222A
222PS
224

Handheld Digitizing Oscilloscopes
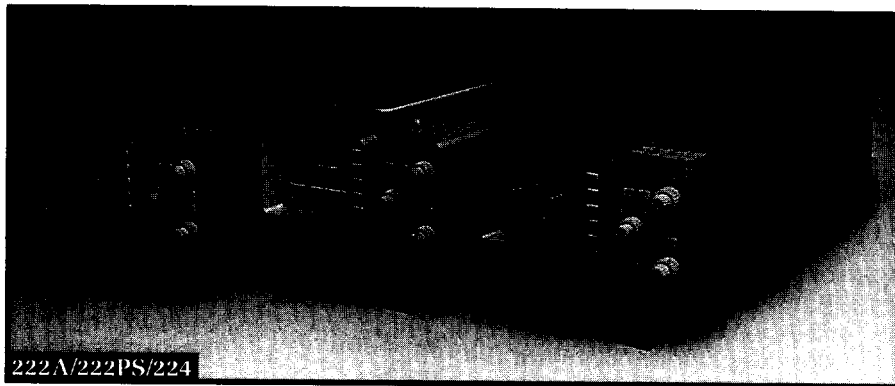
Capture your measurements in out of the way places with these battery operated, compact, industrial service digitizing scopes.

222A/222PS/224

- Isolated Channel Architecture
- Floatable to ±850 V/channel (222PS, 224) ±400 V/channel (222A)
- 10 MHz 222A, 10 MHz 222PS, 60 MHz 224
- 100 ns Glitch Capture
- 6 kV Peak Surge Rating (222PS, 224)
- Exclusive Motor Trigger (222PS)
- Video Line Trigger (224)
- Auto Trigger
- Save Reference Memory
- Dual 10 MS/s Digitizers
- Programmable via RS-232-C
- Auto Setup
- Save Setup
- Detachable 1X/10X Probes
- Rugged Construction
- Battery Operated
- 4.4 lbs

222A/222PS/224

222A/222PS/224

The 220 Series of scopes provides unsurpassed power in the world of handheld oscilloscopes. The 60 MHz 224 and the 10 MHz 222A and 222PS sample at 10 MS/s for each channel, have an RS-232-C interface, and are fully programmable. Internal batteries eliminate the need for external power. These handheld scopes can also charge and operate from 12-28 V DC or 16-20 V AC.

UNMATCHED SAFETY

To ensure ultimate operator safety, the channels are fully isolated from each other and the casing is double insulated. Because they are floatable to ±850 V per channel, the 224 and the 222PS can make measurements safely on industrial power systems. They are the first scopes to be UL listed for line voltage measurements to 600 V AC, and are specified to withstand peak surges as high as 6 kV. The 222A can safely measure ±400 V per channel or 800 V p-p.

UNMATCHED VERSATILITY

The 224, because of its size, bandwidth, and portability, is a perfect tool for high-speed electronics that can't be easily returned to a repair shop, such as ATMs or avionics. The 224's exclusive TV trigger makes it just the thing for servicing medical imaging systems or closed-circuit surveillance equipment.

UNMATCHED FEATURES

Auto Setup and Save/Recall limit the need for manipulation of the front panel. Pushing the Auto Setup button selects all the input parameters for you. Save/Recall boosts productivity in repetitive testing at different locations by saving up to four front-panel setups.

After you've acquired a waveform using Auto Setup, you may save it in one of four 512 byte records. Then, recall a known good signal for comparison and make the necessary adjustments to bring the equipment on line.

To make a permanent record, simply connect the scope to your PC via the RS-232-C interface and transfer waveforms and setups using the optional CAT200 Software. Send them back to the scope when that same job is due again. With CAT200 Software, you can control the entire front panel from a remote location using the RS-232-C port, a modem, and a phone line.

The WP200 Intelligent Printer Interface allows you to make a hardcopy of a displayed waveform on an Epson-compatible printer – without using a PC and dedicated software.

UNMATCHED RUGGEDNESS

The 220 Series is packaged in impact-resistant plastic, capable of withstanding 50 g's of shock. They can operate accurately to temperatures as low as –10°C. The batteries allow a minimum of three hours of operation. Each scope comes complete with a ballistic nylon carrying case with a neck strap for hands-free operation.

A P P L I C A T I O N S	
• Power Measurements	• Safe High-voltage Measurements
• Motor Drive Test	• Remote Signal Monitoring and Service (with CAT200 software)
• Electronic Device Debug	
• TV and Video Signal Troubleshooting	• Useful in Low Temperature environments

Handheld Digitizing Oscilloscopes

KEY SPECIFICATIONS

	222A	222PS	224
Bandwidth	10 MHz	10 MHz	60 MHz
Digitizers/Channels	2	2	2
Rise Time	35 ns	35 ns	5.8 ns
Sample Rate (each channel)	10 MS/s	10 MS/s	10 MS/s
Vertical Resolution	8-Bit	8-Bit	8-Bit
Vertical Sensitivity	5 mV to 50 V/div	50 mV to 500 V/div	50 mV to 500 V/div
Sweep Speed	5 ns to 20 s/div	5 ns to 20 s/div	5 ns to 20 s/div
Time Base	Single	Single	Single
Acquisition Modes	Normal, Averaging, Peak Detect, Accumulated Peak	Normal, Averaging, Peak Detect, Accumulated Peak	Normal, Averaging, Peak Detect, Accumulated Peak
Peak Detect/Glitch Capture	100 ns	100 ns	100 ns
Record Length	512 bytes	512 bytes	512 bytes
Independently Floatable Isolated Channels	±400 V (DC or pk AC)	±850 V (DC or pk AC) or 600 V AC	±850 V (DC or pk AC) or 600 V AC
Motor Trigger	–	Yes	–
Video Field and Line Trigger	–	–	Yes
I/O Interface	RS-232-C	RS-232-C	RS-232-C
Minimum Battery Life	3 hours	3 hours	3 hours
Battery Charge Time	3 hours	3 hours	3 hours
Warranty	3 years	3 years	3 years
Safety Certification	UL, CSA	UL, CSA	UL, CSA

ORDERING INFORMATION

222A
10 MHz Handheld DSO
Includes: Operator's Manual, Quick Reference Guide, RS-232-C Guide, AC Adapter, Two P400 1X Replaceable Probes, Pouch, Feet, Probe Accessory Kit

222PS
10 MHz Handheld DSO
Includes: Operator's Manual, Quick Reference Guide, RS-232-C Guide, AC Adapter, Two P850 10X Replaceable Probes, Pouch, Feet, Probe Accessory Kit, Industrial Lead Set

224
60 MHz Handheld DSO
Includes: Operator's Manual, Quick Reference Guide, RS-232-C Guide, AC Adapter, Two P850 Replaceable Probes, Pouch, Feet, Probe Accessory Kit

Opt. 02 – Delete AC adapter

Opt. 03 – Substitute P850 Probes for P400 (222A only)

INTERNATIONAL POWER PLUG OPTIONS
Opt. A1 – Univ Euro 220 V, 50 Hz
Opt. A2 – United Kingdom 220 V, 50 Hz

SERVICE ASSURANCE OPTIONS
These products covered by the following service assurance options:
REP4200 – Provides One Year of Post-Warranty Repair Protection
CAL4200 – Provides One Year of Calibration Services

AVAILABLE ACCESSORIES
Virtual Instrument Software – Order CAT200
External Battery Charger – Order BAT200
Pouch for Battery/AC Adapter – Order 016-0993-00
Viewing Hood – Order 016-1021-00
EXT Trig to BNC Adapter – Order 103-0090-00
US 120 V Power Adapter – Order 120-1807-00
Spare Battery – Order 146-0075-00
RS-232 Cable – Order 174-1453-00
Cigarette Lighter Adapter – Order 174-1734-00
Intelligent Printer Interface – Order WP200
X10 BNC Adapter – Order 206-0445-00
Industrial Lead Set – Order 012-1392-00
BNC Probe Head – Order 206-0451-00
OPERATION VIDEOTAPE
NTSC – Order 068-0344-04
PAL – Order 068-0344-06
SECAM – Order 068-0344-07
PROBES
Voltage –
1X. Order P400
10X. Order P850
Current – AC Current, 2000 A pk. Order A620
External Trigger – Order P6122

Product(s) available through an Authorized Tektronix Distributor. See pages 590-595.

ISO 9001

Tektronix Measurement products are manufactured in ISO registered facilities.