Each instrument manufactured by Tektronix has a unique serial number. The first ten digits of the serial number are assigned sequentially and are unique to each instrument. The country of manufacture is identified as follows:

- instruments manufactured in the United States are designated by the leading digit 0 for instruments manufactured in the United States, and 8 for instruments manufactured in Japan.

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Instrument Serial Numbers

Each instrument manufactured by Tektronix has a serial number on a panel insert or tag, or stamped on the chassis. The first letter in the serial number designates the country of manufacture. The last five digits of the serial number are assigned sequentially and are unique to each instrument. Those manufactured in the United States have six unique digits. The country of manufacture is identified as follows:

B010000 Tektronix, Inc., Beaverton, Oregon, USA
E200000 Tektronix Unitec Kingdom, Ltd., London
J300000 Sony/Tektronix, Japan
H700000 Tektronix Holland, NV, Heerenveen, The Netherlands

Instruments manufactured for Tektronix by external vendors outside the United States are assigned a two digit alpha code to identify the country of manufacture (e.g., JP for Japan, HK for Hong Kong, etc.).

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Tektronix, Inc.
P.O. Box 500
Beaverton, OR 97077

Printed in U.S.A.

First Print DEC 1990

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This section of the Quick Reference lists common tasks you can perform using the 11402A and 11403A Digitizing Oscilloscopes, and the steps to take to execute each task. Tasks are sorted into groups.

Key to symbols used in this reference:

- a button on the front panel
- a selection from the major menu area
- a selection from a pop-up menu
- an adjustment performed using the knobs

Icons that appear on the display:

- <Crns> (Crns1)
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- <Winw3>
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This section of the Quick Reference lists common tasks you can perform using the 11402A and 11403A Digitizing Oscilloscopes, and the steps to take to execute each task. Tasks are sorted into groups.

Key to symbols used in this reference:

- a button on the front panel
- a selection from the major menu area
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- an adjustment performed using the knobs

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Basics

Clearing All Settings

**UTILITY, Initialize**

Checking the ROM Version

**UTILITY, Ident, Read firmware version in the pop-up menu under PW Vers.**

Engaging Enhanced Accuracy

**ENHANCED ACCURACY**

Initializing the Scope

**UTILITY, Initialize**

Removing Pop-Up Menus

Touch anywhere in graticule outside pop-up menu. Alternate: touch highlighted selector that displayed pop-up. Alternate: press any menu button

Setting the Time and Date

**UTILITY, Time & Date, select item to change, adjust using knobs**

Turning On the Scope

Set rear panel Principal Power Switch to ON, Set Standby to ON

Task Reference

Changing the Display

Display Colors (11403A only)

**UTILITY, Color, select color to be set from top of pop-up, then use Hue, Lightness, and Saturation with  knob. Select next color and continue. Previous Colors resets all colors to what they were when the pop-up was first displayed.**

Assigning Colors to Waveforms

Select waveform, **UTILITY, Color, Selected Wfm Color repeatedly until set to desired color. Window waveforms cannot be reasigned**

Resetting Colors

**UTILITY, Color, Default Color**

Display Intensity (overall)

**UTILITY, Color, Overall Intensity, either knob**

Graticules

Creating a Second Graticule

**WAVEFORM, Graticules, Create Second Graticule**

Moving Waveforms Between Graticules

**WAVEFORM, Graticules, Reduce to Single Graticule**

Removing the Second Graticule

**WAVEFORM, Graticules, Reduce to Single Graticule**
Basics

Clearing All Settings
UTILITY, Initialize

Checking the ROM Version
UTILITY, Ident, Read firmware versions in the pop-up menu under PW Vers.

Engaging Enhanced Accuracy
UTILITY, ENHANCED ACCURACY

Initializing the Scope
UTILITY, Initialize

Removing Pop-Up Menus

Setting the Time and Date
UTILITY, Time & Date, select item to change, adjust using knobs

Turning On the Scope
Set rear panel Principal Power Switch to ON, Set Standby to ON

Changing the Display

Display Colors (11403A only)
UTILITY, Color, select color to be set from top of pop-up, then use Hue, Lightness, and Saturation with knobs. Select next color and continue. Previous Colors resets all colors to what they were when the pop-up was first displayed.

Assigning Colors to Waveforms
Select waveform, utility, color, select Wm Color repeatedly until set to desired color. Window waveforms cannot be reasigned.

Resetting Colors
UTILITY, Color, Default Color

Display Intensity (overall)
UTILITY, Color, Overall Intensity, either knob

Graticules

Creating a Second Graticule
WAVEFORM, Graticules, Create Second Graticule

Moving Waveforms Between Graticules
WAVEFORM, Graticules, Reduce to Single Graticule

Removing the Second Graticule
WAVEFORM, Graticules, Reduce to Single Graticule
Task Reference

Changing Persistence Mode

- WAVEFORM, Horizontal Desc, Normal, Infinite Persist, or Variable Persist. Alternate (11403A, Option 1S only): EXTENDED FEATURES, Persist/Histograms, Normal, Variable, Infinite, or Color Grading (color grading can be selected only if both the Main and Window record length is set to 512 points)

Changing Persistence Time

- WAVEFORM, Horizontal Desc, Persist Time, Either knob. Alternate (11403A, Option 1S only): EXTENDED FEATURES, Persist/Histograms, Persist Time, Either knob

Clearing Waveforms

- Select waveform, WAVEFORM, Remove/Cir Wfm #, Clear Wfm #

Window Operations

Creating a Window

- Select source waveform, Window1 or Window2

Removing a Window

- Select window waveform to delete, Remove/Cir Wfm #, Remove Wfm #

Removing a Waveform

- Select waveform to delete, Remove/Cir Wfm #, Remove Wfm #
Changing Persistence Mode

[Waveform, Horizontal Desc, Normal, Infinite Persist, or Variable Persist. Alternate (11403A, Option 1S only): EXTENDED FEATURES, Persist/Histograms, Normal, Variable, Infinite, or Color Grading (color grading can be selected only if both the Main and Window record length is set to 512 points)]

Changing Persistence Time

[Waveform, Horizontal Desc, Persist Time, Either knob. Alternate (11403A, Option 1S only): EXTENDED FEATURES Persist/Histograms, Persist Time, Either knob]

Clearing Waveforms

[Select waveform, Waveform, Remove/Clear Wfm #]

Window Operations

Creating a Window

[Select source waveform, Window 1 or Window 2]

Removing a Window

[Select window waveform to delete, Remove/Clear Wfm #, Remove Wfm #]

Removing a Waveform

[Select waveform to delete, Remove/Clear Wfm #, Remove Wfm #]
Acquiring Waveforms

Acquiring with Autoset

- AUTOSET button. Alternate: Probe ID button, if set

Applying Math Functions to a Waveform

- WAVEFORM, Vertical Desc, as needed then Enter Desc

Create a New Waveform

- as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)

FFT Displays (11403A Only)

Defining an FFT

- Page ↓, FFTmag (or FFTphase), select the channel or define an arbitrary waveform, then Enter Desc. Alternate: Select the desired waveform, then FFTmag

Frequency Span/div

- , Top knob

Frequency Resolution

- , Bottom knob

FFT Scaling

- UTILITY, Modes, FFT Scaling

FFT Window

- UTILITY, Modes, FFT Window

Displaying Waveforms

Changing Vertical Controls

- Volts/Div (Vertical Size)
  - Select waveform, ↑, Top knob

- Vertical Position (Offset)
  - Select waveform, ↓, Bottom knob

Changing Horizontal Controls

- Horizontal Position (Main Position)
  - Select waveform, ↔, Bottom knob

- Time/Div (Main Size)
  - Select waveform, ↔, Top knob

Using Pan and Zoom

- Select waveform, ↔, Pan/Zoom to On, Top knob for magnification, Bottom knob for position

Changing Trigger Settings

Trigger Coupling

- TRIGGER, Trigger Select (Main or Window) then Coupling, select coupling method

- Top knob. Alternate: TRIGGER, Level, Top knob

Trigger Holdoff

- or , Bottom knob. Alternate: TRIGGER, Time Holdoff, Bottom knob
Acquiring Waveforms

Acquiring with Autoset

AUTOSET button. Alternate: Probe ID button, if set

Applying Math Functions to a Waveform

WAVEFORM, Vertical Desc, as needed then Enter Desc

Create a New Waveform

as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)

FFT Displays (11403A Only)

Defining an FFT

Page, FFTmag (or FFTphase), select the channel or define an arbitrary waveform, then Enter Desc. Alternate: Select the desired waveform, then FFTmag

Frequency Span/div

, Top knob

Frequency Resolution

, Bottom knob

FFT Scaling

UTILITY, Modes, FFT Scaling

FFT Window

UTILITY, Modes, FFT Window

Displaying Waveforms

Changing Vertical Controls

Volts/Div (Vertical Size)

Select waveform, , Top knob

Vertical Position (Offset)

Select waveform, , Bottom knob

Changing Horizontal Controls

Horizontal Position (Main Position)

Select waveform, , Bottom knob

Time/Div (Main Size)

Select waveform, , Top knob

Using Pan and Zoom

Select waveform, , Pan/Zoom to On, Top knob for magnification, Bottom knob for position

Changing Trigger Settings

Trigger Coupling

TRIGGER, Trigger Select (Main or Window) then Coupling, select coupling method

Trigger Level

or , Top knob. Alternate: TRIGGER, Level, Top knob

Trigger Holdoff

or , Bottom knob. Alternate: TRIGGER, Time Holdoff, Bottom knob
Labeling Waveforms and Settings

Creating a Label

UTILITY, Label, select entity to display (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors. Touch Display to display label. Exit

Changing or Deleting the Label

UTILITY, Label, select entity to change or delete (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors or delete text. Exit

Positioning the Label

Select waveform, UTILITY, Label Dis- Played Waveforms then Position, © to move

Setting Record Length

Main Record Length

WAVEFORM, Horizontal Desc, Main Record Length, © Top knob

Window Record Length

WAVEFORM, Horizontal Desc, Window Record Length, © Bottom knob

Trigger Source

TRIGGER, Trigger Select (Main or Window) then Source Desc, type description then Enter Desc

Trigger Slope

TRIGGER, Trigger Select (Main or Window) then Slope
Labeling Waveforms and Settings

Creating a Label

- UTILITY, Label, select entity to display (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors. Touch Display to display label. Exit

Changing or Deleting the Label

- UTILITY, Label, select entity to change or delete (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors or delete text. Exit

Positioning the Label

Select waveform, UTILITY, Label Displayed Waveforms then Position, © to move
Making a Hardcopy

Setting Hardcopy Parameters

- UTILITY, Hardcopy, as necessary

Initiating a Hardcopy

- HARDCOPY

Aborting a Hardcopy

- UTILITY, Hardcopy, Abort

Measurement Functions

Taking Measurements

- MEASURE, Measurements, select measurement

Taking a Measurement on More than One Waveform

- MEASURE, Measurements, select measurement, select measurement, Measured Waveform until desired waveform is assigned

Taking Measurements on Noisy or Jittery Waveforms

Using Histograms (11403A, Option 1S only)

- EXTENDED FEATURES, Persist/Histograms, Vertical Histogram or Horizontal Histogram

Changing the Size of the Histogram Box—Persist/Histograms, Vertical Limits or Horizontal Limits, Top or bottom knob as needed

Changing Histogram Scaling—Persist/Histograms, Histogram Scaling

Limiting Acquisitions—Persist/Histograms, Set N Waveform or Set N Samples, Adjust either knob, Stop N Waveform or Stop N Samples
Making a Hardcopy

Setting Hardcopy Parameters

- UTILITY, Hardcopy, as necessary

Initiating a Hardcopy

- HARDCOPY

Aborting a Hardcopy

- UTILITY, Hardcopy, Abort

Measurement Functions

Taking Measurements

- MEASURE, Measurements, select measurement

Taking a Measurement on More than One Waveform

- MEASURE, Measurements, select measurement, select measurement, Measured Waveform until desired waveform is assigned

Taking Measurements on Noisy or Jittery Waveforms

Using Histograms

(11403A, Option 1S only)

- EXTENDED FEATURES, Persist/Histograms, Vertical Histogram or Horizontal Histogram

Changing the Size of the Histogram

Box—Persist/Histograms, Vertical Limits or Horizontal Limits, Top or bottom knob as needed

Changing Histogram Scaling—Persist/Histograms, Histogram Scaling

Limiting Acquisitions—Persist/Histograms, Set N Waveform or Set N Samples, Adjust either knob, Stop N Waveform or Stop N Samples
Setting Up GPIB

Mode

- UTILITY, GPIB, Mode as necessary

Address

- UTILITY, GPIB, Address © to desired address

 Terminator

- UTILITY, GPIB, Terminator as necessary

Debug

- UTILITY, GPIB, Debug as necessary

Setting RS-232-C Parameters

Baud Rate

- UTILITY, RS232C, © Bottom knob

Echo

- UTILITY, RS232C, © Echo, as necessary

Stop Bits

- UTILITY, RS232C, © Stop Bits, as necessary

Parity

- UTILITY, RS232C, © Parity, as necessary

Flagging

- UTILITY, RS232C, © Flagging, as necessary

Delay

- UTILITY, RS232C, © Delay, © Top knob

EOL String

- UTILITY, RS232C, © EOL String, as necessary

Verbose Mode

- UTILITY, RS232C, © Verbose

Debug Mode

- UTILITY, RS232C, © Debug
Setting Up GPIB

Mode

- UTILITY, GPIB, Mode as necessary

Address

- UTILITY, GPIB, Address to desired address

 Terminator

- UTILITY, GPIB, Terminator as necessary

Debug

- UTILITY, GPIB, Debug as necessary

Setting RS-232-C Parameters

Baud Rate

- UTILITY, RS232C, Bottom knob

Echo

- UTILITY, RS232C, Echo, as necessary

Stop Bits

- UTILITY, RS232C, Stop Bits, as necessary

Parity

- UTILITY, RS232C, Parity, as necessary

Flagging

- UTILITY, RS232C, Flagging, as necessary

Delay

- UTILITY, RS232C, Delay, Top knob

EOL String

- UTILITY, RS232C, EOL String, as necessary

Verbose Mode

- UTILITY, RS232C, Verbose

Debug Mode

- UTILITY, RS232C, Debug
Storing Waveforms and Settings

Waveforms

- STORE/RECALL, Store Waveform, select waveform or Store All

Settings

- STORE/RECALL, Store Setting, select associated menu at bottom of pop-up menu, then Set Next FPS and either knob, then Store Next FPS

Using Diagnostics

Self-Test Diagnostics

- UTILITY, Self Test

Extended Diagnostics

- UTILITY, Extended Diagnostic, Extended Diagnostic then run desired tests, then Exit, Exit
Storing Waveforms and Settings

Waveforms
- STORE/RECALL, select waveform or Store All

Settings
- STORE/RECALL, select associated menu at bottom of pop-up menu, then Set Next FPS and either knob, then Store Next FPS

Using Diagnostics

Self-Test Diagnostics
- UTILITY, Self Test

Extended Diagnostics
- UTILITY, Extended Diagnostic, Extended Diagnostic then run desired tests, then Exit, Exit
Command Reference

This section of the quick reference lists the functions you can perform using the 11402A and 11403A Digitizing Oscilloscopes, and the steps to take to execute each function. Functions are listed in alphabetical order.

Key to symbols used in this reference:

- a button on the front panel
- a selection from the major menu area
- a selection from a pop-up menu
- an adjustment performed using the knobs

Icons that appear on the display:
Command Reference

This section of the quick reference lists the functions you can perform using the 11402A and 11403A Digitizing Oscilloscopes, and the steps to take to execute each function. Functions are listed in alphabetical order.

Key to symbols used in this reference:

- a button on the front panel
- a selection from the major menu area
- a selection from a pop-up menu
- an adjustment performed using the knobs

Icons that appear on the display:
Command Reference

A to B, intensified zone
see Window

Abort Hardcopy
UTILITY, Hardcopy, Hardcopy
Abort

AC Coupling, trigger
UTILITY, Trigger Select (Main or Win-
dow) then Coupling, AC

AC Coupling, vertical channel
UTILITY, Coupling, select channel
then AC

Acquiring Time Base
Main or Window
UTILITY, observe Horizontal Desc
status area

Acquisition, on/off
DIGITIZER Run/Stop

Add Waveform
UTILITY and as needed (all waveforms), then
Enter Desc. Alternate: Input channel (single-
channel waveforms only)

Address, GPIB
UTILITY, GPIB, Address

Annotation, Measurement
UTILITY, selector displaying measure-
ment value

Area, measurements
UTILITY, Measurements, Area +
or Area-

Assign Measurement, assigning a measurement
to a waveform
UTILITY, Measurements, select
measurement, select measurement,
Measured Waveform until desired waveform
is assigned

Audio Feedback, on/off
UTILITY, Modes, Audio Feedback

Auto Level Trigger Mode
UTILITY, Trigger Select (Main or Win-
dow) then Mode, Auto Level

Auto Trigger Mode
UTILITY, Trigger Select (Main or Win-
dow) then Mode, Auto

Autoset
UTILITY, probe ID button. Alternate: Probe ID but-
ton, if set

Autoset, set probe ID button
UTILITY, Probes, Wfm Select/New
Wfm & Autoset

Autoset, undo
UTILITY, Modes, Undo Last Autoset

Autoset Options, configuring
UTILITY, Modes, Vertical and Horiz-
total

Average, on/off
UTILITY, Acquire Desc, Average N

Average, set N
UTILITY, Acquire Desc, Set
AvgN, Top knob

Axis
see Graticule

B Sweep
see Window

Bandwidth Limit
UTILITY, BW Limit, select channel
then select limit

Baseline, default measurement parameter
UTILITY, Stats Comp Test & Def,
Default Parameters then Baseline then
Bottom knob
A to B, intensified zone
see Window

Abort Hardcopy
UTILITY, Hardcopy, Hardcopy Abort

AC Coupling, trigger
TRIGGER, Trigger Select (Main or Window) then Coupling, AC

AC Coupling, vertical channel
WAVEFORM, Coupling, select channel then AC

Acquiring Time Base Main or Window
WAVEFORM, observe Horizontal Desc status area

Acquisition, on/off
DIGITIZER Run/Stop

Add Waveform
and as needed (all waveforms), then Enter Desc. Alternate: Input channel (single-channel waveforms only)

Address, GPIB
UTILITY, GPIB, Address

Annotation, Measurement
MEASURE, selector displaying measurement value

Area, measurements
MEASURE, Measurements, Area + or Area -

Assign Measurement, assigning a measurement to a waveform
MEASURE, Measurements, select measurement, select measurement, Measured Waveform until desired waveform is assigned

Audio Feedback, on/off
UTILITY, Modes, Audio Feedback

Auto Level Trigger Mode
TRIGGER, Trigger Select (Main or Window) then Mode, Auto Level

Auto Trigger Mode
TRIGGER, Trigger Select (Main or Window) then Mode, Auto

Autoset
AUTOSET button. Alternate: Probe ID button, if set

Autoset, set probe ID button
UTILITY, Probes, Wfm Select/New Wfm & Autoset

Autoset, undo
UTILITY, Modes, Undo Last Autoset

Autoset Options, configuring
UTILITY, Modes, Vertical and Horizontal

Average, on/off
WAVEFORM, Acquire Desc, Average N

Average, set N
WAVEFORM, Acquire Desc, Set AvgN, Top knob

Axis
see Griticule

B Sweep
see Window

Bandwidth Limit
WAVEFORM, BW Limit, select channel then select limit

Baseline, default measurement parameter
MEASURE, Stats Comp Test & Def, Default Parameters then Baseline then Bottom knob
Baud Rate, RS-232-C
UTILITY, RS232C, Baud Rate, Bottom knob

Beeping, on/off
UTILITY, Modes, Audio Feedback

Brightness
see Intensity

Calculations, waveform
UTILITY, Vertical Desc, as needed then Enter Desc

Calibrate (internal), oscilloscope
UTILITY, ENHANCED ACCURACY

Calibrate, probes
UTILITY, Probes, connect probe or input to calibrator and select channel

Channel Select
UTILITY, DetWind, as needed

Clear, delete displayed or stored waveform
STORE/RECALL, Delete Waveform, select individual waveform(s) or All Waveforms, Delete Selected Waveforms

Clear, waveform data points
STORE/RECALL, Clear Waveform, as needed, Alternate: Select waveform, Remove/Cir Wfm #, Clear Wfm #

Coarse, knob resolution
Knob label, Coarse

Color, change waveform assignment
UTILITY, Color, Select waveform. Select waveform. Selected Wfm Color repeatedly until set to desired color. Window waveforms cannot be reassigned

Color, default all (11403A only)
UTILITY, Color, Default Color

Color, default one (11403A only)
UTILITY, Color, select color to be reset from top of pop-up, then Default Color

Color, set one or more (11403A only)
UTILITY, Color, select color to be set from top of pop-up, then use Hue, Lightness, and Saturation with knobs. Select next color and continue. Previous Colors resets all colors to what they were when the pop-up was first displayed.

Color Grading, on/off
(11403A, Option 1S only)
UTILITY, EXTENDED FEATURES, Persit/Histograms, Color Grading. Note: both Main and Window record lengths must be set to 512 points to use the Color Grading mode.

Color Grading, display scaling
(11403A, Option 1S only)
UTILITY, EXTENDED FEATURES, Color Grad Scale

Communication parameters
UTILITY, RS232C or GPIB, as needed

Compare, measurement on/off
UTILITY, MEASURE, Stats Comp Test & Def, Compare Options then Compare (on/off)

Compare, set measurement reference value
UTILITY, MEASURE, Stats Comp Test & Def, Compare Options then Measure Selected Wfm Save as References or adjust by touching a measurement reference selector in "Adjust References" section, use either knob

Compensation, probe
UTILITY, Probes, connect probe or input to calibrator and select channel

Conditional Acquisition
UTILITY, Acquire Desc, %Fill Complete or Single Trigger or Continuous or Average Complete or Envelope Complete or Both Avg & Env
Baud Rate, RS-232-C
- UTILITY, RS232C, Baud Rate, Bottom knob

Beeping, on/off
- UTILITY, Modes, Audio Feedback

Brightness
see Intensity

Calculations, waveform
- WAVEFORM, Vertical Desc, as needed then Enter Desc

Calibrate (internal), oscilloscope
- ENHANCED ACCURACY

Calibrate, probes
- UTILITY, Probes, connect probe or input to calibrator and select channel

Channel Select
- Input channel, Alternate: Default, as needed

Clear, delete displayed or stored waveform
- STORE/RECALL, Delete waveform, select individual waveform(s) or All Waveforms, Delete Selected Waveforms

Clear, waveform data points
- STORE/RECALL, Clear Waveform, as needed, Alternate: Select waveform, Remove/Ctr Wfm #, Clear Wfm #

Coarse, knob resolution
- Knob label, Coarse

Color, change waveform assignment
Select waveform, UTILITY, Color, Selected Wfm Color repeatedly until set to desired color. Window waveforms cannot be reassigned

Color, default all (11403A only)
- UTILITY, Color, Default Color

Color, default one (11403A only)
- UTILITY, Color, select color to be reset from top of pop-up, then Default Color

Color, set one or more (11403A only)
- UTILITY, Color, select color to be set from top of pop-up, then use Hue, Lightness, and Saturation with knobs. Select next color and continue. Previous Colors resets all colors to what they were when the pop-up was first displayed.

Color Grading, on/off
(11403A, Option 1S only)
- EXTENDED FEATURES, Persist/Histo-
grams, Color Grading. Note: both Main and Window record lengths must be set to 512 points to use the Color Grading mode.

Color Grading, display scaling
(11403A, Option 1S only)
- EXTENDED FEATURES, Color Grad Scale

Communication parameters
- UTILITY, RS232C or GPIB, as needed

Compare, measurement on/off
- MEASURE, Stats Comp Test & Def, Compare Options then Compare (on/off)

Compare, set measurement reference value
- MEASURE, Stats Comp Test & Def, Compare Options then Measure Selected Wfm Save as References or adjust by touching a measurement reference selector in "Adjust References" section, use either knob

Compensation, probe
- UTILITY, Probes, connect probe or input to calibrator and select channel

Conditional Acquisition
- WAVEFORM, Acquire Desc, %Fill Complete or Single Trigger or Continuous or Average Complete or Envelope Complete or Both Avg & Env
Contrast, default all (11402A only)
  UTILITY, Intensity, Default Contrast

Contrast, default one (11402A only)
  UTILITY, Intensity, select contrast to be reset from top of pop-up, then Default Contrast

Contrast, overall
  UTILITY, Color (11403A) or Intensity (11402A), Overall Intensity, either knob

Contrast, one or more (11402A only)
  UTILITY, Intensity, select contrast to be set from top of pop-up, knobs. Select next contrast and continue. Previous Contrast resets all contrasts to what they were when the pop-up was first displayed.

Copy
  see Hardcopy

Coupling, trigger
  TRIGGER, Trigger Select (Main or Window) then Coupling, as needed

Coupling, vertical channel
  WAVEFORM, Coupling, select channel then select coupling

Create New Waveform
  WAVEFORM and as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)

Cross, measurement
  MEASURE, Measurements, Cross

Cursors, across two waveforms
  Select first waveform, Cursor, Cursor Type, Split Dots then selector for second waveform

Cursors, auto measurement area
  see Annotation, measurement

Cursors, setting type
  Select waveform, Cursor, Cursor Type, select type

Cursors, turning off
  Page to Previous Menu. Alternate: WAVEFORM

Cursors, turning on
  Select waveform, Cursor

Data Interval, default measurement parameter
  MEASURE, Stats Comp Test & Def, Default Parameters then Data Interval

Date, set
  UTILITY, Time & Date, select item to change, knob

DC Coupling, trigger
  TRIGGER, Trigger Select (Main or Window) then Coupling, DC

DC Coupling, vertical channel
  WAVEFORM, Coupling, select channel then DC

Debug Mode, programming
  UTILITY, RS232C or GPIB, Debug

Default, measurement parameter
  MEASURE, Stats Comp Test & Def, Default Parameters then select parameter, knob

Define, new waveform
  and as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)

Delay by Events or Time
  see Holdoff

Delay, RS-232-C
  UTILITY, RS232C, Delay, Top knob
Contrast, default all (11402A only)
- UTILITY, Intensity, Default Contrast

Contrast, default one (11402A only)
- UTILITY, Intensity, select contrast to be reset from top of pop-up, then Default Contrast

Contrast, overall
- UTILITY, Color (11403A) or Intensity (11402A), Overall Intensity, either knob

Contrast, set one or more (11402A only)
- UTILITY, Intensity, select contrast to be set from top of pop-up, knobs. Select next contrast and continue. Previous Contrast resets all contrasts to what they were when the pop-up was first displayed.

Copy
- see Hardcopy

Coupling, trigger
- TRIGGER, Trigger Select (Main or Window) then Coupling, as needed

Coupling, vertical channel
- WAVEFORM, Coupling, select channel then select coupling

Create New Waveform
- WAVEFORM and as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)

Cross, measurement
- MEASURE, Measurements, Cross

Cursors, across two waveforms
- Select first waveform, Cursor1, Cursor Type, Split Dots then selector for second waveform

Cursors, auto measurement area
- see Annotation, measurement

Cursors, setting type
- Select waveform, Cursor, Cursor Type, select type

Cursors, turning off
- Page to Previous Menu. Alternate: WAVEFORM

Cursors, turning on
- Select waveform, Cursor

Data Interval, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Data Interval

Date, set
- UTILITY, Time & Date, select item to change, knob

DC Coupling, trigger
- TRIGGER, Trigger Select (Main or Window) then Coupling, DC

DC Coupling, vertical channel
- WAVEFORM, Coupling, select channel then DC

Debug Mode, programming
- UTILITY, RS232C or GPIB, Debug

Default, measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then select parameter, knob

Define, new waveform
- WAVEFORM and as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)

Delay by Events or Time
- see Holdoff

Delay, RS-232-C
- UTILITY, RS232C, Delay, Top knob
Command Reference

**Delay**, timing measurement
- MEASURE, Measurements, Delay

**Delayed Sweep**
- see Window

**Delete**, displayed or stored waveform
- STORE/RECALL, Delete Waveform, select individual waveform(s) or All Waveforms, Delete Selected Waveforms

**Delete**, displayed waveform
- Select waveform to delete, Remove/Clear Wfm #, Remove Wfm #

**Delete**, stored setting
- STORE/RECALL, Delete Setting, select individual settings or All Settings, Delete Selected Settings

**Deskew**, probe
- UTILITY, Probes, connect probe or input to calibrator and select channel

**Diagnostics**, extended
- UTILITY, Extended Diagnostic, Extended Diagnostic then run desired tests then Exit

**Diagnostics**, self test
- UTILITY, Self Test

**Display Intensity**, adjustment
- UTILITY, Color (11403A) or Intensity (11402A), Overall Intensity, either knob

**Display Mode**, vector on/off
- UTILITY, Modes, Vectored Waveforms

**Distal**, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Distal then Top knob

**Dot Cursors**
- Select waveform, Cursor, Cursor Type, Paired Dots

**Duty Cycle**, timing measurement
- MEASURE, Measurements, Duty Cycle

**Echo**, RS-232-C
- UTILITY, RS232C, Echo

**ECL**, Autoset mode
- UTILITY, Modes, Vertical

**Edge**, Autoset mode
- UTILITY, Modes, Horizontal

**Energy**, measurement
- MEASURE, Measurements, Energy

**Enhanced Accuracy**, set auto or manual
- UTILITY, Modes, Enhanced Accuracy Mode

**Enhanced Accuracy**, execute
- ENHANCED ACCURACY

**Envelope**, on/off
- WAVEFORM, Acquire Desc, Envelope N

**Envelope**, set N
- WAVEFORM, Acquire Desc, Set EnvN, Bottom knob

**EOL String**, RS-232-C
- UTILITY, RS232C, EOL String

**Events**, delay window trigger by
- see Holdoff

**Extended Diagnostics**
- UTILITY, Extended Diagnostic, Extended Diagnostic then run desired tests then Exit

**Extinction Ratio**, amplitude measurement
- MEASURE, Measurements, Extinction Ratio
Command Reference

Delay, timing measurement
- MEASURE, Measurements, Delay

Delayed Sweep
- see Window

Delete, displayed or stored waveform
- STORE/RECALL, Delete Waveform, select individual waveform(s) or All Waveforms, Delete Selected Waveforms

Delete, displayed waveform
- Select waveform to delete, Remove/Ctr Wfm #, Remove Wfm #

Delete, stored setting
- STORE/RECALL, Delete Setting, select individual settings or All Settings, Delete Selected Settings

Deskew, probe
- UTILITY, Probes, connect probe or input to calibrator and select channel

Diagnostics, extended
- UTILITY, Extended Diagnostic, Extended Diagnostic then run desired tests then Exit

Diagnostics, self test
- UTILITY, Self Test

Display Intensity, adjustment
- UTILITY, Color (11403A) or Intensity (11402A), Overall Intensity, either knob

Display Mode, vector on/off
- UTILITY, Modes, Vectored Waveforms

Distal, default measurement parameter
- MEASURE, StatsComp Test & Def, Default Parameters then Distal then Top knob

Dot Cursors
- Select waveform, Cursor, Cursor Type, Paired Dots

Duty Cycle, timing measurement
- MEASURE, Measurements, Duty Cycle

Echo, RS-232-C
- UTILITY, RS232C, Echo

ECL, Autoset mode
- UTILITY, Modes, Vertical

Edge, Autoset mode
- UTILITY, Modes, Horizontal

Energy, measurement
- MEASURE, Measurements, Energy

Enhanced Accuracy, set auto or manual
- UTILITY, Modes, Enhanced Accuracy Mode

Enhanced Accuracy, execute
- ENHANCED ACCURACY

Envelope, on/off
- WAVEFORM, Acquire Desc, Envelope N

Envelope, set N
- WAVEFORM, Acquire Desc, Set EnvN, Bottom knob

EOL String, RS-232-C
- UTILITY, RS232C, EOL String

Events, delay window trigger by
- see Holdoff

Extended Diagnostics
- UTILITY, Extended Diagnostic, Extended Diagnostic then run desired tests then Exit

Extinction Ratio, amplitude measurement
- MEASURE, Measurements, Extinction Ratio
Command Reference

**Fall Time**, timing measurement
- MEASURE, Measurements, Fall

**Fast** (definition)
- Integer waveform computations. See Forced to force High Prec floating-point computations.

**FFT**, magnitude display (11403A only)
- Utility, FFTmag(, select channel), Enter
- Desc. Alternate: Select waveform, FFTEq

**FFT**, phase display (11403A only)
- Utility, FFTphase(, select channel), Enter
- Desc. Alternate: Select waveform, FFTphi

**FFT**, scaling (11403A only)
- Utility, Modes, FFTScaling

**FFT**, window (11403A only)
- Utility, Modes, FFTWindow

**Filter**, trigger coupling
- TRIGGER, Trigger Select (Main or Window) then Coupling, select desired coupling

**Fine**, knob resolution
- Knob label, Fine

**Flagging**, RS-232-C
- Utility, RS232C, Flagging

**Forced**, high-precision waveform scaling
- Utility, Modes, Waveform Scaling to Forced (all new complex waveforms will be High Prec). See High Prec

**Frequency**, timing measurement
- MEASURE, Measurements, Frequency

**Front-Panel Setting**
- see Setting

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**Functions**, waveform
- WAVEFORM, Vertical Desc, as needed then Enter Desc

**Gain**, amplitude measurement
- MEASURE, Measurements, Gain

**GPIB Parameters**
- Utility, GPIB, as needed

**Graticule**, create second
- WAVEFORM, Graticules, Create Second Graticule

**Gray Shade**, default all (11402A only)
- Utility, Intensity, Default Contrast

**Gray Shade**, default one (11402A only)
- Utility, Intensity, select contrast to be reset from top of pop-up, then Default Contrast

**Gray Shade**, set one or more (11402A only)
- Utility, Intensity, select contrast to be set from top of pop-up, knobs. Select next contrast and continue. Previous Contrast resets all contrasts to what they were when the pop-up was first displayed.

**Hardcopy**, abort
- Utility, Hardcopy, abort

**Hardcopy**, make
- HARDCOPY

**Hardcopy**, set mode
- Utility, Hardcopy, as necessary

**High Pass Filter**, trigger coupling
- TRIGGER, Trigger Select (Main or Window) then Coupling, select coupling

**High Prec** (definition)
- Floating-point waveform computations. All waveforms using multiplication, division, or certain functions will always be High Prec. Other waveforms can be High Prec — see Forced
Command Reference

Fall Time, timing measurement

- MEASURE, Measurements, Fall

Fast (definition)

Integer waveform computations. See Forced to force High Prec floating-point computations.

FFT, magnitude display (11403A only)

- Utility, FFTmag(, select channel, ), Enter
- Desc. Alternate: Select waveform

FFT, phase display (11403A only)

- Utility, FFTphase(, select channel, ), Enter
- Desc. Alternate: Select waveform

FFT, scaling (11403A only)

- Utility, Modes, FFTScaling

FFT, window (11403A only)

- Utility, Modes, FFTWindow

Filter, trigger coupling

- TRIGGER, Trigger Select (Main or Window) then Coupling, select desired coupling

Fine, knob resolution

- Knob label, Fine

Flagging, RS-232-C

- Utility, RS232C, Flagging

Forced, high-precision waveform scaling

- Utility, Modes, Waveform Scaling to Forced (all new complex waveforms will be High Prec). See High Prec

Frequency, timing measurement

- MEASURE, Measurements, Frequency

Front-Panel Setting

see Setting

Functions, waveform

- WAVEFORM, Vertical Desc, as needed then Enter Desc

Gain, amplitude measurement

- MEASURE, Measurements, Gain

GPIB Parameters

- Utility, GPIB, as needed

Graticule, create second

- WAVEFORM, Graticules, Create Second Graticule

Gray Shade, default all (11402A only)

- Utility, Intensity, Default Contrast

Gray Shade, default one (11402A only)

- Utility, Intensity, select contrast to be reset from top of pop-up, then Default Contrast

Gray Shade, set one or more (11402A only)

- Utility, Intensity, select contrast to be set from top of pop-up, knobs. Select next contrast and continue. Previous Contrast resets all contrasts to what they were when the pop-up was first displayed.

Hardcopy, abort

- Utility, Hardcopy, Abort

Hardcopy, make

- HARDCOPY

Hardcopy, set mode

- Utility, Hardcopy, as necessary

High Pass Filter, trigger coupling

- Trigger, Trigger Select (Main or Window) then Coupling, select coupling

High Prec (definition)

Floating-point waveform computations. All waveforms using multiplication, division, or certain functions will always be High Prec. Other waveforms can be High Prec -- see Forced
Command Reference

Histograms, adjusting limits
(11403A, Option 1S only)
- EXTENDED FEATURES, Persist/Histograms, Vertical Limits or Horizontal Limits, either knob as appropriate

Histograms, on/off
(11403A, Option 1S only)
- EXTENDED FEATURES, Persist/Histograms, Vertical Histogram or Horizontal Histogram

Holdoff window trigger by events, establishing
- TRIGGER, Window/Horizontal Md, Holdoff by Events Triggered from Window

Holdoff window trigger by time, establishing
- TRIGGER, Window/Horizontal Md, Holdoff by Time Triggered from Window

Holdoff window trigger by time or events, adjusting
- Bottom knob. Alternate: TRIGGER, Time Holdoff or Events Holdoff, Bottom knob

Holdoff, window trigger, removing
- TRIGGER, Window/Horizontal Md, No Holdoff Triggered from Main

Horizontal Bar Cursors
Select waveform, Cursor, Cursor Type, Horizontal Bars

Horizontal Histograms, on/off
(11403A, Option 1S only)
- EXTENDED FEATURES, Persist/Histograms, Horizontal Histogram

Horizontal Magnify
Select waveform, Pan/Zoom to On, Top knob for magnification, Bottom knob for position

Horizontal Position
Select waveform, Bottom knob

Horizontal Size
Select waveform, Top knob

Impedance, Signal
- WAVEFORM, Impedance, select channel then select impedance

Infinite Persistence, on/off (11403A only)
- WAVEFORM, Horizontal Desc, Infinite Persistence, Alternate (Option 1S only):
- EXTENDED FEATURES, Persist/Histograms, Infinite

Initialize, all default measurement parameters
- MEASURE, Stats Comp Test & Def, Default Parameters then Initialize Defaults

Initialize oscilloscope
- UTILITY, Initialize

Intensified Zone
see Window

Intensity, default all (11402A only)
- UTILITY, Intensity, Default Contrast

Intensity, default one (11402A only)
- UTILITY, Intensity, select contrast to be reset from top of pop-up, then Default Contrast

Intensity, overall display
- UTILITY, Color (11403A) or Intensity (11402A), Overall Intensity, either knob

Intensity, set one or more (11402A only)
- UTILITY, Intensity, select contrast to be set from top of pop-up, knobs. Select next contrast and continue. Previous Contrast resets all contrasts to what they were when the pop-up was first displayed.

Inverted Waveform
- , then source description then Enter Desc

Jitter, timing measurement
(11403A, Option 1S only)
- MEASURE, Measurements, Jitter (only with Color Grading on)
Histograms, adjusting limits
(11403A, Option 1S only)
- EXTENDED FEATURES, Persist/Histograms, Vertical Limits or Horizontal Limits, either knob as appropriate

Histograms, on/off
(11403A, Option 1S only)
- EXTENDED FEATURES, Persist/Histograms, Vertical Histogram or Horizontal Histogram

Holdoff window trigger by events, establishing
- TRIGGER, Window Holdoff Md, Holdoff by Events Triggered from Window

Holdoff window trigger by time, establishing
- TRIGGER, Window Holdoff Md, Holdoff by Time Triggered from Window

Holdoff window trigger by time or events, adjusting
- Bottom knob, Alternate: TRIGGER, Time Holdoff or Events Holdoff, Bottom knob

Holdoff, window trigger, removing
- TRIGGER, Window Holdoff Md, No Holdoff Triggered from Main

Horizontal Bar Cursors
Select waveform, Cursor, Cursor Type, Horizontal Bars

Horizontal Histograms, on/off
(11403A, Option 1S only)
- EXTENDED FEATURES, Persist/Histograms, Horizontal Histogram

Horizontal Magnify
Select waveform, Pan/Zoom to On, Top knob for magnification, Bottom knob for position

Horizontal Position
Select waveform, Bottom knob

Horizontal Size
Select waveform, Top knob

Impedance, Signal
- WAVEFORM, Impedance, select channel then select impedance

Infinite Persistence, on/off (11403A only)
- WAVEFORM, Horizontal Desc, Infinite Persistence, Alternate (Option 1S only):
- EXTENDED FEATURES, Persist/Histograms, Infinite

Initialize, all default measurement parameters
- MEASURE, Stats Comp Test & Def, Default Parameters then Initialize Defaults

Initialize oscilloscope
- UTILITY, Initialize

Intensified Zone
see Window

Intensity, default all (11402A only)
- UTILITY, Intensity, Default Contrast

Intensity, default one (11402A only)
- UTILITY, Intensity, select contrast to be reset from top of pop-up, then Default Contrast

Intensity, overall display
- UTILITY, Color (11403A) or Intensity (11402A), Overall Intensity, either knob

Intensity, set one or more (11402A only)
- UTILITY, Intensity, select contrast to be set from top of pop-up, knobs. Select next contrast and continue. Previous Contrast resets all contrasts to what they were when the pop-up was first displayed.

Inverted Waveform
- Enter Desc

Jitter, timing measurement
(11403A, Option 1S only)
- MEASURE, Measurements, Jitter (only with Color Grading on)
Command Reference

Keypad, numeric
Knob label, enter number, magnitude (m for milli, etc.) then Enter

Knob Resolution
Knob label, Coarse or Medium or Fine

Label, define and display
UTILITY, Label, select entity to display (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors, then Display, Exit

Label, change or delete
UTILITY, Label, select entity to change or delete (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors or delete text. Exit

Label, move
Select waveform, UTILITY, Label Displayed Waveforms than Position, to move

Label, on/off
UTILITY, Label Displayed Waveforms then Display, then Exit

Label, stored waveform time/date
UTILITY, Modes, Stored Wffms Time/Date (shows time/date stamp on menu selectors for stored waveforms)

Left Limit, default measurement parameter
MEASURE, Stats Comp Test & Def, Default Parameters then Left Limit, Top knob

Level, trigger
or, Top knob. Alternate: TRIGGER, Level, Top knob

Level Mode, default measurement parameter
MEASURE, Stats Comp Test & Def, Default Parameters then Level Mode

Line Trigger
TRIGGER, Trigger Select (Main or Window) then Source Desc, Line, Enter Desc

Low Pass Filter, trigger coupling
TRIGGER, Trigger Select (Main or Window) then Coupling, select coupling

Main Position
Select waveform, Bottom knob

Main Size
Select waveform, Top knob

Main→Win Trigger, timing measurement
MEASURE, Measurements, Main→Win Trig Time

Main, record length
WAVEFORM, Horizontal Desc, Main Record Length, Top knob

Mask Testing, clear hits
(11403A, Option 1S only)
EXTENDED FEATURES, Mask Testing, Clear Hits

Mask Testing, creating masks
(11403A, Option 1S only)
EXTENDED FEATURES, Mask Testing, select a Mask # selector, select Edit Mask Definition, both knobs to specify a mask point, Add Point, add points as necessary, Exit Mask Editing

Mask Testing, deleting masks
(11403A, Option 1S only)
EXTENDED FEATURES, Mask Testing, Mask # for the mask to be deleted, Delete Mask Definition

Mask Testing, on/off
(11403A, Option 1S only)
EXTENDED FEATURES, Mask Testing, Count Mask Hits
**Command Reference**

**Keypad**, numeric
- Knob label, enter number, magnitude (m for milli, etc.) then Enter

**Knob Resolution**
- Knob label, Coarse or Medium or Fine

**Label**, define and display
- UTILITY, Label, select entity to display (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors, then Display, Exit

**Label**, change or delete
- UTILITY, Label, select entity to change or delete (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors or delete text. Exit

**Label**, move
- Select waveform, UTILITY, Label, Displayed Waveforms then Position, to move

**Label**, on/off
- UTILITY, Label, Displayed Waveforms then Display, then Exit

**Label**, stored waveform time/date
- UTILITY, Modes, Stored Wfrms Time/Date (shows time/date stamp on menu selectors for stored waveforms)

**Left Limit**, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Left Limit, Top knob

**Level**, trigger
- or, Top knob, Alternate: TRIGGER, Level, Top knob

**Level Mode**, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Level Mode

**Line Trigger**
- TRIGGER, Trigger Select (Main or Window) then Source Desc, Line, Enter Desc

**Low Pass Filter**, trigger coupling
- TRIGGER, Trigger Select (Main or Window) then Coupling, select coupling

**Main Position**
- Select waveform, Bottom knob

**Main Size**
- Select waveform, Top knob

**Main→Win Trigger**, timing measurement
- MEASURE, Measurements, Main→Win Trig Time

**Main**, record length
- WAVEFORM, Horizontal Desc, Main Record Length, Top knob

**Mask Testing**, clear hits
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing, Clear Hits

**Mask Testing**, creating masks
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing, select a Mask # selector, select Edit Mask Definition, both knobs to specify a mask point, Add Point, add points as necessary, Exit Mask Editing

**Mask Testing**, deleting masks
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing, Mask # for the mask to be deleted, Delete Mask Definition

**Mask Testing**, on/off
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing, Count Mask Hits
**Mask Testing**, set N mask hits
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing,
- Mask #, Set N Mask Hits, either knob

**Mask Testing**, set N waveforms
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing,
- Mask #, Set N Waveforms, either knob

**Mask Testing**, stop counting hits after N mask hits
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing,
- Mask #, Stop N Mask Hits

**Mask Testing**, stop counting hits after N total hits
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing,
- Mask #, Stop N Total Hits (N is defined by Set N Mask Hits value)

**Mask Testing**, stop counting hits after N waveforms
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing,
- Mask #, Stop N Waveforms

**Max**, amplitude measurement:
- MEASURE, Measurements, Max

**Mean**, amplitude measurement
- MEASURE, Measurements, Mean

**Measured Waveform**, assigning a measurement to a waveform
- MEASURE, select measurement,
- Measured Waveform until measurement is assigned to desired waveform

**Measurement**, to remove all
- MEASURE, Measurements, Delete All

**Measurement**, to select
- MEASURE, Measurements, select up to six

**Measurement Compare**, on/off
- MEASURE, Stats Comp Test & Def,
- Compare Options then Compare (on/off)

**Measurement Compare**, set compare value
- MEASURE, Stats Comp Test & Def,
- Compare Options then Measure Selected
- Wfm Save as References or adjust by touching a measurement reference selector in “Adjust References” section, use either knob

**Measurement Statistics**, on/off
- MEASURE, Stats Comp Test & Def,
- Statistics
- Note: Main→Win Trig Time measurement has its own statistics control: Main→Win Trig Time, “Statistics” section

**Measurement Statistics**, restart logging.
- MEASURE, Stats Comp Test & Def,
- Reset

**Measurement Statistics**, set N
- MEASURE, Stats Comp Test & Def,
- Statistics N, either knob

**Medium**, knob resolution
- Knob label, Medium

**Menu**, remove pop-up
- Touch anywhere in graticule outside pop-up menu. Alternate: touch highlighted selector that displayed pop-up. Alternate: press any menu button

**Mesial**, default measurement parameter
- MEASURE, Stats Comp Test & Def,
- Default Parameters then Mesial, Top knob

**Mid**, amplitude measurement
- MEASURE, Measurements, Mid

**Min**, amplitude measurement
- MEASURE, Measurements, Min

**Mode**, GPIB
- UTILITY, GPIB, Mode

**Move Waveform** to Other Gratricule
- Select waveform to move, WAVEFORM,
- Upper Gratricule or Lower Gratricule,
- Move Waveform to Other Gratricule
Mask Testing, set N mask hits
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing,
  Mask #, Set N Mask Hits, either knob

Mask Testing, set N waveforms
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing,
  Mask #, Set N Waveforms, either knob

Mask Testing, stop counting hits after N mask hits
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing,
  Mask #, Stop N Mask Hits

Mask Testing, stop counting hits after N total hits
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing,
  Mask #, Stop N Total Hits (N is defined by Set N Mask Hits value)

Mask Testing, stop counting hits after N waveforms
(11403A, Option 1S only)
- EXTENDED FEATURES, Mask Testing,
  Mask #, Stop N Waveforms

Max, amplitude measurement:
- MEASURE, Measurements, Max

Mean, amplitude measurement
- MEASURE, Measurements, Mean

Measured Waveform, assigning a measurement to a waveform
- MEASURE, select measurement,
  Measured Waveform until measurement is assigned to desired waveform

Measurement, to remove all
- MEASURE, Measurements, Delete All

Measurement, to select
- MEASURE, Measurements, select up to six

Measurement Compare, on/off
- MEASURE, Stats Comp Test & Def,
  Compare Options then Compare (on/off)

Measurement Compare, set compare value
- MEASURE, Stats Comp Test & Def,
  Compare Options then Measure Selected Wfm Save as References or adjust by touching a measurement reference selector in "Adjust References" section, use either knob

Measurement Statistics, on/off
- MEASURE, Stats Comp Test & Def,
  Statistics
  Note: Main→Win Trig Time measurement has its own statistics control: Main→Win Trig Time, "Statistics" section

Measurement Statistics, restart logging
- MEASURE, Stats Comp Test & Def,
  Reset

Measurement Statistics, set N
- MEASURE, Stats Comp Test & Def,
  Statistics N, either knob

Medium, knob resolution
- Knob label, Medium

Menu, remove pop-up
  Touch anywhere in graticule outside pop-up menu. Alternate: touch highlighted selector that displayed pop-up. Alternate: press any menu button

Mesial, default measurement parameter
- MEASURE, Stats Comp Test & Def,
  Default Parameters then Mesial, Top knob

Mid, amplitude measurement
- MEASURE, Measurements, Mid

Min, amplitude measurement
- MEASURE, Measurements, Min

Mode, GPIB
- GPiB, Mode

Move Waveform to Other Graticule
  Select waveform to move, WAVEFORM,
  Upper Graticule or Lower Graticule, Move Waveform to Other Graticule
New Waveform

Parity, RS-232-C


Peak to Peak, amplitude measurement


Peak to Peak, Pk-Pk Autoset mode


Period, Autoset mode


Period, timing measurement


Persistence Mode, on/off

[waveform symbol] Waveform, [horizontal desc symbol] Horizontal Desc, [infinite symbol] Infinite Persist or Variable Persist to turn on or Normal to turn off. Alternate (11403A, Option 1S only): [extended features symbol] Extended Features, [persistent symbol] Persist/ Histograms, [as desired symbol] as desired

Phase, timing measurement


Pop-Up Menu, remove


Position, horizontal

Select waveform, [horizontal symbol], [bottom symbol] Bottom knob

Position, vertical (offset)

Select waveform, [vertical symbol], [bottom symbol] Bottom knob

Pre-Trigger View

Select waveform, [horizontal symbol], [bottom symbol] Bottom knob

Probe ID Button, set function

[utility symbol] Utility, [probe symbol] Probes, [wfm select symbol] Wfm Select/New Wfm or Wfm Select/New Wfm & Autoset or Sequence Settings
Command Reference

New Waveform

דוגור and  as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)

Noise, amplitude measurement

11403A, Option 1S only

MEASURE, Measurements, Noise (only with Color Grading on)

Noise Filter, trigger coupling

TRIGGER, Trigger Select (Main or Window) then Coupling, select coupling

Normal Trigger Mode

TRIGGER, Trigger Select (Main or Window) then Mode, Normal

Numeric Keypad

Knob label, enter number, magnitude (m for mili), etc. then Enter

Offset, vertical position

Select waveform, ↓, Bottom knob

Optional, fast or high-precision waveform scaling

UTILITY, Modes, Waveform Scalling to Optional (new waveforms will be Fast or High Prec depending on calculations invoked.)

Overshoot, amplitude measurement

MEASURE, Measurements, Overshoot

Pan and Zoom, multiple waveforms

UTILITY, Modes, Multitrace Pan/Zoom, then use Pan/Zoom as with single waveforms

Pan and Zoom, set pivot (center of magnification)

UTILITY, Modes, Pan/Zoom Pivot

Pan and Zoom, using

Select waveform, ↓, Pan/Zoom to On, Top knob for magnification, Bottom knob for position

Parity, RS-232-C

UTILITY, RS232C, Parity

Peak to Peak, amplitude measurement

MEASURE, Measurements, Peak-Peak

Peak to Peak, Pk-Pk Autoset mode

UTILITY, Modes, Vertical

Period, Autoset mode

UTILITY, Modes, Horizontal

Period, timing measurement

MEASURE, Measurements, Period

Persistency Mode, on/off

WAVEFORM, Horizontal Desc, Infinite Persist or Variable Persist to turn on or Normal to turn off. Alternate (11403A, Option 1S only): EXTENDED FEATURES, Persist/ Histograms, as desired

Phase, timing measurement

MEASURE, Measurements, Phase

Pop-Up Menu, remove

Touch anywhere in graticule outside pop-up menu. Alternate: touch highlighted selector that displayed pop-up. Alternate: press any menu button

Position, horizontal

Select waveform, ↓, Bottom knob

Position, vertical (offset)

Select waveform, ↓, Bottom knob

Pre-Trigger View

Select waveform, ↓, Bottom knob

Probe ID Button, set function

UTILITY, Probes, Wfm Select/New Wfm or Wfm Select/New Wfm & Autoset or Sequence Settings
Probes, calibrate (de-skew, compensate)
- UTILITY, Probes, connect probe or input to calibrator and select channel

Propagation Delay, timing measurement
- MEASURE, Measurements, PropDelay, PropDelay, select delayed waveform from top of menu

Proximal, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Proximal then Bottom knob

Pulse, Autoset mode
- UTILITY, Modes, Horizontal

Pulse Width, timing measurement
- MEASURE, Measurements, Width

Recall, stored setting
- STORE/RECALL, Recall Setting, select setting

Recall, stored waveform
- STORE/RECALL, Recall Waveform, select waveform

Record Length, set by Initialize
- UTILITY, Modes, Init Sets Rec Len To

Record Length, main
- WAVEFORM, Horizontal Desc, Main Record Length, Top knob

Record Length, window
- WAVEFORM, Horizontal Desc, Window Record Length, Bottom knob

Reference Level, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Reference Level then either knob

Reference Value, for measurement compare
- MEASURE, Stats Comp Test & Def, Compare Options then Measure Selected Wfm Save as References or adjust by touching a measurement reference selector in "Adjust References" section, use either knob

Remove Waveform
- Select waveform to delete, Remove/Clr Wfm #, Remove Wfm #

Remove Window
- Select window waveform to delete, Remove/Clr Wfm #, Remove Wfm #

Remove, pop-up menu
- Touch anywhere in graticule outside pop-up menu. Alternate: touch highlighted selector that displayed pop-up. Alternate: press any menu button

Reset Oscilloscope
- UTILITY, Initialize

Reset, all default measurement parameters
- MEASURE, Stats Comp Test & Def, Default Parameters then Initialize Defaults

Reset, waveform measurement parameters to defaults
- Select waveform, MEASURE, Stats Comp Test & Def, Default Parameters then Copy Defaults to Sel Wfm

Right Limit, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Right Limit, Bottom knob

Rise Time, timing measurement
- MEASURE, Measurements, Rise

RMS, amplitude measurement
- MEASURE, Measurements, RMS

RS-232-C Parameters
- UTILITY, RS232C, as needed
Probes, calibrate (deskew, compensate)
    UTILITY, Probes, connect probe or input
to calibrator and select channel

Propagation Delay, timing measurement
    MEASURE, Measurements, PropDelay, PropDelay, select delayed waveform
    from top of menu

Proximal, default measurement parameter
    MEASURE, Stats Comp Test & Def,
    Default Parameters then Proximal
    Bottom knob

Pulse, Autoset mode
    UTILITY, Modes, Horizontal

Pulse Width, timing measurement
    MEASURE, Measurements, Width

Recall, stored setting
    STORE/RECALL, Recall Setting, select setting

Recall, stored waveform
    STORE/RECALL, Recall Waveform,
    select waveform

Record Length, set by Initialize
    UTILITY, Modes, Init Sets Rec Len To

Record Length, main
    WAVEFORM, Horizontal Desc, Main
    Record Length, Bottom knob

Record Length, window
    WAVEFORM, Horizontal Desc, Window
    Record Length, Bottom knob

Reference Level, default measurement parameter
    MEASURE, Stats Comp Test & Def,
    Default Parameters then Reference Level
    then either knob

Reference Value, for measurement compare
    MEASURE, Stats Comp Test & Def,
    Compare Options then Measure Selected
    Wfm Save as References or adjust by touching
    a measurement reference selector in "Adjust
    References" section, use either knob

Remove Waveform
    Select waveform to delete, Remove/Ctr Wfm
    #, Remove Wfm #

Remove Window
    Select window waveform to delete, Remove/Ctr Wfm #, Remove Wfm #

Remove, pop-up menu
    Touch anywhere in grid in figure outside pop-up
    menu. Alternate: touch highlighted selector
    that displayed pop-up. Alternate: press any
    menu button

Reset Oscilloscope
    UTILITY, Initialize

Reset, all default measurement parameters
    MEASURE, Stats Comp Test & Def,
    Default Parameters then Initialize Defaults

Reset, waveform measurement parameters to defaults
    Select waveform, MEASURE, Stats
    Comp Test & Def, Default Parameters then
    Copy Defaults to Sel Wfm

Right Limit, default measurement parameter
    MEASURE, Stats Comp Test & Def,
    Default Parameters then Right Limit, Bottom
    knob

Rise Time, timing measurement
    MEASURE, Measurements, Rise

RMS, amplitude measurement
    MEASURE, Measurements, RMS

RS-232-C Parameters
    UTILITY, RS232C, as needed
Command Reference

Runs After Delay
- TRIGGER, Window Holdoff Md, No Holdoff Triggered from Main

Sample Interval, display
- WAVEFORM, Horizontal Desc, read out at top of pop-up menu

Save Current Measurement Values as Compare Reference
- MEASURE, Stats Comp Test & Def; Compare Options then Measure Selected Wfm Save as References

Save Setting
- STORE/RECALL, Store Setting, select associated menu at bottom of pop-up menu, then Set Next FPS and either knob, then Store Next FPS

Save Waveform
- STORE/RECALL, Store Waveform, select waveform or Store All

Scaling, waveform
- UTILITY, Modes, Waveform Scaling. See also Fast and High Prec

Select Waveform
- Touch waveform on display. Alternate: WAVEFORM, Page to All Wfm Status then select waveform in major menu area

Self Test
- UTILITY, Self Test, Self Test

Self Test, extended diagnostics
- UTILITY, Extended Diagnostic, Extended Diagnostic then run desired tests then Exit

Setting, recall front panel setup
- STORE/RECALL, Recall Setting, select setting

Setting, sequence to next
- STORE/RECALL, Sequence Settings, Sequencing (set to On) then Next Setting. Alternate: press probe button if ID function is set to sequence setting (see Probe ID Button)

Setting, store front panel setup
- STORE/RECALL, Store Setting, select menu to be stored with setting at bottom of pop-up menu, then Set Next FPS and either knob, then Store Next FPS

Signal Source
- WAVEFORM and as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)

Signal/Noise Ratio, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then S/N Ratio, Bottom knob

Size, adjust horizontal
- Select waveform, Top knob

Size, adjust vertical
- Select waveform, Top knob

Skew, timing measurement
- MEASURE, Measurements, Skew

Slope, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Slope

Slope, trigger
- TRIGGER, Trigger Select (Main or Window) then Slope

Sound, on/off
- UTILITY, Modes, Audio Feedback

Source, signal
- WAVEFORM and as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)
Runs After Delay
- TRIGGER, Window Holdoff Md, No Holdoff Triggered from Main

Sample Interval, display
- WAVEFORM, Horizontal Desc, read out at top of pop-up menu

Save Current Measurement Values as Compare Reference
- MEASURE, Stats Comp Test & Def, Compare Options then Measure Selected Wfm Save as References

Save Setting
- STORE/RECALL, Store Setting, select associated menu at bottom of pop-up menu, then Set Next FPS and either knob, then Store Next FPS

Save Waveform
- STORE/RECALL, Store Waveform, select waveform or Store All

Scaling, waveform
- UTILITY, Modes, Waveform Scaling, See also Fast and High Prec

Select Waveform
Touch waveform on display, Alternate: WAVEFORM, Page to All Wfms Status then select waveform in menu area

Self Test
- UTILITY, Self Test, Self Test

Self Test, extended diagnostics
- UTILITY, Extended Diagnostic, Extended Diagnostic then run desired tests then Exit

Setting, recall front panel setup
- STORE/RECALL, Recall Setting, select setting

Setting, sequence to next
- STORE/RECALL, Sequence Settings, Sequencing (set to On) then Next Setting, Alternate: Input probe button if ID function is set to sequence setting (see Probe ID Button)

Setting, store front panel setup
- STORE/RECALL, Store Setting, select menu to be stored with setting at bottom of pop-up menu, then Set Next FPS and either knob, then Store Next FPS

Signal Source
- UTILITY, as needed (all waveforms), Alternately: Input channel (single-channel waveforms only)

Signal/Noise Ratio, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then S/N Ratio, Bottom knob

Size, adjust horizontal
Select waveform, Top knob

Size, adjust vertical
Select waveform, Top knob

Skew, timing measurement
- MEASURE, Measurements, Skew

Slope, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Slope

Slope, trigger
- TRIGGER, Trigger Select (Main or Window) then Slope

Sound, on/off
- UTILITY, Modes, Audio Feedback

Source, signal
- UTILITY, as needed (all waveforms), Alternate: Input channel (single-channel waveforms only)
Command Reference

Source, trigger
- TRIGGER, Trigger Select (Main or Window) then Source Desc, then type description then Enter Desc

Split Dot Cursors
- Select first waveform, then Cursor Type, then Split Dots then touch selector for second waveform

Statistics, on/off
- MEASURE, Stats Comp Test & Def, Statistics Options, Statistics
  Note: Main→Win Trig Time measurement has its own statistics control: Main→Win Trig Time, Statistics section

Statistics, restart logging
- MEASURE, Stats Comp Test & Def, Reset

Statistics, set N
- MEASURE, Stats Comp Test & Def, Statistics Options, Statistics N, either knob

Status, waveform
- WAVEFORM, Vertical Desc selector shows some status or Page to All Wfms Status

Stop Bits, RS-232-C
- UTILITY, RS232C, Stop Bits

Store Setting
- STORE/RECALL, Store Setting, select associated menu at bottom of pop-up menu, then Set Next FPS and either knob, then Store Next FPS

Store Waveform
- STORE/RECALL, Store Waveform, select waveform or Store All

Stored Waveform, recall
- STORE/RECALL, Recall Waveform, select waveform

Command Reference

Stored Waveform, time/date label
- UTILITY, Modes, Stored Wfm Time/Date (shows time/date stamp on menu selectors for stored waveforms)

Terminator, GPIB
- UTILITY, GPIB, Terminator

Time, delay window trigger by
- see Holdoff

Time, set
- UTILITY, Time & Date, select item to change, adjust using knobs

Time A→B, timing measurement
- MEASURE, Measurements, Main→Win Trig Time

Time/Div
- Select waveform, ↔, Top knob

Time Base Position
- Select waveform, ↔, Bottom knob

Time Base Size
- Select waveform, ↔, Top knob

Time Mode, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Time Mode

Topline, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Topline then Top knob

Touch Panel, on/off
- TOUCH PANEL

Tracking, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Tracking

Trig After Delay
- TRIGGER, Window Holdoff Md, Holdoff by Time Triggered from Window
Command Reference

Source, trigger
- TRIGGER, Trigger Select (Main or Window) then Source Desc, type description then Enter Desc

Split Dot Cursors
- Select first waveform, Cursor Type, Split Dots then touch selector for second waveform

Statistics, on/off
- MEASURE, Stats Comp Test & Def, Statistics Options, Statistics
  Note: Main→Win Trig Time measurement has its own statistics control: Main→Win Trig Time, Statistics section

Statistics, reset logging
- MEASURE, Stats Comp Test & Def, Reset

Statistics, set N
- MEASURE, Stats Comp Test & Def, Statistics Options, Statistics N, either knob

Status, waveform
- WAVEFORM, Vertical Desc selector shows some status or Page to All Wfms Status

Stop Bits, RS-232-C
- UTILITY, RS232C, Stop Bits

Store Setting
- STORE/RECALL, Store Setting, select associated menu at bottom of pop-up menu, then Set Next FPS and either knob, then Store Next FPS

Store Waveform
- STORE/RECALL, Store Waveform, select waveform or Store All

Stored Waveform, recall
- STORE/RECALL, Recall Waveform, select waveform

Stored Waveform, time/date label
- UTILITY, Modes, Stored Wfm Time/Date (shows time/date stamp on menu selectors for stored waveforms)

Terminator, GPIB
- UTILITY, GPIB, Terminator

Time, delay window trigger by
- see Holdoff

Time, set
- UTILITY, Time & Date, select item to change, adjust using knobs

Time A→B, timing measurement
- MEASURE, Measurements, Main→Win Trig Time

Time/Div
- Select waveform, Top knob

Time Base Position
- Select waveform, Bottom knob

Time Base Size
- Select waveform, Top knob

Time Mode, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Time Mode

Topline, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Topline then Top knob

Touch Panel, on/off
- TOUCH PANEL

Tracking, default measurement parameter
- MEASURE, Stats Comp Test & Def, Default Parameters then Tracking

Trig After Delay
- TRIGGER, Window Holdoff Md, Holdoff by Time Triggered from Window
Command Reference

Trigger Time Delay, timing measurement
\[ \text{MEASURE, Measurements, } \text{Main } \rightarrow \text{Win Trig Time} \]

Trigger, AC coupling
\[ \text{TRIGGER, Trigger Select (Main or Window) then Coupling, } AC \]

Trigger, auto level mode
\[ \text{TRIGGER, Trigger Select (Main or Window) then Mode, } Auto Level \]

Trigger, auto mode
\[ \text{TRIGGER, Trigger Select (Main or Window) then Mode, } Auto \]

Trigger, DC coupling
\[ \text{TRIGGER, Trigger Select (Main or Window) then Coupling, } DC \]

Trigger, high pass filter coupling
\[ \text{TRIGGER, Trigger Select (Main or Window) then Coupling, } select \]

Trigger holdoff window by events, establishing
\[ \text{TRIGGER, Window Holdoff Md, Holdoff by Events Triggered from Window} \]

Trigger holdoff window by time, establishing
\[ \text{TRIGGER, Window Holdoff Md, Holdoff by Time Triggered from Window} \]

Trigger holdoff window by time or events, adjusting
\[ \text{Bottom knob. Alternate: TRIGGER, Time Holdoff or Events Holdoff, Bottom knob} \]

Trigger, holdoff window, removing
\[ \text{TRIGGER, Window Holdoff Md, No Holdoff Triggered from Main} \]

Trigger, level
\[ \text{Top knob. Alternate: TRIGGER, Level, Top knob} \]

Trigger, line
\[ \text{TRIGGER, Trigger Select (Main or Window) then Coupling, Line} \]

Command Reference

Trigger, low pass filter coupling
\[ \text{TRIGGER, Trigger Select (Main or Window) then Coupling, select coupling} \]

Trigger, noise filter coupling
\[ \text{TRIGGER, Trigger Select (Main or Window) then Coupling, select coupling} \]

Trigger, normal mode
\[ \text{TRIGGER, Trigger Select (Main or Window) then Mode, Normal} \]

Trigger, single shot
\[ \text{WAVEFORM, Acquire Desc, Single Trigger (press DIGITIZER for each successive acquisition)} \]

Trigger, slope
\[ \text{TRIGGER, Trigger Select (Main or Window) then Slope} \]

Trigger, source
\[ \text{TRIGGER, Trigger Select (Main or Window) then Source Desc, type description then Enter Desc} \]

Trigger window holdoff by events, establishing
\[ \text{TRIGGER, Window Holdoff Md, Holdoff by Events Triggered from Window} \]

Trigger window holdoff by time, establishing
\[ \text{TRIGGER, Window Holdoff Md, Holdoff by Time Triggered from Window} \]

Trigger window holdoff by time or events, adjusting
\[ \text{Bottom knob. Alternate: TRIGGER, Time Holdoff or Events Holdoff, Bottom knob} \]

Trigger, window holdoff, removing
\[ \text{TRIGGER, Window Holdoff Md, No Holdoff Triggered from Main} \]

TTL, Auto set mode
\[ \text{UTILITY, Modes, Vertical} \]
Command Reference

**Trigger Time Delay**, timing measurement
- MEASURE, Measurements,
- Main→Win Trig Time

**Trigger**, AC coupling
- TRIGGER, Trigger Select (Main or Window) then Coupling, AC

**Trigger**, auto level mode
- TRIGGER, Trigger Select (Main or Window) then Mode, Auto Level

**Trigger**, auto mode
- TRIGGER, Trigger Select (Main or Window) then Mode, Auto

**Trigger**, DC coupling
- TRIGGER, Trigger Select (Main or Window) then Coupling, DC

**Trigger**, high pass filter coupling
- TRIGGER, Trigger Select (Main or Window) then Coupling, select

**Trigger** holdoff window by events, establishing
- TRIGGER, Window Holdoff Md, Holdoff by Events Triggered from Window

**Trigger** holdoff window by time, establishing
- TRIGGER, Window Holdoff Md, Holdoff by Time Triggered from Window

**Trigger** holdoff window by time or events, adjusting
- Bottom knob. Alternate: TRIGGER, Time Holdoff or Events Holdoff, Bottom knob

**Trigger**, holdoff window, removing
- TRIGGER, Window Holdoff Md, No Holdoff Triggered from Main

**Trigger**, level
- or Top knob. Alternate: TRIGGER, Level, Top knob

**Trigger**, line
- TRIGGER, Trigger Select (Main or Window) then Coupling, Line

**Trigger**, low pass filter coupling
- TRIGGER, Trigger Select (Main or Window) then Coupling, select coupling

**Trigger**, noise filter coupling
- TRIGGER, Trigger Select (Main or Window) then Coupling, select coupling

**Trigger**, normal mode
- TRIGGER, Trigger Select (Main or Window) then Mode, Normal

**Trigger**, single shot
- WAVEFORM, Acquire Desc, Single Trigger (press DIGITIZER for each successive acquisition)

**Trigger**, slope
- TRIGGER, Trigger Select (Main or Window) then Slope

**Trigger**, source
- TRIGGER, Trigger Select (Main or Window) then Source Desc, type description then Enter Desc

**Trigger** window holdoff by events, establishing
- TRIGGER, Window Holdoff Md, Holdoff by Events Triggered from Window

**Trigger** window holdoff by time, establishing
- TRIGGER, Window Holdoff Md, Holdoff by Time Triggered from Window

**Trigger** window holdoff by time or events, adjusting
- Bottom knob. Alternate: TRIGGER, Time Holdoff or Events Holdoff, Bottom knob

**Trigger**, window holdoff, removing
- TRIGGER, Window Holdoff Md, No Holdoff Triggered from Main

**TTL**, Autoset mode
- UTILITY, Modes, Vertical
Command Reference

Undershoot, amplitude measurement
- MEASURE, Measurements, Under-shoot

Variable Persistence, on/off
- WAVEFORM, Horizontal Desc, Variable Persist. Alternate (11403A, Option 15 only):
- EXTENDED FEATURES, Persist/Histograms, Variable Persist

Vector Mode, display mode on/off
- UTILITY, Modes, Vectored Waveforms

Verbose, RS-232-C
- UTILITY, RS232C, Verbose

Vertical Bar Cursors
Select waveform, Cursor Type, Vertical Bars

Vertical Offset
Select waveform, Bottom knob

Vertical Size
Select waveform, Top knob

Volts/Div
Select waveform, Top knob

Waveform, calculations and functions
- WAVEFORM, Vertical Desc, as needed then Enter Desc

Waveform, clear data points
- STORE/RECALL, Clear Wfm, as needed. Alternate: Select waveform, Remove/Cr Wfm #, Clear Wfm#

Waveform, create new
- CREAT and as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)

Waveform, move to other graticule
- Select waveform to move, WAVEFORM, Upper Graticule or Lower Graticule, Move Waveform to Other Graticule

Waveform, recall stored
- STORE/RECALL, Recall Waveform, select waveform

Waveform, remove
Select waveform to delete, Remove/Cr Wfm #, Remove Wfm#

Waveform, scaling
- UTILITY, Modes, Waveform Scaling. See also Fast and High Prec

Waveform, select
Touch waveform on display. Alternate: WAVEFORM, Page to All Wfms Status then select waveform in major menu area

Waveform, status
- WAVEFORM, Vertical Desc selector shows some status or Page to All Wfms Status

Waveform, store
- STORE/RECALL, Store Waveform, select waveform or Store All

Waveform, vertical description
- WAVEFORM, Vertical Desc (shows some status), extend or modify as needed then Enter Desc

Waveform, XY from two live waveforms
Create and select Y waveform, WAVEFORM, Horizontal Desc, select X waveform

Waveform, XY from two stored waveforms
Create and select stored Y waveform, WAVEFORM, Horizontal Desc, select X stored waveform

Waveform Color, change assignment
(11403A only)
Select waveform, UTILITY, Color, Selected Wfm Color repeatedly until set to desired color. Window waveforms cannot be reassigned. Note: see Color for more color control
Command Reference

Undershoot, amplitude measurement
- MEASURE, Measurements, Undershoot

Variable Persistence, on/off
- WAVEFORM, Horizontal Desc, Variable Persit. Alternate (11403A, Option 15 only):
- EXTENDED FEATURES, Persist/Histograms, Variable Persit

Vector Mode, display mode on/off
- UTILITY, Modes, Vectored Waveforms

Verbose, RS-232-C
- UTILITY, RS232C, Verbose

Vertical Bar Cursors
- Select waveform, Cursor Type, Vertical Bars

Vertical Offset
- Select waveform, Bottom knob

Vertical Size
- Select waveform, Top knob

Volts/Div
- Select waveform, Top knob

Waveform, calculations and functions
- WAVEFORM, Vertical Desc, as needed then Enter Desc

Waveform, clear data points
- STORE/RECALL, Clear Wfm, as needed. Alternate: Select waveform, Remove/Cir Wfm 

Waveform, create new
- and as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)

Waveform, move to other graticule
- Select waveform to move, WAVEFORM, Upper Graticule or Lower Graticule, Move Waveform to Other Graticule

Waveform, recall stored
- STORE/RECALL, Recall Waveform, select waveform

Waveform, remove
- Select waveform to delete, Remove/Cir Wfm 

Waveform, scaling
- UTILITY, Modes, Waveform Scaling. See also Fast and High Prec

Waveform, select
- Touch waveform on display. Alternate: WAVEFORM, Page to All Wfms Status then select waveform in major menu area

Waveform, status
- WAVEFORM, Vertical Desc selector shows some status or Page to All Wfms Status

Waveform, store
- STORE/RECALL, Store Waveform, select waveform or Store All

Waveform, vertical description
- WAVEFORM, Vertical Desc (shows some status), extend or modify as needed then Enter Desc

Waveform, XY from two live waveforms
- Create and select Y waveform, WAVEFORM, Horizontal Desc, select X waveform

Waveform, XY from two stored waveforms
- Create and select stored Y waveform, WAVEFORM, Horizontal Desc, select X stored waveform

Waveform Color, change assignment
(11403A only)
- Select waveform, UTILITY, Color, Selected Wfm Color repeatedly until set to desired color. Window waveforms cannot be reasigned. Note: see Color for more color control
Waveform Label, define
- **UTILITY, Label**, select entity to display (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors or delete text. Exit

Waveform Label, change or delete
- **UTILITY, Label**, select entity to change or delete (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors or delete text. Exit

Waveform Label, move
Select waveform, **UTILITY, Label**, displayed Waveforms position, then Exit, © to move

Waveform Label, on/off
- **UTILITY, Label**, displayed Waveforms then Display

Waveform Label, stored waveform time/date
- **UTILITY, Modes, Stored Wfm Time/Date** (shows time/date stamp on menu selectors for stored waveforms)

Window Position
Select waveform, ↔, © Bottom knob

Window Size
Select waveform, ↔, © Top knob

Window, create new waveform
Select source waveform, [Window] or [Window2]

Window, record length
- **WAVEFORM, Horizontal Desc, Window Record Length, © Bottom knob**

Window, remove
Select window waveform to delete, © Remove/Ctr Wtm #, © Remove Wfm #

Window, trigger holdoff by events, establishing
- **TRIGGER, Window Holdoff Md, Holdoff by Events Triggered from Window**

Window, trigger holdoff by time, establishing
- **TRIGGER, Window Holdoff Md, Holdoff by Time Triggered from Window**

Window, trigger holdoff by time or events, adjusting
1, © Bottom knob. Alternate: **TRIGGER, Time Holdoff or Events Holdoff, © Bottom knob**

Window, trigger holdoff, removing
- **TRIGGER, Window Holdoff Md, © No Holdoff Triggered from Main**

XY Waveform, from two live waveforms
- Create and select Y waveform, **WAVEFORM**, Horizontal Desc, **select X waveform**

XY Waveform, from two stored waveforms
- Create and select stored Y waveform, **WAVEFORM**, Horizontal Desc, **select X stored waveform**
Waveform Label, define
  UTILITY, Label, select entity to display (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors or delete text. Exit

Waveform Label, change or delete
  UTILITY, Label, select entity to change or delete (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors or delete text. Exit

Waveform Label, move
  Select waveform, UTILITY, Label Displayed Waveforms then Position, then Exit, © to move

Waveform Label, on/off
  UTILITY, Label Displayed Waveforms then Display

Waveform Label, stored waveform time/date
  UTILITY, Modes, Stored Wfm Time/Date (shows time/date stamp on menu selectors for stored waveforms)

Window Position
  Select waveform, © Bottom knob

Window Size
  Select waveform, © Top knob

Window, create new waveform
  Select source waveform, [Window] or [Window]

Window, record length
  WAVEFORM, Horizontal Desc, Window Record Length, © Bottom knob

Window, remove
  Select window waveform to delete, © Remove/Ctr Wfm #, © Remove Wfm #
Command Reference

Tektronix 11402A/11403A

Alphabetic Command Summary

< > ::= Defined item
{} ::= One item from group required
|{}| ::= Optional item(s)
{}|{}| ::= Response to a query
|{}| ::= Exclusive or
FPS ::= Front Panel Setting

<NRI> ::= Signed integer

<NRI2> ::= Floating point, no exponent

<NRI3> ::= Floating point with exponent

<NRX> ::= { <NR1> | <NR2> | <NR3> }

<ui> ::= Unsigned integer
<curve data> ::= Tek Codes&Formats binary block data (bblock) or ASCII data points (<NR1> | .. | <NR1> ... )

<string> ::= Quoted string
?

HEader ::= Header, link, or argument; minimum spelling in CAPs
RESponse ::= Query response; minimum spelling in CAPs

Commands are set/query unless otherwise noted. Query-only headers are followed by a ? Query-only links are indicated with a leading ?; the argument(s) in parentheses after the colon show the response format. (Note: Do not enter the colon when querying a link.)

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A-B

ABBref <ON|OFF>
ABSTouch <ON|OFF> <NRx> <NRx>
ADJtrace <ui> <link> <arg>
HMAG <NRx>
HPosition <NRx>
HVPPosition <NRx>
HSize <NRx>
PANzoom <ON|OFF>
TSep <NRx>
VPOrientation <NRx>
VSSize <NRx>

ALTlink <link> <arg>
DIREctions <HOR|VER>
FORMAT <DRAFT|RES|REDUCED>
PORT <CENTR10N|GP|RS232>

AUTOSet <link> <arg>
HORIZ <EDGE|OFF|PERiod|PULse>
START
UNDO
VERL <ECL|PP|TTL|OFF>

AVG <ON|OFF>
BASEline <NRx>

BELL

BITMap <link> <arg>
DATACompres <ON|OFF>
# Tektronix 11402A/11403A
## Alphabetic Command Summary

< > ::= Defined item
{} ::= One item from group required
{} ::= Optional item(s)
{} ::= Response to a query
{} ::= Exclusive or
FPS ::= Front Panel Setting
<NR1> ::= Signed integer
<NR2> ::= Floating point, no exponent
<NR3> ::= Floating point with exponent
<NRx> ::= {<NR1> | <NR2> | <NR3>}
<ui> ::= Unsigned integer
<curve data> ::= Tek Codes & Formats binary block
data (<block>) or ASCII data
<qstring> ::= Quoted string
? ::= Query-only header or link

| HEader | Header, link, or argument; minimum spelling in CAPs |
| RESponse | Query response; minimum spelling in CAPs |

Commands are set/query unless otherwise noted. Query-only headers are followed by a ? Query-only links are indicated with a leading ?; the argument(s) in parentheses after the colon show the response form.

(Note: Do not enter the colon when querying a link.)

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### A-B

ABBwtmpre {ON|OFF}
ABStouch {CLEar | <NRx> | <NRx> }
ADJtrace <ui> | <link> | :<arg>
HMAttr <NRx>
HPPosition <NRx>
HVPosition <NRx>
HSize <NRx>
Panzoom {ON|OFF}
TRSep <NRx>
VPosition <NRx>
VSize <NRx>
ALTlink <link> | :<arg>
DIRectors {HORiz, VERt}
FORMatt {DRAFT, HRes, REScaled}
POIt {CENTRionic, GPlot, RS232}
AUTOSet [<link>] | :<arg>
HORiz {EDGE, OFF} | PERiod | PULse
START
UNDO
VERt {ECL, PP, TTL, OFF}
AVG {ON, OFF}
BASEline <NRx>
BELL
BITMap <link> | :<arg>
DATACompress {ON, OFF}
DATAFormat: {BINary | BINHex}
DiaRec: {HOR| VERT}
FORMAT: {DIT| other| DRA| HRec| REDuced| SCreen}
PORT: {CENTR| pitfalls | RP| RS232}
BYT: {LSB | MSB}

C

CALProbe <link>: <arg>
FULL: <slot> <ul>
SHORT: <slot> <ul>
CALStatus?
CCLconstants <ul>: <NRx>
CH <slot> <ul> <link>: <arg>
AMPlotsf: <NRx>
BW: <NRx>
BWHL: <NRx>
BWLC <NRx>
COUpling: (AC | DC | VC | OFF)
IMPeriences: <NRx>
MNSCoupling: (AC | DC | VC | OFF)
MNSoffset: <NRx>
? MNSProbe <qstring>
OFFSET: <NRx>
PLSCoupling: (AC | DC | VC | OFF)
PSoffset: <NRx>
? PLSProbe <qstring>
? PROBE <qstring>
PROTection: (ON | OFF)
SENetivity: <NRx>
? UNits <qstring>
VIOffset: <NRx>
CLEAR {ALL | qstring} <TRACE <ul>}
COLOR <ul>: <link>: <arg>
DEFAULT
HUE: <NRx>
LIGHTness: <NRx>
SATuration: <NRx>
COLOR DEFAULT
COMpare {ON | OFF}
CONDuct <link>: <arg>
FILE <NRx>
? REMAin <NRx>
TYPE: {AVG | BOTH | CONTINUous | ENV | FIL | GRAded}
HIST: {plt | MASK <ul> | SINGlE | WAVfrm}
CONFg?
COPY {<link> | .}
ABORT
FORM: {DITthered | DRA| HRec | REDuced | SCreen}
PORT: {CENTRons | GP| RS232}
PRINT: {ALLINK | BMD | HP | PIN8 | PIN24}
TEK4697 | TEK4696 | TEK4692
START?
? Status ( {IDle | SPOiling | PRIming | ABORTing})
CPUPin <qstring>

Cursor <link>: <arg>
READout: {ON | OFF}
REFERENCE: <TRACE <ul>
TYPs: {HBARS | PARed | SPLIT | VBARS}
? XUNIT: {AMP | DIV | DEGRees | DBM | HERTZ}
? YUNIT: {AMP | DIV | DEGRees | DBM | HERTZ}
? UNITS: {AMP | DIV | DEGRees | DBM | HERTZ}
? CURVE: <curve data>

D

DAInt {SINgle | WiOLE}
DATE <qstring>: = "<dd>-<mm>-<yy>"
DEBUG <link>: <arg>
GPIB: {ON | OFF}
RS232: {ON | OFF}
DEF <qstring> <qstring>
( Set-only)
DELAY [<ul>]
DELETE [<link>] [] <arg>
{FPS <ul> | <qstring> | STO <ul> | MENU <id>}
ALL: {FPS | MENU | STO}

dIAG?
DiGlitz {RUN | STOP}
DiSMversion {PP | RMSDev}
DIsp <link>: <arg>
C.WINBottom: <NRx>
C.WINLeft: <NRx>
C.WINRight: <NRx>
C.WINTop: <NRx>
D.Bottom: <NRx>
D.Left: <NRx>
D.Right: <NRx>
D.Top: <NRx>
? DATA: {<curve data>}
GRADFirst: {ON | OFF}
GRADScale: {<ul>}
GRAdisc: {DUAL | SINGlE}
IN TENcy: <NRx>
MODE: {DOTs | VECtora}
? NR: PT <ul>
PERSISTence: <NRx>
REFRESH: <NRx>
STATistics: {HIST | MASK}
TYPs: {GRADed | INfinite | NORmal | VARiable}
? XSIZE: <ul>
? YSIZE: <ul>
DIS Tal <NRx>
DLtrace {TRACE <ul>}
DOT1Abs: DOT2Abs <link>: <arg>
PCTG: <NRx>
XCOORD: <NRx>
XDIV: <NRx>
? XUnit: {EQ | LT | GT | UN}
? YCOORD: <NRx>
? YDIV: {EQ | LT | GT | UN}
? YUnit: {EQ | LT | GT | UN}
DOT1Rel: DOT2Rel <link>: <arg>
PCTG: <NRx>
XCOORD: <NRx>
XDIV: <NRx>
DSYmenu {<link> [] <arg>}
{ALL | WAVfrM | CURRs | DiSpLY | EXTFeaTures}
MEAS | STORE | RiCk | TRigger | UTILty1 | UTILty2 | WAVfrM | <<arg> | <<arg>}
EXTMenu: {MENU | id: | NONE}

E-F

ENCdg <link>: <arg>
DiSPly: {ASCII | BINARY}
HISTogram: {ASCII | BINARY}
SET: {ASCII | BINARY}
WAVfrM: {ASCII | BINARY}
ENV {ON | OFF}
EVENT
FEO
FFT <link> <arg>
FORMat: {DBM|LINEar}
WINdow: {BLackman|BLHarris|HAMming}
HANNing|RECTangular|TRIangular
FPAnel {ON|OFF}
FPSList?
FPSNum?
FPUUpdate {ALWAYS|EMPTy|NEVER}

H - I
H1Bar, H2Bar <link> <arg>
YCOord: <NRx>
YDiv: <NRx>
HISTogram {CLEar | <link> <arg> }
C.WINBottom: <NRx>
C.WINLeft: <NRx>
C.WINRight: <NRx>
C.WINTop: <NRx>
D.WINBottom: <NRx>
D.WINLeft: <NRx>
D.WINRight: <NRx>
D.WINTop: <NRx>
? DATA { <curve data> }
HISTScaling: {LINEar|LOG10}
? NR.pl <ui> 
TYPE: {HORIZ|NONE|VERT}
HNUMber <NR1>
HPGi <link> <arg>
COLOR: <ui> <NRx>
COLOR: DEFAULT
FORMat: {DRAW|HRes|SCReen}
PORT: {CENTROrics|GPib|RS232}
ID?
IDProbe?
INIT
INPut {STO <ui> | <qstring> }

J - L
JITTER <ui>?
JITThistp?
JITTEvel?
JITTOcation {CROs|MEStial}
KBAssign { <link> <arg> }
GRANularity: {COarse|FINE|MEDtum}
LOWER: <NRx>
UPPER: <NRx>
LABAr <link> <arg>
PCTg: <NRx>
XCOord: <NRx>
YDiv: <NRx>
LABel <link> <arg>
DELet: {ALL|FPS <ui> | <qstring> | STO <ui> | TRAc <ui> }
DISPLAY: {ON|OFF}
FPS <ui> <qstring>
STO <ui> <qstring>
TRAc <ui> <qstring>
LABRel <link> <arg>
PCTg: <NRx>
XCOord: <NRx>
YDiv: <NRx>
ALEvett (<NRx>)
ALEvel (<NRx>) / (Volts | DIVs)
COUpling: [AC | CPL | AC|Noise | DC | DCH]
DCNoise (Hz | Hz)
MODE: (AUTO | AUTO Level | NORefl)
SLOpe: [+ Tower | MINUs]
SO: < stringing >
? STAS ([TRG | NOTrg])
TIHofft (<NRx>)
TRWin < link: > < arg >
ALEvett (<NRx>)
COUpling: [AC | CPL | AC|Noise | DC | DCH]
DCNoise (Hz | Hz)
EVHofft (<NRx>)
MODE: (AUTO Level | NORefl)
NLEvel (<NRx>); (Volts | DIVs)
SLOpe: [+ Tower | MINUs]
SO: < stringing >
? STAS ([TRG | NOTrg])
TIHofft (<NRx>)
TT Average < NRx >
TT Rig (< ul >)?

SUBLEN < id >?

T

TBMain; TBWin < link: > < arg >
LENght; < NRx >
? XINor (< NR3 >)
TIME; < NRx >

TEK4692 < link: > < arg >
COLOR: [DEFAult] (< ul >; < NRx >)
DIRection: [HORIZ | VERT]
FORMAt: [DIThead | DRAft | HIRes | SCReen]
PORT: (CENTRonic | GPIb | RS232)

TEK4695; TEK4697 < link: > < arg >
COLOR: [DEFAult] (< ul >; < NRx >)
DIRection: [HORIZ | VERT]
FORMAt: [DIThead | DRAft | HIRes | REduced | SCReen]
PORT: (CENTRonic | GPIb | RS232)

TEXT < XTHd >
TEXT < CLeAr > < link: > < arg >
STRING < stringing >
K; < ul >
Y; < ul >

THD (< ul >)?
TIME < stringing > = "< hh > : < mm > : < ss >"

TOPline < NRx >

TR?

TRAsc (< ul >; < link: > < arg >
ACCuMulate; [ON | OFF]
? ACStaete ([ENHanced | NEHanced])
DEScription: < stringing >
SRLocation: [UPPer | LOWER]
SRtype: [(Lin)]
? WFMCal < (FAS | HIPrec)
? XUNI < (AMPs | DBM | DEGr | DIVs | Hertz | OHMs | SECConds | VOLts | WATs)
? YUNI < (AMPs | DBM | DEGr | DIVs | Hertz | OHMs | SECConds | VOLts | WATs)

TRAsc (< ul >)?

TRANum?

TRMain < link: > < arg >
**Functional Command Summary**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; &gt;</td>
<td>Defined item</td>
</tr>
<tr>
<td>( )</td>
<td>One item from group required</td>
</tr>
<tr>
<td>[ ]</td>
<td>Optional item(s)</td>
</tr>
<tr>
<td>()</td>
<td>Response to a query</td>
</tr>
<tr>
<td>FPI</td>
<td>Front Panel Setting</td>
</tr>
<tr>
<td>&lt;NRT&gt;</td>
<td>Signed integer</td>
</tr>
<tr>
<td>&lt;NP2&gt;</td>
<td>Floating point, no exponent</td>
</tr>
<tr>
<td>&lt;NP3&gt;</td>
<td>Floating point with exponent</td>
</tr>
<tr>
<td>&lt;NRF&gt;</td>
<td>{ &lt;NRT&gt;</td>
</tr>
<tr>
<td>&lt;ui&gt;</td>
<td>Unsigned integer</td>
</tr>
<tr>
<td>&lt;curve data&gt;</td>
<td>Tek Codes&amp;Formats binary block data (&lt;block&gt; or ASCII data points (&lt;NRT&gt;)}</td>
</tr>
<tr>
<td>&lt;string&gt;</td>
<td>Quoted string</td>
</tr>
<tr>
<td>?</td>
<td>Query-only header or link</td>
</tr>
</tbody>
</table>

**Header, link, or argument; minimum spelling in CAPA; links followed by:**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEAder</td>
<td>Header, link, or argument; minimum spelling in CAPA; links followed by:</td>
</tr>
<tr>
<td>RESpOne</td>
<td>Query response; minimum spelling in CAPA</td>
</tr>
</tbody>
</table>

Commands are set/query unless otherwise noted. Query-only headers are followed by a ?. Query-only links are indicated with a leading ?; the argument(s) in parentheses after the colon show the response form. (Note: Do not alter the colon when querying a link.)

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**Acquisition Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTOSet</td>
<td>&lt;link&gt;:&lt;arg&gt;</td>
</tr>
<tr>
<td>HORIZ</td>
<td>{EDGE</td>
</tr>
<tr>
<td>STAR</td>
<td>(Set-only)</td>
</tr>
<tr>
<td>VERT</td>
<td>{ECLI</td>
</tr>
<tr>
<td>AVG</td>
<td>(ON</td>
</tr>
<tr>
<td>CONDacq</td>
<td>&lt;link&gt;:&lt;arg&gt;</td>
</tr>
<tr>
<td>FIL</td>
<td>&lt;NRF&gt;</td>
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<tr>
<td>REM</td>
<td>(Set-only)</td>
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<tr>
<td>TYPE</td>
<td>{AVG</td>
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<tr>
<td>HIST</td>
<td>p</td>
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<tr>
<td>DIG</td>
<td>{RUN</td>
</tr>
<tr>
<td>ENV</td>
<td>(ON</td>
</tr>
<tr>
<td>FFT</td>
<td>&lt;link&gt;:&lt;arg&gt;</td>
</tr>
<tr>
<td>FORMat</td>
<td>{DBM</td>
</tr>
<tr>
<td>WINDow</td>
<td>{BLAckman</td>
</tr>
<tr>
<td>NAVg</td>
<td>&lt;NRF&gt;</td>
</tr>
<tr>
<td>NENV</td>
<td>&lt;NRF&gt;</td>
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<td>NGRAved</td>
<td>&lt;NRF&gt;</td>
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<tr>
<td>NHIStPt</td>
<td>&lt;NRF&gt;</td>
</tr>
<tr>
<td>NMAsk</td>
<td>&lt;NRF&gt;</td>
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<tr>
<td>NWAV</td>
<td>Trm</td>
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**Calibration Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALPrObe</td>
<td>&lt;link&gt;:&lt;arg&gt;</td>
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<tr>
<td>PULL</td>
<td>&lt;slot&gt;:&lt;ui&gt;</td>
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<tr>
<td>SHOrt</td>
<td>&lt;slot&gt;:&lt;ui&gt;</td>
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<td>CALS</td>
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<td>Constants</td>
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<td>Constants</td>
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<td>MCA/</td>
<td>Constants</td>
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<tr>
<td>RCA/</td>
<td>Constants</td>
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**Channel/Vertical Commands**

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</thead>
<tbody>
<tr>
<td>CH</td>
<td>&lt;slot&gt;:&lt;ui&gt;</td>
</tr>
<tr>
<td>AMP</td>
<td>&lt;NRF&gt;</td>
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<tr>
<td>BW</td>
<td>&lt;NRF&gt;</td>
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<tr>
<td>BW</td>
<td>&lt;NRF&gt;</td>
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<tr>
<td>BWH</td>
<td>&lt;NRF&gt;</td>
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<tr>
<td>BWLO</td>
<td>&lt;NRF&gt;</td>
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<tr>
<td>COU</td>
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<td>IM</td>
<td>P r e s e n c e</td>
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<tr>
<td>MNS</td>
<td>COUplng</td>
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<td>MNS</td>
<td>Offset</td>
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<td>Probe</td>
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<tr>
<td>OFFSET</td>
<td>&lt;NRF&gt;</td>
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<td>PLs</td>
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<td>SOft</td>
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<td>RP</td>
<td>Lugin</td>
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**Cursor Commands**

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<tbody>
<tr>
<td>CURSor</td>
<td>&lt;link&gt;:&lt;arg&gt;</td>
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<tr>
<td>READout</td>
<td>{ON</td>
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<td>REFerence</td>
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<td>XUNI</td>
<td>{AMP</td>
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<td>SECOnds</td>
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<td>YUNI</td>
<td>{AMP</td>
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<td>OHMs</td>
<td>SECOnds</td>
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<tr>
<td>DOTT</td>
<td>Abs</td>
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<td>PCTg</td>
<td>&lt;NRF&gt;</td>
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<tr>
<td>XCO</td>
<td>ord</td>
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<tr>
<td>XDIV</td>
<td>&lt;NRF&gt;</td>
</tr>
<tr>
<td>? XOUI</td>
<td>{EO</td>
</tr>
<tr>
<td>? YCO</td>
<td>ord</td>
</tr>
<tr>
<td>? YDV</td>
<td>(&lt;NRF&gt;</td>
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<tr>
<td>? YQU</td>
<td>(EO</td>
</tr>
<tr>
<td>DOT</td>
<td>T</td>
</tr>
<tr>
<td>XCO</td>
<td>ord</td>
</tr>
<tr>
<td>XDIV</td>
<td>&lt;NRF&gt;</td>
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<tr>
<td>H1</td>
<td>BAR</td>
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<tr>
<td>YCO</td>
<td>ord</td>
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<tr>
<td>YDIV</td>
<td>&lt;NRF&gt;</td>
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<tr>
<td>V1</td>
<td>BAR</td>
</tr>
<tr>
<td>XCO</td>
<td>ord</td>
</tr>
<tr>
<td>XDIV</td>
<td>&lt;NRF&gt;</td>
</tr>
</tbody>
</table>
**Acquisition Commands**

- **AUTOSet** `<link>:<arg>`
- **HORizontal** `<EDGE><OFF><PERiod><PULSe>`
- **STARt** (Set-only)
- **UNDo** (Set-only)
- **VERTical** `<ECLIPSE><TTL><OFF>`
- **COND** `<link>:<arg>`
- **FILTration** `<NRx>`
- **? REMAIning `<NRx>`
- **TYPE** `<AVG><CONTInuous><ENV><FILT><GRADed>`
- **HISTogram** `<NRx>`
- **MASK** `<NRx>`
- **DIGItizer** `<RUN><STOP>`
- **ENVironment** `<ON><OFF>`
- **FFT** `<link>:<arg>`
- **FORMat** `<DBM><LINEar>`
- **WINDow** `<BLAckman><BL Harris><HAMming>`
- **NAVigation** `<NRx>`
- **NEV** `<NRx>`
- **NGRAde** `<NRx>`
- **NHLIST** `<NRx>`
- **NMAximize** `<NRx>`
- **NWAVFlm** `<NRx>`

**Calibration Commands**

- **CALProbe** `<link>:<arg>`
- **FULL** `<slot><uI>`
- **SHOW** `<slot><uI>`
- **CALStatus**
- **CCAComment** `<uI>:<NRx>`
- **LCAComment** `<NRx>:<NRx>`
- **MCAComment** `<NRx>:<NRx>`
- **RCAComment** `<NRx>:<NRx>`
- **SELFeal (FORce)** `<link>:<arg>`
- **MODE** `<AUTO><MAIn>`

**Channel/Vertical Commands**

- **CH** `<slot><uI>`
- **AMPLevel** `<NRx>`
- **BW** `<NRx>`
- **BWH** `<NRx>`
- **BWLO** `<NRx>`
- **COUpling** `<AC><DC><OFF><VC>`
- **IMpedance** `<NRx>`
- **MNSCoupling** `<AC><DC><OFF>`
- **MNSOffset** `<NRx>`
- **MNPProbe** `<<string>>`
- **OFFSet** `<NRx>`
- **PLSCoupling** `<AC><DC><VC><OFF>`
- **PLOffset** `<NRx>`
- **PLOutput** `<<string>>`
- **PROBE** `<<string>>`
- **PROTect** `<ON><OFF>`
- **SENsitivity** `<NRx>`
- **? UNITS** `<<string>>`
- **VCOFFset** `<NRx>`

**Cursor Commands**

- **CURSor** `<link>:<arg>`
- **READout** `<ON><OFF>`
- **REFERence** `<TRAck><ui>`
- **TYPE** `<HS1Ar|PA1ired|SPLitted>`
- **? XUNIT** `<AMPS|DIVS|DEGrees|DBM|HERtz>`
- **Ohms** `<SEConds|VOLts|WATts>`
- **YUNIT** `<AMPS|DIVS|DEGrees|DBM|HERtz>`
- **Ohms** `<SEConds|VOLts|WATts>`

**DOT1Abs** `<DOT2Abs` `<link>:<arg>`
- **PCTg** `<NRx>`
- **XCOOrd** `<NRx>`
- **XDIV** `<NRx>`
- **? XOval** `<<EQ|LT|GT|UN>`
- **YCOOrd** `<NRx>`
- **? YDIV** `<NRx>`
- **YGv** `<<EQ|LT|GT|UN>`

**DOT1Rel** `<DOT2Rel` `<link>:<arg>`
- **PCTg** `<NRx>`
- **XCOOrd** `<NRx>`
- **XDIV** `<NRx>`
- **HI8Bar** `<V2Bar` `<link>:<arg>`
- **YOval** `<NRx>`
- **YDIV** `<NRx>`
- **VI8Bar** `<V2Bar` `<link>:<arg>`
- **XCOOrd** `<NRx>`
- **XDIV** `<NRx>`
Commands

ABBmpre [ON/Off]
BYT cr (LSB|MSB)
CURVe <curve data>
ENCdgt <link> : <arg>
Display (ASCII|Binary)
HISTogram (ASCII|Binary)
SET: (ASCII|Binary)
WAITm: (ASCII|Binary)

arg>

Data Transfer Commands

arg>

al Commands

arg>

C|OFF

IMPut {STO<ui> | <qstring> }
CUTput {STO<ui> | TRAce<ui> | <qstring> }
SET <block>

D|OFF

WAVfmr?

WFMpre <link> : <arg>
ACStat: (ENHanced|ENNched)
BITnr (16)
BINrmt (2)
BYT nr (LSB|MSB)
CRVfnt ([ChKamO|NONE|NULL])
DATE: <qstring>
ENCdgt ([ASCII|Binary])
LABEL: <qstring>
NR.pn: {5[12]1024} 2046 4096 5120 8192 10240
PT:hint: ([ENV|XY])
TIME: <qstring>
WFIND: <STO<ui> | TRAce<ui> }
XINpt <NRx>
XNUnlt ([AMPs|DBM|DEGrees]|DIVS|HERtz|OMHz|SEConds|VOLts|WATts)

.commands

Lit|VBArs}
Greese |DBM|HERHz|VOLts|WATts
<brm|DBM|HERHz|VOLts|WATts
:: <arg>

Diagnostic Commands

DIAG?
TESI: [XTNc]

Display and Color Commands

BELl
COLOR<ui>
COLOR <ui>: <arg>
DEFault
HUE <NRx>
LIGHTness <NRx>
SATuration <NRx>
COLOR Defender

External I/O Commands

ALTinkjet <link> : <arg>
DIREction: (HORA|VERT)
FORMAT: (DRAW|HRes|REDuced)
PORT: (CENTronic|GPib|RS232)

BIMMap <link> : <arg>
DATACompress: (ON|OFF)
DATAFormat: (BINary|BINHex)
DIREction: (HORA|VERT)
FORMAT: (DITHERed|DRAW|HRes|REDuced|SCReen)
PORT: (CENTronic|GPib|RS232)

11402A/11403A Functional Command Summary
External I/O Commands (Cont.)

COPY [<link>];<arg>
ABort [Set-only]
FORMat: [DiThard] [DRAW] [HRes] [REDuced] [SCRen]
PRINTer: [ALTinkjet] [BMP] [HPGL] [PINS] [PIN2]
TEK4692[:TEK4696][:TEK4697]
START [Set-only]
DEBUG [<link>];<arg>
GP Ib: [ON] [OFF]
RS232: [ON] [OFF]
HPGL: [ON] [OFF]
COLOR: [uR] [NRx]
COLOR: DEFAULT
FORMat: [DRAW] [HRes] [SCReen]
PORT: [CENTronics] [GP Ib] [RS232]
PIN8: PIN24 [<link>];<arg>
FORMat: [DRAW] [HRes] [REDuced]
PORT: [CENTronics] [GP Ib] [RS232]
RS232: [ON] [OFF]
Baud: [NRx]
DELAY: [NRx]
ECHO: [ON] [OFF]
EOL: [CR] [CRLF] [LF] [LFc]
FLAGging: [SOFT] [HARd] [OFF]
PART: [ODD] [EVEN] [NONE]
STOPBits: [NRx]
VERIFY: [ON] [OFF]
TEK4692: [ON] [OFF]
COLOR: [uR] [NRx]
COLOR: DEFAULT
DIRection: [hORiz] [VERt]
FORMat: [DiThard] [DRAW] [HRes] [SCRen]
PORT: [CENTronics] [GP Ib] [RS232]
TEK4696: TEK4697: [ON] [OFF]
COLOR: [uR] [NRx]
COLOR: DEFAULT
DIRection: [hORiz] [VERt]
FORMat: [DiThard] [DRAW] [HRes] [REDuced] [SCRen]
PORT: [CENTronics] [GP Ib] [RS232]

Label and Text Commands

LABABS: [<link>];<arg>
PCT: [NRx]
XCOrd: [NRx]
YDIf: [NRx]
LABel: [<link>];<arg>
DELETE: [ALL] [FPS] [<ul>];<arg> [STRING] [STO] [<ul>];<arg> [TRACe] [<ul>];<arg> [ON] [OFF]
DISPLAY: [ON] [OFF]
FPS: [<ul>];<arg> [STRING]
STO: [<ul>];<arg> [STRING]
TRACe [<ul>];<arg> [STRING]
LABREL: [<link>];<arg>
PCTG: [NRx]
XCOrd: [NRx]
YDIf: [NRx]
TEXI: [CLEAR] [<link>];<arg> [STRING] [STRIng] [STRING]
X: [<ul>];<arg> [STRING]
Y: [<ul>];<arg> [STRING]

Measurement Commands

BASEline: [NRx]
COMPARE: [ON] [OFF]

DAInt: [Whole] [SIGNal]
DISPersion: [PP] [RMSDev]
DISTal: [NRx]
DLYTrace: [TRACe] [<ui>]
HNUMber: [NRx]
JITTstimpt?
JITTLeast?
JITTLocate: [CROEs] [MESs]
LMZone: [NRx]
MEAS?
<mneas>?
<mneas> := ([AMPLitude] [CROEs] [DELy] [DUTy] [EXTinction] [FALLimit] [FREQ] [Jet] [GAIN] [MAX] [MEAN] [MIN] [NOS] [OVERshoot] [PDElay] [PERiod] [PHASE] [PP] [RESolution] [RS] [SFrequency] [SKEW] [SMagnitude] [THD] [TRIG] [UNDershoot] [WIDTH] [YEnergy] [YTMins_area] [YTPis_area])
MEDge
MESs: [NRx]
MLEvel: [ABSolute] [BASEDelta] [RELative] [TOPDelta]
MLLimit: [mneas] [<ui>];<arg> [NRx]
MLLevel: [ABSolute] [BASEDelta] [RELative] [TOPDelta]
MLLimit: [mneas] [<ui>];<arg> [NRx]
MSCount: [NRx]
MSList: [EMPty] [mneas] [<ui>];<arg> [mneas] [<ui>];<arg> [mneas] [<ui>];<arg> <...>
MSLOpe: [PLUes] [MINUs]
MS: [mneas]?
MSNum?
MSTime?
MSYS: [ON] [OFF]
MTM: [ABSolute] [RELative]
MTTrack: [BASEline] [Both] [OFF] [ON] [TOPline]
NEDge
NOIS.hint?
NOISLocat: [BASEline] [TOPline]
PFResult?
PFTest: [OFF] [ON]
PINDEX: [NRx]
PROXimal: [NRx]
REFLevel: [NRx]
REFSave: [<link>];<arg> [CURREnt] [mneas] [<ui>];<arg> [NRx]
REFTrace: [TRACe] [<ui>]
RMZone: [NRx]
SHilo
SMOde: [HARMonic] [PEAK]
SNRati: [NRx]
STATistics: [ON] [OFF]
TOPline: [NRx]
TTAverage: [NRx]

Miscellaneous/System Commands

ABStouch: [CLEAR] [<NRx>] [NRx]
DATE: [STRING]
DEF: [STRING]
DSYMenu: [<link>];<arg> [ALL] [WAVform] [CURSOR] [DISPlay] [EXTFeatures] [MEAS] [STORE] [REcall] [TRIgger] [UTILITY] [UTILITY] [WAVform] [<link>];<arg> [NONE]
EXTMenu: [MENU] [NONE]
Status and Event Commands

CONFIG?  
EVENT?  
ID?  
IDProbe?  
P1Version?  
R0S (ON/OFF)  
SRQMask <link> : <arg>  
ABStouch: (ON/OFF)  
CALDans: (ON/OFF)  
CMDerr: (ON/OFF)  
EXErr: (ON/OFF)  
EXWarn: (ON/OFF)  
IDProbe: (ON/OFF)  
INErr: (ON/OFF)  
INWarn: (ON/OFF)  
MENTouch: (ON/OFF)  
OPCmnt: (ON/OFF)  
USER: (ON/OFF)  
STByte?  
UID <link>: <arg>  
CENTer: <qstring>  
LEFT: <qstring>  
MAIN: <qstring>  
RIGHT: <qstring>  

Time Base/Horizontal Commands

MAINPos <NRx>  
TBMain, TBWin <link> : <arg>  
LENGTH <NRx>  
TMKe <NRx>  
? XINor (<NR3>)  
WIN1Pos <NRx>  
WIN2Pos <NRx>  

Triggering Commands

TR?  
TRMain <link> : <arg>  
ALEvel: <NRx>  
ANLevel: <NRx>, (VOLts | DIVS)  
COUplng: [AC | ACH | ACH | ACnoise | DC | DCH | Dcnoise | Hlbw]  
MODe: [AUTO | AUTOLevel | NORmal]  
SLOPe: [PLUS | MINUs]  
SOurce: <qstring>  
? STATUS ((TRG | NOTrg))  
TIHldoff: <NRx>  
TRWin <link> : <arg>  
ALEvel: <NRx>  

CoupLing: [AC | ACH | ACH | ACnoise | DC | DCH | Dcnoise | Hlbw]  
EVHldoff: <NRx>  
MODe: [AUTO | Level | NORmal]  
NVL: <NRx>, (VOLts | DIVS)  
Slope: [PLUS | MINUS]  
SOurce: <qstring>  
? STATUS ((TRG | NOTrg))  
TIHldoff: <NRx>  
WFM: [MAIN | EVHldoff | TIHldoff]

Waveform and Settings Commands

ADJtrace <ui> : <arg>  
HMAG: <NRx>  
HPSinus: <NRx>  
HVPose: <NRx>  
HVSizex: <NRx>  
PANzr: (ON/OFF)  
TRSep: <NRx>  
VPSinus: <NRx>  
VSizex: <NRx>  
ADJtrace <ui> ?  
CLear (TRACE <ui> | <qstring> | ALL)  
DLeTe <link> : <arg>  
(FPS <ui> | <qstring> | MENU <id> | STO <ui>)  
ALL: (FPS | MENU | STO)  
FPSList?  
FPSNum?  
MASK <ui> : [DELETE] <link> : <arg>  
C.Points: [xcoord, ycoord]  
D.Points: [xcoord, ycoord]  
? NOCount <ui>  
? NR.pt <ui>  
MASKStat (CLEAR <link> : <arg>)  
COUNT: (OFF | ON)  
? NWFr <ui>  
? TOtal <ui>  
NVRan?  
PZMode <link> : <arg>  
M.trace (ON | OFF)  
P.Vol: [LEFT | CENT | RIGHT | TRigger]  
REColl (FPNxt | FPS <ui> | <qstring> )  
REMv <ui> | <qstring> | ALL  
SELECT (TRACE <ui> | <qstring> )  
SETSeq (ON | OFF)  
STOList?  
STONum?  
STORe <FPS <ui> | <link> : <arg>  
TRAce <ui> | <STO <ui> | <qstring> )  
<qstring> | STO <ui>  
TRace <ui> : <link> : <arg>  
ACCumulate: (ON | OFF)  
? ACState ([ENHanced | NENHanced])  
DESCription: (xqstring)  
GRLocation: [UPPER | LOWER]  
GRTypEn: [LINEar]  
? WFMCalc ([FAS | HIprec])  
? XUNit ([AMPS | DBMs | DEGrees] | DIVS | Hertz | OHMs)  
? SConds [VOLts | WAts]  
? YUNit ([AMPS | DBMs | DEGrees] | DIVS | Hertz | OHMs)  
? SConds [VOLts | WAts]  
TRAcel <ui> ?  
TRANum?  
WFMScaling (FORce | OPCIal)
# Escape Character Set

<table>
<thead>
<tr>
<th>Bits</th>
<th>00</th>
<th>01</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>α</td>
<td>β</td>
<td>γ</td>
<td>δ</td>
</tr>
<tr>
<td>01</td>
<td>ε</td>
<td>ζ</td>
<td>η</td>
<td>θ</td>
</tr>
<tr>
<td>10</td>
<td>ι</td>
<td>κ</td>
<td>λ</td>
<td>μ</td>
</tr>
<tr>
<td>11</td>
<td>ν</td>
<td>ξ</td>
<td>ζ</td>
<td>η</td>
</tr>
</tbody>
</table>

**Key**

Decimal: 17

Hex: 11

Escape character: B