- You can use *:CHANnel<n>:OFFSet* to set or query the vertical offset for the specified channel.

Return Format

The query returns the bottom limit in scientific notation.

Example

```
:HISTogram:RANGe:BOTTom -2    /*Sets the bottom limit of the
histogram to -2 V.*/
:HISTogram:RANGe:BOTTom?      /*The query returns -2.000000E0.*/
```

3.11.9 :HISTogram:STATistics:RESult?

Syntax

`:HISTogram:STATistics:RESult?`

Description

Queries the statistical results of the histogram.

Parameter

N/A

Remarks

N/A

Return Format

The query returns the results in the following strings.

```
[Sum:5.6khits,Peaks:14hits,Max:3.9us,Min:-4us,Pk_Pk:7.98us,Mean:-20n
s,Median:-20ns,Mode:-4us,Bin width:20ns,Sigma:2.303us]
```

For details, refer to *Histogram Analysis Results*.

Example

```
N/A
```

3.12 IEEE488.2 Common Commands

The IEEE488.2 common commands are used to query the basic information of the instrument or executing basic operations. These commands usually start with "*", and the command keywords contain 3 characters and are related with status registers.

The standard event status register (SESR) and status byte register (SBR) record the event of a certain type happened during the use of the instrument. IEEE488.2 defines to record one specific type of event for each bit in the status register.

Table 3.128 Table of the Bit Definition of Standard Event Status Register

Bit No.	Bit Name	Decimal Value	Description
0	Operation Complete (OPC)	1	"Operation complete" indicates that all pending operations were completed following the execution of the command.
1	Not Used	2	-
2	Query Error (QYE)	4	An attempt is being made to read data from the Output Queue when no output is either present or pending; or data in the Output Queue has been lost; Input Buffer and Output Queue are both full.
3	Device-Specific Error (DDE)	8	Indicates that an error has occurred that is neither a Command Error, a Query Error, nor an Execution Error. A Device-Specific Error is any executed device operation that did not properly complete due to some condition, such as self-check error, calibration error, or other device-specific errors.
4	Execution Error (E)	16	An execution error occurred.
5	Command Error (CME)	32	A command error (command syntax error) has occurred.
6	Not Used	64	-
7	Power On (PON)	128	Indicates that an off-to-on transition has occurred in the device's power supply since last reading or the event register was cleared.

Table 3.129 Table of the Bit Definition of Status Byte Register

Bit No.	Bit Name	Decimal Value	Description
0	Not Used	1	-
1	Not Used	2	-

Bit No.	Bit Name	Decimal Value	Description
2	Error Queue	4	1 or multiple errors in the error queue
3	Questionable Data Summary	8	Sets 1 or multiple bits (must be the enabled bit) in the questionable data register.
4	Message Available (MAV)	16	Indicates the available data in the output buffer.
5	Standard Event Summary	32	Sets 1 or multiple bits (must be the enabled bit) in the standard event register.
6	Master Summary Status (MSS)	64	Sets 1 or multiple bits (must be the enabled bit) in the Status Byte Register and generate the service request.
7	Operation Status Register	128	Sets 1 or multiple bits (must be the enabled bit) in the Operation Status Register.

3.12.1 *IDN?

Syntax

`*IDN?`

Description

Queries the ID string of the instrument.

Parameter

N/A

Remarks

N/A

Return Format

The query returns RIGOL TECHNOLOGIES,<model>,<serial number>,<software version>.

- **<model>:** indicates the model number of the instrument.

- **<serial number>:** indicates the serial number of the instrument.

- **<software version>:** indicates the software version of the instrument.

Example

```
N/A
```

3.12.2   *RST

Syntax

*RST

Description

Restores the instrument to its factory default settings.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.12.3   *CLS

Syntax

*CLS

Description

Clears all the event registers, and also clears the error queue.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.12.4 *ESE

Syntax

*ESE <*maskargument*>

*ESE?

Description

Sets or queries the enable register of the standard event register set.

Parameter

Name	Type	Range	Default
<maskargument>	Integer	0 to 255	0

Remarks

For the definitions of the bits in the standard event register, refer to *Table 3.128 Table of the Bit Definition of Standard Event Status Register* . The value of <maskargument> is the sum of the decimal values of all bits set in the standard event register. For example, to enable Bit 2 (4 in decimal), Bit 3 (8 in decimal), and Bit 7 (128 in decimal), set the <maskargument> to 140 (4+8+128).

Return Format

The query returns an integer. The integer equals to the decimal-weighted sum of all the bits set in the register.

Example

```
*ESE 16 /*Enables Bit 4 (16 in decimal) in the register.*/
*ESE? /*The query returns the enable value of the register 16.*/
```

3.12.5 *ESR?

Syntax

*ESR?

Description

Queries and clears the event register of the standard event status register.

Parameter

N/A

Remarks

Bit 1 and Bit 6 in the standard event status register (*Table 3.128 Table of the Bit Definition of Standard Event Status Register*) are not used and are always treated as

0; therefore, the range of the returned value is a decimal number corresponding to a binary number X0XXXX0X (X is 1 or 0).

Return Format

The query returns an integer. The integer equals to the binary-weighted sum of all the bits set in the register.

Example

```
N/A
```

3.12.6   *OPC

Syntax

*OPC

*OPC?

Description

The *OPC command sets bit 0 (Operation Complete, OPC) in the standard event register to 1 after the current operation is finished.

The *OPC? command queries whether the current operation is finished.

Parameter

N/A

Remarks

For the definitions of the bits in the standard event register, refer to *Table 3.128 Table of the Bit Definition of Standard Event Status Register* .

Return Format

The query returns 1 after the current operation is finished; otherwise, the query returns 0.

Example

```
N/A
```

3.12.7   *RCL

Syntax

*RCL

Description

Recalls instrument settings from the specified non-volatile memory. The previous saved settings through the *SAV* command will be overwritten.

Parameter

N/A

Remarks

N/A

Return Format

N/A

Example

```
N/A
```

3.12.8 *SAV

Syntax

*SAV <*value*>

Description

Saves the current instrument state to the selected register.

Parameter

Name	Type	Range	Default
<value>	Integer	0 to 49	0

Remarks

N/A

Return Format

N/A

Example

```
*SAV 1        /*Saves the current instrument state to Register 1.*/
```

3.12.9 *SRE

Syntax

*SRE <*maskargument*>

*SRE?

Description

Sets or queries the enable register of the status byte register set.

Parameter

Name	Type	Range	Default
<maskargument>	Integer	0 to 255	0

Remarks

For the definitions of the bits in the status byte register, refer to *Table 3.129 Table of the Bit Definition of Status Byte Register* . The value of <maskargument> is the sum of the decimal values of all bits set in the status byte register. For example, to enable Bit 2 (4 in decimal), Bit 3 (8 in decimal), and Bit 7 (128 in decimal), set the <maskargument> to 140 (4+8+128).

Return Format

The query returns an integer. The integer equals to the decimal-weighted sum of all the bits set in the register.

Example

```
*SRE 16 /*Enables Bit 4 (16 in decimal) in the register.*/
*SRE? /*The query returns the enable value of the register 16.*/
```

3.12.10   *STB?

Syntax

*STB?

Description

Queries the event register for the status byte register. After executing the command, the value in the status byte register is cleared.

Parameter

N/A

Remarks

Bit 0 and Bit 1 in the status byte register (*Table 3.129 Table of the Bit Definition of Status Byte Register*) are not used and are always treated as 0; therefore, the range of the returned value is a decimal number corresponding to a binary number XXXXXX00 (X is 1 or 0).

Return Format

The query returns an integer. The integer equals to the decimal-weighted sum of all the bits set in the register.

Example

```
N/A
```

EN

3.12.11 *WAI

Syntax

`*WAI`

Description

Waits for all the pending operations to complete before executing any additional commands.

Parameter

N/A

Remarks

This operation command does not have any functions, only to be compatible with other devices.

Return Format

N/A

Example

```
N/A
```

3.12.12 *TST?

Syntax

`*TST?`

Description

Performs a self-test and returns the self-test result.

Parameter

N/A

Remarks

This command executes a self-test. If the test fails, one or more error messages will be displayed, providing more information. You can use *:SYSTem:ERRor[:NEXT]?* to read the error queue.

Return Format

The query returns 0 or 1.

- **0:** it passes.

- **1:** one or more tests fail.

Example

```
N/A
```

3.13 :LA Commands

:LA (logic analyzer) commands are used to perform relevant operations on the digital channels.

The oscilloscope compares the voltages acquired in each sample with the preset logic threshold. If the voltage of the sample point is above the threshold, it will be stored as logic 1; otherwise, it will be store as logic 0. The oscilloscope displays the logic levels (1s and 0s) in a graphic way for you to easily detect and analyze the errors in circuit design (hardware design and software design).

NOTE

The DHO800 series oscilloscope does not support this command.

3.13.1 :LA:ENABle

Syntax

:LA:ENABle <*bool*>

:LA:ENABle?

Description

Enables or disables LA; or queries the LA on/off status.

Parameter

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

Remarks

N/A

Return Format

The query returns 1 or 0.

Examples

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