employs P20 phosphor. ^d	16	5.31	11000	3	At 10,000 volts on screen produces a full 4"-diameter display having brightness of 2500 footlamberts, good resolution in half-tone displays. Writing speed of about 36,000 in/sec.
7315	5" direct-view type. Intended for use in applications requiring a bright, non-flickering display of stored information. Writing gun is electrostatic-focus-and-deflection type. Viewing gun floods screen, controls storage function, and brightness of display. Medium-shell diheptal 14-pin base. Viewing screen employs P20 phosphor. ^d	13.64	5.31	11000	2	At 10,000 volts on screen produces full 3.8"-diameter display having brightness of 2500 footlamberts, good resolution in half-tone displays. Writing speed of 3000 in/sec takes full advantage of integrating and half-tone capabilities of the tube.
7448	5" direct-view type. Intended for use in applications requiring a bright, non-flickering display of stored information. Writing gun is electrostatic-focus-and-deflection type. Viewing gun floods screen, controls storage function, and brightness of display. Medium-shell diheptal 14-pin base. Viewing-screen employs P20 phosphor. ^d	13.64	5.31	11000	2	At 10,000 volts on screen produces full 3.8"-diameter display having brightness of 2500 footlamberts, good resolution in half-tone displays. Writing speed of about 300,000 in/sec "freezes" μ sec. transients.

^a Heaters employed in these types have a rating of 6.3 volts and 0.6 amp.

^b Absolute values.

^c Including integral magnetic shield, but excluding any mounting lugs or encapsulated leads.

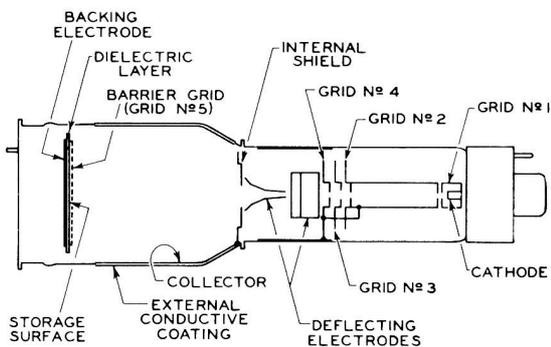
^d For information on fluorescent screens, see page 3.

Type	Description ^a	Maximum Dimensions		Max. High Voltage Electrode ^b Volts	Number of Beams	Operational Information
		Overall Length Inches	Envelope Diam. Inches			
COMPUTER STORAGE TUBE — Primary-Current-Modulation Type						
6571	3" electrostatic-focus-and-deflection type. Intended primarily for use in binary-digital computer systems. Single-beam type has storage surface on the inner surface of the faceplate, and requires an external signal-output electrode. Recessed small cavity cap. Small-shell duodecal 10-pin base.	11-3/4	3-1/16	2500 ^c	1	Employs redistribution writing and capacitance-discharge reading. Storage surface has uniform secondary emission. Focused beam has exceptionally small effective area.
RADECHONS						
1858	Data supplied on request.					
6499	Charge storage tube of barrier-grid, single-beam type intended for information-processing systems. Non-equilibrium writing and capacitance-discharge reading. Electron gun is of the electrostatic-focus-and-deflection type. Base on large end of tube is small-button twenty-nine 8-pin. Base on small end of tube is small-shell diheptal 14-pin.	12-7/32	3.35	1500	1	Information in digital or analog form may be introduced to the active elements of the tube, stored (time controllable from μ sec. to minutes), and then extracted at a rate the same as or different from the writing rate.
GRAPHECHON — Scan-Conversion Type						
7539	Sturdy charge-storage tube for use in data processing applications where information is to be continuously transformed from one time base or scanning presentation to another. Writing gun is electrostatic-focus, magnetic-deflection type. Reading gun is magnetic-focus-and-deflection type. Employs two small-shell duodecal bases.	26	3.40	11000	2	Has resolution capability of 150 range rings per display radius with a response of at least 50 per cent. Permits bright displays having continuous range of half-tone information when viewed on suitable TV monitors.

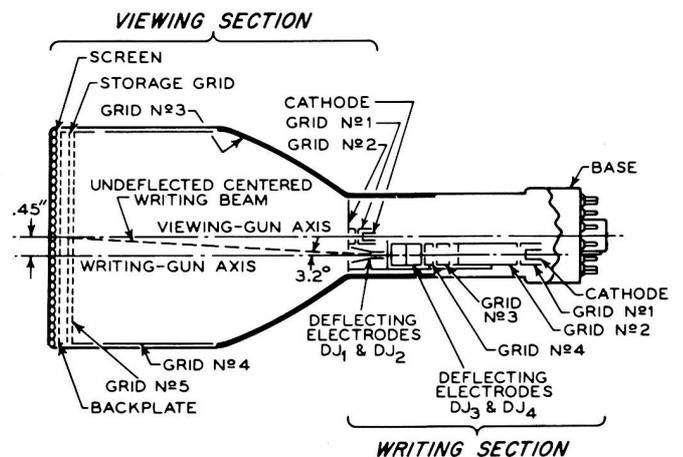
^a Heaters employed in these types have a rating of 6.3 volts and 0.6 amp.

^b Absolute values.

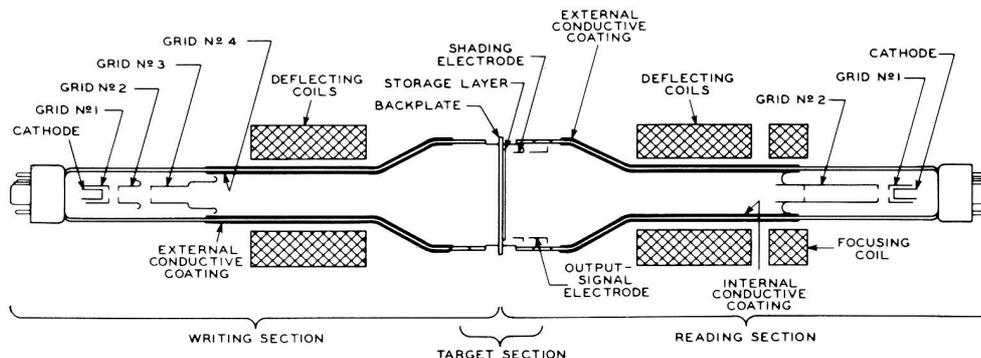
^c Design-center value.



Schematic Arrangement of Type 6499



Schematic Arrangement of Typical Display-Storage Tube.



Schematic Arrangement of Type 7539

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