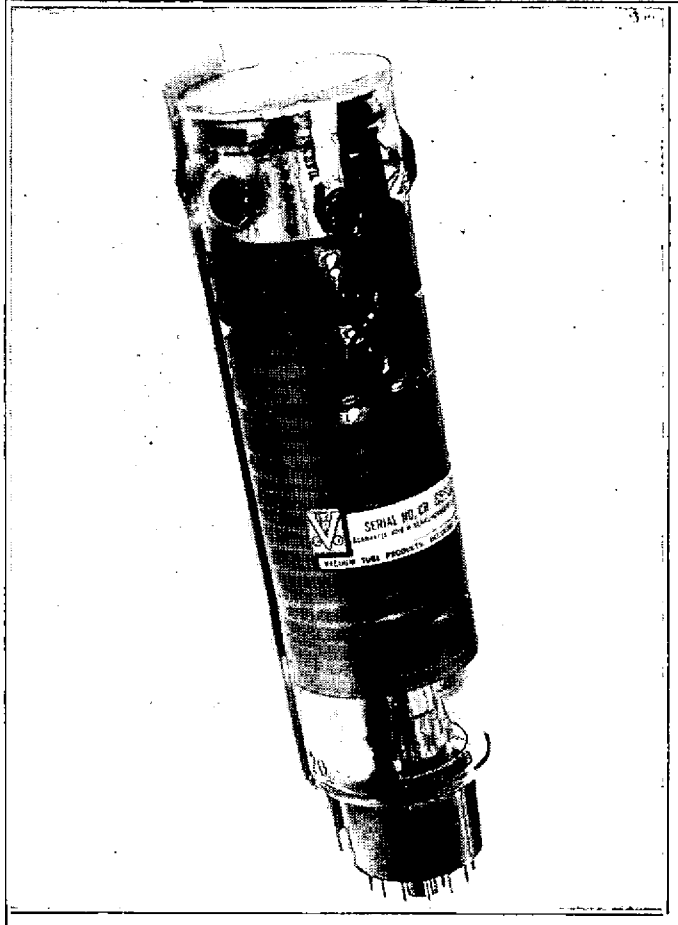
PRODUCT DATA SHEET



TYPE VTP 6992

3" TONE DISPLAY STORAGE TUBE

The VTP 6992 is a storage type cathode ray tube designed to present bright visual displays of television, radar or other types of electronically written information. Special features of this tube are its ability to display tones and to write, hold and erase at the operator's option. Brightness is sufficiently high for easy viewing in bright daylight and writing and erasure speeds are fast enough to present excellent displays of high speed data with good contrast.

The VTP 6992 contains a storage structure mounted internally near the panel, and both a flood gun and an electrostatically deflected and focused writing gun supported in a single neck axially aligned at the rear of the tube. All gun connections are terminated in a diheptal base attached to the tube neck.

DATA

General	Writing Gun	Viewing Gun
Heater—Unipotential Cathode		
Voltage AC or DC	6.3	6.3 volts
Current	0.6	0.6 Amp
Focus Method	Electrostatic	Electrostatic
Deflection Method	Electrostatic	None
Phosphor — Aluminized — As specified.	Standard P20	
Minimum useful screen diameter	2 inches	
Maximum overall length	10½ inches	
Maximum tube radius	1-21/32 inches	
Maximum bulb diameter	3-5/16 inches	
Base	B14—38 Med Shell Diheptal 14 pin	
Bulb Terminals	Recessed small ball caps (6) J1-22	
Mounting Position	Any	

VACUUM TUBE PRODUCTS CO. INC.
2020 SHORT STREET, OCEANSIDE, CALIFORNIA
Phone: SAratoga 2-7648 — Post Office Box 810
SAratoga 2-6567

May 1957 Rev C

from JETEC release #1954, June 24, 1957

VTP 6992

MAXIMUM RATINGS—All voltages are referenced to Viewing gun cathode unless otherwise specified.

	Writing Gun	Viewing Gun
Screen Voltage		12,000 Max Volts
Storage Mesh (Peak)		25 Max Volts.
Collector Mesh		500 Max Volts
Collimating Cylinder		500 Max Volts
Anode	+100	500 Max Volts
Cathode	−2500	500 Max Volts
Grid #1 Voltage (Reference to Cathode)		
Negative bias value	200	200 Max Volts
Positive bias value	0	0 Max Volts
Positive Peak value	2	0 Max Volts
Peak voltage between reference and any deflecting electrode	500	Max Volts
Maximum resistance in deflecting electrode circuit	5.0 meg	Max Ohms
Peak Heater — Cathode Voltage		
Heater negative reference cathode	125	125 max volts
Heater positive reference cathode	125	125 max volts
Grid Control		
Cutoff (Reference to cathode)	−20 to −70	−30 to−100 volts

TYPICAL OPERATION — Suggested values

Screen Voltage		8,000 volts
Storage Mesh		0* volts
Storage Mesh Series resistance		5 K ohms
Collector Mesh		200 volts
Collector Mesh Series resistance		None
Collimating Cylinder		120 (Adj) volts
Collimating Cylinder Series Resistance		None
Anode	0 to +20(Adj)	185 (Adj) volts
Cathode	−1400	0 volts
Grid #1 (Reference to Cathode)	−20 to −30(Adj)	−30 to −50 volts
Deflection D1 - D2	60 to 90 v/in	
Deflection D3 - D4	45 to 70 v/in	
Focus	−1100 (Adj)	volts

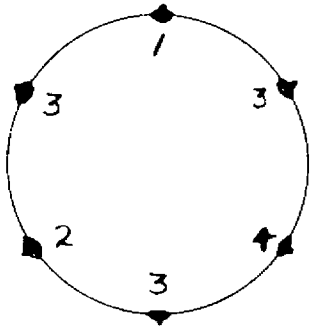
* **Note:** Zero volts is the black storage condition. Normal usage is to increase storage mesh positive approximately 20 volts to erase, then reduce to approximately zero volts, placing screen in the unwritten condition. Application of the writing gun beam will now present a display on the screen which will be stored. This display may be erased by repeating above procedure.

Pulse erasure: Pulse erasure may be accomplished by the application of pulses of +10 to +25 volts with a pulse width of 1 to 10 microseconds and a repetition rate of 400 to 3000pps. For this application the storage mesh receives the pulse through an .01 mfd capacitor. The storage mesh is tied to ground by means of a 5 K resistor.

Displays of variable or selectable persistence may be presented by varying the pulse erasure in either pulse width or repetition rate, and applying this erasure continuously during writing. Persistence may be varied from about 1 second to several minutes.

VTP 6992

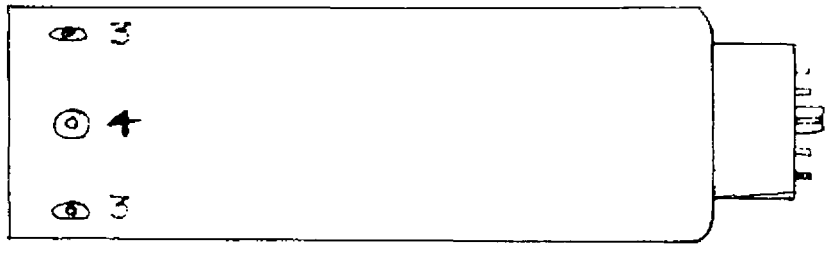
3" TONE DISPLAY STORAGE TUBE BASE PIN CONNECTIONS



Panel View

Panel and Bulb Terminals

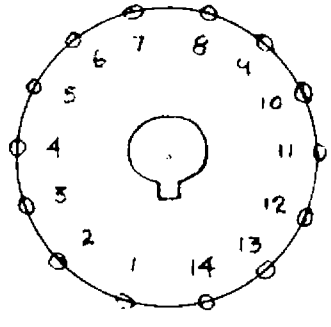
Terminal	Element
1	Storage Mesh
2	Collector Mesh
3	Collimating Cylinder
4	Screen H. V.



Side View

Bulb Terminal Connections:

Viewing bulb from panel end. Terminal 1 is at top of bulb, Terminal 3 is 60° clockwise , Terminal 4 is 120° clockwise, Terminal 3 is at bottom or 180° clockwise, Terminal 2 is 240° clockwise, and Terminal 3 is 300° clockwise. Note: All three Terminal 3 connections are internally connected.



Basing — Bottom View

814-38 Med. Shell Diheptal 14 pin

Base Connections

Pin	Element
1	Writing gun Heater
2	Writing gun Grid #1
3	Writing gun Focus
4	Writing gun D1
5	Writing gun D3
6	Flood gun Anode
7	Flood gun Heater & Cathode
8	Flood gun Heater
9	Flood gun Grid #1
10	Writing gun Anode
11	Writing gun D4
12	Writing gun D2
13	Writing gun Cathode
14	Writing gun Heater

VACUUM TUBE PRODUCTS CO., INC. — 2020 Short Street — P. O. Box 810 — OCEANSIDE, CALIFORNIA

May 1957 Rev 0

VTP 6992

Note:

1. Heater connections (Base pins #1 and #14) align approximately with bulb terminal #4 and trace D1 D2 of the writing gun.

2. With positive voltage on deflection plate D1, the beam is deflected approximately between base pins #7 and #8.

3. With positive voltage on deflection plate D3, the beam is deflected approximately towards base pin #4.

4. The base key (between pins #1 and #14) aligns approximately with bulb terminal #4.

VACUUM TUBE PRODUCTS CO., INC. — 2020 Short Street — P. O. Box 810 — OCEANSIDE, CALIFORNIA
LPS MAY 1957 1000 COPIES
May 1957 Rev 0