R&S® EDS300 / EDST300
EDS300 / EDST300

Software Version 4.21

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The software makes use of several valuable open source software packages. For information, see the "Open Source Acknowledgment" provided with the product.

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Contents

1 Document History

Rev.	Date	Dept./ Name	Modification
1.00	15.02.2011	5CE1 / PB	First version
1.10	14.06.2011	5CE / AS	SW Release 2.1 – not released
2.00	25.07.2013	1ES8 / PB	SW Release 3.0
2.10	13.12.2013	1ES8 / PB	SW Release 3.1
2.11	24.02.2014	1ES8 / PB	SW Release 3.11
2.20	28.08.2014	1ES8 / PB 1ESP / KT	SW Release 3.20
2.21	18.05.2015	1ES8 / PB	SW Release 3.21
2.22	02.09.2015	1EE3 / PB	SW Release 3.22
3.00	07.04.2016	1EE3 / PB	SW Release 4.00
3.01	27.09.2018	1EE3 / PB	SW Release 4.00 SP1
4.00	24.03.2023	1EE4 / PB	SW Release 4.20
4.01	28.06.2023	1EE4 / PB	SW Release 4.21

2 General Information

This document describes the history of the R&S®EDS(T)300 software development, starting with the latest software release. The intention is to give an overview of the different versions, their features and benefits as well as the fixed – or known - bugs. So users shall be able to decide if they need to upgrade, or if they can carry on with an existing version.

R&S®EDS(T)300 software upgrades are free of charge, but some new features are available as software option. In these cases, a software option code has to be obtained by Rohde&Schwarz to activate the option.

2.1 EDS300

The software can be used on all EDS300 units.

2.2 EDST300

Starting with Release 4.00, the software also supports the EDST300. Older SW versions can not be used on the EDST300.

3 Release History

3.1 EDS300 SW Release 4.21

Release Date: 07.2023

RELEASE 4.00	Version
Main EDS Software	1.66k
Main board FPGA	3.28-0
Main board CPLD	1.01
RX board FPGA	5.09-19
LPIU FPGA	3.00-9
K1 Tacan Decoder	1.68

Please follow the procedure “Adjusting the TX delay measurement” (see 5.1) after software-updates!

General remarks:

Release 4.21 is a minor update which restores the Multi-DME capabilities on the EDS300, which were not available in Release 4.20.

Bugfixes and Improvements:

- In Release 4.20 the GPS/GNSS functionality was intended to be unlocked for all EDST300. Unfortunately this did not work on customer devices (CR312)
- When the EDS300 is started with Multi-DME active and a signal already applied, even the slots on other frequencies indicate a level (CR313)

3.2 EDS300 SW Release 4.20

Release Date: 03.2023

RELEASE 4.00	Version
Main EDS Software	1.66i
Main board FPGA	3.28-0
Main board CPLD	1.01
RX board FPGA	5.08-4
LPIU FPGA	3.00-9
K1 Tacan Decoder	1.68

Please follow the procedure “Adjusting the TX delay measurement” (see 5.1) after software-updates!

General remarks:
Release 4.20 is mainly targeted for the EDST300. It offers support for the new hardware option EDST-B6, which implements additional sync outputs.

Beside of this, it is an extensive collection of performance improvements and bugfixes.

The EDS300 will also benefit from this update, but the **“EDS-K5 Multi-DME**” was not finished in time and is therefore **not available**.
An update including Multi-DME is in preparation and will be released as soon as possible.

Users with “K1 TACAN” option can update to Release 4.20 without updating the TACAN dongle, as the decoder on the stick is not updated with this release.

Release 4.20 comes with updated manuals for EDS300 and EDST300.

New Functionality:

- EDST: Support for K6 Additional Sync out
- EDST: The attenuation of cables, splitters or attenuators can be measured by connecting them between RF1 und RF2. The resulting value can be used as external attenuation value in the setup.
- EDST: The GNSS/GPS functionality, which is not offered for the EDST, is now unlocked on all EDST units.

Bugfixes and Improvements:

- After Switching from static IP to DHCP the displayed IP was wrong (CR 298)

- EDST: TX pulses used to have an offset of up to 30kHz. This is now compensated after running the TX delay adjustment. (CR 297)
- Additional TX delay offsets which are entered in the setup are now indicated on the DME measurement screen (CR 294)
- Improvements in RX AGC (CR 288)
- External attenuation is now also used in Pulse View (CR 287)
- Several remote commands were added to complete remote control (see list below) (CR 286)
- Measurement of the ID transmission length (CR 282)
- Setup of external attenuation for RF-In2 was not possible (CR 281,CR 230)
- Performance improvements for ID decoding under difficult receiving conditions (CR 279)
- During ID transmission the status remains in TRACK and does not switch to MEMORY (CR 278)
- improved stability for TACAN bearing, especially when the measured 15/135Hz values are unstable (CR 277)
- Receiving bandwidth in DME mode can now be set to WIDE, which may be suitable for cable bound measurements (CR 276)
- Pulse View: More steps in vertical resolution (1-2-3-5-10) (CR 271)
- Improved stability for frequency measurement on DME pulses (CR 270)
- TX Level setting did not process decimal places (CR 269)
- Support for GNSS systems beside GPS. In general, this means that the 2nd character of the NMEA message is ignored, so "GNRMC" works like "GPRMC" (CR 267)
- TX frequency can now be set with 10kHz resolution (instead of 100kHz) (CR 261)
- Datalogger START and STOP is now available as "K" and "L" on a VNC keyboard. The original keys were not accessible on non-german keyboards. (CR 260)
- Avoid extrapolation of GPS position if timing difference is > 10s (plausibility check) (CR 259)
- Fixed a design flaw in GPS+PPS-synchronization that caused wrong GPS positions every few hours. (CR 255)
- The Linux OS stops booting when the system time is not plausible. This may happen when the coin cell battery is empty, and makes the device unusable. Entering the right time in the BIOS may help, but R4.20 installs a patch. (CR 252)
- Show Supressor-Line-Flag (L) in data-stream pulse-messages. Now it also shows the X-Flag (=TX). (CR 246)
- Show Linux version and patchlevel in Inventory (CR 243)
- Booting was delayed up to 10 minutes with invalid network configurations →Fixed (CR 242)
- Avoid that EDS300 shows "battery present" in Inventory; EDS300 never comes with battery (CR 238)
- Fixed the default value for VSWR deactivation, which sometimes cause the TX to shut down (CR 233)

New remote commands:

Please consult the user manual for further explanation,
Its also possible to query the complete list of remote command by sending "`HELP? ALL`" as a remote command.

```
LINUX_VER?
DME:TRIG_IN_COUNT?
DME:TRIG_IN_PERIOD?
DME:ID_SEQLEN?
DME:RF_BW
DME:DEMOD_BW
DISTDATA?
SETUP:EXT_ATTENUATION_TYPE
SETUP:RF1_EXTATTENUATION
SETUP:RF2_EXTATTENUATION
SETUP:SYNC1_OUT
SETUP:SYNC2_OUT
SETUP:MORSEMOST
SETUP:SCREENSAVER_ACTIVE
SETUP:SCREENSAVER_MINUTES
SETUP:COUNT_PULSES
PULSEVIEW:YSCALE_DB_DIV (also MW,UW,NW,PW,V)
PULSEVIEW:YSCALE_MAXLEV_DBM (also MW,UW,NW,PW,V)
SET_ICAO_OVR
DST:TXPOWER?
DST:DELAY_OFFSET
DST:PULSE_SHAPE
DST:MIN_REPLY_EFF
DST:MEM_TIME
DST:PRED_TYPE
DST:TX_PCODE
DST:TXPULSE_WIDTH
DME:ATTMEAS
GPSBAUDRATE
```

Known issues:

- The EDST-B3 Battery does not show a charge level.
  While the hardware is capable of providing information about the battery status, the Release 4.20 still does not implement the readout. (CR 149)
- The TACAN bearing value is greyed out for RX2. However, the value is correct. (CR 263)
- It is not possible to query the release number with remote commands (CR 290)
- EDS-K5 Multi-DME is not available. The option will be displayed as "not present". It will re-appear as soon as the next version with Multi-DME is installed.

3.3 EDS300 SW Release 4.00 SP1

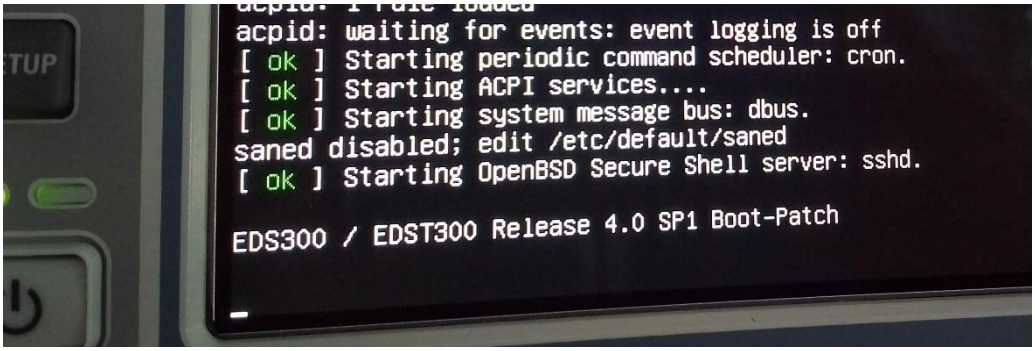
Release Date: 10.2018

RELEASE 4.00	Version
Main EDS Software	1.62z
Main board FPGA	3.25-5
Main board CPLD	1.01
RX board FPGA	3.70-5
LPIU FPGA	2.01-6
K1 Tacan Decoder	1.68

The service pack 1 (SP1) does not contain any new firmware. It installs the very same software as the Release 4.00 does before. It only applies 2 minor patches to the operating system to address 2 issues:

- With a static IP and a netmask unlike 255.255.255.0 the boot process may be delayed up to 10 minutes. This patch avoids these timouts and makes sure the EDS/EDST boot process takes < 1 minute (CR242)
- EDS300 with 500W high power interrogator (EDS-B4): Under rare circumstances an unexpected stop of transmission may occur. The SP1 fixes a configuration flaw that caused this behaviour. (CR233)

Since the software itself is not changed the patch is not displayed in the device inventory. To check if the SP1 is already installed please observe the startup messages for this hint:



3.4 EDS300 SW Release 4.00

Release Date: 06.2016

RELEASE 4.00	Version
Main EDS Software	1.62z
Main board FPGA	3.25-5
Main board CPLD	1.01
RX board FPGA	3.70-5
LPIU FPGA	2.01-6
K1 Tacan Decoder	1.68

Please follow the procedure “Adjusting the TX delay measurement” (see 5.1) after software-updates!

General remarks:
The main intention of Release 4.00 is the support for EDST300, which is a specialized device for wired DME/TACAN station testing.
However EDS300 devices will also benefit from bugfixes and improvements.

Functionality:

- Adjustable TX pulse width (0.8 µs .. 4.5 µs)
- TX pulse code selectable 8.0 µs … 42 µs
- External attenuation is taken into account for RX/TX Level indication
- Enter and display the corresponding VHF-frequency
- TX Pulse shape selectable as DME or TACAN
- “ICAO override” ignores TX pulse rate limitations for testing purposes
- RX/TX Peak Power indication also in W
- Re-arranged layout of softkeys in DME/TACAN-mode

Functionality for EDST300:

- Support for EDST type hardware
- Detailed ID analysis
- Counter on trigger input
- Support for NRP-Z81: shows peak and average power in DME mode
- Measurement of equalizer pulse time (CR 179)

Bugfixes and Improvements:

- Improved DME Pulse detection under critical receiving conditions
- Improved TACAN burst detection
- Improved delay/distance accuracy
- TACAN detection even when no modulation is present (CR212)
- Warning if inside temperature is > 80°C (CR206)
- GPS fix types 9 and 10 (CR 203)
- Hardware status: indication of measured voltages
- EDS300 with second RX-Board: PPS sync failed when RX2 is in pulse view mode (CR200)
- Show suppressor line indication in status line (CR 199)
- The option “EDS-K4 distance measurement” is no longer used, its functionality is merged with the EDS-B2 or EDS-B4 (CR187)
- Bearing calculation is done with measured 15Hz/135Hz MRB/ARB frequencies (CR185)
- SW version is added to first line in data logger (CR 183)
- USB data logger shows a counter (CR 178)

Known issues:

- The EDST-B3 Battery does not show a charge level.
  While the hardware is capable of providing information about the battery status, the Release 4.0 does not implement the readout.
  This is on the roadmap for the next SW release.
- Baseband input not used

3.5 EDS300 SW Release 3.22

Release Date: 09.2015

RELEASE 3.22	Version
Main EDS Software	“1.47l” version without TACAN functionality “1.47l TACAN” version with TACAN functionality
Main board FPGA	3.22
Main board CPLD	1.01
RX board FPGA	3.57
LPIU FPGA	1.26

General remarks:
This is a bugfix release. There is no difference in features or performance.

Bugfixes and Improvements:

Some EDS300 showed a “DUC verify Error”. Release 3.22 fixes this error.

3.6 EDS300 SW Release 3.21

Release Date: 05.2015

RELEASE 3.22	Version
Main EDS Software	“1.47l” version without TACAN functionality “1.47l TACAN” version with TACAN functionality
Main board FPGA	3.22
Main board CPLD	1.01
RX board FPGA	3.57
LPIU FPGA	1.25

General remarks:
This is a bugfix release with very little changes to Release 3.20.

Bugfixes and Improvements:

Some EDS300 show errors on the test voltages of the RX boards, causing the permanent “UNCAL” condition. This occurs every 1 .. 3 days if the EDS is permanently on (CR193).

Release 3.21 fixes this error. There is no other difference to Release 3.20.

3.7 EDS300 SW Release 3.20

Release Date: 08.2014

RELEASE 3.20	Version
Main EDS Software	“1.47j” version without TACAN functionality “1.47j TACAN” version with TACAN functionality
Main board FPGA	3.22

Main board CPLD	1.01
RX board FPGA	3.57
LPIU FPGA	1.25

General remarks:

Release 3.20 offers significant performance improvements and bug fixes. It also comes with some new features and possibilities.

Improvements have been made on sensitivity, accuracy of the slant range measurement and the TX pulse shape, especially for the R&S®EDS-B4 (500W TX).

This requires different and more complex internal TX calibration data. After an update from an earlier version it is recommended to perform the **TX adjustment procedure**, which is described in the EDS service manual (Chapter 2 – Adjustment).

Remark: The device will *work* without new TX adjustments but cannot profit from the TX improvements to the full extent.

Functionality:

- **R&S®EDS-K5 - Multi DME**
  Distance, Reply Efficiency, level measurement of up to 10 different DME's (sequence)
- **R&S®EDS-Z10**
  Integrated test system (USB dongle)
- With **R&S®EDS-B2** (low power interrogator) it is possible to send a pulse repetition rate of up to 1500 / s (P > 15 dBm) or
  3000 / s (P < 15 dBm)
- **VNC Server** available (CR154)
- The **output power of high power interrogator** (R&S®EDS-B4) can be selected (100W, 250W, 500W).
  Remark: 100 W and 250 W are only available after TX adjustment (CR140).

Bugfixes and Improvements:

- "Reply efficiency average time" and "Search buffer" is replaced by a number of pulses which is used for calculation. (CR163):
- Default minimum reply efficiency is changed from 50% to 20%. Default PRR for track is increased to 25.
  Remark: Please note that the new defaults only become active when pressing "FACTORY DEFAULT" (CR162)
- Bugfix: GPS altitude was invalid on high altitude and low NMEA update rate (CR159)
- Measurement value averages are calculated according to the measurement time selected (CR157)
- Decoding of station ID's with only 2 characters (CR155)
- RTS line setting corrected (CR153)

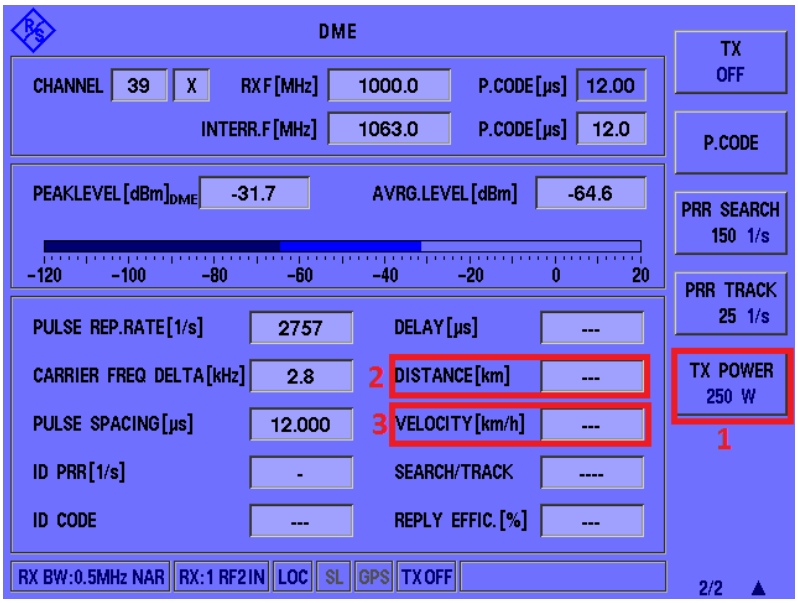
- Improved sensitivity in Single and Multi DME mode (CR143)
- New filter for DME analysis and pulse view. Pulse View in “narrow” mode shows correct pulse timings (CR141)
- Improved accuracy of pulse width, rise- and fall-times with EDS-B4 (HPIU). Remark: Requires TX adjustment (CR136).
- Distance measurement range increased to 400 NM (CR135)
- Pulse spacing in pulse view displayed with three digits (CR131)
- Bugfix: Remote configuration of MDME failed when two slots were on the same channel (CR129)
- Permanent indication in all operational screens show if GPS is present (CR127)
- Permanent indication in all operational screens show if suppressor line is active (CR122)
- Distance value on remote interface extended from one to three digits

Known issues:

- Baseband input not used
- During startup and shutdown some messages indicate “fail”
  The reason is only some configuration flaws in the Linux-scripts, which have no effect on the EDS functionality and can be ignored

Modifications to the documentation:

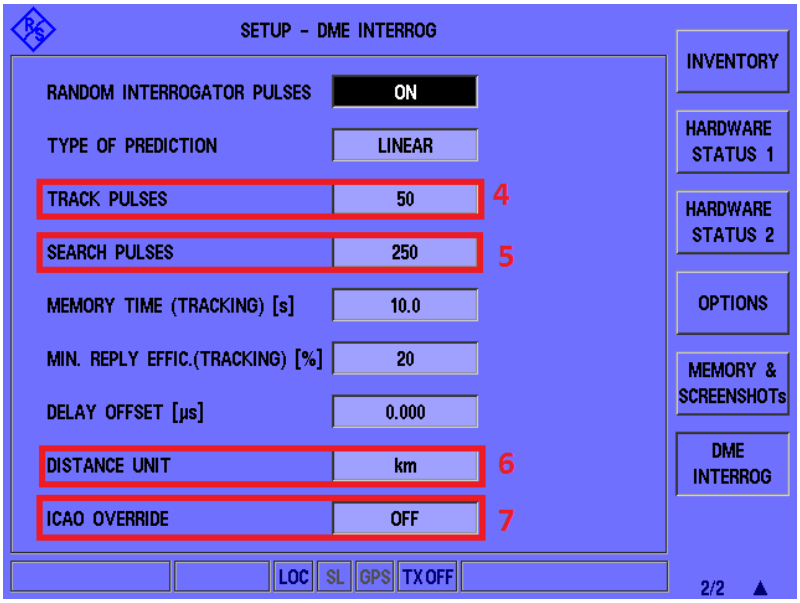
The EDS300 user manual Rev. 02.00 remains valid for SW Release 3.20. However, some details that have changed are described here:



1) EDS300 equipped with B4 500W TX offer a new softkey which toggles between 100W, 250W and 500W.

2) Distance is shown as km or NM, but no longer both at the same time. The unit can be selected in Setup→Page 2 → Distance Unit (see 6)

3) The Velocity between EDS and base station is displayed in km/h or knot, depending on the distance unit (see 6)



4) The number of tracked pulses replaces the “Reply efficiency average time”. The resulting time depends on the PRR that is selected for track.

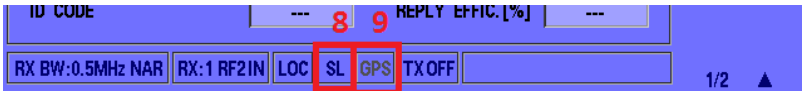
5) The number of search pulses replaces the “Search Buffer” time.

6) Selection of the displayed unit (km or NM)

7) ICAO override: Allows selection of TX parameters which exceed ICAO specs:
- more than 150 pulses for search and track (only with EDS-B2)
- more than 30 pulses for track
- no reduction of search pulse rate after 30 s
Remark: The R&S®EDS300 always starts with ICAO override **OFF**.

8) Suppressor line activity permanently indicated by the letters “SL”
(Screenshot shows line active)

9) GPS signal presence permanently indicated by the letters “GPS”
(Screenshot shows that no GPS is present)



Changes in remote control

New status flags:

X: Outgoing pulse was transmitted (and not suppressed by suppressor line etc.).
Remark: Only for messages with P-flag.

L: Suppressor line was activated.

R: DME pulse was received in reply period.
Remark: Only for messages with P-flag.

New remote commands:

DME:DEMOD_BW?	No parameters	NAR, WIDE	Returns the DME Demodulation Bandwidth
DME:DEMOD_BW	NAR, WIDE	READY.	Set the DME Demodulation Bandwidth
PULSEVIEW:BW?	No parameters	WIDE | NAR	Get the Bandwidth of the Receiver.
PULSEVIEW:BW	WIDE | NAR	READY.	Set the Bandwidth of the Receiver.
SETEXPERT	ON/OFF	READY.	Enable or disable expert features which override ICAO limitations (especially maximum pulse rates)
DST:TXPOWER	Power in W or dBm	READY.	Set the TX Output power. For high power units only predefined values are allowed (100W,250W,500W)
DST:SPULSES	50 .. 1000	READY.	Number of pulses for search evaluation
DST:TPULSES	25 .. 100	READY.	Number of pulses for track evaluation

3.8 EDS300 SW Release 3.11

Release Date: 08.2014

RELEASE 3.11	Version
Main EDS Software	"1.41g" version without TACAN functionality "1.41g TACAN" version with TACAN functionality
Main board FPGA	3.15
Main board CPLD	1.01
RX board FPGA	3.44
LPIU FPGA	1.21

General remarks:

Release 3.11 is just a minor bugfix release that fixes the issue below.
Users who use the Release 3.10 and do not experience this issue do not need to upgrade.

Functionality:

- No changes

Bugfixes and Improvements:

- On some R&S®EDS300 the IF2-Overload warning appears by mistake when the device is warm. (CR128)

Known issues:

- See Release 3.10

3.9 EDS300 SW Release 3.1

Release Date: 12.2013

RELEASE 3.1	Version
Main EDS Software	"1.41g" version without TACAN functionality "1.41g TACAN" version with TACAN functionality
Main board FPGA	3.15
Main board CPLD	1.01
RX board FPGA	3.41
LPIU FPGA	1.21

General remarks:

Release 3.1 offers Multi-DME functionality (option R&S®EDS-K5). This is an additional SW option which measures on up to 10 DME-station simultaneously. There are also some minor bugfixes and improvements.

Please note: after the update it is now required that the FPGA configurations are programmed to permanent flash memory, which may take about 4 minutes. In return this saves up to 10 seconds on each startup.

Functionality:

- The R&S®EDS-K5 option measures level, frequency, pulse-spacing, ID, distance and reply efficiency simultaneously on ten stations. It works with a constant pulse repetition rate of 20/s.
  Remark: Two RX boards and internal interrogator are required.

Bugfixes and Improvements:

- TACAN: improved pulse detector (CR102)
- GPS: position was wrong on distance measurements (CR 109)
- GPS: number of digits reduced to eight (CR110)
- GPS: softkey to enable/disable PPS synchronisation (CR99)
- FPGA configurations now handled in flash memory

Known issues:

- Accuracy of distance measurement has still room for improvements
- Baseband input not used
- TACAN behaviour in unstable receiving conditions still under supervision
- DME / MDME distance measurement: more tolerant prediction parameters

3.10 EDS300 SW Release 3.0

Release Date: 07.2013

RELEASE 3.0	Version
Main EDS Software	"1.36j" version without TACAN functionality "1.36j TACAN" version with TACAN functionality
Main board FPGA	3.05
Main board CPLD	1.01
RX board FPGA	3.24
LPIU FPGA	1.04

General remarks:

Release 3.0 is the second Release of the R&S®EDS300 software, and the first Release for the revised version of the R&S®EDS300 hardware
It supports full support for DME Analysis including distance measurement as well as TACAN Analysis on two RX boards simultaneously.

Functionality:

- **Support for two RX Boards, internal Low Power Interrogator with or without internal High Power Interrogator**
- **DME Analysis**
  Peak Level, Average Level, Pulse Repetition rate, Carrier Frequency Delta, Pulse spacing, ID PRR and ID code

- **R&S®EDS K1 TACAN Analysis**
  Only available as USB stick, to be applied to the EDS device
  Phase- and frequency measurements, Bearing, advanced MRB / ARB analysis
- **R&S®EDS-K2 Pulse View**
  Graphical analysis of DME pulses. Measurement of pulse rise time, fall time, width time, spacing time.
- **R&S®EDS K3 GPS**
  Adds GPS information to each measurement
- **R&S®EDS K4 Distance Measurement**
  Delay, Distance, Reply Efficiency; configurable Search/Track algorithm
- **Full remote control capability**
- **Support for self calibration (production and service only)**

Known issues:

- R&S®EDS-K5 - Multi DME still missing
- Accuracy of distance measurement has still room for improvements
- Baseband input not used
- TACAN behaviour in unstable receiving conditions may need further improvements (“TACAN Track”)

3.11 EDS300 SW Release 2.0

Release Date: 15.02.2011

RELEASE 2.0	Version
Main EDS Software	1.00v
Mainboard FPGA	1.05
Mainboard CPLD	1.01
RX Board FPGA	1.07

General remarks:

Release 2.0 is the first Release of the EDS300 software.
It contains the basic DME functionality for RX on 1 Channel.

Functionality:

- **Support for 1 RX Board**

- **DME Analysis**
  Peak Level, Frequency, Pulse Repetition rate, Pulse spacing, ID PRR and ID code

- **Support for self calibration (production and service only)**

- **R&S®EDS-K2 Pulse View**
  Graphical analysis of DME pulses. Measurement of pulse rise time, fall time, width time, spacing time

- **R&S®EDS-K3 GPS:**
  Get NMEA data from a GPS receiver and apply to each measurement

- **Full remote control capability**

Known issues:

- No support for TX Interrogator, therefore no distance measurement
- Support for only 1 RX Board
- No TACAN analysis
- Pulse view only possible with 10MHz bandwidth.

4 Update Procedures

4.1 Update by USB memory stick

Software updates for the R&S®EDS300 are usually done by using an USB memory stick:

- An update file with ending ".eds" is copied to the memory stick
- Go to Setup → Inventory → Press ENTER
- Follow the instructions on the screen and confirm the update
- Switch R&S®EDS300 off and on again
- Starting with Release 3.1 on the first start after reboot the FPGA configurations are written to flash memory
- SW will run without further reboot

With this procedure, the R&S®EDS300 application file is replaced by a new one. In most cases this is all you need to update an R&S®EDS300 to a new software.

4.2 Update of EDS/EDST-K1 USB stick

The EDS / EDST-K1 option is delivered on a USB stick. This stick is protected against duplication.

If the software on the EDS/EDST is updated it may be necessary to update the K1-stick as well. Always make sure that the software on the device and the content on the K1 stick belongs to the same software release.

Updates of the EDS-K1 software are available on request. Please note that for users outside Germany an export control license is required to distribute the file.

The update comes as a single file with the ending ".tac":

- Connect the R&S®EDS-K1 stick to a PC
- The existing .tac-file must be removed from the main directory. It is recommended to create a subdirectory on the K1 stick and to move the file to this subdirectory, to keep the old file available
- Copy the new .tac file to the main directory of the R&S®EDS-K1 stick
- Make sure the ".tac" ending is in lower case characters
- The other two files on the stick (optionkey.txt and id.txt) shall remain untouched
- Unmount the stick from the PC

4.3 Complete update of application and operating system

If the Linux system needs to be installed on a new R&S®EDS300, or the system gets messed up for whatever reason, the update by USB stick is not possible.

In these cases the R&S®EDS300 needs to boot from an external USB DVD-ROM. An image (ISO)-file of the installation media is available on request. This DVD is bootable and guides the user through the upgrade process, which is a matter of less than 10 minutes.

4.4 Compatibility

The R&S®EDS300 Release 2 and the first revision of the R&S®EDS300 Hardware is no longer supported.

For all following versions, backward compatibility is maintained whenever possible. In general, all EDS300 units shall work well with all present and upcoming software releases.

If not otherwise quoted, the minimum requirement for the R&S®EDS300 software is:

EDS300 Compatibility:	
Mainboard Revision	>= 4.01 (see note below)
RX-Board Revision	>= 4.00
Power Supply Revision	>= 2.01
LPIU Revision	>= 1.00
HPIU Revision	>= 1.00

Starting with SW Release 4.00 the Supressor line output requires:
Mainboard Rev. 7.00 or above, Rev 05.06 or Rev. 06.06

The EDST uses the same boards, but require newer versions:

EDST300 Compatibility:	
Mainboard Revision	>= 7.00
RX-Board Revision	>= 4.00
Power Supply Revision	>= 2.01
LPIU Revision	>= 3.00

5 Additional Information

5.1 TX Delay fine adjustment

Release 4.0 offers higher stability concerning distance measurements. Both EDS300 and EDST300 do benefit from this change. It is necessary to do some self-alignment to achieve full accuracy. The procedure is mandatory after SW updates and shall be repeated every 6 month. It also improves performance when working under extreme temperature conditions.

1.) The EDS300/EDST300 shall be warmed up for at least 15 minutes

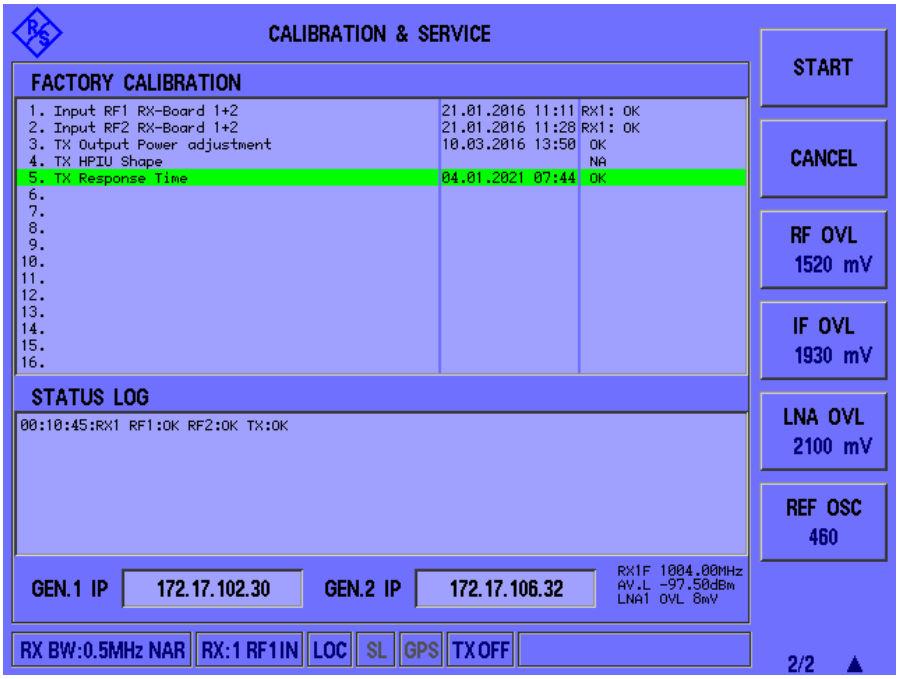
2.) The RF1 connector needs to be terminated with a dummy load that can handle the peak power (EDST300: 1W, EDS300: up to 500W)
Do not use an antenna, as the procedure will TX on all frequencies!

3.) Press CAL, enter PIN code 12345.

4.) Change to page 2 by pressing the arrow-button below the softkeys

5.) Use Cursor keys to select “TX Response Time”

6.) Press Softkey 1 “START”; the procedure will run for 3..4 minutes



5.2 Remote Control with VNC

The EDS300/EDST300 can be remote controlled with VNC.
VNC clients are available as open source and freeware for most existing platforms and operating systems. The clients reproduce the screen content. Keyboard inputs are transferred back to the EDS and are processed as local keystrokes.

Attention: EDS300 units before 2016 may have issues with current VNC clients. An older version like “UltraVNC 1.0.2” is a safe choice.

Please note that only one client at a time is possible.

EDS300 key	PC keyboard
PRESET	Q
SK1	A
SK2	S
SK3	D
SK4	F
SK5	G
SK6	H
SK7	J
MORE	F8
KEY_0	0
KEY_1	1
KEY_2	2
KEY_3	3
KEY_4	4
KEY_5	5
KEY_6	6
KEY_7	7
KEY_8	8
KEY_9	9
POINT	.
MINUS	-
GHZ	F12
MHZ	F11
KHZ	F10
HZ	F9
ESCCANCEL	ESC
ENTER	Enter
BACK	Tab

WHLEFT	Mouse Wheel
WHRIGHT	Mouse Wheel
WHPUSH	ENTER
DME	P
PULSE	UE
SSR	*/+
START	K
STOP	L
RX1_4	OE
CHAN	C
FREQ	Insert
MARKER	B
MODE	X
GPS	N
SEQ	back
CAL	Y
SETUP	I
VOL	R
SAVE	T
MEM	Z
LOCAL	U
FIELDL	F3
LEFT	<
FIELDR	F2
RIGHTPfeil	>
MARK	O
UP	Cursor up
DIRECTORY	F1
DOWN	Cursor down

6 Customer support

Technical support – where and when you need it

For quick, expert help with any Rohde & Schwarz product, contact our customer support center. A team of highly qualified engineers provides support and works with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz products.

Contact information

Contact our customer support center at www.rohde-schwarz.com/support or follow this QR code:

Figure 6-1: QR code to the Rohde & Schwarz support page