



BTECH GMRS-RPT50

FIRMWARE UPDATE GUIDE

Firmware 0.1.026R | Release Notes + Update Procedure

Update documentation for the BTECH GMRS-RPT50 repeater platform.

Firmware Version	0.1.026R
Release Date	April 22, 2026
Required CPS	Version 2.0.122
Primary Update Method	Front USB port using the IAP tool
Optional Appendix	RJ-45 update procedure only for units that require it

Important

- The front RJ-45 ("mic jack") update is not required for most repeaters.
- If your hand microphone already supports transmit, skip the RJ-45 procedure.
- Review the optional appendix before attempting any RJ-45 update.

FIRMWARE RELEASE NOTES

Firmware 0.1.026R Release Date: 04/22/2026

Highlights

- Added new front panel and Mic A-B-C-D button assignment options in CPS.
- Limited CPS and firmware channel selection to the 8 GMRS repeater channels.

What's New

New Button Layout Options in CPS

- Added Front Panel CS1 and CS2 user-selectable button options in CPS.
- Added Mic A-B-C-D user-selectable function options in CPS.

- DFU refers to Device Firmware Update, the power-up mode used to place the unit into firmware update mode.
- New CPS required: version 2.0.122.

Channel Availability Corrected

- Updated CPS and firmware so only the allowed 8 channels are available for selection.
- Previously, 16 channels appeared available even though only 8 could actually be used.

Firmware 0.1.023R Release Date: 03/19/2026

Highlights

- Fixed a modulated hum heard when CTCSS tones were operated in some users' unique setups.

What's New

CTCSS Tone Hum Fix

- Corrected a modulated hum that could occur when CTCSS tones were in use in certain unique user setups.

Firmware 0.1.022R Release Date: 03/05/2026

Highlights

- Corrected low/high power display by channel.
- Firmware filename now matches version number.

What's New

Correct Channel Power Display

- Channel low and high power now display correctly.

Firmware Filename Updated

- Firmware file is now named to match the version number: GMRS-RPT50 V.0.1.22R.

Firmware 1.021R Release Date: 02/10/2026

Highlights

- Fully reorganized front-panel menus for cleaner sub-menus and faster setup.
- CW ID level control.
- Reverse Burst TX (ON/OFF) for quieter squelch tails.
- TX power shown on display per channel.
- Fully redesigned CPS.
- Verified timer accuracy for the ID timer and TOT.

What's New

Reorganized Menu System

- Front-panel menus were rebuilt into logical groups and sub-menus for quicker access.

CW (Morse ID) Level Adjustment

- Set the CW ID audio level to match your site or system preferences.

TX Reverse Burst (ON/OFF)

- Optional Reverse Burst reduces squelch tail noise on many radios.
- A brief CTCSS phase-reversal occurs just before TX drops for a quieter transition.

TX Power Level Display (Per Channel)

- The repeater display now shows transmit power level (high/low) per channel.

Updated CPS (Programming Software)

- CPS redesigned for easier programming and workflow.
- Includes a blank codeplug in the ZIP for clean builds, ideal after a factory reset.

Verified Timing Accuracy

- ID timer validated for accuracy, tested at 30 seconds and 10 minutes.
- TX Time-Out Timer (TOT) validated for accurate timing.

Firmware 1.010R Release Date: 04/30/2025**Highlights**

- Display stability improvement for a rare white-screen condition on 1.008R.

What's New**Display Stability Fix**

- Corrected a rare condition where units on 1.008R could show a white display in extreme or remote scenarios.
- Improves overall display reliability under all conditions.

Firmware 1.008R Release Date: 02/26/2025**Highlights**

- Hand mic now supports full TX/RX for base-station-style operation.
- Simplified menus.
- CW ID control and ID tone behavior options.
- More squelch and access mode options.
- Optional password removal.

What's New**Hand Microphone Full Transmit/Receive**

- Mic is no longer configuration-only and can now be used for TX and RX.
- Enables base-station-style operation without needing an external radio, ideal for home, emergency, and mobile setups.

Streamlined Menu

- Removed unused or redundant items to speed up navigation and reduce confusion.

CW ID On/Off

- Added the ability to enable or disable automatic CW (Morse) identification.

Adjustable Squelch Level

- Provides more precise squelch control for weak-signal or noisy RF environments.

Carrier Squelch RX/TX Mode

- Supports carrier-based operation with no CTCSS/DCS required on both RX and TX.

CTCSS/DCS Transmission with Identifier

- CW ID can be sent with or without the configured CTCSS/DCS tone to match system policy.

Password Disable Option

- Allows disabling the password prompt entirely for simpler operation on secured or shared sites.
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Update Procedure

Before you Begin

What You Need

- A Windows PC.
- A USB-A to USB-A cable (included with the repeater).
- The GMRS-RPT50 firmware/CPS package, including the IAP tool, firmware file, CPS, and blank codeplug.

Recommended Best Practice

- For a clean rebuild after the update, use the included blank codeplug.

MAIN UPDATE PROCEDURE

Step 1 | Determine Whether You Need the Front RJ-45 (Mic Jack) Update

- Most users: No. If your hand microphone can transmit, your repeater already has the RJ-45 mic update, and you can skip that procedure.
- Only perform the RJ-45 update if your mic cannot transmit and only works for configuration or if BTECH Support specifically instructs you to do so for your serial number or unit.
- If you do need that procedure, it is included at the end of this document as an appendix.

Step 2 | Update the Main Firmware to 0.1.026R (USB / IAP Tool)

Procedure Note

- These steps install Firmware 0.1.026R through the front USB port.

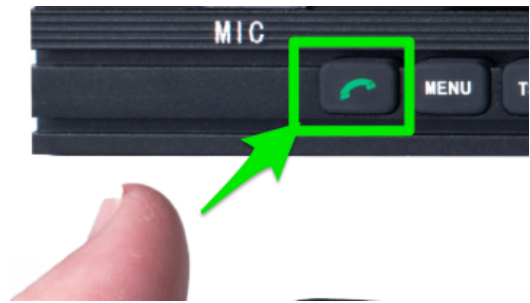
A. Install the IAP Programmer Tool

1. Extract the firmware ZIP to a folder on your computer.
2. Locate and run IAP(setup).exe.
3. Follow the prompts to install.
4. Launch the IAP Programmer Tool from the Start menu or desktop.



B. Put the Repeater into Firmware Update Mode

1. Power off the GMRS-RPT50.
2. Press and hold the Green Key while powering the repeater on.
3. If done correctly, the LCD remains off with a blank display.
4. Connect the repeater's USB port to your PC using a USB-A to USB-A cable.



C. Select the Correct COM Port

1. In the IAP tool, click Seek-Com to detect port
2. Click open to use the Com port.
3. Select the COM port that matches the GMRS-RPT50.

D. Load the Firmware File

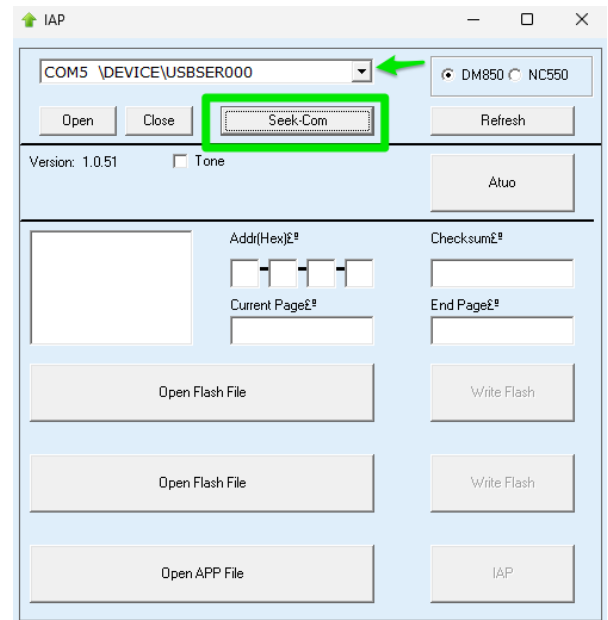
1. Click Open APP File.
2. Select the 0.1.026R firmware .bin file included in the package.

E. Start the Update

1. Click IAP to begin.
2. The tool will write the firmware in blocks.
3. Do not disconnect power or USB during the update.
4. Wait until the IAP tool confirms completion.

F. Close and Reboot

1. Click Close in the IAP tool for safe disconnect.
2. Unplug the USB cable.
3. Power the repeater off, then power it on normally.
4. The repeater should now boot on Firmware 0.1.026R.



Step 3 | Program Using the New CPS

1. Install or open the new CPS included in the ZIP.
2. Read from the repeater and save your updated configuration or load the included blank codeplug to start from scratch.

Update Complete

- Your BTECH GMRS-RPT50 is now fully updated to Firmware 0.1.026R.
- Questions, support requests, or feature suggestions: support@baofengtech.com.
- At BTECH, we are always working to improve our products. We value user feedback and welcome suggestions that may help shape future firmware updates.

APPENDIX: RJ-45 (MIC JACK) UPDATE

Use This Procedure Only If Needed

- Only use this procedure if your hand mic cannot transmit or BTECH Support has specifically instructed you to perform the RJ-45 update.

Contact Support if Needed

- If you do not have the RJ-45 to USB-A cable, email support@baofengtech.com with a picture of the repeater's serial number. A cable will be provided free of charge.

Install ExtraPutty

- Right-click the ExtraPutty installer and choose Run as Administrator.

Put the Repeater in Upgrade Mode

- Power off the GMRS-RPT50.
- Hold the Volume Control knob while powering it on.
- Release the knob when the display lights up and shows the upgrade screen (as picture to the right)

Connect the Cable

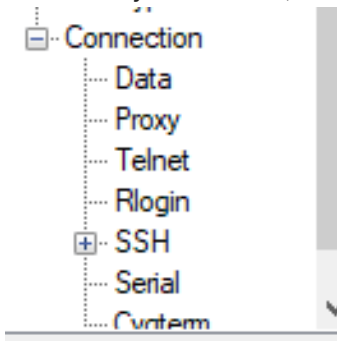
- Plug the RJ-45 to USB-A cable into the front mic jack on the repeater.
- Plug the USB-A end into your computer and confirm Windows detects the connection.

Check Your COM Port

- Open Device Manager and expand Ports (COM & LPT).
- Look for Silicon Labs CP210x USB to UART Bridge (COMxx).
- Note the COM port number.

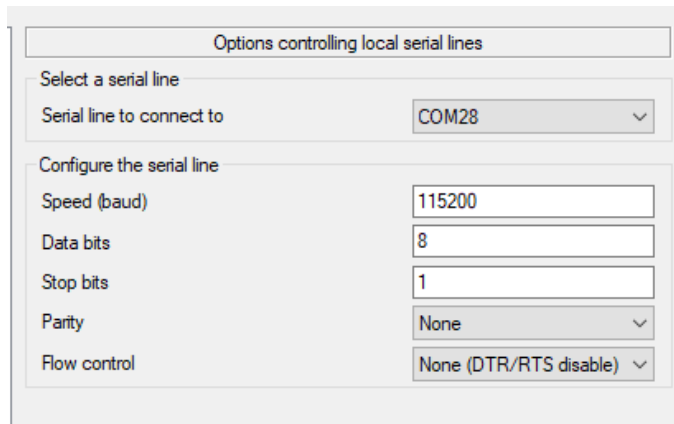
Configure ExtraPutty

- Start ExtraPutty. On the left, click Serial under Connection.

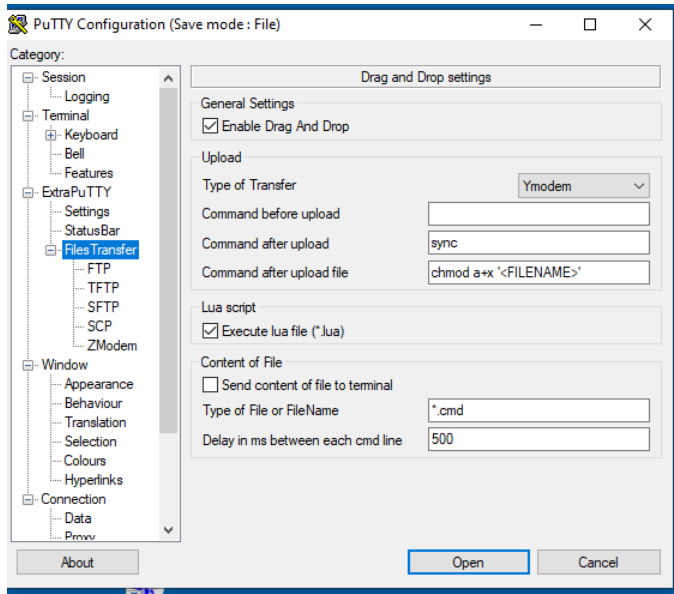


- Enter your COM port number and configure it as required.

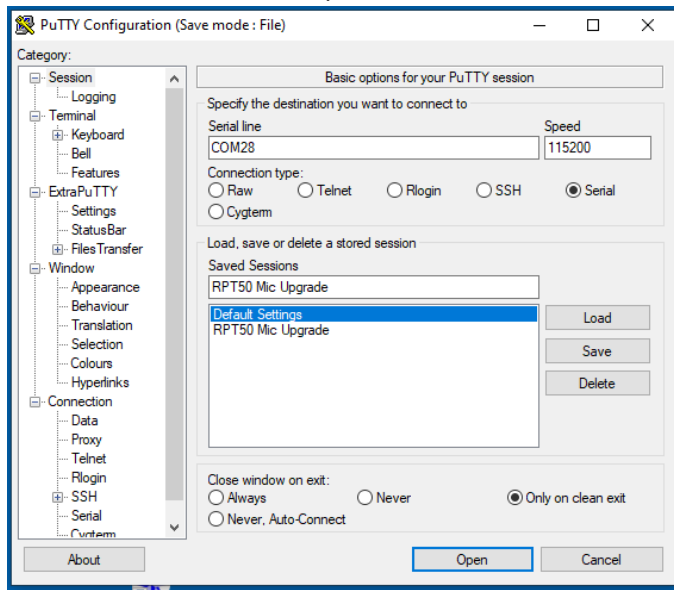




13. Click Files Transfer on the left, then choose Ymodem on the right.

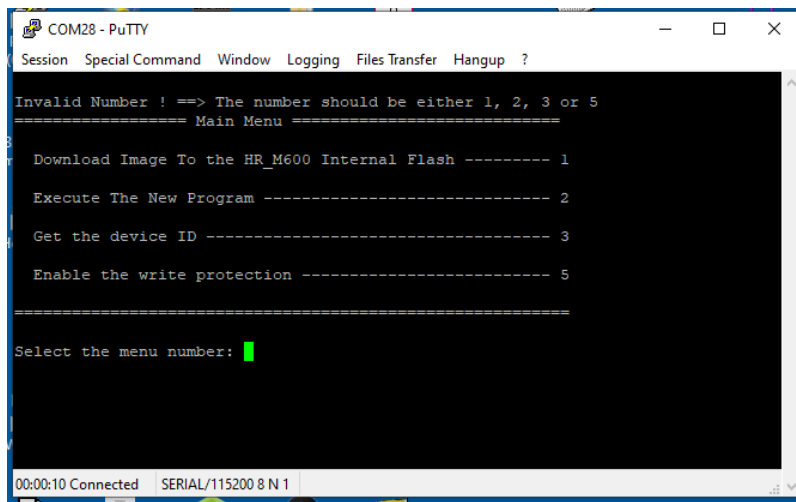


14. Return to Session at the top of the left menu and click Open.

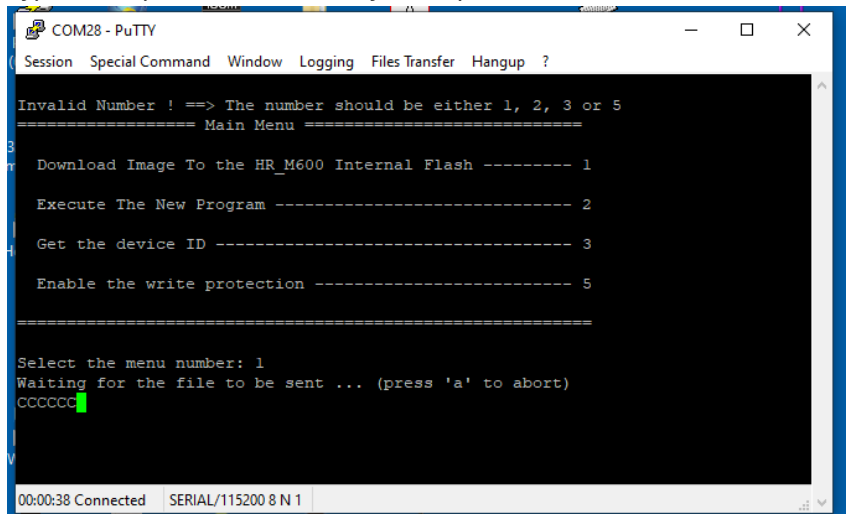


Send the .bin File

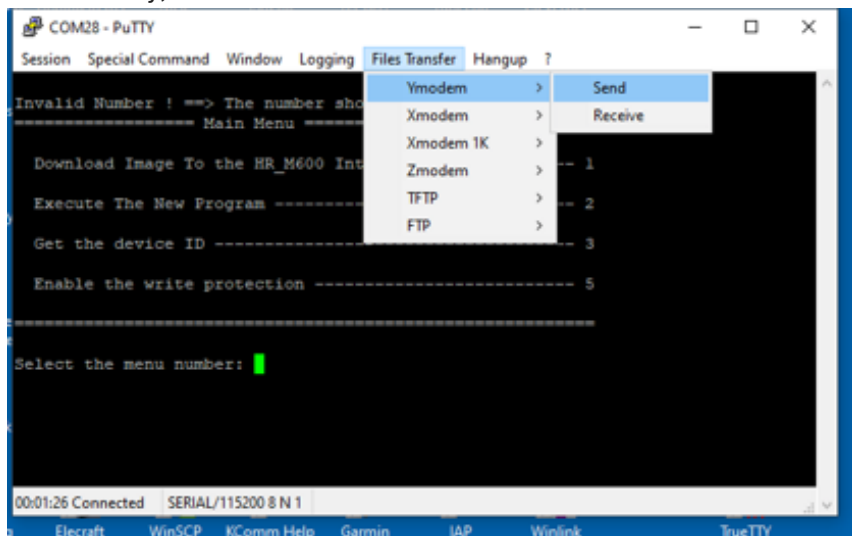
15. In the terminal window, press Enter once. A numbered menu should appear.



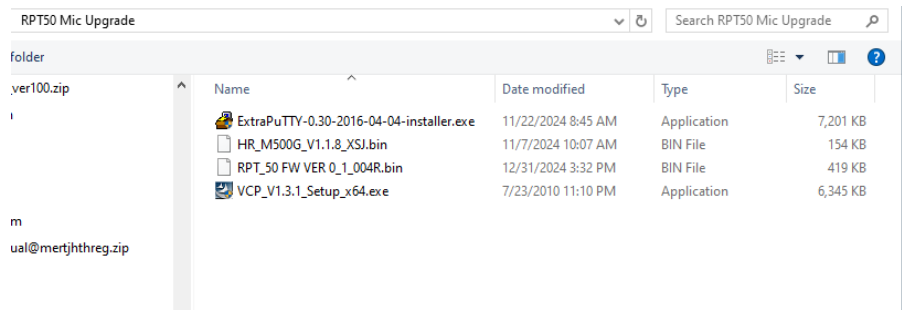
16. Type 1 and press Enter to ready the repeater to receive the file.



17. In ExtraPutty, click Files Transfer > Ymodem-Send.



18. Select HR_M500G_V1.1.9_XSJ.bin.



19. Allow the upload to complete fully, then disconnect the RJ-45 to USB-A cable.
20. Power-cycle the repeater by turning it off and then on again.