Updating Firmware
Troubleshooting Guide

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PIcon II

- Download the STM32 Update Loader from http://pie-corp.com/utilities/Flash_Loader_v2.6.0_Setup.exe
- Download the latest PIcon II firmware from http://www.pie-corp2.com/.builds/picon2/current/
- Before beginning this procedure, close any programs that may be using the serial port that will be used by this loader program, such as PuTTY or HyperTerm.
- Proceed with Code Update as follows:
    - Connect a USB A to B cable between the computer and the PIcon II.
    - Open Device Manager on the PC to see what com port number was assigned to the device
        - In Device Manager, expand the "Ports (COM & LPT)" section, and look for "USB Serial Port (COMxx)" where xx represents the Com port number that will be used in the program.
    - Power down the PIcon II.
    - Locate the Load switch located in the small round hole beneath the power connection on the back of the PIcon II.
    - Using a small pointed object, such as a straightened paper clip, press and hold the Load switch for approximately five seconds while powering up.
    - Open STM32 Update Loader and use these settings:

Port Name	Com port number confirmed in Device Manager
Baud Rate	256000
Parity	Even
Echo	Disabled
Timeout(s)	10

    - Select Next.
    - Screen will read, "Target is readable. Please click 'Next' to proceed. Select Next. "
        - *If this, or a similar message, does not appear, close the program and go back to the first step.*
    - Verify that Target is STM32_XL_density_1024K. Select Next.
    - Ensure that "Download to device" and "Global Erase" are selected.
        - Press the square button with the 3 dots to open the dialog window to select the file. Ensure that the file type at the bottom of this page is set for .hex.
        - Navigate to the directory that contains the firmware file and select it.
        - Leave all other options on this page as they are. Select Next. A progress bar will begin.
    - Close STM32 Update Loader when complete.
    - Power cycle the PIcon II, ensuring that the PIcon II is powered off for at least 10 seconds.
- Note: PIcon II will need to be configured before use.
    - See the PIcon II Installation Manual for details.

Omega JR

- Download the STM32 Update Loader from http://pie-corp.com/utilities/Flash_Loader_v2.6.0_Setup.exe
- Contact PIE for the latest firmware
- Before beginning this procedure, close any programs that may be using the serial port that will be used by this loader program, such as PuTTY or HyperTerm.
- Proceed with Code Update as follows:
    - Connect a USB A to B cable between the computer and the Omega JR.
    - Open Device Manager on the PC to see what com port number was assigned to the device
        - In Device Manager, expand the "Ports (COM & LPT)" section, and look for "USB Serial Port (COMxx)" where xx represents the Com port number that will be used in the program.
    - Power down the Omega JR.
    - Locate the small LOAD button on the PC board of the Omega JR.
    - Using a small pointed object, such as a straightened paper clip, press and hold the LOAD button for approximately five seconds while powering up.
    - Open STM32 Update Loader and use these settings:

Port Name	Com port number confirmed in Device Manager
Baud Rate	256000
Parity	Even
Echo	Disabled
Timeout(s)	10

    - Select Next.
    - Screen will read, "Target is readable. Please click 'Next' to proceed. Select Next. "
        - *If this, or a similar message, does not appear, close the program and go back to the first step.*
    - Verify that Target is STM32_XL_density_1024K. Select Next.
    - Ensure that "Download to device" and "Global Erase" are selected.
        - Press the square button with the 3 dots to open the dialog window to select the file. Ensure that the file type at the bottom of this page is set for .hex.
        - Navigate to the directory that contains the firmware file and select it.
        - Leave all other options on this page as they are. Select Next. A progress bar will begin.
    - Close STM32 Update Loader when complete.
    - Power cycle the Omega JR, ensuring that the Omega JR is powered off for at least 10 seconds.
- Note: Omega JR will need to be configured for a dispenser brand before use.
    - See the Configuring the Dispenser Brand section of the Omega JR Installation Manual for details.

RS485 Smart DBox

- Download the STM32 Update Loader from http://pie-corp.com/utilities/Flash_Loader_v2.6.0_Setup.exe
- Download the latest RS485 Smart DBox firmware from http://www.pie-corp2.com/.builds/smart_485_dbox/current/
- Before beginning this procedure, close any programs that may be using the serial port that will be used by this loader program, such as PuTTY or HyperTerm.
- Proceed with Code Update as follows:
    - Connect a Serial cable from the PC to the RS232 port of the DBox.
    - Power down the DBox.
    - Jumper the pins for RS232 at P2
    - Locate the small LOAD button on the PC board of the DBox.
    - Using a small pointed object, such as a straightened paper clip, press and hold the LOAD button for approximately five seconds while powering up.
    - Open STM32 Update Loader and use these settings:

Port Name	Com port number confirmed in Device Manager
Baud Rate	256000
Parity	Even
Echo	Disabled
Timeout(s)	10

    - Select Next.
    - Screen will read, “Target is readable. Please click ‘Next’ to proceed. Select Next. ”
        - *If this, or a similar message, does not appear, close the program and go back to the first step.*
    - Verify that Target is STM32_XL_density_1024K. Select Next.
    - Ensure that “Download to device” and “Global Erase” are selected.
        - Press the square button with the 3 dots to open the dialog window to select the file. Ensure that the file type at the bottom of this page is set for .hex.
        - Navigate to the directory that contains the firmware file and select it.
        - Leave all other options on this page as they are. Select Next. A progress bar will begin.
    - Close STM32 Update Loader when complete.
    - Power cycle the DBox.

Mechanical Relay/EMR3

- Download the STM32 Update Loader from http://pie-corp.com/utilities/Flash_Loader_v2.6.0_Setup.exe
- Download the latest Mechanical Relay/EMR3 firmware from http://www.pie-corp2.com/.builds/mech_relay/current/
- Before beginning this procedure, close any programs that may be using the serial port that will be used by this loader program, such as PuTTY or HyperTerm.
- Proceed with Code Update as follows:
    - Connect a Micro USB cable between the computer and the DIAG port on the PC board
    - Open Device Manager on the PC to see what com port number was assigned to the device
        - In Device Manager, expand the "Ports (COM & LPT)" section, and look for "USB Serial Port (COMxx)" where xx represents the Com port number that will be used in the program.
    - Power down the Mechanical Relay/EMR3.
    - Locate the small LOAD button on the PC board of the Mechanical Relay/EMR3.
    - Using a small pointed object, such as a straightened paper clip, press and hold the LOAD button for approximately five seconds while powering up.
    - Open STM32 Update Loader and use these settings:

Port Name	Com port number confirmed in Device Manager
Baud Rate	256000
Parity	Even
Echo	Disabled
Timeout(s)	10

    - Select Next.
    - Screen will read, "Target is readable. Please click 'Next' to proceed. Select Next. "
        - *If this, or a similar message, does not appear, close the program and go back to the first step.*
    - Verify that Target is STM32_XL_density_1024K. Select Next.
    - Ensure that "Download to device" and "Global Erase" are selected.
        - Press the square button with the 3 dots to open the dialog window to select the file. Ensure that the file type at the bottom of this page is set for .hex.
        - Navigate to the directory that contains the firmware file and select it.
        - Leave all other options on this page as they are. Select Next. A progress bar will begin.
    - Close STM32 Update Loader when complete.
    - Power cycle the Mechanical Relay/EMR3, ensuring that the Mechanical Relay/EMR3 is powered off for at least 10 seconds.
- Note: Mechanical Relay/EMR3 will need to be configured for a dispenser type before use.
    - Refer to Troubleshooting Guide - Accessing Diagnostics - Micros to make the connection to DIAG
    - Once connected, press Esc to display the menu
    - At the top level of Diagnostics, select S to enter a security Code
    - An Access Code appears. This numeric value is subtracted from 100. The two digits which result should be reversed and entered at the Enter Security Code prompt. (For example, if the

Access Code is 79, subtract 79 from 100 for a result of 21. Reverse these two digits and enter 12 at the Enter Security Code prompt.) Press Enter.
    - Select C to Select Dispenser Type.
    - Press T until Mechanical Relay shows in the square brackets.
    - Press Esc to exit and save the setting.

FuelDirect

- FuelDirect updates will fall into two categories based on the version number already installed
    - Versions 057.007.050-rc14 and older use a USB security dongle only
        - If updating from 057.007.050-rc14 or older to 057.007.050-rc14 or older, only the FuelDirect.exe file needs to be updated in the FuelDirect directory.
            - Files can be downloaded from here.
        - If updating from 057.007.050-rc14 or older to 057.007.051 or newer, an uninstall and reinstall will be required.
            - Download *FuelDirect.exe* from the 057.007.xxx directory here.
            - Download and run *fd_setup-new-install.exe* from the base_installer directory.
            - Point to the *FuelDirect.exe* file when prompted during the installation.
    - Versions 057.007.051 and newer use a software license for security and require more of an environment change when updating.
        - If updating from 057.007.051 or newer to 057.007.051 or newer, download *FuelDirect.exe* and *fd_setup-update-install.exe* from the 057.007.xxx directory here.
            - Run the installer and point to the *FuelDirect.exe* file when prompted during the installation. This will update your FuelDirect environment.
            - Older versions can be downloaded from here.

XPort

- Download the necessary files
- Extract the files
- Right-click on xport-load.bat and select Edit
    - Change the IP address in line 1 to the address of the XPort to be updated
    - Save the file
- Double-click on the file to execute the file and update the XPort
- Note: It may be necessary to enable TFTP Client on Windows. First, go to Control Panel/Programs and Features and select "Turn Windows features on or off". In the Windows Features window, click the checkbox next to TFTP Client and press OK.
- Note: Jumper settings for the RS485 DBox must be changed to XPORT, XPORT, LB if FuelDirect version is 057.007.050-rc10 (January 14, 2017) or newer.