



Rhino CB24 Firmware Upgrade Instructions

NOTE: You must use Win2000 or newer 32-bit operating system (Win XP preferred) to complete this upgrade! Do not start otherwise!

WARNING: this is a software patch utility. There is potential for something to go wrong, and for your channel bank to become inoperable. If you want Rhino to perform this upgrade, we will send you a loaner unit and you can send in your unit for upgrade. We will perform the upgrade and test the unit out for you completely. Please contact our technical support desk for this option at 1-800-785-7073. We will ship back your unit via UPS ground, you will be responsible for shipment to Rhino.

NOTE: firmware upgrades for the Rhino can be found on the Internet at the following address:

<ftp://ftp.rhinoequipment.com/CB24/Firmware>

Equipment Needed:

- A) Straight-wired 9-pin serial connection from the PC (DB9-M) to the DB-9 Connector located at the rear of the Rhino. (DB9-F). This is not a NULL modem cable.
- B) Win2000 or newer 32-bit operating system (Win XP preferred)
- C) Rhino Windows GUI application
- D) Rhino CB24 channel bank

Upgrade Process:

--- Instructions for Version 1.06 or higher ---

NOTE: IF you currently have firmware version 1.06 or higher, you can start the boot-loader from the Rhino Windows GUI interface without powering off the unit, or taking off the cover.

- 1) Connect the Rhino and Windows-based computer with a straight-wired DB9 cable
- 2) Launch the Rhino Windows GUI application (CB24RCI Ver. 1.10.exe)
- 3) Using the Rhino GUI, select the proper COM port using the "Serial Port" drop down list. If this is successful, you should see the exact same data on the GUI as what is displayed on the Rhino LCD screen
- 4) Enter the unlock keystrokes on the CB24 or the Rhino GUI to allow access to the Rhino menus (1-3-2-4).
- 5) Click on the "Upload F/W..." button and locate the new firmware file (*.hex).
- 6) The entire upgrade process will now be handled by the GUI, from initiating the boot-loader to programming the CB24 with the new firmware. You will see the Bootloader screen, then once the upgrade begins the Bootloader will count lines received, and the front panel LEDs will blink showing activity. The total number of lines downloaded will match the number in (xxxx) contained in the .hex filename.
- 7) If the GUI upgrade process aborts at any time, you will need to power cycle the CB24, and only use the "Upload F/W..." button to restart the process.

--- Instructions for Version 0.87 or higher ---

NOTE: IF you have V87 or higher, you must start the boot-loader from the keyboard without powering off the unit, or taking off the cover.

- 1) Enter the unlock keystrokes to allow access to the CB24 LCD screen menus.
- 2) Navigate to the Console mode -- System, then Console.
- 3) You will need to hold all 4 buttons down at the same time, start with the left most button and work your way across the buttons.
- 4) Go to step 6 below.

--- Instructions for Version 0.86 or lower ---

- 1) Power off the unit.
- 2) Open the top of the case by removing 14 screws from block lid.
- 3) Short two metal pins at JP22 labeled BOOTLOAD.
- 4) Power ON Unit.
- 5) IMPORTANT: remove the short at JP22 NOW. (or the unit will reset and require reloading again after reboot)

--- Instructions continued ----

NOTE: if any of the next steps fail, you should be able to restart the upgrade back to the boot-loader by simply cycling power. It is possible that it will also require opening the unit and placing a short at JP22 again (see above instructions), and the boot-loader screen data should appear on the display. Be sure to remove the jumper before proceeding with the next steps!

- 6) LCD display should read:
Rhino Equipment Corp CB-Ver 5
Ready to upload firmware
XV 7
Rst: 10000000
- 7) Launch the "CB_Interface.exe" (or RhinoGUI.exe) application on your PC.
- 8) Connect a straight-wired 9-pin serial connection from the PC (DB9-M) to the DB-9 connector in the rear of the Rhino. (DB9-F)
- 9) Chose the correct serial port from the Serial Communications selection box. COM1 is preferable!
- 10) Press the Connect button.
- 11) The Status should go to "Connected."
- 12) Locate and select the file to be downloaded using the Firmware Upload section, using the ... to the right of the file name.
- 13) Click the Upload button.
- 14) The LCD display should start counting lines downloaded; the number of lines downloaded will match the number in (xxxx) contained in the .hex filename.
- 15) When completed, the unit will restart and the firmware version should be at the level downloaded.
- 16) Close the CB_Interface.exe application.
- 17) Remove the DB9 programming cable.
- 18) Power off the unit, and replace the cover and 14 screws (Be careful! Align the front panel buttons first) install the first screw into the center position below the LCD screen.

Done! Please report any issues to us promptly!