**VARIABLE PERSISTENCE STORAGE**

**DC-to-100 MHz BANDWIDTH**

**EXTREMELY BURN RESISTANT CRT**

**5½-INCH RACKMOUNT**

The TEKTRONIX 7613 Storage Oscilloscope offers Variable Persistence operation with a stored writing speed of 5 div/μs or conventional (nonstorage) operation. Stored traces can be viewed up to 60 minutes on a display area of 8 x 10 div (0.9 cm/div). The 7613 CRT is extremely burn resistant and doesn't require any special operating precautions.

**Note—**All 7000-Series plug-ins with lighted push buttons do not light in the vertical or horizontal compartments.

**VERTICAL SYSTEM**

**Channels—**Two left-hand plug-in compartments; compatible with all 7000-Series plug-ins. Bandwidth determined by mainframe and plug-in unit, see Storage FAMILY Vertical System Specification Chart.

**Modes of Operation—**LEFT, ALT, ADD, CHOP, RIGHT.

**Chopped Mode—**Repetition rate is approximately 1 MHz.

**Delay Line—**Permits viewing leading edge of displayed waveform.

**HORIZONTAL SYSTEM**

**Channels—**One right-hand plug-in compartment; compatible with all 7000-Series plug-ins.

**Fastest Calibrated Sweep Rate—**5 ns/div

**X-Y Mode—**The phase shift between vertical and horizontal channels is 2° from DC to 35 kHz. Bandwidth is DC to at least 2 MHz.

**CRT AND DISPLAY FEATURES**

**Variable Persistence Storage CRT—**Internal 8 x 10 div (0.9 cm/div) graticule with variable illumination.

**Option 1, Without CRT Readout—**Deletes CRT READOUT.

**Option 6, Special Internal Graticule (Spectrum Analyzer)—**Internal 8 x 10 div (0.9 cm/div) with variable illumination including LIN, LOG and FREQUENCY markings.

**Accelerating Potential—**8.5 kV.

**Phosphor—**P31.

**Non-Store Mode—**For displaying waveforms in the conventional (non-storage) mode.

**Store Mode—**For displaying waveforms utilizing the variable persistence storage feature.

**Maximum Stored Writing Speed—**Greater than 5 div/μs.

**Storage View Time—**(See chart) may be increased by selecting SAVE and adjusting for reduced viewing brightness with SAVE TIME control.

**Erase Time—**0.5 s or less.

**Persistence—**Continuously variable, persistence may be turned off when not needed to provide high contrast stored displays without the characteristic fading of variable persistence.

**Outputs/Inputs**

- **Sawtooth—**Sawtooth starts 1 V or less from ground (into 1 MΩ). Output voltage is 50 mV/div (±15%) into 50 Ω, 1 V/div (±10%) into 1 MΩ. Output R is 950 Ω within 2%.

- **Gate—**Positive pulse of the same duration and coincident with sweep. Output voltage is 0.5 V (±10%) into 50 Ω, 10 V (±10%) in 1 MΩ. Rise time is 20 ns or less into 50 Ω, output R is 950 Ω within 2%. Source is selectable from Main, Delay or Auxiliary Gate.
Sig Out—Selected by TRIGGER SOURCE switch. Output voltage is 25 mV/div (+10%) into 50 Ω, 0.5 V/div (±10%) into 1 MΩ. The bandwidth depends upon vertical plug-in, see Storage Family Vertical System Specifications Chart. Output R is 950 Ω within 2%.

External Single Sweep Reset—Ground closure, rear panel BNC provides input to reset sweep.

Remote Erase—Ground closure, rear panel BNC provides input to erase stored trace.

Option 7, Without Signals Outputs/Inputs—Deletes previously described OUTPUTS/INPUTS.

**CAMERA POWER OUTPUT**

Three-prong connector to the left of the CRT provides power, ground, and remote single-sweep reset access for the C-50-Series Cameras.

**CALIBRATOR**

Voltage Output—Rectangular waveshape, positive-going from ground. (DC voltage available when selected by internal jumper.) Ranges are 40 mV, 0.4 V, 4 V into 1 MΩ; 20 mV, 0.2 V, 0.4 V into 50 Ω. Amplitude accuracy is within 1% (+15°C to −35°C); within 2% (0°C to 50°C). Repetition rate is approx 1 kHz.

Current Output—40 mA DC or 40 mA rectangular waveshape with optional current-loop accessory (012-0259-00) connected between 4 V and GND pin jacks.

**POWER REQUIREMENTS**

Line Voltage Ranges—100, 110, 120, 200, 220 and 240 V AC ±10%; internally selectable with quick-change jumpers.

Line Frequency—50 Hz to 60 Hz.

Option 5, Line Frequency Change (50 - 400 Hz)—Converts the 7613 and R7613 to 50 - 400 Hz operation.

Max Power Consumption—180 Watts, 2.0 Amps at 115 V line, 60 Hz. Cooling is provided by a fan for both models.

**DIMENSIONS AND WEIGHTS**

Please refer to the 7623 dimensions and weights chart.

The R7613 requires only 5¼ inches of rack height in a standard 19-inch rack. It is fan-cooled and comes complete with slide-out chassis tracks.

**Included Accessories**—(For 7613 and R7613) 20-inch cable (two-pin-to-BNC) (175-1178-00); CRT filter (Gray 378-0626-02). The R7613 includes rackmounting hardware.

**ORDERING INFORMATION**

*Plug-ins not included*

| 7613 STORAGE OSCILLOSCOPE | $2500 |
| R7613 STORAGE OSCILLOSCOPE | $2600 |

**7613 OPTIONS**

| Option 1 | W/O CRT READOUT | Sub $400 |
| Option 3 | EMI MODIFICATION | Add $75 |
| Option 5 | LINE FREQ CHANGE (50 - 400 Hz) | Add $100 |
| Option 6 | SPECIAL INT GRATICULE (Spectrum Analyzer) | No Charge |
| Option 7 | W/O SIG OUT/IN | Sub $50 |

**R7613 OPTIONS**

| Option 1 | W/O CRT READOUT | Sub $400 |
| Option 3 | EMI MODIFICATION | Add $50 |
| Option 5 | LINE FREQ CHANGE (50 - 400 Hz) | Add $100 |
| Option 6 | SPECIAL INT GRATICULE (Spectrum Analyzer) | No Charge |
| Option 7 | W/O SIG OUT/IN | Sub $50 |

**7613 CONVERSION KITS**

| 040-0656-00 | CRT READOUT | $400 |
| 040-0663-00 | EMI MODIFICATION | $75 |
| 040-0629-00 | SIG OUT/IN | $50 |

**R7613 CONVERSION KITS**

| 040-0676-00 | CRT READOUT | $400 |
| 040-0678-00 | EMI MODIFICATION | $75 |
| 040-0633-00 | SIG OUT/IN | $50 |