# 4 Instrument Function

## 4.1 Overview of Instrument Functions

This chapter explains the functions of the R&S SMB and the options available in the setting menus. The associated SCPI command is specified for each parameter (where applicable).

The description starts with the general instrument settings which do not directly affect signal generation. The majority of these settings can be accessed by means of front-panel softkey menus and not by means of function block menus.

The signal generation functions are then described, beginning with the functions which affect the RF signal ("RF" block) and the analog modulations ("Mod" block). The configuration of the modulation generators (LF generators and pulse generator) and of the LF sweep is offered in the "Mod Gen" block. The clock synthesis signal is set in the "Clock Synthesis" block.

The general instrument settings include various functions, such as:

- Setting a defined basic setup using the [PRESET] key
  see Chapter 4.2.2, "Default Instrument Settings - Preset Key", on page 96
- Switching from remote control to manual control using the [LOCAL] key
  see Chapter 4.2.4, "Switching to Manual Control - Local Key", on page 123
- Configuring the generator and its interfaces in the "Setup" dialog - e.g. setting the GPIB address, starting an adjustment, querying instrument data
  see Chapter 4.2.3, "General Configuration of Instrument - Setup Key", on page 97
- Calling up the online help using the [HELP] key
  see Chapter 4.2.7, "Help System - Help Key", on page 126
- Querying messages using the [INFO] key
  see Chapter 4.2.6, "Messages - Info Key", on page 126
- Loading and storing complete instrument settings in the "File" menu
  see Chapter 4.2.8, "Storing and Loading Instrument Data - File Key", on page 127

The RF signal and the reference oscillator are configured in the "RF" function block:

- CW mode
  see Chapter 4.3.1, "Overview of RF Signal", on page 136
- List mode
  see Chapter 4.3.7.4, "List Mode", on page 192
- Frequency and Level Sweep mode
  see Chapter 4.3.7.1, "Overview", on page 178
- Reference Oscillator
  see Chapter 4.3.4, "Reference Oscillator", on page 142
- RF Level
  see Chapter 4.3.5.1, "Overview of RF Level", on page 146
- RF Level Sweep