User Guide –
Device Firmware Upgrade

Aurawave AW100 Series

Version 1.2-r1

Revision History

Version	Date	Notes	Contributors
1.0	7 Aug 2025	Initial Release	Paul Faget Dave Drogowski
1.0-r1	9 Sep 2025	Update binary names	Garret LoVerde
1.0-r2	23 Feb 2026	Update net-core binary name Update document format	Alex Balmus
1.2-r1	06 Jun 2026	Add clarifications and warnings for the DFU procedure.	Alex Balmus

Contents

1 Introduction

This document applies to the following Aurawave software versions:

- 1.0 to 1.2

1.1 Purpose

This document describes the procedure for which to update the Cloud2GND Aurawave AW100 module firmware using the serial Device Firmware Update (DFU) process.

1.2 Scope

The scope of this procedure includes the acquisition of Nordic Semiconductor serial tools, Cloud2GND firmware binaries, connection of the AW100 module, and the steps to update the firmware of the AW100 module.

Not Currently covered: Updating the AW100 with aftermarket firmware, non Serial DFU processes, or using non-windows platforms for the DFU process.

2 Hardware/Software requirements

1. Cloud2GND AW100-XXX-XX module
2. USB A-C or USB C-C cable
3. Windows PC
4. AuTerm serial terminal application

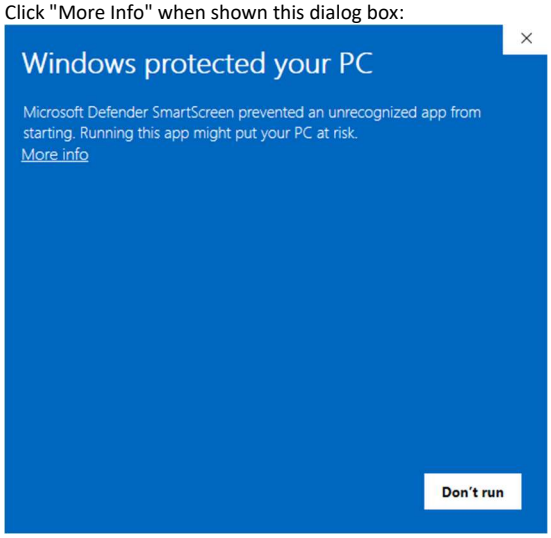
3 Procedure

3.1 Acquisition of software tools

1. Download the AuTerm application from this github repository: https://github.com/thedjnK/AuTerm/releases
   - The AuTerm application is available for multiple platforms, including Windows, Mac, and Linux.
   - Only the Windows DFU process is covered in this procedure, but the DFU process in MacOS and Linux is very similar.

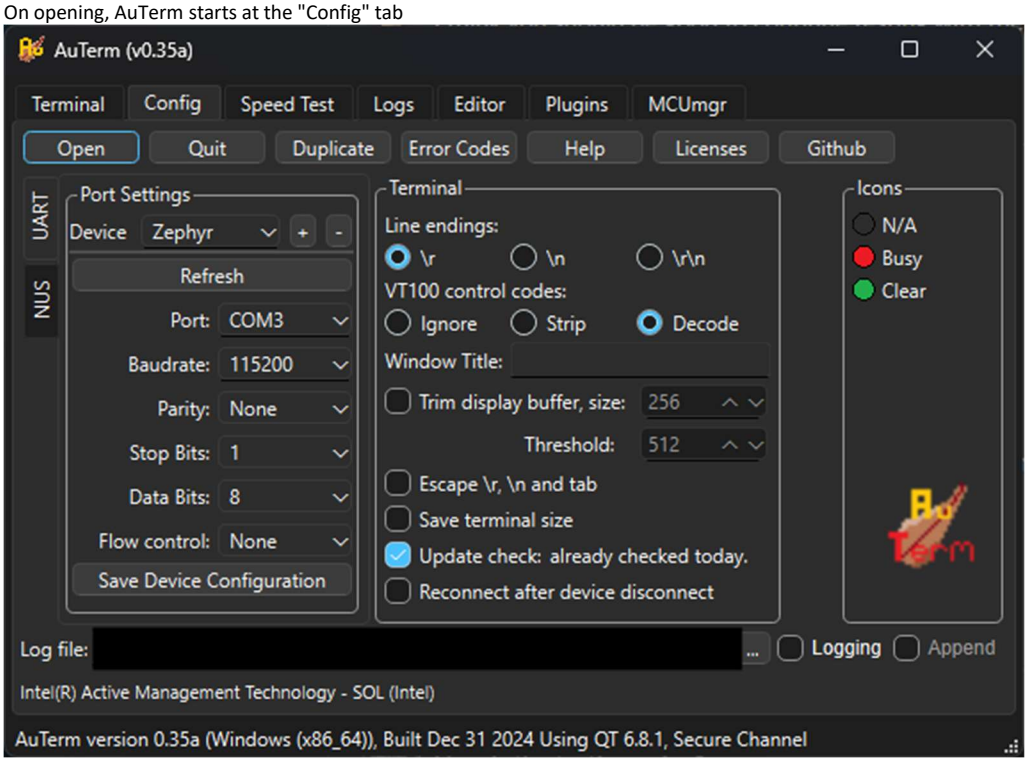
3.2 Running the AuTerm application

1. Run the AuTerm.exe application
2. Windows 11 flags this application as an unrecognized application.
3. Click "More Info" when shown this dialog box:



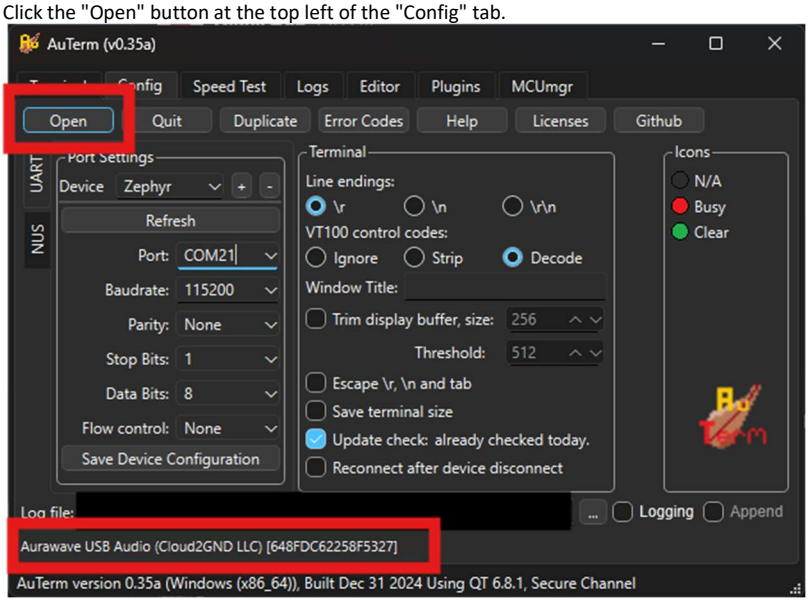
4. Followed by Run anyway on the next screen

5. On opening, AuTerm starts at the "Config" tab



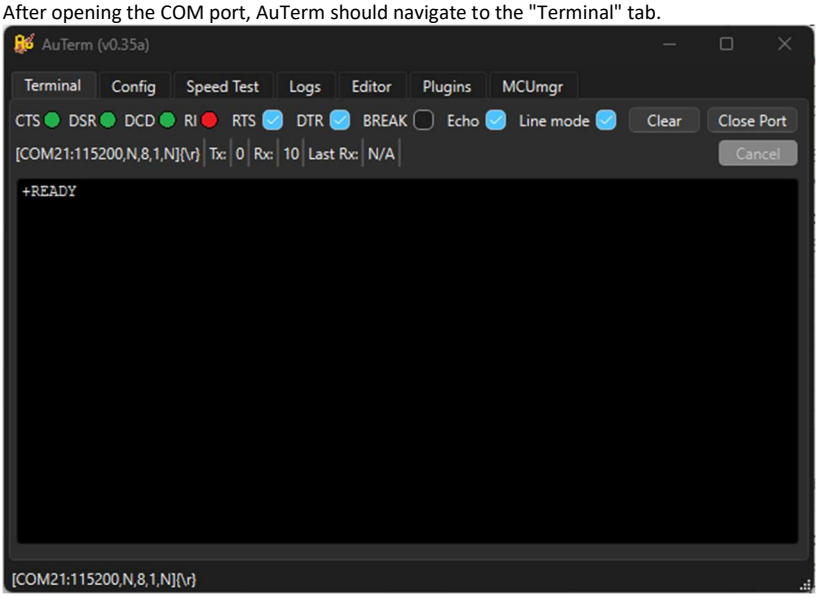
3.3 Configuring AuTerm

1. Connect the AW100 USB-C port to the PC performing the DFU using either a USB-A to USB-C cable or a USB-C to USB-C cable.
   - Windows should recognize both a WDM Audio device and a COM Port device usually followed by an audible tone.
2. After the AW100 device has been enumerated, click the "Refresh" button in the AuTerm "Port Settings" section in the "Config" tab.
3. A COM port assigned to the AW100 should show up in the Port drop-down box, select that device and ensure the following settings are set:
   - Baudrate: 115200
   - Parity: None
   - Stop Bits: 1
   - Data Bits: 8
   - Flow control: None
4. You should notice that the device identifier below the "Log File" line updates to read "`Aurawave USB Audio (Cloud2GND LLC)`"
5. Click the "Open" button at the top left of the "Config" tab.



3.4 Checking firmware version

1. After opening the COM port, AuTerm should navigate to the "Terminal" tab.



2. Type the command `AT+CGMR` and press the Return key.
3. The terminal should read out `+CGMR: Application: "X.X.X" Controller: SoftDevice: Version 6.0 (0x0e), Revision 8424` where the X.X.X reflects the current firmware on the board.
4. Take note of the firmware version and proceed to the next step.

3.5 Putting the AW100 into Serial DFU mode

3.5.1 Using AT Commands

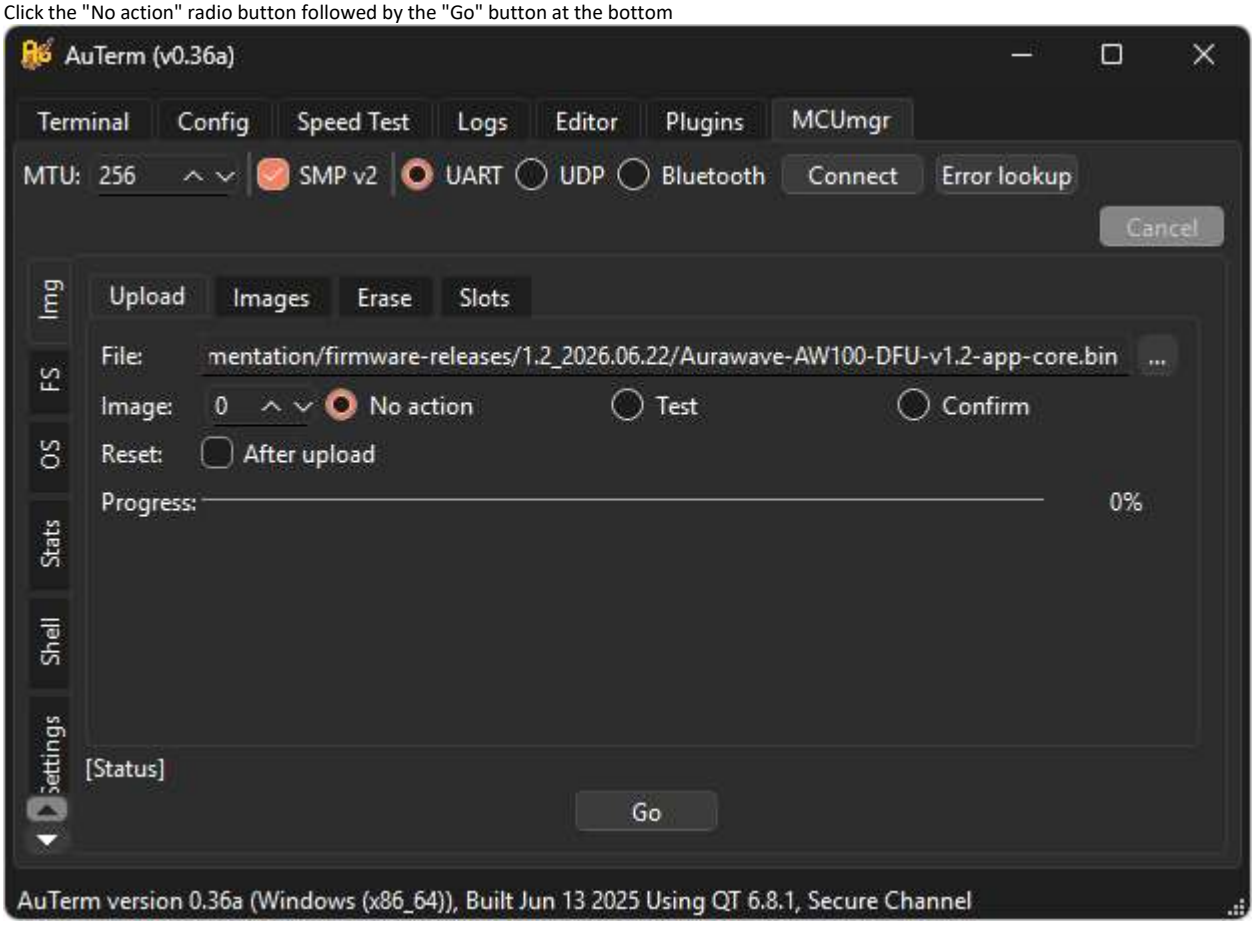
1. In the terminal tab, type `AT+DFU` followed by the Return key.
2. AuTerm will close the COM port with the error message `Fatal error with serial connection. Please reconnect to the device to continue.`
3. The LED should be solid green, indicating that the AW100 is in Serial DFU mode.
4. Reconnect AuTerm to the new COM Port following the steps 2-5 in section Configuring AuTerm.
5. Once in DFU mode, the USB identifier at the bottom of AuTerm should read `MCUBOOT (Zephyr)`

3.5.2 Using the Pushbutton

1. Disconnect the USB cable attaching the AW100 to the computer.
2. Hold down the pushbutton on the AW100.
3. Reattach the USB cable.
4. The LED should be solid green, indicating that the AW100 is in Serial DFU mode.
5. Reconnect AuTerm to the new COM Port following the steps 2-5 in section Configuring AuTerm
6. Once in DFU mode, the USB identifier at the bottom of AuTerm should read `MCUBOOT (Zephyr)`

3.6 Performing the Serial DFU for Application Firmware

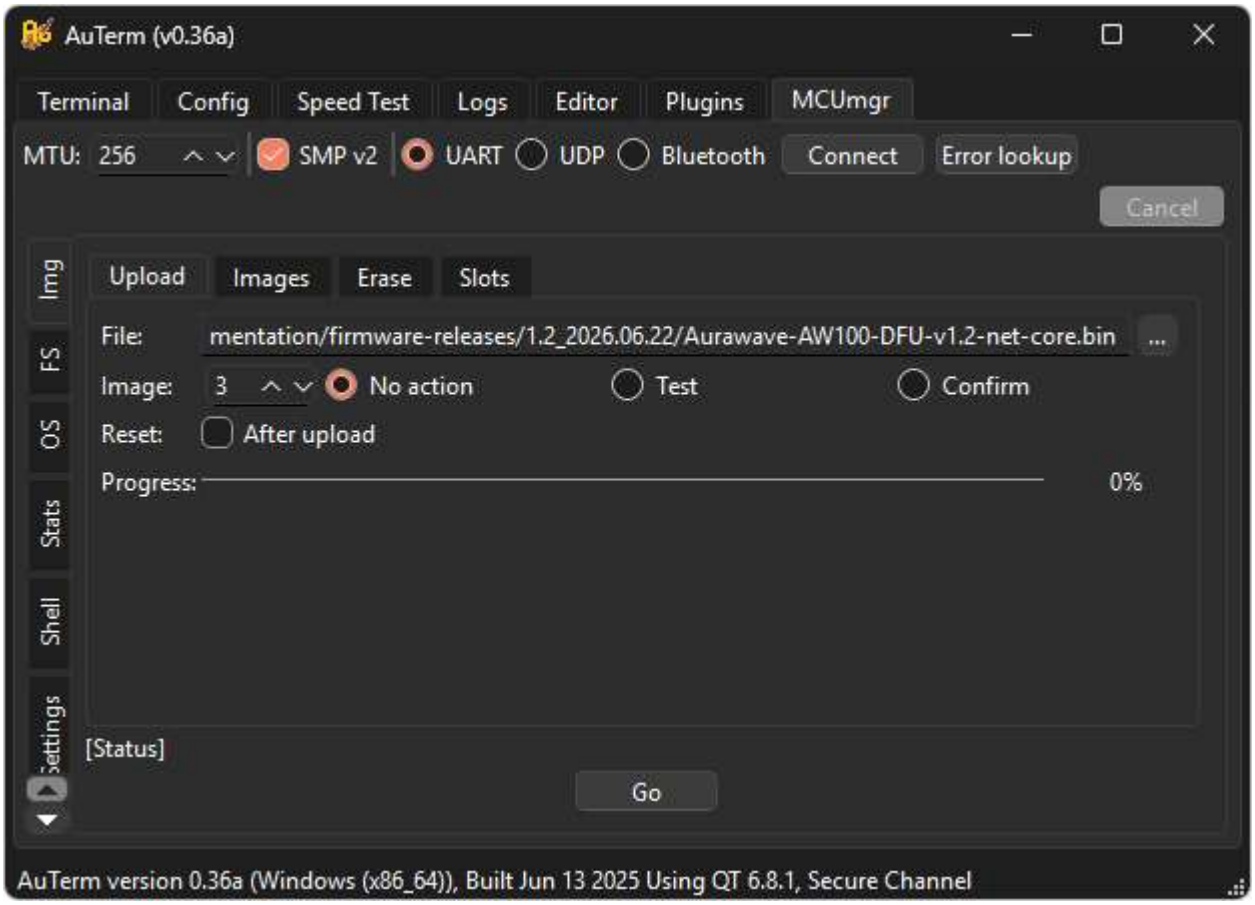
1. Click the **MCUmgr** tab at the top of AuTerm.
2. Click the "**...**" button next to the "File" dialog box
3. Navigate to your application firmware *.bin file, "Aurawave-AW100-DFU-vX.X.X-app-core.bin"
4. Ensure that the **"Image:" index** is set to **"0"**
5. Click the "No action" radio button followed by the "Go" button at the bottom



6. The application firmware should take approximately 20 seconds to complete

3.7 Performing the Serial DFU for Network Core Firmware

1. Press the "^" button next to the "Image:" box until the **"Image:" index** changes to **"3"**
2. Click the "..." button next to the "File" dialog box
3. Navigate to your radio firmware *.bin file, "Aurawave-AW100-DFU-vX.X.X-net-core.bin"
4. Click the "Go" button at the bottom



5. The radio firmware should take approximately 10 seconds to upload.
6. **Important: Allow at least 30 seconds to elapse before power cycling the board** (If not enough time is allowed for the Network Core image to be written to Flash by the Bootloader the device may stop responding or behave erratically after power cycling. To recover the board from this scenario you can put it back into DFU mode by pressing the button while it is being powered on and by re-attempting the DFU upgrade).
7. Power cycle the AW100 by disconnecting and reconnecting the USB-C cable.
8. Reconnect to the COM Port by following the steps in Section Configuring AuTerm.
9. Verify the new firmware version by following the steps in Section Checking firmware version.
   - The firmware version for the application and radio should reflect the expected values from the firmware download page.

Additional Information - Ezurio

Please contact your local sales representative or our support team for further assistance:

Headquarters	Ezurio 388 S. Main St. Suite 330 Akron, OH 44311 USA
Website	http://www.ezurio.com
Technical Support	http://www.ezurio.com/resources/support
Sales Contact	http://www.ezurio.com/contact

Note: Information contained in this document is subject to change.

Additional Information – Cloud2GND

Headquarters	Cloud2GND 4500 Bowling Blvd #100 Louisville, KY 40207
Website	http://www.cloud2gnd.com/
Technical Support	https://cloud2gnd.com/contact/

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