

7.2 Software Updates via USB

7.2.1 Overview

7.2.1.1 File Types

The controller software is installed and updated on the controller CPU with two files:

Application file (.hex)

- Includes the full elevator program, dispatcher, user interface, and system initialization data.
- Defines the “REV” of the controller program, as seen on the banner screen.
- Typically not controller specific.
- Update to add/edit controller features, operation, bug fixes, etc.

Configuration file (.cfg)

- Sets the job specific configurations for the I/O board inputs and outputs.
- Sets the factory presets for all settings, timers, number of landings, and door openings at each landing.
- Defines the “Config” version as seen on the banner screen.
- Typically controller specific.
- Update to change I/O locations, doors/landings, and factory presets for settings, timers & PI labels.

7.2.1.2 File Naming Conventions

File names are defined by the VC factory, and follow these general naming convention rules:

Example Filename using Job # Format:

“M” indicates Main CPU → M 12345 A 3 . cfg ← File Type
VC Serial/Job Number ↗ ↑ ↖ Controller-specific Revision #
Car designation in group (A,B,C...)
Blank if Simplex or all grouped cars have same I/O.

Example Filename using Acronym Format:

“H” = Hydraulic → H CL 9 Z . hex ← File Type
Control Logic Version ↗ ↑ ↖ “Z” = Standard, “C” = Custom
Configuration Format Version

NOTE: Specific instructions for each controller will be provided by the factory to specify the file names for each software update file to be loaded.

7.2.1.3 Pre-Update Recommendations

When loading a configuration file, the existing parameters and presets will be reset to factory default, as listed on the controller parameter sheet “VNP”.

Before loading the configuration file, take note of the existing parameters in the ‘**Setup Menu -> Edit Adjustable Settings/Features**’ and ‘**Setup Menu -> Edit Adjustable Timers/Landings**’ menu screens, and compare with the controller parameter sheet “VNP”. Consider writing the existing parameters on the “VNP” sheet for future reference. After the software update, navigate to the setup menu and edit the changes as desired.

7.2.2 Steps to Update Application File

1. Copy the *.hex and *.md5 files provided by Virginia Controls onto a formatted USB flash drive. File names may vary as the application software is updated over time. The .hex file will be loaded onto the controller CPU, while the .md5 is a checksum file to verify the .hex file is not corrupt.

NOTE: It is recommended to remove all files on the USB drive other than those used for the Vision 2.0 software update. If other files exist on the USB flash drive, it increases the time for the CPU to read the drive contents. Consider formatting the flash drive to fully clear the flash memory if reading time is excessive.

2. Insert the USB flash drive into the USB port of the controller CPU to be re-programmed.
3. Set controller CPU DIP switch #4 to ON. This will increase the boot loader delay time to allow the USB flash drive to be read.

NOTE: Not all USB flash drives are compatible with the Vision 2.0 CPU board, even while using DIP Switch #4. For best results, only use the VC-branded USB flash drive provided with the controller.

4. Press the CPU Reset button on the CPU board, or cycle power, to cause the system to reboot and read data from the USB flash drive.

```
1 - Load Config
2 - Load Application

Enter Selection:
```

NOTE: The controller will skip past this load screen and boot the application if the USB flash drive is not detected.

5. Press **2** to proceed to the 'Load Application' file menu.
6. The screen displays all available *.hex programs on the USB drive. The system automatically detects whether any of the application *.hex file(s) on the USB drive match the currently loaded program on the CPU by displaying an asterisk (*) beside the loaded file name.

```
Application Files
1 HBL8Z.HEX
2 HBL9Z.HEX (*)
File # to load: 0
```

7. Select the desired *.hex file to load by pressing the corresponding number key (**1** – **9**). Use the **Nxt** and **Prv** keys to scroll up and down the list as needed.
8. Wait for the screen to complete programming of the application file. During this process, the display shows 'Erasing Flash' and then 'Programming Flash'.

WARNING: Do not cycle power, press the CPU Reset button, or remove the USB flash drive while the controller is re-programming. Wait for the system to automatically reboot in order to safely remove the USB drive.

9. After the system programs the CPU, the screen will again display the option to load another application or configuration file. If loading another file, repeat steps 1-8. To verify the correct application file is loaded, repeat steps 2-6 and verify the asterisk (*) is displayed next to the desired filename.
10. After installing all desired file updates, remove the USB flash drive and set controller CPU DIP switch #4 to OFF.
11. Manually reboot the CPU by either cycling power or pressing the CPU Reset button.
12. To verify the application file is loaded properly, verify the "REV" version on the banner screen matches the info from VC (if provided).

7.2.3 Steps to Update Configuration File

NOTE: When loading a new configuration file, all settings, timers, and door openings are reset to factory defaults.

1. Copy the *.cfg files provided by Virginia Controls onto a formatted USB flash drive. File names may vary as the application software is updated over time.
2. Insert the USB flash drive into the USB port of the controller CPU to be re-programmed.
3. Set controller CPU DIP switch #4 to ON. This will increase the boot loader delay time to allow the USB flash drive to be read.
4. Press the CPU Reset button on the CPU board, or cycle power, to cause the system to reboot and read data from the USB flash drive.

```
1 - Load Config
2 - Load Application
Enter Selection:
```

5. Press **1** to proceed to the 'Load Config' file menu.
6. The screen displays all available *.cfg programs on the USB drive. The system automatically detects whether any of the configuration *.cfg file(s) on the USB drive match the currently loaded program on the CPU by displaying an asterisk (*) beside the loaded file name.

```
Configuration Files
1 M12345.CFG
2 M123452.CFG (*)
File # to load: 0
```

7. Select the desired *.cfg file to load by pressing the corresponding number key (**1** – **9**). Use the **Nxt** and **Prv** keys to scroll up and down the list as needed.
8. Wait for the screen to complete programming of the configuration file.

NOTE: The configuration file loads very quickly, and the screen will quickly return to the File Selection menu.

9. After the system programs the CPU, the screen will again display the option to load another application or configuration file. If loading another file, repeat steps 1-8. To verify the correct application file is loaded, repeat steps 2-6 and verify the asterisk (*) is displayed next to the desired filename.
10. After installing all desired file updates, remove the USB flash drive and set controller CPU DIP switch #4 to OFF.
11. Manually reboot the CPU by either cycling power or pressing the CPU Reset button.
12. To verify the configuration file is loaded properly, verify the "CFG" version on the banner screen matches the info from VC (if provided).