3.23 :NAVigate Commands

3.23.1 :NAVigate:ENABle

Syntax

:NAVigate:ENABle <*bool*>

:NAVigate:ENABle?

Description

Sets or queries the on/off status of the Navigation function.

Parameter

Name	Type	Range	Default
<bool>	Bool	{{1|ON}|{0|OFF}}	0|OFF

Remarks

N/A

Return Format

The query returns 1 or 0.

Example

```
:NAVigate:ENABle ON     /*Enables the Navigation function.*/
:NAVigate:ENABle?       /*The query returns 1.*/
```

3.23.2 :NAVigate:MODE

Syntax

:NAVigate:MODE <*mode*>

:NAVigate:MODE?

Description

Sets or queries the navigation mode.

Parameter

Name	Type	Range	Default
<mode>	Discrete	{TIME|SEARch|FRAMe}	TIME

Remarks

- **TIME:** indicates the time navigation. It is available only when in "YT" time mode.

- **SEARch:** indicates event search navigation. After searching events using the Search function, you can select the "Search Event" mode in Navigation menu to navigate to specific events in the marktable.
- **FRAMe:** indicates frame segment navigation. This mode is available only in UltraAcquire acquisition mode. When UltraAcquire is enabled, the Mode is automatically set to "Frame Segment" which cannot be modified.

The navigation function is available only when the oscilloscope is in "STOP" state (acquisition stopped). You can send the *:STOP* command to set the oscilloscope to STOP status.

Return Format

The query returns TIME, SEARch, or FRAMe.

Example

```
:NAVigate:MODE TIME /*Sets the navigation mode to TIME.*/
:NAVigate:MODE? /*The query returns TIME.*/
```

3.23.3 :NAVigate:TIME:SPEed

Syntax

:NAVigate:TIME:SPEed <*speed*>

:NAVigate:TIME:SPEed?

Description

Sets the speed of playing the waveforms in time navigation mode.

Parameter

Name	Type	Range	Default
<speed>	Discrete	{HIGH|NORMal|LOW}	NORMal

Remarks

- **HIGH:** indicates playing the waveforms at a high speed.
- **NORMal:** indicates playing the waveforms at a normal speed.
- **LOW:** indicates playing the waveforms at a low speed.

Return Format

The query returns HIGH, NORMal, or LOW.

Example

```
:NAVigate:TIME:SPEed LOW /*Sets to play the waveforms in time
navigation mode at a low speed.*/
:NAVigate:TIME:SPEed? /*The query returns LOW.*/
```

3.23.4 :NAVigate:TIME:PLAY

Syntax

:NAVigate:TIME:PLAY <*bool*>

:NAVigate:TIME:PLAY?

Description

Sets or queries whether to play the waveforms in time navigation mode.

Parameter

Name	Type	Range	Default
<bool>	Bool	{{1|ON}|{0|OFF}}	0|OFF

Remarks

- **1|ON:** starts playing the waveforms.
- **0|OFF:** stops playing the waveforms.

Return Format

The query returns 0 or 1.

Example

```
:NAVigate:TIME:PLAY ON /*Sets to play the waveforms in time
navigation.*/
:NAVigate:TIME:PLAY? /*The query returns 1.*/
```

3.23.5 :NAVigate:TIME:END

Syntax

:NAVigate:TIME:END

Description

Sets to navigate to the end waveforms (waveforms ending at the rightmost end of screen) in time navigation mode.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.23.6 :NAVigate:TIME:STARt

Syntax

`:NAVigate:TIME:STARt`

Description

Sets to navigate to the start waveform (waveform starting at the leftmost end of screen) in time navigation mode.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.23.7 :NAVigate:TIME:NEXT

Syntax

`:NAVigate:TIME:NEXT`

Description

Sets to play forward the waveform in time navigation mode.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.23.8 :NAVigate:TIME:BACK

Syntax

`:NAVigate:TIME:BACK`

Description

Sets to play backward the waveform in time navigation mode.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.23.9 :NAVigate:SEARch:END

Syntax

`:NAVigate:SEARch:END`

Description

Sets to navigate to the last event.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.23.10 :NAVigate:SEARch:STARt

Syntax

:NAVigate:SEARch:STARt

Description

Sets to navigate to the first event.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.23.11 :NAVigate:SEARch:NEXT

Syntax

:NAVigate:SEARch:NEXT

Description

Sets to navigate to the next event.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.23.12 :NAVigate:SEARch:BACK

Syntax

:NAVigate:SEARch:BACK

Description

Sets to navigate to the previous event.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.23.13 :NAVigate:FRAMe:DISPlay:MODE

Syntax

:NAVigate:FRAMe:DISPlay:MODE <*mode*>

:NAVigate:FRAMe:DISPlay:MODE?

Description

Sets or queries the display mode in Frame Segment navigation.

Parameter

Name	Type	Range	Default
<mode>	Discrete	{ADJacent|OVERlay|WATerfall|PERSpective|MOSaic}	-

Remarks

- **ADJacent:** indicates the adjacent display. Waveform segments are shown in adjacent display, with each segment shown next to the previous segment. In this mode, a maximum of 100 frames of waveforms can be displayed on the screen at a time.

- **OVERlay:** indicates the overlay display. All the captured waveform segments are overwritten to display as one single segment of the waveform. In this mode, a maximum of 100 frames of waveforms can be displayed on the screen at a time.
- **WATerfall:** indicates the waterfall display. It displays the captured waveform segments in a cascaded display order. In this mode, a maximum of 100 frames of waveforms can be displayed on the screen at a time.
- **PERSpective:** indicates the perspective display. The waveform segments are displayed in the ladder-like form, with each segment being arranged above another with a certain perspective (angle), moving up like a rising slope. In this mode, a maximum of 100 frames of waveforms can be displayed on the screen at a time.
- **MOSaic:** indicates the mosaic display. The whole waveform view is divided into several blocks, and each waveform segment is displayed in each block in sequence. In this mode, a maximum of 80 frames of waveforms can be displayed on the screen at a time.

Return Format

The query returns ADJ, OVER, WAT, PERS, or MOS.

Example

```
:NAVigate:FRAMe:DISPlay:MODE ADJacent /*Sets the display mode to
ADJacent in Frame Segment navigation.*/
:NAVigate:FRAMe:DISPlay:MODE? /*The query returns ADJ.*/
```

3.23.14 :NAVigate:FRAMe:END:FRAMe

Syntax

:NAVigate:FRAMe:END:FRAMe <*frame*>

:NAVigate:FRAMe:END:FRAMe?

Description

Sets or queries the end frame in Frame Segment navigation mode.

Parameter

Name	Type	Range	Default
<frame>	Integer	-	-

Remarks

The range of the end frame is from Start Frame to the maximum number of the frames acquired in UltraAcquire acquisition mode. You can send the *:ACQuire:ULTRa:MAXFrame* command to query the maximum number of frames that can be set for UltraAcquire acquisition mode.

When you click or tap the Play key, it plays from the "Start Frame". The number of frames that can be displayed on the current screen page is (End Frame - Start Frame + 1). For example, if you set Start Frame to 3 and End Frame to 9, it will play from the 3rd frame and displays 7 frames on one screen page.

Return Format

The query returns an integer.

Example

```
:NAVigate:FRAMe:END:FRAMe 8 /*Sets the end frame in Frame Segment
navigation to 8.*/
:NAVigate:FRAMe:END:FRAMe? /*The query returns 8.*/
```

3.23.15 :NAVigate:FRAMe:STARt:FRAMe

Syntax

:NAVigate:FRAMe:STARt:FRAMe <*frame*>

:NAVigate:FRAMe:STARt:FRAMe?

Description

Sets or queries the start frame in Frame Segment navigation.

Parameter

Name	Type	Range	Default
<frame>	Integer	-	-

Remarks

When you click or tap the Play key, it plays from the "Start Frame". The number of frames that can be displayed on the current screen page is (End Frame - Start Frame + 1). For example, if you set Start Frame to 3 and End Frame to 9, it will play from the 3rd frame and displays 7 frames on one screen page.

Return Format

The query returns an integer.

Example

```
:NAVigate:FRAMe:STARt:FRAMe 3 /*Sets the start frame in Frame
Segment navigation to 3.*/
:NAVigate:FRAMe:STARt:FRAMe? /*The query returns 3.*/
```

3.23.16 :NAVigate:FRAMe:END

Syntax

:NAVigate:FRAMe:END

Description

Sets to play the final page in Frame Segment navigation mode.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.23.17 :NAVigate:FRAMe:STARt

Syntax

:NAVigate:FRAMe:STARt

Description

Sets to play the first page in Frame Segment navigation mode.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.23.18 :NAVigate:FRAMe:NEXT

Syntax

:NAVigate:FRAMe:NEXT

Description

Sets to play the next page in Frame Segment navigation mode.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.23.19 :NAVigate:FRAMe:BACK

Syntax

:NAVigate:FRAMe:BACK

Description

Sets to play the previous page in Frame Segment navigation mode.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.23.20 :NAVigate:FRAMe:PLAY

Syntax

:NAVigate:FRAMe:PLAY <*bool*>

:NAVigate:FRAMe:PLAY?

Description

Sets or queries whether to play the waveforms in Frame Segment navigation mode.

Parameter

Name	Type	Range	Default
<bool>	Bool	{{1|ON}|{0|OFF}}	0|OFF

Remarks

- **1|ON:** starts playing the waveforms.
- **0|OFF:** stops playing the waveforms.

During playing in Frame Segment navigation mode, you are not allowed to set the Start Frame and the End Frame.

Return Format

The query returns 1 or 0.

Example

```
:NAVigate:FRAMe:PLAY ON /*Sets to play the waveforms in Frame
Segment navigatio mode.*/
:NAVigate:FRAMe:PLAY? /*The query returns 1.*/
```

3.24 :SYSTem Commands

The **:SYSTem** commands are used to set the system-related parameters.

3.24.1 :SYSTem:AOUTput

Syntax

:SYSTem:AOUTput <*auxoutput*>

:SYSTem:AOUTput?

Description

Sets or queries the type of the signal output from the rear-panel **[AUX OUT]** connector.

Parameter

Name	Type	Range	Default
<auxoutput>	Discrete	{TOUT|PFAil}	TOUT

Remarks

- **TOUT:** after you select this type, the oscilloscope initiates a trigger and then a signal which reflects the current capture rate of the oscilloscope can be output from the connector.