



High Performance Oscilloscopes

100MHz Analog/40MS/s DSO | [30MHz/20MHz Differential](#)

Model 5105 | Specifications

Specifications

DIGITAL MODE SPECIFICATIONS

Digital Acquisition Mode:
 Single: 0.1 μ s to 200s/div
 Refresh: 0.1 μ s to 200s/div
 Roll: 500 ms to 200s/div (Model 5020)
 200 ms to 200s/div (Model 5105)
 Envelope: Available with REFRSH
 Pretrigger: In 1 k steps
 0, 1, 2, 3, 4k (Models 5020/5100)
 0, 1, 2, 3, 4, 5, 6, 7, 8k (Model 5105)
 Glitch Capture: >50ns from 200ms to 10 μ s/div
 Vertical Resolution: 8 bit (256 levels)
 Memory Capacity:
 Two 4k buffers
 Four 8k buffers
 Sampling Frequency: 40 MHz
 Interpolation: Linear and sinusoidal
 Bargraph: Expansion and movement indicator
 Hard copy Formats:
 HPGL: HPGL devices
 IBM Pr: Quad density dot matrix prtrs
 ESC P2: EPSON ink jet printers
 HP-PCL: Laser Printers
 Hard Copy Interfaces:
 RS-232: Serial Port
 IEEE: IEEE Bus (Models 5020/5105)
 Centro: Centronics (HA 1251 Option)
 Communication Interfaces:
 Uses: Hard copy or remote programming (SCPI language)

AUTOMATIC MEASUREMENTS

Rise Time Minimum Voltage
 Fall Time Maximum Voltage
 +Duty Cycle Peak to Peak Voltage
 -Duty Cycle Low Voltage
 Amplitude High Voltage
 Period +Pulse Width
 Frequency -Pulse Width
 Phase RMS Voltage
 Average Voltage
 20 MHz (Model 5105)

ANALOG MODE SPECIFICATIONS

VERTICAL AMPLIFIERS (CH1 AND CH2)

Sensitivity: 1 mV/div to 20 V/div
 Attenuator: 14 calibrated steps, 1-2-5 seq. Vernier control - 1/1 to 1/2.5.
 Accuracy: \pm 3%
 Input Impedance: 1 M Ω , 25 μ F
 Bandwidth: 20 MHz (Model 5020); 100 MHz (Model 5105)
 Rise Time: <17.5 ns (Model 5020); <3.5 ns (Model 5105)

SWEEP SYSTEM

Sweep Speed:
 Model 5020 - 0.5 μ s/div to 200ms/div, 1-2-5sequence, 18 positions, fully adjustable
 Models 5105 - 50 ns/div to 100ms/div, 1-2-5 sequence, 20 positions, fully adjustable (A sweep only)
 Accuracy: \pm 3%, x10 expansion \pm 5%
 Holdoff: Cont. Adjustable from 1 to 10x

TRIGGERING

Triggering Modes: Auto, Normal
 Triggering Source: CH1, CH2, ALT, LINE, EXT
 Triggering Coupling:
 AC: 10Hz to 40 MHz (Model 5020)
 10 Hz to 180 MHz (Model 5105)
 DC: DC to 40 MHz (Model 5020)
 DC to 180 MHz (Model 5105)
 I LFR (rej):
 10 Hz to 40 MHz (Model 5020)
 10 Hz to 180 MHz (Model 5105)
 HFR (rej): 0 Hz to 10 kHz
 TVH: Video hor. Sync pulses selected
 TVV: Video vert. Sync pulses selected
 Trigger Slope: Negative and Positive edge
 Trigger Level: Normal \pm 12 divisions
 Trigger Delay: Model 5020 only

READOUTS

Cursor Measurement: Voltage, Time, Frequency, Phase

OTHER SPECIFICATIONS

CRT. 6 inch rectangular with internal graticle, 8 x 10 div., GY Phosphor
 Accelerating Voltage:
 2kV (Model 5020)
 15.5 kV (Model 5105)
 Scale Illumination: Cont. Variable
 Z Axis Modulation: TTL level Input
 Resistance: 2k Ω (Model 5020)
 10 k Ω (Model 5105)
 Bandwidth: 4 MHz (Model 5020)
 20 MHz (Model 5105)
 Max. Input Voltage:
 \pm 20 VDC (Model 5020)
 \pm 50 VDC (Model 5105)
 Calibration Signal: Squarewave
 Amplitude: 0-2V (Model 5020)
 -0.5V (Model 5105)
 Frequency: 1 kHz (Model 5020)

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Crosstalk: >30dB (Model 5020); 42 dB typical (Model 5105)
Chop Frequency:
200 kHz (Model 5020)
500 kHz (Model 5105)
Max. Input Voltage:
±400V (DC + AC peak)
Operating Modes:
CH1 CH1 only
CH2 CH2 only
ALT CH1 then CH2 alternating
CHOP CH1 and CH2 chopped
XY X=CH1,Y=CH2
ADD CH1+CH2 or CH1-CH2
MULT CH1xCH2 (Model 5020)

10 kHz to 50 kHz (Model 5105)
Power requirements:
110, 230, 240 VAC, 50/60 Hz, 80 W (Model 5020)
94 to 264 VAC, 45 to 440 Hz, 70 W (Model 5105)
Dimension:
5.7 x 13 x 21.1 " (144 x 376 x 537mm) (Model 5020)
6.1 x 13.4 x 17.7" (155 x 340 x 450mm) (Model 5105)
Weight:
15.9 lbs (7.2 kg) (Model 5020)
13.3 lbs (6 kg) (Model 5105)

HORIZONTAL AMPLIFIER

X-Y Mode: CH 1 =X Axis, CH2 = Y Axis

Sensitivity: Same as vertical CH1

Accuracy: ±3%

Input Impedance: Same as vertical CH1

Frequency Response:

Model 5020

CH1: 0Hz to 2 MHz

CH2: 0Hz to 20 MHz

Models 5100 and 5105

CH1: 0Hz to 4MHz

CH2: 0Hz to 100 MHz

Phase Difference:

Model 5020: 3° at 120kHz

Model and 5105: 1.5° at 100kHz