

# UPGRADING FIRMWARE

## The EQUALIZER

*Real-Time, Transient-Free Reactive Power Compensation*

## The ACTIVAR

*Transient-Free Reactive Power Compensation*

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TN-FWUPGR-0404-02-EN

# Firmware Upgrade Instructions

## A. Basic Information:

1. Flash memory in each controller is comprised of the following:
  - ❖ Boot loader: Handles firmware (internal software) loading. The boot loader can ONLY be updated using special hardware card/key.
  - ❖ Firmware: The software running the unit. This portion of the flash memory is updated through the communications port. If the particular system requiring an upgrade does not have communication capabilities, an ELCOM communications card will be required.
  - ❖ Unit parameters: These are not changed by a firmware upgrade, however, each new firmware may have additional parameters. Therefore, site installation must be repeated upon completion of each firmware upgrade. It is important to note that all current parameters should be recorded prior to commencing the upgrade.
  - ❖ Stored data (events, time-of-use, logging): These functions are not changed by a firmware upgrade, however, since new firmware may have different logging capabilities, all necessary information must be backed up before upgrading.
2. The upgrading procedure may include one or two steps, as instructed by Elspec North America:
  - ❖ Boot Loader upgrade: This is normally accomplished in conjunction with firmware upgrading (with or without product code).
  - ❖ Firmware upgrade, with or without product code, of the internal software. Optionally, the product code may also be modified.

## B. Before You Start

1. Since the upgrade may corrupt parameters and logged data, run Site Installation and write down all system data.
2. Also, if you have relevant information stored, synchronize it to the PowerIQ software.

## C. Upgrading the Boot Loader

1. Turn the power to the controller OFF. Remove the service door on the back of the controller, and slide the Boot Loader Upgrade card into the upper slot. If the slot is occupied, temporarily remove the existing card.
2. Turn the power to the controller back ON. Upon display of the welcome message, press F1. On completion of the boot loader upgrade, once again turn the power to the controller OFF. Remove the Boot Loader Card. If an existing card was removed in step (1), re-install the original card.
3. Re-install the back service door of the controller and turn the power to the controller back ON. The boot loader upgrade procedure is now complete.

## D. Upgrading the Firmware

1. Connect the controller to the computer via communication card, and ensure the controller is still connected to the mains. *Note: PowerIQ can NOT be running on the computer at the time of connection.* If the target unit does not include an ELCOM communication port, you will need to temporarily install a communication card in the upper slot of the controller. Remember to power down the controller prior to removing or installing any card or connecting any external device to the controller.
2. Open the System Information screen and verify that the controller is of a firmware version and serial number as listed in the firmware upgrade information received from Elspec North America.
3. Run the firmware upgrade application, normally named EFU\_xxx.exe where xxx is the new firmware version reference number.
4. If you only wish to upgrade the firmware and not the product code, proceed to step 8.
5. Press the Shift key on the keyboard and then (without releasing the Shift key) click "OK" with the mouse.
6. The application will start to communicate with the target until the unit is reset. On display of this message: "Cannot establish communication", do the following and then repeat this procedure:
  - a. Switch unit power down.
  - b. Press F3 and F5 simultaneously.
  - c. Switch unit power back up (while still holding F3 and F5).
  - d. Hold the keys until the boot loader screen appears.
7. A window will open and display the serial number and version, also prompting for product and authorization code. Fill in the product code and authorization number as indicated in the firmware upgrade information received from Elspec, then click OK.
8. The communication progress bar will go up to 100% and then the system will reset. On display of the message: "Cannot establish communication", proceed to step 6.
9. The controller is now ready for operation - select "System Set up", then "Site Installation" and finally "Modify the above" to set all the parameters.

If you have any trouble or questions, call Elspec North America before proceeding further.

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