TekMAP 7854 Time and Amplitude Measurement Software

TekMAP 7854 Time and Amplitude Measurement Software provides interfacing, control, data transfer, and processing functions for integrating the Tektronix 7854 400 MHz (14 GHz with sampling) Waveform Processing Oscilloscope with a Tektronix PEP 301 Systems Controller or IBM PC® compatible controller.

- **Speeds waveform processing.**
- **Simplifies 7854 program development.**
- **Increases operator productivity.**
- **Enhances measurement accuracy.**
- **Minimizes measurement documentation chores.**

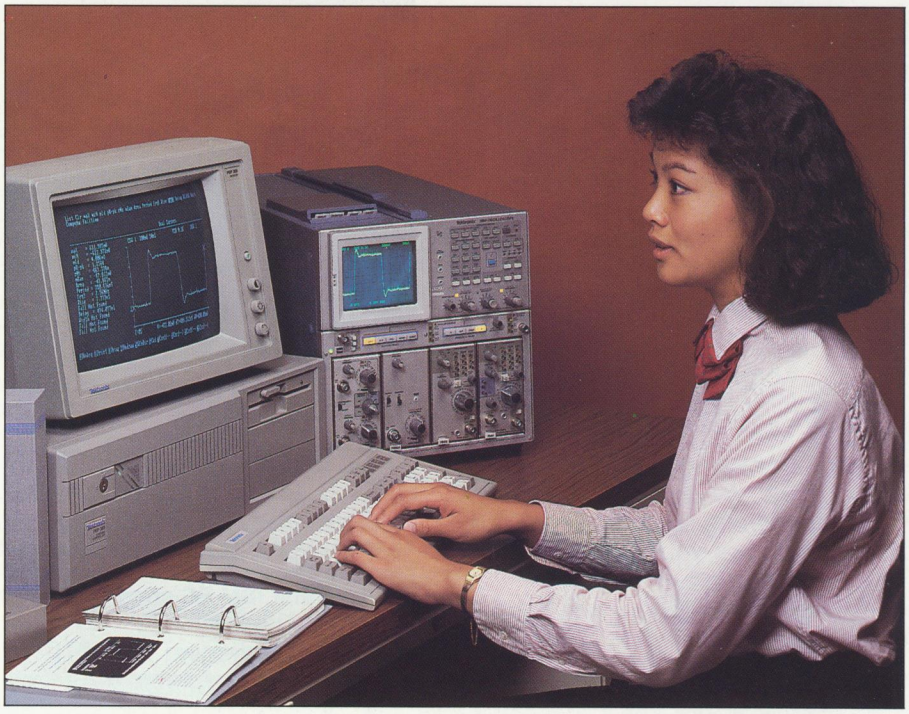

Figure 1. The TekMAP 7854 Time and Amplitude Measurement Software integrates the 7854 400 MHz Waveform Processing Oscilloscope with the Tektronix PEP 301 Systems Controller or IBM PC, XT, or AT controller.

Provides Complete 7854 Software

TekMAP 7854 Time and Amplitude Measurement Software integrates the Tektronix 7854 400 MHz Waveform Processing Oscilloscope with the Tektronix PEP 301 Systems Controller or an IBM PC, XT®, or AT® compatible controller. Refer to figures 1 and 2.

Simple menu selections provide automatic waveform acquisition, transfer, diskette storage, and processing functions. Refer to figure 3. The TAMS software also acquires 7854 front-panel settings, stores them, and transfers them back to the 7854.

Menu selections supply a variety of waveform processing features. Examples include Fast Fourier Transformations (FFT), pulse parameters, propagation delay, and operations such as waveform addition, multiplication, integration, differentiation, and smoothing.

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The controller screen displays 7854 waveforms with a graticule and complete scale factors. The screen also displays a results area. This area shows measurement data with its associated waveform. You can copy this complete screen display — including waveform graphics — to a printer for permanent test data records.

Offers Flexible Acquisition and Control

Menus provide two acquisition capabilities: signal averaging and enveloping. You may transfer acquired waveforms to the controller for immediate processing or log them to disk files for archiving or later processing. You may also transfer waveform files back to the 7854.

You can acquire 7854 front-panel settings directly from the front panel or from any of the 7854's six settings storage locations. Storing settings in disk files and then transferring them back to the 7854 allows you to duplicate single measurement setups or complete measurement sequences.

Adds Extensive Measurement Features

Simple menu selections transfer waveforms to the controller from the 7854 or from disk files. Other menu selections provide a variety of processing features, as well as cursor manipulation for selecting processing sections on waveforms. The controller function keys also offer several functions such as:

- Catalog listings.
- Waveform reacquisition.
- Cursor movement.

A results menu provides individual waveform parameter computation based on cursor placement. Selections include: waveform maximum, waveform minimum, midpoint, peak-to-peak, RMS, mean, area, period, frequency, risetime, falltime, delay, and width. Selection displays each result individually or in a list

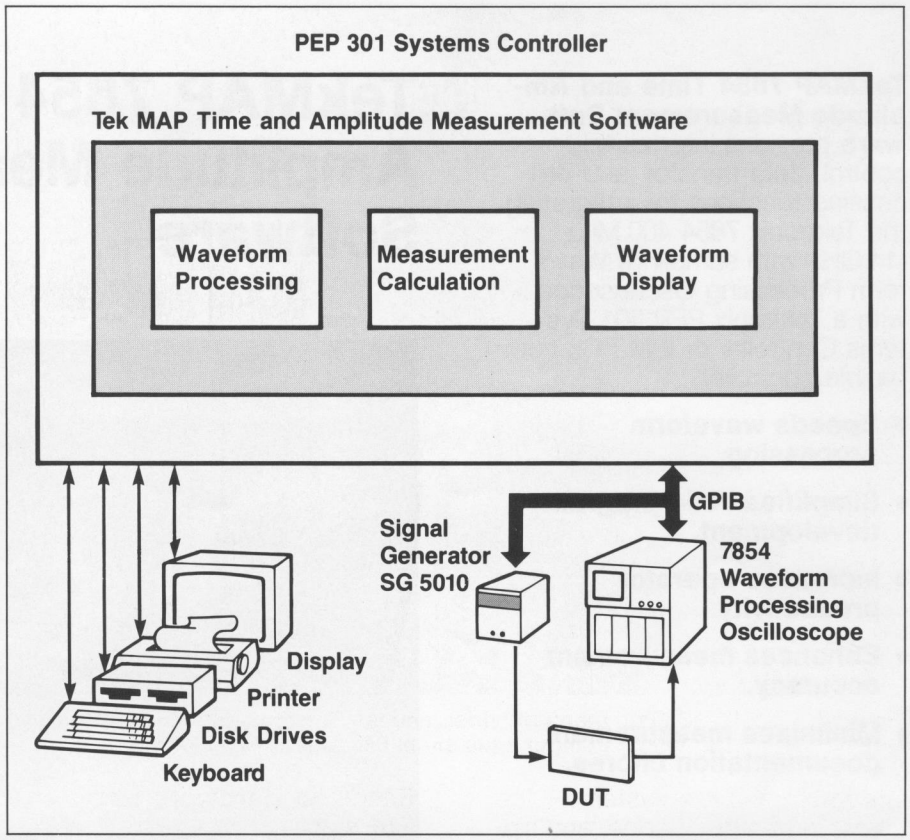

Figure 2. Tektronix 7854 Time and Amplitude Measurement Software provides 7854 users with a complete solution to their measurement problems. This block diagram shows a typical measurement setup: a printer, signal generator, PEP 301 (or other IBM PC compatible controller), 7854, and the device under test.

defined by selecting the LIST menu item.

A single measure menu selection provides complete pulse parameter analysis. It displays all results and includes the measurements shown in figure 4.

A propagation delay menu selection allows delay measurements between two cursor positions on one waveform. You can also make delay measurements between a cursor position on one waveform and another cursor position on another waveform.

Offers a Variety of Graphics from Display Menu

TAMS sets aside six waveform storage areas in controller memory. The display menu offers selections for displaying any number of these waveforms or for removing individual waveforms from the display. You can select any of the displayed waveforms as the active waveform for measurements and for the display of measurement results.

To copy the whole screen display to a dot-matrix printer, you need only press function key F2. Before starting the printing, TAMS allows you to add a 40-character printout label. Refer to figure 5.

Simplifies Test Program Development

Let's say you are a test engineer in a manufacturing group. On one new product, you need to test circuit boards for faults. The faults may be shorts, opens, or strip line defects.

You could use the 7854 Oscilloscope to perform TDR (time domain reflectometry) measurements on a board's circuit runs. TAMS allows you to develop the test program with simple menu selections, save the waveforms on disk, and document problem waveforms on a printer.

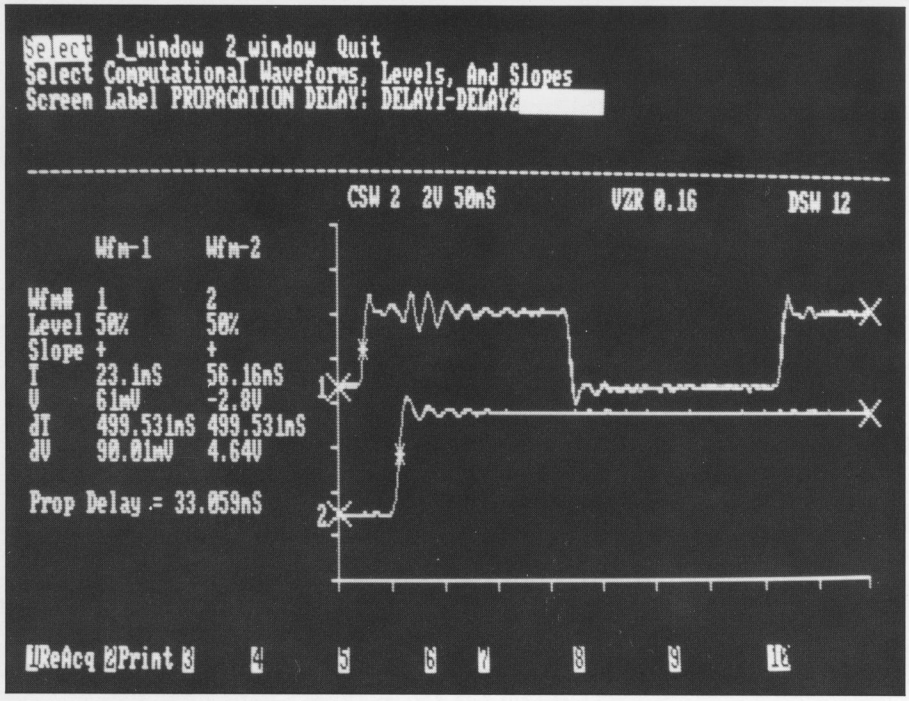

Figure 3. The TAMS main menu provides access to submenus for a variety of measurement operations. Using menus simplifies and speeds learning.

Integrating the test system — the controller, printer, scope, and signal generator — is simplified by using TAMS. You need only to select menu items to build a program — no code is required.

Performs Waveform Processing

Here is an another application example. Say you are a design engineer and you are designing a pulse generator. You need to characterize the pulse in the frequency domain.

You can use the 7854 to acquire the pulse waveform, and the controller to store the waveform on disk. By selecting the appropriate items on the measurements menu, you can call TAMS to perform a FFT on the waveform.

The benefits are clear. With TAMS running in a PEP 301 or other IBM PC compatible system, you can *automatically* acquire, store, and process waveform data. You save time and ensure measurement repeatability.

Required Hardware and Software

TekMAP 7854 Time and Amplitude Measurement Software requires the following minimum system configuration:

- A PEP 301 Systems Controller or IBM PC, XT, or AT compatible.
- A Tektronix 7854 400 MHz Waveform Processing Oscilloscope connected to the PEP 301's GPIB port via the GPIB cable (012-0603-03) supplied, or connected to the COM1 port via an RS-232-C nine-wire cable.
- A GPIB card (Tektronix GURU II card or National Instruments GPIB-PC2 or GPIB-PC2A card) installed in the PC; or an RS-232-C card installed in the COM1 port.
- A CGA or EGA Graphics Card and Display.

If your system uses an IBM PC compatible it must also include:

- 640 KBytes of RAM and either two floppy disk drives or one floppy disk drive and one hard disk drive.
- An 8087/80287 coprocessor.

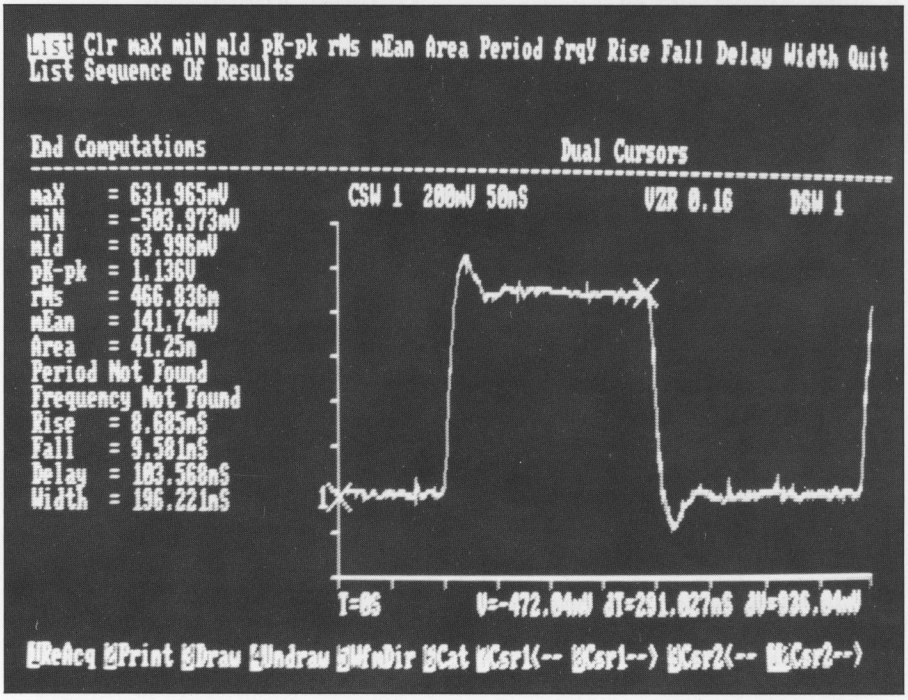

Figure 4. Selecting a single pulse parameters item on the measurements menu commands the 7854 to make the measurements shown here. Two factors control computation of these values. The first is cursor placement on the waveform. The second is changing preset values for proximal, distal, and noise discrimination, as well as period, width, and delay time crossings.

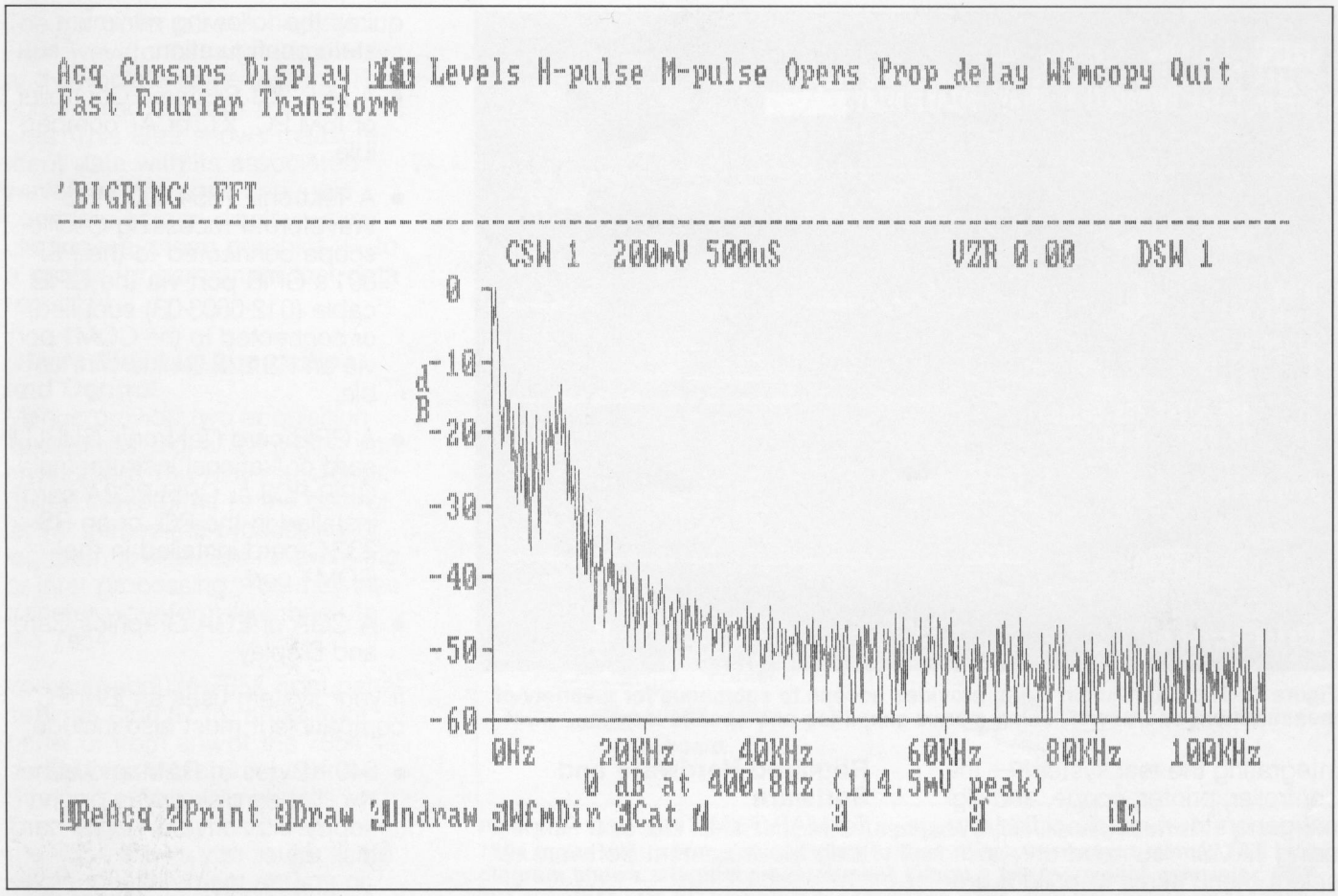

Figure 5. With TAMS software, you can add a label — up to 40 characters — for each waveform you document.

A Note About IBM PC Compatibility

Tektronix has verified the operation of this software on IBM PC, PC XT, Portable PC, PC AT, and COMPAQ personal computers, and on PEP 301 Systems Controllers.

Licensing and Warranty

Licensing for this software package is "break the seal." The software is sealed in an envelope with the license agreement printed on the outside. The license states: "Retention of the program for more than thirty (30) days, or use of the program in any manner, will constitute acceptance of license terms."

The warranty period extends to the product's media and encoding only.

Ordering Information

When ordering, please use the exact nomenclature given here:

S42P202: TekMAP 7854 Time and Amplitude Measurement Software

This package includes:

- The S42P202 software on 5.25-inch floppy disk.
- S42P202 Operator Manual.

For further information, contact:

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