



# 20 MHz Analog/Digital Storage Oscilloscope

## Model 2522C

- 20 MHz analog bandwidth
- 40 MS/s sampling rate each channel
- 2 k memory per channel
- USB port for saving screen images to USB flash drives
- 1 GHz equivalent time sampling (at 0.1  $\mu$ s/div)
- Pre-trigger capture

### Digital Mode Specifications

	model 2522C
Storage Word Size	2048 x 8 bits/channel; (2 k/channel with direct sampling, 1 k/channel with equivalent time sampling).
Vertical Resolution	1 in 256, approximately 25 steps/div.
Horizontal Resolution	1 in 2048, approximately 200 samples/div.
Sampling Rate	40 M samples/sec to 4 samples/sec, reduced in proportion to time base. Direct sampling at time base settings of 20 $\mu$ s/div and slower, equivalent time sampling at time base settings of 10 $\mu$ s/div and faster.
Time Base Expander	For storage of slow time events, time base steps 10 ms/div and slower have selectable 1/1 or 1/100 rate. 1/100 rate expands time base from 1 sec/div to 50 sec/div in 1-2-5 sequence.
Equivalent time Sampling Bandwidth	20 MHz for repetitive waveforms.
Dot Joining	Linear interpolation between samples.

### DIGITAL DISPLAY MODES

Roll	Stored data and display updated continually.
Refresh	Stored data and display updated by triggered sweep.
Hold	Freezes channel 1 and channel 2 data immediately.
Save CH 2	Freezes channel 2 data immediately.
Pretrigger Storage	Available in single shot mode, switchable to 0% or 50%.
LED Indicators	Trigger, Arm, Data Transfer

### I/O Interface

USB host port (rear panel)	Save screen images to USB flash memory
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### Analog Mode Specifications

#### VERTICAL AMPLIFIERS (CH 1 and CH 2)

Sensitivity	5 mV/div to 5 V/div in 1-2-5 sequence, 10 steps. Vernier control provides fully adjustable gain between steps. Pull x5 increases maximum sensitivity to 1 mV/div (at reduced bandwidth).
Accuracy	$\pm 3\%$ , $\pm 5\%$ at x5 MAG
Input Resistance	1M $\Omega$ $\pm 2\%$
Input Capacitance	25pF + 10pF
Frequency Response	5 mV to 5 V/div: DC to 20 MHz (-3 dB). x5: DC to 10MHz (-3dB)
Rise Time	Approximately 17.5 ns (overshoot $\leq 3\%$ )
Polarity Reversal	CH 2 only
Maximum Input Voltage	400 V (DC + AC peak)

#### MAXIMUM UNDISTORTED AMPLITUDE

DC-to-20 MHz	4 divisions
DC-to-10 MHz	8 divisions

#### OPERATING MODES

CH 1: CH 1, single trace	CH 2: CH 2, single trace
ALT	Dual trace, alternating
CHOP	Dual trace, chopped
ADD	Algebraic sum of CH 1 + CH 2

#### SWEEP SYSTEM

Sweep Speed	0.1 $\mu$ s/div to 2 s/div in 1-2-5 sequence, 23 steps. Vernier control provides fully adjustable sweep time between steps.
Accuracy: +3%	Sweep Magnification: 10X, +6%
Hold off	variable.

#### TRIGGERING

Modes: AUTO (free run) or NORM.	Source: CH1, CH2, ALT, EXT, LINE.
Maximum External Trigger Voltage:	200V (DC + AC peak).
Sensitivity	Internal - 0.5 division, External - 500 mV.

#### TRIGGER COUPLING

AC	30 Hz to 30 MHz.
TV H/HF:	Used for triggering from horizontal sync pulses. Low frequencies are attenuated.
TV V DC/LF:	Used for triggering from vertical sync pulses. High frequencies are attenuated. Direct coupled.

#### HORIZONTAL AMPLIFIER(Input thru CH 1 Input)

X-Y Mode	Switch selectable using X-Y switch
	CH 1: X axis CH 2: Y axis
Sensitivity	Same as vertical channel 1
Accuracy	Y-Axis: $\pm 3\%$ , X-Axis: $\pm 6\%$
Input Impedance	Same as vertical channel 1
Frequency Response	DC to 2 MHz typical (-3 dB) (to 6 divisions horizontal deflection)
X-Y Phase Difference	Approximately 3° at 50 kHz
Maximum Input Voltage	Same as vertical channel 1

### Other Specifications

#### CRT

Type	Rectangular with internal graticule
Display Area	8 x 10 div (1 div = 1 cm).
Accelerating Voltage	2 kV
Phosphor	P31
Trace Rotation	Electrical, front panel adjustable

#### ENVIRONMENT

Within Specified Accuracy	50° to 95°F (10° to + 35°C), 85% maximum RH
Full Operation	32° to 104°F (0° to + 40°C), 85% maximum RH
Storage	-4° to 158°F (-20° to + 70°C)

#### OTHER

Analog Output	Analog sample of CH 2
Output Voltage	25 mV/div (nominal into 50 $\Omega$ load)
Output Impedance	Approximately 50 $\Omega$
Frequency Response	20 Hz to 10MHz, -3 dB into 50 $\Omega$
Cal/Probe Compensation Voltage	0.5 Vp-p + 3% square wave, 1 kHz nominal
Power Requirements	110 V/125/220/240 VAC, 50/60 Hz, approximately 60 W
Dimensions (HxWxD)	5.2 x 12.8 x 15.6" (132 x 324 x 397 mm)
Weight	19 lb (8.6 kg.)

### Accessories

### Three Year Warranty

SUPPLIED:	Instruction Manual, Two PR 33A x1/x10 Probes or equivalent, AC Power Cord, Spare Fuse
OPTIONAL:	PR 32A Demodulator Probe, PR 37AG x1/x10/REF Probe, PR 100A x100 Probe, PR-55 High Voltage x1000 Probe, LC 210A Carrying Case



The Right Source For Your Test & Measurement Needs

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