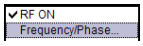
4.3.3 Phase

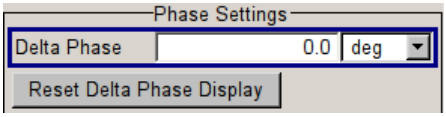
The phase of the RF output signal can be changed in the "Phase Settings" section of the "RF Frequency/Phase" dialog.

4.3.3.1 Phase Settings



► To access the dialog for configuring the phase settings, perform one of the following:

- Select "RF > config... > RF Frequency > Frequency/Phase".
- Press the [menu] key and select "RF > RF Frequency > Frequency/Phase".



The combined "RF Frequency / Phase ..." settings dialog contains the parameters to configure the phase settings of the RF signal.

The remote commands required to define the settings are described in Chapter 6.13.10, "SOURce:PHASe Subsystem", on page 378.

Delta Phase
Sets the phase of the RF signal. The current phase of the signal is used as the reference. This function allows, for example, the phase of the output signal to be synchronized with the phase of a signal from a second signal generator.

Remote command:
`[:SOURce<hw>]:PHASe` on page 378

Reset Delta Phase Display
Resets delta phase value. The set phase is adopted as the new current phase, i.e. the delta phase value is reset to 0.

Remote command:
`[:SOURce<hw>]:PHASe:REFerence` on page 378

4.3.4 Reference Oscillator

The R&S SMB is equipped with an internal reference oscillator that generates a reference frequency of 10 MHz. It is used as internal reference source for the synthesizer and the local oscillator. Alternatively, you can apply an external reference signal.

Regardless of the used reference source (internal or external), the R&S SMB always provides the configured reference frequency at the output. You can use it, for example to synchronize several interconnected instruments.

The settings of the reference oscillator are not affected by an instrument preset ("PRESET" key).

The following examples briefly explain the possible test setups and the settings to be considered.

- Internal f_{ref} = 10 MHz (10 MHz [REF OUT])

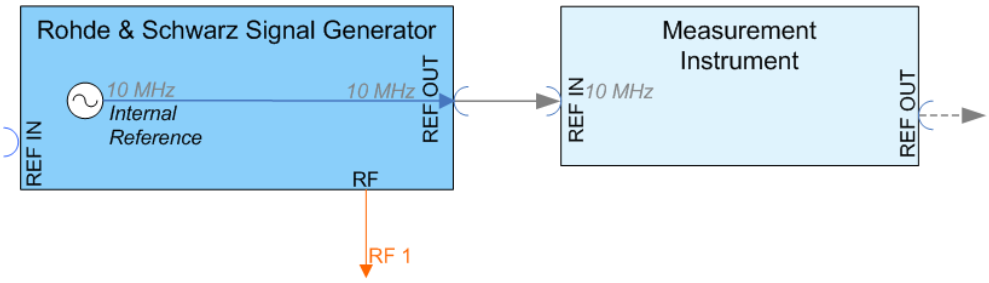


Figure 4-1: Synchronizing a subsequent instrument using the internal 10 MHz reference signal of the R&S SMB

The internal reference oscillator supplies the reference frequency.

Settings:

– Source: "Internal"

- External f_{ref} = 10 MHz (10 MHz [REF OUT])
  If you have a clean external reference signal with 10 MHz frequency, you can directly pass it to the output. The signal quality remains the same.

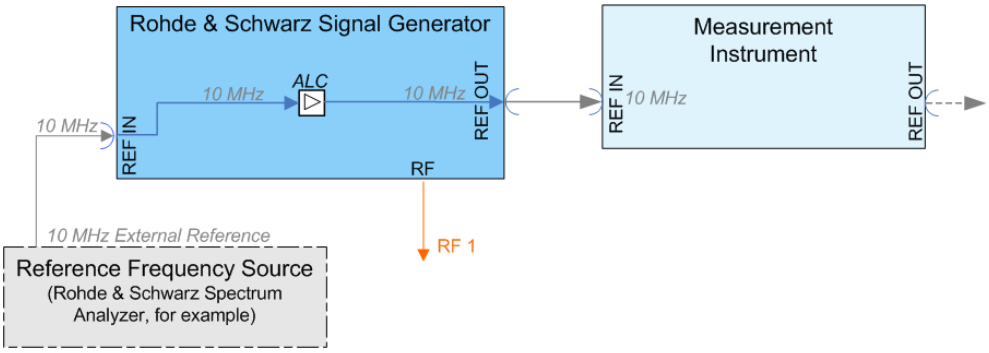


Figure 4-2: Synchronizing instruments by means of an externally applied reference signal having 10 MHz

Settings:

– Source: "External"

– External Reference Frequency: "10 MHz"

Set the additionally provided parameters, as for example the synchronization bandwidth according to the requirements of the application.

- External f_{ref} = 5/10 MHz (5/10 MHz [REF OUT])
  If you have an external reference signal with 5 or 10 MHz, you can directly pass it to the output. The signal quality remains the same.