

Ethernet Discovery Utility

SOFTWARE USER MANUAL

Scope of Document

This document gives instructions on extra steps needed to add and configure ImproX EC^{II} Controllers using the ImproNet Software Suite and related Utilities.

Document Conventions

We use the following conventions in this document:



Note – points out extra information



Tip – points out alternative methods to perform a task



Important – points out important information



Warning – points out potential danger to you or the product

Before You Begin

Have the following available:

- An active Ethernet connection to the ImproX EC^{II} Controller
- The ImproNet Software Suite V7.4 or higher
- The MAC Address and Fixed Address of each ImproX EC^{II} Controller – on a label bundled with the Controller

Configure the EC^{II} Controller

The Ethernet Discovery Utility allows the following actions:

- Detection of ImproX EC^{II} Controllers on a Local Area Network
- Configuration of the network address settings
- Configuration of the ImproX EC^{II} Controllers settings

We recommend you carry out configuration using the following sequence:

1. View the Controllers on a Local Area Network.
2. Confirm or change the IP Address and set the Address to static.
3. Change the default password to a suitable password for your site.



Ensure that you keep the same password across all Controllers.

4. Query the Logical Address of all the Controllers for your site.
5. Change the Logical Address of the Controllers as needed, thus ensuring that each Controller has a unique Address.



Do not change the Logical Addresses after importing them into ImproNet.

6. Set the ImproX EC^{II} Controllers configuration for each Controller. That is, select the required memory size and port number. Ensure that all the Controllers have the same configuration. (This step is optional - default settings should do for most sites).
7. Select all the Controllers for your site and export their settings to a file.
8. Check the file exists and contains the data for import into ImproNet.

Start the Discovery Utility

In Windows®, go to **Start>Programs>ImproNet>Utils>Ethernet Discovery Utility**.

View all Available Controllers

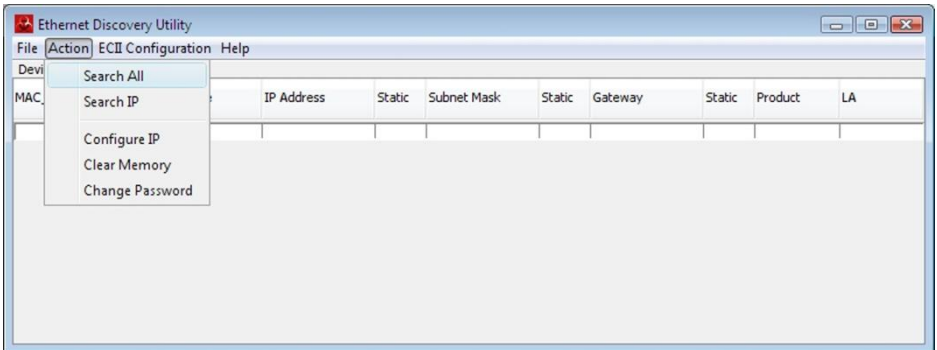


Figure 1: Ethernet Discovery Utility – Action Menu

To view all the EC^{II} Controllers on the **local subnet**:

1. On the menu bar, go to **Action>Search All**.
2. Wait for the Controllers to display.

View a Specific Controller

To view specific Controller(s):

1. On the menu bar, go to **Action>Search IP**.
2. In the **Enter IP Address** dialog, enter the **IP Address** of the Controller you're searching for.
3. Click on the button.
4. Wait for the Controller to display.

Secure Logon

Accessing certain menu choices, listed on the Action and ECII Configuration menus, needs a secure logon. These choices include:

- Configure the IP Address
- Clear the Memory
- Change the Password
- Set the ECII Configuration

A secure logon activates after about 12 seconds.

You will remain logged on to the selected Controller until you select another Controller and choose a menu alternative needing a logon.

You will also lose connection to the current Controller after changing the IP Address, clearing the memory or changing the ImproX EC^{II} Controllers configuration.

Secure Logon Dialog




Figure 2: Device Password Dialog

1. In the **Device Password** dialog, enter your **password**.



*The default password is **impro**.*

2. Click on the  button.

Configure IP Addresses

Configure a Controller's IP Address settings as follows:

1. In the **Ethernet Discovery Utility** window, select the Controller for configuration.
2. On the menu bar, go to **Action>Configure IP**.
3. **Logon** if requested (see page 4).

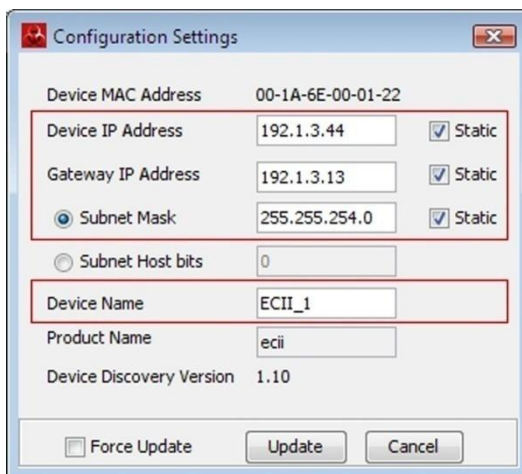


Figure 3: Configuration Settings Dialog

4. In the **Configuration Settings** dialog, enter the following:



If you do not know your Configuration Settings, contact your Network Administrator.



If a DHCP server is present, IP Addresses can be dynamically assigned. If there is no DHCP server, obtain a suitable IP Address from your Network Administrator. A static IP Address is preferred for the Controller.

- Assign a **Device IP Address** to the EC^{II} Controller. Tick the box to set the IP Address to static

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- Enter a **Gateway IP Address**. Tick the box to set the Gateway IP Address to static
 - Select **Subnet Mask** and enter the subnet's address. Tick the box to set the Subnet Mask to static
 - OR select **Subnet Host Bits** and enter the number of bits in the textbox
 - Enter a **Device Name**



Use the same **site prefix** to name devices belonging to the same site. Example: “**Site 1 – Factory**”, “**Site 1 – Testing**”.

5. Click the **Update** button.

Assign the EC^{II} Controller to a Non-local Subnet



Only perform this action if you want to assign the ECII Controller to a non-local subnet. After performing the step, the Ethernet Discovery Utility will NOT detect the Controller. Therefore, BEFORE changing the IP Address, ensure that you assign the Logical Address and set the Port Number (if you are not using the default Port Number). (Refer to Assign a Logical Address and Configure Port Number and Memory Size on page 8 and 9 for extra information).

To change an IP Address to an IP Address outside the local subnet, continue as follows:

1. In the **Ethernet Discovery Utility** window, select the Controller for configuration.
2. On the menu bar, go to **Action>Configure IP**.
3. **Logon** if requested.
4. In the **Configuration Settings** dialog enter the following:


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- Assign a **Device IP Address** to the EC^{II} Controller. Tick the box to set the IP Address to static
 - Enter a **Gateway IP Address**. Tick the box to set the Gateway IP Address to static
 - Select **Subnet Mask** and enter the mask. Tick the box to set the Subnet Mask to static
5. Tick the **Force Update** box.
 6. Click the **Update** button.

Change the Default Password

1. On the menu bar, go to **Action>Change Password**.
2. **Logon** if requested (see page 4).
3. In the **Enter New Device Password** dialog, in the **Enter New Password** textbox enter a new password for the selected Controller.



Your new password must not exceed 8 characters.

4. In the **Confirm New Password** textbox re-enter your chosen password.
5. Click on the  button.

Query the Logical Address

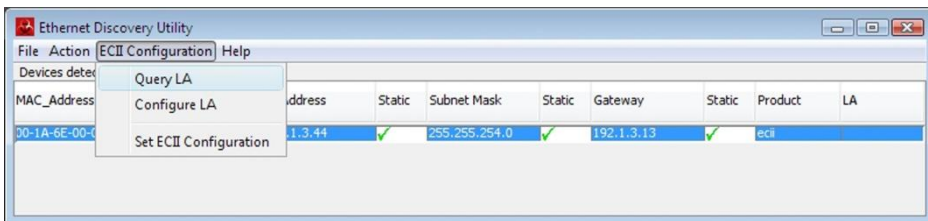


Figure 4: Ethernet Discovery Utility – ECII Configuration Menu

Display the Logical Address for the selected Controller(s) in the LA column of the Utility.

1. In the **Ethernet Discovery Utility**, select the Controller(s) you are querying.



*To select more than one Controller, hold down the **CTRL** key and **left-click** additional Controllers.*

2. On the menu bar, go to **ECII Configuration>Query LA**.

Assign a Logical Address

A new EC^{II} Controller has the default Logical Address **FF**. To assign a new Logical Address:




After making changes to the Controllers Logical Address, ensure that you export the configuration file, for import into ImproNet Engine.

1. In the **Ethernet Discovery Utility**, select the Controller(s) to be configured.



*To select more than one Controller, hold down the **CTRL** key and **left-click** additional Controllers.*

2. On the menu bar, go to **ECII Configuration>Configure LA**.
3. Type the new hexadecimal **Logical Address** in the textbox.
4. Click the  button to confirm.
5. Repeat steps 3 and 4 for each selected Controller.



*The same Logical Address should not be used more than once per Site. To prevent this, select all the Controllers on a Site. Go to **ECII Configuration>Query LA**. The Logical Addresses display in the LA column on the right-hand side of the table. Ensure that the Logical Address is not repeated.*

Configure Port Number and Memory Size



This is an advanced feature; use the feature only if required.




After making changes to one or more Controllers Configuration Settings, ensure that you export the configuration file for import into ImproNet Engine.

Using the **Ethernet Discovery Utility**, view or configure the **Port Number** and or **Memory Size** of the EC^{II} Controller as follows:



All Controllers on the same site MUST have the same Memory Size Configuration.

1. Select the **Controller** for configuration.
2. On the menu bar, go to **ECII Configuration>Set ECII Configuration**.
3. **Logon** if requested (see page 4). The current Port Number (used for communication with the Controller) and the Memory Size configuration displays. Press the  button if you don't need to make any changes, or else continue with point 4.

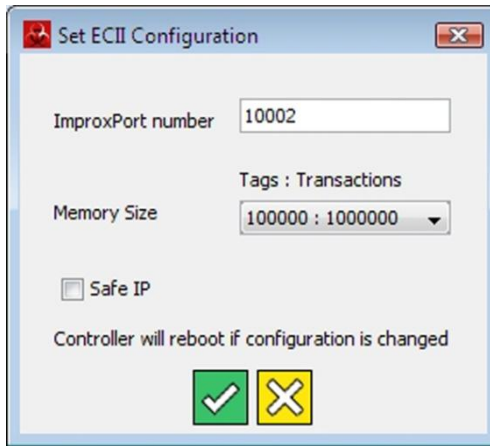


Figure 5: Set ECII Configuration Dialog

4. In the **Set ECII Configuration** dialog, in the **ImproxPort Number** textbox, change the **Port Number**.



*The default Port Number is **10002**. Only change the default Port Number, if it clashes with other devices or services on your network.*


5. If necessary, in the **Memory Size** textbox, change the **Memory Size Configuration**.



*The default Memory Size Configuration is **100 000 Tags** and **1 000 000 Transactions**.*



Enable Safe IP only AFTER configuring and setting up the whole system. Once you set Safe IP you can only change or query the Logical Address using the Ethernet Discovery Utility on the Engine PC.

6. Click the  button to confirm.
7. Wait while the Controller re-boots (about 15 seconds).

Export the Controllers Configuration File

Controller information must be made available to ImproNet Modules as follows:

1. Select the **Controller(s)** to be added to a Site.
2. On the menu bar, go to **File>Export IP Config**.
3. In the **Save** dialog, enter a file name.
4. Click on the **Save** button.



Make a note of the file name and location. The Controller Configuration file must be imported when you configure ImproNet Engine.



We recommend that you save the file in your ImproNet folder.



*The default file name is **discovery.txt**. We recommend that you give the file a **site suffix** so that it is associated with the correct site. Example: "Discovery - **site 1.txt**."*

Importing a Controllers Configuration File

Import a previous version of the Controller's Configuration File into the Discovery Utility adding the information to the existing table.

1. On the menu bar, go to **File>Import IP Config**.
2. In the **Open** dialog, select the file.
3. Click on the **Open** button.

Advanced Features

Clear the Controller's Memory

This feature lets you clear the Controller's memory (used for storing the Controller's Database - that is the Tags, Transactions, Terminal Tables, Actions, Time Patterns and so on).



Only use this feature in consultation with Impro's Support personnel.

1. Select the **Controller** for configuration.
2. On the menu bar, go to **Action>Clear Memory**.
3. **Logon** if requested (see page 4).

Safe IP



Enable Safe IP only AFTER configuring and setting up the whole system. Once you set Safe IP you can only change or query the Logical Address using the Ethernet Discovery Utility on the Engine PC.



Safe IP is part of the EC^{II} configuration and is only accessible with a Secure Shell (SSH) Logon and the Controller password. Safe IP is accessible from ANY PC on the network, provided the password is known. Therefore ensure that you change the password from the default password, as soon as you have fully configured the Controller.

The Safe IP feature enhances the security of your site installation. It is part of the EC^{II} configuration protected by a Secure Shell (SSH) Logon with the Controller password. The Secure Shell (SSH) sets up an encrypted communication channel to the Controller.

Once you have checked the Safe IP checkbox, The Controller only responds to communication from devices in the IP Mapping Table uploaded by ImproNet Engine. This means that other PCs on the network cannot access the Controller to change or query the Controller's Logical Address.

Set the Safe IP as follows:

1. Select the **Controller** for configuration.
2. On the menu bar, go to **ECII Configuration>Set ECII Configuration**.
3. **Logon** if requested (see page 4).

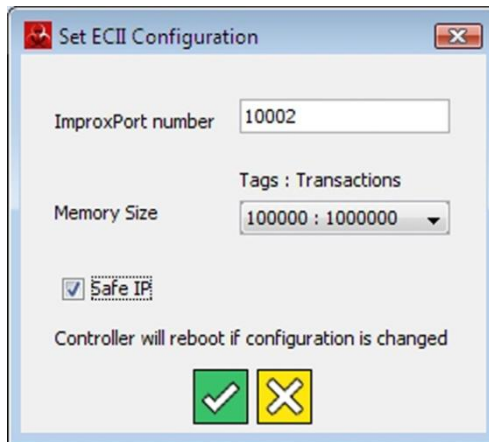



Figure 6: Set ECII Configuration Dialog

4. In the **Set ECII Configuration** dialog, click the **Safe IP** checkbox.
5. Click the  button to confirm.
6. Wait while the Controller re-boots (about 15 seconds).

Configure ImproNet Engine



Configure ImproNet Engine as follows:

Import EC^{II} Controller Configuration File




Using the Ethernet Discovery Utility, ensure that you assign the Logical Address to the Controller. Failure to do so results in the Import function failing for those units without Logical Addresses.

Import the EC^{II} Controller configuration file as follows:

1. In Windows®, go to **Start>Programs>ImproNet>Engine**.
2. On the menu bar click **Configuration>Import ECII**.
3. Type in the location of the Controller configuration file OR click  to browse for the file.
4. Click the  button.
5. Click **Yes** to confirm.

Activate UDP comms

Activate the UDP communication option in ImproNet Engine as follows:

1. On the menu bar, click **Configuration>Engine Properties**.
2. Tick the **UDP comms** option.
3. Click the  button to confirm.
4. Close and re-open the **Engine (Start>Programs>ImproNet>Engine)**, for these settings to take effect.

Extra Information

Further information is available at the following resources:

- For further information on the configuration of the ImproNet Software Suite, please see the **ImproNet Software Installation Guide** (Part number **IXP362-0-0-GB-XX**).
- For information on hardware installation, please see the **ImproX EC^{II} Controller Installation Manual** (Part Number **XEC300-0-0-GB-XX**).



The referenced documents are available for download at www.impro.net. Alternatively, contact your Impro dealer for a copy.

User Notes

User Notes

This manual is applicable to the ImproNet Software Suite V7.44 (upwards) and the ImproX (EC^{II}) Ethernet Controller, XEC900-0-0-GB-03. (The last two digits of the Impro stock code indicate the issue status of the product).

XEC301-0-0-GB-02

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