Firmware update using base stations RTX8663 and RTX9431

User guide

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1   About This Document

This document is a user guide for firmware upgrade of RTX9431 and RTX8663 base stations, RTX8430, 863x and 8830 handsets, as well as the 8930 headsets.

1.1   Terms and abbreviations

ABBREVIATION	DESCRIPTION
LED	Light Emitting Diode
MAC	Media Access Control
RFPI	Radio Fixed Part Identity
RMA	Return Material Authorization
SIP	Session Initiation Protocol
TFTP	Trivial File Transfer Protocol

1.2   Document History

The table below maps the history of this document, what firmware version it matches and the updates that have been made to it.

REVISION	VERSION	AUTHOR	ISSUE DATE	UPDATES
1.0	V730	LIP	16-04-2024	New document.

1.3   What is new?

What new features have been added to the current revision.

REVISION	FEATURE
1.0	New document

1.4   Related Documentation

List of documentation that has been referred to in this guide.

REFERED DOCUMENT	REVISION	VERSION	COMMENTS
VoIP System Guide	1.0	V730	

1.5   Documentation Feedback

We always strive to provide excellent customer service and therefore, we value your comments and suggestions concerning our documentation. If you have any comments about this guide, please enter them through the Feedback link on the RTX website. We will use your feedback to improve the documentation.

2   Before you start

Prior to the making the upgrade, make sure to do the following:

1. Make sure the firmware files are uploaded to the firmware update server.

2. Check the current firmware version. If the firmware is older than v480b03, upgrade to v480b03 or newer (upgrade to a version lower than v480b03 is not recommended).

3. In a multicell system it is recommended to reboot the system, before starting the firmware upgrade, and check that all base stations is connected before starting the update.

TIP: After rebooting the system go to statistics to see if all base stations were rebooted (have same up time)

3   Firmware upgrade procedure, base station (using HTTP or HTTPs)

1. Start the firmware update either from the base stations' webserver or using provisioning. When updating the base stations, make sure that the firmware update for handset and repeater is turned off, i.e., firmware version and branch are set to zero (0).

2. When the firmware update starts, logout of all base stations and close the browser window.

3. Let the system upgrade and settle before logging in to the web server.

NOTE: By using HTTP or HTTPs, base station downloads the entire firmware file before it starts the update - this can take several minutes. During this time, the base station LED will continue to be green (do not log in to the web server during this time).

4. When the base stations LED start flashing, the firmware is updating.

5. When the LED is steady green on all base stations, let it settle for five min. before logging in to the web server or when the handset starts to SIP register again.

This operation will take about 15-20 min. in total. Please do not reboot or power off the base stations during the firmware upgrade procedure, as this can damage the hardware.

4   Firmware upgrade procedure, base station (using TFTP)

1. Start the firmware update either from the base stations' webserver or using provisioning.

2. Let the system upgrade and settle before logging in to the web server.

3. When the base stations' LED start flashing, the firmware is updating.

4. When the LED is steady green on all base stations, the upgrade is done.

This operation will take about 15-20 min. in total. Please do not reboot or power off the base stations during the firmware upgrade procedure.

5 Firmware upgrade of handset / headset or repeater (using HTTP, or HTTPs)

1. When upgrading a handset / headset or repeater, find a base station with no handset SIP registered. Navigate to the 'Home / Status' page and ensure no handset or headset is located, i.e., no handset or headset is listed at the bottom of the page. (In case below there are 2 handsets present, the list must be empty)

    Screen shot:

    SIP Identity Status on this Base Station:
    6000000@192.168.11.99 (HDJ Server)   Status: OK
    515@192.168.11.99 (HDJ Server)   Status: OK

2. Start the firmware update and make sure that base station firmware update is turned off, i.e., version and branch are set to zero (0).

3. When the firmware update starts, logout of all base stations and close the browser window.

4. If you need to work on the system or check firmware status during the handset/ headset firmware upgrade, login to the base station found at step point 1. This base station has the lowest load and can be used to monitor the status of the firmware upgrade status of all handset/headset/repeaters.

    NOTE: Only login to the base stations if really necessary, best practice is to let system complete the firmware upgrade before working on the base station(s).

5. The handset / headset will download the firmware file but not finish the firmware update until it is placed in a charger. When placed in a charger, it will start flashing. Please do not remove the handset / headset from the charger until it has rebooted, and the display shows the idle screen.

6. Up to 8 Handsets will be able to be updated at a time. (RTX9431 5 handset, RTX8663 8 handset per base station) In case a multi cell system have more than 8 handsets located on each base station you need to turn off the additional handset.

    TIP: Set the "Number of SIP accounts before distributed load" on the multi cell page to 8, then the system will try to distribute handset between base station. Allow 10-15 min for the system to distribute handset before starting Firmware Update.

6 Firmware upgrade of handset / headset or repeater (using TFTP)

There are no limitations when using TFTP Server for Firmware upgrade.

7 Troubleshooting

1. In case not all base stations are updated, it is necessary to log in and do a manual firmware update. When all base stations are updated, they will re-join the multi cell chain (not related to RTX9431).

2. Base station comes into a reboot state where it keeps rebooting.
    a. If it is possible to login to the base station, (keep trying for some minutes, if not successfully the first time), then disable all firmware update on the Firmware update page.

    b. If step a don't solve the issue, do a default from the 'Management' page, when it is defaulted (not related to RTX9431).

    c. If it is not possible to log in to the base station, it needs to be located and defaulted, using the button on the base station (press and hold for 10 sec. until the LED turns solid red).

    d. Reconnect the base station to the multi cell chain (not related to RTX9431).

3. Base station reboots with "Error 59" This is caused by base station running out of memory.
    a. Log out of the webpage and close the browser tab.

    b. Make sure that no base station has no more than 8 handsets located. (See Chapter 4 point 1.)

4. Firmware do not start.
    a. If the handset firmware update does not start and the Extension page indicates FWU progress "Error".

    b. Force reboot, the base station and after reboot check that the firmware update process starts.

5. Base station reboots with "Error 05" assert.

    a. This may happen if the handset/headset is update, while they are not in charger or if the fwu settings are changed before the fwu process is completed.

    b. Make sure all handsets/headsets are placed in a charger and remains connected to the changer during the FWU process.

    c. Make sure to NOT change the FWU configuration unless there is an error in the configuration. An error in the configuration may be corrected to complete the FWU.

NOTE: When the base station has been defaulted, the RFPI and MAC address need to be checked whether or not they are intact - this is done on the 'Home / Status' screen. If they are intact, please follow step 2c. If they are not intact, the base station needs to be replaced and reported as RMA.