



DMR&PDT Repeater Firmware Upgrade Guide

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Documentation Information

This section describes the conventions and revision history of this document.

Documentation Conventions

Instructional Icons

Icon	Description
 Tip	Indicates information that can help you make better use of your product.
 Note	Indicates references that can further describe the related topics.
 Caution	Indicates situations that could cause data loss or equipment damage.
 Warning	Indicates situations that could cause minor personal injury.
 Danger	Indicates situations that could cause major personal injury or even death.

Notational Conventions

Item	Description
“ ”	The quotation marks enclose the name of a software interface element. For example, click “OK”.
Bold	The text in boldface denotes the name of a hardware button. For example, press the PTT key.
->	The symbol directs you to access a multi-level menu. For example, to select “New” from the “File” menu, we will describe it as follows: File -> New.

Revision History


Version	Date	Description
R7.0	02-2015	<ul style="list-style-type: none">● Third release, instructing you to upgrade the firmware to R7.0 (A7.00.09.005 or S7.00.09.005).
R6.5	09-2014	<ul style="list-style-type: none">● Third release, instructing you to upgrade the firmware to R6.5 (A7.00.08.003 or S7.00.08.003).
R6.0	02-2014	<ul style="list-style-type: none">● Third release, instructing you to upgrade the firmware to R6.0 (A6.00.05.004 or S6.00.05.004).
R5.5	08-2013	<ul style="list-style-type: none">● Third release, instructing you to upgrade the firmware to R5.5 (A5.05.10.003 or S5.05.10.003).
R5.1	03-2013	<ul style="list-style-type: none">● Third release, instructing you to upgrade the firmware to R5.1 (A5.01.03.002 or S5.01.03.002).
R5.0	11-2012	<ul style="list-style-type: none">● Third release, instructing you to upgrade the firmware to R5.0 (A5.00.10.005 or S5.00.10.005).● It is applicable to RD96X upgrade.
R4.5	06-2012	Second release, instructing you to upgrade the firmware to R4.5 (A4.05.13.003 or S4.05.13.003).
R3.5	05-2011	Initial release, instructing you to upgrade the firmware to R3.5 (A3.05.10.001).


1. Overview

1.1 Special Instructions before Upgrade


To achieve a successful upgrade of the firmware, please carefully read the instructions below before operation:

- This document can instruct you to upgrade the firmware in repeaters of specific models to **A7.00.09.005** or **S7.00.09.005**. As for the model information, please refer to the section “1.3 Model Information for Upgrade” below.
- Make sure the computer is installed with a USB driver. Otherwise, please install the USB driver first, with reference to the *Hytera USB Driver Installation User Guide* of **V2.01.01.008**.
- After successful upgrade, re-program the repeater with a CPS of or above.
- Do not run other Hytera applications during upgrade. If the upgrade is interrupted by another application, please try the upgrade again by restarting the repeater and entering the download mode.
- Do not disconnect the power of repeater during upgrade. However, if the power is disconnected or error occurs during upgrade, restart the repeater for another try.
- If the operation of USB driver runs out during upgrade, the system may issue “Reading data error!” or “Writing data error!”. In such cases, please try the upgrade again by restarting the repeater and entering the download mode.

 **Caution:** *If the repeater is powered on abnormally or cannot be powered on after upgrade, please try the upgrade again by restarting the repeater and entering the download mode.*

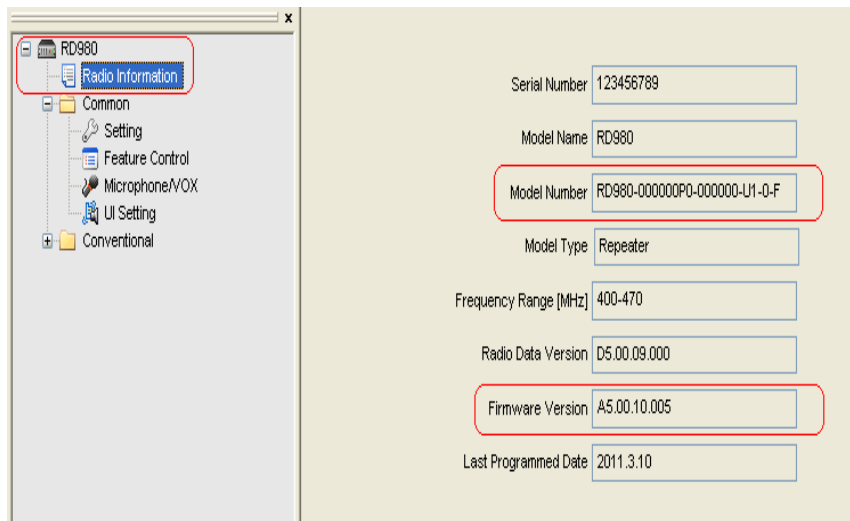
 **Caution:** *If the repeater is abnormally in upgrade processing, please try the upgrade again by restarting the repeater and entering the download mode.*

1.2 Firmware Version Check

 **Caution:** *Please check whether the firmware version is applicable before upgrade. If not applicable, please do not upgrade; otherwise the repeater may get damaged.*

Step 1 Use the match CPS to read data from the target repeater.

Step 2 Check the “Firmware Version” and “Model Number” under “Radio Information”, to see whether it satisfies the requirements specified in the section “1.3 Model Information for Upgrade”. Here we take RD98X for example:



Step 3 Disconnect the CPS and repeater.

Power off the repeater.

1.3 Model Information for Upgrade

Upgrade machine number please reference For radio of UPGRADEKIT tool.

2. Installation of Upgrade Program

Before the firmware upgrade, install the corresponding program in the following steps.

Step 1 Prepare the firmware upgrade package.

Prepare the upgrade package for the repeater to be upgraded, according to your exact needs.

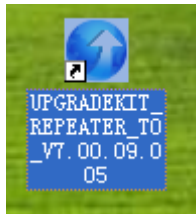
Step 2 Decompress the upgrade package.

You can find the corresponding firmware upgrade guide and setup program.

Step 3 Double click the program (setup.exe) to start the installation.

Step 4 Refer to the interface prompts to finish the installation.

Then you can find a desktop shortcut for this upgrade software.



3. Instruction on RD98X Upgrade

3.1 Requirement

- The function keys of the repeater must have been assigned with dedicated functions before upgrade.



- The PC47 programming cable must be available. See the figure below.



If PC47 is not available, you can use a palm microphone, the microphone hanger and the PC37 programming cable (as shown below).



3.2 Operation

3.2.1 Upgrade Procedure

Step 1 Power off the repeater.

Step 2 Enter the download mode.

- When using the PC47 programming cable, enter the download mode in this way:
 1. Adjust the switch on PC47 to the DL end (do not toggle to the DL end during programming).
 2. Use PC47 to connect the repeater and the computer.
 3. Power on the repeater and enter the download mode.

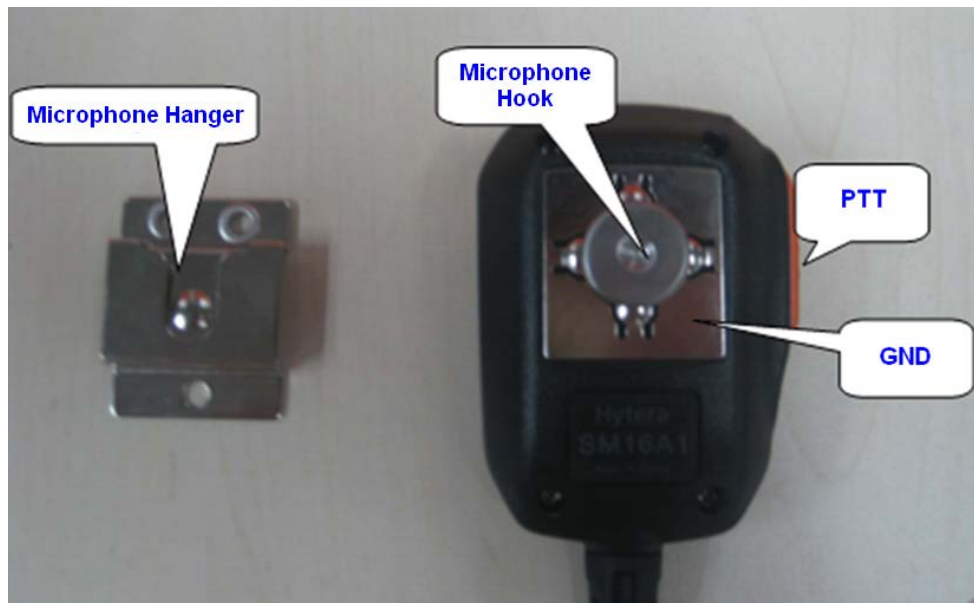
If the repeater enters the download mode successfully, the LED will flash red for several seconds and then glow red solidly. Otherwise, it indicates the access fails. In this case, you need to try to enter again.

After upgrade, adjust the switch on PC47 to the CPS end first, and then power off the repeater.

- When using the palm microphone and its hanger, enter the download mode in this way:
 1. Connect the palm microphone to the 10Pin port on the front panel of the repeater, and hook the palm microphone on the hanger.



Note: If the microphone hanger is not available, you can connect the hook to the GND using a metal conductor.



2. Hold down the **PTT** on the palm microphone and power on the repeater, so as to let the repeater enter the download mode.

When the repeater enters the download mode successfully, the LED will flash red for several seconds and then glow red solidly. Otherwise, it indicates the access fails. In this case, you need to try to enter again.

3. Disconnect the palm microphone from the repeater, and use the programming cable to connect the repeater to the computer.

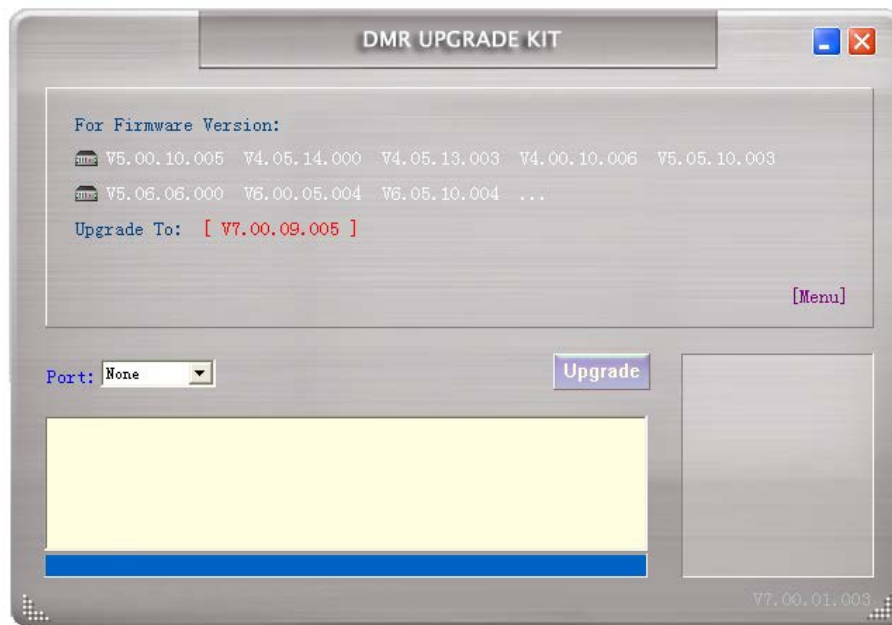
Step 3 (optional) Connect the programming cable to the 10Pin port of the repeater and to the USB port of the computer.



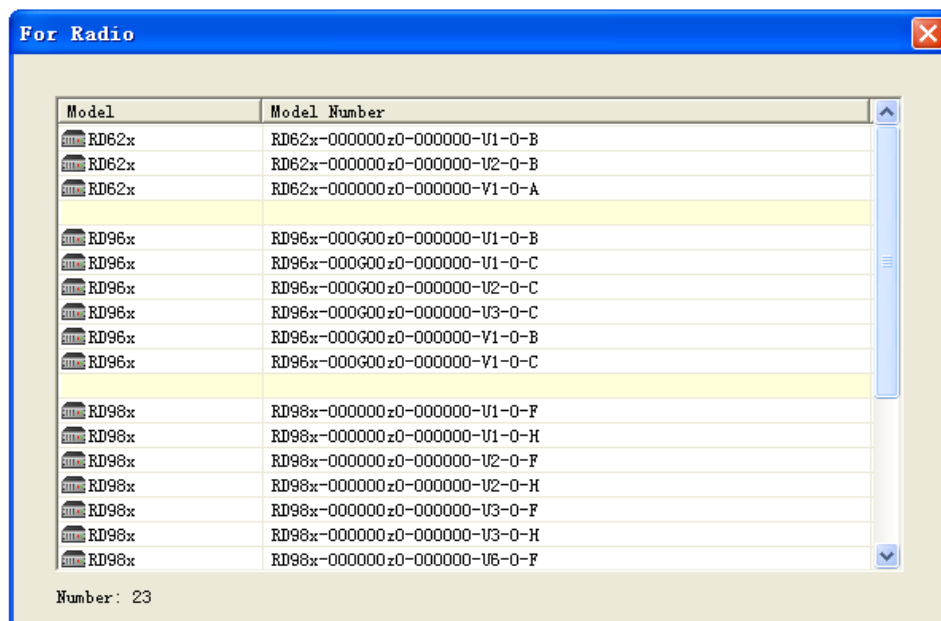
Note: Skip this step if you are using a PC47 programming cable.

Step 4 Enter the main interface of the software by clicking its shortcut.

If a “Restore” button is displayed in the main interface, it indicates the RCDB data error during the previous upgrade. In this case, please restore the repeater with reference to “Step 6” below.



Go to “Menu -> For Radio” and check the model and firmware version, as shown below.



Step 5 Click “Upgrade” in the main interface.

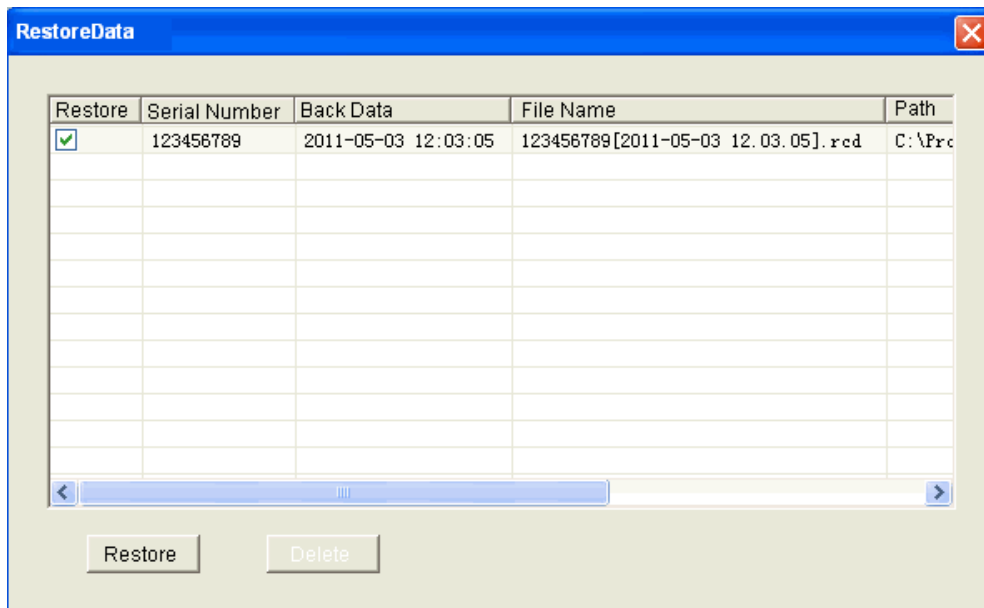
During the upgrade process,

- If the prompt “Open USB failed” appears, check whether the cable is properly connected to the repeater, and whether the USB interface is occupied by other software.
- The prompt “The firmware version [xx.x.xx.xxx] is beyond the upgrade software!” indicates the upgrade package is not compatible with the current firmware or model. Please stop upgrading right away.

- “Reading data error!” or “Writing data error!” or alerts alike indicates the USB connection has timed out. Click “OK”, and try the upgrade again by restarting the repeater and entering the download mode.
- The prompt “Writing data error! RCDB data is already saved to file, from which you can restore your data when necessary.” indicates the RCDB data error during upgrade. Click “OK” and then you can see a “Restore” button in the main interface.

Step 6 (optional) Restore the repeater in case of the RCDB data abnormality, in this way:

1. Click “Restore” to proceed to the corresponding interface.



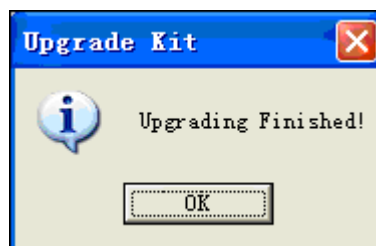
2. Select the serial number of the repeater to be restored, and click “Restore” again.

If the serial number is not available, do not click “Restore”.

3. Refer to Step 4 and Step 5 for further operation.

Step 7 A prompt box as shown below appears upon successful upgrade.

If no prompt appears, please try the upgrade again by restarting the repeater and entering the download mode.



Step 8 Click “OK” and power off the repeater.

3.2.2 Authentication Procedure

After the above operation, the firmware version will be upgraded to **A7.00.09.005** or **S7.00.09.005** .

Perform authentication in this way:

Step 1 Power on the repeater.

Step 2 Press the **Navigation Knob** to enter the main menu.

Step 3 Rotate the **Navigation Knob** to select "Radio Info".

Step 4 Press the **Navigation Knob** again to enter the "Radio Info" interface to check the repeater information.

Step 5 Check whether the firmware version is **A7.00.09.005** or **S7.00.09.005** .

Step 6 Power off the repeater.

4. Instruction on RD96X Upgrade

4.1 Requirement

- The function keys of the repeater must have been assigned with dedicated functions before upgrade.



- The PC47 programming cable as shown below must be prepared.



If PC47 is not available, you can use a palm microphone, the microphone hanger and the PC37 programming cable as shown below.



4.2 Operation

4.2.1 Upgrade Procedure

The procedure for RD96X upgrade is similar to that for RD98X upgrade. Please refer to the section “3 Instruction on RD98X Upgrade”.

4.2.2 Authentication Procedure

As no LCD is designed for RD96X, the firmware information can be checked via the CPS of **V7.00.07.017** in this way:

Step 1 Power on the repeater.

Step 2 Use the CPS of to read data from the target repeater.

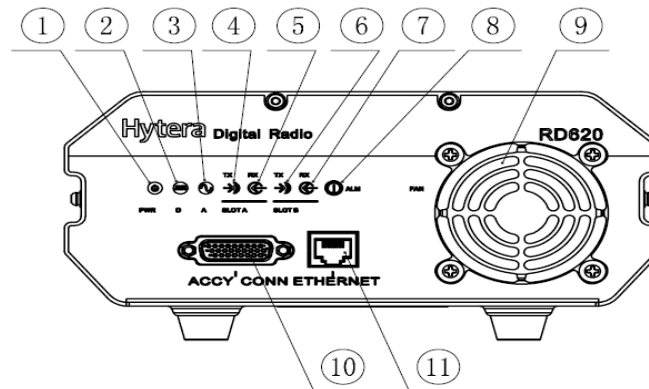
Step 3 Click the “Radio Information” to check whether the firmware version is **A7.00.09.005** or **S7.00.09.005**.

Step 4 Power off the repeater.

5. Instruction on RD62X Upgrade

5.1 Requirement

- The function keys of the repeater must have been assigned with dedicated functions before upgrade.



- The PC75 programming cable as shown below must be prepared.



5.2 Operation

5.2.1 Upgrade Procedure

The procedure for RD62X upgrade is similar to that for RD98X upgrade. Please refer to the section “3 Instruction on RD98X Upgrade”.

5.2.2 Authentication Procedure

As no LCD is designed for RD62X, the firmware information can be checked via the CPS of **V7.00.07.017** in this way:

Step 1 Power on the repeater.

Step 2 Use the CPS of to read data from the target repeater.

Step 3 Click the “Radio Information” to check whether the firmware version is **A7.00.09.005** or **S7.00.09.005** .

Step 4 Power off the repeater.