Test and Measurement
Division

Release Notes

Firmware Release 2.4

for R&S UP300/350 Audio Analyzer

Contents

1. General Topics

1.1. Firmware Update Overview

This firmware may only be installed from Windows XP USB hosts.

System Requirements

The following hardware and software is required to update a UP300/350 with the new release:

Standard PC:	min. 800 MHz
Operating System:	Windows XP
Drives:	Hard disk with min 100 MB free disk space
Interfaces:	USB

Update file set

File1: UP300/350 Release Notes 2.4 (this document)

File2: SIUM_Help.pdf

File3: SetupSIUM_UP300_2.4.exe

Don't switch off the device during the update unless otherwise prompted by the update software.

Firmware Release Version Components

Release:	**2.4**
UP*3x0 Module:*	*1.308*
UP3x0 MMI:	*1.26*
Power Supply:	*1.129*
Control PC BIOS	*9.9 / 10.0 (new panel PC only)*

The contents of the files are already packed in the format required by the firmware update program and need no further processing.

Performing the firmware update on the instrument

The firmware update process is performed as described in SIUM_Help.pdf or in the SI Update manager Help, which is installed with SetupSIUM_UP300_2.4.exe.

2. New Functions

2.1. Manual Operation

1. (Release 2.4) Analyzer/Generator

- Sweep RMS Selective
- Sweep THD(N)

2.2. Remote Control Operation / Update

1. (Release 2.4) Triggered measurement

A new single trigger measurement mode was added to improve the remote control operation speed.

2.3. Remote Control Instrument Drivers

Version 1.5 supports:

- Single Trigger measurements (with firmware release 2.4)
- New and modified functions of firmware release 2.4
- Return values for THD(N), DFD and ModDist in dB or %

3. Modified Functions

3.1. Manual Operation

1. (Release 2.4) General Functions

- wrap around in horizontal menu
- list boxes can be closed using the same key they were opened with.
- USB device descriptor now “UP300 Audio Analyser” (“UP350 Audio Analyser”)
- Reference 10 MHz is activated

2. (Release 2.4) Analyzer Functions

- Modified function RMS Selective supports relative bandwidth.
- Modified function RMS Selective supports automatic frequency tuning
- Improved Filter “wide” in THD(N)-Funktion
- Cursor functions improved
- Extended frequency resolution in frequency display
- THD and THD+N spectrum relative in dB related to fundamental
- Manual scaling of Quasi Peak indicator added
- Digital Protocol is displayed for both channels

3. (Release 2.4) Generator Function

- Each generator function has a reference value for the relative level unit dBr

4. (Release 1.3) Analog analyzer Common Configuration

- The analyzer function to switch analyzer common between float and ground is implemented with the new firmware. Due to hardware reasons the function can only be used on UP300 and UP350 instruments with serial numbers ≥ 100050.

3.2. Remote Control Operation / Update

None

4. Problems Eliminated

The version numbers in brackets indicate the version/release in which the problem was fixed.

4.1. Manual Operation

1. (Release 2.4) Analog analyzer AC/DC coupling

In release 1.3: Switching the input coupling from AC to DC had effect on channel 1 only, DC coupling had to be selected twice to have effect on channel 2, too.

2. (Release 2.4) Digital analyzer level display

In release 1.3: If a filter with gain (e.g. CCIR 1k wtd) is used and the filter output level exceeds fullscale, the displayed level unit dBFS is clipped to 0 dBFS, %FS is displayed as "-----".

3. (Release 2.4) Error bit in digital Analyzer

In release 1.3 Error bit in digital Analyzer does not display protocoll errors.

4. (Release 2.4) 10 MHz reference output

In release 1.3 reference output was disabled after switch on.

5. (Release 2.4) Problems during Selftest

In release 1.3 Selftest leads in some cases to system messages 0x6241 or to time out.

6. (Release 2.4) THD+N measurement

In release 1.3 THD+N and Noise measurement is inaccurate for signals near to harmonics of the test tone.

7. (Release 1.3) Device stops during FREQ, DC, RMS measurement

In release 1.2 in some cases the device was stopping the update of measurement values if the functions FREQ, RMS, DC and THD where operating in parallel.

4.2. Remote Control Operation / Update

(Release 2.4) Error bit in digital Analyzer

In release 1.3 results were buffered. In some cases old results could be delivered by the module. The new implemented triggered mode solves this problem.

5. Known Bugs, Side-effects

1. Sweep

- If a sweep is stopped and the setup is stored then, the sweep will not be activated when recalling this setup. If a sweep is stopped and the UP300/350 is switched off then, the sweep will not be activated when switching on the UP300/350 again.
  Workaround: save setup or switch off UP300/350 while sweep is running or after a single sweep has terminated.
- If a filter is switched on or off after a single sweep has terminated, the STOP key must be pressed before the sweep can be started again.
- Activated cursors are switched off while sweep is running and are automatically switched on again when sweep is stopped with the STOP key, or has terminated after being started with the SINGLE key. Cursors stay off, if a sweep was started with the START key and then terminated using the SINGLE key.

2. FFT graph

- If x-axis is not scaled to the full range, and when a filter is switched on or off, FFT size will be reduced to a very bad resolution. Use x-axis Auto Scaling or confirm the entry of x-axis Min or Max value to retrieve the previously selected FFT size.

3. Monitor output

- If source is set to Analyzer, then Filter=ON must be selected in the analyzer function to activate the output.
- If a filter with gain (e.g. CCIR 1k wtd) is used in the digital analyzer, the monitor output signal is clipped, if the filter output level exceeds fullscale.

4. Digital analyzer level display

- The displayed level value is clipped at 1 FS, if unit dBrFS is used.

6. Modifications to the Operating Manual

1. (Release 2.4) Complete Rework of the operating manual

The new version of the operating manual 4th edition, 10/2007 will be available on the R&S UP300/350 Internet page.

2. (Release 1.3) Correction sheet to operating manual

The parts of the correction sheet to the operation manual which is taking care about the analyzer common function is no longer valid after the new firmware is installed and the device serial number is ≥ 100050.

7. Appendix

Customer support center

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