

AFP_CLIENT: BOOTLOADER



DESCRIPTION:

A firmware bootloader is a critical, specialized program that initializes hardware and loads the main application firmware. At start-up, it is the first “low-level” code executed by MEA. If a valid application is detected, the bootloader handovers control from the “low-level” environment to the “high-level” application firmware.

Why Use A Bootloader?

For AFP, a bootloader is a powerful tool for continuous product improvement. Its primary functions include: Adapting the MEA to meet specific OEM (Original Equipment Manufacturer) operator requirements.

- Adding or updating serial communication protocols.
- Allowing for seamless firmware updates in the field.

Running Phases:

The system operates in one of three phases, managing both “low level” and “high level” firmware:

- Running at bootloader level (low level): The MEA stay in the bootloader because no valid application firmware is detected.
- Running at bootloader level (low level): Valid application firmware exists, but the “Auto GO” status is OFF parameter is active, preventing the application from starting automatically
- Running at application level (high level): The bootloader initiates the application firmware automatically when the “Auto GO” status is ON.

Note: “Auto GO” status is a parameter received by serial communication.

BOOTLOADER OPERATIONS

Figure 1:

- Open serial communication port (1).
- Select BOOTLOADER Tab for new windows (2).

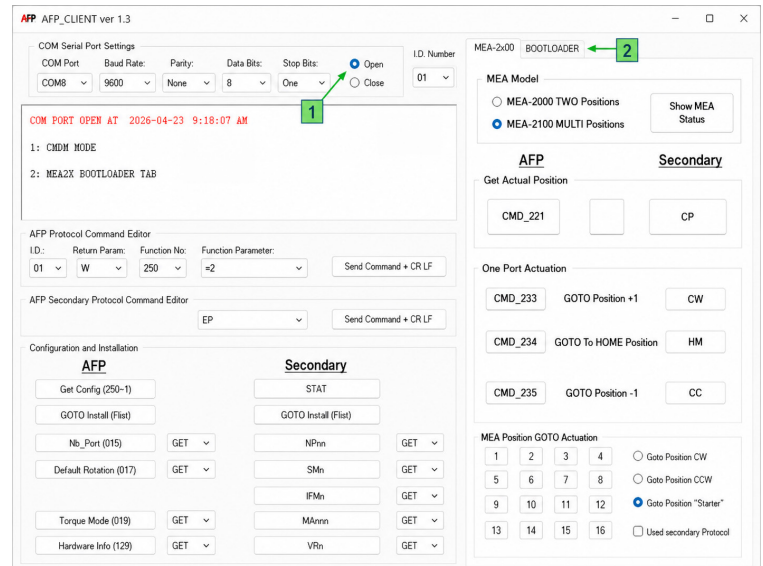


Figure 2:

- Press the **RESET Hardware and Auto_GO_OFF** button to command the application to STOP (3).
- At that point the BOOT firmware will wait for action (4).
- Received the NEW application firmware (5). Press the second button in the bootloader section to select and send the NEW application firmware.

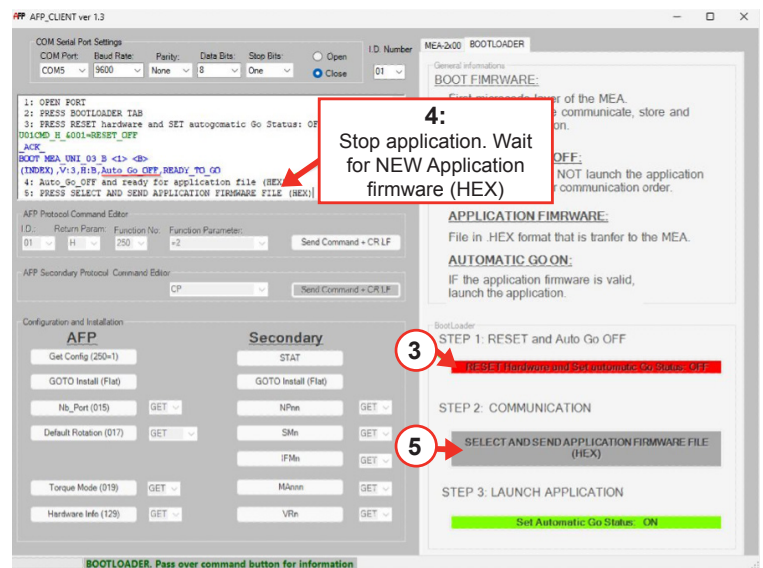


Figure 3:

- Pressing the **Open / Ouvrir** button (5) will initiate a regular windows file explorer. Selecting the file will start the upload.

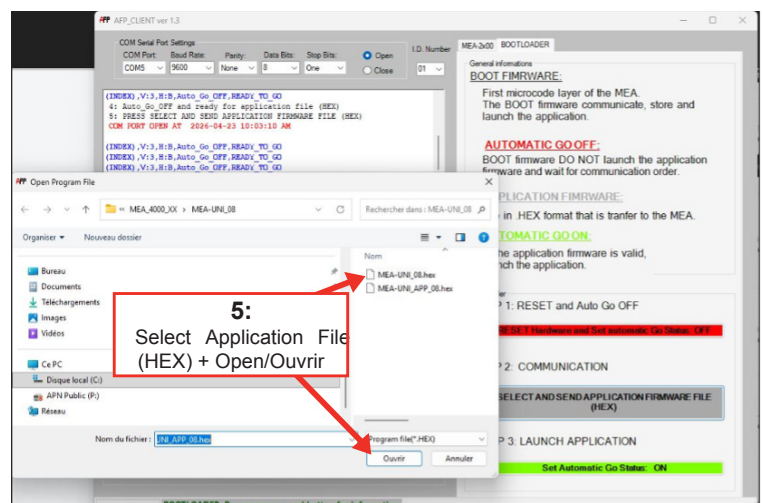


Figure 4:

- Wait for the upload to finish. You can observe the progress of the upload in the terminal windows and in the progress bar.
- At the “**FILE SEND OK**” message **Press OK** to confirm the file transfer.
- Then the AFP_CLIENT will send information in the terminal.

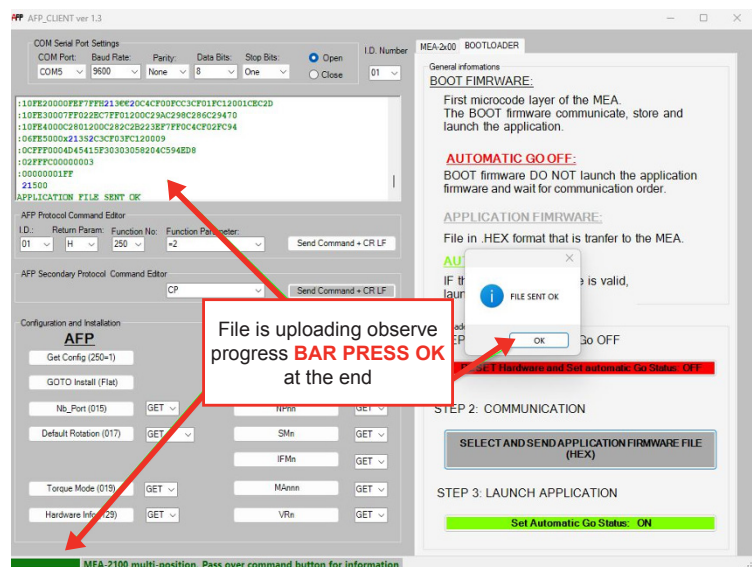


Figure 5:

- At that point, the **BOOT firmware** will wait for action and regularly send information to the terminal window.

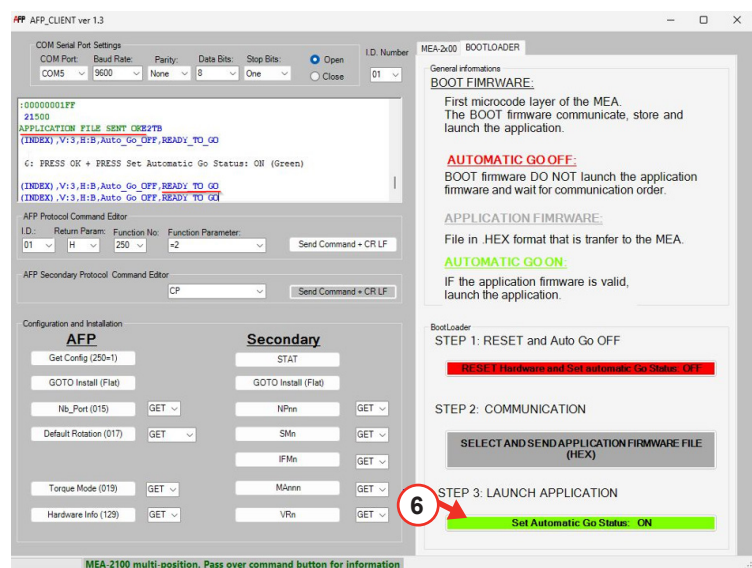


Figure 6:

- **PRESS** Go Status: **ON** (6).
 - The application firmware will start running
- At the next “**power up**” the application will start Automatically after a small delay

