635-FTS Board Flashing Procedure (via 600/635 Factory Port)

This procedure describes how to flash a **target board** via the Factory port using an **FTS Cable** and the **635-FTS CPU** *Factory Test Station*. The **FTS-CPU** must be operating at v10.4.9 or higher. The *600-* or *635-model target board* that is being flashed can be a CPU or any Daughter Board. If the *embedded flash* in the FTS-CPU is not the desired *target flash version*, you can upload a *target flash file* into the memory slot.

MATERIALS AND REQUIREMENTS

Materials ▼	Requirements ▼	
• **Laptop/PC** and **Cat5e cable**	1. **IP Address of CPU** (Default Factory = **192.168.0.150**)	
• **Galaxy Installation USB** drive (with FTS Flash files)	*or you must know the current IP configured in the FTS CPU*	
• **Factory FTS Cable** – PN: 81-0680-00	2. **Provide 12 VDC** to the FTS-CPU and Target Boards	
• **635 FTS-CPU** (minimum Flash v. 10.4.9)	3. Must know the **Target Flash Version** needed (s28 ver. _____)	
• **Target Board** (600 or 635 model)	4. Must know *target board* **serial number, model** (600/635) and **type.**	
• Note: CPU's **Panel Status page** has links at bottom of page to reach other pages listed herein.	5. **Do not create duplicate serial numbers** for boards. Use the *serial number* (from label that is affixed to the board).	

PART 1 - CONNECT AND POWER-UP 635-CPU AND TARGET BOARDS

1. Power up the 635-model **FTS-CPU** using a 12 VDC power source.
2. Connect 635 FTS-CPU to a Laptop/PC using the *Cat5e cable.*
3. Open the native **Panel Status page** by typing the **CPU's IP Address** into a Browser (default factory IP = 192.168.0.150).
4. Locate the *serial number* on a label on the Target Board (you will need to know this exact number for a later step).
5. Power up the **Target Board** using a 12 VDC power source.
6. Connect the **Factory FTS Cable** to the FTS-CPU 'Factory Test' port and to the *Target Board* 'Factory' port.
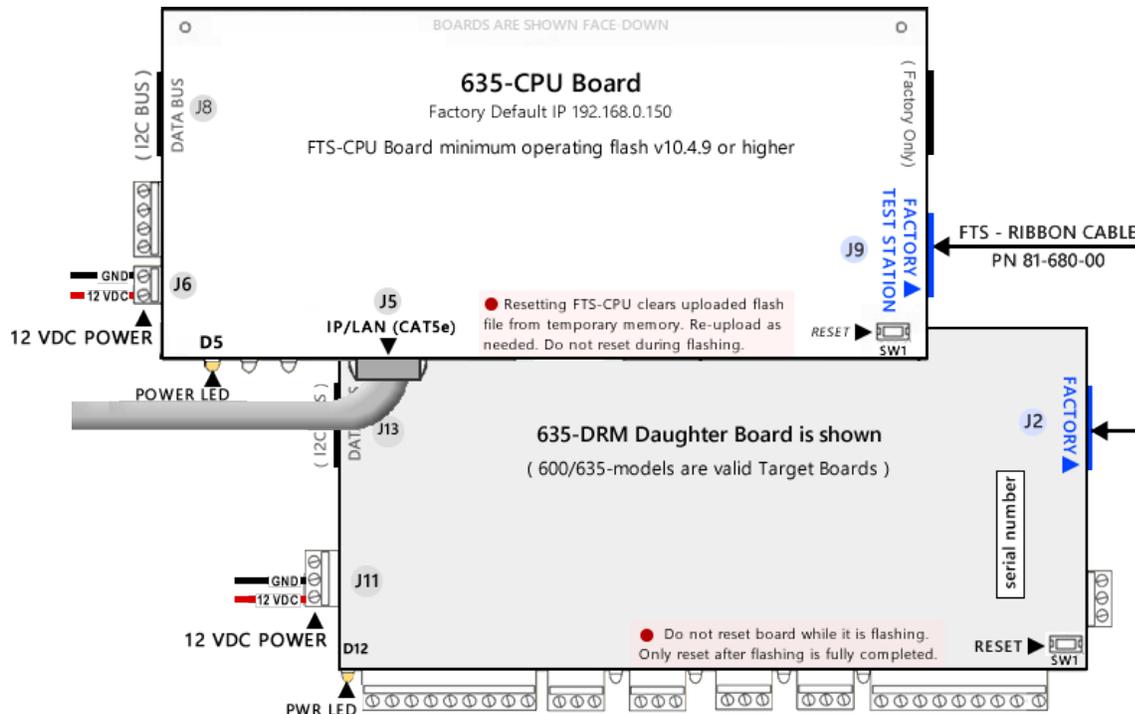
PART 2 - DISABLE ALL EVENT SERVERS (VIA THE PANEL WEB PAGE)

7. Click the <u>Panel Configuration page</u> and **uncheck all Event Servers** (1 - 4).
8. Click the **Update button** to save settings.

PART 3 - CONFIRM THE EMBEDDED FLASH FILE VERSION

New 635-CPU Boards are all shipped with the 'current operating flash', the native Factory Test Station, and the embedded Flash.

9. Click the <u>Factory Function page</u> and verify if the *Embedded Column's flash version* matches your *Target Flash Version* …
   a) IF the **Embedded Column does <u>not</u> match your Target Flash Version**, go to **PART 4 – UPLOAD A TARGET FLASH FILE.**
   b) IF the **Embedded Column matches your desired Target Flash Version**, go to **PART 5 - FLASHING A TARGET BOARD.**

PART 4 – UPLOAD A TARGET FLASH FILE

10. Go to the <u>Factory Function page</u> to begin.

11. Click the **Browse button** and find the correct *Target Flash file* by navigating to the appropriate folder path (shown below). You must choose the correct **model number** and **board type** of your target board (600 or 635).
    ▸ **USB path X:**\\Auxiliary\System Galaxy\FTS635\Factory Testing\S28\ **your_model**\ **your_board-type**\ Previous Version ...\
    ▸ **PC path C:**\\GCS\System Galaxy\FTS635\Factory Testing\S28\ **your_model**\ **your_board-type**\ Previous Version ...\

12. Select the correct **Flash File** that matches your *Target Flash Version* and click the **Open button**.

13. Click the **[Upload] button** to load the Flash File to the FTS-CPU memory bank.
    (*Real-time upload status will display in the Activity Log section of the web page.*)

14. Click **OK button** when the upload is completed. Your *Target Flash Version* will display in the <u>Uploaded Column</u>.

    💣 **DO NOT RESET THE FTS-CPU BOARD!** A reset will delete the target flash file. Reload target flash If needed.

PART 5 - FLASH A TARGET BOARD

15. Click the <u>Flash Version link</u> that is shown beside the *board type* you want to flash (i.e. 600 or 635 DRM/DPI, DIO, DSI, etc.).

16. When prompted, enter the Target Board **converted serial number**. See examples in *Conversion Chart* below:
    a) The Serial Number must be exactly 8 digits when it is entered into the FTS prompt.
    b) You must enter the converted serial number with the format used by the FTS. You must swap a **zero** from the 2nd or 3rd position and place it in the leading position. The serial number label is affixed to the back of the board.

Table 1 **Serial Number Conversion Chart**:

MODEL	▼ IF BOARD LABEL SAYS THIS	▼ YOU WILL ENTER THE CONVERTED SERIAL NUMBER AT THE FTS	
600 CPU ▸	*No conversion needed*	"0201 ..."	*Enter serial number exactly as seen on the board label.*
635 CPU ▸	*No conversion needed*	"0301 ..."	*Enter serial number exactly as seen on the board label.*
600 DPI ▸	"2**0**012..." *converts to*	"**0**2012 ..."	← the zero was swapped from 2nd pos. to 1st pos.
635 DRM ▸	"3**0**012..." *converts to*	"**0**3012 ..."	← the zero was swapped from 2nd pos. to 1st pos.
600 DIO ▸	"23**0**01..." *converts to*	"**0**2301 ..."	← the zero was swapped from 3rd pos. to 1st pos.
600 DSI ▸	"33**0**01..." *converts to*	"**0**3301 ..."	← the zero was swapped from 3rd pos. to 1st pos.
635 DSI ▸	"34**0**01..." *converts to*	"**0**3401 ..."	← the zero was swapped from 3rd pos. to 1st pos.

💣 **DO NOT DUPLICATE SERIAL NUMBERS!** Boards will not function with duplicate Serial Numbers or duplicate Board_IDs.

17. Click the **OK button** to begin transferring flash to your target board.
    The Activity Log displays progress indicators that show the *board flash progress* and *flash verification progress*.

    NOTE: **If the Factory Test Station stops the flashing, check the following 3 things:** (1) verify the *FTS Ribbon Cable* is securely attached to the FTS-CPU Factory Test port and the target board Factory port. (2) verify you have uploaded the correct <u>S28 Flash file</u>. (3) make sure you chose (clicked) the correct <u>Flash Version Link</u> for your target board's *model* and *board-type*. The Factory Test Station will not transfer flash if the selected <u>Flash Version Link</u> is for a different board than the target board that is connected.

18. When the *Activity Log* displays the message "*flashing is successful*", you will click the **OK button**.

19. Press the **Reset button** (SW1) on the <u>Target Board only</u>, to initialize the target board.
    <u>Do not reset the FTS-CPU</u> or you will have to reload your target flash file (that was loaded in Part 4).

20. Disconnect the *Factory Test Cable* from the finished Target Board.
    See the [System Installation QRS](#) or [635 Hardware Installation Guide](#) for instructions on installing the board, as needed.

21. Connect the *Factory FTS Cable* to the *NEXT Target Board* at the 'Factory Test' port and repeat steps in this section.
    a) IF your next target board is the same model and type, you can continue flashing with the currently loaded flash. Repeat the steps in this **PART 5 - FLASHING A TARGET BOARD**.
    b) IF your next Target Board is a different **model** (600 vs 635) or a different **board type** (DSI vs DIO vs DPI/DRM), then you must upload the correct *target file* for this board and model (see **PART 4 – UPLOAD A TARGET FLASH FILE).**