SerialXpress® SDX100
Advanced Jitter Generation Tool
For AWG5000/B & AWG7000/B Series
Waveform Generators

Programmer Manual

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Tektronix

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www.tektronix.com
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Contacting Tektronix

Tektronix, Inc.
14200 SW Karl Braun Drive
P.O. Box 500
Beaverton, OR 97077
USA

For product information, sales, service, and technical support:
- In North America, call 1-800-833-9200.
- Worldwide, visit www.tektronix.com to find contacts in your area.

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Getting Started

Introduction

This online programmer manual provides information on how to use commands for remotely controlling your instrument. With this information, you can write computer programs that will perform functions such as setting the random jitter magnitude or SSC parameters.

The programmer manual is divided into sections. Each section describes a closely related group of commands. For example, all the random jitter commands are in one section and all the compilation options are grouped in another section.

SerialXpress programmatic interface works seamlessly with the AWG5000B and AWG7000B series instruments programmatic interface. It supports all the interfaces of the AWG5000B/AWG7000B series instruments. Using a single VISA or raw socket session, it is possible to communicate with both SerialXpress and AWG.

For information on the Remote Control, GPIB Parameters, LAN Parameters, Connecting to the Instrument using GPIB, and Setting up GPIB Communication, refer to the *AWG5000B and AWG7000B Series Arbitrary Waveform Generators Programmer Manual*.

Documentation

In addition to this SerialXpress Programmer Online Guide, the following documentation is included with this application:

- SerialXpress Quick Start User Manual. The Quick Start User Manual has information about installing and operating your instrument.
- SerialXpress User Online Help. The online help provides in-depth operation and user interface help.

Sample Program

The sample program illustrates methods you can use to control the arbitrary waveform generator. This program sends waveform data and then starts waveform generation. You can access the sample program from Windows Start menu. Select **All Programs > Tektronix > SerialXpress > PI Examples**.

This program is also included on the Document CD.

Syntax and Commands

Command Syntax

For information on the Syntax Overview, Command and Query Structure, Clearing the Instrument, Command Entry, Parameter Types, and SCPI Commands and Queries, refer to the *AWG5000B and AWG7000B Series Arbitrary Waveform Generators Programmer Manual*.

Command Groups

Batch Compile Group Commands

You can use the following commands to set the batch compile parameters.

Table 2-1: Batch compile group commands

Command	Description
SXPRess:BCOMpile:PJ:ENABle	Enables or disables the batch compile setup for periodic jitter (Pj)
SXPRess:BCOMpile:PJ:END	Sets or returns the end value of Pj for batch compile
SXPRess:BCOMpile:PJ:FREQuency<n>	Sets or returns the value of Pj frequency for batch compile
SXPRess:BCOMpile:PJ:INCRement	Sets or returns the increment value of Pj for batch compile
SXPRess:BCOMpile:PJ:STARt	Sets or returns the start value of Pj for batch compile
SXPRess:BCOMpile:RJ:ENABle	Enables or disables the batch compile setup for random jitter (Rj)
SXPRess:BCOMpile:RJ:END	Sets or returns the end value of Rj for batch compile
SXPRess:BCOMpile:RJ:INCRement	Sets or returns the increment value of Rj for batch compile
SXPRess:BCOMpile:RJ:STARt	Sets or returns the start value of Rj for batch compile

Base Data and Base Parameter Settings Group Commands

You can use the following commands to set the base data and base parameters.

Table 2-2: Base data and base parameter settings group commands

Command	Description
SXPRess:AMPLitude	Sets or returns the amplitude of the waveform
SXPRess:BDATa:FILE	Sets or returns the user-defined pattern file to generate the waveform
SXPRess:BDATa:PATTern	Sets or returns the pattern to generate the waveform
SXPRess:BDATa:STANdard	Sets or returns the standard and pattern to generate the waveform
SXPRess:BDATa:TYPE	Sets or returns the base data type
SXPRess:DCD:ENABle	Enables or disables the DCD parameter

Table 2-2: Base data and base parameter settings group commands (cont.)

Command	Description
SXPRess:DCD:VALue	Sets or returns the DCD value of the pulse
SXPRess:DRATe	Sets or returns the data rate
SXPRess:ENCode:ENCo8b10b:DISParity	Sets or returns the disparity set for encoding
SXPRess:ENCode:ENCo8b10b:ENABle	Enables or disables the 8B10B encoding on the base data pattern
SXPRess:ENCode:SCHeme	Sets or returns the encoding scheme used on the base data pattern
SXPRess:FTIMe	Sets or returns the fall time of the pulse
SXPRess:ISTate:OFFSet	Sets or returns the offset of the idle state waveform
SXPRess:ISTate:VALue	Sets or returns the idle state value
SXPRess:MARKer<n>:CLOCk:FREQUency	Sets or returns the frequency of marker data
SXPRess:MARKer<n>:TRIGger:LENGth	Sets the beginning ‘n’ samples of the marker output to high
SXPRess:MARKer<n>:TYPE	Sets or returns the type of the marker data
SXPRess:RFTYpe	Sets or returns the step height of the rise or fall time
SXPRess:RTIMe	Sets or returns the rise time of the pulse
SXPRess:SCRamble:ENABle	Enables or disables base pattern scrambling
SXPRess:SCRamble:RINit	Sets or returns the scrambling seed value
SXPRess:SCRamble:POLYnomial	Sets or returns the scrambling polynomial

Compile Settings Group Commands

You can use the following commands to set the compile settings parameters.

Table 2-3: Compile settings group commands

Command	Description
SXPRess:COMPile	Compiles a waveform and adds it to the waveform list
SXPRess:COMPile:BCOMpile:ENABle	Enables or disables the batch compile state
SXPRess:COMPile:BWEXpansion:ENABle	Enables or disables the bandwidth expansion filter state
SXPRess:COMPile:BWEXpansion:INTerleave	Sets or returns the interleave state
SXPRess:COMPile:BWEXpansion:ZERoing	Sets or returns the zeroing state
SXPRess:COMPile:SRATe	Sets or returns the sampling rate
SXPRess:COMPile:SRATe:AUTomatic	Sets or returns the automatic option for sampling rate

Table 2-3: Compile settings group commands (cont.)

Command	Description
SXPRess:COMPile:TRANsfer:CHANnel	Sets or returns the channel to which a compiled waveform is transferred
SXPRess:COMPile:TRANsfer:ENABle	Enables or disables the automatic waveform transfer state

ISI and S-Parameter Group Commands

You can use the following commands to set the ISI and S-Parameter parameters.

Table 2-4: ISI and S-Parameter group commands

Command	Description
SXPRess:ISI:ENABle	Enables or disables the ISI parameter state
SXPRess:ISI:VALue	Sets or returns the ISI magnitude
SXPress:SPARam:AGGRessor:CLOCk:FREQuency	Sets or returns the clock frequency of the aggressor signal
SXPress:SPARam:AGGRessor:DIRection	Sets or returns the aggressor direction relative to the direction of the victim
SXPress:SPARam:AGGRessor:PATTern:DRATe	Sets or returns the data rate of the aggressor signal
SXPress:SPARam:AGGRessor:PATTern:NAME	Sets or returns the name of the aggressor pattern file
SXPress:SPARam:AGGRessor:RTIMe	Sets or returns the rise time of the aggressor signal
SXPRess:SPARam:AGGRessor:RXMinus:SELect	Sets or returns the negative receiver port of the aggressor signal
SXPRess:SPARam:AGGRessor:RXPLus:SELect	Sets or returns the positive receiver port selection of the aggressor for the single-ended s8p file
SXPRess:SPARam:AGGRessor:TXMinus:SELect	Sets or returns the negative transmitter port of the aggressor signal
SXPRess:SPARam:AGGRessor:TXPLus:SELect	Sets or returns the positive transmitter port selection of the aggressor for the single-ended s8p file
SXPress:SPARam:AGGRessor:TYPE	Sets or returns the type of the aggressor signal of the s8p file

Table 2-4: ISI and S-Parameter group commands (cont.)

Command	Description
SXPRess:SPARam:CASCade:ENABle	Enables or disables S-Parameter cascading
SXPRess:SPARam:CASCade:FILE[n]:ENABle	Enables or disables cascading for the specified cascading unit
SXPRess:SPARam:CASCade:FILE[n]:NAME	Sets or returns the S-Parameter file for cascading
SXPRess:SPARam:ENABle	Enables or disables the S-Parameter filter state
SXPRess:SPARam:EIGHtp:SELECTION	Sets or returns the 8-port selection of the S-Parameter filter
SXPRess:SPARam:FOURport:ASSignment:RXMinus	Sets or returns the S-Parameter port assignment of the RxMinus port
SXPRess:SPARam:FOURport:ASSignment:RXPLus	Sets or returns the S-Parameter port assignment of the RxPlus port
SXPRess:SPARam:FOURport:ASSignment:TXMinus	Sets or returns the S-Parameter port assignment of the TxMinus port
SXPRess:SPARam:FOURport:ASSignment:TXPLus	Sets or returns the S-Parameter port assignment of the TxPlus port
SXPRess:SPARam:FOURport:LAYout	Sets or returns the four port layout of the S-Parameter filter
SXPRess:SPARam:FOURport:TYPE	Sets or returns the four port type of the S-Parameter filter
SXPRess:SPARam:IFILter:ENABle	Enables or disables the inverse filter state of the S-Parameter
SXPRess:SPARam:IFILter:FFILe	Sets the inverse filter file of the user S-Parameter filter
SXPRess:SPARam:SCALing	Sets or returns the ISI scaling of the S-Parameter filter
SXPRess:SPARam:TFILe	Sets the touchstone file of the S-Parameter filter
SXPRess:SPARam:TWOPort:SELection	Sets or returns the two port channel location of the S-Parameter filter
SXPRess:SPARam:VICTim:RXMinus:SELect	Sets or returns the negative receiver port of the victim signal
SXPRess:SPARam:VICTim:RXPLus:SELect	Sets or returns the positive receiver port of the victim signal

Table 2-4: ISI and S-Parameter group commands (cont.)

Command	Description
SXPRess:SPARam:VICTim:TXMinus:SELect	Sets or returns the negative transmitter port of the victim signal
SXPRess:SPARam:VICTim:TXPLus:SELect	Sets or returns the positive transmitter port of the victim signal

Licensing Group Commands

You can use the following commands to set the licensing options.

Table 2-5: Licensing group command

Command	Description
SXPRess:OPTions?	Returns the activated options

Periodic Jitter Group Commands

You can use the following commands to set the periodic jitter parameters.

Table 2-6: Periodic jitter group commands

Command	Description
SXPRess:PJ<n>:ENABle	Enables or disables the periodic jitter parameter state
SXPRess:PJ<n>:FREQuency	Sets or returns the frequency of the periodic jitter
SXPRess:PJ<n>:MAGNitude	Sets or returns the magnitude of the periodic jitter
SXPRess:PJ<n>:PHASe	Sets or returns the phase of the periodic jitter

Pre-Emphasis Group Commands

You can use the following commands to set the pre-emphasis parameters.

Table 2-7: Pre-emphasis group commands

Command	Description
SXPRess:PREemphasis:ENABle	Enables or disables the pre-emphasis parameter state
SXPRess:PREemphasis:VALue	Sets or returns the pre-emphasis value

Random Jitter Group Commands

You can use the following commands to set the random jitter parameters.

Table 2-8: Random jitter group commands

Command	Description
SXPRess:RJ<n>:ENABle	Enables or disables the random jitter parameter state
SXPRess:RJ<n>:FREQuency:END	Sets or returns the end frequency of the random jitter frequency band
SXPRess:RJ<n>:FREQuency:STARt	Sets or returns the start frequency of the random jitter frequency band
SXPRess:RJ<n>:MAGNitude	Sets or returns the magnitude of the random jitter
SXPRess:RSEed:ENABle	Enables or disables random seed state
SXPRess:RSEed:VALue	Sets or returns the value of the random seed

Random Noise Group Commands

You can use the following commands to set the random noise parameters.

Table 2-9: Random noise group commands

Command	Description
SXPRess:NOISe:ENABle	Enables or disables the noise parameter state
SXPRess:NOISe:LOCation	Sets or returns the location where the noise will be applied
SXPRess:NOISe:VALue	Sets or returns the noise magnitude

Save and Restore Setup Group Commands

You can use the following commands to set the save and restore parameters.

Table 2-10: Save and restore setup group commands

Command	Description
SXPRess:SDEFault	Restores all the application parameters to their default values
SXPRess:SREStore	Restores the parameter settings as in the setup file
SXPRess:SSAVe	Saves the current application setup in a file

Sequence Group Commands

Table 2-11: Sequence group commands

Command	Description
SXPRess:MODE	Sets or returns the current mode in which SerialXpress is running
SXPRess:SEQuence:ELEMent:ADD	Adds a new sequence element to the sequence table
SXPRess:SEQuence:ELEMent:BCOMpile	Enables or disables the batch compile state of the selected sequence element
SXPRess:SEQuence:ELEMent:DELete	Deletes the selected sequence element in the table
SXPRess:SEQuence:ELEMent:GOTO:INDex	Sets or returns the Go To target for the sequence element
SXPRess:SEQuence:ELEMent:REPeat:COUnt	Sets or returns the repeat count of the selected sequence element
SXPRess:SEQuence:ELEMent:REPeat:MODe	Sets or returns the repeat mode state of the selected sequence element
SXPRess:SEQuence:ELEMent:WSTAte	Sets or returns the wait state of the selected sequence element
SXPRess:SEQuence:INDex	Sets or returns the current sequence index
SXPress:SEQuence:LENGth?	Returns the current sequence length
SXPRess:SEQuence:WRAP:STATe	Enables or disables the wrap between sequence elements state in the application

SSC Group Commands

You can use the following commands to set the SSC parameters.

Table 2-12: SSC group commands

Command	Description
SXPRess:SSC:CUSTom:FILE	Sets the SSC custom file
SXPRess:SSC:DFDT	Sets or returns the df/dt value of the SSC
SXPRess:SSC:DFDT:DURation	Sets or returns the df/dt duration value of the SSC
SXPRess:SSC:DFDT:LOCation	Sets or returns the df/dt location value of the SSC
SXPRess:SSC:ENABle	Enables or disables the SSC state
SXPRess:SSC:FREQuency:DEViation	Sets or returns the SSC frequency deviation
SXPRess:SSC:FREQuency:MODulation	Sets or returns the SSC frequency modulation
SXPRess:SSC:SHAPe	Sets or returns the SSC shape

Table 2-12: SSC group commands (cont.)

Command	Description
SXPRess:SSC:SPRead	Sets or returns the SSC spread
SXPRess:SSC:USPRead:PERCentage	Sets or returns the unequal spread percentage

Waveform List Group Commands

You can use the following commands to set the waveform list parameters.

Table 2-13: Waveform list group commands

Command	Description
SXPRess:WFMName	Sets the waveform name that is generated with next compile command
SXPRess:WAVeform:DELete	Deletes the waveform from the waveform list
SXPRess:WAVeform:REName	Renames the existing waveform
SXPRess:WAVeform:SAVE	Saves the existing waveform
SXPRess:WAVeform:TRANsfer	Transfers the waveform data from the application to the AWG

Command Descriptions

SXPRess:AMPLitude

This command sets or returns the amplitude of the waveform. This value indicates the maximum and minimum values of the waveform samples. You can use this command to create a waveform whose amplitude is less than the minimum value that can be set on the AWG.

NOTE. *The amplitude set on the application is not same as the amplitude set on the instrument.*

Group Base data and base parameter settings

Syntax

```
SXPRess:AMPLitude <NR3>
SXPRess:AMPLitude?
```

Arguments <NR3>

At SXPRess:SDEFault, this returns 1.0 V.

Returns <NR3>

Examples SXPRESS:AMPLITUDE 1 sets the amplitude of the waveform to 1 volt.

SXPRESS:AMPLITUDE? returns 1.00000000E+000, indicating that the waveform amplitude is 1 volt.

SXPRess:BCOMpile:PJ:ENABle

This command enables or disables the batch compile setup for periodic jitter.

Batch compile generates waveforms with the Pj values varying from start value to end value with specified increment. Each waveform will be generated with one of the four frequencies.

Group Batch compile

Syntax

```
SXPRess:BCOMpile:PJ:ENABle <state>
SXPRess:BCOMpile:PJ:ENABle?
```

Related Commands SXPRess:BCOMpile:PJ:STARt, SXPRess:BCOMpile:PJ:END, SXPRess:BCOMpile:PJ:FREQuency<n>, SXPRess:BCOMpile:PJ:INCRement

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:BCOMPILE:PJ:ENABLE 1 enables the batch compile for Pj.

SXPRESS:BCOMPILE:PJ:ENABLE? returns whether Pj will be batch compiled.

SXPRess:BCOMpile:PJ:END

This command sets or returns the end value of the periodic jitter for batch compile.

Group Batch compile

Syntax
```
SXPRess:BCOMpile:PJ:END <NR3>
SXPRess:BCOMpile:PJ:END?
```

Related Commands SXPRess:BCOMpile:PJ:ENABle, SXPRess:BCOMpile:PJ:STARt, SXPRess:BCOMpile:PJ:INCRement, SXPRess:BCOMpile:PJ:FREQuency<n>

Arguments <NR3>

At SXPRess:SDEFault, this returns 0.

Returns <NR3>

Examples SXPRESS:BCOMPILE:PJ:END 0.25 sets the end value of Pj to 0.15 UI for batch compile.

SXPRESS:BCOMPILE:PJ:END? returns the end value of Pj for batch compile.

SXPRess:BCOMpile:PJ:FREQuency<n>

This command sets or returns the value of the periodic jitter frequency for batch compile.

Group Batch compile

Syntax
```
SXPRess:BCOMpile:PJ:FREQuency<n> <NR3>
SXPRess:BCOMpile:PJ:FREQuency<n>?
```

Related Commands SXPRess:BCOMpile:PJ:ENABle, SXPRess:BCOMpile:PJ:STARt, SXPRess:BCOMpile:PJ:END, SXPRess:BCOMpile:PJ:INCRement

Arguments <NR3>

At SXPRess:SDEFault, this returns 0.

The value of <n> ranges from 1 to 4.

Returns <NR3>

Examples `SXPRESS:BCOMPILE:PJ:FREQUENCY1 100000` sets the Pj frequency1 to 100 KHz for batch compile.

`SXPRESS:BCOMPILE:PJ:FREQUENCY1?` returns the frequency1 value of Pj for batch compile.

SXPRess:BCOMpile:PJ:INCRement

This command sets or returns the increment value of the periodic jitter for batch compile.

Group Batch compile

Syntax
```
SXPRess:BCOMpile:PJ:INCRement <NR3>
SXPRess:BCOMpile:PJ:INCRement?
```

Related Commands SXPRess:BCOMpile:PJ:ENABle, SXPRess:BCOMpile:PJ:STARt, SXPRess:BCOMpile:PJ:END, SXPRess:BCOMpile:PJ:FREQuency<n>

Arguments <NR3>

At SXPRess:SDEFault, this returns 0.

Returns <NR3>

Examples SXPRESS:BCOMPILE:PJ:INCREMENT 0.01 sets the increment value of Pj to 0.01 UI for batch compile.

SXPRESS:BCOMPILE:PJ:INCREMENT? returns the increment value of Pj for batch compile.

SXPRess:BCOMpile:PJ:STARt

This command sets or returns the start value of the periodic jitter for batch compile.

Group Batch compile

Syntax
```
SXPRess:BCOMpile:PJ:STARt <NR3>
SXPRess:BCOMpile:PJ:STARt?
```

Related Commands SXPRess:BCOMpile:PJ:ENABle, SXPRess:BCOMpile:PJ:END, SXPRess:BCOMpile:PJ:INCRement, SXPRess:BCOMpile:PJ:FREQuency<n>

Arguments <NR3>

At SXPRess:SDEFault, this returns 0.

Returns <NR3>

Examples SXPRESS:BCOMPILE:PJ:START 0.15 sets the start value of Pj to 0.15 UI for batch compile.

SXPRESS:BCOMPILE:PJ:START? returns the start value of Pj for batch compile.

SXPRess:BCOMpile:RJ:ENABle

This command enables or disables the batch compile setup for random jitter.

Batch compile generates waveform with Rj values varying from the start value to the end value with specified increment.

Group Batch compile

Syntax
```
SXPRess:BCOMpile:RJ:ENABle <state>
SXPRess:BCOMpile:RJ:ENABle?
```

Related Commands SXPRess:BCOMpile:RJ:STARt, SXPRess:BCOMpile:PJ:INCRement, SXPRess:BCOMpile:PJ:FREQuency<n>

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:BCOMPILE:RJ:ENABLE 1 enables the batch compile for Rj.

SXPRESS:BCOMPILE:RJ:ENABLE? returns whether Rj will be batch compiled.

SXPRess:BCOMpile:RJ:END

This command sets or returns the end value of Rj for batch compile.

Group Batch compile

Syntax
```
SXPRess:BCOMpile:RJ:END <NR3>
SXPRess:BCOMpile:RJ:END?
```

Related Commands SXPRess:BCOMpile:RJ:ENABle, SXPRess:BCOMpile:RJ:STARt, SXPRess:BCOMpile:PJ:FREQuency<n>

Arguments <NR3>

At SXPRess:SDEFault, this returns 0.

Returns <NR3>

Examples SXPRESS:BCOMPILE:RJ:END 0.25 sets the end value of Rj to 0.25 UI for batch compile.

SXPRESS:BCOMPILE:RJ:END? returns the end value of Rj for batch compile.

SXPRess:BCOMpile:RJ:INCRement

This command sets or returns the increment value of Rj for batch compile.

Group Batch compile

Syntax
```
SXPRess:BCOMpile:RJ:INCRement <NR3>
SXPRess:BCOMpile:RJ:INCRement?
```

Related Commands SXPRess:BCOMpile:RJ:ENABle, SXPRess:BCOMpile:RJ:STARt, SXPRess:BCOMpile:PJ:INCRement

Arguments <NR3>

At SXPRess:SDEFault, this returns 0.

Returns <NR3>

Examples SXPRESS:BCOMPILE:RJ:INCREMENT 0.01 sets the increment value of Rj to 0.01 UI for batch compile.

SXPRESS:BCOMPILE:RJ:INCREMENT? returns the increment value of Rj for batch compile.

SXPRess:BCOMpile:RJ:STARt

This command sets or returns the start value of Rj for batch compile.

Group Batch compile

Syntax
```
SXPRess:BCOMpile:RJ:STARt <NR3>
SXPRess:BCOMpile:RJ:STARt?
```

Related Commands SXPRess:BCOMpile:RJ:ENABle, SXPRess:BCOMpile:PJ:INCRement, SXPRess:BCOMpile:PJ:FREQuency<n>

Arguments <NR3>

At SXPRess:SDEFault, this returns 0.

Returns <NR3>

Examples SXPRESS:BCOMPILE:RJ:START 0.15 sets the start value of Rj to 0.15 UI for batch compile.

SXPRESS:BCOMPILE:RJ:START? returns start value of Rj for batch compile.

SXPRess:BDATa:FILE

This command sets or returns the user-defined pattern file used to generate the waveform.

- The file name should be according to the Windows file naming conventions.
- The file should have a pre-defined format.
- The file name should contain the full path of the file. If the path is not specified, the application executable path is assumed.
- If the file format is wrong or not available, the error flags are set.

Group Base data and base parameter settings

Syntax SXPRess:BDATa:FILE <file_name>

Related Commands SXPRess:BDATa:FILE

Arguments <file_name>::=<string>

Examples SXPRESS:BDATA:FILE "C:\Samples\Pattern.txt" sets the file path in the application. When waveform generation begins, the application opens the pattern from that location.

SXPRESS:BDATA:FILE? returns the file path.

SXPRess:BDATa:PATTern

This command sets and returns the pattern for waveform generation.

Pre-defined patterns are different for each standard. Individual patterns may be different even if their names are same. For example, CJTPAT is available for both Display Port and SAS standards with different patterns of zeroes and ones.

Group Base data and base parameter settings

Syntax `SXPRess:BDATa:PATTern <pattern_name>`

Related Commands SXPRess:BDATa:STANdard, SXPRess:BDATa:TYPE

Arguments `<pattern_name>`::=<string>

It is the name of the pre-defined patterns supported by the application.

At SXPRess:SDEFault, this returns the pattern based on the standard selected.

Examples `SXPRESS:BDATA:STANDARD “DISPLAYPORT”`

`SXPRESS:BDATA:PATTERN “PRBS7”`

The commands sets the standard to DisplayPort and then sets the pattern to PRBS7.

If the pattern is not available for the standard, an error message is displayed.

`SXPRESS:BDATA:PATTERN?` returns the selected pattern.

SXPRess:BDATa:STANdard

This command sets or returns the name of the standard whose pattern is used for creating waveforms.

When the standard is set, a group of corresponding patterns are available for the settings. The default patterns for each standard are listed below:

- SATA – MFTP
- SAS – JTPAT_RD+
- DisplayPort – PRBS7
- Fibre Channel – CJTPAT
- PCI-Express – CompliancePat
- General – Clock
- USB – CP0

When the standards are set, the data rate is changed automatically. For more information on the signal standards and their default data rates, refer to the *SerialXpress online help*.

Group Base data and base parameter settings

Syntax `SXPRess:BDATa:STANdard <name>`

Related Commands SXPRess:BDATa:STANdard, SXPRess:BDATa:TYPE

Arguments <name>::=<string>

"SATA" – SATA standard is used (common for all generations)

"USB" – USB 3.0 standard is used

"PCI-Express"

"Fibre Channel"

"SAS"

"DisplayPort" – DisplayPort is used (high bit rate is assumed)

"General" – Other pattern such as PRBS and clock are used

At SXPRess:SDEFault, this returns "General".

Examples `SXPRESS:BDATA:STANDARD "SATA"` sets the Standard to SATA. This will also set the Pattern to MFTP to generate the waveform unless the other patterns are specified.

`SXPRESS:BDATA:STANDARD?` returns the selected standard.

SXPRess:BDATa:TYPE

This command sets or returns the base data type. Base data type determines if you can assign the pattern input in the same file or use pre-defined files.

This command can be used to resolve the pattern name conflicts when the created file has the same file name as that of the pre-defined pattern files.

Group Base data and base parameter settings

Syntax

```
SXPRess:BDATa:TYPE <input_type>
SXPRess:BDATa:TYPE?
```

Related Commands SXPRess:BDATa:STANdard, SXPRess:BDATa:FILE, SXPRess:COMPile

Arguments <input_type>::={FILE | STANdard | USER}

FILE indicates that the input pattern set with the SXPRess:BDATa:FILE command is used for waveform generation.

STANdard indicates that the input pattern set with the SXPRess:BDATa:PATTern command is used for waveform generation.

USER indicates that the input pattern set with the SXPRess:BDATa:TYPE USER command is used for waveform generation.

At SXPRess:SDEFault, this returns STANdard.

Returns <input_type>

Examples `SXPRESS:BDATA:TYPE STANDARD` selects Standard as the base data type.

`SXPRESS:BDATA:TYPE FILE` selects the user-defined file as the base data type.

SXPRess:COMPile (No Query Form)

This command compiles a waveform and adds it to the waveform list.

It adds the distortion as necessary and names the waveform depending on the settings, using the SXPRess:WFMName command. If no waveform name is set, the base data file name is used. Base data file name is set using the SXPRess:BDATa:FILE or SXPRess:BDATa:STANdard command.

Group Compile settings

Syntax `SXPRess:COMPile`

Related Commands SXPRess:BDATa:STANdard, SXPRess:BDATa:FILE, SXPRess:COMPile:BCOMpile:ENABle

Examples

```
SXPRESS:BDATA:STANDARD “SATA”
SXPRESS:BDATA:PATTERN “HFTP"
SXPRESS:COMPILE
```

These commands sets the Standard to SATA, Pattern to HFTP, and compiles a waveform with the waveform name “HFTP”.

SXPRess:COMPile:BCOMpile:ENABle

This command enables or disables the batch compile state in the **Compile Settings** dialog box. If batch compile is enabled, the SXPRess:COMPile command triggers a batch compile instead of a normal compile.

Batch compile creates multiple waveforms with a combination of random jitter and periodic jitter. It is used to create more than one waveform with incremental increase in Rj or Pj values. Depending on the number of parameters chosen and the amount of increment for each parameter, the number of waveforms created by a single COMPile command varies from one to several hundreds. For more description on the Batch Compile, refer to the *SerialXpress online help*.

NOTE. *Check the value of this command before using the SXPRess:COMPile command to ensure that batch compile is not started unintentionally. Once the compile operation is started, it cannot be stopped.*

Group Compile settings

Syntax

```
SXPRess:COMPile:BCOMpile:ENABle <state>
SXPRess:COMPile:BCOMpile:ENABle?
```

Related Commands SXPRess:COMPile, SXPRess:BCOMpile:PJ:ENABle, SXPRess:BCOMpile:RJ:ENABle

Arguments `<state>`::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:COMPILE:BCOMPILE:ENABLE 1 enables the batch compile option.

SXPRESS:COMPILE:BCOMPILE:ENABLE 0 disables the batch compile option.

SXPRESS:COMPILE:BOMPILE:ENABLE? returns 0.

SXPRess:COMPile:BWEXpansion:ENABle

This command enables or disables the bandwidth expansion filter state.

The bandwidth expansion filter is used to increase the spectral flatness of the AWG at higher data rates (> 4 Gbps).

Group Compile settings

Syntax
```
SXPRess:COMPile:BWEXpansion:ENABle <state>
SXPRess:COMPile:BWEXpansion:ENABle?
```

Related Commands SXPRess:COMPile, SXPRess:DRATe

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:COMPILE:BWEXPANSION:ENABLE 1 enables the bandwidth expansion filter option.

SXPRESS:COMPILE:BWEXPANSION:ENABLE? returns 1, indicating that the bandwidth expansion filter is enabled.

SXPRess:COMPile:BWEXpansion:INTerleave

This command sets or returns the interleave state.

Interleave is used to either suppress or activate the interleave option when the bandwidth expansion filter is used. The interleave option is available only when the value of SXPRess:COMPile:SRATe is set to a value greater than or equal to 12 GS/s. It is useful only when the resultant waveform is loaded on an AWG with option 2 installed.

Group Compile settings

Syntax

```
SXPRess:COMPile:BWEXpansion:INTerleave <state>
SXPRess:COMPile:BWEXpansion:INTerleave?
```

Related Commands SXPRess:COMPile:BWEXpansion:ENABle, SXPRess:COMPile:SRATe, SXPRess:COMPile

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:COMPILE:BWEXPANSION:INTERLEAVE 1 sets the bandwidth expansion filter interleave option.

SXPRESS:COMPILE:BWEXPANSION:INTERLEAVE? returns 1.

SXPRess:COMPile:BWEXpansion:ZERoing

This command sets or returns the zeroing state.

Zeroing option is used during bandwidth expansion operation and can be set only when the interleave flag is set to 1.

Group Compile settings

Syntax

```
SXPRess:COMPile:BWEXpansion:ZERoing <state>
SXPRess:COMPile:BWEXpansion:ZERoing?
```

Related Commands SXPRess:COMPile:BCOMpile:ENABle, SXPRess:COMPile:BWEXpansion:INTerleave, SXPRess:COMPile

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:COMPILE:BWEXPANSION:ZEROING 1 sets the zeroing option when interleave is 1.

SXPRESS:COMPILE:BWEXPANSION:ZEROING? returns 1, indicating that the zeroing flag is set.

SXPRess:COMPile:SRATe

This command sets or returns the sampling rate set in the application. This value is not the same as the sampling rate set on the AWG.

The maximum or minimum value of the sampling rate is automatically adjusted based on the AWG on which the application is running.

When the waveforms are created in the application, the sampling rate specified in this command is used. When waveforms are transferred to the instrument, the same sampling rate is set on the AWG.

Group Compile settings

Syntax

```
SXPRess:COMPile:SRATe <NR3>
SXPRess:COMPile:SRATe?
```

Related Commands SXPRess:COMPile, SXPRess:COMPile:SRATe:AUTomatic

Arguments <NR3>

At SXPRess:SDEFault, this returns 6 GS/s.

Returns <NR3>

Examples SXPRESS:COMPILE:SRATE 7E+9 sets the sampling rate to 7 GS/s.

SXPRESS:COMPILE:SRATE? returns the currently selected sampling rate.

SXPRess:COMPile:SRATe:AUTomatic

The command sets or returns the automatic option for sampling rate. This means that the application sets the sampling rate depending on the data rate and the AWG instrument capability.

The default setting of the sampling rate in the automatic mode is six times the data rate.

To change the sampling rate manually, the automatic option should be disabled.

Group Compile settings

Syntax
```
SXPRess:COMPile:SRATe:AUTomatic <state>
SXPRess:COMPile:SRATe:AUTomatic?
```

Related Commands SXPRess:COMPile,

SXPRess:COMPile:SRATe

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:COMPILE:SRATE:AUTOMATIC 1 sets the sampling rate to six times the data rate.

SXPRESS:COMPILE:SRATE:AUTOMATIC? returns the status of the automatic option.

SXPRess:COMPile:TRANsfer:CHANnel

This command sets or returns the channel to which a compiled waveform is transferred.

To transfer a waveform to the AWG, use the SXPRess:COMPile:TRANsfer:ENABle command.

NOTE. *You cannot transfer the waveforms when the application is started without the AWG software running (offline mode).*

Group Compile settings

Syntax

```
SXPRess:COMPile:TRANsfer:CHANnel <NR3>
SXPRess:COMPile:TRANsfer:CHANnel?
```

Related Commands SXPRess:COMPile:TRANsfer:ENABle, SXPRess:COMPile

Arguments <NR3>

At SXPRess:SDEFault, this returns 1.

Returns <NR3>

Examples SXPRESS:COMPILE:TRANSFER:CHANNEL 1 transfers the waveform to Channel 1 (Ch 1) of the AWG.

SXPRESS:COMPILE:TRANSFER:CHANNEL? returns 1.

NOTE. *When the value of the sampling rate set in the application is greater than the maximum sampling rate of the AWG for the non-interleave mode, the application automatically enables the Interleave option on the AWG. In such cases, trying to transfer the waveform to Ch 2 on the instrument will result in an error.*

SXPRess:COMPile:TRANsfer:ENABle

This commands enables or disables the automatic waveform transfer state (**Compiles and Sends To** option in the **Compile Settings** dialog box). When this option is enabled, the waveforms are automatically transferred to the AWG after compilation.

NOTE. *This command fails and sets an error when the free trial expires and you do not have the license to transfer the waveforms. You can check the status of the license using the SXPRess:OPTions? command.*

Group Compile settings

Syntax
```
SXPRess:COMPile:TRANsfer:ENABle <state>
SXPRess:COMPile:TRANsfer:ENABle?
```

Related Commands SXPRess:COMPile:TRANsfer:CHANnel, SXPRess:COMPile, SXPRess:OPTions?

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:COMPILE:TRANSFER:ENABLE 1 enables the automatic waveform transfer option.

SXPRESS:COMPILE:TRANSFER:ENABLE? returns 1.

SXPRess:DCD:ENABle

This command enables or disables the DCD parameter. When disabled, the value of the DCD is ignored.

Group Base data and base parameter settings

Syntax
```
SXPRess:DCD:ENABle <state>
SXPRess:DCD:ENABle?
```

Related Commands SXPRess:DCD:VALue

Arguments

<state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns

<state>

Examples

SXPRESS:DCD:ENABLE 1 enables the DCD parameter.

SXPRESS:DCD:ENABLE? returns 0 if DCD is disabled.

SXPRess:DCD:VALue

This command sets or returns the DCD value of the pulse.

DCD is the difference in the rise time and fall time. Changing the DCD value changes the fall time but the rise time remains constant.

Group

Base data and base parameter settings

Syntax

```
SXPRess:DCD:VALue <NR3>
SXPRess:DCD:VALue?
```

Related Commands

SXPRess:FTIMe, SXPRess:RTIMe

Arguments

<NR3>

At SXPRess:SDEFault, this returns 0 ps.

Returns

<NR3>

Examples

SXPRESS:DCD:VALUE 0.5 sets the DCD value to 0.5 UI.

SXPRESS:DCD:VALUE? returns the DCD value.

SXPRess:DRATe

This command sets or returns the data rate. Changing the data rate may affect the sampling rate, sample per UI (SPUI), rise time, fall time, and range of Rj bandwidth. These values are automatically reset to the nearest values if required.

Group Base data and base parameter settings

Syntax
```
SXPRess:DRATe <NR3>
SXPRess:DRATe?
```

Related Commands SXPRess:COMPile:SRATe, SXPRess:COMPile

Arguments <NR3>

At SXPRess:SDEFault, this returns 1E9.

Returns <NR3>

Examples `SXPRESS:DRATE 4E9` sets the data rate to 4 Gbps.

`SXPRESS:DRATE?` returns 4e9.

SXPRess:ENCode:ENCo8b10b:DISParity

This command sets or returns the disparity set for encoding.

Group Base data and base parameter settings

Syntax
```
SXPRess:ENCode:ENCo8b10b:DISParity <disparity>
SXPRess:ENCode:ENCo8b10b:DISParity?
```

Related Commands SXPRess:COMPile:SRATe, SXPRess:COMPile

Arguments <disparity>::={RDPLus | RDMinus}

Returns <disparity>

Examples `SXPRESS:ENCODE:ENCO8B10B:DISPARITY RDPLUS` sets the disparity to RDPLus.

`SXPRESS:ENCODE:ENCO8B10B:DISPARITY?` returns the disparity.

SXPRess:ENCode:ENCo8b10b:ENABle

This command enables or disables the 8B10B encoding state on the base data pattern. This option can be enabled with or without other encoding types.

Group Base data and base parameter settings

Syntax
```
SXPRess:ENCode:ENCo8b10b:ENABle <state>
SXPRess:ENCode:ENCo8b10b:ENABle?
```

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:ENCODE:ENCO8B10B:ENABLE 1 enables the 8B10B encoding option.

SXPRESS:ENCODE:ENCO8B10B:ENABLE? returns 0 if the 8B10B encoding is disabled.

SXPRess:ENCode:SCHeme

This command sets or returns the encoding scheme on the base data pattern.

Group Base data and base parameter settings

Syntax
```
SXPRess:ENCode:SCHeme <scheme>
SXPRess:ENCode:SCHeme?
```

Arguments <scheme>::={NRZ | NRZI}

At SXPRess:SDEFault, this returns NRZ.

Returns <scheme>

Examples

`SXPRESS:ENCODE:SCHEME NRZI` sets the encoding scheme to NRZI.

`SXPRESS:ENCODE:SCHEME?` returns the encoding scheme.

SXPRess:FTIMe

This command sets or returns the fall time of the pulse.

If the fall time is same as the rise time, the DCD will be zero. If the fall time is different from the rise time, the difference appears as a DCD. The fall time set depends on the definition of the step height using the SXPRess:RFTYpe command.

NOTE. *You can change the fall time only when DCD is disabled.*

Group

Base data and base parameter settings

Syntax

```
SXPRess:FTIMe <NR3>
SXPRess:FTIMe?
```

Related Commands

SXPRess:RTIMe, SXPRess:DRATe, SXPRess:DCD:VALue

Arguments

`<NR3>`

At SXPRess:SDEFault, this returns 200 ps.

Returns

`<NR3>`

Examples

`SXPRESS:FTIME 180e-12` sets the fall time to 180 ps. If the rise time is 200 ps, the DCD value returns 20 ps.

`SXPRESS:FTIME?` returns the fall time.

SXPRess:ISI:ENABle

This command enables or disables the ISI parameter state.

When disabled, ISI will not be considered for waveform compilation.

Group

ISI and S-Parameter

Syntax

```
SXPRess:ISI:ENABle <state>
SXPRess:ISI:ENABle?
```

Related Commands SXPRess:ISI:VALue

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:ISI:ENABLE 1 enables ISI.

SXPRESS:ISI:ENABLE? returns 0 if ISI is disabled.

SXPRess:ISI:VALue

This command sets or returns the ISI magnitude.

Group ISI and S-Parameter

Syntax

```
SXPRess:ISI:VALue <NR3>
SXPRess:ISI:VALue?
```

Related Commands SXPRess:ISI:ENABle

Arguments <NR3>

At SXPRess:SDEFault, this returns 0 ps.

Returns <NR3>

Examples SXPRESS:ISI:VALUE 0.5 sets the ISI value to 0.5 UI.

SXPRESS:ISI:VALUE? returns the ISI magnitude.

SXPRess:ISTate:OFFSet

This command sets or returns the offset of the idle state waveform.

Group Base data and base parameter settings

Syntax
```
SXPRess:ISTate:OFFSet <NR3>
SXPRess:ISTate:OFFSet
```

Arguments <NR3>

At SXPRess:SDEFault, this returns 0 volts.

Returns <NR3>

Examples SXPRESS:ISTATE:OFFSET 0.15 sets the idle state offset to 0.15 volts.

SXPRESS:ISTATE:OFFSET? returns the current idle state offset.

SXPRess:ISTate:VALue

This command sets or returns the idle state value to generate an idle state waveform for that duration. You can use this command to create an idle state waveform by setting the pattern to Idle State.

Group Base data and base parameter settings

Syntax
```
SXPRess:ISTate:VALue <NR3>
SXPRess:ISTate:VALue?
```

Arguments <NR3>

At SXPRess:SDEFault, this returns 320 ns.

Returns <NR3>

Examples SXPRESS:ISTATE:VALUE 240e-7 sets the idle state value to 24 µs.

SXPRESS:ISTATE:VALUE? returns the current value of the idle state.

SXPRess:MARKer<n>:CLOCk:FREQUency

This command sets or returns the frequency of marker data when the marker type is set to clock.

The value of <n> is either 1 or 2.

Group Base data and base parameter settings

Syntax
```
SXPRess:MARKer<n>:CLOCk:FREQUency <NR3>
SXPRess:MARKer<n>:CLOCk:FREQUency?
```

Arguments <NR3>

At SXPRess:SDEFault, this returns 10 MHz.

Returns <NR3>

Examples SXPRESS:MARKER1:CLOCK:FREQUENCY 10000000 sets the frequency of the marker1 data to 10 MHz.

SXPRESS:MARKER1:CLOCK:FREQUENCY? returns the frequency of the marker1 data.

SXPRess:MARKer<n>:TRIGger:LENGth

This command sets the beginning ‘n’ samples of the marker output to high. It returns the length of the marker output that is set to high.

The value of <n> is either 1 or 2.

Group Base data and base parameter settings

Syntax
```
SXPRess:MARKer<n>:TRIGger:LENGth <NR1>
```

Arguments <NR1>

At SXPRess:SDEFault, this returns 50.

Returns <NR1>

Examples

SXPRESS:MARKER1:TRIGGER:LENGTH 10 sets the beginning 10 samples of the marker output to high.

SXPRESS:MARKER1:TRIGGER:LENGTH? returns the length of the marker1 output that is set to high.

SXPRess:MARKer<n>:TYPE

This command sets or returns the type of the marker data.

The value of <n> is either 1 or 2.

If the marker is set to 1, the marker output of the pattern will be a digital output from the marker channel.

Group

Base data and base parameter settings

Syntax

```
SXPRess:MARKer<n>:TYPE <type>
SXPRess:MARKer<n>:TYPE?
```

Arguments

<type>::=<numeric>

1 indicates that the marker is the same as the base data bits.

2 indicates that the marker has clock pattern.

3 indicates that the marker type is set to trigger.

4 indicates that all markers are set to high.

5 indicates that all markers are set to low.

At SXPRess:SDEFault, this returns 1.

Returns

<type>

Examples

SXPRESS:MARKER1:TYPE 4 sets all the marker1 output to high.

SXPRESS:MARKER1:TYPE? returns the marker1 type.

SXPRess:MODE

This command sets or returns the current mode in which SerialXpress is running.

This command must be sent first to run SerialXpress in the sequence mode.

Group Sequence

Syntax
```
SXPRess:MODE <state>
SXPRess:MODE?
```

Arguments <state>::=<Boolean>

0 indicates that the application is running in the single mode.

1 indicates that the application is running in the sequence mode.

At SXPRess:SDEFault, this returns 0.

Returns <mode>

Examples SXPRESS:MODE 0 sets the application to the single mode.

SXPRESS:MODE? returns the current mode of the application.

SXPRess:NOISe:ENABle

This command enables or disables the noise parameter state.

Group Random noise

Syntax
```
SXPRess:NOISe:ENABle <state>
SXPRess:NOISe:ENABle?
```

Related Commands SXPRess:NOISe:VALue

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples `SXPRESS:NOISE:ENABLE 1` enables the noise parameter.

`SXPRESS:NOISE:ENABLE?` returns 0 if noise is disabled.

SXPRess:NOISe:LOCation

This command sets or returns the location where the noise will be applied.

Group Random noise

Syntax
```
SXPRess:NOISe:LOCation <location>
SXPRess:NOISe:LOCation?
```

Related Commands SXPRess:NOISe:VALue

Arguments `<location>`::={NEAR | FAR}

At SXPRess:SDEFault, this returns NEAR.

Returns `<location>`

Examples `SXPRESS:NOISE:LOCATION NEAR` applies the noise at the near end just after the transmitter simulation.

`SXPRESS:NOISE:LOCATION?` returns the location of the noise applied.

SXPRess:NOISe:VALue

This command sets or returns the noise magnitude.

Group Random noise

Syntax
```
SXPRess:NOISe:VALue <NR3>
SXPRess:NOISe:VALue?
```

Related Commands SXPRess:NOISe:ENABle

Arguments `<NR3>`

At SXPRess:SDEFault, this returns 0 volts.

Returns <NR3>

Examples SXPRESS:NOISE:VALUE 0.4 sets the noise magnitude to 0.4 V.

SXPRESS:NOISE:VALUE? returns the noise magnitude.

SXPRess:OPTions? (Query Only)

The command returns the activated options.

Group Licensing

Syntax SXPRess:OPTions?

Returns <string>

Examples SXPRESS:OPTIONS?

This command returns the option(s) as follows:

- If no options are activated, it returns BASE.
- If the SSC option is activated, it returns BASE and SSC.
- If ISI/SPARAM is activated, it returns BASE and ISI.
- If all the options are activated, it returns BASE, ISI, and SSC.

SXPRess:PJ<n>:ENABle

This command enables or disables the periodic jitter parameter state.

When disabled, the value of corresponding periodic jitter is ignored. It retains the previous settings of magnitude, frequency, and phase but is not considered for waveform compilation.

The value of <n> ranges from 1 to 4.

Group Periodic jitter

Syntax
```
SXPRess:PJ<n>:ENABle <state>
SXPRess:PJ<n>:ENABle?
```

Related Commands SXPRess:PJ<n>:MAGNitude

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:PJ1:ENABLE 1 enables Pj1.

SXPRESS:PJ2:ENABLE? returns 0 if Pj2 is disabled.

SXPRess:PJ<n>:FREQuency

This command sets or returns the frequency (in Hz) of the periodic jitter.

The value of <n> ranges from 1 to 4.

Group Periodic jitter

Syntax
```
SXPRess:PJ<n>:FREQuency <NR3>
SXPRess:PJ<n>:FREQuency?
```

Related Commands SXPRess:PJ<n>:MAGNitude, SXPRess:PJ<n>:ENABle, SXPRess:PJ<n>:FREQuency

Arguments <NR3>

At SXPRess:SDEFault, this returns 100 KHz.

Returns <NR3>

Examples SXPRESS:PJ1:FREQUENCY 100000 sets the Pj1 frequency to 100 KHz.

SXPRESS:PJ2:FREQUENCY? returns the Pj2 frequency.

SXPRess:PJ<n>:MAGNitude

This command sets or returns the periodic jitter magnitude (in ps). If Pj is enabled, it will be applied in the next compilation.

The value of <n> ranges from 1 to 4.

Group Periodic jitter

Syntax
```
SXPRess:PJ<n>:MAGNitude <NR3>
SXPRess:PJ<n>:MAGNitude?
```

Related Commands SXPRess:PJ<n>:ENABle, SXPRess:PJ<n>:FREQuency, SXPRess:PJ<n>:PHASe

Arguments <NR3>

At SXPRess:SDEFault, this returns 0 ps.

Returns <NR3>

Examples `SXPRESS:PJ1:MAGNITUDE 50` sets the Pj1 magnitude to 50 UI.

`SXPRESS:PJ1:MAGNITUDE?` returns the Pj1 magnitude.

SXPRess:PJ<n>:PHASe

This command sets or returns the phase of the periodic jitter.

The value of <n> ranges from 1 to 4.

Group Periodic jitter

Syntax
```
SXPRess:PJ<n>:PHASe <NR3>
SXPRess:PJ<n>:PHASe?
```

Related Commands SXPRess:PJ<n>:ENABle, SXPRess:PJ<n>:MAGNitude, SXPRess:PJ<n>:FREQuency

Arguments <NR3>

At SXPRess:SDEFault, this returns 0 degrees.

Returns <NR3>

Examples SXPRESS:PJ1:PHASE 30 sets the Pj1 phase to 30 degrees.

SXPRESS:PJ2:PHASE? returns the Pj2 phase.

SXPRess:PREemphasis:ENABle

This command enables or disables the pre-emphasis parameter state. When disabled, the value of pre-emphasis is ignored.

Group Pre-emphasis

Syntax
```
SXPRess:PREemphasis:ENABle <state>
SXPRess:PREemphasis:ENABle?
```

Related Commands SXPRess:PREemphasis:VALue

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, it returns 0.

Returns <state>

Examples SXPRESS:PREEMPHASIS:ENABLE 1 enables the pre-emphasis parameter.

SXPRESS:PREEMPHASIS:ENABLE? returns 0 if pre-emphasis is disabled.

SXPRess:PREemphasis:VALue

This command sets or returns the pre-emphasis value.

Group Pre-emphasis

Syntax
```
SXPRess:PREemphasis:VALue <NR3>
SXPRess:PREemphasis:VALue?
```

Related Commands SXPRess:PREemphasis:ENABle

Arguments <NR3>

At SXPRess:SDEFault, this returns 0 dB.

Returns <NR3>

Examples SXPRESS:PREEMPHASIS:VALUE 0.4 sets the pre-emphasis value to 0.4 dB.

SXPRESS:PREEMPHASIS:VALUE? returns the pre-emphasis magnitude.

SXPRess:RFTYpe

This command sets or returns the step height of the rise and fall time.

Group Base data and base parameter settings

Syntax
```
SXPRess:RFTYpe <rftype>
SXPRess:RFTYpe
```

Arguments <rftype>::={TWENtyeighty | TENNinety}

At SXPRess:SDEFault, this returns TWENtyeighty.

Returns <rftype>

Examples SXPRESS:RFTYPE TWENTYEIGHTY sets the rise/fall time type to 20/80.

SXPRESS:RFTYPE? returns the rise/fall time type.

SXPRess:RJ<n>:ENABle

This command enables or disables the random jitter parameter state. When disabled, the value of the corresponding random jitter is ignored. It retains the previous settings of magnitude and low/high frequencies but is not considered for waveform compilation.

The value of <n> is 1, 2, and/or 3.

Group Random jitter

Syntax

```
SXPRess:RJ<n>:ENABle <state>
SXPRess:RJ<n>:ENABle?
```

Related Commands

SXPRess:RJ<n>:MAGNitude

Arguments

<state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns

<state>

Examples

SXPRESS:RJ1:ENABLE 1 enables Rj1.

SXPRESS:RJ2:ENABLE? returns 0 if Rj2 is disabled.

SXPRess:RJ<n>:FREQuency:END

This command sets or returns the end frequency of the random jitter frequency band. The random jitter start and end frequencies will define a band over which the Rj will be applied.

The value of <n> is 1 to 3.

Group

Random jitter

Syntax

```
SXPRess:RJ<n>:FREQuency:END <NR3>
SXPRess:RJ<n>:FREQuency:END?
```

Related Commands

SXPRess:RJ<n>:ENABle, SXPRess:RJ<n>:MAGNitude, SXPRess:RJ<n>:FREQuency:STARt

Arguments

<NR3>

At SXPRess:SDEFault, this returns data rate/2.

Returns

<NR3>

Examples

`SXPRESS:RJ1:FREQUENCY:END 100000` sets the Rj1 end frequency to 100 KHz.

`SXPRESS:RJ1:FREQUENCY:END?` returns the Rj1 end frequency.

SXPRess:RJ<n>:FREQuency:STARt

This command sets or returns the start frequency of the random jitter frequency band.

The value of <n> is 1 to 3.

Group

Random jitter

Syntax

```
SXPRess:RJ<n>:FREQuency:STARt <NR3>
SXPRess:RJ<n>:FREQuency:STARt?
```

Related Commands

SXPRess:RJ<n>:ENABle, SXPRess:RJ<n>:MAGNitude, SXPRess:RJ<n>:FREQuency:END

Arguments

`<NR3>`

At SXPRess:SDEFault, this returns 100.000 KHz.

Returns

`<NR3>`

Examples

`SXPRESS:RJ1:FREQUENCY:START 100000` sets the Rj1 start frequency to 100 KHz.

`SXPRESS:RJ1:FREQUENCY:START?` returns the Rj1 start frequency.

SXPRess:RJ<n>:MAGNitude

This command sets or returns the magnitude of the random jitter. If Rj<n> is enabled, the values set will be applied to the data in the next compile.

The value of <n> is 1 to 3.

Group

Random jitter

Syntax

```
SXPRess:RJ<n>:MAGNitude <NR3>
SXPRess:RJ<n>:MAGNitude?
```

Related Commands SXPRess:RJ<n>:ENABle, SXPRess:RJ<n>:FREQuency:STARt, SXPRess:RJ<n>:FREQuency:END

Arguments <NR3>

At SXPRess:SDEFault, this returns 0 ps.

Returns <NR3>

Examples SXPRESS:RJ1:MAGNITUDE 0.5 sets the Rj1 magnitude to 0.5 UI.

SXPRESS:RJ1:MAGNITUDE? returns the Rj1 magnitude in ps.

SXPRess:RSEed:ENABle

This command enables or disables the random seed state.

Group Random jitter

Syntax
```
SXPRess:RSEed:ENABle <state>
SXPRess:RSEed:ENABle
```

Related Commands SXPRess:RJ<n>:MAGNitude, SXPRess:RSEed:VALue

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:RSEED:ENABLE 1 enables random seed.

SXPRESS:RSEED:ENABLE? returns 1 if random seed is enabled.

SXPRess:RSEed:VALue

This command sets or returns the value of the random seed.

Group Random jitter

Syntax
```
SXPRess:RSEed:VALue <NR1>
SXPRess:RSEed:VALue
```

Related Commands SXPRess:RJ<n>:MAGNitude, SXPRess:RSEed:ENABle

Arguments <NR1>::=Any number between 1 to 99999.

At SXPRess:SDEFault, this returns 12345.

Returns <NR1>

Examples SXPRESS:RSEED:VALUE 123 sets the random seed value to 123.

SXPRESS:RSEED:VALUE? returns the random seed value.

SXPRess:RTIMe

This command sets or returns the rise time of the pulse.

When rise and fall time are different, the difference appears as a DCD. The rise time set depends on the definition of the step height set using the SXPRess:RFTYpe command. Maximum value of rise time is 1/data rate.

Group Base data and base parameter settings

Syntax
```
SXPRess:RTIMe <NR3>
SXPRess:RTIMe?
```

Related Commands SXPRess:FTIMe, SXPRess:DRATe, SXPRess:DCD:VALue

Arguments <NR3>

At SXPRess:SDEFault, this returns 200 ps.

Returns <NR3>

Examples SXPRESS:RTIME 220E-12 sets the rise time to 220 ps. If the fall time is 200 ps, the difference appears as a DCD.

SXPRESS:RTIME? returns the rise time.

SXPRess:SCRamble:ENABle

This command enables or disables base pattern scrambling.

Group Base data and base parameter settings

Syntax
```
SXPRess:SCRamble:ENABle <state>
SXPRess:SCRamble:ENABle?
```

Related Commands SXPRess:SCRamble:RINit, SXPRess:SCRamble:POLYnomial

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:SCRAMBLE:ENABLE 1 enables base pattern scrambling.

SXPRESS:SCRAMBLE:ENABLE? returns 0 if base pattern scrambling is not enabled.

SXPRess:SCRamble:POLYnomial

This command sets or returns the scrambling polynomial.

Group Base data and base parameter settings

Syntax
```
SXPRess:SCRamble:POLYnomial <polynomial>
SXPRess:SCRamble:POLYnomial?
```

Related Commands SXPRess:SCRamble:ENABle, SXPRess:SCRamble:RINit

Arguments <polynomial>::=<string>

At SXPRess:SDEFault, this returns X16+X5+X4+X3+1.

Returns <string>

Examples SXPRESS:SCRAMBLE:POLYNOMIAL "X7+X5+X4+1" sets the scrambling polynomial to X7+X5+X4+1.

SXPRESS:SCRAMBLE:POLYNOMIAL? returns the scrambling polynomial value.

SXPRess:SCRamble:RINit

This command sets or returns the scrambling seed value. It contains a binary number like 11001101.

NOTE. *The length of the register must be equal to the degree of the polynomial.*

Group Base data and base parameter settings

Syntax
```
SXPRess:SCRamble:RINit <seed>
SXPRess:SCRamble:RINit?
```

Related Commands SXPRess:SCRamble:ENABle, SXPRess:SCRamble:POLYnomial

Arguments <seed>::=<string>

At SXPRess:SDEFault, this returns 1111111111111111.

Returns <string>

Examples SXPRESS:SCRAMBLE:RINIT "11101011" sets the scrambling seed to 11101011.

SXPRESS:SCRAMBLE:RINIT? returns the scrambling seed value.

SXPRess:SDEFault (No Query Form)

This command restores all the application parameters to their default values.

Group Save and restore setup

Syntax `SXPRess:SDEFault`

Related Commands SXPRess:SDEFault, SXPRess:SSAVe

Examples `SXPRESS:SDEFAULT` sets all the parameters to their default values.

SXPRess:SEQuence:ELEMent:ADD (No Query Form)

This command adds a new sequence element to the end of the sequence table and increments the sequence length.

You cannot insert an element using this command. The newly added element will have all the parameters set in the Base pattern tab. The selected pattern is added to the Base pattern column in the sequence table. If this is the first sequence element, all the other sequence element parameters in the table are set to the default value. Else, the values will be same as the currently selected index. When you add a sequence element, the index points to the newly added element. This command does not work in the Standard mode and returns an error.

Group Sequence

Syntax `SXPRess:SEQuence:ELEMent:ADD`

Related Commands SXPRess:MODE, SXPRess:BDATa:FILE, SXPRess:BDATa:PATTern, SXPRess:BDATa:STANdard, SXPRess:BDATa:TYPE, SXPress:SEQuence:LENGth?

Examples

```
SXPRESS:BDATA:STANDARD “DISPLAYPORT”
SXPRESS:BDATA:PATTERN “PRBS7”
SXPRESS:SEQUENCE:ELEMENT:ADD
```

These commands adds the standard DisplayPort and pattern PRBS7 to the sequence table.

SXPRess:SEQuence:ELEMent:BCOMpile

This command sets or returns the sequence element number to which the batch compile is applied. Use the SXPRess:COMPile:BCOMpile:ENABle command to enable or disable batch setup.

Group Sequence

Syntax
```
SXPRess:SEQuence:ELEMent:BCOMpile <state>
SXPRess:SEQuence:ELEMent:BCOMpile?
```

Related Commands SXPRess:MODE, SXPRess:COMPile:BCOMpile:ENABle

Arguments <state>::=<Boolean>

0 disables batch compile.

1 enables batch compile.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:SEQUENCE:ELEMENT:BCOMPILE 1 enables the batch compile option for the selected sequence element.

SXPRESS:SEQUENCE:ELEMENT:BCOMPILE? returns the state of the batch compile for the selected sequence element.

SXPRess:SEQuence:ELEMent:DELete (No Query Form)

This command deletes the selected sequence element or all the sequence elements in the table.

This command is applicable only in the Sequence mode. In the Standard mode, an error message is displayed.

Group Sequence

Syntax
```
SXPRess:SEQuence:ELEMent:DELete
```

Related Commands SXPRess:MODE, SXPress:SEQuence:LENGth?, SXPRess:SEQuence:ELEMent:ADD

Examples
```
SXPRESS:SEQUENCE:INDEX 4
```

SXPRESS:SEQUENCE:ELEMENT:DELETE deletes the fourth element in the sequence table.

SXPRess:SEQuence:ELEMent:GOTO:INDex

This command sets or returns the Go To target for the sequence element.

The Go To index should be less than or equal to the sequence length and cannot be same as the selected sequence index.

Group Sequence

Syntax
```
SXPRess:SEQuence:ELEMent:GOTO:INDex <index>
SXPRess:SEQuence:ELEMent:GOTO:INDex?
```

Related Commands SXPRess:SEQuence:INDex, SXPress:SEQuence:LENGth?

Arguments <index>::=<NR1>

At SXPRess:SDEFault, this returns 1.

Returns <index>

Examples SXPRESS:SEQUENCE:ELEMENT:GOTO:INDEX 4 will cause the sequencer to jump to the fourth element.

SXPRESS:SEQUENCE:ELEMENT:GOTO:INDEX? returns 4.

SXPRess:SEQuence:ELEMent:REPeat:COUnt

This command sets or returns the repeat count of the selected sequence element.

You can set the repeat count only when the repeat mode is set to manual count.

Group Sequence

Syntax
```
SXPRess:SEQuence:ELEMent:REPeat:COUnt <value>
SXPRess:SEQuence:ELEMent:REPeat:COUnt?
```

Related Commands SXPRess:SEQuence:INDex, SXPRess:SEQuence:ELEMent:REPeat:MODe

Arguments <value>::=<NR1>

At SXPRess:SDEFault, this returns 1.

Returns <value>

Examples SXPRESS:SEQUENCE:ELEMENT:REPEAT:COUNT 1000 sets the repeat count of the selected sequence element to 1000.

SXPRESS:SEQUENCE:ELEMENT:REPEAT:COUNT? returns the repeat count of the selected sequence element.

SXPRess:SEQuence:ELEMent:REPeat:MODe

This command sets or returns the repeat mode state of the selected sequence element.

Group Sequence

Syntax
```
SXPRess:SEQuence:ELEMent:REPeat:MODe <state>
SXPRess:SEQuence:ELEMent:REPeat:MODe?
```

Related Commands SXPRess:SEQuence:INDex, SXPRess:SEQuence:ELEMent:REPeat:COUnt

Arguments <state>::={COUNt | TIME | AUTO | INFinite}

At SXPRess:SDEFault, this returns AUTO.

Returns <state>

Examples SXPRESS:SEQUENCE:ELEMENT:REPEAT:MODE AUTO sets the repeat mode of the selected sequence element to auto.

SXPRESS:SEQUENCE:ELEMENT:REPEAT:MODE? returns the repeat mode state of the selected sequence element.

SXPRess:SEQuence:ELEMent:WSTAte

This command sets or returns the wait state of the selected sequence element.

Group Sequence

Syntax
```
SXPRess:SEQuence:ELEMent:WSTAte <state>
SXPRess:SEQuence:ELEMent:WSTAte?
```

Related Commands SXPRess:SEQuence:INDex

Arguments <state>::=<Boolean>

0 sets the wait state to OFF.

1 sets the wait state to ON.

At SXPRess:SDEFault, this returns the following:

0 if AWG7000 or AWG7000B (with Option 8) is available.

1 if AWG7000 is not available or AWG7000B does not have Option 8.

Returns <state>

Examples SXPRESS:SEQUENCE:ELEMENT:WSTATE 1 sets the wait state to ON.

SXPRESS:SEQUENCE:ELEMENT:WSTATE? returns 1, if wait state is set to ON.

SXPRess:SEQuence:INDex

This command sets or returns the current sequence index. The sequence index number starts from zero.

The current sequence index indicates the selected sequence element.

The sequence index should be within the current sequence length and cannot be less than 1.

Group Sequence

Syntax
```
SXPRess:SEQuence:INDex <NR1>
SXPRess:SEQuence:INDex?
```

Related Commands SXPRess:MODE, SXPress:SEQuence:LENGth?

Arguments <NR1>

At SXPRess:SDEFault, this returns 0.

Returns <NR1>

Examples `SXPRESS:SEQUENCE:INDEX 3` sets the sequence index to the third sequence element.

SXPress:SEQuence:LENGth? (Query Only)

This command returns the current sequence length.

Sequence length indicates the number of sequence elements in the SerialXpress sequence.

This command works even in the Standard mode. It returns 0 if no sequence element is present.

Group Sequence

Syntax `SXPress:SEQuence:LENGth?`

Related Commands SXPRess:MODE, SXPRess:SEQuence:ELEMent:ADD

Returns `<NR1>`

Examples `SXPRESS:SEQUENCE:LENGTH?` returns the sequence length value.

SXPRess:SEQuence:WRAP:STATe

This command enables or disables the wrap between sequence elements state in the application.

When enabled, the continuity of the waveform sample is ensured when the sequence execution moves from one sequence element to another.

When disabled, the continuity of the waveforms is not ensured. However, the sequence elements are created and may be sent to the AWG.

This command will not have any effect in standard mode. However, you can set or return the command without any error.

Group Sequence

Syntax
```
SXPRess:SEQuence:WRAP:STATe <state>
SXPRess:SEQuence:WRAP:STATe?
```

Related Commands SXPRess:MODE

Arguments <state>::=<Boolean>

0 indicates that wrap between sequence elements is disabled.

1 indicates that wrap between sequence elements is enabled.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:SEQUENCE:WRAP:STATE 0 sets the wrap between sequence elements option.

SXPRESS:SEQUENCE:WRAP:STATE? returns 0, indicating that the wrap between sequence elements option is enabled.

SXPress:SPARam:AGGRessor:CLOCk:FREQuency

This command sets or returns the clock frequency of the aggressor signal. This is applicable only when SXPress:SPARam:AGGRessor:TYPE is set to Clock.

Group ISI and S-Parameter

Syntax
```
SXPress:SPARam:AGGRessor:CLOCk:FREQuency <NR3>
SXPress:SPARam:AGGRessor:CLOCk:FREQuency?
```

Related Commands SXPress:SPARam:AGGRessor:TYPE

Arguments <NR3>::=<numeric>

Returns <NR3>

Examples SXPRESS:SPARAM:AGGRESSOR:CLOCK:FREQUENCY 100E6 sets the clock frequency of the aggressor signal to 100 MHz.

SXPRESS:SPARAM:AGGRESSOR:CLOCK:FREQUENCY? returns the clock frequency of the aggressor signal.

SXPress:SPARam:AGGRessor:DIRection

This command sets or returns the aggressor direction relative to the direction of the victim.

Group ISI and S-Parameter

Syntax
```
SXPress:SPARam:AGGRessor:DIRection <direction>
SXPress:SPARam:AGGRessor:DIRection?
```

Related Commands SXPress:SPARam:AGGRessor:TYPE

Arguments <direction>::={FORWard | REVerse}

FORWard indicates that the signal flow of the aggressor is same as the victim.

REVerse indicates that the signal flow of the aggressor is opposite to the victim.

Returns <type>

Examples SXPRESS:SPARAM:AGGRESSOR:DIRECTION FORWARD sets the direction of the aggressor signal to be same as the victim signal.

SXPRESS:SPARAM:AGGRESSOR:DIRECTION? returns the direction of the aggressor signal.

SXPress:SPARam:AGGRessor:PATTern:DRATe

This command sets or returns the data rate of the aggressor signal. This is applicable only when SXPress:SPARam:AGGRessor:TYPE is set to Pattern.

Group ISI and S-Parameter

Syntax
```
SXPress:SPARam:AGGRessor:PATTern:DRATe <NR3>
SXPress:SPARam:AGGRessor:PATTern:DRATe?
```

Related Commands SXPress:SPARam:AGGRessor:TYPE, SXPress:SPARam:AGGRessor:PATTern:NAME

Arguments <NR3>::=<numeric>

Returns <NR3>

Examples SXPRESS:SPARAM:AGGRESSOR:PATTERN:DRATE 3E9 sets the data rate of the aggressor signal to 3 Gbps.

SXPRESS:SPARAM:AGGRESSOR:PATTERN:DRATE? returns the data rate of the aggressor signal.

SXPress:SPARam:AGGRessor:PATTern:NAME

This command sets or returns the name of the aggressor pattern file.

Group ISI and S-Parameter

Syntax
```
SXPress:SPARam:AGGRessor:PATTern:NAME <name>
SXPress:SPARam:AGGRessor:PATTern:NAME?
```

Related Commands SXPress:SPARam:AGGRessor:TYPE

Arguments <name>::=Name of the pattern file

Returns <type>

Examples SXPRESS:SPARAM:AGGRESSOR:PATTERN:NAME "PRBS7.txt" selects PRBS7.txt as the aggressor pattern file.

SXPRESS:SPARAM:AGGRESSOR:PATTERN:NAME? returns the aggressor pattern file.

SXPress:SPARam:AGGRessor:RTIMe

This command sets or returns the rise time of the aggressor signal. This is applicable only when SXPress:SPARam:AGGRessor:TYPE is set to Pattern or Clock.

Group ISI and S-Parameter

Syntax
```
SXPress:SPARam:AGGRessor:RTIMe <NR3>
SXPress:SPARam:AGGRessor:RTIMe?
```

Related Commands SXPress:SPARam:AGGRessor:TYPE

Arguments <NR3>::=<numeric>

Returns <NR3>

Examples SXPRESS:SPARAM:AGGRESSOR:RTIME 75E-12 sets the rise time of the aggressor signal to 75 ps.

SXPRESS:SPARAM:AGGRESSOR:RTIME? returns the rise time of the aggressor signal.

SXPRess:SPARam:AGGRessor:RXMinus:SELect

This command sets or returns the negative receiver port of the aggressor signal.

Group ISI and S-Parameter

Syntax
```
SXPRess:SPARam:AGGRessor:RXMinus:SELect <NR1>
SXPRess:SPARam:AGGRessor:RXMinus:SELect?
```

Related Commands SXPRess:SPARam:AGGRessor:RXPLus:SELect, SXPRess:SPARam:AGGRessor:TXMinus:SELect

Arguments <NR1>::={ONE | TWO | THRee | FOUR | FIVE | SIX | SEVen | EIGHt}

Returns <NR1>

Examples SXPRESS:SPARAM:AGGRESSOR:RXMINUS:SELECT FOUR selects the fourth negative receiver port of the aggressor signal.

SXPRESS:SPARAM:AGGRESSOR:RXMINUS:SELECT? returns the selected negative receiver port of the aggressor signal.

SXPRess:SPARam:AGGRessor:RXPLus:SELect

This command sets or returns the positive receiver port selection of the aggressor for the single-ended s8p file.

Group ISI and S-Parameter

Syntax
```
SXPRess:SPARam:AGGRessor:RXPLus:SELect <NR1>
SXPRess:SPARam:AGGRessor:RXPLus:SELect?
```

Related Commands SXPRess:SPARam:AGGRessor:RXMinus:SELect, SXPRess:SPARam:AGGRessor:TXPLus:SELect

Arguments <NR1>::={ONE | TWO | THRee | FOUR | FIVE | SIX | SEVen | EIGHt}

Returns <NR1>

Examples SXPRESS:SPARAM:AGGRESSOR:RXPLUS:SELECT FIVE selects the fifth positive receiver port of the aggressor signal.

SXPRESS:SPARAM:AGGRESSOR:RXPLUS:SELECT? returns the selected positive receiver port of the aggressor signal.

SXPRess:SPARam:AGGRessor:TXMinus:SELect

This command sets or returns the negative transmitter port of the aggressor signal.

Group ISI and S-Parameter

Syntax
```
SXPRess:SPARam:AGGRessor:TXMinus:SELect <NR1>
SXPRess:SPARam:AGGRessor:TXMinus:SELect?
```

Related Commands SXPRess:SPARam:AGGRessor:TXPLus:SELect, SXPRess:SPARam:AGGRessor:RXMinus:SELect

Arguments <NR1>::={ONE | TWO | THRee | FOUR | FIVE | SIX | SEVen | EIGHt}

Returns <NR1>

Examples SXPRESS:SPARAM:AGGRESSOR:TXMINUS:SELECT FOUR selects the fourth negative transmitter port of the aggressor signal.

SXPRESS:SPARAM:AGGRESSOR:TXMINUS:SELECT? returns the selected negative transmitter port of the aggressor signal.

SXPRess:SPARam:AGGRessor:TXPLus:SELect

This command sets or returns the positive transmitter port selection of the aggressor for the single-ended s8p file.

Group ISI and S-Parameter

Syntax

```
SXPRess:SPARam:AGGRessor:TXPLus:SELect <NR1>
SXPRess:SPARam:AGGRessor:TXPLus:SELect?
```

Related Commands SXPRess:SPARam:AGGRessor:RXPLus:SELect, SXPRess:SPARam:AGGRessor:TXMinus:SELect

Arguments <NR1>::={ONE | TWO | THRee | FOUR | FIVE | SIX | SEVen | EIGHt}

Returns <NR1>

Examples SXPRESS:SPARAM:AGGRESSOR:TXPLUS:SELECT THREE selects the third positive transmitter port of the aggressor signal.

SXPRESS:SPARAM:AGGRESSOR:TXPLUS:SELECT? returns the selected positive transmitter port of the aggressor signal.

SXPress:SPARam:AGGRessor:TYPE

This command sets or returns the type of the aggressor signal of the s8p file.

Group ISI and S-Parameter

Syntax

```
SXPress:SPARam:AGGRessor:TYPE <type>
SXPress:SPARam:AGGRessor:TYPE?
```

Arguments <type>::={PATTern | CLOCk | VICTim}

PATTern indicates that the aggressor signal is another pattern file.

CLOCk indicates that the aggressor signal is a clock pattern.

VICTim indicates that the aggressor signal is same as the victim signal and has all the characteristics of the victim signal.

Returns <type>

Examples SXPRESS:SPARAM:AGGRESSOR:TYPE CLOCK sets the clock signal as the aggressor signal.

SXPRESS:SPARAM:AGGRESSOR:TYPE? returns the type of the aggressor signal.

SXPRess:SPARam:CASCade:ENABle

This command enables or disables S-Parameter cascading.

Group ISI and S-Parameter

Syntax
```
SXPRess:SPARam:CASCade:ENABle <state>
SXPRess:SPARam:CASCade:ENABle?
```

Related Commands SXPRess:SPARam:CASCade:FILE[n]:ENABle, SXPRess:SPARam:CASCade:FILE[n]:NAME

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:SPARAM:CASCADE:ENABLE 1 enables S-Parameter file cascading.

SXPRESS:SPARAM:CASCADE:ENABLE? returns 0 if S-Parameter file cascading is not enabled.

SXPRess:SPARam:CASCade:FILE[n]:ENABle

This command enables or disables cascading for the specified cascading unit.

The value of n is 1 | 2 | 3 | 4 | 5 | 6.

Group ISI and S-Parameter

Syntax

```
SXPRess:SPARam:CASCade:FILE[n]:ENABle <state>
SXPRess:SPARam:CASCade:FILE[n]:ENABle?
```

Related Commands SXPRess:SPARam:CASCade:ENABle, SXPRess:SPARam:CASCade:FILE[n]:NAME

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0 for n = 2 | 3 | 4 | 5 | 6 and 1 for n = 1.

Returns <state>

Examples SXPRESS:SPARAM:CASCADE:FILE1:ENABLE 1 enables S-Parameter file cascading for the first cascading unit.

SXPRESS:SPARAM:CASCADE:FILE1:ENABLE? returns 0 if S-Parameter file cascading is not enabled for the first cascading unit.

SXPRess:SPARam:CASCade:FILE[n]:NAME

This command sets or returns the S-Parameter file for cascading. The drive may be a local or a network drive. If the full path is not specified, the command sets the file in the current path.

The value of n = 1 | 2 | 3 | 4 | 5 | 6.

Group ISI and S-Parameter

Syntax

```
SXPRess:SPARam:CASCade:FILE[n]:NAME <file name>
SXPRess:SPARam:CASCade:FILE[n]:NAME?
```

Related Commands SXPRess:SPARam:CASCade:ENABle, SXPRess:SPARam:CASCade:FILE[n]:ENABle

Arguments <file name>::=<string>

At SXPRess:SDEFault, this returns null or “ ” for n = 2 | 3 | 4 | 5 | 6 and …\Samples\Touchstone\40inISITrace.s4p for n = 1.

Returns <string>

Examples SXPRESS:SPARAM:CASCADE:FILE1:NAME "C:\SParam\Cable.s4p" sets the S-Parameter file of the first cascading unit as **Cable.s4p** in the C:\SParam directory.

SXPRESS:SPARAM:CASCADE:FILE2:NAME? returns the S-Parameter file of the second cascading unit.

SXPRess:SPARam:EIGHtp:SELECTION

This command sets or returns the 8-port selection (s8p) of the S-Parameter filter.

Group ISI and S-Parameter

Syntax
```
SXPRess:SPARam:EIGHtp:SELECTION <type>
SXPRess:SPARam:EIGHtp:SELECTION?
```

Arguments <type>::={SING | DIFFerential}

Returns <type>

Examples SXPRESS:SPARAM:EIGHTP:SELECTION SING sets the 8-port type of the S-Parameter filter to Single-ended.

SXPRESS:SPARAM:EIGHTP:SELECTION? returns the 8-port type of the S-Parameter filter.

SXPRess:SPARam:ENABle

This command enables or disables the S-Parameter filter state.

Group ISI and S-Parameter

Syntax
```
SXPRess:SPARam:ENABle <state>
SXPRess:SPARam:ENABle?
```

Related Commands SXPRess:SPARam:TFILe

Arguments

<state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns

<state>

Examples

SXPRESS:SPARAM:ENABLE 1 enables the S-Parameter filter.

SXPRESS:SPARAM:ENABLE? returns 0 if the S-Parameter filter is disabled.

SXPRess:SPARam:FOURport:ASSignment:RXMinus

This command sets or returns the S-Parameter port assignment for the RxMinus port.

Group

ISI and S-Parameter

Syntax

```
SXPRess:SPARam:FOURport:ASSignment:RXMinus <port>
SXPRess:SPARam:FOURport:ASSignment:RXMinus?
```

Related Commands

SXPRess:SPARam:FOURport:TYPE, SXPRess:SPARam:FOURport:ASSignment:TXMinus, SXPRess:SPARam:FOURport:ASSignment:TXPLus, SXPRess:SPARam:FOURport:ASSignment:RXPLus

Arguments

<port>::={ONE | TWO | THRee | FOUR}

At SXPRess:SDEFault, this returns ONE.

Returns

<port>

Examples

SXPRESS:SPARAM:FOURPORT:ASSIGNMENT:RXMINUS TWO sets the port assignment of the RxMinus to port two.

SXPRESS:SPARAM:FOURPORT:ASSIGNMENT:RXMINUS? returns the port assignment of the RxMinus port.

SXPRess:SPARam:FOURport:ASSignment:RXPLus

This command sets or returns the S-Parameter port assignment for the RxPlus port.

Group ISI and S-Parameter

Syntax

```
SXPRess:SPARam:FOURport:ASSignment:RXPLus <port>
SXPRess:SPARam:FOURport:ASSignment:RXPLus?
```

Related Commands SXPRess:SPARam:FOURport:TYPE, SXPRess:SPARam:FOURport:ASSignment:TXMinus, SXPRess:SPARam:FOURport:ASSignment:TXPLus, SXPRess:SPARam:FOURport:ASSignment:RXMinus

Arguments <port>::={ONE | TWO | THRee | FOUR}

At SXPRess:SDEFault, this returns ONE.

Returns <port>

Examples SXPRESS:SPARAM:FOURPORT:ASSIGNMENT:RXPLUS TWO sets the port assignment of the RxPlus to port two.

SXPRESS:SPARAM:FOURPORT:ASSIGNMENT:RXPLUS? returns the port assignment of the RxPlus port.

SXPRess:SPARam:FOURport:ASSignment:TXMinus

This command sets or returns the S-Parameter port assignment for the TxMinus port.

Group ISI and S-Parameter

Syntax

```
SXPRess:SPARam:FOURport:ASSignment:TXMinus <port>
SXPRess:SPARam:FOURport:ASSignment:TXMinus?
```

Related Commands SXPRess:SPARam:FOURport:TYPE, SXPRess:SPARam:FOURport:ASSignment:TXPLus, SXPRess:SPARam:FOURport:ASSignment:RXPLus, SXPRess:SPARam:FOURport:ASSignment:RXMinus

Arguments <port>::={ONE | TWO | THRee | FOUR}

At SXPRess:SDEFault, this returns ONE.

Returns <port>

Examples SXPRESS:SPARAM:FOURPORT:ASSIGNMENT:TXMINUS TWO sets the port assignment of the TxMinus to port two.

SXPRESS:SPARAM:FOURPORT:ASSIGNMENT:TXMINUS? returns the port assignment of the TxMinus port.

SXPRess:SPARam:FOURport:ASSignment:TXPLus

This command sets or returns the S-Parameter port assignment for TxMinus port.

Group ISI and S-Parameter

Syntax
```
SXPRess:SPARam:FOURport:ASSignment:TXPLus <port>
SXPRess:SPARam:FOURport:ASSignment:TXPLus?
```

Related Commands SXPRess:SPARam:FOURport:TYPE, SXPRess:SPARam:FOURport:ASSignment:TXMinus, SXPRess:SPARam:FOURport:ASSignment:RXPLus, SXPRess:SPARam:FOURport:ASSignment:RXMinus

Arguments <port>::={ONE | TWO | THRee | FOUR}

At SXPRess:SDEFault, this returns ONE.

Returns <port>

Examples SXPRESS:SPARAM:FOURPORT:ASSIGNMENT:TXPLUS TWO sets the port assignment of TxPlus to port two.

SXPRESS:SPARAM:FOURPORT:ASSIGNMENT:TXPLUS? returns the port assignment of the TxPlus port.

SXPRess:SPARam:FOURport:LAYout

This command sets or returns the 4-port layout of the S-Parameter filter.

Group ISI and S-Parameter

Syntax
```
SXPRess:SPARam:FOURport:LAYout <layout>
SXPRess:SPARam:FOURport:LAYout?
```

Related Commands SXPRess:SPARam:FOURport:TYPE, SXPRess:SPARam:FOURport:ASSignment:TXMinus, SXPRess:SPARam:FOURport:ASSignment:TXPLus, SXPRess:SPARam:FOURport:ASSignment:RXPLus, SXPRess:SPARam:FOURport:ASSignment:RXMinus

Arguments <layout>::={TYPical | ALTernate}

At SXPRess:SDEFault, this returns TYPical.

Returns <layout>

Examples SXPRESS:SPARAM:FOURPORT:LAYOUT TYPICAL sets the 4-port layout of the S-Parameter filter to typical.

SXPRESS:SPARAM:FOURPORT:LAYOUT? returns the 4-port layout of the S-Parameter filter.

SXPRess:SPARam:FOURport:TYPE

This command sets or returns the 4-port type of the S-Parameter filter.

Group ISI and S-Parameter

Syntax
```
SXPRess:SPARam:FOURport:TYPE <port type>
SXPRess:SPARam:FOURport:TYPE
```

Related Commands SXPRess:SPARam:FOURport:LAYout, SXPRess:SPARam:FOURport:ASSignment:TXMinus, SXPRess:SPARam:FOURport:ASSignment:TXPLus, SXPRess:SPARam:FOURport:ASSignment:RXPLus, SXPRess:SPARam:FOURport:ASSignment:RXMinus

Arguments <port type>::={SINGlended | DIFFerential}

At SXPRess:SDEFault, this returns DIFFerential.

Returns <port type>

Examples

`SXPRESS:SPARAM:FOURPORT:TYPE SINGLENDED` sets the 4-port type of the S-Parameter filter to Single-ended.

`SXPRESS:SPARAM:FOURPORT:TYPE?` returns the 4-port type of the S-Parameter filter.

SXPRess:SPARam:IFILter:ENABle

This command enables or disables the inverse filter state of the S-Parameter.

Group

ISI and S-Parameter

Syntax

```
SXPRess:SPARam:IFILter:ENABle <state>
SXPRess:SPARam:IFILter:ENABle?
```

Related Commands

SXPRess:SPARam:TFILe, SXPRess:SPARam:IFILter:FFILe

Arguments

`<state>`::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns

`<state>`

Examples

`SXPRESS:SPARAM:IFILTER:ENABLE 1` enables the S-Parameter inverse filter.

`SXPRESS:SPARAM:IFILTER:ENABLE?` returns 0 if the S-Parameter inverse filter is disabled.

SXPRess:SPARam:IFILter:FFILe (No Query Form)

This command sets the user-defined S-Parameter inverse filter file.

Group

ISI and S-Parameter

Syntax

```
SXPRess:SPARam:IFILter:FFILe <file name>
```

Related Commands

SXPRess:SCRamble:ENABle, SXPRess:SPARam:IFILter:ENABle

Arguments <file name>::=<string>

At SXPRess:SDEFault, this returns null or " ".

Examples SXPRESS:SPARAM:IFILTER:FFILE "C:\Samples\InverseFilter.flt" sets the S-Parameter inverse filter file as **Inversefilter.flt** in the C:\Samples directory.

SXPRess:SPARam:SCALing

This command sets or returns the ISI scaling of the S-Parameter filter.

Group ISI and S-Parameter

Syntax
```
SXPRess:SPARam:SCALing <NR3>
SXPRess:SPARam:SCALing?
```

Related Commands SXPRess:SCRamble:ENABle

Arguments <NR3>

At SXPRess:SDEFault, this returns 1.

Returns <NR3>

Examples SXPRESS:SPARAM:SCALING 1.5 sets the ISI scaling factor to 1.5.

SXPRESS:SPARAM:SCALING? returns the ISI scaling factor.

SXPRess:SPARam:TFILe (No Query Form)

This command sets the touchstone file of the S-Parameter.

Group ISI and S-Parameter

Syntax SXPRess:SPARam:TFILe <file name>

Related Commands SXPRess:SCRamble:ENABle

Arguments <file name>::=<string>

Examples SXPRESS:SPARAM:TFILE "C:\Samples\Pattern.s4p" will set the S-Parameter filter file as **Patterns.s4p** in the C:\Samples directory.

SXPRess:SPARam:TWOPort:SELection

This command sets or returns the 2-port channel location of the S-Parameter.

Group ISI and S-Parameter

Syntax
```
SXPRess:SPARam:TWOPort:SELection <selectport>
SXPRess:SPARam:TWOPort:SELection?
```

Related Commands SXPRess:SCRamble:ENABle

Arguments <selectport>::={S2ONe | S1TWo}

At SXPRess:SDEFault, this returns S2ONe.

Returns <selectport>

Examples SXPRESS:SPARAM:TWOPORT:SELECTION S2ONe sets the channel location of the 2-port parameter.

SXPRESS:SPARAM:TWOPORT:SELECTION? returns the selected port.

SXPRess:SPARam:VICTim:RXMinus:SELect

This command sets or returns the negative receiver port of the victim signal.

Group ISI and S-Parameter

Syntax
```
SXPRess:SPARam:VICTim:RXMinus:SELect <NR1>
SXPRess:SPARam:VICTim:RXMinus:SELect?
```

Related Commands SXPRess:SPARam:VICTim:RXPLus:SELect, SXPRess:SPARam:VICTim:TXMinus:SELect

Arguments <NR1>::={ONE | TWO | THRee | FOUR | FIVE | SIX | SEVen | EIGHt}

Returns <NR1>

Examples SXPRESS:SPARAM:VICTIM:RXMINUS:SELECT THREE selects the third negative receiver port of the victim signal.

SXPRESS:SPARAM:VICTIM:RXMINUS:SELECT? returns the selected negative receiver port of the victim signal.

SXPRess:SPARam:VICTim:RXPLus:SELect

This command sets or returns the positive receiver port of the victim signal.

Group ISI and S-Parameter

Syntax
```
SXPRess:SPARam:VICTim:RXPLus:SELect <NR1>
SXPRess:SPARam:VICTim:RXPLus:SELect?
```

Related Commands SXPRess:SPARam:VICTim:RXMinus:SELect, SXPRess:SPARam:VICTim:TXPLus:SELect

Arguments <NR1>::={ONE | TWO | THRee | FOUR | FIVE | SIX | SEVen | EIGHt}

Returns <NR1>

Examples SXPRESS:SPARAM:VICTIM:RXPLUS:SELECT TWO selects the second positive receiver port of the victim signal.

SXPRESS:SPARAM:VICTIM:RXPLUS:SELECT? returns the selected positive receiver port of the victim signal.

SXPRess:SPARam:VICTim:TXMinus:SELect

This command sets or returns the negative transmitter port of the victim signal.

Group ISI and S-Parameter

Syntax

```
SXPRess:SPARam:VICTim:TXMinus:SELect <NR1>
SXPRess:SPARam:VICTim:TXMinus:SELect?
```

Related Commands SXPRess:SPARam:VICTim:TXPLus:SELect, SXPRess:SPARam:VICTim:RXMinus:SELect

Arguments <NR1>::={ONE | TWO | THRee | FOUR | FIVE | SIX | SEVen | EIGHt}

Returns <NR1>

Examples SXPRESS:SPARAM:VICTIM:TXMINUS:SELECT THREE selects the third negative transmitter port of the victim signal.

SXPRESS:SPARAM:VICTIM:TXMINUS:SELECT? returns the selected negative transmitter port of the victim signal.

SXPRess:SPARam:VICTim:TXPLus:SELect

This command sets or returns the positive transmitter port of the victim signal.

Group ISI and S-Parameter

Syntax

```
SXPRess:SPARam:VICTim:TXPLus:SELect <NR1>
SXPRess:SPARam:VICTim:TXPLus:SELect?
```

Related Commands SXPRess:SPARam:VICTim:TXMinus:SELect, SXPRess:SPARam:VICTim:RXPLus:SELect

Arguments <NR1>::={ONE | TWO | THRee | FOUR | FIVE | SIX | SEVen | EIGHt}

Returns <NR1>

Examples SXPRESS:SPARAM:VICTIM:TXPLUS:SELECT ONE selects the first positive transmitter port of the victim signal.

SXPRESS:SPARAM:VICTIM:TXPLUS:SELECT? returns the selected positive transmitter port of the victim signal.

SXPRess:SREStore (No Query Form)

This command loads the application setup values from the file and restores the parameter settings.

Group Save and restore setup

Syntax `SXPRess:SREStore <setupfile path>[,<drive letter>]`

Arguments `<setupfile path>`::=<string>

`<drive letter>`::=<string>

Examples `SXPRESS:SRESTORE "\bin\Setup1.sxs","c:"` restores the setup **Setup1.sxs** from the C:\bin directory on to the application.

SXPRess:SSAVe (No Query Form)

This command saves the current application setup in a file which can be reloaded later to restore the current settings.

Group Save and restore setup

Syntax `SXPRess:SSAVe <setupfile path>[,<drive letter>]`

Arguments `setupfile path`::=<string>

`drive letter`::=<string>

Examples `SXPRESS:SSAVE "\bin\Setup1.sxs","c:"` saves the current setup of the application as **Setup1.sxs** in the C:\bin directory.

SXPRess:SSC:CUSTom:FILE (No Query Form)

This command sets the SSC custom file.

Group SSC

Syntax `SXPRess:SSC:CUSTom:FILE <file_name>`

Related Commands SXPRess:SSC:ENABle, SXPRess:SSC:SHAPe

Arguments <file_name>::=<string>

At SXPRess:SDEFault, this returns null (“ ”).

Examples SXPRESS:SSC:CUSTOM:FILE “test.xls” sets the SSC custom shape definition file as **test.xls**.

SXPRess:SSC:DFDT

This command sets or returns the df/dt value of SSC.

Group SSC

Syntax
```
SXPRess:SSC:DFDT <NR3>
SXPRess:SSC:DFDT?
```

Related Commands SXPRess:SSC:ENABle, SXPRess:SSC:SHAPe, SXPRess:SSC:SPRead

Arguments <NR3>

At SXPRess:SDEFault, this returns 0 ppm.

Returns <NR3>

Examples SXPRESS:SSC:DFDT 100 sets the df/dt value to 100.

SXPRESS:SSC:DFDT? returns the df/dt value.

SXPRess:SSC:DFDT:DURation

This command sets or returns the df/dt duration value of SSC.

Group SSC

Syntax
```
SXPRess:SSC:DFDT:DURation <NR3>
SXPRess:SSC:DFDT:DURation?
```

Related Commands SXPRess:SSC:ENABle, SXPRess:SSC:DFDT, SXPRess:SSC:DFDT:LOCation

Arguments <NR3>

At SXPRess:SDEFault, this returns 1.50 µs.

Returns <NR3>

Examples SXPRESS:SSC:DFDT:DURATION 2.40 sets the df/dt duration value to 2.40 µs.

SXPRESS:SSC:DFDT:DURATION? returns the df/dt duration value.

SXPRess:SSC:DFDT:LOCation

This command sets or returns the df/dt location value of SSC.

Group SSC

Syntax
```
SXPRess:SSC:DFDT:LOCation <NR3>
SXPRess:SSC:DFDT:LOCation?
```

Related Commands SXPRess:SSC:ENABle, SXPRess:SSC:DFDT, SXPRess:SSC:DFDT:DURation

Arguments <NR3>

At SXPRess:SDEFault, this returns 50%.

Returns <NR3>

Examples SXPRESS:SSC:DFDT:LOCATION 60 sets the df/dt location value to 60%.

SXPRESS:SSC:DFDT:LOCATION? returns the df/dt location value.

SXPRess:SSC:ENABle

This command enables or disables the SSC state. When disabled, the SSC is not applied to the base data.

Group SSC

Syntax

```
SXPRess:SSC:ENABle <state>
SXPRess:SSC:ENABle?
```

Related Commands This command is related to all other SSC commands.

Arguments <state>::=<Boolean>

0 indicates False.

1 indicates True.

At SXPRess:SDEFault, this returns 0.

Returns <state>

Examples SXPRESS:SSC:ENABLE 1 enables SSC.

SXPRESS:SSC:ENABLE? returns 0 if SSC is disabled.

SXPRess:SSC:FREQuency:DEViation

This command sets or returns the SSC frequency deviation.

Group SSC

Syntax

```
SXPRess:SSC:FREQuency:DEViation <NR3>
SXPRess:SSC:FREQuency:DEViation?
```

Related Commands SXPRess:SSC:ENABle, SXPRess:SSC:SHAPe, SXPRess:SSC:SPRead, SXPRess:SSC:DFDT

Arguments <NR3>

At SXPRess:SDEFault, this returns 0 ppm.

Returns <NR3>

Examples SXPRESS:SSC:FREQUENCY:DEVIATION 4000 sets the SSC frequency deviation to 4000 ppm.

SXPRESS:SSC:FREQUENCY:DEVIATION? returns the SSC frequency deviation.

SXPRess:SSC:FREQuency:MODulation

This command sets or returns the SSC frequency modulation.

Group SSC

Syntax
```
SXPRess:SSC:FREQuency:MODulation <NR3>
SXPRess:SSC:FREQuency:MODulation?
```

Related Commands SXPRess:SSC:ENABle, SXPRess:SSC:SHAPe, SXPRess:SSC:SPRead, SXPRess:SSC:DFDT, SXPRess:SSC:FREQuency:DEViation

Arguments <NR3>

At SXPRess:SDEFault, this returns 33 Hz.

Returns <NR3>

Examples SXPRESS:SSC:FREQUENCY:MODULATION 33000 sets the SSC frequency modulation to 33 KHz.

SXPRESS:SSC:FREQUENCY:MODULATION? returns the SSC frequency modulation.

SXPRess:SSC:SHAPe

This command sets or returns the shape of the SSC profile.

Group SSC

Syntax
```
SXPRess:SSC:SHAPe <shape>
SXPRess:SSC:SHAPe?
```

Related Commands SXPRess:SSC:SPRead

Arguments <shape>::={SINE | TRIangle | CUSTom}

At SXPRess:SDEFault, this returns SINE.

Returns <shape>

Examples

`SXPRESS:SSC:SHAPE SINE` sets the shape of the SSC profile to sinusoidal.

`SXPRESS:SSC:SHAPE?` returns the shape of the SSC profile.

SXPRess:SSC:SPRead

This command sets or returns the spread of the SSC profile.

Group

SSC

Syntax

```
SXPRess:SSC:SPRead <spread>
SXPRess:SSC:SPRead?
```

Related Commands

SXPRess:SSC:SHAPe

Arguments

`<spread>`::={UP | DOWN | CENTre | UNEQual}

At SXPRess:SDEFault, this returns DOWN.

Returns

`<spread>`

Examples

`SXPRESS:SSC:SPREAD UNEQUAL` sets the spread of the SSC profile to unequal.

`SXPRESS:SSC:SPREAD?` returns the spread of the SSC profile.

SXPRess:SSC:USPRead:PERCentage

This command sets or returns the percentage of the unequal spread if the selected spread type is **Unequal**. If some other spread type is selected, this value is not considered.

Group

SSC

Syntax

```
SXPRess:SSC:USPRead:PERCentage <NR3>
SXPRess:SSC:USPRead:PERCentage?
```

Related Commands

SXPRess:SSC:SPRead

Arguments <NR3>

At SXPRess:SDEFault, this returns 0.

Returns <NR3>

Examples SXPRESS:SSC:USPREAD:PERCENTAGE 50 sets the unequal spread percentage to 50%.

SXPRESS:SSC:USPREAD:PERCENTAGE? returns the unequal spread percentage.

SXPRess:WAVeform:DELete (No Query Form)

This command deletes the waveform from the waveform list.

Group Waveform list

Syntax SXPRess:WAVeform:DELete <waveform>

Related Commands SXPRess:WFMName

Arguments <waveform>::=<string>

Examples SXPRESS:WAVEFORM:DELETE "CLOCK" deletes the waveform **Clock**.

SXPRess:WAVeform:REName (No Query Form)

This command renames the existing waveform.

The waveform name should be according to Microsoft Windows file naming conventions.

Group Waveform list

Syntax SXPRess:WAVeform:REName <cur name>,<new name>

Related Commands SXPRess:WFMName

Arguments <cur name>::=<string>

<new name>::=<string>

Examples SXPRESS:WAVEFORM:RENAME "CLOCK","TESTCLOCK" renames the waveform from Clock to TestClock.

SXPRess:WAVeform:SAVE (No Query Form)

This command saves the existing waveform as a .wfm file.

Group Waveform list

Syntax SXPRess:WAVeform:SAVE <waveform name>,[,<file path>[,<drive letter>]]

Related Commands SXPRess:WFMName

Arguments <waveform name>::=<string>. This is the name of an existing waveform.

<file path>::=<string>. The file path where the waveform is saved.

NOTE. *The file name should follow the Microsoft Windows file naming conventions.*

drive letter::=<string>. This is a two character string specifying the disk drive name. If the optional parameter file path and drive letter are not specified, the waveform is saved as waveformname.wfm in the directory containing the software executables of the application.

Examples SXPRESS:WAVEFORM:SAVE "Clock","\bin\ClockTest.wfm" ,"c:" saves the waveform as ClockTest.wfm in the C:\bin directory.

SXPRESS:WAVEFORM:SAVE CJTPAT saves the waveform CJTPAT as a CJTPAT.wfm in the directory containing the software executables of the application.

SXPRess:WAVeform:TRANsfer (No Query Form)

This command transfers the waveform data from the application to the AWG. The channel to which the waveform data is transferred is specified in the application.

Once the waveform is transferred, the corresponding channel output is set to the ON state in the AWG.

Group Waveform list

Syntax `SXPRess:WAVeform:TRANsfer <waveform name>,<channel no>`

Related Commands SXPRess:WFMName, SXPRess:COMPile:TRANsfer:CHANnel

Arguments `<waveform name>`::=<string>. This is the name of an existing waveform.

`<channel no>`::=<numeric>. The AWG channel number to which the waveform is transferred.

Examples `SXPRESS:WAVEFORM:TRANSFER "CLOCK",2` transfers the waveform Clock to the Channel 2 (Ch 2) of the AWG.

SXPRess:WFMName (No Query Form)

This command sets the waveform name that is generated with the next compile command.

Waveform naming convention should be according to the Microsoft Windows file naming conventions. If the waveform name already exists, no error is generated. However, compilation fails in such cases since the waveforms cannot be overwritten from the Programmatic Interface.

Group Waveform list

Syntax `SXPRess:WFMName <name>`

Related Commands SXPRess:COMPile

Arguments `<name>`::=<string>

At SXPRess:SDEFault, this returns null or " ".

Examples `SXPRESS:WFMNAME "TESTSIGNAL"` sets the waveform name as TestSignal.

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