

Plug-in Oscilloscopes for Performance Flexibility, Expandability







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Tektronix offers you unmatched value in plug-in laboratory oscilloscopes.

The pioneering leader in plug-in laboratory oscilloscopes, Tektronix, Inc., has its main plant in the Tektronix Industrial Park in Beaverton, Oregon. Field Offices and Service Centers are located throughout the United States. Sales and service is provided from offices throughout the world. A company objective is to provide you with unmatched value in products, services and support. Our staff of Field Engineers is trained to give you expert pre-purchase consultation based on your application requirements. A nationwide network of Service Centers provides fast, competent calibration, maintenance, and repair. The Training and Support Program offers classes in Tektronix product theory, operation, and maintenance—at the main plant or at a location near you. Outside the U.S., services and support vary depending on the country and location. These services, and many others, add to the value of your Tektronix product.



And two comprehensive product lines to choose from.

The 7000 Series... more than an oscilloscope

This is more true today than ever. The 7000 Series continues to offer unmatched value in oscilloscopes—superior performance, wide-ranging flexibility and a strong commitment to your future three or four plug-ins: needs.

With this family of eight oscilloscope mainframes, you can put together a high-performance laboratory instrument package based on your measurement needs.

- Bandwidths range from 25 to 500 MHz.
- Display modes include normal or three types of storage, bistable and fast mesh transfer, both developed by Tektronix, as well as variable persistence. The fast transfer technique, which makes multimode storage possible, provides the fastest writing rates available today.
- Single or dual beam models are available; the dual beam capability features 400 MHz bandwidth with full scan overlap.

With over 35 compatible plugins to choose from, you can configure a flexible scope package around your application; 7000-Series mainframes accept

- Vertical amplifiers . . . Select your system bandwidth, number of input channels, vertical sensitivity, input impedance, and single or differential inputs.
- Time bases . . . Choose sweep speed, single or dual sweep, and now delta time capability.
- Digital plug-ins . . . Opt for unique and accurate solutions to complex measurement problems.
- Sampling and TDR plug-ins . . . Choose single or dual channel sampling plus time domain reflectrometry.
- Special-purpose plug-ins . . . Select logic analyzers, spectrum analyzers, and curve tracers.

The newest additions to the line include the highest writing rate storage scopes available today and a formatter for logic state and timing analysis in a single instrument. Whatever your measurement requirements, now and in the future, the 7000 Series will continue to meet your stateof-the-art instrumentation needs.



The 5000 Series... for an extra margin of value

The 5100 Series, for low-frequency applications such as medical and mechanical measurements requiring up to 2 MHz bandwidth, gives you unequalled choices in measurement flexibility. Mainframes include single or dual beam units as well as bistable storage scopes featuring split-screen capability. Plug-ins include:

· High-gain differential amplifiers, single, dual, and 4-trace units, and a differential comparator amplifier.

- Time bases with single, dual, and delayed sweep.
- · Special-purpose units for spectrum analysis in the 0 to 100 kHz frequency range; curve

The 5400 Series, providing an alternative to the monolithic scope, is designed for the costconscious user who needs the capability and versatility of a plug-in scope.

The 60 MHz bandwidth mainframes include a single beam nonstorage unit and a variable persistence storage instrument. Both feature crt readout of plugin scale factors.

In addition to the 5100-Series plug-ins, seven others are compatible with 5400-Series mainframes. Among them are a digital delay time base and dual-trace amplifiers.

With the 5000 Series, you can configure a flexible plug-in scope package, then add to it as your needs change or grow for maximum value and versatility. And tracing; and sampling to 1 GHz. you can depend on new products becoming available to fill your future needs in the 5000 Series.

Both the 7000 and 5000-Series scopes may be cabinet or rack-mounted or used on a Scope-Mobile Cart. A full complement of cameras, probes, and accessories is available.

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Contents

Performance:

Use this section as a guide for determining what bandwidth your signals will require and whether you need storage or nonstorage, single or dual beam. There is a personalized Page Guide on p. 5 that will refer you to each of the basic systems; descriptions of basic oscilloscope systems begin on p. 8.

Flexibility:

Add specialized plug-ins to your basic scope package 17-39

Choose from these plug-ins to add functions or capabilities to your basic system.

Expandability:

One of our most important objectives is responsiveness to your measurement needs. Please use the reply card in the back of the booklet to indicate the type of measurement you'd like to be able to make in the future with a plug-in scope.

7834 STORAGE OSCILLOSCOP

Performance: Select a basic plug-in scope system .

Selecting a plug-in scope isn't difficult, but it does depend on several factors. The most important are: what bandwidth or rise time your signals require, whether they are to be stored or not, and whether they will be best scribed starting on p. 17. displayed with single or dual beam.

This discussion will help you determine which basic scope package suits your performance needs. For plug-in scope systems with additional capability, special-purpose plug-ins are de-

As you read the following pages, note your bandwidth requirements, and your requirements for nonstorage or storage, and for single or dual beam capability, on the chart on the next page.

Should you need further assistance, your Tektronix Field Engineer will be able to give you more detailed advice about the instrument best suited for your particular application.

The page guide on the foldout page (overleaf) will help you in your selection of a plug-in scope. As you read through pages 6 and 7, check the appropriate boxes for your required bandwidth range and your choices of storage or nonstorage and single or dual beam.



Then, for a description of the basic system(s) that would suit your needs, turn to the page indicated.

Bistable, the least expensive type of storage, features the longest view times possible—at least half an hour. It characteristically produces bright, well-defined traces for clear displays, and is particularly good for displaying slow, low-rep-rate, or single-shot signals.

The unique split-screen feature allows you to display a reference trace on one half of the crt for comparison with an incoming trace on the other. Each trace is stored and erased independently.

Variable persistence produces continuous gradations between the bright written level and the dark reference. The length of time a waveform is stored is variable: the trace can be made to last up to 5 minutes at maximum writing speed and normal intensity.

Variable persistence is invaluable for many types of displays: building up a complex image over a period of time, for example; or viewing changes in signal response in the same display.

Variable persistence also simplifies many measurement tasks. For instance, it can be used to increase the brightness of a repetitive signal by writing over one pass before the last one fades, thus making the trace easier to view in normal ambient light.

Variable persistence is a good choice for photography because of the high contrast between bright waveform and dark background.



Fast mesh transfer makes it possible to combine the bistable and variable persistence techniques in one instrument, and to increase stored writing rates by at least ten times.

The 7834, a new multimode storage scope with a fastest writing rate of 2500 cm/ μ s, captures rise times as fast as 1.4 ns at reduced scan. The 7633 provides a writing rate of up to 1000 cm/ μ s. This fast capability is essential for working with very high-speed signals.

Figure 4 will help you determine the stored writing rate you need to display a given sine wave or step rise time at a particular amplitude.

Single or Dual Beam is the last major consideration in selecting a plug-in scope package.

Dual-beam capability is essential for capturing two simultaneous single-shot events that occur at high speeds; otherwise, the lessexpensive dual-trace scope may be able to handle the job, depending on the chopping rate selected. Figure 5 shows when dual-trace performance starts to drop off and dual beam would become desirable or necessary.

Now that you've read through this section, mark your selection of storage or nonstorage, single or dual beam, in the foldout chart.





5110 Basic System

- Nonstorage
- Dc to 2 MHz
- 2 Vertical Channels—1 mV/div Sensitivity
- Single Time Base—Triggering to 2 MHz
- X-Y Capability
- 5110 Mainframe only
- · Single beam, nonstorage
- Large 61/2 in diagonal (1.27 cm/ div) crt
- Dc to 2 MHz

5A18N Dual-Trace Amplifier

- Dual inputs—1MΩ paralleled by approx 47 pf
- 1 mV/div to 5 V/div calibrated deflection factors
- Channel 2 invert Dc to 2 MHz



5B10N Time Base/Amplifier

- Single time base
- 5 s/div to 1 μ s div calibrated sweep speeds, X10 mag to 100 ns/div
- Triggering to 2 MHz
- Single sweep, auto trigger, external horizontal input

5112 Basic System

- Dual Beam
- Dc to 2 MHz
- 2 Vertical Channels
- 1 mV/div Sensitivity
- Single Time Base—Triggering to 2 MHz

5112 Mainframe only

- · Dual beam, nonstorage
- 2 dedicated vertical systems, common horizontal system
- Dc to 2 MHz

5A15N Single-Channel Amplifier

- Single input—1 MΩ paralleled by approx 47 pf
- 1 mV/div to 5 V/div sensitivity
- Dc to 2 MHz



5B10N Time Base/Amplifier

- Single time base
- 5 s/div to 1 μs div calibrated sweep speeds, X10 mag to 100 ns/div
- Triggering to 2 MHz
- Single sweep, auto trigger, external horizontal input

5440 Basic System

- Nonstorage
- Dc to 60 MHz
- 3 Vertical Channels
- 1 mV/div at 25 MHz Sensitiv-
- ity, 5 mV/div at 60 MHz
- Delaying Time Base
- Triggering to 60 MHz
- 5440 Mainframe only
- Single beam, nonstorage
- Large 6½-in diagonal (1.22 cm/div) crt
- Crt readout
- Dc to 60 MHz

5A48 Dual-Trace Amplifier

- Dual inputs—1 MΩ paralleled by approx 24 pf 1mV to 10V/div calibrated deflection factors
- Channel 2 invert and add modes provide algebraic addition
- Crt readout capability

5A45 Single-Channel Amplifier

- Single input 1 MΩ paralleled by approx 20 pf 1 mV to 10 V/div calibrated deflection factors
- · Crt readout capability

5B42 Delaying Time Base

- Main sweep: 5 s/div to 100 ns/div, X10 mag to 10 ns/div
- Delayed sweep: 0.5 s/div to 100 ns/div, X10 mag to 10 ns/div
- Delay range: 0.2 to 10 multiplied by main sweep time/div setting
- Triggering to 60 MHz
- Single sweep, auto trigger, external horizontal input
- External input band width: Dc to 2 MHz
- Crt readout capability

7603 Basic System

- Nonstorage
- Dc to 75 MHz
- 2 Vertical Channels—5 mV/ div Sensitivity
- Dual Time Base—Triggering to 100 MHz

7603 Mainframe only

· Single beam, nonstorage

7A18 Dual-Trace Amplifier

Dual inputs—1 MΩ

paralleled by 20 pf

5 mV/div to 5 V/div

calibrated deflection

- Large 8 x 10 div (1.22 cm/div) crt display
- 15 kV accelerating potential (optional 18 kV)

7B53A Dual Time Base

- Triggering to at least 100 MHz
- Main sweep—0.05 μs/ div to 5 s/div, X10 mag to 5 ns/div
- Delayed sweep—0.05 μs/div to 0.5 s/div, X10 mag to 5 ns/div
- Calibrated mixed sweep
- Optional tv sync separator triggering
- Single sweep, auto trigger, external horizontal input

For additional plug-ins, see the Flexibility Section, page 17.

factors



7704A Basic System

- Nonstorage
- Dc to 150 MHz
- 2 Vertical Channels—5 mV/ Greater than 15 cm/ μ s div Sensitivity
- Delaying and Delayed Time Bases
- Delta Time Crt Readout

7704A Mainframe only

- · Single beam, nonstorage
- enhanced writing speed with
- optional crt and writing speed enhancer
- Dc to 200 MHz available with 7A19 vertical amplifier



7A26 Dual-Trace Amplifier

- Dual inputs—1 MΩ paralleled by 20 pf
- Dc to 200 MHz 5 mV/div to 5 V/div calibrated deflection
- factors · Bandwidth limit to 20
- MHz

7B85 and 7B80 \wedge Time Bases each provide:

- 10 ns/div to 5 s/div calibrated sweep speeds, X10 mag to 1 ns Triggering to at least 400 MHz
- · Variable holdoff
- · Peak-to-peak auto triggering

Lighted pushbuttons

Additionally, the 7B85 provides:

- Direct readout of delay time on crt Delta time readout on
- crt
- · Vertical trace separation between delayed sweeps

7904 Basic System

- Nonstorage
- Dc to 500 MHz
- 3 Vertical Channels
- Dual Time Base—Triggering to 500 MHz

7904 Mainframe only

- · Single beam, nonstorage
- · 500 ps/div fastest calibrated sweep speed
- Greater than 15 cm/ns enhanced writing speed with option
- 1-GHz direct access plug-in

7A26 Dual-Trace Amplifier

- Dual inputs—1 MΩ paralleled by 20 pf
- Dc to 200 MHz
- 5 mV/div to 5 V/div calibrated deflection factors
- Bandwidth limit to 20 MHz

7A19 Single-Trace Amplifier

- Single input—50 Ω Dc to 500 MHz 10 mV/div to 1 V/div
- calibrated deflection factors
- Optional ± 500 ps variable delay line

7B92A Dual Time Base

- Triggering to at least 500 MHz
- 0.5 ns/div to 0.2 s/div calibrated sweep speeds
- · Alternate display of intensified delaying and delayed sweeps
- · Contrast regulation between delaying and delayed sweeps
- 4 display modes: Normal (main) sweep, intensified; delaying sweep; delayed sweep; alternate sweep
- · Lighted pushbuttons

R7903 Basic System

- Nonstorage
- · 51/4-in. Rackmount
- Dc to 500 MHz
- 2 Vertical Channels
- · Dual Time Base—Triggering to 500 MHz
- **R7093 Mainframe only**
- · Single beam, nonstorage
- 500 ps/div fastest calibrated sweep speed
- Greater than 15 cm/ns enhanced writing speed with option
- 1-GHz direct access plug-in

7A26 Dual-Trace Amplifier

- 2 vertical input—1 MΩ paralleled by 20 pf
- Dc to 200 MHz
- 5 mV/div to 5 V/div calibrated deflection factors
- Bandwidth limit to 20 MHz
- 7A19 Single-Trace Amplifier Single input—50 Ω
 - Dc to 500 MHz
 - 10 mV/div to 1 V/div calibrated deflection factors
 - Optional ± 500 ps variable delay line

7B92A Dual Time Base

- Triggering to at least 500 MHz
- 0.5 ns/div to 0.2 s/div calibrated sweep speeds · Alternate display of
- intensified delaying and delayed sweeps
- · Contrast regulation between delaying and

delayed sweeps

- 4 display modes: Normal (main) sweep, intensified; delaying sweep; delayed sweep; alternate sweep
- · Lighted pushbuttons

7844 Basic System

Nonstorage

- · Dual Beam
- Dc to 400 MHz
- 3 Vertical Channels
- Delaying and Delayed Time
 8 x 10 cm full scan overlap crt Bases
- Delta Time Crt Readout

7844 Mainframe only

- · Dual beam, nonstorage
- Full vertical crossover
- switching
- 1 ns/div max calibrated
- sweep
- 1 GHz direct-access plug-ins



7A26 Dual-Trace Amplifier

- Dual inputs-1 MΩ paralleled by 20 pf
- Dc to 160 MHz
- 5 mV/div to 5 V/div calibrated deflection factors
- · Bandwidth limit to 20 MHz

7A19 Single-Trace Amplifier

- Single input—50 Ω • Dc to 400 MHz
- 10 mV/div to 1 V/div calibrated deflection factors
- Optional ± 500 ps variable delay line

7B85 and 7B80 \wedge Time Bases each provide:

- 10 ns/div to 5 s/div calibrated sweep speeds, X10 mag to 1 ns
- Triggering to at least 400 MHz
- Variable holdoff
- · Peak-to-peak auto
- triggering

· Lighted pushbuttons Additionally, the 7B85 provides:

- · Direct readout of delay time on crt
- · Delta time readout on crt
- · Vertical trace separation between delayed sweeps

For additional plug-ins, see the Flexibility Section, page 17.



storage	5111 Basic System	
oscilloscopes	Bistable Storage	
	• Dc to 2 MHz	
	 3 Vertical Channels 	
	 1 mV/div Sensitivity 	
	 Dual Time Base—Triggering 	
	to 2 MHz	
	 X-Y capability 	U NELW PLAN
	5111 Mainframe only	
	 Split-screen bistable storage 	
	 20 div/ms stored writing speed 	
	(1.27 cm/div)	
	• Save stored traces up to 10	
	hours	
	DC to 2 MHz	

5A18N Dual-Trace Amplifier

- Dual inputs—1 MΩ paralleled by approx 47 pf
- 1 mV/div to 5 V/div calibrated deflection factors
- Dc to 2 MHz
- Channel 2 invert
- 5A15N Single-Channel Amplifier
 - Single input—1 MΩ paralleled by approx 47 pf
 - 1 mV/div to 5 V/div
 - sensitivity
 - Dc to 2 MHz

5B12N Dual Time Base

- A sweep: 5 s/div to 1 μs/div, X10 mag to 100 ns/div
- B sweep: 0.5 s/div to 0.2 μs/div
- Delay range—0.2 to 10.2 multiplied by A sweep time/div setting
- Triggering to 2 MHz
- Single sweep (A only), auto trigger, external horizontal input (A only)

5115 Basic System

- Bistable Storage
- Dc to 2 MHz
- 1 Vertical Channel
- 1 mV/div Sensitivity
- Dual Time Base—Triggering to 2 MHz

5115 Mainframe only

- Split-screen bistable storage
- 200 div/ms stored writing speed, 800 div/ms enhanced (1.27 cm/div)
- Save stored traces up to 10 hours
- Dc to 2 MHz

5A15N Single Channel Amplifier

- Single input—1 MΩ paralleled by approx 47 pf
- 1 mV/div to 5 V/div sensitivity
- Dc to 2 MHz

5B12N Dual Time Base/ Amplifier

- A sweep: 5 s/div to 1 μs/div, X10 mag to 100 ns/div
- B sweep: 0.5 s/div to 0.2 μs/div
- Delay range—0.2 to 10.2 multiplied by A sweep time/div setting
- Triggering to 2 MHz
- Single sweep (A only), auto trigger, external horizontal input (A only)



5113 Basic System

- Dual Beam Bistable Storage 5113 Mainframe only
- Dc to 2 MHz
- 6 Vertical Channels
- 1 mV/div Sensitivity · Single Time Base-Triggering to 2 MHz
- · Dual beam
- Split-screen bistable storage
- · 2 dedicated vertical systems, common horizontal system
- 20 div/ms stored writing speed (1.27 cm/div)
- Save stored traces up to 10 hours
- Dc to 2 MHz



5A18N Dual-Trace Amplifier

- Dual inputs—1 MΩ paralleled by approx 47 pf
- 1 mV/div to 5 V/div calibrated deflection factors
- Channel 2 invert
- DC to 2 MHz
- **5A14N Four-Trace Amplifier** • 4 inputs—1 MΩ paralleled by approx 47 pf
 - 1 mV/div to 5 V/div sensitivity
 - Dc to 2 MHz
 - · Internal trigger from channel 1 only

5B10N Time Base/Amplifier

- Single time base
- 5 s/div to 1 μs/div calibrated sweep speeds,
- X10 mag to 100 ns/div Triggering to 2 MHz
- Single sweep, auto trigger, external horizontal input

5441 Basic System

Variable Persistence

- Storage Dc to 60 MHz
- 2 Vertical Channels
- 1 mV at 25 MHz Sensitivity, 5 mV at 60 MHz
- Single Time Base
- Triggering to 60 MHz

5441 Mainframe only

- · Single beam, variable persistence storage
- 5 div/µs.stored writing speed for a 15 s view time (0.9 cm/div)
- Save stored traces up to 60 minutes
- Illuminated internal graticule
- Crt readout
- Dc to 60 MHz



- 5A48 Dual-Trace Amplifier
 - Dual inputs—1 MΩ paralleled by approx 24 pf
 - 1 mV to 10 V/div calibrated deflection factors · Channel 2 invert and
 - add modes provide algebraic addition
 - · Crt readout capability

5B40 Single Time Base

- 5 s/div to 100 ns/div calibrated sweep speeds, X10 mag to 10 ns/div
- Triggering to 60 MHz
- · Single sweep, auto trigger, external horizontal input
- · External input bandwidth: Dc to 2 MHz Crt readout capability

For additional plug-ins, see the Flexibility Section, page 17.

7313 Basic System

- Bistable Storage
- Dc to 25 MHz
- 2 Vertical Channels—5 mV/div Sensitivity
- Dual Time Base—Triggering to 100 MHz
- 7313 Mainframe only
- Split-screen bistable storage
- 4.9 cm/µs stored writing speed
- Save stored traces up to 4 hours



7A18 Dual-Trace Amplifier

- Dual inputs—1 MΩ paralleled by 20 pf
- 5 mV/div to 5 V/div calibrated deflection factors

7B53A Dual Time Base

- Triggering to at least 100 MHz
- Main Sweep: 0.05 µs/div to 5 s/div, X10 mag to 5 ns/div
- Delayed sweep: 0.05 μ s/div to 0.5 s/div, X10 mag to 5 ns/div
- Calibrated mixed sweep
- Optional tv sync separator triggering
- Single sweep, auto triggering, external horizontal input

13 OSCILLOSCOP

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7613 Basic System

- Variable Persistence Storage
- Dc to 75 MHz
- 2 Vertical Channels—5 mV/div Sensitivity
- Dual Time Base—Triggering to 100 MHz
- 7613 Mainframe only
- Single beam, variable persistence storage
- 5 cm/µs stored writing speed
- Burn resistant crt
- Save stored traces up to 60 minutes
- 7A18 Dual-Trace Amplifier
 - Dual inputs—1 MΩ paralleled by 20 pf
 5 mV/div to 5 V/div calibrated deflection factors

7B53A Dual Time Base

- Triggering to at least 100 MHz
- Main Sweep: 0.05 µs/div to 0.5 s/div, X10 mag to 5 ns/div
- Delayed sweep: 0.05 μs/div to 0.5 s/div,
- X10 mag to 5 ns/div
- Calibrated mixed sweep
- Optional tv sync separator triggering
- Single sweep, auto trigger, external horizontal input

7623A Basic System

- Multimode Storage
- Dc to 100 MHz
- 2 Vertical Channels—5 mV/div Sensitivity
- Dual Time Base—Triggering to
 100 MHz

7623A Mainframe only

- Multimode storage—bistable, variable persistence, fast bistable, fast variable persistence
- 135 cm/ μ s stored writing speed
- Lona view time

7A26 Dual-Trace Amplifier

- Dual inputs—1 MΩ paralleled by 20 pf
- 5 mV/div to 5 V/div calibrated deflection factors
- Bandwidth limit to 20 MHz



7B53A Dual Time Base

- Triggering to at least 100 MHz
- Main sweep: 0.05 µs/div to 5 s/div, X10 mag to 5 ns/div
- Delayed sweep: 0.05 μ s/div to 0.5 s/div, X10 mag to 5 ns/div
- Calibrated mixed sweep
- Optional tv sync separator triggering
- Single sweep, auto trigger, external horizontal input

7633 Basic System

- Multimode Storage
- Dc to 100 MHz
- 2 Vertical Channels—5 mV/div Sensitivity
- Dual Time Base—Triggering to 100 MHz

7633 Mainframe only

- 1000 cm/µs stored writing speed
 Multimode storage—bistable, variable persistence, fast bistable, fast variable persistence
- Reduced scan mode
- Long view time

7A26 Dual-Trace Amplifier

- Dual inputs—1 MΩ paralleled by 20 pf
- 5 mV/div to 5 V/div calibrated deflection factors
- Bandwidth limit to 20 MHz

7B53A Dual Time Base

- Triggering to at least 100 MHz
- Main sweep: 0.05 μs/div to 5 s/div, X10 mag to 5 ns/div
- Delayed sweep: 0.05
 μs/div to 0.5 s/div,
 X10 mag to 5 ns/div
- Calibrated mixed sweep
- Optional tv sync separator triggering
- Single sweep, auto trigger, external horizontal input

For additional plug-ins, see the Flexibility Section, page 17.

7834 Basic System

Multimode Storage

- Dc to 400 MHz
- 3 Vertical Channels
- Delaying and Delayed Time Bases
- Delta Time Crt Readout

7834 Mainframe only

- 2500 cm/ μ s stored writing speed
- Multimode storage—bistable, variable persistence, fast bi-
- stable, fast variable persistence • Reduced scan mode
- Multitrace delay control
- Remote—save, transfer store, reset
- · Long view time



7A26 Dual-Trace Amplifier

- Dual inputs—1 MΩ paralleled by 20 pf
- Dc to 160 MHz
- 5 mV/div to 5 V/div calibrated deflection factors
- Bandwidth limit to 20 MHz

7A19 Single-Trace Amplifier

- Single input—50 Ω
- Dc to 400 MHz
- 10 mV/div to 1 V/div calibrated deflection factors
- Optional ± 500 ps variable delay line

7B85 and 7B80 \bigtriangleup Time Bases each provide:

- 10 ns/div to 5 s/div calibrated sweep speeds, X10 mag to 1 ns
- Triggering to at least 400 MHz
- Variable holdoff
- Peak-to-peak auto triggering
- Lighted pushbuttons

Additionally, the 7B85 provides:

- Direct readout of delay time on crt
- Delta time readout on crt
- Vertical trace separation between delayed sweeps

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Flexibility: Add specialized plug-ins to your basic scope package.

One of the best things about a plug-in scope is that you don't *have* to dedicate it to just a few measurement tasks.

After selecting a plug-in scope from the preceding pages, you may decide that you need additional capabilities now . . . or you may want to start with the basics and build in other capabilities later on.

Suppose you want to configure a scope system that can handle realtime electrical troubleshooting and logic analysis. As an example, you might first choose the 7603/7A18/ 7B53A package shown on p. 9. Then, for logic state, logic timing, and map displays in a single instrument, add the 7D01/DF1 Logic Analyzer/Display Formatter plugins. What you end up with is a complete troubleshooting tool.

Or suppose you need both scope and sampling functions. Choose, for example, the general-purpose 5110 scope package shown on p. 8. Then add the 5S14N Sampling plug-in for dual-trace sampling and two-dot time interval measurements. The following pages describe the wide variety of 7000 and 5000-Series amplifiers, time bases, and special-purpose plug-ins you have to choose from.

Included on the inside back cover are charts to help you select appropriate cameras and accessories. Should you need more information, return the reply card at the back or talk to your local Tektronix Field Engineer.

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7000-Series Plug-ins

Amplifiers

Eleven vertical amplifiers offer choices in system bandwidth, number of input channels, vertical sensitivity, input impedance, and differential inputs.

7A11 FET Input Amplifier

- Single input—5.8 pf at 5 mV/div
- Built-in FET probe
- Dc to 250 MHz
- 5 mV/div to 20 V/div calibrated deflection factors
- Dc offset
- Lighted pushbuttons



7A15A Amplifier

- Single input—1 MΩ paralleled by 20 pf
- · Dc to 80 MHz
- 5 mV div to 10 V/div calibrated deflection factors
- + 500 $\mu\text{V}/\text{div}$ at 10 MHz (X10 gain)



7A16A Amplifier

- Single input—1 MΩ paralleled by 20 pf
- Dc to 225 MHz
- 5 mV/div to 5 V/div calibrated deflection factors
- Bandwidth limit to 20 MHz (selectable)



7A17 Low-Cost Amplifier

- Single input—50 Ω
- Dc to 150 MHz
- 50 mV/div calibrated deflection factor
- Soldering pad matrix for custom circuitry



7A19 Amplifier

- Single input—50 Ω
- Dc to 500 MHz
- 10 mV/div to 1 V/div calibrated deflection factors
- Optional ± 500 ps variable delay line



7A21N Direct-Access Amplifier (Plug-in hard-wired to mainframe)

- Bandwidth to 1 GHz (7900 and 7800 family only)
- Less than 4 V/div deflection factor
- Single and differential inputs
 —50 Ω
- Positioning control
- Direct access unit



7A18 Dual-Trace Amplifier

- Dual inputs—1 M^Ω paralleled by 20 pf
- Dc to 75 MHz
- 5 mV/div to 5 V/div calibrated deflection factors



7A24 Dual-Trace Amplifier

- Dual inputs—50 Ω
- Dc to 350 MHz
- 5 mV/div to 1 V/div calibrated deflection factors



7A26 Dual-Trace Amplifier

- Dual inputs—1 M^Ω paralleled by 20 pf
- Dc to 200 MHz
- 5 mV/div to 5 V/div calibrated deflection factors
- Bandwidth limit to 20 MHz (selectable)





ORDERING INFORMATION Effective March 7, 1977

THAT ANALIS TWY HAVE TAKET ALL THERE WE BELV CANA THEON

OSCILLOSCOPE		7B53AN Option 11		975	P6105	(010-6105-01)	64	Option 05	+ 125
PLUG-IN UNITS		7B80		745	P6105	(010-6105-03)	64	Option 07	+ 0
DF1	\$1,195	Option 02		+50	P6106	(010-6106-01)	82	Option 77	- 50
L1	450	7B85		895	P6108	(010-6108-01)	49	76020146	0 150
L2	450	7B92A		1,795	P6108	(010-6108-03)	49	7803110	3,450
13	750	7CT1N		815	P6201	(010-6201-01)	680	7603N Option 11	1,775
M1 MDOARO	205	7D01		3,195	P6202	(010 6202 01)	250	7613	2,950
Option 02	100	Option 49		- 300	P0202	(010-6202-01)	350	Option 01	- 400
Option 02	- 100	7D01F		4 390	P6302	(010-6302-01)	305	Option 03	+ 100
M2 Option 02	750	7010		0.25	134	(015-0057-02)	350	Option 05	+ 125
Option 02	- 120	7010		925	134	(015-0057-03)	350	Option 06	+ 50
M3	595	7D11		1,700				Option 07	- 50
S1	600	7D12		800	SCOPE-	MOBILE [®] CA	RT	R7613	3,150
S2	700	7D13		750	Model 3		\$ 295	Option 01	- 400
S3A	890	Option 02		- 90	Option 01		+ 0	Option 05	+ 100
S4	1 290	7D14 00003		1,775	0901	LI OSCODES*		Option 06	+ 125
CE.	,200	7D15		1.825	USUI	LLUSCOPES		Option 07	- 50
SS ANNAL IN SMIA 39	600	7K11		600	5110		700	76024	2 750
S51	800	71.40		5 000	Option 02		+ 20	Option 01	3,750
S52	800	7L12		5,300	R5110		750	Option 03	- 400 + 100
S53	600	7L13		7,850	5111		1,300	Option 05	+ 100
S54	500	7L5		4,650	Option 02		+ 20	Option 07	- 50
56	1 220	Option 25		+ 1,000	R5111		1,350	P7622A	2 900
50	1,220	7M11		450	5112		1,225	Option 01	3,800
5A13N	685	7M13		500	Option 02		+ 20	Option 03	+ 100
5A14N	750	7011		840	B5112		1.275	Option 05	+ 125
5A15N	175	7511		840	5112		1,275	Option 07	- 50
5A18N	365	7512		1,750	Option 02		+ 20	7633	4 725
5A19N	210	Option 03		+ 0	Option 02		+ 50	Option 01	- 400
EA20NI	075	7S14		2,650	DE112		1.075	Option 03	+100
SAZON	275	7T11		2,425	Option 02		1,075	Option 05	+ 125
5A21N	310	UEDISESE (PI	a) unonn		C 115		+ 50	Option 07	- 50
5A22N	575	LC	GIC		5115 Option 00		1,375	B7633	4 925
5A23N	135	ANALYSIS	PRODUCT	S	Option 02		+ 20	Option 01	- 400
5A24N	95	DD501		\$ 725	R5115		1,425	Option 03	+ 100
5A26	585	DE1 Personnell pr		1 195	5440		1,425	Option 05	+ 125
5428	205	7001		2 105	Option 01		- 325	Option 07	- 50
5A38	390	Option 49		3,195	Option 02		- 40	B7704	3,900
5A45	280	Option 43		- 300	Option 03		+ 65	Option 01	- 400
5A48	495	7001F		4,390	Option 04		+ 20	Option 02	+ 100
5B10N	275	CAN	IFRAS		R5440		1,475	Option 03	+ 100
5B12N	575	CAN	ILNAS		Option 01		- 325	Option 05	+ 125
5B13N	140	C5A STAN		250	Option 02		- 40	7704A	2,900
5B21	605	C51G		1,370	Option 03		+ 65	Option 01	- 400
5831	625	C51P		1,370	5441		2,595	Option 03	+ 100
5B40	340	C51R		1,370	Option 01		- 325	Option 04	+ 350
5B42	640	C53G		1 100	Option 03		+ 65	Option 09	+ 0
5B44	895	C52P		1,100	Option 04		+ 20	7834	6,900
5CT1N	630	COOP		1,100	Option 05		- 300	Option 01	- 400
5I 4N	2 650	C53R		1,100	R5441		2,645	Option 02	+ 100
EC14N	2,000	C59G		660	Option 01		- 325	Option 03	+ 100
55141	2,275	C59P		660	Option 05		200	7844	6,800
7A11	1,350	C59R		660	7040		- 300	Option 03	+ 100
7A13	1,695				7313		2,850	Option 21	+ 0
7A15A	390	PRO	OBES		Option 02		- 400	Option 22	+ 275
7A15AN Option 11	350	P6009	(010-0264-01)	\$110	Option 07		+ 100	R7844	7,000
7A16A	650	P6015	(010-0172-00)	380	D7010		2.050	Option 03	+ 100
7417	190	D6021	(010 0227 02)	120	Option 01		3,050	Option 21	+ 0
	100	F0021	(010-0237-02)	130	Option 03		- 400 + 100	Option 22	+ 275
	750	P6021 w/term	(015-1040-02)	185	Option 05		+ 125	R7903	4,150
Option 06	+ 115	P6022	(010-0238-00)	150	Option 07		- 50	Option 01	- 400
7A19	1,000	P6022 w/term	(015-0135-00)	205	7603		1.950	Option 03	+ 100
Option 04	+ 150	P6046	(010-0232-00)	1,100	Option 01		- 400	Option 04	+ 350
7A21N	700	P6055	(010-6055-01)	140	Option 03		+ 100	Option 10	+ 100
7A22	875	PEOSE	(010 6056 00)	00	Option 04		+100	7904 000000 00000	4,500
7A24	1,250	F0000	(010-0000-03)	99	Option 06		+ 0	Option 01	- 400
7426	1 200	P6057	(010-6057-03)	99	Option 07		- 50	Option 02	+ 100
78504	E7E	P6060	(010-6060-03)	49	Option 77		+ 0	Option 03	+ 100
Option 02	5/5	P6062B	(010-6062-13)	95	R7603		2,050	Option 04	+ 350
70504	+ 50	P6101	(010-6101-01)	34	Option 01		- 400		
Option 05	975	P6101	(010-6101-03)	34	Option 03		+ 100		
Option 05	+ /5		,		Option 04		+ 100	l	

These prices supersede all other published prices including those currently appearing in advertisements, catalogs, booklets and all other literature.

*Prices of oscilloscope mainframes do not include plug-in units, except 7603NMS. U.S. Sales Prices FOB Beaverton, Oregon

Tektronix, Inc.

P.O. Box 500, Beaverton, Oregon 97077

Telephone: (503) 644-0161 TWX: 910-467-8708 TEKTRONIX BEAV. Cable: TEKTRONIX

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The plug-in scope system Thave selected is_	The	plug-in	scope	system	I have	selected	is_
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I plan to use it it)r.	for	t	it	use	to	an	p	
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I intend to place an order by: _____

____Department___

Company_____

Name___

Address_

Phone Number

□ I would like a demonstration. Please have a Field Engineer contact me.

□ I would like confirmation of the system I've selected.



Here's the measurement I'd like to be able to make with a plug-in scope:_

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Differential Amplifiers

7A13 Differential Comparator Amplifier

- Dc to 105 MHz
- Inputs—1 M^Ω paralleled by 20 pf
- 1 mV/div to 5 V/div calibrated deflection factors 20,000:1 Cmrr
- 10,000 cm effective screen height
- Lighted pushbuttons



7A22 Differential Amplifier

- Dc to 1 MHz
- Input—1 $M\Omega$ paralleled by 47 pf
- 10 µV/div to 10 V/div calibrated deflection factors 10,000:1 Cmrr
- Selectable upper and lower - 3dB points
- Dc offset



Time Bases

Five horizontal time bases offer choices in sweep speeds, single or dual sweeps, and digital delta delay measurements.

7B50A Single Time Base

- 5 ns/div to 5 s/div calibrated sweep speeds
- Triggering to 150 MHz
- Variable trigger holdoff
- · Peak-to-peak auto triggering
- · Single-sweep operation



7B53A Dual **Time Base**

- Triggering to at least 100 MHz
- Main sweep: 0.05 µs/div to 5 s/div, X10 Mag to 5 ns/div
- Delayed sweep: 0.05 µs/div to 0.5 s/div, X10 Mag to 5 ns/div
- · Calibrated mixed sweep
- · Optional tv sync separator triggering
- · Single sweep, auto trigger, external horizontal input



7B85 and 7B80 **DeltaTime Bases**

Additionally, the 7B85 pro- 7B85 and 7B80 \wedge Time Bases vides:

- on crt
- Delta time readout on crt
- Vertical trace separation between delayed sweeps

each provide:

- Direct readout of delay time
 10 ns/div to 5 s/div calibrated sweep speeds, X10 mag to 1 ns/div
 - Triggering to at least 400 MHz
 - · Variable holdoff
 - Peak-to-peak auto triggering
 - Lighted pushbuttons



7B92A Dual **Time Base**

- Triggering to at least 500 MHz 0.5 ns/div to 0.2 s/div calibrated sweep speeds
- Alternate display of intensified delaying and delayed sweeps
- · 4 display modes: normal (main) sweep, intensified; delaying sweep; delayed sweep; alternate sweep
- · Lighted pushbuttons



Digital Plug-ins

Six digital instruments, one with three interchangeable modules, offer unique solutions to complex measurement problems. Timing and amplitude measurement instruments interact with the oscilloscope to easily obtain accurate measurements of complex signals.

7D11 Digital Delay Time Base

- Delay by time or events
- Digital delay readout to 7½ digits
- 100 ns to 1 s delay time
- 1 ns resolution
- Less than 2.2 ns jitter
- \cdot 0.5 ppm (\pm 2 ns) accuracy



7D10 Digital Delay Time Base

- · Delay by events only
- Specifications same as 7D11



7D12/M1 Multifunction Module

- Temperature mode
- 41/2 digit crt readout
- 100 µV resolution
- Probe measures temperature and voltage



7D12/M2 Sample and Hold Module

- Oscilloscope-controlled sampling DVM
- 3½ digit crt display
- Approaching 0.25% accuracy 1 mV resolution
- 25 MHz bandwidth
- O to 2 V and 0 to 20 V input range
- 200 V range with P6055 Probe



7D12/M3 RMS Volts Module

- True rms measurements with isolated-analog display
- 40 Hz to 100 kHz ac volt range
 0.25% accuracy from 40 Hz
 to 40 kHz
- 31/2 digit crt readout
- 1 mV resolution
- 500 V max peak common mode voltage



7D13 Digital Multimeter

- Resistance, 0 to 2 M^{Ω}
- Dc voltage, 0 to 1000 V
- Dc current, 0 to 2A
- Temperature, -55°C to +150°C
- 31/2 digit crt readout





7D15 Universal Counter/Timer

- Oscilloscope-controlled time
 and frequency measurements
- 10 ns single-shot time interval measurement resolution
- Time interval averaging
- 10 ps period averaging resolution
- Frequency measurements directly to 225 MHz
- Lighted pushbuttons



7M11 Dual Delay Line

- 75 ns time delay
- · Selectable trigger out
- 175 ps rise time
- 50 Ω input



Sampling and TDR

Five plug-in units offer a choice of single and dualchannel sampling, generalpurpose sampling combined with time domain reflectometry, sampling sweep, and dual delay line.

7S11 Single-Channel Sampling Unit

2 mV/div to 200 mV/div calibrated deflection factors
Accepts plug-in sampling heads ranging in bandwidth from 350 MHz to 14 GHz



7T11 Sampling Time Base

- 10 ps/div to 5 ms/div cali-
- brated sweep speedsRandom or sequential sampling
- Equivalent or real-time sampling
- Trigger range from approx 10 Hz to above 12.4 GHz
- No pretrigger required



7S12 45 psTDR or 30 ps General-Purpose Sampler

- Accepts plug-in sampling head
- Combination vertical-horizontal double wide plug-in for high resolution TDR or general-purpose sampling measurements



7S14 Dual Trace, Delayed Sweep Sampler

- Calibrated delayed sweep
- 2 mV sensitivity
- 50 Ω input
- Dc to 1 GHz bandwidth
- 350 ps rise time
- Accuracy within ± 3%



Sampling Heads

Ten sampling heads offer choices in input impedance, equivalent bandwidth, and triggering for a matched sampling system.

S-2

- Dc to 4.6 GHz bandwidth
- 75 ps rise time
- 50 Ω input
- Provides trigger signal output

S-1

- Dc to 1 GHz bandwidth
- 350 ps rise time
- 50 Ω input
- Provides trigger signal output

S-3A

- Dc to 1 GHz bandwidth
- 350 ps rise time
- Compact 4.5 ft, 100 k^Ω paralleled by 2.3 pf probe





- Dc to 14 GHz bandwidth
- 25 ps rise time
- 50 Ω input
- · Provides trigger signal output

<mark>S-5</mark>

- Dc to 350 MHz bandwidth
- 1 ns rise time
- Input—1 M^Ω paralleled by
- 15 pf
- Passive probe
- Internal trigger pickoff



- Dc to 11.5 GHz
- 30 ps rise time
- 50 Ω input
- Loop-through input



S-51 Trigger Countdown Head

- 1 GHz to 18 GHz bandwidth
- 50 Ω input
- Front-panel sync control

S-53 Trigger Recognizer Head

- Dc to 1 GHz bandwidth
- 10 mV sensitivity
- 50 Ω input
- Trigger output connector

S-52 Pulse Generator Head

- 25 ps rise time
- 200 mV into 50 Ω
- 50 Ω source
 Pretrigger output

S-54 Pulse Generator Head

- 1 ns rise time
- 400 mV into 50 Ω
- 50 Ω source
- · Variable pretrigger lead time

Special-Purpose Plug-ins.

Eight plug-ins offer a choice of spectrum analysis, curve tracer, preamplifier, readout unit capabilities, and logic analysis.

Spectrum Analyzers

7L5 (Dual Wide Plug-In)

- 0 to 5 MHz bandwidth
- · Digital storage and averaging
- Absolute calibrationPreset reference level
- Changeable input impedance
 modules
- 10 s/div to 0.1 ms/div sweep speeds
- Crt readout





7L12 (Dual Wide Plug-In)

- 100 kHz to 1800 MHz
- bandwidth
- 300 Hz to 3 MHz resolution
- 70 dB dynamic range
- Automatic phase lock
- 115 dBm sensitivity
 Crt readout





7L18 Spectrum Analyzer

- 30 Hz Resolution to 12 GHz
- Digital Display and Signal Processing
- Internal Preselection and Amplitude Calibration
- 60 GHz with Optional Waveguide Mixers
- Transportable at only 48 lb. (including 7603 mainframe)





5A23N Amplifier

- Single input—1 M^Ω paralleled by approx 47 pf
- Dc to 2 Hz
- 10 mV/div to 10 V/div calibrated deflection factors
- X-Y or Y-T displays



5A24N Low-Cost Amplifier

- Single input—approx 100 kΩ paralleled by approx 30 pf
- Dc to at least 2 MHz
- 50 mV/div reflection factor
- Soldering pad matrix for custom circuitry



5A38 Dual-Channel Amplifier (5400 Series Only)

- Dual inputs—1 M^Ω paralleled by approx 20 pf
- Dc to 35 MHz
- 10 mV/div to 10 V/div calibrated deflection factors



5A48 Dual-Channel Amplifier (5400 Series Only)

- Dual inputs—1 M^Ω paralleled by approx 24 pf
- Dc to 60 MHz
- 1 mV/div to 10 V/div calibrated deflection factors
 Selectable trigger source



5A45 Single-Channel Amplifier (5400 Series Only)

- Single input—1 $M\Omega$ paralleled
- by approx 20 pf • Dc to 60 MHz
- 1 mV/div to 10 V/div calibrated deflection factors
- crt readout of deflection factors



Differential Amplifiers

5A13N Differential Comparator Amplifier

- Single input—1 M^Ω paralleled by approx 47 pf
- Dc to 2 MHz
- 1 mV/div to 5 V/div calibrated deflection factors
- 10,000:1 Cmrr
- Comparison voltage 0 to \pm 10 V and 0 to \pm 1 V
- 10 kHz bandwidth limit switch



5A19N Differential Amplifier

- Single input—1 $M\Omega$ paralleled by approx 47 pf
- Dc to 2 MHz
- 1 mV/div to 20 V/div calibrated deflection factors
- 1000:1 Cmrr
- Variable dc offset



5A20N Differential Amplifier

- Single input—1 $M\Omega$ paralleled
- by approx 47 pf
- Dc to 1 MHz
- + 50 μ V/div to 5 V/div cali-
- brated deflection factors
- 100,000:1 Cmrr
- 10 kHz bandwidth limit switch



5A21N Single-Channel Differential/Current Amplifier

- Single input—1 M^Ω paralleled by approx 47 pf
- Dc to 1 MHz
- 50 μV/div to 5 V/ div calibrated deflection factors
- 100,000:1 Cmrr
- 10 kHz bandwidth limit switch
- 0.5 mA/div to 0.5 A/div with P6021 Current Probe



5A22N Single-Channel Differential Amplifier

- Single input—1 M^Ω paralleled by approx 47 pf
- Dc to 1 MHz
- 10 μV/div to 5 V/div calibrated deflection factors
- 100,000:1 Cmrr
- Selectable upper and lower
 rolloff filters
- Variable dc offset



5A26 Dual-Channel Differential Amplifier

- Dual inputs—1 M^Ω paralleled by approx 47 pf
- Dc to 1 MHz
- 50 μV/div to 5 V/div calibrated deflection factors
- 100,000:1 Cmrr
- 2 10 kHz bandwidth limit switches
- Crt readout capability



Time Bases

Seven time bases offer choices in sweep speeds, single or dual sweeps, and digital delay measurements.

5B13N Low-Cost Time Base

- 1 μs/div to 100 ms/div cali-
- brated sweep speeds
- Triggering to 100 kHz
- 50 mV/div deflection factor
 Auto trigger, external hori-
- zontal input



5B10N Single-SweepTime Base/Amplifier

- 5 s/div to 1 μs/div calibrated sweep speeds, X10 mag to 100 ns/div
- Triggering to 2 MHz
- Auto trigger, external horizontal input
- 50 mV/div and 500 mV/div calibrated external input



5B12N Single, Dual, or Delayed-Sweep Time Base

- 5 s/div to 100 ns/div calibrated sweep speeds, X10 mag to 100 ns/div
- 4 display modes: A sweep; B sweep; A intensified—B delayed; dual sweep
- Auto trigger, external horizontal input



5B40 Low-Cost Time Base (5400 Series Only)

- 5 s/div to 0.1 μs/div calibrated sweep speeds, X10 mag to 10 ns/div
- Triggering to 60 MHz
- External horizontal input
- Crt readout of sweep speed



5B42 Dual Time Base (5400 Series Only)

- 5 s/div to 0.1 μs/div calibrated sweep speeds, X10 mag to 10 ns/div
- Triggering to 60 MHz
- Delayed sweep
- External horizontal input



5B44 Dual Time Base (5400 Series Only)

- 5 s/div to 50 ns/div calibrated sweep speeds, X10 mag to 5 ns/div
- Triggering to 60 MHz
- Auto trigger, external horizontal input, 50 mV/div deflection factor



5B31 Digital Delay Time Base (5400 Series Only)

- 5 s/div to 0.2 µs/div calibrated sweep speeds, X10 mag to 20 ns/div
- Triggering to 60 MHz
- Delay by time or events from 1 µs to 99,999 µs or from
- 1 to 99,999 events • External horizontal input
- 50 mV/div deflection factor



Special-Purpose Plug-ins

A general-purpose plug-in unit offers dual-channel, delayed sweep sampling. Two plugs-ins offer a choice of spectrum analysis and curve tracing.

5S14N Sampling Plug-in

- Sampling to 1 GHz
- Dual trace
- 2 mV/div to 0.5 V/div calibrated deflection factors
- Delayed sweep
- Two-dot time measurements



5L4N Spectrum Analyzer Plug-in

- 0 to 100 kHz frequency range
- 10 Hz to 3 kHz resolution bandwidth



5CT1N Curve Tracer Plug-in

• Low-cost, low-power semiconductor curve tracer



PROBE SELECTION CHART 7000 SERIES

Amplifier	Probe	Probe Bandpass	Probe Features	Amplifier	Probe	Bandpass Probe	Probe Features
7A11	P6021	55 MHz	Current	7A26	P6202 2 m	350 MHz	FET, 10X Input R 10
	P6022	150 MHz	Current	·		100 MH7	Differential High CMB
	P6302/AM 503	Dc to 45 MHz	Dc current		P6040 0		1X 100 k0 3 pE
7A13	P6101 1 m	35 MHz	1X		P6201 6	900 MH2	
7A15A	P6106 1 m	300 MHz	10X Gnd, Ref, Readout				1.5 pF
7A16A	P6055 3.5'	60 MHz	Adj. Attn for CMRR use		P6021	50 MHz	Ac current probe
7A18	P6009 9'	120 MHz	1.5 kV 100X		P6022	100 MHz	Ac current probe
	P6015 10'	75 MHz	20 kV dc 40 kV pk		P6302/AM 503	Dc to 50 MHz	Dc current 20 A,
	P6062B 6'	100 MHz	1X/10X Switchable	7410	Deore	25.047	50 Q 500 Q input P
7A24	P6105 2 m	100 MHz	10X Gnd, Ref, Readout	7A19	P6056	3.5 GHZ	50 12 500 12 input R
				- 7A24	P6057	1.4 GHz	50 Ω 5000 Ω input R
					P6201	900 MHz	1X 100 kΩ 300 pF
							FET 10X, 100X 10 MΩ 1.5 pF
			- The second second		P6202	350 MHz	FET 10X 10 MΩ 2 pF
1					P6302/AM 503	Dc to 50 MHz	Dc current 20 A, 50 A pk

PROBE SELECTION CHART 5000 SERIES

Amplifiers	Probe	Type	Attenuation/ Sensitivity	Amplifiers	Probe	Туре	Attenuation/ Sensitivity	Amplifiers	Probe	Type	Attenuation/ Sensitivity
-	P6105	Voltage	10X		P6060	Voltage	10X	5A14N	P6108	Voltage	10X
	P6108	Voltage	10X	1	P6101	Voltage	1X	5A15N	P6101	Voltage	1X
	P6101	Voltage	1X	5A13N	P6015	Voltage	1000X	5A18N	P6062A	Voltage	1X/10X
5A38	P6062A	Voltage	1X/10X]	P6021	Current	2 mA or 10 mA	5A20N	P6055	Voltage	Adjustable to 10X
5A45	P6015	Voltage	1000X		124	Current	1 mA to 1 A	5421N	P6021	Current	2 mA
5A48	P6009	Voltage	100X		134	Current	TINATOTA		10021	ourient	or 10 mA
	P6062	FET	10X/100X			Amp for P6021		5A22N	134	Current	1 mA to 1 A
	P6021	Current	2 mA or 10 mA	s — darl	1	11.7,		5A23N	6 Iv. ₁ - 1	Amp for P6021	- 73
	134	Current	1 mA to 1 A		1 61 19 			1.11.2.2.1110.2			
	n supé	Amp for P6021	Section 1	Streyetter	e ymau	ne otra l	th (iffer the second	na la contra da se	t elda s		

DIMENSIONS AND WEIGHTS 7000 SERIES MAINFRAMES AND PLUG-INS

- Al Al Art							151.07	ana w na juje		67	7603N	7603N	7633, 7623A, 7613	R7633, R7623A, B7613	PLU	G-INS
Dimensions		7904	R7903	7844	R7844	7834	7704A	R7704	7603	R7603	OPT 11S	OPT 11	7313	R7313	SINGLE	DOUBLE
	in	13.5	5.3	12.9	7.0	13.6	13.6	7.0	11.4	5.25	11.5	11.5	12.0	5.25	5.0	5.0
Height	cm	34.3	13.5	32.8	17.8	34.5	34.5	17.8	29.0	13.3	29.2	29.2	30.5	13.3	12.7	12.7
16B States	in	12.0	19.0	12.0	19.0	12.0	12.0	19.0	8.7	19.0	9.7	9.7	8.7	19.0	2.8	5.5
Width	cm	30.5	48.3	30.5	48.3	30.5	30.5	48.3	22.1	48.3	24.6	24.6	21.2	48.3	7.1	14.0
	in	23.3	22.8	23.8	24.8	23.2	22.7	22.4	24.0	24.7	25.2	23.5	23.5	22.3	14.5	14.5
Length	cm	59.2	57.9	60.5	63.0	58.9	57.7	56.9	61.0	62.7	64.0	59.7	59.7	56.6	36.8	36.8
Weights (approx)			1111		rip).)											
	lb	32	27	36	33	35.5	30	44	30	30	45	36	30	32	2	9
	-			-	1	-	1		-				10 m m			1

	10	52	21	00	00	00.0	00		00							
Net	kg	14.5	12.2	16.3	15.0	16.1	13.6	20.0	13.6	13.6	20.4	16.3	13.6	14.5	0.9	4.1
	Ib	44	52	47	63	47	43	77	46	62	72	42	42	62	5	12
Shipping	kg	20	23.6	21.3	28.5	21.3	19.5	35.0	20.8	28.2	32.7	19.0	19.0	28.2	2.3	5.4
	-					-			-							

DIMENSIONS AND WEIGHTS 5000 SERIES MAINFRAMES AND PLUG-INS

CAMERA SELECTION CHART

5000	JEINE	O MAI			I LOO	into		TYPE	RECOMMENDED			
		5110	R5110					OSCILLOSCOPE	CAMERA	USE*		
in ubis 10-	N COL IN	5112	R5112	5440	B5440	Plu	g-ins	5100 Series	C-5A	LC		
Dimensions	2010/18	5115	R5115	5441	R5441	Single	Double	5403/D40	C-59			
d States and the	in	11.9	5.3	5.3 11.9 5.3 5.0 5.0 5440, 5444	3 5.0 5.0 5440, 5444	5.3 5.0 5.0 5440, 5444	5.3 5.0 5.0 5440, 5444	5.3 5.0 5.0 5440, 5444	5.0 5.0 5440, 5444	5.3 5.0 5.0 5440, 5444	C-5A Opt 01	LC
Height	cm	30.2	13.3	30.2	13.3	12.7	12.7	5400 (D.14	0.50	0.0		
	in	8.4	19.0	8.4	19.0	2.6	5.2	5403/D41,	C-58	GP 67		
Width	cm	21.3	48.3	21.3	48.3	6.6	13.2	5441	C-59	67		
	in	20.4	19.0	20.4	19.0	12.0	12.0		C-SA Opt 01	LU		
Length	cm	51.8	48.3	51.8	48.3	30.5	30.5	7313, 7503,	C-53, C-27	GP		
Weights (approx)						1		7504, 7514, 7613	C-59	67 HS		
	lb	23.0	24.0	25.0	26.0	2.8	5.8	7023A, 7033	C-54 Opt 01	10		
Net	kg	10.4	10.9	11.3	11.8	1.3	2.6	P7002 7834	C-58	45		
-	lb	32.0	43.0	34.0	45.0	10.0	10.8	7844	0-55			
Shipping	kg	14.5	19.5	15.3	20.4	4.5	4.9	/ 844				
						т. С		7403N, 7603 7603-N11S	C-59 C-5A Opt 01	GP LC		

TEK Lab Cart Model 3

Model 3 Lab Cart accepts all 7000-Series Oscilloscopes. A lockable drawer for storage and a movable shelf for additional instrumentation are included. The shelf accepts TM 500 Test and Measurement instruments, 5000-Series Oscilloscopes, or 400 Series Oscilloscopes.

GP = General Purpose

LC = Low Cost HS = High Speed

 $45 = 4 \times 5''$ Sheet film $67 = 6 \times 7$ cm Roll film (70 mm, 120, 220, etc.)



Expandability: Invest in a plug-in scope for the future.

Expandability—represented by Tektronix' ongoing commitment to two growing product lines—is also part of the plug-in scope package you select. Expandability assures you that the instrument you buy today will be able to incorporate the technological advances of tomorrow. That it will adapt to changing measurement needs. And that it won't become obsolete soon after you buy it.

Three of Tektronix' most recent developments in plug-in scope capability are shown on the next page: the 7834 Fast Storage Oscilloscope, the 7D01F Logic Analyzer Plug-in, and the 7L18 Spectrum Analyzer Plug-in.

Representing a breakthrough in fast pulse analysis, the 7834 features a stored writing speed of 2500 cm/µs, enabling you to capture single-shot rise times as fast as 1.4 ns. System bandwidths range up to 400 MHz, depending on plug-ins selected. Multimode storage ... bistable and variable persistence, fast bistable and fast variable persistence ... covers a wide range of storage applications. The 7834 attains the state of the art in fast pulse analysis for laser fusion applications . . . single-shot or low-reprate fast pulse analysis, glitch detection, or ECL logic analysis in digital design ... and single-shot fast pulse analysis in destructive and nondestructive component testina.

The 7D01F represents a breakthrough of its own. The combination offers you logic timing and logic state analysis in a single instrument. The DF1 Display Formatter provides, in addition to the 16-channel 7D01 timing diagram, hex, octal, or binary state table displays as well as a map mode. The exclusive or feature makes it easy to compare new and reference state tables; the map mode, with 3 mapping speeds, makes it easy to track program flow and identify a word of interest. In both performance and versatility, the 7D01F is a powerful tool for logic analysis.

The 7L18, the newest addition to Tektronix' line of transportable spectrum analyzers, offers the high performance of the other 7000-Series Spectrum Analyzers plus digital storage and processing... at microwave frequencies.

The unit features 30 Hz resolution to 12 GHz (or 60 GHz with optional waveguide mixers), an 80 dB display dynamic range, and \leq 10 Hz residual FM. Microprocessor-aided frontpanel controls make for easy operation. Like the 7D01F, this instrument operates in *any* 7000-Series mainframe.

If you have a measurement you'd like to make, but haven't found the plug-in scope capability in this booklet, please let us know. Just write down your application on the attached reply card and mail it back to us. Expandability—designing for problems that haven't been solved yet—is an integral part of the plugin scope concept.

7834 Multimode Storage Oscilloscope

- DC to 400 MHz
- 2500 cm/µs stored writing speed
 Multimode storage—bistable, variable persistence, fast bistable, fast variable per-
- sistence • Reduced scan mode
- Multitrace delay control
- Remote—save, transfer store, reset



7L18 Spectrum Analyzer

- 30 Hz Resolution to 12 GHz
- Digital Display and Signal Processing
- Internal Preselection and Amplitude Calibration
- 60 GHz with Optional Waveguide Mixers
- Transportable at only 48 lb. (including 7603 mainframe)



7D01 Logic Analyzer with DF1 Formatter

- 16 parallel inputs with word recognition
- 4096 bits formattable memory
- Synchronous/asynchrous operation up to 100 MHz
- High impedance active probes
- Five display modes: Timing, State Tables in Hexadecimal, Octal or Binary, and Mapping
- Exclusive OR feature
- · All modes formattable









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