

Histogram Command Group

Histogram Overview

Histogram commands let you select the type of histogram, what part of the waveform should go into the histogram, and histogram statistics. You can use commands from this group to do the following:

- Create a histogram of vertical or horizontal values for a channel, math or reference waveform
- Adjust the limits of the waveform area from which the histogram data is obtained.
- Clear histogram count and restart.

Histogram Commands

Command	Description
HIStogram?	Return all histogram parameters
HIStogram:BOX?	Returns the left, top, right, and bottom positions of the histo box, in source waveform coordinates
HIStogram:BOX	Sets the left, top, right, and bottom positions of the histo box, in source waveform coordinates
HIStogram:BOXPcnt?	Returns same as HIStogram:BOX, but in percentage coordinates, with 0,0 upper left and 100,100 lower right
HIStogram:BOXPcnt	Sets same as HIStogram:BOX, but in percentage coordinates, with 0,0 upper left and 100,100 lower right
HIStogram:COUNT	Clears histogram count source data, and restarts counting
HIStogram:DISplay?	Returns whether histogram data is displayed and the current display type setting
HIStogram:DISplay	Sets whether histogram data is displayed and what display type to use
HIStogram:FUNCTION?	Returns the current histogram type
HIStogram:FUNCTION	Sets the type of histogram to create
HIStogram:MODE?	Returns the current histogram type or that histogram display is disabled
HIStogram:MODE	Sets type of histogram to create or turns histograms off
HIStogram:SIZE?	Returns the width (or height) of the histogram on the screen in divisions
HIStogram:SIZE	Sets the width (or height) of the histogram on the screen in divisions
HIStogram:SOURce?	Returns source waveform for histogram
HIStogram:SOURce	Sets source waveform and time base for histogram
HIStogram:STATE?	Returns whether histogram calculations are enabled.
HIStogram:STATE	Enables or disables histogram calculations

HIStogram?

Description

This query-only command returns all histogram parameters; it queries the state of all histogram parameters that the user can set. This command is equivalent to selecting Waveform Histograms from the Measure menu.

Group

Histogram

Related Commands

MEASUrement:METHod (see page 258)

Syntax 1

HIStogram?

Arguments

None,

Example 1

HIStogram?

This query might return :HISTOGRAM:BOXPCNT 3.0000E+01,
2.5100E+01,7.0000E+01,7.5200E+01;DISPLAY LINEAR
;STATE 0;FUNCTION HORIZONTAL;SIZE 2.0000E+00
;SOURCE CH1

HIStogram:Box

Description

This command defines or returns the left, top, right, and bottom boundaries of the histogram box, in source waveform coordinates. This command is equivalent to selecting Waveform Histograms from the Measure menu and then setting Limits for Left, Right, Top, and Bottom in the appropriate boxes. This command is similar to the HIStogram:BOXPcnt command except that command uses percentage coordinates to define the boundaries of the histogram box. This command is equivalent to selecting Waveform Histograms from the Measure menu and reviewing the histogram Left, Right, Top, and Bottom Limits.

Note: This command implicitly clears the histogram count and statistics for the histogram and histogram source data when HIStogram:STATE is turned on.

Group

Histogram

Related Commands

HIStogram:BOXPcnt (see page 153), HIStogram:STATE (see page 160)

Syntax 1

HIStogram:Box <NR3>, <NR3>, <NR3>, <NR3>

Syntax 2

HIStogram:Box?

Arguments

- <NR3>
This specifies the left position of the histogram box in source waveform coordinates.
- <NR3>
This specifies the top position of the histogram box in source waveform coordinates.
- <NR3>
This specifies the right position of the histogram box in source waveform coordinates.
- <NR3>
This specifies the bottom position of the histogram box in source waveform coordinates.

Example 1

HIStogram:Box 1E-9, 0.250, 2E-9, 0.500

This command defines the coordinates of the histogram box in source waveform coordinates.

Example 2

HIStogram:Box?

This query might return HISTOGRAM:BOX 1.0000E-09, 0.2500, 2.0000E-09, 0.5000, which identifies the coordinates of the histogram box in source waveform coordinates.

HISistogram:BOXPcnt

Description

This command defines or queries the left, top, right, and bottom positions of the histogram box, in percentage coordinates. The upper left has the value 0,0 and the lower right has the value 100, 100. Any value outside the range of 0 to 100 is clipped. This command is similar to the [HISistogram:Box](#) command except that this command uses percentage coordinates to define the boundaries of the histogram box.

Note: This command implicitly clears the histogram count and statistics for the histogram and histogram source data when HISistogram:STATE is turned on.

Group

HISistogram

Related Commands

HISistogram:Box (see page 152), HISistogram:STATE (see page 160)

Syntax 1

```
HISistogram:BOXPcnt <NR3>, <NR3>, <NR3>, <NR3>
```

Syntax 2

```
HISistogram:BOXPcnt?
```

Arguments

- <NR3>

This specifies the left position of the histogram box in percentage coordinates. The default value is 30.0.

- <NR3>

This specifies the top position of the histogram box in percentage coordinates. The default value is 25.1.

- <NR3>

This specifies the right position of the histogram box in percentage coordinates. The default value is 70.0.

- <NR3>

This specifies the bottom position of the histogram box in percentage coordinates. The default value is 75.2.

Example 1

```
HISistogram:BOXPct 30.0,25.1,70.0,75.2
```

This command sets the hardcopy page-layout format to default values.

Example 2

```
HISistogram:BOXPct?
```

This query might return :HISTOGRAM:BOXPCT

```
3.0000E+01,25.1000E+01,7.0000E+01,7.5200E+01.
```

HISistogram:COUNT

Description

This command (no query form) clears the count and statistics for the histogram and the histogram source data. If the histogram is on, then counting restarts. This command is equivalent selecting Waveform Histograms from the Measure menu and then clicking the Reset button.

Group

HISistogram

Related Commands

HISistogram:Box (see page 152), HISistogram:BOXPcnt (see page 153)

Syntax

HISistogram:COUNT RESET

- RESET

This zeros the histogram count.

Example

HISistogram:COUNT RESET

This command clears the count and statistics for the histogram and the histogram source data.

HIStogram:DISplay

Description

This command sets the format of the histogram displayed or whether the histogram is displayed. The query form of this command either returns the histogram display format or that histogram display is disabled. This command is equivalent to selecting Waveform Histogram from the Measure menu and then ensuring that Display is set to On.

Group

HIStogram

Related Commands

HIStogram:MODE (see page 157), HIStogram:STATE (see page 160)

Syntax 1

HIStogram:DISplay {OFF|LOG|LINEAr}

Syntax 2

HIStogram:DISplay?

Arguments

- <OFF>
This disables the histogram display but allows the histogram data to accumulate.
- <LOG>
This specifies that the histogram display type is set to Log format.
- <LINEAr>
This sets the histogram display type to Linear format.

Example 1

HIStogram:DISplay OFF

This command disables the histogram display.

Example 2

HIStogram:DISplay?

This query might return :HISTOGRAM:DISPLAY LOG, indicating that the current histogram type being displayed is in Log format.

HIStogram:FUNction

Description

This command either selects the type of histogram to create or returns the current histogram type. This command is equivalent to selecting Waveform Histogram from the Measure menu and then choosing either **Horizontal** or **Vertical** from the Histogram Mode group box.

Group

HIStogram

Related Commands

HIStogram:MODE (see page 157), HIStogram:STATE (see page 160)

Syntax 1

```
HIStogram:FUNction {HORizontal|VERTical}
```

Syntax 2

```
HIStogram:FUNction?
```

Arguments

- **HORizontal**

This displays a horizontally positioned histogram that shows time distribution.

- **VERTical**

This displays a vertically positioned histogram that shows a voltage distribution (or another distribution such as amperes).

Example 1

```
HIStogram:FUNction HORizontal
```

This command sets the histogram mode to the horizontal display mode.

Example 2

```
HIStogram:FUNction?
```

This query might return `:HISTOGRAM:FUNCTION VERTICAL`, indicating that the vertical display mode is selected for the histogram.

HISistogram:MODE

Description

This command selects the type of histogram to create or disables the histogram display. The query form of this command query returns the current histogram type or that histogram display functionality is disabled. This command is equivalent to selecting Waveform Histogram from the Measure menu and then choosing from the Histogram Mode group box.

HISistogram:MODE is functionally equivalent to the HISistogram:FUNCTION and HISistogram:STATE commands and is included for compatibility purposes.

Group

HISistogram

Related Commands

HISistogram:FUNCTION (see page 156), HISistogram:STATE (see page 160), HISistogram:DISplay (see page 155)

Syntax 1

HISistogram:MODE {HORizontal|VERTical|OFF}

Syntax 2

HISistogram:MODE?

Arguments

- HORizontal

This enables a horizontally positioned histogram that shows time distribution.

- VERTical

This enables a vertically positioned histogram that shows a voltage distribution (or another distribution such as amperes).

- OFF

This disables collection of the histogram measurement.

Example 1

HISistogram:MODE HORizontal

This command sets the type of histogram created to horizontal, which displays a horizontally positioned histogram that shows time distribution.

Example 2

HISistogram:MODE?

This query might return :HISTOGRAM:MODE OFF, indicating that histogram display is disabled.

HIStogram:SIze

Description

This command sets or queries the width or height of the histogram on the screen. This is equivalent to selecting Waveform Histograms from the Measure menu and then entering a value in the Histo Size box.

Group

HIStogram

Related Commands

HIStogram:DISplay (see page 155)

Syntax 1

HIStogram:SIze <NR3>

Syntax 2

HIStogram:SIze?

Arguments

- <NR3>

This specifies the histogram size. The value can vary from 0.1 to 8.0 divisions in HORIZONTAL mode and from 0.1 to 10.0 divisions in VERTICAL mode. Resolution is to the nearest pixel.

Example 1

HIStogram:SIze 2.0

This command sets the size of the histogram to 2.0 divisions.

Example 2

HIStogram:SIze?

This query might return :HISTOGRAM:SIZE 2.0000E+01, indicating the histogram size is set to 2.0 divisions.

HIStogram:SOUrce

Description

This command sets or queries which source will be compared against the histogram box when the histogram testing is enabled. This is equivalent to selecting Waveform Histograms from the Measure menu and then choosing the desired waveform source. The waveform need not be displayed for histograms to run. You might want the channel displays disabled so you can see a full-screen histogram and not have waveform data confuse the display.

Group

HIStogram

Related Commands

HIStogram:DISplay (see page 155)

Syntax 1

`HIStogram:SOUrce {CH<x>|MATH<x>|REF<x>}`

Syntax 2

`HIStogram:SOUrce?`

Arguments

- **CH<x>**

This selects a channel waveform as the source for the histogram. The channel waveform range is from 1 through 4.

- **MATH<x>**

This selects a math waveform as the source for the histogram. The valid math waveform range is from 1 through 4.

- **REF<x>**

This selects a reference waveform as the source for the histogram. The valid reference waveform range is from 1 through 4.

Example 1

`HIStogram:SOUrce CH1`

This command enables the channel 1 waveform to be compared against the histogram box. The default time base, Main, is used for the histogram display.

Example 2

`HIStogram:SOUrce?`

This query might return `:HISTOGRAM:SOURCE CH1`, indicating that the waveform for channel 1 is the source for the histogram.

HIStogram:STATE

Description

This command sets or queries whether the histogram calculations are enabled. This is equivalent to selecting Waveform Histograms from the Measure menu.

Group

HIStogram

Related Commands

HIStogram:MODE (see page 157), MEASUrement:METHod (see page 258)

Syntax 1

`HIStogram:STATE {ON|OFF|NR1}`

Syntax 2

`HIStogram:STATE?`

Arguments

- `<ON>`

This enables histogram calculations.

- `<OFF>`

This disables the histogram calculations.

- `<NR1>`

A 0 disables histogram calculations; any other value enables histogram calculations.

Example 1

`HIStogram:STATE ON`

This command enables histogram calculations.

Example 2

`HIStogram:STATE?`

This query might return `:HISTOGRAM:STATE 0`, indicating that histogram calculations are currently disabled.