Flash Loader Use

The Flash Loader (STS part number 234362C) is a small circuit board approximately 2 inches square which may be used to upload FMU firmware images to an FMU-2500Plus main board, or to copy FMU firmware images from an FMU-2500Plus main board into the Flash Loader. The application also applies to FMU-3500 and FMU-3505 fixed passive units, as well as FMU-2525 and FMU-3535 mobile units.

The Flash Loader was developed soon after development of the FMU-2500Plus for uploading firmware images to an FMU-2500Plus main board. This use applies to all FMU-2500Plus main boards. Now it may also be used to copy firmware images from an FMU-2500Plus main board. The copy application must be with FMUs utilizing 3.66 or later firmware, and main boards with CPLD (Complex Programmable Logic Device) version 4 or later.
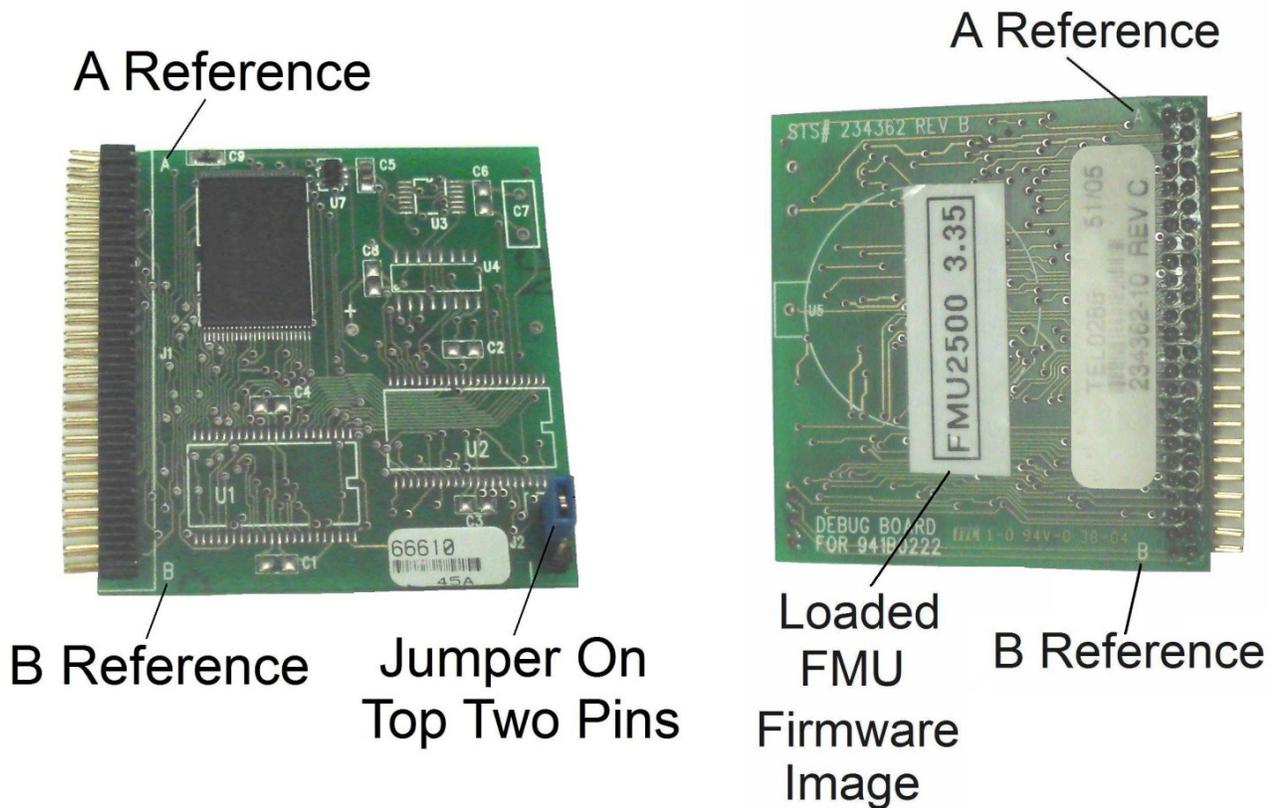

Figure 1. Flash Loader (Both Sides Views)

In FMUs using firmware version 3.65 or later, the CPLD version of any installed FMU-2500Plus circuit boards may be determined with a laptop connection (see To Copy FMU Firmware Images from the FMU Main Board to the Flash Loader).

CAUTION Failure to remove FMU power, or to match the A and B reference markings when installing the Flash Loader will damage the Flash Loader.

To transfer firmware images from/to the Flash Loader, FMU power must be turned off and the Flash Loader must be plugged into the DEBUG MEMORY receptacle on the FMU main board. The receptacle and Flash Loader are labeled with A and B reference markings. Ensure the A and B markings are matched when installing the Flash Loader.

The Flash Loader has a two-pin jumper which is installed on the top two pins of J2 on the Flash Loader when transferring a firmware image to the FMU main board, and removed when transferring a firmware image from the main board to the Flash Loader.

It is important to somehow identify the firmware image loaded on the Flash Loader, and to remember to change the identifier when loading a new image. There is no other way to determine the image version on the Flash Loader without loading it onto an FMU main board.

A Flash Loader may be sent to an installer for use to transfer firmware images into an FMU-2500Plus main board.
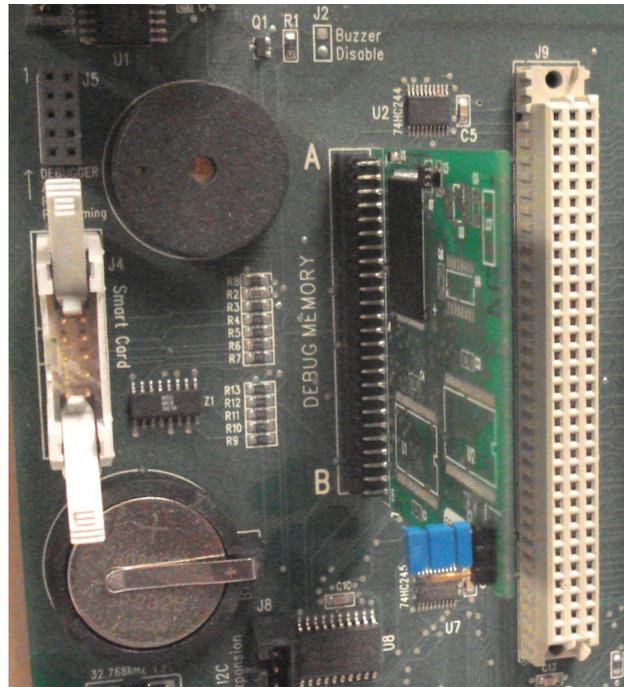

Figure 2. Flash Loader Installed in Main Board DEBUG MEMORY Receptacle

Copy FMU Firmware Images from the Flash Loader to the FMU Main Board

The copy process does not remove the firmware image from the Flash Loader. It is copied. Perform the following:

1. Verify the jumper is installed on the Flash Loader top two pins

2. Verify FMU power is turned off.

3. Carefully plug the Flash Loader into the FMU main board DEBUG MEMORY receptacle matching A to A, and B to B.

4. Turn on FMU power. The firmware image will be transferred from the Flash Loader to the FMU main board. Display prompts will appear on the FMU display showing progress of the transfer.

5. When the transfer is complete, turn off FMU power and remove the Flash Loader.

6. Restore FMU power. The display should reflect the new firmware image as the FMU initializes.

Copy FMU Firmware Images from the FMU Main Board to the Flash Loader

Perform the following:

1. Verify the FMU is using FMU firmware version 3.66, or later.

2. Verify the FMU main board is CPLD version 4 or later.

    a. Make a laptop connection in accordance with Product Bulletin 111

    b. Type Procomm command F8

    c. The CPLD version of the FMU main board will be listed

    d. Disconnect the laptop connection.

3. Verify the jumper is removed from the top two pins of the Flash Loader

4. Verify FMU power is turned off.

5. Carefully plug the Flash Loader into the FMU main board DEBUG MEMORY receptacle matching A to A, and B to B.

6. Turn on FMU power.

7. Using a Supervisor Key, go to System>Flash, and select WRITE TO FLASH LOADER. The firmware image will be transferred from the FMU main board to the Flash Loader. Display prompts will appear on the FMU display showing progress of the transfer.

8. When the transfer is complete, turn off FMU power and remove the Flash Loader.

9. Label the Flash Loader with the new firmware image version

10. As required, restore FMU power.

Date	Description
6/27/2013	Original
7/1/2013	Revised
	Added procedure "To Copy FMU Firmware Images from the FMU Main Board to the Flash Loader"
3/31/2016	Revised
	Format changes only
2/11/2021	Reformatted/rebranded