| **Example:** | `AM:STAT ON` |
| | activates AM modulation. |

| **Manual operation:** | See "State" on page 205 |

[:SOURce<hw>]:AM:TYPE <AmType>

Selects exponential or linear amplitude modulation.

Exponential amplitude modulation is available for instruments, equipped with 12 GHz or higher frequency options. For more details, see also the GUI reference Chapter 4.4.2, "Amplitude Modulation (AM)", on page 204.

Parameters:

| <AmType> | LINear \| EXPonential |
| | *RST: LINear |

| **Example:** | `AM:TYPE EXP` |
| | activates the exponential amplitude modulation. |

| **Options:** | (exponential): R&S SMB-B112/-B112L/-B120/-B120L/-B140/-B140L |

| **Manual operation:** | See "AM Type" on page 205 |

6.13.2   SOURce:CORRection subsystem

The output level is corrected in the `CORRection` subsystem. Correction is performed by user-defined table values being added to the output level for the respective RF frequency. In the R&S SMB, this subsystem is used to select, transfer and activate user correction tables.

Each list is stored as a file. The name of the user correction file can be freely selected. The file extension `*.uco` is assigned automatically and cannot be changed.

The files can be stored in a freely selectable directory and opened from there. The default directory is set using command `:MMEMory:CDIRectory` on page 309. In the case of files which are stored in the default directory, only the file name has to be specified in commands. Otherwise, the complete absolute path has to be specified with every command. The extension can be omitted in any case.

ⓘ   In the following command examples, the files are stored in the default directory.

The amplitude can also be linearized automatically by means of a R&S NRP power sensor connected to the generator output signal. With the aid of the command `[:SOURce<hw>]:CORRection:CSET:DATA[:SENSor<ch>][:POWer]:SONCe`, a list with correction values for external test assemblies can be automatically determined, e.g. for compensating the frequency response of cables. The correction values can be acquired any time irrespective of the modulation settings of the generator.

[:SOURce]:CORRection:CSET:CATalog?

Requests a list of user correction tables. The individual lists are separated by commas.

The lists are stored with the fixed file extensions `*.uco` in a directory of the user's choice. The directory applicable to the commands is defined with the command `MMEMory:CDIR`.

Return values:

<Catalog>	string

Example: `MMEM:CDIR '/var/user/ucor'`
selects the directory for the user correction files.
`CORR:CSET:CAT?`
queries which correction tables are available.
Response:`UCOR1,UCOR2,UCOR3`
the correction tables `UCOR1, UCOR2` and `UCOR3` are available.

Usage: Query only

Manual operation: See "Directory, File List and File Name" on page 129

[:SOURce<hw>]:CORRection:CSET:DATA:FREQuency <Frequency>

Transfers the frequency data to the table selected with `:CORRection:CSET:SELect`.

The numerical suffix at SOURce must not be used for this command.

Parameters:

<Frequency>	Frequency#1[, Frequency#2, ...]
	Range: 300 kHz to RFmax (depending on model)

Example:	`CORR:CSET '/var/user/ucor1'`
	selects the table `ucor1`.
	`CORR:CSET:DATA:FREQ 100MHz,102MHz,103MHz,...`
	enters the frequency value in the table `ucor1`.
Manual operation:	See "Edit User Cor. Data - User Correction" on page 161

[:SOURce<hw>]:CORRection:CSET:DATA:FREQuency:POINts?

Queries the number of frequency values in the selected table.

The numerical suffix at SOURce must not be used for this command.

Return values:

<Points>	integer
	Range: 0 to 10000
	*RST: 0
Example:	`CORR:CSET '/var/user/'`
	selects the table ucor1.
	`CORR:CSET:DATA:FREQ:POIN?`
	queries the number of frequency values in the table ucor1.
	Response: `440`
	the table ucor1 contains 440 frequency values.
Usage:	Query only

[:SOURce<hw>]:CORRection:CSET:DATA:POWer <Power>

Transfers the level data to the table selected with `[:SOURce<hw>]:CORRection:CSET[:SELect]`.

`*RST` does not affect data lists. The numerical suffix at SOURce must not be used for this command.

Parameters:

<Power>	Power#1[, Power#2, ...]
Example:	`CORR:CSET '/var/user/ucor1'`
	selects the table `ucor1`.
	`CORR:CSET:DATA:POW 1dB, 0.8dB, 0.75dB,...`
	enters the level values in the table `ucor1`.
Manual operation:	See "Edit User Cor. Data - User Correction" on page 161

[:SOURce<hw>]:CORRection:CSET:DATA:POWer:POINts?

Queries the number of level values in the selected table.

The numerical suffix at SOURce must not be used for this command.

Return values:

<Points>   integer

                            Range: 0 to 10000
                            *RST: 0

Example: CORR:CSET '/var/user/ucor1'
                            selects the table ucor1.
                            CORR:CSET:DATA:POW:POIN?
                            queries the number of level values in the table ucor1.
                            Response: 440
                            the table ucor1 contains 440 level values.

Usage: Query only

[:SOURce<hw>]:CORRection:CSET:DATA[:SENSor<ch>][:POWer]:SONCe

The command fills the selected user correction list with the level values measured by the power sensor for the given frequencies.

To select the used power sensor set the suffix in key word SENSe.

Example: CORR:CSET:DATA:SENS:POW:SONC
                            fills the user correction list with level values acquired by the power sensor connector to the [SENSOR] connector.

Usage: Event

Manual operation: See "Fill User Correction Data with Sensor" on page 166

[:SOURce]:CORRection:CSET:DELete <Filename>

Deletes the specified table.

The lists are stored with the fixed file extensions *.uco in a directory of the user's choice. The directory applicable to the commands is defined with the command MMEMory:CDIR. A path can also be specified in command SOUR:CORR:CSET:CAT?, in which case the file in the specified directory is deleted.

Setting parameters:
<Filename>   <table name>

Example: MMEM:CDIR '/var/user/ucor'
                            selects the directory for the user correction files.
                            CORR:CSET:DEL 'UCOR1'
                            deletes the table ucor1.

Usage: Setting only

Manual operation: See "User Cor. Data - User Correction" on page 161

[:SOURce<hw>]:CORRection:DEXChange:AFILe:CATalog?

Requests a list of available ASCII files for export/import of user correction data. The individual files are separated by commas.

The ASCII files are stored with the fixed file extensions `*.txt` or `*.csv` in a directory of the user's choice. The directory applicable to the commands is defined with the command `MMEMory:CDIR`.

Return values:

<Catalog>   string

Example: `MMEM:CDIR '/var/user/import'`
selects the directory for the ASCII files with frequency and level value pairs.
`CORR:DEXC:AFIL:EXT TXT`
selects that ASCII files with extension `*.txt` are listed.
`CORR:DEXC:AFIL:CAT?`
queries the available files with extension `*.txt`.
Response: `'ucor1,ucor2'`
the ASCII files `ucor1.txt` and `ucor2.txt` are available.

Usage: Query only

[:SOURce<hw>]:CORRection:DEXChange:AFILe:EXTension <Extension>

Selects the file extension of the ASCII file to be imported or exported. Selection TXT (text file) or CSV (Excel file) is available.

Parameters:

<Extension>   TXT | CSV

*RST: TXT

Example: `MMEM:CDIR '/var/user/import'`
selects the directory for the ASCII files with frequency and level value pairs.
`CORR:DEXC:AFIL:EXT TXT`
selects that ASCII files with extension *.txt are listed.
`CORR:DEXC:AFIL:CAT?`
queries the available files with extension *.txt.
Response: `'list1,list2'`
the ASCII files `ucor1.txt` and `ucor2.txt` are available.

Manual operation: See "Extension - User Correction" on page 163

[:SOURce<hw>]:CORRection:DEXChange:AFILe:SELect <Filename>

Selects the ASCII file to be imported or exported.

The ASCII files are stored with the fixed file extensions `*.txt` or `*.csv` in a directory of the user's choice. The directory applicable to the commands is defined with the command `MMEMory:CDIR`. A path can also be specified in command `SOUR:CORR:DEXC:AFIL:SEL`, in which case the files are stored or loaded in the specified directory.

Parameters:

<Filename>   <ascii file name>

Example: `CORR:DEXC:MODE IMP`
selects that ASCII files with frequency and level value pairs are imported and transferred into user correction lists.
`CORR:DEXC:AFIL:SEL '/var/user/import_ucor.csv'`
selects that ASCII file `ucor.csv` is imported.
`CORR:DEXC:SEL '/var/user/import_ucor_imp'`
selects that the ASCII file `ucor.csv` is imported into user correction list `ucor_imp`.

Manual operation: See "Select ASCII Source / Destination - User Correction" on page 163

[:SOURce<hw>]:CORRection:DEXChange:AFILe:SEParator:COLumn <Column>

Selects the separator between the frequency and level column of the ASCII table.

Parameters:

<Column>   TABulator | SEMicolon | COMMa | SPACe
                          *RST: COMMa

Example: `CORR:DEXC:MODE EXP`
selects that the user correction list is exported into an ASCII file.
`CORR:DEXC:AFIL:SEL '/var/user/import_ucor.csv'`
selects ASCII file ucor.csv as destination for the user correction list data.
`CORR:DEXC:AFIL:SEP:COL TAB`
the pairs of frequency and level values are separated by a tabulator.
`CORR:DEXC:AFIL:SEP:DEC DOT`
selects the decimal separator dot.
`CORR:DEXC:SEL '/var/user/import_ucor_imp'`
selects that the user correction list ucor_imp is imported into ASCII file ucor.csv.

Manual operation: See "Column Separator- User Correction" on page 163

[:SOURce<hw>]:CORRection:DEXChange:AFILe:SEParator:DECimal <Decimal>

Selects the decimal separator used in the ASCII data between '.' (decimal point) and ',' (comma) with floating-point numerals.

Parameters:

<Decimal>   DOT | COMMa

                              *RST: DOT

Example: `CORR:DEXC:MODE EXP`

selects that the user correction list is exported into an ASCII file.

`CORR:DEXC:AFIL:SEL '/var/user/import_ucor.csv'`

selects ASCII file ucor.csv as destination for the user correction list data.

`CORR:DEXC:AFIL:SEP:COL TAB`

the pairs of frequency and level values are separated by a tabulator.

`CORR:DEXC:AFIL:SEP:DEC DOT`

selects the decimal separator dot.

`CORR:DEXC:SEL '/var/user/import_ucor_imp'`

selects that the user correction list `ucor_imp` is imported into ASCII file `ucor.csv`.

Manual operation: See "Decimal Point - User Correction" on page 163

[:SOURce<hw>]:CORRection:DEXChange:EXECute

Starts the export or import of the selected file. When import is selected, the ASCII file is imported as user correction list. When export is selected, the user correction list is exported into the selected ASCII file.

Example: `CORR:DEXC:MODE IMP`

selects that ASCII files with frequency and level value pairs are imported and transferred into user correction lists.

`CORR:DEXC:AFIL:SEL '/var/user/import_ucor.csv'`

selects that ASCII file ucor.csv is imported.

`CORR:DEXC:SEL '/var/user/import_ucor_imp'`

selects that the ASCII file `ucor.csv` is imported into user correction list `ucor_imp`.

`CORR:DEXC:EXEC`

starts the import of the ASCII file data into the user correction file.

Usage: Event

Manual operation: See "Import / Export - User Correction" on page 164

[:SOURce<hw>]:CORRection:DEXChange:MODE <Mode>

Selects if user correction lists should be imported or exported. Depending on the selection her, the file select command define either the source or the destination for user correction lists and ASCII files.

Parameters:

<Mode>   IMPort | EXPort

                              *RST: IMPort

Example: `CORR:DEXC:MODE IMP`

selects that ASCII files with frequency and level value pairs are imported and transferred into user correction lists.

`CORR:DEXC:AFIL:SEL '/var/user/ucor.csv'`

selects that ASCII file ucor.csv is imported.

`CORR:DEXC:SEL '/var/user/ucor_imp'`

selects that the ASCII file `ucor.csv` is imported into user correction list `ucor_imp`.

Manual operation: See "Mode - User Correction" on page 163

[:SOURce<hw>]:CORRection:DEXChange:SELect <Filename>

Selects the user correction list to be imported or exported.

The user correction files are stored with the fixed file extensions `*.uco` in a directory of the user's choice. The directory applicable to the commands is defined with the command `MMEMory:CDIR`. A path can also be specified in command `SOUR:CORR:DEXC:SEL`, in which case the files are stored or loaded in the specified directory.

Parameters:

<Filename>   string

Example: `CORR:DEXC:MODE IMP`

selects that ASCII files with frequency and level value pairs are imported and transferred into user correction lists.

`CORR:DEXC:AFIL:SEL '/var/user/import_ucor.csv'`

selects that ASCII file ucor.csv is imported.

`CORR:DEXC:SEL '/var/user/import_ucor_imp'`

selects that the ASCII file `ucor.csv` is imported into user correction list `ucor_imp`.

Manual operation: See "Destination / Source - User Correction" on page 164

[:SOURce<hw>]:CORRection:CSET[:SELect] <Filename>

Selects or creates a file for the user correction data.

If the file does not exist, the instrument automatically creates a new file with the name you assigned. Note the predefined file extensions under "Extensions for User Files" on page 89.

To determine the file location (directory/path) you can either enter it with the command directly, or use the command `MMEMory:CDIR`.

To activate level correction use the command `[:SOURce<hw>]:CORRection[: STATe]`.

Parameters:

<Filename>   <table name>

Example: CORR:CSET '/var/user/ucor1'
                     selects the table `ucor1`.
                     CORR ON
                     activates level correction. Correction is performed using the
                     table `ucor1`.

Manual operation: See "User Cor. Data - User Correction" on page 161

[:SOURce<hw>]:CORRection[:STATe] <State>

Activates/deactivates level correction. Level correction is performed using the table
which has been selected with the command `[:SOURce<hw>]:CORRection:CSET[:`
`SELect]`.

Parameters:

<State>   0 | 1 | OFF | ON
                     *RST: 0

Example: SOUR:CORR:CSET '/var/user/ucor1'
                     selects the table `ucor1`.
                     SOUR:CORR ON
                     activates user correction.

Manual operation: See "State - User Correction" on page 160

[:SOURce<hw>]:CORRection:VALue?

Queries the current value for user correction.

Return values:

<Value>   float

                     Range: -100 to 100
                     Increment: 0.01
                     *RST: 0

Example: CORR:VAL?
                     queries the value currently used for level correction.
                     Response: –3
                     the correction value is - 3 dB.

Usage: Query only

Manual operation: See "User Correction Value - User Correction" on page 160

[:SOURce<hw>]:CORRection:ZERoing:STATe <State>

Activates the zeroing procedure before filling the user correction data acquired by a
sensor.

Parameters:

<State>   0 | 1 | OFF | ON
                     *RST: 1