**Data sheet**

# 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 µs/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 µs/div and slower, equivalent time sampling at time base settings of 10 µs/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 |

## 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 | ±3%, ±5% at x5 MAG |
| Input Resistance | 1MΩ ±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 ≤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 µs/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: ±3%. X-Axis: ±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 Ω load) |
| Output Impedance | Approximately 50 Ω |
| Frequency Response | 20 Hz to 10MHz, -3 dB into 50 Ω |
| 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



www.bkprecision.com
Tel.: 714.921.9095

B&K PRECISION
ELECTRONIC TEST INSTRUMENTS