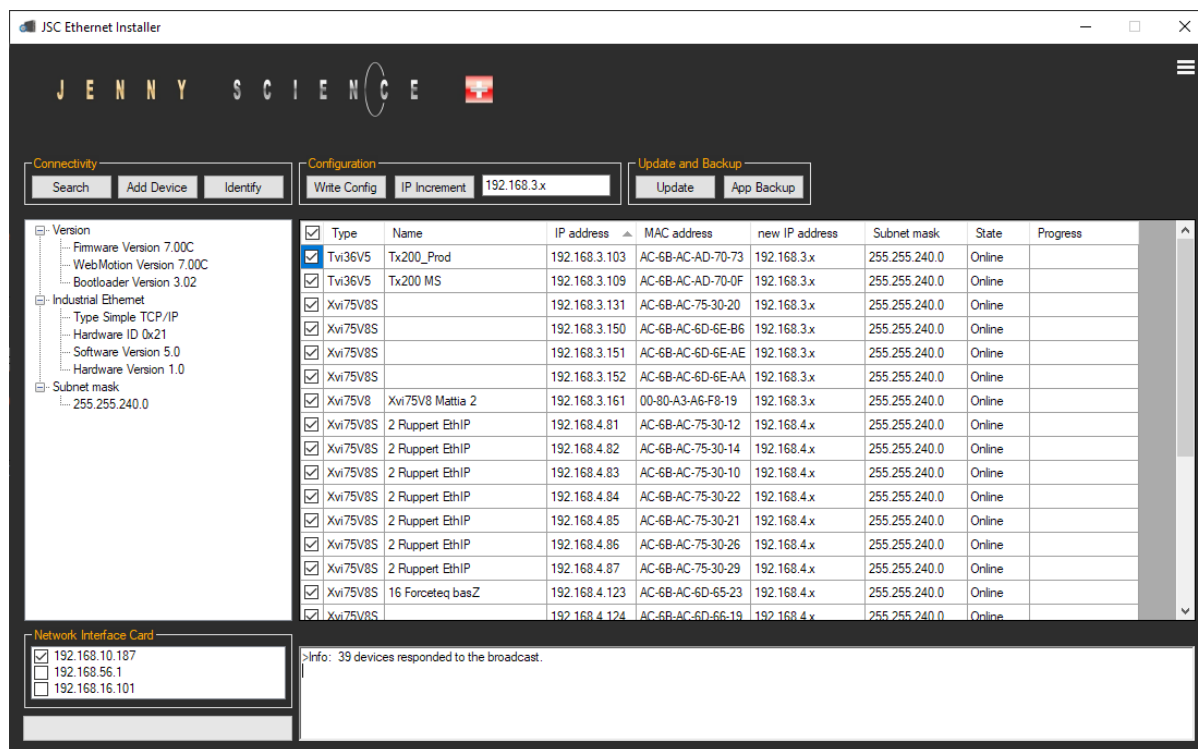


## Jenny Science (JSC) Ethernet Installer

Version 1.3 / Edition August 2022



### General

The following manual describes how to operate the JSC Ethernet Installer software.

## Contents

<b>1 Introduction</b>	<b>3</b>
<b>2 Start view</b>	<b>3</b>
2.1 Settings	4
2.1.1 Network Interface Card	4
2.1.2 Multiple IP addresses	4
2.2 Search	5
2.3 Add Device	5
2.4 Identify	5
2.5 Device listing	6
2.5.1 Details	7
2.5.1 Manipulating the device listing	10
<b>3 Configuration</b>	<b>11</b>
3.1 IP Increment	11
3.2 Write Config	11
<b>4 Update</b>	<b>11</b>
4.1 Firmware/WebMotion	11
4.1.1 Selection mask when using single type	12
4.1.2 Selection mask when using multiple types	13
4.2 Backing up application data	14
<b>5 Advanced Options</b>	<b>15</b>
<b>6 Error-List</b>	<b>16</b>

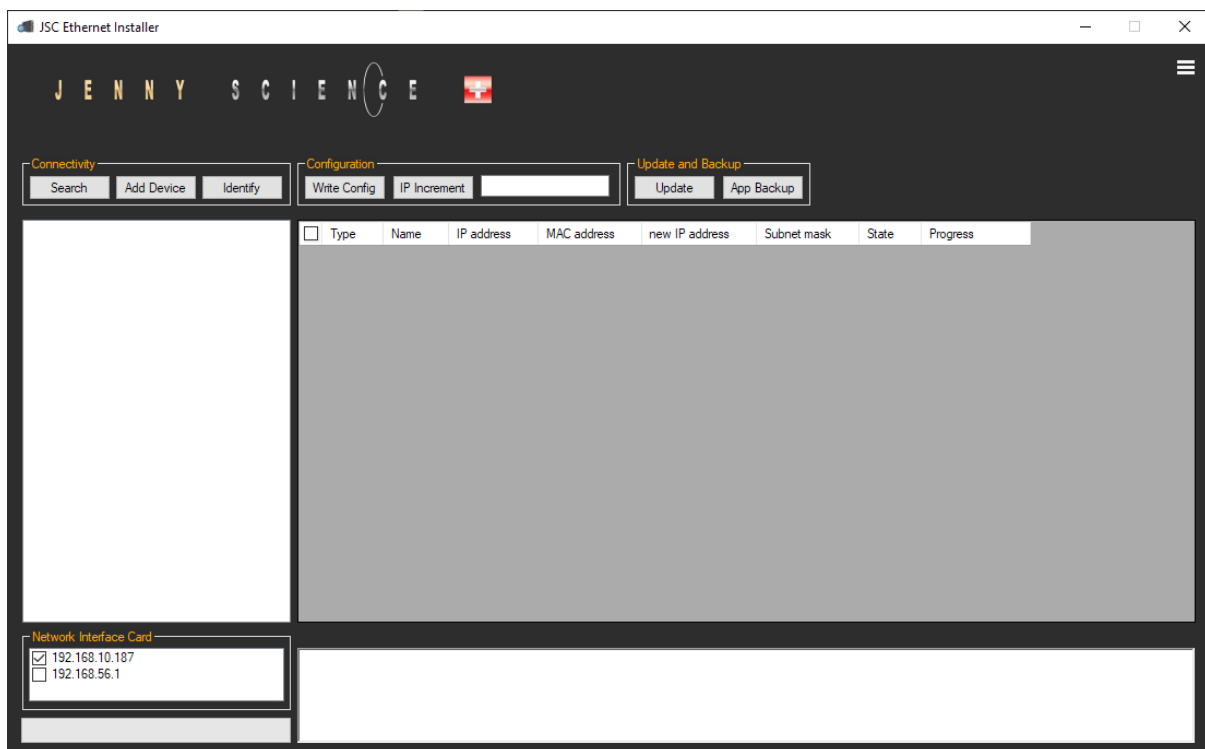
## 1 Introduction

With the JSC Ethernet Installer it is possible to discover the XENAX® Xvi75V8, the XENAX® Xvi 48V8, the XENAX® Xvi 75V8S as well as devices from the INTAX® family in a network. The installer can then be used to make a minimal configuration of the devices.

The main difference to the similar tool “Device Installer” from Lantronix is, that with a start click the configuration of several devices can be done simultaneously. Additionally, the tool fully supports configuration of newer Jenny Science products.

## 2 Start view

After starting up the des JSC Ethernet Installer, the view presents itself as follows.

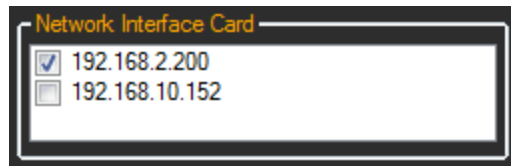


## 2.1 Settings

### 2.1.1 Network Interface Card

Before starting a search, you must specify which network interface card is to be used for the discovery.

Select an IP address that is within the same subnet as the device you want to discover in the network.



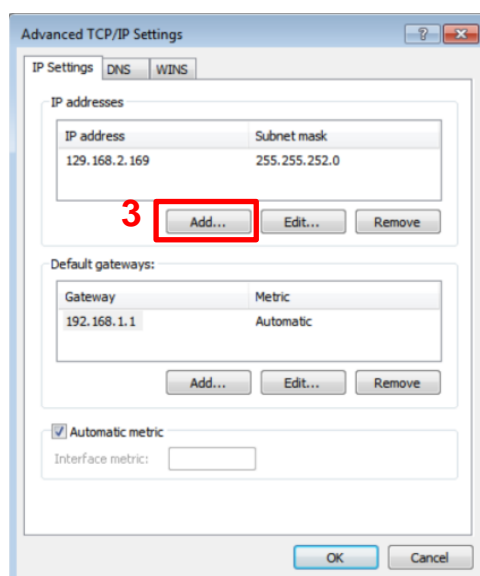
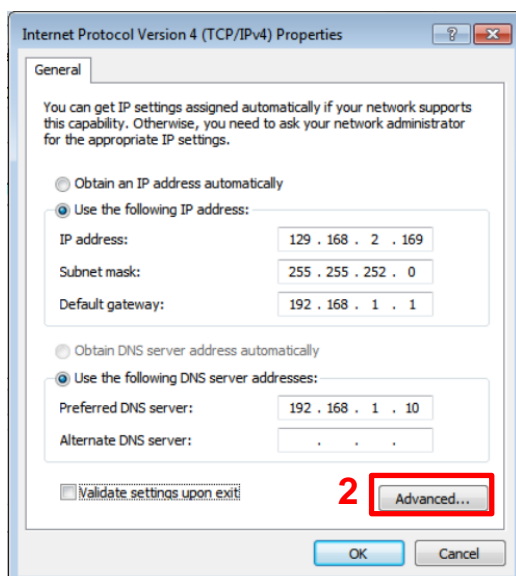
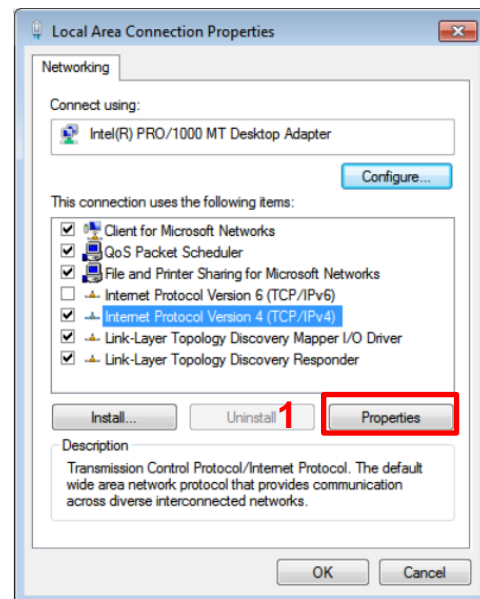
When a network change occurs simply reload the list by right-clicking it and selecting “Refresh”

### 2.1.2 Multiple IP addresses

It is possible to assign multiple IP addresses to a physical network card. Thus, they can easily switch between the subnets.

1. Go into the properties of your network card
2. Then click Advanced...
3. With Add, you can continue to add addresses with the corresponding subnet to the main IP address

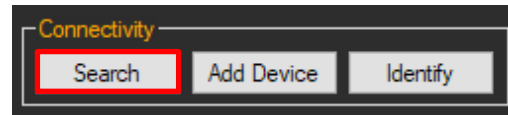
**Note:** This is only possible if you use a fixed IP. When using DHCP this functionality is not provided.



## 2.2 Search

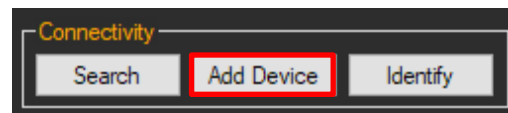
Click on “Search” to find all devices in the network.

After that all available devices are listed.

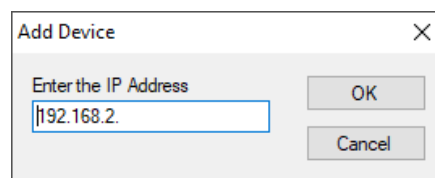


## 2.3 Add Device

When no devices are found with “Search” it is possible to add a device manually. Click the “Add Device” button to do so.



The IP address to be searched must be written in the textbox. Confirm with “OK” and the device will be searched directly.

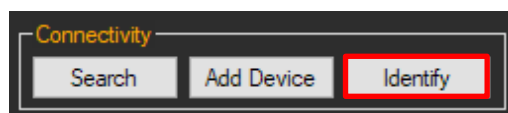


## 2.4 Identify

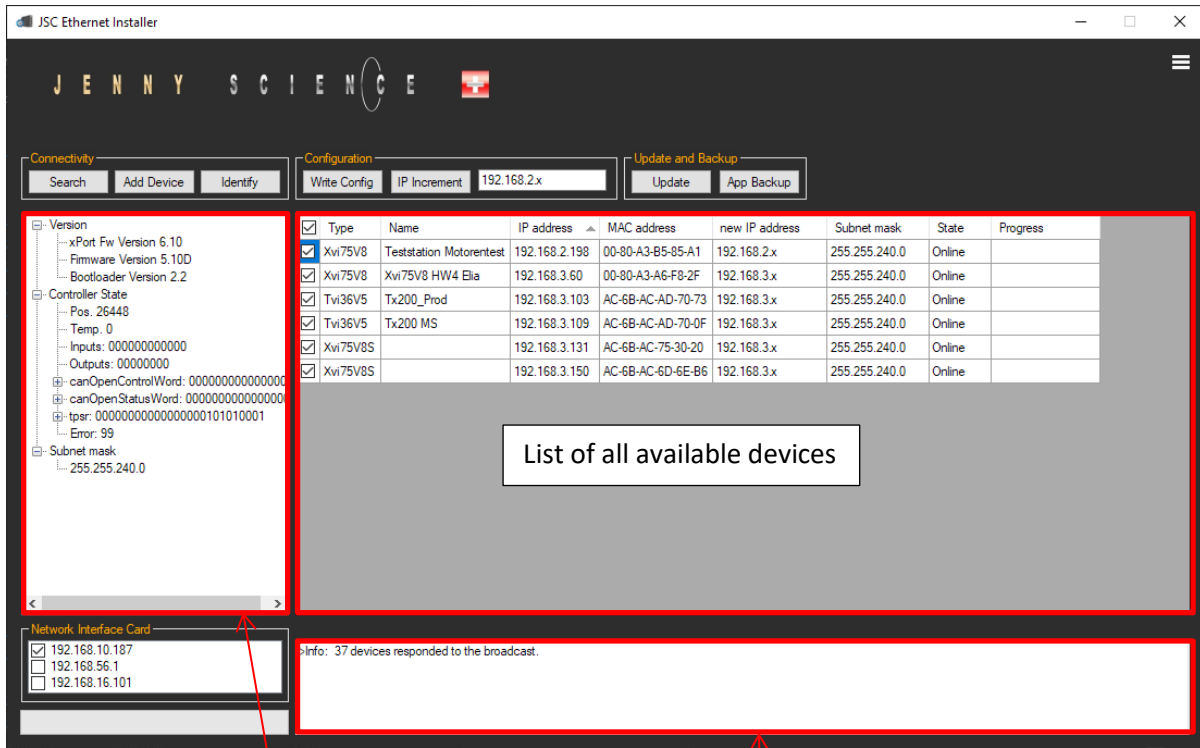
If the selection within the device list contains Xvi 48V8, Xvi 75V8S or Tvi 36V5 devices it is possible to identify them. To do so click on the “Identify” button. While in identify mode the XENAX® devices’ 7 segment display will show a bar that goes around the display. INTAX® devices will try to catch your attention by pulsating the display brightness up and down.

Click “Identify” again to turn off identification.

**Hint:** While a device is running the identification function it is not possible to apply further configuration changes.



## 2.5 Device listing



The screenshot shows the JSC Ethernet Installer application. It features a sidebar with a tree view of system components (Version, Controller State, Network Interface Card) and a main area with a table of available devices. A red box highlights the table, and another red box highlights the Network Interface Card section. Arrows point from labels to these areas.

**Details for highlighted device**

**Detailed error view**

Type	Name	IP address	MAC address	new IP address	Subnet mask	State	Progress
<input checked="" type="checkbox"/> Xvi75V8	Teststation Motorentest	192.168.2.198	00-80-A3-B5-85-A1	192.168.2.x	255.255.240.0	Online	
<input checked="" type="checkbox"/> Xvi75V8	Xvi75V8 HW4 Ela	192.168.3.60	00-80-A3-A6-F8-2F	192.168.3.x	255.255.240.0	Online	
<input checked="" type="checkbox"/> Tvi36V5	Tx200_Prod	192.168.3.103	AC-6B-AC-AD-70-73	192.168.3.x	255.255.240.0	Online	
<input checked="" type="checkbox"/> Tvi36V5	Tx200_MS	192.168.3.109	AC-6B-AC-AD-70-0F	192.168.3.x	255.255.240.0	Online	
<input checked="" type="checkbox"/> Xvi75V8S		192.168.3.131	AC-6B-AC-75-30-20	192.168.3.x	255.255.240.0	Online	
<input checked="" type="checkbox"/> Xvi75V8S		192.168.3.150	AC-6B-AC-6D-6E-B6	192.168.3.x	255.255.240.0	Online	

Info: 37 devices responded to the broadcast.

The columns in the listing have the following meaning:

### Checkbox:

Indicates whether a device is selected for further actions or not.  
The checkbox can be toggled on and off.

### Type:

Indicates the type of device (can be either Xvi 75V8, Xvi 48V8, Xvi 75V8S or Tvi 36V5).  
This field is read only.

### Name:

Shows the name which is set for the corresponding device.  
For the Xvi 75V8 devices, the name is stored in the xPort.  
For the Xvi 48V8, Xvi 75V8S and Tvi 36V5 the name column equals servo ID (ASCII command "SID")  
This field can be changed.

#### IP address:

Current IP address of the device.  
Clicking on the IP address opens WebMotion in the system's standard browser.  
This field is read only.

IP Adresse	M
192.168.2.162	AC

#### MAC address:

MAC address of the device.  
This field is read only.

#### new IP address:

New IP address that will be set after a write to the configuration.  
This field can be changed.

#### Subnet mask:

Current or future subnet mask.  
This field can be changed. The subnet mask needs to start with ones and stops on zeroes.

#### State:

Shows the state of the device  
This field is read only.

#### Progress:

Shows the download progress for a firmware or WebMotion download

If an error occurs during a change of the network settings the error will be listed in the detailed error view. Additionally the corresponding row in the device listing will be colored accordingly.

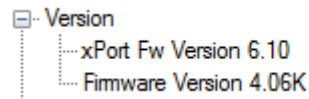
### 2.5.1 Details

If a line is selected in the list view, the details of the selected device are shown on the left-hand side. This information is read only and will be updated every time a user clicks a row within the device listing.

## Xvi 75V8

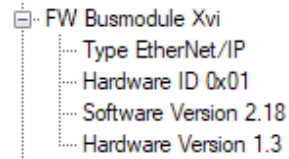
### Version:

Shows the firmware version of the xPort.



### FW Busmodule Xvi / Industrial Ethernet:

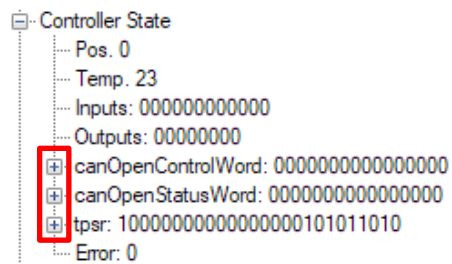
Underneath Bus module you will find information about the currently plugged bus module.



### Controller State:

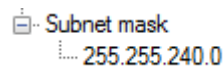
In the Controller State section, you can find information about the status of the Xvi 75V8.

The fields canOpenControlWord, canOpenStatusWord and tpsr can be expanded.



### Subnet mask:

Displays the current subnet mask.

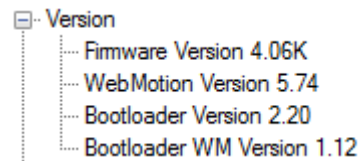




## Xvi 48V8, Xvi 75V8S and Tvi 36V5

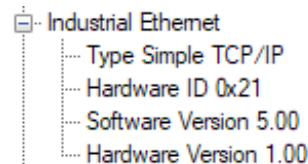
### Version:

The Version tree shows information about current software versions.



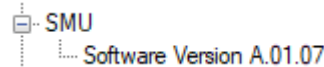
### FW Busmodule Xvi / Industrial Ethernet:

Underneath Bus module you will find information about the mounted bus module.



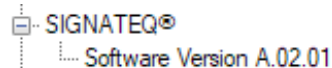
### SMU (Xvi 75V8S only):

This section shows the version of the SMU firmware currently running on the device.



### SIGNATEQ® (Xvi 75V8S only):

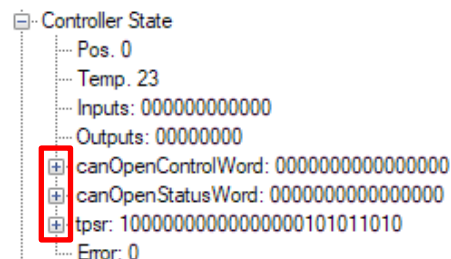
This section shows the version of the SIGNATEQ® firmware currently running on the device.



### Controller State:

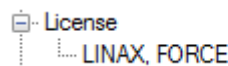
In the Controller State section, you can find information about the status of the device.

The canOpenControlWord, canOpenStatusWord, and tpsr fields can be expanded.



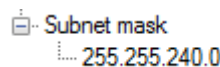
### License (Xvi 48V8 only):

License shows the licenses installed on the Xvi 48V8.



### Subnet mask:

Show the current subnet mask.



## 2.5.1 Manipulating the device listing

Using a right click menu the software's user may perform four different actions to an individual set of devices. These are the actions currently implemented:

### Refresh:

Updates the state field of the set.

### Remove:

Removes the set from the device listing.

### Reboot:

Sends a reboot command. Important: A soft reset is not to be confused with a power cycle.

### Select:

Checks the checkbox of all devices in the set.

These actions can be performed on the following sets of devices:

### This:

Action solely affects the device that has been underneath the cursor when right clicking.

### Highlighted:

All the devices marked by the user are affected. It is possible to create more complex sets by using CTRL+click.

### All:

All devices are affected.

### All But This:

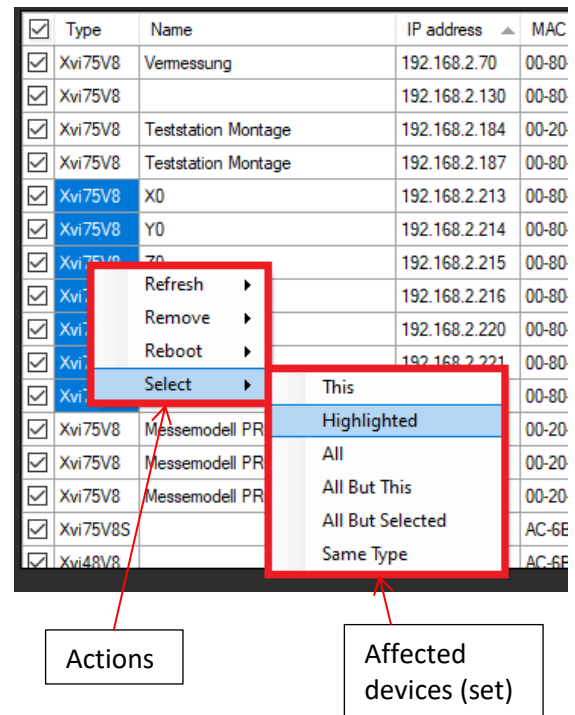
All devices but the one underneath the cursor are affected.

### All But Selected:

All of the devices except for the currently selected ones are affected. This is useful to invert your selection.

### Same Type:

All devices that share the same type as the one right clicked will be affected by the action.

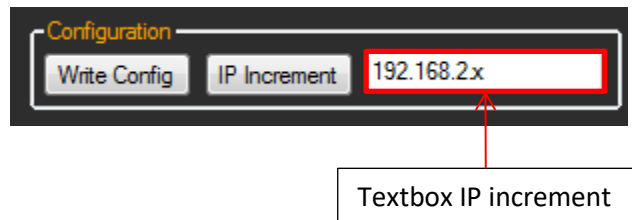


### 3 Configuration

#### 3.1 IP Increment

After a search the leading three numbers of the IP address of the first device listing entry will be displayed in the textbox "IP Increment". If the IP addresses of multiple devices need to be changed, replace the "x" in the text box with the desired start value and click on "IP Increment".

The "new IP address" field will contain incremental values starting at the one specified in the textbox.

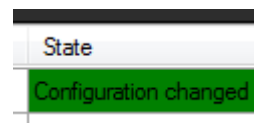


#### 3.2 Write Config

By clicking on the "Write Config" button, the changed configuration is transferred to the device.

If the configuration is to be changed but the IP address shall not change, the field "new IP address" can be left empty or you can enter the existing IP.

Whether changing the configuration was successful can be seen in the "State" field.



### 4 Update

#### 4.1 Firmware/WebMotion

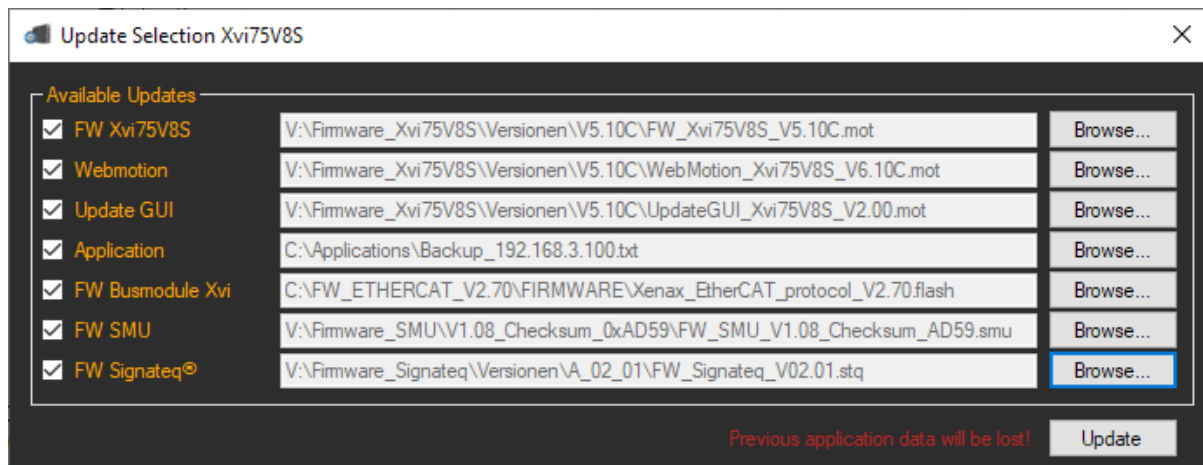
The Update button displays a form where the user may select firmware and/or WebMotion used in the update process.



The selection mask looks roughly the same for all the controllers. For the Xvi 75V8 the section for update-GUI is disabled whilst for the Xvi48V8 the SMU section is disabled. For Tvi 36V5 devices you can only select to update the controller firmware, applications and/or the industrial ethernet stack.

**Note:** You can update different device types simultaneously but you will be limited to update applications only.

#### 4.1.1 Selection mask when using single type



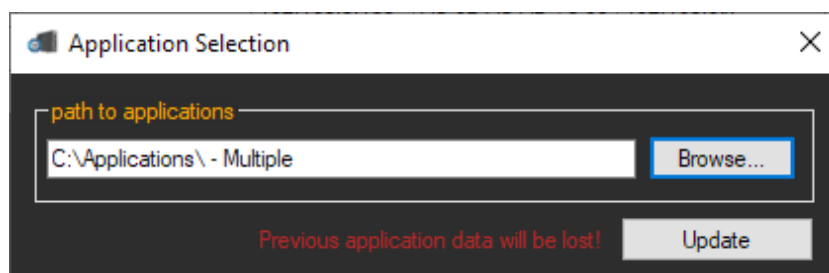
These are all the update capabilities provided by the tool:

- Firmware of the controller
- Webmotion (not applicable to Tvi 36V5 because this is merged with the firmware)
- Update GUI (not applicable to Xvi 75V8 and Tvi 36V5)
  - Application data which is currently stored on the device. It is possible to load different applications for multiple devices (see chapter 4.1.2)
- FW Busmodule Xvi/Industrial Ethernet: There will be an error if no bus module is mounted
- Firmware SMU (not applicable to Xvi 48V8 and Tvi 36V5): There will be an error if no SMU is mounted
- Firmware Signateq®: A Signateq® type measurement amplifier needs to be connected to the controller (only applicable to Xvi 75V8S).

All update variants are fit for multi-loading. If the number of selected devices exceeds 15, they will be automatically grouped in groups of 15.

**Attention:** Overwriting application data will delete prior data irrevocably. To prevent loss of important data, make sure to back up your applications first (see chapter 4.2)

#### 4.1.2 Selection mask when using multiple types



When updating application data, it is possible to either write a single file to all devices or let the software automatically detect the correct files out of a selection for each device. When clicking the “Browse...” button the user needs to select one or more files.

##### Downloading a single application:

If the user selects a single file in the dialog, the ethernet installer tries to download this file to all selected devices. Make sure to not download incompatible files to the controllers.

##### Downloading different applications:

If the user selects multiple files the software tries to match the applications to different controllers. It does so by looking at a filename which shall contain the IP address of a controller and matches it to a controller with the same IP address. If there is a controller without a matching application, the software will warn the user.

## 4.2 Backing up application data

When clicking the “App Backup” button, the application data of all selected controllers will be fetched. The user is then required to provide a path for storage as well as a filename prefix that defaults to “Backup”. The software then appends an underscore as well as a devices’ IP address. Additionally, for Xvi 48V8, Xvi 75V8S as well as Tvi 36V5 devices the file extension will be “.txt”.



### Example:

<input checked="" type="checkbox"/>	Type	Name	IP address ▲	MAC address	new IP address	Subnet mask	State	Progress
<input checked="" type="checkbox"/>	Xvi75V8S		192.168.3.100	AC-6B-AC-75-30-08	192.168.3.x	255.255.240.0	APPL saved	
<input checked="" type="checkbox"/>	Xvi48V8		192.168.3.101	AC-6B-AC-0F-A0-02	192.168.3.x	255.255.240.0	APPL saved	
<input checked="" type="checkbox"/>	Xvi75V8	X2	192.168.2.220	00-80-A3-9C-53-8B	192.168.2.x	255.255.240.0	APPL saved	

From above selection the user ran a backup. As path C:\Applications was selected and the user let the prefix as is (“Backup”). Following files were created by the software:

- Backup\_192.168.2.220
- Backup\_192.168.3.100.txt
- Backup\_192.168.3.101.txt

Advanced ethernet installer configuration can be accessed by clicking on the menu button shown on the right.

## 5 Advanced Options



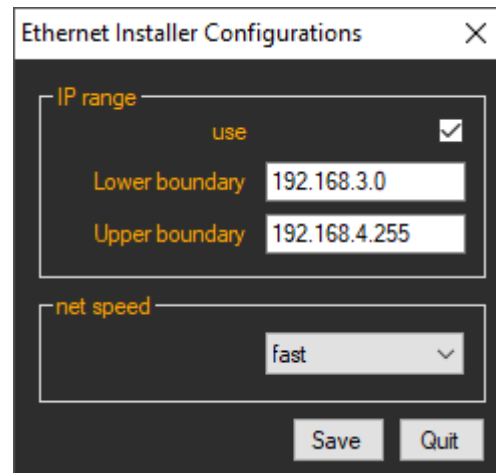
### Setting the IP range

First, check the box next to “use” in order to enable the two text boxes “Lower boundary” and “Upper boundary”. It is now possible to change the values of these two boxes. If “use” is checked the ethernet installer only adds devices withing the defined range to the list upon a new search.

### Network speed

It is possible to choose one of three speed levels (“slow”, “default” and “fast”). To do so, simply click the combo box within the “net speed” box and select the preferred speed. It is not recommended to use speeds higher than “default” if the ethernet installer does not operate as expected.

All settings can be saved by clicking the “save” button.



**Ethernet Installer Configurations** [X]

**IP range**

use ☒

Lower boundary 192.168.3.0

Upper boundary 192.168.4.255

**net speed**

fast ▼

Save Quit

## 6 Error-List

Error Nr.	Error Text	Reason
0	Download finished successfully	Default value
1	Erasing failed	Flash can't erase. Restart device and try again.
2	SCI Overrun, Framing, Parity	Data could not be received correctly. Restart device and try again.
4	Wrong Checksum	Checksum in File wrong or the data data was not transferred correctly. Restart device and try again.
5	Wrong Address Area	Wrong address in the file.
6	Flash Write Error	Write in flash failed. Restart device and try again.
7	Wrong SO-Header Data	Wrong file loaded. Select the correct file for the platform.
8	Bootdescriptor not found	Application start point could not be found.
9	Code copy to RAM	Bootloader could not be loaded into RAM. Restart device and try again.
10	Flash Control Unit FCU	Error during initialization of the Flash Control Unit. Restart device and try again.
11	Application CRC wrong	Checksum in the file wrong or data was not transferred correctly. Restart device and try again.
86	Load Over Serial not supported	Load over Serial is not available.
87	Serial Port Exception	Serial port could not be opened. Serial port already open?
88	Wrong State	Device has a wrong state.
90	Parse string Error	Received String can't convert to Integer
91	Send Data Error	Sending the data failed.
92	Socket open failed	TCP / IP socket could not be opened.
93	Socket Exception	There was an error with the TCP / IP socket. Maybe more info on the Windows Socket error list.
94	Get Response Error	The response could not be received.
95	Transfer-data are null	No correct file was specified for loading.
96	Time Out	Function aborted due to time out. Check all cables.
97	Command not supported	Command is not supported on this platform.
98	Unknown Command	Command is not known on this platform.
99	Canceled by User	Operation was aborted by the user.
995	Operation aborted	Eventually an error occurs because the operation was aborted by the user.
10004 – 11031		Windows Socket-Error code



## Note

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Information in this instruction manual is subject to change.

JSC\_Ethernet\_Installer E V1.3.docx / SM

Jenny Science AG  
Sandblatte 11  
CH-6026 Rain, Schweiz

Tel +41 (0) 41 255 25 25

[www.jennyscience.ch](http://www.jennyscience.ch)  
[info@jennyscience.ch](mailto:info@jennyscience.ch)

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