

R&S®AREG100A

Release Notes

Firmware Version 4.80.070.26

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1430.3537.00 | Version 11 | R&S®AREG100A | **COMPANY RESTRICTED**

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

The following abbreviations are used throughout this document: R&S®AREG100A is abbreviated as R&SAREG100A

PAD-T-MW_3574_3288_0204_00C/H/EN



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1 Information on the current version and history

To ensure the R&S AREG100A remains highly secure when being updated, only signed updates will be released.

This will make it possible to detect all future unsigned or manipulated updates.

The instrument's behavior can also be configured via "Setup>Security>Security>General>Secure Update Policy".

These settings are password protected.

For more information, see the R&S AREG100A User Manual.

1.1 Version 4.80.070.26

Released January 2024

New Functionality

SCPI: Emulation RTS added	895808
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Fixed Issues

Brightness of Display and RF key is not adjustable	980842
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EIRP and Sensor Info in Power Sensors is only visible after manual click in AREG Config	842444
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Last Factory Calibration shows No Cal Date	932715
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SCPI: *TST shows error message Hardware missing - hardware or software option missing	831791
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Unified sign convention for doppler speed and doppler shift: Positive doppler speed and negative doppler shift equals object movement away from the radar sensor, negative doppler speed and positive doppler shift equals object movement towards the radar sensor.	1044939
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1.2 Version 4.80.070.17

Released: March 2021

New Functionality

Antenna Gain step size reduced	676017
Delay Doppler Board B60 is supported	443719
Entering Doppler Frequency is possible as well as Doppler Speed	756897
Speed of Light was changed to 299700000 m/s	764213
Step size of Doppler speed for B181 is improved	667376

Fixed Issues

EIRP: EIRP shows wrong value after factory preset	637451
EIRP: First reading of EIRP per SCPI shows wrong value	637461
EIRP: Sensor for EIRP cannot be selected via SCPI	637430
Instrument Assembly for CIRC81_AR shows wrong label	683254

1.3 Version 4.60.102.13

Released: October 2019

New Options

R&S®AREG-B181S	76 GHz to 81 GHz, Single antenna configuration
R&S®AREG-B181D	76 GHz to 81 GHz, Dual antenna configuration

New Functionality / Changed Behavior

Fixed Issues

B181: RF can be adjusted only at 78 GHz or 79 GHz	626227
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1.4 Version 4.60.102.12

Released: March 2019

New Options

R&S®AREG-B181S 76 GHz to 81 GHz, Single antenna configuration

R&S®AREG-B181D 76 GHz to 81 GHz, Dual antenna configuration

New Functionality / Changed Behavior

Customer can use own antennas (gain can be manually adjusted) 446762

Fixed Issues

General: default value for Base Attenuation in the manual is now 0.0 dB 520904

NRP: frequency adjustment is now possible after using a NRP for EIRP measurement 504624

1.5 Version 4.50.055.14

Released: September 2018

New Options

R&S® AREG100A Firmware

R&S®AREG-B124S 24 GHz to 24.25 GHz, Single antenna configuration

R&S®AREG-B124D 24 GHz to 24.25 GHz, Dual antenna configuration

R&S®AREG-B177S 76 GHz to 77 GHz, Single antenna configuration

R&S®AREG-B177D 76 GHz to 77 GHz, Dual antenna configuration

R&S®AREG-B61 Fixed Distance 4 meters

R&S®AREG-B62 Fixed Distance Customer Defined

R&S®AREG-B17 Analog IF input / output interface

R&S®AREG-B86 Remote Control (GPIB and USB)

R&S®AREG-K799 Frequency Offset

New Functionality

Initial firmware version for R&S® AREG100A

2 Modifications to the documentation

The current documentation is up-to-date.

This AREG100A is designed to operate at local workplaces or in secured networks (LAN). It should not be accessible from the internet, because this is a potential security risk. As an example, attackers could misuse or damage your device.

Please always install the latest firmware and always use secure remote connections if possible.

It is highly recommended that you work closely with your IT department or system administrator to ensure compliance with your company policies when connecting devices to your company's network.

3 Firmware update

3.1 Validity information

Device	Order Number
R&S® AREG100A Automotive Radar Echo Generator	1430.3508K02

3.2 Downgrade

Generally it is not recommended to use an earlier version than the latest version available. In some cases the older versions do not support the hardware used in your instrument. Before installing this firmware, check if this could happen:

- ▶ Start System Config / Setup / Instrument Assembly / Version/Options
- ▶ In the tab "Firmware", you find the

Downgrade Info	
Package	Version
Factory Version	
Min. Version	4.80.070.22

- ▶ If the version to be installed is greater or equal than the "Min. Version", the hardware will be supported after downgrading. (However, this cannot be guaranteed for all software options)
- ▶ If the version to be installed is lesser than the "Min. Version", not all of the modules will be supported. **Your instrument will not work after downgrading!**
- ▶ Downgrading may fail using standard rsu-Files (eg. due to changes in the instrument configuration file). In this case, press PRESET-Button during power-on or install ISO image available from service department.

3.3 Update information

The update procedure requires that the instrument is operational. There is no need to uninstall the current firmware. Instrument settings are preserved during the update, including user data and network settings.

NOTICE

To perform this procedure, USB Storage must be enabled in security settings. Press the SETUP key, select Security and check USB Storage setting

3.4 Updating the firmware

Required equipment

Software: Firmware update file AREG_4.80.070.26.rsu

Hardware: USB memory stick with enough free space to save the update file (about 400 MByte).

The memory stick does not need to be bootable and previous data on the stick is not affected. Several update files may reside on the stick in parallel. During update procedure the stick is not modified by the instrument.

Prepare Memory Stick



- Download update file to a PC
- Connect USB stick to PC and copy the update file to the root directory
- Wait until copy procedure has finished and remove USB stick

Install new firmware on R&S®AREG100A:

- Connect USB stick to instrument
- Switch on instrument, if instrument is powered off
- Wait a few seconds until "Process Software Update?" message box appears. Confirm by touching the YES Button or pressing the rotary knob.
- Select firmware version using the arrow keys and press knob to start update
- Wait until "Software update successful" message box appears. This may take several minutes
- Remove USB stick and touch the Reboot button
- The instrument now reboots.

Execute internal adjustments (only if indicated)

Internal adjustments can be initiated manually (e.g. after warming up) by performing the followings steps:

- Press  on the instrument front panel.
- Press , select "Internal Adjustments..." and execute "Adjust All". This procedure updates all internal instrument adjustments and will take several minutes.

NOTICE**Risk of DUT damage**

During internal adjustments, the instrument temporarily applies high power at the RF output. High power at the RF output may destroy a connected DUT (device under test).

Adjustments requiring external measurement equipment are not affected by the firmware update and need not to be performed.

3.5 Alternative update procedures

The USB firmware update is recommended for most situations. However, alternative methods for updating the firmware are available:

3.5.1 Firmware update over LAN

Instrument settings are preserved during the update, including user data and network settings.

- Get access to the file system of the instrument using ftp (other methods like samba share is also supported, see application note 1GP72 for details).
Enter `ftp://<ip address or host name>` the file manager
- Copy **AREG_4.80.070.26.rsu** to directory update
- The update procedure starts immediately
- Execute internal adjustments, if indicated

3.5.2 Firmware update using ISO image

NOTICE

Potential loss of data!

User data and user specific instrument settings will be lost during this procedure. Instrument serial number, software license keys and all adjustments requiring external measuring equipment are not affected.

Required equipment

Software:

- ISO image for firmware update **AREG_4.80.070.26.iso**
Please contact the service department to get this file!

Hardware:

- **External** USB CD or DVD ROM burner with USB cable.
- 1 CD Recordable.
- PC with burn program that can burn ISO images onto CD.

About ISO image

This is a standardized file format for creating CD images. A CD image is a single file encapsulating the whole data of a CD including directories and files. Unpacking the image to a CD restores the original data. Almost any CD burning program is able to write CDs based on ISO images.

Update procedure

Burn ISO image onto a CD

On most computers, burning an ISO image can be initiated by simply double clicking the ISO image file. If this is not the case, the manual procedure is similar to the following instructions. Nero Burning ROM (StartSmart) is used in this example.

- Connect the external USB CD/DVD drive to the PC
- Insert a recordable CD
- Start Nero StartSmart
- Select medium „CD“
- Select „Create Data CD“
- From the **Files menu**, open file **AREG_4.80.070.26.iso**
- Click "Burn"

- When finished, close Nero and disconnect external USB CD/DVD drive

Install new firmware on R&S®AREG100A

- Instrument must be switched off
- Connect the external USB CD/DVD drive to the R&S®AREG100A
- Switch on Instrument
- The instrument boots from external drive
- Follow the instructions on screen
- Disconnect the external USB device
- Reboot instrument
- Execute internal adjustments, if indicated

NOTICE

If the CD refuses to boot please ensure that you have burned the ISO-image as an "image" and not as a single file. Check the CD regarding presence of several files.

4 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:



Bild 4-1: QR code to the Rohde & Schwarz support page