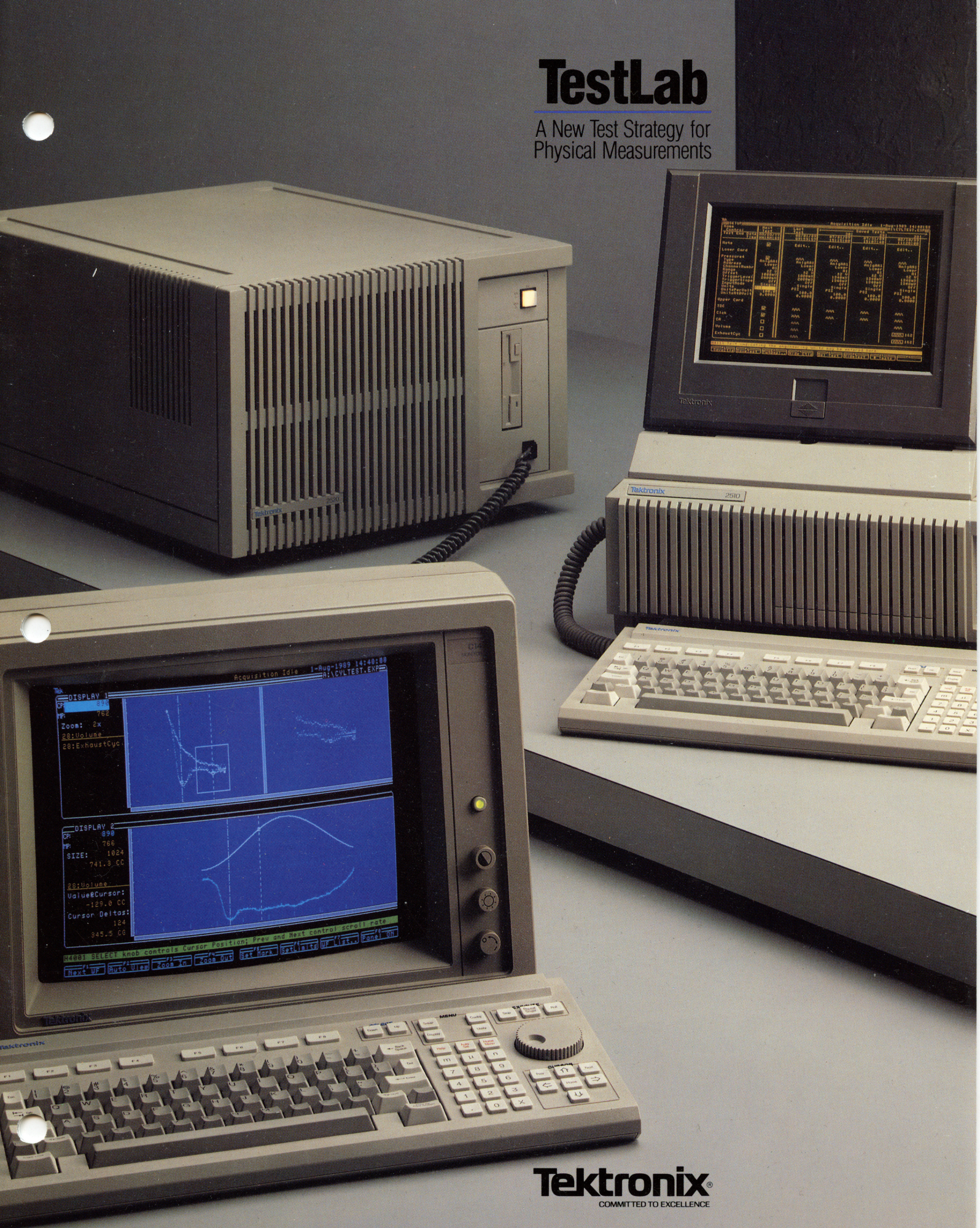
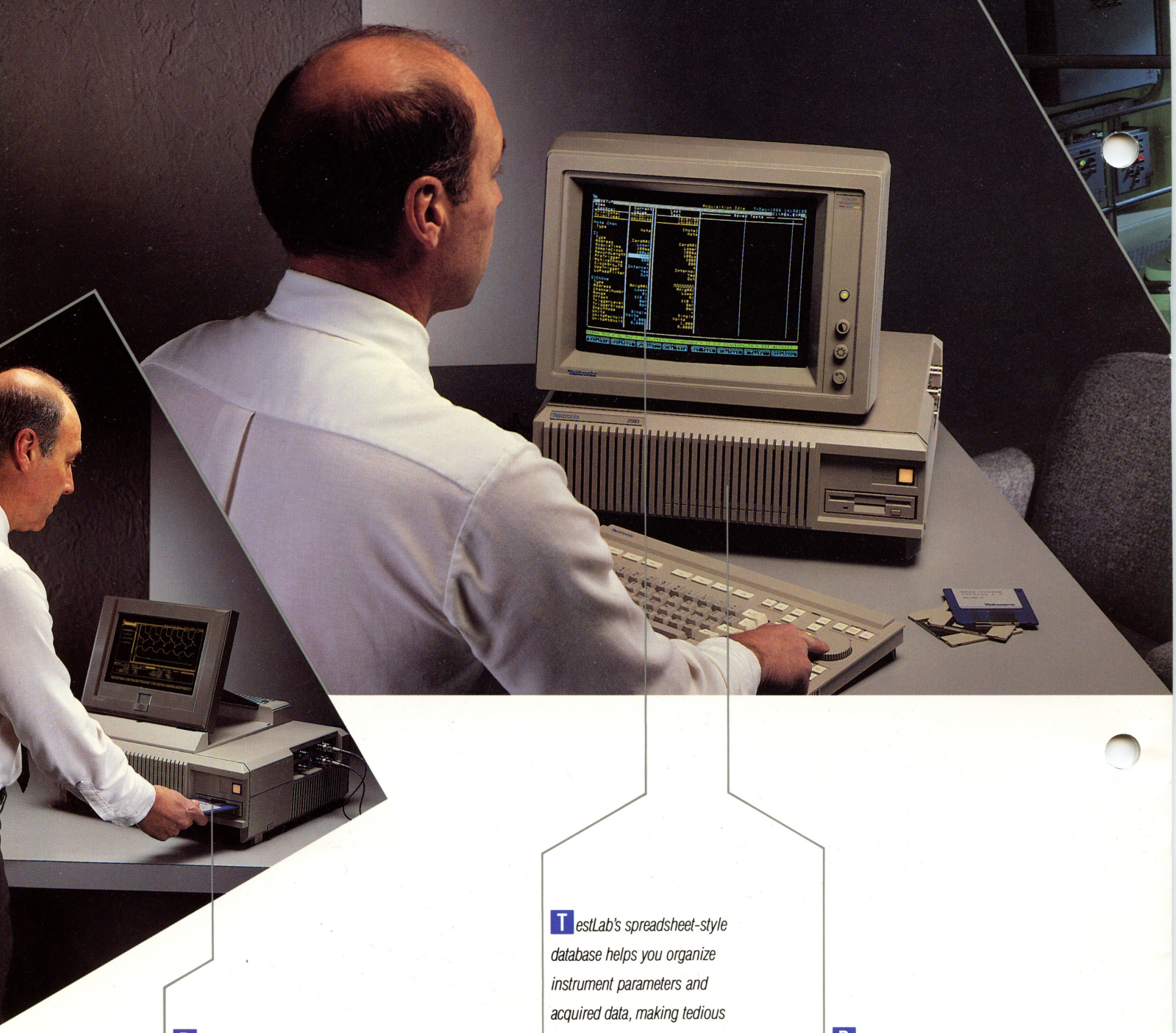
TestLab

A New Test Strategy for
Physical Measurements



Tektronix®
COMMITTED TO EXCELLENCE



Disk-based software gives you data portability and future application flexibility.

TestLab's spreadsheet-style database helps you organize instrument parameters and acquired data, making tedious manual record-keeping unnecessary.

Built-in math functions—which you can use as-is or incorporate into your own custom formulas—simplify data analysis.

A New Test Strategy

Zoom, pan, and cursor measurements let you preview waveform data for accuracy before continuing long tests. And, on TestLab 2520, up to 24 channels let you gather data from the most complex applications.

For each test in a group of related tests, TestLab stores date and time, instruments settings, test data, and notes in a single, easy-to-access file.

Choosing from a selection of acquisition cards and I/O ports, you can configure TestLab to a variety of application needs. For portability, TestLab 2510 includes an optional built-in flat-screen monitor.

– on your Desk, at th

For immediate hardcopies of screens or control settings, TestLab connects directly to any Epson-compatible printer.

With TestLab's MS-DOS format 3.5-inch floppy disks, you can transfer test files to any PC-compatible system for further analysis or, using popular software packages, for including test results in documents and presentations.

In its portable configuration, which features 12V DC power, flat-panel display, and soft-sided carrying case, TestLab 2510 goes almost anywhere that complex physical measurements are needed.

e Lab, or in the Field

Multi-Channel Acquisition, Analysis, and Test Management- All in a Single Package

Whatever your design or development application—telephone systems, aeronautics, automotive, materials testing, electric power—you're dealing with physical measurements that are more complex than ever.

You need multiple channels, long record-length, high resolution, and powerful data management capabilities for gathering, organizing, analyzing, and storing large quantities of information. You need built-in waveform analysis tools, access to PC systems, and portability, for getting your work done efficiently. You need simplicity and ease of use.

One instrument solution meets all of these needs: the TestLab family of multi-channel analyzers from Tektronix, now featuring *up to 24 channel* capability.

Multi-Channel Acquisition

For viewing and measuring a variety of test parameters, you can access up to 8 channels in TestLab 2510—and up to 24 in TestLab 2520—all with varying sample rates, record lengths, and resolutions.

Generous Record Length, High Resolution

TestLab's up-to-256K point record length allows measurement of transient or continuous events over periods ranging from milliseconds to hours. And its 10- or 12-bit vertical resolution lets you see otherwise indiscernible detail in your acquisitions.

Unprecedented Data Management

With its special test files—containing acquired data, acquisition dates and times, hardware settings, and comments—TestLab helps you gather new data using known instrument settings, or retrieve historical data for further analysis or comparison with existing data.

Integrated Data Analysis

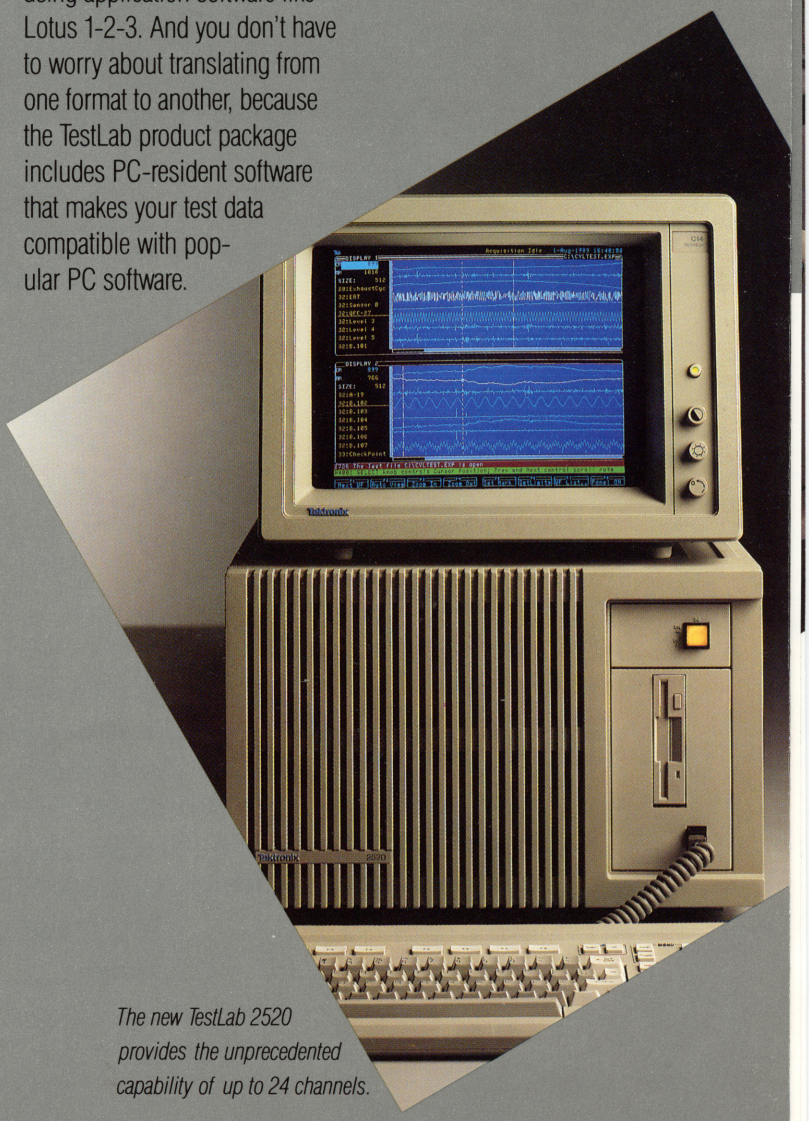
Using TestLab's built-in math functions—on their own or as part of your own custom formulas—you can acquire *and* analyze on a single instrument. You can calculate formulas upon acquisition for immediate analysis results, or later for more efficient processing.

Data Transfer to PCs

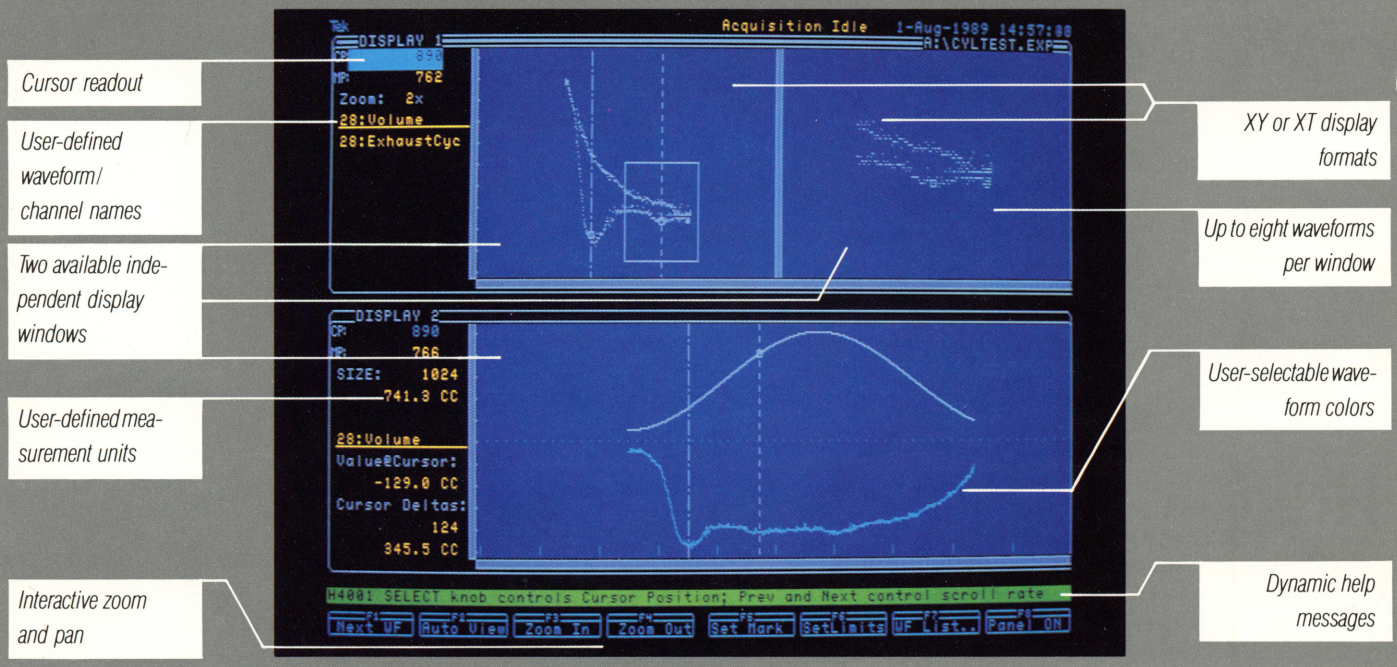
Because TestLab test data is stored on MS-DOS format floppy disks, you can easily transfer it to any PC-compatible system. There, you can analyze it or incorporate it into reports using application software like Lotus 1-2-3. And you don't have to worry about translating from one format to another, because the TestLab product package includes PC-resident software that makes your test data compatible with popular PC software.

Portability

With its electroluminescent flat-panel display, 12V DC power, and compact size, TestLab 2510 goes from lab to field van to test bay to benchtop—wherever you need to measure physical data.



The new TestLab 2520 provides the unprecedented capability of up to 24 channels.



Acquisition and Analysis in Versatile, Organized Displays

Complex measurements shouldn't require complex interpretation. So TestLab presents your waveform data and control settings in responsive interactive formats, with waveforms and settings easily accessible and cleanly organized to help you avoid screen clutter.

The Most Informative Waveforms

With TestLab, you can simultaneously observe up to sixteen historical or new waveforms with differing record lengths and sample rates—eight in each of two windows. You can view the same waveform and XY and XT formats. And you can display waveforms in one or both windows at at time.

TestLab lets you see acquired test data almost immediately. You can calculate formulas and adjust control settings yourself or use TestLab's autoset mode to adjust them automatically, for both repetitive and single-shot events. You can observe the effects of adjustments during acquisition. And for accurate time correlation of waveform data, you can link cursors between windows.

Best of all, TestLab gives you easy and immediate zoom-and-pan capabilities to see clearly just what you need, from the "big picture" to the most minute detail.

A Summary of Data and Settings

TestSheet, the spreadsheet-style database within TestLab, shows you data and control settings for historical and new acquisitions in an easy-to-follow matrix format.

TestSheet's format helps you study and compare data and settings for different tests or channels. Read down a column, for example, to observe a single test's different channel controls, data gathered, acquisition date and time, and your notes—which can include an operator's name, equipment under test, and other experimental conditions. Or read across a row to examine control settings and data gathered on a single channel during different tests.

All information presented by TestSheet comes from TestLab's special test files, stored on convenient floppy or optional hard disk. To run the same tests in different locations, you can transfer floppy-disk files from one TestLab to another.

TestLab: Where a Newton-meter is always a Newton-meter

Unlike other physical-measurement instruments, TestLab lets you specify test results in a unit of *your* selection—degrees Celsius or Fahrenheit, foot-pounds, Newton-meters, or whatever is appropriate. TestLab carries this unit through the entire testing and analysis process, so you always have the correct measurement unit without having to convert from volts.

TestLab at Work Today

Integrating the acquisition characteristics of transient recorders—such as strip chart recorders and oscilloscopes—with powerful data management, storage, and display capabilities, TestLab delivers solutions to problems involving a wide range of physical phenomena. Here are a few of the areas in which TestLab is working today.

Precision Injection Molding
As materials research engineers at a major polycarbonate plastic supplier know, entertainment-quality compact disk manufacturing uses an injection molding process with stringent requirements for dimensional tolerance. So they use TestLab to measure, analyze, and organize the data involved in meeting these requirements.

The researchers run detailed analyses with TestLab's built-in math functions. They use its database to organize multiple test runs and keep accurate, detailed records. And when they need reports including annotated plots and molding-process data analysis, they transfer their TestLab data to PC-resident documentation packages.

Telephone System Troubleshooting
TestLab's portability and data manipulation capabilities are helping major telephone equipment manufacturers troubleshoot both switching and key equipment systems. In switching design, engineers use TestLab's multiple channels to compare switcher output signals under old and new software. In the field, they use TestLab's vast data management capabilities to monitor phone lines affected by dropout.

Also in the field, technicians using TestLab uncover key-equipment problems far faster than those using old-fashioned technology like strip chart recorders. With TestLab, technicians set up tests before visiting a customer site and analyze them afterward, so once they're at the site all they need to do is collect the required data. Additionally, TestLab helps solve tip-and-ring signal problems with its differential input capabilities.

Quality Assurance in Automotive Components
Engineers at a leading automotive system integrator use TestLab to help them measure structural fatigue, environmental durability, and life-cycle endurance of steering wheel shafts. Of particular interest to the engineers is the exact breaking tolerance of the shafts, which they determine using TestLab's XY display of torque versus angle.

TestLab also helps the engineers in preparing detailed reports to their client and government regulatory agencies alike. For this, they transfer archive files—created from TestLab's automatic storage of their yield curves along with date/time stamps and notes—to PC systems for development into formal documentation and presentations.

Power Distribution Troubleshooting
At major industrial plants throughout the U.S., TestLab helps utility engineers troubleshoot such power distribution problems as circuit breaker malfunctions and power line harmonics.

The engineers characterize incoming power by using TestLab's multi-channel capabilities to gather properly time-correlated voltage and current values. From these, they use formulas to calculate RMS and peak voltage and power.

On TestLab's high-resolution display, they visually analyze voltage and current anomalies and discern harmonics. And with its automatic storage feature and an external triggering device, they sample power over many days, constructing a picture of overall power quality.

Chances are, your application too can benefit from TestLab's multi-channel acquisition, long record-length, and high resolution. Integrated data management and analysis. Convenient data transfer to PCs. And single-handle portability. Contact your local Tek representative to find out more, or call Tek directly:
1-800-835-9433
ext. 2510

TestLab Configurations and General Specifications

Tektronix TestLab 2510S1: Standard configuration

System software

- TestSheet data management
- Formulas, including arithmetic, logarithmic, transcendental, calculus, and waveform parameters
- Two independent display windows showing up to eight waveforms each: stacked or overlaid, in XY or YT format
- Zoom and pan
- Cursor measurements
- PC file-conversion utilities
- Diagnostics

Mainframe

- AC/DC power supply
- Capacity for one or two separately ordered acquisition cards
- Keyboard and 3.5-inch floppy-disk drive

Color monitor

Parallel printer interface COMMPack

Operators manual, including tutorial

Tektronix TestLab 2510S2: Portable configuration

Same as 2510S1 except:

- Substitute detachable 640 x 400 pixel flat-panel display for color monitor
- Add soft-sided carrying case

Tektronix TestLab 2520: Standard Configuration

Same as 2510S1 except:

- Capacity for up to six separately ordered acquisition cards, in any combination

Acquisition Cards: At least one required to acquire data

25AA1

- Four differential input channels
- ±100mV to ±10V full-scale input range
- 50 kHz analog bandwidth, each channel
- 12-bit resolution
- 100 kS/sec digitizing rate, one channel; 29 kS/sec, four channels
- 256K-point record length, one channel; 64K, four channels
- Internal/external clock source

25AA2

- Two single-ended input channels
- ±100mV to ±50V full-scale input range
- 5 MHz analog bandwidth, each channel
- 10-bit resolution
- 12.5 MS/sec digitizing rate, each channel
- 64K-point record length, each channel

Options

Internal 20 Mbyte hard disk

25BP4: four-channel signal-conditioning backplane

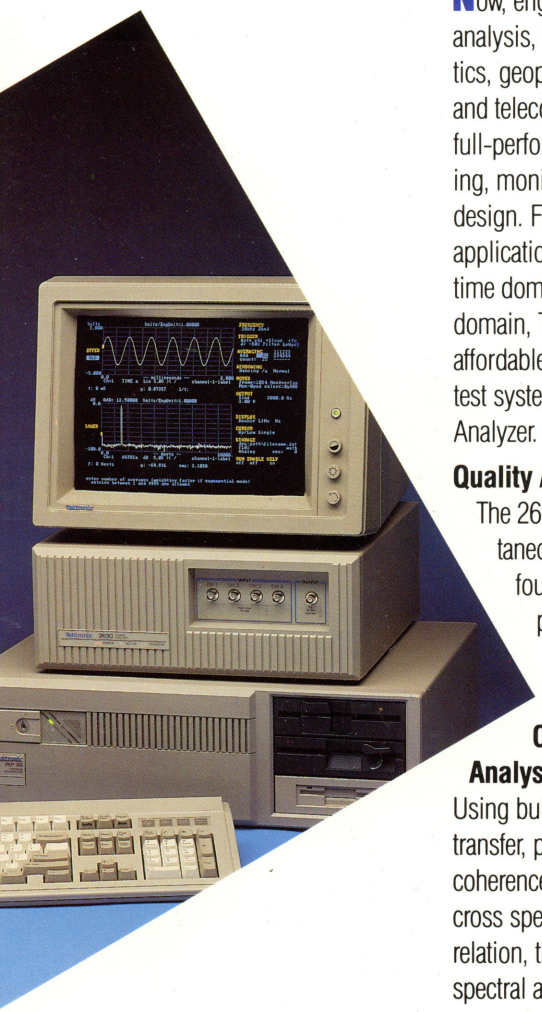
- Accepts Analog Devices' Series 5B modules
- Connects to 25AA1 card

GPIB COMMPack

Hard-sided transit case with wheels

Rack-mount kit (for 2520 only)

Also from Tektronix: the 2630 Fourier Analyzer



Now, engineers in structural analysis, vibration and acoustics, geophysics and seismology, and telecommunications have full-performance analysis testing, monitoring, modeling, and design. For these and other applications that go beyond the time domain into the frequency domain, Tektronix presents an affordable addition to an overall test system: the 2630 Fourier Analyzer.

Quality Acquisition

The 2630 gives you simultaneous sampling on up to four channels, with sample rates of 50 kHz per channel and 75 dB of dynamic range.

Convenient Spectral Analysis

Using built-in functions like transfer, power spectral density, coherence, impulse response, cross spectra analysis, and correlation, the 2630 gives you spectral analysis results *with no programming required.* And results are fast. Spectral averaging, for example, can be measured at a real-time processing rate of 10 kHz.

Flexible Output

Because the 2630 includes a built-in function generator, you can perform system stimulus and analysis with a single instrument.

Ease of Use

With the 2630's menu-driven user interface, you'll be acquiring and processing signals within minutes of first turning the instrument on. Subsequent setups are even faster, since the 2630 lets you easily save and retrieve a virtually unlimited number of setup files.

Portability

For advanced signal analysis in the field, you can combine the 17-pound 2630 with a PC-compatible laptop computer for a total solution weighing under 35 pounds.

Contact your local Tektronix representative to find out more about the Tektronix 2630. For the fastest results, call Tek directly: 1-800-835-9433.

For further information, contact:

U.S.A., Asia, Australia, Central & South America, Japan
Tektronix, Inc.
P.O. Box 1700
Beaverton, Oregon 97075
For additional literature, or the address and phone number of the Tektronix Sales Office nearest you, contact:
(800) 835-9433 ext. 2510
TWX: (910) 467-8708
TLX: 151754

TestLab Sales Specialist located at the following offices:

Boston, MA (617) 861-6800
Chicago, IL (312) 259-7580
Dallas, TX (214) 550-0525
Detroit, MI (313) 478-5200
Irvine, CA (714) 660-8080
Knoxville, TN (615) 690-6422
Los Angeles, CA (818) 999-1711
Phoenix, AZ (602) 438-1011
Santa Clara, CA (408) 496-0800
Seattle, WA (206) 885-0900
Washington, D.C. (301) 948-7151

Gothenburg, Sweden 46 (8) 830080.
Vienna, Austria 43 (222) 68-66-02-0.
Cologne, W. Germany 49 (221) 3798-0.
Madrid, S.A. 34 (1) 404-1011.
Hoofddorp, Holland N.V. 31 (2503) 13300.
Milan, Italy 39 (2) 84441.
Orsay, France 33 (1) 69 86 81 81.
Marlow, UK 44 (6284) 6000.
Tokyo, Japan SONY/TEK Corporation 81 (3) 448-4611.

Tektronix®
COMMITTED TO EXCELLENCE

8/89 61-111-89 30M SWW

3EW-7020-1