



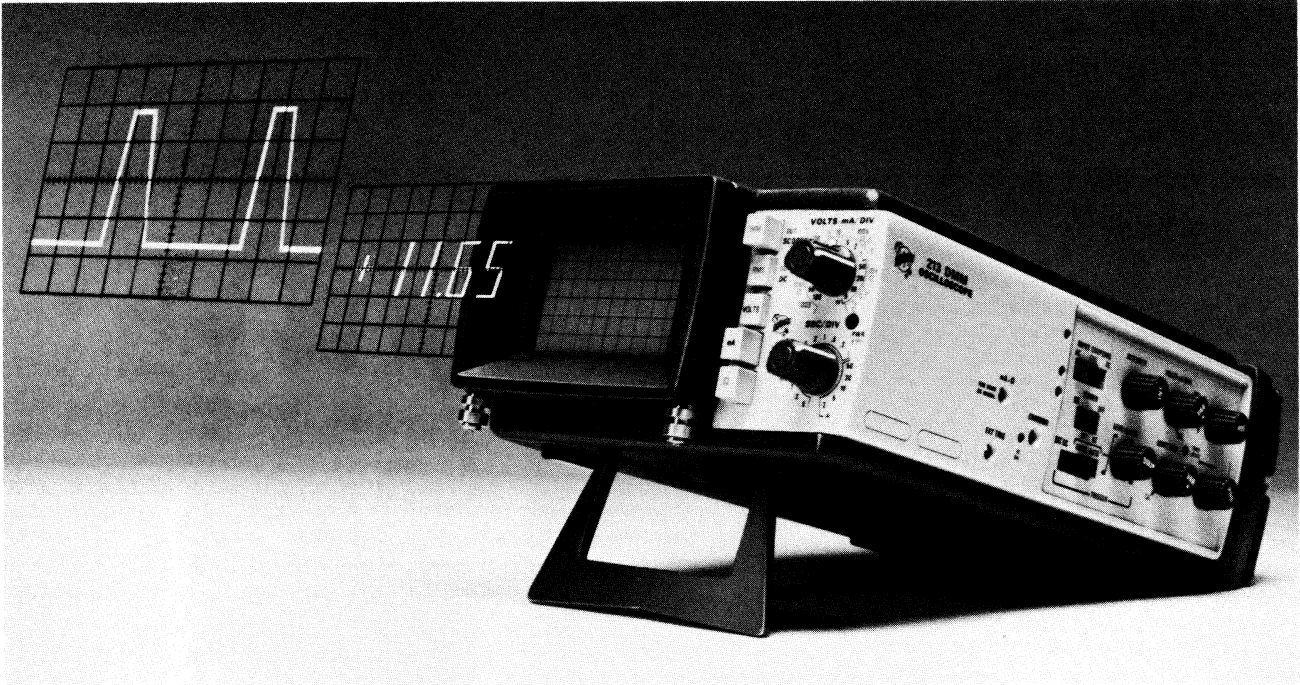
TEKTRONIX®
committed to
technical excellence

MAR/APR 1975

NEW PRODUCTS

and LITERATURE

SUPPLEMENT NO. 2 TO 1975 CATALOG



PORTABLE OSCILLOSCOPES

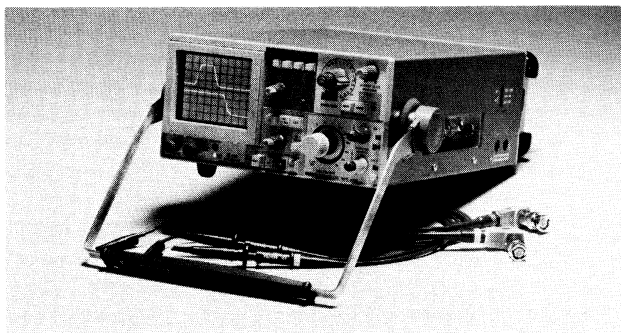
The unique **TEKTRONIX 213 DMM/Oscilloscope** offers a distinct advantage to the serviceman who has had to carry both a DMM and oscilloscope, or make do with only one. With this precise, full function, 3½-digit multimeter and 1-MHz oscilloscope in one compact (3.7 lb., 3.0 x 5.2 x 8.9 in) instrument, more repairs can be performed on site, on the first call. The small, lightweight 213 can be easily carried to the site in a briefcase or tool kit. In operation it can be hand held, rested on the equipment under test, or even carried on a convenient neck strap.

Small size and internal battery power assure that the 213 can readily make measurements in hard-to-reach locations. Rugged

construction enables the 213 to withstand hard use in industrial and field service applications. And the double-insulated case aids in isolating the 213 for measurements at elevated voltages.

DMM or oscilloscope operation is easily selected with a single pushbutton. A second pushbutton selects dc or true rms operation. The remaining three pushbuttons provide quick selection of voltage, current, or resistance measurements. Scale factor (volts, mA, or ohms) for both DMM and oscilloscope modes is selected with one clearly labeled dial. A second dial is used to select time/division for the oscilloscope mode.

213 DMM/Oscilloscope \$1200

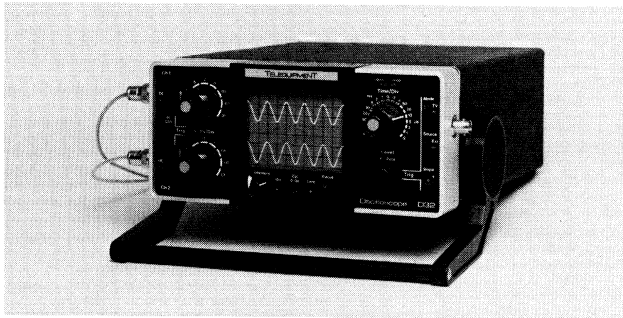


The new **SONY/TEKTRONIX 314 Portable Storage Oscilloscope** provides dual trace storage with 4-hour viewing time and 1 mV/div sensitivity at 10 MHz, all in a compact, rugged package with less than one-half the weight of most other storage oscilloscopes.

Lightweight (10.5 lbs.), small size (4.4 x 9.3 x 13.6 in), and ac or dc operation mean that the 314 will go wherever storage measurements must be made. It is particularly well suited to measurements in production, and servicing of industrial control systems, bio-physical instrumentation, computer terminals, POS terminals, computer peripherals, and communication systems.

314 Portable Storage Oscilloscope \$1995

TELEQUIPMENT PRODUCTS



The TELEQUIPMENT D32 is one of the smallest and least expensive dual trace, battery operated, 10 MHz oscilloscopes available today. The TELEQUIPMENT line of TEKTRONIX oscilloscopes combine low prices with a number of features not usually found in other oscilloscopes of the same price range. Features such as calibrated sweep rate and vertical step attenuators, triggered sweep, probe-calibrated output, and TV-field or line triggering, make this instrument easy to use.

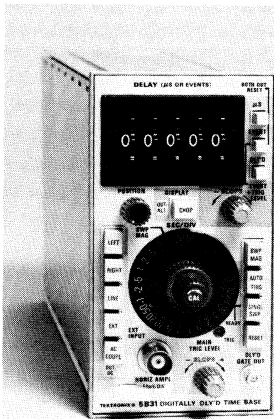
The D32 measures 4 x 9 x 11 inches, weighs only 10 pounds and has an adjustable carrying handle which also serves as a tilt bail. It can be carried comfortably on any assignment.

Packed into a small frame are features normally associated with instruments several times its size. The D32 offers 10-MHz bandwidth at 10 mV/div sensitivity; automatic selection of TV-line or frame display; automatic selection of chopped or alternate modes; and the choice of ac line or battery operations with up to four hours continuous operation working from its rechargeable batteries.

Calibrated sweeps range from 500 ns/div to 500 ms/div in 19 steps, with a X5 magnifier extending the fastest range to approximately 100 ns/div.

TLD 32 Price Available on Request

5400 SERIES PRODUCTS



The TEKTRONIX 5B31 Digitally Delayed Time Base, a new plug-in in the 5400-Series Oscilloscope line, brings new measurement accuracy and operating convenience to many delaying sweep applications. The delay system — a crystal-controlled clock, a digital counter, and a unique circuit that eliminates one-count ambiguity in the counter — replaces the usual delaying sweep.

The delay-by-events mode, made possible by the digital counter, provides a powerful diagnostic tool in the analysis of high-jitter digital data streams like those from disc memories or tape re-

recorders. In this mode, the 5-digit thumbwheel switch displays the number of events following the main triggering event before the sweep starts. There is an independent trigger level and a slope control for the event input from the left vertical plug-in. The event trigger operates to 20 MHz.

Return the enclosed Inquiry card for further information on the products, or copies of the literature described in this supplement.

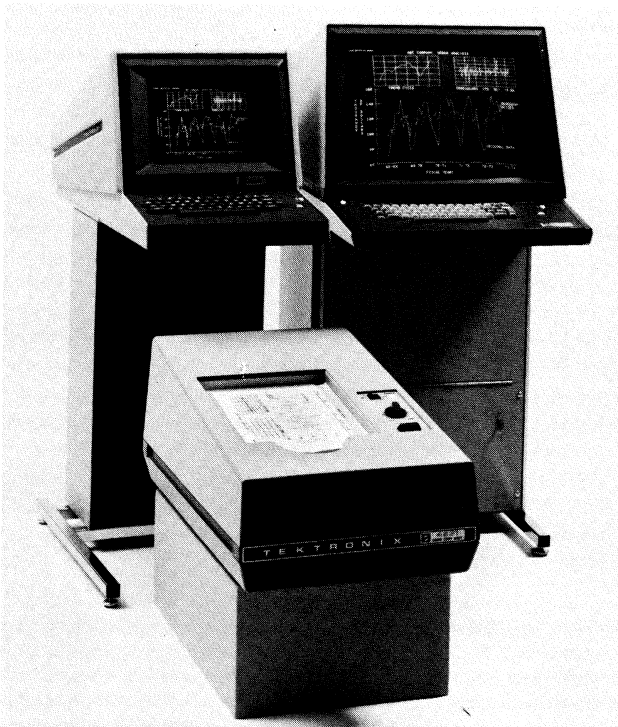
The delay time can be incremented in 1- μ s steps from 0 to 99,999 μ s (almost 0.1 s), and read directly from the 5-digit thumbwheel switch. Delay jitter is less than 10 ns plus 1 part in 10^7 , so that the fastest unmagnified sweep (200 ns/div) can be used at the longest delay (0.1 s).

The conventional sweep in the 5B31 ranges from .2 μ s/div to 5 s/div. Also included is a 10X magnifier and a variable control. Triggers can be selected from the EXTERNAL input, LINE, or either of the two vertical plug-ins. Single sweep operation is also included. MAIN trigger inputs operate up to 60 MHz.

CRT READOUT displays the sweep rate when the 5B31 operates in the 5400 Oscilloscope with readout.

5B31 Digitally Delayed Sweep \$600

COMPUTER TERMINAL PRODUCTS



The 4631 Hard Copy Unit is plug-to-plug compatible with the entire TEKTRONIX 4010 series of computer graphics terminals, as well as with the 613 storage display unit. The 4631 is designed as a direct replacement for the TEKTRONIX 4610 Hard Copy Unit.

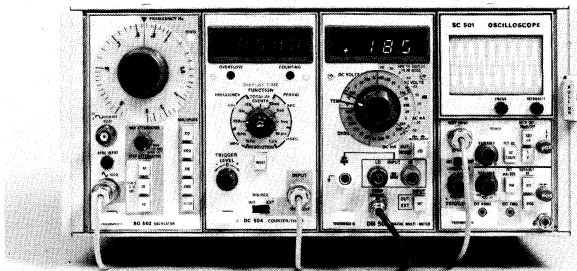
Among its many features is the advantage of being able to copy either the 11" or 19" storage tubes of the TEKTRONIX 4010-1, 4012, 4013, 4014-1 or 4015-1 terminals. The 4631 is plug-to-plug compatible with all these, whereas the 4610 required a special option for the larger 4014-1 and 4015-1 terminals. It is also less expensive than the 4610.

The 4631 uses 3M Type 777 dry silver paper and requires 18 seconds for the first copy and only eight seconds for subsequent copies. The clean dry-copying process is self-contained in the unit and requires no external equipment to print or develop copies. A built-in paper stacking tray eliminates any need for additional accessories to remove or stack the copies. The 4631 weighs only 65 pounds.

4631 Hard Copy Unit \$3895

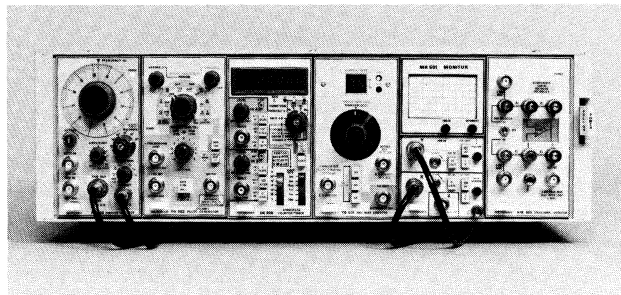
U.S. Sales Prices FOB Beaverton, Oregon

TM 500 PRODUCTS



The **TM 500 Audio Frequency Communications Package** is a suggested configuration of TM 500 instruments, offering realistic benefits to those working in the communications industry. Individually, the four plug-in instruments provide the performance capabilities promised by equivalent monolithic instruments . . . but in smaller packages than most. As a system, the instruments will work together through the common interface circuitboard, allowing comparisons between the SG 502 output and test signals at the touch of a button, and thereby reducing the amount of cabling required. The SG 502 is calibrated in dB and matched to the 600Ω industry standard. In addition to the conventional DMM features of dc and ac volts and current, plus resistance measurement, the DM 502 can be read in dBV or dBm, a feature not usually found in this type of instrument. Its temperature measurement capability is especially valuable for checking the "safe" operating levels of transistors or ICs. The Audio Frequency Communications Package and its plug-in instruments are fully described in the TM 500 Booklet A-3072.

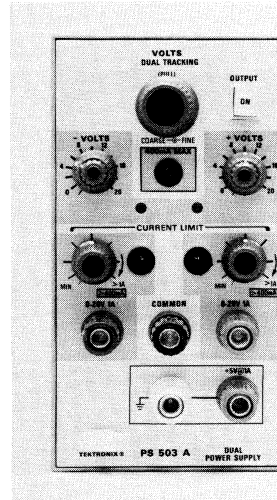
SG 502 Oscillator	\$.345
DC 504 Counter/Timer	\$.350
DM 502 Digital Multimeter	\$.405
SC 501 Oscilloscope	\$.650
TM 504 Power Module/Mainframe	\$.225



The **TM 506 Power Module/Mainframe** adds six-compartment accommodation to the family of mainframes of the TM 500 modular plug-in test and measurement instrumentation. It offers the engineer/technician provision for up to six instruments selected from high-performance digital multimeters, counters, generators, and power supplies (even an oscilloscope and blank plug-in kit) . . . all in a neat enclosure that occupies only 17½ inches of bench space. It's 20 inches deep, only 6 inches high, and it has a

carrying handle. Since the instruments can talk to each other through the common interface circuit board, the quantity of front-panel cabling can be effectively reduced, making the instrumentation package considerably more portable than any equivalent group of monolithic instruments. The TM 506 is also available in a rackmount version (5¾" high) which includes mounting ears and slideout tracks. A factory-installed option (Option 2) adds 25-mil square pin connectors to the interface circuitboard, enabling interconnecting wiring without the need of solder junctions. A Data Sheet is available that fully describes the TM 506.

TM 506 Power Module/Mainframe	\$.395
RTM 506 Power Module (rackmount version)	\$.425
Option 2 Interface	+.150



The **PS 503A Power Supply** is a plug-in module joining the family of TM 500 instrumentation. It provides a floating 0 to -20 V and a 0 to +20 V output with a common reference terminal (40 volts end-to-end), adjustable current limiting, 400 mA maximum in the low power compartments of TM 500 Power Module/Mainframes, and 1 A maximum in the high-power compartments. It also provides +5 Vdc @ 1 A. The outstanding feature of the PS 503A is the dual-tracking mode of the 0 to -20 V and 0 to +20 V supplies. Both outputs may be set independently and then varied together in constant ratio until either reaches the limit of its

output. Its benefits to the design-engineer are several: It is an especially convenient power source for complementary and linear-integrated circuits such as operational and differential amplifiers and differential comparators. It's compact. It fits in functional packages with a broad line of test and measurement instruments — the TM 500 line. And it offers 0 to 40 Vdc with current limiting up to 1 A, at an exceptionally low price.

PS 503A Power Supply	\$.225
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New Literature Available

Television Application Note No. 19 gives instructions for reprogramming TEKTRONIX 147 Option 1, 147A Option 1, 149 and 149A Signal Generators to meet Sections 73.682 (a)(21) and 73.676(f)(1) of the FCC rules as amended. Also included is VIR programming for the 147, 147A, 149, 149A, 1440 and 1441.

"Patient Monitors" (A-3068) is a 4-color brochure describing TEKTRONIX 408 and 412 Portable Patient Monitors. Included is a complete list of available accessories.

"Display Monitors" (A-3042) is a 20-page, 2-color booklet that explains how to select a monitor, based on an understanding of its operating parameters and the requirements of the system it will become part of.

NEW PRODUCTS LISTED IN PREVIOUS SUPPLEMENTS

Supplement No. 1

1460 Automatic Video Corrector

1480 Series Waveform Monitors

1461 Insertion Test Signal Generator

Deleter/Inserter

Calculator Flexible Disc Interface

TM 500 Low-Cost Package

TM 500 Digital-Logic High Performance Package

Medical Instrumentation Calibration System

3½-digit Readout J16

4952 Joystick

For a demonstration or further information on these products, please return the enclosed inquiry card.

Tektronix, Inc.

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