SEL SEL-3610, SEL-3620, and SEL-3622 Firmware Upgrade Instructions

Introduction

SEL occasionally offers firmware upgrades to improve the performance of your device. Your device stores firmware in nonvolatile memory, therefore, changing physical components is not necessary. These instructions give a step-by-step procedure to upgrade the device firmware by uploading a file from a personal computer to the gateway via the web interface. All firmware updates are logged.

Firmware releases are enhancements to improve functionality that change the way your device is configured or maintained, and can be installed in increasing or decreasing order. All existing settings will be transferred to newer firmware. Settings may not be transferred to older firmware. After a firmware update it is possible to revert to the previously installed firmware version.

To perform an upgrade you will need the appropriate firmware upgrade file(s) and access to an administrative account on the device.

Firmware Files

The firmware upgrade file has the tar.gz file extension. An example firmware filename is 3620.R120.tar.gz.

Firmware files are cryptographically signed to enable the device to recognize official SEL firmware. Any uploaded files that cannot be verified as being produced by SEL will not be processed.

Upgrading Firmware From Older Revisions

Some firmware versions have special needs or restrictions on their upgrade path. It is important to know the current firmware version for your device and what requirements or restrictions your new firmware has. To aid you in this, the following tables list the released firmware for the SEL-3610, SEL-3620, and SEL-3622. The first column of each table lists the released firmware versions for each device. The second column lists the upgrade path, which includes any special files that may need to be applied before the new firmware will be accepted. The third column lists the target firmware. The fourth column provides restriction information on downgradability.

Table 1 SEL-3610 Firmware (Sheet 1 of 2)

Firmware Version	Upgrade Path	Latest Firmware	Restrictions
R100 R110 R120	Direct	R122	None
R121 R122	Preload-R132.tar.gz	R132	None

Table 1   SEL-3610 Firmware (Sheet 2 of 2)

Firmware Version	Upgrade Path	Latest Firmware	Restrictions
R132 R133 R137 R140	Direct	R142	R132 and higher cannot downgrade or revert to a version lower than R132.
R142 or higher	Direct	R206	R200 and higher cannot downgrade to a version lower than R200 but can revert to a previous version.

Table 2   SEL-3620 Firmware

Firmware Version	Upgrade Path	Latest Firmware	Restrictions
R110 R112	Direct	R120	None
R120	Preload-R132.tar.gz	R132	None
R132 R133 R134 R135 R138 R139 R141	Direct	R142	R132 and higher cannot downgrade or revert to a version lower than R132.
R142 or higher	Direct	R206	R200 and higher cannot downgrade to a version lower than R200 but can revert to a previous version.

Table 3   SEL-3622 Firmware

Firmware Version	Upgrade Path	Latest Firmware	Restrictions
R136 R138 R139 R141	Direct	R142	None
R142 or higher	Direct	R206	R200 and higher cannot downgrade to a version lower than R200 but can revert to a previous version.

There is a special upgrade process for upgrading to version R132 because of special startup requirements when installing that version. **Please note that this process will reset your device to factory-default settings. Make certain to manually copy down your device settings or take screenshots before beginning the process**. You must carefully perform the following procedure to upgrade to R132:

Step 1.   Upgrade to the latest version of R12x firmware for your device.

Step 2.   From the device web page, perform a factory-default reset by navigating to the "Reset" webpage.

Step 3.   Load the Preload-R132.tar.gz file for your product from the CD.

Step 4. Commission the device after performing the factory-default reset. Load the R132 firmware file (i.e., 3610.R132.tar.gz or 3620.R132.tar.gz.). Note that this file must be loaded without rebooting the device after installing the preload file.

Step 5. Wait for the system to start R132 by itself, and then wait ten full minutes.

Step 6. Log in to the device and reboot the unit from the diagnostics page of the web UI (do not cycle power).

See *Firmware File Loading Procedure* for instructions on how to load individual upgrade files.

Downgrading Firmware to an Older Revision

Firmware revision R200 was released with a new version of the SEL-3610, SEL-3620, and SEL-3622 circuit boards that replaced a number of obsolete components. Because these components require support from the firmware, the device would become inoperable if an older version of firmware were to be installed.

For this reason, firmware version R200 includes a feature that prevents loading a previous version of the firmware, though you can revert to an earlier version if it is already present on the device.

Firmware File Loading Procedure

Perform the following steps to load a firmware file.

Step 1. Access the device by using an account with administrative-level privileges. Nonadministrative accounts cannot perform firmware upgrades.

Step 2. Select the **File Management** link from the navigation panel. This will show the File Management page, where firmware upgrades may be performed.

Step 3. In the File Management window, check the **Firmware Update** radio button, and select the **Browse** button to show a file browser window (see *Figure 1*).

File Management
Select the appropriate radio button for the type of file you would like to import. Select **Browse** and choose the file to upload. For system settings uploads, enter the password associated with the selected configuration file. When the correct file has been selected, click **Upload File** to begin the upload and install process. The message bar below will notify you of important messages during the upload and install process.

◉ Firmware Update   ○ Connection Directory   ○ System Settings
Choose a file to upload: C:\Documents and Settin [Browse...]
[Upload File]

** Only required for System Settings file import.

Figure 1   File Management Window

Step 4. Navigate to the location the correct upgrade files are stored, and select it (see *Figure 2*).

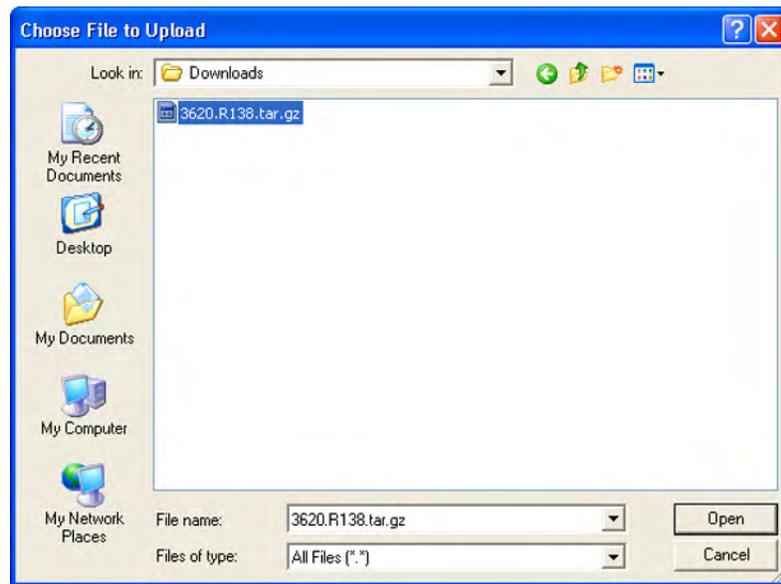Step 5. Click the **Open** button.

Figure 2   Select Firmware File

Step 6. Click the **Upload File** button to upload and install the new firmware. Status messages will be displayed in the bar at the bottom of the page. These status messages will indicate success or failure.

During the firmware upgrade, the old firmware will be placed into the Previous Firmware slot. This firmware stays on the device until another firmware upgrade occurs. This feature allows for quick recovery if a firmware upgrade causes system instability. Installing an upgrade can take between five and ten minutes to complete.

Reverting to Previous Firmware

Perform the following steps to revert the device to the previous firmware version. Settings will not transfer from your current firmware version to the backup firmware version. For easy reconfiguration, be sure to record the current system settings before reverting firmware. Firmware versions prior to R130 do not allow importing of system settings.

Remember to refer to *Table 1*, *Table 2*, or *Table 3* for downgrade or reversion restrictions that your firmware may have.

Step 1. Access the device by using an account with administrative-level privileges. Nonadministrative accounts cannot perform firmware revisions.

⚠CAUTION
If you revert the firmware to a previous version, and then go through a firmware upgrade process, your device will inherit the settings that were on the unit immediately before the revert function was activated. Please be aware of this behavior before upgrading firmware if you have previously activated the revert function.

Step 2. Select the **File Management** link from the navigation panel. This will show the File Management page.

Step 3. In the Firmware Version window, click the **Revert** button to change the device's firmware to the Previous Firmware Version. After the process is completed, the previous firmware will become the current firmware, and the current firmware will become the previous firmware, as in *Figure 3*.

Figure 3   Firmware Versions

Technical Support

We appreciate your interest in SEL products and services. If you have questions or comments, please contact us at:

Schweitzer Engineering Laboratories, Inc.
2350 NE Hopkins Court
Pullman, WA 99163-5603 U.S.A.
Tel: +1.509.338.3838
Fax: +1.509.332.7990
Internet: selinc.com/support
Email: info@selinc.com

6