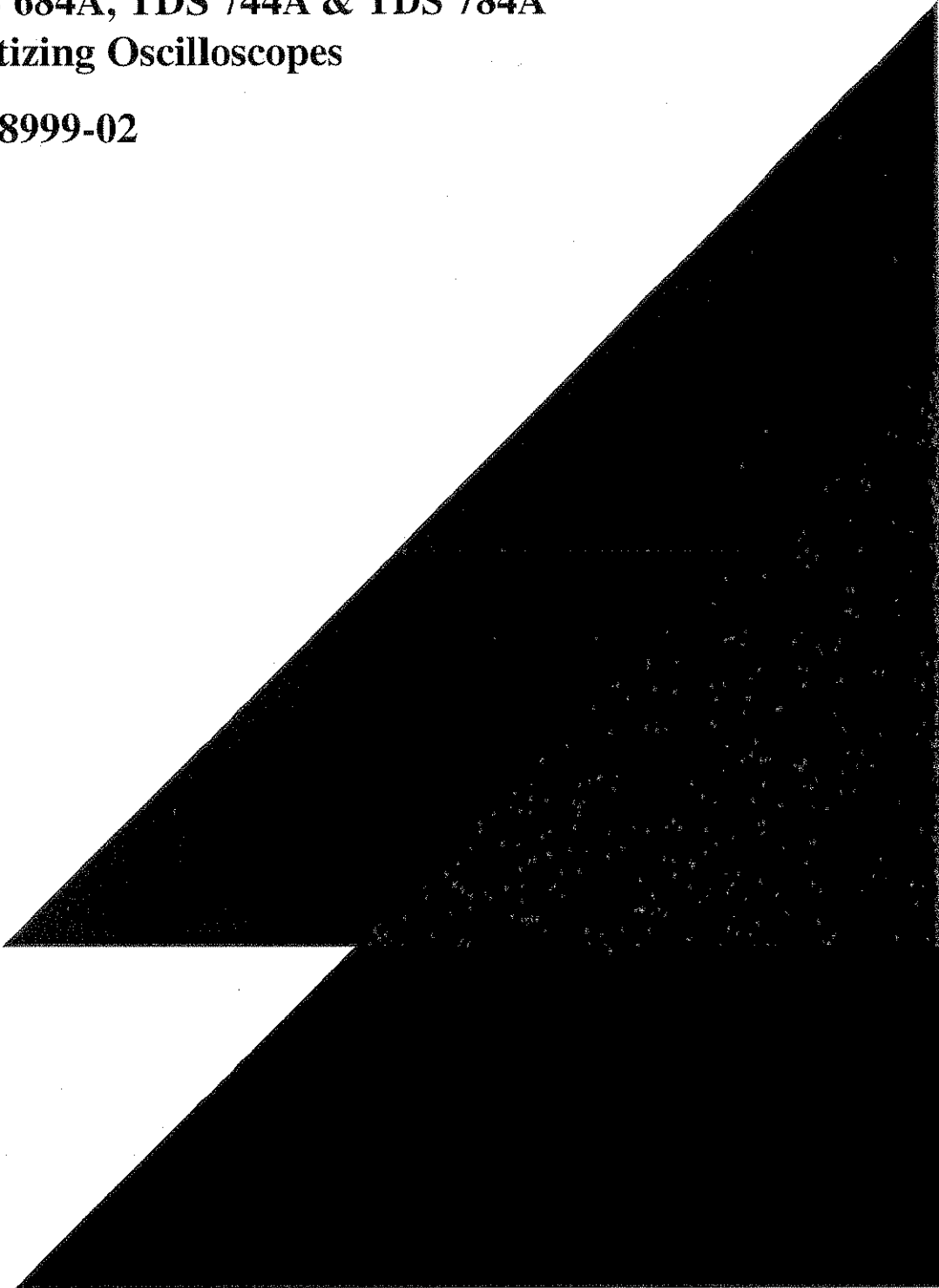


Reference

Tektronix

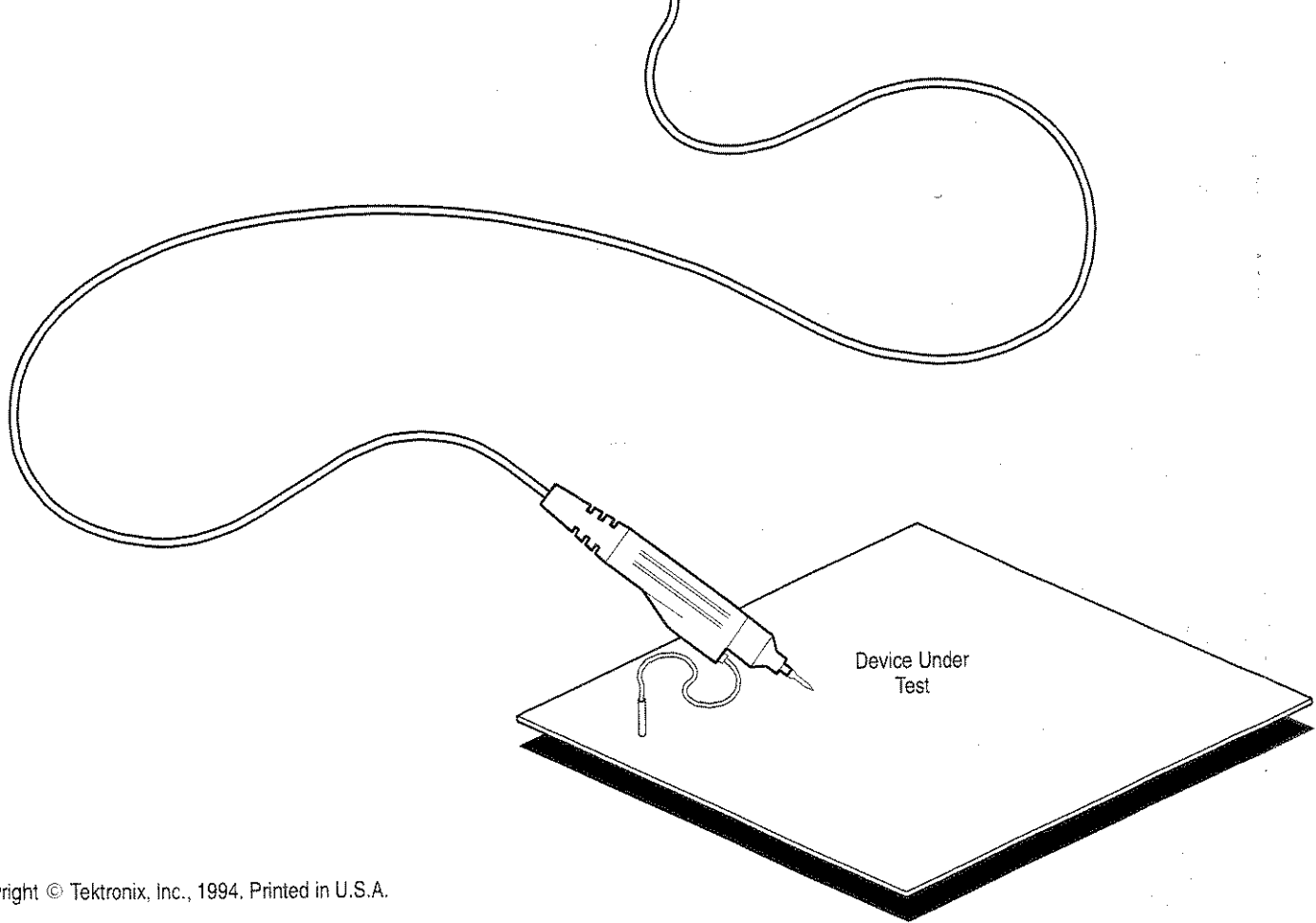
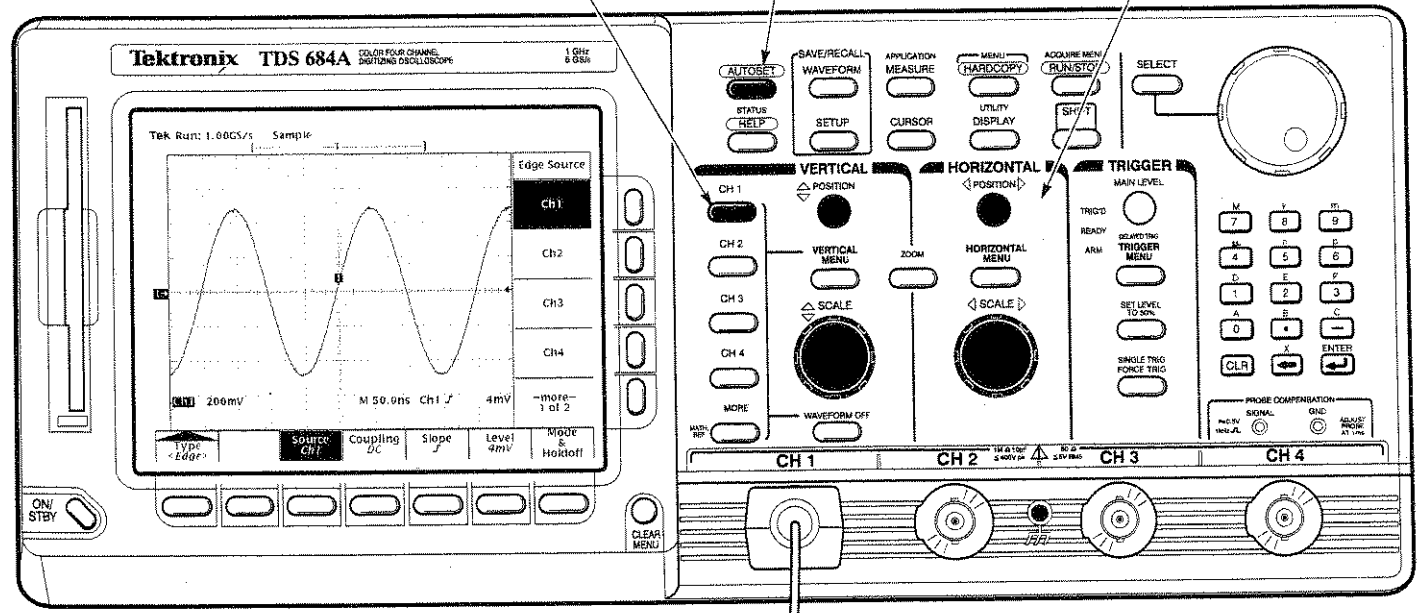
**TDS 684A, TDS 744A & TDS 784A
Digitizing Oscilloscopes**

070-8999-02



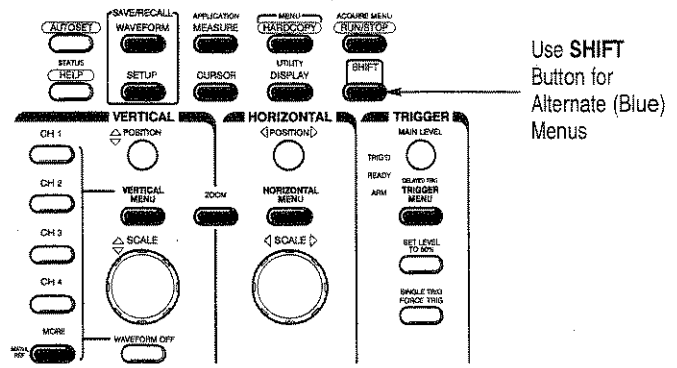
To Display a Waveform:

- 1 Attach a probe to CH 1 and hook it up to your signal.
- 2 Press CH 1 button.
- 3 Press AUTOSET.
- 4 Adjust VERTICAL and HORIZONTAL POSITION and SCALE as desired.

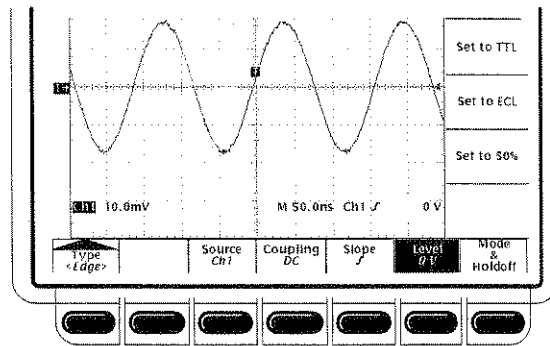


To Set Up Using a Menu:

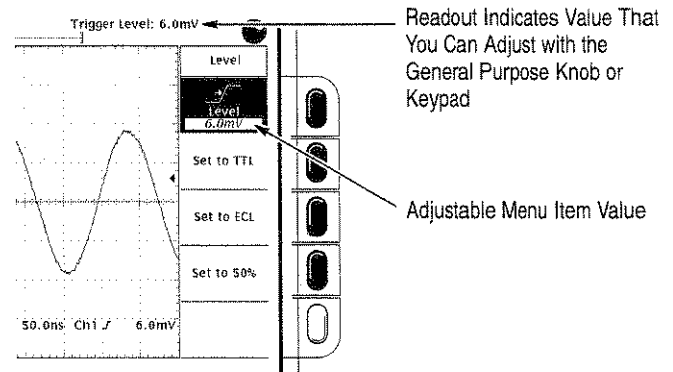
- 1** Press any of the front panel menu buttons.



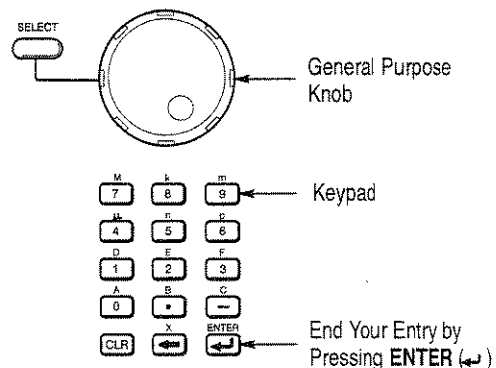
- 2** Select an item from the main (bottom) menu.



- 3** Select an item from the side menu, if displayed.

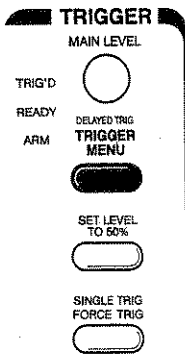


- 4** Adjust menu item values using the general purpose knob or by entering numbers on the keypad.



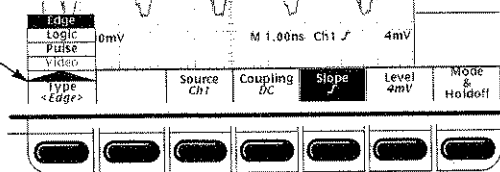
To Select a Trigger:

1 Press TRIGGER MENU button.

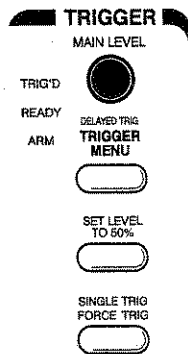


This Symbol
Indicates
Pop-Up Menu

2 Select trigger type or parameter from main menu.



3 Set TRIGGER MAIN LEVEL.

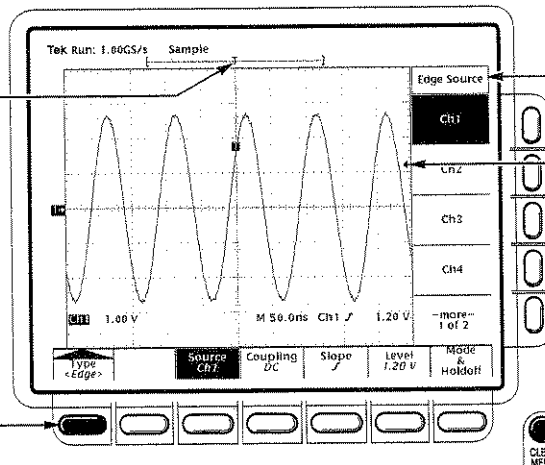


"T" Shows
Trigger Position

Press to Display
Pop-Up Menu

Press Again to
Make Selection

A Pop-Up Selection
Changes the Other
Main Menu Items



Title of
Side Menu

Arrow Shows
Trigger Level

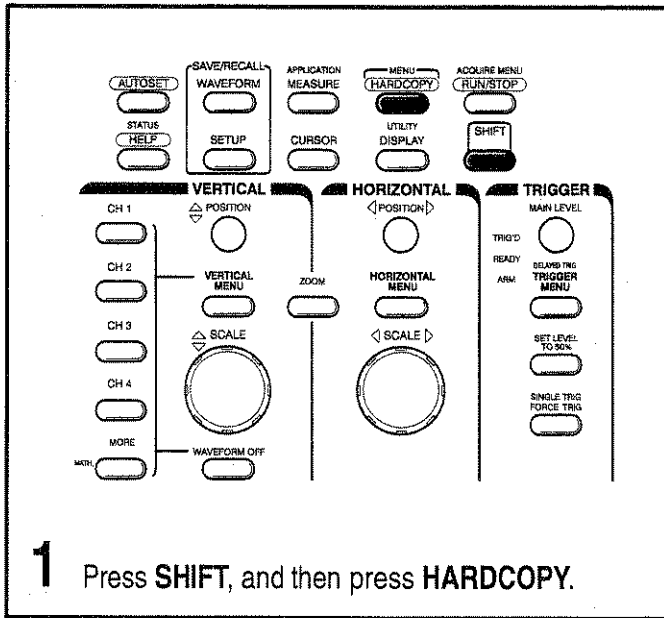
Removes
Menus From
Screen

Trigger Selections

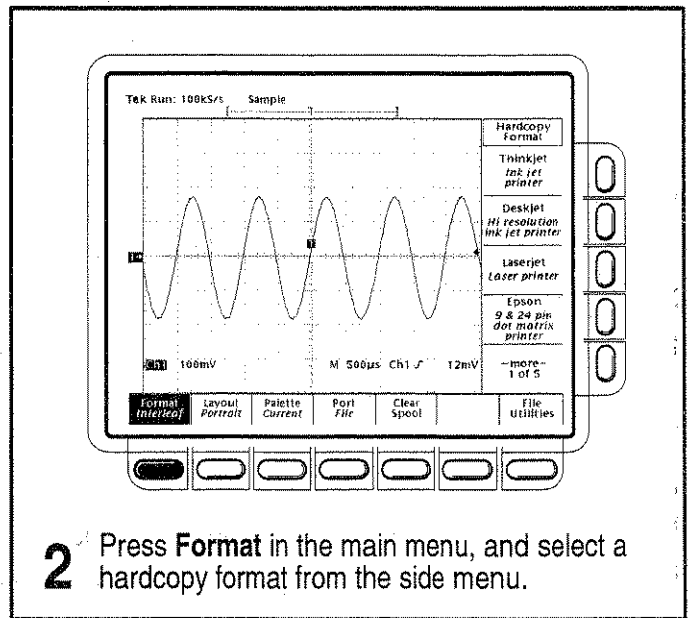
	TYPE <Edge>		CLASS <Pattern>	
	Source	Select any one of Ch 1 thru Ch 4, Line, or DC Aux		Define Inputs
Slope	Positive		Define Logic	AND
	Negative			OR
				NAND
				NOR
Level	Level		Set Thresholds	Set a threshold level for each of Ch 1 thru Ch 4
Coupling	DC	DC	Trigger When	Goes TRUE
	AC	AC		Goes FALSE
	HF Reject			TRUE for less than ¹
	LF Reject			TRUE for more than ¹
	Noise Rej (DC Low Sensitivity)			

¹Qualification by item

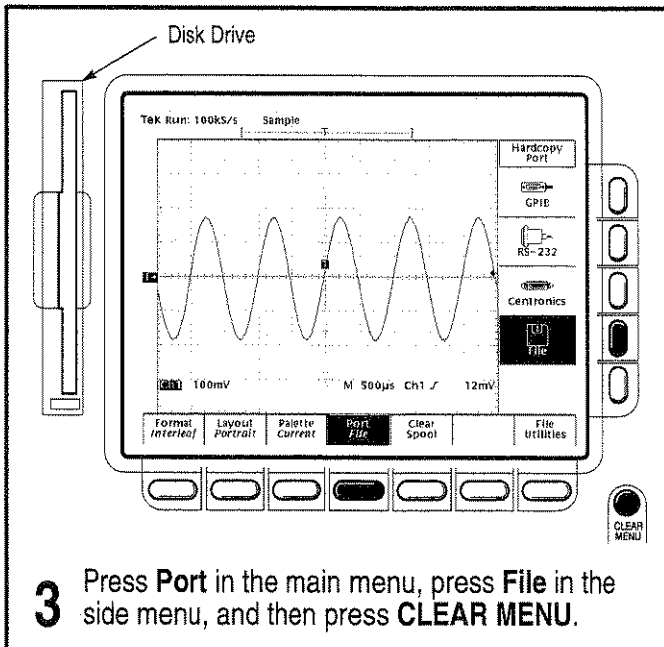
To Save a Hardcopy to the File System:



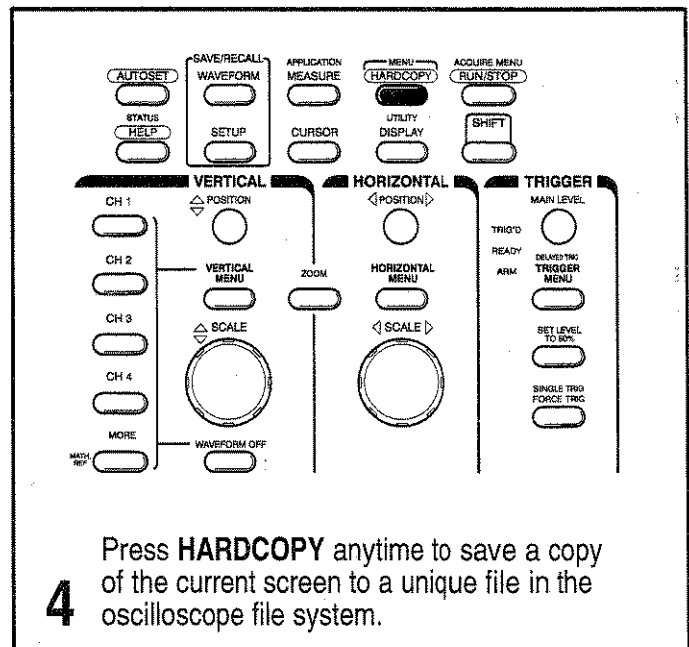
1 Press **SHIFT**, and then press **HARDCOPY**.



2 Press **Format** in the main menu, and select a hardcopy format from the side menu.



3 Press **Port** in the main menu, press **File** in the side menu, and then press **CLEAR MENU**.



4 Press **HARDCOPY** anytime to save a copy of the current screen to a unique file in the oscilloscope file system.

To Perform Other File System Operations:

- Press **SAVE/RECALL WAVEFORM**, and use the menu buttons to save a waveform to a file or recall it from a file.
- Press **SAVE/RECALL SETUP**, and use the menu buttons to save a setup to a file or recall it from a file.
- Press **File Utilities** in the Save/Recall Waveform, Save/Recall Setup, or Hardcopy menus to access utilities that create directories, copy files, and do other operations in the oscilloscope file system.

To Take Measurements Automatically:

1 Press **MEASURE** button.

2 Press **Select Measrmnt** or **Snapshot** in main menu.

Automated Measurement Selections

Period	Rise Time	Delay	High	Pk-Pk	Mean	Area
Frequency	Fall Time	Phase	Low	Amplitude	Cycle Mean	Cycle Area
Positive Width	Positive Duty Cycle	Burst Width	Max	Positive Overshoot	RMS	To 1 of 7
Negative Width	Negative Duty Cycle		Min	Negative Overshoot	Cycle RMS	
-more- 1 of 7	-more- 2 of 7	-more- 3 of 7	-more- 4 of 7	-more- 5 of 7	-more- 6 of 7	

3 Select up to four measurements.

4 Press **CLEAR MENU** button to move measurement readouts away from graticule.

To Take Measurements With Cursors:

1 Press **CURSOR** button.

2 Press **Function** in main menu.

3 Select from side menu.

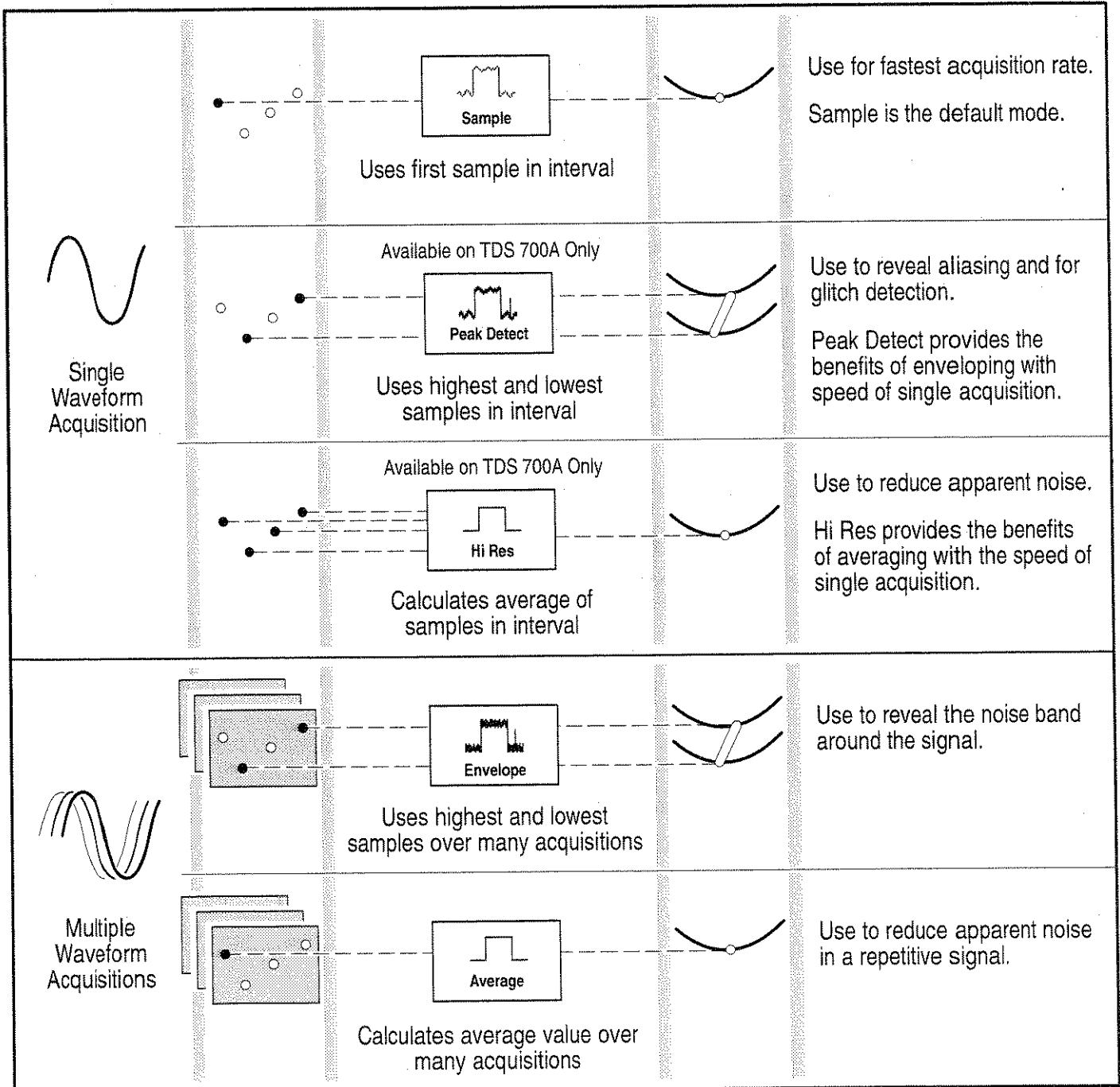
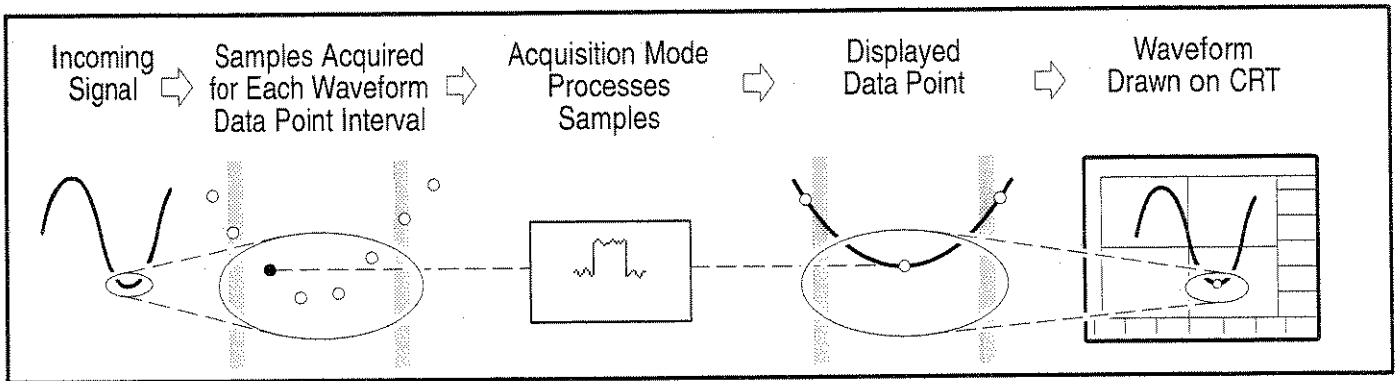
4 Move cursor with general purpose knob. Press **SELECT** to switch between cursors. Press **SHIFT** to speed up/slow down cursor movement.

To Display Help On Screen:

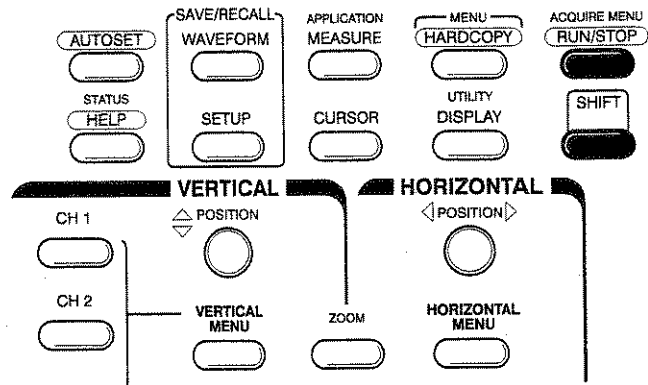
1 Press **HELP** button.

2 Now turn any knob or press any button and read a description of it on the display. Press **HELP** button again to exit help.

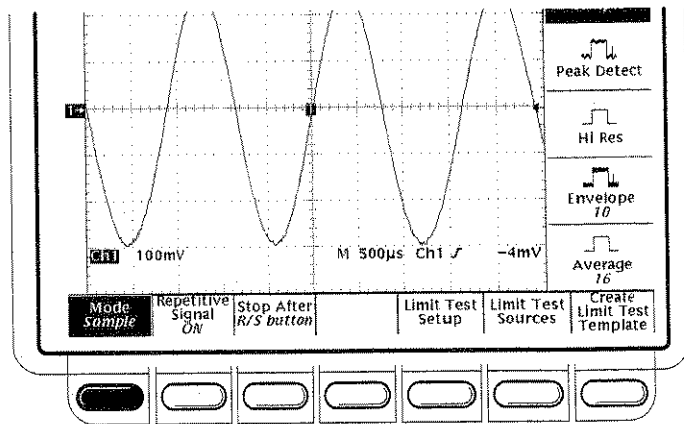
How the Acquisition Modes Work:



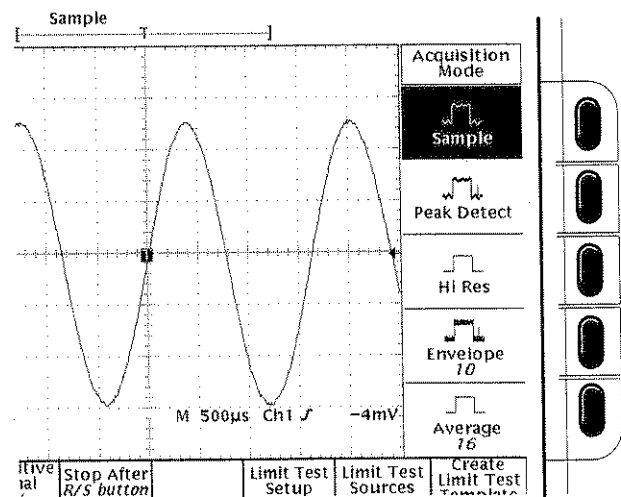
To Choose an Acquisition Mode:
































1 Press **SHIFT**, and then press **ACQUIRE MENU**.



2 Press **Mode** in main menu.

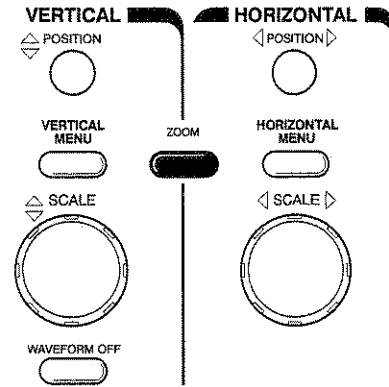


3 From side menu, select an acquisition mode that will serve your application.

TYPE <Logic>		TYPE <Pulse>					TYPE <Video> (Optional)
CLASS <State>	CLASS <Setup/Hold>	CLASS <Glitch>	CLASS <Runt>	CLASS <Width>	CLASS <Slew Rate>		
Define inputs Define levels High, Low, or Don't Care for Ch 1 thru Ch 3 Select edge for the clock (always Ch 4)	Data Source Select one of Ch 1 thru Ch 4 as the data source Do not select the same channel used as the clock source	Source Select any one of Ch 1 thru Ch 4	Source Select any one of Ch 1 thru Ch 4	Source Select any one of Ch 1 thru Ch 4	Source Select any one of Ch 1 thru Ch 4	Source Select any one of Ch 1 thru Ch 4	
Define Logic AND  OR  NAND  NOR 	Clock Source Select one of Ch 1 thru Ch 4 as the clock source Select the clock edge Do not select the same channel used as the data source	Polarity & Width Positive  Negative  Either  Width 	Polarity Positive  Negative  Either 	Polarity Positive  Negative 	Polarity Positive  Negative  Either 	Sync Polarity Negative Sync Positive Sync	
Set Introsnois Set a threshold level for each of the pattern channels, Ch 1 thru Ch 3, and the clock, Ch 4.	Levels Clock  Data  Set levels or select preset levels based on TTL or ECL logic	Level Level 	Thresholds Runt Upper  Runt Lower  Set levels or select preset levels based on TTL or ECL logic	Level Level 	Thresholds High  Low  Set levels or select preset levels based on TTL or ECL logic	Field/Line Set video field and line number	
Trigger when Goes TRUE Goes FALSE	Setup/Hold Times Select and set the Setup Time Select and set the Hold Time	Glitch (Filter) OFF Accept Glitch ON Reject Glitch	Trigger When Select trigger when any runt occurs or ... Select triggering when a runt wider than specified occurs ²	Trigger When Within Limits  Out of Limits  Set Lower and Upper Limits	Trigger When Faster  Slower  Delta Time  Select faster than or slower than and set delta time The oscilloscope computes the slew rate readout from the delta time and thresholds settings	Standard NTSC PAL HDTV FlexFmt	

²Qualification by width

To Preview a Waveform (TDS 700A Models):

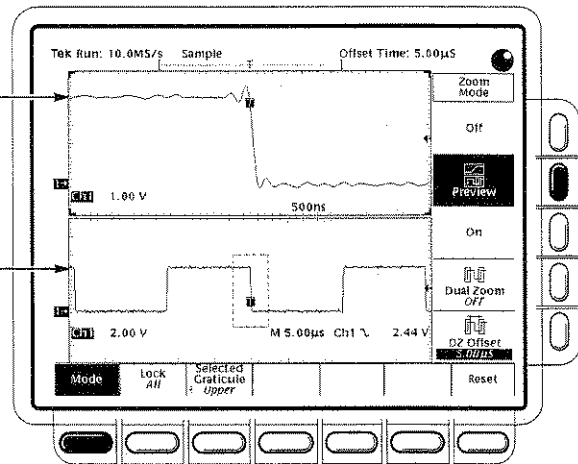


1 Press the **ZOOM** button.

2 Press **Mode** in the main menu. Then press **Preview** in the side menu to turn on Dual Window Zoom.

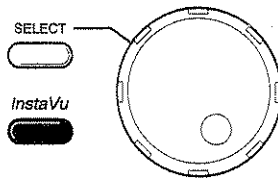
Upper graticule zooms the boxed area on the selected waveform.

Lower graticule displays the selected waveform unzoomed with the zoomed area in box.



3 Use the **Selected Graticule** menu to select the upper or lower waveform. Use the vertical and horizontal knobs to adjust the waveform in the graticule you select.

To Capture Infrequent Events (TDS 700A Models):



Press the **InstaVu** button to toggle between **InstaVu** and **Normal** waveform capture rates.

When in **InstaVu** mode:

- Waveforms displayed are updated thousands of times faster than normal.
- Very brief changes in waveforms are captured.
- Certain features, such as Limit Testing, Math Waveforms, Zoom, and record lengths longer than 500 points, are not available.

