

<Length>	Number of waveform points to be retrieved. Range: 1 to n. Limit: n + m <= record length
Return values:	
<Data>	List of values according to the format and content settings.
Usage:	Query only Asynchronous command

17.11 Data management

Some of the commands in the following section are asynchronous. An overlapping or asynchronous command does not automatically finish executing before the next command starts executing. If overlapping commands must be executed in a defined order, e.g. to avoid wrong measurement results, they must be serviced sequentially.

To prevent an overlapping execution of commands, one of the commands *OPC, *OPC? or *WAI can be used after the command or a command set.

For more information, see:

- www.rohde-schwarz.com/rc-via-scpi, section "Command sequence and synchronization"

17.11.1 Instrument settings

The Mass MEMory subsystem provides commands to access the storage media and to save and reload instrument settings.

File and directory names

The <file_name> and <directory_name> parameters are strings. Some commands use a fixed directory; for others the <file_name> can contain the complete path including the drive name and all subdirectories. If no complete path is specified, the file location is relative to the current directory, queried with `MMEMory:CDIRectory?`. The filename itself may contain the period as a separator for extensions.

File and directory names can be chosen according to Windows™ conventions. All letters and numbers are allowed, as well as the special characters "_", "^", "\$", "~", "!", "#", "%", "&", "-", "{", "}", "(", ")", "@", and ``". Reserved filenames are CON, AUX, COM1, ..., COM4, LPT1, ..., LPT3, NUL and PRN.

The use of wildcards ? and * is not allowed.

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MMEMemory:DRIvEs?

Returns the path list of available drives.

Return values:

<Drive>	List of strings, for example: Instrument only: "/home/storage/userData" Instrument with connected USB flash drive: "/home/storage/userData", "/run/media/usb/<MyDriveName>/MYDATA". . MYDATA is the partition name, which is also shown in the file explorer. Instrument with connected USB flash drive: "/home/storage/userData", "/run/media/usb/<MyDriveName>/8AF8-3EBA". . 8AF8-3EBA is an example ID. ID is used if the partition does not have a name, or the name cannot be read.
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Usage:	Query only
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MMEMemory:DCATalog? [<PathName>]

Returns the subdirectories of the current or of a specified directory.

Query parameters:

<PathName>	String parameter to specify the directory. If the directory is omitted, the command queries the contents of the current directory, to be set and queried with MMEMemory:CDIRectory .
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Return values:

<FileEntry>	Names of the subdirectories separated by colons. The first two strings are related to the parent directory.
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Example:	MMEM: DCAT?
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Usage:	Query only
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MMEMemory:DCATalog:LENGth? [<PathName>]

Returns the number of subdirectories of the current or of a specified directory. The number includes the parent directory strings "." and ".." and corresponds to the number of strings returned by the [MMEMemory:DCATalog?](#) command.

Query parameters:

<PathName> String parameter to specify the directory. If the directory is omitted, the command queries the contents of the current directory, to be set and queried with [MMEMemory:CDIRectory](#).

Return values:

<FileEntryCount> Number of parent directories and subdirectories.

Example: MMEM:DCAT:LENG?

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Usage: Query only

MMEMemory:CDIRectory [<DirectoryName>]

Changes the default directory for file access.

Parameters:

<DirectoryName> String parameter to specify the directory.
*RST: "\\"

Example: MMEM:CDIR '/home/storage/userData/Waveforms'

Usage: SCPI confirmed

MMEMemory:MDIRectory <DirectoryName>

Creates a new directory with the specified name.

Setting parameters:

<DirectoryName> String parameter to specify the new directory. If the path consists of several subdirectories, the complete tree is created if necessary.

Example: MMEM:MDIR '/home/storage/userData/Waveforms'

Usage: Setting only

MMEMemory:RDIRectory <DirectoryName>

Deletes the specified directory.

Setting parameters:

<DirectoryName> String parameter to specify the directory to be deleted. This directory must be empty, otherwise it is not deleted.

Example: MMEM:RDIR '/home/storage/userData/Test'

Usage: Setting only

MMEMemory:CATalog? [<PathName>][, <Format>]

Returns a list of files contained in the specified directory. The result corresponds to the number of files returned by the MMEMemory:CATalog:LENgth command.

Query parameters:

<PathName> String parameter to specify the directory. If the directory is omitted, the command queries directory specified with [MMEMemory:CDIRectory](#).

<Format> ALL | WTIME
ALL: Extended result including file, date, time and attributes
WTIME: Extended result including file, date, time

Return values:

<UsedMemory> Total amount of storage currently used in the directory, in bytes.

<FreeMemory> Total amount of storage available in the directory, in bytes.

<FileEntry> All files and subdirectories of the directory are listed with their filename, format and size in bytes. The first two strings are related to the parent directory.

Example:

```
MMEM:CAT? '/home/storage/userData'
529479,1831777894400,"..,DIR,0","..,DIR,0",
"Backup,DIR,0","CSS,DIR,0","DATEN,DIR,0",
"Commands.jar,BIN,529479","FAVORITES,DIR,0",
"LOG,DIR,0","DATA,DIR,0","test,DIR,0",
"TotalCMD,DIR,0"
```

Usage:

Query only
SCPI confirmed

MMEMemory:CATalog:LENgth? [<PathName>]

Returns the number of files and subdirectories of the current or specified directory. The number includes the parent directory strings "." and ".." and it corresponds to the number of <FileEntry> strings returned by the [MMEMemory:CATalog?](#) command.

Query parameters:

<PathName> String parameter, directory to be queried. If the directory is omitted, the current directory is queried, specified with [MMEMemory:CDIRectory](#).

Return values:

<Count> Number of files and subdirectories including parent directory entries.

Example:

```
MMEM:CDIR '/home/storage/userData'
MMEM:CAT:LENG?
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```

Usage:

Query only

MMEMemory:COPY <FileSource>[, <FileDestination>]

Copies an existing file to a new file.

Setting parameters:

<FileSource> String parameter. Contains name and path of the file to be copied. Wildcards (*) and (?) are allowed.

<FileDestination> String parameter. Contains name and path of the new file. If the file already exists, it is overwritten without notice. If no file destination is specified, the source file is written to the current directory specified with [MMEMemory:CDIRectory](#).

Usage: Setting only
SCPI confirmed

MMEMemory:MOVE <FileSource>, <FileDestination>

Moves the specified file to a new location on the same drive and renames it.

Setting parameters:

<FileSource> String parameter, contains name and path of the file to be copied.
Wildcards (*) and (?) are allowed. Therefore, specify a directory for <FileDestination>. Renaming is not possible.

<FileDestination> String parameter. Contains name and path of the new file. If no path is specified, the <FileSource> directory is used - the file is renamed.

Usage: Setting only
SCPI confirmed

MMEMemory:DELETED <FileName>

Removes the specified file/files. To delete directories, use [MMEMemory:RDIRectory](#).

Setting parameters:

<FileName> String parameter to specify the name and directory of the file to be removed. Wildcards (*) and (?) are allowed.
If no path is defined, the current directory is used, specified with [MMEMemory:CDIRectory](#).

Example: MMEM:DEL '* .CFG'
Deletes all CFG files from the current directory.

Usage: Setting only
SCPI confirmed

MMEMemory:DATA <FileName>, <Data>**MMEMemory:DATA? <FileName>**

Stores data in the specified file to the storage location specified using [MMEMemory:CDIRectory](#).

Parameters:

<Data> <block>

488.2 block data format. The delimiter EOI must be selected to achieve correct data transfer.

The block begins with character '#'. The next digit is the length of the length information, followed by this given number of digits providing the number of bytes in the following binary data.

Parameters for setting and query:

<FileName> String parameter, the name of the file the data is stored to.

Example: MMEMemory:DATA 'abc.txt', #216This is the file

#2: the length information has two digits.

16: the binary data has 16 bytes.

Example: MMEMemory:DATA? 'abc.txt'

Returns the data from file abc.txt.

MMEMemory:ATTRibute <FileName>, <Attributes>**MMEMemory:ATTRibute? <FileName>**

Sets file attributes for the specified file/files. The command can be used for files only.

Setting parameters:

<Attributes> String with attributes and setting information.

'+' before the attribute: sets the attribute

'-' before the attribute: deletes the attribute

'R': read only

'H': hidden file

Parameters for setting and query:

<FileName> String parameter, contains name and path of the file. Wildcards (*) and (?) are allowed.

Return values:

<FileEntry> String containing: "<file_name>,<file_attributes>"

MMEMemory:SAV <FileDestination>

Stores the current instrument settings to the specified file.

Waveform generator settings are not included.

This command has the same effect as the combination of *SAV and

MMEMemory:STORe:STATE.

Parameters:

<FileDestination> String parameter specifying path and filename of the target file.
Wildcards are not allowed.

Usage: Event

MMEMemory:RCL <FileSource>

Restores the instrument settings from the specified file.

The stored instrument settings do not include waveform generator settings.

This command has the same effect as the combination of **MMEMemory:LOAD:STATE** and ***RCL**.

Parameters:

'<FileSource>' String parameter specifying the path and filename of the source file. Wildcards are not allowed.

Usage: Event

MMEMemory:STORe:STATe <MemoryNumber>, <FileName>

Stores the instrument settings from the specified internal memory to the specified file.
To store the current instrument settings to the internal memory, use ***SAV** first.

Setting parameters:

<MemoryNumber> Number of the internal memory
Range: 1 to 99

<FileName> String parameter specifying the complete path and filename of the source file.

Usage: Setting only

MMEMemory:LOAD:STATe <MemoryNumber>, <FileName>

Loads the instrument settings from the specified file to the specified internal memory.
After the file has been loaded, the settings must be activated using a ***RCL** command.

Setting parameters:

<MemoryNumber> Number of the internal memory
Range: 1 to 99

<FileName> String parameter specifying the complete path and filename of the source file.

Usage: Setting only

MMEMemory:GENerator:RCL <FilePath>

Restores the waveform generator settings from the specified file.

Parameters:

<FilePath> String parameter specifying the path and filename of the settings file.

Usage:

Asynchronous command

MMEMemory:GENerator:SAV <FilePath>

Stores the current waveform generator settings to the specified file.

Parameters:

<FilePath> String parameter specifying path and filename of the settings file.

Usage:

Asynchronous command

17.11.2 Saveset

SAVeset:CONFIG:PREView <IncludePreview>

If set to OFF, the saveset is stored without the preview image to reduce the file size.

Use the command each time before you save a saveset.

Parameters:

<IncludePreview> OFF | ON

*RST: ON

Usage:

Asynchronous command

SAVeset:CONFIG:UPReferences <UserSettings>

If ON, the user-specific display settings for the toolbar, waveform colors and diagram presentation are included in the saveset file. The setting affects the saving and the recall actions.

Parameters:

<UserSettings> OFF | ON

*RST: OFF

Usage:

Asynchronous command

17.11.3 Generator saveset

GENerator:RCL <filePath>

Restores the waveform generator from the specified file.

Parameters:

<filePath> String parameter specifying the path and filename of the source file.