

Programming Manual Supplement

VectorStar[®] MS4640A Series VNAs

Microwave Vector Network Analyzers

MS4642A VNA, 10 MHz to 20 GHz, K Connectors

MS4644A VNA, 10 MHz to 40 GHz, K Connectors

MS4645A VNA, 10 MHz to 50 GHz, V Connectors

MS4647A VNA, 10 MHz to 70 GHz, V Connectors



Anritsu

VectorStar MS4640A Series VNA Programming Manual

See the VectorStar MS4640 VNA Programming Manual (PM) – 10410-002676 for an introduction to VectorStar VNA programming, network addressing, connections, and programming commands. The PM also contains the command listing for IEEE 488.1 commands, system and troubleshooting commands, and SCPI commands. The PM is available in the VNA Help System and as a PDF file on the VectorStar User Documents CD – 10920-00049 shipped with the instrument. The PDF file is also available on the Anritsu Web Site.

VectorStar MS4640A Series VNA Operation Manual

See the VectorStar MS4640A VNA Operation Manual (OM) – 10410-00266 for a complete listing of certifications, warranty information, end user software licensing, and related data. The OM is available in the VNA Help System and as a PDF file on the VectorStar MS4640A Series User Documents CD – 10920-00049 shipped with the instrument. The PDF file is also available on the Anritsu Web Site.

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Chapter 1 — General Information

1-1 Introduction

This programming manual supplement provides information for remote operation of the VectorStar MS4640A Series VNAs using commands sent from an external controller via the IEEE 488 General Purpose Interface Bus (GPIB), USB, and Ethernet for Anritsu Lightning 37xxxX and HP 8510 commands. The following command listing chapters are provided:

- **Chapter 2 “Anritsu Supported 37xxxX Commands”**
A complete listing of all supported Anritsu legacy Lightning (37xxxD/E) commands that can be used to control VectorStar VNA operation.
- **Chapter 3 “Anritsu 37xxxX Non-Supported Commands”**
A listing of unsupported Lightning commands.
- **Chapter 4 “HP8510 Supported Commands”**
A complete listing of all supported HP8510 commands.

1-2 Programming Manual

See the primary programming manual document, **Programming Manual – 10410-00267** for the following programming information:

- A general description of the GPIB and the bus data transfer and control functions
- A listing of the IEEE 488 Interface Function Messages recognized by the VNA
- A brief description of the Ethernet and USB program interface to the VNA
- A complete listing and description of all available IEEE 488.2 commands and queries.
- A complete listing and description of all the Standard Commands for Programmable Instruments (SCPI) commands that can be used to control VNA operation with examples of command usage.

1-3 Operation Manual

This manual and the main programming manual above is intended to be used in conjunction with the **VectorStar MS4640A Series Microwave VNA Operation Manual – 10410-00266**. Refer to that manual for general information about the VectorStar MS4640A Series VNAs including equipment set up and front panel (manual mode) operating instructions.

Note

Many of the images in this document are used as typical representations of the product or of the product features. Your instrument and instrument displays may vary slightly from these images.

1-4 VectorStar MS464xA Series VNA Documentation Set

VectorStar VNA System Documentation List

The following documentation sets are available in support of the VectorStar VNA instruments and VNA Systems including the MS4640A VNA Series, MS7828A Standard BB/mm-Wave System, ME7838A Modular BB/mm-Wave System, and the MN4690A Multiport VNA System.

See the **Operation Manual – 10410-00266** for longer descriptions of the primary MS4640A VNA documents as well as option and configuration information for each of the instruments and systems below. For more information on VNA systems, consult the system Technical Data Sheet (TDS). Most documents are available on the Anritsu Internet Web Site at www.anritsu.com. Maintenance manuals are available from Anritsu Customer Service. Printed copies of most manuals in 3-ring binders are available at nominal cost.

VectorStar MS4640A Series Vector Network Analyzer

- MS4640A Series VNA Technical Data Sheet (TDS) – 11410-00432
- MS4640A Series VNA User Interface Reference (UI-RM) – 10410-00307
- MS4640A Series VNA Operation Manual (OM) – 10410-00266
- MS4640A Series VNA Measurement Guide (MG) – 10410-00269
- MS4640A Series VNA Programming Manual (PM) – 10410-00267
- MS4640A Series VNA Programming Manual Supplement (PM-S) – 10410-00308
- MS4640A Series VNA Help System (HELP) – 10450-00008
 - Contains OM, UI-RM, PM, PM-S, and MG
- MS4640A Series VNA Maintenance Manual (MM) – 10410-00268
- MS4640A Series VNA User Documentation Compact Disc (CD) – 10920-00049
 - Contains 40A TDS, 30A TDS, OM, UI-RM, PM, PM-S, MG, MM, and HELP above.

VectorStar ME7838A Series Modular BB/Millimeter-Wave VNA Measurement System

- ME7838A Series Modular BB/Millimeter-Wave (mm-Wave) Technical Data Sheet – 11410-00593
- ME7838A Series Modular BB/mm-Wave Quick Start Guide (QSG) – 10410-00292
- ME7838A Series Modular BB/mm-Wave Installation Guide (IG) – 10410-00293
- 3743A Millimeter-Wave Module Reference Manual (RM) – 10410-00311
- ME7838A Series Modular BB/mm-Wave Maintenance Manual – 10410-00304
- ME7838A Series Modular BB/mm-Wave User Documentation CD – 10920-00062
 - Contains TDS, QSG, IG, RM, and MM above.

VectorStar ME7828A Series Standard BB/mm-Wave VNA Measurement System

- ME7828A Series BB/mm-Wave Technical Data Sheet – 11410-00452
- ME7828A Series BB/mm-Wave Quick Start Guide – 10410-00289
- ME7828A Series BB/mm-Wave Installation Guide – 10410-00287
- ME7828A Series BB/mm-Wave Maintenance Manual – 10410-00304
- ME7828A Series BB/mm-Wave User Documentation CD – 10920-00051
 - Contains TDS, QSG, IG, and MM above.

VectorStar MN4690B Series Multiport VNA Measurement System

- MN4690B Series Multiport VNA Measurement System Technical Data Sheet – 11410-00528
- MN4690B Series Multiport Test Set Quick Start Guide – 10410-00290
- MN4690B Series Multiport Test Set Installation Guide – 10410-00288
- MN4690B Series Multiport Test Set Maintenance Manual – 10410-00305
- MN4690B Series Multiport VNA Measurement System User Documentation CD – 10920-00053
 - Contains TDS, QSG, IG, and MM above.

Calibration Kits

- 36585K and 36585V Precision Auto Calibrator (AutoCal) Module Reference Manual – 10410-00279
 - 36585K-2F, Precision AutoCal Module, 70 kHz to 40 GHz, K (f) to K (f)
 - 36585K-2M, Precision AutoCal Module, 70 kHz to 40 GHz, K (m) to K (m)
 - 36585K-2MF, Precision AutoCal Module, 70 kHz to 40 GHz, K (m) to K (f)
 - 36585V-2F, Precision AutoCal Module, 70 kHz to 70 GHz, V (f) to V (f)
 - 36585V-2M, Precision AutoCal Module, 70 kHz to 70 GHz, V (m) to V (m)
 - 36585V-2MF, Precision AutoCal Module, 70 kHz to 70 GHz, V (m) to V (f)
- 3650A, 3651A, 3652A, and 3654D Mechanical Calibration Kit Reference Manual – 10410-00278
 - 3650A Mechanical Calibration Kit, SMA/3.5 mm Connectors
 - 3650A-1 Mechanical Calibration Kit, SMA/3.5 mm Connectors with Sliding Loads
 - 3651A Mechanical Calibration Kit, GPC-7 Connectors
 - 3651A-1 Mechanical Calibration Kit, GPC-7 Connectors with a Single Sliding Load
 - 3652A Mechanical Calibration Kit, K Connectors
 - 3652A-1 Mechanical Calibration Kit, K Connectors with Sliding Loads
 - 3653A Mechanical Calibration Kit, Type N Connectors
 - 3654D Mechanical Calibration Kit, V Connectors
 - 3654D-1 Mechanical Calibration Kit, V Connectors with Sliding Loads

Verification and Performance Verification Software Kits

- 3666-1, 3668-1, 3669B-1 Verification Kits and 3-2300-527 PVS Quick Start Guide – 10410-00285
 - 3666-1 3.5 mm Verification Kit
 - 3668-1 K Verification Kit
 - 3669B-1 V Verification Kit
 - 3-2300-527 Performance Verification Software
 - GPRG #67688 V2.0
- 2300-531-R Performance Verification Software for MS4640 Quick Start Guide – 10410-00291
- 3656B W1 (1 mm) Calibration/Verification Kit and 2300-496 Performance Verification Software User Guide for VectorStar ME7838A and ME7828A and Lightning ME7808A/B/C Systems – 10410-00286
 - 3656B W1 Calibration Kit
 - 3656B W1 Verification Kit
 - 2300-496 System Performance Verification Software
 - GPRG #2300-496

Chapter 2 — Anritsu Supported 37xxxX Commands

2-1 Introduction

This chapter provides a list of Anritsu Lightning 37xxxD and 37xxxE VNA programming commands that are supported for use in the MS4640A VNAs. If additional optional equipment such as test sets and/or calibration kits is required, it is noted in the command description.

For a list of non-supported Lightning commands, see [Chapter 3 “Anritsu 37xxxX Non-Supported Commands”](#).

2-2 Information on Anritsu Lightning 37xxxX Commands

For more detailed information about programming the Anritsu Lightning 37xxxX VNA and using the Lightning commands, refer to either of the following:

- **Anritsu Lightning 37xxxD Programming Manual – 10410-00262**
- **Anritsu Lightning 37xxxE Programming Manual – 10410-00301**

2-3 Information on IEEE 488.2, System, Troubleshooting, and SCPI Commands

For detailed information about VectorStar IEEE 488.2, system, troubleshooting, and SCPI commands, see the companion and main programming manual:

- **VectorStar MS4640A Series VNA Programming Manual – 10410-00267**

2-4 Cmd Parameters, Notations, and Abbreviations

For more information about Cmd Parameters, notation, and abbreviations, Chapter 2 – Programming the VectorStar Series VNAs in the **VectorStar MS4640A Series VNA Programming Manual – 10410-00267**.

2-5 Overview of Anritsu Lightning 37xxxX Command Support

All Anritsu Lightning VNA commands operate on the VNA Active Channel, and there are no Lightning commands which can change the active channel to another one. If the VectorStar VNA is configured with multiple channels, the Lightning commands will then only operate on the currently active VectorStar channel. No error will be generated. When using Anritsu Lightning commands, note that:

1. Recognition of the Lightning command set is provided for compatibility with existing Lightning ATE programs, and the use of the Lightning command set is not recommended for new development.
2. Some of the Lightning commands may not work as expected if the programming Language is NOT set to Lightning via the LANG command (or LANG LIGHT).
 - For example, markers in the Native language are trace based. This means that each trace has its own set of markers, independent of the other traces.
 - In Lightning there are only 6 markers. If you move marker1 on trace1 to 3 GHz, marker1 on the other 3 traces will also go to 3 GHz.
 - If you want the Lightning behavior on the markers, you need to set the Language to Lightning.
 - On the VectorStar VNAs, the REMOTE LANG. (Remove Language) menu is part of the SYSTEM menus and is available at:
 - MAIN | System | SYSTEM | Remove Interface | REMOTE INTER. | Language Selection | REMOTE LANG.

Not all Lightning commands are fully supported, mostly due to performance and feature differences between the Lightning VNA and the VectorStar VNA. Each command in the listings below is identified as either:

- Lightning function supported
- Lightning function not supported

Supported Commands

Supported commands listed in this chapter will provide VectorStar VNA control if the differences between the two instruments are factored into the command use and syntax. For example, the Lightning VNA only provides one channel with four traces, while the VectorStar VNA provides up to 16 channels each with up to 16 traces. In the command listing below, the supported Lightning VNA commands describe any configuration or other limitations.

Non-Supported Commands

The non-supported commands will not crash an existing Lightning program, but they will also not change the VectorStar VNA instrument settings. They will create error messages in the System Error Log and VectorStar Event Log. For a list of non-supported Lightning commands, see:

- [Chapter 3 “Anritsu 37xxxX Non-Supported Commands”](#)

Error Logs

The Error Logs can be viewed by using the front panel menus to navigate to the Windows Event Viewer dialog box at:

- MAIN | System | SYSTEM | Event Log | EVENT VIEWER Dialog Box

Under the Event Viewer (Local) directory, click on System or VectorStar. A typical error message will state “Lightning function not supported.”

2-6 Definitions of Command Description Fields

This dictionary style command/query listing provides the following informational elements for each command and/or query. Note that not all command/queries use all descriptive fields. Fields that are Not Applicable are listed as “NA”. For some commands/queries, the descriptive field sequence may vary.

- **Command/Query**

This is the actual command/query string in their long form syntax with any permitted add-on Cmd Parameters.

In many cases, the command form is listed on the first line and the query form is listed on the second line.

Not all parameters are listed for all commands.

For complete definitions of each parameter type, in the **VectorStar MS4630A/MS4640A Series VNA Programming Manual – 10410-00267**, see **Chapter 2 – Programming the VectorStar Series VNAs**.

- **Description**

Describes the function of the command/query. For paired command/query entries, the command is described first, and the query second.

Where no query is provided, the description adds “No Query”. Where no command form is provided, the description adds “Query Only.”

If present, the parameter list is defined as a listing and definition of each parameter.

If appropriate, additional descriptions and examples are provided to further describe the command functions and options.

- **Command (Cmd) Parameters**

Lists the provided Cmd Parameters, usually in the form of an OR statement. For example, if the parameter is listed as <char>: UP | DOWN | LEFT | RIGHT, the permitted values are UP or DOWN or LEFT or RIGHT. This form is used when the Cmd Parameters are the same for the command and query.

Optional parameters are denoted with fuzzy brackets as “{}”. For example, for the example:

```
:COMMand <Char1> {<NRf>}
```

The <Char1> parameter is required and the <NRf> parameter is optional.

- **Query Parameters**

As above, but used when the query command has optional or required parameters to focus the output to a specific element such as a channel number, trace number, or segment.

- **Output**

Typically used with queries where it describes what the instrument returns after the query (or sometimes the command) has been issued.

- **Range**

Lists the range of values available to the command/query such as a frequency range. Where appropriate, the range units are stated.

- **Default Value**

Provides the default value typically found when the instrument is in an as-shipped factory default state. User-defined instrument configuration settings can change the default values.

- **Syntax Example**

Note	<p>The Syntax Example is not a script example, and does not imply any specific instrument state, prerequisite settings, equipped equipment, or previously issued commands.</p> <p>For command/query pairs, the first example line is the command in short form syntax, and, where available, with a typical permitted parameter. If a typical parameter is not available, the required parameter type is shown. The second example line is the query short form a typical value for any permitted value.</p>
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This shows an short-form example of the command/query. If available, the command/query includes a typical parameter value. For command/query pairs, the command syntax example is shown first followed by the query syntax example.

2-7 Supported Lightning 37xxxX Commands

A12

Description: Simulate a 12-term calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: A12

A120

Description: Simulate a 12-term calibration and initialize all coefficients. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: A120

A8R

Description: Simulate a One-Path Two-Port Reverse Calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: A8R

A8T

Description: Simulate a One-Path Two-Port Forward Calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: A8T

ABORTCAL

Description: Aborts the current RF or Hardware Calibration.

- If the instrument is in the middle of a calibration such as hardware, linear power, or flat power calibration, a DCL (DEVICE CLEAR) bus command must first be issued to change the parser from execute mode to parsing mode
- A DCL is not normally required if the calibration type is an RF calibration.

After the DCL command, the ABORTCAL command can be issued to abort the current calibration process. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ABORTCAL

ABT

Description: Simulate a Transmission Frequency Response Both Paths Calibration. No query.

Syntax Example: ABT

Cmd Parameters: NA

Output: NA

ACAA

Description: Sets the AutoCal standard to assurance. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACAA

ACADPL <NRf>**ACADPL?**

Description: Set AutoCal adapter removal adapter length. Output AutoCal adapter removal adapter length.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: ACADPL <NRf>

ACDPL?

ACADR

Description: Set AutoCal type to adapter removal. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACADR

ACAL1R2

Description: Set adapter removal port configuration to L=1 (with Adapter) and R=2. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACAL1R2

ACAR1L2

Description: Set adapter removal port configuration to R=1 (with Adapter) and L=2. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACAR1L2

ACARP?

Description: Query only. Output AutoCal adapter removal port configuration.

Query Parameters: NA

Output: <NR1> 5 | 6 | 7 | 8

Where:

- 5 for ADAP L1_R2
- 6 for L1 ADAPT_R2
- 7 for ADAP R1_L2
- 8 for R1 ADAPT_L2

Syntax Example: ACARP?

ACF2P?

Description: Query only. Output AutoCal full 2-port configuration.

Query Parameters: NA

Output: <NR1> 3 | 4

Where:

- 3 for PORTS L1_R2
- 4 for PORTS R1_L2

Syntax Example: ACF2P?

ACF2TC

Description: Set AutoCal 2-port thru type to calibrator. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACF2TC

ACF2TT

Description: Set AutoCal 2-port thru type to true thru. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACF2TT

ACF2TX?

Description: Query only. Output AutoCal 2-port thru type selection.

Query Parameters: NA

Output: <NR1> 1 | 2

Where:

- 1 for ACAL THRU
- 2 for ACAL TRUE THRU

Syntax Example: ACF2TX?

ACISO <NRf>

ACISO?

Description: Sets AutoCal isolation averaging number. Outputs AutoCal isolation averaging number.

Cmd Parameters: <NR1>

Query Parameters: NA

Output: <NR1>

Syntax Example: ACISO <NRf>

ACISO?

ACL1AR2

Description: Set adapter removal port configuration to L=1 and R=2 (with Adapter). No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACL1AR2

ACL1R2

Description: Set AutoCal full 2-port configuration to L=1 and R=2. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACL1R2

ACLO <NRf>

ACLO?

Description: Sets AutoCal load averaging number. Outputs AutoCal load averaging number.

Cmd Parameters: <NRf>

Output: <NR1>

Syntax Example: ACLO <NRf>

ALCO?

ACLOAD

Description: Set AutoCal standard to load.

Cmd Parameters: NA

Output: NA

Syntax Example: ACLOAD

ACOPEN

Description: Set AutoCal standard to open. No query

Cmd Parameters: NA

Output: NA

Syntax Example: ACOPEEN

ACP1?

Description: Query only. Output AutoCal S11 port configuration.

Query Parameters: NA

Output: <NR1> 1 | 2

Where:

- 1 for Port 1 left
- 2 for Port 1 right

Syntax Example: ACP1?

ACP1L

Description: Set AutoCal S11 port configuration to Left. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACP1L

ACP1R

Description: Set AutoCal S11 port configuration to Right. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACP1R

ACP2?

Description: Query only. Output AutoCal S22 port configuration.

Query Parameters: NA

Output: <NR1> 3 | 2

Where:

- 3 for Ports L1 R2
- 2 for Ports R1 L2

Syntax Example: ACP2?

ACP2L

Description: Set AutoCal S22 port configuration to Left. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACP2L

ACP2R

Description: Set AutoCal S22 port configuration to Right. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACP2R

ACPL

Description: Set AutoCal S11 port configuration to Left. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACPL

ACPR

Description: Set AutoCal S11 port configuration to Right. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACPR

ACR1AL2

Description: Set adapter removal port configuration to R=1 and L=2 (with Adapter). No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACR1AL2

ACR1L2

Description: Set AutoCal full 2-port configuration to R=1 L=2. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACR1L2

ACRFL <NRf>

ACRFL?

Description: Sets AutoCal reflection averaging number. Outputs AutoCal reflection averaging number.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: ACRFL <NRf>

ACRFL?

ACS11

Description: Set AutoCal type to S11. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACS11

ACS22

Description: Set AutoCal type to S22. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACS22

ACSF2P

Description: Set AutoCal type to full 2-port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACSF2P

ACSHORT

Description: Set AutoCal standard to short. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACSHORT

ACSTD?

Description: Query only. Output AutoCal standard.

Query Parameters: NA

Output: <NR1> 0 | 1 | 2 | 3 | 4 | 5 where:

- 0 = ACNone
- 1 = AutoCalSwitch.LightOpen
- 2 = AutoCalSwitch.LightShort
- 3 = AutoCalSwitch.LightLoad
- 4 = AutoCalSwitch.LightThru
- 5 = AutoCalSwitch.LightAssurance

Syntax Example: ACSTD?

ACSW <NRf>

ACSW?

Description: Sets AutoCal switch averaging number. Outputs AutoCal switch averaging number.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NRf>

Syntax Example: ACSW <NRf>

ACSW?

ACTHRU

Description: Set AutoCal standard to thru. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACTHRU

ACTU <NRf>

Description: Sets AutoCal thru averaging number. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ACTU <NRf>

ACTU?

Description: Query only. Outputs AutoCal thru averaging number.

Cmd Parameters: NA

Output: <NR1>

Syntax Example: ACTU?

ACX?

Description: Query only. Output AutoCal type.

Query Parameters: NA

Output: <NR1> 1 | 2 | 3 | 4

Where:

- 1 for S11 1 Port
- 2 for S22 1 Port
- 3 for Full 2 Port
- 4 for Adapter Removal

Syntax Example: ACX?

ADD

Description: Select addition as trace math for active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ADD

ADDFC <NRf>**ADDFC?**

Description: Enter frequency counter GPIB address. Output frequency counter GPIB address.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: ADDFC <NRf>

ADDFC?

ADDGP <NRf>**ADDGP?**

Description: Enter instrument GPIB address. Output instrument GPIB address.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: ADDGP <NRf>

ADDGP?

ADDHW?

Description: Query only. Output the Instrument Hardware address.

Query Parameters: NA

Output: <char>

Syntax Example: ADDHW?

ADDIP?

Description: Query only. Output the Instrument IP address.

Query Parameters: NA

Output: <char>

Syntax Example: ADDIP?

ADDPLT <NRf>

ADDPLT?

Description: Enter plotter GPIB address. Output plotter GPIB address.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: ADDPLT <NRf>

ADDPLT?

ADDPM <NRf>

ADDPM?

Description: Enter power meter GPIB address. Output power meter GPIB address.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: ADDPM <NRf>

ADDPM?

ADDPOR <NRf>

ADDPOR?

Description: Enter instrument TCP/IP port address. Output instrument TCP/IP port address.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: `ADDPORt <NRf>`

`ADDPORt?`

ADDUSB?

Description: Query only. Output the Instrument USB address.

Query Parameters: NA

Output: <char>

Syntax Example: `ADDUSB?`

ADPL <NRf>

ADPL?

Description: Enter electrical length (in seconds) for adapter removal. Output electrical length (in seconds) for adapter removal.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: `ADPL <NRf>`

`ADPL?`

AFT

Description: Simulate a Transmission Frequency Response Forward Path Calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `AFT`

AH0

Description: Turn automatic DUT protection off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `AH0`

AH1

Description: Turn automatic DUT protection on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `AH1`

AHX?

Description: Query only. Output automatic DUT protection on/off status.

Query Parameters: NA

Output: <NR1>

Where:

- 0 for Automatic DUT Protection is off
- 1 for Automatic DUT Protection is on

Output: <NR1>

Syntax Example: AHX?

AMKR

Description: Select active marker on all channels marker display mode. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: AMKR

AOF

AOF?

Description: Turn averaging off. Output averaging status on/off.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Where:

- 0 for Off
- 1 for On

Syntax Example: AOF

AOF?

AON

Description: Turn averaging on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: AON

APR <NRf>

APR?

Description: Enter group delay aperture setting on active trace. Output group delay aperture setting on active trace.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: APR <NRf>

APR?

ARB

Description: Simulate a Reflection Both Ports Calibration. No query

Cmd Parameters: NA

Output: NA

Syntax Example: ARB

ARF

Description: Simulate a Reflection Port One Calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ARF

ARR

Description: Simulate a Reflection Port Two Calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ARR

ART

Description: Simulate a Transmission Frequency Response Reverse Path Calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ART

ASC

Description: Autoscale the active trace display. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ASC

ASP <NRf>**ASP?**

Description: Enter polar stop sweep position angle. Output polar stop sweep position angle.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: ASP <NRf>

ASP?

AST <NRf>**AST?**

Description: Enter polar start sweep position angle. Output polar start sweep position angle.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: AST <NRf>

AST?

ATTN

Description: Attach next segment and make the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax: ATTN

AVG <NRf>**AVG?**

Description: Set averaging count and turn averaging on. Output the averaging count.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: AVG <NRf>

AVG?

AVGCNT?

Description: Query only. Output the averaging sweep count.

Query Parameters: <NR1>

Output: <NR1>

Syntax Example: AVGCNT?

BBMP

Description: Select true color as bitmap type (obsolete). No query.

Cmd Parameters: NA

Output: NA

Syntax: BBMP

BBL

Description: Select broadband load for calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: BBL

BBX?

Description: Query only. Output load type for calibration broadband/sliding.

Query Parameters: NA

Output: <NR1>

Syntax Example: BBX?

BBZ <NRf>**BBZ?**

Description: Enter broadband load impedance for calibration. Output broadband load impedance for calibration.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: BBZ <NRf>

BBZ?

BBZL <NRf>**BBZL?**

Description: Enter broadband load inductance for calibration. Output broadband load inductance for calibration.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: BBZL <NRf>

BBZL?

BC0

Description: Turn CRT display off. No query.

Parameters: NA

Output: NA

Syntax: BC0

BC1

Description: Turn CRT display on. No query.

Parameters: NA

Output: NA

Syntax: BC1

BCX?

Description: Query only. Output CRT display on/off status.

Query Parameters: NA

Output: <NR1>

Syntax: BCX?

BD1

Description: Select band 1 for definition. No query.

Cmd Parameters: NA

Output: NA

Syntax: BD1

BD2

Description: Select band 2 for definition. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: BD2

BD3

Description: Select band 3 for definition. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: BD3

BD4

Description: Select band 4 for definition. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: BD4

BD5

Description: Select band 5 for definition. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: BD5

BDMM

Description: Define MMWave band equations. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: BDMM

BEG

Description: Begin calibration. No query.

Cmd Parameters: NA
Output: NA
Syntax Example: BEG

BEGAC

Description: Start AutoCal calibration. No query.
Cmd Parameters: NA
Output: <NR1>
Syntax Example: BEGAC

BEGCH

Description: Start AutoCal characterization. No query.
Cmd Parameters: NA
Output: <NR1>
Syntax Example: BEGCH

BEGN

Description: Begin next segment and make the active segment. No query.
Cmd Parameters: NA
Output: NA
Syntax: BEGN

BH0

Description: Turn bias tees off while in hold. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: BH0

BH1

Description: Leave bias tees on while in hold. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: BH1

BHX?

Description: Query only. Output bias tees on/off while in hold status.
Query Parameters: NA
Output: <NR1>
Where:

- 0 for Off
- 1 for On

Syntax Example: BHX?

BMPB

Description: Select black on white as color scheme for graphic. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: BMPB

BMPC

Description: Select color on white as color scheme for graphic. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: BMPC

BMPT

Description: Select true color as color scheme for graphic. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: BMPT

BMPX?

Description: Query only. Output color scheme for graphic.

Query Parameters: NA

Output: <NR1>

Syntax Example: BMPX?

BNDRCW? <NRf>

Description: Query only. Output multiple source band receiver CW flag for the indicated source band.

Query Parameters: <NRf> = For the indicated source band.

Output: <NR1>

Syntax Example: BNDRCW? 1

BNDRDIV? <NRf>

Description: Query only. Output multiple source band receiver divisor for the indicated source band.

Query Parameters: <NRf> = For the indicated source band.

Output: <NR1>

Syntax Example: BNDRDIV? 1

BNDRMUL? <NRf>

Description: Query only. Output multiple source band receiver multiplier for the indicated source band.

Query Parameters: <NRf> = For the indicated source band.

Output: <NR1>

Syntax Example: BNDRMUL? <NRf>

BNDROFF? <NRf>

Description: Query only. Output multiple source band receiver offset for the indicated source band.

Query Parameters: <NRf> = For the indicated source band.

Output: <NR3>

Syntax Example: BNDROFF? 1

BNDS1CW? <NRf>

Description: Query only. Output multiple source band source 1 CW flag for the indicated source band.

Query Parameters: <NRf> = For the indicated source band.

Output: <NR1>

Syntax Example: BNDS1CW? 1

BNDS1DIV? <NRf>

Description: Query only. Output multiple source band source 1 divisor for the indicated source band.

Query Parameters: <NRf> = For the indicated source band. Output

<NR1>

Syntax Example: BNDS1DIV? 1

BNDS1MUL? <NRf>

Description: Query only. Output multiple source band source 1 multiplier for the indicated source band.

Query Parameters: <NRf> = For the indicated source band.

Output: <NR1>

Syntax Example: BNDS1MUL? 1

BNDS1OFF? <NRf>

Description: Query only. Output multiple source band source 1 offset for the indicated source band.

Query Parameters: <NRf> = For the indicated source band.

Output: <NR3>

Syntax Example: BNDS1OFF? 1

BNDS2CW? <NRf>

Description: Query only. Output multiple source band source 2 CW flag for the indicated source band.

Query Parameters: <NRf> = For the indicated source band.

Output: <NR1>

Syntax Example: BNDS2CW? 1

BNDS2DIV? <NRf>

Description: Query only. Output multiple source band source 2 divisor for the indicated source band.

Query Parameters: <NRf> = For the indicated source band.

Output: <NR1>

Syntax Example: BNDS2DIV? 1

BNDS2MUL? <NRf>

Description: Query only. Output multiple source band source 2 multiplier for the indicated source band.

Query Parameters: <NRf> = For the indicated source band.

Output: <NR1>

Syntax Example: BNDS2MUL? 1

BNDS2OFF? <NRf>

Description: Query only. Output multiple source band source 2 offset for the indicated source band.

Query Parameters: <NRf> = For the indicated source band.

Output: <NR3>

Syntax Example: BNDS2OFF? <NRf>

BNDSRT? <NRf>

Description: Query only. Output multiple source band start frequency for the indicated source band.

Query Parameters: <NRf> = For the indicated source band.

Output: <NR3>

Syntax Example: BNDSRT? <NRf>

BNDSTP? <NRf>

Description: Query only. Output multiple source band stop frequency for the indicated source band.

Query Parameters: <NRf> = For the indicated source band.

Output: <NR3>

Syntax Example: BNDSTP? <NRf>

BPF <NRf>**BPF?**

Description: Set breakpoint frequency for 3 line LRL calibration. Output breakpoint frequency for 3 line LRL calibration.

Cmd Parameters: <NRf> = For the indicated source band.

Query Parameters: NA

Output: <NR3>

Syntax Example: BPF 20

BPF?

BSP <NRf>**BSP?**

Description: Enter band stop frequency. Output band stop frequency.

Cmd Parameters: <NRf> = For the indicated source band.

Query Parameters: NA

Output: <NR3>

Syntax Example: BSP <NRf>

BSP?

BST <NRf>**BST?**

Description: Enter band start frequency. Output band start frequency.

Cmd Parameters: <NRf> = For the indicated source band.

Query Parameters: NA

Output: <NR3>

Syntax Example: BST <NRf>

BST?

BWLS <NRf>**BWLS?**

Description: Enter bandwidth loss value. Output bandwidth loss value.

Cmd Parameters: <NRf> = For the indicated source band.

Query Parameters: NA

Output: <NR3>

Syntax Example: BWLS <NRf>

BWLS?

C12

Description: Select 12-Term Calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: C12

C8R

Description: Select One-Path Two-Port Reverse Calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: C8R

C8T

Description: Select One-Path Two-Port Forward Calibration. No query.

Cmd Parameters: NA
Output: NA
Syntax Example: C8T

CALR

Description: Perform receiver calibration for gain compression testing. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: CALR

CAS

Description: Clear active segmented limit vertical/horizontal definitions. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: CAS

CBT

Description: Select Transmission Frequency Response Both Paths Calibration. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: CBT

CC0 <NRf>**CC0?**

Description: Enter capacitance coefficient 0 for open. Output capacitance coefficient 0 for open.
Cmd Parameters: <NRf>
Query Parameters: NA
Output: <NR3>
Syntax Example: CC0 <NRf>
CC0?

CC1 <NRf>**CC1?**

Description: Enter capacitance coefficient 1 for open. Output capacitance coefficient 1 for open.
Cmd Parameters: <NRf>
Query Parameters: NA
Output: <NR3>
Syntax Example: CC1 <NRf>
CC1?

CC2 <NRf>**CC2?**

Description: Enter capacitance coefficient 2 for open. Output capacitance coefficient 2 for open.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: CC2 <NRf>

CC2?

CC3 <NRf>**CC3?**

Description: Enter capacitance coefficient 3 for open. Output capacitance coefficient 3 for open.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NRf>

Syntax Example: CC3 <NRf>

CC3?

CD <string>

Description: Change the current working directory. No query.

Cmd Parameters: <String>

Output: NA

Syntax Example: CD <string>

CEL

Description: Clear the event log. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CEL

CEQ

Description: Clear the error queue. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CEQ

CF1

Description: Select female 1.0mm connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CF1

CF2

Description: Select female 2.4mm connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CF2

CF3

Description: Select female GPC-3.5 connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CF3

CF716

Description: Select female 7/16 connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CF716

CFC

Description: Select female TNC connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CFC

CFK

Description: Select female K connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CFK

CFN

Description: Select female Type N connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CFN

CFN75

Description: Select female Type N 75 Ohm connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CFN75

CFS

Description: Select female SMA connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CFS

CFSP

Description: Select special female connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CFSP

CFT

Description: Select Transmission Frequency Response Forward Path Calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CFT

CFV

Description: Select female V connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CFV

CH1

Description: Select trace 1 as active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CH1

CH2

Description: Select trace 2 as active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CH2

CH3

Description: Select trace 3 as active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CH3

CH4

Description: Select trace 4 as active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CH4

CHAPR? <NRf>

Description: Query only. Output group delay aperture setting.

Query Parameters: <NRf>

Output: <NR3>

Syntax Example: CHAPR? <NRf>
<NR3>

CHDAT? <NRf>

Description: Query only. Output data and memory display mode on indicated trace.

Query Parameters: <NRf>

Output: <NR1>

Syntax Example: CHDAT? <NRf>
<NR1>

CHDDX? <NRf>

Description: Query only. Output domain parameter frequency/distance/time.

Query Parameters: <NRf>

Output: <NR1>

Syntax Example: CHDDX? <NRf>

CHGOF? <NRf>

Description: Query only. Output the time domain gating mode on/off display.

Query Parameters: <NRf>

Output: <NR1>

Syntax Example: CHGOF? <NRf>

CHGRF? <NRf>

Description: Query only. Output graph type for the selected trace.

Query Parameters: <NRf> = Selected trace number.

Output: <NR1>

Syntax Example: CHGRF? <NRf>

CHLFD? <NRf>

Description: Query only. Output limit frequency readout delta value for top graph on user entered trace number.

Query Parameters: <NRf> = Selected trace number.

Output: <NR3>

Syntax Example: CHLFD? <NRf>

CHLFD2? <NRf>

Description: Query only. Output limit frequency readout delta value for bottom graph on user entered trace.

Query Parameters: <NRf>

Output: <NR3>

Syntax Example: CHLFD2? <NRf>

CHLLO? <NRf>

Description: Query only. Output lower limit value for top graph on user entered trace.

Query Parameters: <NRf> = Selected trace number.

Output: <NR3>

Syntax Example: CHLLO? <NRf>

CHLLO2? <NRf>

Description: Query only. Output lower limit value for bottom graph on user entered trace.

Query Parameters: <NRf> = Selected trace number.

Output: <NR3>

Syntax Example: CHLLO2? <NRf>

CHLON? <NRf>

Description: Query only. Outputs limits display on/off status on user entered trace.

Query Parameters: <NRf> = Selected trace number.

Output: <NR1>

Syntax Example: CHLON? <NRf>

CHLPSX?

Description: Query only. Output the time domain impulse/step response.

Query Parameters: NA

Output: <NR1>

Syntax Example: CHLPSX?

CHLUP? <NRf>

Description: Query only. Output upper limit value for top graph on user entered trace.

Query Parameters: <NRf> = Selected trace number.

Output: <NR3>

Syntax Example: CHLUP? <NRf>

CHLUP2? <NRf>

Description: Query only. Output upper limit value for bottom graph on user entered trace.

Query Parameters: <NRf> = Selected trace number.

Output: <NR3>

Syntax Example: CHLUP2? <NRf>

CHMOSET? <NRf>

Description: Query only. Output constant offset log magnitude.

Query Parameters: <NRf> = Selected trace number.

Output: <NR3>

Syntax Example: CHMOSET? <NRf>

CHMTH? <NRf>

Description: Query only. Output trace math type for indicated trace.

Query Parameters: <NR1> = Selected trace number.

Output: <NR1>

Syntax Example: CHMTH? <NRf>

CHPHO? <NRf>

Description: Query only. Output phase shift.

Query Parameters: <NRf> = Selected trace number.

Output: <NR3>

Syntax Example: CHPHO? <NRf>

CHOFF? <NRf>

Description: Query only. Output offset value for the top graph.

Query Parameters: <NRf> = Selected trace number.

Output: <NR>

Syntax Example: CHOFF?

CHOFF2? <NRf>

Description: Query only. Output offset value for the bottom graph.

Query Parameters: <NRf> = Selected trace number.

Output: <NR3>

Syntax Example: CHOFF2? <NRf>

CHPOSET? <NRf>

Description: Query only. Output constant offset phase.

Query Parameters: <NRf> = Selected trace number.

Output: <NR3>

Syntax Example: CHPOSET? <NRf>

CHRDD? <NRf>

Description: Query only. Output reference delay in distance.

Query Parameters: <NRf> = Selected trace number.

Output: <NR3>

Syntax Example: CHRDD? <NRf>

CHRDT? <NRf>

Description: Query only. Output reference delay in time.

Query Parameters: <NRf> = Selected trace number.

Output: <NR3>

Syntax Example: CHRDT? <NRf>

CHREF? <NRf>

Description: Query only. Output reference line for the top graph.

Query Parameters: <NRf> = Selected trace number.

Output: <NR1>

Syntax Example: CHREF? <NRf>

CHREF2? <NRf>

Description: Query only. Output reference line for the bottom graph.

Query Parameters: <NRf> = Selected trace number.

Output: <NR1>

Syntax Example: CHREF2? <NRf>

CHSCL? <NRf>

Description: Query only. Output Scale Resolution for the top graph.

Query Parameters: <NRf> = Selected trace number.

Output: <NR3>

Syntax Example: CHSCL? <NRf>

CHSCL2? <NRf>

Description: Query only. Output Scale Resolution for the bottom graph.

Query Parameters: <NRf> = Selected trace number.

Output: <NR3>

Syntax Example: CHSCL2? <NRf>

CHSLLX? <NRf>

Description: Query only. Output lower segmented limits display on/off status.

Query Parameters: <NRf> = Selected trace number.

Output: <NR1>

Where

- 0 for Off
- 1 for On

Syntax Example: CHSLLX? <NRf>

CHSLUX? <NRf>

Description: Query only. Output upper segmented limits display on/off status.

Query Parameters: <NRf> = Selected trace number.

Output: <NR1>

Where:

- 0 for Off
- 1 for On

Syntax Example: CHSLUX? <NRf>

CHSXX? <NRf>

Description: Query only. Output s parameter or user defined parameter.

Query Parameters: <NRf> = Selected trace number.

Output: <NR1>

Syntax: CHSXX? <NRf>

CHTDDIST? <NRf>

Description: Query only. Output the time domain parameter distance/time.

Query Parameters: <NRf> = Selected trace number.

Output: <NR1>

Syntax Example: CHTDDIST? <NRf>

CHTDPIX? <NRf>

Description: Query only. Output the time domain phasor impulse on/off status.

Query Parameters: <NRf>

Output: <NR1>

Where:

- 0 for Off
- 1 for On

Syntax Example: CHTDPIX? <NRf>

CHTDX? <NRf>

Description: Query only. Output domain mode.

Query Parameters: <NRf>

Output: <NR1>

Syntax Example: CHTDX? <NRf>

CHX?

Description: Query only. Output active trace number.

Query Parameters: NA

Output: <NR1>

Syntax Example: CHX?

CL0 <NRf>

CL0?

Description: Enter inductive coefficient 0 for short. Output inductive coefficient 0 for short.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: CL0 <NRf>

CL0?

CL1 <NRf>

CL1?

Description: Enter inductive coefficient 1 for short. Output inductive coefficient 1 for short.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: CL1 <NRf>

CL1?

CL2 <NRf>

CL2?

Description: Enter inductive coefficient 2 for short. Output inductive coefficient 2 for short.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: CL2 <NRf>

CL2?

CL3 <NRf>

CL3?

Description: Enter inductive coefficient 3 for short. Output inductive coefficient 3 for short.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: CL3 <NRf>

CL3?

CLB

Description: Clear all multiple source band definitions. No query.

Syntax Example: CLB

Cmd Parameters: NA

Output: NA

Syntax Example: CLB

CLBMM

Description: Clear the new MMWave band definitions. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CLBMM

CM1

Description: Select male 1.0 mm connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CM1

CM2

Description: Select male 2.4 mm connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CM2

CM3

Description: Select male GPC-3.5 connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CM3

CM716

Description: Select male 7/16 connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CM716

CMC

Description: Select male TNC connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CMC

CMK

Description: Select male K connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CMK

CMN

Description: Select male Type N connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CMN

CMN75

Description: Select male Type N 75 Ohm connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CMN75

CMS

Description: Select male SMA connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CMS

CMSP

Description: Select special male connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CMSP

CMV

Description: Select male V connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CMV

CMX?

Description: Query only. Output the calibration method.

Query Parameters: NA

Output: <NR1> 1|2|3

Where:

- 1 for Standard OSL
- 2 for Offset-Short
- 3 for LRL/LRM

Syntax Example: CMX?

CND

Description: Select user specified connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CND

CNG

Description: Select GPC-7 connector for current port. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CNG

CNTR <NRf>

CNTR?

Description: Enter center frequency. Output center frequency.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: CNTR <NRf>

CNTR?

COF

Description: Turn RF Correction Off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: COF

CON

CON?

Description: Turn RF Correction On. Output RF Correction On/Off status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 0|1

Where:

- 0 for Off
- 1 for On

Syntax Example: CON

CON?

COO <NRf>

COO?

Description: Enter offset for open for user specified connector. Output offset for open for user specified connector.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: COO <NRf>

COO?

COPY <string1>, <string2>

Description: Copy the contents of one file <string1> to another file <string2>. No query.

Cmd Parameters: NA

Output: <string>

Syntax Example: COPY <string1>, <string2>

COS <NRf>

COS?

Description: Enter offset for short for user specified connector. Output offset for short for user specified connector

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: COS <NRf>

COS?

CRB

Description: Select Reflection Both Ports Calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CRB

CRF

Description: Select Reflection Port One Calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CRF

CRR

Description: Select Reflection Port Two Calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CRR

CRT

Description: Select Transmission Frequency Response Reverse Path Calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CRT

CSB

Description: Clear status bytes and structures (same as *CLS). No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CSB

CSL

Description: Clear the service log. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CSL

CTN

Description: Continue sweeping from current point. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: CTN

CWD?

Description: Query only. Query the current working directory.

Query Parameters: NA

Output: <ASCII>

Syntax Example: CWD?

CWF <NRf>**CWF?**

Description: Enter CW frequency and turn CW on. Output CW frequency.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: CWF <NRf>

CWF?

CWON**CWON?**

Description: Turn CW on at current CW frequency. Output CW on/off status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Where:

- 0 for Off
- 1 for On

Syntax Example: CWON

CWON?

CWP <NRf>**CWP?**

Description: Enter number of points drawn in CW. Output number of points drawn in CW.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: CWP <NRf>

CWP?

CXX?

Description: Query only. Output calibration type.

Query Parameters: NA

Output: <NR1> 0|1|2|3|4|5|6|7|8|9

Where the calibration type is:

- 0 for None
- 1 for 12 Term - full path two port
- 2 for 8 Term - 1 path two port FWD
- 3 for 8 Term - 1 path two port REV
- 4 for Transmission FWD
- 5 for Transmission REV
- 6 for Transmission FWD and REV
- 7 for Reflection FWD
- 8 for Reflection REV
- 9 for Reflection FWD and REV

Syntax Example: CXX?

D12

Description: Sets a two trace 1 x 2 layout on the active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: D12

D13

Description: Sets a four trace 2 x 2 layout on the active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: D13

D14

Description: Sets a four trace 2 X 2 layout on the active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: D14

D24

Description: Sets a four trace 2 x 2 layout on the active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: D24

DA1

Description: Select a1 as denominator for parameter being defined. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DA1

DA2

Description: Select a2 as denominator for parameter being defined. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DA2

DAT**DAT?**

Description: Display measurement data only on active trace. Output data and memory display mode on active trace.

Cmd Parameters: NA

Query Cmd

Parameters: NA

Output: <NR1> 1 | 2 | 3 | 4

Where:

- 1 for Data
- 2 for Memory
- 3 for Data & Memory
- 4 for Data With Memory Mathematically Combined

Syntax Example: DAT

DAT?

DATE <NRf> [, <NRf Data>] [, <NRf Data>]

DATE?

Description: Enter the date string for tabular data. Output the date string for tabular data.

Cmd Parameters: <NRf>, [NRf Data], [<NRf Data>]

Query Parameters: NA

Output: <char>

Syntax Example: DATE <NRf>, [NRf Data], [NRf Data]

DATE?

DB1

Description: Select b1 as denominator for parameter being defined. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DB1

DB2

Description: Select b2 as denominator for parameter being defined. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DB2

DBP

Description: Select distance bandpass mode for active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DBP

DCA

Description: Select automatic DC term calculation for low pass. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DCA

DCO

Description: Select open for DC term calculation for low pass. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DCO

DCS

Description: Select short for DC term calculation for low pass. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DCS

DCV <NRf>

DCV?

Description: Enter value for DC term calculation for low pass. Output value for DC term calculation for low pass.

Cmd Parameters: NA

Query Cmd

Parameters: NA

Output: <NR3>

Syntax Example: DCV <NRf>

DCV?

DCX?

Description: Query only. Output low pass DC term selection.

Cmd Parameters: NA

Output: <NR1>

Syntax Example: DCX?

DCZ

Description: Select line impedance for DC term calculation for low pass. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DCZ

DD0

Description: Turn data drawing off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DD0

DD1**DD1?**

Description: Turn data drawing on. Output drawing on/off status.

Cmd Parameters: NA

Query Cmd

Parameters: NA

Output: <NR1>

Syntax Example: DD1

DD1?

DDX?

Description: Query only. Output active channel domain parameter frequency distance or time

Cmd Parameters: NA

Output: <NR1> 0 | 1 | 2

Where:

- 0 for Frequency
- 1 for Time
- 2 for Distance

Syntax Example: DDX?

DE1

Description: Select Unity as denominator for parameter being defined. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DE1

DECH <string>

Description: Delete calibration/front panel setup from hard disk or memory card. No query.

Cmd Parameters: <string>

Output: NA

Syntax Example: DECH <string>

DEDH <string>

Description: Delete tabular data file from hard disk or memory card. No query.

Cmd Parameters: <String>

Output: NA

Syntax Example: DEDH <string>

DEFGT?

Description: Output the Instrument Default Gateway address. No query.

Cmd Parameters: <char>

Output: <char>

Syntax Example: DEFGT?

DEL <string>

Description: Delete a file from disk or memory card. No query.

Cmd Parameters: NA

Output: <string>

Syntax Example: DEL <string>

DELCALH <string>

Description: Delete calibration/front panel setup from hard disk or memory card. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DELCALH <string>

DELDATH <string>

Description: Delete tabular data from hard disk or memory card. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DELDATH <string>

DELELGH <string>

Description: Delete error list file from hard disk or memory card. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DELELGH <string>

DELLOGH <string>

Description: Delete service log from hard disk or memory card. No query.

xCmd Parameters: NA

Output: NA

Syntax Example: DELELGH <string>

DELNRMH <string>

Description: Delete trace memory file from hard disk. No query.

Cmd Parameters: <string>

Output: NA

Syntax: DELNRMH <string>

DEN?

Description: Query only. Output denominator selection for parameter being defined

Query Parameters: NA

Output: <NR1> 1 | 2 | 3 | 4 | 5 |

Where:

- 1 for Unity
- 2 for a1
- 3 for a2
- 4 for b1
- 5 for b2

Syntax Example: DEN?

DENH <string>

Description: Delete trace memory file from hard disk. No query.

Parameters: <string>

Output: NA

Syntax: DENH <string>

DFC

Description: Select discrete frequency data points define mode. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DFC

DFD

Description: Done defining discrete frequencies and range for active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DFD

DFK

Description: Display K female connector information. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DFK

DFN

Description: Display N female connector information. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DFN

DFQ <NRf>**DFQ?**

Description: Enter single discrete frequency. Output current discrete frequency.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: DFQ <NRf>

DFG?

DFV

Description: Display V female connector information. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DFV

DIA

Description: Select air as active dielectric. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DIA

DIE <NRf>

Description: Enter a dielectric value. No query.

Cmd Parameters: NA

Output: <NRf>

Syntax Example: DIE <NRf>

DIM

Description: Select microporous teflon as active dielectric. No query.

Cmd Parameters: NA
Output: NA
Syntax Example: DIM

DIP

Description: Select polyethylene as active dielectric. No query.

Cmd Parameters: NA
Output: NA
Syntax Example: DIP

DIR {optional <string>}

Description: Display the contents of a directory. No query.

Cmd Parameters: NA
Output: <arbitrary block>
Syntax Example: DIR {optional <string>}

DIS**DIS?**

Description: Display active segmented limit. Output active segmented limit on/off status.

Cmd Parameters: NA
Query Parameters: NA
Output: <NR1> 0|1
Where:

- 0 for Off
- 1 for On

Syntax Example: DIS
DIS?

DISKAP <String>, <Arbitrary Block>

Description: The command appends GPIB data to a disk file. If the directory and file name exist, the command appends the data the existing file. If they do not exist, they are created. No query.

Cmd Parameters:<String>, <Arbitrary Block>
Where:

- <String> = directory path and file name such as "C:\directory path\filename.extenson"
- <Arbitrary Block> = GPIB data to be appended to the file above.

Query Parameters: NA
Output: NA
Range: NA
Default Value: NA

Syntax Example: DISKAP 'C:\directory path\file name', <Arbitrary Block>

DISKRD <string>

Description: Output disk file data or memory card file data to the GPIB. No query.

Cmd Parameters: NA

Output: <arbitrary block>

Syntax Example: DISKRD <string>

DISKWR <string>,<arbitrary block>

Description: Write GPIB data to a disk file or memory card file. No query.

Cmd Parameters: <string>, <block>

Output: NA

Syntax Example: DISKWR <string>,<arbitrary block>

DIT

Description: Select microporous teflon as active dielectric. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DIT

DIV

Description: Select division as trace math for active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DIV

DIX?

Description: Query only. Output dielectric constant.

Cmd Parameters: <NR3>

Output: <NR3>

Syntax Example: DIX?

DLA

Description: Select Group Delay display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DLA

DLP

Description: Select distance low pass mode for active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DLP

DMK

Description: Display K male connector information. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DMK

DMN

Description: Display N male connector information. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DMN

DMV

Description: Display V male connector information. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DMV

DNM

Description: Display measurement data normalize to trace memory on active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DNM

DPI

Description: Select distance phasor impulse mode for active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DPI

DPR0

Description: Visible data only OFD format. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DPR0

DPR1

Description: Data pair always OFD format. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DPR1

DPRX?

Description: Query only. Output data pair mode visible only or pair always.

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for Visible Only
- 1 for Data Pair Always

Syntax Example: DPRX?

DR1

Description: Select marker 1 as Delta Reference marker. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DR1

DR2

Description: Select marker 2 as Delta Reference marker. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DR2

DR3

Description: Select marker 3 as Delta Reference marker. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DR3

DR4

Description: Select marker 4 as Delta Reference marker. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DR4

DR5

Description: Select marker 5 as Delta Reference marker. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DR5

DR6

Description: Select marker 6 as Delta Reference marker. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DR6

DRF

Description: Turn delta reference mode on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DRF

DRO**DRO?**

Description: Turn delta reference mode off. Output delta reference mode on/off status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for Off
- 1 for On

Syntax Example: DRO

DRO?

DRX?

Description: Query only. Output delta reference marker number

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: DRX?

DSF0

Description: Disable filter shape factor calculation. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DSF0

DSF1

Description: Enable filter shape factor calculation. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DSF1

DSFX?

Description: Query only. Output filter shape factor calculation enable/disable status.

Cmd Parameters: NA

Output: <NR1>

Syntax Example: DSFX?

DSP

DSP?

Description: Sets a one trace layout on the active channel. Outputs the trace layout on the active channel.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>1 | 13 | 24 | 4 | 130 | 240

Where:

- 1 for Single
- 13 for Dual Trace 1 and 3
- 24 for Dual Trace 2 and 4
- 4 for Quad
- 130 for Dual Overlay Trace 1 and 3
- 240 for Dual Overlay Trace 2 and 4

Syntax Example: DSP

DSP?

DSPS21

DSPS21?

Description: Select Gain Compression bottom graph displays S21. Output Gain Compression bottom graph selection Normalized/S21.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Syntax Example: DSPS21

DEPS21?

DSQ0

Description: Disable filter Q calculation. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DSQ0

DSQ1

Description: Enable filter Q calculation. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DSQ1

DSQX?

Description: Query only. Output filter Q calculation enable/disable status.

Cmd Parameters: NA

Output: <NR1>

Syntax Example: DSQX?

DTM

Description: Display measurement data and trace memory on active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: DTM

E12

Description: Set MMWave band to E band (WR-12). No query.

Cmd Parameters: NA

Output: NA

Syntax Example: E12

E12E

Description: Set MMWave band to extended E band (WR-12E). No query.

Cmd Parameters: NA

Output: NA

Syntax Example: E12E

EANAIN

Description: Measure External analog in on active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: EANAIN

ECW

Description: Select CW mode for equation being edited. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ECW

ED1

Description: Edit source 1 equation. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ED1

ED2

Description: Edit source 2 equation. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ED2

EDED

Description: Select De-embedding as embedding/de-embedding method. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: EDED

EDEE

Description: Select Embedding as embedding/de-embedding method. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: EDEE

EDEED?

Description: Query only. Output embedding/de-embedding method selection.

Output: <NR1> 1 | 2

Where:

- 1 for embedding
- 2 for de-embedding

Syntax Example: EDEED?

EDENORM

Description: Normal port orientation of embedding/de-embedding network. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: EDENORM

EDEPORT?

Description: Query only. Output port receiving the embedding/de-embedding network

Cmd Parameters: <NR1>
Output: <NR1>
Syntax Example: EDEPORT?

EDEPORT1

Description: Apply the embedding/de-embedding network to Port 1. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: EDEPORT1

EDEPORT2

Description: Apply the embedding/de-embedding network to Port 2. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: EDEPORT2

EDESWAP**EDESWAP?**

Description: Swap port orientation of embedding/de-embedding network. Output port orientation of embedding/de-embedding network swapped/normal
Cmd Parameters: NA
Query Parameters: NA
Output: <NR1>
Syntax Example: EDESWAP
EDESWAP?

EDR

Description: Edit receiver equation. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: EDR

EDV <NRf>**EDV?**

Description: Enter divisor value for equation being edited. Output divisor value for equation being edited.
Cmd Parameters: <NRf>
Query Parameters: NA
Output: <NR1>
Syntax Example: EDV <NRf>
EDV?

EML <NRf>**EML?**

Description: Enter multiplier value for equation being edited. Output multiplier value for equation being edited.

Cmd Parameters: <NRf>

Query Cmd

Parameters: NA

Output: <NR1>

Syntax Example: EML (NRf >

EML?

EOS <NRf>**EOS?**

Description: Enter offset frequency for equation being edited. Output offset frequency for equation being edited.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: EOS <NRf >

EOS?

ESW

Description: Select sweeping mode for equation being edited. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ESW

EX1RF0

Description: Turn external source 1 RF off. No query.

Cmd Parameters: NA

Output: NA

Syntax: EX1RF0

EX1RF1

Description: Turn external source 1 RF on. No query.

Cmd Parameters: NA

Output: NA

Syntax: EX1RF1

EX2RF0

Description: Turn external source 2 RF off. No query.

Parameters: NA

Output: NA

Syntax: EX2RF0

EX2RF1

Description: Turn external source 2 RF on. No query.

Parameters: NA

Output: NA

Syntax: EX2RF1

EXISTD? <string>

Description: Query only. Output directory existence information where <string> is the directory path and name.

Query Parameters: <string>

Output: <NR1> 1|0

Where

- 1 = Directory exists
- 0 = Directory does not exist

Syntax Example: EXISTD? 'C:\directorypath\directoryname'

EXISTF? <string>

Description: Query only. Output file existence information.

Query Parameters: <string>

Output: <NR1> 1|0

Where

- 1 = File exists
- 0 = File does not exist

Syntax Example: EXISTF? 'C:\directorypath\filename.xxx'

EXW?

Description: Query only. Output CW/Sweeping mode for equation being edited.

Query Parameters: NA

Output: <NR1>

Where:

- 0 = sweep
- 1 = CW

Syntax Example: EXW?

F08

Description: Set MMwave band to F band (WR-8). No query.

Cmd Parameters: NA

Output: NA

Syntax Example: F08

FDH0

Description: Select variable length arbitrary block headers. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FDH0

FDH1

Description: Select fixed length arbitrary block headers. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FDH1

FDH2

Description: Select zero length arbitrary block headers. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FDH2

FDHX?

Description: Query only. Output arbitrary block header length selection.

Query Parameters: NA

Output: <NR1> 0 | 1 | 2

Where:

- 0 for variable length arbitrary block headers
- 1 for fixed length arbitrary block headers
- 2 for no arbitrary block headers

Syntax Example: FDHX?

FGT

Description: Select frequency with time gate for active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FGT

FHI

Description: Set data points to 1601. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FHI

FIL

Description: Fill defined discrete frequency range. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FIL

FLO

Description: Set data points to 101. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FLO

FLTBW?

Description: Query only. Output filter bandwidth.

Query Parameters: NA

Output: <NR3>

Syntax Example: FLTBW?

FLTC?

Description: Query only. Output filter center frequency.

Query Parameters: NA

Output: <NR3>

Syntax Example: FLTC?

FLTL?

Description: Query only. Output filter loss at reference value.

Query Parameters: NA

Output: <NR3>

Syntax Example: FLTL?

FLTQ?

Description: Query only. Output filter Q value.

Query Parameters: NA

Output: <NR3>

Syntax Example: FLTQ?

FLTS?

Description: Query only. Output filter shape factor.

Query Parameters: NA

Output: <NR3>

Syntax Example: FLTS?

FMA

Description: Select ASCII data transfer format. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FMA

FMB

Description: Select IEEE754 64 bit data transfer format. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FMB

FMC

Description: Select IEEE754 32 bit data transfer format. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FMC

FME

Description: Set data points to 401. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FME

FMT0

Description: Select normal ASCII data element delimiting. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FMT0

FMT1

Description: Select enhanced ASCII data element delimiting. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FMT1

FMTX?

Description: Query only. Output ASCII data element delimiting mode.

Query Parameters: NA

Output: <NR1>

Where:

- 0 for normal delimiting
- 1 for enhanced delimiting

Syntax Example: `FMTX?`

FMX?

Description: Query only. Output data output mode as FMA, FMB, or FMC.

Query Parameters: NA

Output: `<NR1> 0 | 1 | 2 |`

Where:

- 0 for FMA
- 1 for FMB
- 2 for FMC

Syntax Example: `FMX?`

FOF

Description: Blank frequency information. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `FOF`

FON

Description: Display frequency information. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `FON`

FOX?

Description: Query only. Output frequency information blanking on/off status.

Query Parameters: NA

Output: `<NR1> 0 | 1`

Where:

- 0 for Off
- 1 for On

Syntax Example: `FOX?`

FP0

Description: Turn flat power correction off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `FP0`

FP1

Description: Turn flat power correction on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FP1

FPX?

Description: Output flat power correction on/off status. No query.

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for Off
- 1 for On

Syntax Example: FPX?

FQD

Description: Select frequency domain for active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FQD

FRC

Description: Clear all defined discrete frequencies and range. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: FRC

FRI <NRf>**FRI?**

Description: Enter discrete fill range increment frequency. Output discrete fill range increment frequency.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: FRI <NRf>

FRI?

FRP <NRf>**FRP?**

Description: Enter discrete fill range number of points to fill. Output discrete increment count.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: FRP <NRf>

FRP?

FRS <NRf>

FRS?

Description: Enter discrete fill range start frequency. Output discrete start frequency.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: FRS <NRf>

FRS?

GCMP <NRf>

GCMP?

Description: Enter gain compression point search value. Output gain compression point search value.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR3>

Syntax Example: GCMP <NRf>

GCMP?

GCT <NRf>

GCT?

Description: Enter gate center value distance or time. Output gate center value distance or time.

Cmd Parameters: <NRf>

Query Parameters: <NR1>

Output: <NR1>

Syntax Example: GCT <NRf>

GCT?

GDS

Description: Display gate symbols on active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: GDS

GLS

Description: Select wide gate shape. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: GLS

GMS

Description: Select maximum gate shape. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: GMS

GNM

Description: Select nominal gate shape. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: GNM

GOF

GOF?

Description: Turn off gating mode for active channel. Output the time domain gating mode on/off display for active channel.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Where:

- 0 for Off
- 1 for On
- 2 for display gate symbols

Syntax Example: GOF

GOF?

GON

Description: Turn on gating mode for active channel. No query.

Syntax Example: GON

Cmd Parameters: NA

Output: NA

Syntax Example: GON

GRF?

Description: Query only. Output graph type for the active trace display.

Output: <NR1> 0|1|2|3|4|5|6|7|8|9

Where:

- 1 for log mag
- 2 for phase
- 3 for log mag & phase
- 4 for Smith-impedance
- 5 for SWR
- 6 for group delay
- 7 for Smith-admittance
- 8 for linear polar
- 9 for log polar

Syntax Example: GRF?

GRT

Description: Select minimum gate shape. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: GRT

GSN <NRf>

GSN?

Description: Enter gate span value distance or time. Output gate span value distance or time.

Cmd Parameters: <NRf>

Query Parameters: <NR3>

Output: <NR3>

Syntax Example: GSN <NRf>

GSN?

GSP <NRf>

GSP?

Description: Enter gate stop value distance or time. Output gate stop value distance or time.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: GSP <NRf>

GSP?

GST <NRf>

GST?

Description: Enter gate start value distance or time. Output gate start value distance or time.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: GST <NRf>
GST?

GSX?

Description: Query only. Output gate shape.
Cmd Parameters: <NR1>
Output: <NR1>
Syntax Example: GSX?

HC0

Description: Disable Automatic IF Calibration. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: HC0

HC1

Description: Enable Automatic IF Calibration. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: HC1

HCT**HCT?**

Description: Trigger an IF Calibration. Trigger an IF Calibration and return Pass/Fail result.
Cmd Parameters: NA
Query Parameters: NA
Output: <NR1>
Syntax Example: HCT
HCT?

HCX?

Description: Output Internal Automatic IF Calibration enable/disable status. No query.
Query Parameters: NA
Output: <NR1> 0 | 1
Where:

- 0 for disabled
- 1 for enabled

Syntax Example: HCX?

HD0

Description: Disable including a heading with data files. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: HD0

HD1

Description: Enable including a heading with data files. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: HD1

HDX?

Description: Query only. Outputs the enable/disable status of including a heading with data files.

Query Parameters: NA

Output: <NR1>

Syntax Example: HDX?

HID

Description: Hide active segmented limit. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: HID

HLD

HLD?

Description: Put sweep into hold mode. Output the sweep hold status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 0|1

Where:

- 0 for not in hold
- 1 for in hold

Syntax Example: HLD

HLD?

IACCHAR <Arbitrary Block>

Description: Input autocal characterization data from the GPIB. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IACCHAR <Arbitrary Block>

IARF <arbitrary block>, <arbitrary block>

Description: Enter adapter removal files from GPIB and calibrate. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>, <Arbitrary Block>

Syntax Example: IARF <arbitrary block>, <arbitrary block>

IC1 <arbitrary block>

Description: Enter Calibration Coefficient number 1. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IC1 <arbitrary block>

IC10 <arbitrary block>

Description: Enter Calibration Coefficient number 10. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IC10 <arbitrary block>

IC11 <arbitrary block>

Description: Enter Calibration Coefficient number 11. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IC11 <arbitrary block>

IC12 <arbitrary block>

Description: Enter Calibration Coefficient number 12. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IC12 <arbitrary block>

IC2 <arbitrary block>

Description: Enter Calibration Coefficient number 2. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IC2 <arbitrary block>

IC3 <arbitrary block>

Description: Enter Calibration Coefficient number 3. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IC3 <arbitrary block>

IC4 <arbitrary block>

Description: Enter Calibration Coefficient number 4. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IC4 <arbitrary block>

IC5 <arbitrary block>

Description: Enter Calibration Coefficient number 5. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IC5 <arbitrary block>

IC6 <arbitrary block>

Description: Enter Calibration Coefficient number 6. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IC6 <arbitrary block>

IC7 <arbitrary block>

Description: Enter Calibration Coefficient number 7. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IC7 <arbitrary block>

IC8 <arbitrary block>

Description: Enter Calibration Coefficient number 8. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IC8 <arbitrary block>

IC9 <arbitrary block>

Description: Enter Calibration Coefficient number 9. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IC9 <arbitrary block>

ICA <arbitrary block>

Description: Enter Calibration Coefficient number 10. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: ICA <arbitrary block>

ICB <arbitrary block>

Description: Enter Calibration Coefficient number 11. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: ICB <arbitrary block>

ICC <arbitrary block>

Description: Enter Calibration Coefficient number 12. Inputs a floating point array in <block> format whose size is equal to twice the number of points in the current sweep (real and imaginary data pairs for each point).

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: ICC <arbitrary block>

ICD <arbitrary block>

Description: Input corrected S-Parameter data to display on the active trace. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: ICD <arbitrary block>

ICF <arbitrary block>

Description: Input Front Panel and Calibration Data. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: ICF <arbitrary block>

ICL <arbitrary block>

Description: Enter All Applicable Calibration Coefficients. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA>

Syntax Example: ICL <arbitrary block>

IEDEF <arbitrary block>, <arbitrary block>

Description: Enter embedding/de-embedding data from GPIB and embed/de-embed. Enter the data as two <block> format data blocks. The first contains the Front Panel and Cal Data. The second contains the S2P data.

Cmd Parameters: <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: IEDEF <arbitrary block>, <arbitrary block>

IEM <NRf>

Description: Enter extended status event mask value. No query.

Cmd Parameters: NA

Output: <NRf>

Syntax Example: IEM <NRf>

IF1

Description: Set 10 Hz IF Bandwidth. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: IF1

IF2

Description: Set 100 Hz IF Bandwidth. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: IF2

IF3

Description: Set 1000 Hz IF Bandwidth. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: IF3

IF4

Description: Set 10000 Hz IF Bandwidth. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: IF4

IFA

Description: Set 10000 Hz IF Bandwidth. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: IFA

IFD <arbitrary block>

Description: Enter Formatted data. No query. Inputs a floating point array in <block> format whose size is equal to the number of points in the current sweep (the array size is doubled for dual graph displays, i.e. log mag/phase). The IFD command inputs an <block> containing either ASCII or binary formatted data depending on the currently selected format.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IFD <arbitrary block>

IFM

Description: Set 10 Hz IF Bandwidth. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: IFM

IFN

Description: Set 1000 Hz IF Bandwidth. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: IFN

IFP <arbitrary block>

Description: Enter current front panel setup. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IFP <arbitrary block>

IFPC <arbitrary block>

Description: Input flat power coefficients. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IFPC <arbitrary block>

IFR

Description: Set 100 Hz IF Bandwidth. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: IFR

IFV <arbitrary block>

Description: Enter frequency values. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IFV <arbitrary block>

IFX?

Description: Query only. Output the IF bandwidth.

Query Parameters: NA

Output: <NR3> 1|2|3|4

Where:

- 1 for 10 Hz
- 2 for 100 Hz
- 3 for 1 kHz
- 4 for 10 kHz

Syntax Example: IFX?

IKIT <Arbitrary Block>

Description: Enter calibration kit data from GPIB. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IKIT <Arbitrary Block>

ILM <NRf>

Description: Enter limits status byte mask. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: ILM <NRf>

IMCF <arbitrary block>, <arbitrary block>

Description: Enter merge calibrations files from GPIB and combine. No query.

Cmd Parameters: <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: IMCF <arbitrary block>, <arbitrary block>

IMG

Description: Select Imaginary display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: IMG

IND <arbitrary block>

Description: Enter trace memory for the active trace. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IND <arbitrary block>

INRM

Description: Enter normalization data from GPIB. No query.

Parameters: NA

Output: NA

Syntax: INRM

INXNIFO1 <arbitrary block>, <arbitrary block>, <arbitrary block>, <arbitrary block>

Description: Enter NXN and IF data and send device 1 data to GPIB

Cmd Parameters: <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: INXNIFO1 <arbitrary block>, <arbitrary block>, <arbitrary block>, <arbitrary block>

INXNIFO2 <arbitrary block>, <arbitrary block>, <arbitrary block>, <arbitrary block>

Description: Enter NXN and IF data and send device 2 data to GPIB

Cmd Parameters: <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: INXNIFO2 <arbitrary block>, <arbitrary block>, <arbitrary block>, <arbitrary block>

INXNIF03 <arbitrary block>, <arbitrary block>, <arbitrary block>, <arbitrary block>

Description: Enter NXN and IF data and send device 3 data to GPIB

Cmd Parameters: <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: INXNIF03 <arbitrary block>, <arbitrary block>, <arbitrary block>, <arbitrary block>

INXNIFSV1 <string>, <arbitrary block>, <arbitrary block>, <arbitrary block>, <arbitrary block>

Description: Enter NXN and IF data and save device 1 data to disk

Cmd Parameters: <String>, <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: INXNIFSV1 <string>, <arbitrary block>, <arbitrary block>, <arbitrary block>, <arbitrary block>

INXNIFSV2 <string>, <arbitrary block>, <arbitrary block>, <arbitrary block>, <arbitrary block>

Description: Enter NXN and IF data and save device 2 data to disk

Cmd Parameters: <String>, <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: INXNIFSV2 <string>, <arbitrary block>, <arbitrary block>, <arbitrary block>, <arbitrary block>

INXNIFSV3 <string>, <arbitrary block>, <arbitrary block>, <arbitrary block>, <arbitrary block>

Description: Enter NXN and IF data and save device 3 data to disk

Cmd Parameters: <String>, <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: INXNIFSV3 <string>, <arbitrary block>, <arbitrary block>, <arbitrary block>, <arbitrary block>

INXNO1 <arbitrary block>, <arbitrary block>, <arbitrary block>

Description: Enter NXN data and send device 1 data to GPIB. Enter the data as three format data blocks. The first contains the S2P data for the device1-2 combination. The second contains the S2P data for the device 1-3 combination. The third contains the S2P data for the device 2-3 combination. The S2P data for device 1 is output in <block> format. No query.

Cmd Parameters: <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: INXNO1 <arbitrary block>, <arbitrary block>, <arbitrary block>

INXNO2 <arbitrary block>, <arbitrary block>, <arbitrary block>

Description: Enter NXN data and send device 2 data to GPIB. Enter the data as three format data blocks. The first contains the S2P data for the device 1-2 combination. The second contains the S2P data for the device 1-3 combination. The third contains the S2P data for the device 2-3 combination. The S2P data for device 2 is output in <block> format. No query.

Cmd Parameters: <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: INXNO2 <arbitrary block>, <arbitrary block>, <arbitrary block>

INXNO3 <arbitrary block>, <arbitrary block>, <arbitrary block>

Description: Enter NXN data and send device 3 data to GPIB. Enter the data as three format data blocks. The first contains the S2P data for the device 1-2 combination. The second contains the S2P data for the device 1-3 combination. The third contains the S2P data for the device 2-3 combination. The S2P data for device 3 is output in <block> format. No query.

Cmd Parameters: <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: INXNO3 <arbitrary block>, <arbitrary block>, <arbitrary block>

INXNSV1 <string>, arbitrary block>, <arbitrary block>, <arbitrary block>

Description: Enter NXN data and save device 1 data to disk. Enter the data as a filename in data format followed by three data blocks in format. The file receives the device 1 S2P data. The first block contains the device 1-2 S2P data. The second block contains the device 1-3 S2P data. The third block contains the device 2-3 S2P data. The file resides on the VNA Hard drive or other memory device. No query.

Cmd Parameters: <String>, <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: INXNSV1 <string>, <arbitrary block>, <arbitrary block>, <arbitrary block>

INXNSV2 <string>, arbitrary block>, <arbitrary block>, <arbitrary block>

Description: Enter NXN data and save device 2 data to disk. Enter the data as a filename in data format followed by three data blocks in format. The file receives the device 2 S2P data. The first block contains the device 1-2 S2P data. The second block contains the device 1-3 S2P data. The third block contains the device 2-3 S2P data. The file resides on the VNA Hard drive or other memory device. No query.

Cmd Parameters: <String>, <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: INXNSV2 <string>, <arbitrary block>, <arbitrary block>, <arbitrary block>

INXNSV3 <string>, arbitrary block>, <arbitrary block>, <arbitrary block>

Description: Enter NXN data and save device 3 data to disk. Enter the data as a filename in data format followed by three data blocks in format. The file receives the device 3 S2P data. The first block contains the device 1-2 S2P data. The second block contains the device 1-3 S2P data. The third block contains the device 2-3 S2P data. The file resides on the VNA Hard drive or other memory device.

Cmd Parameters: <String>, <Arbitrary Block>, <Arbitrary Block>, <Arbitrary Block>

Output: NA

Syntax Example: INXNSV3 <string>, <arbitrary block>, <arbitrary block>, <arbitrary block>

IPM <NRf>

Description: Set the status byte mask. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: IPM <NRf>

IPSC <arbitrary block>

Description: Enter power sweep linearity calibration coefficients. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IPSC <arbitrary block>

IS1 <arbitrary block>

Description: Enter front panel setup to memory location 1. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IS1 <arbitrary block>

IS10 <arbitrary block>

Description: Enter front panel setup to memory location 10. No query.

Cmd Parameters: <Arbitrary Block>

Output: <block>

Syntax Example: IS10 <arbitrary block>

IS2 <arbitrary block>

Description: Enter front panel setup to memory location 2. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IS2 <arbitrary block>

IS3 <arbitrary block>

Description: Enter front panel setup to memory location 3. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IS3 <arbitrary block>

IS4 <arbitrary block>

Description: Enter front panel setup to memory location 4. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IS4 <arbitrary block>

IS5 <arbitrary block>

Description: Enter front panel setup to memory location 5. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IS5 <arbitrary block>

IS6 <arbitrary block>

Description: Enter front panel setup to memory location 6. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IS6 <arbitrary block>

IS7 <arbitrary block>

Description: Enter front panel setup to memory location 7. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IS7 <arbitrary block>

IS8 <arbitrary block>

Description: Enter front panel setup to memory location 8. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IS8 <arbitrary block>

IS9 <arbitrary block>

Description: Enter front panel setup to memory location 9. No query.

Cmd Parameters: <Arbitrary Block>

Output: NA

Syntax Example: IS9 <arbitrary block>

ISC <NRf>

Description: Enter scale and select inverted compressed Smith Chart display. No query.

Cmd Parameters: <Arbitrary Block>

Output: <NRf>

Syntax Example: `ISC <NRf>`

ISE <NRf>

Description: Enter scale and select inverted expanded Smith Chart display. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: `ISE <NRf>`

ISF

Description: Exclude isolation. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `ISF`

ISM

Description: Select Inverted Smith Chart display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `ISM`

ISN

Description: Include isolation. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `ISN`

ISX?

Description: Query only. Output isolation status include/exclude.

Query Parameters: NA

Output: <NR1>

Syntax Example: `ISX?`

KEC

Description: Keep existing calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: KEC

LA1

Description: Select a1 as Phase Lock for parameter being defined. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LA1

LA2

Description: Select a2 as Phase Lock for parameter being defined. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LA2

LAX?

Description: Query only. Output Phase Lock selection for parameter being defined.

Query Parameters: NA

Output: <NR1>

Syntax Example: LAX?

LB0

Description: Turn limits testing beep on failure off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LB0

LB1

Description: Turn limits testing beep on failure on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LB1

LBX?

Description: Query only. Output limits testing beeper enable status.

Query Parameters: NA

Output: <NR1>

Syntax Example: LBX?

LCM

Description: Select LRL/LRM calibration method. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LCM

LDARF <string>, <string>

Description: Load adapter removal files from disk and calibrate. No query.

Cmd Parameters: <String>, <String>

Output: NA

Syntax Example: LDARF <string>, <string>

LDEDEF <string>, <string>

Description: Load embedding/de-embedding files from disk and embed/de-embed. Enter the data as two file names in <string> data format. The first file contains the Front Panel and Cal Data. The second file contains the S2P data. These files must reside on the VNA Hard drive or memory device. No query.

Cmd Parameters: <String>, <String>

Output: NA

Syntax Example: LDEDEF <string>, <string>

LDMCF <string>, <string>

Description: Load merge calibrations files from disk and combine. Enter the calibration file name in <string> data format specifying the path and filename of the calibration file to load. No query.

Cmd Parameters: <String>, <String>

Output: NA

Syntax Example: LDMCF <string>, <string>

LDNXNIFO1 <string>, <string>, <string>, <string>

Description: Load NXN and IF data from disk and send device 1 data to GPIB. Enter the data as four file names in <string> data format where:

- The first file contains the device 1-2 S2P data.
- The second file contains the device 1-3 S2P data.
- The third file contains the device 2-3 S2P data.
- The fourth file contains the IF PATH S2P File.

The device 1 S2P data is output in <block> format. No query.

Cmd Parameters: <String>, <String>, <String>, <String>

Output: <Arbitrary Block>

Syntax Example: LDNXNIFO1 <string>, <string>, <string>, <string>

LDNXNIFO2 <string>, <string>, <string>, <string>

Description: Load NXN and IF data from disk and send device 2 data to GPIB. Enter the data as four file names in <string> data format where:

- The first file contains the device 1-2 S2P data.
- The second file contains the device 1-3 S2P data.

- The third file contains the device 2-3 S2P data.
- The fourth file contains the IF PATH S2P File.

The device 2 S2P data is output in <block> format. No query.

Cmd Parameters: <String>, <String>, <String>, <String>

Output: <Arbitrary Block>

Syntax Example: LDNXNIFO2 <string>, <string>, <string>, <string>

LDNXNIFO3 <string>, <string>, <string>, <string>

Description: Load NXN and IF data from disk and send device 3 data to GPIB. Enter the data as four file names in <string> data format, where:

- The first file contains the device 1-2 S2P data.
- The second file contains the device 1-3 S2P data.
- The third file contains the device 2-3 S2P data.
- The fourth file contains the IF PATH S2P File.

The device 3 S2P data is output in <block> format. No query.

Cmd Parameters: <String>, <String>, <String>, <String>

Output: <Arbitrary Block>

Syntax Example: LDNXNIFO3 <string>, <string>, <string>, <string>

LDNXNIFSV1 <string>, <string>, <string>, <string>, <string>

Description: Load NXN and IF data from disk and save device 1 data to disk. Enter the data as five file names in <string> data format where:

- The first file receives the device 1 S2P data.
- The second file contains the device 1-2 S2P data.
- The third file contains the device 1-3 S2P data.
- The fourth file contains the device 2-3 S2P data.
- The fifth file contains the IF PATH S2P File.

No query.

Cmd Parameters: <String>, <String>, <String>, <String>, <String>

Output: NA

Syntax Example: LDNXNIFSV1 <string>, <string>, <string>, <string>, <string>

LDNXNIFSV2 <string>, <string>, <string>, <string>, <string>

Description: Load NXN and IF data from disk and save device 2 data to disk. Enter the data as five file names in <string> data format where:

- The first file receives the device 2 S2P data.
- The second file contains the device 1-2 S2P data.
- The third file contains the device 1-3 S2P data.
- The fourth file contains the device 2-3 S2P data.
- The fifth file contains the IF PATH S2P File.

No query.

Cmd Parameters: <String>, <String>, <String>, <String>, <String>

Output: NA

Syntax Example: LDNXNIFSV2 <string>, <string>, <string>, <string>, <string>

LDNXNIFSV3 <string>, <string>, <string>, <string>, <string>

Description: Load NXN and IF data from disk and save device 3 data to disk. Enter the data as five file names in <string> data format, where:

- The first file receives the device 3 S2P data.
- The second file contains the device 1-2 S2P data.
- The third file contains the device 1-3 S2P data.
- The fourth file contains the device 2-3 S2P data.
- The fifth file contains the IF PATH S2P File.

No query.

Cmd Parameters: <String>, <String>, <String>, <String>, <String>

Output: NA

Syntax Example: LDNXNIFSV3 <string>, <string>, <string>, <string>, <string>

LDNXNO1 <string>, <string>, <string>

Description: Load NXN data from disk and send device 1 data to GPIB. Enter the data as three file names in <string> data format where:

- The first file contains the device 1-2 S2P data.
- The second file contains the device 1-3 S2P data.
- The third file contains the device 2-3 S2P data.

The device 1 S2P data is output in <block> format. No query.

Cmd Parameters: <String>, <String>, <String>

Output: <Arbitrary Block>

Syntax Example: LDNXNO1 <string>, <string>, <string>

LDNXNO2 <string>, <string>, <string>

Description: Load NXN data from disk and send device 2 data to GPIB. Enter the data as three file names in <string> data format.

- The first file contains the device 1-2 S2P data.
- The second file contains the device 1-3 S2P data.
- The third file contains the device 2-3 S2P data.

The device 2 S2P data is output in <block> format. No query.

Cmd Parameters: <String>, <String>, <String>

Output: <Arbitrary Block>

Syntax Example: LDNXNO2 <string>, <string>, <string>

LDNXNO3 <string>, <string>, <string>

Description: Load NXN data from disk and send device 3 data to GPIB. Enter the data as three file names in <string> data format.

- The first file contains the device 1-2 S2P data.
- The second file contains the device 1-3 S2P data.
- The third file contains the device 2-3 S2P data.

The device 3 S2P data is output in <block> format. No query.

Cmd Parameters: <String>, <String>, <String>

Output: <Arbitrary Block>

Syntax Example: LDNXNO3 <string>, <string>, <string>

LDNXNSV1 <string>, <string>, <string>, <string>

Description: Load NXN data from disk and save device 1 data to disk. Enter the data as four file names in <string> data format where:

- The first file receives the device 1 S2P data.
- The second file contains the device 1-2 S2P data.
- The third file contains the device 1-3 S2P data.
- The fourth file contains the device 2-3 S2P data.

No query.

Cmd Parameters: <String>, <String>, <String>, <String>

Output: NA

Syntax Example: LDNXNSV1 <string>, <string>, <string>, <string>

LDNXNSV2 <string>, <string>, <string>, <string>

Description: Load NXN data from disk and save device 2 data to disk. Enter the data as four file names in <string> data format where:

- The first file receives the device 2 S2P data.
- The second file contains the device 1-2 S2P data.
- The third file contains the device 1-3 S2P data.
- The fourth file contains the device 2-3 S2P data.

No query.

Cmd Parameters: <String>, <String>, <String>, <String>

Output: NA

Syntax Example: LDNXNSV2 <string>, <string>, <string>, <string>

LDNXNSV3 <string>, <string>, <string>, <string>

Description: Load NXN data from disk and save device 3 data to disk. Enter the data as four file names in <string> data format, where:

- The first file receives the device 3 S2P data.
- The second file contains the device 1-2 S2P data.
- The third file contains the device 1-3 S2P data.
- The fourth file contains the device 2-3 S2P data.

No query.

Cmd Parameters: <String>, <String>, <String>, <String>

Output: NA

Syntax Example: LDNXNSV3 <string>, <string>, <string>, <string>

LDT <string>

Description: Obsolete. Enter string for test date/time. No query.

Cmd Parameters: <string>

Output: NA

Syntax Example: LDT <string>

LDT0

Description: Disable printing date/time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LDT0

LDT1

Description: Enable printing data/time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LDT1

LDT?

Description: Obsolete. Output test data/time string. No query.

Query Parameters: NA

Output: <char>

Syntax Example: LDT?

LFD <NRf>

LFD?

Description: Enter limit frequency readout delta value. Output limit frequency readout delta value.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: LFD <NRf>

LFD?

LFD2 <NRf>

LFD?

Description: Enter limit frequency readout delta value for bottom graph. Output limit frequency readout delta value for bottom graph.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: LFD2 <NRf>

LFD2?

LID <string>**LID?**

Description: Enter string for DUT identity. Output DUT identity string.

Cmd Parameters: <String>

Query Parameters: NA

Output: <Char>

Syntax Example: LID <string>

LID?

LIN

Description: Select Linear Magnitude display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LIN

LKT {<string>}

Description: Load Calibration Kit file or files from given filespec. The <String> parameter is optional. No query.

Cmd Parameters: {<String>}

Output: NA

Syntax Example: LKT {<String>}

LL1 <NRf>**LL1?**

Description: Set line 1 length for LRL calibration. Return line 1 length for LRL calibration.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: LL1 <NRf>

LL1?

LL2 <NRf>**LL2?**

Description: Set line 2 length for LRL calibration. Return line 2 length for LRL calibration.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: LL2 <NRf>

LL2?

LL3 <NRf>**LL3?**

Description: Set line 3 length for LRL calibration. Return line 3 length for LRL calibration.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: LL3 <NRf>

LL3?

LLM?

Description: Query only. Output limit line display mode single or segmented.

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for single
- 1 for segmented

Syntax Example: LLM?

LLO <NRf>**LLO?**

Description: Enter lower limit value for top graph on active trace. Output lower limit value for top graph on active trace.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: LLO <NRf>

LLO?

LLO2 <NRf>**LLO2?**

Description: Enter lower limit value for bottom graph on active trace. Output lower limit value for bottom graph on active trace.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: LLO2 <NRf>

LLO2?

LLZ <NRf>**LLZ?**

Description: Enter line impedance for LRL calibration. Output line impedance for LRL calibration.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: LLZ <NRf>

LLZ?

LM2

Description: Select a match for device 2 for LRL calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LM2

LM3

Description: Select a match for device 3 for LRL calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LM3

LMS <string>

LMS?

Description: Enter string for DUT model/serial number. Output the DUT model/serial number string.

Cmd Parameters: <string>

Query Parameters: NA

Output: <string>

Syntax Example: LMS <string>

LMS?

LMZ <NRf>

LMZ?

Description: Enter match impedance for LRM calibration. Output match impedance for LRM calibration.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: LMZ <NRf>

LMZ?

LMZL <NRf>

LMZL?

Description: Enter match inductance for LRM calibration. Output match inductance for LRM calibration.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: LMZL <NRf>

LMZL?

LNM <string>

LNM?

Description: Enter string for operator name. Output operator name string.

Cmd Parameters: <string>

Query Parameters: NA

Output: <char>

Syntax Example: LNM <string>

LNM?

LOC <string>

LOC?

Description: Enter string for operator comment. Output operator comment string.

Cmd Parameters: <string>

Query Parameters: NA

Output: <char>

Syntax Example: LOC <string>

LOC?

LOF

Description: Limits display off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LOF

LOG00

Description: Turn hard copy logo off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LOG00

LOG01

Description: Turn hard copy logo on. No query

Cmd Parameters: NA

Output: NA

Syntax Example: LOG01

LOGO?

Description: Query only. Output hard copy logo selection standard/user defined.

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: LOGO?

LOGOS

Description: Select standard hard copy logo. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LOGOS

LOGOU

Description: Select user defined hard copy logo. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LOGOU

LOGOX?

Description: Output hard copy logo on/off status.

Query Parameters: NA

Query Output: <NR1>

Syntax Example: LOGOX?

LOL0

Description: Turn lower limit off for top graph. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LOL0

LOL1

Description: Turn lower limit on for top graph. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LOL1

LOL20

Description: Turn lower limit off for bottom graph. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LOL20

LOL21

Description: Turn lower limit on for bottom graph. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LOL21

LOLX?

Description: Output lower limit on/off status for top graph. No query.

Query Parameters: NAO n

Output: <NR1>

Where:

- 0 for Off
- 1 for

Syntax Example: LOLX?

LON**LON?**

Description: Limits display on. Output limits display on/off status on active channel.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Where:

- 0 for limit off
- 1 for limit on

Syntax Example: LON

LON?

LPF?

Description: Query only Outputs the limit testing result for all traces.

Query Parameters: NA

Output: <NR1>

Where:

- 0 for limit off
- 1 for limit on

Syntax Example: LPF?

LPF1?

Description: Query only. Outputs the limit testing result for trace 1.

Query Parameters: NA

Output: <NR1>

Where:

- 0 for limit off
- 1 for limit on

Syntax Example: LPF1?

LPF2?

Description: Query only. Outputs the limit testing result for trace 2.

Query Parameters: NA

Output: <NR1>

Where:

- 0 for limit off
- 1 for limit on

Syntax Example: LPF2?

LPF3?

Description: Query only. Outputs the limit testing result for trace 3.

Query Parameters: NA

Output: <NR1>

Where:

- 0 for limit off
- 1 for limit on

Syntax Example: LPF3?

LPF4?

Description: Query only. Outputs the limit testing result for trace 4.

Query Parameters: NA

Output: <NR1>

Where:

- 0 for limit off
- 1 for limit on

Syntax Example: LPF4?

LPH

Description: Select Linear Magnitude and Phase display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LPH

LPI

Description: Select low pass impulse response for active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LPI

LPS

Description: Select low pass step response for active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LPS

LPSX?

Description: Query only. Output low pass impulse/step response for active channel

Query Parameters: NA

Output: <NR1>

Where:

- 0 for impulse
- 1 for step

Syntax Example: LPSX?

LR2

Description: Specify two line LRL calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LR2

LR3

Description: Specify three line LRL calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LR3

LRX?

Description: Query only. Output line selection for LRL calibration 2-line/3-line.

Query Parameters: NA

Output: <NR1>

Syntax Example: LRX?

LS1

Description: Select lower segmented limit 1 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LS1

LS10

Description: Select lower segmented limit 10 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LS10

LS2

Description: Select lower segmented limit 2 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LS2

LS3

Description: Select lower segmented limit 3 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LS3

LS4

Description: Select lower segmented limit 4 as the active segment. No query.

Syntax Example: LS4

Cmd Parameters: NA

Output: NA

Syntax Example: LS4

LS5

Description: Select lower segmented limit 5 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LS5

LS6

Description: Select lower segmented limit 6 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LS6

LS7

Description: Select lower segmented limit 7 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LS7

LS8

Description: Select lower segmented limit 8 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LS8

LS9

Description: Select lower segmented limit 9 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LS9

LSB

Description: Select least significant byte first binary transfer. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LSB

LSEG

Description: Select segmented limit line display mode. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LSEG

LSNG

Description: Select single limit line display mode. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LSNG

LSX?

Description: Query only. Output active segmented limit.

Query Parameters: NA

Output: <NR1>

Syntax Example: LSX?

LT0

Description: Turn limits testing off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LT0

LT1

LT1?

Description: Turn limits testing on. Output limits testing enable status

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Syntax Example: LT1

LT1?

LTC

Description: Select Coaxial Transmission Line for calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LTC

LTRD <NRF>{, <NRf>}

Description: Output the response data from the dedicated GPIB bus.

Where:

- <NRF> = GPIB address of device on the GPIB bus.
- {, <NRf>} = Maximum number of bytes to read. Optional. If omitted, command reads all data regardless of size.

No query.

Related command:

LTWRT <NRf>, <Arbitrary Block or String Data>

Cmd Parameters: <NRF>

Output: <Arbitrary Block Data>

Syntax Example: LTRD 6, 15000

LTU

Description: Select Microstrip Transmission Line for calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LTU

LTW

Description: Select Waveguide Transmission Line for calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `LTW`

LTWRT <NRf>, <Arbitrary Block>|<String Data>

Description: Sends program data to the dedicated GPIB bus. No query.

Where:

- <NRf> = GPIB address of device on the GPIB bus.
- <Arbitrary Block> or <String Data> = The required command set to access the data in the device on the GPIB bus.

Related command:

LTRD [NRF Data]{, optional NRF Data}

Cmd Parameters: <NRf>

Output: NA

Syntax Example: `LTWRT <NRf>, <Arbitrary Block>|<String Data>`

LTX?

Description: Query only. Output Transmission Line type for calibration.

Query Parameters: NA

Output: <NR1> 1 | 2 | 3

Where:

- 1 for coax
- 2 for waveguide
- 3 for microstrip

Syntax Example: `LTX?`

LUP <NRf>

LUP?

Description: Enter upper limit value for top graph on active trace. Output upper limit value for top graph on active trace.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: `LUP <NRf>`

`LUP?`

LUP2 <NRf>

LUP2?

Description: Enter upper limit value for bottom graph on active trace. Output upper limit value for bottom graph on active trace.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: LUP2 <NR.f>

LUP2?

LVH

Description: Select high as limits testing TTL level. No query.

Query Parameters: NA

Output: NA

Syntax Example: LVH

LVL

Description: Select low as limits testing TTL level. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: LVL

LVX?

Description: Query only. Output limits testing TTL level status. No query.

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for low
- 1 for high

Syntax Example: LVX?

LX2?

Description: Query only. Output device for line 2 of LRL calibration line/match.

Query Parameters: NA

Output: <NR1>

Syntax Example: LX2?

LX3?

Description: Query only. Output device for line 3 of LRL calibration line/match.

Query Parameters: NA

Output: <NR1>

Syntax Example: LX3?

M1C

Description: Set CW mode at marker 1 frequency. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M1C

M1E

Description: Set sweep/zoom end to marker 1 frequency distance or time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M1E

M1S

Description: Set sweep/zoom start to marker 1 frequency distance or time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M1S

M2C

Description: Set CW mode at marker 2 frequency. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M2C

M2E

Description: Set sweep/zoom end to marker 2 frequency distance or time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M2E

M2S

Description: Set sweep/zoom start to marker 2 frequency distance or time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M2S

M3C

Description: Set CW mode at marker 3 frequency. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M3C

M3E

Description: Set sweep/zoom end to marker 3 frequency distance or time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M3E

M3S

Description: Set sweep/zoom start to marker 3 frequency distance or time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M3S

M4C

Description: Set CW mode at marker 4 frequency. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M4C

M4E

Description: Set sweep/zoom end to marker 4 frequency distance or time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M4E

M4S

Description: Set sweep/zoom start to marker 4 frequency distance or time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M4S

M5C

Description: Set CW mode at marker 5 frequency. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M5C

M5E

Description: Set sweep/zoom end to marker 5 frequency distance or time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M5E

M5S

Description: Set sweep/zoom start to marker 5 frequency distance or time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M5S

M6C

Description: Set CW mode at marker 6 frequency. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M6C

M6E

Description: Set sweep/zoom end to marker 6 frequency distance or time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M6E

M6S

Description: Set sweep/zoom start to marker 6 frequency distance or time. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: M6S

MAG

Description: Select Log Magnitude display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MAG

MAT

Description: Select matched reflective devices during cal. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MAT

MD <string>

Description: Create a new disk directory. No query.

Cmd Parameters: <string>

Output: NA

Syntax Example: MD <string>

MEM

Description: Display trace memory only on active trace. No query.

Cmd Parameters: NA
Output: NA
Syntax Example: MEM

MFGCT

Description: Start multiple frequency swept power gain compression test. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: MFGCT

MIN

Description: Select subtraction as trace math for active trace. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: MIN

MIX**MIX?**

Description: Select mixed reflective devices during cal. Output reflective devices selection during calibration mixed/matched.
Cmd Parameters: NA
Query Parameters: NA
Output: <NR1>
Syntax Example: MIX
MIX?

MK1 <NRf>**MK1?**

Description: Enter marker 1 frequency distance or time and turn on. Output marker 1 frequency distance or time.
Cmd Parameters: <NRf>
Query Parameters: NA
Output: <NR3>
Syntax Example: MK1 <NRf>
MK1?

MK2 <NRf>**MK2?**

Description: Enter marker 2 frequency distance or time and turn on. Output marker 2 frequency distance or time.
Cmd Parameters: <NRf>
Query Parameters: <NR3>

Output: <NR3>

Syntax Example: MK2 <NRf>

MK2?

MK3 <NRf>

MK3?

Description: Enter marker 3 frequency distance or time and turn on. Output marker 3 frequency distance or time.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: MK3 <NRf>

MK3?

MK4 <NRf>

MK4?

Description: Enter marker 4 frequency distance or time and turn on. Output marker 4 frequency distance or time

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: MK4 <NRf>

MK4?

MK5 <NRf>

MK5?

Description: Enter marker 5 frequency distance or time and turn on. Output marker 5 frequency distance or time.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: MK5 <NRf>

Syntax Example: MK5?

MK6 <NRf>

MK6?

Description: Enter marker 6 frequency distance or time and turn on. Output marker 6 frequency distance or time.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: MK6 <NRf>

MK6?

MKRC

Description: Select interpolated marker functionality. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MKRC

MKRD

Description: Select interpolated marker functionality. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MKRD

MKRX?

Description: Output interpolated/discrete marker functionality. No query.

Query Parameters: NA

Output: <NR1>

Where:

- 0 for Discrete
- 1 for Interpolated

Syntax Example: MKRX?

MKSL

Description: Marker search left. No query.

Cmd Parameters: NA

Output: <NRf>

Syntax Example: MKSL

MKSR

Description: Marker search right. No query.

Cmd Parameters: NA

Output: <NRf>

Syntax Example: MKSR

MKT0

Description: Turn marker tracking off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MKT0

MKT1

Description: Turn marker tracking on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MKT1

MKTX?

Description: Output marker tracking on/off status. No query.

Query Parameters: NA

Output: <NR1>

Where:

- 0 for Off
- 1 for On

Syntax Example: MKTX?

MMBX?

Description: Query only. Output MMWave band selection.

Query Parameters: NA

Output: <NR1> 0 | 1 | 2 | 3 | 4 | 5 | 6

Where:

- 0 = Q22
- 1 = V15
- 2 = E12
- 3 = E12E
- 4 = W10
- 5 = W10E
- 6 = F08

Syntax Example: MMBX?

MMN

Description: Move active marker to minimum trace value. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MMN

MMX

Description: Move active marker to maximum trace value. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MMX

MO1

Description: Turn marker 1 off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MO1

MO2

Description: Turn marker 2 off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MO2

MO3

Description: Turn marker 3 off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MO3

MO4

Description: Turn marker 4 off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MO4

MO5

Description: Turn marker 5 off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MO5

MO6

Description: Turn marker 6 off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MO6

MOF

Description: Turn the marker display off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MOF

MON**MON?**

Description: Turn the marker display on. Output marker display on/off status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>0|1

Where:

- 0 for Off
- 1 for On

Syntax Example: MON

MON?

MOSET <NRf>**MOSET?**

Description: Enter constant offset log magnitude for active channel. Output constant offset log magnitude for active channel.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: MOSET <NRf>

MOSET?

MPH

Description: Select Log Magnitude and Phase display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MPH

MR1**MR1?**

Description: Turn marker 1 on and make it the active marker. Output marker 1 on/off status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 0|1

Where:

- 0 for Off
- 1 for On

Syntax Example: MR1

MR1?

MR2**MR2 ?**

Description: Turn marker 2 on and make it the active marker. Output marker 2 on/off status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for Off
- 1 for On

Syntax Example: MR2

MR2 ?

MR3**MR3 ?**

Description: Turn marker 3 on and make it the active marker. Output marker 3 on/off status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for Off
- 1 for On

<NR1>

Syntax Example: MR3

MR3 ?

MR4**MR4 ?**

Description: Turn marker 4 on and make it the active marker. Output marker 4 on/off status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for Off
- 1 for On

Syntax Example: MR4

MR4 ?

MR5**MR5 ?**

Description: Turn marker 5 on and make it the active marker. Output marker 5 on/off status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 0|1

Where:

- 0 for Off
- 1 for On

Syntax Example: MR5

MR5?

MR6

MR6?

Description: Turn marker 6 on and make it the active marker. Output marker 6 on/off status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 0|1

Where:

- 0 for Off
- 1 for On

Syntax Example: MR6

MR6?

MRM

Description: Display the marker readout menu. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MRM

MRX?

Description: Query only. Output active marker number.

Query Parameters: NA

Output: <NR1> 0|1|2|3|4|5|6

Where:

- 0 for No marker
- 1 for Marker 1
- 2 for Marker 2
- 3 for Marker 3
- 4 for Marker 4
- 5 for Marker 5
- 6 for Marker 6

Syntax Example: MRX?

MS0

Description: Turn multiple source mode OFF. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MS0

MS1

Description: Turn multiple source mode ON. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MS1

MSB

Description: Select most significant byte first binary transfer. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MSB

MSD

Description: Select multiple source define mode. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MSD

MSFH <NRf>

MSFH?

Description: Enter high loss value for shape factor calculation. Output high loss value for shape factor calculation.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR3>

Syntax Example: MSFH <NRf>

MSFH?

MSFL <NRf>

MSFL?

Description: Enter low loss value for shape factor calculation. Output low loss value for shape factor calculation.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR3>

Syntax Example: MSFL <NRf>

MSFL?

MSX?

Description: Query only. Output multiple source mode on/off/define.

Query Parameters: NA

Output: <NR1> 0 | 1 | 2

Where:

- 0 for Off
- 1 for On
- 2 for DEFINE

Syntax Example: MSX?

MTH?

Description: Query only. Output trace math type for active trace

Query Parameters: NA

Output: <NR1> 0 | 1 | 2 | 3 | 4

Where:

- 1 for add
- 2 for subtract
- 3 for multiply
- 4 for divide

Syntax Example: MTH?

MUL

Description: Select multiplication as trace math for active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: MUL

NA1

Description: Select a1 as numerator for parameter being defined. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: NA1

NA2

Description: Select a2 as numerator for parameter being defined. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: NA2

NB1

Description: Select b1 as numerator for parameter being defined. No query.

Cmd Parameters: NA
Output: NA
Syntax Example: NB1

NB2

Description: Select b2 as numerator for parameter being defined. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: NB2

NCS

Description: Setup the next calibration step. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: NCS

NMKR

Description: Select normal markers on all channels marker display mode. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: NMKR

NOC

Description: Select normal points sweep. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: NOC

NOFST <NRf>**NOFST?**

Description: Enter nominal offset value for external gain. Enter nominal offset value for external gain.
Cmd Parameters: <NRf>
Query Parameters: NA
Output: <NR3>
Syntax Example: NOFST <NRf>
NOFST?

NP <NRf>

Description: Set number of sweep data points. No query.
Cmd Parameters: NA
Output: <NRf>

Syntax Example: NP <NRf>

NP101

Description: Set data points to 101. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: NP101

NP1601

Description: Set data points to 1601. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: NP1601

NP201

Description: Set data points to 201. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: NP201

NP401

Description: Set data points to 401. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: NP401

NP51

Description: Set data points to 51. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: NP51

NP801

Description: Set data points to 801. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: NP801

NRMS

Description: Normalize S21 for gain compression testing. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: NRMS

NRMS21

Description: Select gain compression bottom graph displays Normalized S21. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: NRMS21

NU1

Description: Select Unity as numerator for parameter being defined. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: NU1

NUM?

Description: Query only. Output numerator selection for parameter being defined.

Query Parameters: NA

Output: <NR1> 1|2|3|4|5

Where:

- 1 for unity
- 2 for a1
- 3 for a2
- 4 for b1
- 5 for b2

Syntax Example: NUM?

NXNIFFWD

NXNIFFWD?

Description: Sets the NXN IF sweep direction flag to forward. Outputs the NXN IF sweep direction flag forward/reverse status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Syntax Example: NXNIFFWD

NXNIFFWD?

NXNIFREV

Description: Sets the NXN IF sweep direction flag to reverse

Cmd Parameters: NA

Output: NA

Syntax Example: NXNIFREV

NXNL1 <NRf>**NXNL1?**

Description: Enter length for NXN device 1. Output length for NXN device 1.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: NXNL1 <NRf>

NXNL1?

CNXNL2 <NRf>**CNXNL2?**

Description: Enter length for NXN device 2. Output length for NXN device 2.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: CNXNL2 <NRf>

CNXNL2?

NXNL3 <NRf>**NXNL3?**

Description: Enter length for NXN device 3. Output length for NXN device 3.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: NXNL3 <NRf>

NXNL3?

O3CM

Description: Select Triple Offset Short (SSST) calibration method. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: O3CM

O4FD

Description: Output formatted data of the first four traces. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>

Syntax Example: O4FD

O4SC

Description: Output all 4 Corrected S-Cmd Parameters. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>

Syntax Example: O4SC

O4SR

Description: Output all 4 Raw S-Cmd Parameters. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>

Syntax Example: O4SR

OACCHAR

Description: Output AutoCal characterization data to the GPIB. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>

Syntax Example: OACCHAR

OACSER

Description: Get AutoCal box serial number. No query.

Cmd Parameters: NA

Output: <Char>

Syntax Example: OACSER

OACTYPE

Description: Get AutoCal box type. No query.

Cmd Parameters: NA

Output: <Char>

Syntax Example: OACTYPE

OAM1

Description: Output channel 1 active marker value. No query.

The word “channel” in this Lightning command definition refers to a “trace” in the VectorStar VNA. The use of this command requires that the VectorStar VNA be configured with one (1) channel and four (4) traces. If the VectorStar VNA is configured with one channel and more than four traces, traces five and higher cannot be accessed by this command. If the VectorStar VNA is running in a multi-channel configuration, it is recommended to not use this command.

If Trace 1 does not exist, the command generates an error.

Cmd Parameters: NA

Output: <NR3>

Syntax Example: OAM1

OAM2

Description: Output channel 2 active marker value. No query.

The word “channel” in this Lightning command definition refers to a “trace” in the VectorStar VNA. The use of this command requires that the VectorStar VNA be configured with one (1) channel and four (4) traces. If the VectorStar VNA is configured with one channel and more than four traces, traces five and higher cannot be accessed by this command. If the VectorStar VNA is running in a multi-channel configuration, it is recommended to not use this command.

If Trace 2 does not exist, the command generates an error.

Cmd Parameters: NA

Output: <NR3>

Syntax Example: OAM2

OAM3

Description: Output channel 3 active marker value. No query.

The word “channel” in this Lightning command definition refers to a “trace” in the VectorStar VNA. The use of this command requires that the VectorStar VNA be configured with one (1) channel and four (4) traces. If the VectorStar VNA is configured with one channel and more than four traces, traces five and higher cannot be accessed by this command. If the VectorStar VNA is running in a multi-channel configuration, it is recommended to not use this command.

If Trace 3 does not exist, the command generates an error.

Cmd Parameters: NA

Output: <NR3>

Syntax Example: OAM3

OAM4

Description: Output channel 4 active marker value. No query.

The word “channel” in this Lightning command definition refers to a “trace” in the VectorStar VNA. The use of this command requires that the VectorStar VNA be configured with one (1) channel and four (4) traces. If the VectorStar VNA is configured with one channel and more than four traces, traces five and higher cannot be accessed by this command. If the VectorStar VNA is running in a multi-channel configuration, it is recommended to not use this command.

If Trace 4 does not exist, the command generates an error.

Cmd Parameters: NA

Output: <NR3>

Syntax Example: OAM4

OBMB

Description: Output the display as a black and white bitmap (obsolete). No query.

Cmd Parameters: NA

Output: <Char>

Syntax: OBMB

OBMC

Description: Output the display as a color bitmap (obsolete). No query.

Cmd Parameters: NA

Output: <Char1>

Syntax: OBMC

OBMP

Description: Output the display in Bitmap format. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>

Syntax Example: OBMP

OBMPA

Description: Output the active channel display in Bitmap format. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>

Syntax Example: OBMPA

OC1

Description: Output Correction coefficient number 1. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>

Syntax Example: OC1

OC10

Description: Output Correction coefficient number 10. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>

Syntax Example: OC10

OC11

Description: Output Correction coefficient number 11. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>

Syntax Example: OC11

OC12

Description: Output Correction coefficient number 12. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>

Syntax Example: OC12

OC2

Description: Output Correction coefficient number 2. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>

Syntax Example: OC2

OC3

Description: Output Correction coefficient number 3. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OC3

OC4

Description: Output Correction coefficient number 4. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OC4

OC5

Description: Output Correction coefficient number 5. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OC5

OC6

Description: Output Correction coefficient number 6. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OC6

OC7

Description: Output Correction coefficient number 7. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OC7

OC8

Description: Output Correction coefficient number 8. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OC8

OC9

Description: Output Correction coefficient number 9. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OC9

OCA

Description: Output Correction coefficient number 10. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OCA

OCB

Description: Output Correction coefficient number 11. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OCB

OCC

Description: Output Correction coefficient number 12. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OCC

OCD

Description: Output Corrected S-Parameter data on active trace. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OCC

OCF

Description: Output Front Panel and Calibration data. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OCF

OCL

Description: Output all applicable calibration coefficients for cal type. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OCL

OCM

Description: Select Offset Short (SSLT) calibration method. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: OCM

OCSV

Description: Output the CSV file data. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OCSV

ODAT

Description: Output the Tabular file data. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: ODAT

ODR

Description: Display the contents of the current directory. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: ODR

ODRH

Description: Display the contents of the current directory. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: ODRH

ODRIVES

Description: Output list of Logical drives. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: ODRIVES

ODV

Description: Output list of distance values. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: ODV

OEB

Description: Output extended status event value. No query.

Cmd Parameters: <NR1>

Output: NA

Syntax Example: OEB

OED1

Description: Output port 1 directivity correction coefficient. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OED1

OED2

Description: Output port 2 directivity correction coefficient. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OED2

OEL

Description: Output the event log. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OEL

OEM

Description: Output extended status event mask value. No query.

Cmd Parameters: <NR1>

Output: NA

Syntax Example: OEM

OEP1L

Description: Output load match at port 1 correction coefficient. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OEP1L

OEP1S

Description: Output port 1 source match correction coefficient. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OEP1S

OEP2L

Description: Output load match at port 2 correction coefficient. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OEP2L

OEP2S

Description: Output port 2 source match correction coefficient. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OEP2S

OEQ

Description: Output the error queue. No query.

Cmd Parameters: <block>

Output: <arbitrary block>

Syntax Example: OEQ

OEQM

Description: Removes and outputs the oldest error in the error queue. No query.

Cmd Parameters: NA

Output: <ASCII>

Syntax Example: OEQM

OET11

Description: Output port 1 reflection tracking correction coefficient. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OET11

OET12

Description: Output transmission tracking ports 2 to 1 correction coefficient. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OET12

OET21

Description: Output transmission tracking ports 1 to 2 correction coefficient. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OET21

OET22

Description: Output port 2 reflection tracking correction coefficient. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OET22

OEX12

Description: Output leakage ports 2 to 1 correction coefficient. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OEX12

OEX21

Description: Output leakage ports 1 to 2 correction coefficient. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OEX21

OFD

Description: Output formatted data of active trace. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OFD

OFD1

Description: Output formatted data of trace one. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OFD1

OFD2

Description: Output formatted data of trace two. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OFD2

OFD3

Description: Output formatted data of trace three. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OFD3

OFD4

Description: Output formatted data of trace four. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OFD4

OFF <NRf>

OFF?

Description: Enter offset value for top graph of active trace. Output offset value for top graph of active trace.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: OFF <NRf>

OFF?

OFF2 <NRf>

OFF2?

Description: Enter offset value for bottom graph of active trace. Output offset value for bottom graph of active trace.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: OFF2 <NRf>

OFF2?

OFFP

Description: Output current front panel setup. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OFFP

OFPC

Description: Output flat power coefficients. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OFPC

OFV

Description: Output frequency values. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OFV

OGCCSV

Description: Output gain compression results in csv format. No query.

Cmd Parameters: NA

Output: <block>

Syntax Example: OGCCSV

OGCFD

Description: Output gain compression final data to GPIB. No query.

Cmd Parameters: NA

Output: <block>

Syntax Example: OGCFD

OGCFV

Description: Output gain compression frequency values to GPIB. No query.

Cmd Parameters: NA

Output: <block>

Syntax Example: OGCFV

OGTXT

Description: Output gain compression results in txt format. No query.

Cmd Parameters: NA

Output: <block>

Syntax Example: OGTXT

OGE

Description: Output extended description of current GPIB error. No query.

Cmd Parameters: NA

Output: <ASCII>

Syntax Example: OGE

OGL

Description: Output extended description of previous GPIB error. No query.

Cmd Parameters: NA

Output: <ASCII>

Syntax Example: OGL

OHDR

Description: Output the Tabular file header data. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OHDR

OI

Description: Output Instrument identification string with serial number. No query.

Cmd Parameters: NA

Output: <ASCII>

Syntax Example: OI

OID

Description: Output Instrument identification string. No query.

Cmd Parameters: NA

Output: <ASCII>

Syntax Example: OID

OJPG

Description: Output the display in JPG format. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: OJPG

OJPGA

Description: Output the active channel display in JPG format. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: OJPGA

OLB

Description: Output limits status byte. No query.

Cmd Parameters: <NR1>

Output: NA

Syntax Example: OLB

OLM

Description: Output limits status byte mask. No query.

Cmd Parameters: <NR1>

Output: NA

Syntax Example: OLM

OM1 <NR3> | <NR3>, <NR3>

Description: The command outputs the marker 1 value or values on the active trace. The number of outputs produced by the query depends on the display type. For example, Log Magnitude displays have one marker value (as a single <NR3> and dual Linear Magnitude and Phase displays have two marker values (as <NR3>, <NR3>). The units of the <NR3> parameters depend on the display type. No query.

Cmd Parameters: <NR3> | <NR3>, <NR3>

Output: NA

Syntax Example: OM1

OM1

Description: The command outputs the marker 1 value or values on the active trace. The number of outputs produced by the query depends on the display type. For example, Log Magnitude displays have one marker value (as a single <NR3> and dual Linear Magnitude and Phase displays have two marker values (as <NR3>, <NR3>). The units of the <NR3> parameters depend on the display type. No query.

Cmd Parameters: NA

Output: <NR3> | <NR3>, <NR3>

Syntax Example: OM1

OM2 <NR3> | <NR3>, <NR3>

Description: Output marker 2 value on active trace. No query.

Cmd Parameters: <NR3> | <NR3>, <NR3>

Output: NA

Syntax Example: OM2

OM3 <NR3> | <NR3>, <NR3>

Description: Output marker 3 value on active trace. No query.

Cmd Parameters: <NR3> | <NR3>, <NR3>

Output: NA

Syntax Example: OM3

OM4 <NR3> | <NR3>, <NR3>

Description: Output marker 4 value on active trace. No query.

Cmd Parameters: <NR3> | <NR3>, <NR3>

Output: NA

Syntax Example: OM4

OM5 <NR3> | <NR3>, <NR3>

Description: Output marker 5 value on active trace. No query.

Cmd Parameters: <NR3> | <NR3>, <NR3>

Output: NA

Syntax Example: OM5

OM6 <NR3> | <NR3>, <NR3>

Description: Output marker 6 value on active trace. No query.

Cmd Parameters: <NR3> | <NR3>, <NR3>

Output: NA

Syntax Example: OM6

OMOD

Description: Output Instrument Model number. No query.

Cmd Parameters: <char>

Output: <char>

Syntax Example: OMOD

ONB

Description: Output number of bands. No query.

Cmd Parameters: <NR1>

Output: NA

Syntax Example: ONB

ONCP

Description: Output number of points for current calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ONCP

ONCT

Description: Output number of cal terms for current calibration. No query.

Cmd Parameters: <NR1>

Output: NA

Syntax Example: ONCT

OND

Description: Output the active trace memory data. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OND

ONDF

Description: Output the current number of discrete frequency points. No query.

Cmd Parameters: NA

Output: <NR1>

Syntax Example: ONDF

ONE

Description: Output the number of entries in the service log. No query.

Cmd Parameters: <NR1>

Output: NA

Syntax Example: ONE

ONEL

Description: Output the number of entries in the event log. No query.

Cmd Parameters: <NR1>

Output: NA

Syntax Example: ONEL

ONEQ

Description: Output the number of errors in the error queue. No query.

Cmd Parameters: <NR1>

Output: NA

Syntax Example: ONEQ

ONP

Description: Output number of points currently being measured. No query.

Cmd Parameters: <NR1>

Output: NA

Syntax Example: ONP

ONPV

Description: Output the number of power sweep power values. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: ONPV

ONRM

Description: Output stored normalization data to GPIB. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>

Syntax: ONRM

OPB

Description: Output the 488.2 Status Byte value. Same function as *STB?. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: OPB

OPM

Description: Output the status byte mask. No query.

Cmd Parameters: NA

Output: <NR1>

Syntax Example: OPM

OPNG

Description: Output the display in PNG format. No query.

Cmd Parameters: NA

Output: <Arbitrary Block>

Syntax Example: OPNG

OPNGA

Description: Output the active channel display in PNG format. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OPNGA

OPSC

Description: Output power sweep linearity calibration coefficients. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: OPSC

OPSV

Description: Output power sweep values. No query.

Cmd Parameters: NA

Output: <block>

Syntax Example: OPSV

ORD

Description: Output Raw S-Parameter data on active trace. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: ORD

OS1

Description: Output front panel setup data from memory location 1. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS1

OS10

Description: Output front panel setup data from memory location 10. No query.

SCmd Parameters: <block>

Output: <block>

Syntax Example: OS10

OS11C

Description: Output Corrected S-Parameter S11. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS11C

OS11R

Description: Output Raw S-Parameter S11. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS11R

OS12C

Description: Output Corrected S-Parameter S12. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS12C

OS12R

Description: Output Raw S-Parameter S12. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS12R

OS2

Description: Output front panel setup data from memory location 2. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS2

OS21C

Description: Output Corrected S-Parameter S21. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS21C

OS21R

Description: Output Raw S-Parameter S21. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS21R

OS22C

Description: Output Corrected S-Parameter S22. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS22C

OS22R

Description: Output Raw S-Parameter S22. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS22R

OS2P

Description: Output the S2P file data. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS2P

OS3

Description: Output front panel setup data from memory location 3. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS3

OS4

Description: Output front panel setup data from memory location 4. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS4

OS5

Description: Output front panel setup data from memory location 5. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS5

OS6

Description: Output front panel setup data from memory location 6. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS6

OS7

Description: Output front panel setup data from memory location 7. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS7

OS8

Description: Output front panel setup data from memory location 8. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS8

OS9

Description: Output front panel setup data from memory location 9. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OS9

OSER

Description: Output Instrument serial number. No query.

Cmd Parameters: <char>

Output: <char>

Syntax Example: OSER

OSL

Description: Output the service log. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OSL

OTV

Description: Output list of time values. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OTV

OTXT

Description: Output the TXT file data. No query.

Cmd Parameters: <block>

Output: <block>

Syntax Example: OTXT

P1C

P1C?

Description: Select port 1 for connector specification. Output port 1 connector type.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Syntax Example: P1C

P1C?

P1P?

Description: Output approximate power level at port 1

Cmd Parameters: <NR3>

Output: <NR3>

Syntax Example: P1P?

P2C

P2C?

Description: Select port 2 for connector specification. Output port 2 connector type.

Cmd Parameters: NA

Query Parameters: NA

Syntax Example: P2C

P2C?

PA1 <NRf>

Description: Set reference attenuator value for power sweep on port 1. No query.

Cmd Parameters: <NRf>

Query Parameters: NA

Syntax: PA1 <NRf>

PCP

Description: Select measurement phase polar chart mode. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PCP

PCS

Description: Select sweep position polar chart mode. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PCS

PCX?

Description: Output polar chart mode. No query.

Cmd Parameters: NA

Output: <NR1>

Syntax Example: PCX?

PDRH {<String>}

Description: Print directory listing of the hard drive. No query.

Cmd Parameters: <String> is optional.

Output: NA

Syntax Example: PDRH {<String>}

PDT0

Description: Proprietary internal command. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PDT0

PDT1

Description: Proprietary internal command. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PDT1

PEL

Description: Print the error list. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PEL

PFSC

Description: Configure for printing full screen graphic image.

Parameters: NA

Output: NA

Syntax Example: PFSC

PGR

Description: Print data area graphic image.

Parameters: NA

Output: NA

Syntax Example: PGR

PGRC

Description: Configure for printing data area graphic image.

Parameters: NA

Output: NA

Syntax Example: PGRC

PHA

Description: Select Phase display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PHA

PHO <NRf>**PHO?**

Description: Enter phase shift for display channel. Output phase shift for display channel.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: PHO <NR.f>

PHO?

PLG

Description: Select Log Polar display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PLG

PLR

Description: Select Linear Polar display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PLR

PMK

Description: Print tabular data for markers.

Parameters: NA

Output: NA

Syntax Example: PMK

PMKC

Description: Configure for printing tabular data for markers. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PMKC

PMT

Description: Print tabular data for traces and markers.

Parameters: NA

Output: NA

Syntax Example: PMT

PMTC

Description: Configure for printing tabular data for markers and traces. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PMTC

POSET <NRf>**POSET?**

Description: Enter constant offset phase for active channel. Output constant offset phase for active channel

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: POSET <NRf>

POSET?

POW

Description: Select Power Out display for the active trace

Cmd Parameters: NA

Output: NA

Syntax Example: POW

PSCNFRQ?

Description: Query only. Output the power sweep linearity cal number of frequency points.

Query Parameters: NA

Output: <NR1>

Syntax Example: PSCNFRQ?

PSCNPWR?

Description: Query only. Output the power sweep linearity cal power levels.

Cmd Parameters: NA

Output: NA

Syntax Example: PSCNPWR?

PSCSTEP?

Description: Query only. Output the power sweep linearity cal number of power points.

Cmd Parameters: <NR3 Data>

Output: <NR3 Data>

Syntax Example: PSCSTEP?

PSL

Description: Print the service log.

Cmd Parameters: NA

Output: NA

Syntax Example: PSL

PSP <NRf>

Description: Obsolete command. Enter number of power sweeps for flat power correction. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: PSP <NRf>

PSP?

Description: Obsolete command. Output the number of power sweeps for flat power correction. No query.

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: PSP?

PSPWR <NRf>

Description: Enter the Power Sweep Off value. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: PSPWR <NRf>

PSPWR?

Description: Output the Power Sweep Off value. No query.

Cmd Parameters: <NR3>

Output: <NR3>

Syntax Example: PSPWR?

PSTEP <NRf>

Description: Enter power sweep step size. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PSTEP <NRf>

PSTEP?

Description: Enter power sweep step size. No query.

Cmd Parameters: NA

Output: <NR3>

Syntax Example: PSTEP?

PSTOP <NRf>**PSTOP?**

Description: Enter power sweep stop power. Output power sweep stop power.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: PSTOP <NRf>

PSSTOP?

PSTRT <NRf>

PSTRT?

Description: Enter power sweep start power. Output the power sweep start power.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: PSTRT <NRf>

PSTRT?

PSWC

Description: Perform power sweep linearity calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PSWS

PSWC0

Description: Turn power sweep linearity cal off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PSWC0

PSWC1

Description: Turn power sweep linearity cal on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PSWC1

PSWCX?

Description: Output power sweep linearity cal on/off status. No query.

Cmd Parameters: NA

Output: <NR1>

Syntax Example: PSWCX?

PSWP0

Description: Turn power sweep off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PSWP0

PSWP1

Description: Turn power sweep on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PSWP1

PSWPX?

Description: Query only. Output power sweep on/off status.

Cmd Parameters: NA

Output: <NR1>

Syntax Example: PSWPX?

PT0 <NRf>

Description: Set tabular printout points skipped to 0.

Parameters: NA

Output: NA

Syntax Example: PT0 <NRf>

PT1 <NRf>

Description: Set tabular printout points skipped to 1.

Parameters: NA

Output: NA

Syntax Example: PT1 <NRf>

PT2 <NRf>

Description: Set tabular printout points skipped to 2.

Parameters: NA

Output: NA

Syntax Example: PT2 <NRf>

PT3 <NRf>

Description: Set tabular printout points skipped to 3.

Parameters: NA

Output: NA

Syntax Example: PT3 <NRf>

PT4 <NRf>

Description: Set tabular printout points skipped to 4.

Parameters: NA

Output: NA

Syntax Example: PT4 <NRf>

PT5 <NRf>

Description: Set tabular printout points skipped to 5.

Parameters: NA

Output: NA

Syntax Example: PT5 <NRf>

PT6 <NRf>

Description: Set tabular printout points skipped to 6.

Parameters: NA

Output: NA

Syntax Example: PT6 <NRf>

PT7 <NRf>

Description: Set tabular printout points skipped to 7.

Parameters: NA

Output: NA

Syntax Example: PT7 <NRf>

PT8 <NRf>

Description: Set tabular printout points skipped to 8.

Parameters: NA

Output: NA

Syntax Example: PT8 <NRf>

PT9 <NRf>

Description: Set tabular printout points skipped to 9.

Parameters: NA

Output: NA

Syntax Example: PT9 <NRf>

PTAVG

Description: Set point-by-point averaging type. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PTAVG

PTB

Description: Print tabular data for traces.

Parameters: NA

Output: NA

Syntax Example: PTB

PTBC

Description: Configure for printing tabular data for traces. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: PTBC

PTP <NRf>**PTP?**

Description: Set the target power for flat test port power correction. Output the target power for flat test port power correction.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: PTP <NRf>

PTP?

PTS <NRf>**PTS?**

Description: Set the number of points to be skipped for flat test port calibration. Output the number of points to be skipped for flat test port calibration.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: PTS <NRf>

PTS?

PTX?

Description: Output number of points to skip in tabular printout.

Parameters: <NR1>

Output: <NR1>

Syntax Example: PTX?

PW1 <NRf>**PW1?**

Description: Set power level on external source1. Output power level on external source1.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: PW1 <NRf>

PW1?

PW2 <NRf>

PW2?

Description: Set power level on external source2. Output power level on external source2.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: PW2 <NRf>

PW2?

PWR <NRf>

PWR?

Description: Set the VNA power level. Output the VNA power level.

Cmd Parameters: <NRf>

Query Parameters: NA>

Output: <NR3>

Syntax Example: PWR <NRf>

PWR?

RC1

Description: Recall front panel setup data from memory location 1. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RC1

RC10

Description: Recall front panel setup data from memory location 10. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RC10

RC2

Description: Recall front panel setup data from memory location 2. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RC2

RC3

Description: Recall front panel setup data from memory location 3. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RC3

RC4

Description: Recall front panel setup data from memory location 4. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RC4

RC5

Description: Recall front panel setup data from memory location 5. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RC5

RC6

Description: Recall front panel setup data from memory location 6. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RC6

RC7

Description: Recall front panel setup data from memory location 7. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RC7

RC8

Description: Recall front panel setup data from memory location 8. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RC8

RC9

Description: Recall front panel setup data from memory location 9. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RC9

RCKH <string>

Description: Recall trace memory file from hard disk. No query.

Parameters: <string>

Output: NA

Syntax Example: RCKH <string>

RCLCALH <string>

Description: Recall calibration/front panel setup from hard disk. No query.

Cmd Parameters: <string>

Output: NA

Syntax Example: RCLCALH <string>

RCLNRMH <string>

Description: Recall trace memory file from hard disk. No query.

Parameters: <string>

Output: NA

Syntax Example: RCLNRMH <string>

RD <string>

Description: Remove a disk directory or a memory card directory. No query.

Cmd Parameters: NA

Output: <string>

Syntax Example: RD <string>

RDA

Description: Select automatic reference delay calculation. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RDA

RDD <NRf>**RDD?**

Description: Enter reference delay in distance for active channel. Output reference delay in distance for active channel.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: RDD <NRf>

RDD?

RDT <NRf>

Description: Enter reference delay in time for active channel. No query.

Cmd Parameters: NA

Output: <NRf>

Syntax Example: RDT <NRf>

RDT?

Description: Output reference delay in time for active channel. No query.

Cmd Parameters: <NR3>

Output: <NR3>

Syntax Example: RDT?

RECALL <string>

Description: Recall various kinds of system files. No query.

Cmd Parameters: NA

Output: <string>

Syntax Example: RECALL <string>

REF <NRf>

Description: Enter reference line for top graph of active trace. No query.

Cmd Parameters: NA

Output: <NRf>

Syntax Example: REF <NRf>

REF?

Description: Query only. Output reference line for top graph of active trace.

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: REF?

REF2 <NRf>

Description: Enter reference line for top graph of active trace. No query.

Cmd Parameters: <NR1>

Output: NA

Syntax Example: REF2 <NRf>

REF2?

Description: Query only. Output reference line for top graph of active trace

Cmd Parameters: NA

Output: <NR1>

Syntax Example: REF2?

REL

Description: Select Real display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: REL

RGZ

Description: Select reflective device greater than Z0 in LRL calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RGZ

RH0

Description: Turn RF off while in hold. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RH0

RH1

Description: Leave RF on while in hold. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RH1

RHX?

Description: Query only. Output RF on/off while in hold status.

Cmd Parameters: NA

Output: <NR1>

Where:

- 0 for Off
- 1 for On

Syntax Example: RHX?

RIM

Description: Select Real and Imaginary display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RIM

RL

Description: Send all devices to Local. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RL

RLDH <string>

Description: Recall calibration/front panel setup from hard disk file or from memory card file. No query.

Cmd Parameters: <string>

Output: NA

Syntax Example: RLDH <string>

RLZ

Description: Select reflective device less than Z0 in LRL calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RLZ

RM1

Description: Select reference plane at line 1 midpoint for LRL calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RM1

RMX?

Description: Query only. Output reference plane location for LRL calibration.

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: RMX?

ROL <NRf>**ROL?**

Description: Set reflective device offset length. Output reflective device offset length.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: ROL <NRf>

ROL?

RPC

Description: Repeat previous calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RPC

RPO <NRf>**RPO?**

Description: Enter rear panel DC voltage value. Output rear panel DC voltage value.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: RPO <NRf>

RPO?

RRP

Description: Select reference plane at reflection plane for LRL calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RRP

RST

Description: Instrument reset. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RST

RST0

Description: Instrument reset. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RST0

RST1

Description: Instrument reset. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RST1

RSTAVG

Description: Reset the averaging sweep count. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RSTAVG

RSTGC

Description: Reset gain compression Cmd Parameters to default. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RSTGC

RT0

Description: Turn retrace RF off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RT0

RT1

Description: Turn retrace RF on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RT1

RTL

Description: Send all devices to Local. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RTL

RTX?

Description: Query only. Output retrace RF on/off status.

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: RTX?

RV0

Description: Turn rear panel output voltage off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RV0

RV1
RV1?

Description: Turn rear panel output voltage on. Output rear panel output voltage on/off status

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 0|1

Where:

- 0 for Off
- 1 for On

Syntax Example: RV1

RV1?

RVD

Description: Set rear panel output mode to DC value. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RVD

RVH

Description: Set rear panel output mode to horizontal. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RVH

RVL

Description: Set rear panel output mode to lock direction. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: RVL

RVX?

Description: Query only. Output rear panel output mode.

Query Parameters: NA

Output: <NR1> 1|2|3|4

Where:

- 1 for horizontal
- 2 for vertical
- 3 for lock direction
- 4 for DC output

Syntax Example: RVX?

RXZ?

Description: Query only. Output reflective device in LRL calibration greater/less than Z0.

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: RXZ?

S11

Description: Measure S11 on active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: S11

S12

Description: Measure S12 on active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: S12

S21

Description: Measure S21 on active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: S21

S22

Description: Measure S22 on active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: S22

SA1 <NRf>**SA1?**

Description: Set reference attenuator value on port 1. Output reference attenuator value on port 1.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: SA1 <NRf>

SA1?

SA1MAX?

Description: Query only. Output Port 1 reference attenuator maximum value.

Query Parameters: NA

Output: <NR1>

Syntax Example: SA1MAX?

SA2 <NRf>

SA2?

Description: Set reference attenuator value on port 2. Output reference attenuator value on port 2.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: SA2 <NRf>

SA2?

SAMP?

Description: Query only. Output the number of samplers used for measurements.

Query Parameters: NA

Output: <NR1>

Syntax Example: SAMP?

SAMP2

Description: Use 2 samplers for measurements. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SAMP2

SAMP3

Description: Use 3 samplers for measurements. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SAMP3

SAVCALH <string>

Description: Save calibration/front panel setup to hard disk or memory card. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SAVCALH <string>

SAVDATH <string>

Description: Save tabular data to hard disk or memory card. No query.

Cmd Parameters: <string>

Output: NA

Syntax Example: SAVDATH <string>

SAVE <string>

Description: Save a data file to disk or memory card. No query.

Cmd Parameters: <string>

Output: NA

Syntax Example: SAVE <string>

SAVEGC <string>

Description: Save text format gain compression data to disk or memory card. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SAVEGC <string>

SAVELGH <string>

Description: Save error list to hard disk or memory card. No query.

Cmd Parameters: <string>

Output: NA

Syntax Example: SAVELGH <string>

SAVLOGH <string>

Description: Save service log to hard disk or memory card. No query.

Cmd Parameters: <string>

Output: NA

Syntax Example: SAVLOGH <string>

SAVNRMH <string>

Description: Save trace memory to hard disk. No query.

Parameters: <string>

Output: NA

Syntax Example: SAVNRMH <string>

SBD <NRf>**SBD?**

Description: Enter substrate dielectric for microstrip calibration. Output substrate dielectric for microstrip calibration

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: SBD <NRf>

SBD?

SBT <NRf>**SBT?**

Description: Enter substrate thickness for microstrip calibration. Output substrate thickness for microstrip calibration.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: SBT <NRf>

SBT?

SCL <NRf>**SCL?**

Description: Enter Scale Resolution for top graph of active trace. Output Scale Resolution for top graph of active trace.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: SCL <NRf>

SCL?

SCL2 <NRf>**SCL2?**

Description: Enter Scale Resolution for bottom graph of active trace. Output Scale Resolution for bottom graph of active trace.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: SCL2 <NRf>

SCL2?

SCM

Description: Select Standard (SOLT) calibration method. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SCM

SDKH <string>

Description: Save trace memory to hard disk. No query.

Parameters: <string>

Output: NA

Syntax Example: SDKH <string>

SELBB

Description: Select BroadBand (Panorama) test set operation on the active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SELBB

SELINT

Description: Select internal (normal) test set operation on the active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SELINT

SELM

Description: Select Millimeter Wave test set operation on the active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SELMM

SELXX?

Description: Query only. Output test set selection to Internal, MMWave, or BroadBand.

Query Parameters: NA

Output: <NR1> 0 | 1 | 2 | 3

Where:

- 0 is internal
- 1 is millimeter wave
- 2 is S-parameter
- 3 is Broadband

Syntax Example: SELXX?

SETPMA

Description: Programs the power meter to use channel A. No query.

Parameters: NA

Output: NA

Syntax Example: SETPMA

SETPMB

Description: Programs the power meter to use channel B. No query.

Parameters: NA

Output: NA

Syntax Example: SETPMB

SETUP

Description: Display the SETUP menu. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SETUP

SFC

Description: Perform a flat test port power correction. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SFC

SFGCA

Description: Select swept frequency gain compression application. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SFGCA

SFGCT

Description: Start swept frequency gain compression test. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SFGCT

SH1 <NRf>**SH1?**

Description: Enter offset length for Short1 for user-specified connector. Output offset length for Short 1 for user-specified connector.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: SH1 <NRf>

SH1?

SH2 <NRf>**SH2?**

Description: Enter offset length for Short 2 for user-specified connector. Output offset length for Short 2 for user-specified connector.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: SH2 <NR.f>
SH2?

SLC

Description: Clear all segmented limits definition. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SLC

SLD

Description: Select sliding load for calibration. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SLD

SLL0

Description: Turn lower segmented limits display off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SLL0

SLL1

Description: Turn lower segmented limits display on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SLL1

SLLX?

Description: Query only. Output lower segmented limits display on/off status on active channel.

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for Off
- 1 for On

Syntax Example: SLLX?

SLU0

Description: Turn upper segmented limits display off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SLU0

SLU1

Description: Turn upper segmented limits display on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SLU1

SLUX?

Description: Query only. Output upper segmented limits display on/off status on active channel

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for Off
- 1 for On

Syntax Example: SLUX?

SMC <NRf>

Description: Enter scale and select compressed Smith chart display. No query.

Cmd Parameters: NA

Output: <NRf>

Syntax Example: SMC <NRf>

SME <NRf>

Description: Enter scale and select expanded Smith chart display. No query.

Cmd Parameters: NA

Output: <NRf>

Syntax Example: SME <NRf>

SMI

Description: Select Smith Chart display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SMI

SMO

Description: Turn smoothing on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SMO

SNPDB

Description: Set the S2P file parameter format to Log Magnitude and Phase. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SNPDB

SNPFMTX?

Description: Query only. Output the S2P file frequency format

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: SNPFMTX?

SNPGHZ

Description: Set the S2P file frequency format to GHz. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SNPGHZ

SNPHZ

Description: Set the S2P file frequency format to Hz. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SNPHZ

SNPKHZ

Description: Set the S2P file frequency format to kHz. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SNPKHZ

SNPMA

Description: Set the S2P file parameter format to Linear Magnitude and Phase. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SNPMA

SNPMHZ

Description: Set the S2P file frequency format to MHz. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SNPMHZ

SNPRI

Description: Set the S2P file parameter format to Real and Imaginary. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SNPRI

SNPUNITX?

Description: Query only. Output the S2P file parameter format.

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: SNPUNITX?

SOF**SOF?**

Description: Turn smoothing off. Output smoothing on/off status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for Off
- 1 for On

Syntax Example: SOF

SOF?

SON <NRf>**SON?**

Description: Enter smoothing value and turn on. Output smoothing value.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: SON <NRf>

SON?

SPAMPMT

Description: Start swept power gain compression am/pm test. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SPAMPMT

SPAN <NRf>**SPAN?**

Description: Enter frequency span. Output frequency span.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: SPAN <NRf>

SPAN?

SPGCA

Description: Set Swept Power Gain Compression Application. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SPGCA

SPGCT

Description: Start swept power gain compression test. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SPGCT

SPH <NRf>**SPH?**

Description: Enter active segmented limit horizontal stop position. Output active segmented limit horizontal stop position.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: SPH <NRf>

SPH?

SPR0

Description: Turn spur reduction off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SPR0

SPR1

Description: Turn spur reduction on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SPR1

SPRX?

Description: Query only. Output spur reduction on/off status.

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: SPRX?

SPTS?

Description: Query only. Output number of smoothing points.

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: SPTS?

SPV <NRf>**SPV?**

Description: Enter active segmented limit vertical stop position. Output active segmented limit vertical stop position.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: SPV <NRf>

Syntax Example: SPV?

SRC1?

Description: Output external source 1 existence information. No query.

Query Parameters: NA

Output: <NR1>

Where:

- 0 means external source 1 does not exist
- 1 means external source 1 does exist

Syntax Example: SRC1?

SRC1AC

Description: Select external source 1 as active. Output external source 1 active/inactive status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for inactive
- 1 for active

Syntax Example: SRC1AC

SRC1AC?

SRC1ADD <NRf>

Description: Enter external source 1 GPIB address. No query.

Cmd Parameters: NA

Output: <NRf>

Syntax Example: SRC1ADD <NRf>

SRC1ADD?

Description: Query only. Output external source 1 GPIB address.

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: SRC1ADD?

SRC1G0

Description: Turn external source 1 GPIB control off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SRC1G0

SRC1G1

Description: Turn external source 1 GPIB control on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SRC1G1

SRC1GX?

Description: Query only. Output external source 1 GPIB control on/off status.

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: SRC1GX?

SRC1MOD?

Description: Query only. Output external source 1 model string.

Cmd Parameters: <char>

Output: <char>

Syntax Example: SRC1MOD?

SRC1NA

Description: Select external source 1 as not active. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SRC1NA

SRC2?

Description: Query only. Output external source 2 existence information.

Query Parameters: NA

Output: <NR1> 0|1

Where:

- 0 means external source 2 does not exist
- 1 means external source 2 does exist

Syntax Example: SRC2?

SRC2AC

SRC2AC?

Description: Select external source 2 as active. Output external source 2 active/inactive status.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 0|1

Where:

- 0 for inactive
- 1 for active

Syntax Example: SRC2AC

SRC2AC?

SRC2ADD <NRf>

Description: Enter external source 2 GPIB address. Output external source 2 GPIB address.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: SRC2ADD <NRf>

SRC2ADD?

SRC2G0

Description: Turn external source 2 GPIB control off. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SRC2G0

SRC2G1

Description: Turn external source 2 GPIB control on. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SRC2G1

SRC2GX?

Description: Query only. Output external source 2 GPIB control on/off status.

Cmd Parameters: <NR1> 0 | 1

Where:

- 0 for Off
- 1 for On

Output: <NR1>

Syntax Example: SRC2GX?

SRC2MOD?

Description: Query only. Output external source 2 model string.

Cmd Parameters: <char>

Output: <char>

Syntax Example: SRC2MOD?

SRC2NA

Description: Select external source 2 as not active. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SRC2NA

SRC3ADD <NRf>

SRC3ADD?

Description: Enter external source 3 GPIB address. Output external source 3 GPIB address.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: SRC3ADD <NRf>

SRC3ADD?

SRC4ADD <NRf>

SCR4ADD?

Description: Enter external source 4 GPIB address. Output external source 4 GPIB address.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: SRC4ADD <NRf>

SRC4ADD?

SRCH <NRf>

Description: Enter marker search value. Output marker search value.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: SRCH <NRf>

SRCH?

SRT <NRf>

Description: Enter start frequency. Output start frequency.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: SRT <NRf>

SRT?

STD

Description: Store active trace to memory. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: STD

STEPF?

Description: Output the frequency step. No query.

Cmd Parameters: <NR3>

Output: <NR3>

Syntax Example: STEPF?

STH <NRf>

STH?

Description: Enter active segmented limit horizontal start position. Output active segmented limit horizontal start position.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: `STH <NRf>`
`STH?`

STOH <string>

Description: Save calibration/front panel setup to hard disk or memory card. No query.

Cmd Parameters: `<string>`

Output: NA

Syntax Example: `STOH <string>`

STP <NRf>**STP?**

Description: Enter stop frequency. Output stop frequency.

Cmd Parameters: `<NRf>`

Query Parameters: NA

Output: `<NR3>`

Syntax Example: `STP <NRf>`
`STP?`

STV <NRf>

Description: Enter active segmented limit vertical start position.

Cmd Parameters: NA

Output: `<NRf>`

Syntax Example: `STV <NRf>`

STV?

Description: Output active segmented limit vertical start position

Cmd Parameters: `<NR3>`

Output: `<NR3>`

Syntax Example: `STV?`

SUBMSK?

Description: Query only. Output the Instrument Subnet Mask.

Cmd Parameters: `<char>`

Output: `<char>`

Syntax Example: `SUBMSK?`

SV1

Description: Save front panel setup data to memory location 1. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `SV1`

SV10

Description: Save front panel setup data to memory location 10. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SV10

SV2

Description: Save front panel setup data to memory location 2. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SV2

SV3

Description: Save front panel setup data to memory location 3. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SV3

SV4

Description: Save front panel setup data to memory location 4. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SV4

SV5

Description: Save front panel setup data to memory location 5. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SV5

SV6

Description: Save front panel setup data to memory location 6. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SV6

SV7

Description: Save front panel setup data to memory location 7. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `SV7`

SV8

Description: Save front panel setup data to memory location 8. No query.

Syntax Example: `SV8`

Cmd Parameters: NA

Output: NA

SV9

Description: Save front panel setup data to memory location 9. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `SV9`

SVB

Description: Save current band definitions. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `SVB`

SVBMM

Description: Save the new MMWave band definitions. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: `SVBMM`

SWAVG

Description: Set sweep-by-sweep averaging type. No query.

Syntax Example: `SWAVG`

Cmd Parameters: NA

Output: `SWAVG?`

Description: Output averaging type

Syntax Example: `SWAVG?`

Cmd Parameters: `<NR1> 0 | 1 | 2`

Where:

- 0 for `AVG_POINT_BY_POINT`
- 1 for `AVG_SWEEP_BY_SWEEP`
- 2 for `AVG_EXPON_BY_SWEEP`

Output: `<NR1>`

SWP**SWP?**

Description: Return to normal sweep mode.

Output sweep mode.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Syntax Example: SWP

SWP?

SWR

Description: Select SWR display for the active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: SWR

SYSZ0?

Description: Query only. Output system impedance.

Syntax: SYSZ0?

Parameters: <NR1>

Output: Query

SXX?

Description: Query only. Output S-Parameter or User defined parameter on active trace.

Query Parameters: NA

Output: <NR1> 11 | 21 | 22 | 12

Where:

- 11 for S11
- 21 for S21
- 22 for S22
- 12 for S12

Syntax Example: SXX?

T13

Description: Sets a four trace 2 X 2 layout on the active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: T13

T24

Description: Sets a four trace 2 X 2 layout on the active channel. No query.

Cmd Parameters: NA
Output: NA
Syntax Example: T24

TA1 <NRf>**TA1?**

Description: Set test attenuator value on port 1. Output test attenuator value on port 1.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: TA1 <NRf>

TA1?

TA2 <NRf>**TA2?**

Description: Set test attenuator value on port 2. Output test attenuator value on port 2.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1> 0 | 10 | 20 | 30 | 40

Where:

- 0 = 0 dB
- 10 = 10 dB
- 20 = 20 dB
- 30 = 30 dB
- 40 = 40 dB

Syntax Example: TA2 <NRf>

TA2?

TA2MAX?

Description: Query only. Output Port 2 test attenuator max value.

Query Parameters: NA

Output: <NR1>

Syntax Example: TA2MAX?

TACD

Description: Take next AutoCal data. No query.

Cmd Parameters: <NR1>

Output: NA

Syntax Example: TACD

TBP

Description: Select time bandpass mode for active channel. No query.

Cmd Parameters: NA
Output: NA
Syntax Example: TBP

TC1

Description: Take calibration data for port1. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: TC1

TC2

Description: Take calibration data for port2. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: TC2

TCD

Description: Take calibration data. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: TCD

TCM

Description: Select the TRM calibration method. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: TCM

TDC

Description: Select time domain harmonic frequency cal data points. No query.
Cmd Parameters: NA
Output: NA
Syntax Example: TDC

TDDH <string>

Description: Save tabular data to hard disk or memory card. No query.
Cmd Parameters: <string>
Output: NA
Syntax Example: TDDH <string>

TDDIST**TDDIST?**

Description: Set time domain parameter to distance for active channel. Output active channel time domain parameter distance or time.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1> 1 | 2

Where:

- 1 for time
- 2 for distance

Syntax Example: TDDIST

TDDIST?

TDPIO

Description: Turn phasor impulse OFF for active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: TDPIO

TDPI1

Description: Turn phasor impulse ON for active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: TDPI1

TDPIX?

Description: Query only. Output phasor impulse on/off status for active channel.

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for Off
- 1 for On

Syntax Example: TDPIX?

TDTIME**TDTIME?**

Description: Set time domain parameter to time for active channel. Output active channel time domain parameter time.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Syntax Example: TDTIME
TDTIME?

TDX?

Description: Query only. Output domain mode for active channel.

Query Parameters: NA

Output: <NR1> 0 | 1 | 2 | 3 | 4 | 5

Where:

- 0 for frequency
- 1 for frequency with Gate
- 2 for LP Impulse
- 3 for LP Step
- 4 for BP
- 5 for BP Phasor Impulse

Syntax Example: TDX?

TEB

Description: Select external trigger executes *DDT definition.

Cmd Parameters: NA

Output: NA

Syntax Example: TEB

TEX

Description: Select external measurement triggering. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: TEX

TIB

Description: Select GPIB measurement triggering. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: TIB

TIME <NRf>, <NRf>**TIME?**

Description: Enter the time string for tabular data. Output the time string for tabular data.

Cmd Parameters: <NRf>, <NRf>

Query Parameters: NA

Output: <char>

Syntax Example: TIME <NRf>, <NRf>

TIME?

TIN

Description: Select internal measurement triggering. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: TIN

TLP

Description: Select time low pass mode for active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: TLP

TLZ <NRf>**TLZ?**

Description: Enter through line impedance for calibration. Output through line impedance for calibration

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: TLZ <NRf>

TLZ?

TOL <NRf>**TOL?**

Description: Enter through offset length for calibration. Output through offset length for calibration

Cmd Parameters: NA

Cmd Parameters: NA

Output: <NR3>

Syntax Example: TOL <NRf>

TOL?

TPI

Description: Select time phasor impulse mode for active channel. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: TPI

TRS

Description: Trigger a sweep. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: TRS

TST

Description: Perform self test and output status. No query.

Cmd Parameters: <NR1>

Output: NA

Syntax Example: TST

TXX?

Description: Query only. Output trigger source.

Query Parameters: NA

Output: <NR1>

Syntax Example: TXX?

U10

Description: Select 10 mil UTF calibration kit. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: U10

U15

Description: Select 15 mil UTF calibration kit. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: U15

U25

Description: Select 25 mil UTF calibration kit. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: U25

UNDOGC

Description: Exit gain compression and undo changes. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: UNDOGC

UPL0

Description: Turn upper limit off for top graph. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: UPL0

UPL1

Description: Turn upper limit on for top graph. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: UPL1

UPL20

Description: Turn upper limit off for bottom graph. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: UPL20

UPL21

Description: Turn upper limit on for bottom graph. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: UPL21

UPL2X?

Description: Output upper limit on/off status for bottom graph. No query.

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for Off
- 1 for On

Syntax Example: UPL2X?

UPLX?

Description: Query only. Output upper limit on/off status for top graph.

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for Off
- 1 for On

Syntax Example: UPLX?

US1

Description: Select upper segmented limit 1 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: US1

US10

Description: Select upper segmented limit 10 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: US10

US2

Description: Select upper segmented limit 2 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: US2

US3

Description: Select upper segmented limit 3 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: US3

US4

Description: Select upper segmented limit 4 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: US4

US5

Description: Select upper segmented limit 5 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: US5

US6

Description: Select upper segmented limit 6 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: US6

US7

Description: Select upper segmented limit 7 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: US7

US8

Description: Select upper segmented limit 8 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: US8

US9

Description: Select upper segmented limit 9 as the active segment. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: US9

USE <NRf>**USE?**

Description: Enter effective dielectric for microstrip calibration. Output effective dielectric for microstrip calibration.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: USE <NRf>

USE?

USL <string>**USL?**

Description: Enter label string for user parameter being defined. Output label string for user parameter being defined.

Cmd Parameters: <string>

Query Parameters: NA

Output: <char>

Syntax Example: USL <string>

USL?

USR1

Description: Measure User Parameter 1 on active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: USR1

USR2

Description: Measure User Parameter 2 on active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: USR2

USR3

Description: Measure User Parameter 3 on active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: USR3

USR4

Description: Measure User Parameter 4 on active trace. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: USR4

USW <NRf>

USW?

Description: Enter microstrip width for microstrip calibration. Output microstrip width for microstrip calibration.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: USW <NRf>

USW?

USZ <NRf>

USZ?

Description: Enter microstrip impedance for microstrip calibration. Output microstrip impedance for microstrip calibration.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: USZ <NRf>

USZ?

UTFD

Description: Select user defined microstrip calibration kit. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: UTFD

UTFX?

Description: Query only. Output microstrip cal kit selection of user, u10, u15, or u25.

Query Parameters: NA

Output: <NR1>

Syntax Example: UTFX?

V15

Description: Set MMWave band to V band (WR-15). No query.

Cmd Parameters: NA

Output: NA

Syntax Example: V15

VSP <NRf>**VSP?**

Description: Enter rear panel start voltage value. Output rear panel start voltage value

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: VSP <NRf>

VSP?

VST <NRf>**VST?**

Description: Enter rear panel stop voltage value. Output rear panel stop voltage value.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: VST <NRf>

W10

Description: Set MMWave band to W band (WR-10). No query.

Cmd Parameters: NA

Output: NA

Syntax Example: W10

W10E

Description: Set MMWave band to extended W band (WR-10E). No query.

Cmd Parameters: NA

Output: NA

Syntax Example: W10E

WBMP

Description: Select white background for bitmap (same as BMPC). No query.

Cmd Parameters: NA

Output: NA

Syntax Example: WBMP

WCO <NRf>**WCO?**

Description: Enter waveguide cutoff frequency for user defined kit. Output waveguide cutoff frequency for user defined kit.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: WCO <NRf>

WCO?

WFS {<NRf>}

Description: Wait full sweep until all display data is valid. No query.

Cmd Parameters: {<NRf>}

Where:

- <NRf> = number of full sweeps to wait.
- If <NRf> is not present, waits 1 (one) full sweep.

Output: NA

Syntax Example: WFS {<NRf>}

WGCUTOFF?

Description: Query only. Output the waveguide cal kit cutoff frequency.

Query Parameters: NA

Output: <NR3>

Syntax Example: WGCUTOFF?

WGSER?

Description: Query only. Output waveguide cal kit serial number.

Query Parameters: NA

Output: <char>

Syntax Example: WGSER?

WGSHOFF1?

Description: Query only. Output the waveguide cal kit short 1 offset.

Cmd Parameters: <NR3>

Output: <NR3>

Syntax Example: WGSHOFF1?

WGSHOFF2?

Description: Query only. Output the waveguide cal kit short 2 offset

Query Parameters: NA

Output: <NR3>

Syntax Example: WGSHOFF2?

WGSHOFF3?

Description: Query only. Output the waveguide cal kit Short 3 offset.

Query Parameters: NA

Output: <NR3>

Syntax Example: WGSHOFF3?

WIDE

Description: Use the entire display width for graph. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: WIDE

WKD

Description: Select user defined waveguide calibration kit. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: WKD

WKI

Description: Select installed waveguide calibration kit. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: WKI

WKX?

Description: Query only. Output waveguide calibration kit selection user/installed.

Cmd Parameters: <NR1>

Output: <NR1>

Syntax Example: WKX?

WLS

Description: Select low side lobe window shape. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: WLS

WMS

Description: Select minimum side lobe window shape. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: WMS

WNM

Description: Select nominal window shape. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: WNM

WRT

Description: Select rectangular window shape. No query.

Cmd Parameters: NA

Output: NA

Syntax Example: WRT

WSH1 <NRf>

WSH1?

Description: Enter waveguide short 1 offset for user defined kit. Output waveguide short 1 offset for user defined kit.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: WSH1 <NRf>

WSH1?

WSH2 <NRf>

WSH2?

Description: Enter waveguide short 2 offset for user defined kit. Output waveguide short 2 offset for user defined kit.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: WSH2 <NRf>

WSH2?

WSH3 <NRf>

WSH3?

Description: Enter waveguide short 3 offset for user defined kit. Output waveguide short 3 offset for user defined kit.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: WSH3 <NRf>

WSH3?

WSX?

Description: Query only. Output window shape

Query Parameters: NA

Output: <NR1>

Syntax Example: WSX?

XMKR?

Description: Query only. Output marker readout mode normal/active marker all traces.

Query Parameters: NA

Output: <NR1>

Syntax Example: XMKR?

XSB?

Description: Query only. Output byte order for output data LSB or MSB

Query Parameters: NA

Output: <NR1> 0 | 1

Where:

- 0 for LSB
- 1 for MSB

Syntax Example: XSB?

ZCT <NRf>

ZCT?

Description: Enter zoom range center value time or distance. Output zoom range center value time or distance.

Cmd Parameters: <NRf>

Query Parameters: <NR3>

Output: <NR3>

Syntax Example: ZCT <NRf>

ZCT?

ZSN <NRf>

ZSN?

Description: Enter zoom range span value time or distance. Output zoom range span value time or distance.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: ZSN <NRf>

ZSN?

ZSP <NRf>

ZSP?

Description: Enter zoom range stop value time or distance. Output zoom range stop value time or distance.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: ZSP <NRf>

ZSP?

ZST <NRf>

ZST?

Description: Enter zoom range start value time or distance. Output zoom range start value time or distance.

Cmd Parameters: <NR3>

Query Parameters: NA

Output: <NR3>

Syntax Example: ZST <NRf>

ZST?

Chapter 3 — Anritsu 37xxxX Non-Supported Commands

3-1 Introduction

This chapter provides a listing of non-supported Anritsu Lightning 37xxxD and 37xxxE VNA programming commands.

See [Chapter 2 “Anritsu Supported 37xxxX Commands”](#) above for information on parameters, notations, abbreviations, and program listing field definitions. Chapter 2 also provides links to the original Lightning 37xxxD and 37xxxE VNA Programming Manuals.

3-2 Non-Supported Commands

The non-supported commands listed here will not crash an existing Lightning program, but they will also not change the VectorStar instrument settings. They will create error messages in the System Error Log and VectorStar Event Log.

3-3 Error Logs

The Error Logs can be viewed by using the front panel menus to navigate to the Windows Event Viewer dialog box at:

- MAIN | System | SYSTEM | Event Log | EVENT VIEWER Dialog Box

Under the Event Viewer (Local) directory, click on System or VectorStar. A typical error message will state “Lightning function not supported.”

3-4 Non-Supported Lightning 37xxxX Commands

When using the command interface and the command help listing is used, unsupported Lightning commands are annotated with a double asterisk (" ** ") at the end of the command description. For example, the first command below, "ACDEF" is listed as:

Note

```
ACDEF - Select default auto-cal isolation averaging factor **
```

As noted in this section, these Lightning functions are not supported by the VectorStar VNA.

ACDEF

Description: Select default auto-cal isolation averaging factor.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ACDEF

ACHFD <string>

Description: Save auto-cal characterization data to floppy disk or memory card.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: ACHFD <string>

ACHHD <string>

Description: Save auto-cal characterization data to hard disk or memory card.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: ACHHD <string>

ACIAF <NRf>**ACIAF?**

Description: Enter user auto-cal isolation averaging factor. Output user auto-cal isolation averaging factor.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: ACIAF <NRf>

ACIAF?

ACIAX?

Description: Output auto-cal isolation averaging factor omit/default/user selection.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: ACIAX?

ACOMIT

Description: Omit using auto-cal isolation averaging factor.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ACOMIT

ACTUAVG <NRf>**ACTUAVG?**

Description: Enter auto-cal thru update averaging number. Output auto-cal thru update averaging number.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: ACTUAVG <NRf>

ACTUAVG?

ACTULS

Description: Apply last thru update cal setup.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ACTULS

ADDIP <string>

Description: Enter the Instrument IP address.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: ADDIP <string>

ADRIVE

Description: Select the floppy drive as the default drive.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ADRIVE

ALC

Description: Perform ALC loop internal calibration.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ALC

ALCFLAT

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ALCFLAT

ALCGAIN

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ALCGAIN

ALCLEVEL

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ALCLEVEL

ALCLIMIT

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ALCLIMIT

ALCSHAPE

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ALCSHAPE

ALCVERIFY

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ALCVERIFY

ALCZERO

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ALCZERO

AMYRD <NRf>

Description: Proprietary internal command.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: NA

Syntax Example: AMYRD <NRf>

AMYWR <NRf>, <NRf>

Description: Proprietary internal command.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: AMYWR <NRf>, <NRf>

ANNCOL <NRf>**ANNCOL?**

Description: Enter the color number for annotation and menu text. Output the color number for annotation and menu text.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: ANNCOL <NRf>

ANNCOL?

APRXSTP?

Description: Output approximate stop frequency.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: APRXSTP?

BCKCOL <NRf>**BCKCOL?**

Description: Enter the color number for background. Output the color number for background.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: BCKCOL <NRf>

BCKCOL?

BEEP0

Description: Disable the instrument beeper.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: BEEP0

BEEP1

Description: Enable the instrument beeper.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: BEEP1

BEEPX?

Description: Output the instrument beeper enable/disable status.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: BEEPX?

BEGTU

Description: Start auto-cal thru update.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: BEGTU

BLU

Description: Select blue as third plane color.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: BLU

BRILL

Description: Activate color configuration Brilliant.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: BRILL

BWL3

Description: Set bandwidth loss value to 3 dB.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: BWL3

CALSTP**CALSTP?**

Description: Internal reserved words.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: NA

Query Parameters: NA

Output: NA

Syntax Example: CALSTP

CALSTP?

CCD

Description: Collect corrected data in an internal buffer.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CCD

CDRIVE

Description: Select the hard or memory card as the default drive.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CDRIVE

CFD

Description: Collect final data in an internal buffer.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CFD

CFSPA

Description: Select Band A special female connector for current port.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CFSPA

CFSPB

Description: Select Band B special female connector for current port.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CFSPB

CFSPC

Description: Select Band C special female connector for current port.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CFSPC

CHSLH? <NRf>

Description: Output segmented limits horizontal offset.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR3>

Output: <NR3>

Syntax Example: CHSLH? <NRf>

CHSLV? <NRf>

Description: Output segmented limits vertical offset.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR3>

Output: <NR3>

Syntax Example: CHSLV? <NRf>

CLASS

Description: Activate color configuration Classic.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CLASS

CMSPA

Description: Select Band A special male connector for current port.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CMSPA

CMSPB

Description: Select Band B special male connector for current port.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CMSPB

CMSPC

Description: Select Band C special male connector for current port.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CMSPC

CONCC0? <NRf>

Description: Output capacitance coefficient 0 of open device.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CONCC0? <NRf>

CONCC1? <NRf>

Description: Output capacitance coefficient 1 of open device.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CONCC1? <NRf>

CONCC2? <NRf>

Description: Output capacitance coefficient 2 of open device.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CONCC2? <NRf>

CONCC3? <NRf>

Description: Output capacitance coefficient 3 of open device.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CONCC3? <NRf>

CONCL0? <NRf>

Description: Output inductance coefficient 0 of short device.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CONCL0? <NRf>

CONCL1? <NRf>

Description: Output inductance coefficient 1 of short device.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CONCL1? <NRf>

CONCL2? <NRf>

Description: Output inductance coefficient 2 of short device.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CONCL2? <NRf>

CONCL3? <NRf>

Description: Output inductance coefficient 3 of short device.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CONCL3? <NRf>

CONOPOFF? <NRf>

Description: Output offset of open device.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CONOPOFF? <NRf>

CONOPSER? <NRf>

Description: Output serial number of open device.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CONOPSER? <NRf>

CONSHANG? <NRf>

Description: Output angle of short device.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CONSHANG? <NRf>

CONSHOFF? <NRf>

Description: Output offset of short device.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CONSHOFF? <NRf>

CONSHSER? <NRf>

Description: Output serial number of short device.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CONSHSER? <NRf>

CPYALCFH

Description: Copy ALC cal file from floppy to hard or memory card.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CPYALCFH

CPYALCHF

Description: Copy ALC cal file from hard to floppy disk or memory card.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CPYALCHF

CPYALLFH

Description: Copy combined hardware cal file from floppy to hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CPYALLFH

CPYALLHF

Description: Copy combined hardware cal file from hard to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CPYALLHF

CPYCALFH <string>

Description: Copy calibration/front panel setup from floppy to hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: CPYCALFH <string>

CPYCALHF <string>

Description: Copy calibration/front panel setup from hard to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: CPYCALHF <string>

CPYDATFH <string>

Description: Copy tabular data file from floppy to hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: CPYDATFH <string>

CPYDATHF <string>

Description: Copy tabular data file from hard to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: CPYDATHF <string>

CPYELGFH <string>

Description: Copy error list file from floppy to hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: CPYELGFH <string>

CPYELGHF <string>

Description: Copy error list file from hard to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: CPYELGHF <string>

CPYFLASH

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CPYFLASH

CPYFREFH

Description: Copy frequency cal file from floppy to hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CPYFREFH

CPYFREHF

Description: Copy frequency cal file from hard to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CPYFREHF

CPYLOGFH <string>

Description: Copy service log file from floppy to hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: CPYLOGFH <string>

CPYLOGHF <string>

Description: Copy service log file from hard to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: CPYLOGHF <string>

CPYNRMFH <string>

Description: Copy trace memory file from floppy to hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: CPYNRMFH <string>

CPYNRMHF <string>

Description: Copy trace memory file from hard to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: CPYNRMHF <string>

CRD

Description: Collect raw data in an internal buffer.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CRD

CSF?

Description: Output cal start frequency.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CSF?

CSWP?

Description: Output sweep mode for calibration.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CSWP?

CTF?

Description: Output cal stop frequency.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CTF?

CWC

Description: Select single CW point.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CWC

CWDEC

Description: Subtract 1 from the current CW index.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CWDEC

CWF2I? <NRf>

Description: For the queried frequency value, output the frequency index number.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CWF2I? <NRf>

CWI <NRf>**CWI?**

Description: Enter index for CW frequency and turn CW on. Output current index number.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: CWI <NRf>

CWI?

CWI2F? <NRf>

Description: For the queried frequency index number, output the frequency value.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CWI2F? <NRf>

CWINC

Description: Add 1 to the current CW index.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CWINC

CWN2I <NRf>

Description: Add N to the current CW index.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CWN2I <NRf>

CWSRT

Description: Set CW frequency to the start frequency.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CWSRT

CWSTP

Description: Set CW frequency to the stop frequency.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CWSTP

CXD?

Description: Output internal buffer data collection mode.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: CXD?

CYN

Description: Select cyan as third plane color.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: CYN

DATCOL <NRf>**DATCOL?**

Description: Enter the color number for data. Output the color number for data.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: DATCOL <NRf>

DATCOL?

DC1

Description: Display channel 1 and 2 operating parameters.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DC1

DC3

Description: Display channel 3 and 4 operating parameters.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DC3

DCCTN**DCCTN?**

Description: Resume internal buffer data collection. Output internal buffer data collection resume/suspend status.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Syntax Example: DCCTN

DCCTN?

DCHLD

Description: Suspend internal buffer data collection.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DCHLD

DCMRK <NRf>

Description: Inserts the mark value into the internal buffer.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DCMRK <NRf>

DCOFF

Description: Turn internal buffer data collection mode off.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DCOFF

DCP

Description: Display calibration parameters 1st page.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DCP

DCP1

Description: Display calibration parameters 1st page.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DCP1

DCP2

Description: Display calibration parameters 2nd page.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DCP2

DCPCUR?

Description: Output data collection buffer current point count.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: DCPCUR?

DCPMAX?

Description: Output data collection buffer maximum number of points.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: DCPMAX?

DEC <string>

Description: Delete calibration/front panel setup from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: DEC <string>

DED <string>

Description: Delete tabular data file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DED <string>

DEFALC

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DEFALC

DEFGT <string>

Description: Enter the Instrument Default Gateway address.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DEFGT <string>

DEFSLT

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DEFSLT

DELALC

Description: Delete ALC cal file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DELALC

DELALCH

Description: Delete ALC cal file from hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DELALCH

DELALL

Description: Delete combined hardware cal file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DELALL

DELALLH

Description: Delete combined hardware cal file from hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DELALLH

DELCAL <string>

Description: Delete calibration/front panel setup from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: DELCAL <string>

DELDAT <string>

Description: Delete tabular data file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: DELDAT <string>

DELELG <string>

Description: Delete error list file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: DELELG <string>

DELFRE

Description: Delete frequency cal file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DELFRE

DELFREH

Description: Delete frequency cal file from hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DELFREH

DELLOG <string>

Description: Delete service log file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: DELLOG <string>

DELNRM <string>

Description: Delete trace memory file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: DELNRM <string>

DEN <string>

Description: Delete trace memory file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: DEN <string>

DF1

Description: Display 1.0mm female connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DF1

DF2

Description: Display 2.4mm female connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DF2

DF3

Description: Display GPC-3.5 female connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DF3

DF716

Description: Display 7/16 female connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DF716

DFN75

Description: Display N female 75 Ohm connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DFN75

DFP

Description: Display Front panel instrument state.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DFP

DFS

Description: Display SMA female connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DFS

DFSP

Description: Display special female connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Syntax Example: DFSP

Parameters: NA

Output: NA

DFT

Description: Display TNC female connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Syntax Example: DFT

Parameters: NA

Output: NA

DG7

Description: Display GPC-7 Male connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DG7

DGS

Description: Display GPIB status information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DGS

DGT

Description: Display 1st CRT test pattern.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DGT

DGT1

Description: Display 1st CRT test pattern.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DGT1

DGT2

Description: Display 2nd CRT test pattern.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DGT2

DGT3

Description: Display 3rd CRT test pattern.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DGT3

DM1

Description: Display 1.0mm male connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DM1

DM2

Description: Display 2.4mm male connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DM2

DM3

Description: Display GPC-3.5 male connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DM3

DM716

Description: Display 7/16 male connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DM716

DMN75

Description: Display N male 75 Ohm connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DMN75

DMS

Description: Display SMA male connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DMS

DMSP

Description: Display special male connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DMSP

DMT

Description: Display TNC male connector information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DMT

DOASF

Description: Display band A special female connector offset-short information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DOASF

DOASM

Description: Display band A special male connector offset-short information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DOASM

DOBSF

Description: Display band B special female connector offset-short information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DOBSF

DOBSM

Description: Display band B special male connector offset-short information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DOBSM

DOCSF

Description: Display band C special female connector offset-short information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DOCSF

DOCSM

Description: Display band C special male connector offset-short information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DOCSM

DOF1

Description: Display 1.0mm female connector offset-short information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DOF1

DOM1

Description: Display 1.0mm male connector offset-short information.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DOM1

DPN <NRf>**DPN?**

Description: Enter pen number for data. Output pen number for data.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: DPN <NRf>

DPN?

DVM <NRf>

Description: Enter DVM channel number.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DVM <NRf>

DWG

Description: Display waveguide parameters.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: DWG

EKT

Description: Select external keyboard testing.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: EKT

EXD

Description: Display external A/D input.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: EXD

FCW0

Description: Turn fast CW measurement mode off.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: FCW0

FCW1

Description: Turn fast CW measurement mode 1 on.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: FCW1

FCW2

Description: Turn fast CW measurement mode 2 on.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: FCW2

FCWX?

Description: Output fast CW measurement mode.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: FCWX?

FDE0

Description: Disable Output Data End Message.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: FDE0

FDE1

Description: Enable Output Data End Message.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: FDE1

FDEX?

Description: Output Data End Message enable/disable status.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: FDEX?

FFD

Description: Send form feed to printer and stop print/plot.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: FFD

FLC

Description: Perform source frequency linearity internal calibration.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: FLC

FLCVERIFY

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: FLCVERIFY

FMKR

Description: Select filter parameters marker mode.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: FMKR

FPT

Description: Select front panel keypad testing.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: FPT

GPN <NRf>**GPN?**

Description: Enter pen number for graticule. Output pen number for graticule.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: GPN <NRf>

GPN?

GRTCOL <NRf>**GRTCOL?**

Description: Enter the color number for the graticule. Output the color number for the graticule.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: GRTCOL <NRf>

GRTCOL?

HIST0

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: HIST0

HIST1

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: HIST1

HISTX?

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: HISTX?

HLDX?

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: HLDX?

HPN <NRf>**HPN?**

Description: Enter pen number for header. Output pen number for header.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: HPN <NRf>

HPN?

ICD <Arbitrary Block>

Description: Input Corrected S-Parameter data to display on the active trace

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <Arbitrary Block>

Output: NA

Syntax Example: ICD <Arbitrary Block>

IDM

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: IDM

IFB <NRf>

Description: Select 1st IF bandpass testing.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: IFB <NRf>

IHDW

Description: Enter hardware cal data from GPIB.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: IHDW

INT

Description: Initialize (format) floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: INT

INVER

Description: Activate color configuration Inverse.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: INVER

IODF

Description: Enter optical de-embedding files from GPIB and calibrate.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: IODF

ISTATEN

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ISTATEN

ISVC

Description: Enter Save RF Coefficient data.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ISVC

L1C

Description: Perform LO1 internal calibration.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: L1C

L2C

Description: Perform LO2 internal calibration.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: L2C

LAND

Description: Select landscape mode for output plot.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LAND

LAYCOL <NRf>**LAYCOL?**

Description: Enter the color number for the overlay data. Output the color number for the overlay data.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: LAYCOL <NRf>

LAYCOL?

LDFLASH

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LDFLASH

LDODF <string>

Description: Load optical de-embedding files from disk and calibrate.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LDODF <string>

LFP

Description: Select limit frequency readout menu for phase.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LFP

LFR

Description: Select limit frequency readout menu for magnitude.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LFR

LIMCAL0

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LIMCAL0

LIMCAL1

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LIMCAL1

LKS0

Description: Disable lock search mode.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LKS0

LKS1

Description: Enable lock search mode.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LKS1

LO11

Description: Select LO1 phase lock voltage testing.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LO11

LO12

Description: Select LO1 D/A voltage testing.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LO12

LO21

Description: Select LO2 main phase lock voltage testing.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LO21

LO22

Description: Select LO2 offset phase lock voltage testing.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LO22

LO23

Description: Select LO2 DDS phase lock voltage testing.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LO23

LO24

Description: Select LO2 main D/A voltage testing.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LO24

LO25

Description: Select LO2 offset D/A voltage testing.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LO25

LTCLR

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LTCLR

LTRSP

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LTRSP

LTSIC

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LTSIC

LTST

Description: Display the limits testing menu.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LTST

LTTRG

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: LTTRG

MATTFLAG**MATTFLAG?**

Description: Internal reserved words.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: NA

Query Parameters: NA

Output: NA

Syntax Example: MATTFLAG

MATTFLAG?

MEASDLY <NRf>**MEASDLY?**

Description: Set Measurement Delay time. Output Measurement Delay time.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: MEASDLY <NRf>

MEASDLY?

MEASDLY0

Description: Disable Measurement Delay.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: MEASDLY0

MEASDLY1

Description: Enable Measurement Delay.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: MEASDLY1

MEASDLYX?

Description: Output Measurement Delay on/off status.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: MEASDLYX?

MKRCOL <NRf>**MKRCOL?**

Description: Enter the color number for the markers.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Syntax Example: MKRCOL <NRf>

MKRCOL?

MNUCOL <NRf>**MNUCOL?**

Description: Enter the color number for the menu headers. Output the color number for the menu headers.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: MNUCOL <NRf>

MNUCOL?

MPN <NRf>**MPN?**

Description: Enter pen number for markers and limits. Output pen number for markers and limits.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Syntax Example: MPN <NRf>

MPN?

MRR

Description: Restore original marker range.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: MRR

MSR0

Description: Select 0 as ref for marker search and bandwidth calculation.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: MSR0

MSRD

Description: Select delta ref marker as ref for marker search and bandwidth calculation.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: MSRD

MSRM

Description: Select max as ref for marker search and bandwidth calculation.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: MSRM

MSRX?

Description: Output ref selection for marker search and bandwidth calculation.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: MSRX?

NEWCO

Description: Activate color configuration New.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: NEWCO

NRD

Description: Display non-ratioed parameters on 4 channels.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: NRD

OCS

Description: Output internal buffer collected data.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <char1>

Output: NA

Syntax Example: OCS

ODB

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ODB

ODM

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ODM

OHDW {<string>}

Description: Output hardware cal data to GPIB.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <char1>

Output: NA

Syntax Example: OHDW {<String>}

OHGL

Description: Output HPGL format data to GPIB.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <char1>

Output: NA

Syntax Example: OHGL

OIFCOFF

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: OIFCOFF

OSTAT

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: OSTAT

OSTATEN

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: OSTATEN

OSVC

Description: Output Save RF Coefficient data.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <char1>

Output: NA

Syntax Example: OSVC

P1MMA

Description: Set port 1 MMWave head to Amplified (3742).

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: P1MMA

P1MMN

Description: Set port 1 MMWave head to none.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: P1MMN

P1MMR

Description: Set port 1 MMWave head to Receiver (3741).

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: P1MMR

P1MMT

Description: Set port 1 MMWave head to Transmit/Receive (3740).

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: P1MMT

P1MMX?

Description: Output port 1 MMWave type.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: P1MMX?

P2ALC

Description: Perform Port 2 ALC loop internal calibration.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: P2ALC

P2ALCFLAT

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: P2ALCFLAT

P2ALCSHAPE

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: P2ALCSHAPE

P2MMA

Description: Set port 2 MMWave head to Amplified (3742).

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: P2MMA

P2MMN

Description: Set port 2 MMWave head to none.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: P2MMN

P2MMR

Description: Set port 2 MMWave head to Receiver (3741).

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: P2MMR

P2MMT

Description: Set port 2 MMWave head to Transmit/Receive (3740).

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: P2MMT

P2MMX?

Description: Output port 2 MMWave type.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: P2MMX?

PBL

Description: Select 1/4 size plot bottom left corner.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PBL

PBR

Description: Select 1/4 size plot bottom right corner.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PBR

PDR

Description: Print directory listing of the floppy drive.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PDR

PERIF

Description: Internal reserved word. No query.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PERIF

PFL

Description: Select full-size plot.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PFL

PFS

Description: Print full screen graphic image.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PFS

PGT

Description: Plot graticule.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PGT

PGTC

Description: Configure for plotting graticule.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PGTC

PLD

Description: Plot data area.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PLD

PLDC

Description: Configure for plotting data area.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PLDC

PLH

Description: Plot Header.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PLH

PLHC

Description: Configure for plotting header.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PLHC

PLM

Description: Plot markers and limits.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PLM

PLMC

Description: Configure for plotting markers and limits.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PLMC

PLO?

Description: Output plot mode portrait or landscape.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: PLO?

PLS

Description: Plot entire screen.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PLS

PLSC

Description: Configure for plotting entire screen.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PLSC

PLT

Description: Plot data traces.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PLT

PLTC

Description: Configure for plotting data traces.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PLTC

PMN

Description: Plot menu.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PMN

PMNC

Description: Configure for plotting menu.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PMNC

PORT

Description: Select portrait mode for output plot.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PORT

PRT?

Description: Perform printer test and output status.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: PRT?

PSPWR <NRf>**PSPWR?**

Description: Enter the Power Sweep Off value. Output the Power Sweep Off value.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR3>

Syntax Example: PSPWR <NRf>

PSPWR?

PST

Description: Stop print/plot.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PST

PTL

Description: Select 1/4 size plot top left corner.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PTL

PTR

Description: Select 1/4 size plot top right corner.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: PTR

PTS <NRf>**PTS?**

Description: Set the number of points to be skipped for flat test port calibration. Output the number of points to be skipped for flat test port calibration

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: PTS <NRf>

PTS?

PXX?

Description: Output plot size and location.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: PXX?

Q22

Description: Set MMWave band to Q band (WR-22).

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: Q22

QLFSK0

Description: Turn off the Quick Lockfail Skipover mode.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: QLFSK0

QLFSK1

Description: Turn on the Quick Lockfail Skipover mode.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: QLFSK1

QLFSKX?

Description: Output the Quick Lockfail Skipover mode on/off status.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: QLFSKX?

RCCM <NRf>

Description: Recall RF Coefficient data from Memory Location n.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: RCCM <NRf>

RCCM1 <string>

Description: Recall RF Coefficient data from Memory Location 1.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCCM1 <string>

RCCM2 <string>

Description: Recall RF Coefficient data from Memory Location 2.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCCM2 <string>

RCCM3 <string>

Description: Recall RF Coefficient data from Memory Location 3.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCCM3 <string>

RCCM4 <string>

Description: Recall RF Coefficient data from Memory Location 4.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCCM4 <string>

RCCM5 <string>

Description: Recall RF Coefficient data from Memory Location 5.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCCM5 <string>

RCCM6 <string>

Description: Recall RF Coefficient data from Memory Location 6.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCCM6 <string>

RCCM7 <string>

Description: Recall RF Coefficient data from Memory Location 7.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCCM7 <string>

RCCM8 <string>

Description: Recall RF Coefficient data from Memory Location 8.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCCM8 <string>

RCK <string>

Description: Recall trace memory file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCK <string>

RCLALC <string>

Description: Recall ALC cal file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLALC <string>

RCLALCH <string>

Description: Recall ALC cal file from hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLALCH <string>

RCLALL <string>

Description: Recall combined hardware cal file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLALL <string>

RCLALLH <string>

Description: Recall combined hardware cal file from hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLALLH <string>

RCLCAL <string>

Description: Recall calibration/front panel setup from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLCAL <string>

RCLDAT <string>

Description: Recall tabular data file from floppy disk to printer.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLDAT <string>

RCLDATH <string>

Description: Recall tabular data file from hard disk to printer.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLDATH <string>

RCLELG <string>

Description: Recall error list file from floppy disk to printer.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLELG <string>

RCLELGH <string>

Description: Recall error list file from hard disk to printer.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLELGH <string>

RCLFRE <string>

Description: Recall frequency cal file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLFRE <string>

RCLFREH <string>

Description: Recall frequency cal file from hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLFREH <string>

RCLLOG <string>

Description: Recall service log file from floppy disk to printer.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLLOG <string>

RCLLOGH <string>

Description: Recall service log file from hard disk to printer.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLLOGH <string>

RCLNRM <string>

Description: Recall trace memory file from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RCLNRM <string>

RETRIES**RETRIES?**

Description: Internal reserved words.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Syntax Example: RETRIES

RETRIES?

RLD <string>

Description: Recall calibration/front panel setup from floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RLD <string>

RLDH <string>

Description: Recall calibration/front panel setup from hard disk

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RLDH <string>

RSL

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: RSL

RSTCOL

Description: Reset Color Configuration to default.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: RSTCOL

RTB <string>

Description: Recall tabular data file from floppy disk to printer.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RTB <string>

RTBH <string>

Description: Recall tabular data file from hard disk to printer.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: RTBH <string>

RVV

Description: Set rear panel output mode to vertical.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: RVV

SAVALC <string>

Description: Save ALC cal to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SAVALC <string>

SAVALCH <string>

Description: Save ALC cal to hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SAVALCH <string>

SAVALL <string>

Description: Save combined hardware cal to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SAVALL <string>

SAVALLH <string>

Description: Save combined hardware cal to hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SAVALLH <string>

SAVCAL <string>

Description: Save calibration/front panel setup to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SAVCAL <string>

SAVDAT <string>

Description: Save tabular data to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SAVDAT <string>

SAVELG <string>

Description: Save error list to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SAVELG <string>

SAVFRE <string>

Description: Save frequency cal to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SAVFRE <string>

SAVFREH <string>

Description: Save frequency cal to hard disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SAVFREH <string>

SAVLOG <string>

Description: Save service log to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SAVLOG <string>

SAVNRM <string>

Description: Save trace memory to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SAVNRM <string>

SDK <string>

Description: Save trace memory to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SDK <string>

SDR**SDR?**

Description: Select standard receiver mode. Output receiver mode.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Query Parameters: NA

Output: <NR1>

Syntax Example: SDR

SDR?

SELSP

Description: Select S-Parameter test set operation.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SELSP

SERNUM <string>

Description: Set the Instrument serial number.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SERNUM <string>

SHARP

Description: Activate color configuration Sharp.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SHARP

SL1

Description: Select source lock receiver mode.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SL1

SLH <NRf>**SLH?**

Description: Enter segmented limits horizontal offset of active channel. Output segmented limits horizontal offset of active channel.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR3>

Syntax Example: SLH <NRf>
SLH?

SLT

Description: Perform SLT internal calibration.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SLT

SLTBIAS

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SLTBIAS

SLTPFC

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SLTPFC

SLTVERIFY

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SLTVERIFY

SLV <NRf>**SLV?**

Description: Enter segmented limits vertical offset of active channel. Output segmented limits vertical offset of active channel.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: <NRf>

Output: NA

Query Parameters: NA

Output: <NR3>

Syntax Example: SLV <NRf>

SLV?

SMKR

Description: Select marker search marker mode.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SMKR

SOFTCO

Description: Activate color configuration Soft.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SOFTCO

SPD <NRf>**SPD?**

Description: Enter pen speed percentage. Output pen speed percentage.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: SPD <NRf>

SPD?

SPLN

Description: Select normal source lock polarity.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SPLN

SPLR

Description: Select reverse source lock polarity.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SPLR

SPLX?

Description: Output source lock polarity normal/reverse status.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: SPLX?

SRC1

Description: Select source linearity voltage testing.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SRC1

SRC1EX**SRC1EX?**

Description: Select source 1 as external. Output source 1 external/internal status.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Syntax Example: SRC1EX

SRC1EX?

SRC1NT

Description: Select source 1 as internal.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SRC1NT

SRC2

Description: Select source power voltage testing.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SRC2

ST1

Description: Select set on receiver mode.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: ST1

STATE?

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: STATE?

STO <string>

Description: Save calibration/front panel setup to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: STO <string>

STOCO

Description: Store the current color configuration as Reset.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: STOCO

SUBMSK <string>

Description: Enter the Instrument Subnet Mask.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: SUBMSK <string>

SVCM <NRf>

Description: Save RF Coefficient data to Memory Location n.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SVCM <NRf>

SVCM1

Description: Save RF Coefficient data to Memory Location 1.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SVCM1

SVCM2

Description: Save RF Coefficient data to Memory Location 2.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SVCM2

SVCM3

Description: Save RF Coefficient data to Memory Location 3.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SVCM3

SVCM4

Description: Save RF Coefficient data to Memory Location 4.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SVCM4

SVCM5

Description: Save RF Coefficient data to Memory Location 5.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SVCM5

SVCM6

Description: Save RF Coefficient data to Memory Location 6.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SVCM6

SVCM7

Description: Save RF Coefficient data to Memory Location 7.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SVCM7

SVCM8

Description: Save RF Coefficient data to Memory Location 8.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SVCM8

SWPDIR?

Description: Output instantaneous sweep direction forward/reverse.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NR1>

Output: <NR1>

Syntax Example: SWPDIR?

SWPING?

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SWPING?

SYSAP

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SYSAP

SYSAPB

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SYSAPB

SYSDN

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SYSDN

SYSDNB

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SYSDNB

SYSWR

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SYSWR

SYSWRB

Description: Internal reserved word.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: SYSWRB

TDD <string>

Description: Save tabular data to floppy disk.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <string>

Output: NA

Syntax Example: TDD <string>

TDL

Description: Enter thru DC coefficient for loss (obsolete).

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: TDL <NRf>

TFE <NRf>

Description: Enter thru freq exponent for loss (obsolete).

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: TFE <NRf>

TFL <NRf>

Description: Enter thru freq coefficient for loss (obsolete).

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NRf>

Output: NA

Syntax Example: TFL <NRf>

TK1

Description: Select tracking receiver mode.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: TK1

TOMSET**TOMSET?**

Description: Internal reserved words.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: NA

Query Parameters: NA

Output: <NR1>

Syntax Example: TOMSET
TOMSET?

TPN <NRf>**TPN?**

Description: Enter pen number for trace overlay data. Output pen number for trace overlay data.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: TPN <NRf>
TPN?

TRCCOL <NRf>**TRCCOL?**

Description: Enter the color number for the memory data. Output the color number for the memory data.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Cmd Parameters: <NRf>

Query Parameters: NA

Output: <NR1>

Syntax Example: TRCCOL <NRf>

TRCCOL?

UMSTR {<string>}

Description: Display a message on the screen.

Support Status: This Lightning function is not supported by the VectorStar VNA.

Parameters: NA

Output: NA

Syntax Example: UMSTR {<string>}

Chapter 4 — HP8510 Supported Commands

4-1 Introduction

This chapter provides a list of supported HP8510 programming commands. For more detailed information about using these commands, refer to the appropriate 8510 Programming Manual.

In the **VectorStar MS4640A Series VNA Programming Manual – 10410-00267**, see Chapter 2 – Programming the VectorStar Series VNAs for definitions of parameters and other notations.

In this manual, [Chapter 2 “Anritsu Supported 37xxxX Commands”](#), see [Section 2-4 “Cmd Parameters, Notations, and Abbreviations” on page 2-1](#) for a summary of command notation conventions.

4-2 HP8510 Command Listing

ADR8510 <NRf>

ADDR8510?

Description: Enter instrument GPIB address. Output instrument GPIB address

Cmd Parameters: <NRf>

Output: <NR1>

Syntax Example: ADDR8510 <NRf>

ADDR8510?

ADDRPOWE <NRf>

ADDRPOWE?

Description: Enter power meter GPIB address. Output power meter GPIB address.

Cmd Parameters: <NRf>

Output: <NR1>

Syntax Example: ADDRPOWE <NRf>

ADDRPOWE?

ADDRSOUR <NRf>

ADDRSOUR?

Description: Enter external source 1 GPIB address. Output external source 1 GPIB address.

Cmd Parameters: <NRf>

Output: <NR1>

Syntax Example: ADDRSOUR <NRf>

ADDRSOUR?

ADDRSOUR2 <NRf>

ADDRSOUR2?

Description: Enter external source 2 GPIB address. Output external source 2 GPIB address.

Cmd Parameters: <NRf>

Output: <NR1>

Syntax Example: ADDRSOUR2 <NRf>

ADDRSOUR2?

ASEG

Description: Measure all Frequency List segments. No Query

Output: NA

Syntax Example: ASEG

ATTP1 <NRf>**ATTP1?**

Description: Set reference attenuator value on port 1. Output reference attenuator value on port 1.

Cmd Parameters: <NRf>

Output: <NR1>

Syntax Example: ATTP1 <NRf>

ATTP1?

ATTP2 <NRf>**ATTP2?**

Description: Set reference attenuator value on port 2. Output reference attenuator value on port 2.

Cmd Parameters: <NRf>

Output: <NR1>

Syntax Example: ATTP2 <NRf>

ATTP2?

AUTO

Description: Autoscale the active trace display. No Query

Output: NA

Syntax Example: AUTO

AVER?

Description: Query only. Output averaging status on/off.

Output: <NR1>: 0 | 1

Syntax Example: AVER?

AVEROFF

Description: Turn averaging off. No query.

Output: NA

Syntax Example: AVEROFF

AVERON**AVERON?**

Description: Turn averaging on. Output averaging count.

Output: <NR1>

Syntax Example: AVERON

AVERON?

CALF

Description: Perform flat test port power calibration. No query.

Output: NA

Syntax Example: CALF

CALIFUL2

Description: Select full 2-port calibration

Output: NA

Syntax Example: CALIFUL2

CALIONE2

Description: Select one path two port forward calibration. No query.

Output: NA

Syntax Example: CALIFUL2

CALIRAI

Description: Selects response and isolation calibration. No query.

Output: NA

Syntax Example: CALIRAI

CALIRESP

Description: Selects response calibration. No query.

Output: NA

Syntax Example: CALIRESP

CALIS111

Description: Select S11 1-Port Calibration. No query.

Output: NA

Syntax Example: CALIS111

CALIS221

Description: Select S22 1-Port Calibration. No query.

Output: NA

Syntax Example: CALIS221

CENT <NRf>**CENT?**

Description: Enter center frequency. Output center frequency

Cmd Parameters: <NRf>

Output: <NR3>

Syntax Example: CENT <NRf>

CENT?

CHAN1

Description: Select trace 1 as active trace. No query.

Output: NA

Syntax Example: CHAN1

CHAN2

Description: Select trace 2 as active trace. No query.

Output: NA

Syntax Example: CHAN2

CLASS11A

Description: Measure the forward CLASSA reflection standard. No query.

Output: NA

Syntax Example: CLASS11A

CLASS11B

Description: Measure the forward CLASSB reflection standard. No query.

Output: NA

Syntax Example: CLASS11B

CLASS11C

Description: Measure the forward CLASSC reflection standards. No query.

Output: NA

Syntax Example: CLASS11C

CLASS22A

Description: Measure the reverse CLASSA reflection standard. No query.

Output: NA

Syntax Example: CLASS22A

CLASS22B

Description: Measure the reverse CLASSB reflection standard. No query.

Output: NA

Syntax Example: CLASS22B

CLASS22C

Description: Measure the reverse CLASSC reflection standards. No query.

Output: NA

Syntax Example: CLASS22C

CLEL

Description: Clear all segments of the Frequency List. No query.

Output: NA

Syntax Example: CLEL

CLES

Description: Clear Analyzer Status Bytes. No query.

Output: NA

Syntax Example: CLES

CONF <NRf>

Description: Enter CW frequency for multiple source equation being defined. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: CONF <NRf>

CONT

Description: Return to normal sweep mode. No query.

Output: NA

Syntax Example: CONT

CONV1S

Description: Convert active trace parameter to 1/S. No query.

Output: NA

Syntax Example: CONV1S

CONVS

Description: Convert active trace parameter to S. No query.

Output: NA

Syntax Example: CONVS

CONVY

Description: Convert active trace parameter to Y. No query.

Output: NA

Syntax Example: CONVY

CONVZ

Description: Convert active trace parameter to Z. No query.

Output: NA

Syntax Example: CONVZ

CORR?

Description: Query only. Output RF correction on/off status.

Output: <NR1>

Syntax Example: CORR?

CORROFF

Description: Turn RF Correction Off. No query.

Output: NA

Syntax Example: CORROFF

CORRON**CORRON?**

Description: Turn RF Correction On. Output RF Correction On/Off status.

Output: <NR1>

Syntax Example: CORRON

CORRON?

CWFREQ <NRf>**CWFREQ?**

Description: Enter CW frequency and turn CW on. Output CW frequency.

Cmd Parameters: <NRf>

Output: <NR3>

Syntax Example: CWFREQ <NRf>

CWFREQ?

DATACHAN1

Description: Trace math uses data from Channel 1. No query.

Output: NA

Syntax Example: DATACHAN1

DATACHAN2

Description: Trace math uses data from Channel 2. No query.

Output: NA

Syntax Example: DATACHAN2

DATI

Description: Transfer selected channel corrected data array to the selected memory location. No query.

Output: NA

Syntax Example: DATI

DEFA

Description: Default multiple source equations. No query.

Output: NA

Syntax Example: DEFA

DEFIRECV

Description: Multiple source define receiver equation. No query.

Output: NA

Syntax Example: DEFIRECV

DEFISOUR1

Description: Multiple source define RF (source 1) equation. No query.

Output: NA

Syntax Example: DEFISOUR1

DEFISOUR2

Description: Multiple source define LO (source 2) equation. No query.

Output: NA

Syntax Example: DEFISOUR2

DEFM1

Description: Selects memory location 1 as the active memory for memory operations. No query.

Output: NA

Syntax Example: DEFM1

DEFM2

Description: Selects memory location 1 as the active memory for memory operations. No query.

Output: NA

Syntax Example: DEFM2

DEFM3

Description: Selects memory location 3 as the active memory for memory operations. No query.

Output: NA

Syntax Example: DEFM3

DEFM4

Description: Selects memory location 4 as the active memory for memory operations. No query.

Output: NA

Syntax Example: DEFM4

DEFM5

Description: Selects memory location 5 as the active memory for memory operations. No query.

Output: NA

Syntax Example: DEFM5

DEFM6

Description: Selects memory location 6 as the active memory for memory operations. No query.

Output: NA

Syntax Example: DEFM6

DEFM7

Description: Selects memory location 7 as the active memory for memory operations. No query.

Output: NA

Syntax Example: DEFM7

DEFM8

Description: Selects memory location 8 as the active memory for memory operations. No query.

Output: NA

Syntax Example: DEFM8

DELA

Description: Set the display type to Group Delay for the active trace. No query.

Output: NA

Syntax Example: DELA

DENOA1

Description: Select a1 as denominator for active trace parameter being defined. No query.

Output: NA

Syntax Example: DENOA1

DENOA2

Description: Select a2 as denominator for active trace parameter being defined. No query.

Output: NA

Syntax Example: DENOA2

DENOB1

Description: Select b1 as denominator for active trace parameter being defined. No query.

Output: NA

Syntax Example: DENOB1

DENONOR

Description: Select Unity as denominator for active trace parameter being defined. No query.

Output: NA

Syntax Example: DENONOR

DISPDATA

Description: Display current data only. No query.

Output: NA

Syntax Example: DISPDATA

DISPDATM

Description: Display current data and memory. No query.

Output: NA

Syntax Example: DISPDATM

DISPMATH

Description: Display current data with math. No query.

Output: NA

Syntax Example: DISPMATH

DISPMEMO

Description: Display memory only. No query.

Output: NA

Syntax Example: DISPMEMO

DIVI

Description: Select complex divide trace math. No query.

Output: NA

Syntax Example: DIVI

DONE

Description: Done with response calibration or loads in 1 port reflection cal. No query.

Output: NA

Syntax Example: DONE

DRIVNONE

Description: Select no port for active trace parameter being redefined. No query.

Output: NA

Syntax Example: DRIVNONE

DRIVPORT1

Description: Select port 1 for active trace parameter being redefined. No query.

Output: NA

Syntax Example: DRIVPORT1

DRIVPORT2

Description: Select port 2 for active trace parameter being redefined. No query.

Output: NA

Syntax Example: DRIVPORT2

EDITMULS

Description: Edit multiple source equations. No query.

Syntax Example: EDITMULS

Output: NA

ENTO

Description: Set active function entry off. No query.

Output: NA

Syntax Example: ENTO

EQUA

Description: Set current active function equal to current active marker value. No query.

Output: NA

Syntax Example: EQUA

FACTPRES

Description: Perform a factory preset. No query.

Output: NA

Syntax Example: FACTPRES

FLATOFF

Description: Turn OFF flatness correction calibration. No query.

Output: NA

Syntax Example: FLATOFF

FLATON

Description: Turn ON flatness correction calibration. No query.

Output: NA

Syntax Example: FLATON

FORM2

Description: Select IEEE754 32 bit data transfer format. No query.

Output: NA

Syntax Example: FORM2

FORM3

Description: Select IEEE754 64 bit data transfer format. No query.

Output: NA

Syntax Example: FORM3

FORM4

Description: Select ASCII data transfer format. No query.

Output: NA

Syntax Example: FORM4

FRER

Description: Free Run selected sweep mode. No query.

Output: NA

Syntax Example: FRER

FWDI

Description: Measure forward isolation response. No query.

Output: NA

Syntax Example: FWDI

FWDM

Description: Measure forward match. No query.

Output: NA

Syntax Example: FWDM

FWDT

Description: Measure forward thru response. No query.

Output: NA

Syntax Example: FWDT

HOLD**HOLD?**

Description: Put sweep into hold mode. Output the sweep hold status.

Output: <NR1>

Syntax Example: HOLD

HOLD?

IMAG

Description: Set the display type to Imaginary for the active trace. No query.

Output: NA

Syntax Example: IMAG

INPUCALC01 <block>

Description: Enter Calibration Coefficient number 1. No query.

Output: NA

Syntax Example: INPUCALC01 <block>

INPUCALC02 <block>

Description: Enter Calibration Coefficient number 2. No query.

Output: NA

Syntax Example: INPUCALC02 <block>

INPUCALC03 <block>

Description: Enter Calibration Coefficient number 3. No query.

Output: NA

Syntax Example: INPUCALC03 <block>

INPUCALC04 <block>

Description: Enter Calibration Coefficient number 4. No query.

Output: NA

Syntax Example: INPUCALC04 <block>

INPUCALC05 <block>

Description: Enter Calibration Coefficient number 5. No query.

Output: NA

Syntax Example: INPUCALC05 <block>

INPUCALC06 <block>

Description: Enter Calibration Coefficient number 6. No query.

Output: NA

Syntax Example: INPUCALC06 <block>

INPUCALC07 <block>

Description: Enter Calibration Coefficient number 7. No query.

Output: NA

Syntax Example: INPUCALC07 <block>

INPUCALC08 <block>

Description: Enter Calibration Coefficient number 8. No query.

Output: NA

Syntax Example: INPUCALC08 <block>

INPUCALC09 <block>

Description: Enter Calibration Coefficient number 9. No query.

Output: NA

Syntax Example: INPUCALC09 <block>

INPUCALC10 <block>

Description: Enter Calibration Coefficient number 10. No query.

Output: NA

Syntax Example: INPUCALC10 <block>

INPUCALC11 <block>

Description: Enter Calibration Coefficient number 11. No query.

Output: NA

Syntax Example: INPUCALC11 <block>

INPUCALC12 <block>

Description: Enter Calibration Coefficient number 12. No query.

Output: NA

Syntax Example: INPUCALC12 <block>

INPUFREL <block>

Description: Enter frequency values. No query.

Output: NA

Syntax Example: INPUFREL <block>

INVS

Description: Set the display type to Inverted Smith Chart for the active trace. No query.

Output: NA

Syntax Example: INVS

ISOD

Description: Done measuring isolation. No query.

Output: NA

Syntax Example: ISOD

ISOL

Description: Measure isolation. No query.

Output: NA

Syntax Example: ISOL

LINM

Description: Set the display type to Linear Magnitude for the active trace. No query.

Output: NA

Syntax Example: LINM

LINP

Description: Set the display type to Polar with Linear Magnitude marker readout for the active trace. No query.

Output: NA

Syntax Example: LINP

LISFREQ

Description: Set the sweep mode to Frequency List. No query.

Output: NA

Syntax Example: LISFREQ

LOCKA1

Description: Select a1 as Phase Lock for active trace parameter being defined. No query.

Output: NA

Syntax Example: LOCKA1

LOCKA2

Description: Select a2 as Phase Lock for active trace parameter being defined. No query.

Output: NA

Syntax Example: LOCKA2

LOCKNONE

Description: Select no Phase Lock for active trace parameter being defined. No query.

Output: NA

Syntax Example: LOCKNONE

LOGM

Description: Set the display type to Log Magnitude for the active trace. No query.

Output: NA

Syntax Example: LOGM

LOGP

Description: Set the display type to Polar with Log Magnitude marker readout for the active trace. No query.

Output: NA

MARK1 <NRf>**MARK1?**

Description: Enter marker 1 frequency distance or time and turn on. Output marker 1 frequency distance or time.

Cmd Parameters: <NRf>

Output: <NR3>

Syntax Example: MARK1 <NRf>

MARK1?

MARK2 <NRf>**MARK2?**

Description: Enter marker 2 frequency distance or time and turn on. Output marker 2 frequency distance or time.

Cmd Parameters: <NRf>

Output: <NR3>

Syntax Example: MARK2 <NRf>

MARK2?

MARK3 <NRf>**MARK3?**

Description: Enter marker 3 frequency distance or time and turn on. Output marker 3 frequency distance or time.

Cmd Parameters: <NRf>

Output: <NR3>

Syntax Example: MARK3 <NRf>

MARK3?

MARK4 <NRf>**MARK4?**

Description: Enter marker 4 frequency distance or time and turn on. Output marker 4 frequency distance or time.

Cmd Parameters: <NRf>

Output: <NR3>

Syntax Example: MARK4 <NRf>

MARK4?

MARK5 <NRf>**MARK5?**

Description: Enter marker 5 frequency distance or time and turn on. Output marker 5 frequency distance or time.

Cmd Parameters: <NRf>

Output: <NR3>

Syntax Example: MARK5 <NRf>

MARK5?

MARKCONT

Description: Set markers to continuous (linear interpolated). No query.

Output: NA

Syntax Example: MARKCONT

MARKDISC

Description: Set markers to discrete (only measured points). No query.

Output: NA

Syntax Example: MARKDISC

MARKMAXI

Description: Move active marker to maximum trace value. No query.

Output: NA

Syntax Example: MARKMAXI

MARKMINI

Description: Move active marker to minimum trace value. No query.

Output: NA

Syntax Example: MARKMINI

MARKOFF

Description: Turn all markers off. No query.

Output: NA

Syntax Example: MARKOFF

MINU

Description: Complex subtraction trace math for selected channel. No query.

Output: NA

Syntax Example: MINU

MULD <NRf>

Description: Set denominator multiplier for multiple source equation being defined. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: MULD <NRf>

MULN <NRf>

Description: Set numerator multiplier for multiple source equation being defined. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: MULN <NRf>

MULSOFF

Description: Turn multiple source off and save definition. No query.

Output: NA

Syntax Example: MULSOFF

MULSON

Description: Turn multiple source on and save definition. No query.

Output: NA

Syntax Example: MULSON

MULT

Description: Select multiplication as trace math for active trace. No query.

Output: NA

Syntax Example: MULT

NUMEA1

Description: Select a1 as numerator for active trace parameter being defined. No query.

Output: NA

Syntax Example: NUMEA1

NUMEA2

Description: Select a2 as numerator for active trace parameter being defined. No query.

Output: NA

Syntax Example: NUMEA2

NUMEB1

Description: Select b1 as numerator for active trace parameter being defined. No query.

Output: NA

Syntax Example: NUMEB1

NUMEB2

Description: Select b2 as numerator for active trace parameter being defined. No query.

Output: NA

Syntax Example: NUMEB2

NUMG <NRf>

Description: Execute a number of groups of sweeps, then hold. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: NUMG <NRf>

OFFF <NRf>

Description: Set offset frequency for multiple source equation being defined. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: OFFF <NRf>

OMII

Description: Omit isolation. No query.

Output: NA

Syntax Example: OMII

OUTPACTI

Description: Output current active function value. No query.

Output: <NR3>

Syntax Example: OUTPACTI

OUTPCALC01

Description: Output Correction coefficient number 1. No query.

Output: <block>

Syntax Example: OUTPCALC01

OUTPCALC02

Description: Output Correction coefficient number 2. No query.

Output: <block>

Syntax Example: OUTPCALC02

OUTPCALC03

Description: Output Correction coefficient number 3. No query.

Output: <block>

Syntax Example: OUTPCALC03

OUTPCALC04

Description: Output Correction coefficient number 4. No query.

Output: <block>

Syntax Example: OUTPCALC04

OUTPCALC05

Description: Output Correction coefficient number 5. No query.

Output: <block>

Syntax Example: OUTPCALC05

OUTPCALC06

Description: Output Correction coefficient number 6. No query.

Output: <block>

Syntax Example: OUTPCALC06

OUTPCALC07

Description: Output Correction coefficient number 7. No query.

Output: <block>

Syntax Example: OUTPCALC07

OUTPCALC08

Description: Output Correction coefficient number 8. No query.

Output: <block>

Syntax Example: OUTPCALC08

OUTPCALC09

Description: Output Correction coefficient number 9. No query.

Output: <block>

Syntax Example: OUTPCALC09

OUTPCALC10

Description: Output Correction coefficient number 10. No query.

Output: <block>

Syntax Example: OUTPCALC10

OUTPCALC11

Description: Output Correction coefficient number 11. No query.

Output: <block>

Syntax Example: OUTPCALC11

OUTPCALC12

Description: Output Correction coefficient number 12. No query.

Output: <block>

Syntax Example: OUTPCALC12

OUTPDATA

Description: Output selected channel corrected data array real/imaginary pairs. No query.

Output: <block>

Syntax Example: OUTPDATA

OUTPFORM

Description: Output selected channel formatted data array pairs. No query.

Output: <block>

Syntax Example: OUTPFORM

OUTPFREL

Description: Output frequency values. No query.

Output: <block>

Syntax Example: OUTPFREL

OUTPIDEN

Description: Output Analyzer ASCII String. No query.

Output: <char>

Syntax Example: OUTPIDEN

OUTPMARK <NR3> | <NR3>, <NR3>

Description: Outputs the active marker response value. No query.

Output: <NR3> | <NR3>, <NR3>

Syntax Example: OUTPMARK

OUTPMEMO

Description: Outputs the contents of the active memory location. No query.

Output: <block>

Syntax Example: OUTPMEMO

OUTPRAW1

Description: Output Raw data for the selected trace. No query.

Output: <block>

Syntax Example: OUTPRAW1

OUTPRAW2

Description: Output Raw data for the selected trace. No query.

Output: <block>

Syntax Example: OUTPRAW2

OUTPRAW3

Description: Output Raw data for the selected trace. No query.

Output: <block>

Syntax Example: OUTPRAW3

OUTPRAW4

Description: Output Raw data for the selected trace. No query.

Output: <block>

Syntax Example: OUTPRAW4

OUTPSTAT <NR1>, <NR1>

Description: Output Status Bytes and Clear them. No query.

Output: <NR1>, <NR1>

Syntax Example: OUTPSTAT

PHAO <NRf>

Description: Enter the phase offset of the active trace. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: PHAO <NRf>

PHAS

Description: Set the display type to Phase for the active trace. No query.

Output: NA

Syntax Example: PHAS

PLUS

Description: Select addition as trace math for active trace. No query.

Output: NA

Syntax Example: PLUS

POIN <NRf>**POIN?**

Description: Set number of sweep data points. Output number of points currently being measured.

Cmd Parameters: <NRf>

Output: <NR1>

Syntax Example: POIN <NRf>

POIN?

POIN101

Description: Set data points to 101. No query.

Output: NA

Syntax Example: POIN101

POIN201

Description: Set data points to 201. No query.

Output: NA

Syntax Example: POIN201

POIN401

Description: Set data points to 401. No query.

Output: NA

Syntax Example: POIN401

POIN51

Description: Set data points to 51. No query.

Output: NA

Syntax Example: POIN51

POIN801

Description: Set data points to 801. No query.

Output: NA

Syntax Example: POIN801

PORT1 <NRf>**PORT1?**

Description: Sets the Reference Plane extension for port1. Output the Reference Plane extension for port1.

Cmd Parameters: <NRf>

Output: <NR3>

Syntax Example: PORT1 <NRf>

PORT1?

PORT2 <NRf>**PORT2?**

Description: Sets the Reference Plane extension for port2. Output the Reference Plane extension for port2.

Cmd Parameters: <NRf>

Output: <NR3>

Syntax Example: PORT2 <NRf>

PORT2?

POW2 <NRf>

Description: Sets the power level of the 2nd external source. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: POW2 <NRf>

POWE <NRf>

Description: Sets the power level of the 1st external source. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: POWE <NRf>

PRES

Description: Instrument reset. No query.

Output: NA

Syntax Example: PRES

RAID

Description: Done with response and isolation calibration. No query.

Output: NA

Syntax Example: RAID

RAIISOL

Description: Measure the isolation standard for the response calibration. No query.

Output: NA

Syntax Example: RAIISOL

RAIRESP

Description: Measure response calibration standards. No query.

Output: NA

Syntax Example: RAIRESP

REAL

Description: Set the display type to Real for the active trace. No query.

Output: NA

Syntax Example: REAL

RECA1

Description: Recall previously stored Instrument State from internal memory1. No query.

Output: NA

Syntax Example: RECA1

RECA2

Description: Recall previously stored Instrument State from internal memory2. No query.

Output: NA

Syntax Example: RECA2

RECA3

Description: Recall previously stored Instrument State from internal memory3. No query.

Output: NA

Syntax Example: RECA3

RECA4

Description: Recall previously stored Instrument State from internal memory4. No query.

Output: NA

Syntax Example: RECA4

RECA5

Description: Recall previously stored Instrument State from internal memory5. No query.

Output: NA

Syntax Example: RECA5

RECA6

Description: Recall previously stored Instrument State from internal memory6. No query.

Output: NA

Syntax Example: RECA6

RECA7

Description: Recall previously stored Instrument State from internal memory7. No query.

Output: NA

Syntax Example: RECA7

RECA8

Description: Recall previously stored Instrument State from internal memory8. No query.

Output: NA

Syntax Example: RECA8

REDD

Description: Active trace parameter redefinition done. No query.

Output: NA

Syntax Example: REDD

REFD

Description: Done measuring reflections. No query.

Output: NA

Syntax Example: REFD

REFL

Description: Measure reflections. No query.

Output: NA

Syntax Example: REFL

REFP <NRf>

Description: Enter the position of the reference on the display of the active trace. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: REFP <NRf>

REFV <NRf>

Description: Enter the offset value of the reference on the display of the active trace. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: REFV <NRf>

REIP

Description: Set the display type to Polar with Real/Imaginary marker readout for the active trace. No query.

Output: NA

Syntax Example: REIP

RESC

Description: Resume calibration at point where it was left. No query.

Output: NA

Syntax Example: RESC

REST

Description: Measurement restart at beginning of group. No query.

Output: NA

Syntax Example: REST

REVI

Description: Measure reverse isolation response. No query.

Output: NA

Syntax Example: REVI

REVM

Description: Measure reverse match. No query.

Output: NA

Syntax Example: REVM

REVT

Description: Measure reverse thru response. No query.

Output: NA

Syntax Example: REVT

S11

Description: Measure S11 on active trace. No query.

Output: NA

Syntax Example: S11

S12

Description: Measure S12 on active trace. No query.

Output: NA

Syntax Example: S12

S21

Description: Measure S21 on active trace. No query.

Output: NA

Syntax Example: S21

S22

Description: Measure S22 on active trace. No query.

Output: NA

Syntax Example: S22

SADD

Description: Add a segment to the Frequency List. No query.

Output: NA

Syntax Example: SADD

SAV1

Description: Done with 1-Port calibration. No query.

Output: NA

Syntax Example: SAV1

SAV2

Description: Done with 2-Port calibration. No query.

Output: NA

Syntax Example: SAV2

SAVE1

Description: Save current Instrument State into internal memory1. No query.

Output: NA

Syntax Example: SAVE1

SAVE2

Description: Save current Instrument State into internal memory2. No query.

Output: NA

Syntax Example: SAVE2

SAVE3

Description: Save current Instrument State into internal memory3. No query.

Output: NA

Syntax Example: SAVE3

SAVE4

Description: Save current Instrument State into internal memory4. No query.

Output: NA

Syntax Example: SAVE4

SAVE5

Description: Save current Instrument State into internal memory5. No query.

Output: NA

Syntax Example: SAVE5

SAVE6

Description: Save current Instrument State into internal memory6. No query.

Output: NA

Syntax Example: SAVE6

SAVE7

Description: Save current Instrument State into internal memory7. No query.

Output: NA

Syntax Example: SAVE7

SAVE8

Description: Save current Instrument State into internal memory8. No query.

Output: NA

Syntax Example: SAVE8

SCAL <NRf>

Description: Enter the scale of display of the active trace. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: SCAL <NRf>

SDEL {optional <NRf>}

Description: Delete segment or active segment of the Frequency List. No query.

Cmd Parameters: {<NRf>}

Output: NA

Syntax Example: SDEL {<optional NRf>}

SDON

Description: Finished editing the current segment of the Frequency List. No query.

Output: NA

Syntax Example: SDON

SEDI {optional <NRf>}

Description: Edit segment or active segment of the Frequency List. No query.

Cmd Parameters: {<NRf>}

Output: NA

Syntax Example: SEDI {optional NRf}

SEGM <NRf>

Description: Select segment to Edit (sets active segment) in the Frequency List. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: SEGM <NRf>

SING

Description: Execute a single group of sweeps, then hold. No query.

Output: NA

Syntax Example: SING

SLID

Description: Done measuring sliding load. No query.

Output: NA

Syntax Example: SLID

SLIS

Description: Measure the current sliding load position. No query.

Output: NA

Syntax Example: SLIS

SMIC

Description: Set the display type to Smith Chart for the active trace. No query.

Output: NA

Syntax Example: SMIC

SMOO?

Description: Query only. Output smoother on/off status.

Output: <NR1>

Syntax Example: SMOO?

SMOOFF

Description: Turn smoothing off. No query.

Output: NA

Syntax Example: SMOOFF

SMOON <NRf>**SMOON?**

Description: Enter smoothing value and turn on. Output smoothing value.

Cmd Parameters: <NRf>

Output: <NR3>

Syntax Example: SMOON <NRf>

SMOON?

SPAN <NRf>**SPAN?**

Description: Enter frequency span. Output frequency span.

Cmd Parameters: <NRf>

Output: <NR3>

Syntax Example: SPAN <NRf>

SPAN?

SRQM <NRf>, <NRf>

Description: Set Status Byte masks. No query.

Cmd Parameters: <NRf>

Output: NA

Syntax Example: SRQM <NRf>, <NRf>

SSEG {<NRf>}

Description: Measure a single Frequency List segment. No query.

Cmd Parameters: {<NRf>}

Output: NA

Syntax Example: SSEG {<NRf>}

STANA

Description: Measures the STANA standard. No query.

Output: NA

Syntax Example: STANA

STANB

Description: Measures the STANB standard. No query.

Output: NA

Syntax Example: STANB

STANC

Description: Measures the STANC standard. No query.

Output: NA

Syntax Example: STANC

STAR <NRf>**STAR?**

Description: Enter start frequency. Output start frequency.

Cmd Parameters: <NRf>

Output: <NR3>

Syntax Example: STAR <NRf>

STAR?

STEP

Description: Set the sweep mode to Step Sweep. No query.

Output: NA

Syntax Example: STEP

STOP <NRf>**STOP?**

Description: Enter stop frequency. Output stop frequency.

Cmd Parameters: <NRf>

Output: <NR3>

Syntax Example: STOP <NRf>

STOP?

STPSIZE <NRf>

Description: Set the frequency step size for the current segment in the Frequency List. No query.

Output: NA

Syntax Example: STPSIZE <NRf>

SWR

Description: Select SWR display for the active trace

Output: NA

Syntax Example: SWR

SXX?

Description: Output S-Parameter or User defined parameter on active trace

Output: <NR1>

Syntax Example: SXX?

TRAD

Description: Done measuring transmissions. No query.

Output: NA

Syntax Example: TRAD

TRAN

Description: Measure transmission. No query.

Output: NA

Syntax Example: TRAN

TRID

Description: Trim source and receiver sweep response. No query.

Output: NA

Syntax Example: TRID

USER1

Description: Measure User Parameter 1 on active trace. No query.

Output: NA

Syntax Example: USER1

USER2

Description: Measure User Parameter 2 on active trace. No query.

Output: NA

Syntax Example: USER2

USER3

Description: Measure User Parameter 3 on active trace. No query.

Output: NA

Syntax Example: USER3

USER4

Description: Measure User Parameter 4 on active trace. No query.

Output: NA

Syntax Example: USER4

WAIT

Description: Hold off execution of next instruction until current instruction is complete. No query.

Output: NA

Syntax Example: WAIT

Appendix A — System Limits and Parameters

A-1 Appendix Overview

This appendix lists all user-selectable system parameters and describes each in terms of options, low limit, high limit, and factory default state or configuration or parameter level. The information is organized alphabetically by menu name.

A-2 Descriptions

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (1 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Broadband/Millimeter Wave - Broadband/Millimeter Wave Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SENSe{1-16}:TSET[:STATe]
Broadband/Millimeter Wave - Broadband/Millimeter Wave Test Set Type State	Range: NA Default Value: 1 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SENSe{1-16}:TSET:BBANd
Calibration LRL Parameters - LRL Calibration Breakpoint Frequency	Range: 7E4 to 7E10 Default Value: 3.00000000000E+009 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:LRL:FREQuency:BReakpoi nt
Calibration LRL Parameters - LRL Calibration Device Type	Range: NA Default Value: LINE Parameter Units: LINE MATCH DEVICE1 DEVICE2 Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:LRL:DEVIce{1-4}:TYPE
Calibration LRL Parameters - LRL Calibration Line Loss	Range: NA Default Value: 0.00000000000E+000 Parameter Units: dB/mm Modify Per: Port-Pair Per Channel	:SENSe{1-16}:CORRection:COL Lect:LRL:DEVIce{1-4}:PORT{12}: LINE:LOSS
Calibration LRL Parameters - LRL Calibration Loss Reference Frequency	Range: 7E4 to 7E10 Default Value: 0.00000000000E+000 Parameter Units: Hertz Modify Per: Port-Pair Per Channel	:SENSe{1-16}:CORRection:COL Lect:LRL:DEVIce{1-4}:PORT{12}: LINE:FREQuency
Calibration LRL Parameters - LRL Calibration Matching Device Capacitance	Range: 0 to 1E12 Default Value: 0.00000000000E+000 Parameter Units: Farads Modify Per: Port	:SENSe{1-16}:CORRection:COL Lect:LRL:DEVIce{1-4}:PORT{1-2} :MATCH:C0
Calibration LRL Parameters - LRL Calibration Matching Device Impedance	Range: 1E-4 to 1E10 Default Value: 5.00000000000E+001 Parameter Units: Ohms Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:LRL:DEVIce{1-4}:PORT{1-2} :MATCH:Z0

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (2 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Calibration LRL Parameters - LRL Calibration Matching Device Inductance	Range: 0 to 1E12 Default Value: 0.00000000000E+000 Parameter Units: Henrys Modify Per: Port	:SENSe{1-16}:CORRection:COL Lect:LRL:DEVIce{1-4}:PORT{1-2} :MATCH:L0
Calibration LRL Parameters - LRL Calibration Matching Device Offset Distance	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Meters Modify Per: Port	:SENSe{1-16}:CORRection:COL Lect:LRL:DEVIce{1-4}:PORT{1-2} :MATCH:OFFS
Calibration LRL Parameters - LRL Calibration Matching Device Resistance	Range: MPND Default Value: 5.00000000000E+001 Parameter Units: Ohms Modify Per: Port	:SENSe{1-16}:CORRection:COL Lect:LRL:DEVIce{1-4}:PORT{1-2} :MATCH:R
Calibration LRL Parameters - LRL Calibration Match-Port Set	Range: NA Default Value: PORT1 Parameter Units: PORT1 PORT2 Modify Per: Port-Pair Per Channel	:SENSe{1-16}:CORRection:COL Lect:LRL:DEVIce{1-4}:MATCH:P ORT
Calibration LRL Parameters - LRL Calibration Number of Bands	Range: 1 or 2 Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:LRL:BANDs:COUNT
Calibration LRL Parameters - LRL Calibration Open-Like Reflection Offset	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Meters Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:LRL:OPEN:OFFS
Calibration LRL Parameters - LRL Calibration Port-Pair Line Length	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Meters Modify Per: Port-Pair Per Channel	:SENSe{1-16}:CORRection:COL Lect:LRL:DEVIce{1-4}:PORT{12}: LINE:LENGth
Calibration LRL Parameters - LRL Calibration Reference Plane Location	Range: NA Default Value: END Parameter Units: MIDDLE END Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:LRL:REFPlane
Calibration LRL Parameters - LRL Calibration Short-Link Offset	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Meters Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:LRL:SHORT:OFFS
Calibration LRL Parameters - Reflection Type Band 1	Range: NA Default Value: OPEN Parameter Units: OPENlike SHORTlike BOTH Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:LRL:BAND1:REFLection:TY Pe
Calibration LRL Parameters - Reflection Type Band 2	Range: NA Default Value: OPEN Parameter Units: OPENlike SHORTlike BOTH Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:LRL:BAND2:REFLection:TY Pe

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (3 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Calibration Parameters - Adapter Removal Length Seconds	Range: MPND Default Value: NA Parameter Units: Seconds Modify Per: Channel	:CALCulate{1-16}:CORRection:A DAPter:REMOval:LENGth
Calibration Parameters - Automatic ECal Module Orientation Detection State	Range: NA Default Value: 1 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:ECAL:AUTOmatic:ORlentati on[:STATE]
Calibration Parameters - Calibration AutoCal Manual Orientation Mode	Range: NA Default Value: L1R2 Parameter Units: L1R2 R1L2 Modify Per: Port-Pair Per Channel	:SENSe{1-16}:CORRection:COL Lect:ECAL:ORlentation
Calibration Parameters - Calibration AutoCal True-Thru State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:ECAL:TRUEthru
Calibration Parameters - Calibration Correction Coefficient	Range: NA Default Value: NA Parameter Units: ED1 EP1S ET11 ET21 EP2L EX21 ED2 EP2S ET22 ET12 EP1L EX12 Modify Per: Channel	:SENSe{1-16}:CORRection:COE Fficient
Calibration Parameters - Calibration Line Type	Range: NA Default Value: COAX Parameter Units: COAXial MICROstrip NONDISpersive WAVEguide Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect[:METHod]:LINE
Calibration Parameters - Calibration Load Type	Range: NA Default Value: FIX Parameter Units: FIXEd SLIDing Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect[:METHod]:LOAD
Calibration Parameters - Calibration Method	Range: NA Default Value: SOLT Parameter Units: AUTOcal ACLight LRL LRM SOLR SOLT SSLT SSST Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:METHod
Calibration Parameters - Calibration Port or Port Pair	Range: NA Default Value: PORTP12 Parameter Units: PORT1 PORT2 PORTP12 Modify Per: Port Per Channel or Port-Pair Per Channel	:SENSe{1-16}:CORRection:COL Lect[:METHod]:PORT
Calibration Parameters - Calibration Reference Impedance	Range: 1E-4 to 1E10 Default Value: 5.000000000000E+001 Parameter Units: Ohms Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:REFErence:Z0

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (4 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Calibration Power Parameters - Flat Power Correction Calibration Target Power Level	Range: MPNF Default Value: 0.000000E+000 Parameter Units: dB Modify Per: Port Per Channel	:SOURce{1-16}:POWER:PORT{1-2}:CORRection:TARGET
Calibration Power Parameters - Flat Power Correction Data	Range: NA Default Value: NA Parameter Units: NA Modify Per: Port Per Channel	:SOURce{1-16}:POWER:PORT{1-2}:CORRection:DATA?
Calibration Power Parameters - Flat Power Correction State	Range: NA Default Value: 0 Parameter Units: 1 0 Modify Per: Port Per Channel	:SOURce{1-16}:POWER:PORT{1-2}:CORRection[:STATe]?
Calibration Power Parameters - Flat Power Correction Target Power Level	Range: MPNF Default Value: 0.000000E+000 Parameter Units: dB Modify Per: Port Per Channel	:SOURce{1-16}:POWER:PORT{1-2}:CORRection:TARGET?
Calibration Waveguide Parameters - Calibration Kit Waveguide Dielectric	Range: MPND Default Value: 1.00000000000E+000 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:CORRection:COLLect:WAVEguide:DIElectric
Calibration Waveguide Parameters - Calibration Kit Waveguide Open Capacitance Term	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:CORRection:COLLect:WAVEguide:OPEN:C0
Calibration Waveguide Parameters - Calibration Kit Write File Write State	Range: NA Default Value: NA Parameter Units: COAXial NONDISpersive WAVEguide SOLX SSLT SSST CID2 CID3 CIDK CIDN CIDS CIDT CIDV CID1 CID716 CIDG CIDN75 CIDWR10 CIDWR12 CIDWR15 CIDU1 CIDU2	:MMEMory:WRITE:CKIT
Calibration Waveguide Parameters - Test Set Waveguide Type	Range: NA Default Value: WR10E Parameter Units: WR1.5 WR2.2 WR3 WR5 WR6 WR8 WR10 WR10E WR12 WR12E WR15 Modify Per: Channel	:SENSe{1-16}:TSET:WGType
Calibration Waveguide Parameters - Waveguide Calibration Kit Cutorr Frequency	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:CORRection:COLLect:WAVEguide:FREQUency
Calibration Waveguide Parameters - Waveguide Calibration Kit Label	Range: NA Default Value: WR10 Parameter Units: Alphanumeric Characters Modify Per: Channel	:SENSe{1-16}:CORRection:COLLect:WAVEguide:LABel

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (5 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Calibration Waveguide Parameters - Waveguide Calibration Kit Load Inductance	Range: MPND Default Value: 0.0000000000E+000 Parameter Units: Henrys Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:WAVeguide:LOAD:L0
Calibration Waveguide Parameters - Waveguide Calibration Kit Load Offset Distance	Range: MPND Default Value: 0.0000000000E+000 Parameter Units: Meters Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:WAVeguide:LOAD:OFFSet
Calibration Waveguide Parameters - Waveguide Calibration Kit Load Resistance	Range: MPND Default Value: 5.0000000000E+001 Parameter Units: Ohms Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:WAVeguide:LOAD:R
Calibration Waveguide Parameters - Waveguide Calibration Kit Offset	Range: MPND Default Value: 0.0000000000E+000 Parameter Units: Meters Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:WAVeguide:OPEN:OFFSet
Calibration Waveguide Parameters - Waveguide Calibration Kit Open Capacitance 1	Range: MPND Default Value: 0.0000000000E+000 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:WAVeguide:OPEN:C1
Calibration Waveguide Parameters - Waveguide Calibration Kit Open Capacitance 2	Range: MPND Default Value: 0.0000000000E+000 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:WAVeguide:OPEN:C2
Calibration Waveguide Parameters - Waveguide Calibration Kit Open Capacitance 3 Term	Range: MPND Default Value: 0.0000000000E+000 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:WAVeguide:OPEN:C3
Calibration Waveguide Parameters - Waveguide Calibration Kit Serial Number	Range: NA Default Value: XXXXXX Parameter Units: Alphanumeric Characters Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:WAVeguide:SERial
Calibration Waveguide Parameters - Waveguide Calibration Kit Short 2 Offset	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Meters Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:WAVeguide:SHORT2:OFFS et
Calibration Waveguide Parameters - Waveguide Calibration Kit Short 3 Offset	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Meters Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:WAVeguide:SHORT3:OFFS et
Calibration Waveguide Parameters - Waveguide Calibration Kit Sliding Load Minimum Frequency	Range: MPND Default Value: 2.0000000000E+009 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:WAVeguide:SLOAD:MINF
Calibration Waveguide Parameters - Waveguide Calibration Kits Short 1 Offset	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Meters Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:WAVeguide:SHORT1:OFFS et

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (6 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Calibration Waveguide Parameters - Waveguide Kit	Range: NA Default Value: WR10 Parameter Units: WR10 WR12 WR15 USER1 USER2 USER3 USER4 USER5 USER6 USER7 USER8 Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:WAVEguide:KIT
Channel Parameters - Averaging Count	Range: 1 to 1024 Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:AVERAge:COUNT
Channel Parameters - Averaging State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SENSe{1-16}:AVERAge[:STATe]
Channel Parameters - Averaging Type Mode	Range: NA Default Value: POIN Parameter Units: POINtbypoint SWEepbysweep Modify Per: Channel	:SENSe{1-16}:AVERAge:TYPE
Channel Parameters - Channel Display Layout	Range: NA Default Value: R1C1 Parameter Units: R1C1 R1C2 R2C1 R1C3 R3C1 R2C2C1 R2C1C2 C2R2R1 C2R1R2 R1C4 R4C1 R2C2 R2C3 R3C2 R2C4 R4C2 R3C3 R5C2 R2C5 R4C3 R3C4 R4C4 Modify Per: Channel	:DISPlay:SPLit
Channel Parameters - Channel Number Active	Range: NA Default Value: 1 Parameter Units: Unitless Number Modify Per: Instrument	:DISPlay:WINDow{1-16}:ACTivat e
Channel Parameters - Measurement Points	Range: Range depends on the maximum points setting. When 25000 points is set, 2 to 25,000. When 100000 points is set, 2 to 100,000. Default Value: 201 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:SWEep:POINts
Channel Parameters - Number of Channels Displayed	Range: For 25,000 point mode, 1 to 16 channels. For 100,000 point mode, 1 channel. Default Value: 1 Parameter Units: Unitless Number Modify Per: Instrument	:DISPlay:COUNT
Channel Parameters - Receiver Configuration	Range: NA Default Value: STAN Parameter Units: STANdard MSOURce MMWBBand Modify Per: Channel	:SENSe{1-16}:RECEIver:CONFIg uration

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (7 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Channel Parameters - RF Correction State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SENSe{1-16}:CORRection:STAT e
Channel Parameters - Spur Reduction State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SENSe{1-16}:SPUR:REDUction[: STATe]
Channel Parameters - Test Set RF Divisor	Range: MPNI. Limited by the band equation. Default Value: 6 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:TSET:RF:DIVisor
Connector Parameters - Load 1 Standard C0 Capacitance	Range: 0 to 1E12 Default Value: 0.0000000000E+000 Parameter Units: Farads Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD1:C0
Connector Parameters - Load 1 Standard Impedance	Range: 1E-4 to 1E10 Default Value: 5.0000000000E+001 Parameter Units: Ohms Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD1:Z0
Connector Parameters - Load 1 Standard L0 Inductance Coefficient	Range: MPND Default Value: 0.0000000000E+000 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD1:L0
Connector Parameters - Load 1 Standard L1 Inductance Coefficient	Range: MPND Default Value: 0.0000000000E+000 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD1:L1
Connector Parameters - Load 1 Standard L2 Inductance Coefficient	Range: MPND Default Value: 0.0000000000E+000 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD1:L2
Connector Parameters - Load 1 Standard L3 Inductance	Range: MPND Default Value: 0.0000000000E+000 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD1:L3?
Connector Parameters - Load 1 Standard L3 Inductance	Range: MPND Default Value: 0.0000000000E+000 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD1:L3
Connector Parameters - Load 1 Standard Label	Range: NA Default Value: NA Parameter Units: Alphanumeric Characters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD1:LABEL
Connector Parameters - Load 1 Standard Offset	Range: MPND Default Value: 0.0000000000E+000 Parameter Units: Meters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD1:OFFS

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (8 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Connector Parameters - Load 1 Standard Resistance	Range: MPND Default Value: 5.000000000000E+001 Parameter Units: Ohms Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD1:R
Connector Parameters - Load 1 Standard Serial Number	Range: NA Default Value: XXXXXX Parameter Units: Alphanumeric Characters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD1:SERial
Connector Parameters - Load 2 Standard C0 Capacitance	Range: 0 to 1E12 Default Value: 0.000000000000E+000 Parameter Units: Farads Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD2:C0
Connector Parameters - Load 2 Standard Impedance	Range: 1E-4 to 1E10 Default Value: 5.000000000000E+001 Parameter Units: Ohms Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD2:Z0
Connector Parameters - Load 2 Standard L1 Inductance	Range: MPND Default Value: 0.000000000000E+000 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD2:L0
Connector Parameters - Load 2 Standard L1 Inductance	Range: MPND Default Value: 0.000000000000E+000 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD2:L1
Connector Parameters - Load 2 Standard L2 Inductance	Range: MPND Default Value: 0.000000000000E+000 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD2:L2
Connector Parameters - Load 2 Standard L3 Inductance Coefficient	Range: MPND Default Value: 0.000000000000E+000 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD2:L3
Connector Parameters - Load 2 Standard Label	Range: NA Default Value: NA Parameter Units: Alphanumeric Characters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD2:LABEL
Connector Parameters - Load 2 Standard Offset	Range: MPND Default Value: 0.000000000000E+000 Parameter Units: Ohms Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD2:OFFS
Connector Parameters - Load 2 Standard Resistance	Range: 0 to 1E10 Default Value: 5.000000000000E+001 Parameter Units: Ohms Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD2:R
Connector Parameters - Load 2 Standard Serial Number Input	Range: NA Default Value: XXXXXX Parameter Units: Alphanumeric Characters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD2:SERial

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (9 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Connector Parameters - Load Standard Load 1 or Load 2 Set	Range: NA Default Value: NA Parameter Units: LOAD1 LOAD2 Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:LOAD:SElect
Connector Parameters - Short 1 Standard L0 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT1:L0
Connector Parameters - Short 1 Standard L1 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT1:L1
Connector Parameters - Short 1 Standard L2 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT1:L2
Connector Parameters - Short 1 Standard L3 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT1:L3
Connector Parameters - Short 1 Standard Offset Distance	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Meters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT1:OFFS
Connector Parameters - Short 1 Standard Serial Number	Range: NA Default Value: XXXXXX Parameter Units: Alphanumeric Characters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT1:SERial
Connector Parameters - Short 2 Standard Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT2:L0
Connector Parameters - Short 2 Standard L1 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT2:L1
Connector Parameters - Short 2 Standard L2 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT2:L2
Connector Parameters - Short 2 Standard L3 Inductance	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT2:L3
Connector Parameters - Short 2 Standard Offset	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Meters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT2:OFFS

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (10 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Connector Parameters - Short 3 Standard L0 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT3:L0
Connector Parameters - Short 3 Standard L1 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT3:L1
Connector Parameters - Short 3 Standard L2 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT3:L2
Connector Parameters - Short 3 Standard L3 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT3:L3
Connector Parameters - Short 3 Standard Offset Distance	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Meters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT3:OFFS
Connector Parameters - Short 3 Standard Serial Number	Range: NA Default Value: XXXXXX Parameter Units: Alphanumeric Characters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT3:SERial
Connector Parameters - Short Standard L0 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT:L0
Connector Parameters - Short Standard L1 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT:L1
Connector Parameters - Short Standard L2 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT:L2
Connector Parameters - Short Standard L3 Inductance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT:L3
Connector Parameters - Short Standard Label Input	Range: NA Default Value: NA Parameter Units: Alphanumeric Characters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT:LABEL
Connector Parameters - Short Standard Offset Ohms	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Ohms Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT:OFFS

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (11 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Connector Parameters - Short Standard Serial Number	Range: NA Default Value: XXXXXX Parameter Units: Alphanumeric Characters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{1-2}:SHORT:SERial
Data Format and File Parameters - Data File Heading State	Range: NA Default Value: 1 Parameter Units: 1 0 ON OFF Modify Per: Instrument	:FORMat:DATA:HEADIng[:STATe]
Data Format and File Parameters - Data Numeric Format Mode	Range: NA Default Value: ASC Parameter Units: ASCii REAL REAL32 Modify Per: Instrument	:FORMat:DATA
Data Format and File Parameters - Data Significant Byte Order Mode	Range: NA Default Value: SWAP Parameter Units: NORMAl SWAPped Modify Per: Instrument	:FORMat:BORDER
Display Parameters - Display Background Normal Color	Range: 0 to 255 Default Value: 0,0,0 Parameter Units: Integers between 0 and 255 Modify Per: Channel	:DISPlay:COLor:NORMAl:BACK
Display Parameters - Display Color Inverted	Range: 0 to 255 Default Value: 255,255,255 Parameter Units: Integers between 0 and 255 Modify Per: Channel	:DISPlay:COLor:INVert:BACK
Display Parameters - Display Color Main Graticule	Range: 0 to 255 Default Value: 255,255,255 Parameter Units: Integers between 0 and 255 Modify Per: Channel	:DISPlay:COLor:NORMAl:GRATic ule:MAIN
Display Parameters - Display Frequency Information State	Range: NA Default Value: 1 Parameter Units: 1 0 ON OFF Modify Per: Instrument	:DISPlay:ANNotation:FREQUenc y[:STATe]
Display Parameters - Display Main Graticule Inverted Color	Range: 0 to 255 Default Value: 0,0,0 Parameter Units: Integers between 0 and 255 Modify Per: Channel	:DISPlay:COLor:INVert:GRATicul e:MAIN
Display Parameters - Display Screen Object Color Invert/Normal State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Instrument	:DISPlay:COLor:INVert[:STATe]
Display Parameters - Display Sub Graticule Color Normal	Range: 0 to 255 Default Value: 100,100,100 Parameter Units: Integers between 0 and 255 Modify Per: Channel	:DISPlay:COLor:NORMAl:GRATic ule:SUB
Display Parameters - Display Sub Graticule Inverted Color	Range: 0 to 255 Default Value: 100,100,100 Parameter Units: Integers between 0 and 255 Modify Per: Channel	:DISPlay:COLor:INVert:GRATicul e:SUB

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (12 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
External Source Parameters - External Source Control State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: External Source Per Instrument	:SENSe{1-16}:SOURCe{1-4}:EX Ternal[:STATE]
External Source Parameters - External Source CW Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SENSe{1-16}:OFFSet:EXTernal{ 1-4}:CW[:STATE]
External Source Parameters - External Source Frequency Divisor	Range: MPNI. Limited by the band equation. The band equation changes depending on if CW is set. If CW is off, the band equation equals: Source = (Multiplier/Divisor) * (Frequency + Offset Frequency). If CW is on, the band e	:SENSe{1-16}:OFFSet:EXTernal{ 1-4}[:FREQUENCY]:DIVisor
External Source Parameters - External Source Frequency Divisor	Range: Depends on multiple source equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:EXT ernal{1-4}[:FREQUENCY]:DIVisor
External Source Parameters - External Source Frequency Multiplier	Range: MPNI. Limited by the band equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:EXT ernal{1-4}[:FREQUENCY]:MULTiplier
External Source Parameters - External Source Frequency Multiplier	Range: MPNI. Limited by the band equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet:EXTernal{ 1-4}[:FREQUENCY]:MULTiplier
External Source Parameters - External Source Offset Frequency	Range: Depends on multiple source equation. Default Value: 0.000000000000E+000 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:EXT ernal{1-4}[:FREQUENCY]:OFFSet
External Source Parameters - External Source Power Level	Range: -15.0 to +30.0 Default Value: Depends on the external source used. Parameter Units: dBm Modify Per: External Source	:SOURCe{1-4}:EXTernal:POWER
External Source Parameters - External Sources Fast Trigger Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Instrument	:SOURce:ALL:EXTernal:FTRIGg er[:STATE]
Frequency-Based Segment Parameters - Frequency-Based Segment Add	Range: Minimum Segment Range = 2 Hz; Minimum Segment Points = 2 points; For first segment, Minimum Segment Frequency = Minimum Instrument Frequency. For highest frequency entered, Maximum Segment Frequency = Maximum Instrument Frequency. For the first se	:SENSe{1-16}:FSEGMENT:ADD

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (13 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Frequency-Based Segment Parameters - Frequency-Based Segment CW Frequency	Range: Minimum Instrument Frequency to Maximum Instrument Frequency Default Value: 7.00000000000E+004 Parameter Units: Hertz Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent{1-50}:FREQuency[:CW][:FIXed]
Frequency-Based Segment Parameters - Frequency-Based Segment CW Frequency	Range: Minimum Instrument Frequency to Maximum Instrument Frequency Default Value: 70000 Parameter Units: Hertz Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent:FREQuency[:CW][:FIXed]
Frequency-Based Segment Parameters - Frequency-Based Segment CW Mode	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent:CWMODE[:STATe]
Frequency-Based Segment Parameters - Frequency-Based Segment CW Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent{1-50}:CWMODE[:STATe]
Frequency-Based Segment Parameters - Frequency-Based Segment Display Mode	Range: NA Default Value: FREQ Parameter Units: FREQbase INDEXbase Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent:DISPlay
Frequency-Based Segment Parameters - Frequency-Based Segment IF Bandwidth	Range: 1 to 1E6 Default Value: 1.00000000000E+005 Parameter Units: Hertz Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent{1-50}:BWIDTh[:RESolution]
Frequency-Based Segment Parameters - Frequency-Based Segment IF Bandwidth	Range: 1 to 1E6 Default Value: 1.00000000000E+005 Parameter Units: Hertz Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent:BWIDTh[:RESolution]
Frequency-Based Segment Parameters - Frequency-Based Segment Number of Sweep Points	Range: Range depends on if CW mode is set. If CW is set, 1 (one) point. If in sweep mode (or non-CW mode), range is from 2 (two) points to Maximum Instrument Points. Default Value: 15 or 1 depending on CW mode. Parameter Uni	:SENSe{1-16}:FSEGMent{1-50}:SWEep:POINt
Frequency-Based Segment Parameters - Frequency-Based Segment Power Level	Range: -30 to +30 Default Value: Default value depends on model and installed options: <BulletedIndented4>MS4647A with options 51, 61, or 62 = -10 dBm<BulletedIndented4>All other MS4647As = -3 dBm<BulletedIndented4>MS4642A and MS4644A = +5 dBm Param	:SENSe{1-16}:FSEGMent{1-50}:POWER:PORT{1-2}[:LEVel][:IMMEDIATE][:AMPLitude]

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (14 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Frequency-Based Segment Parameters - Frequency-Based Segment Power Level	Range: -30 to +30 Default Value: Default value depends on model and installed options: <BulletedIndented4>MS4647A with options 51, 61, or 62 = -10 dBm<BulletedIndented4>All other MS4647As = -3 dBm<BulletedIndented4>MS4642A and MS4644A = +5 dBm Param	:SENSe{1-16}:FSEGMent:POWer:PORT{1-2}[:LEVel][:IMMediate][:AMPlitude]
Frequency-Based Segment Parameters - Frequency-Based Segment Span Type	Range: NA Default Value: STARTSTOP Parameter Units: STARTSTOP STARTSTEP Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent{1-50}:SPAntype
Frequency-Based Segment Parameters - Frequency-Based Segment Span Type	Range: NA Default Value: STARTSTOP Parameter Units: STARTSTOP STARTSTEP Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent:SPAntype
Frequency-Based Segment Parameters - Frequency-Based Segment Start	Range: Minimum Instrument Frequency to (Maximum Instrument Frequency minus Minimum Frequency Step Size) Default Value: 7.000000000000E+004 Parameter Units: Hertz Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent:FREQuency:FSTART
Frequency-Based Segment Parameters - Frequency-Based Segment Start Frequency	Range: Minimum Instrument Frequency to (Maximum Instrument Frequency minus Minimum Frequency Step Size) Default Value: 7.000000000000E+004 Parameter Units: Hertz Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent{1-50}:FREQuency:FSTART
Frequency-Based Segment Parameters - Frequency-Based Segment Start Frequency	Range: Minimum Instrument Frequency to (Maximum Instrument Frequency minus Minimum Frequency Step Size) Default Value: 7.000000000000E+004 Parameter Units: Hertz Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent:FREQuency:START
Frequency-Based Segment Parameters - Frequency-Based Segment State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent{1-50}[:STATe]
Frequency-Based Segment Parameters - Frequency-Based Segment State	Range: NA Default Value: 1 Parameter Units: 1 0 ON OFF Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent[:STATe]

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (15 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Frequency-Based Segment Parameters - Frequency-Based Segment Step	Range: Minimum Frequency Step Size to (Maximum Instrument Frequency minus Minimum Instrument Frequency) Default Value: Depends on installed option. <BulletedIndented4>With Low Frequency Extension Option 070 = 7.14280714286E+008 <BulletedIndented4>Witho	:SENSe{1-16}:FSEGMent:FREQuency:FSTEp
Frequency-Based Segment Parameters - Frequency-Based Segment Step Size	Range: Minimum Frequency Step Size to (Maximum Instrument Frequency minus Minimum Instrument Frequency) Default Value: Depends on installed option. <BulletedIndented4>With Low Frequency Extension Option 070 = 7.14280714286E+008 <BulletedIndented4>Witho	:SENSe{1-16}:FSEGMent{1-50}:FREQuency:FSTEp
Frequency-Based Segment Parameters - Frequency-Based Segment Stop	Range: (Minimum Instrument Frequency + Minimum Frequency Step Size) to Maximum Instrument Frequency Default Value: 1.00000000000E+010 Parameter Units: Hertz Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent:FREQuency:FSTOp
Frequency-Based Segment Parameters - Frequency-Based Segment Stop Frequency	Range: (Minimum Instrument Frequency + Minimum Frequency Step Size) to Maximum Instrument Frequency Default Value: 1.00000000000E+010 Parameter Units: Hertz Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent:FREQuency:STOp
Frequency-Based Segment Parameters - Frequency-Based Segment Stop Frequency	Range: (Minimum Instrument Frequency + Minimum Frequency Step Size) to Maximum Instrument Frequency Default Value: 1.00000000000E+010 Parameter Units: Hertz Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent{1-50}:FREQuency:FSTOp
Frequency-Based Segment Parameters - Frequency-Based Segment Sweep Averaging Count	Range: 1 to 1024 Default Value: 1 Parameter Units: Unitless Number Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent{1-50}:AVERAge:COUNt
Frequency-Based Segment Parameters - Frequency-Based Segment Sweep Averaging Count	Range: 1 to 1024 Default Value: 1 Parameter Units: Unitless Number Modify Per: Frequency Segment	:SENSe{1-16}:FSEGMent:AVERAge:COUNt
Frequency-Based Segment Parameters - Frequency-Based Segment Sweep Points	Range: Range depends on if CW mode is set. If CW is set, 1 (one) point. If in sweep mode (or non-CW mode), range is from 2 (two) points to Maximum Instrument Points. Default Value: 15 or 1 depending on span type. Parameter U	:SENSe{1-16}:FSEGMent:SWEEp:POINt

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (16 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Gain Compression Parameters - Gain Compression Point Value	Range: MPNF Default Value: 1.000000E+000 Parameter Units: dB Modify Per: Trace	:CALCulate{1-16}[:SElected]:GC OMpression:PVALue
Gain Compression Parameters - Gain Compression Reference Level	Range: MPNF Default Value: 0.000000E+000 Parameter Units: dB Modify Per: Trace	:CALCulate{1-16}[:SElected]:GC OMpression:REFERence:VALue
Gain Compression Parameters - Gain Compression Reference Type	Range: NA Default Value: MAXG Parameter Units: MAXGain PHOLd PINput Modify Per: Trace	:CALCulate{1-16}[:SElected]:GC OMpression:REFERence
Gain Compression Parameters - Gain Compression Self Normalization State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Trace	:CALCulate{1-16}[:SElected]:GC OMpression:SNORmalize[:STATe]
Gain Compression Parameters - Gain Compression S-Parameter	Range: NA Default Value: NA Parameter Units: S11 S12 S21 S22 Modify Per: Trace	:CALCulate{1-16}[:SElected]:GC OMpression:PARAmeter
Gain Compression Parameters - Gain Compression Compression Point Indicator State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Trace	:CALCulate{1-16}[:SElected]:GC OMpression:INDicator[:STATe]
GPIB Network Parameters - External Source GPIB Address	Range: 0 to 30 Default Value: The default value depends on which source is being used: <BulletedIndented4>External Source 1 = Address 4 <BulletedIndented4>External Source 2 = Address 5 <BulletedIndented4>External Source 3 = Address 2 <BulletedIndented4	:SOURCe{1-4}:EXTernal:ADDRe ss
GPIB Network Parameters - GPIB Address Frequency Counter	Range: 0 to 30 Default Value: 7 Parameter Units: Unitless Number Modify Per: Instrument	:SYSTem:COMMunicate:GPIB:F COUNter:ADDReSS
GPIB Network Parameters - GPIB Address Instrument	Range: 0 to 30 Default Value: 6 Parameter Units: Unitless Number Modify Per: Instrument	:SYSTem:COMMunicate:GPIB:A DDReSS
GPIB Network Parameters - GPIB Address Power Meter	Range: 0 to 30 Default Value: 13 Parameter Units: Unitless Number Modify Per: Instrument	:SYSTem:COMMunicate:GPIB:P METer:ADDReSS

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (17 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
IFBW Parameter - IF Bandwidth	Range: 1 to 1E6. The system will automatically select the closest IF bandwidth from the following options: 1, 3, 10, 30, 100, 300 Hz; 1, 3, 10, 30, 100, 300 kHz; and 1 MHz. Default Value: 1.00000000000E+003 Parameter Units: Hertz Modify Per: Ch	:SENSe{1-16}:BWiDth[:RESoluti on]
IFBW Parameters - IF Bandwidth Enhancer State	Range: NA Default Value: 1 Parameter Units: 1 0 ON OFF Modify Per: Instrument	:SENSe:BANDwidth:ENHancer[: STATE]
IFBW Parameters - IF Bandwidth Resolution	Range: 1 to 1E6. The system will automatically select the closest IF bandwidth from the following options: 1, 3, 10, 30, 100, 300 Hz; 1, 3, 10, 30, 100, 300 kHz; and 1 MHz. Default Value: 1.00000000000E+003 Parameter Units: Hertz Modify Per: Ch	:SENSe{1-16}:BANDwidth[:RESo lution]
Index-Based Segment Parameters - Index-Based Segment Add New	Range: NA Default Value: NA Parameter Units: NA Modify Per: Index Segment	:SENSe{1-16}:ISEGment:ADD
Index-Based Segment Parameters - Index-Based Segment CW Frequency	Range: Minimum Instrument Frequency to Maximum Instrument Frequency Default Value: 7.00000000000E+004 Parameter Units: Hertz Modify Per: Index Segment	:SENSe{1-16}:ISEGment:FREQu ency[:CW][:FIXed]
Index-Based Segment Parameters - Index-Based Segment CW Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Index Segment	:SENSe{1-16}:ISEGment{1-50}:C WMODE[:STATE]
Index-Based Segment Parameters - Index-Based Segment CW Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Index Segment	:SENSe{1-16}:ISEGment:CWMO De[:STATE]
Index-Based Segment Parameters - Index-Based Segment Frequency Step Size	Range: 0 Hz to Maximum Instrument Frequency Default Value: 7.14280714286E+008 Parameter Units: Hertz Modify Per: Index Segment	:SENSe{1-16}:ISEGment:FREQu ency:FSTEP
Index-Based Segment Parameters - Index-Based Segment Frequency Step Size	Range: Minimum Frequency Step Size to (Maximum Instrument Frequency minus Minimum Instrument Frequency) Default Value: 7.14280714286E+008 Parameter Units: Hertz Modify Per: Index Segment	:SENSe{1-16}:ISEGment{1-50}:F REQuency:FSTEP

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (18 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Index-Based Segment Parameters - Index-Based Segment IF Bandwidth	Range: 1 to 1E6 Default Value: 1.00000000000E+005 Parameter Units: Hertz Modify Per: Index Segment	:SENSe{1-16}:ISEGMent{1-50}:BWIDTH[:RESolution]
Index-Based Segment Parameters - Index-Based Segment IF Bandwidth	Range: 1 to 1E6 Default Value: 1.00000000000E+005 Parameter Units: Hertz Modify Per: Index Segment	:SENSe{1-16}:ISEGMent:BWIDTh[:RESolution]
Index-Based Segment Parameters - Index-Based Segment Number of Sweep Points	Range: The range depends Maximum Instrument Points setting:<BulletedIndented4>If set to 25,000, the range = 0 to 24,999<BulletedIndented4>If set to 100,000, the range = 0 to 99,999. Default Value: 15 Parameter Units: Integer Modify Per: Index Seg	:SENSe{1-16}:ISEGMent:SWEEp:POINT
Index-Based Segment Parameters - Index-Based Segment Power Level	Range: -30 to +30 Default Value: Default value depends on model and installed options: <BulletedIndented4>MS4647A with options 51, 61, or 62 = -10 dBm<BulletedIndented4>All other MS4647As = -3 dBm<BulletedIndented4>MS4642A and MS4644A = +5 dBm Param	:SENSe{1-16}:ISEGMent{1-50}:POWER:PORT{1-2}[:LEVel][:IMMediate][:AMPLitude]
Index-Based Segment Parameters - Index-Based Segment Power Level	Range: -30 to +30 Default Value: Default value depends on model and installed options: <BulletedIndented4>MS4647A with options 51, 61, or 62 = -10 dBm<BulletedIndented4>All other MS4647As = -3 dBm<BulletedIndented4>MS4642A and MS4644A = +5 dBm Param	:SENSe{1-16}:ISEGMent:POWER:PORT{1-2}[:LEVel][:IMMediate][:AMPLitude]
Index-Based Segment Parameters - Index-Based Segment Span Type	Range: NA Default Value: STARTSTOP Parameter Units: STARTSTOP STARTSTEP Modify Per: Index Segment	:SENSe{1-16}:ISEGMent{1-50}:SPANtype
Index-Based Segment Parameters - Index-Based Segment Span Type	Range: NA Default Value: STARTSTOP Parameter Units: STARTSTOP STARTSTEP Modify Per: Index Segment	:SENSe{1-16}:ISEGMent:SPANtype
Index-Based Segment Parameters - Index-Based Segment Start Frequency	Range: Minimum Instrument Frequency to Maximum Instrument Frequency Default Value: 7.00000000000E+004 Parameter Units: Hertz Modify Per: Index Segment	:SENSe{1-16}:ISEGMent{1-50}:FREQUENCY[:CW][:FIXed]

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (19 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Index-Based Segment Parameters - Index-Based Segment Start Frequency	Range: Range = Minimum Instrument Frequency to Maximum Instrument Frequency. Step Size = 0 Hz to Maximum Instrument Frequency. Default Value: 7.00000000000E+004 Parameter Units: Hertz Modify Per: Index-Segment	:SENSe{1-16}:ISEGment:FREQuency:FSTArt
Index-Based Segment Parameters - Index-Based Segment Start Frequency	Range: Range = Minimum Instrument Frequency to Maximum Instrument Frequency. Step Size = 0 Hz to Maximum Instrument Frequency. Default Value: 7.00000000000E+004 Parameter Units: Hertz Modify Per: Index Segment	:SENSe{1-16}:ISEGment{1-50}:FREQuency:FSTArt
Index-Based Segment Parameters - Index-Based Segment Start Index	Range: The range depends Maximum Instrument Points setting: If set to 25,000, the range = 0 to 24,999 If set to 100,000, the range = 0 to 99,999. Default Value: 0 Parameter Units: Unitless Number Modify Per: In	:SENSe{1-16}:ISEGment:INDEX:START
Index-Based Segment Parameters - Index-Based Segment Start Index	Range: The range depends Maximum Instrument Points setting: If set to 25,000, the range = 0 to 24,999 If set to 100,000, the range = 0 to 99,999. Default Value: 0 Parameter Units: Integer Modify Per: Index Segm	:SENSe{1-16}:ISEGment:INDEX:ACTIve:START?
Index-Based Segment Parameters - Index-Based Segment State	Range: NA Default Value: 1 Parameter Units: 1 0 ON OFF Modify Per: Index Segment	:SENSe{1-16}:ISEGment[:STATe]
Index-Based Segment Parameters - Index-Based Segment State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Index Segment	:SENSe{1-16}:ISEGment{1-50}[:STATe]
Index-Based Segment Parameters - Index-Based Segment Stop Frequency	Range: Range = Minimum Instrument Frequency to Maximum Instrument Frequency. Step Size = 0 Hz to Maximum Instrument Frequency. Default Value: 1.00000000000E+010 Parameter Units: Hertz Modify Per: Index Segment	:SENSe{1-16}:ISEGment:FREQuency:FSTOp

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (20 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Index-Based Segment Parameters - Index-Based Segment Stop Frequency	Range: Range = Minimum Instrument Frequency to Maximum Instrument Frequency. Step Size = 0 Hz to Maximum Instrument Frequency. Default Value: 1.00000000000E+010 Parameter Units: Hertz Modify Per: Index Segment	:SENSe{1-16}:ISEGMent{1-50}:FREQuency:FSTOp
Index-Based Segment Parameters - Index-Based Segment Stop Index	Range: The range depends Maximum Instrument Points setting:<BulletedIndented4>If set to 25,000, the range = 0 to 24,999<BulletedIndented4>If set to 100,000, the range = 0 to 99,999. Default Value: 14 Parameter Units: Unitless Number Modify Per: I	:SENSe{1-16}:ISEGMent:INDEX:STOP
Index-Based Segment Parameters - Index-Based Segment Stop Index	Range: The range depends Maximum Instrument Points setting:<BulletedIndented4>If set to 25,000, the range = 0 to 24,999<BulletedIndented4>If set to 100,000, the range = 0 to 99,999. Default Value: 14 Parameter Units: Integer Modify Per: Index Seg	:SENSe{1-16}:ISEGMent:INDEX:ACTive:STOP?
Index-Based Segment Parameters - Index-Based Segment Sweep Averaging Count	Range: 1 to 1024 Default Value: 1 Parameter Units: Unitless Number Modify Per: Index Segment	:SENSe{1-16}:ISEGMent:AVERAge:COUNT
Index-Based Segment Parameters - Index-Based Segment Sweep Averaging Count	Range: 1 to 1024 Default Value: 1 Parameter Units: Unitless Number Modify Per: Index Segment	:SENSe{1-16}:ISEGMent{1-50}:AVERAge:COUNT
Index-Based Segment Parameters - Index-Based Segments Sweep Points	Range: 1 to maximum number of instrument points depending on CW mode. The maximum number of instrument points is either 25,000 or 100,000 depending on maximum points setting. Default Value: 15 Parameter Units: Integer Modify Per: Index Segment	:SENSe{1-16}:ISEGMent{1-50}:SWEep:POINT
Index-Based Segment Parameters - Internal Source 1 CW Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SENSe{1-16}:OFFSet:INTERNAL{1}:CW[:STATe]
Index-Based Segment Parameters - Internal Source 1 Frequency Divisor	Range: Depends on multiple source equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:INTERNAL{1}:FREQuency]:DIVisor

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (21 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Internal Source Configuration - Internal Source 1 Frequency Divisor	Range: MPNI. Limited by the band equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet:INTernal{1}[:FREQUENCY]:DIVisor
Internal Source Configuration - Internal Source 1 Frequency Multiplier	Range: MPNI. Limited by the band equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet:INTernal{1}[:FREQUENCY]:MULTiplier
Internal Source Configuration - Internal Source 1 Frequency Multiplier	Range: MPNI. Limited by the band equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:INTernal{1}[:FREQUENCY]:MULTiplier
Internal Source Configuration - Internal Source 1 Offset Frequency	Range: Depends on the multiple source equation. Default Value: 0.00000000000E+000 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:INTernal{1}[:FREQUENCY]:OFFSet
Internal Source Configuration - Internal Source 1 or 2 Offset Frequency	Range: MPND. Limited by the band equation. Default Value: 0.00000000000E+000 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:OFFSet:INTernal{1}[:FREQUENCY]:OFFSet
Isolation Coefficient - Isolation Coefficient Data State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SENSe{1-16}:CORRection:ISOLation:STATe
LAN Configuration - Ethernet Gateway TCPIP Address	Range: 0.0.0.0 to 255.255.255.255 Default Value: Varies with installation. Parameter Units: Alphanumeric Characters Modify Per: Instrument	:SYSTem:COMMunicate:TCPIP:GATE?
LAN Configuration - Ethernet MAC Address	Range: NA Default Value: Varies with individual instrument. Parameter Units: Alphanumeric Characters Modify Per: Instrument	:SYSTem:COMMunicate:TCPIP:HDW?
LAN Configuration - Ethernet Mask TCPIP Address	Range: 0.0.0.0 to 255.255.255.255 Default Value: Varies with installation. Parameter Units: Integer Modify Per: Instrument	:SYSTem:COMMunicate:TCPIP:MASK?
LAN Configuration - Ethernet TCPIP Address	Range: 0.0.0.0 to 255.255.255.255 Default Value: Varies with installation. Parameter Units: Alphanumeric Characters Modify Per: Instrument	:SYSTem:COMMunicate:TCPIP:ADDRess?
LAN Configuration - Ethernet TCPIP Port Address	Range: MPNI Default Value: 5001 Parameter Units: Unitless Number Modify Per: Instrument	:SYSTem:COMMunicate:TCPIP:PORT

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (22 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
LAN Configuration - USB Address	Range: NA Default Value: NA Parameter Units: Alphanumeric Characters Modify Per: Instrument	:SYSTem:COMMunicate:USB:AD DRes?
LC Network Configuration - LC Network Capacitance	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Farads Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork{1-50}:C
LC Network Configuration - LC Network Capacitance	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Farads Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork:C
LC Network Configuration - LC Network Inductance	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Henrys Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork{1-50}:L
LC Network Configuration - LC Network Inductance	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Henrys Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork:L
LC Network Configuration - LC Network Type	Range: NA Default Value: LSCP Parameter Units: LSCP CSLP CPLS LPCS RS RP TLine S2Pfile Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork:TYPe
Limit Line Configuration - Display Limit Line Color Inverted	Range: 0 to 255 Default Value: 255,0,0 Parameter Units: Integers between 0 and 255 Modify Per: Channel	:DISPlay:COLor:INVert:LIMit
Limit Line Configuration - Display Limit Line Color Normal	Range: 0 to 255 Default Value: 255,0,0 Parameter Units: Integers between 0 and 255 Modify Per: Channel	:DISPlay:COLor:NORMal:LIMit
Limit Line Configuration - Limit Display State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Trace	:CALCulate{1-16}[:SELEcted]:LIM it:DISPlay[:STATe]
Limit Line Configuration - Limit Failure Indication on Auxiliary IO Connector State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Instrument	:CONTRol:AUXio:LIMit[:STATe]
Limit Line Configuration - Limit Line Failure Sign State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Limit Line	:DISPlay:FSIGN[:STATe]

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (23 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Limit Line Configuration - Limit Line Polarity Auxiliary IO Port	Range: NA Default Value: POS Parameter Units: POSitive NEGative Modify Per: Limit Line	:CONTRol:AUXio:LIMit:POLarity
Limit Line Configuration - Limit Line Segment	Range: NA Default Value: NA Parameter Units: Y1, Y2 Y1, Y2, Y1sub, Y2sub Modify Per: Trace	:CALCulate{1-16}[:SElected]:LIM it:SEGment:DEFine
Limit Line Configuration - Limit Line Segment Add	Range: NA Default Value: NA Parameter Units: NONE UPPER LOWER Start and stop time, frequency, or distance for X1 and X2 Modify Per: Limit Line	:CALCulate{1-16}[:SElected]:LIM it:SEGment:ADD
Limit Line Configuration - Limit Testing State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Trace	:CALCulate{1-16}[:SElected]:LIM it[:STATE]
Marker Configuration - Marker Statistics Display State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:CALCulate{1-16}:PARAmeter{1- 16}:MSTatistics
Marker Configuration - Marker Stimulus Range Center Value	Range: NA Default Value: NA Parameter Units: NA Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:SET:CENTer
Marker Configuration - Marker Stimulus Range Start Value	Range: NA Default Value: NA Parameter Units: NA Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:SET:STARt
Marker Configuration - Marker Stimulus Range Stop Value	Range: NA Default Value: NA Parameter Units: NA Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:SET:STOP
Marker Configuration - Marker Table State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Trace	:CALCulate:MARKer:TABLE[:STA Te]
Marker Configuration - Marker Value Set	Range: Depends on the parameter setting: <BulletedIndented4>Frequency = Minimum Instrument Frequency to the Maximum Instrument Frequency<BulletedIndented4>Time = 1E-9 to 4E-9 Seconds<BulletedIndented4>Distance = -29.965E-3 to 1.1988 Meters Default Value	:CALCulate{1-16}[:SElected]:MA RKer{1-13}:X

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Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Marker Configuration - Marker Value Set	Range: The range is user-defined by a start and stop frequency, a start and stop distance, or a start and stop time . Default Value: For the X-axis, the default is the Minimum Instrument Frequency. Parameter Units: Hertz, Meters, or Seconds Modif	:CALCulate{1-16}:PARAMeter{1-16}:MARKer{1-13}:X
Marker Configuration - Reference Level from Active Marker Response	Range: NA Default Value: NA Parameter Units: NA Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:MARKer:SET:REFLevel
Marker Parameters - Marker All State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:MARKer:ALL[:STATe]
Marker Parameters - Marker Coupling	Range: NA Default Value: 0 Parameter Units: 1 01 ON OFF Modify Per: Channel	:CALCulate{1-16}:MARKer:COUPlE
Marker Parameters - Marker Discrete Mode State	Range: NA Default Value: 1 Parameter Units: 1 0 ON OFF Modify Per: Trace	:CALCulate{1-16}:PARAMeter{1-16}:MARKer:DISCReTE
Marker Parameters - Marker Display State	Range: NA Default Value: 1 Parameter Units: 1 0 ON OFF Modify Per: Marker	:CALCulate{1-16}[:SELEcted]:MARKer{1-13}[:STATe]
Marker Parameters - Marker Display State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Marker	:CALCulate{1-16}:PARAMeter{1-16}:MARKer{1-13}[:STATe]
Marker Parameters - Marker Move	Range: NA Default Value: NA Parameter Units: CENTer REFmarker START STOP Modify Per: Marker	:CALCulate{1-16}[:SELEcted]:MARKer{1-13}:MOVE
Marker Parameters - Marker Reference Level Mode	Range: NA Default Value: NA Parameter Units: CENTer REFmarker START STOP Modify Per: Marker	:CALCulate{1-16}[:SELEcted]:MARKer{1-13}:SET
Marker Search Configuration - Marker Search Bandwidth Shape Factor High Value	Range: MPNF Default Value: 0.000000E+000 Parameter Units: Depends on display type Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:MARKer:SEARCh:Bandwidth:SHAPE:HIGH

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (25 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Marker Search Configuration - Marker Search Range All Markers State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:SEArch:RANGe:ALL[:STAT e]
Marker Search Configuration - Marker Search Range Start Value	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Hertz, Meters, or Seconds Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:SEArch:RANGe:STARt:X
Marker Search Configuration - Marker Search Range State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Trace	:CALCulate{1-16}[:SElected]:MA RKer:SEArch:RANGe[:STATe]
Marker Search Configuration - Marker Search Range Stop Value	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Hertz, Meters, or Seconds Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:SEArch:RANGe:STOP:X
Marker Search Configuration - Marker Search Search Tracking State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Trace	:CALCulate{1-16}[:SElected]:MA RKer:SEArch:TRACKing[:STATe]
Marker Search Configuration - Marker Search Target Search Mode	Range: NA Default Value: TARG Parameter Units: TARGeT LEFT RIGHT Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:TSEArch
Marker Search Configuration - Marker Search Target Search Transition Value	Range: NA Default Value: BOTH Parameter Units: POSitive NEGative BOTH Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:TSEArch:TRANsition
Marker Search Configuration - Marker Search Target Search Value	Range: MPNF Default Value: 0.000000E+000 Parameter Units: Depends on display type Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:TSEArch:TARGeT
Marker Search Configuration - Marker Search Type	Range: NA Default Value: MAX Parameter Units: MAX MIN PEAK TARGeT Modify Per: Marker	:CALCulate{1-16}[:SElected]:MA RKer:SEArch
Marker Search Parameters - Marker Search Bandwidth Shape Factor Low Value	Range: MPNF Default Value: 0.000000E+000 Parameter Units: Depends on display type Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:SEArch:BANDwidth:SHAPE :LOW
Marker Search Parameters - Marker Search Bandwidth Shape Factor Shape	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Marker	:CALCulate{1-16}[:SElected]:MA RKer:SEArch:BANDwidth:SHAPE [:STATe]
Marker Search Parameters - Marker Search Bandwidth State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Marker	:CALCulate{1-16}[:SElected]:MA RKer:SEArch:BANDwidth[:STATe]

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (26 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Marker Search Parameters - Marker Search Bandwidth Value	Range: MPNF Default Value: 0.000000E+000 Parameter Units: Depends on display type Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:MA RKer:SEARch:BANDwidth:DEFIn e
Marker Search Parameters - Marker Search Multiple Peak Excursion Value	Range: MPNF Default Value: 0.000000E+000 Parameter Units: dB Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:MA RKer:MPSEArch:EXCursion
Marker Search Parameters - Marker Search Multiple Peak Polarity	Range: NA Default Value: POS Parameter Units: POSitive NEGative BOTH Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:MA RKer:MPSEArch:POLarity
Marker Search Parameters - Marker Search Multiple Peak Threshold Value	Range: MPNF Default Value: 0.000000E+000 Parameter Units: dB Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:MA RKer:MPSEArch:THREShold
Marker Search Parameters - Marker Search Multiple Target Transition Value	Range: NA Default Value: BOTH Parameter Units: POSitive NEGative BOTH Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:MA RKer:MTSEArch:TRANSition
Marker Search Parameters - Marker Search Multiple Target Value	Range: MPNI Default Value: 0.000000E+000 Parameter Units: Depends on display type Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:MA RKer:MTSEArch:TARget
Marker Search Parameters - Marker Search Notch Bandwidth Value	Range: MPNF Default Value: 0.000000E+000 Parameter Units: Depends on display type Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:MA RKer:SEARch:NOTCh:DEFine
Marker Search Parameters - Marker Search Notch Calculation State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Marker	:CALCulate{1-16}[:SELEcted]:MA RKer:SEARch:NOTCh[:STATe]
Marker Search Parameters - Marker Search Notch Shape Factor High Value	Range: MPNF Default Value: 0.000000E+000 Parameter Units: Depends on display type Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:MA RKer:SEARch:NOTCh:SHAPE:HI GH
Marker Search Parameters - Marker Search Notch Shape Factor Low Value	Range: MPNF Default Value: 0.000000E+000 Parameter Units: Depends on display type Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:MA RKer:SEARch:NOTCh:SHAPE:LO W
Marker Search Parameters - Marker Search Notch Shape Factor State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Marker	:CALCulate{1-16}[:SELEcted]:MA RKer:SEARch:NOTCh:SHAPE[:S TATe]
Marker Search Parameters - Marker Search Peak Search	Range: NA Default Value: PEAK Parameter Units: PEAK LEFT RIGHT Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:MA RKer:PSEArch

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (27 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Marker Search Parameters - Marker Search Peak Search Excursion Value	Range: MPNI Default Value: 0.000000E+000 Parameter Units: dB Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:PSEArch:EXCursion
Marker Search Parameters - Marker Search Peak Search Last Search Type	Range: NA Default Value: PEAK Parameter Units: PEAK LEFT RIGHT Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:PSEArch?
Marker Search Parameters - Marker Search Peak Search Polarity Value	Range: NA Default Value: POS Parameter Units: POSitive NEGative BOTH Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:PSEArch:POLarity
Marker Search Parameters - Marker Search Peak Search Threshold Value	Range: MPNF Default Value: 0.000000E+000 Parameter Units: dB Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA RKer:PSEArch:THREshold
Math Operations - Intertrace Math Operation State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Trace	:CALCulate{1-16}[:SElected]:MA TH:INTERtrace[:STATe]
Math Operations - Intertrace Memory Math Operation Type	Range: NA Default Value: DIV Parameter Units: ADD SUBTract MULTiPLY DIVide Modify Per: Trace	:CALCulate{1-16}[:SElected]:MA TH:INTERtrace:FUNCTion
Math Operations - Trace Math Operand Definition	Range: NA Default Value: TR1, DATA Parameter Units: TR1 TR2 TR3 TR4 TR5 TR6 TR7 TR8 TR9 TR10 TR11 TR12 TR13 TR14 TR15 TR16 DATA DMM Modify Per: Channel	:CALCulate{1-16}[:SElected]:MA TH:INTERtrace:OPERand{1-2}:D EFine
Microstrip Configuration - Microstrip Effective Dielectric Value	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Channel	:SENSE{1-16}:CORREction:COL Lect:MICrostrip:EFFective
Microstrip Configuration - Microstrip Impedance	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Ohms Modify Per: Channel	:SENSE{1-16}:CORREction:COL Lect:MICrostrip:Z0
Microstrip Configuration - Microstrip Kit Connector Type	Range: NA Default Value: Refer to Section 2-17 Parameter Units: USER1 USER2 USER3 USER4 USER5 USER6 USER7 USER8 Modify Per: Port Per Channel	:SENSE{1-16}:CORREction:COL Lect:MICrostrip:PORT{1-2}:CON Nector

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (28 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Microstrip Configuration - Microstrip Kit Type	Range: NA Default Value: MIL10 Parameter Units: MIL10 MIL15 MIL25 USER1 USER2 USER3 USER4 USER5 USER6 USER7 USER8 Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:MICrostrip:KIT
Microstrip Configuration - Microstrip Substrate Dielectric Value	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:MICrostrip:DIElectric
Microstrip Configuration - Microstrip Substrate Thickness	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Meters Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:MICrostrip:THICKness
Microstrip Configuration - Microstrip Width	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Meters Modify Per: Channel	:SENSe{1-16}:CORRection:COL Lect:MICrostrip:WIDTH
Multiple Source - Multiple Source Band External Module Control State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Multiple Source Band	:SENSe{1-16}:OFFSet:EXTModu le[:STATe]
Multiple Source - Multiple Source Band Receiver Frequency Divisor	Range: Depends on the multiple source equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:RE CEiver[:FREQuency]:DIVisor
Multiple Source - Multiple Source Band Receiver Frequency Multiplier	Range: MPNI. Limited by the band equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:RE CEiver[:FREQuency]:MULTiplier
Multiple Source - Multiple Source Band Receiver Offset Frequency	Range: Depends on the multiple source equation. Default Value: 0.000000000000E+000 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:RC VSource[:FREQuency]:OFFSet
Multiple Source - Multiple Source Band Receiver Offset Frequency	Range: Depends on the multiple source equation. Default Value: 0.000000000000E+000 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:RE CEiver[:FREQuency]:OFFSet
Multiple Source - Multiple Source Band Receiver Source Frequency Divisor	Range: Depends on the multiple source equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:RC VSource[:FREQuency]:DIVisor

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (29 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Multiple Source - Multiple Source Band Receiver Source Frequency Multiplier	Range: MPNI. Limited by the band equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:RCVSource[:FREQUENCY]:MULTIPLIER
Multiple Source - Multiple Source Band Start Frequency	Range: Minimum Instrument Frequency to (Maximum Instrument Frequency minus Minimum Frequency Step Size) Default Value: 7.000000000000E+004 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:START
Multiple Source - Multiple Source Control Band Offset Frequency	Range: MPND. Limited by the band equation. Default Value: 0.000000000000E+000 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:OFFSet:EXTERNAL{1-4}[:FREQUENCY]:OFFSet
Multiple Source - Multiple Source Control Band Receiver Frequency Divisor	Range: MPNI. Limited by the band equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet:RECEIVER[:FREQUENCY]:DIVISOR
Multiple Source - Multiple Source Control Band Receiver Offset Frequency	Range: MPND. Limited by the band equation. Default Value: 0.000000000000E+000 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:OFFSet:RECEIVER[:FREQUENCY]:OFFSet
Multiple Source - Multiple Source Control Band Receiver Source Frequency Divisor	Range: MPNI. Limited by the band equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet:RCVSource[:FREQUENCY]:DIVISOR
Multiple Source - Multiple Source Control Band Receiver Source Frequency Multiplier	Range: MPNI. Limited by the band equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet:RCVSource[:FREQUENCY]:MULTIPLIER
Multiple Source - Multiple Source Control Band Receiver Source Offset Frequency	Range: MPND. Limited by the band equation. Default Value: 0.000000000000E+000 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:OFFSet:RCVSource[:FREQUENCY]:OFFSet
Multiple Source - Multiple Source Control Band Start Frequency	Range: Minimum Instrument Frequency to (Maximum Instrument Frequency minus Minimum Frequency Step Size) Default Value: 7.000000000000E+004 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:OFFSet:START
Multiple Source - Multiple Source Control Band Stop Frequency	Range: (Minimum Instrument Frequency + Minimum Frequency Step Size) to Maximum Instrument Frequency Default Value: 1.000000000000E+010 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:OFFSet:STOP

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (30 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Multiple Source - Multiple Source Control Band Stop Frequency	Range: (Minimum Instrument Frequency + Minimum Frequency Step Size) to Maximum Instrument Frequency Default Value: 1.00000000000E+010 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:OFFSet{1-50}:STOP
Multiple Source - Multiple Source External Module Control State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Multiple Source Band	:SENSe{1-16}:OFFSet{1-50}:EXTModule[:STATe]
Multiple Source - Multiple Source External Source CW Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Multiple Source Band	:SENSe{1-16}:OFFSet{1-50}:EXTernal{1-4}:CW[:STATe]
Multiple Source - Multiple Source Internal Source CW Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Multiple Source Band	:SENSe{1-16}:OFFSet{1-50}:INTERNAL{1}:CW[:STATe]
Multiple Source - Multiple Source Mode Receiver CW Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Multiple Source Band	:SENSe{1-16}:OFFSet:RECEiver[:CW[:STATe]
Multiple Source - Multiple Source Mode Receiver CW Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Multiple Source Band	:SENSe{1-16}:OFFSet:RCVSource[:CW[:STATe]
Multiple Source - Multiple Source Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SENSe{1-16}:OFFSet[:STATe]
Multiple Source - Multiple Source Phase Inversion State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SENSe{1-16}:OFFSet:PINVersion[:STATe]
Multiple Source - Multiple Source Receiver CW Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Multiple Source Band Per Channel	:SENSe{1-16}:OFFSet{1-50}:RCVSource[:CW[:STATe]
Multiple Source - Multiple Source Receiver CW Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Multiple Source Band Per Channel	:SENSe{1-16}:OFFSet{1-50}:RECEiver[:CW[:STATe]
Multiple Source - Multiple Source Receiver Frequency Multiplier	Range: MPNI. Limited by the band equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:OFFSet:RECEiver[:FREQUENCY]:MULTIplier

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (31 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Network Embed/De-Embed - Network Embed/De-Embed Mode	Range: NA Default Value: EMB Parameter Units: EMBed DEEMbed Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork{1-50}:MODE
Network Embed/De-Embed - Network Embedding/De-Embedding State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork[:STATe]
Network Parameters - Embed/De-Embed Mode	Range: NA Default Value: EMB Parameter Units: EMBed DEEMbed Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork:MODE
Network Parameters - Network Swap S2P File Data Flag Mode	Range: NA Default Value: FALS Parameter Units: TRUE FALS Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork:SWAPs2p
Network Parameters - Network Type	Range: NA Default Value: LSCP Parameter Units: LSCP CSLP CPLS LPCS RS RP TLine S2Pfile Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork{1-50}:TYPE
Network Parameters - R Network Resistance Value	Range: MPND Default Value: 0.000000000000E+000 Parameter Units: Ohms Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork{1-50}:R
Network Parameters - R Network Resistance Value	Range: MPND Default Value: 0.000000000000E+000 Parameter Units: Ohms Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork:R
Network S2P Parameters - NXN IF Path De-Embedding State	Range: NA Default Value: 0 Parameter Units: 0 1 OFF ON Modify Per: Channel	:CALCulate{1-16}:NXN:IFNavigat ion:DEEMbedding[:STATe]
Network S2P Parameters - S2P Swap Data Flag	Range: NA Default Value: FALS Parameter Units: TRUE FALS Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork{1-50}:SWAPs2p
Number of Points - Maximum Number of Points	Range: NA Default Value: 25000 Parameter Units: 25000 100000 Modify Per: Instrument	:SYSTem:POINts:MAXimum
NXN Parameters - NXN Device Length	Range: MPND Default Value: 0.000000000000E+000 Parameter Units: DEV1 DEV2 DEV3 Meters Modify Per: Channel	:CALCulate{1-16}:NXN:LENGth

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (32 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
NXN Parameters - NXN Device Solve	Range: NA Default Value: DEV1 Parameter Units: DEV1 DEV2 DEV3 Modify Per: Channel	:CALCulate{1-16}:NXN:SOLVe
NXN Parameters - NXN IF Path Sweep Direction	Range: NA Default Value: FOR Parameter Units: FORward REVerse Modify Per: Channel	:CALCulate{1-16}:NXN:IFNavigation:DIRection
Open Configuration - Open Standard C0 (C Zero) Capacitance	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Farads Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COLLect:PORT{1-2}:OPEN:C0
Open Configuration - Open Standard C1 Capacitance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COLLect:PORT{1-2}:OPEN:C1
Open Configuration - Open Standard C2 Capacitance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COLLect:PORT{1-2}:OPEN:C2
Open Configuration - Open Standard C3 Capacitance Coefficient	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COLLect:PORT{1-2}:OPEN:C3
Open Configuration - Open Standard Label Input	Range: NA Default Value: NA Parameter Units: Alphanumeric Characters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COLLect:PORT{1-2}:OPEN:LABEL
Open Configuration - Open Standard Offset Ohms	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Ohms Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COLLect:PORT{1-2}:OPEN:OFFS
Open Configuration - Open Standard Serial Number	Range: NA Default Value: XXXXXX Parameter Units: Alphanumeric Characters Modify Per: Port Per Channel	:SENSe{1-16}:CORRection:COLLect:PORT{1-2}:OPEN:SERial
Port Parameters - Port Connector Type	Range: NA Default Value: Refer to Section 2-17 Parameter Units: CM2 CM3 CMK CMN CMS CMC CMV CM1 CM716 CNG CMN75 CMU1 CMU2 CMU3 CMU4 CMU5 CMU6 CMU7 CMU8 CF2 CF3 CFK CFN CFS CFC CFV CF1 CF716 CFN	:SENSe{1-16}:CORRection:COLLect:PORT{1-2}:CONNector
Port Parameters - Port Power Coupling State	Range: NA Default Value: 1 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SOURce{1-16}:POWER:PORT:C OUPLE

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (33 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Port Parameters - Power Flat Power Correction State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Port Per Channel	:SOURce{1-16}:POWer:PORT{1-2}:CORRection[:STATe]
Port Parameters - Power Level	Range: -3E1 to 3E1 Default Value: Default value depends on model and installed options: <BulletedIndented4>MS4647A with options 51, 61, or 62 = -10 dBm<BulletedIndented4>All other MS4647As = -3 dBm<BulletedIndented4>MS4642A and MS4644A = +5 dBm Para	:SOURce{1-16}:POWer:PORT{1-2}[:LEVel][:IMMediate][:AMPLitud e]
Power Parameters - Port Attenuation	Range: 0 to 60 dB dB in 10 dB increments Default Value: 0 Parameter Units: dB Modify Per: Port Per Channel	:SOURce{1-16}:POWer:PORT{1-2}:ATTenuation
Power Parameters - Power Slope Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:SOURce{1-16}:POWer:SLOPe[: STATe]
Power Parameters - Power Slope Value	Range: -1E3 to 1E3 Default Value: 0.000000E+000 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SOURce{1-16}:POWer:PORT{1-2}:SLOPe
Power Parameters - Reference Attenuation Value	Range: 0 to 60 dB in 10 dB increments Default Value: 0 Parameter Units: dB Modify Per: Port	:SYSTem:PORT{1-2}:REFerence :ATTenuation
Power Parameters - Reference Attenuation Value	Range: 0 to 60 dB in 10 dB increments Default Value: 0 Parameter Units: dB Modify Per: Channel	:SOURce{1-16}:POWer:PORT{1-2}:REFerence:ATTenuation
Power Parameters - Test Attenuation Value	Range: 0 to 60 dB in 10 dB increments Default Value: 0 Parameter Units: dB Modify Per: Port	:SYSTem:PORT{1-2}:TEST:ATTenuation
Power Sweep Configuration - Power Sweep Effective Single Power	Range: -20 to +5 Default Value: NA Parameter Units: dBm Modify Per: Port Per Channel	:SOURce{1-16}:POWer:PORT{1-2}:LINear:SINGLE:POWer:EFFect ive:VALue?
Power Sweep Configuration - Power Sweep Linear Calibration State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Port Per Channel	:SOURce{1-16}:POWer:PORT{1-2}:LINear:CORRection[:STATe]

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (34 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Power Sweep Configuration - Power Sweep Number of Points	Range: 0 to 60 Default Value: 50 Parameter Units: Unitless Number Modify Per: Port Per Channel	:SOURce{1-16}:POWER:PORT{1-2}:LINear:POWER:POINTs
Power Sweep Configuration - Power Sweep Offset Power	Range: -1E2 to 1E2 Default Value: 0.000000E+000 Parameter Units: dB Modify Per: Port Per Channel	:SOURce{1-16}:POWER:PORT{1-2}:LINear:POWER:OFFSet
Power Sweep Configuration - Power Sweep Reference Attenuation	Range: 0 to 60 dB in 10 dB increments Default Value: 0 Parameter Units: dB Modify Per: Port Per Channel	:SOURce{1-16}:POWER:PORT{1-2}:LINear:REFerence:ATTenuatio n
Power Sweep Configuration - Power Sweep Single Power	Range: -3E1 to 3E1 Default Value: Default value depends on model and installed options: <BulletedIndented4>MS4647A with options 51, 61, or 62 = -10 dBm<BulletedIndented4>All other MS4647As = -3 dBm<BulletedIndented4>MS4642A and MS4644A = +5 dBm Para	:SOURce{1-16}:POWER:PORT{1-2}:LINear:SINGLE:POWER:VALue
Power Sweep Configuration - Power Sweep Single Power Mode State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Port Per Channel	:SOURce{1-16}:POWER:PORT{1-2}:LINear:SINGLE:POWER[:STATE]
Power Sweep Configuration - Power Sweep Start Power	Range: -3E1 to 2.99E1 Default Value: Default value depends on model and installed options: <BulletedIndented4>MS4647A with options 51, 61, or 62 = -10 dBm<BulletedIndented4>All other MS4647As = -3 dBm<BulletedIndented4>MS4642A and MS4644A = +5 dBm P	:SOURce{1-16}:POWER:PORT{1-2}:LINear:POWER:START
Power Sweep Configuration - Power Sweep Start Power Target	Range: MPNF Default Value: -2.000000E+001 Parameter Units: dBm Modify Per: Port Per Channel	:SOURce{1-16}:POWER:PORT{1-2}:LINear:CORRection:POWER:S TART
Power Sweep Configuration - Power Sweep Stop Power	Range: -2.99E1 to 3E1 Default Value: Default value depends on model and installed options: <BulletedIndented4>MS4647A with options 51, 61, or 62 = -10 dBm<BulletedIndented4>All other MS4647As = -3 dBm<BulletedIndented4>MS4642A and MS4644A = +5 dBm P	:SOURce{1-16}:POWER:PORT{1-2}:LINear:POWER:STOP

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (35 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Power Sweep Configuration - Power Sweep Test Attenuation	Range: 0 to 60 dB in 10 dB increments Default Value: 0 Parameter Units: dB Modify Per: Channel	:SOURce{1-16}:POWer:PORT{1-2}:LINear:TEST:ATTenuation
Power Sweep Configuration - Power Test Attenuation	Range: 0 to 60 dB in 10 dB increments Default Value: 0 Parameter Units: dB Modify Per: Channel	:SOURce{1-16}:POWer:PORT{1-2}:TEST:ATTenuation
Rear Panel Configuration - Rear Panel Analog Output State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Channel	:CONTrol{1-16}:AOuT[:STATe]
Rear Panel Configuration - Rear Panel Output	Range: NA Default Value: HOR Parameter Units: HORizontal DRIVen TTL Modify Per: Channel	:CONTrol{1-16}:AOuT:MODE
Rear Panel Configuration - Rear Panel Output	Range: -10 to +10 Volts Default Value: 1.000000E+000 Parameter Units: Volts Modify Per: Channel	:CONTrol{1-16}:AOuT:VOLTage:STOP
Rear Panel Configuration - Rear Panel Output	Range: -10 to +10 Volts Default Value: 0.000000E+000 Parameter Units: Volts Modify Per: Channel	:CONTrol{1-16}:AOuT{1-2}:DRIVen:LEV
Rear Panel Configuration - Rear Panel Output	Range: -10 to +10 Volts Default Value: 0.000000000000E+000 Parameter Units: Volts Modify Per: Channel	:CONTrol{1-16}:AOuT:VOLTage:START
Rear Panel Configuration - Rear Panel Output	Range: NA Default Value: HIGH Parameter Units: LOW HIGH LPULSE HPULSE Modify Per: Channel	:CONTrol{1-16}:AOuT{1-2}:TTL:TYPE
Rear Panel Configuration - Rear Panel Output	Range: 0 to 10 seconds Default Value: 0.000000E+000 Parameter Units: Seconds Modify Per: Channel	:CONTrol{1-16}:AOuT:PULSe:WIDth
Reference Plane Configuration - Reference Plane Extension	Range: MPND Default Value: 0.000000000000E+000 Parameter Units: Meters Modify Per: Port	:SENSe{1-16}:CORRection:EXTension:PORT{1-2}
Reference Plane Configuration - Reference Plane Extension Coaxial Line Dielectric Type	Range: NA Default Value: AIR Parameter Units: AIR MICRoporous OTHER POLYethylene TEFLON Modify Per: Channel	:CALCulate{1-16}:REFerence:EXTension:COAXial:DIElectric

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (36 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Reference Plane Configuration - Reference Plane Extension Coaxial Line Other Dielectric	Range: 1 to 9.99E3 Default Value: 1.00000000000E+000 Parameter Units: Unitless Number Modify Per: Channel	:CALCulate{1-16}:REFerence:EX Tension:COAXial:DIElectric:OTH er
Reference Plane Configuration - Reference Plane Extension Distance	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Meters Modify Per: Per Port Per Channel	:CALCulate{1-16}:REFerence:EX Tension:PORT{1-2}:DISTance
Reference Plane Configuration - Reference Plane Extension Line Type	Range: NA Default Value: COAX Parameter Units: COAXial MICROstrip NONDISpersive WAVEguide Modify Per: Channel	:CALCulate{1-16}:REFerence:EX Tension:LINE
Reference Plane Configuration - Reference Plane Extension Loss	Range: -1E3 to +1E3 Default Value: 0.00000000000E+000 Parameter Units: dB Modify Per: Channel	:CALCulate{1-16}:REFerence:EX Tension:PORT{1-2}:LOSS
Reference Plane Configuration - Reference Plane Extension Microstrip Effective Dielectric Value	Range: MPND Default Value: 6.69000000000E+000 Parameter Units: Unitless Number Modify Per: Channel	:CALCulate{1-16}:REFerence:EX Tension:MICrostrip:EFFective
Reference Plane Configuration - Reference Plane Extension Microstrip Impedance	Range: MPND Default Value: 5.00000000000E+001 Parameter Units: Ohms Modify Per: Channel	:CALCulate{1-16}:REFerence:EX Tension:MICrostrip:Z0
Reference Plane Configuration - Reference Plane Extension Microstrip Substrate Dielectric Value	Range: 1 to 10 Default Value: 9.96000000000E+000 Parameter Units: Unitless Number Modify Per: Channel	:CALCulate{1-16}:REFerence:EX Tension:MICrostrip:DIElectric
Reference Plane Configuration - Reference Plane Extension Microstrip Substrate Thickness	Range: MPND Default Value: 2.54000000000E-004 Parameter Units: Meters Modify Per: Channel	:CALCulate{1-16}:REFerence:EX Tension:MICrostrip:THICKness
Reference Plane Configuration - Reference Plane Extension Microstrip Width	Range: MPND Default Value: 2.38760000000E-004 Parameter Units: Meters Modify Per: Channel	:CALCulate{1-16}:REFerence:EX Tension:MICrostrip:WIDth
Reference Plane Configuration - Reference Plane Extension Phase Offset	Range: -360 to +360 Default Value: 0.000000E+000 Parameter Units: Degrees Modify Per: Channel	:CALCulate{1-16}:REFerence:EX Tension:PORT{1-2}:PHAsE
Reference Plane Configuration - Reference Plane Extension Time	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Seconds Modify Per: Channel	:CALCulate{1-16}:REFerence:EX Tension:PORT{1-2}:TIME

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (37 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Reference Plane Configuration - Reference Plane Extension Waveguide Cutoff Frequency	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Hertz Modify Per: Channel	:CALCulate{1-16}:REFerence:EX Tension:WAVEguide:FREQuency
Reference Plane Configuration - Reference Plane Extension Waveguide Dielectric Value	Range: MPND Default Value: 1.00000000000E+000 Parameter Units: Unitless Number Modify Per: Channel	:CALCulate{1-16}:REFerence:EX Tension:WAVEguide:DIElectric
Register Values - Operation Status Enable Register	Range: 0 to 65535 Default Value: NA Parameter Units: Unitless Number Modify Per: Instrument	:STATus:OPERation:ENABLE
Register Values - Operation Status Register Negative Transition Filter	Range: 0 to 65535 Default Value: NA Parameter Units: Unitless Number Modify Per: Instrument	:STATus:OPERation:NTRansition
Register Values - Operation Status Register Positive Transition Filter	Range: 0 to 65535 Default Value: NA Parameter Units: Unitless Number Modify Per: Instrument	:STATus:OPERation:PTRansition
Register Values - Questionable Limit Status Enable Register	Range: 0 to 65535 Default Value: NA Parameter Units: Unitless Number Modify Per: Instrument	:STATus:QUEStionable:LIMit:EN ABLE
Register Values - Questionable Limit Status Register Negative Transition Filter	Range: 0 to 65535 Default Value: NA Parameter Units: Unitless Number Modify Per: Instrument	:STATus:QUEStionable:LIMit:NT Ransition
Register Values - Questionable Limit Status Register Negative Transition Filter	Range: 0 to 65535 Default Value: NA Parameter Units: Unitless Number Modify Per: Instrument	:STATus:QUEStionable:NTRansit ion
Register Values - Questionable Limit Status Register Positive Transition Filter	Range: 0 to 65535 Default Value: NA Parameter Units: Unitless Number Modify Per: Instrument	:STATus:QUEStionable:LIMit:PT Ransition
Register Values - Questionable Status Enable Register	Range: 0 to 65535 Default Value: NA Parameter Units: Unitless Number Modify Per: Instrument	:STATus:QUEStionable:ENABLE
Register Values - Questionable Status Register Positive Transition Filter	Range: 0 to 65535 Default Value: NA Parameter Units: Unitless Number Modify Per: Instrument	:STATus:QUEStionable:PTRansiti on
SNP Parameters - SNP Data File Frequency Units	Range: NA Default Value: GHZ Parameter Units: HZ KHZ MHZ GHZ Modify Per: Instrument	:FORMat:SNP:FREQuency

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Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
SNP Parameters - SNP Data File Parameter Format	Range: NA Default Value: REIM Parameter Units: LINPH LOGPH REIM Modify Per: Instrument	:FORMat:SNP:PARAmeter
Sweep Parameters - Sweep Delay	Range: NA Default Value: BEGIN Parameter Units: BEGIN LOCK LOAD DIP Modify Per: Channel	:SENSe{1-16}:SWEep:DELay:TY Pe
Sweep Parameters - Sweep Delay Time	Range: 0 to 100 Seconds Default Value: 0.00000000000E+000 Parameter Units: Seconds Modify Per: Channel	:SENSe{1-16}:SWEep:DELay
Sweep Parameters - Sweep Range Center	Range: 7.0004E4 to 6.9999E10 Default Value: Default value depends on instrument model and installed options: <BulletedIndented4>For MS4647A with option 70 = 3.50000350000E+010 <BulletedIndented4>For MS4644A with option 70 = 2.00000350000E+010 <Bulleted	:SENSe{1-16}:FREQUency:CEN Ter
Sweep Parameters - Sweep Range Span	Range: Depends on the instrument model and installed options. Default Value: Depends on the instrument model and installed options. Parameter Units: Hertz, Meters, or Seconds Modify Per: Channel	:SENSe{1-16}:FREQUency:SPAN
Sweep Parameters - Sweep Range Start	Range: Minimum Instrument Frequency to (Maximum Instrument Frequency minus Minimum Frequency Step Size) Default Value: Depends on the instrument installed options. Parameter Units: Hertz, Meters, or Seconds Modify Per: Channel	:SENSe{1-16}:FREQUency:STAR t
Sweep Parameters - Sweep Range Stop	Range: (Minimum Instrument Frequency + Minimum Frequency Step Size) to Maximum Instrument Frequency Default Value: Depends on the instrument model and installed options. Parameter Units: Hertz, Meters, or Seconds Modify Per: Channel	:SENSe{1-16}:FREQUency:STO P
Sweep Parameters - Sweep Type	Range: NA Default Value: LIN Parameter Units: LINear LOGarithmic FSEGMent ISEGMent POWer MFGC Modify Per: Channel	:SENSe{1-16}:SWEep:TYPE
System Parameters - Hardcopy Print Color	Range: NA Default Value: INV Parameter Units: NORMal INVert BWHITE Modify Per: Instrument	:HCOPY:IMAGe

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (39 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
System Parameters - Power Up Instrument State	Range: NA Default Value: LAST Parameter Units: RESET LAST USER Modify Per: Instrument	:SYSTem:POWerup:TYPe
System Parameters - Reset Zero	Range: NA Default Value: NA Parameter Units: NA Modify Per: Channel	:SYSTem:PRESet:ZERo
System Parameters - System Preset	Range: NA Default Value: RESET Parameter Units: RESET USER Modify Per: Instrument	:SYSTem:PRESet:TYPe
Test Set Parameters - Test Set LO Divisor	Range: MPNI. Limited by the band equation. Default Value: 8 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:TSET:LO:DIVisor
Test Set Parameters - Test Set LO Multiplier	Range: MPNI. Limited by the band equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:TSET:LO:MULTIplier
Test Set Parameters - Test Set RF Multiplier	Range: MPNI. Limited by the band equation. Default Value: 1 Parameter Units: Unitless Number Modify Per: Channel	:SENSe{1-16}:TSET:RF:MULTIplier
Test Set Parameters - Test Set Start Frequency	Range: Minimum Instrument Frequency to (Maximum Instrument Frequency minus Minimum Frequency Step Size) Default Value: 6.70000000000E+010 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:TSET:FREQUency:START
Test Set Parameters - Test Set Stop Frequency	Range: (Minimum Instrument Frequency + Minimum Frequency Step Size) to Maximum Instrument Frequency Default Value: 1.10000000000E+011 Parameter Units: Hertz Modify Per: Channel	:SENSe{1-16}:TSET:FREQUency:STOP
Thru-Line Parameters - Thru-Line Impedance on Port Pair	Range: 1E-4 to 1E10 Default Value: Refer to Section 2-17 Parameter Units: Ohms Modify Per: Channel	:SENSe{1-16}:CORRection:COLLect:PORT{12}:THRU:Z0
Thru-Line Parameters - Thru-Line Label for Port-Pair	Range: NA Default Value: NA Parameter Units: Alphanumeric Characters Modify Per: Port-Pair Per Channel	:SENSe{1-16}:CORRection:COLLect:PORT{12}:THRU:LABEL
Thru-Line Parameters - Thru-Line Length on Port Pair	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Meters Modify Per: Port-Pair Per Channel	:SENSe{1-16}:CORRection:COLLect:PORT{12}:THRU:LENGTh

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (40 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Thru-Line Parameters - Thru-Line Loss on Port-Pair	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: dB/mm Modify Per: Port-Pair Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{12}:THRU:LOSS
Thru-Line Parameters - Thru-Line Reference Frequenc y Loss	Range: MPND Default Value: Refer to Section 2-17 Parameter Units: Hertz Modify Per: Port-Pair Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{12}:THRU:FREQUen cy
Thru-Line Parameters - Thru-Line Serial Number on Port Pair	Range: NA Default Value: XXXXXX Parameter Units: Alphanumeric Characters Modify Per: Port-Pair Per Channel	:SENSe{1-16}:CORRection:COL Lect:PORT{12}:THRU:SERial
Thru-Line Parameters - Thru-Line Use Reciprocal Flag Port-Pair State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Port-Pair Per Instrument	:SENSe{1-16}:CORRection:COL Lect:PORT{12}:THRU:RECIProc al
Time Domain - Dolph-Chebyshev Gamma Value	Range: 0 to 2E2 Default Value: 4.00000000000E+001 Parameter Units: Unitless Number Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:TR ANsform:TIME:GATE:DCGamma ?
Time Domain Configuration - time domain	Range: -999.99 to 999.99 Seconds -2.99649E11 to 2.99649E11 Meters Default Value: 2.00000000000E-009 Parameter Units: Seconds or Meters Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:TR ANsform:TIME:GATE:STOP
Time Domain Configuration - time domain	Range: NA Default Value: OFF Parameter Units: ON OFF DISPlay Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:TR ANsform:TIME:GATE[:STATe]
Time Domain Configuration - Time Domain	Range: NA Default Value: TIME Parameter Units: TIME DISTance Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:TR ANsform:TIME:UNIT
Time Domain Configuration - Time Domain	Range: 0 to 2E2 Default Value: 4.00000000000E+001 Parameter Units: Unitless Number Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:TR ANsform:TIME:WINDow:DCGam ma
Time Domain Configuration - Time Domain	Range: 0 to E308 Default Value: 5.00000000000E-001 Parameter Units: Unitless Number Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:TR ANsform:TIME:WINDow:KBBeta
Time Domain Configuration - Time Domain	Range: NA Default Value: FREQ Parameter Units: FREQUency FREQGATE LOWpass BANDpass Modify Per: Channel	:CALCulate{1-16}[:SELEcted]:TR ANsform:TIME:TYPE

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (41 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Time Domain Configuration - Time Domain Anti-Gating State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Trace	:CALCulate{1-16}[:SElected]:TR ANSform:TIME:GATE:NOTch[:ST ATe]
Time Domain Configuration - Time Domain Center	Range: -999.999 to 999.999 Seconds -2.99649E11 to 2.99649E11 Meters Default Value: 1.50000000000E-009 Parameter Units: Seconds or Meters Modify Per: Trace	:CALCulate{1-16}[:SElected]:TR ANSform:TIME:CENTer
Time Domain Configuration - Time Domain DC Term	Range: NA Default Value: AUTO Parameter Units: AUTO OTHER Modify Per: Channel	:CALCulate{1-16}[:SElected]:TR ANSform:TIME:DCTerm
Time Domain Configuration - Time Domain DC Term Other	Range: 0 to 5E3 Default Value: 0.00000000000E+000 Parameter Units: Ohms Modify Per: Trace	:CALCulate{1-16}[:SElected]:TR ANSform:TIME:DCTerm:OTHer
Time Domain Configuration - Time Domain Dolph-Chebyshev Gamma	Range: 0 to 2E2 Default Value: 4.00000000000E+001 Parameter Units: Depends on display type Modify Per: Channel	:CALCulate{1-16}[:SElected]:TR ANSform:TIME:GATE:DCGamma
Time Domain Configuration - Time Domain Extrapolation Method	Range: NA Default Value: PHASE Parameter Units: MAGPHase PHASE USER Modify Per: Channel	:CALCulate{1-16}[:SElected]:TR ANSform:TIME:EXTRapolate
Time Domain Configuration - Time Domain Gate Center Value	Range: -999.99 to 999.99 Seconds -2.99649E11 to 2.99649E11 Meters Default Value: 1.50000000000E-009 Parameter Units: Seconds or Meters Modify Per: Channel	:CALCulate{1-16}[:SElected]:TR ANSform:TIME:GATE:CENTer
Time Domain Configuration - Time Domain Gate Shape	Range: NA Default Value: NOM Parameter Units: MINimum NOMinal WIDE MAXimum DCHebyshev KBessel Modify Per: Channel	:CALCulate{1-16}[:SElected]:TR ANSform:TIME:GATE:SHAPE
Time Domain Configuration - Time Domain Gate Span	Range: -999.99 to 999.99 Seconds -2.99649E11 to 2.99649E11 Meters Default Value: 1.00000000000E-009 Parameter Units: Seconds or Meters Modify Per: Channel	:CALCulate{1-16}[:SElected]:TR ANSform:TIME:GATE:SPAN
Time Domain Configuration - Time Domain Kaiser-Bessel Beta	Range: 0 to E308 Default Value: 5.00000000000E-001 Parameter Units: Unitless Number Modify Per: Channel	:CALCulate{1-16}[:SElected]:TR ANSform:TIME:GATE:KBBeta

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (42 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Time Domain Configuration - Time Domain Start Gate	Range: -999.99 to 999.99 Seconds -2.99649E11 to 2.99649E11 Meters Default Value: 1.000000000000E-009 Parameter Units: Seconds or Meters Modify Per: Trace	:CALCulate{1-16}[:SElected]:TR ANsform:TIME:GATE:START
Time Domain Configuration - Time Domain Time Zoom State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Trace	:CALCulate{1-16}[:SElected]:TR ANsform:TIME:ZOOM[:STATE]
Time Domain Configuration - Time Domain Transform Response	Range: NA Default Value: IMP Parameter Units: IMPulse STEP Modify Per: Trace	:CALCulate{1-16}[:SElected]:TR ANsform:TIME:RESPonse
Time Domain Configuration - Time Domain Trip Length Transform	Range: NA Default Value: AUTO Parameter Units: ONEWay ROUNDtrip AUTO Modify Per: Trace	:CALCulate{1-16}[:SElected]:TR ANsform:TIME:TRIP
Time Domain Configuration - Time Window Shape	Range: NA Default Value: NOM Parameter Units: RECTangular NOMinal LOWsidelobe MINsidelobe DCHebyshev KBessel Modify Per: Channel	:CALCulate{1-16}[:SElected]:TR ANsform:TIME:WINDow:SHAPE
Time Domain Configuration - Time Zoom Impulses	Range: 0 to 2147483648 Default Value: 0 Parameter Units: Unitless Number Modify Per: Channel	:CALCulate{1-16}[:SElected]:TR ANsform:TIME:ZOOM:IMPulses
Time Domain Configuration - Time/Distance Span	Range: -999.99 to 999.99 Seconds -2.99649E11 to 2.99649E11 Meters Default Value: 5.000000000000E-009 Parameter Units: Seconds or Meters Modify Per: Channel	:CALCulate{1-16}[:SElected]:TR ANsform:TIME:SPAN
Time Domain Configuration - Time/Distance Start	Range: -999.99 to 999.99 Seconds -2.99649E11 to 2.99649E11 Meters Default Value: -1.000000000000E-009 Parameter Units: Seconds or Meters Modify Per: Channel	:CALCulate{1-16}[:SElected]:TR ANsform:TIME:START
Time Domain Configuration - Time/Distance Stop	Range: -999.99 to 999.99 Seconds -2.99649E11 to 2.99649E11 Meters Default Value: 4.000000000000E-009 Parameter Units: Seconds or Meters Modify Per: Channel	:CALCulate{1-16}[:SElected]:TR ANsform:TIME:STOP
Time Domain Parameters - Time Domain Center Time/Distance	Range: -999.99 to 999.99 Seconds -2.99649E11 to 2.99649E11 Meters Default Value: 1.500000000000E-009 Parameter Units: Seconds or Meters Modify Per: Channel	:CALCulate{1-16}[:SElected]:TR ANsform:TIME:GATE:CENTer?

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (43 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
T-Line Network Parameters - T-Line	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Hertz Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork:FREQUENCY
T-Line Network Parameters - T-Line	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Meters Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork:LENGth
T-Line Network Parameters - T-Line	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: dB/mm Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork:LOSS
T-Line Network Parameters - T-Line Network Impedance Value	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Ohms Modify Per: Indicated Network per Channel	:CALCulate{1-16}:FSIMulator:NE TWork{1-50}:Z0
T-Line Network Parameters - T-Line Network Impedance Value	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Ohms Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork:Z0
T-Line Network Parameters - T-Line Network Line Length Value	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Meters Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork{1-50}:LENGth
T-Line Network Parameters - T-Line Network Line Loss Frequency Value	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Hertz Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork{1-50}:FREQUENCY
T-Line Network Parameters - T-Line Network Line Loss Value	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: dB/mm Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork{1-50}:LOSS
T-Line Network Parameters - T-Line Network Other Dielectric Value	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Unitless Number Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork:DIElectric
T-Line Network Parameters - T-Line Network Other Dielectric Value	Range: MPND Default Value: 0.00000000000E+000 Parameter Units: Unitless Number Modify Per: Channel	:CALCulate{1-16}:FSIMulator:NE TWork{1-50}:DIElectric
Trace Parameters - Display Color Data Trace Inverted	Range: 0 to 255 Default Value: 255,255,0 Parameter Units: Integers between 0 and 255 Modify Per: Trace	:DISPlay:COLor:INVert:TRACe{1-16}:DATA
Trace Parameters - Display Data Trace Normal Color Set	Range: 0 to 255 Default Value: 255,255,0 Parameter Units: Integers between 0 and 255 Modify Per: Trace	:DISPlay:COLor:NORMal:TRACe {1-16}:DATA

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (44 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Trace Parameters - Display Memory Trace Color Normal	Range: 0 to 255 Default Value: 175,143,47 Parameter Units: Integers between 0 and 255 Modify Per: Trace	:DISPlay:COLor:NORMal:TRACe{1-16}:MEMory
Trace Parameters - Display Memory Trace Inverted Color	Range: 0 to 255 Default Value: 175,143,47 Parameter Units: Integers between 0 and 255 Modify Per: Trace	:DISPlay:COLor:INVert:TRACe{1-16}:MEMory
Trace Parameters - Group Delay Aperture	Range: 0 to 2E1 Default Value: 0.000000E+000 Parameter Units: Percent Modify Per: Trace	:CALCulate{1-16}[:SELEcted]:GD ELay:APERture
Trace Parameters - Measurement Parameters	Range: NA Default Value: S11 for PARM1 S12 for PARM2 S21 for PARM3 S22 for PARM4 S11 for all others. Parameter Units: S11 S12 S21 S22 USR EXT1 EXT2 A1 A2 B1 B	:CALCulate{1-16}:PARAmeter{1-16}:DEFine
Trace Parameters - Parameter Conversion Mode	Range: NA Default Value: INV Parameter Units: ZREFlection ZTRansmit YREFlection YTRansmit INVersion Modify Per: Trace	:CALCulate{1-16}[:SELEcted]:CO NVersion:FUNctIon
Trace Parameters - Parameter Conversion State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Trace	:CALCulate{1-16}[:SELEcted]:CO NVersion[:STATe]
Trace Parameters - Reference Level Bottom Display	Range: -9.999E2 to +9.999E2 Default Value: 0.00 Parameter Units: Depends on display type Modify Per: Trace	:DISPlay:WINDow{1-16}:TRACe{1-16}:Y:RLEV2
Trace Parameters - Scale Auto Scale	Range: NA Default Value: NA Parameter Units: NA Modify Per: Instrument	:DISPlay:Y:AUTO
Trace Parameters - Scale Auto Scale	Range: NA Default Value: NA Parameter Units: NA Modify Per: Trace	:DISPlay:WINDow{1-16}:TRACe{1-16}:Y:AUTO
Trace Parameters - Scale Auto Scale	Range: NA Default Value: NA Parameter Units: NA Modify Per: Channel	:DISPlay:WINDow{1-16}:Y:AUTO

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (45 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Trace Parameters - Scale Bottom Display Per-Division Value	Range: 1E-5 to 1E9 Default Value: 1.000000E+001 Parameter Units: Hertz, Meters, Seconds, dB Modify Per: Trace	:DISPlay:WINDow{1-16}:TRACe{ 1-16}:Y:PDIV2
Trace Parameters - Scale Bottom Display Reference Line Position	Range: Minimum Reference Line Postion = 0, Maximum Reference Line Position = Maximum Number of Divisions set by :DISPlay:Y:NDIVisions \<NRF> Default Value: 5 Parameter Units: Depends on display type Modify Per: Trace	:DISPlay:WINDow{1-16}:TRACe{ 1-16}:Y:RPOS2
Trace Parameters - Scale Rectilinear Vertical Divisions	Range: 4 to 30 Default Value: 10 Parameter Units: Unitless Number Modify Per: Channel	:DISPlay:WINDow:Y:NDIVisions
Trace Parameters - Scale Rectilinear Vertical Divisions	Range: NA Default Value: NA Parameter Units: NA Modify Per: Channel	:DISPlay:Y:NDIVisions
Trace Parameters - Scale Top Display Per-Division Value	Range: 1E-5 to 1E9 for most display types. 1E-3 to 1E3 for Log Mag display type. See Table 2-8. Default Value: 1.000000E+001 Parameter Units: Hertz, Meters, or Seconds Modify Per: Trace	:DISPlay:WINDow{1-16}:TRACe{ 1-16}:Y:PDIV
Trace Parameters - Smith Chart Impedance	Range: MPNF Default Value: 5.000000E+001 Parameter Units: Ohms Modify Per: Trace	:CALCulate{1-16}[:SElected]:SM ITh:IMPedance
Trace Parameters - Smith Chart Wrap Offset	Range: -3.6E2 to 3.6E2 Default Value: 0.000000E+000 Parameter Units: Unitless Number Modify Per: Trace	:CALCulate{1-16}[:SElected]:SM ITh:WRAP
Trace Parameters - Smoothing Aperature Percentage	Range: 0 to 100 Default Value: 0.000000E+000 Parameter Units: Percent Modify Per: Trace	:CALCulate{1-16}[:SElected]:SM Oothing:APERture
Trace Parameters - Smoothing State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Trace	:CALCulate{1-16}[:SElected]:SM Oothing[:STATE]
Trace Parameters - Trace	Range: -9.999E2 to +9.999E2 Default Value: 0.00 Parameter Units: Depends on display type Modify Per: Trace	:DISPlay:WINDow{1-16}:TRACe{ 1-16}:Y:RLEV

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (46 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Trace Parameters - Trace Active Set	Range: NA Default Value: 1 Parameter Units: NA Modify Per: Trace	:CALCulate{1-16}:PARAMeter{1-16}:SElect
Trace Parameters - Trace Display Format	Range: NA Default Value: SMIT Parameter Units: GDElay IMAGinary LINPHase LOGPHase MLINear MLOGarithmic PHASe PLINear PLINCOMPLex PLOGarithmic PLOGCOMPLex PWRIn PWROut REAL REIMaginary SADCOMplex SADLINear SADLOGarithmi	:CALCulate{1-16}[:SElected]:FORMat
Trace Parameters - Trace Format	Range: NA Default Value: SMIT for PAR1 and PAR4 LOGPH for PAR2 and PAR3 MLOG for all others. Parameter Units: GDElay IMAGinary LINPHase LOGPHase MLINear MLOGarithmic PHASe PLINear PLINCOMPLex PLOGarithmic PL	:CALCulate{1-16}:PARAMeter{1-16}:FORMat
Trace Parameters - Trace Layout	Range: NA Default Value: R2C2 Parameter Units: R1C1 R1C2 R2C1 R1C3 R3C1 R2C2C1 R2C1C2 C2R2R1 C2R1R2 R1C4 R4C1 R2C2 R2C3 R3C2 R2C4 R4C2 R3C3 R5C2 R2C5 R4C3 R3C4 R4C4 Modify Per: Trace	:DISPlay:WINDow{1-16}:SPLit
Trace Parameters - Trace Memory Display	Range: NA Default Value: DATA Parameter Units: DATA MEM DTM DMM OFF Modify Per: Trace	:CALCulate{1-16}[:SElected]:MATH:DISPlay?
Trace Parameters - Trace Memory Display Operation Type	Range: NA Default Value: DATA Parameter Units: DATA MEM DTM DMM OFF Modify Per: Channel	:CALCulate{1-16}[:SElected]:MATH:DISPlay
Trace Parameters - Trace Memory Math Operation Type	Range: NA Default Value: DIV Parameter Units: ADD SUBTract MULTiPLY DIVide Modify Per: Channel	:CALCulate{1-16}[:SElected]:MATH:FUNCTion
Trace Parameters - Trace Phase Offset	Range: -3.6E2 to 3.6E2 Default Value: 0.000000E+000 Parameter Units: Degrees Modify Per: Trace	:DISPlay:WINDow{1-16}:TRACe{1-16}:Y:PHOFF

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (47 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Trace Parameters - Trace Polar Chart Type	Range: NA Default Value: MAGP Parameter Units: MAGPhase MAGSweep Modify Per: Channel	:CALCulate{1-16}:POLar:CHART
Trace Parameters - Trace Polar Start Angle	Range: -3.6E2 to 3.6E2 Default Value: 0.00000000000E+000 Parameter Units: Degrees Modify Per: Channel Per Trace	:CALCulate{1-16}:POLar:ANGLE:START
Trace Parameters - Trace Polar Stop Angle	Range: -3.6E2 to 3.6E2 Default Value: Parameter Units: Degrees Modify Per: Channel	:CALCulate{1-16}:POLar:ANGLE:STOP
Trace Parameters - Trace Reference Line	Range: Minimum Reference Line Position = 0, Maximum Reference Line Position = Maximum Number of Divisions set by :DISPlay:Y:NDIVisions \<NRf> Default Value: 5 Parameter Units: Depends on display type Modify Per: Channel	:DISPlay:WINDow{1-16}:TRACe{1-16}:Y:RPOS
Trace Parameters - Traces Per Channel Number	Range: 1 to 16 Default Value: 4 Parameter Units: Unitless Number Modify Per: Channel	:CALCulate{1-16}:PARAmeter:COUNT
Trigger Parameters - Hold Function All Channels	Range: NA Default Value: NA Parameter Units: CONTInuous HOLD SINGLE Modify Per: Instrument	:SENSe:HOLD:FUNCTion
Trigger Parameters - Hold Function Type	Range: NA Default Value: NA Parameter Units: CONTInuous HOLD SINGLE Modify Per: Channel	:SENSe{1-16}:HOLD:FUNCTion
Trigger Parameters - Trigger Delay Time External	Range: 0 to 10 seconds with Minimum Step Size = 1 Nanosecond (ns). If delay is set below 1 ns, the instrument returns 0 (zero) seconds. Default Value: 0.000000E+000 Parameter Units: Seconds Modify Per: Instrument	:TRIGger[:SEQuence]:EXTErnal:DELAY
Trigger Parameters - Trigger External Handshake State	Range: NA Default Value: 0 Parameter Units: 1 0 ON OFF Modify Per: Instrument	:TRIGger[:SEQuence]:EXTErnal:HANDshake[:STATe]
Trigger Parameters - Trigger External Leading/Trailing Edge	Range: NA Default Value: POS Parameter Units: POSitive NEGative Modify Per: Instrument	:TRIGger[:SEQuence]:EXTErnal:EDGE

Table A-1. VectorStar MS4640A Series VNA System Parameters and Limits (48 of 48)

Limit Parameter Group - Limit Parameter Name	Range - Default Value - Units - Modify Per	SCPI Command
Trigger Parameters - Trigger External Type	Range: NA Default Value: CHAN Parameter Units: POINT SWEEP CHANNEL ALL Modify Per: Instrument	:TRIGGER[:SEQUENCE]:EXTERNAL:TYPE
Trigger Parameters - Trigger Manual Type	Range: NA Default Value: CHAN Parameter Units: POINT SWEEP CHANNEL ALL Modify Per: Instrument	:TRIGGER[:SEQUENCE]:MANUAL:TYPE
Trigger Parameters - Trigger Remote Type	Range: NA Default Value: CHAN Parameter Units: POINT SWEEP CHANNEL ALL Modify Per: Instrument	:TRIGGER[:SEQUENCE]:REMOTE:TYPE
Trigger Parameters - Trigger Sweep Measurement	Range: NA Default Value: AUTO Parameter Units: AUTO MANUAL EXTERNAL REMOTE Modify Per: Instrument	:TRIGGER[:SEQUENCE]:SOURCE

Appendix B — Lightning 37xxX and HP8510 Command Index

B-1 Introduction

This appendix provides an alphabetical listing of all Anritsu Lightning 37xxxX supported and not-supported commands and all supported HP8510 commands that can be used with the VectorStar MS4640A Series VNAs that are documented in this **Programming Manual - Supplement (PM-S)**.

B-2 Primary Programming Manual

For other VectorStar MS463xA/MS464xA Series VNA commands, queries, additional programming guidelines, background, and related information, see the **VectorStar MS4630A-MS4640A Series VNA Programming Manual (PM) – 10410-00267**. The **PM** includes an index similar to this one for IEEE 488.1, system, troubleshooting, and SCPI commands and queries.

B-3 Identification Suffixes

The following identification suffixes have been added to some commands:

- HP8510 – These commands are from the HP8510 and provide legacy support for a subset of these commands.
- Lightning – These commands are from the Anritsu Lightning 37xxxX VNA and are generally supported by the VectorStar Series VNAs. See individual command descriptions for exceptions and conditions.
- Lightning Not Supported – These commands are not supported for VectorStar Series VNAs.

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