MTS400 Series
MPEG Test Systems

Programmer Manual

077-0206-00

Tektronix

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www.tektronix.com
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Contacting Tektronix

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

For product information, sales, service, and technical support:

- In North America, call 1-800-833-9200.
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Preface

This manual describes how to use the SCPI remote control commands for the MTS400 Series system MPEG Player application.

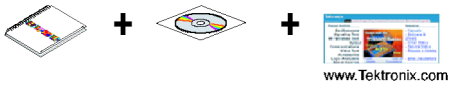
NOTE. *SCPI remote control commands for the MTX100B MPEG Player and Recorder are described in the MTX100B Technical Reference document, Tektronix part number 077-0192–xx.*

The manual is organized into the following sections:

- **Getting Started** provides instructions for connecting the MTS400 Series System to a single PC or a network and setting the network parameters for the 100/10 BASE-T port, as well as network interface specifications for the instrument.
- **Syntax and Commands** provided information on the Standard Commands for Programmable Instruments (SCPI) and IEEE 488.2 Common Commands.
- **Error Messages and Codes** lists the error messages and codes.
- **Appendix A: Default Settings** lists the default settings of the remote commands.
- **Index**

Related Documentation

The following table lists the other documentation available for the MTS400 Series System. Additional documentation, such as Read Me files, may be included on the installation disks.

Title	Purpose	Location
MTS400 Series Quick Start User Manual (071-2607-xx English, 071-2608-xx Japanese)	Describes how to install and get started using the test systems.	
MTS400 Series Analyzer Applications User Manual (077-0205-xx)	Describes the operation of the following analyzer applications: TSCA, PES Analyzer, T-STD Buffer Analyzer, and ES Analyzer.	
MTS400 Series Generator Applications User Manual (077-0204-xx)	Describes the operation of the following generator applications: Multiplexer, MPEG Player, TS Editor, Make Seamless Wizard, Transport Stream Cutter, and Script Pad.	

Title	Purpose	Location
MTS400 Series Carousel Applications User Manual (077-0203-xx)	Describes the operation of the Carousel Analyzer and Carousel Generator applications.	 +  www.Tektronix.com
MTS400 Series Programmer Manual (077-0206-xx)	Describes the programmer commands for controlling the MPEG Player application.	 +  www.Tektronix.com
MTS400 Series Release Notes (077-0200-xx)	Describes known issues with the test systems.	
MTS4EA Compressed Video Elementary Stream Analyzer User Manual (071-1641-xx)	Describes the operation of the MTS4EA application software.	 +  +  www.Tektronix.com
MTS4CC Elementary Stream Compliance Checker User Manual (071-2075-xx)	Describes the operation of the MTS4CC application software.	 +  +  www.Tektronix.com

The following URLs access the Web sites for the standards organizations listed (the URLs listed were valid at the time of writing):

- MPEG-2 standards (International Organization for Standards) http://www.iso.ch/
- DVB standards (European Technical Standards Institute) http://www.etsi.org/
- ATSC standards (Advanced Television Systems Committee) http://www.atsc.org/

Getting Started

Getting Started

This manual contains information on the Standard Commands for Programmable Instruments (SCPI) and IEEE 488.2 Common Commands you can use to program your MTS400 Series MPEG Player application. This manual also describes the optional commands that control the optional interface cards.

Connecting to a Network

The MTS400 Series System has a 100/10 BASE-T port on the rear panel that allows you to upload and download stream files.

This section provides instructions for connecting the MTS400 Series System to a single PC or a network and setting the network parameters for the 100/10 BASE-T port.

Connecting the MTS400 Series System to Your PC(s)

The **MTS400 Series System** uses the rear-panel 100/10 BASE-T port to communicate with a PC. Use one of the following two methods to connect the instrument to your PC(s).

- If you are connecting the instrument directly to a single PC, use a crossover Ethernet cable to connect between the 100/10 BASE-T port on the MTS400 Series System and the Ethernet port on the PC. If you need to construct your own crossover cable, Figure 1-1 shows the pin connections to change on a straight cable to produce a crossover cable.
- If you are connecting the instrument to your local Ethernet network, use a straight Ethernet cable to connect between the 100/10 BASE-T port on the MTS400 Series System and the Ethernet hub port of your local network. By connecting to an Ethernet network, you can access the instrument using any PC on the network.

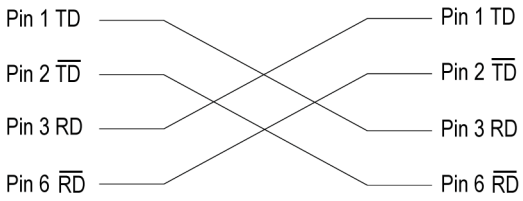


Figure 1-1: Pin connections for a crossover Ethernet cable

Setting Ethernet Network Parameters

You can set the network parameters for the **MTS400 Series System** using the Control Panel of Windows XP.

NOTE. *The following procedure assumes that you are familiar with the basics of using the Windows XP operating system. If necessary, review the Windows XP documentation.*

Perform the following procedure to set the network parameters for the MTS400 Series System.

1. Connect the keyboard and mouse provided with the instrument to the appropriate connectors on the instrument.
2. Select **Minimize** or **Exit** from the **File** menu to close the Play (or Record) screen. The Windows XP desktop appears.
3. Select **Settings** > **Control Panel** from the Start menu. The Control Panel window appears.
4. Double-click the **Network Connections** icon in the window. The **Network Connections** window appears. (See Figure 1-2.)

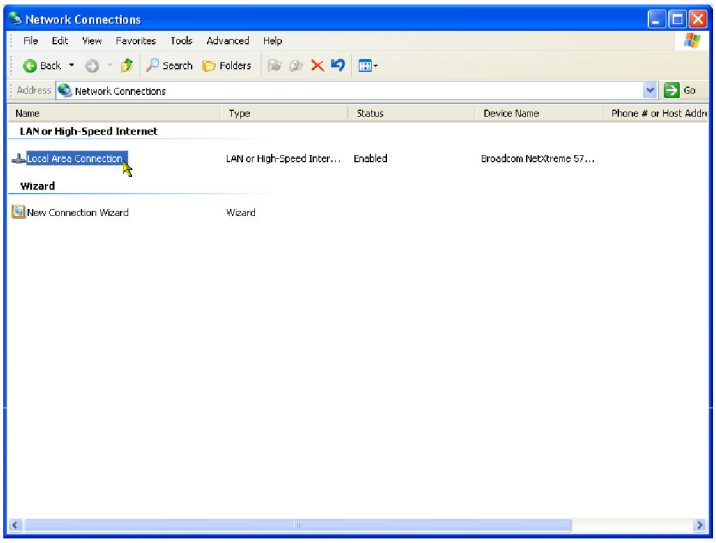


Figure 1-2: Network and Dial-up Connections window

5. Double-click the **Local Area Connection** icon. The **Local Area Connection Status** dialog box appears. (See Figure 1-3.)

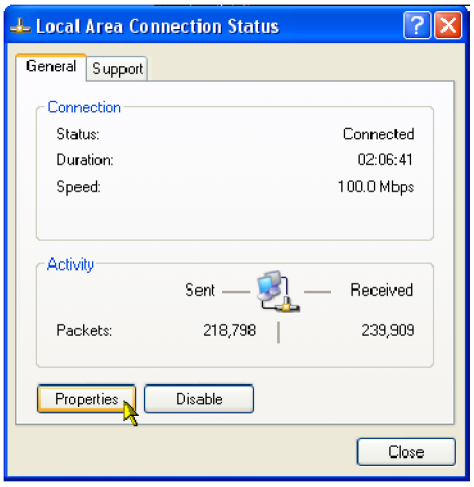


Figure 1-3: Local Area Connection Status dialog box

6. Click the **Properties** button. The Local Area Connection Properties dialog box appears. (See Figure 1-4.)

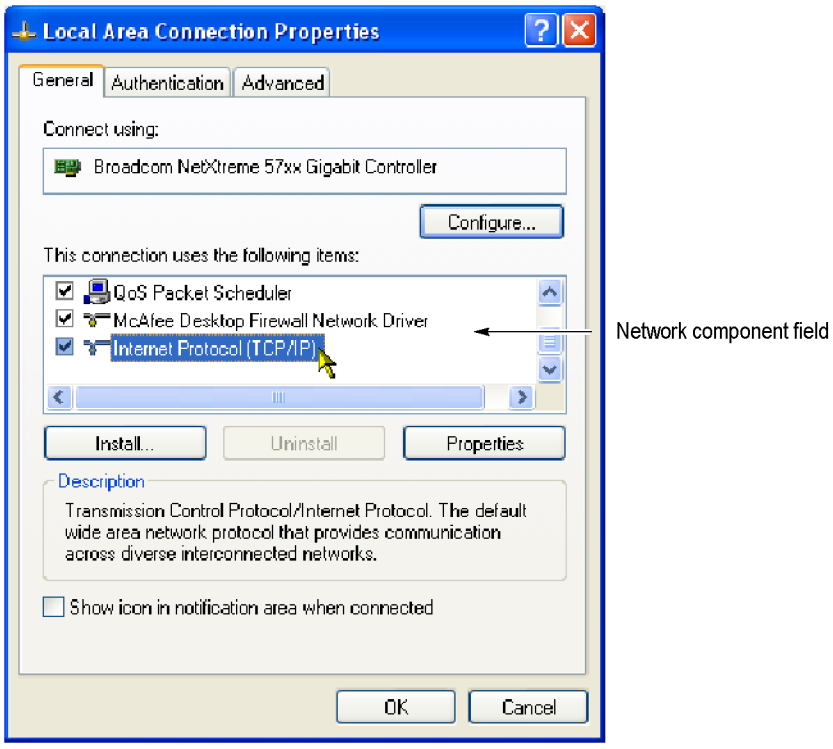


Figure 1-4: Local Area Connection Properties dialog box

7. In the network component field, click **Internet Protocol (TCP/IP)**.

8. Click the **Properties** button. The Internet Protocol (TCP/IP) Properties dialog box appears. (See Figure 1-5.)

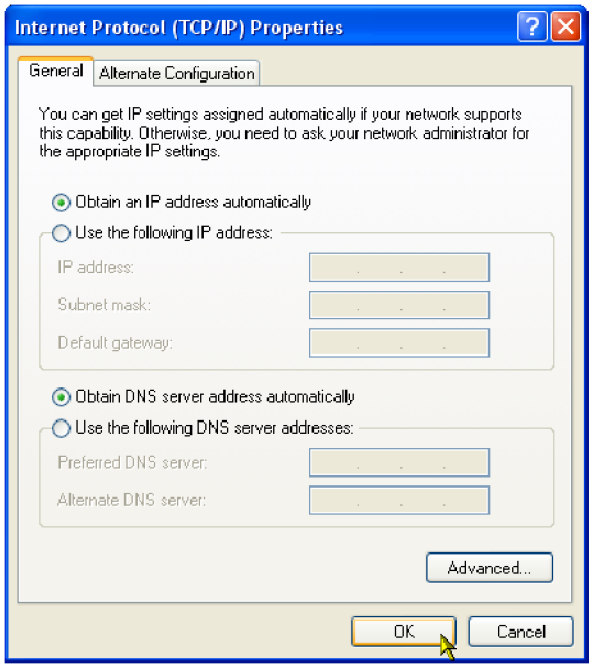


Figure 1-5: Internet Protocol (TCP/IP) Properties dialog box

The settings in the dialog box depend on whether a DHCP (Dynamic Host Configuration Protocol) server is in the network connected to the MTS400 Series system.

When the DHCP Server is in the Network.

1. In the dialog box, select the **Obtain an IP address automatically** and **Obtain DNS server address automatically** check boxes.
2. Click the **OK** button.

The MTS400 Series system accesses the DHCP server and obtains the addresses automatically when connected to the network.

Refer to the user documentation supplied with your server OS for detailed information about DHCP server functions.

NOTE. *Under some network environments, the MTS400 Series system may not be able to obtain the IP address automatically from a DHCP server. In this case, you need to enter the appropriate address value in each submenu item.*

When the DHCP Server is not in the Network. When the DHCP server is not in the network, perform the following procedure to set the network parameters.

1. If you connect the MTS400 Series system directory to a single PC:
   a. In the dialog box, select the **Use the following IP address** check box.
   b. Set the **IP address** parameter to be the same IP address as the PC's address except for the last number. The last number must be different than the last number in the PC's IP address.
   c. Set the **Subnet mask** parameter to be the same net mask (subnet mask) used by the PC. Do not enter a number if the PC does not have a net mask.
   d. You do not need to enter a **Default gateway** if you are directly connected to a single PC.
2. If you connect the MTS400 Series system to your local Ethernet network:
   a. In the dialog box, select the **Use the following IP address** check box.
   b. Ask your local network administrator and set the appropriate addresses.

CAUTION. *To prevent communication conflicts on your Ethernet network, ask your local network administrator for the correct numbers to enter in the dialog box if you connect the MTS400 Series system to your local Ethernet network.*

3. Verify the Ethernet connection by using a ping command from the PC.

Network Interface Specifications

The MTS400 Series System supports remote control using the Ethernet interface. This section describes the network interface specifications for the instrument.

The TCP/IP is used as the network protocol. The commands can be sent from the application program through the socket interface of the TCP/IP. Also, the query can be received through the interface.

Keep the following in mind while controlling the instrument remotely with the Ethernet interface.

- The LF (linefeed) or CR (carriage return) code is needed at the end of a message as a terminator. Use the Communication dialog box or the `:SYSTem:COMMunicate:SOCKet:RXTERM` command to set which terminator is used.
- The IEEE 488.1 standard (for instance Device Clear, Service Request, and others.) is not supported.
- The Message Exchange Control Protocol in the IEEE 488.2 is not supported. However, the common commands such as *ESE and the event handling features are supported.
- The Indefinite format (the block start at #0) in the <ARBITRARY BLOCK PROGRAM DATA> of the IEEE 488.2 is not supported.

Checking Remote Command Operation

To check remote command operation of the MTS400 Series System, perform the following procedure:

1. Connect the instrument to your PC using an Ethernet cable. Refer to *Connecting to a Network*. (See page 1-1.)
2. Click Windows **Start** button and select **Run** from the start menu.
3. In the dialog box, type **telnet** and then click **OK**.

The TELNET window appears.

1. Select **Preferences** from the **Terminal** pull-down menu.
2. In the **Preferences** dialog box, select the **Local Echo** check box and then click **OK**.
3. Select **Remote System** from the **Connect** pull-down menu.

The **Connect** dialog box appears.

1. In the **Host Name** field, enter the IP address of the MTS400 Series System.
2. In the **Port** field, enter the port number set by the Communication dialog box or the `:SYSTem:COMMunicate:SOCKet:PORT` command (the default value is 49152).
3. Click **Connection**.
4. Type ***IDN** in the command line and press the **Enter** key.
5. Check that the ID information of the MTS400 Series System appears on the PC.

Syntax and Commands

Command Syntax

This section contains information on the Standard Commands for Programmable Instruments (SCPI) and IEEE 488.2 Common Commands you can use to program your MTS400 Series Player application. The information is organized in the following subsections: Syntax, Functional Command Groups, and Remote Commands.

SCPI Commands and Queries

SCPI is a standard created by a consortium that provides guidelines for remote programming of instruments. These guidelines provide a consistent programming environment for instrument control and data transfer. This environment uses defined programming messages, instrument responses, and data format across all SCPI instruments, regardless of manufacturer. The MTS400 Series Player application uses a command language based on the SCPI standard.

The SCPI language is based on a hierarchical or tree structure (see Figure 2-1) that represents a subsystem. The top level of the tree is the root node; it is followed by one or more lower-level nodes.

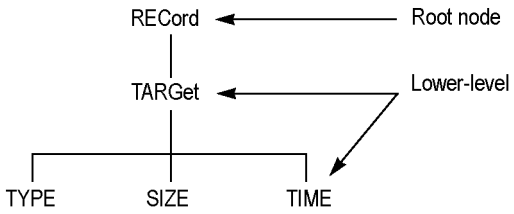


Figure 2-1: Example of SCPI subsystem hierarchy tree

You can create commands and queries from these subsystem hierarchy trees. Commands specify actions for the instrument to perform. Queries return measurement data and information about parameter settings.

Creating Commands

SCPI commands are created by stringing together the nodes of a subsystem hierarchy and separating each node by a colon.

In Figure 2-1, RECord is the root node and TARGet, TYPE, SIZE, and TIME are lower-level nodes. To create a SCPI command, start with the root node RECord and move down the tree structure adding nodes until you reach the end of a branch. Most commands and some queries have parameters; you must include a value for these parameters. If you specify a parameter value that is out of range, the parameter will be set to a default value.

For example, `RECord:TARGet:TYPE` DISK is a valid SCPI command created from the hierarchy tree. (See Figure 2-1.)

Creating Queries

To create a query, start at the root node of a tree structure, move down to the end of a branch, and add a question mark. `RECord:TARGet:TYPE` is an example of a valid SCPI query using the hierarchy tree. (See Figure 2-1.)

Parameter Types

Every parameter in the command and query descriptions is of a specified type. The parameters are enclosed in brackets, such as <pattern>. The parameter type is listed after the parameter and is enclosed in parentheses, for example, (discrete). Some parameter types are defined specifically for the **MTS400 Series Player application** command set and some are defined by ANSI IEEE 488.2-198.

Table 2-1: Parameter types used in syntax descriptions

Parameter type	Description	Example
binary	Binary numbers	#B0110
arbitrary block [1]	A specified length of arbitrary data	#512234xxxxx . . . where 5 indicates that the following 5 digits (12234) specify the length of the data in bytes; xxxxx . indicates the data
boolean	Boolean numbers or values	ON or 1, OFF or 0
discrete	A list of specific values	MIN, MAX, UP, DOWN
hexadecimal [2]	Hexadecimal numbers (0-9, A, B, C, D, E, F)	#HAA, #H1
NR1 [2] [3] numeric	Integers	0, 1, 15, -1
NR2 [2] numeric	Decimal numbers	1.2, 3.141516, -6.5
NR3 [2] numeric	Floating point numbers	3.1415E-9, -16.1E5
NRf [2] numeric	Flexible decimal number that may be type NR1, NR2 or NR3	See NR1, NR2, NR3 examples
string [4]	Alphanumeric characters (must be within quotation marks)	"Testing 1, 2, 3"

1 Defined in ANSI/IEEE 488.2 as "Definite Length Arbitrary Block Response Data."

2 An ANSI/IEEE 488.2-1992-defined parameter type.

3 Some commands and queries will accept a hexadecimal value even though the parameter type is defined as NR1.

4 Defined in ANSI/IEEE 488.2 as "String Response Data."

Abbreviating Commands, Queries, and Parameters

You can abbreviate most SCPI commands, queries, and parameters to an accepted short form. This manual shows these short forms as a combination of upper and lower case letters. The upper case letters indicate the accepted short form of a command. You can create a short form by using only the upper case letters. (See Figure 2-2.) The accepted short form and the long form are equivalent and request the same action of the instrument.

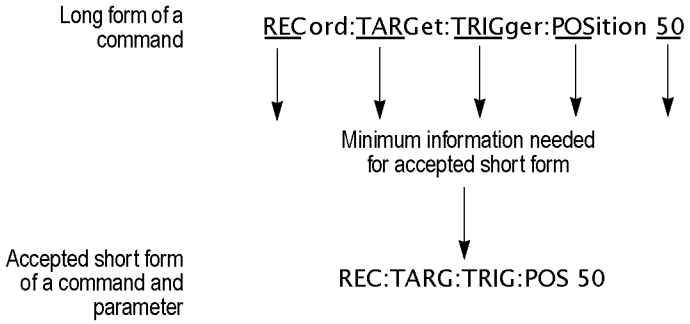


Figure 2-2: Example of abbreviating a command

Chaining Commands and Queries

You can chain several commands or queries together into a single message. To create a chained message, first create a command or query, add a semicolon (;), and then add more commands or queries and semicolons until you are done. If the command following a semicolon is a root node, precede it with a colon (:). The following figure illustrates a chained message consisting of several commands and queries. The single chained message should end in a command or query, not a semicolon. Responses to any queries in your message are separated by semicolons.

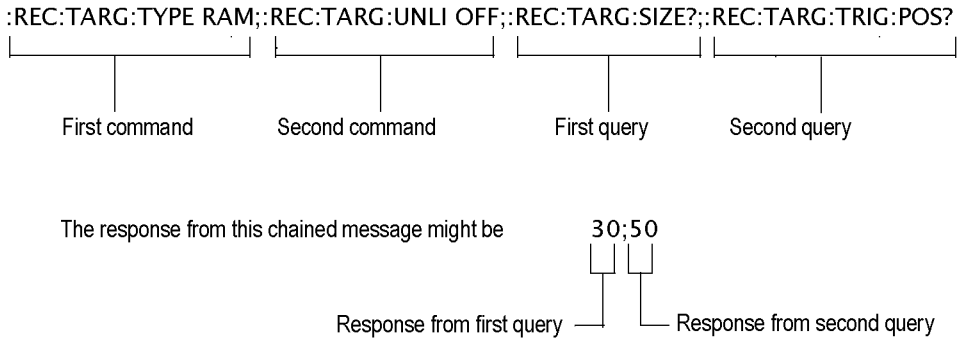


Figure 2-3: Example of chaining commands and queries

If a command has the same root and lower-level nodes as the previous command, you can omit these nodes. In the following figure, the second command has the same root node (REC) and lower level node (TARG) as the first command, so these nodes can be omitted.

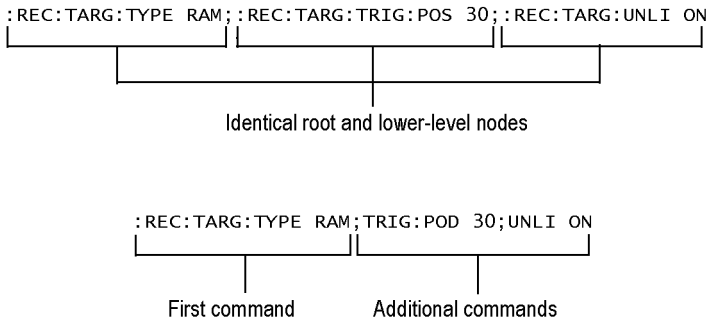


Figure 2-4: Example of omitting root and lower-level nodes in a chained message

General Rules

Here are three general rules for using SCPI commands, queries, and parameters:

- You can use single (‘ ’) or double (" ") quotation marks for quoted strings, but you cannot use both types of quotation marks for the same string.

correct: "This string uses quotation marks correctly."

correct: ‘This string also uses quotation marks correctly.’

incorrect: "This string does not use quotation marks correctly.’

- You can use upper case, lower case, or a mixture of both cases for all commands, queries, and parameters.

```
RECORD:TARGET:TRIGGER:POSITION 50
```

is the same as

```
record::position target:trigger50
```

and

```
RECORD:target:trigger:POSITION 50
```

NOTE. *Literal strings (quoted) are case sensitive. For example: file names.*

- No embedded spaces are allowed between or within nodes.

correct: `RECORD:TARGET:TRIGGER:POSITION 50`

incorrect: `RECORD: TARGET: TRIGGER: POSI TION 50`

IEEE 488.2 Common Commands

Description

ANSI/IEEE Standard 488.2 defines the codes, formats, protocols, and usage of common commands and queries used on the interface between the controller and the instruments. The **MTS400 Series Player application** complies with this standard.

Command and Query Structure

The syntax for an IEEE 488.2 common command is an asterisk (*) followed by a command and, optionally, a space and parameter value. The syntax for an IEEE 488.2 common query is an asterisk (*) followed by a query and a question mark. All of the common commands and queries are listed in the last part of the *Syntax and Commands* section.

- `*ESE 16`
- `*CLS`

The following are examples of common queries:

- `*ESR?`
- `*IDN?`

Backus-Naur Form Definition

This manual may describe commands and queries using the Backus-Naur Form (BNF) notation. The following table defines the standard BNF symbols.

Table 2-2: BNF symbols and meanings

Symbol	Meaning
< >	Defined element
::=	Is defined as
|	Exclusive OR
{ }	Group; one element is required
[ ]	Optional; can be omitted
. . .	Previous element(s) may be repeated
( )	Comment

Command Groups

Functional Command Groups

The commands are divided into the following groups:

- Common commands
- DISPLAY commands
- MASS MEMORY commands
- PLAY commands
- RECORD commands
- SYSTEM commands
- OPTIONAL commands

The Player application can be controlled remotely through the 1000/100/10 BASE-T port on the rear panel. Refer to *Connecting to a Network* for detailed information about how to connect and set up for remote operation. (See page 1-1.)

Common commands

The Common commands have a "*" prefix and address of all the instruments that support IEEE 488.2.

Table 2-3: Common commands

Commands	Description
*CLS	Clears SESR (Standard Event Status Register), the SBR (Status Byte Register), and Event Queue, which are used in the instrument status and event reporting system.
*ESE	Sets or returns the bits of the ESER (Event Status Enable Register) used in the status and events reporting system.
*ESR?	Returns the contents of SESR (Standard Event Status Register) used in the status and events reporting system.
*IDN?	Returns the ID information of the instrument. The ID information contains manufacturer, model, firmware version, hardware version, and FPGA code version.
*LRN?	Returns the current instrument settings.
*OPC	Sets or returns the bit 0 in the SESR, and the operation complete message to be issued, when all pending operations are finished. This query is only available just after the `:PLAY:STARt` or `:RECord:STARt` command is executed.
*OPT	Lists the installed interface option.
*RST	Resets the instrument to the factory default state. This command has the same effect when the `:SYSTem:PRESet` and `*CLS` commands are executed successively.
*SRE	Sets or returns the bits of the SRER(Service Request Enable Register).
*STB?	Returns the value of the SBR (Status Byte Register). Bit 6 of the SBR is read as a MSS (Master Status Summary) bit.
*TRG	Generates a trigger event.
*TST?	Performs the self test and returns its result. The MTS400 Series System always returns 1.
*WAI	Wait-to-continue command. This command is not necessary since the MTS400 Series System handles commands sequentially.

DISPLAY Commands

Use these commands to select a display format of the base value in the hierarchy display.

Table 2-4: DISPLAY commands

Commands	Description
DISPlay:VIEW:FORMat HEXadecimal|DECimal|OCTal	Sets the base value used to describe the component information in the hierarchy display. The choices are HEXadecimal, DECimal, and OCTal. The default value is HEXadecimal.
DISPlay:VIEW:FORMat?	Returns the current display format of the base value in the hierarchy display.

MASS MEMORY Commands

Use these commands to perform file related operations such as changing and moving a directory, and loading and saving a preset.

Table 2-5: MASS MEMORY commands

Commands	Description
MMEMory:CATalog [<directory_path>]	Lists the files in the specified directory. The query response is as follows: <used_bytes>, <available_bytes>, "<file_name>, <directory_flag>, <file_size>, <date>, <time>".
MMEMory:CDIRectory[:DATA]	Changes or returns the current directory for data files. The directory is D:.
MMEMory:CDIRectory:STATe	Returns or changes the current directory for setting files.
MMEMory:LOAD:STATe <preset_name>	Loads the specified preset. This command accepts the name of a previously saved preset. Current instrument settings are overwritten by this command.
MMEMory:MDIRectory <directory_path>	Creates a subdirectory. The command is invalid if a directory with the specified name already exists.
MMEMory:STORe:STATe <preset_name>	Saves the instrument settings with the specified preset name

PLAY Commands

Use these commands to set parameters related to the stream output. These include packet size, output clock rate, data output source, and PCR jitter insertion.

Table 2-6: PLAY commands

Commands	Description
PLAY:AUTOplay	Sets whether the selected stream is automatically output using the last power-down settings when you turn the instrument on or return the current auto play mode status.
PLAY:CLOCk:DEFault:RATE	Sets or returns the default clock rate that is automatically set when the selected stream file is downloaded.Since the clock rate is calculated based on the PCRs in the file, the value may be different from the original clock rate. If this happen, you can set the appropriate value by this command. You can set the rate from 0.001 MHz to 250.0 MHz. If you change the value, the `:PLAY:CLOCk:RATE` command setting will set to the same value. The default value is 56.61.
PLAY:CLOCk:DEFault:RATE:RATIo	Sets or returns the default clock rate that is automatically set when the selected stream file is downloaded using a fraction. Since the clock rate is calculated based on the PCRs in the file, the value may be different from the original clock rate. If this happen, you can set the appropriate value by this command.
PLAY:CLOCk:ESRAtefixed	Sets or returns the current elementary stream rate status.
PLAY:CLOCk:ISDBT:CONVert	Sets or returns whether the clock rate is automatically set when the data file for ISDB-TSB is loaded.
PLAY:CLOCk:RATE	Sets or returns the clock rate for the stream output.
PLAY:CLOCk:RATE:RATIo	Sets or returns the clock rate for the stream output using a fraction.
PLAY:CLOCk:SOURce	Sets which clock to use as the reference for the stream output or returns the current reference clock for the stream output.
PLAY:EXTernal	Sets or returns to start stream output using a trigger signal applied to the Trig In/Out connector.

Table 2-6: PLAY commands (cont.)

Commands	Description
PLAY:EXTTrigger:BNC	Sets whether to use the rear-panel Trig In/Out connector as an input or an output or returns the current input/output status of the Trig In/Out connector.
PLAY:EXTTrigger:OUTPut:DELAy	Sets the amount of delay or returns the current delay for the start packet pulse of the ISDB-T frame in 1-parallel clocks of the SPI output.
PLAY:EXTTrigger:OUTPut:SELEct	Sets the amount of delay or returns the current delay for the start packet pulse of the ISDB-T frame in 1-parallel clocks of the SPI output.
PLAY:LOAD:FILE	Selects or returns the current output signal selection from the Trig In/Out connector when the PLAY:EXTTrigger:BNC command is set to OUTPut.
PLAY:LOOP	Sets whether the selected stream is output using looping method or returns the current output loop mode status.
PLAY:LOOP:ISDBT:FRAMe	Sets or returns whether to output an ISDB-T transport stream in OFDM frames when looped.
PLAY:PACKet	Sets the packet size for the selected stream file or returns the current packet size setting for the selected stream file.
PLAY:PCR:INACcurracy	Sets or returns the PCR jitter insertion.
PLAY:PCR:INITial	Sets the initial value or returns the current initial value of the program_clock_reference_base and program_clock_reference_extension parameters.
PLAY:PROGress?	Returns the current percentage of progress of the play.
PLAY:S192F:PARTialts	Sets or returns whether to output a stream file consisting of a 192-byte packet as a partial transport stream.
PLAY:SOURce	Sets the source or returns the current source setting for stream output.
PLAY:SPIOutput	Sets whether the signal output from the SPI IN/OUT connector is enabled or not or returns the current status of the connector.
PLAY:SSPOsition:INITial:ENABle	Sets the initial start position setting of the selected stream to be looped or returns the current state of the setting.

Table 2-6: PLAY commands (cont.)

Commands	Description
PLAY:SSPOsition:INITial[:POSition]	Sets the initial start position or returns the current sate of the selected stream to be looped by the number of packets (the number of super frames for M-TMCC file, or the number of bytes for a Non-TS file).
PLAY:SSPOsition:INITial:TIME	Sets or returns the initial start position of the selected stream to be looped by time (hh:mm:ss).
PLAY:SSPOsition[:POSition]	Sets or returns the loop start and stop positions of the selected stream to be looped by the number of packets (the number of super frames for M-TMCC file, or the number of bytes for a Non-TS file).
PLAY:SSPOsition:TIME	Sets or returns the loop start and stop positions of the selected stream to be looped by time (hh:mm:ss).
PLAY:STANdard?	Sets or returns the loop start and stop positions of the selected stream to be looped by time (hh:mm:ss).
PLAY:STARt?	Starts outputing the selected stream. There are no arguments.
PLAY:STOP	Stops outputting the selected stream. There are no arguments.
PLAY:SYNC	Sets or returns the current the format of the PSYNC signal output from the SPI IN/OUT connector.
PLAY:SYNC:DVALid:WIDTh	Sets the initial status or returns the current status and data width of the DVALID signal when NONTs is selected in the `:PLAY:SYNC` command.
PLAY:SYNC:PSYNc:INTerval	Sets the initial status or returns the current status and output period of the PSYNC signal when NONTs is selected in the `:PLAY:SYNC` command.
PLAY:TIMEpacket:DEFine	Sets the initial values or returns the current values of the TDT, TOT, or STT when you select USER in the `:PLAY:TIMEpacket:MODE` command.
PLAY:TIMEpacket:MODE	Selects the reference time or returns the current reference time used to set the initial value of the TDT, TOT, or STT when the `:PLAY:UPDAte` command is set to ON.
PLAY:UPDAte	Sets whether to update parameters in a stream when looped. Returns the current update mode status.

Table 2-6: PLAY commands (cont.)

Commands	Description
PLAY:UPDAte:ITEM:CC	Sets or returns whether to update continuity_counter values when the `:PLAY:UPDAte` command is set to ON.
PLAY:UPDAte:ITEM:NPT	Sets or returns whether to update NPT values when the `:PLAY:UPDAte` command is set to ON.
PLAY:UPDAte:ITEM:PCR	Sets or returns whether to update PCR/PTS/DTS values when the `:PLAY:UPDAte` command is set to ON.
PLAY:UPDAte:ITEM:PCR:METHod	Sets or returns the method to update PCR/PTS/DTS values.
PLAY:UPDAte:ITEM:REEDsolomon	Sets or returns whether to update Reed-Solomon symbols in an ISDB-T transport stream when the `:PLAY:UPDAte` command is set to ON.
PLAY:UPDAte:ITEM:TIMEpacket	Returns or returns whether to update TDT/TOT/STT values when the `:PLAY:UPDAte` command is set to ON.

RECORD Commands

Use these commands to set parameters related to the data record. These include input interface, record size, and trigger position.

Table 2-7: RECORD commands

Command	Description
RECord:ACQuire:STARt	Starts input stream acquisition. When two or more record commands are sent to the instrument successively, the instrument stops stream acquisition and then starts stream acquisition for each command. Therefore, when many commands are sent to the instrument, it takes a long time to complete all settings. If you send the `:RECord:ACQuire:STOP` command before sending record commands and send the `:RECord:ACQuire:STARt` command after sending record commands, you can shorten the setting time.
RECord:ACQuire:STOP	Stops input stream acquisition. Refer to the `:RECord:ACQuire:STARt` command description on how to use this command.
RECord:CLOCk:RATE?	Returns the clock rate of the input stream in MHz.
RECord:EXTernal	Sets or returns whether to start input stream record using a trigger signal applied to the TRIG IN connector.
RECord:PACKet?	Returns the packet size of the input stream.
RECord:PROGress?	Returns the current percentage of progress during recording.
RECord:SOURce	Sets the interface or returns the current interface used to capture a stream data.
RECord:STANdard?	Returns the current standard used to display the input stream.
RECord:STARt	Starts recording the input stream.
RECord:STORe:FILE	Returns or specifies the current file name used when the input stream is saved.
RECord:STORe:MODE	Sets or returns the current save mode setting when the input stream is saved.
RECord:TARGet:IGNOredvalid	Sets or returns whether the instrument ignores the DVALID signal from the selected interface when a stream data is acquired.
RECord:TARGet:SIZE	Sets the file size or returns the current file setting to record the input stream in MB.

Table 2-7: RECORD commands (cont.)

Command	Description
RECord:TARGet:TIME	Sets or returns the current recording time (hh:mm:ss) to record the input stream.
RECord:TARGet:TRIGger:CONTinuous	Sets or returns the Continuous Recording state.
RECord:TARGet:TRIGger:CONTinuous:LIMit	Sets or returns the number of files to stop Continuous Recording.
RECord:TARGet:TRIGger:POSition	Sets or returns the trigger position used to record the input stream.
RECord:TARGet:TRIGger:UNLImit	Sets or returns whether to record the input stream to the full free space in the hard disk or RAM.
RECord:TARGet:TYPE	Sets or returns the record target used to record the input stream.

SYSTEM Commands

Use these commands to set or query the system related functions.

Table 2-8: SYSTEM commands

Commands	Description
SYSTem:COMMunicate:SOCKet:PORT	Sets or returns the port number needed to remotely control the instrument over an Ethernet network.
SYSTem:COMMunicate:SOCKet:RXTERM	Sets or returns the terminator used when the instrument receives commands from a controller.
SYSTem:COMMunicate:SOCKet:TXTERM	Sets or returns the terminator used when the instrument sends information to a controller.
SYSTem:ERRor[:NEXT]?	Returns an error message from the error/event queue.
SYSTem:KLOCk[:STATe]	Locks or unlocks the front-panel buttons and mouse operation or returns the current status of lock function.
SYSTem:MODE	Sets or returns the operation mode of the instrument.
SYSTem:OPTions?	Returns the option number, hardware version, and code version of the installed interface card.
SYSTem:PRESet	Resets the instrument to the factory default settings.
SYSTem:STANdard	Sets or returns the standard used to display the input stream.
SYSTem:STATus?	Returns the current operation status of the instrument.

Optional Commands

This subsection describes the commands used to control the optional interface cards. These commands are available only when the appropriate interface card is installed into the MTS400 Series System.

Table 2-9: Optional commands

Subhead	Subhead
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:VERSion?	Returns the IP version.
PLAY:ASI:FORMAT	Sets or returns the output format of the ASI signal.
PLAY:IP:ERRGen:GCHIperr	Generates a checksum error in the IP layer.
PLAY:IP:ERRGen:GCHUdperr	Generate sa checksum error in the UDP layer.
PLAY:IP:ERRGen:GPKTlos	Generates a packet loss by dropping one packet during the IP playout.
PLAY:IP:ERRGen:GSQNerr	Generates a sequence error by re-sequencing a packet with another packet within a 100 packet boundary.
PLAY:IP:ERRIns:ENBLed	Enables or returns whether error insertion in real time when the value is set to ON.
PLAY:IP:ERRIns:PARAmeters:CSEEnbled	Enables or returns the checksum error when the value is set to ON.
PLAY:IP:ERRIns:PARAmeters:CSERange	Sets or returns the checksum error range.
PLAY:IP:ERRIns:PARAmeters:CSEType	Sets or returns the checksum error type.
PLAY:IP:ERRIns:PARAmeters:CSEValue	Sets or returns the frequency value at which the checksum error will be inserted.
PLAY:IP:ERRIns:PARAmeters:JITPeriod	Sets or returns the jitter period value for IP playout.
PLAY:IP:ERRIns:PARAmeters:PLENbled	Enables or returns whether the packet loss when the value is set to ON.
PLAY:IP:ERRIns:PARAmeters:PLRAnge	Sets or returns the packet loss range.
PLAY:IP:ERRIns:PARAmeters:PLVAlue	Sets or returns the number of packets that will be dropped.
PLAY:IP:ERRIns:PARAmeters:RANDomizerr	Sets or returns the current value of the randomizer.
PLAY:IP:ERRIns:PARAmeters:SQEDistance	Sets or returns the distance value after which you want the reordering to happen.
PLAY:IP:ERRIns:PARAmeters:SQEEnbled	Enables or returns the sequence error when the value is set to ON.
PLAY:IP:ERRIns:PARAmeters:SQERange	Sets or returns the sequence error range.

Table 2-9: Optional commands (cont.)

Subhead	Subhead
PLAY:IP:ERRIns:PARAmeters:SQEValue	Sets or returns the current frequency value at which the packets are reordered.
PLAY:IP:OTHSttngs:PROCpriority	Returns the process priority for the player.
PLAY:IP:OTHSttngs:THRPriority	Sets or returns the thread priority for the player.
PLAY:IP:PARAmeters:BITRate	Sets or returns the IP bit rate value for the playout.
PLAY:IP:PARAmeters:DEFAult	Resets the configuration settings to the default values.
PLAY:IP:PARAmeters:DVCName?	Returns the current device name for the IP playout.
PLAY:IP:PARAmeters:DVINdex	Sets or returns the current index value of the selected network interface card.
PLAY:IP:PARAmeters:IPFRagment	Sets or returns whether to allow IP fragmentation during IP playout.
PLAY:IP:PARAmeters:IPLAyrver	Selects or returns the IP player version for the playout.
PLAY:IP:PARAmeters:IPPKtsize	Sets or returns the current size of the IP packet.
PLAY:IP:PARAmeters:PACKetszmode	Sets or returns the packet size mode for the IP playout.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:DESTmac	Sets or returns the current destination MAC address of the Ethernet layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:PROTocol	Sets or returns the value of the protocol field in the Ethernet layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:SRCEmac	Sets or returns the current source MAC address of the Ethernet layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:CFI	Sets or returns the canonical format indicator for the VLAN.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:PRIOrity	Sets or returns the priority level of the VLAN in the Ethernet layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:TPID	Sets or returns the TPID value of the VLAN in the Ethernet layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:VID	Sets or returns the current VID value of the VLAN.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:DSTIpadd	Sets or returns the current destination IP address for the IP layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:HEADerlngth?	Returns the current length of the IP header.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:PROTocol	Sets or returns the current value of the protocol field in the IP layer.

Table 2-9: Optional commands (cont.)

Subhead	Subhead
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:SRCIpadd	Sets or returns the source IP address for the IP layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:TOS	Sets or returns the type of service that indicates the desired parameters.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:TTL	Sets or returns the value of Time to Live in the IP layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:DSTIpadd	Sets or returns the destination address of the IPv6 layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:FLOWlbl	Sets or returns the value of the flow label for the IPv6 layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:HOPLimit	Sets or returns the value of the hop limit for the IPv6 layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:NXTHdr	Sets or returns the value of the next header for the IPv6 layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:PYLDlen?	Returns the current value of the payload length.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:SRCIpadd	Sets or returns the source address of the IPv6 layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:TRFCcls	Sets or returns the value of the traffic class for the IPv6 layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:VERSion?	Returns the version number of the IPv6 protocol.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:PYLOadtype	Sets or returns the current value of the payload type for the RTP layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:SQNCnumber	Sets or returns the first value of the sequence number field in RTP header.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:SSRC	Returns the SSRC value for the RTP layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:VERSion?	Returns the current version of the RTP.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:UDP:DSTPort	Sets or returns the destination port value of the UDP layer.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:UDP:LENgth?	Returns the current length of the UDP packets.
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:UDP:SRCPort	Sets or returns the source port value of the UDP layer.
PLAY:IP:PARAmeters:PRTOcol:SETTings:DST6ipadd	Sets or returns the destination IP address for the IPv6 version of the playout.
PLAY:IP:PARAmeters:PRTOcol:SETTings:DSTIpadd	Sets or returns the destination IP address for IP playout.
PLAY:IP:PARAmeters:PRTOcol:SETTings:DSTPort	Sets or returns the destination port value.

Table 2-9: Optional commands (cont.)

Subhead	Subhead
PLAY:IP:PARAmeters:PRTOcol:SETTings:MODE	Sets or returns current the protocol mode for IP playout.
PLAY:IP:PARAmeters:PRTOcol:SETTings:SRC6ipadd	Sets or returns the current value of the source IP address for the IPv6 version.
PLAY:IP:PARAmeters:PRTOcol:SETTings:SRCIpadd	Sets or returns the current source IP address.
PLAY:IP:PARAmeters:PRTOcol:SETTings:SRCPort	Sets or returns the source port for the IP playout.
PLAY:IP:PARAmeters:PRTOcol:SETTings:VLAN	Enables or returns the VLAN settings.
PLAY:IP:PARAmeters:PRTOcol:SETTings:VLNid	Returns or sets the VLAN identification number to allow the identification of 4096 VLANs that is basically used by the 802.1Q standard.
PLAY:IP:PARAmeters:REPLication:COUNt	Sets or returns the number of replications for a stream.
PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:DSTMac	Sets or returns the increment value for the destination MAC address.
PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:EPROtocol	Sets or returns the current increment value of the Ethernet protocol.
PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:SRCMac	Sets or returns the current increment value of the source MAC address.
PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:VLANid	Sets or returns the identification of the VLAN.
PLAY:IP:PARAmeters:REPLication:INCRement:IP:DSTIpadd	Sets or returns the increment value for the destination IP address.
PLAY:IP:PARAmeters:REPLication:INCRement:IP:IPROtocol	Sets or returns the increment value for the IP protocol.
PLAY:IP:PARAmeters:REPLication:INCRement:IP:SRCIpadd	Sets or returns the increment value for the source IP address.
PLAY:IP:PARAmeters:REPLication:INCRement:IP:TOS	Sets or returns the increment value for the type of service of the IP protocol.
PLAY:IP:PARAmeters:REPLication:INCRement:IP:TTL	Sets or returns the increment value for time to live of the IP protocol.
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:DSTIpadd	Sets or returns the increment value of the destination IPv6 address.
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:FLOWlbl	Sets or returns the increment value for the flow label of the IPv6 layer.
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:HOPLimit	Sets or returns the increment value for the hop limit of the IPv6 layer.
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:NXTHdr	Sets the increment value for the next header of the IPv6 layer.

Table 2-9: Optional commands (cont.)

Subhead	Subhead
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:SRCIpadd	Sets or returns the increment value for the source IPv6 address of the IPv6 layer.
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:TRFCcls	Sets or returns the increment value for the traffic class of the IPv6 layer.
PLAY:IP:PARAmeters:REPLication:INCRement:RTP:PAYLoad	Sets or returns the increment value for the payload of the RTP layer.
PLAY:IP:PARAmeters:REPLication:INCRement:RTP:SSRC	Sets or returns the increment value for the SSRC of the RTP layer.
PLAY:IP:PARAmeters:REPLication:INCRement:UDP:DSTPort	Sets or returns the increment value for the destination port of the UDP layer.
PLAY:IP:PARAmeters:REPLication:INCRement:UDP:SRCPort	Sets or returns the increment value for the source port of the UDP layer.
PLAY:IP:PARAmeters:TRANsmode	Sets or returns the current transmission mode of the protocol.
PLAY:IP:PARAmeters:TSFRagment	Sets or returns whether to allow TS fragmentation across IP packets.
PLAY:IP:PARAmeters:TSPKtcount	Sets or returns the number of TS packets that needs to be embedded into an IP packet.
PLAY:IP:PRMEtric:BPERiod	Sets or returns the burst period for the IP playout.
PLAY:IP:PRMEtric:BSIZE	Sets or returns the burst size for the IP playout.
PLAY:IP:PRMEtric:BSTEnbled	Enables or returns the burst mode when the value is set to ON.
PLAY:IP:PRMEtric:BSTType	Sets or returns the burst mode for the IP playout.
PLAY:IP:PRMEtric:JITEnbled	Enables or returns jitter when the value is set to ON.
PLAY:IP:PRMEtric:JITType	Sets or returns the jitter type for IP playout.
PLAY:IP:PRMEtric:LOWJitmd	Enables or returns the low jitter mode when set to ON.
PLAY:IP:STATistics:ERROrs:CSIPerrs?	Returns the number of IP checksum errors inserted during the play.
PLAY:IP:STATistics:ERROrs:CSUDperrs?	Returns the number of UDP checksum errors inserted during the play.
PLAY:IP:STATistics:ERROrs:PKTDropped?	Returns the number of packets dropped during the play.
PLAY:IP:STATistics:ERROrs:SQNErrs?	Returns the number of sequence errors inserted during the play.
PLAY:IP:STATistics:IP:BIRAte?	Returns the IP bit rate value for the play.
PLAY:IP:STATistics:IP:BIRAte:MAX?	Returns the maximum IP bit rate variation value from the set bit rate value.

Table 2-9: Optional commands (cont.)

Subhead	Subhead
PLAY:IP:STATistics:IP:BIRAte:MAXVariation?	Returns the maximum IP bit rate variation value from the set bit rate value.
PLAY:IP:STATistics:IP:BITRAte:AVG?	Returns the average bit rate value for the play.
PLAY:IP:STATistics:IP:BITRAte:AVGVariation?	Returns the average variation value from the set bit rate value.
PLAY:IP:STATistics:IP:BITRAte:MIN?	Returns the minimum IP bit rate value for the play.
PLAY:IP:STATistics:IP:BITRAte:MINVariation?	Returns the minimum variation value from the set bit rate value.
PLAY:IP:STATistics:IP:BRVAriation?	Returns the percentage of IP bit rate variation from the set bit rate.
PLAY:IP:STATistics:IP:BYTRansmited	Returns the number of IP bytes transmitted during the play.
PLAY:IP:STATistics:IP:JITer?	Returns the jitter value for the play.
PLAY:IP:STATistics:IP:JITer:AVG?	Returns the average jitter value for the play.
PLAY:IP:STATistics:IP:JITer:MAX?	Returns the maximum jitter value for the play.
PLAY:IP:STATistics:IP:JITer:MIN?	Returns the minimum jitter value for the play.
PLAY:IP:STATistics:IP:PKTCount?	Returns the IP packet count for the play.
PLAY:IP:STATistics:IP:PKTSize?	Returns the IP packet size for the play.
PLAY:IP:STATistics:REPLication:ERROrs:CSIPerrs?	Returns the total number of IP checksum errors of all the streams.
PLAY:IP:STATistics:REPLication:ERROrs:CSUDPerrs?	Returns the total number of UDP checksum errors of all the streams.
PLAY:IP:STATistics:REPLication:ERROrs:PKTDropped?	Returns the total packets dropped of all the streams.
PLAY:IP:STATistics:REPLication:ERROrs:SQNErrs?	Returns the total number of sequential errors of all the streams.
PLAY:IP:STATistics:REPLication:IP:BIRAte?	Returns the total IP bit rate of all the streams.
PLAY:IP:STATistics:REPLication:IP:BYTRansmited?	Returns the total bytes transmitted in all the streams.
PLAY:IP:STATistics:REPLication:IP:PKTCount?	Returns the total IP packet count of all the streams.
PLAY:IP:STATistics:REPLication:TS:BITRAte?	Returns the total TS bit rate of all the streams.
PLAY:IP:STATistics:REPLication:TS:PKTCount?	Returns the total count of TS packets of all the streams.
PLAY:IP:STATistics:TS:BITRAte?	Returns the TS bit rate value for the play.
PLAY:IP:STATistics:TS:BITRAte:AVG?	Returns the average TS bit rate value for the play.

Table 2-9: Optional commands (cont.)

Subhead	Subhead
PLAY:IP:STATistics:TS:BITRAte:AVGVariation?	Returns the average TS bit rate variation value from the set bit rate value.
PLAY:IP:STATistics:TS:BITRAte:MAX?	Returns the maximum TS bit rate value for the play.
PLAY:IP:STATistics:TS:BITRAte:MAXVariation	Returns the maximum TS bit rate variation value from the set bit rate value.
PLAY:IP:STATistics:TS:BITRAte:MIN?	Returns the minimum TS bit rate value for the play.
PLAY:IP:STATistics:TS:BITRAte:MINVariation?	Returns the minimum TS bit rate variation value from the set bit rate value.
PLAY:IP:STATistics:TS:BRVAriation?	Returns the TS bit rate variation value from the set bit rate value.
PLAY:IP:STATistics:TS:PKTCount?	Returns the TS packet count for the play.
PLAY:IP:STATistics:TS:PKTSize?	Returns the TS packet size for the play.
PLAY:IP:TTSSttngs:PRSRvts	Enables to preserve the TTS settings of the file that already has them or returns whether TTS settings option is enabled for the player.
PLAY:IP:TTSSttngs:TTSEnbled	Enables or returns the timestamped TS (TTS) settings for the playout when set to ON.
PLAY:IP:TTSSttngs:TTSJitter:AMPLitude	Sets or returns the TTS jitter amplitude for the playout.
PLAY:IP:TTSSttngs:TTSJitter:JTREnable	Enables the TTS jitter settings for the playout or returns whether the TTS jitter settings is enabled for the playout.
PLAY:IP:TTSSttngs:TTSJitter:PATTern	Sets or returns the the TTS jitter pattern for the playout.
PLAY:IP:TTSSttngs:TTSJitter:PERIod	Sets or returns the TTS jitter period for the playout.
PLAY:IP:TTSSttngs:TTSJitter:PLSWidth	Sets or returns the TTS jitter pulse width for the playout.
PLAY:IPAVailable?	Returns whether the IP interface is available.
PLAY:IPENable	Enables or returns the IP interface when set to ON.
PLAY:OP07AS:PORT:THROughout	Selects or returns play loop throughout status.
PLAY:OP07AS:PORT:TYPE	Selects or returns the current signal to output from the OUTPUT connector.
PLAY:OPCArdenbl	Enables or returns the optional card when set to ON.
PLAY:S310M	Selects or returns the SMPTE310M mode for output.

Table 2-9: Optional commands (cont.)

Subhead	Subhead
RECORD:OP07AS:INPUTPORT	Selects or returns the recording input port.
RECORD:OP07AS:PORT:TYPE	Selects or returns the input signal expected from the INPUT connector.
RECORD:S310M	Selects or returns the SMPTE310M mode for input.

Command Descriptions

*CLS (No Query Form)

Clears SESR (Standard Event Status Register), the SBR (Status Byte Register), and Event Queue, which are used in the instrument status and event reporting system.

Group Common

Syntax `*CLS`

DISPlay:VIEW:FORMat? (Query Only)

Returns the current display format of the base value in the hierarchy display.

Group DISPLAY

Syntax `DISPlay:VIEW:FORMat?`

DISPlay:VIEW:FORMat HEXadecimal|DECimal|OCTal (No Query Form)

Sets the base value used to describe the component information in the hierarchy display. The choices are HEXadecimal, DECimal, and OCTal. The default value is HEXadecimal.

Group DISPLAY

Syntax `DISPlay:VIEW:FORMat HEXadecimal|DECimal|OCTal`

*ESE

Sets or returns the bits of the ESER (Event Status Enable Register) used in the status and events reporting system.

Group Common

Syntax
```
*ESE
*ESE?
```

*ESR? (Query Only)

Returns the contents of SESR (Standard Event Status Register) used in the status and events reporting system.

Group Common

Syntax
```
*ESR?
```

*IDN? (Query Only)

Returns the ID information of the instrument. The ID information contains manufacturer, model, firmware version, hardware version, and FPGA code version.

Group Common

Syntax
```
*IDN?
```

*LRN? (Query Only)

Returns the current instrument settings.

Group Common

Syntax
```
*LRN?
```

MMEMory:CATalog [<directory_path>] (No Query Form)

Lists the files in the specified directory.

Group MASS MEMORY

Syntax
```
MMEMory:CATalog [<directory_path>]
```

Arguments The query response is as follows: <used_bytes>, <available_bytes>, "<file_name>, <directory_flag>, <file_size>, <date>, <time>".

MMEMory:CDIRectory[:DATA]

Changes or returns the current directory for data files.

Group MASS MEMORY

Syntax
```
MMEMory:CDIRectory[:DATA]?
MMEMory:CDIRectory[:DATA][<directory_path>]
```

Arguments The default directory is D:.

MMEMory:CDIRectory:STATe

Returns or changes the current directory for setting files.

Group MASS MEMORY

Syntax
```
MMEMory:CDIRectory:STATe?
MMEMory:CDIRectory:STATe[<directory_path>]
```

MMEMory:LOAD:STATe <preset_name> (No Query Form)

Loads the specified preset. This command accepts the name of a previously saved preset. Current instrument settings are overwritten by this command.

Group MASS MEMORY

Syntax `MMEMory:LOAD:STATe <preset_name>`

MMEMory:MDIRectory <directory_path> (No Query Form)

Creates a subdirectory. The command is invalid if a directory with the specified name already exists.

Group MASS MEMORY

Syntax `MMEMory:MDIRectory <directory_path>`

MMEMory:STORe:STATe <preset_name> (No Query Form)

Saves the instrument settings with the specified preset name.

Group MASS MEMORY

Syntax `MMEMory:STORe:STATe <preset_name>`

*OPC

Sets or returns the bit 0 in the SESR, and the operation complete message to be issued, when all pending operations are finished. This query is only available just after the PLAY:STARt? or RECord:STARt command is executed.

Group Common

Syntax `*OPC?`

Arguments Waits until all pending operations are finished and returns a "1 " ASCII character.

*OPT (No Query Form)

Lists the installed interface option.

Group Common

Syntax
```
*OPT
```

PLAY:ASI:FORMAT

Sets or returns the output format of the ASI signal.

Group Optional

Syntax
```
PLAY:ASI:FORMAT BYTE|BURST|PACKET
PLAY:ASI:FORMAT?
```

Arguments The choices are BYTE, BURST, and PACKET. The default value is PACKET.

PLAY:AUTOplay

Sets whether the selected stream is automatically output using the last power-off settings when you turn the instrument on or return the current auto play mode status.

Group PLAY

Syntax
```
PLAY:AUTOplay?
PLAY:AUTOplay ON|OFF
```

Arguments You can use 1 or 0 instead of ON or OFF. The default value is OFF.

PLAY:CLOCk:DEFault:RATE

Sets or returns the default clock rate that is automatically set when the selected stream file is downloaded. Since the clock rate is calculated based on the PCRs in the file, the value may be different from the original clock rate. If this happen, you can set the appropriate value by this command.

Group PLAY

Syntax

```
PLAY:CLOCk:DEFault:RATE <numeric_value>
PLAY:CLOCk:DEFault:RATE?
```

Arguments You can set the rate from 0.001 MHz to 250.0 MHz. If you change the value, the PLAY:CLOCk:RATE command setting will set to the same value. The default value is 56.61.

PLAY:CLOCk:DEFault:RATE:RATIo

Sets or returns the default clock rate that is automatically set when the selected stream file is downloaded using a fraction. Since the clock rate is calculated based on the PCRs in the file, the value may be different from the original clock rate. If this happens, you can set the appropriate value by this command.

Group PLAY

Syntax

```
PLAY:CLOCk:DEFault:RATE:RATIo?
PLAY:CLOCk:DEFault:RATE:RATIo
<numeric_value>,<numeric_value>
```

Arguments The first argument represents a numerator and the second represents a denominator. You can set both values from 0 to 2000000000. If you change the value, the PLAY:CLOCk:RATE:RATIo command setting will set to the same value. The default values are 629 for the numerator and 300 for the denominator.

PLAY:CLOCk:ESRAtefixed

Sets or returns the current elementary stream rate status.

Group PLAY

Syntax
```
PLAY:CLOCk:ESRAtefixed?
PLAY:CLOCk:ESRAtefixed ON|OFF
```

Arguments When you set it to ON, the elementary stream rate becomes constant regardless of the clock rate setting. You can use 1 or 0 instead of ON or OFF. The default value is OFF.

PLAY:CLOCk:ISDBT:CONVert

Sets or returns whether the clock rate is automatically set when the data file for ISDB-TSB is loaded.

Group PLAY

Syntax
```
PLAY:CLOCk:ISDBT:CONVert?
PLAY:CLOCk:ISDBT:CONVert ON|OFF
```

Arguments When you set it to ON, the clock rate is automatically set to (2048/1701) x 27 MHz and the elementary stream rate becomes constant regardless of the PLAY:CLOCk:ESRAtefixed command setting. You can use 1 or 0 instead of ON or OFF. The default value is ON.

PLAY:CLOCk:RATE

Sets or returns the clock rate for the stream output.

Group PLAY

Syntax
```
PLAY:CLOCk:RATE?
PLAY:CLOCk:RATE <numeric_value>
```

Arguments You can set the rate from 0.001 MHz to 250.0 MHz. The default value is 56.61.

PLAY:CLOCk:RATE:RATIo

Sets or returns the clock rate for the stream output using a fraction.

Group PLAY

Syntax
```
PLAY:CLOCk:RATE:RATIo?
PLAY:CLOCk:RATE:RATIo <numeric_value>,<numeric_value>
```

Arguments The first argument represents a numerator and the second represents a denominator. You can set both values from 0 to 2000000000. The default values are 629 for the numerator and 300 for the denominator.

PLAY:CLOCk:SOURce

Sets which clock to use as the reference for the stream output or returns the current reference clock for the stream output.

Group PLAY

Syntax
```
PLAY:CLOCk:SOURce?
PLAY:CLOCk:SOURce
INTernal|EXT10M|EXT27M|EXTIfft|EXTParallel| EXTSerial
```

Arguments

`INTernal`: uses the internal clock.

`EXT10M`: uses a 10 MHz signal on the CLK/REF IN connector.

`EXT27M`: uses a 27 MHz signal on the CLK/REF IN connector.

`EXTIfft`: uses an IFFT sample clock signal (8.126984 MHz) on the CLK/REF IN connector.

`EXTParallel`: uses a clock signal on the CLK/REF IN connector as a parallel clock.

`EXTSerial`: uses a clock signal on the CLK/REF IN connector as a serial clock.

PLAY:EXTernal

Sets or returns to start stream output using a trigger signal applied to the Trig In/Out connector.

Group PLAY

Syntax

```
PLAY:EXTernal?
PLAY:EXTernal RISE|FALL|OFF
```

Arguments

`RISE`: the stream output is started at the rising edge of the applied trigger signal. The default value is OFF.

`FALL`: the stream output is started at the falling edge of the applied trigger signal.

PLAY:EXTTrigger:BNC

Sets whether to use the rear-panel Trig In/Out connector as an input or an output or returns the current input/output status of the Trig In/Out connector.

Group PLAY

Syntax

```
PLAY:EXTTrigger:BNC?
PLAY:EXTTrigger:BNC INPUt|OUTPut
```

Arguments

`INPUt` connector can be used to input an external trigger signal.

`OUTPut` connector can be used to output a 27 MHz reference clock or an ISDB-T frame pulse signal. Use the PLAY:EXTTrigger:OUTPut:SELEctcommand to select which signal is output from the connector. The default value is INPUt.

PLAY:EXTTrigger:OUTPut:DELAy

Sets the amount of delay or returns the current delay for the start packet pulse of the ISDB-T frame in 1-parallel clocks of the SPI output.

Group PLAY

Syntax
```
PLAY:EXTTrigger:OUTPut:DELAy?
PLAY:EXTTrigger:OUTPut:DELAy <numeric_value>
```

Arguments You can set the value from 0 to 15. The default value is 0.

PLAY:EXTTrigger:OUTPut:SELEct

Selects or returns the current output signal selection from the Trig In/Out connector when the PLAY:EXTTrigger:BNC command is set to OUTPut.

Group PLAY

Syntax
```
PLAY:EXTTrigger:OUTPut:SELEct?
PLAY:EXTTrigger:OUTPut:SELEct C27M|ISDBT
```

Arguments `C27M` selects a 27 MHz reference clock signal as output.

`ISDBT` selects an ISDB-T frame pulse signal as output. The default value is C27M.

PLAY:IP:ERRGen:GCHIperr (No Query Form)

Generates a checksum error in the IP layer.

Group Optional

Syntax
```
PLAY:IP:ERRGen:GCHIperr
```

PLAY:IP:ERRGen:GCHUdperr (No Query Form)

Generates a checksum error in the UDP layer.

Group Optional

Syntax `PLAY:IP:ERRGen:GCHUdperr`

PLAY:IP:ERRGen:GPKTlos (No Query Form)

Generates a packet loss by dropping one packet during the IP playout.

Group Optional

Syntax `PLAY:IP:ERRGen:GPKTlos`

PLAY:IP:ERRGen:GSQNerr (No Query Form)

Generates a sequence error by re-sequencing a packet with another packet within a 100 packet boundary.

Group Optional

Syntax `PLAY:IP:ERRGen:GSQNerr`

PLAY:IP:ERRIns:ENBLed

Enables or returns whether error insertion in real time when the value is set to ON.

Group Optional

Syntax
```
PLAY:IP:ERRIns:ENBLed ON|OFF
PLAY:IP:ERRIns:ENBLed?
```

Arguments `ON` enables the error insertion in real time. You can use 1 or 0 instead of ON or OFF.

PLAY:IP:ERRIns:PARAmeters:CSEEnbled

Enables or returns the checksum error when the value is set to ON.

Group Optional

Syntax
```
PLAY:IP:ERRIns:PARAmeters:CSEEnbled ON|OFF
PLAY:IP:ERRIns:PARAmeters:CSEEnbled?
```

Arguments `ON` enables the checksum error. You can use 1 or 0 instead of ON or OFF.

PLAY:IP:ERRIns:PARAmeters:CSERange

Sets or returns the checksum error range.

Group Optional

Syntax
```
PLAY:IP:ERRIns:PARAmeters:CSERange <numeric_value>
PLAY:IP:ERRIns:PARAmeters:CSERange?
```

Arguments `<Numeric_value>` ranges from 0 to 65535.

PLAY:IP:ERRIns:PARAmeters:CSEType

Sets or returns the checksum error type.

Group Optional

Syntax
```
PLAY:IP:ERRIns:PARAmeters:CSEType IP|UDP
PLAY:IP:ERRIns:PARAmeters:CSEType?
```

Arguments `IP` sets the checksum error type to IP.

`UDP` sets the checksum error type to IP.

PLAY:IP:ERRIns:PARAmeters:CSEValue

Sets or returns the frequency value at which the checksum error will be inserted.

Group Optional

Syntax
```
PLAY:IP:ERRIns:PARAmeters:CSEValue <numeric_value>
PLAY:IP:ERRIns:PARAmeters:CSEValue?
```

Arguments `<numeric_value>` ranges from 0 to 65535.

PLAY:IP:ERRIns:PARAmeters:JITPeriod

Sets or returns the jitter period value for IP playout.

Group Optional

Syntax
```
PLAY:IP:ERRIns:PARAmeters:JITPeriod <numeric_value>
PLAY:IP:ERRIns:PARAmeters:JITPeriod?
```

Arguments `<Numeric_value>` set the value in µs for FIXED jitter type and percentage value for all the other jitter types.

PLAY:IP:ERRIns:PARAmeters:PLENbled

Enables or returns whether the packet loss when the value is set to ON.

Group Optional

Syntax
```
PLAY:IP:ERRIns:PARAmeters:PLENbled ON|OFF
PLAY:IP:ERRIns:PARAmeters:PLENbled?
```

Arguments `ON` enables the packet loss. You can use 1 or 0 instead of ON or OFF.

PLAY:IP:ERRIns:PARAmeters:PLRAnge

Sets or returns the packet loss range.

Group Optional

Syntax
```
PLAY:IP:ERRIns:PARAmeters:PLRAnge <numeric_value>
PLAY:IP:ERRIns:PARAmeters:PLRAnge?
```

Arguments `<Numeric_value>` ranges from 0 to 65535.

PLAY:IP:ERRIns:PARAmeters:PLVAlue

Sets or returns the number of packets that will be dropped.

Group Optional

Syntax
```
PLAY:IP:ERRIns:PARAmeters:PLVAlue <numeric_value>
PLAY:IP:ERRIns:PARAmeters:PLVAlue?
```

Arguments `<Numeric_value>` ranges from 0 to 65535.

PLAY:IP:ERRIns:PARAmeters:RANDomizerr

Sets or returns the current value of the randomizer.

Group Optional

Syntax
```
PLAY:IP:ERRIns:PARAmeters:RANDomizerr ON|OFF
PLAY:IP:ERRIns:PARAmeters:RANDomizerr?
```

Arguments When set to ON, the random type is enabled. You can use 1 or 0 instead of ON or OFF.

PLAY:IP:ERRIns:PARAmeters:SQEDistance

Sets or returns the distance value after which you want the reordering to happen.

Group Optional

Syntax
```
PLAY:IP:ERRIns:PARAmeters:SQEDistance <numeric_value>
PLAY:IP:ERRIns:PARAmeters:SQEDistance?
```

Arguments `<Numeric_value>` ranges from 0 to 65535.

PLAY:IP:ERRIns:PARAmeters:SQEEnbled

Enables or returns the sequence error when the value is set to ON.

Group Optional

Syntax
```
PLAY:IP:ERRIns:PARAmeters:SQEEnbled ON|OFF
PLAY:IP:ERRIns:PARAmeters:SQEEnbled?
```

Arguments `ON` enables the sequence error. You can use 1 or 0 instead of ON or OFF.

PLAY:IP:ERRIns:PARAmeters:SQERange

Sets or returns the sequence error range.

Group Optional

Syntax
```
PLAY:IP:ERRIns:PARAmeters:SQERange <numeric_value>
PLAY:IP:ERRIns:PARAmeters:SQERange?
```

Arguments <Numeric_value> ranges from 0 to 65535.

PLAY:IP:ERRIns:PARAmeters:SQEValue

Sets or returns the current frequency value at which the packets are reordered.

Group Optional

Syntax
```
PLAY:IP:ERRIns:PARAmeters:SQEValue <numeric_value>
PLAY:IP:ERRIns:PARAmeters:SQEValue?
```

Arguments <Numeric_value> ranges from 0 to 65535.

PLAY:IP:OTHSttngs:PROCpriority (No Query Form)

Returns the process priority for the player.

Group Optional

Syntax
```
PLAY:IP:OTHSttngs:PROCpriority
NORMAL|ABOVE_NORMAL|HIGHEST|REAL_TIME
```

Arguments The choices are NORMAL, ABOVE NORMAL, HIGHEST, and REAL TIME. The default value is REAL_TIME.

PLAY:IP:OTHSttngs:THRPriority

Sets or returns the thread priority for the player.

Group Optional

Syntax
```
PLAY:IP:OTHSttngs:THRPriority
IDLE|BELOW_NORMAL|NORMAL|ABOVE_NORMAL|HIGHEST|REAL_TIME
PLAY:IP:OTHSttngs:THRPriority?
```

Arguments The choices are IDLE, BELOW NORMAL, NORMAL, ABOVE NORMAL, HIGHEST, and REAL TIME. The default value is NORMAL.

PLAY:IP:PARAmeters:BITRate

Sets or returns the IP bit rate value for the playout.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:BITRate <numeric_value>
PLAY:IP:PARAmeters:BITRate?
```

Arguments <numeric_value> ranges from 0.250 to 250.000 Mbps.

PLAY:IP:PARAmeters:DEFAult (No Query Form)

Resets the configuration settings to the default values.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:DEFAult
```

PLAY:IP:PARAmeters:DVCName? (Query Only)

Returns the current device name for the IP playout.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:DVCName?
```

PLAY:IP:PARAmeters:DVINdex

Sets or returns the current index value of the selected network interface card.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:DVINdex <numeric_value>
PLAY:IP:PARAmeters:DVINdex?
```

Arguments You can set the index value from 0 to N-1 where N is the number of available network interface cards.

PLAY:IP:PARAmeters:IPFRagment

Sets or returns whether to allow IP fragmentation during IP playout.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:IPFRagment ON|OFF
PLAY:IP:PARAmeters:IPFRagment?
```

Arguments `ON` fragments the IP packets else they will retain the same size. You can use 1 or 0 instead of ON or OFF. The default value is OFF.

PLAY:IP:PARAmeters:IPLAyrver

Selects or returns the IP player version for the playout.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:IPLAyrver IPVFOUR|IPVSIX
PLAY:IP:PARAmeters:IPLAyrver?
```

Arguments The choices are IPVFOUR and IPVSIX. The default value is IPVFOUR.

PLAY:IP:PARAmeters:IPPKtsize

Sets or returns the current size of the IP packet.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:IPPKtsize <numeric_value>
PLAY:IP:PARAmeters:IPPKtsize?
```

Arguments <numeric_value> sets the packet size to a value ranging from 1 byte to 16,128 bytes.

PLAY:IP:PARAmeters:PACKetszmode

Sets or returns the packet size mode for the IP playout.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PACKetszmode IPPKSZMD|TSPKCTMD
PLAY:IP:PARAmeters:PACKetszmode?
```

Arguments The choices are IPPKSZMD and TSPKCTMD. The default value is TSPKCTMD.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:DESTmac

Sets or returns the current destination MAC address of the Ethernet layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:
DESTmac <string>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:
DESTmac?
```

Arguments <string> is of the format “xx:xx:xx:xx:xx:xx”.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:PROTocol

Sets or returns the value of the protocol field in the Ethernet layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:
PROTocol <numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:
PROTocol?
```

Arguments <numeric_value> ranges from 0 to 65535. The default value is 2048 which corresponds to IP.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:SRCEmac

Sets or returns the current source MAC address of the Ethernet layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:
SRCEmac <string>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:
SRCEmac?
```

Arguments <string> is of the format “xx:xx:xx:xx:xx:xx”.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:CFI

Sets or returns the canonical format indicator for the VLAN.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:
CFI ON|OFF
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:
CFI?
```

Arguments `ON` selects non-canonical MAC. The default value is OFF.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:PRIOrity

Sets or returns the priority level of the VLAN in the Ethernet layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:
PRIOrity <numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:
PRIOrity?
```

Arguments `<numeric_value>` ranges from 0 to 7.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:TPID

Sets or returns the TPID value of the VLAN in the Ethernet layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:
TPID <string>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:
TPID?
```

Arguments `<numeric_value>` ranges from 0 to FFFF. The default value is 0X8100.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:VID

Sets or returns the current VID value of the VLAN.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:
VID <numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:ETHErnet:VLAN:
VID?
```

Arguments <numeric_value> ranges from 0 to 4095. The default value is 1.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:DSTIpadd

Sets or returns the current destination IP address for the IP layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:DSTIpadd
<string>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:DSTIpadd?
```

Arguments <string> is of the format “xx:xx:xx:xx:xx:xx”.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:HEADerlngth? (Query Only)

Returns the current length of the IP header.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:HEADerlngth?
```

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:PROTocol

Sets or returns the current value of the protocol field in the IP layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:PROTocol
<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:PROTocol?
```

Arguments <numeric_value> ranges from 0 to 255. The default value is 17 which corresponds to UDP.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:SRCIpadd

Sets or returns the source IP address for the IP layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:SRCIpadd
<string>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:SRCIpadd?
```

Arguments <string> is of the format “xx:xx:xx:xx:xx:xx”.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:TOS

Sets or returns the type of service that indicates the desired parameters.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:TOS
<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:TOS?
```

Arguments <numeric_value> ranges from 0 to 255. The default value is 0. The parameters are delay, throughput, and reliability.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:TTL

Sets or returns the value of Time to Live in the IP layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:
TTL<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:TTL?
```

Arguments <numeric_value> ranges from 0 to 255. The default value is 5.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:VERSion? (Query Only)

Returns the IP version.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IP:VERSion?
```

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:DSTIpadd

Sets or returns the destination address of the IPv6 layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:DSTIpadd
<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:DSTIpadd?
```

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:FLOWlbl

Sets or returns the value of the flow label for the IPv6 layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:
FLOWlbl<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:FLOWlbl?
```

Arguments <numeric_value> default value is 0.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:HOPLimit

Sets or returns the value of the hop limit for the IPv6 layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:HOPLimit
<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:HOPLimit?
```

Arguments <numeric_value> ranges from 0 to 255. The default value is 12.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:NXTHdr

Sets or returns the value of the next header for the IPv6 layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:NXTHdr
<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:NXTHdr?
```

Arguments <numeric_value> ranges from 0 to 255. The default value is 17.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:PYLDlen? (Query Only)

Returns the current value of the payload length.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:PYLDlen?
```

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:SRCIpadd

Sets or returns the source address of the IPv6 layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:SRCIpadd
<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:SRCIpadd?
```

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:TRFCcls

Sets or returns the value of the traffic class for the IPv6 layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:TRFCcls
<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:TRFCcls?
```

Arguments <numeric_value> ranges from 0 to 255. The default value is 0.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:VERSion? (Query Only)

Returns the version number of the IPv6 protocol.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:VERSion?
```

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:PYLOadtype

Sets or returns the current value of the payload type for the RTP layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:PYLOadtype
<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:PYLOadtype?
```

Arguments <numeric_value> ranges from 0 to 255. The default value is 33.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:SQNCnumber

Sets or returns the first value of the sequence number field in RTP header.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:SQNCnumber
<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:SQNCnumber?
```

Arguments <numeric_value> ranges from 0 to 65535.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:SSRC

Returns the SSRC value for the RTP layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:SSRC
<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:SSRC?
```

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:VERSion? (Query Only)

Returns the current version of the RTP.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:RTP:VERSion?
```

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:UDP:DSTPort

Sets or returns the destination port value of the UDP layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:UDP:DSTPort
<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:UDP:DSTPort?
```

Arguments `<numeric_value>` ranges from 0 to 65535. The default value is 16384.

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:UDP:LENgth? (Query Only)

Returns the current length of the UDP packets.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:UDP:LENgth?
```

PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:UDP:SRCPort

Sets or returns the source port value of the UDP layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:UDP:SRCPort
<numeric_value>
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:UDP:SRCPort?
```

Arguments <numeric_value> ranges from 0 to 65535. The default value is 16384.

PLAY:IP:PARAmeters:PRTOcol:SETTings:DST6ipadd

Sets or returns the destination IP address for the IPv6 version of the playout.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:SETTings:DST6ipadd <IP address of
the destination>
PLAY:IP:PARAmeters:PRTOcol:SETTings:DST6ipadd?
```

PLAY:IP:PARAmeters:PRTOcol:SETTings:DSTIpadd

Sets or returns the destination IP address for IP playout.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:SETTings:DSTIpadd <IP address of the destination>
PLAY:IP:PARAmeters:PRTOcol:SETTings:DSTIpadd?
```

Arguments `<IP address of the destination>` sets the destination IP address. The default value is 239.1.1.1.

PLAY:IP:PARAmeters:PRTOcol:SETTings:DSTPort

Sets or returns the destination port value.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:SETTings:DSTPort <numeric_value>
PLAY:IP:PARAmeters:PRTOcol:SETTings:DSTPort?
```

Arguments You can set the destination port value from 0 to 65535. The default value is 16384.

PLAY:IP:PARAmeters:PRTOcol:SETTings:MODE

Sets or returns current the protocol mode for IP playout.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:SETTings:MODE UDP|RTP
PLAY:IP:PARAmeters:PRTOcol:SETTings:MODE?
```

Arguments `UDP` sets the protocol mode to UDP.

`RTP` sets the protocol mode to RTP. The default mode is RTP.

PLAY:IP:PARAmeters:PRTOcol:SETTings:SRC6ipadd

Sets or returns the current value of the source IP address for the IPv6 version.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:SETTings:SRC6ipadd <IP address
of the instrument>
PLAY:IP:PARAmeters:PRTOcol:SETTings:SRC6ipadd?
```

PLAY:IP:PARAmeters:PRTOcol:SETTings:SRCIpadd

Sets or returns the current source IP address.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:SETTings:SRCIpadd <IP address of
the instrument>
PLAY:IP:PARAmeters:PRTOcol:SETTings:SRCIpadd?
```

PLAY:IP:PARAmeters:PRTOcol:SETTings:SRCPort

Sets or returns the source port for the IP playout.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:SETTings:SRCPort <numeric_value>
PLAY:IP:PARAmeters:PRTOcol:SETTings:SRCPort?
```

Arguments <numeric_value> ranges from 0 to 65535. The default value is 16384.

PLAY:IP:PARAmeters:PRTOcol:SETTings:VLAN

Enables or returns the VLAN settings.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:SETTings:VLAN ON|OFF
PLAY:IP:PARAmeters:PRTOcol:SETTings:VLAN?
```

Arguments `ON` displays the VLAN parameters in the Advanced settings screen. You can use 1 or 0 instead of ON or OFF. The default value is OFF.

PLAY:IP:PARAmeters:PRTOcol:SETTings:VLNid

Returns or sets the VLAN identification number to allow the identification of 4096 VLANs that is basically used by the 802.1Q standard.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:PRTOcol:SETTings:VLNid <numeric_value>
PLAY:IP:PARAmeters:PRTOcol:SETTings:VLNid?
```

Arguments `<numeric_value>` ranges from 0 to 4095. The default value is 1.

PLAY:IP:PARAmeters:REPLication:COUNt

Sets or returns the number of replications for a stream.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:COUNt <numeric_value>
PLAY:IP:PARAmeters:REPLication:COUNt?
```

Arguments `<numeric_value>` ranges from 0 to 65535.

PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:DSTMac

Sets or returns the increment value for the destination MAC address.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:DSTMac
<string>
PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:DSTMac?
```

Arguments `<string>` is of the format "xx:xx:xx:xx:xx:xx" and is a hexadecimal value. The increments for these addresses can be specified per node. The value of the next node will be rolled over when the value of the incremented node reaches the maximum.

PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:EPROtocol

Sets or returns the current increment value of the Ethernet protocol.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:EPROtocol
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:EPROtocol?
```

Arguments `<numeric_value>` ranges from 0 to 65535.

PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:SRCMac

Sets or returns the current increment value of the source MAC address.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:SRCMac
<string>
PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:SRCMac?
```

Arguments <string> is of the format "xx:xx:xx:xx:xx:xx" and is a hexadecimal value. The increments for these addresses can be specified for each node. The value of the next node will be rolled over when the value of the incremented node reaches the maximum.

PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:VLANid

Sets or returns the identification of the VLAN.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:VLANid
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:ETHErnet:VLANid?
```

Arguments <numeric_value> ranges from 0 to 4095.

PLAY:IP:PARAmeters:REPLication:INCRement:IP:DSTIpadd

Sets or returns the increment value for the destination IP address.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:IP:DSTIpadd
<string>
PLAY:IP:PARAmeters:REPLication:INCRement:IP:DSTIpadd?
```

Arguments <string> is of the format “xx:xx:xx:xx:xx:xx” and xx is a hexadecimal value. The increments for IP addresses can be specified for each node. The value of the next node will be rolled over when the value of the incremented node reaches the maximum.

PLAY:IP:PARAmeters:REPLication:INCRement:IP:IPROtocol

Sets or returns the increment value for the IP protocol.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:IP:IPROtocol
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:IP:IPROtocol?
```

Arguments <numeric_value> ranges from 0 to 255.

PLAY:IP:PARAmeters:REPLication:INCRement:IP:SRCIpadd

Sets or returns the increment value for the source IP address.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:IP:SRCIpadd
<string>
PLAY:IP:PARAmeters:REPLication:INCRement:IP:SRCIpadd?
```

Arguments <string> is of the format "xx:xx:xx:xx:xx:xx" and xx is a hexadecimal value. The increments for IP addresses can be specified for each node. The value of the next node will be rolled over when the value of the incremented node reaches the maximum.

PLAY:IP:PARAmeters:REPLication:INCRement:IP:TOS

Sets or returns the increment value for the type of service of the IP protocol.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:IP:TOS
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:IP:TOS?
```

Arguments <numeric_value> ranges from 0 to 255.

PLAY:IP:PARAmeters:REPLication:INCRement:IP:TTL

Sets or returns the increment value for time to live of the IP protocol.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:IP:TTL
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:IP:TTL?
```

Arguments <numeric_value> ranges from 0 to 255.

PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:DSTIpadd

Sets or returns the increment value of the destination IPv6 address.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:DSTIpadd
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:DSTIpadd?
```

Arguments `ff0e::1` is the default <numeric_value>.

PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:FLOWlbl

Sets or returns the increment value for the flow label of the IPv6 layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:FLOWlbl
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:FLOWlbl?
```

Arguments <numeric_value> default values is 0.

PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:HOPLimit

Sets or returns the increment value for the hop limit of the IPv6 layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:HOPLimit
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:HOPLimit?
```

Arguments <numeric_value> ranges from 0 to 255. The default value is 12.

PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:NXTHdr

Sets the increment value for the next header of the IPv6 layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:NXTHdr
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:NXTHdr?
```

Arguments <numeric_value> ranges from 0 to 255. The default value is 17.

PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:SRCIpadd

Sets or returns the increment value for the source IPv6 address of the IPv6 layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:SRCIpadd
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:SRCIpadd?
```

PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:TRFCcls

Sets or returns the increment value for the traffic class of the IPv6 layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:TRFCcls
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:TRFCcls?
```

Arguments <numeric_value> ranges from 0 to 255. The default value is 0.

PLAY:IP:PARAmeters:REPLication:INCRement:RTP:PAYLoad

Sets or returns the increment value for the payload of the RTP layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:RTP:PAYLoad
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:RTP:PAYLoad?
```

Arguments <numeric_value> ranges from 0 to 127.

PLAY:IP:PARAmeters:REPLication:INCRement:RTP:SSRC

Sets or returns the increment value for the SSRC of the RTP layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:RTP:SSRC
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:RTP:SSRC?
```

Arguments <numeric_value> ranges from 0 to 65535.

PLAY:IP:PARAmeters:REPLication:INCRement:UDP:DSTPort

Sets or returns the increment value for the destination port of the UDP layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:UDP:DSTPort
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:UDP:DSTPort?
```

Arguments <numeric_value> ranges from 0 to 65535.

PLAY:IP:PARAmeters:REPLication:INCRement:UDP:SRCPort

Sets or returns the increment value for the source port of the UDP layer.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:REPLication:INCRement:UDP:SRCPort
<numeric_value>
PLAY:IP:PARAmeters:REPLication:INCRement:UDP:SRCPort?
```

Arguments <numeric_value> ranges from 0 to 65535.

PLAY:IP:PARAmeters:TRANsmode

Sets or returns the current transmission mode of the protocol.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:TRANsmode UNICAST|MULTICAST|BROADCAST
PLAY:IP:PARAmeters:TRANsmode?
```

Arguments The choices are UNICAST, MULTICAST, and BROADCAST. The default value is MULTICAST.

PLAY:IP:PARAmeters:TSFRagment

Sets or returns whether to allow TS fragmentation across IP packets.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:TSFRagment ON|OFF
PLAY:IP:PARAmeters:TSFRagment?
```

Arguments ON splits the TS packets across the IP packets You can use 1 or 0 instead of ON or OFF. The default value is OFF.

PLAY:IP:PARAmeters:TSPKtcount

Sets or returns the number of TS packets that needs to be embedded into an IP packet.

Group Optional

Syntax
```
PLAY:IP:PARAmeters:TSPKtcount <numeric_value>
PLAY:IP:PARAmeters:TSPKtcount?
```

Arguments <numeric_value> sets the TS packets to a value ranging from 1 to 85.

PLAY:IP:PRMEtric:BPERiod

Sets or returns the burst period for the IP playout.

Group Optional

Syntax
```
PLAY:IP:PRMEtric:BPERiod <numeric_value>
PLAY:IP:PRMEtric:BPERiod?
```

Arguments <Numeric_value> ranges from 1 to 1000 ms.

PLAY:IP:PRMEtric:BSIZE

Sets or returns the burst size for the IP playout.

Group Optional

Syntax
```
PLAY:IP:PRMEtric:BSIZE <numeric_value>
PLAY:IP:PRMEtric:BSIZE?
```

Arguments <Numeric_value> ranges from 1 to 65535.

PLAY:IP:PRMEtric:BSTEnbled

Enables or returns the burst mode when the value is set to ON.

Group Optional

Syntax
```
PLAY:IP:PRMEtric:BSTEnbled ON|OFF
PLAY:IP:PRMEtric:BSTEnbled?
```

Arguments `ON` enables the burst mode. You can use 1 or 0 instead of ON or OFF.

PLAY:IP:PRMEtric:BSTType

Sets or returns the burst mode for the IP playout.

Group Optional

Syntax
```
PLAY:IP:PRMEtric:BSTType BURST_PERIOD|BURST_SIZE
PLAY:IP:PRMEtric:BSTType?
```

Arguments The choices are BURST PERIOD and BURST SIZE. The default is BURST PERIOD.

PLAY:IP:PRMEtric:JITEnbled

Enables or returns jitter when the value is set to ON.

Group Optional

Syntax
```
PLAY:IP:PRMEtric:JITEnbled ON|OFF
PLAY:IP:PRMEtric:JITEnbled?
```

Arguments `ON` enables jitter. You can use 1 or 0 instead of ON or OFF.

PLAY:IP:PRMEtric:JITType

Sets or returns the jitter type for IP playout.

Group Optional

Syntax
```
PLAY:IP:PRMEtric:JITType LAPLACE|GAUSSIAN|SINE|FIXED
PLAY:IP:PRMEtric:JITType?
```

Arguments The options are LAPLACE, GAUSSIAN, SINE, FIXED. The default values is FIXED.

PLAY:IP:PRMEtric:LOWJitmd

Enables or returns the low jitter mode when set to ON.

Group Optional

Syntax
```
PLAY:IP:PRMEtric:LOWJitmd ON|OFF
PLAY:IP:PRMEtric:LOWJitmd?
```

Arguments `ON` enables the low jitter mode. You can use 1 or 0 instead of ON or OFF.

PLAY:IP:STATistics:ERROrs:CSIPerrs? (Query Only)

Returns the number of IP checksum errors inserted during the play.

Group Optional

Syntax
```
PLAY:IP:STATistics:ERROrs:CSIPerrs?
```

PLAY:IP:STATistics:ERROrs:CSUDperrs? (Query Only)

Returns the number of UDP checksum errors inserted during the play.

Group Optional

Syntax `PLAY:IP:STATistics:ERROrs:CSUDperrs?`

PLAY:IP:STATistics:ERROrs:PKTDropped? (Query Only)

Returns the number of packets dropped during the play.

Group Optional

Syntax `PLAY:IP:STATistics:ERROrs:PKTDropped?`

PLAY:IP:STATistics:ERROrs:SQNErrs? (Query Only)

Returns the number of sequence errors inserted during the play.

Group Optional

Syntax `PLAY:IP:STATistics:ERROrs:SQNErrs?`

PLAY:IP:STATistics:IP:BIRAte? (Query Only)

Returns the IP bit rate value for the play.

Group Optional

Syntax `PLAY:IP:STATistics:IP:BIRAte?`

PLAY:IP:STATistics:IP:BIRAte:MAX? (Query Only)

Returns the maximum IP bit rate value for the play.

Group Optional

Syntax `PLAY:IP:STATistics:IP:BIRAte:MAX?`

PLAY:IP:STATistics:IP:BIRAte:MAXVariation? (Query Only)

Returns the maximum IP bit rate variation value from the set bit rate value.

Group Optional

Syntax `PLAY:IP:STATistics:IP:BIRAte:MAXVariation?`

PLAY:IP:STATistics:IP:BITRAte:AVG? (Query Only)

Returns the average bit rate value for the play.

Group Optional

Syntax `PLAY:IP:STATistics:IP:BITRAte:AVG?`

PLAY:IP:STATistics:IP:BITRAte:AVGVariation? (Query Only)

Returns the average variation value from the set bit rate value.

Group Optional

Syntax `PLAY:IP:STATistics:IP:BITRAte:AVGVariation?`

PLAY:IP:STATistics:IP:BITRAte:MIN? (Query Only)

Returns the minimum IP bit rate value for the play.

Group Optional

Syntax `PLAY:IP:STATistics:IP:BITRAte:MIN?`

PLAY:IP:STATistics:IP:BITRAte:MINVariation? (Query Only)

Returns the minimum variation value from the set bit rate value.

Group Optional

Syntax `PLAY:IP:STATistics:IP:BITRAte:MINVariation?`

PLAY:IP:STATistics:IP:BRVAriation? (Query Only)

Returns the percentage of IP bit rate variation from the set bit rate.

Group Optional

Syntax `PLAY:IP:STATistics:IP:BRVAriation?`

PLAY:IP:STATistics:IP:BYTRansmited

Returns the number of IP bytes transmitted during the play.

Group Optional

Syntax `PLAY:IP:STATistics:IP:BYTRansmited`

PLAY:IP:STATistics:IP:JITer? (Query Only)

Returns the jitter value for the play.

Group Optional

Syntax `PLAY:IP:STATistics:IP:JITer?`

PLAY:IP:STATistics:IP:JITer:AVG? (Query Only)

Returns the average jitter value for the play.

Group Optional

Syntax `PLAY:IP:STATistics:IP:JITer:AVG?`

PLAY:IP:STATistics:IP:JITer:MAX? (Query Only)

Returns the maximum jitter value for the play.

Group Optional

Syntax `PLAY:IP:STATistics:IP:JITer:MAX?`

PLAY:IP:STATistics:IP:JITer:MIN? (Query Only)

Returns the minimum jitter value for the play.

Group Optional

Syntax `PLAY:IP:STATistics:IP:JITer:MIN?`

PLAY:IP:STATistics:IP:PKTCount? (Query Only)

Returns the IP packet count for the play.

Group Optional

Syntax `PLAY:IP:STATistics:IP:PKTCount?`

PLAY:IP:STATistics:IP:PKTSize? (Query Only)

Returns the IP packet size for the play.

Group Optional

Syntax `PLAY:IP:STATistics:IP:PKTSize?`

PLAY:IP:STATistics:REPLication:ERROrs:CSIPerrs? (Query Only)

Returns the total number of IP checksum errors of all the streams.

Group Optional

Syntax `PLAY:IP:STATistics:REPLication:ERROrs:CSIPerrs?`

PLAY:IP:STATistics:REPLication:ERROrs:CSUDPerrs? (Query Only)

Returns the total number of UDP checksum errors of all the streams.

Group Optional

Syntax `PLAY:IP:STATistics:REPLication:ERROrs:CSUDPerrs?`

PLAY:IP:STATistics:REPLication:ERROrs:PKTDropped? (Query Only)

Returns the total packets dropped of all the streams.

Group Optional

Syntax `PLAY:IP:STATistics:REPLication:ERROrs:PKTDropped?`

PLAY:IP:STATistics:REPLication:ERROrs:SQNErrs? (Query Only)

Returns the total number of sequential errors of all the streams.

Group Optional

Syntax `PLAY:IP:STATistics:REPLication:ERROrs:SQNErrs?`

PLAY:IP:STATistics:REPLication:IP:BIRAte? (Query Only)

Returns the total IP bit rate of all the streams.

Group Optional

Syntax `PLAY:IP:STATistics:REPLication:IP:BIRAte?`

PLAY:IP:STATistics:REPLication:IP:BYTRansmited? (Query Only)

Returns the total bytes transmitted in all the streams.

Group Optional

Syntax `PLAY:IP:STATistics:REPLication:IP:BYTRansmited?`

PLAY:IP:STATistics:REPLication:IP:PKTCount? (Query Only)

Returns the total IP packet count of all the streams.

Group Optional

Syntax `PLAY:IP:STATistics:REPLication:IP:PKTCount?`

PLAY:IP:STATistics:REPLication:TS:BITRAte? (Query Only)

Returns the total TS bit rate of all the streams.

Group Optional

Syntax `PLAY:IP:STATistics:REPLication:TS:BITRAte?`

PLAY:IP:STATistics:REPLication:TS:PKTCount? (Query Only)

Returns the total count of TS packets of all the streams.

Group Optional

Syntax `PLAY:IP:STATistics:REPLication:TS:PKTCount?`

PLAY:IP:STATistics:TS:BITRAte? (Query Only)

Returns the TS bit rate value for the play.

Group Optional

Syntax `PLAY:IP:STATistics:TS:BITRAte?`

PLAY:IP:STATistics:TS:BITRAte:AVG? (Query Only)

Returns the average TS bit rate value for the play.

Group Optional

Syntax `PLAY:IP:STATistics:TS:BITRAte:AVG?`

PLAY:IP:STATistics:TS:BITRAte:AVGVariation? (Query Only)

Returns the average TS bit rate variation value from the set bit rate value.

Group Optional

Syntax `PLAY:IP:STATistics:TS:BITRAte:AVGVariation?`

PLAY:IP:STATistics:TS:BITRAte:MAX? (Query Only)

Returns the maximum TS bit rate value for the play.

Group Optional

Syntax `PLAY:IP:STATistics:TS:BITRAte:MAX?`

PLAY:IP:STATistics:TS:BITRAte:MAXVariation

Returns the maximum TS bit rate variation value from the set bit rate value.

Group Optional

Syntax `PLAY:IP:STATistics:TS:BITRAte:MAXVariation`

PLAY:IP:STATistics:TS:BITRAte:MIN? (Query Only)

Returns the minimum TS bit rate value for the play.

Group Optional

Syntax `PLAY:IP:STATistics:TS:BITRAte:MIN?`

PLAY:IP:STATistics:TS:BITRAte:MINVariation? (Query Only)

Returns the minimum TS bit rate variation value from the set bit rate value.

Group Optional

Syntax `PLAY:IP:STATistics:TS:BITRAte:MINVariation?`

PLAY:IP:STATistics:TS:BRVAriation? (Query Only)

Returns the TS bit rate variation value from the set bit rate value.

Group Optional

Syntax `PLAY:IP:STATistics:TS:BRVAriation?`

PLAY:IP:STATistics:TS:PKTCount? (Query Only)

Returns the TS packet count for the play.

Group Optional

Syntax
```
PLAY:IP:STATistics:TS:PKTCount?
```

PLAY:IP:STATistics:TS:PKTSize? (Query Only)

Returns the TS packet size for the play.

Group Optional

Syntax
```
PLAY:IP:STATistics:TS:PKTSize?
```

PLAY:IP:TTSSttngs:PRSRvts

Enables to preservation the file that stores the TTS settings or returns whether TTS settings option is enabled for the player.

Group Optional

Syntax
```
PLAY:IP:TTSSttngs:PRSRvts ON|OFF
PLAY:IP:TTSSttngs:PRSRvts?
```

Arguments You can use 1 or 0 instead of ON or OFF. The default values is OFF

PLAY:IP:TTSSttngs:TTSEnbled

Enables or returns the timestamped TS (TTS) settings for the playout when set to ON.

Group Optional

Syntax
```
PLAY:IP:TTSSttngs:TTSEnbled ON|OFF
PLAY:IP:TTSSttngs:TTSEnbled?
```

Arguments `ON` enables the timestamped settings You can use 1 or 0 instead of ON or OFF. The default is OFF.

PLAY:IP:TTSSttngs:TTSJitter:AMPLitude

Sets or returns the TTS jitter amplitude for the playout.

Group Optional

Syntax
```
PLAY:IP:TTSSttngs:TTSJitter:AMPLitude <numeric_value>
PLAY:IP:TTSSttngs:TTSJitter:AMPLitude?
```

Arguments `<numeric_value>` sets the amplitude for all the jitter patterns. The default value is 0.

PLAY:IP:TTSSttngs:TTSJitter:JTREnable

Enables the TTS jitter settings for the playout or returns whether the TTS jitter settings is enabled for the playout.

Group Optional

Syntax
```
PLAY:IP:TTSSttngs:TTSJitter:JTREnable ON|OFF
PLAY:IP:TTSSttngs:TTSJitter:JTREnable?
```

Arguments `ON` enables the TTS jitter settings. You can use 1 or 0 instead of ON or OFF. The default is OFF.

PLAY:IP:TTSSttngs:TTSJitter:PATTern

Sets or returns the the TTS jitter pattern for the playout.

Group Optional

Syntax
```
PLAY:IP:TTSSttngs:TTSJitter:PATTern
SINE|SQUARE|TRIANGLE|PULSE|SAW|RANDOM|OFFSET
PLAY:IP:TTSSttngs:TTSJitter:PATTern?
```

Arguments The various pattern options are SINE, SQUARE, TRIANGLE, PULSE, SAW, RANDOM, and OFFSET. The default option is SINE.

PLAY:IP:TTSSttngs:TTSJitter:PERIod

Sets or returns the TTS jitter period for the playout.

Group Optional

Syntax
```
PLAY:IP:TTSSttngs:TTSJitter:PERIod <numeric_value>
PLAY:IP:TTSSttngs:TTSJitter:PERIod?
```

Arguments <numeric_value> sets the period for random and offset jitter patterns. The default value is 0.

PLAY:IP:TTSSttngs:TTSJitter:PLSWidth

Sets or returns the TTS jitter pulse width for the playout.

Group Optional

Syntax
```
PLAY:IP:TTSSttngs:TTSJitter:PLSWidth <numeric_value>
PLAY:IP:TTSSttngs:TTSJitter:PLSWidth?
```

Arguments < Numeric_value> sets the width of only the pulse pattern. The default value is 0.

PLAY:IPAVailable? (Query Only)

Returns whether the IP interface is available.

Group Optional

Syntax
```
PLAY:IPAVailable?
```

PLAY:IPENable

Enables or returns the IP interface when set to ON.

Group Optional

Syntax
```
PLAY:IPENable ON|OFF
PLAY:IPENable?
```

Arguments You can use 1 or 0 instead of ON or OFF.

PLAY:LOAD:FILE

Loads the specified stream file or returns the name of the currently loaded file.

Group PLAY

Syntax
```
PLAY:LOAD:FILE <file_name>
PLAY:LOAD:FILE?
```

PLAY:LOOP

Sets whether the selected stream is output using looping method or returns the current output loop mode status.

Group PLAY

Syntax
```
PLAY:LOOP?
PLAY:LOOP ON|OFF
```

Arguments ON sets the selected stream for continuous output. The default value is ON.

PLAY:LOOP:ISDBT:FRAMe

Sets or returns whether to output an ISDB-T transport stream in OFDM frames when looped.

Group PLAY

Syntax
```
PLAY:LOOP:ISDBT:FRAMe ON|OFF
PLAY:LOOP:ISDBT:FRAMe?
```

Arguments When you set it to OFF, an ISDB-T transport stream is looped in packets. You can use 1 or 0 instead of ON or OFF. The default value is ON.

PLAY:OP07AS:PORT:THROughout

Selects or returns play loop throughout status.

Group Optional

Syntax
```
PLAY:OP07AS:PORT:THROughout ON|OFF
PLAY:OP07AS:PORT:THROughout?
```

Arguments The default Value is OFF.

PLAY:OP07AS:PORT:TYPE

Selects or returns the current signal to output from the OUTPUT connector.

Group Optional

Syntax
```
PLAY:OP07AS:PORT:TYPE ASI|S310M
PLAY:OP07AS:PORT:TYPE?
```

Arguments The choices are ASI and S310M (SMPTE310M). The default value is ASI.

PLAY:OPCArdenbl

Enables or returns the optional card when set to ON.

Group Optional

Syntax
```
PLAY:OPCArdenbl ON|OFF
PLAY:OPCArdenbl?
```

Arguments You can use 1 or 0 instead of ON or OFF.

PLAY:PACKet

Sets the packet size for the selected stream file or returns the current packet size setting for the selected stream file.

Group PLAY

Syntax
```
PLAY:PACKet 188|204|208|NONTs
PLAY:PACKet?
```

Arguments The choices are 188, 204, 208, and NONTs (Non TS). The default value is 188.

PLAY:PCR:INACCurracy

Sets or returns the PCR jitter insertion.

Group PLAY

Syntax
```
PLAY:PCR:INACCurracy
NONE|SINe|SQUare|TRIangle|PULSe|SAW|RANDom|OFFSet [,<PID>,
<amplitude> [<period> [,pulse_width>]]];
PLAY:PCR:INACCurracy?
```

Arguments Use the first argument to set the waveform type used to add jitter. When NONE is selected, the jitter insertion is disabled. Use the second to fifth arguments to set the PID of the PCRs, the amplitude of the waveform, the period of the waveform, and pulse width of the waveform. The pulse width is available only when the waveform is set to PULSe. The ranges of each argument are as follows:
PID: 0 to 8191
Amplitude: 0 to 135000000
Period: 5 to 3000
Pulse width: 1 to (period -1)

PLAY:PCR:INITial

Sets the initial value or returns the current initial value of the program_clock_reference_base and program_clock_reference_extension parameters.

Group PLAY

Syntax
```
PLAY:PCR:INITial <numeric_value>,<numeric_value>
PLAY:PCR:INITial?
```

Arguments You can set the program_clock_reference_base value from 0 to 8589934591 and set the program_clock_reference_extension value from 0 to 299. The default values for both are 0.

PLAY:PROGress? (Query Only)

Returns the current percentage of progress of the play.

Group PLAY

Syntax
```
PLAY:PROGress?
```

PLAY:S192F:PARTialts

Sets or returns whether to output a stream file consisting of a 192-byte packet as a partial transport stream.

Group PLAY

Syntax
```
PLAY:S192F:PARTialts ON|OFF
PLAY:S192F:PARTialts?
```

Arguments When you set it to OFF, the stream is output in Non TS format. You can use 1 or 0 instead of ON or OFF. The default value is ON.

PLAY:S310M

Selects or returns the SMPTE310M mode for output.

Group Optional

Syntax
```
PLAY:S310M M8VSB
PLAY:S310M?
```

Arguments The only choice is M8VSB.

PLAY:SOURce

Sets the source or returns the current source setting for stream output.

Group PLAY

Syntax
```
PLAY:SOURce RAM|DISK
PLAY:SOURce?
```

Arguments The choices are RAM (system RAM) and DISK (hard disk). The default value is DISK.

PLAY:SPIOutput

Sets whether the signal output from the SPI IN/OUT connector is enabled or not or returns the current status of the connector.

Group PLAY

Syntax
```
PLAY:SPIOutput ON|OFF
PLAY:SPIOutput?
```

Arguments You can use 1 or 0 instead of ON or OFF. The default value is ON.

PLAY:SSPOsition:INITial:ENABle

Sets the initial start position setting of the selected stream to be looped or returns the current state of the setting.

Group PLAY

Syntax
```
PLAY:SSPOsition:INITial:ENABle ON|OFF
PLAY:SSPOsition:INITial:ENABle?
```

Arguments You can use 1 or 0 instead of ON or OFF. The default value is OFF.

PLAY:SSPOsition:INITial[:POSition]

Sets the initial start position or returns the current sate of the selected stream to be looped by the number of packets (the number of super frames for an M-TMCC file, or the number of bytes for a Non-TS file).

Group PLAY

Syntax
```
PLAY:SSPOsition:INITial[:POSition] <numeric_value>
PLAY:SSPOsition:INITial[:POSition]?
```

Arguments The setting range depends on the `:PLAY:SSPOsition[:POSition]` command settings. The default value is 0.

PLAY:SSPOsition:INITial:TIME

Sets or returns the initial start position of the selected stream to be looped by time (hh:mm:ss).

Group PLAY

Syntax
```
PLAY:SSPOsition:INITial:TIME <string>
PLAY:SSPOsition:INITial:TIME?
```

Arguments The setting range depends on the PLAY:SSPOsition:TIME command settings. The default value is 00:00:00.

PLAY:SSPOsition[:POSition]

Sets or returns the loop start and stop positions of the selected stream to be looped by the number of packets (the number of super frames for M-TMCC file, or the number of bytes for a Non-TS file).

Group PLAY

Syntax
```
PLAY:SSPOsition[:POSition] <numeric_value>,<numeric_value>
PLAY:SSPOsition[:POSition]?
```

Arguments Specify the start position in the first argument and specify the stop position in the second argument. You can set the positions from 0 to (available maximum value of the selected stream file). The default values for both are 0.

PLAY:SSPOsition:TIME

Sets or returns the loop start and stop positions of the selected stream to be looped by time (hh:mm:ss).

Group PLAY

Syntax
```
PLAY:SSPOsition:TIME <string>,<string>
PLAY:SSPOsition:TIME?
```

Arguments Specify the start time in the first argument and specify the stop time in the second argument. You can set the time from 0 to (available maximum value of the selected stream file). The default values for both are 00:00:00.

PLAY:STANdard? (Query Only)

Returns the standard of the loaded stream file. The available responses are MPEG, ARIB, ATSC, DVB, NONTs, MTMCc, STMCc, or ISDBT. The MTMCc, STMCc, and ISDBT standards are checked only when the :SYSTem:STANdard command is set to ARIB.

Group PLAY

Syntax
```
PLAY:STANdard?
```

PLAY:STARt? (Query Only)

Starts outputing the selected stream. There are no arguments.

Group PLAY

Syntax
```
PLAY:STARt?
```

PLAY:STOP

Stops outputting the selected stream. There are no arguments.

Group PLAY

Syntax
```
PLAY:STOP
```

PLAY:SYNC

Sets or returns the current the format of the PSYNC signal output from the SPI IN/OUT connector.

Group PLAY

Syntax
```
PLAY:SYNC TSPAcket|SF|NONTs
PLAY:SYNC?
```

Arguments For TSPAcket, a single pulse signal is output at the start point of each packet. For SF, a single pulse is output at the start point of the SF appearing every 204x48x8 bytes. For NONTs, you can set the output period and data width of the PSYNC signal using the PLAY:SYNC:PSYNc:INTerval and `:PLAY:SYNC:PSYNc:WIDTh` commands. SF is available only when the PLAY:STANdard? query returns MTMCc. The default value is TSPAcket.

PLAY:SYNC:DVALid:WIDTh

Sets the initial status or returns the current status and data width of the DVALID signal when NONTs is selected in the PLAY:SYNC command.

Group PLAY

Syntax

```
PLAY:SYNC:DVALid:WIDTh NONE|<numeric_value>
PLAY:SYNC:DVALid:WIDTh?
```

Arguments When you select NONE, the DVALID signal is disabled. You can set the width from 16 bytes to 255 bytes. This value cannot be set more than the value set by the PLAY:SYNC:PSYNc:INTervalcommand. The default value is 188.

PLAY:SYNC:PSYNc:INTerval

Sets the initial status or returns the current status and output period of the PSYNC signal when NONTs is selected in the PLAY:SYNC command.

Group PLAY

Syntax

```
PLAY:SYNC:PSYNc:INTerval NONE|<numeric_value>
PLAY:SYNC:PSYNc:INTerval?
```

Arguments When you select NONE, the PSYNC signal is disabled. You can set the interval from 16 bytes to 255 bytes. This value needs to be set equal to or greater than the value in the PLAY:SYNC:DVALid:WIDTh command. The default value is 188.

PLAY:TIMEpacket:DEFine

Sets the initial values or returns the current values of the TDT, TOT, or STT when you select USER in the PLAY:TIMEpacket:MODE command.

Group PLAY

Syntax

```
PLAY:TIMEpacket:DEFine
<numeric_value>,<numeric_value>,<numeric_value>,
<numeric_value>,<numeric_value>, <numeric_value>
PLAY:TIMEpacket:DEFine?
```

Arguments The arguments are <year>,<month>,<date>,<hour>,<minute>, and <second>You can set the values from 1900,3,1,0,0,0 to 2038,4,22,23,59,59 for the TDT and TOT and from 1980,1,6,0,0,0 to 2116,2,12,6,28,15 for the STT. The default values are the current date and time.

PLAY:TIMEpacket:MODE

Selects the reference time or returns the current reference time used to set the initial value of the TDT, TOT, or STT when the PLAY:UPDAte command is set to ON.

Group PLAY

Syntax

```
PLAY:TIMEpacket:MODE ORIGinal|OS|USER
PLAY:TIMEpacket:MODE?
```

Arguments The choices are ORIGinal, SYSTem, and USER. For ORIGinal, the original (default) value defined in the selected stream is used. For OS, the clock/calendar of the operating system is used. For USER, you can set any value in the PLAY:TIMEpacket:DEFine command. The default value is ORIGinal.

PLAY:UPDAte

Sets whether to update parameters in a stream when looped. Returns the current update mode status.

Group PLAY

Syntax
```
PLAY:UPDAte ON|OFF
PLAY:UPDAte?
```

Arguments You can select the parameters which are updated using the `:PLAY:UPDAte:ITEM` commands. You can use 1 or 0 instead of ON or OFF. The default value is ON.

PLAY:UPDAte:ITEM:CC

Sets or returns whether to update continuity_counter values when thePLAY:UPDAte command is set to ON.

Group PLAY

Syntax
```
PLAY:UPDAte:ITEM:CC ON|OFF
PLAY:UPDAte:ITEM:CC?
```

Arguments You can use 1 or 0 instead of ON or OFF. The default value is ON.

PLAY:UPDAte:ITEM:NPT

Sets or returns whether to update NPT values when the PLAY:UPDAte command is set to ON.

Group PLAY

Syntax
```
PLAY:UPDAte:ITEM:NPT ON|OFF
PLAY:UPDAte:ITEM:NPT?
```

Arguments You can use 1 or 0 instead of ON or OFF. This command is only available when the PLAY:UPDAte:ITEM:PCR command is set to ON and the PLAY:UPDAte:ITEM:PCR:METHod command is set to SOFTware. The default value is OFF.

PLAY:UPDAte:ITEM:PCR

Sets or returns whether to update PCR/PTS/DTS values when the PLAY:UPDAte command is set to ON.

Group PLAY

Syntax
```
PLAY:UPDAte:ITEM:PCR ON|OFF
PLAY:UPDAte:ITEM:PCR?
```

Arguments You can use 1 or 0 instead of ON or OFF. The default value is ON.

PLAY:UPDAte:ITEM:PCR:METHod

Sets or returns the method to update the PCR/PTS/DTS values.

Group PLAY

Syntax
```
PLAY:UPDAte:ITEM:PCR:METHod HARDware|SOFTware
PLAY:UPDAte:ITEM:PCR:METHod?
```

Arguments The choices are HARDware and SOFTware. The default value is HARDware.

PLAY:UPDAte:ITEM:REEDsolomon

Sets or returns whether to update Reed-Solomon symbols in an ISDB-T transport stream when the PLAY:UPDAte command is set to ON.

Group PLAY

Syntax
```
PLAY:UPDAte:ITEM:REEDsolomon ON|OFF
PLAY:UPDAte:ITEM:REEDsolomon?
```

Arguments You can use 1 or 0 instead of ON or OFF. The default value is ON.

PLAY:UPDAte:ITEM:TIMEpacket

Returns or returns whether to update TDT/TOT/STT values when the PLAY:UPDAte command is set to ON.

Group PLAY

Syntax
```
PLAY:UPDAte:ITEM:TIMEpacket ON|OFF
PLAY:UPDAte:ITEM:TIMEpacket?
```

Arguments You can use 1 or 0 instead of ON or OFF. The default value is ON.

RECord:ACQuire:STARt (No Query Form)

Starts input stream acquisition. When two or more record commands are sent to the instrument successively, the instrument stops stream acquisition and then starts stream acquisition for each command. Therefore, when many commands are sent to the instrument, it takes a long time to complete all settings. If you send the RECord:ACQuire:STOP command before sending record commands and send the RECord:ACQuire:STARt command after sending record commands, you can shorten the setting time.

Group RECORD

Syntax
```
RECord:ACQuire:STARt
```

RECord:ACQuire:STOP (No Query Form)

Stops input stream acquisition. Refer to the RECord:ACQuire:STARt command description on how to use this command.

Group RECORD

Syntax
```
RECord:ACQuire:STOP
```

RECord:CLOCk:RATE? (Query Only)

Returns the clock rate of the input stream in MHz.

Group RECORD

Syntax
```
RECord:CLOCk:RATE?
```

RECord:EXTernal

Sets or returns whether to start input stream record using a trigger signal applied to the TRIG IN connector.

Group RECORD

Syntax
```
RECord:EXTernal RISE|FALL|OFF
RECord:EXTernal?
```

Arguments The choices are RISE, FALL, and OFF. When you set it to RISE, the input stream record is started at the rising edge of the applied trigger signal. When you set it to FALL, the input stream record is started at the falling edge of the applied trigger signal. The default value is OFF.

RECORD:OP07AS:INPUTPORT

Selects or returns the recording input port.

Group Optional

Syntax
```
RECORD:OP07AS:INPUTPORT BNC|SPI
RECORD:OP07AS:INPUTPORT?
```

Arguments The default value is BNC.

RECORD:OP07AS:PORT:TYPE

Selects or returns the input signal expected from the INPUT connector.

Group Optional

Syntax
```
RECORD:OP07AS:PORT:TYPE ASI|S310M
RECORD:OP07AS:PORT:TYPE?
```

Arguments The choices are ASI and S310M (SMPTE310M). The default value is ASI.

RECord:PACKet? (Query Only)

Returns the packet size of the input stream.

Group RECORD

Syntax
```
RECord:PACKet?
```

Arguments The available responses are 188, 204, 208, or NONTs. When the `:RECord:I1394I:PARTialts` command is set to ON, the response is 192.

RECord:PROGress? (Query Only)

Returns the current percentage of progress during recording.

Group RECORD

Syntax
```
RECord:PROGress?
```

RECORD:S310M

Selects or returns the SMPTE310M mode for input.

Group Optional

Syntax
```
RECORD:S310M M8VSB
RECORD:S310M?
```

Arguments The only choice is M8VSB.

RECord:SOURce

Sets the interface or returns the current interface used to capture a stream data.

Group RECORD

Syntax
```
RECord:SOURce
SPI|ASI|UNIVersal|BNCserial|DHEI|I1394I|S310M|STANdard|OPTion
RECord:SOURce?
```

Arguments The choices are SPI, ASI, UNIVersal, BNCserial, DHEI, I1394I (IEEE1394), S310M (SMPTE310M), STANdard (same as SPI), and OPTion (optional interface currently installed). The default value is SPI.

RECord:STANdard? (Query Only)

Returns the current standard used to display the input stream.

Group RECORD

Syntax
```
RECord:STANdard?
```

Arguments The available responses are MPEG, ARIB, ATSC, DVB, NONTs, MTMCc, STMCc, and ISDBT. The MTMCc, STMCc, and ISDBT standard are checked only when the SYSTem:STANdard command is set to ARIB. When the `RECord:I1394I PARTialts` command is set to ON, the response is P_TS.

RECord:STARt (No Query Form)

Starts recording the input stream.

Group RECORD

Syntax
```
RECord:STARt
```

RECord:STOP (No Query Form)

Stops recording the input stream.

Group RECORD

Syntax
```
RECord:STOP
```

RECord:STORe:FILE

Returns or specifies the current file name used when the input stream is saved.

Group RECORD

Syntax
```
RECord:STORe:FILE?
RECord:STORe:FILE <file_name>
```

RECord:STORe:MODE

Sets or returns the current save mode setting when the input stream is saved.

Group RECORD

Syntax

```
RECord:STORe:MODE NEWfile|OVERwrite
RECord:STORe:MODE?
```

Arguments The choices are `NEWfile` and `OVERwrite`. For NEWfile, a new file is created whenever you save a stream file. The file name is the following: The name specified by the RECord:STORe:FILE command + # (1, 2, 3, 4...). For OVERwrite, the existing file is overwritten by the new file with the name specified in the RECord:STORe:FILE command. The default value is OVERwrite.

RECord:TARGet:IGNOredvalid

Sets or returns whether the instrument ignores the DVALID signal from the selected interface when a stream data is acquired.

Group RECORD

Syntax

```
RECord:TARGet:IGNOredvalid ON|OFF
RECord:TARGet:IGNOredvalid?
```

Arguments When you set it to ON, the instrument ignores the DVALID signal, and the stream data is acquired according to the internal clock signal. You can use 1 or 0 instead of ON or OFF. The default value is OFF.

RECord:TARGet:SIZE

Sets the file size or returns the current file setting to record the input stream in MB.

Group RECORD

Syntax
```
RECord:TARGet:SIZE <numeric_value>
RECord:TARGet:SIZE?
```

Arguments You can set the file size from 1 to free space of the system RAM or hard disk. This setting changes the RECord:TARGet:TIME command setting. The default value is 50 MB.

RECord:TARGet:TIME

Sets or returns the current recording time (hh:mm:ss) to record the input stream.

Group RECORD

Syntax
```
RECord:TARGet:TIME <string>
RECord:TARGet:TIME?
```

Arguments The minimum value of the setting range depends on the clock rate of the input stream. The maximum value of the setting range depends on the free space of the RAM or hard disk, or the clock rate of the input stream. This setting changes the RECord:TARGet:SIZE command setting. The default value is 00:00:00.

RECord:TARGet:TRIGger:CONTinuous

Sets or returns the continuous recording state.

Group RECORD

Syntax
```
RECord:TARGet:TRIGger:CONTinuous ON|OFF
RECord:TARGet:TRIGger:CONTinuous?
```

Arguments When you set it to ON, you can record multiple stream files continuously on the hard disk. You can use 1 or 0 instead of ON or OFF. The default value is OFF.

RECord:TARGet:TRIGger:CONTinuous:LIMit

Sets or returns the number of files to stop continuous recording.

Group RECORD

Syntax
```
RECord:TARGet:TRIGger:CONTinuous:LIMit <numeric_value>
RECord:TARGet:TRIGger:CONTinuous:LIMit?
```

Arguments You can set the value from 2 to 32767. The default value is 32767.

RECord:TARGet:TRIGger:POSition

Sets or returns the trigger position used to record the input stream.

Group RECORD

Syntax
```
RECord:TARGet:TRIGger:POSition <numeric_value>
RECord:TARGet:TRIGger:POSition?
```

Arguments You can set the trigger position from 0% to 100%. The default value is 0%.

RECord:TARGet:TRIGger:UNLImit

Sets or returns whether to record the input stream to the full free space in the hard disk or RAM.

Group RECORD

Syntax
```
RECord:TARGet:TRIGger:UNLImit ON|OFF
RECord:TARGet:TRIGger:UNLImit?
```

Arguments You can use 1 or 0 instead of ON or OFF. The default value is OFF.

RECord:TARGet:TYPE

Sets or returns the record target used to record the input stream.

Group RECORD

Syntax
```
RECord:TARGet:TYPE RAM|DISK
RECord:TARGet:TYPE?
```

Arguments The choices are RAM and DISK (hard disk). The default value is DISK.

*RST

Resets the instrument to the factory default state. This command has the same effect when the SYSTem:PRESet and `*CLS` are executed successively.

Group Common

Syntax
```
*RST
```

*SRE

Sets or returns the bits of the SRER (Service Request Enable Register).

Group Common

Syntax
```
*SRE?
*SRE
```

*STB? (Query Only)

Returns the value of the SBR (Status Byte Register). Bit 6 of the SBR is read as a MSS (Master Status Summary) bit.

Group Common

Syntax
```
*STB?
```

SYSTem:COMMunicate:SOCKet:PORT

Sets or returns the port number needed to remotely control the instrument over an Ethernet network.

Group SYSTEM

Syntax
```
SYSTem:COMMunicate:SOCKet:PORT <numeric_value>
SYSTem:COMMunicate:SOCKet:PORT?
```

Arguments You can set the value from 1024 to 65535. When you change the value, the current network connection is disconnected.

SYSTem:COMMunicate:SOCKet:RXTERM

Sets or returns the terminator used when the instrument receives commands from a controller.

Group SYSTEM

Syntax
```
SYSTem:COMMunicate:SOCKet:RXTERM CR|LF
SYSTem:COMMunicate:SOCKet:RXTERM?
```

Arguments The choices are CR (carriage return) and LF (linefeed). The default value is LF.

SYSTem:COMMunicate:SOCKet:TXTERM

Sets or returns the terminator used when the instrument sends information to a controller.

Group SYSTEM

Syntax
```
SYSTem:COMMunicate:SOCKet:TXTERM CR|LF|CRLF|LFCR
SYSTem:COMMunicate:SOCKet:TXTERM?
```

Arguments The choices are CR (carriage return) , LF (linefeed), CRLF, and LFCR. The default value is CRLF.

SYSTem:ERRor[:NEXT]? (Query Only)

Returns an error message from the error/event queue.

Group SYSTEM

Syntax
```
SYSTem:ERRor[:NEXT]?
```

Arguments The response format is as follows:<error_code>."<error_message>"

SYSTem:KLOCk[:STATe]

Locks or unlocks the front-panel buttons and mouse operation or returns the current status of the lock function.

Group SYSTEM

Syntax
```
SYSTem:KLOCk[:STATe] ON|OFF
SYSTem:KLOCk[:STATe]?
```

Arguments You can use 1 or 0 instead of ON or OFF. The default value is OFF.

SYSTem:MODE

Sets or returns the operation mode of the instrument.

Group SYSTEM

Syntax
```
SYSTem:MODE PLAY|RECord
SYSTem:MODE?
```

Arguments The choices are PLAY and RECord. The default value is PLAY.

SYSTem:OPTions? (Query Only)

Returns the option number, hardware version, and code version of the installed interface card.

Group SYSTEM

Syntax
```
SYSTem:OPTions?
```

SYSTem:PRESet (No Query Form)

Resets the instrument to the factory default settings.

Group SYSTEM

Syntax
```
SYSTem:PRESet
```

SYSTem:STANdard

Sets or returns the standard used to display the input stream.

Group SYSTEM

Syntax
```
SYSTem:STANdard MPEG|ARIB|ATSC|DVB
SYSTem:STANdard?
```

Arguments The choices are MPEG, ARIB, ATSC, and DVB. The default value is ARIB.

SYSTem:STATus? (Query Only)

Returns the current operation status of the instrument. The available responses are:
0: the instrument stops any operations
1: the instrument is outputing a data
2: the instrument is acquiring a data
3: the instrument is recording a data

Group SYSTEM

Syntax `SYSTem:STATus?`

*TRG

Generates a trigger event.

Group Common

Syntax `*TRG`

*TST? (Query Only)

Performs the self test and returns its result. The MTS400 Series System always returns 1.

Group Common

Syntax `*TST?`

*WAI (No Query Form)

Wait-to-continue command. This command is not necessary since the MTS400 Series System handles commands sequentially.

Group Common

Syntax `*WAI`

Error Messages and Codes

Error Messages and Codes

This section lists the error messages and codes.

Error messages and codes can be obtained by using the query SYSTem:ERRor[:NEXT]?. These are returned in the following format:

<error_code>,"<error_message>"

Command Errors

Command errors are returned when there is a syntax error in the command.

Table 3-1: Command errors

Error code	Error message
-100	command error
-101	invalid character
-102	syntax error
-103	invalid separator
-104	data type error
-105	GET not allowed
-108	parameter not allowed
-109	missing parameter
-110	command header error
-111	header separator error
-112	program mnemonic too long
-113	undefined header
-114	header suffix out of range
-120	numeric data error
-121	invalid character in numeric
-123	exponent too large
-124	too many digits
-128	numeric data not allowed
-130	suffix error
-131	invalid suffix
-134	suffix too long
-138	suffix not allowed
-140	character data error
-141	invalid character data
-144	character data too long
-148	character data not allowed

Table 3-1: Command errors (cont.)

Error code	Error message
-150	string data error
-151	invalid string data
-158	string data not allowed
-160	block data error
-161	invalid block data
-168	block data not allowed
-170	command expression error
-171	invalid expression
-178	expression data not allowed
-180	macro error
-181	invalid outside macro definition
-183	invalid inside macro definition
-184	macro parameter error

Device Specific Errors

These error codes are returned when an internal instrument error is detected. This type of error may indicate a hardware problem.

Table 3-2: Device specific errors

Error code	Error message
-300	device specific error
-310	system error
-311	memory error
-312	PUD memory lost
-313	calibration memory lost
-314	save/recall memory lost
-315	configuration memory lost
-330	self test failed
-350	queue overflow

Execution Errors

These error codes are returned when an error is detected while a command is being executed.

Table 3-3: Execution errors

Error code	Error message
-200	execution error
-201	invalid while in local
-202	settings lost due to RTL
-210	trigger error
-211	trigger ignored
-212	arm ignored
-213	init ignored
-214	trigger deadlock
-215	arm deadlock
-220	parameter error
-221	settings conflict
-222	data out of range
-223	too much data
-224	illegal parameter value
-225	out of memory
-226	lists not same length
-230	data corrupt or stale
-231	data questionable
-240	hardware error
-241	hardware missing
-250	mass storage error
-251	missing mass storage
-252	missing media
-253	corrupt media
-254	media full
-255	directory full
-256	FileName not found
-257	FileName error
-258	media protected
-260	execution expression error
-261	math error in expression
-270	execution macro error
-271	macro syntax error

Table 3-3: Execution errors (cont.)

Error code	Error message
-272	macro execution error
-273	illegal macro label
-274	execution macro parameter error
-275	macro definition too long
-276	macro recursion error
-277	macro redefinition not allowed
-278	macro header not found
-280	program error
-281	cannot create program
-282	illegal program name
-283	illegal variable name
-284	program currently running
-285	program syntax error
-286	program runtime error

Query Errors

These error codes are returned in response to an unanswered query.

Table 3-4: Query errors

Error code	Error message
-400	query error
-410	query interrupted
-420	query unterminated
-430	query deadlocked
-440	query unterminated after indefinite period

Appendices

Appendix A: Default Settings

The following lists the default settings of the remote commands.

These default settings can be set by using the *RST command, except for the `:SYSTem:COMMunicate:SOCKet` command settings.

Table A-1: Default settings

Command	Default settings
DISPLAY commands	
DISPlay:VIEW:FORMat	HEXadecimal
PLAY commands	
PLAY:AUTOplay	OFF (0)
PLAY:CLOCk:DEFault:RATE	5.6610E+001
PLAY:CLOCk:DEFault:RATE:RATIo	629,300
PLAY:CLOCk:ESRAtefixed	OFF (0)
PLAY:CLOCk:ISDBT:CONVert	ON (1)
PLAY:CLOCk:RATE	5.6610E+001
PLAY:CLOCk:RATE:RATIo	0, 0
PLAY:CLOCk:SOURce	INTernal
PLAY:EXTernal	OFF (0)
PLAY:EXTTrigger:BNC	INPUt
PLAY:EXTTrigger:OUTPut:DELAy	0
PLAY:EXTTrigger:OUTPut:SELEct	C27M
PLAY:LOOP	ON (1)
PLAY:LOOP:ISDBT:FRAMe	ON (1)
PLAY:PACKet	188
PLAY:PCR:INACcuracy	NONE
PLAY:PCR:INITial	0, 0
PLAY:S192F:PARTialts	ON (1)
PLAY:SOURce	DISK
PLAY:SPIOutput	ON (1)
PLAY:SSPOsition:INITial:ENABle	ON (1)
PLAY:SSPOsition:INITial[:POSition]	0
PLAY:SSPOsition:INITial:TIME	"00:00:00"
PLAY:SSPOsition[:POSition]	0, 0
PLAY:SSPOsition:TIME	"00:00:00","00:00:00"
PLAY:SYNC	TSPAcket
PLAY:SYNC:DVALid:WIDTh	NONE
PLAY:SYNC:PSYNc:INTerval	NONE

Table A-1: Default settings (cont.)

Command	Default settings
PLAY:TIMEpacket:DEFine	Current data and time
PLAY:TIMEpacket:MODE	ORIGinal
PLAY:UPDAte	ON (1)
PLAY:ITEM:CC	ON (1)
PLAY:ITEM:NPT	OFF (0)
PLAY:ITEM:PCR	ON (1)
PLAY:ITEM:PCR:METHod	HARDware
PLAY:ITEM:REEDsolomon	ON (1)
PLAY:ITEM:TIMEpacket	ON (1)
RECORD commands	
RECord:EXTernal	OFF (0)
RECord:SOURce	SPI
RECord:STORe:MODE	OVERwrite
RECord:TARGet:IGNOredvalid	OFF (0)
RECord:TARGet:SIZE	50 [MB]
RECord:TARGet:TIME	"00:00:00"
RECord:TARGet:TRIGger:CONTinuous	OFF (0)
RECord:TARGet:TRIGger:CONTinuous:LIMit	32767
RECord:TARGet:TRIGger:POSition	0 [%]
RECord:TARGet:TYPE	DISK
RECord:TARGet:UNLImit	OFF (0)
SYSTEM commands	
SYSTem:COMMunicate:SOCKet:PORT	49152
SYSTem:COMMunicate:SOCKet:RXTERM	LF
SYSTem:COMMunicate:SOCKet:TXTERM	CRLF
SYSTem:KLOCk[:STATe]	OFF (0)
SYSTem:MODE	PLAY
SYSTem:STANdard	ARIB
Optional commands	
Option 07 SMPTE310M/ASI Interface	
PLAY:OP07AS:PORT:TYPE	ASI
PLAY:S310M	M8VSB
PLAY:ASI:FORMAT	PACKET
PLAY:OP07AS:PORT: THROughout	OFF
RECORD:OP07AS:INPUTPORT	BNC
RECORD:OP07AS:PORT:TYPE	ASI
RECORD:S310M	M8VSB

Table A-1: Default settings (cont.)

Command	Default settings
IP Interface: General Settings	
PLAY:IPENable	OFF
PLAY:OPCArdenbl	ON
PLAY:IP:PARAmeters:DEFAult	No parameters
PLAY:IP:PARAmeters: DVINdex	0
PLAY:IP:PARAmeters:TRANsmode	MULTICAST
PLAY:IP:PARAmeters:PACKetszmode	TSPKTZMODE
PLAY:IP:PARAmeters:IPPKtsize	1370
PLAY:IP:PARAmeters:TSPKtcount	7
PLAY:IP:PARAmeters:TSFRagment	OFF (0)
PLAY:IP:PARAmeters:IPFRagment	OFF (0)
PLAY:IP:PARAmeters:BITRate	28.107902 Mbps
IP Interface: Protocol Settings	
PLAY:IP:PARAmeters:PRTOcol:SETTings:MODE	RTP
PLAY:IP:PARAmeters:PRTOcol:SETTings:SRCIpadd	Autodetected from the active Network Interface Card (NIC interface)
PLAY:IP:PARAmeters:PRTOcol:SETTings:DSTIpadd	239.1.1.1
PLAY:IP:PARAmeters:PRTOcol:SETTings:SRCPort	16384
PLAY:IP:PARAmeters:PRTOcol:SETTings:DSTPort	16384
PLAY:IP:PARAmeters:PRTOcol:SETTings:VLAN	OFF
IP Interface: Protocol Settings: Advanced Screen	
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:ETHErnet:DESTmac	01:00:5E:01:01:01
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:ETHErnet:SRCEmac	Autodetected from the active Network Interface Card (NIC interface)
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:ETHErnet:PROTocol	2048
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:ETHErnet:VLAN:TPID	0X8100
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:ETHErnet:VLAN:PRIOrity	5
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:ETHErnet:VLAN:CFI	OFF (0)
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:ETHErnet:VLAN:VID	1
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:IP:TOS	0
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:IP:PROTocol	17
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:IP:SRCIpadd	Autodetected from the active Network Interface Card (NIC interface)
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:IP:DSTIpadd	239.1.1.1
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:IP:TTL	5
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:UDP:SRCPort	16384
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:UDP:DSTPort	16384

Table A-1: Default settings (cont.)

Command	Default settings
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:RTP:SQNCnumber	Randomly generated
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:RTP:SSRC	Randomly generated
PLAY:IP:PARAmeters:PRTOcol:CUSTomize: HEADers:RTP:PYLOadtype	33
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:VERSion	6
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:TRFCcls	0
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:FLOWlbl	0
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:PYLDlen	1336
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:NXTHdr	17
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:HOPLimit	12
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:SRCIpadd	Automatically detected from the active Network Interface Card (NIC interface)
PLAY:IP:PARAmeters:PRTOcol:CUSTomize:HEADers:IPV6:DSTIpadd ff0e	1
IP Interface: Protocol Settings: Stream Replication Settings	
PLAY:IP:PARAmeters:REPLication:COUNt	0
PLAY:IP:PARAmeters:REPLication:INCRement: ETHErnet:SRCMac	00:00:00:00:00:00
PLAY:IP:PARAmeters:REPLication:INCRement: ETHErnet:DSTMac	00:00:00:00:00:00
PLAY:IP:PARAmeters:REPLication:INCRement: ETHErnet:EPROtocol	0
PLAY:IP:PARAmeters:REPLication:INCRement: ETHErnet:VLANid	0
PLAY:IP:PARAmeters:REPLication:INCRement:IP:TOS	0
PLAY:IP:PARAmeters:REPLication:INCRement:IP:TTL	0
PLAY:IP:PARAmeters:REPLication: INCRement:IP:SRCIpadd	0.0.0.0
PLAY:IP:PARAmeters:REPLication: INCRement:IP:DSTIpadd	0.0.0.0
PLAY:IP:PARAmeters:REPLication: INCRement:IP:IPROtocol	0
PLAY:IP:PARAmeters:REPLication: INCRement:UDP:SRCPort	0
PLAY:IP:PARAmeters:REPLication: INCRement:UDP:DSTPort	0
PLAY:IP:PARAmeters:REPLication: INCRement:RTP:PAYLoad	0
PLAY:IP:PARAmeters:REPLication: INCRement:RTP:SSRC	0
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:TRFCcls	0
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:FLOWlbl	0
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:NXTHdr	0
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:HOPLimit	0
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:SRCIpadd	0:0:0:0:0:0:0:0
PLAY:IP:PARAmeters:REPLication:INCRement:IPV6:DSTIpadd	0:0:0:0:0:0:0:0
IP: Error Insertion	
PLAY:IP:ERRIns:ENBLed	OFF (0)
PLAY:IP:ERRIns:PARAmeters:PLENbled	OFF (0)

Table A-1: Default settings (cont.)

Command	Default settings
PLAY:IP:ERRIns:PARAmeters:PLVAlue	1
PLAY:IP:ERRIns:PARAmeters:PLRAnge	1000
PLAY:IP:ERRIns:PARAmeters:SQEEnbled	OFF (0)
PLAY:IP:ERRIns:PARAmeters:SQEValue	1
PLAY:IP:ERRIns:PARAmeters:SQERange	1000
PLAY:IP:ERRIns:PARAmeters:SQEDistance	1
PLAY:IP:ERRIns:PARAmeters:CSEEnbled	OFF (0)
PLAY:IP:ERRIns:PARAmeters:CSEType	IP
PLAY:IP:ERRIns:PARAmeters:CSEValue	1
PLAY:IP:ERRIns:PARAmeters:CSERange	1000
PLAY:IP:ERRIns:PARAmeters:RANDomizerr	ON (1)
IP: Error Generation	
PLAY:IP:ERRGen:GPKTlos	No parameters
PLAY:IP:ERRGen:GSQNerr	No parameters
PLAY:IP:ERRGen:GCHIperr	No parameters
PLAY:IP:ERRGen:GCHUdperr	No parameters
IP: Parametric Settings	
PLAY:IP:OTHSttngs:PROCpriority	ABOVE_NORMAL
PLAY:IP:OTHSttngs:THRPriority	REAL_TIME
PLAY:IP:PRMEtric:BSTEnbled	OFF (0)
PLAY:IP:PRMEtric:BSTType	BURST PERIOD
PLAY:IP:PRMEtric:BPERiod	2 ms
PLAY:IP:PRMEtric:BSIZe	10
PLAY:IP:PRMEtric:JITEnbled	OFF (0)
PLAY:IP:PRMEtric:LOWJitmd	OFF (0)
PLAY:IP:PRMEtric:JITType	FIXED
PLAY:IP:PRMEtric:JITPeriod	1.000000 µs

Appendix B: Reserved Words

*CLS
*ESE
*ESR
*IDN
*LRN
*OPC
*OPT
*RST
*SRE
*STB
*TRG
*TST
*WAI
188
204
208
ABOVE_NORMAL
ACQuire
AMPLitude
ARIB
ASI
ATSC
AUTOplay
AVG
AVGVariation
BELOW_NORMAL
BIRAte
BITRAte
BNC
BNCserial
BPERiod
BROADCAST
BRVAriation
BSIZE
BSTEnbled
BSTType
BURST
BURST_PERIOD
BURST_SIZE
BYTE
BYTRansmited
CATalog
[lt;directory_path>]
CC
CDIRectory
CDIRectory[
CFI
CLOCk
COMMunicate
CONTinuous
CONVert
COUNt
CR
CRLF
CSEEnbled
CSERange
CSEType
CSEValue
CSIPerrs
CSUDPerrs
CSUDperrs
CUSTomize
DATA]
DECimal
DEFAult
DEFine
DELAy
DESTmac
DHEI
DISK
DISPlay
DST6ipadd
DSTIpadd
DSTMac
DSTPort
DVALid
DVB
DVCName
DVINdex
ENABle
ENBLed
EPROtocol
ERRGen
ERRIns
ERROrs
ERRor[
ESRAtefixed
ESRAtefixed ON
ETHErnet
EXTTrigger
EXTernal
FALL
FILE
FILE lt
FIXED
FLOWlbl
FORMAT
FORMat
HEXadecimal
FRAMe
GAUSSIAN
GCHIperr
GCHUdperr
GPKTlos
GSQNerr
HARDware
HEADerlngth
HEADers
HIGHEST
HOPLimit
I1394I
IDLE
IGNOredvalid
INACCurracy
INCRement
INITial
INITial[
INPUTPORT
INTerval
IP
IPAVailable
IPENable
IPFRagment
IPLAyrver
IPPKSZMD
IPPKtsize
IPROtocol
IPV6
IPVFOUR
IPVSIX
IPaddressofthe
destination
IPaddressofthe
instrument
ISDBT
ITEM
JITEnbled
JITPeriod
JITType
JITter
JTREnable
KLOCk[
LAPLACE
LAY
LENgth
LF
LFCR
LIMit
LOAD
LOOP
LOWJitmd
M8VSB
MAX
MAXVariation
MDIRectory lt;
directory_path>
METHod
MIN
MINVariation
MMEMory
MODE
MPEG
MULTICAST
NEWfile
NEXT]
NONE
NONTs
NORMAL
NPT
NXTHdr
OCTal
OFF
OFFSET
OFFSetPID
amplitude
periodpulse_width
OFFYoucanuse
1or0insteadofON
orOFF
Thedefaultvalue
isON
ON
OP07AS
OPCArdenbl
OPTion
OPTions
ORIGinal
OS
OTHSttngs
OUTPut
OVERwrite
PACKET
PACKet
PACKetszmode
PARAmeters
PARTialts
PATTern
PAYLoad
PCR
PERIod

PKTCount
PKTDropped
PKTSize
PLAY
PLENbled
PLRAnge
PLSWidth
PLVAlue
PORT
POSition
PRESet
PRIOrity
PRMEtric
PROCpriority
NORMAL
PROGRESS
PROTocol
PRSRvts
PSYNc
PULSE
PYLDlen
PYLOadtype
RAM
RANDOM
RANDomizerr
RATE
RATIo
REAL_TIME
RECORD
RECord
REEDsolomon
REPLication
RISE
RTP
RXTERM
S192F
S310M
SAW
SELEct
SETTings
SF
SINE
SINe
SIZE
SOCKet
SOFTware
SOURce
SPI
SPIOutput
SQEDistance
SQEEnbled
SQERange
SQEValue
SQNCnumber
SQNErrs
SQUARE
SRC6ipadd
SRCEmac
SRCIpadd
SRCMac
SRCPort
SSPOsition
SSRC
STANdard
STARt
STATe
STATe
lt;preset_name>
STATistics
STATus
STOP
STORe
SYNC
SYSTem
TARGet
THROughout
THRPriority
TIME
TIMEpacket
TOS
TPID
TRANsmode
TRFCcls
TRIANGLE
TRIGger
TRIangle
TS
TSFRagment
TSPAcket
TSPKCTMD
TSPKtcount
TTL
TTSEnbled
TTSJitter
TTSSttngs
TXTERM
TYPE
UDP
UNICAST
UNIVersal
UNLImit
UPDAte
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VLAN
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VLNid
WIDTh
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