

SOFTWARE UPDATE PROCEDURE



CAUTION: Elevator control products must be installed by elevator personnel trained in the construction, maintenance, repair, inspection, and testing of elevator equipment. Elevator personnel must comply with all applicable safety codes and standards.



CAUTION: Every safety precaution, whether specifically stated in this document, must be implemented when installing, adjusting, or servicing elevator equipment. All safety precautions must be followed to ensure the safety of elevator personnel and the general public.



CAUTION: All temporary connections must be removed before placing the elevator in service.



ATTENTION: Observe precautions and exercise good practices when handling electrostatic sensitive devices.

About This Document

This document provides step-by-step instructions for updating the Main Processor (MP) software on the GALX-1100AN CPU Board for the GALaxy IV Traction Elevator Controller. The update procedure varies depending on how the latest software version is obtained. This document provides instructions for each available method.

Read this entire document before proceeding.

Free Technical Support is available to all customers Monday through Friday from 6:00 AM to 6:00 PM (EST), and on weekends from 8:00 AM to 4:30 PM (EST). To receive assistance, please call 877.425.7778.

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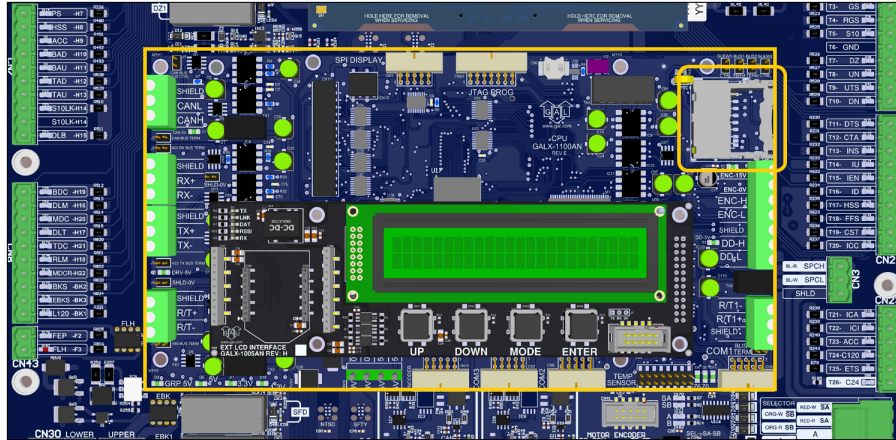


Figure 1: SD card slot location on GALX-1100AN CPU board and pushbuttons on LCD Interface board.

Section 1 Navigating the LCD Screen

The LCD screen has four (4) pushbuttons for navigation: **UP**, **DOWN**, **MODE**, and **ENTER**.

The **MODE** button can be pressed to return to the home screen, which is displayed as "GALaxy Elevator Status". From this screen, the **UP** and **DOWN** pushbuttons can be used to navigate all main menu options including "Software Utilities".

Section 2 Preliminary Steps and Software Version Verification



CAUTION: A qualified elevator mechanic must take full control of the elevator and verify the elevator is unoccupied.

1. Prepare the elevator by capturing the car and placing the Main I/O control switches in the positions that are shown in **Figure 2**.

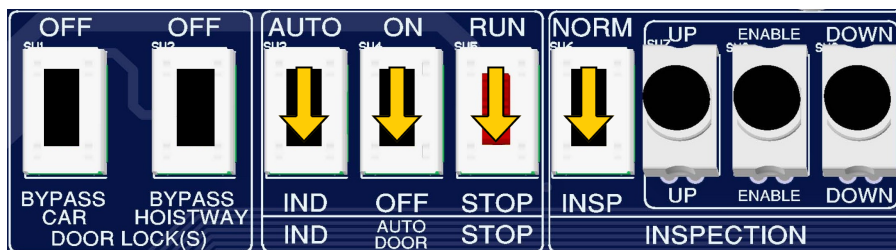


Figure 2: Main I/O control switches

2. Verify the current software number by navigating to the following menu on the LCD screen:
 - Press **MODE** until the LCD screen displays "Elevator Status".
 - Scroll to and press **ENTER** on "Software Utilities".
 - The LCD screen should display "View Software Version". If not, press **UP** or **DOWN** until "View Software Version" is displayed. Then press **ENTER**.
 - Write down the software version number.

Section 3 Methods for Obtaining the Latest Software Version

Method #1 - Download from the Vantage Website.

This method requires access to a computer and a standard SD card reader. The end user will download the software file from online and use it to replace the existing software file on the controller SD card.

1. Go to the Vantage website: <https://www.vantageelevation.com/galaxy-iv-traction-controller-software-downloads/>.
2. Click on "DOWNLOAD GALAXY IV TRACTION SOFTWARE VERSION..." (reference [Figure 3](#)).
3. A ZIP file will be downloaded to your PC.
4. Locate the ZIP file, right-click on the file name and "Extract All".
5. Open the extracted ZIP file and verify there is a single "tracthr.MOT" file as shown in [Figure 4](#).
6. Isolate power to the controller and remove the SD card from the GALX-1100AN CPU board.
7. Insert the SD card into your computer's SD card reader.
8. Open the contents of the SD card and locate the existing file named "tracthr.MOT". Rename this file to "OLD" as shown in [Figure 5](#).
9. Copy the "tracthr.MOT" file from the extracted ZIP file and paste it into the SD card.
10. Eject the SD card and insert it into the GALX-1100AN CPU board. Restore power to the controller.
11. Proceed to [Software Update Procedure \(Part B\)](#).

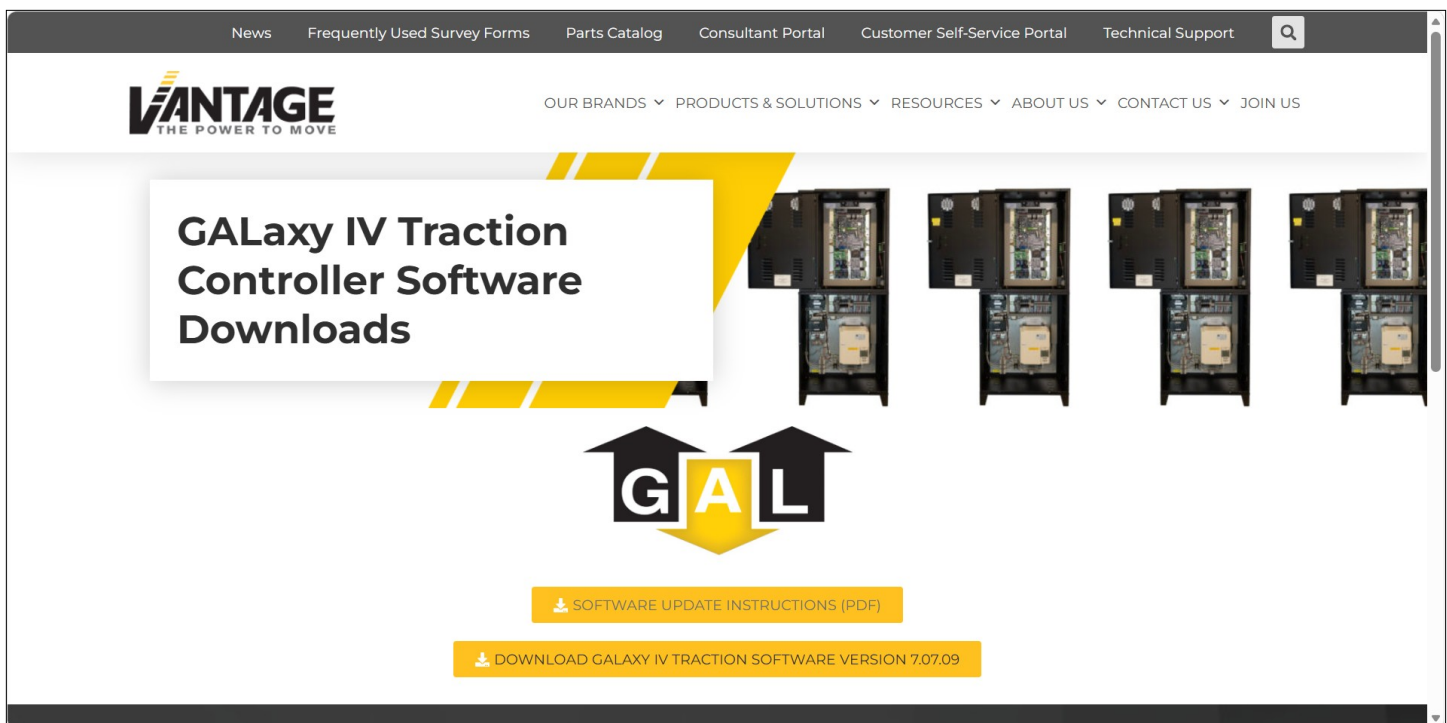


Figure 3: Vantage website, GALaxy IV traction software download.

Name	Type
 tracthr.mot	MOT File

Figure 4: GALaxy software extracted ZIP file contents

Name	Type
 conshr	DAT File
 io	DAT File
 OLD.mot	MOT File

Figure 5: tracthr.MOT renamed to "OLD"

Method #2 - SD card shipped from GAL (Contains Software File Only).

This method is typically used during retrofit campaigns to minimize downtime and quickly deploy new software to a large number of customers.

1. GAL ships an SD card containing only the software version file (tracthr.MOT). The SD card DOES NOT include the job configuration (conshr.DAT) or I/O mapping (io.DAT) files. Additional steps are required to transfer the existing job configuration and I/O mapping files from the original SD card installed in the controller.
2. If this method applies, GAL will have notified you that the supplied SD card contains only the software version file (.MOT). If you are unsure, contact GAL Technical Support.
3. If multiple SD cards are sent, they are not controller specific and can be used on any GALaxy IV Traction controller.
4. Proceed to [Software Update Procedure \(Part A\)](#).

Method #3 - SD card shipped from GAL (Contains Software, Configurations, and I/O Mapping Files).

This is the most common method.

1. GAL ships an SD card containing the software version file (tracthr.MOT), the job configuration file (conshr.DAT), and the I/O mapping file (io.DAT).
2. The SD card(s) are car specific and should be labeled with the Car#.
3. Proceed to [Software Update Procedure \(Part B\)](#).

Section 4 Software Update Procedure (Part A)



CAUTION: Directly behind the SD card slot on the GALX-1100AN board, there are surface mount resistors on the GALX-1160AN board (or predecessor GALX-1102AN board) that have 120VAC present and exposed. Caution must be exercised while removing/installing the SD card with power present on the controller.

A new SD card was sent that only includes a software version file. **Leave the existing SD card installed in the GALX-1100AN CPU board and complete the steps below**

1. On the LCD screen, scroll to and press **ENTER** on "Software Utilities" > "SD Card Read/Write"
 - Press **ENTER** on "READ SD - CPU - conshr.dat" = "Data Read to File"
 - Press **ENTER** on "READ SD - CPU - io.dat" = "Data Read to File"
2. Reference [Figure 1](#) for the SD card location. **While the controller is still powered on**, carefully remove the existing SD card and fully insert the new SD card in the GALX-1100AN CPU board. **Leave the new SD card installed and complete the steps below:**

On the LCD screen, scroll to and press **ENTER** on "Software Utilities" > "SD Card Read/Write"

- Press **ENTER** on "WRITE CPU - SD – conshr.dat" = "Data Written to File"
- Press **ENTER** on "WRITE CPU - SD – io.dat" = "Data Written to File"

3. Proceed to [Software Update Procedure \(Part B\)](#).

Section 5 Software Update Procedure (Part B)



NOTE: When WRITING from the CPU to the SD card, if an "Overwrite Existing File? Y or N" message appears, select "Y" and press **ENTER**.



NOTE: If the hoistway has not been learned and the car is not running on automatic operation, the menu item "WRITE Hoistway Data" can be skipped.

1. On the LCD screen, scroll to and press **ENTER** on "Software Utilities" > "SD Card Read/Write"
 - Press **ENTER** on "WRITE Field Variables" = "Data Written to File"
 - Press **ENTER** on "WRITE Saf Proc Variables" = "Data Written to File"
 - Press **ENTER** on "WRITE NTS Proc Variables" = "Data Written to File"
 - Press **ENTER** on "WRITE Hoistway Data" = "Data Written to File"
 - Press **ENTER** on "WRITE Service Timers" = "Data Written to File"
 - Press **ENTER** on "WRITE Security Data" = "Data Written to File"
2. Press **MODE** to back out to the main menus, scroll to and press **ENTER** on "Software Utilities"
 - Press **ENTER** on "Run Power-Up Mode".
 - The LCD screen will display "Place car on Inspection and then hit Enter", press **ENTER**.
 - The LCD screen will display "Power-Up Mode".
 - Scroll to and press **ENTER** on "Update/Verify Program".
 - The LCD screen should display "Load Program from SDCard". If not, press **UP** or **DOWN** until the LCD screen displays "Load Program from SDCard". Then press **ENTER**.
 - The LCD screen will show "Press Enter to Begin or Mode to Cancel". Press **ENTER** to begin.
 - Then the LCD screen will show "Erasing Flash.....", followed by "Programming Flash.....". Wait approximately 1 minute until the screen shows "Operation Complete".
 - Remove power from the controller unit and allow adequate time for the controller and drive to de-energize. Once the controller and drive have de-energized, follow company policies and procedures and restore power to the controller unit.
 - The LCD screen will show "GALaxy CONTROLLER".
3. Verify that the software update was a success by navigating to the following menu on the LCD screen:
 - Press **MODE** until the LCD screen displays "Elevator Status".
 - Scroll to and press **ENTER** on "Software Utilities".
 - The LCD screen should display "View Software Version". If not, press **UP** or **DOWN** until "View Software Version" is displayed. Then press **ENTER**.
 - The updated software version number must be different from the original version that was written down. If the version number remains unchanged, the update was unsuccessful and Steps 2 and 3 must be repeated.

4. Follow the steps below to restore controller data backups after updating the software:

On the LCD screen, scroll to and press **ENTER** on "Software Utilities" > "SD Card Read/Write"

- Press **ENTER** on "READ Field Variables" = "Data Read from File"
- Press **ENTER** on "READ Saf Proc Variables" = "Data Read from File"
- Press **ENTER** on "READ NTS Proc Variables" = "Data Read from File"
- Press **ENTER** on "READ Hoistway Data" = "Data Read from File"
- Press **ENTER** on "READ Service Timers" = "Data Read from File"
- Press **ENTER** on "READ Security Data" = "Data Read from File"

5. To validate that the controller is operational, ensure the car runs on machine room inspection and independent operation.
6. The Unique Software Identifier (USI) has been updated for the Main Processor (MP). For installations governed by ASME A17.1/CSA B44-2019 or later, complete all applicable requirements of Section 8.6.4.23 (Executable Software Verification). Refer to **Table 1, Executable Software USIs** and update the onsite USI documentation with the applicable USI.
7. Where applicable, refer to the **GALaxy IV Traction Controller Manual, Section 8, Appendix A**, and perform any applicable acceptance testing procedures, along with any other inspections, tests, or verifications required by the local Authority Having Jurisdiction (AHJ), including the Technical Standards and Safety Authority (TSSA), where applicable, and ASME A17.1/CSA B44 prior to returning the elevator to service.
8. This concludes the work instructions. Follow any additional company policies and procedures before returning the car to service or its previous mode of operation.

Table 1: Executable Software USIs

Function		Code Reference	Responsible Device(s)			
			MP	SProc	SPAL	NTS
2.26.1.7(a)	Working areas in the pit (2.7.5.2) with device active	2.7.5.2.1(b)(3)	Not applicable			
2.26.1.7(b)	Hoistway access switches	2.12.7	✓	✓	✓	
2.26.1.7(c)	Power operation of hoistway doors and car doors	2.13	Not applicable			
2.26.1.7(d)	Protection against traction loss	2.20.8.1	✓	✓		
2.26.1.7(e)	Broken suspension member	2.20.8.2	Not applicable			
2.26.1.7(f)	Suspension-member residual strength	2.20.8.3	Not applicable			
2.26.1.7(g)	Normal terminal stopping devices	2.25.2				✓
2.26.1.7(h)	Emergency terminal stopping means	2.25.4		✓	✓	
2.26.1.7(i)	Operating devices and control equipment	2.26	✓	✓	✓	
2.26.1.7(j)	Emergency communications	2.27.1.1	Not applicable			
2.26.1.7(k)	Emergency or standby power system	2.27.2	✓			
2.26.1.7(l)	Firefighters' Emergency Operation: automatic elevators	2.27.3 through 2.27.6	✓			
2.26.1.7(m)	Occupant Evacuation Operation	2.27.11	Not applicable			
2.26.1.7(n)	Emergency operation and signal devices	8.4.10	✓			

Device definitions:		USI
MP:	Main Processor on GALX-1100AN board	Displayed in menu option "View Software Version" under Section 5: Software Update Procedure (Part B), Step 3 of this document.
SProc:	Safety Processor on GALX-1159AN/ GALX-1102AN board	Not applicable to these work instructions.
SPAL:	Safety Programmable Logic Device on GALX-1159/GALX-1102AN board	Not applicable to these work instructions.
NTS:	Normal Terminal Stopping Device Processor on GALX-1159/GALX-1102AN board	Not applicable to these work instructions.

END OF DOCUMENT

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