



ROHDE & SCHWARZ

Test and Measurement
Division

Release Notes

Firmware Update R&S[®] ESIB 4.34.2

for R&S[®] ESIB7, R&S[®] ESIB26, R&S[®] ESIB40

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1 General Information

Manuals for R&S ESIB Family

The instruments of the R&S ESIB family are supplied with the following manuals:

Operating Manual, EMI Test Receiver R&S ESIB7, R&S ESIB26, R&S ESIB40; Order No. 1088.7531.xx-03

where xx = 11 (German)
12 (English)
19 (English, US letter format)
13 (French)

„Service Manual – Instrument EMI Test Receiver R&S ESIB7, R&S ESIB26, R&S ESIB40; Order No. 1088.7531.xx-03-

where xx = 81 (German)
82 (English)
89 (English, US letter format)

Operating Manual, Vector Signal Analyzer FSE-B7 (Option), Order No. 1066.4323.xx-07-

where xx = 11 (German)
12 (English)

Operating Manual, External Mixer Output FSE-B21, Order No. 1084.7350.xx-02-

where xx = 15 (German, English and French)
19 (English, US letter format, -02-)

Manual, Harmonic Mixer, FS-Zxx, Order No. 1089.0982.xx-02-

where xx = 35 (German, English and French)
39 (English, US letter format, -02-)

2 Firmware Update

The update instructions given in this section are up to date; any deviating instructions in the operating manual are to be ignored.

System Requirements

None

Preparations for Update

No preparations are required.

Contents of Firmware Update Kit

The update kit comprises the following:

- Seven 3.5"/1.44 Mbyte disks labeled as follows:
 - Disk 1 : „V4.34.2 DISK 1“
 - Disk 2 : „V4.34.2 DISK 2“
 - Disk 3 : „V4.34.2 DISK 3“
 - Disk 4 : „V4.34.2 DISK 4“
 - Disk 5 : „V4.34.2 DISK 5“
 - Disk 6 : „V4.34.2 DISK 6“
 - Disk 7 : „V4.34.2 DISK 7“
- This document

Update Procedure

1. If you have received a self-extracting archive file per e-mail or as a download ...

a set of disks must first be created from the archive file.

Proceed as follows:

- Check if you have received all files

disk1.bin	self extracting ZIP file, used to generate update disk 1
data2.cab	packed contents of disk 2, automatically unpacked during FW update
data3.cab	packed contents of disk 3, automatically unpacked during FW update
data4.cab	packed contents of disk 4, automatically unpacked during FW update
data5.cab	packed contents of disk 5, automatically unpacked during FW update
data6.cab	packed contents of disk 6, automatically unpacked during FW update
data7.cab	packed contents of disk 7, automatically unpacked during FW update

Keep seven DOS-formatted 3.5" / 1.44 Mbyte disks ready.

- Label disks as follows

ESIB V4.34.2	DISK1
ESIB V4.34.2	DISK2
ESIB V4.34.2	DISK3
ESIB V4.34.2	DISK4
ESIB V4.34.2	DISK5
ESIB V4.34.2	DISK6
ESIB V4.34.2	DISK7

- Create a temporary directory on your PC (e.g. ESIBTEMP on C:\). For this you require about 14 Mbyte free memory capacity on your hard disk.
- Copy file disk1.bin to this temporary directory
- Rename file disk1.bin to disk1.exe
- Execute disk1.exe, e.g. by using the following command sequence for Windows95/NT:
 - <CTRL><ESC> - RUN – C:\ESIBTEMP\DISK1 - <ENTER> (English version) or
 - <CTRL><ESC> - AUSFÜHREN – C:\ESIBTEMP\DISK1 - <ENTER> (German version)

The files are extracted.

- Delete file disk1.exe in the temporary directory.
The temporary directory should contain the following files:

inst32i.ex	_isdel.exe	_setup.dll	_sys1.cab	_user1.cab
data.tag	data1.cab	dskcount.txt	lang.dat	layout.bin
os.dat	readme.txt	setup.exe	setup.ini	setup.ins
setup.iss	setup.lid			
- Copy all files to update disk 1 (ESIB V4.34.2 DISK1).
Check if all files are on the disk with their correct names. In particular, the underscores ("_" as in "_inst32iex_") are essential for a successful update.
- The contents of the other 6 disks are already in the format needed for the update. Files data2.cab, data3.cab, ..., data7.cab must be copied to the corresponding disks DISK2, DISK3, ..., DISK7 .

The disks are now ready, and you can continue with section 2 "If you have received a firmware update kit on a disk ...".

Notes: *If any error messages are output during creation of a disk, the installation process for the disk in question must be repeated. Before re-creating the disk, check if the write protection has been removed.*

2. If you have received a firmware update kit on a disk ...

You can load the firmware directly from the disk to your instrument.

- Insert the disk DISK 1 into the drive.
- Press the SETUP key and change to the side menu by pressing ⇒ key.
- Press the FIRMWARE UPDATE softkey.
- Start the update by pressing the UPDATE softkey and follow the instructions on the instrument display.

First, the contents of the update disks are copied to the hard disk of the instrument. Then the files are extracted and copied in the directories accordingly. After the extraction, the instrument is rebooted.

The firmware update is complete.

The previous firmware version may be restored using softkey *RESTORE*.
Perform a total calibration (CAL - CAL TOTAL menu) after the firmware update.

3. If problems occur during the firmware update ...

The new firmware can also be loaded under NT if necessary. This should be done only with an external keyboard and a mouse. Log-in has to be made using the ADMINISTRATOR function, and the device firmware has to be terminated.

Log in as administrator. This procedure is described in the operating manual (PC function), too.

- Press key combination ALT SYSREQ to switch to NT screen if not yet displayed.
- Call up the NT task bar START – SHUT DOWN.
- Select 'Close all programs and logon as different user'.
- Hold the SHIFT key down and press the YES key to leave the input window until the login window appears.
- Release the SHIFT key as soon as the login window appears.
- Now enter administrator as user name and 894129 as password.

Terminate the device firmware:

- Press the keys CTRL ALT DEL on the external keyboard simultaneously.
- Select the Task Manager.
- Select the Application R&S Analyzer Instrument and terminate it with End Task.

Now the new firmware can be loaded:

- Insert DISK 1 into drive A:
- Start the installation with START RUN A:SETUP. You will be prompted to insert the remaining disks one after the other.

After loading the software, the operating system is rebooted. Then change back from administrator to instrument (password instrument) for the login (see operating manual). This is done in the same way as changing of login to administrator.

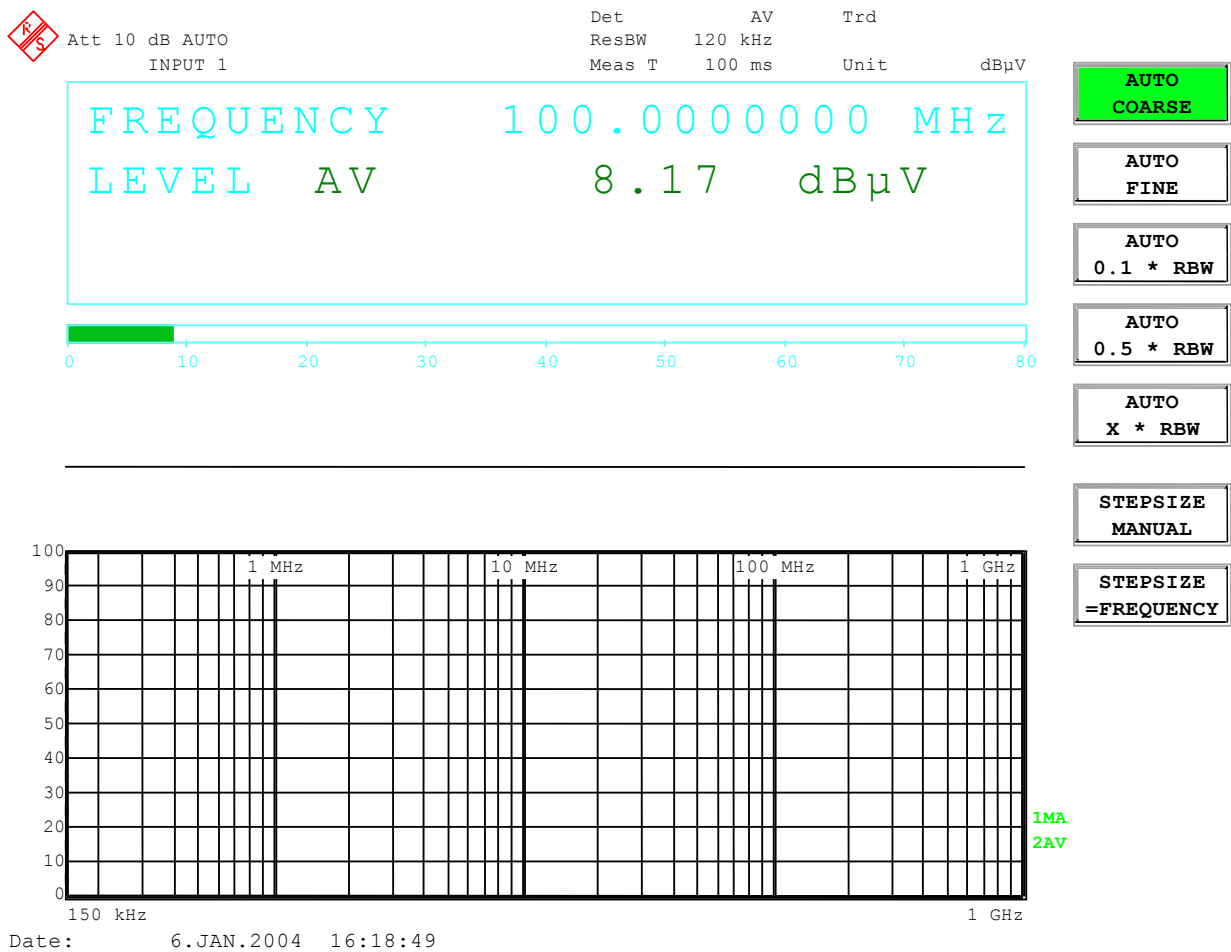
Note: *If the firmware is installed in this way, the previous version cannot be restored.*

3 Modifications concerning the Operating Manual

The new firmware offers extensions and improvements which are not yet described in the operating manual:

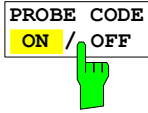
Frequency step size as percent value

The step size menu of the receiver frequency has been enhanced by several softkeys. These softkeys define the step size as percent value of the selected resolution bandwidth (RBW).



Probe ON OFF softkey in Transducer Menu

The PROBE CODE ON OFF softkey has been added to the Transducer menu.



The *PROBE CODE ON/OFF* softkey enables or disables the units defined by the coded connector.

IEC/IEEE bus command :UNIT:PROBe ON | OFF

Att 10 dB AUTO Det AV Trd
ResBW 120 kHz

ACTIVE TRANSDUCER FACTOR dBμA

Name: NONE Freq range: to:
Unit: Comment:

TRANSDUCER FACTOR		TRANSDUCER SET	
Name	Unit	Name	Unit
6DB	dB	3M_SWB	
MEAS_1M	dB		
MEAS_2M	dB		
MEAS_3M	dB		
MEAS_3M5	dB		
SLINE_2	dB		
SLINE_3	dB		
SLINE_LT	dB		

100
90
80
70
60
50
40
30
20
10
0

150 kHz 10 MHz 1 GHz

Date: 6.JAN.2004 16:22:21

1MA
2AV

TRANSDUCER FACTOR
TRANSDUCER SET
EDIT TRD FACTOR ↓
EDIT TRD SET ↓
NEW FACT/SET ↓
DELETE FACTOR/SET
PROBE CODE ON OFF
PAGE UP
PAGE DOWN

CISPR AV-Detektor

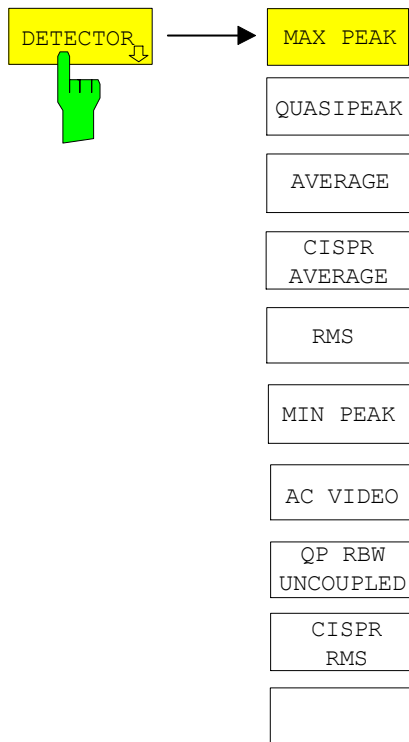
The weighting mode CISPR AV can be used with the 1 MHz IF bandwidth.

	CISPR Band A	CISPR Band B	CISPR Band C/D	CISPR Band E
Frequency range	9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1000 MHz	> 1000 MHz
IF bandwidth	200 Hz	9 kHz	120 kHz	1 MHz
Lowpass time constant	160 ms	160 ms	100 ms	100 ms

CISPR RMS-Detektor

The weighting modes that can be selected have been extended by the detector CISPR RMS.

CONFIGURATION MODE - EMI RECEIVER menu:

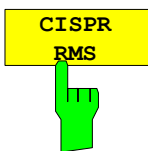
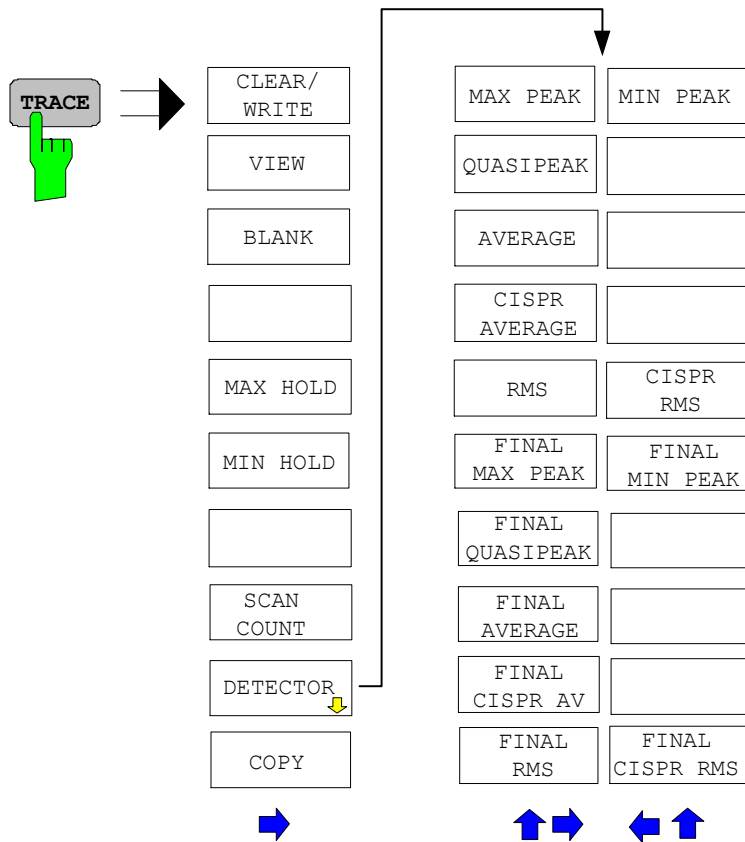


The *DETECTOR* softkey opens a submenu to select the detector.

Multiple detection is activated by switching on up to four single detectors. The MIN PEAK, RMS and AC VIDEO detector cannot be switched on simultaneously.

Softkey AC VIDEO is available only if the instrument is equipped with the linear video output (option ESIB-B1).

TRACE menu



The *CISPR RMS* softkey activates the weighting detector according to a proposed amendment of CISPR 16-1-1 (CISPR/A/628/CD). The CISPR RMS average detector supplies a weighted reading of the input signal. When measuring the RMS-average according to the proposed amendment of CISPR 16-1-1, the maximum value of the RMS-average during the measurement time is displayed. The detector is used, for example, to measure pulsed sinusoidal signals with a low pulse repetition frequency. It is calibrated with the RMS value of an unmodulated sinusoidal signal. Averaging is with lowpass filters of the 2nd order (simulation of a mechanical instrument).

IEC/IEEE bus command :SENS:DET CRMS
:SENS:DET:REC CRMS



The *FINAL CISPR RMS* softkey selects the weighting rms detector according to CISPR 16-1-1 for the final measurement.

IEC/IEEE bus command :SENS:DET:FME CRMS

	CISPR Band A	CISPR Band B	CISPR Band C/D	CISPR Band E
Frequency range	9 kHz to 150 kHz	150 kHz to 30 MHz	30 MHz to 1000 MHz	> 1000 MHz
IF bandwidth	200 Hz	9 kHz	120 kHz	1 MHz
Lowpass time constant	160 ms	160 ms	100 ms	100 ms
Corner frequency	10 Hz	100 Hz	100 Hz	1 kHz

4 Faults Remedied in Version V4.32.2

Scan aborted

When a scan was stopped in remote mode it could happen that also a subsequently initiated scan was aborted immediately for internal reasons.

Scan from e.g. 1 to 10 MHz could hang at 2.8 MHz

Scans from 1 MHz to 10 MHz with certain bandwidth settings did hang at 2.8 MHz.

Recall of data sets with Final Results or with more than 100,000 values

Data sets with FINAL RESULTS or with scan traces with more than 100,000 values sometimes could not be restored correctly.

Peak Search did sometimes find a frequency without a peak

The PEAK SEARCH function in receiver mode could report the last frequency of the scan as a suspicious frequency regardless of the measured level.

Transducer sets with lots of different factors blocked the instrument

Transducer sets with a large number of factors exceeded internal storage and blocked the instrument.

Transducer did not reliably switch off the probe code plug

When a transducer was activated, the instrument sometimes used the level correction of the code plug.

Transducer at last frequency point

With certain measurement times it could happen that a transducer factor was not considered at its last frequency point.

The noise floor could be increased at 4 GHz and 6 GHz with preselector switched on

The displayed noise floor could be increased in spectrum analyzer mode with certain instrument settings at 4 GHz or 6 GHz.

Instrument could hang when switching CISPR AV detector

The instrument sometimes was locked when switching CISPR AV detector on and off.

Switching on a transducer could switch off the preselector

The preselector was switched off when a transducer has been activated.

5 Faults Remedied in Version V4.32.3

Peak value with 1 kHz RBW with active Quasi Peak detector

The Peak detector value in receiver mode could be wrong with uncoupled RBW of 1 kHz when Quasi Peak detector was activated.

Spurious at 3.911 GHz

The spec for inherent spurious response is now also valid for span > 40 MHz at 3.911 GHz receiving frequency.

Wrong transducer correction close to the end of the factor

At certain frequencies it could happen that the transducer correction gave incorrect values.

6 Faults Remedied in Version V4.33

Spurious at 3.809 and 3.914 GHz

The spec for inherent spurious response is now also valid at 3.809 GHz receiving frequency.

ESIB 26, ESIB 40: Drop in Level with Spans > 16 GHz and RBW 50 kHz or smaller

Drops in level could occur with spans >16 GHz and small resolution bandwidth (≤ 50 kHz).

Wrong Transducer Set Calculation with linear y-axis scaling

Transducer sets with more than one factor in a range and unit db were calculated wrong, if the y-axis of the grid was switched to linear.

Transducer factors always worked well.

GBIB: Scan times were always rounded to 1-2-5

When configuring the scan times via GPIB, only 1-2-5 values were allowed. Now all scan times that are available manually can also be set via GPIB.

GBIB: One scan point too much

At certain scan settings it could happen, that the command TRACE:DATA? returned one result value too much. (The last scan point was measured and transferred two times.)

Hardcopy on Floppy Disk

In rare cases a hardcopy to the floppy disk could produce a corrupted file.

Saving files no longer deletes all files with the same name

All files bearing the name of a save set have been deleted in the selected directory before storing the new save set. This could have deleted more files than necessary.

7 Faults Remedied in Version V4.34

Signal drop

The measured value of a signal could be too low. E.g. when sweeping from 500 MHz to 600 MHz with preselector on and the signal at 502 MHz.

8 Faults Remedied in Version V4.34.1

Scan stops

Scan could stop with certain combinations of measurement time and scan range.

9 Faults Remedied in Version V4.34.2

Final Measurement in Receiver Mode

The Final Measurement does now work with CISPR Average and CISPR RMS detector.

Peak Detector

The Peak detector could have a too short observation time when scanning in receiver mode.

Start-Stop frequency coupling with preamplifier ESIB-B2

In spectrum analyzer mode, the frequency coupling – start/stop , center/span – could be modified unintentionally when the preamplifier has been active.

Level display with sweep start at 1 GHz

The displayed level value could be too low when the sweep started at 1 GHz with active preselector.

Shifted frequency axis with average detector

The frequency axis could be shifted when sweeping with preselector and average detector..

10 Known Problems

Error with IEEE-Bus file transfer using repeat addressing

If "repeat addressing" is selected for the controller of the IEEE Bus, some bytes may be corrupted when transferring files by low level commands via the IEEE bus from the R&S ESIB to the controller computer. This error happens only if the following conditions hold:

- repeat addressing
- block size less than 4096 bytes
- large files (approximately more than 400 kB)

The problem can be avoided by either disabling repeat addressing, or by setting the block size to at least 4096 bytes.

11 Appendix: Contact to our hotline

Any questions and ideas concerning the instrument are welcome to our hotline:

USA & Canada

Monday to Friday (except US public holidays)
8:00 AM – 8:00 PM Eastern Standard Time (EST)
Tel. from USA 888-test-rsa (888-837-8772) (opt 2)
From outside USA +1 410 910 7800 (opt 2)
Fax +1 410 910 7801
E-mail Customer.Support@rsa.rohde-schwarz.com

East Asia

Monday to Friday (except Singaporean public holidays)
8:30 AM – 6:00 PM Singapore Time (SGT)
Tel. +65 6 513 0488
Fax + 65 6 846 1090
E-mail Customersupport.asia@rohde-schwarz.com

Rest of the World

Monday to Friday (except German public holidays)
08:00 – 17:00 Central European Time (CET)
Tel. from Europe +49 (0) 180 512 42 42
From outside Europe +49 89 4129 13776
Fax +49 (0) 89 41 29 637 78
E-mail CustomerSupport@rohde-schwarz.com