

070-8194-00

Quick Reference

ASCII CHARACTER CODE CHART

HEX	DEC	CHARACTER	HEX	DEC	CHARACTER
00	0	NUL	80	128	(DEL)
01	1	(SOH)	81	129	(BS)
02	2	(STX)	82	130	(HT)
03	3	(ETX)	83	131	(LF)
04	4	(EOT)	84	132	(VT)
05	5	(ENQ)	85	133	(FF)
06	6	(ACK)	86	134	(SH)
07	7	(BEL)	87	135	(UH)
08	8	(BS)	88	136	(DBL SP)
09	9	(HT)	89	137	(NUL)
0A	10	(LF)	90	144	(0)
0B	11	(VT)	91	145	(1)
0C	12	(FF)	92	146	(2)
0D	13	(SH)	93	147	(3)
0E	14	(UH)	94	148	(4)
0F	15	(DBL SP)	95	149	(5)
10	16	(NUL)	96	150	(6)
11	17	(1)	97	151	(7)
12	18	(2)	98	152	(8)
13	19	(3)	99	153	(9)
14	20	(4)	100	160	(@)
15	21	(5)	101	161	(A)
16	22	(6)	102	162	(B)
17	23	(7)	103	163	(C)
18	24	(8)	104	164	(D)
19	25	(9)	105	165	(E)
1A	26	(@)	106	166	(F)
1B	27	(A)	107	167	(G)
1C	28	(B)	108	168	(H)
1D	29	(C)	109	169	(I)
1E	30	(D)	110	170	(J)
1F	31	(E)	111	171	(K)
20	32	(F)	112	172	(L)
21	33	(G)	113	173	(M)
22	34	(H)	114	174	(N)
23	35	(I)	115	175	(O)
24	36	(J)	116	182	(P)
25	37	(K)	117	183	(Q)
26	38	(L)	118	184	(R)
27	39	(M)	119	185	(S)
28	40	(N)	120	186	(T)
29	41	(O)	121	187	(U)
2A	42	(P)	122	188	(V)
2B	43	(Q)	123	189	(W)
2C	44	(R)	124	190	(X)
2D	45	(S)	125	191	(Y)
2E	46	(T)	126	192	(Z)
2F	47	(U)	127	193	([)
30	48	(V)			
31	49	(W)			
32	50	(X)			
33	51	(Y)			
34	52	(Z)			
35	53	([)			
36	54	(\)			
37	55	(])			
38	56	(^)			
39	57	(_)			
3A	58	(`)			
3B	59	({)			
3C	60	()			
3D	61	(})			
3E	62	(~)			
3F	63	()			

THE & 11402A 11403A

DIGITIZING
OSCILLOSCOPES

KEY

11402A

Tektronix

Tektronix



TEK

**Quick
Reference**

070-8193-00
Product Group 47

**THE
11402A
& 11403A**
**DIGITIZING
OSCILLOSCOPE**

*Please check for
CHANGE INFORMATION
at the rear of this manual*


Tektronix
COMMITTED TO EXCELLENCE

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 United 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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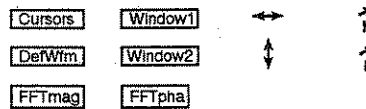
Task Reference

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:



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Basics

Clearing All Settings

UTILITY, Initialize

Checking the ROM Version

UTILITY, Ident, Read firmware versions in the pop-up menu under FW 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

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, Selected Wfm Color repeatedly until set to desired color. Window waveforms cannot be re-assigned

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

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/Clr Wfm #, Clear Wfm #

Window Operations

Creating a Window

Select source waveform, Window1 or Window2

Removing a Window

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

Removing a Waveform

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



Acquiring Waveforms

Acquiring with Autoset

AUTOSSET 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

and 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

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

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



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, 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

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

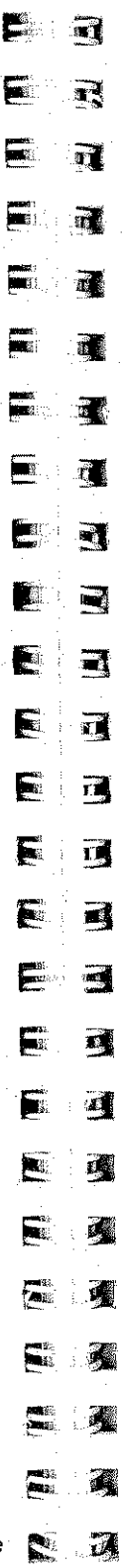
Using Diagnostics

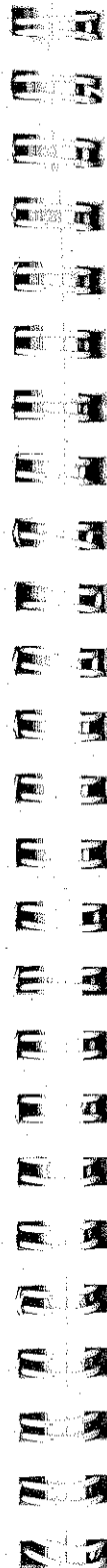
Self-Test Diagnostics

UTILITY, Self Test

Extended Diagnostics

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



















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

TRIGGER, Trigger Select (Main or Win-
dow) 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 mea-
surement 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

Command Reference

Auto Level Trigger Mode

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

Auto Trigger Mode

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

Autoset

AUTOSSET 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 Hori-
zontal

Average, on/off

WAVEFORM, Acquire Desc, Average
N

Average, set N

WAVEFORM, Acquire Desc, Set
AvgN, Top knob

Axis

see *Graticule*

B Sweep

see *Window*

Bandwidth Limit

WAVEFORM, BW Limit, select chan-
nel then select limit

Baseline, default measurement parameter

MEASURE, Stats Comp Test & Def,
 Default Parameters then Baseline then
 Bottom knob

Command Reference

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 need-
ed 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: [DefWfm], as
needed

Clear, delete displayed or stored waveform

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

Clear, waveform data points

STORE/RECALL, Clear Waveform,
 as needed. Alternate: Select waveform,
 Remove/Clr Wfm#, Clear Wfm#

Coarse, knob resolution

Knob label, Coarse

Color, change waveform assignment

Select waveform, UTILITY, Color, Se-
lected Wfm Color repeatedly until set to desired
color. Window waveforms cannot be reas-
signed

Color, default all (11403A only)

UTILITY, Color, Default Color

Command Reference

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



Command Reference

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

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

Cross, measurement

MEASURE, Measurements, Cross

Cursors, across two waveforms

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

Cursors, auto measurement area

see *Annotation, measurement*

Command Reference

Cursors, setting type

Select waveform, Cursors, Cursor Type, select type

Cursors, turning off

Page to Previous Menu. Alternate: WAVEFORM

Cursors, turning on

Select waveform, Cursors

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

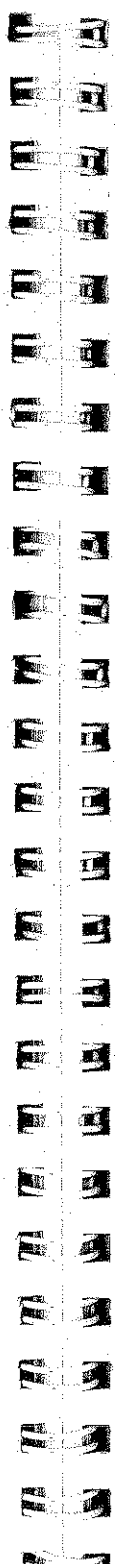
DefWfm and as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)

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/Clr 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, Vektored Waveforms

Distal, default measurement parameter

MEASURE, Stats Comp Test & Def, Default Parameters then Distal then Top knob

Dot Cursors

Select waveform, Cursors, Cursor Type, Paired Dots

Command Reference

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)

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

FFT, phase display (11403A only)

DefWfm, FFTphase(, select channel,), Enter Desc. Alternate: Select waveform, FFTmag, FFTpha

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

Command Reference

Functions, waveform

WAVEFORM, Vertical Desc, as needed then Enter Desc

Gain, amplitude measurement

MEASURE, Measurements, Gain

GPIO Parameters

UTILITY, GPIO, 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, 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

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, Cursors, 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 Persist. 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

- DefWfm, -, then source description then 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 then Position, to move

Label, on/off

UTILITY, Label Displayed Waveforms then Display, then Exit

Label, stored waveform time/date

UTILITY, Modes, Stored Wfm 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

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

Command Reference

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

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)

Command Reference

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 Graticule

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

Command Reference

New Waveform

DefWfm 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 milli, etc.) then Enter

Offset, vertical position

Select waveform, , , Bottom knob

Optional, fast or high-precision waveform scaling

UTILITY, Modes, Waveform Scaling 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

Command Reference

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

Persistence 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

Command Reference

- 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 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*

Command Reference

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

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 Wfms 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

Command Reference

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

DefWfm 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

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

Source, trigger

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

Split Dot Cursors

Select first waveform, Cursors, 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, 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 Wfrms 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

MEASURE, Measurements,
 Main→Win Trig Time

Trigger, AC coupling

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

Trigger, auto level mode

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

Trigger, auto mode

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

Trigger, DC coupling

TRIGGER, Trigger Select (Main or Win-
dow) then Coupling, DC

Trigger, high pass filter coupling

TRIGGER, Trigger Select (Main or Win-
dow) 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

or , 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 Win-
dow) then Coupling, Line

Command Reference

Trigger, low pass filter coupling

TRIGGER, Trigger Select (Main or Win-
dow) then Coupling, select coupling

Trigger, noise filter coupling

TRIGGER, Trigger Select (Main or Win-
dow) then Coupling, select coupling

Trigger, normal mode

TRIGGER, Trigger Select (Main or Win-
dow) then Mode, Normal

Trigger, single shot

WAVEFORM, Acquire Desc, Single
Trigger (press DIGITIZER for each succes-
sive acquisition)

Trigger, slope

TRIGGER, Trigger Select (Main or Win-
dow) then Slope

Trigger, source

TRIGGER, Trigger Select (Main or Win-
dow) 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

or , 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, Undershoot

Variable Persistence, on/off

WAVEFORM, Horizontal Desc, Variable Persist. *Alternate (11403A, Option 1S only):*
 EXTENDED FEATURES, Persist/Histograms, Variable Persist

Vector Mode, display mode on/off

UTILITY, Modes, Vektored Waveforms

Verbose, RS-232-C

UTILITY, RS232C, Verbose

Vertical Bar Cursors

Select waveform, Cursors, 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 Waveform, as needed. *Alternate: Select waveform, Remove/Clr Wfm #, Clear Wfm #*

Waveform, create new

DefWfm 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

Command Reference

Waveform, recall stored

STORE/RECALL, Recall Waveform, select waveform

Waveform, remove

Select waveform to delete, Remove/Clr 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*

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. 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, Window1 or Window2

Window, record length

WAVEFORM, Horizontal Desc, Window Record Length, Bottom knob

Window, remove

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

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

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 (<bblock>) or ASCII data points (<NR1>[{, <NR1>}...])
<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

- ABBwmpre {ON|OFF}
- ABStouch {CLEAr} <NRx>, <NRx>
- ADJtrace <ui> <link>: <arg>
 - HMAg: <NRx>
 - HPOsition: <NRx>
 - HVPOsition: <NRx>
 - HVSize: <NRx>
 - PANzoom: {ON|OFF}
 - TRSep: <NRx>
 - VPOsition: <NRx>
 - VSize: <NRx>
- ALTinkjet <link>: <arg>
 - DIRection: {HORiz|VERT}
 - FORMat: {DRAft|HRes|REDUced}
 - PORT: {CENTRonics|GPIb|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}

(Set-only)
(Set-only)

DATAFormat: {BINARY|BINHex}
DIRection: {HORiz|VERT}
FORMat: {DIThered|DRAft|HIRes|REDUced|SCReen}
PORT: {CENTRONics|GPIb|RS232}

BYT.or {LSB|MSB}

C

CALProbe <link>:<arg>
FULl: <slot> <ui>
SHORt: <slot> <ui>

CALstatus?

CCAlconstants <ui>: <NRx>

CH <slot> <ui> <link>:<arg>

AMPoffset: <NRx>
BW: <NRx>
BWHI: <NRx>
BWL0: <NRx>
COUpling: {AC|DC|VC|OFF}
IMPedance: <NRx>
MNSCOUpling: {AC|DC|VC|OFF}
MNSOoffset: <NRx>
? MNSProbe (<qstring>)
OFFSet: <NRx>
PLSCOUpling: {AC|DC|VC|OFF}
PLSOoffset: <NRx>
? PLSProbe (<qstring>)
? PROBe (<qstring>)
PROTEct: {ON|OFF}
SENSitivity: <NRx>
? UNIts (<qstring>)
VCOffset: <NRx>

CLear {ALL|<qstring>|TRACE<ui>} (Set-only)

COLOR<ui> <link>:<arg>

DEFAUlt
HUE: <NRx>
LIGHtness: <NRx>
SATuration: <NRx>

COLOR DEFAUlt

COMpare {ON|OFF}

CONDAcq <link>:<arg>

FILL: <NRx>
? REMAining (<NR1>)
TYPE: {AVG|BOTH|CONTInuous|ENV|FILI|GRADED|
HIST.pt|MASK[<ui>]|SINGLE|WAVfrm}

CONFig?

COPY [<link>:]<arg>

ABORt (Set-only)
FORMat: {DIThered|DRAft|HIRes|REDUced|SCReen}
PORT: {CENTRONics|GPIb|RS232}
PRInter: {ALTInkjet|BITMap|HPGI|PIN8|PIN24|
TEK4697|TEK4696|TEK4692}

START (Set-only)
? STATus ({IDLe|SPOoling|PRINTing|ABORTing})

CPLugin <qstring>

CURSOr <link>:<arg>

READout: {ON|OFF}
REFERence: TRAcce<ui>
TYPE: {HBArS|PAIred|SPLit|VBArs}
? XUNit ({AMPs|DIVS|DEGrees|DBM|HERtz|
OHMs|SEConds|VOLts|WATts})
? YUNit ({AMPs|DIVS|DEGrees|DBM|HERtz|
OHMs|VOLts|WATts})

CURVe <curve data>

D

DAInt {SINGLE|WHOLE}

DATE <qstring> = "<dd>-<mon>-<yy>"

DEBUg <link>:<arg>

GPIb: {ON|OFF}

RS232: {ON|OFF}

DEF <qstring>, <qstring>

(Set-only)

DELAy [<ui>]?

DELeTe [<link>:]<arg>

(Set-only)

{FPS<ui>|<qstring>|STO<ui>|MENU<id>}

ALL: {FPS|MENU|STO}

DIAG?

DIGitizer {RUN|STOP}

DISPERsion {PP|RMSDev}

DISPlay <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>)

GRADFirst: {ON|OFF}

? GRADScale (<ui>)

GRaticule: {DUAL|SINGLE}

INTENsity: <NRx>

MODE: {DOTs|VECTors}

? NR.PT (<ui>)

PERSistence: <NRx>

REFREsh: <NRx>

STATistics: {HISTogram|MASK}

TYPE: {GRADED|INFinite|NORMAL|VARIABLE}

? XSize (<ui>)

? YSize (<ui>)

DISTal <NRx>

DLYtrace TRAcce<ui>

DOT1Abs; DOT2Abs <link>:<arg>

PCTg: <NRx>

XCOord: <NRx>

XDiv: <NRx>

? XQUal ({EQ|LT|GT|UN})

? YCOord (<NR3>)

? YDiv (<NR3>)

? YQUal ({EQ|LT|GT|UN})

DOT1Rel; DOT2Rel <link>:<arg>

(Set-only)

PCTg: <NRx>

XCOord: <NRx>

XDiv: <NRx>

DSYmenu [<link>:]<arg>

{ALL|WAVfrm|CURSOR|DISPlay|EXTFeatures|

MEAS|STORE|Recall|TRIGGER|UTILITY|

UTILITY2|WAVfrm|<link>:<arg>}

EXTMenu: {MENU<id>|NONE}

E-F

ENCdg <link>:<arg>

DISPlay: {ASCii|BINary}

HISTogram: {ASCii|BINary}

SET: {ASCii|BINary}

WAVfrm: {ASCii|BINary}

ENV {ON|OFF}

m
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y

d|

DATAFormat: {BINary|BINHex}
DIRection: {HORiz|VERT}
FORMat: {DIThered|DRAft|HIRes|REDUced|SCREen}
PORT: {CENTRronics|GPIB|RS232}
BYT.or {LSB|MSB}

C

CALProbe <link>:<arg>
FULI: <slot><ui>
SHORt: <slot><ui>
CALStatus?
CCAlconstants <ui>: <NRx>
CH <slot><ui> <link>:<arg>
AMPoffset: <NRx>
BW: <NRx>
BWHI: <NRx>
BWL0: <NRx>
COUpling: {AC|DC|VC|OFF}
IMPedance: <NRx>
MNSCOUpling: {AC|DC|VC|OFF}
MNSOffset: <NRx>
? MNSProbe (<qstring>)
OFFSet: <NRx>
PLSCOUpling: {AC|DC|VC|OFF}
PLSOFFset: <NRx>
? PLSProbe (<qstring>)
? PROBE (<qstring>)
PROTEct: {ON|OFF}
SENSitivity: <NRx>
? UNIts (<qstring>)
VCOFFset: <NRx>
CLEar {ALL|<qstring>|TRAcE<ui>} (Set-only)
COLor <ui> <link>:<arg>
DEFAUlt
HUE: <NRx>
LIGhtness: <NRx>
SATuration: <NRx>
COLor DEFAUlt
COMpare {ON|OFF}
CONDacq <link>:<arg>
FIL: <NRx>
? REMAining (<NR1>)
TYPe: {AVG|BOTH|CONTInuous|ENV|FIL|GRADed|
HIST.pt|MASK [<ui>]|SINgle|WAVfrm}
CONFIg?
COpy [<link>:<arg>] (Set-only)
ABORt (Set-only)
FORMat: {DIThered|DRAft|HIRes|REDUced|SCREen}
PORT: {CENTRronics|GPIB|RS232}
PRInter: {ALTinkJet|BITMap|HPGI|PIN8|PIN24|
TEK4697|TEK4696|TEK4692}
STARt (Set-only)
? STATus ({IDLe|SPOoling|PRINTIng|ABORtIng})
CPLugin <qstring>
CURSOR <link>:<arg>
READout: {ON|OFF}
REFERence: TRAcE<ui>
TYPe: {HBArS|PAIred|SPLIt|VBArs}
? XUNit ({AMPs|DIVS|DEGrees|DBM|HERtz|
OHMs|SEConds|VOLts|WATts})
? YUNit ({AMPs|DIVS|DEGrees|DBM|HERtz|
OHMs|VOLts|WATts})
CURVe <curve data>

D

DAInt {SINgle|WHOLE}
DATE <qstring> = "<dd>-<mon>-<yy>"
DEBUg <link>:<arg>
GPIb: {ON|OFF}
RS232: {ON|OFF}
DEF <qstring>,<qstring> (Set-only)
DELAy [<ui>]?
DELete [<link>:<arg>] (Set-only)
{FPS<ui>|<qstring>|STO<ui>|MENU<id>}
ALL: {FPS|MENU|STO}
DIAG?
DIGitizer {RUN|STOP}
DISPERsion {PP|RMSDev}
DISPlay <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>)
GRADFirst: {ON|OFF}
? GRADScale (<ui>)
GRATICule: {DUAL|SINgle}
INTENSity: <NRx>
MODE: {DOTs|VECTors}
? NR.PT (<ui>)
PERsistence: <NRx>
REFREsh: <NRx>
STATIStics: {HISTogram|MASK}
TYPe: {GRADed|INFinite|NORMal|VARIABLE}
? XSize (<ui>)
? YSize (<ui>)
DISTal <NRx>
DLYtrace TRAcE<ui>
DOT1Abs; DOT2Abs <link>:<arg>
PCTg: <NRx>
XCOOrd: <NRx>
XDIv: <NRx>
? XQUal ({EQ|LT|GT|UN})
? YCOOrd (<NR3>)
? YDIv (<NR3>)
? YQUal ({EQ|LT|GT|UN})
DOT1Rel; DOT2Rel <link>:<arg> (Set-only)
PCTg: <NRx>
XCOOrd: <NRx>
XDIv: <NRx>
DSYmenu [<link>:<arg>]
{ALL Wavfrm|CURSOR|DISPlay|EXTFeatures|
MEAS|STORE Recall|TRIGGER|UTILITY1|
UTILITY2|WAVfrm|<link>:<arg>}
EXTMenu: {MENU<id>|NONE}

E-F

ENCdg <link>:<arg>
DISPlay: {ASCIi|BINary}
HISTogram: {ASCIi|BINary}
SET: {ASCIi|BINary}
WAVfrm: {ASCIi|BINary}
ENV {ON|OFF}

EVENT?
FEOi (Set-only)
FFT <link>: <arg>
FORMat: {DBM|LInear}
WINDow: {BLAckman|BLHarris|HAMming|
HANning|RECTangular|TRIAngular}
FPAnel {ON|OFF}
FPSList?
FPSNum?
FPUdate {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.pt (<ui>)
TYPe: {HORiz|NONE|VERT}
HNuMber <NR1>
HPGI <link>: <arg>
COLor <ui>: <NRx>
COLor: DEFAULT
FORMat: {DRAft|HIRes|SCReen}
PORT: {CENTRonics|GPiB|RS232}
ID?
IDProbe?
INIT (Set-only)
INPut {STO <ui> | <qstring>}

J-L

JITter [<ui>]?
JITT.histpt?
JITTLLevel?
JITTLLocation {CROss|MESial}
KBAssign {<link>: <arg>}
GRANularity: {COArse|FINE|MEDIum}
LOWer: <NRx>
UPPer: <NRx>
LABAbs <link>: <arg>
PCTg: <NRx>
XCOord: <NRx>
YDiv: <NRx>
LABel <link>: <arg>
DELeTe: {ALL|FPS [<ui>]} | <qstring> | STO [<ui>]|
TRAcE [<ui>]} (Set-only)
DISPlay: {ON|OFF}
FPS <ui>: <qstring>
STO <ui>: <qstring>
TRAcE <ui>: <qstring>
LABRel <link>: <arg> (Set-only)
PCTg: <NRx> (Set-only)
XCOord: <NRx> (Set-only)
YDiv: <NRx> (Set-only)

LCAIconstants <ui>:<NRx>
LMZone <NRx>
LONGform {ON|OFF}
LPLugin <qstring>

M

MAINPos <NRx>
MASK <ui> {DElete|<link>:<arg>}
C.Points:<xcoord>,<ycoord> [,<xcoord>,<ycoord>...]
D.Points:<xcoord>,<ycoord> [,<xcoord>,<ycoord>...]
? NCOunt (<ui>)
? NR.pt (<ui>)
MASKStat {CLEar|<link>:<arg>}
COUNT: {OFF|ON}
? NWFm (<ui>)
? TOTal (<ui>)
MCAIconstants <ui>:<NRx>
MEAS?
<meas>?
<meas> ::= ({AMPLitude|CROSS|DELAy|DUTy|EXTInction|FALtime|FREq|JITter|GAIIn|MAX|MEAN|MID|MIN|NOIse|OVERshoot|PDElay|PERiod|PHAsE|PP|RISetime|RMS|SFRrequency|SKEw|SMAGnitude|THD|TTRig|UNDershoot|WIDTH|YTEnergy|YTMns_area|YTPIs_area})
MEDge
MENTouch?
MENU <id> <link>:<arg>
ATTach: {NONE|<ui>}
LABel: <qstring>
MODE: {HIGHlight|OFF|SElect|UNSElect}
POPPos: {DEFAult|<ui>}
MESial <NRx>
MHLimit <meas> [<ui>]:<NRx>
MLEvel {ABSOLute|BASEDelta|RELative|TOPDelta}
MLLimit <meas> [<ui>]:<NRx>
MSCount <NRx>
MSList {EMpty|<meas> [<ui>] [, <meas> [<ui>]...]}
MSLOpe {PLUs|MINUs}
MS <meas> [<ui>]?
MSNum?
MStat?
MSYs {ON|OFF}
MStat?
MTime {ABSOLute|RELative}
MTRack {BASeline|BOTH|ON|OFF|TOPline}

N - O

NAVg <NRx>
NEDge
NENV <NRx>
NGRAded <NRx>
NHIS.tpt <NRx>
NMAsk' <NRx>
NOIS.histpt?
NOISLocation {BASeline|TOPline}

NVRam?
NWAVfrm <NRx>
OUTput {STO<ui>|TRAcE<ui>|<qstring>}

P

PATH {ON|OFF}
PFResult?
PFTest {OFF|ON}
PINB; PIN24 <link>:<arg>
FORMat: {DRAft|HIRes|REDUced}
PORT: {CENTronics|GPIb|RS232}
PINdex <ui>
PIVersion?
POWERon?
PROBe {NT|NTAuto|SETSeq}
PROXimal <NRx>
PZMode <link>:<arg>
MULTitrace: {ON|OFF}
PIVot: {CENTer|LEFT|RIGHT|TRIGger}

R

RCAlconstants <ui>:<NRx>
RECall { FPNext|FPS <ui>|<qstring>} (Set-only)
REFLevel <NRx>
REFset <link>:<arg>
CURRENT: <meas> [<ui>] (Set-only)
<meas> [<ui>]: <NRx>
REFTRace TRAcE<ui>
REMOve {ALL|<qstring>|TRAcE<ui>} (Set-only)
RMZone <NRx>
RPLugin <qstring>
RQS {ON|OFF}
RS232 <link>:<arg>
BAUd: <NRx>
DELAy: <NRx>
ECHO: {ON|OFF}
EOL: {CR|CRLF|LF|LFCr}
FLAGging: {SOFT|HARD|OFF}
PARity: {ODD|EVEN|NONE}
STOPBits: <NRx>
VERBose: {ON|OFF}

S

SElect {TRAcE<ui>|<qstring>}
SELFcal {FORce|<link>:<arg>}
MODE: {AUTO|MANual}
SET
SET?
SETSeq {ON|OFF}
SHILO
SMODE {HARmonic|PEAK}
SNRatio <NRx>
SPEaker {ON|OFF}
SRQMask <link>:<arg>
ABStouch: {ON|OFF}
CALDue: {ON|OFF}
CMDerr: {ON|OFF}
EXErr: {ON|OFF}

EXWarn: {ON | OFF}
 IDProbe: {ON | OFF}
 INErr: {ON | OFF}
 INWarn: {ON | OFF}
 OPCmpl: {ON | OFF}
 MENTouch: {OFF | ON}
 USER: {ON | OFF}
 STATHist? [{HIST.pt | MEAN | NWFm | PP | RMSDev |
 SIGMA1 | SIGMA2 | SIGMA3}]
 STATistics {ON | OFF}
 STByte?
 STOList?
 STONum?
 STORE {FPS <ui> | <link>: <arg>} (Set-only)
 TRACE <ui>: {STO <ui> | <qstring>}
 <qstring>: STO <ui>
 SUB <id> <ui> <link>: <arg>
 LABEL: <qstring>
 MODE: {HIGHLIGHT | OFF | ON | SELECT | UNSELECT}
 TYPE: {BOX | RULE | TEXT}
 X: <ui>
 XLEN: <ui>
 Y: <ui>
 YLEN: <ui>
 SUBLEN <id>?

T

TBMain; TBWin <link>: <arg>
 LENGTH: <NRx>
 TIME: <NRx>
 ? XINcr (<NR3>)
 TEK4692 <link>: <arg>
 COLOR: {DEFAULT | <ui>: <NRx>}
 DIRection: {HORIZ | VERT}
 FORMat: {DITHERed | DRAft | HIRes | SCREEN}
 PORT: {CENTRONics | GPIb | RS232}
 TEK4696; TEK4697 <link>: <arg>
 COLOR: {DEFAULT | <ui>: <NRx>}
 DIRection: {HORIZ | VERT}
 FORMat: {DITHERed | DRAft | HIRes | REDUCed | SCREEN}
 PORT: {CENTRONics | GPIb | RS232}
 TEST [XTNd] (Set-only)
 TEXT {CLEAR | <link>: <arg>} (Set-only)
 STRing: <qstring>
 X: <ui>
 Y: <ui>
 THD[<ui>]?
 TIME <qstring> = "<hh>:<mm>:<ss>"
 TOPline <NRx>
 TR?
 TRACE <ui> <link>: <arg>
 ACCumulate: {ON | OFF}
 ? ACSstate ({ENHanced | NENHanced})
 DEScription: <qstring>
 GRLocation: {UPPER | LOWER}
 GRType: {LINEar}
 ? WFMCalc ({FAST | HIPrec})
 ? XUNIT ({AMPS | DBM | DEGRees | DIVS | HERTz | OHMs |
 SECOnds | VOLts | WATts})
 ? YUNIT ({AMPS | DBM | DEGRees | DIVS | HERTz | OHMs |
 SECOnds | VOLts | WATts})
 TRACE[<ui>]?
 TRANUm?
 TRMain <link>: <arg>

ALevel: <NRx>
 ANLevel: <NRx> {VOLts | DIVS}
 COUpling: {AC | ACLf | ACHf | ACNoise | DC | DCHf |
 DCNoise | HIBw}
 MODE: {AUTO | AUTOLevel | NORmal}
 SLOpe: {PLUS | MINUs}
 SOUrcE: <qstring>
 ? STAtus ({TRG | NOTrg})
 TIHoldoff: <NRx>
 TRWin <link>: <arg>
 ALevel: <NRx>
 COUpling: {AC | ACLf | ACHf | ACNoise | DC | DCHf |
 DCNoise | HIBw}
 EVHoldoff: <NRx>
 MODE: {AUTOLevel | NORmal}
 NLevel: <NRx> {VOLts | DIVS}
 SLOpe: {PLUS | MINUs}
 SOUrcE: <qstring>
 ? STAtus ({TRG | NOTrg})
 TIHoldoff: <NRx>
 TTAverage <NRx>
 TTRig[<ui>]?

U-V

UID <link>: <arg>
 CENTER: <qstring>
 LEFT: <qstring>
 MAIn: <qstring>
 RIGht: <qstring>
 UNDEF { <qstring> | ALL } (Set-only)
 UPTime?
 V1Bar; V2Bar <link>: <arg>
 XCOord: <NRx>
 XDIV: <NRx>

W

WAVfrm?
 WFMpre <link>: <arg>
 ACState: {ENHanced | NENHanced}
 ? BIT/nr (16)
 ? BN.fmt (RI)
 ? BYT/nr (2)
 ? BYT.or ({LSB | MSB})
 ? CRVchk ({CHKsm0 | NONE | NUL})
 DATE: <qstring>
 ? ENCDg ({ASCii | BINary})
 LABEL: <qstring>
 NR.pt {512 | 1024 | 2048 | 4096 | 5120 | 8192 | 10240}
 ? PT.fmt ({ENV | Y | XY})
 TIME: <qstring>
 ? WFid ({STO <ui> | TRACE <ui>})
 XINcr: <NRx>
 ? XMUIT (<NR3>)
 ? XUNIT ({AMPS | DBM | DEGRees | DIVS | HERTz |
 OHMs | SECOnds | VOLts | WATts})
 XZErO: <NRx>
 YMUit: <NRx>
 YUNIT: {AMPS | DBM | DEGRees | DIVS | HERTz |
 OHMs | SECOnds | VOLts | WATts}
 YZErO: <NRx>
 WFMScalng {FORCE | OPTional}
 WIN1Pos <NRx>
 WIN2Pos <NRx>
 WTMode {MAIn | EVHoldoff | TIHoldoff}

Tektronix 11402A/11403A Functional 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 (<bblock>) or ASCII data points (<NR1>[{, <NR1>}...])
<qstring>	::= Quoted string
?	::= Query-only header or link

Header	Header, link, or argument; minimum spelling in CAPs; links followed by :
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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Acquisition Commands

AUTOSet [<link>:]<arg>
 HORiz: {EDGE|OFF|PERiod|PULse} (Set-only)
 START (Set-only)
 UNDO (Set-only)
 VERT: {ECL|PP|TTL|OFF}
 AVG {ON|OFF}
 CONDacq <link>:<arg>
 FIL: <NRx>
 ? REMAining (<NR1>)
 TYPE: {AVG|BOTH|CONTInuous|ENV|FIL|GRADED|HIST.pt|MASK[<ui>]SINGle}
 DiGitizer {RUN|STOP}
 ENV {ON|OFF}
 FFT <link>:<arg>
 FORMat: {DBM|LINEar}
 WINDow: {BLAckman|BLHarris|HAMming|HANning|RECTangular|TRIAngular}
 NAVg <NRx>
 NENV <NRx>
 NGRAded <NRx>
 NHIS.tpt <NRx>
 NMAsk <NRx>
 NWAvm <NRx>

Calibration Commands

CALProbe <link>:<arg>
 FUL: <slot> <ui>
 SHORt: <slot> <ui>
 CALStatus?
 CCAIconstants <ui>:<NRx>
 LCAIconstants <ui>:<NRx>
 MCAIconstants <ui>:<NRx>
 RCAIconstants <ui>:<NRx>
 SELFcal {FORce|<link>:<arg>}
 MODE: {AUTO|MANual}

Channel/Vertical Commands

CH <slot> <ui> <link>:<arg>
 AMPoffset: <NRx>
 BW: <NRx>
 BWHI: <NRx>
 BWLo: <NRx>
 COUpling: {AC|DC|OFF|VC}
 IMPedance: <NRx>
 MNSCoupling: {AC|DC|VC|OFF}
 MNSOffset: <NRx>
 ? MNSProbe (<qstring>)
 OFFSet: <NRx>
 PLSCoupling: {AC|DC|VC|OFF}
 PLSOffset: <NRx>
 ? PLSProbe (<qstring>)
 ? PROBE (<qstring>)
 PROTECT: {ON|OFF}
 SENSitivity: <NRx>
 ? UNIts (<qstring>)
 VCOffset: <NRx>
 CPLugin <qstring>
 LPLugin <qstring>
 RPLugin <qstring>

Cursor Commands

CURSor <link>:<arg>
 REAdout: {ON|OFF}
 REFERENCE: TRAcE <ui>
 TYPE: {HBArs|PAIred|SPLit|VBArs}
 ? 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>
 ? XQUal ({EQ|LT|GT|UN})
 ? YCOord (<NR3>)
 ? YDiv (<NR3>)
 ? YQUal ({EQ|LT|GT|UN})
 DOT1Rel; DOT2Rel <link>:<arg> (Set-only)
 PCTg: <NRx>
 XCOord: <NRx>
 XDiv: <NRx>
 H1Bar; H2Bar <link>:<arg>
 YCOord: <NRx>
 YDiv: <NRx>
 V1Bar; V2Bar <link>:<arg>
 XCOord: <NRx>
 XDiv: <NRx>

Commands

>
>
>
>
>
arg>}

al Commands

arg>

VC}
C|OFF}

>|OFF}

ommands

Lit|VBArs}
Grees|DBM|HERtz|
|VOLts|WATts})
:Grees|DBM|HERtz|
|VOLts|WATts})
.:<arg>

)
)
<arg> (Set-only)

Data Transfer Commands

ABBwfmpr {ON|OFF}
BYT.or {LSB|MSB}
CURVe <curve data>
ENCdg <link>:<arg>
 DISPlay: {ASCIi|BINary}
 HISTogram: {ASCIi|BINary}
 SET: {ASCIi|BINary}
 WAVfrm: {ASCIi|BINary}
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.pt (<ui>)
 TYPe: {HORiz|NONE|VERT}
INPut {STO<ui>|<qstring>}
OUTPut {STO<ui>|TRAcE<ui>|<qstring>}
SET <bblock>
SET?
WAVfrm?
WFMpre <link>:<arg>
 ACState: {ENHanced|NENhanced}
 ? BIT/nr (16)
 ? BN.fmt (Rl)
 ? BYT/nr (2)
 ? BYT.or ({LSB|MSB})
 ? CRVchk ({CHKsm0|NONE|NULL})
 DATE: <qstring>
 ? ENCdg ({ASCIi|BINary})
 LABel: <qstring>
 NR.pt: {512|1024|2048|4096|5120|8192|10240}
 ? PT.fmt ({ENV|Y|XY})
 TIME: <qstring>
 ? WFId ({STO<ui>|TRAcE<ui>})
 XINcr: <NRx>
 ? XMUlt (<NR3>)
 ? XUNit ({AMPS|DBM|DEGrees|DIVS|HERtz|
 OHMs|SECOnds|VOLts|WATts})
 XZErO: <NRx>
 YMUlt: <NRx>
 YUNit: {AMPS|DBM|DEGrees|DIVS|HERtz|
 OHMs|SECOnds|VOLts|WATts}
 YZErO: <NRx>

Diagnostic Commands

DIAG?
TEST [XTNd] (Set-only)

Display and Color Commands

BELL
COLor<ui> <link>:<arg>
 DEFAult
 HUE:<NRx>
 LIGHtness:<NRx>
 SATuration:<NRx>
COLor DEFAult

DISPlay <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>)
 GRADFirst: {ON|OFF}
 ? GRADScale (<ui>)
 GRATicule: {DUAL|SINGle}
 INTENsity: <NRx>
 MODE: {DOTs|VECTors}
 ? NR.PT (<ui>)
 PERSistence: <NRx>
 REFREsh: <NRx>
 STATistics: {HISTogram|MASK}
 TYPe: {GRADed|INFinite|NORMal|VARIABLE}
 ? XSize (<ui>)
 ? YSize (<ui>)
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.pt (<ui>)
 TYPe: {HORiz|NONE|VERT}
KBAssign {<link>:<arg>}
 GRANularity: {COArse|FINE|MEDIUM}
 LOWer: <NRx>
 UPPer: <NRx>
MENTouch?
MENU <id> <link>:<arg>
 ATTach: {NONE|<ui>}
 LABel: <qstring>
 MODE: {HIGHlight|OFF|SElect|UNSElect}
 POPPos: {DEFAult|<ui>}
STATHist? [{HIST.pt|MEAN|NWFm|PP|RMSDev|
 SIGMA1|SIGMA2|SIGMA3}]
SUB <id> <ui> <link>:<arg>
 LABel: <qstring>
 MODE: {HIGHlight|OFF|ON|SElect|UNSElect}
 TYPe: {BOX|RULE|TEXT}
 X:<ui>
 XLEN:<ui>
 Y:<ui>
 YLEN:<ui>
SUBLEN <id>?

External I/O Commands

ALTinkjet <link>:<arg>
 DIRection: {HORiz|VERT}
 FORMat: {DRAft|HIRes|REDUced}
 PORT: {CENTronics|GPIb|RS232}
BITMap <link>:<arg>
 DATACompress: {ON|OFF}
 DATAFormat: {BINary|BINHex}
 DIRection: {HORiz|VERT}
 FORMat: {DIThered|DRAft|HIRes|REDUced|SCREEN}
 PORT: {CENTronics|GPIb|RS232}

External I/O Commands (Cont)

COPY [*<link>*]:*<arg>*
ABORT (Set-only)
FORMat: {DIThered|DRAft|HIRes|REDUced|SCREen}
PRInter: {ALTInkjet|BITMap|HPGI|PIN8|PIN24|TEK4692|TEK4696|TEK4697}
START (Set-only)
DEBUg [*<link>*]:*<arg>*
GPib: {ON|OFF}
RS232: {ON|OFF}
HPGI [*<link>*]:*<arg>*
COLor *<ui>*: *<NRx>*
COLor: DEFault
FORMat: {DRAft|HIRes|SCREen}
PORT: {CENTronics|GPib|RS232}
PIN8; PIN24 [*<link>*]:*<arg>*
FORMat: {DRAft|HIRes|REDUced}
PORT: {CENTronics|GPib|RS232}
RS232 [*<link>*]:*<arg>*
BAUd: *<NRx>*
DELAy: *<NRx>*
ECHO: {ON|OFF}
EOL: {CR|CRLf|LF|LFCr}
FLAgging: {SOFT|HARD|OFF}
PARity: {ODD|EVEN|NONE}
STOPbits: *<NRx>*
VERBose: {ON|OFF}
TEK4692 [*<link>*]:*<arg>*
COLor *<ui>*: *<NRx>*
COLor: DEFault
DIRectiOn: {HORiz|VERT}
FORMat: {DIThered|DRAft|HIRes|SCREen}
PORT: {CENTronics|GPib|RS232}
TEK4696; TEK4697 [*<link>*]:*<arg>*
COLor *<ui>*: *<NRx>*
COLor: DEFault
DIRectiOn: {HORiz|VERT}
FORMat: {DIThered|DRAft|HIRes|REDUced|SCREen}
PORT: {CENTronics|GPib|RS232}

Label and Text Commands

LABABS [*<link>*]:*<arg>*
PCTg: *<NRx>*
XCOOrd: *<NRx>*
YDIv: *<NRx>*
LABel [*<link>*]:*<arg>*
DELEte: {ALL|FPS[*<ui>*]|*<qstring>*|STO[*<ui>*]|TRAcE[*<ui>*]} (Set-only)
DISPlay: {ON|OFF}
FPS *<ui>*: *<qstring>*
STO *<ui>*: *<qstring>*
TRAcE *<ui>*: *<qstring>*
LABEL [*<link>*]:*<arg>* (Set-only)
PCTg: *<NRx>*
XCOOrd: *<NRx>*
YDIv: *<NRx>*
TEXT {CLEAR|*<link>*:*<arg>*} (Set-only)
STRing: *<qstring>* (Set-only)
X: *<ui>*
Y: *<ui>*

Measurement Commands

BASeline *<NRx>*
COMpare {ON|OFF}

DAInt {WHOLE|SINGLE}
DISPERsion {PP|RMSDev}
DISTal *<NRx>*
DLYtrace TRAcE *<ui>*
HNUMber *<NR1>*
JITt.histpt?
JITTLLevel?
JITTLORation {CROSS|MESial}
LMZone *<NRx>*
MEAS?
<meas>?
<meas> ::= ({AMPLitude|CROSS|DELAy|DUTy|EXTInctiOn|FALtime|FREQ|JITter|GAIN|MAX|MEAN|MID|MIN|NOISE|OVERshoot|PDElay|PERiod|PHASE|PP|RISetime|RMS|SFRequency|SKEw|SMAGnitude|THD|TTRig|UNDershoot|WIDTH|YTEnergy|YTMns_area|YTPls_area}).
MEDge
MESial *<NRx>*
MLEvel {ABSOLute|BASEDelta|RELative|TOPDelta}
MHLimit *<meas>*[*<ui>*]: *<NRx>*
MLEvel {ABSOLute|BASEDelta|RELative|TOPDelta}
MLLimit *<meas>*[*<ui>*]: *<NRx>*
MSCount *<NRx>*
MSList {EMPTy|*<meas>*[*<ui>*][,*<meas>*[*<ui>*]...]}
MSLOpe {PLUS|MINUS}
MS *<meas>?*
MSNum?
MStat?
MSYs {ON|OFF}
MTime {ABSOLute|RELative}
MTRack {BASeline|BOTH|OFF|ON|TOPline}
NEDGE
NOIS.histpt?
NOISLocation {BASeline|TOPline}
PFResult?
PFTest {OFF|ON}
PINDEX *<ui>*
PROXimal *<NRx>*
REFLevel *<NRx>*
REFset [*<link>*]:*<arg>*
CURRent: *<meas>*[*<ui>*] (Set-only)
<meas>[*<ui>*]: *<NRx>*
REFTrace TRAcE *<ui>*
RMZone *<NRx>*
SHIlo
SMODE {HARmonic|PEAK}
SNRatio *<NRx>*
STATistics {ON|OFF}
TOPline *<NRx>*
TTAverage *<NRx>*

Miscellaneous/System Commands

ABStouch {CLEAR|*<NRx>*,*<NRx>*}
DATE *<qstring>* = "*<dd>*-*<mon>*-*<yy>*"
DEF *<qstring>*,*<qstring>* (Set-only)
DSYMenu [*<link>*]:*<arg>*
{ALL|Wavfrm|CURSor|DISPlay|EXTFeatures|MEAS|STORE Recall|TRIGger|UTILITY1|UTILITY2|WAVfrm|*<link>*:*<arg>*}
EXTMenu: {MENU *<id>*|NONE}

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FEOI (Set-only)
FPANel {ON|OFF}
FPUdate {ALWays|EMPTy|NEVer}
INIT (Set-only)
LONgform {ON|OFF}
PAth {ON|OFF}
POWeron?
PROBe {NT|NTAuto|SETSeq}
SPEaker {ON|OFF}
TIME <qstring> = "<hh>:<mm>:<ss>"
UNDEF {<qstring>|ALL} (Set-only)
UPTime?

Status and Event Commands

CONFig?
EVENT?
ID?
IDProbe?
PIVersion?
RQS {ON|OFF}
SRQMask <link>:<arg>
 ABStouch: {ON|OFF}
 CALDue: {ON|OFF}
 CMDerr: {ON|OFF}
 EXErr: {ON|OFF}
 EXWarn: {ON|OFF}
 IDProbe: {ON|OFF}
 INErr: {ON|OFF}
 INWarn: {ON|OFF}
 MENTouch: {ON|OFF}
 OPCmpt: {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>
 TIME: <NRx>
 ? XINcr (<NR3>)
WIN1Pos <NRx>
WIN2Pos <NRx>

Triggering Commands

TR?
TRMain <link>:<arg>
 ALEvel: <NRx>
 ANLevel: <NRx>,{VOLts|DIVS}
 COUpling: {AC|ACLf|ACHf|ACNoise|DC|DCHf|
 DCNoise|Hibw}
 MODE: {AUTO|AUTOLevel|NORmal}
 SLOpe: {PLUs|MINUs}
 SOUrce: <qstring>
 ? STAtus ({TRG|NOTrg})
 TIHOldoff: <NRx>
TRWin <link>:<arg>
 ALEvel: <NRx>

COUpling: {AC|ACLf|ACHf|ACNoise|DC|DCHf|
 DCNoise|Hibw}
EVHOldoff: <NRx>
MODE: {AUTOLevel|NORmal}
NLEvel: <NRx>,{VOLts|DIVS}
SLOpe: {PLUs|MINUs}
SOUrce: <qstring>
? STAtus ({TRG|NOTrg})
TIHOldoff: <NRx>
WTMode {MAIn|EVHOldoff|TIHOldoff}

Waveform and Settings Commands

ADJtrace <ui> <link>:<arg>
 HMAg: <NRx>
 HPOsition: <NRx>
 HVPosition: <NRx>
 HVSize: <NRx>
 PANzoom: {ON|OFF}
 TRSep: <NRx>
 VPOsition: <NRx>
 VSIZe: <NRx>
ADJtrace[<ui>]?
CLEAR {TRAcE <ui> | <qstring> | ALL} (Set-only)
DELEte [<link>:] <arg> (Set-only)
 {FPS <ui> | <qstring> | MENU <id> | STO <ui> }
 ALL: {FPS|MENU|STO}
FPSList?
FPSNum?
MASK <ui> {DELEte | <link>:<arg>}
 C.Points: <xcoord>,<ycoord> [, <xcoord>,
 <ycoord>...]
 D.Points: <xcoord>,<ycoord> [, <xcoord>,
 <ycoord>...]
 ? NCOunt (<ui>)
 ? NR.pt (<ui>)
MASKStat {CLEAR | <link>:<arg>}
 COUnt: {OFF|ON}
 ? NWFm (<ui>)
 ? TOTAl (<ui>)
NVRam?
PZMode <link>:<arg>
 MULTitrace: {ON|OFF}
 PIVot: {LEFt|CENter|RIGHt|TRIGger}
RECall {FPNext | FPS <ui> | <qstring>} (Set-only)
REMOve {TRAcE <ui> | <qstring> | ALL} (Set-only)
SELEct {TRAcE <ui> | <qstring>}
SETSeq {ON|OFF}
STOList?
STONum?
STORe {FPS <ui> | <link>:<arg>} (Set-only)
 TRAcE <ui>: {STO <ui> | <qstring>}
 <qstring>:STO <ui>
TRAcE <ui> <link>:<arg>
 ACCumulate: {ON|OFF}
 ? ACSstate ({ENHanced|NENHanced})
 DEScRiption: <qstring>
 GRLocation: {UPPer|LOWer}
 GRType: {LINear}
 ? WFMCalc ({FAST|HIPrec})
 ? XUNit ({AMPs|DBM|DEGrees|DIVS|HERtz|OHMs|
 SECOnds|VOLts|WATts})
 ? YUNit ({AMPs|DBM|DEGrees|DIVS|HERtz|OHMs|
 SECOnds|VOLts|WATts})
TRAcE[<ui>]?
TRANUm?
WFMScaling {FORce|OPTional}

Escape Character Set

Bits	1 0 0 0	1 0 0 1	1 0 1 0	1 0 1 1	1 1 0 0	1 1 0 1	1 1 1 0	1 1 1 1
B8 B7 B6 B5	0 0 0 0	0 0 0 1	0 0 1 0	0 0 1 1	0 1 0 0	0 1 0 1	0 1 1 0	0 1 1 1
B4 B3 B2 B1	0 0 0 0	0 0 0 1	0 0 1 0	0 0 1 1	0 1 0 0	0 1 0 1	0 1 1 0	0 1 1 1
0 0 0 0	Ä	Å	Ë	Ü	User Index 1	Π	π	↓
0 0 0 1	ä	å	ë	ü	User Index 2	α	ø	↑
0 0 1 0	ö	ó	ì	ï	User Index 3	γ	ρ	→
0 0 1 1	ö	ó	ì	ï	User Index 4	δ	Σ	←
0 1 0 0	Ü	Ë	Ä	Å	User Index 5	Δ	τ	∫
0 1 0 1	ü	ë	ä	å	User Index 6	ε	ν	÷
0 1 1 0	à	å	À	Ä	User Index 7	φ	γ	°
0 1 1 1	è	ë	È	Ë		Γ	ω	√
1 0 0 0	á	ä	Á	Ä		θ	χ	∞
1 0 0 1	é	é	É	É		ι	ξ	±
1 0 1 0	À	À	À	À		ψ	ζ	≠
1 0 1 1	à	à	À	À		κ	φ	≤
1 1 0 0	Æ	Æ	Æ	Æ		λ	Δ	≥
1 1 0 1	æ	æ	æ	æ		μ	ψ	⊙
1 1 1 0	ç	ç	ç	ç		η	σ	⊙
1 1 1 1	β	∞	β	∞		Ω	∫	∞

Key

Octal	17	β	Escape character
Hex	F	15	Decimal