



FIRMWARE UPDATE INSTRUCTIONS

The USB Firmware Upload application is installed on a computer to load firmware to a DICKEY-john Instalab® 700 instrument via a USB connection.

The DICKEY-john IL700 Firmware Update requires a computer with one of the following operating systems:

- Windows® XP
- Vista® (32 bit only)
- Windows® 7 (32-bit and 64-bit)

NOTE: This application is used with DICKEY-john Instalab® 700 instruments only.

This document contains three parts:

- Quick Installation Guide
- Detailed Installation Instructions
- USB Firmware Upload Guide

These guides describe how to:

- Upload firmware to the computer
- Upload firmware from the computer to the IL700 instrument

QUICK INSTALLATION GUIDE

This quick installation guide describes the process of uploading the latest Instalab®700 firmware to an IL700 grain analyzer instrument. Firmware can be found at the DICKEY-john website (www.dickey-john.com) at the IL700 product page using the *Get Support* link.

NOTE: Contact DICKEY-john Technical Support group at 1-800-637-3302 for issues with downloading firmware from the website.

SAVE PRODUCT CALIBRATION FILES

IMPORTANT: It is recommended that existing product calibration files on the IL700 are saved to a USB memory device prior to uploading new firmware.

To save calibration files:

1. Insert a USB memory device into the IL700.
2. At the Main Menu screen, press the **Setup** button.
3. Enter the user name and password and press the **Enter** button to accept, if required. If defaulted to Name (Guest) and Password (Guest), press the **Enter** button.
4. Press the **Product** button and highlight all product files one at a time at the Product List screen.
5. With a product highlighted, press the **USB** button to transfer the file to the USB memory device.
6. Repeat for all products.



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NOTE: Refer to the Detailed Installation Guide section to install the firmware upload application program to a computer.

LOAD FIRMWARE TO IL700

The Quick Installation Guide assumes the IL700 firmware application tool is already installed on the computer.

1. Connect a USB cable to the IL700 Series B port (square shape) and to the computer USB port.
2. Power on the IL700 and allow it to complete its initialization sequence. If the New Hardware Wizard appears, follow the prompts to install the DICKEY-john NDIS driver. Continue past any warnings and press **Finish**.
3. Press the new *DICKEY-john Update Instalab[®] 700 Firmware* icon on the computer's desktop to begin the update program and start the application.
4. Press the **Green** button in the upper left corner of the first program screen.
 - The IL700 display will turn off during this phase of the update process.
5. A second New Hardware Wizard appears for a first time update of the IL700.
6. Follow the prompts to install the TSI USB driver. Continue past any warnings and press **Finish**.
 - If the firmware update program “times out” during the TSI USB driver install, click the **Green** button in the upper left corner again.

IMPORTANT: The firmware update process takes approximately 30 minutes. Observe all warnings during upload.

7. After a successful completion, instrument performs an automatic reboot.
8. At the IL700 Main Menu screen, press the **Question** button to display the Instruction Information screen.
9. Verify the software version contains the firmware version update just loaded.
10. To exit application, Select File>>Exit or the Dialog Exit X at the top right of the application screen.
11. Cycle power to ensure all changes are implemented.

Refer to the *Detailed Installation* section if errors or problems occur using the Quick Installation Guide.



DETAILED INSTALLATION GUIDE

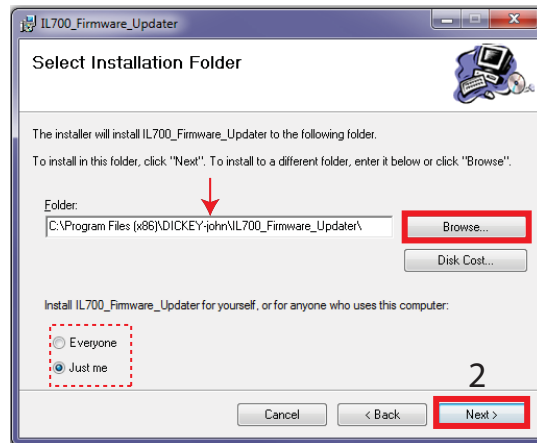
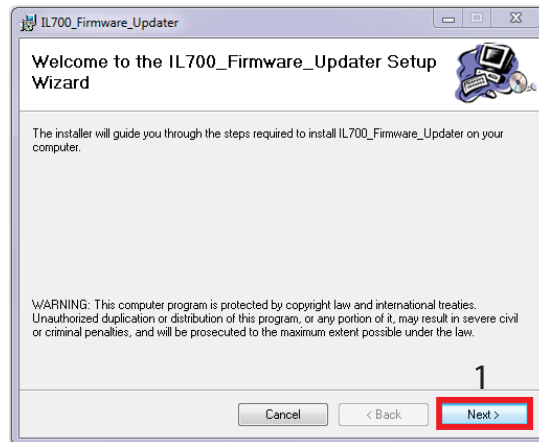
IL700 FIRMWARE UPDATE INSTALL TO COMPUTER

After installation from the website, run IL700Firmwarexxx.exe.

1. At the Wizard Welcome screen, press the **Next** button to begin install.
2. Select the destination location to install files and press the **Next** button.
 - **Next** button installs files to the default location.
 - **Browse** button installs files to the user-defined location.
 - **Disk Cost.** button indicates the amount of hard drive space the program requires.
 - Select **Everyone** for multiple users of this program sharing a computer
 - Select **Just me** for a specific user of this program

Figure 1

IL700 Firmware Install Wizard



3. At the Confirm Installation screen, press the **Next** button to proceed with installation.
4. Install progress bar indicates loading status.

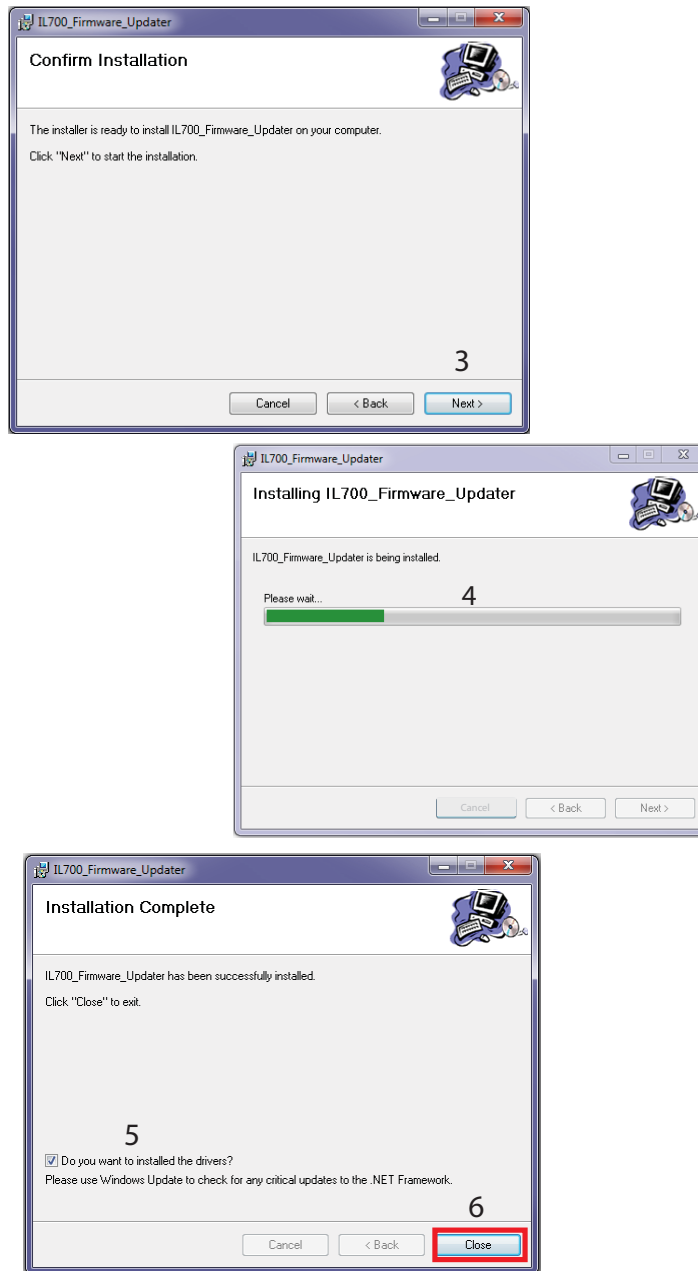
INSTALLATION INSTRUCTIONS



5. At the Installation Complete screen, verify that the checkbox “Do you want to install the drivers?” is enabled with a checkmark to install the required drivers on the computer.
 - Disable the checkmark if drivers are already installed.
6. Press the **Close** button to install drivers or to finish the installation.

Figure 2

Installation Progress



INSTALLATION INSTRUCTIONS



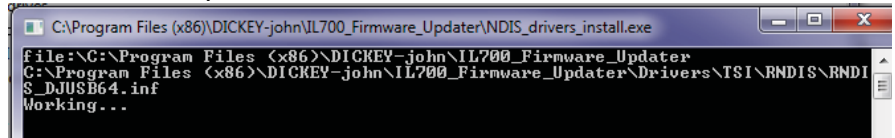
INSTALLING DRIVERS

Driver installation begins automatically after the IL700 Firmware Update Installer is finished.

1. A Windows screen may require an acknowledgement to install the drivers. Click **yes**.
2. Windows will display status updates.

Figure 3

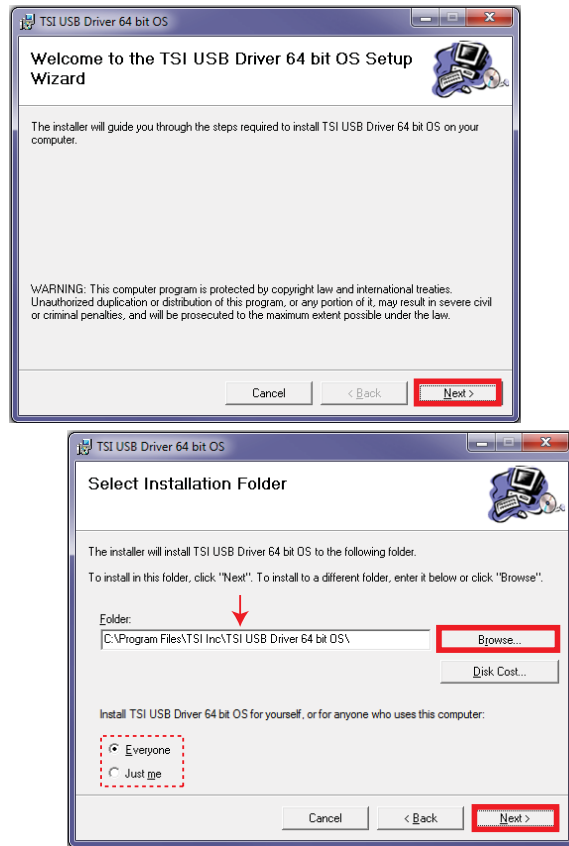
Windows Status Update Screen



3. When ready, the Driver Installation Wizard will start. Follow onscreen instructions that follow the same setup as the IL700 Firmware Update Wizard.
4. Press the **Close** button to complete driver installation to computer.

Figure 4

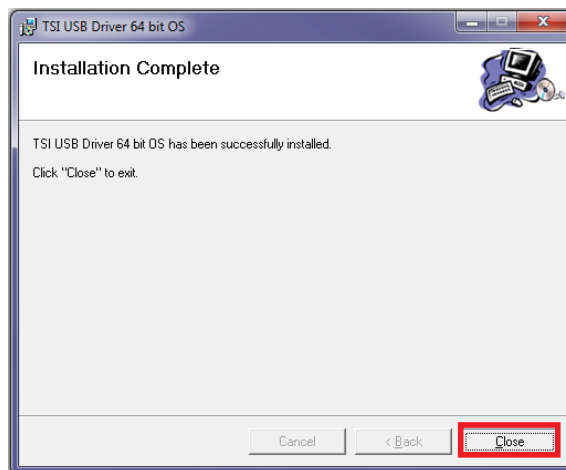
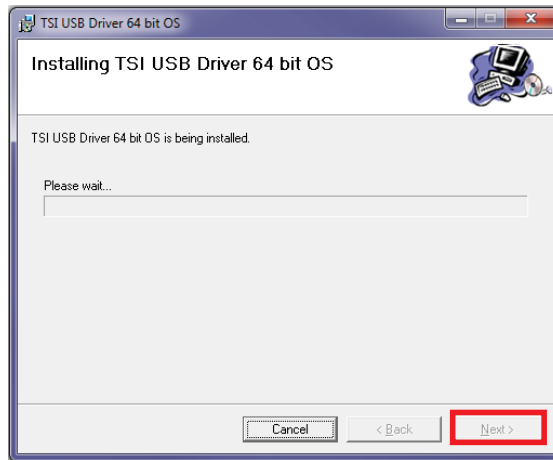
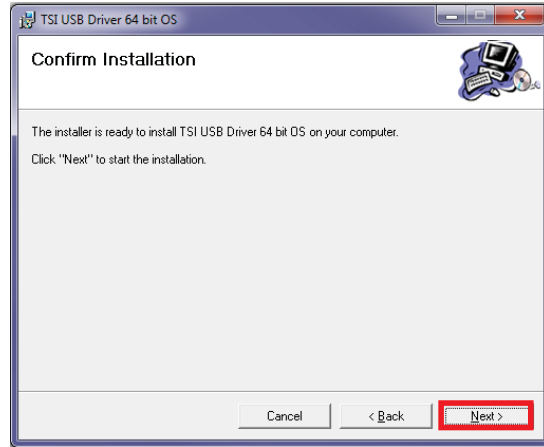
USB Driver Install Wizard



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Figure 5
USB Driver Install



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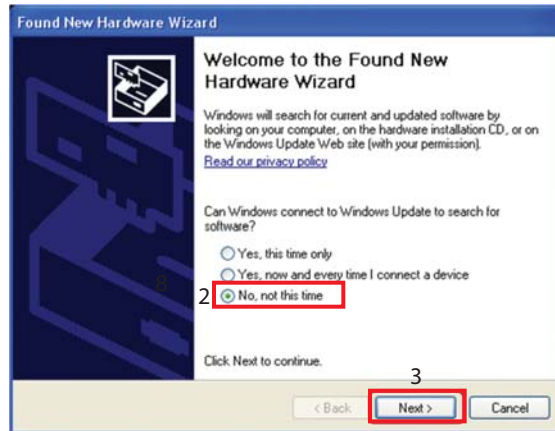


LOAD FIRMWARE TO IL700

1. With the IL700 powered ON, connect the IL700 to the computer with a USB cable.
 - If the instrument has not been attached to the system previously, the *Found New Hardware Wizard* may display. Once this step is complete, an icon is placed on the desktop. This software tool uploads the firmware to the IL700 as described in the USB Firmware Upload section.
2. At the New Hardware Wizard screen, select “No, not this time” to skip the search for a Windows® Update.
3. Press the **Next** button to proceed.
4. Press the recommended “Install the software automatically” action.
5. Press the **Next** button to continue.

Figure 6

Found New Hardware Wizard



6. Press the **Continue Anyway** button to confirm that Windows testing is not required.

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Figure 7
Hardware Installation



7. Press the **Finish** button to complete the software installation and exit the Wizard. Verify software installed without errors by checking for Windows errors in messages shown onscreen.

Figure 8
Complete Install



The IL700 Firmware is now installed and ready to load the Firmware Upload Application.



USB FIRMWARE UPLOAD GUIDE

SAVE PRODUCT CALIBRATION FILES

IMPORTANT: It is recommended that existing product calibration files on the IL700 are saved to a USB memory device prior to uploading new firmware.

To save calibration files:

1. Insert a USB memory device into the IL700.
2. At the Main Menu screen, press the **Setup** button.
3. Enter the user name and password and press the **Enter** button to accept, if required. If defaulted to Name (Guest) and Password (Guest), press the **Enter** button.
4. Press the **Product** button and highlight all product files one at a time at the Product List screen.
5. With a product highlighted, press the **USB** button to transfer the file to the USB memory device.
6. Repeat for all products.



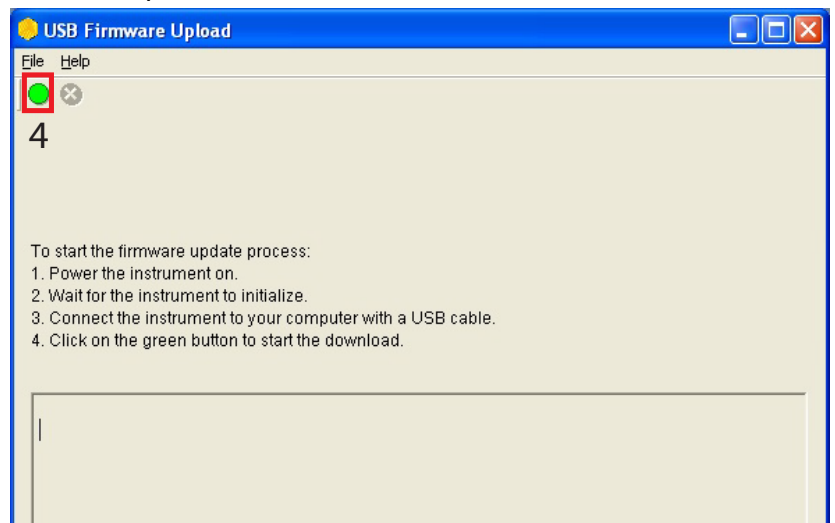
NOTE: For best results, run the USB Firmware Upload application with a single IL700 attached to the computer.

To upload firmware to the IL700:

1. At the computer's desktop, click on the new *DICKEY-john Update IL700 Firmware* icon to open the USB Firmware Upload screen.
2. Connect a USB cable to the IL700 and to the computer USB port.
3. Power on the IL700 and wait approximately two minutes for the instrument to connect and become active with the computer.
4. At the USB Firmware Upload screen, press the green **START** button to start the firmware update process.

Figure 9

USB Firmware Upload Screen



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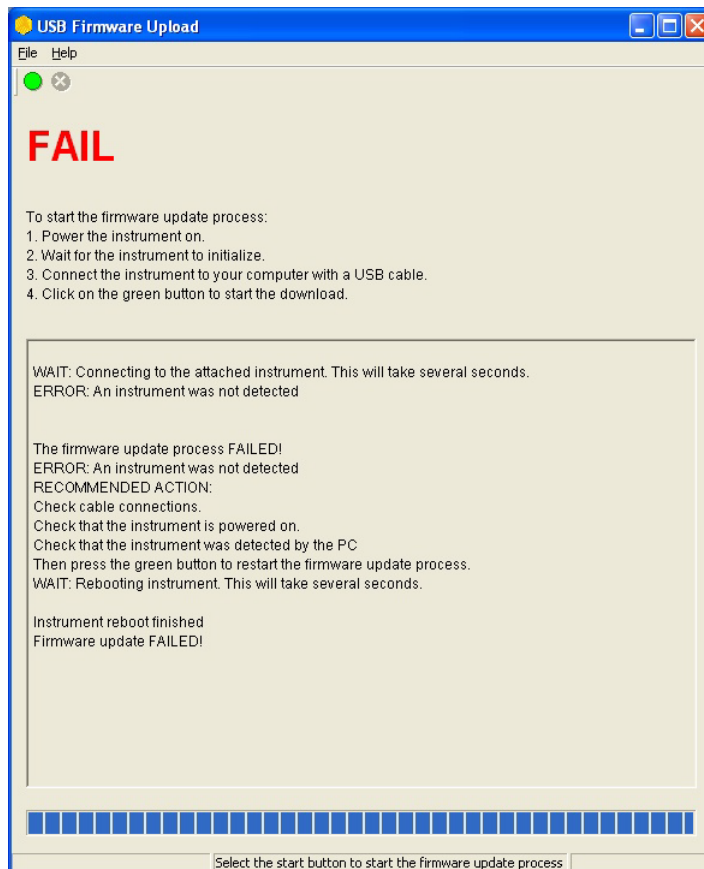


In the event that the instrument is not attached or not powered a “FAIL” message appears onscreen.

- Check recommended resolutions in the status box and restart the firmware download.

Figure 10

Instrument Not Detected Error



The IL700 requires a switch in operation modes for firmware uploading to occur. Once the mode switch occurs, the *Found New Hardware Wizard* displays.

FOUND NEW HARDWARE WIZARD

Follow the Found New Hardware Wizard instructions to install.

1. Select '**No, not this time**' to skip the Windows Update.
2. Press the **Next** button to proceed.
3. Select '**Install the software automatically (Recommended)**'.
4. Press the **Next** button to proceed.
5. At the Hardware Installation window, press the '**Continue Anyway**' button.
6. Press the **Finish** button to close the wizard.

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Figure 11
Found New Hardware Wizard



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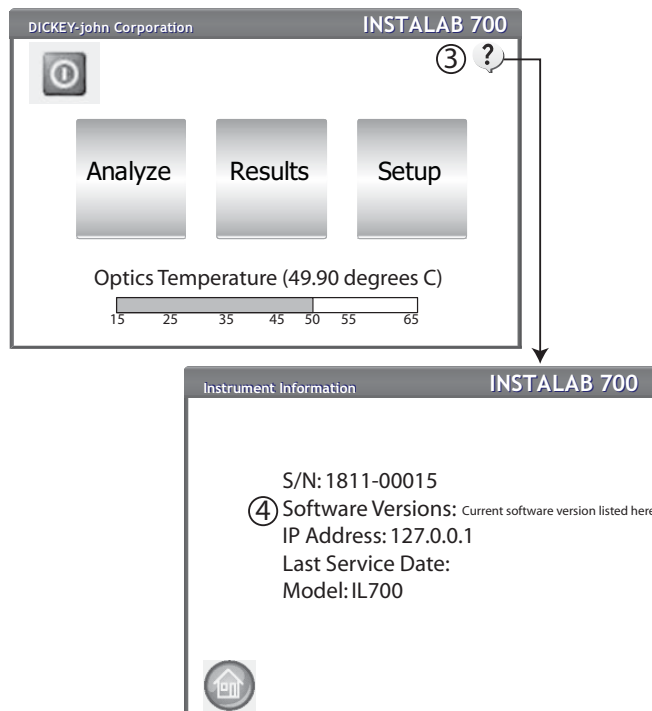


IL700 REBOOT

1. After a successful update, the instrument performs an automatic reboot.
2. At the IL700 Main Menu, press the **Question** button to display the Instrument Information screen.
3. Verify the software version contains the latest firmware version update.
4. Cycle power to ensure all changes are implemented.

Figure 12

Main Menu Screen



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FIRMWARE UPLOAD PROCESS

CAUTION

Existing instrument firmware must be erased prior to writing new firmware to the instrument. An inoperable state occurs until a complete and successful firmware is established.

Uploading firmware to an instrument will go through a series of erasing and writing firmware images. The number of images depends on the instrument and the released firmware.

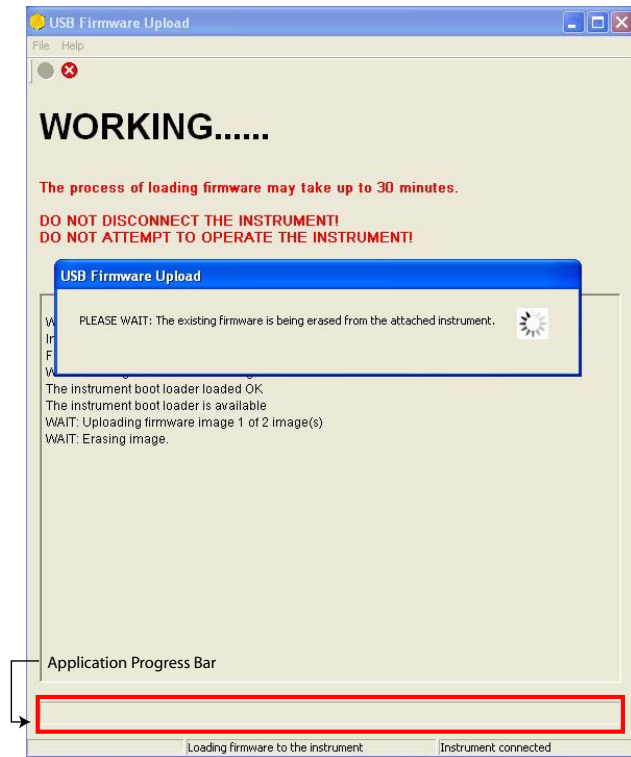
- The status box of the application lists the firmware uploading tasks as completed.
- The application progress bar updates as the firmware images are written to the device.

CAUTION

Loading firmware can take up to 30 minutes. Do not disconnect the instrument during this process or attempt to operate the instrument.

Figure 13

Firmware Upload Process



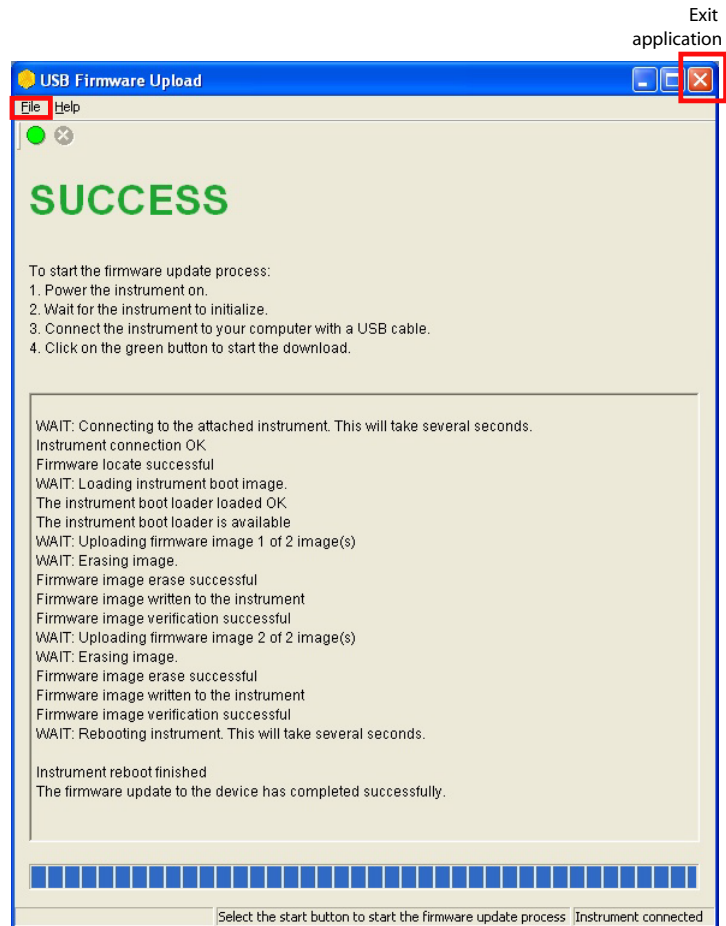
INSTALLATION INSTRUCTIONS



When the firmware upload process is complete, a success message displays.

Figure 14

Firmware Success Window



To exit application, Select File>>Exit or the Dialog Exit X at the top right of the application screen.



ERRORS AND ISSUES

If the Firmware Upload application displays an error message similar to Figure 12, restart the Firmware Upload and proceed by pressing the **Green Start** button.

ERROR: *The Instrument Model is not supported.* Please download the correct firmware upload application for the IL700 instrument model.

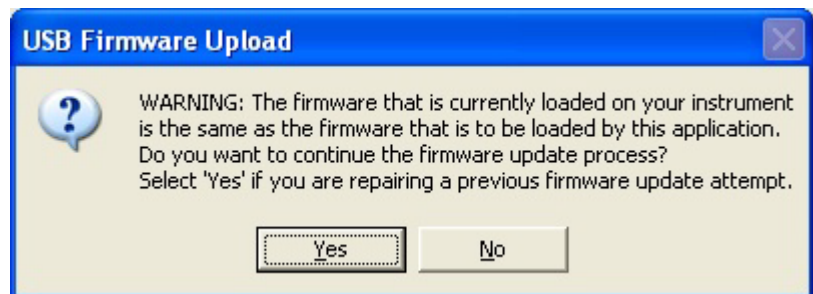
- Verify that the firmware upgrade is correct for the model of the instrument.

ISSUE: If the application detects that the firmware being installed is the same firmware currently on the unit.

- Select **Yes** to rewrite or repair the existing firmware on the instrument. Yes continues with the installation.
- Select **No** if you do not need to rewrite the firmware on the instrument.

Figure 15

Rewrite or Repair Firmware Install Message





TROUBLESHOOTING

STOP BUTTON

When the **Stop** button is pressed during a firmware upload, the Warning message appears that must be acknowledged.

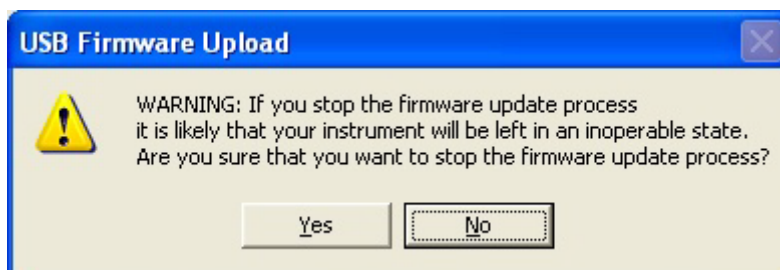
IMPORTANT: It is not recommended to select the STOP button during a firmware download.

A Warning message displays when the **STOP** button is pressed.

- Press **NO** to continue with the firmware upgrade to the instrument.
- Press **YES** to stop the firmware upgrade.

Figure 16

Firmware Update Warning



The following message displays when the firmware upgrade is stopped:

CANCELLED:

The firmware update process has been cancelled. This may result in an inoperable instrument!

Please power down the instrument for at least five seconds then power on the instrument for at least 60 seconds prior to restarting any subsequent firmware updates.

Please update the firmware prior to using the instrument.

INSTRUMENT CONNECTION

If the instrument connection is disrupted or any error occurs during the firmware upgrade process, it is recommended to perform the following:

1. Power down the instrument.
2. Check the instrument cables.
3. Restart the firmware upgrade.