Parameters:

<State> 0 | 1 | OFF | ON

*RST: n.a. (factory preset: 0)

Example: `ROSC:SOUR INT`
Selects the internal source.
`ROSC:ADJ ON`
Activates use of a user-defined adjustment value.
`ROSC:ADJ:VAL 1400`
Sets the adjustment value to 1400.

Manual operation: See "Adjustment Active" on page 145

[:SOURce]:ROSCillator:SOURce <Source>

Selects the reference frequency source.

Parameters:

<Source> INTernal | EXTernal

INTernal
The internal reference oscillator is used.

EXTernal
An external reference signal is used. It must be input at the [REF IN] connector at the rear of the instrument.
The instrument is informed of the frequency of the external reference signal with the command `[:SOURce]:ROSCillator:EXTernal:FREQuency`.

*RST: n.a. (factory preset: INTernal)

Example: `ROSC:SOUR EXT`
Selects the external source.
`ROSC:EXT:FREQ 5 MHz`
Informs the instrument that the external reference has a frequency of 5 MHz.

Manual operation: See "Source" on page 144

6.13.15 SOURce:STEReo Subsystem

This subsystem contains the SCPI commands for generating FM stereo multiplex signals, the radio traffic service ARI (Automotive Radio Information) and Radio Data System (RDS). Additional functions are available using the `SOURce:STEReo:DIRect` commands (see Chapter 6.19, "Direct Commands for the Stereo/RDS Coder Option R&S SMB-B5", on page 464).

[:SOURce]:STEReo:ARI:BK[:CODE] <Code>

Selects the area identification (BK) code of the ARI signal. The six letters (six different frequencies) identify a specific region in each country. The code is generated if the BK or DK+BK identifier of the ARI signal is activated.

Parameters:

<Code> A | B | C | D | E | F

*RST: A

Example: `STER:ARI:TYPE BK`
selects generation of area identification.
`STER:ARI:BK A`
selects the specific area identification code A to be generated.

Options: R&S SMB-B5

Manual operation: See "ARI BK - Stereo Modulation" on page 221

[:SOURce]:STEReo:ARI:STATe <State>

Activates/deactivates the ARI signal generation. ARI signals can be generated simultaneously with MPX and RDS signals.

Parameters:

<State> 0 | 1 | OFF | ON

*RST: OFF

Example: `STER:ARI:STAT ON`
activates generation of an ARI signal.

Options: R&S SMB-B5

Manual operation: See "ARI State - Stereo Modulation" on page 221

[:SOURce]:STEReo:ARI:TYPE <Type>

Selects the generated identifiers of the ARI signal.

Parameters:

<Type> OFF | DK | BK | BKDK

OFF
Only the 57 kHz subcarrier is generated (Senderkennung). It marks the stations which broadcast traffic programs and enables the receiver to recognize the frequency as being ARI-capable.

DK
The message identification (Durchsagekennung) is generated in addition (low-frequency 30% AM). It signalizes that a traffic message is currently broadcasted.

BK
The area identification (Bereichskennung) is generated in addition (60% AM). This code is used to identify the geographical region covered by the radio station. The specific code is selected below.

BKDK
The area and message identification are generated in addition.

*RST: DK

Example: `STER:ARI:TYPE BKDK`
A complete ARI signal with all identifiers is generated.

Options: R&S SMB-B5

Manual operation: See "ARI Identification - Stereo Modulation" on page 221

[:SOURce]:STEReo:ARI:TYPE:STATe <State>

Activates/deactivates the Stereo ARI Identifier.

Parameters:

<State> 0 | 1 | OFF | ON

*RST: 0

Example: `STER:ARI:TYPE:STAT ON`

Options: R&S SMB-B5

[:SOURce]:STEReo:ARI[:DEViation] <Deviation>

Sets the frequency deviation of the ARI subcarrier signal.

Parameters:

<Deviation> integer

Range: 0 to 10000
*RST: 3500

Example: `STER:ARI:DEV 3.5kHz`
sets the frequency deviation of the 57 kHz subcarrier to 3.5kHz.

Options: R&S SMB-B5

Manual operation: See "ARI Deviation - Stereo Modulation " on page 221

[:SOURce]:STEReo:AUDio:MODE <Mode>

Selects the generated identifiers of the AUDio signal.

Parameters:

<Mode> LEFT | RIGHt | RELeft | REMLeft | RNELeft

LEFT
A mono signal containing the left channel is generated/fed in.

RIGHt
A mono signal containing the right channel is generated/fed in.

RELeft
A stereo signal with right and left channel is generated/fed in. The channels have the same frequency and phase.

REMLeft
The signal on the left external audio input is used for both channels, left and right. The right channel is inverted.

RNELeft
(External source only)
A stereo signal containing different, independent right and left channels is feed in. It is possible, for example, to feed a fixed audio frequency to the first channel while a frequency sweep is being performed in the second channel.

*RST: RIGHt

Example: `STER:SOUR LFG`
The internal LF generator is used as modulation source for the audio signal.
`STER:AUD:MODE RIGH`
A mono signal containing the left channel is generated.

Options: R&S SMB-B5

Manual operation: See "Mode - Stereo Modulation" on page 219

[:SOURce]:STEReo:AUDio:PREemphasis <PreEmphasis>

Sets the preemphasis used for signal generation.

Parameters:

<PreEmphasis> float

Range: 50 us to 75 us

Example: `STER:SOUR LFG`
The internal LF generator is used as modulation source for the audio signal.
`STER:AUD:PRE 50µs`
sets preemphasis to 50µs.
`STER:AUD:PRE:STAT ON`
activates preemphasis.

Options: R&S SMB-B5

Manual operation: See "Preemphasis - Stereo Modulation" on page 219

[:SOURce]:STEReo:AUDio:PREemphasis:STATe <State>

Activates the use of preemphasis for signal generation.

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

Example: `STER:SOUR LFG`
The internal LF generator is used as modulation source for the audio signal.
`STER:AUD:PRE 50µs`
sets preemphasis to 50µs.
`STER:AUD:PRE:STAT ON`
activates preemphasis.

Options: R&S SMB-B5

Manual operation: See "Preemphasis - Stereo Modulation" on page 219

[:SOURce]:STEReo:AUDio[:FREQuency] <Frequency>

Sets the frequency of the LF generator signal. The command is an alias to command `SOURce:LFOutput:FREQuency`.

Parameters:
<Frequency> float
Range: 0.1 to 1E6
Increment: 0.01
*RST: 1000

Example: `STER:SOUR LFG`
The internal LF generator is used as modulation source for the audio signal.
`STER:AUD:FREQ 1100`
sets the frequency of the audio signal to 1.1 kHz

Options: R&S SMB-B5

Manual operation: See "LF Gen Freq - Stereo Modulation" on page 219

[:SOURce]:STEReo:DIRect <Direct>

Sends a R&S SMB command string to the stereo coder. The direct commands offer extended settings possibilities for the stereo coder (see Chapter 6.19, "Direct Commands for the Stereo/RDS Coder Option R&S SMB-B5", on page 464).

Parameters:

<Direct> string

Example: `STER:DIR 'ARI-ID=0'`
deactivates the ARI identification.

Options: R&S SMB-B5

Manual operation: See "RDS Program Service Name - Stereo Modulation" on page 222

[:SOURce]:STEReo:EXTernal:IMPedance <Impedance>

Selects the input impedance for the external analog audio signal inputs L and R.

Parameters:

<Impedance> 600 | 600Ohm | 100000 | 100kOhm | 100000Ohm

*RST: 100000

Example: `SOUR:STER:EXT:IMP 600Ohm`
selects 600 OHM as the impedance for the external analog audio signals.

Options: R&S SMB-B5

Manual operation: See "External R/L Impedance - Stereo Modulation" on page 219

[:SOURce]:STEReo:MMF <Mmf>

Sets the maximum possibly used modulation frequency. This setting is only effective for external modulation source and activated preemphasis. It prevents over modulation but result in a decreased s/n ratio.

Parameters:

<Mmf> integer

Range: 1000 to 18000
*RST: 1000

Example: `SOUR:STER:MMF 2000`
sets a maximum modulation frequency of 2 kHz.

Options: R&S SMB-B5

Manual operation: See "Max Modulation Freq- Stereo Modulation" on page 220

[:SOURce]:STEReo:PILot:PHASe <Phase>

Sets the phase of the pilot tone in degrees, in relation to the 38 kHz carrier signal of the receiver. For a correct demodulation, the pilot tone must be in phase with the 38 kHz carrier.

Parameters:

<Phase> float

Range: -5 to 5
Increment: 0.1
*RST: 0

Example: `SOUR:STER:PIL:PHAS .2DEG`
decreases pilot tone quality by adding a phase difference of 0.2 degrees between pilot signal and receiver carrier signal.

Options: R&S SMB-B5

Manual operation: See "Pilot Phase - Stereo Modulation" on page 220

[:SOURce]:STEReo:PILot:STATe <State>

Activates/deactivates the pilot tone generation.

Parameters:

<State> 0 | 1 | OFF | ON

*RST: OFF

Example: `STER:PIL:STAT ON`
activates generation of the pilot tone.

Options: R&S SMB-B5

Manual operation: See "Pilot State - Stereo Modulation" on page 220

[:SOURce]:STEReo:PILot[:DEViation] <Deviation>

Sets the deviation of the pilot tone.

Parameters:

<Deviation> integer

Range: 0 to 10 kHz
*RST: 6.75 kHz

Example: `SOUR:STER:PIL:DEV 6.75kHz`
sets the pilot tone deviation according to standard.

Options: R&S SMB-B5

Manual operation: See "Pilot Deviation - Stereo Modulation" on page 220

[:SOURce]:STEReo:RDS:DATaset <Dataset>

Selects one of the five data sets provided on the instrument for use in the RDS signal.

Parameters:
<Dataset> DS1 | DS2 | DS3 | DS4 | DS5
*RST: DS1

Example: `STER:RDS:DAT DS5`
activates use of data set 5 for generation of the RDS signal.

Options: R&S SMB-B5

Manual operation: See "RDS Data Set - Stereo Modulation" on page 222

[:SOURce]:STEReo:RDS:STATe <State>

Activates/deactivates the RDS signal generation. RDS signals can be generated simultaneously with MPX and ARI signals.

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

Example: `STER:RDS:STAT ON`
activates generation of RDS signal.

Options: R&S SMB-B5

Manual operation: See "RDS State - Stereo Modulation" on page 221

[:SOURce]:STEReo:RDS:TRAFfic:ANNouncement[:STATe] <State>

Activates the RDS traffic announcement. If activated, the receiver switches from the current status, e.g. playing a CD, to the receive mode and enables the broadcast of a traffic announcement. The TP state has to be on.

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

Example: `STER:RDS:TRAF:PROG:STAT ON`
activates RDS traffic program.
`STER:RDS:TRAF:ANN:STAT ON`
activates RDS traffic announcement.

Options: R&S SMB-B5

Manual operation: See "RDS Traffic Announcement State - Stereo Modulation" on page 223

[:SOURce]:STEReo:RDS:TRAFfic:PROGram[:STATe] <State>

Activates the RDS traffic program. The receiver can recognize a frequency as being capable of traffic information only if the TP function is active.

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

Example: `STER:RDS:TRAF:PROG:STAT ON`
activates the RDS traffic program.

Options: R&S SMB-B5

Manual operation: See "RDS Traffic Program State - Stereo Modulation " on page 222

[:SOURce]:STEReo:RDS[:DEViation] <Deviation>

Sets the deviation of the RDS subcarrier.

Parameters:
<Deviation> integer
Range: 0 to 10 kHz
*RST: 2 kHz

Example: `SOUR:STER:RDS:DEV 2kHz`
sets the RDS signal deviation according to standard.

Manual operation: See "RDS Deviation - Stereo Modulation" on page 222

[:SOURce]:STEReo:SOURce <Source>

Selects the source for the audio signal.

Parameters:
<Source> OFF | LREXt | SPEXt | LFGen

OFF
No audio signal is provided, ARI and RDS signal can be generated separately.

LREX
The external audio signal is feed in via the analog L and R inputs.

SPEX
The external audio signal is feed in via the digital S/P DIF interface

LFG
The audio stereo signal is internally generated by the LF generator.

*RST: LREXt

Example: `STER:SOUR LFG`
The internal LF generator is used as modulation source for the audio signal.

Options: R&S SMB-B5