



## Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

### SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

### *InstraView*<sup>SM</sup> REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at [www.instraview.com](http://www.instraview.com) ↗

### WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. [www.artisanng.com/WeBuyEquipment](http://www.artisanng.com/WeBuyEquipment) ↗

### LOOKING FOR MORE INFORMATION?

Visit us on the web at [www.artisanng.com](http://www.artisanng.com) ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

**Contact us:** (888) 88-SOURCE | [sales@artisanng.com](mailto:sales@artisanng.com) | [www.artisanng.com](http://www.artisanng.com)



## Digital Storage Oscilloscopes

TDS210 • TDS220 • TDS224

### Characteristics

#### SIGNAL ACQUISITION SYSTEM

##### Bandwidth -

TDS210: 60 MHz

TDS220: 100 MHz

TDS240: 100 MHz

**Sample Rate** - 1 GS/s on each channel

##### Channels -

TDS210 and TDS220: 2 identical channels plus external trigger

TDS224: 4 identical channels

**Sensitivity (with calibrated fine adjustment)** - 2 mV to 5 V/div (bandwidth limited to 20 MHz at 2 mV/div and 5 mV/div, in all modes, and 20 MHz at 10 mV/div in Peak Detect mode)

**Vertical Zoom** - Vertically expand or compress a live or stopped waveform

#### CALIBRATED POSITION RANGE

Volts/Div Setting    Offset Range

2 mV to 200 mV/div	±2 V
>200 mV to 5 V/div	±50 V

**DC Gain Accuracy** - ±3% (±4% at 2 mV/div and 5 mV/div)

**Vertical Resolution** - 8-bit (256 levels over 10.24 vertical divisions)

#### AUTOMATIC MEASUREMENTS

Period, frequency, cycle RMS, mean, peak-to-peak

#### ACQUISITION MODES

**Sample, Average, Peak Detect** - High frequency and random glitch capture; captures glitches as narrow as 10 ns using acquisition hardware at all time/div settings between 5  $\mu$ s/div and 5 s/div

#### TIME BASE SYSTEM (MAIN AND WINDOW)

**Horizontal Zoom** - Horizontally expand or compress a live or stopped waveform

**Time/Division Range** - 5 ns to 5 s/div

**Record Length** - 2,500 sample points per channel

**Horizontal Accuracy** - ±0.01%

#### NONVOLATILE STORAGE

**Waveform Display** - Two 2,500 point reference waveforms

##### Waveform Storage -

TDS210 and TDS220: Two 2,500 point reference waveforms

TDS224: Four 2,500 point reference waveforms

**Setups** - 5 front panel setups

#### TRIGGERING SYSTEM (MAIN ONLY)

**Trigger Type** - Edge (rising or falling), video, set to 50%

**Video Trigger Type** - Triggers on fields or lines from composite video; triggers on broadcast standard NTSC, PAL or SECAM video

**Trigger Modes** - Auto, normal, single sweep

**Trigger Source -**

TDS210 and TDS220: CH1, CH2, Ext, Ext/5 and AC Line

TDS224: CH1, CH2, CH3, CH4 and AC Line

**Trigger View** - Displays trigger signal while trigger view button depressed.

**CURSORS**

**Types** - Voltage, time

**Measurements** - Delta T, 1/Delta T, Delta V

**WAVEFORM PROCESSING**

**Arithmetic Operators** - Add, subtract

**Sources** - CH1±CH2, CH3±CH4 (TDS224)

**Autoset** - Single button automatic setup on selected input signal for vertical, horizontal and trigger systems.

**DISPLAY SYSTEM**

Robust, backlit LCD with adjustable multilevel contrast.

**Interpolation** - Sin(x)/x

**Display Modes** - Vectors, dots

**Persistence** - Off, 1 sec, 2 sec, 5 sec, infinite

**Format** - YT and XY

**HARDCOPY CAPABILITY (REQUIRES MODULES)**

**Printer/File Formats** - Thinkjet, Deskjet, Laserjet, Epson (9- or 24-Pin), BMP, PCX, IMG, EPS, DPU 411, DPU 412

**Hardcopy Layout** - Landscape or portrait

**TDS2CM COMMUNICATIONS EXTENSION MODULE**

**Centronics-type Parallel Port**

**RS-232 Programmability** - Full talk/listen modes. Control of all modes, settings and measurements. Baud rate up to 19,200. 9-Pin, DTE.

**GPIB Programmability** - Full talk/listen modes. Control of all modes, settings and measurements (IEEE Std 488-1987). Includes WaveStar™ Software for Oscilloscopes 30 day product demo.

**TDS2MM MEASUREMENT EXTENSION MODULE**

**FFT** -

Windows: Hanning, Flat Top, Rectangular

Sample points: 2,048

**Automatic Measurements** - Rise/fall time, positive/negative pulse width

**Interface** - Centronics, RS-232, GPIB

**ENVIRONMENTAL AND SAFETY**

**Temperature** -

Operating: 0°C to +50°C

Nonoperating: -20°C to +60°C

**Humidity** -

Up to 90% RH at or below +40°C;

Up to 60% RH from 41°C to 50°C (operating and nonoperating)

**Altitude** - Up to 3,000 m (operating)

**EMC** - Meets Directive 89/336/EEC, GOST

**Safety** - UL3111-1, CSA1010.1, IEC61010-1, EN61010-1

PHYSICAL CHARACTERISTICS

Dimensions mm in.

Weight kg lb.

Width	304.8	12.0
Height	151.4	5.96
Depth	120.7	4.75
Oscilloscope only	1.5	3.25
w/accessories	1.7	3.75



Product(s) are manufactured in ISO registered facilities.



Product(s) complies with IEEE Standard 488.1-1987, RS-232-C, and with Tektronix Standard Codes and Formats.

40W-10992-4, 01-JUN-1997



## Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

### SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

### *InstraView*<sup>SM</sup> REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at [www.instraview.com](http://www.instraview.com) ↗

### WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. [www.artisanng.com/WeBuyEquipment](http://www.artisanng.com/WeBuyEquipment) ↗

### LOOKING FOR MORE INFORMATION?

Visit us on the web at [www.artisanng.com](http://www.artisanng.com) ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

**Contact us:** (888) 88-SOURCE | [sales@artisanng.com](mailto:sales@artisanng.com) | [www.artisanng.com](http://www.artisanng.com)