TEK MULTIMODE STORAGE OSCILLOSCOPES

7633

1000 cm/μs Stored Writing Speed

Long View Time

Multimode Storage

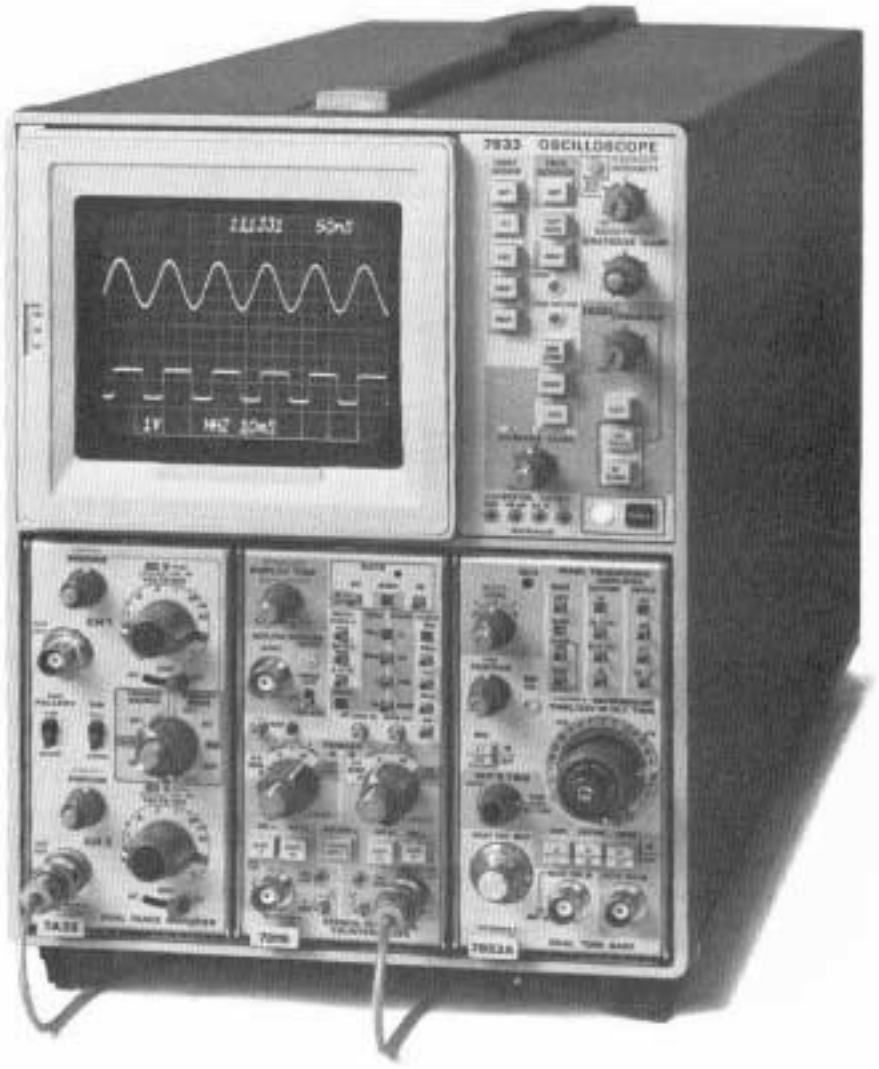
Dc-to-100 MHz Bandwidth

APPLICATIONS

Digital Design

Destructive Testing

Communications



The TEKTRONIX 7633 Storage Oscilloscope provides 2200 div/μs (1000 cm/μs) stored writing speed and 100 MHz bandwidth. The instrument has three display modes—store, nonstore, and save—and four storage modes—bistable, variable persistence, fast bistable, and fast variable persistence. The maximum writing speed of 1000 cm/μs (using the center 8 x 10 reduced scan divisions, 0.45 cm/div) is achieved in reduced scan mode.

This multimode storage instrument allows for retention and viewing for fast-rise, low-repetition-rate, single-shot, or slow-moving waveforms.

Characteristics are common to the 7633 and the 7623A unless noted.

VERTICAL SYSTEM

Channels — Two left-hand plug-in compartments; compatible with all 7000 Series Plug-ins. Bandwidth determined by mainframe and plug-in unit.

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

Chopped Mode — Repetition rate is ≈1 MHz.

Delay Line — Permits viewing leading edge of displayed waveform.

HORIZONTAL SYSTEM

Channel — 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

CRT — Internal 8 x 10 div (0.9 cm/div) and 8 x 10 div (0.45 cm/div) graticule with variable illumination.

Phosphor — P31.

Option 01 — No CRT readout.

Accelerating Potential — ≈8.5 kV in normal mode, 10 kV in reduced scan mode.

Storage Display Modes — Nonstore, FAST variable persistence, FAST bistable, variable persistence, bistable. Full or reduced scan may be selected on the 7633 in all display modes. Select normal scan to view the entire CRT; select reduced scan for the fastest writing rate.

Persistence — Variable. When set to max, provides the longest retention of high contrast stored displays, without the characteristic fading of variable persistence.

Autoerase — Variable up to 10 s.

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

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. Max input voltage is 10 V (dc + peak ac) and p-p ac.

Autofocus — Reduces the need for calibrated manual focusing with changes in intensity after focus control has been set.

Beam Finder — Limits display within graticule area.

STORAGE WRITING SPEED

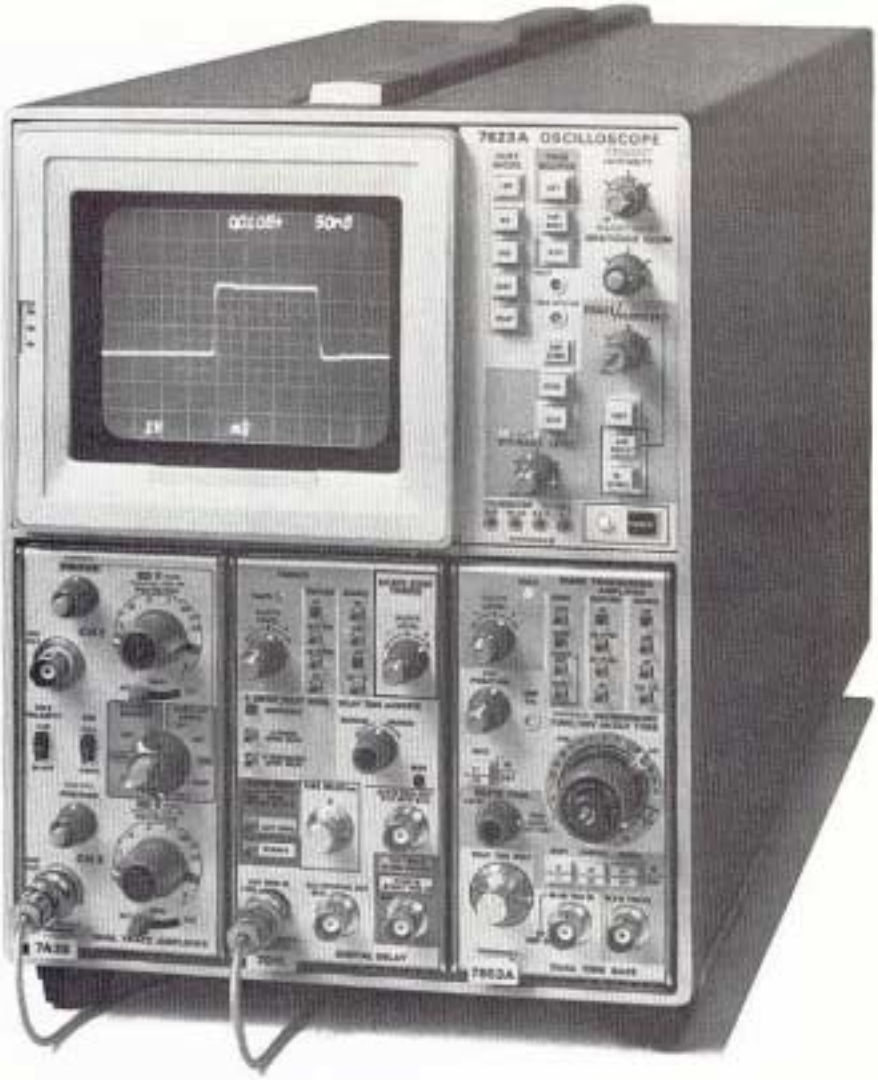
Full Scan (7633 and 7623A)

Display Mode	FAST Variable Persistence	FAST Bistable	Variable Persistence	Bistable
Stored Writing Speed	135 cm/μs	45 cm/μs	0.45 cm/μs	0.027 cm/μs
View Time	30 s*	30 min. minimum	30 s*	30 min. minimum
Erase Time (Approx)	1.4 s	1.4 s	0.9 s	0.9 s

Reduced Scan (7633 Only)

Display Mode	FAST Variable Persistence	FAST Bistable	Variable Persistence	Bistable
Stored Writing Speed	1000 cm/μs	180 cm/μs	1.35 cm/μs	0.09 cm/μs
View Time	30 s*	30 min. minimum	30 s*	30 min. minimum
Erase Time (Approx)	1.4 s	1.4 s	0.9 s	0.9 s

*These times are at full stored display intensity; they may be increased more than 30 times by using reduced intensity in the save display mode.



7623A

- 135 cm/μs Stored Writing Speed
- Long View Time
- Multimode Storage
- Dc to 100 MHz Bandwidth

APPLICATIONS

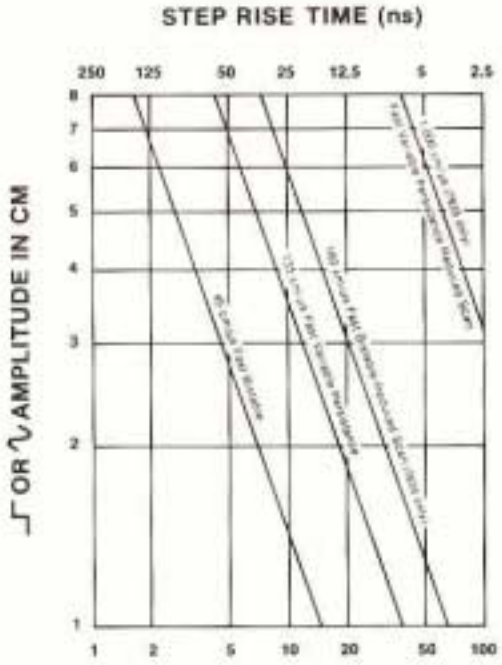
- Ultra Sonics
- Power Supply Design
- Component Testing

The TEKTRONIX 7623A Storage Oscilloscope has all the features and performance of the 7633 except the reduced scan mode.

Fast Variable Persistence Writing Speed

Scan Mode	Sweep Speed	Peak-to-Peak Sinewave	Step Response	
Reduced Scan** 2200 div/μs (0.45 cm/div)	≥5 ns/div	7.1 div 100 MHz	7.7 div 3.5 ns	(7633 only)
		8 div 89 MHz	8 div 3.7 ns	
Full Scan 150 div/μs (0.9 cm/div)	≥50 ns/div	3.2 div 15 MHz	3 div 20 ns	7633 7623A
		6.4 div 7.5 MHz	6 div 33 ns	

**Applies to 7633 only.



Graph showing the stored writing speed needed to display a given sine wave or step rise time at a given amplitude.

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%) into 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.

Vertical Signal Out — Selected by TRIGGER SOURCE switch. Output voltage is 25 mV/div into 50 Ω, 0.5 V/div into 1 MΩ. Bandwidth depends on vertical plug-in. 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.

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.

The R7633 and R7623A require only 5.25 in. of rack height in a standard 19 in rack. They are fan cooled and come complete with slide-out chassis tracks.