



- 200 cm/μs STORED WRITING SPEED
- LONG VIEW TIME
- MULTIMODE STORAGE
- DC-to-100 MHz BANDWIDTH
- EXTREMELY BURN RESISTANT CRT
- 5¼-INCH RACKMOUNT

The TEKTRONIX 7623 (Option 12) Storage Oscilloscope delivers 200 cm/μs Stored Writing Speed. The standard 7623 performs at 100 div/μs (0.9 cm/div). A new proprietary TEKTRONIX storage CRT is used to achieve these fast stored writing speeds. The CRT incorporates a special high-speed target and uses a unique mesh-to-mesh TRANSFER TECHNIQUE. This unparalleled design and operation provides the extremely fast writing speed without compromising viewing time. This means stored traces can be viewed for hours or even days, without fading. The CRT is extremely burn resistant. This means that there are no special operating precautions to be observed.

The instrument has four operating modes: Fast Bistable Storage, Bistable Storage, Variable Persistence Storage, and Conventional (nonstorage). Now, in just one oscilloscope, the operator can select the mode that best satisfies his measurement requirements.

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 main-frame 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

Standard Storage CRT—Internal 8 x 10-div (0.9 cm/div) graticule with variable illumination.

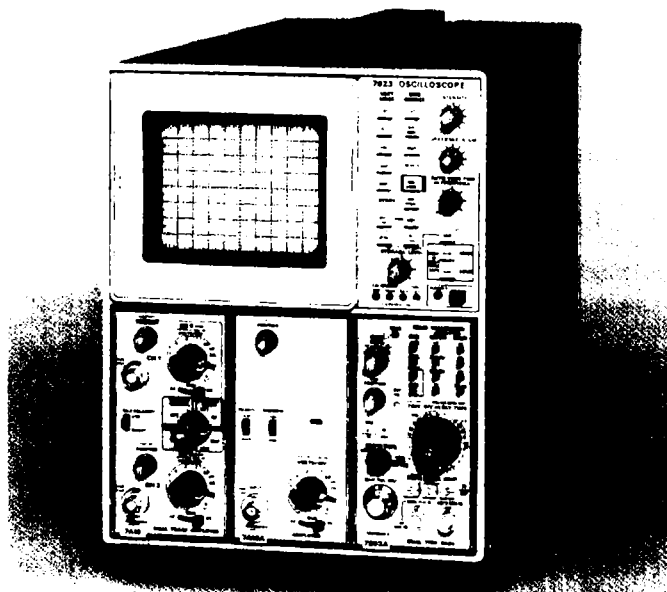
Option 1, Without CRT Readout—Deletes CRT READOUT.

Option 12, Fast Writing Speed CRT—Offers 200 cm/μs stored writing speed. Internal 8 x 10-div (0.9 cm/div) graticule with variable illumination.

Accelerating Potential—8.5 kV.

Phosphor—P31.

Storage Display Modes—Nonstore, Fast, Variable Persistence, Bistable.



STORAGE WRITING SPEED

DISPLAY MODE	FAST	VARIABLE PERSISTENCE	BISTABLE
STORED WRITING SPEED	200 cm/μs - Opt 12* (220 div/μs) 100 div/μs - Std*	0.5 div/μs	30 div/ms
VIEW TIME	until erased	15 s at max writing speed** 1 minute at 100/div/ms**	until erased
ERASE TIME	1 s or less	1 s or less	1 s or less

*Measured over center 4 x 5 div area, derted toward display edges.
**May be extended by selecting SAVE mode.

The fast storage writing speed of 100 div/μs (200 cm/μs Opt 12) will allow the capture of a non-recurring (single shot) signal to be stored and held for examination with at least the following characteristics.

WRITING SPEED	APPROX SINEWAVE FREQUENCY (5 or more cycles/display)	STEP RESPONSE		
		Tr	P-P AMP	SWEEP SPEED
222 div/μs	1.0 div at 60 MHz (10 ns/div)	5 ns	1.2 div	10 ns/div
	4.0 div at 15 MHz (50 ns/div)	20 ns	4.9 div	10 ns/div
100 div/μs	1.0 div at 30 MHz (20 ns/div)	10 ns	1.1 div	20 ns/div
	4.0 div at 7.5 MHz (50 ns/div)	50 ns	5.4 div	20 ns/div

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

Auto Erase (Fast Mode only)—Viewing time continuously variable up to 12 s. The sequence begins with the arrival of the signal. The signal initiates a sweep. After each sweep, the stored display is retained and further sweeps are locked out for the viewing interval selected by the VIEW TIME control. Then, the display is erased and the time base is enabled for the next sweep. This cycle will automatically repeat itself as long as a signal is available. The stored display may also be erased by the MANUAL control.

Save—Prevents erasing and storing additional displays, also extends viewing time in variable persistence mode.

Integrate—Provides additional writing speed for repetitive signals by allowing the storage target to integrate the written information over several signal repetitions.

7000-SERIES STORAGE FAMILY

7623



External Z-Axis Input—2 V P-P for useful intensity range from DC to 2 MHz, intensity range diminishes to 20% of full range at 10 MHz. A positive signal blanks the trace. Maximum input voltage is 10 V (DC \pm Peak AC) and P-P AC.

Auto-Focus—Reduces the need for additional manual focusing with changes in intensity after focus control has been initially set.

Beam Finder—Limits display within graticule area.

OUTPUTS/INPUTS

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

—Gate—Positive pulse of the same duration and coincident with sweep. Output voltage is 0.5 V (\pm 10%) into 50 Ω , 10 V (\pm 10%) into 1 M Ω . Risettime 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 (\pm 10%) into 50 Ω , 0.5 V/div (\pm 10%) into 1 M Ω . 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.

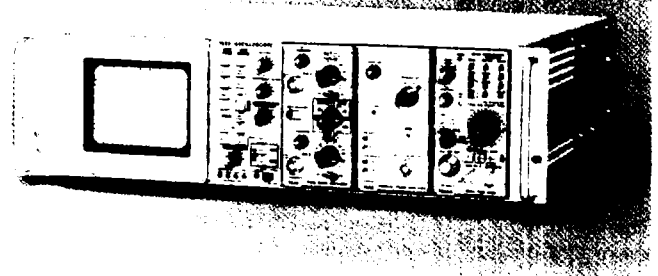
CALIBRATOR

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 M Ω ; 20 mV, 0.2 V, 0.4 V into 50 Ω . Amplitude accuracy is within 1% (\pm 15°C to \pm 35°C); within 2% (0°C to \pm 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.

DIMENSIONS AND WEIGHTS

DIMENSIONS	HEIGHT		WIDTH		LENGTH	
	in	cm	in	cm	in	cm
7313, 7613, 7623	11.4	28.9	8.7	22.1	24.0	60.9
R7313, R7613, R7623	5.25	13.3	19.0	48.2	24.7	62.9
SINGLE-WIDTH PLUG-INS	5.0	12.7	2.8	7.1	14.5	36.9
DOUBLE-WIDTH PLUG-INS	5.0	12.7	5.5	14.0	14.5	36.9
WEIGHTS (Approx)	NET		DOMESTIC SHIPPING		EXPORT PACKED	
	lb	kg	lb	kg	lb	kg
7613, 7623	30.0	13.6	42.0	19.0	55.0	25.0
R7613, R7623	32.0	14.5	44.0	20.0	57.0	25.8
SINGLE-WIDTH PLUG-INS	2.0	0.9	5.0	2.3	10.0	4.5
DOUBLE-WIDTH PLUG-INS	9.0	4.1	12.0	5.4	17.0	7.7



The R7623 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.

POWER REQUIREMENTS

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

Line Frequency—50 Hz to 60 Hz.

Option 5, Line Frequency Change (50 - 400 Hz)—Converts the 7623 and R7623 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.

Included Accessories—(For 7623 and R7623) 20-inch cable (two-pin-to-BNC) (175-1178-00); CRT filter (Gray 378-0625-02). The R7623 includes rackmounting hardware.

ORDERING INFORMATION

(Plug-ins not included)

7623 STORAGE OSCILLOSCOPE	\$2850
R7623 STORAGE OSCILLOSCOPE	\$2950

7623 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 7	W/O SIG OUT/IN	Sub \$50
Option 12	FAST WRITING SPEED CRT	Add \$500

R7623 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 7	W/O SIG OUT/IN	Sub \$50
Option 12	FAST WRITING SPEED CRT	Add \$500

7623 CONVERSION KITS

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

R7623 CONVERSION KITS

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