Cursor Command Group

Cursor Overview

You use the commands in the Cursor Command Group to control the cursor display and readout. You can use these commands to control the setups for cursor 1 and cursor 2, such as waveform source, cursor position, and cursor color.

You can also use the commands to select one of the following cursor functions:

- Off—shuts off the display of all cursors.
- Vertical Bars— displays vertical bar cursors, which provide traditional horizontal unit readouts for Cursor 1 (bar1), Cursor 2 (bar2), the delta between them, and 1/delta (results in frequency when the horizontal unit is time).·
- Horizontal Bars—displays horizontal bar cursors, which provide traditional vertical unit readouts for Cursor 1 (bar1), Cursor 2 (bar2), and the delta between them.
- Paired Cursors—displays measurement of horizontal (time) and vertical (voltage) difference between paired cursors; voltage at the vertical position of the specified paired cursor; horizontal position of the specified paired cursor; and measurement units for the paired cursors.
- Split Cursors—displays measurement of horizontal (time) and vertical (voltage) difference between split cursors; voltage at the vertical position of the specified split cursor; horizontal position of the specified split cursor; and measurement units for the split cursors.

Cursor Commands

Command	Description
CURSor?	Returns all cursor settings
CURSor:FUNCtion?	Returns cursor type
CURSor:FUNCtion	Sets cursor type
CURSor:HBArs?	Returns hbar cursor settings
CURSor:HBArs:DELTa?	Returns hbars vertical difference
CURSor:HBArs:POSITION<x>?	Returns hbar cursor<x> vertical position
CURSor:HBArs:POSITION<x>	Sets hbar cursor<x> vertical position
CURSor:HBArs:UNIts?	Returns hbar cursor units
CURSor:MODe?	Returns whether cursors move in unison or separately
CURSor:MODe	Sets whether cursors move in unison or separately
CURSor:PAIred?	Returns paired cursor positions
CURSor:PAIred	Positions active paired cursor
CURSor:PAIred:HDELTA?	Returns vertical difference between two paired cursors
CURSor PAIred:HPOS<x>?	Returns the voltage at the vertical position of the specified paired cursor
CURSor:PAIred:POSITION<x>?	Returns the horizontal position of the specified paired cursor
CURSor:PAIred:POSITION<x>	Sets the horizontal position to the specified paired cursor
CURSor:PAIred:UNIts?	Returns the units for the paired cursors
CURSor:PAIred:VDELTA?	Returns the vbar difference between paired cursors
CURSor:SOUrce?	Returns the source for cursors
CURSor:SOUrce	Sets the source for cursors
CURSor:SPLit?	Returns the units, position, and second source of the split cursors
CURSor:SPLit	Sets the split cursors positions
CURSor:SPLit:HDELTA?	Returns the vertical difference between cursors 1 and 2
CURSor:SPLit:HPOS<x>?	Returns the vertical position of cursor 1 or 2
CURSor:SPLit:POSITION<x>	Sets the horizontal position of the vbar markers for cursor 1 or 2
CURSor:SPLit:POSITION<x>?	Returns the horizontal position of the vbar markers for cursor 1 or 2
CURSor:SPLit:SOURCE2?	Returns the source waveforms for split cursor 2
CURSor:SPLit:SOURCE2	Sets the source waveforms for split cursor 2
CURSor:SPLit:UNIts?	Returns the amplitude units of the split

	cursors
CURSor:SPLit:UNIts	Sets the amplitude units of the split cursors
CURSor:SPLit:VDELTA?	Returns the horizontal difference between cursors 1 and 2
CURSor:STATE?	Returns the cursor state
CURSor:STATE	Turns cursors on or off
CURSor:VBArs?	Returns the position of the vertical bar cursor
CURSor:VBArs	Sets the position of the vertical bar cursor
CURSor:VBArs:DELTa?	Returns difference between vbar cursors
CURSor:VBArs:POSITION<x>?	Returns vbar and paired cursor<x> positions
CURSor:VBArs:POSITION<x>	Sets vbar and paired cursor<x> positions
CURSor:VBArs:UNIts?	Returns the units for the vbar cursors
CURSor:VBArs:UNIts	Sets the units for the vbar cursors

CURSor?

Description

This query-only command returns all of the current cursor settings.

Group

Cursor

Syntax

```
CURSor?
```

Example: `CURSOR?`

This query might return the following as the current cursor settings:

```
:CURSOR:STATE OFF;FUNCTION VBARS;MODE INDEPENDENT
;SOURCE CH1;VBARS:UNITS SECONDS;POSITION1 -8.0000E-07
;POSITION2 8.0000E-07;:CURSOR:HBARS:POSITION1 3.0000E-01
;POSITION2 -3.0000E-01;UNITS BASE;:CURSOR:PAIRED
:POSITION1 -8.0000E-07;POSITION2 8.0000E-07;UNITS BASE;
:CURSOR:SPLIT:POSITION1 -8.0000E-07;POSITION2 8.0000E-07
;SOURCE2 CH1;UNITS BASE
```

CURSor:FUNCtion

Description

This command selects or queries the cursor type. Sending this command is equivalent to selecting Cursor Type from the Cursor menu and then choosing from the drop-down list.

Group

Cursor

Related Commands

CURSor:STAte (see page 69)

Syntax 1

```
CURSor:FUNCtion {HBArs|OFF|VBArs|PAIred|SPLit}
```

Syntax 2

```
CURSor:FUNCtion?
```

Arguments

- `HBArs`

  Specifies horizontal bar cursors, which measure in vertical units.

- `OFF`

  Removes the cursors from the display but does not change the cursor type.

- `VBArs`

  Specifies vertical bar cursors, which measure in horizontal units.

- `PAIred`

  Specifies paired cursors that measure in both horizontal and vertical units.

- `SPLit`

  Specifies split cursors, which measure horizontal and vertical units across two waveforms.

Example 1

```
CURSOR:FUNCtion VBARS
```

This command selects vertical bar type cursors.

Example 2

```
CURSOR:FUNCtion?
```

This query might return `:CURSOR:FUNCTION HBARS`, indicating that the horizontal bar cursors are currently selected.

CURSor:HBArs?

Description

This query-only command returns the current settings for the horizontal bar cursors.

Group

Cursor

Syntax

```
CURSor:HBArs?
```

Example

```
CURSor:HBArs?
```

This command might return `:CURSOR:HBARS:POSITION1 320.0000E-03;POSITION2-320.0000E-03;UNITS BASE`

CURSor:HBArs:DELTa?

Description

This query-only command returns the vertical difference between the two horizontal bar cursors.

Group

Cursor

Syntax

`CURSor:HBArs:DELTa?`

Returns

<NR3>

Example

`CURSOR:HBArs:DELTa?`

This command might return `:CURSOR:HBARS:DELTA 5.0800E+00`, indicating that the voltage difference between the two cursors is 5.08 V.

CURSor:HBArs:POSITION<x>

Description

This command specifies or queries the horizontal bar cursor position relative to ground, which is expressed in vertical units (usually volts). This command is the equivalent of selecting Cursor Position from the Cursors menu, selecting the H Bars Cursor Type and then viewing or editing the desired cursor position.

Group

Cursor

Syntax 1

```
CURSor:HBArs:POSITION<x> <NRf>
```

Syntax 2

```
CURSor:HBArs:POSITION<x>?
```

Argument

- `<NR3>`

  Specifies the cursor position relative to ground.

Example 1

```
CURSOR:HBARS:POSITION1 25.0E-3
```

Positions one of the horizontal cursors at 25 mV.

Example 2

```
CURSOR:HBARS:POSITION2?
```

This query might return `:CURSOR:HBARS:POSITION2 -64.0000E-03`, indicating that one of the horizontal bar cursors is at -64 mV.

CURSor:HBArs:UNIts?

Description

This query-only command returns the units for the horizontal bar cursors.

Group

Cursor

Syntax

`CURSor:HBArs:UNIts?`

Example

`CURSor:HBArs:UNIts?`

This query might return `:CURSOR:HBARS:UNITS BASE` indicating that the units for the horizontal bar cursors are base.

CURSor:MODe

Description

This command sets or queries whether the two cursors move together in unison or separately. This command is the equivalent of selecting Cursor Mode from the Cursor menu and then choosing from the drop-down list.

Group

Cursor

Syntax 1

```
CURSor:MODe {TRACk|INDependent}
```

Syntax 2

```
CURSor:MODe?
```

Arguments

- `TRACk`

  This ties the navigational functionality of these two cursors together.

  For cursor 1 adjustments, this ties the movement of the two cursors together. However, cursor 2 continues to move independently of cursor 1.

- `INDependent`

  This frees the two cursors to be independently adjusted.

Example 1

```
CURsor:MODe TRACk
```

Specifies that the cursor positions move in unison.

Example 2

```
CURSor:MODe?
```

This query might return `:CURSOR:MODE TRACK` indicating that the two cursors move in unison.

CURSor:PAIred

Description

This command positions the active paired cursor to the position defined by the DATa:STARt or DATa:STOP command. This query returns the current paired cursor settings.

Group

Cursor

Related Commands

DATa:STARt (see page 473), DATa:STOP (see page 474)

Syntax 1

```
CURSor:PAIred SNAp
```

Syntax 2

```
CURSor:PAIred?
```

Arguments

- `SNAp`

  This positions the paired cursors at DATa:STARt and DATa:STOP.

Returns

A string for horizontal units and two floating point values with an exponent for cursor1 position and cursor2 position.

Example 1

```
CURsor:PAIred SNAp
```

Specifies the positions of the cursors at the current DATa:STARt and DATa:STOP values.

Example 2

```
CURSor:PAIred?
```

This query might return `:CURSOR:PAIRED:POSITION1 -2.0000E-03;POSITION2 2.0000E-03;UNITS BASE`

CURSor:PAIred:HDELTA?

Description

This query-only command returns the vertical difference between the cursor1 and cursor2 paired cursors. This is the absolute value of the vertical position for cursor1 minus the vertical position for cursor2.

Group

Cursor

Related Commands

CURSor:SPLit:HDELTA? (see page 63)

Syntax

```
CURSor:PAIred:HDELTA?
```

Returns

<NR3>

Example

```
CURSor:PAIred:HDELTA?
```

This query might return `:CURSOR:PAIRED:HDELTA 5.0800E+00`, indicating that the voltage difference between the two cursors is 5.08 V.

CURSor:PAIred:HPOS<x>?

Description

This query-only command returns the voltage at the vertical position of the cursor<x> paired cursor. The paired cursor can be either 1 or 2.

Group

Cursor

Related Commands

CURSor:FUNCtion (see page 49)

Syntax

```
CURSor:PAIred:HPOS<x>?
```

Returns

A floating point value that indicates the vertical position of the selected paired cursor.

Example

```
CURSor:PAIred:HPOS1?
```

This query might return `:CURSOR:PAIRED:HPOS1 -64.0000E-03`, indicating that the vertical position of cursor1 is at -64 mV.

CURSor:PAIred:POSITION<x>

Description

This command sets or queries the horizontal position (typically in time) of the cursor<x> paired cursor. This command is equivalent to selecting Cursor Position from the Cursors menu and then viewing or editing the desired cursor position.

Group

Cursor

Related Commands

CURSor:FUNCtion (see page 49)

Syntax 1

```
CURSor:PAIred:POSITION<x> <NRf>
```

Syntax 2

```
CURSor:PAIred:POSITION<x>?
```

Argument

- `<NRf>`

  This specifies the horizontal position of the cursor<x> paired cursor, which ranges from 1 to 2. The cursor position can appear in units of base or 1/base.

Example 1

```
CURSor:PAIred:POSITION1 9.0000E-06
```

This command specifies that the first paired cursor is at 9 μs.

Example 2

```
CURSor:PAIred:POSITION1?
```

This query might return `:CURSOR:PAIRED:POSITION 1.0000E-06`, indicating that the first paired cursor is at 1 μs.

CURSor:PAIred:UNIts?

Description

This query-only command requests the units for the paired cursors.

Group

Cursor

Syntax

`CURSor:PAIred:UNIts?`

Returns

The unit of measurement.

Example

`CURSor:PAIred:UNIts?`

This query might return: `:CURSOR:PAIRED:UNITS BASE`, indicating that base is the unit of measure.

CURSor:PAIred:VDELTA?

Description

This query-only command requests the Vbar (time) distance between paired cursors. It returns the absolute value of the first cursor less the second cursor horizontal positions. The position can appear in units of base and 1/base.

Group

Cursor

Syntax

```
CURSor:PAIred:VDELTA?
```

Returns

<NR3>

Example

```
CURSor:PAIred:VDELTA?
```

This query might return `:CURSOR:PAIRED:VDELTA 1.0640E+00`, indicating that time between the paired cursors is 1.064 s.

CURSor:SOUrce

Description

This command sets and queries the source for horizontal bar, vertical bar and paired cursors, and both sets and queries the source for split cursor1. This command is equivalent to selecting Cursor Setup from the Cursor menu and then choosing the desired cursor source.

Group

Cursor

Related Commands

CURSor:SPLit:SOURCE2 (see page 66)

Syntax 1

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

Syntax 2

```
CURSor:SOUrce?
```

Arguments

- `CH<x>`

  This is an input channel waveform. The valid channel waveform range is from 1 through 4.

- `MATH<x>`

  This is a math waveform. The valid math waveform range is from 1 through 4.

- `REF<x>`

  This is a reference waveform. The valid reference waveform range is from 1 through 4.

Returns

Any valid waveform.

Example 1

```
CURSor:SOUrce CH2
```

This command sets the cursor source to channel2.

Example 2

```
CURSor:SOUrce?
```

This query might return `:CURSOR:SOURCE CH2`, indicating that the cursor source is channel2.

CURSor:SPLit

Description

This command positions the Split cursors to positions defined by DATa:STARt and DATa:STOP (or maximum record length, if DATa:STOP is greater than the maximum record length). The query form of this command returns the units, positions and second source of the split cursors.

Group

Cursor

Related Commands

DATa:STARt (see page 473), DATa:STOP (see page 474)

Syntax 1

```
CURSor:SPLit SNAP
```

Syntax 2

```
CURSor:SPLit?
```

Argument

- `SNAP`

  This specifies that the vertical bar cursor positions will snap to DATa:STARt and DATa:STOP.

Example 1

```
CURSor:SPLit SNAP
```

This command specifies that the cursor positions will snap to DATa:STARt and DATa:STOP positions.

Example 2

```
CURSor:SPLit?
```

This query might return: `:CURSOR:SPLIT:POSITION1 -1.9992E+01 :POSITION2 -1.7996E+01;SOURCE2 CH1;UNITS BASE`.

CURSor:SPLit:HDELTA?

Description

This query-only command returns the vertical (volts) difference between cursor1 and cursor2. These values are represented on screen by the "X" markers (placed where the cursor marker and the waveform intersect).

Group

Cursor

Syntax

```
CURSor:SPLit:HDELTA?
```

Example

```
CURSor:SPLit:HDELTA?
```

This query might return `:CURSOR:SPLIT:HDELTA 3.1400E+00`, indicating that the vertical difference between two split cursors is 3.14 V.

CURSor:SPLit:HPOS<x>?

Description

This query-only command returns the vertical position of cursor<x> (i.e., that point where the Vbar intersects with the waveform), which can be specified as 1 or 2.

Group

Cursor

Related Commands

CURSor:SPLit:HDELTA (see page 63)

Syntax

`CURSor:SPLit:HPOS<x>?`

Example

`CURSor:SPLit:HPOS1?`

This query might return `:CURSOR:SPLIT:HPOS1 2.5400E+00`, indicating that the vertical position of cursor1 and cursor2 is 2.54 V.

CURSor:SPLit:POSITION<x>

Description

This command returns or sets the horizontal position of the cursor<x> vertical bar markers. This command is equivalent to selecting Cursor Setup from the Cursors menu and then entering the desired Cursor Position.

Group

Cursor

Syntax 1

```
CURSor:SPLit:POSITION<x>; <NRf>
```

Syntax 2

```
CURsor:SPLit:POSITION<x>?
```

Argument

- `<NRf>`

  This specifies the horizontal position of the cursor<x> cursor, which ranges from 1 to 2. The cursor position can appear in units of base or 1/base.

Example 1

```
CURSor:SPLit:POSITION2 350E-6
```

This command sets the position of cursor2 to 350 μs.

Example 2

```
CURSor:SPLit:POSITION1?
```

This query might return `:CURSOR:SPLIT:POSITION1 -204.0000E-09`, indicating the position of cursor1 is 204 ns.

CURSor:SPLit:SOURCE2

This command sets or returns the source waveform associated with split cursor2. This command is equivalent to selecting Cursor Setup from the Cursors menu and then entering the desired Cursor 2 Source.

Group

Cursor

Related Commands

CURSor:SOUrce (see page 61)

Syntax 1

```
CURSor:SPLit:SOURCE2
```

Syntax 2

```
CURsor:SPLit:SOURCE2?
```

Arguments

- `CH<x>`

  This is an input channel. The valid channel waveform range is from 1 through 4.

- `MATH<x>`

  This is a math waveform. The valid math waveform range is from 1 through 4.

- `REF<x>`

  This is a reference waveform. The valid reference waveform range is from 1 through 4.

Example 1

```
CURSor:SPLit:SOURCE2 CH3
```

This command sets cursor2 source to Channel3.

Example 2

```
CURSor:SPLit:SOURCE2?
```

This query might return `:CURSOR:SPLIT:SOURCE2 MATH2`, indicating that the source associated with cursor2 is Math2.

CURSor:SPLit:UNIts

Description

This command returns or sets the amplitude units of the split cursors.

Group

Cursor

Syntax 1

```
CURSor:SPLit:UNIts
```

Syntax 2

```
CURsor:SPLit:UNIts?
```

Example 1

```
CURSor:SPLit:UNIts BASE
```

This command sets the amplitude units of the split cursors to base.

Example 2

```
CURSor:SPLit:UNIts?
```

This query would return `:CURSOR:SPLIT:UNITS BASE`, indicating that base is the current setting for split cursor amplitude units.

CURSor:SPLit:VDELTA?

Description

This command returns the horizontal (time) difference between the split cursors. It returns the absolute value of the first cursor less the second cursor horizontal positions. Note that the split cursor values are for source1 and source2, and the sources can be located on different waveforms. The position can appear in units of base and 1/base.

Group

Cursor

Syntax

```
CURsor:SPLit:VDELTA?
```

Example

```
CURSor:SPLit:VDELTA?
```

This command might return `:CURSOR:SPLIT:VDELTA 1.0640E+00`, indicating that the time between the vertical bar cursors is 1.064 s.

CURSor:STATE

Description

This command sets or returns the state of the cursor. The cursor can either be turned on or off. Note that setting the cursor state does not modify the cursor type. This command is equivalent to pressing the **CURSOR** button on the front panel.

Cursor

Related Commands

CURSor:FUNCtion OFF (see page 49)

Syntax 1

```
CURSor:STATE {ON|OFF}
```

Syntax 2

```
CURsor:STATE?
```

Arguments

- `ON`

  This activates the cursor on display.

- `OFF`

  This removes the cursor from display.

Example 1

```
CURSor:STATE ON
```

This command displays the cursor.

Example 2

```
CURSor:STATE?
```

This query might return `:CURSOR:STATE ON`, indicating that the cursor is active on the display.

CURSor:VBArs

Description

This command positions the vertical bar cursor to the position defined by DATa:STARt or DATa:STOP . This query returns the current vertical bar settings for horizontal position and units.

Group

Cursor

Related Commands

DATa:STARt (see page 473), DATa:STOP (see page 474)

Syntax 1

```
CURSor:VBArs?
```

Syntax 2

```
CURSor:VBArs SNAp
```

Argument

- `SNAp`

  This positions the vertical bar cursors at DATa:STARt and DATa:STOP.

Example 1

```
CURSor:VBArs?
```

This query might return `:CURSOR:VBARS:UNITS SECONDS ;POSITION1 1.0000E-06;POSITION2 9.0000E-06`

Example 2

```
CURSor:VBArs SNAp
```

This command positions the vertical bar cursor to the position defined by DATa:STARt or DATa:STOP.

CURSor:VBArs:DELTa?

Description

This query-only command returns the difference between the two vertical bar cursors. The units are specified by the CURSor:VBArs:UNIts command. The position can appear in units of Base or 1/Base.

Group

Cursor

Related Commands

CURSor:VBArs:UNIts (see page 73)

Syntax

```
CURSor:VBArs:DELTa?
```

Returns

A floating point value with an exponent.

Example

```
CURSor:VBArs:DELTa?
```

This command might return `:CURSOR:VBARS:DELTA 1.0640E+00`, indicating that the time between the vertical bar cursors is 1.064 s.

CURSor:VBArs:POSITION<x>

Description

This command sets or queries the horizontal position for both vertical bar and paired cursors. Values are with respect to trigger position or the zero reference point for the designated waveform (if horizontal units are not set to Time). Use the CURSor:VBArs:UNIts command to specify units. The position can appear in units of base or 1/base.

This command is the equivalent of selecting Cursor Setup from the Cursors menu, selecting the V Bars Cursor Type and then viewing or editing the desired cursor position.

Group

Cursor

Related Commands

CURSor:VBArs:UNIts (see page 73)

Syntax 1

```
CURSor:VBArs:POSITION<x> <NRf>
```

Syntax 2

```
CURSor:VBArs:POSITION<x>?
```

Argument

<NRf>

Specifies the cursor position.

Returns

A floating point value with an exponent.

Example 1

```
CURSor:VBArs:POSITION2 9.00E-6
```

Positions the cursor2 vertical bar cursors at 9 ms.

Example 2

```
CURSor:VBArs:POSITION1?
```

This command might return `:CURSOR:VBARS:POSITION1 1.0000E-06`, indicating the cursor1 vertical bar is at 1 ms.

CURSor:VBArs:UNIts

Description

This command sets or queries the units for the vertical bar cursors.

Group

Cursor

Syntax 1

```
CURSor:VBArs:UNIts
```

Syntax 2

```
CURSor:VBArs:UNIts?
```

Arguments

- `SECOnds`

  Fix the units for the VBArs for time domain.

- `HERtz`

  Fix the units for the VBArs for frequency domain.

Returns

A string for SECOnds or HERtz, depending upon current vertical bar cursor units.

Example 1

```
CURSor:VBArs:UNIts HERtz
```

Sets the units for the VBArs cursors to 1/seconds.

Example 2

```
CURSor:VBArs:UNIts?
```

This command might return `:CURSOR:VBARS:UNITS SECONDS`, indicating that the units for the vertical bar cursor are currently set to seconds.