

Introduction to RTU *Firmware Upgrade*

November 2011

CONNECT. MONITOR. CONTROL.



INDUSTRIAL AUTOMATION



RTU Firmware Upgrade



• Making the Connection

- *Make sure the RTU is connected via both, Ethernet and Serial ports.*
- *The Serial port used should be the RS-232 port with a RJ-45 female adapter.*
- *It is better to have all other ports of the RTU disconnected while upgrading firmware*



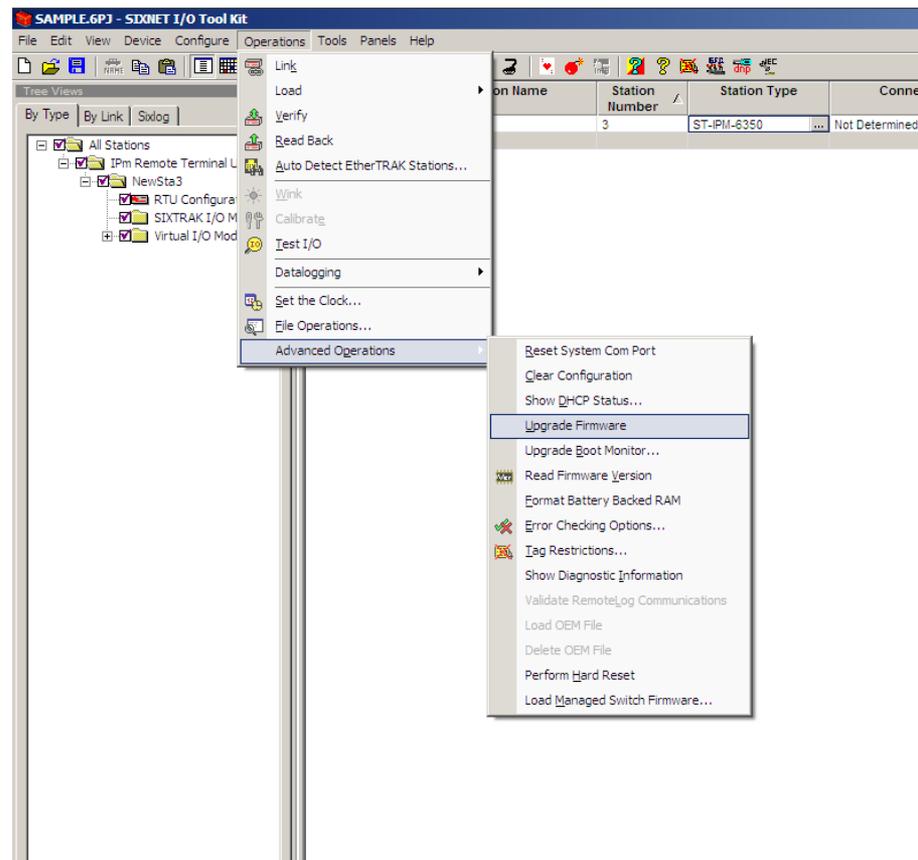
RTU Firmware Upgrade



- **The “Upgrade Firmware” Option**

- *Navigate to the “Upgrade Firmware” option from the menu bar.*

- *Navigate to: Operations > Advanced Operations > Upgrade Firmware*

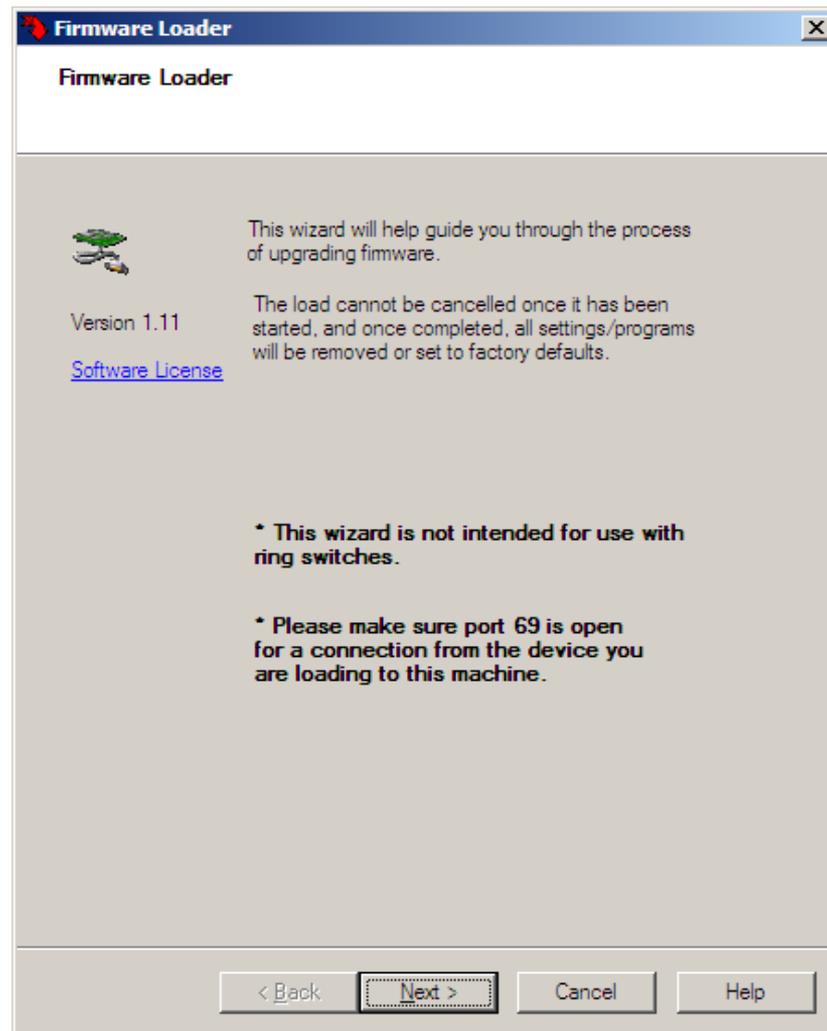


RTU Firmware Upgrade



• Firmware Loader

- *To upgrade the firmware, port 69 of the programming computer should be open.*
- *This can be done by adding this port to the ports allowed by firewall.*
- *This Firmware Loader can be used to upgrade firmware on Sixnet RTUs **only**.*



RTU Firmware Upgrade



- **RTU type and firmware version**

- *The Firmware Loader selects the RTU type automatically.*
- *Make sure the correct RTU has been chosen.*
- *Make sure the correct firmware directory is pointed at before the firmware upgrade*

A screenshot of a software dialog box titled "Select Product and Version". The dialog has a blue title bar with a close button. The main content area is light grey and contains the following fields:

- Product / Version Selection**: A sub-header with the instruction "Select the type of product and the firmware version to load."
- Product selection:** A section with a label "Select the type of product:" and a dropdown menu currently showing "Industrial Controller / RTU".
- Project file:** A text box containing "C:\Documents and Settings\...eywell\SAMPLE.6PJ" and a browse button "...".
- Station name:** A dropdown menu currently showing "NewSta3".
- Firmware selection:** A section with a label "Firmware directory:" and a text box containing "C:\Documents and Settings\...\Desktop\1015933\" and a browse button "...".
- Below the directory field is a checked checkbox labeled "Include subdirectories" and an "Options..." button.
- Select the firmware version:** A dropdown menu currently showing "4.2.1015933 (Non-sximage6_stipm4_2_1015933)".

At the bottom of the dialog are four buttons: "< Back", "Next >", "Cancel", and "Help".

RTU Firmware Upgrade

- **Communication type**

- *Upgrading the firmware using both Ethernet and serial is the recommended option.*
- *Serial port is the primary means of download.*
- *Ethernet is used to provide the backup communication link incase of failure.*



Connection

Connection Type
Select the type of connection to be used during loading.

Select the type of connection to use during loading:
Use Ethernet and serial communications

Please select the port on your PC to use.
Port: COM1

< Back Next > Cancel Help

RTU Firmware Upgrade



• Communication Settings

- *Make sure the correct IP address of the programming computer is selected.*
- *Setting the IP address of the station in this window **does not** change the default IP address of the RTU. It is reset to 10.1.0.1 after the firmware load.*



The screenshot shows a Windows-style dialog box titled "IP Settings". Inside, there is a section for "IP Address Settings" with a sub-header "This computer:". Below this, there are fields for "IP Addresses found:" (a dropdown menu showing "10.1.0.125"), "Subnet mask:" (a text box with "255 . 0 . 0 . 0"), and "Gateway IP:" (an empty text box). There is a checkbox labeled "Use this IP Address:" which is currently unchecked, with a text box below it containing "10 . 1 . 0 . 190".

Below the "This computer:" section is a section for "Station settings:" with fields for "Station IP:" (text box with "10 . 1 . 0 . 21"), "Subnet mask:" (text box with "255 . 255 . 255 . 0"), and "Gateway IP:" (empty text box).

At the bottom is a section for "Authorization credentials:" with fields for "User:" and "Password:".

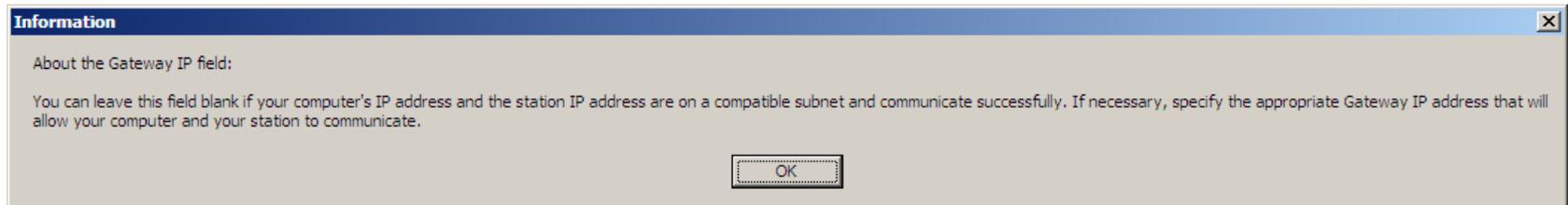
At the very bottom of the dialog box are four buttons: "< Back", "Next >", "Cancel", and "Help".

RTU Firmware Upgrade



- **IP Gateway**

– *This is a warning window that pops up. If you are connected directly to your RTU, this field can be left blank.*



RTU Firmware Upgrade



• Cycle Power

– The Firmware Loader will ask you to turn off and turn on the RTU.



– Firmware loading process follows the power cycle.

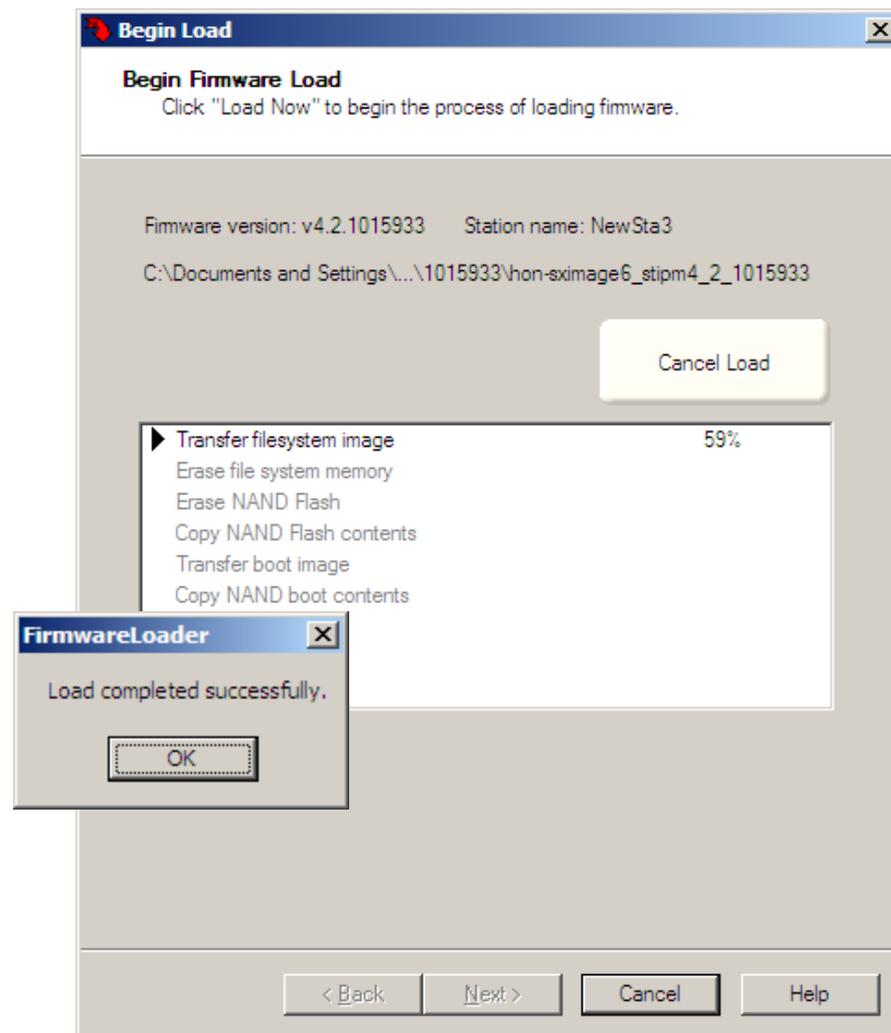


RTU Firmware Upgrade



• Firmware load process

- *The firmware load starts right after the power cycle.*
- *This happens over serial*
- *Ethernet is used as backup communication link*
- *The Firmware Loader waits a while before starting to transfer filesystem image.*
Do Not hit the cancel button during this stage
- *Once done, the “Load completed” window pops up.*

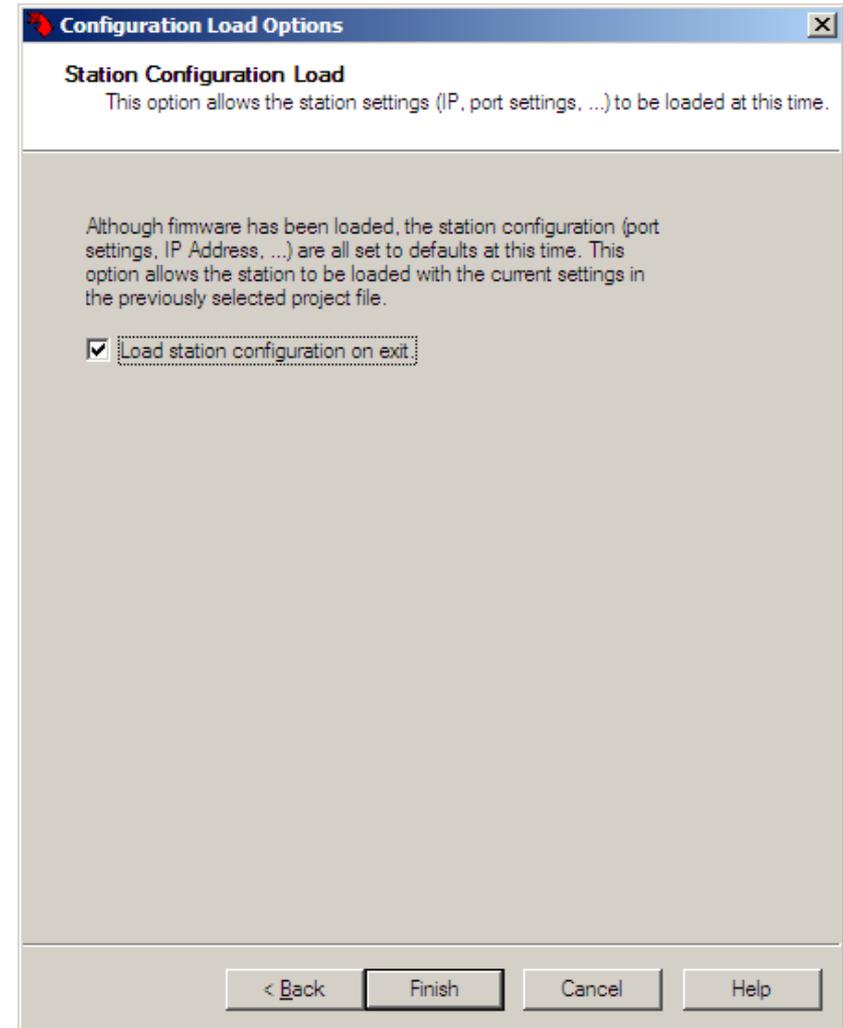


RTU Firmware Upgrade



- **Configuration load**

- *After the firmware load, you have the option of either loading the saved configuration on exit.*
- *At this point, the firmware load process is over and Serial or Ethernet link can be disconnected.*





Sixnet, a Red Lion business
331 Ushers Road
Ballston Lake, NY 12019

T +1 (518) 877-5173
F +1 (518) 877-8346

sales@sixnet.com
www.sixnet.com

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