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Introduction to the SCPI Language

Syntax

SCPI commands present a hierarchical tree structure and contain multiple sub-systems, each of which is made up of a root keyword and one or more sub-keywords. The command string usually starts with ":", the keywords are separated by ":" and are followed by the parameter settings available, "?" is added at the end of the command string to indicate query and the command and parameter are separated by "space".

For example,

```
:TRIGger:SINGle:EDGE:SOURce <source>  
:TRIGger:SINGle:EDGE:SOURce?
```

TRIGger is the root keyword of the command. **SINGle**, **EDGE** and **SOURce** are the second-level, third-level and fourth-level keywords respectively. The command string starts with ":" which separates the multiple-level keywords. **<source>** represents parameters available for setting, "?" represents query and the command : **TRIGger:SINGle:EDGE:SOURce** and the parameter **<source>** are separated by "space".

Syntax Rules

SCPI language itself defines a group of sub-system keywords, and at the same time allows users to add or reduce keywords. Those keywords can be some meaningful English words and are easy to remember, which are called mnemonics. Mnemonic has long and short types. The short are the abbreviation of the long.

➤ **Rule to format mnemonics:**

- 1) If the letter number of an English word is less than or equal to 4, then the word itself can be the mnemonic.(such as "Free" can be "FREE")
- 2) If the letter number of an English word exceeds 4, then the first four letters will be the mnemonic.(such as "Frequency" can be "FREQ")
- 3) If the forth letter is vowel, then mnemonic uses the former three letters. Vowels consists of a, e, i, o, and u.(such as "Power" can be "POW")
- 4) If it is not a word but a sentence, then use the first letters of the former words and the whole of the last word. (such as "Input Voltage " can be "IVOLTage")

➤ **Usage of symbols**

- 1) Space

The space is used to separate command and parameter.

2) Colon :

If the colon is in front of the first character, it means the following is Root Command. When the colon is set between two keywords, then it means moving from the current level to the next level.

3) *asterisk

The commands start with asterisk are named Common Command, which is used to execute IEEE488.2 common commands.

4) Braces {}

The parameters enclosed in the braces are optional and are usually separated by the vertical bar "|". When using this command, one of the parameters must be selected.

5) Vertical Bar |

The vertical bar is used to separate multiple parameters and one of the parameters must be selected when using the command.

6) Triangle Brackets < >

The parameter enclosed in the triangle brackets must be replaced by an effective value.

➤ **Parameter Type**

1) **Discrete**

The parameter should be one of the values listed. For example,

:MEASure:SOURce <source>

:MEASure:SOURce?

wherein,

<source> can be set to CH1|CH2

The query returns the abbreviated format: "CH1" 、 "CH2"

2) **Integer**

Unless otherwise noted, the parameter can be any integer (NR1 format) within the effective value range. Note that, do not set the parameter to a decimal, otherwise errors will occur. For example,

:CHANnel<n>:OFFSet <offset>

:CHANnel<n>:OFFSet?

wherein,

<n> can be set to 1 or 2, represents CH1 or CH2.

<offset> can be set to any integer between -250 and 250.

The query returns any integer between -250 and 250.

3) **Bool**

The parameter could be "OFF", "ON". For example,

:CHANnel1:DISPlay <bool>

:CHANnel1:DISPlay?

wherein,

<bool> can be set to {OFF|ON}

The query returns "OFF" or "ON" .

Command Abbreviation

Each SCPI command can be written mixed with uppercase and lowercase according to the syntax rules, and the capital letter part is just the abbreviation of the command. If abbreviation is used, all the capital letters in the command must be written completely. For parameters with units, please refer to the detail parameter specifications in the sub-system.

Example 1:

:ACQuire:TYPE SAMPlE

Abbreviation Below:

:ACQ:TYPE SAMP

Example 2:

:CHANne11:SCALe 1v

Abbreviation Below:

:CHAN1:SCAL 1v

Contact Us

If you have any problem or requirement when using our products, please contact OWON.

Service & Support Hotline: **4006 909 365**

Website: <http://www.owon.com.cn/>

Third-party API

The SCPI protocol of this product adopts USB port or LAN port to communication.

- If you want to use the software of our company, after you open the software, click to enter remote control, then click the SCPI command on the remoter control interface to enable SCPI protocol and communicate through SCPI protocol.
- If you want to develop your own software, please do as follows to enter SCPI communicate mode.
PC send: :SDSLSCPI#
Device reply: :SCPION
- **Note:** If the device supports SCPI protocol, it will reply :SCPION and enter SCPI communication mode successfully, otherwise it will not reply anything and fails to enter SCPI communication mode.

IEEE488.2 Common Commands

*CLS

Clear all the event registers in the register set and clear the error queue.

*ESE

Set enable register for the standard event register set.

Parameter

Name	Type	Range	Default Value
<value>	Integer	0 to 255	0

Explanation

The bit 1 and bit 6 of the standard event register are not used and are always treated as 0, therefore, the range of <value> are the decimal numbers corresponding to the binary numbers ranging from 00000000 (0 in decimal) to 11111111 (255 in decimal) and of which the bit 1 and bit 6 are 0.

Definitions of the Bits in ESE Register:

Bit	weights	Name	Enable
7	128	PON	Power On
6 (Not used)	64	URQ	User Request
5	32	CME	Command Error
4	16	EXE	Execution Error
3	8	DDE	Dev. Dependent Error
2	4	QYE	Query Error
1 (Not used)	2	RQL	Request Control
0	1	OPC	Operation Complete

Return Format

The query returns an integer which equals to the sum of the weights of all the bits that have already been set in the register. For example, the query returns "144" if bit 4 (16 in decimal) and 7 (128 in decimal) are enabled.

Example

The command below enables bit 4 (16 in decimal) of the enable register.

```
*ESE 16
```

The query below returns "16".

```
*ESE?
```

*ESE?

Query which bit in ESE register is enabled.

Example

The command below enables bit 4 (16 in decimal) of the enable register.

```
*ESE 16
```

The query below returns "16".

```
*ESE?
```

*ESR?

Description

Query the event register for the standard event register set.

Parameter

Name	Type	Range	Default Value
<value>	Integer	0 to 255	0

Explanation

The bit 1 and bit 6 of the standard event register are not used and are always treated as 0, therefore, the query returns the decimal numbers corresponding to the binary numbers ranging from 00000000 (0 in decimal) to 11111111 (255 in decimal) and of which the bit 1 and bit 6 are 0.

Definitions of the Bits in ESE Register:

Bit	weights	Name	Enable
7	128	PON	Power On
6 (Not used)	64	URQ	User Request
5	32	CME	Command Error
4	16	EXE	Execution Error
3	8	DDE	Dev. Dependent Error
2	4	QYE	Query Error
1 (Not used)	2	RQL	Request Control
0	1	OPC	Operation Complete

Return Format

The query returns an integer which equals to the sum of the weights of all the bits that have already been set in the register. For example, the query returns "144" if bit 4 (16 in decimal) and 7 (128 in decimal) are enabled.

Example

The query below returns "24" (bit 3 and bit 4 have already been set).

*ESR?

***IDN**

Return the ID character string of the instrument.

Description

The query returns the ID character string of the instrument.

Return Format

OWON,<model>,<serial number>,X.XX.XX

<model>: the model number of the instrument.

<serial number>: the serial number of the instrument.

X.XX.XX: the software version of the instrument.

Example

OWON,SDS6062,1247048,v3.0.2

***OPC**

Set the "Operation Complete" bit in the standard event register to 1 after the current operation is finished.

***OPC?**

Query whether the current operation is finished.

Explanation

Note the difference between the *OPC? and [*OPC](#) commands: the latter sets the "Operation Complete" bit (bit 0) in the standard event register to 1 after the current operation is finished.

Return Format

The query returns "1" if the current operation is finished, otherwise returns "0".

***RST**

Restore the instrument to its default value.

*SRE

Set enable register for the state byte register set.

Parameter

Name	Type	Range	Default Value
<value>	Integer	0 to 255	0

Explanation

The bit 0 and bit 1 of the state byte register are not used and are always treated as 0, therefore, the range of <value> are the decimal numbers corresponding to the binary numbers ranging from 00000000 (0 in decimal) to 11111111 (255 in decimal) and of which the bit 0 and bit 1 are 0.

Definitions of the Bits in SRE:

Bit	Weights	Name	Enable
7	128	OPER	Operation Status Reg
6	64	---	Not used
5	32	ESB	Event Status Bit
4	16	MAV	Message Available
3	8	---	Not used
2	4	MSG	Message
1 (Not used)	2	USR	User
0 (Not used)	1	TRG	Trigger

Return Format

The query returns an integer which equals to the sum of the weights of all the bits that have already been set in the register. For example, the query returns "144" if bit 4 (16 in decimal) and 7 (128 in decimal) are enabled.

Example

The command below enables bit 4 (16 in decimal) of the enable register.

```
*SRE 16
```

The query below returns "16".

```
*SRE?
```

*STB?

Query the condition register for the state byte register set.

***TST?**

Perform self-test and return the test result.

If the returned bit is "0", the corresponding item of the instrument passed this test, while "1" indicates a failure.

***WAI**

Wait for the finish of the operation.

:MEASure command Subsystem

:MEASure:SOURce

Syntax

:MEASure:SOURce <source>

:MEASure:SOURce?

Description

Select the measurement source of the 20 measurement parameters.

Parameter

Name	Type	Range	Default Value
<source>	Discrete	{CH1 CH2}	CH1

Explanation

This oscilloscope can measure 20 parameters.

You need to specify one measurement source for the following 20 parameters:

10 Voltage Measurement Items: Maximum, Minimum, Peak-Peak, Top, Bottom, Amplitude, Average, RMS, Overshoot and Preshoot.

10 Time Measurement Items: Period, Frequency, Rise Time, Fall Time, Positive Pulse Width, Negative Pulse Width, Positive Duty Cycle, Negative Duty Cycle, Delay 1→2^f, Delay 1→2^T.

Return Format

The query returns “CH1” or “CH2”.

Example

The command below sets CH1 as the measurement source.

```
:MEASure:SOURce CH1
```

The query below returns “CH1”.

```
:MEASure:SOURce?
```

:MEASure:ADD

Syntax

:MEASure:ADD <item>



Description

Add any one of or all of the 20 measurement items.

Parameter

Name	Type	Range	Default Value
<item>	Discrete	{ITEM1 ITEM2 ITEM3 ... ITEM20 ALL}	-----

The sequence of measurement items which corresponding to the ITEM above is as blow:



Period, Frequency, Average, Peak-Peak, RMS, Maximum, Minimum, Top, Bottom, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, Positive Pulse Width, Negative Pulse Width, Positive Duty Cycle, Negative Duty Cycle, Delay 1→2 , Delay 1→2 .

Explanation

This oscilloscope can measure 20 parameters.

You need to specify one measurement source for the following 20 parameters:

10 Voltage Measurement Items: Maximum, Minimum, Peak-Peak, Top, Bottom, Amplitude, Average, RMS, Overshoot and Preshoot.

10 Time Measurement Items: Period, Frequency, Rise Time, Fall Time, Positive Pulse Width, Negative Pulse Width, Positive Duty Cycle, Negative Duty Cycle, Delay 1→2 , Delay 1→2 .

Note:

1. When sending the command :MEASure:ADD ALL, choose "Show all". Sent it the second time, cancel "Show all".
- 2.If the measurement value is invalid, then a question mark "?" will display on pc software interface.

Example

The command below adds the measurement item "ITEM2", that is frequency.

```
:MEASure:ADD ITEM2
```

:MEASure:DELeTe

Syntax

```
:MEASure:DELeTe <item>
```

Description

Delete any one of or all of the 8 measurement items that have been first turned on.



Parameter

Name	Type	Range	Default Value
<item>	Discrete	{ITEM1 ITEM2 ITEM3 ... ITEM8 ALL}	-----

This oscilloscope can measure 20 parameters.

You need to specify one measurement source for the following 20 parameters:

10 Voltage Measurement Items: Maximum, Minimum, Peak-Peak, Top, Bottom, Amplitude, Average, RMS, Overshoot and Preshoot.

10 Time Measurement Items: Period, Frequency, Rise Time, Fall Time, Positive Pulse Width, Negative Pulse Width, Positive Duty Cycle, Negative Duty Cycle, Delay 1→2 , Delay 1→2 .

Note:

3. When sending the command `:MEASure:DElete ALL`, choose “Remove all”.

4. If there are only 3 items, when you send a command more than ITEM3, such as `:MEASure:DElete ITEM8`, the last item will be deleted by default.

Example

The command below deletes the first measurement item that has been turned on. Add 3 measure items: period, frequency, average. If you delete ITEM1, you will delete period item; delete ITEM2, you will delete frequency item; delete ITEM3, you will delete average item.

```
:MEASure:DElete ITEM1
```

:MEASure:PERiod?

Syntax

```
:MEASure:PERiod?
```

Description

Query the measurement value of the period of the selected waveform. The unit is s.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the measurement value of the period of current channel.

```
:MEASure:PERiod?
```

:MEASure:FREQuency?

Syntax

```
:MEASure:FREQuency?
```

Description

Query the frequency measurement value of the selected waveform. The unit is Hz.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the frequency measurement value of current channel.

```
:MEASure:FREQuency?
```

:MEASure:AVERage?

Syntax

```
:MEASure:AVERage?
```

Description

Query the average value of the amplitude of the selected waveform. The unit depends on the unit of the source channel.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the average value of the amplitude of current channel.

```
:MEASure:AVERage?
```

:MEASure:MAX?

Syntax

```
:MEASure:MAX?
```

Description

Query the maximum value of the selected waveform. The unit depends on the unit of the source channel.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the maximum value of the waveform of current channel.

```
:MEASure:MAX?
```

:MEASure:MIN?

Syntax

```
:MEASure:MIN?
```

Description

Query the minimum value of the selected waveform. The unit depends on the unit of the source channel.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the minimum value of the waveform of current channel.

```
:MEASure:MIN?
```

:MEASure:VTOP?

Syntax

```
:MEASure:VTOP?
```

Description

Query the top value of the selected waveform. The unit depends on the unit of the source

channel.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the top value of the waveform of current channel.

```
:MEASure:VTOP?
```

:MEASure:VBASe?

Syntax

```
:MEASure:VBASe?
```

Description

Query the base value of the selected waveform. The unit depends on the unit of the source channel.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the base value of the waveform of current channel.

```
:MEASure:VBASe?
```

:MEASure:VAMP?

Syntax

```
:MEASure:VAMP?
```

Description

Query the measurement value of the amplitude of the selected waveform. The unit depends on

the unit of the source channel.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the measurement value of the amplitude of current channel.

```
:MEASure:VAMP?
```

:MEASure:PKPK?

Syntax

```
:MEASure:PKPK?
```

Description

Query the peak-peak value of the selected waveform. The unit depends on the unit of the source channel.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the peak-peak value of the waveform of current channel.

```
:MEASure:PKPK?
```

:MEASure:CYCRms?

Syntax

```
:MEASure:CYCRms?
```

Description

Query the RMS value of the amplitude of the selected waveform. The unit depends on the unit of the source channel.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the RMS value of the amplitude of the waveform of current channel.
:MEASure:CYCRms?

:MEASure:RTIME?

Syntax

:MEASure:RTime?

Description

Query the measurement value of the rise time of current channel. The unit is s.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the measurement value of the rise time of current channel.
:MEASure:RTIME?

:MEASure:FTIME?

Syntax

:MEASure:FTime?

Description

Query the measurement value of the fall time of current channel. The unit is s.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the measurement value of the fall time of current channel.

```
:MEASure:FTIME?
```

:MEASure:PDUTy?

Syntax

```
:MEASure:PDUTy?
```

Description

Query the measurement value of the positive duty cycle of current channel.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the measurement value of the positive duty cycle of current channel.

```
:MEASure:PDUTy?
```

:MEASure:NDUTy?

Syntax

```
:MEASure:NDUTy?
```

Description

Query the measurement value of the negative duty cycle of current channel.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the measurement value of the negative duty cycle of current channel.

```
:MEASure:NDUTy?
```

:MEASure:PWIDth?

Syntax

```
:MEASure:PWIDth?
```

Description

Query the measurement value of the positive pulse width of current channel. The unit is s.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the measurement value of the positive pulse width of current channel.

```
:MEASure:PWIDth?
```

:MEASure:NWIDth?

Syntax

```
:MEASure:NWIDth?
```

Description

Query the measurement value of the negative pulse width of current channel. The unit is s.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the measurement value of the negative pulse width of current channel.

```
:MEASure:NWIDth?
```

:MEASure:OVERshoot?

Syntax

```
:MEASure:OVERshoot?
```

Description

Query the measurement value of the overshoot of current channel.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the measurement value of the overshoot of current channel.

```
:MEASure:OVERshoot?
```

:MEASure:PREShoot?

Syntax

```
:MEASure:PREShoot?
```

Description

Query the measurement value of the preshoot of current channel.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the measurement value of the preshoot of current channel.

```
:MEASure:PREShoot?
```

:MEASure:RDElay?

Syntax

```
:MEASure:RDElay?
```

Description

Query the result of the delay measurement (relative to rising edge) between channels. The unit is s.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the rising edge delay of current channels.

```
:MEASure:RDElay?
```

:MEASure:FDElay?

Syntax

```
:MEASure:FDElay?
```

Description

Query the result of the delay measurement between current channels (relative to falling edge).
The unit is s.

Explanation

By default, it is the channel source currently specified by the oscilloscope (refer to the [:MEASure:SOURce](#) command) and you can also set it to your desired channel source.

Return Format

The query returns the measurement result in character string.

Example

The query below returns the falling edge delay of current channels.

:MEASure:FDElay?

:ACQUIRE Command Subsystem

:ACQUIRE:TYPE

Syntax

:ACQUIRE:TYPE <type>
:ACQUIRE:TYPE?

Description

Set the acquisition mode of the oscilloscope.

Parameter

Name	Type	Range	Default Value
<type>	Discrete	{SAMPLE AVERage PEAK }	SAMP

Explanation

When "AVERage" is selected, use the [:ACQUIRE:AVERage](#) command to set the number of averages.

Return format

The query returns "SAMPLE", "AVERage" or "PEAK".

Example

The command below selects the average acquisition mode.

```
:ACQUIRE:TYPE AVERage
```

The query below returns "AVERage".

```
:ACQUIRE:TYPE?
```

:ACQUIRE:AVERage <count>

Syntax

:ACQUIRE:AVERage <count>
:ACQUIRE:AVERage?

Description

Set the number of averages.

Parameter

Name	Type	Range	Default Value
<count>	Discrete	{4 16 64 128}	4

Explanation

At present, the number of averages can be set is "4","16","64" and "128". When executing `:ACQuire:AVERage <count>`, the acquisition mode of the oscilloscope would be changed to AVERage mode automatically.

Return format

The query returns the number of average in character string.

Example

The command below sets the number of averages to "64".

```
:ACQuire:AVERage 64
```

The query below returns "64":

```
:ACQuire:AVERage?
```

:ACQuire:MDEPth <mdep>

Syntax

```
:ACQuire:MDEPth <mdep>
```

```
:ACQuire:MDEPth?
```

Description

Set the number of waveform points that the oscilloscope can store in a single trigger sample.

Parameter

Name	Type	Range	Default Value
<mdep>	Discrete	{1K 10K 100K 1M 10M}	1K

Return format

The query returns the actual number of points (integer).

Example

The command below sets the memory depth to "10K".

```
:ACQuire:MDEPth 10K
```

The query below returns the actual number of points, for example "10K".

```
:ACQuire:MDEPth?
```

:TIMebase command Subsystem

:TIMebase:SCALE

Syntax

:TIMebase:SCALE <scale_value>

:TIMebase:SCALE?

Description

Set the scale of the main time base.

Parameter

Name	Type	Range	Default Value
<scale_value>	Discrete	Please refer to Explanation	----

Explanation: Default to set the main time base.

SDS6062T time base gear:

{5.0ns | 10ns | 20ns | 50ns | 100ns | 200ns | 500ns | 1us | 2us | 5us | 10us | 20us | 50us | 100us | 200us | 500us | 1ms | 2ms | 5ms | 10ms | 20ms | 50ms | 100ms | 200ms | 500ms | 1s | 2s | 5s | 10s | 20s | 50s | 100s}

SDS7102T、SDS7072T time base gear:

{2.0ns | 5.0ns | 10ns | 20ns | 50ns | 100ns | 200ns | 500ns | 1us | 2us | 5us | 10us | 20us | 50us | 100us | 200us | 500us | 1ms | 2ms | 5ms | 10ms | 20ms | 50ms | 100ms | 200ms | 500ms | 1s | 2s | 5s | 10s | 20s | 50s | 100s}

SDS8102T、SDS8202T、SDS8302T、SDS9302T time base gear:

{1.0ns | 2.0ns | 5.0ns | 10ns | 20ns | 50ns | 100ns | 200ns | 500ns | 1us | 2us | 5us | 10us | 20us | 50us | 100us | 200us | 500us | 1ms | 2ms | 5ms | 10ms | 20ms | 50ms | 100ms | 200ms | 500ms | 1s | 2s | 5s | 10s | 20s | 50s | 100s}

Return Format

The query returns the horizontal scale in character string.

Example

The command below sets the horizontal scale of channel 1 to 200us/div.

:TIMebase:SCALE 200us

The query below returns "200us".

:TIMebase:SCALE?

:TIMebase:HOFFset

Syntax

:TIMebase:HOFFset <value>

:TIMebase:HOFFset?

Description

Set the Horizontal offset of the time base.

Parameter

Name	Type	Range	Default Value
<value>	Integer	From -500 to +500000 (horizontal offset pixels)	0

Return Format

The query returns the offset in character string.

Explanation

Each div consists of 50 pixels along the horizontal direction. If the current main time base is 500us/div, and suppose the horizontal offset pixels are 100(that is 2div), then the horizontal offset time is 1.000ms.

Example

The command below sets the horizontal offset of channel1 to 50.

:TIMebase:HOFFset 50

The query returns horizontal offset pixels.

:TIMebase:HOFFset?

:FFT Command Subsystem

:FFT:DISPlay <bool>

Syntax

:FFT:DISPlay <bool>

:FFT:DISPlay?

Description

Turn the display of FFT on or off.

Parameter

Name	Type	Range	Default Value
<bool >	Bool	{ OFF ON }	OFF

Return Format

The query returns “ON” or “OFF” .

Example

The command below turns the display of FFT on.

:FFT:DISPlay ON

The query returns “OFF”。

:FFT:DISPlay?

:FFT:HCENter <center>

Syntax

:FFT:HCENter <center>

:FFT:HCENter?

Description

Set the center frequency of the FFT spectrum.

Parameter

Name	Type	Range	Default Value
<center >	Discrete	Please Refer to Explanation	-----

Explanation:

SDS6062T FFT center frequency

{0.05Hz | 0.1Hz | 0.25Hz | 0.5Hz | 1Hz | 2.5Hz | 5Hz | 10Hz | 25Hz | 50Hz
| 100Hz | 250Hz | 500Hz | 1KHz | 2.5KHz | 5KHz | 10KHz | 25KHz | 50KHz
| 125KHz | 250KHz | 500KHz | 1.25KHz | 2.5KHz | 5MHz | 12.5MHz | 25MHz
| 50MHz | 100MHz | 200MHz | 400MHz | 800MHz}

SDS7102T、SDS7072T FFT center frequency

{0.05Hz | 0.1Hz | 0.25Hz | 0.5Hz | 1Hz | 2.5Hz | 5Hz | 10Hz | 25Hz | 50Hz
| 100Hz | 250Hz | 500Hz | 1KHz | 2.5KHz | 5KHz | 10KHz | 25KHz | 50KHz
| 125KHz | 250KHz | 500KHz | 1.25KHz | 2.5KHz | 5MHz | 12.5MHz | 25MHz
| 50MHz | 100MHz | 200MHz | 400MHz | 800MHz | 1.6GHz | 3.2GHz}

SDS8102T、SDS8202T、SDS8302T、SDS9302T FFT center frequency

{0.05Hz | 0.1Hz | 0.25Hz | 0.5Hz | 1Hz | 2.5Hz | 5Hz | 10Hz | 25Hz | 50Hz | 100Hz | 250Hz |
500Hz | 1KHz | 2.5KHz | 5KHz | 10KHz | 25KHz | 50KHz | 125KHz | 250KHz | 500KHz | 1.25KHz |
2.5KHz | 5MHz | 12.5MHz | 25MHz | 50MHz | 125MHz | 250MHz | 500MHz | 1GHz | 2GHz |
4GHz}

Return Format

The query returns the frequency value in character string.

Example

The command below sets the center frequency of the FFT spectrum to 10 MHz.

```
:FFT:HCEnter 10MHz
```

The query returns "10MHz".

```
:FFT:HCEnter?
```

:FFT:SOURce <source>

Syntax

```
:FFT:SOURce <source>
```

```
:FFT:SOURce?
```

Description

Select the signal source of FFT operation.

Parameter

Name	Type	Range	Default Value
<source >	Discrete	{CH1 CH2}	CH1

Return Format

The query returns "CH1" or "CH2".

Example

The command below selects channel 1 as the signal source.

```
:FFT:SOURce CH1
```

The query below returns "CH1".

```
:FFT:SOURce?
```

:FFT:FORMat:VRMS <vrms_scale>

Syntax

```
:FFT:FORMat:VRMS <vrms_scale>
```

```
:FFT:FORMat?
```

Description

Set the VRMS scale of FFT.

Parameter

Name	Type	Range	Default Value
< vrms_scale >	Discrete	{2mv 5mv 10mv 20mv 50mv 100mv 200mv 500mv 1v 2v 5v 10v}	--

Return Format

The query returns "VRMS" or "DB".

Example

The command below selects "VRMS" as the display mode.

```
:FFT:FORMat VRMS
```

The query returns "VRMS".

```
:FFT:FORMat?
```

:FFT:FORMat:DB <dB_scale>

Syntax

```
:FFT:FORMat:DB <dB_scale>
```

```
:FFT:FORMat?
```

Description

Set the DB scale of FFT.

Parameter

Name	Type	Range	Default Value
< dB_scale >	Discrete	{1DB 2DB 5DB 10DB 20DB}	dB

Return Format

The query returns “VRMS” or “DB”.

Example

The command below selects DB mode.

```
:FFT:FORMat DB
```

The query returns “DB”.

```
:FFT:FORMat?
```

:FFT:WINDow <item>

Syntax

```
:FFT:WINDow <item>
```

```
:FFT:WINDow?
```

Description

Select the window function of FFT operation.

Parameter

Name	Type	Range	Default Value
< item >	Discrete	{RECTangle HANNing HAMMing BLACKman}	RECTangle

Return Format

The query returns “RECT”、“HANN”、“HAMM” or “BLAC”.

Example

The command below selects RECTangle.

```
:FFT:WINDow RECTangle
```

The query returns “RECTangle”.

```
:FFT:WINDow?
```

:FFT:ZONE <factor>

Syntax

```
:FFT:ZONE <factor>
```

```
:FFT:ZONE?
```

Description

Select the scaling of FFT operation.

Parameter

Name	Type	Range	Default Value
< factor >	Discrete	{X1 X2 X5 X10}	X1

Return Format

The query returns X1、X2、X5 or X10.

Example

The command below sets “X5” as the scaling.

```
:FFT:ZONE X5
```

The query returns “X5” .

```
:FFT:ZONE?
```

:CHANnel Command Subsystem

:CHANnel<n>:DISPlay

Syntax

:CHANnel<n>:DISPlay <bool>
:CHANnel<n>:DISPlay?

Description

Turn the display of the channel on or off.

Parameter

Name	Type	Range	Default Value
<n>	Discrete	{1 2}	1
<bool>	Bool	{OFF ON}	OFF

Return Format

The query returns "OFF" or "ON".

Example

The command below turns the display of channel1 on.

:CHANnel1:DISPlay ON

The query returns "ON".

:CHANnel1:DISPlay?

:CHANnel<n>:COUPling

Syntax

:CHANnel<n>:COUPling <coupling>
:CHANnel<n>:COUPling?

Description

Set the coupling mode of the channel to "AC", "DC" or "GND".

Parameter

Name	Type	Range	Default Value
<n>	Discrete	{1 2}	1
<coupling>	Discrete	{AC DC GND}	DC

Return Format

The query returns “AC”、“DC” or “GND”。

Example

The command below sets the input coupling mode of channel 1 to "DC".

```
:CHANnel1:COUPling DC
```

The query returns “DC”。

```
:CHANnel1:COUPling?
```

:CHANnel<n>:PROBe

Syntax

```
:CHANnel<n>:PROBe <atten>
```

```
:CHANnel<n>:PROBe?
```

Description

Set the attenuation ratio of the probe.

Parameter

Name	Type	Range	Default Value
<n>	Discrete	{1 2}	1
<atten>	Discrete	{X1 X10 X100 X1000}	X10

Return Format

The query returns “X1”、“X10”、“X100” or “X1000”。

Example

The command below sets the attenuation ratio of the probe connected to channel1 to 10.

```
:CHANnel1:PROBe X10
```

The query returns “X10”。

```
:CHANnel1:PROBe?
```

:CHANnel<n>:SCALE

Syntax

```
:CHANnel<n>:SCALE <scale>
```

```
:CHANnel<n>:SCALE?
```

Description

Set the vertical scale of the specified waveform display.

Parameter

Name	Type	Range	Default Value
<n>	Discrete	{1 2}	1
<scale>	Discrete	{2mv 5mv 10mv 20mv 50mv 100mv 200mv 500mv 1v 2v 5v 10v}	----

Return Format

The query returns the vertical scale in character string.

Example

The command below sets the vertical scale of channel 1 to 1V/div.

```
:CHANnel1:SCALE 1v
```

The query returns “1v” .

```
:CHANnel1:SCALE?
```

:CHANnel<n>:OFFSet

Syntax

```
:CHANnel<n>:OFFSet <offset>
```

```
:CHANnel<n>:OFFSet?
```

Description

Set the vertical offset of the specified waveform display.

Parameter

Name	Type	Range	Default Value
<n>	Discrete	{1 2}	1
<offset>	Integer	From -250 to 250 (pixels)	0

Explanation

Each div consists of 25 pixels,if vertical offset is 20,then it means $20/25= 0.8\text{div}$

Return Format

The query returns the offset value in character string.

Example

The command below sets the vertical offset of channel 1 to 25.

```
:CHANnel1:OFFSet 25
```

The query below returns 25pixels.

```
:CHANnel1:OFFSet?
```

:LAN Command Subsystem

:LAN:IPADdress

Syntax

:LAN:IPADdress <string>
:LAN:IPADdress?

Description

Set the IP address of the instrument.

Parameter

Name	Type	Range	Default Value
<string>	ASCIICharacter String	nnn,nnn,nnn,nnn	0,0,0,0

Explanation

When setting the <string>, the range of the first nnn is from 0 to 223 (except 127) and the ranges of the other three nnn are from 0 to 255.

Return Format

The query returns the current IP address in character string.

Example

The command below sets the IP address to: 192.168.1.80.

```
:LAN:IPADdress 192.168.1.80
```

The query returns "192.168.1.80".

```
:LAN:IPADdress?
```

:LAN:PORT

Syntax

:LAN:PORT <value>
:LAN:PORT?

Description

Distribute a port for the instrument.

Parameter

Name	Type	Range	Default Value
<value>	Integer	1 ~ 3000	3000

Explanation

When setting the <value>, the range of the port is from 1 to 3000.

Return Format

The query returns the current port value in character string.

Example

The command below sets the port value to:3000。

:LAN:PORT 3000

The query returns “3000”。

:LAN:PORT?

:LAN:GATeway

Syntax

:LAN:GATeway <string>

:LAN:GATeway?

Description

Distribute a gateway for the instrument.

Parameter

Name	Type	Range	Default Value
<string>	ASCIICharacter String	nnn,nnn,nnn,nnn	0,0,0,0

Explanation

When setting the <string>, the range of the first nnn is from 0 to 223 (except 127) and the ranges of the other three nnn are from 0 to 255.

Return Format

The query returns the current gateway in character string.

Example

The command below sets the gateway to:192.168.1.1。

:LAN:GATeway 192.168.1.1

The query returns “192.168.1.1” 。

:LAN:GATeway?

:LAN:SMASK

Syntax

:LAN:SMASK <string>

:LAN:SMASK?

Description

Distribute a subnet mask for the instrument.

Parameter

Name	Type	Range	Default Value
<string>	ASCIICharacter String	nnn,nnn,nnn,nnn	0,0,0,0

Explanation

When setting the <string>, the range of each nnn is from 0 to 255.

Return Format

The query returns the current subnet mask in character string.

Example

The command below sets the subnet mask to: 255.255.255.0.

:LAN:SMASK 255,255,255,0

The query returns "255.255.255.0".

:LAN:SMASK?

:LAN:REStart <switch>

Syntax

:LAN:REStart <switch>

Description

Restart the oscilloscope.

Parameter

Name	Type	Range	Default Value
<switch>	Discrete	{ON OFF}	OFF

Explanation

After setting net parameters, send ":LAN:REStart ON" and close the SCPI interface. After automatic restart, enter SCPI again. By query, the new net parameters would be those you set.

:TRIGger Command Subsystem

:TRIGger:TYPE <type>

Syntax

:TRIGger:TYPE <type>
:TRIGger:TYPE?

Description

Select the trigger type.

Parameter

Name	Type	Range	Default Value
<type>	Discrete	{SINGle ALternate}	SING

Return Format

The query returns the current trigger type.

Example

The command below selects slope trigger.

```
:TRIGger:TYPE SINGLE
```

The query below returns "SINGle". “ ” .

```
:TRIGger:TYPE?
```

:TRIGger:MODE <mode>

Syntax

:TRIGger:MODE <mode>
:TRIGger:MODE?

Description

Select the trigger mode.

Parameter

Name	Type	Range	Default Value
<mode>	Discrete	{AUTO NORMal SINGle}	AUTO

Return Format

The query returns the current trigger mode. [When ALT](#), the trigger mode can only be AUTO.

Example

The command below selects normal as trigger mode.

```
:TRIGger:MODE NORMal
```

The query below returns “NORMal” .

```
:TRIGger:MODE?
```

:TRIGger:SINGle <Smode>

Syntax

```
:TRIGger:SINGle <Smode>
```

```
:TRIGger:SINGle?
```

Description

Select the trigger type edge or video under single trigger.

Parameter

Name	Type	Range	Default Value
<Smode>	Discrete	{EDGE VIDeo }	EDGE

Return Format

The query returns “EDGE” or ” VIDeo”.

Example

The command below selects “VIDeo” as trigger type under single trigger.

```
:TRIGger:SINGle VIDeo
```

The query below returns “VIDeo”.

```
:TRIGger:SINGle?
```

:TRIGger:ALT <Amode>

Syntax

```
:TRIGger:ALT <mode>
```

```
:TRIGger:ALT?
```

Description

Select the trigger type edge or video under ALT trigger.

Parameter

Name	Type	Range	Default Value
<Amode>	Discrete	{EDGE VIDeo }	EDGE

Return Format

The query returns "EDGE" or "VIDeo".

Example

The command below selects "VIDeo" as trigger type under ALT trigger.

```
:TRIGger:ALT VIDeo
```

The query below returns "VIDeo".

```
:TRIGger:ALT?
```

:TRIGger:SINGle:EDGE

:TRIGger:SINGle:EDGE:SOURce

Syntax

```
:TRIGger:SINGle:EDGE:SOURce <source>
```

```
:TRIGger:SINGle:EDGE:SOURce?
```

Description

Select the source under SINGle EDGE trigger.

Parameter

Name	Type	Range	Default Value
<source>	Discrete	{CH1 CH2 }	CH1

Return Format

The query returns "CH1" or "CH2".

Example

The command below selects "CH2" as the source under SINGle EDGE trigger.

```
:TRIGger:SINGle:EDGE:SOURce CH2
```

The query below returns "CH2".

```
:TRIGger:SINGle:EDGE:SOURce?
```

:TRIGger:SINGle:EDGE:COUPling

Syntax

```
:TRIGger:SINGle:EDGE:COUPling <coupling>
```

```
:TRIGger:SINGle:EDGE:COUPling?
```

Description

Select the coupling mode under SINGLE EDGE trigger.

Parameter

Name	Type	Range	Default Value
< coupling >	Discrete	{DC AC HF LF }	DC

Return Format

The query returns "DC", "AC", "HF" or "LF".

Example

The command below selects "AC" as the coupling mode under SINGLE EDGE trigger.

```
:TRIGger:SINGLE:EDGE:COUPling AC
```

The query below returns "AC".

```
:TRIGger:SINGLE:EDGE:COUPling?
```

:TRIGger:SINGLE:EDGE:SLOPe

Syntax

```
:TRIGger:SINGLE:EDGE:SLOPe <slope>
```

```
:TRIGger:SINGLE:EDGE:SLOPe?
```

Description

Select the slope under SINGLE EDGE trigger.

Parameter

Name	Type	Range	Default Value
<slope>	Discrete	{RISE FALL}	RISE

Return Format

The query returns "RISE " or "FALL".

Example

The command below selects "FALL" as the slope under SINGLE EDGE trigger.

```
:TRIGger:SINGLE:EDGE:SLOPe FALL
```

The query below returns "FALL".

```
:TRIGger:SINGLE:EDGE:SLOPe?
```

:TRIGger:SINGLE:EDGE:LEVel

Syntax

:TRIGger:SINGle:EDGE:LEVel <level>

:TRIGger:SINGle:EDGE:LEVel?

Description

Set the trigger level under SINGLE EDGE trigger. And the unit is in accordance with the current unit of the voltage.

Parameter

Name	Type	Range	Default Value
<level>	Integer (pixel number)	from (-6div - zero position) ×VerticalScale to (6div - zero position) ×VerticalScale (25pixels/div)	0

Tip: For VerticalScale, please refer to command [:CHANnel<n>:SCALE](#).

Explanation

Each div consists of 25 pixels along the vertical direction. If the query returns “20” for trigger level, which means 0.8div, and if the vertical scale is 1v/div, then the trigger level would be 0.8v, that is 800mv.

[Here are the calculation steps.](#)

$20\text{pixels} / 25\text{pixels} = 0.8\text{div}$

$0.8\text{div} * 1\text{v/div} = 0.8\text{v}$

Return Format

The query returns the pixels number of the trigger level in character string.

Example

The command below sets “25” as the trigger level under SINGLE EDGE trigger.

:TRIGger:SINGle:EDGE:LEVel 25

The query returns “25” .

:TRIGger:SINGle:EDGE:LEVel?

:TRIGger:SINGle:VIDeo

:TRIGger:SINGle:VIDeo:SOURce

Syntax

:TRIGger:SINGle:VIDeo:SOURce <source>

:TRIGger:SINGle:VIDeo:SOURce?

Description

Select the source under SINGLE VIDEO trigger.

Parameter

Name	Type	Range	Default Value
<source>	Discrete	{CH1 CH2 }	CH1

Return Format

The query returns "CH1" or "CH2".

Example

The command below selects "CH2" as the source under SINGLE VIDEO trigger.

```
:TRIGger:SINGle:VIDeo:SOURce CH2
```

The query below returns "CH2".

```
:TRIGger:SINGle:VIDeo:SOURce?
```

:TRIGger:SINGle:VIDeo:MODU

Syntax

```
:TRIGger:SINGle:VIDeo:MODU <standard>
```

```
:TRIGger:SINGle:VIDeo:MODU?
```

Description

Select video standard under SINGLE VIDEO trigger.

Parameter

Name	Type	Range	Default Value
<standard>	Discrete	{PAL SECam NTSC}	NTSC

Return Format

The query returns "PAL", "SECam" or "NTSC".

Example

The command below select "NTSC" as the video standard under SINGLE VIDEO trigger.

```
:TRIGger:SINGle:VIDeo:MODU NTSC
```

The query below returns "NTSC".

```
:TRIGger:SINGle:VIDeo:MODU?
```

:TRIGger:SINGle:VIDeo:SYNC

Syntax

:TRIGger:SINGle:VIDeo:SYNC <mode>

:TRIGger:SINGle:VIDeo:SYNC?

Description

Select the Synchronization Type among LINE, FIELD, ODDfield, EVENfield or LNUMBER under SINGLE VIDEO trigger.

Parameter

Name	Type	Range	Default Value
<mode>	Discrete	{ LINE FIELD ODD EVEN LNUM}	LINE

Return Format

The query returns "LINE", "FIELD", "ODD", "EVEN" or "LNUM".

Example

The command below select "ODD" as the Synchronization Type under SINGLE VIDEO trigger.

```
:TRIGger:SINGle:VIDeo:SYNC ODD
```

The query below returns "ODD".

```
:TRIGger:SINGle:VIDeo:SYNC?
```

:TRIGger:SINGle:VIDeo:LNUM

Syntax

:TRIGger:SINGle:VIDeo:LNUM<line>

:TRIGger:SINGle:VIDeo:LNUM?

Description

Set line number under SINGLE VIDEO trigger and the synchronization type is "LNUM".

Parameter

Name	Type	Range	Default Value
<line_num>	Integer	NTSC: from 1 to 525 PAL: from 1 to 625 SECAM: from 1 to 625	1

Return Format

The query returns line number in character string under SINGLE VIDEO trigger. And the source defaults to the current source.

Example

The command below sets “100” as the Line number under SINGLE VIDEO trigger.

```
:TRIGger:SINGle:VIDeo:LNUM100
```

The query below returns “100”。

```
:TRIGger:SINGle:VIDeo:LNUM?
```

:TRIGger:ALT:EDGE

:TRIGger:ALT:EDGE:SOURce

Syntax

```
:TRIGger:ALT:EDGE:SOURce <source>
```

```
:TRIGger:ALT:EDGE:SOURce?
```

Description

Select the source under ALT EDGE trigger.

Parameter

Name	Type	Range	Default Value
<source>	Discrete	{CH1 CH2 }	CH1

Return Format

The query returns “CH1” or “CH2”.

Example

The command below selects “CH2” as the source under ALT EDGE trigger.

```
:TRIGger:SINGle:EDGE:SOURce CH2
```

The query below returns “CH2”.

```
:TRIGger:SINGle:EDGE:SOURce?
```

:TRIGger:ALT:EDGE:COUPling

Syntax

```
:TRIGger:ALT:EDGE:COUPling <coupling>
```

```
:TRIGger:ALT:EDGE:COUPling?
```

Description

Select the coupling mode under ALT EDGE trigger.

Parameter

Name	Type	Range	Default Value
< coupling >	Discrete	{DC AC HF LF }	DC

Return Format

The query returns "DC", "AC", "HF" or "LF".

Example

The command below selects "AC" as the coupling mode under ALT EDGE trigger.

```
:TRIGger:ALT:EDGE:COUPling AC
```

The query below returns "AC".

```
:TRIGger:ALT:EDGE:COUPling?
```

:TRIGger:ALT:EDGE:SLOPe

Syntax

```
:TRIGger:ALT:EDGE:SLOPe <slope>
```

```
:TRIGger:ALT:EDGE:SLOPe?
```

Description

Select the slope under ALT EDGE trigger.

Parameter

Name	Type	Range	Default Value
<slope>	Discrete	{RISE FALL}	RISE

Return Format

The query returns "RISE " or "FALL".

Example

The command below selects "FALL" as the slope under ALT EDGE trigger.

```
:TRIGger:ALT:EDGE:SLOPe FALL
```

The query below returns "FALL".

```
:TRIGger:ALT:EDGE:SLOPe?
```

:TRIGger:ALT:EDGE:LEVEl

Syntax

```
:TRIGger:ALT:EDGE:LEVEl <level>
```

```
:TRIGger:ALT:EDGE:LEVEl?
```


Description

Set the trigger level under ALT EDGE trigger. And the unit is in accordance with the current unit of the voltage.

Parameter

Name	Type	Range	Default Value
<level>	Integer (pixel number)	from $(-6\text{div} - \text{zero position}) \times \text{VerticalScale}$ to $(6\text{div} - \text{zero position}) \times \text{VerticalScale}$ (25pixels/div)	0

Tip: For VerticalScale, please refer to command [:CHANnel<n>:SCALE](#).

Explanation

Each div consists of 25 pixels along the vertical direction. If the query returns “20” for trigger level, which means 0.8div, and if the vertical scale is 1v/div, then the trigger level would be 0.8v, that is 800mv.

[Here are the calculation steps.](#)

$20\text{pixels} / 25\text{pixels} = 0.8\text{div}$

$0.8\text{div} * 1\text{v}/\text{div} = 0.8\text{v}$

Return Format

The query returns the pixels number of the trigger level in character string.

Example

The command below sets “25” as the trigger level under ALT EDGE trigger.

```
:TRIGger:ALT:EDGE:LEVel 50
```

The query returns “50” .

```
:TRIGger:ALT:EDGE:LEVel?
```

:TRIGger:ALT:VIDeo

:TRIGger:ALT:VIDeo:SOURce

Syntax

```
:TRIGger:ALT:VIDeo:SOURce <source>
```

```
:TRIGger:ALT:VIDeo:SOURce?
```

Description

Select the source under ALT VIDEo trigger.

Parameter

Name	Type	Range	Default Value
<source>	Discrete	{CH1 CH2 }	CH1

Return Format

The query returns "CH1" or "CH2".

Example

The command below selects "CH2" as the source under ALT VIDEo trigger.

```
:TRIGger:ALT:VIDeo:SOURce CH2
```

The query below returns "CH2".

```
:TRIGger:ALT:VIDeo:SOURce?
```

:TRIGger:ALT:VIDeo:MODU

Syntax

```
:TRIGger:ALT:VIDeo:MODU <standard>
```

```
:TRIGger:ALT:VIDeo:MODU?
```

Description

Select video standard under ALT VIDEo trigger.

Parameter

Name	Type	Range	Default Value
<standard>	Discrete	{PAL SECam NTSC}	NTSC

Return Format

The query returns "PAL", "SECam" or "NTSC".

Example

The command below select "NTSC" as the video standard under ALT VIDEo trigger.

```
:TRIGger:ALT:VIDeo:MODU NTSC
```

The query below returns "NTSC" .

```
:TRIGger:ALT:VIDeo:MODU?
```

:TRIGger:ALT:VIDeo:SYNC

Syntax

:TRIGger:ALT:VIDeo:SYNC <mode>

:TRIGger:ALT:VIDeo:SYNC?

Description

Select the Synchronization Type among LINE, FIELD, ODDfield, EVENfield or LNUMBER under ALT VIDEO trigger.

Parameter

Name	Type	Range	Default Value
<mode>	Discrete	{ LINE FIELD ODD EVEN LNUM}	LINE

Return Format

The query returns "LINE", "FIELD", "ODD", "EVEN" or "LNUM".

Example

The command below select "ODD" as the Synchronization Type under ALT VIDEO trigger.

:TRIGger:ALT:VIDeo:SYNC ODD

The query below returns "ODD".

:TRIGger:ALT:VIDeo:SYNC?

:TRIGger:ALT:VIDeo:LNUM

Syntax

:TRIGger:ALT:VIDeo:LNUM<line>

:TRIGger:ALT:VIDeo:LNUM?

Description

Set line number under ALT VIDEO trigger and the synchronization type is "LNUM".

Parameter

Name	Type	Range	Default Value
<line>	Integer	NTSC: from 1 to 525 PAL: from 1 to 625 SECam: from 1 to 625	1

Return Format

The query returns line number in character string under ALT VIDEO trigger. And the source defaults to the current source.

Example

The command below sets "100" as the Line number under ALT VIDEO trigger.

:TRIGger:ALT:VIDeo:LNUM100
The query below returns “100” 。
:TRIGger:ALT:VIDeo:LNUM?