Net3

Gateway Configuration Editor (GCE) User Manual

Version 1.0

Part Number: **4265M1200-1.0.0** Rev A
Released: August 2008

Table of Contents

Welcome to GCE!

Congratulations on your use of the Net3 Gateway Configuration Editor (GCE) from ETC.

This software offers a great range of features including sortable table views of all your gateways, individual tabs for different types of gateways, as well as storage of your configuration on your computer's hard drive. GCE is perfect for configuring your Net3 devices (DMX, Show Control and I/O Gateways) in any venue, remotely over a standard Ethernet network.

Why did ETC make GCE?

Net3 Gateway Configuration Editor (GCE) was made to configure Net3 gateways (DMX, Show Control, & IO) in the same way that NCE (Network Configuration Editor) was made to configure ETCNet2 devices.

While NCE & GCE share many of the same characteristics, and in some cases even some of the same devices (Net3 DMX Gateways but in different software modes), they use a different set of protocols to get the communication done.

GCE uses Net3, while NCE used ETCNet2. Ooooo, one number higher you say... well, yes. And more.

Read on to learn more about Net3.

What is Net3?

Net3 is a protocol suite based on the ESTA established industry open standard ACN (Architecture for Control Networks).

In essence, Net3 is ACN. It is ETC's implementation, so it will play just fine on an ACN system. However, the Net3 part is where we've added the extra bits that people have come to expect from ETC above and beyond baseline interoperability.

Additionally, labeling something as Net3 does not mean it's exclusive to ETC. It just means that it conforms to the guidelines we've laid down for our equipment. For a device or piece of software to carry the Net3 name means that it will function "better together" with other Net3 gear.

How would you use GCE?

There are a couple primary uses for GCE.

- To view your gateway's online status and current configuration.
- To configure your gateways.
- To store/retrieve that configuration information on/from your computer.
- To update your gateway's software.

There are several other combinations of those premises, but those are some of the main functions.

Additional Help from ETC

If you are having difficulties, your most convenient resources are the references given in this documentation. To search more widely, try the ETC Web site at www.etcconnect.com. You can ask other users for advice on the ETC Community Forums at www.etcconnect.com/community.

If none of these resources is sufficient, contact **ETC Technical Services** directly at one of the offices identified below. Emergency service is available from all ETC offices outside of normal business hours.
When calling for help, please have the following information handy:

- Console model and serial number (located on back panel)
- Dimmer manufacturer and installation type
- Network equipment (ETC gateways, network switches, etc.)
- Other components in your system (Unison®, other consoles, etc.)

Americas

Electronic Theatre Controls Inc.
Technical Services Department
3031 Pleasant View Road
Middleton, WI 53562
800-775-4382 (USA, toll-free)
+1-608 831-4116
service@etcconnect.com

United Kingdom

Electronic Theatre Controls Ltd.
Technical Services Department
26-28 Victoria Industrial Estate
Victoria Road,
London W3 6UU England
+44 (0)20 8896 1000
service@etceurope.com

Asia

Electronic Theatre Controls Asia, Ltd.
Technical Services Department
Room 1801, 18/F
Tower 1, Phase 1 Enterprise Square
9 Sheung Yuet Road
Kowloon Bay, Kowloon, Hong Kong
+852 2799 1220
service@etcasia.com

Germany

Electronic Theatre Controls GmbH
Technical Services Department
Ohmstrasse 3
83607 Holzkirchen, Germany
+49 (80 24) 47 00-0
techserv-hoki@etcconnect.com

Section 1: Computer Minimum Requirements

These minimum requirements are for a personal computer running Net3 Gateway Configuration Editor (GCE).

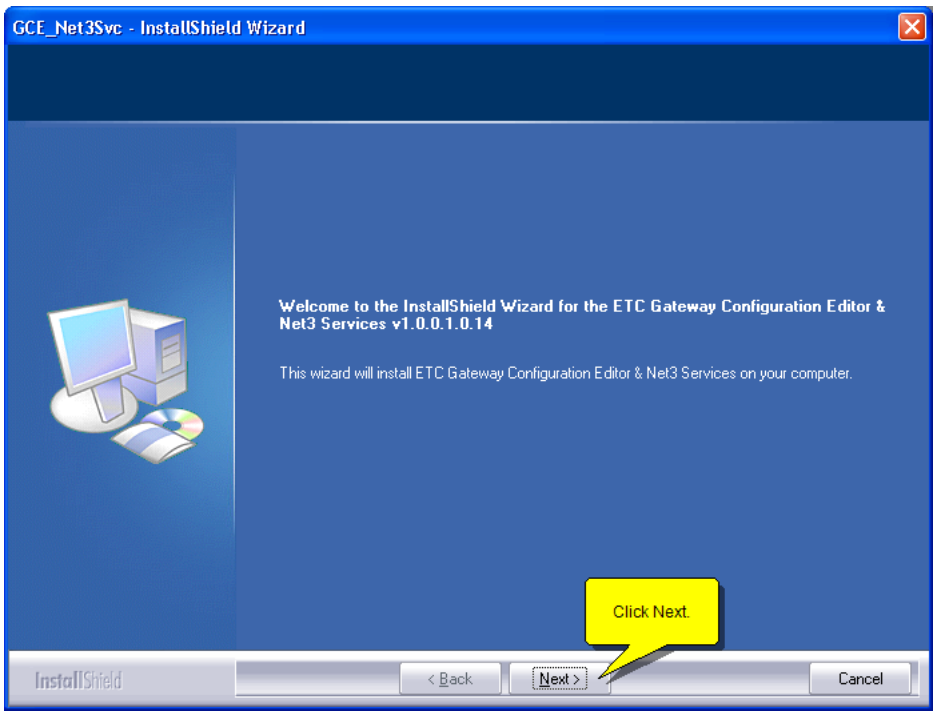
- 1GHz or better compatible processor
- 512MB RAM
- Screen resolution of 1024x768 or greater
- Windows XP Professional (Vista is not currently supported - meaning it has not been tested. In limited use, it seems to run fine.)

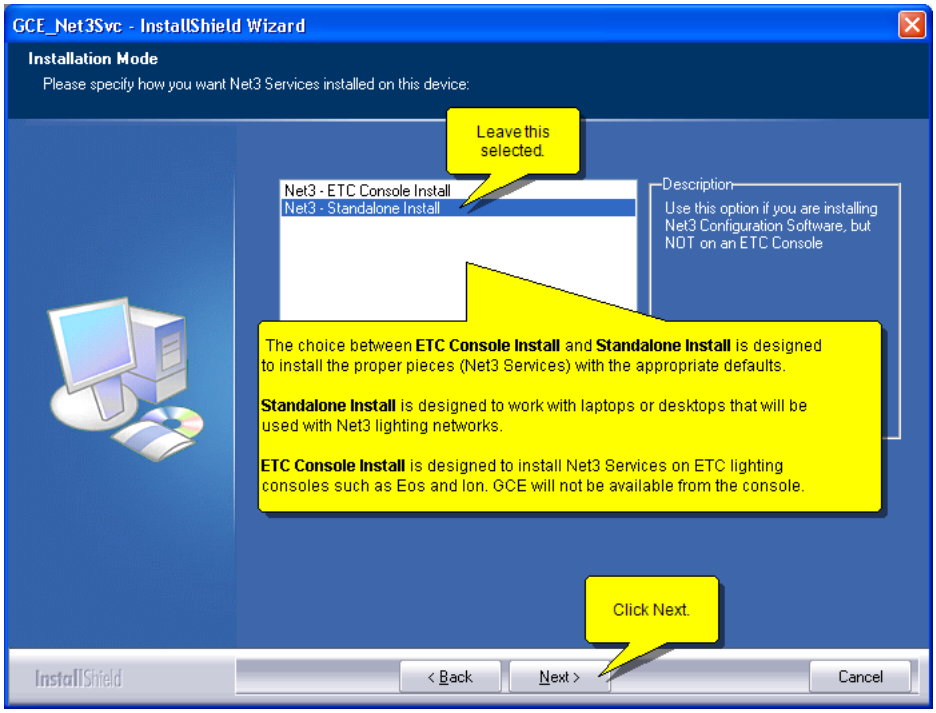
Section 2: Software Installation

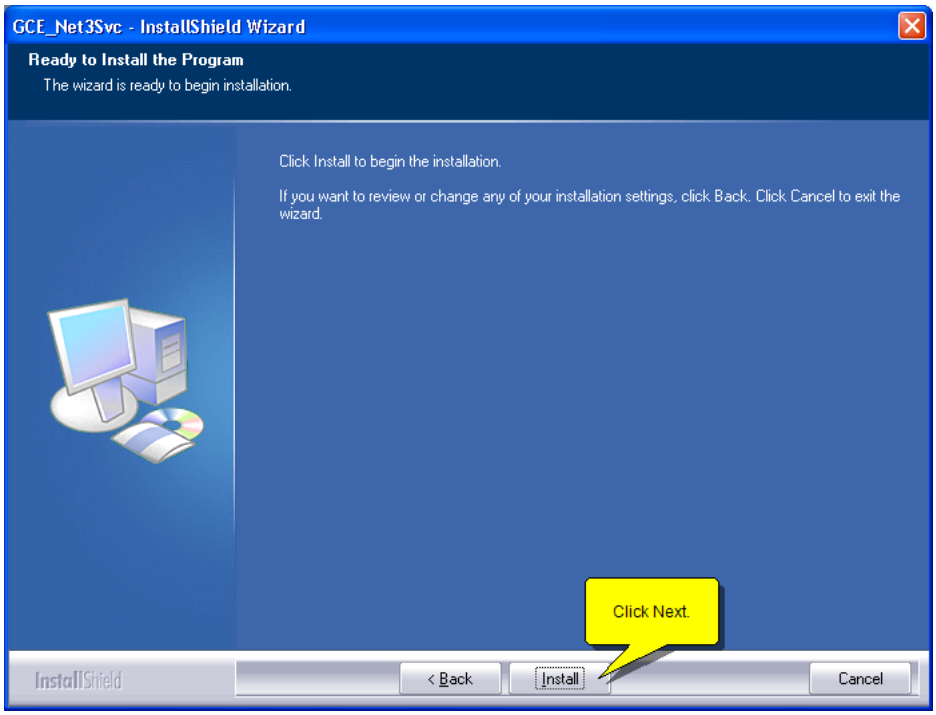
This installer installs the GCE application, Net3 Services (Address Service-DHCP, Update Service-TFTP, Time Service-SNTP) as well as the software for the various gateways that GCE supports (Net3 DMX Four Port Gateway, Net3 DMX Two Port Gateway, Net3 Show Control Gateway, Net3 I/O Gateway)

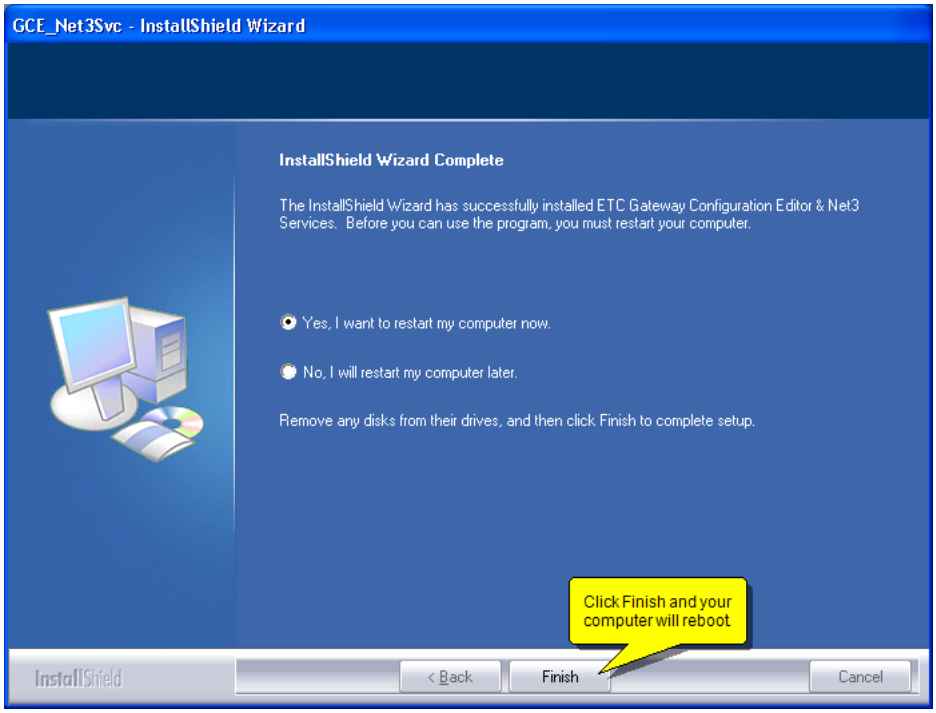
Installation is quite simple, start by double-clicking the installer application.

Then follow the onscreen instructions on the installer. Below are the screens and the actions you will need to take.




GCE_Net3Svc - InstallShield Wizard
Installation Mode
Please specify how you want Net3 Services installed on this device:
Leave this selected.
Net3 - ETC Console Install
Net3 - Standalone Install
Description
Use this option if you are installing Net3 Configuration Software, but NOT on an ETC Console
The choice between ETC Console Install and Standalone Install is designed to install the proper pieces (Net3 Services) with the appropriate defaults.
Standalone Install is designed to work with laptops or desktops that will be used with Net3 lighting networks.
ETC Console Install is designed to install Net3 Services on ETC lighting consoles such as Eos and Ion. GCE will not be available from the console.
Click Next.
InstallShield
< Back
Next >
Cancel


GCE_Net3Svc - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
Click Next.
InstallShield
< Back
Install
Cancel



Your Computer's Network Settings

This section will explain how to configure the network setting for the computer that you will connect to your lighting network and use to run GCE.

Three Network Addresses Options

There are three network address options that can be used on a Net3 network.

- Static IP address
- Dynamic IP address (using a DHCP server)
- Automatic private IP address (Link-local IP address) **Not currently supported by all Net3 devices.**

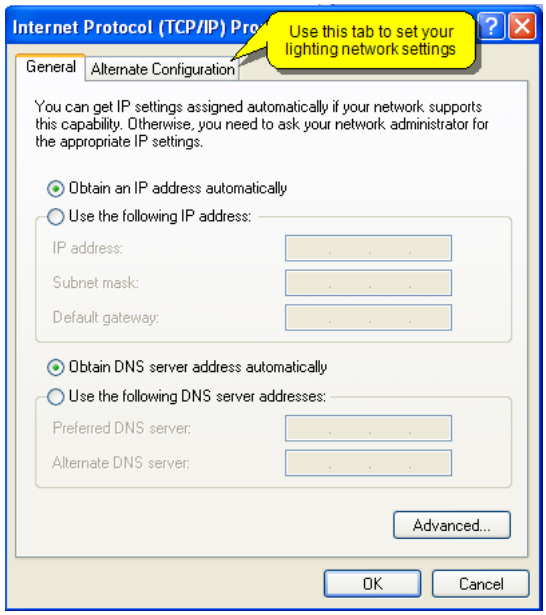
Static IP address is what you want if you are going to edit all of your device's IP addresses manually.

Dynamic IP address is what you want if you just want a DHCP server to handle IP addressing for you (recommended). This system scales very well from small to large networks.

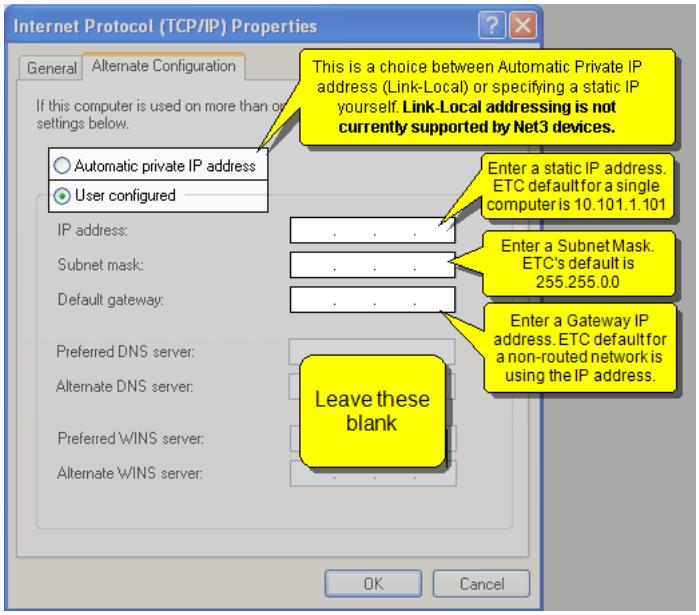
Automatic private IP address is what you want (once it's supported) if you just want the devices to sort out their own IP addresses on the network. This system works well for small and medium sized networks.

Setting Your Network Settings

The following settings should allow you to go between a Net3 lighting network and your standard home or office network if you need to. Additionally, if there is a DHCP server running on your lighting network, it will automatically use that address service as well.



Select User configured to set up your lighting network IP address information.

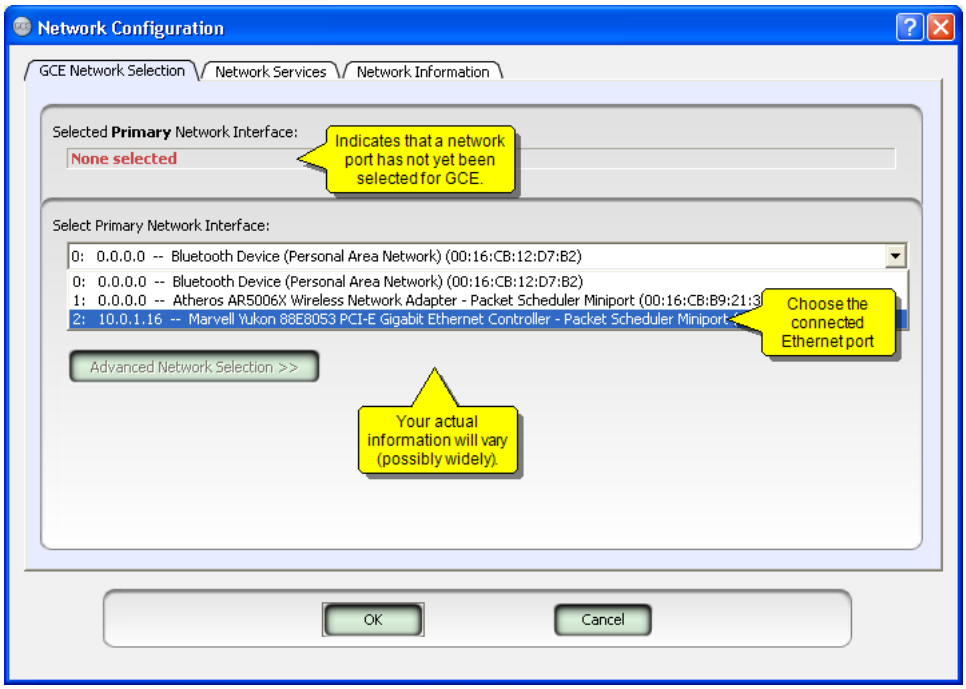


GCE Network Selection

When you run GCE for the first time, it will most likely ask you to choose a network interface (NIC). If it does not, it means that it detected only one network interface and has selected that one automatically.

It will see bluetooth and firewire interfaces as options along with a standard Ethernet interface and ask you to select one.

You can come back and select a different interface at any time.



Network Services Tab

The network services tab is where you control the individual network services.

- Address Service (DHCP)
- Update Service (TFTP)
- Time Service (SNTP)
- Discovery Service (SLP)

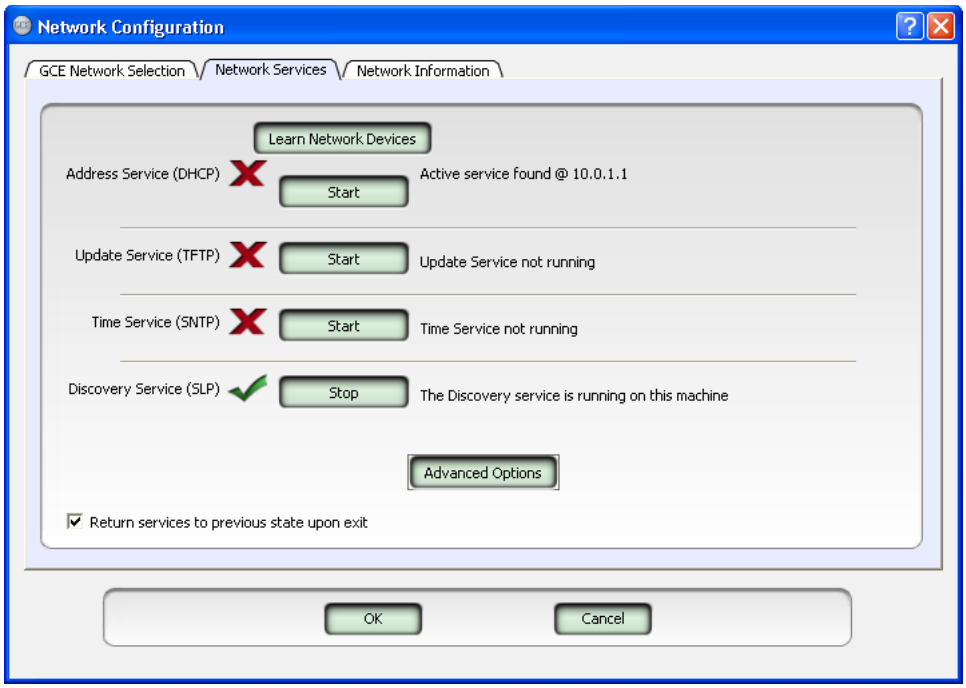
A red "X" indicates the service is not currently running.

A green "checkmark" indicates the service is currently running.

When "Return services to previous state upon exit" is checked, it means that it will put each service back to the state it was before GCE was started. This also means that you will need to restart each service each time you start GCE.

When it is unchecked, the services will remain in whatever state you have configured them after GCE is stopped. This can cause problems (and is why this is not the default) if you leave the Address Service (DHCP) running and you connect this computer back to a company or home network. It will begin giving out IP addresses to other computers on your

network and could cause communication between computers to be disrupted.



Address Service

You should start this service (DHCP) if you want the other devices (consoles, gateways and other computers) to get their IP addresses from this computer.

The status of the service is given to the right of the "Start" button.

It will tell you if there is already a DHCP server running on the network somewhere. If there is, you should not start it on your computer. It is possible to run multiple DHCP servers on the same network, but that is an advanced configuration and not covered in this document.

Prior to starting your Address Service, you should click on the "Learn Network Services" button to learn the IP addresses of any devices already on the network. It will ask every device for its current IP address and put them in a list so it does not give out that IP address again to any other device.

You can not learn the network devices once the Address Service is running.

Update Service

You should start this service (TFTP) if you intend to send software to any of the Net3 gateways or even to update software on older ETCNet2 nodes.

If you don’t have this service running when you tell the gateways to update software, the gateways will sit and wait until a TFTP server sends them software. It will look as the gateways just disappeared.

The status of the service is given to the right of the "Start" button.

Time Service

You should start this service (SNTP) if you want this computer to receive or send time information over the network. Whether it sends or receives time is determined by the TIme Options tab in Advanced OptionsAdvanced Options (see below).

Discovery Service

The Discovery Service (SLP) is started by default when GCE is launched. GCE uses the discovery service to find the gateways on the network and to begin to communicate with

them.

You should leave this service running when using GCE.

There may be particular circumstances in troubleshooting that might require you to stop and restart this service.

Advanced Options

Clicking on the Advanced Options button opens another dialog box exposing the details of the various services and allows for further configuration.

Most lighting networks will not require editing these settings. More information is available via the online help in GCE.

Section 3: Main Menu

File Menu

Contains all options listed below.

New

This clears the configuration and starts a new one.

Open

Opens a standard "Open file..." dialog to load a previously saved configuration file.

Merge

This function will merge/add a previously saved configuration file to the currently loaded configuration (shown in the Configured Devices window).

If a duplicate is found while reading the configuration file, you are prompted to keep the existing entry (discarding the merging entry), overwrite the existing entry with the one being merged, or to keep the existing entry while also making a copy of the merging entry.

By default, a dialog opens to ask how you want to resolve any duplicate configurations. This can be disabled in Preferences. Once disabled, it will automatically do what your last choice was. The default is to "Keep the current entry".

See "Merge Dialog"

Save

This will save your currently loaded device configuration to your hard drive.

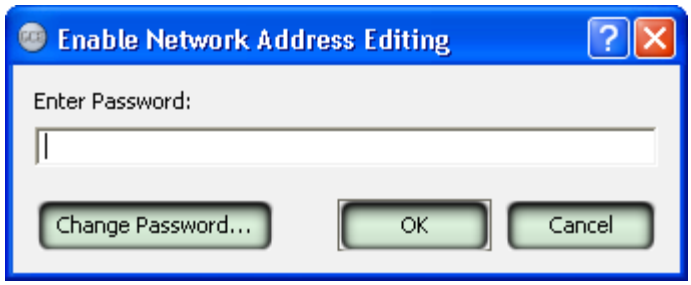
Save As...

This will save your currently loaded device configuration to your hard drive with the option to change the file name and the location.

Preferences

Please see the Preferences topic.

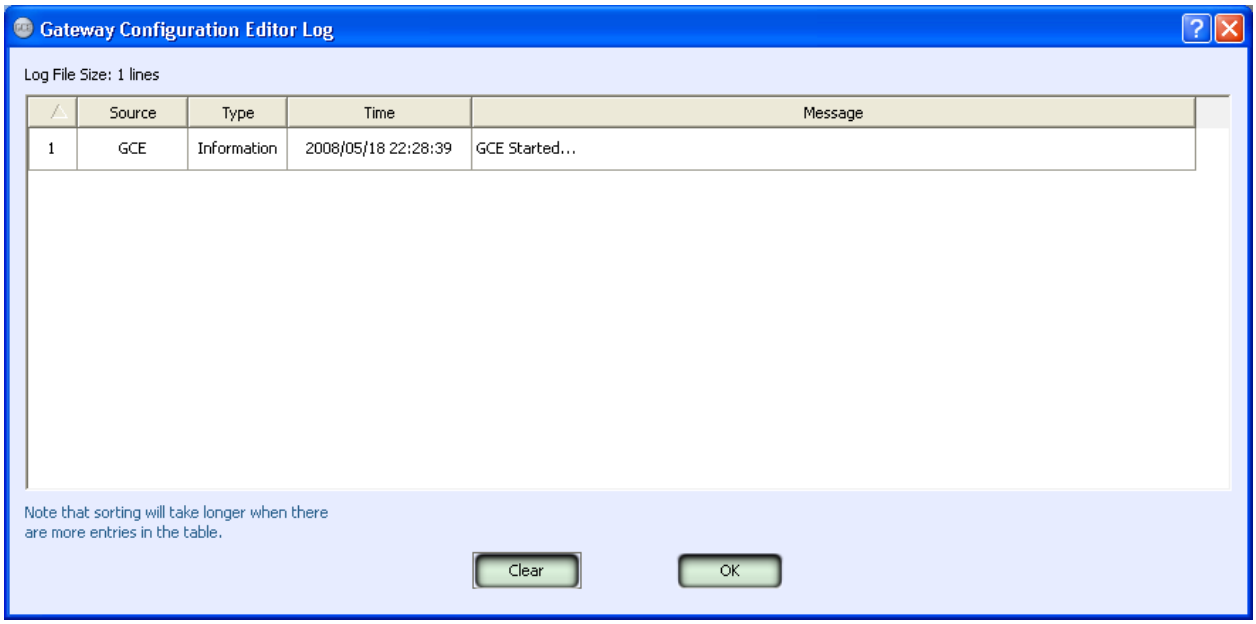
Unprotect IP Addresses...



The direct editing of IP addresses is password protected. It should be a rare occasion that you would need to edit any of the static IP address information of gateways, but if you do the password is "net3".

You can also change the password from that dialog box.

Show Log File



Exit

Exits GCE and depending on the setting in the Network Services Tab, stops all of the Net3 services that were started by GCE (by default) and exits the application.

Edit Menu

Insert New Device (Ctrl+I)

This menu item and its keyboard shortcut creates a new gateway of your choice in the Configured Devices table. The available types of gateways will vary depending on the gateway tab that is currently selected. If you are viewing DMX gateways, only the Two Port and the Four Port DMX gateways will be available as choices. The same goes for both the Show Control and the I/O Gateways. All gateways are available to be created when in the All Gateways tab.

Delete Entry (Crtl+D)

This menu item and its keyboard shortcut deletes the selected gateway from either the Configured Devices table or the Online Devices table. If you delete a gateway from the Online devices table and you want to see it again, use the Refresh (Ctrl+R) command found in the Online menu.

Edit Device Patch

This brings up a screen to edit the Advanced Input Patch (AIP) of the selected gateway.

Edit Device Configuration (Crtl+E)

This menu option along with its keyboard shortcut (Crtl+E), double-clicking in the Status column, or right-clicking on any column of an entry will open a multi-tabbed dialog where you can view and edit any of the gateways properties.

See the individual gateway sections for additional details.

View Menu

Show/Hide Configured Devices

Selecting Show Device Configuration Table brings up the table showing the list of devices in the current configuration. If the Online Table is not visible on the main window, the Configuration Table takes up the entire window. If the Online Table is visible, the main window is divided equally among both visible tables. The menu item has a check mark when the table is visible, and no check mark when it is not visible.

Show/Hide Online Devices

Selecting Show Online Devices Table brings up the table showing the list of devices discovered online. If the Configuration Table is not visible on the main window, the Online Devices Table takes up the entire window. If the Configuration Table is visible, the main window is divided equally among both visible tables. The menu item has a check mark when the table is visible and no check mark when it is not visible.

Online Menu

Apply Configuration to Network

Selecting Apply Configuration to Network causes GCE to send the current configuration in the **Configured Devices** table to the matching online gateways in the **Online Devices** table.

Refresh

Selecting Refresh makes GCE update information about the **Online Devices**.

If one or more rows are selected, GCE queries the corresponding gateways for their current property settings. If no devices are selected, then you are asked if you wish to Refresh All Devices.

If you confirm Refresh All Devices, the online table is rebuilt from the Discovery Service (SLP) and all properties of discovered devices are updated.

Set Network Device Mode

Selecting Set Device Network Mode displays a dialog allowing you to set the network mode (Net2 or Net3) of the gateways found on the network.

See "Set Device Network Mode Dialog"

Update Device Software

Selecting Upgrade Device Software tells the selected devices to get new software.

If no devices are selected, you are asked if you want to upgrade all devices.

If you confirm this action, all devices in the online table are sent a message telling them to get new software.

See "Update Gateway Software"

Reboot Devices

Selecting Reboot Devices sends a soft reset command to the selected devices.

If no devices are selected, you are asked if you want to reboot all devices.

If you confirm, a message will be sent to all devices on the network telling them to execute a software reset.

Network Menu

Configure Network and Services

Selecting Configure Network and Services reads the current state of the services available and will display the 3-tabbed Network Configuration dialog. Here you may select the primary and secondary NICs, start / stop and configure services and view their NIC settings.

See “GCE Network Selection” on page 7.

See “Network Services Tab” on page 7.

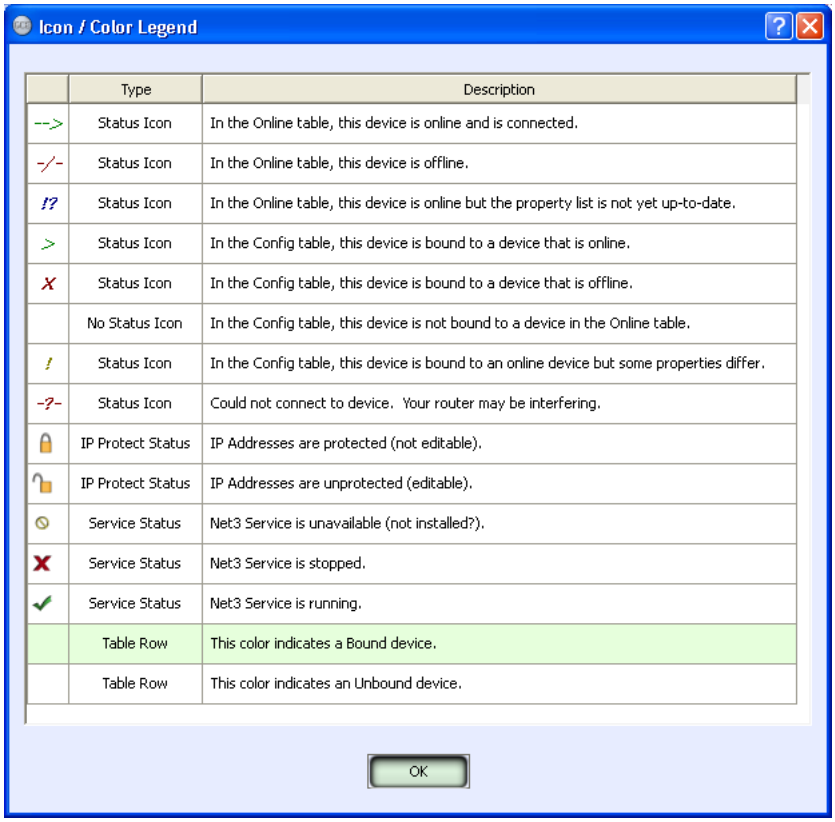
Help Menu

Help Topics

Launches this online help system your default web browser.

Legend

Displays all of the icons used in GCE and their meaning.



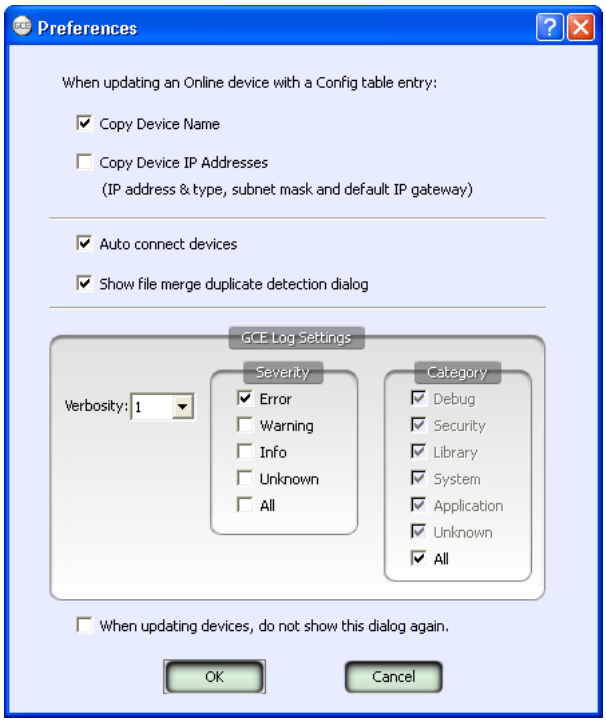
About GCE

Provides detailed version and component information as well as contact information for ETC.

Preferences

The preferences dialog is accessed via GCE's File menu

Settings made here persist after quitting GCE and will remain in effect for the next time you run GCE.



Copy Device Name

Turned ON by default.

When this is turned on (checked), you will copy and overwrite any existing name when copying a config table entry onto an online device.

When this is turned off (unchecked), you will not copy the name while copying the rest of the config table entry settings onto an online device.

These options are useful either way depending on what you want to do. If you are just trying to use a single device entry to copy settings onto different devices, it is useful to copy the rest of the settings without changing all of the device's name to the same one. Likewise, if you want to just copy a single configuration to a device and want to be sure that the name changes with the settings, then leave it in the default (on) setting.

Copy Device IP Addresses

Turned OFF by default.

When this is turned off (unchecked), you will not copy the IP address information (IP address, Subnet mask & Gateway IP) while copying the rest of the config table entry settings onto an online device.

When this is turned on (checked), you will copy and overwrite any existing IP address information (IP address, Subnet mask & Gateway IP) when copying a config table entry onto an online device.

Auto Connect Devices

Turned ON by default.

GCE has the ability to separately discover a device and connect to it (getting all of its properties & settings).

When Auto Connect is turned on, as soon as GCE discovers a device, it will connect to it automatically and get all of its relevant information. This is the way you would normally expect it to work and it works well for smaller systems.

It is useful to turn it off in large systems (100+ devices) to reduce the traffic and response time of GCE. In this mode, GCE will discover all of the devices and only connect to the ones you want to configure (by selecting the device in the online devices table and clicking on the Connect button that appears when Auto Connect is turned off).

Show File Merge Duplicate Detection Dialog

Turned ON by default.

This enables a dialog to pop up and ask how you want to handle a duplicate device entry. You are given options to keep either entry. When this is turned off and a duplicate is detected, the new device entry (to be merged) replaces the existing device entry.

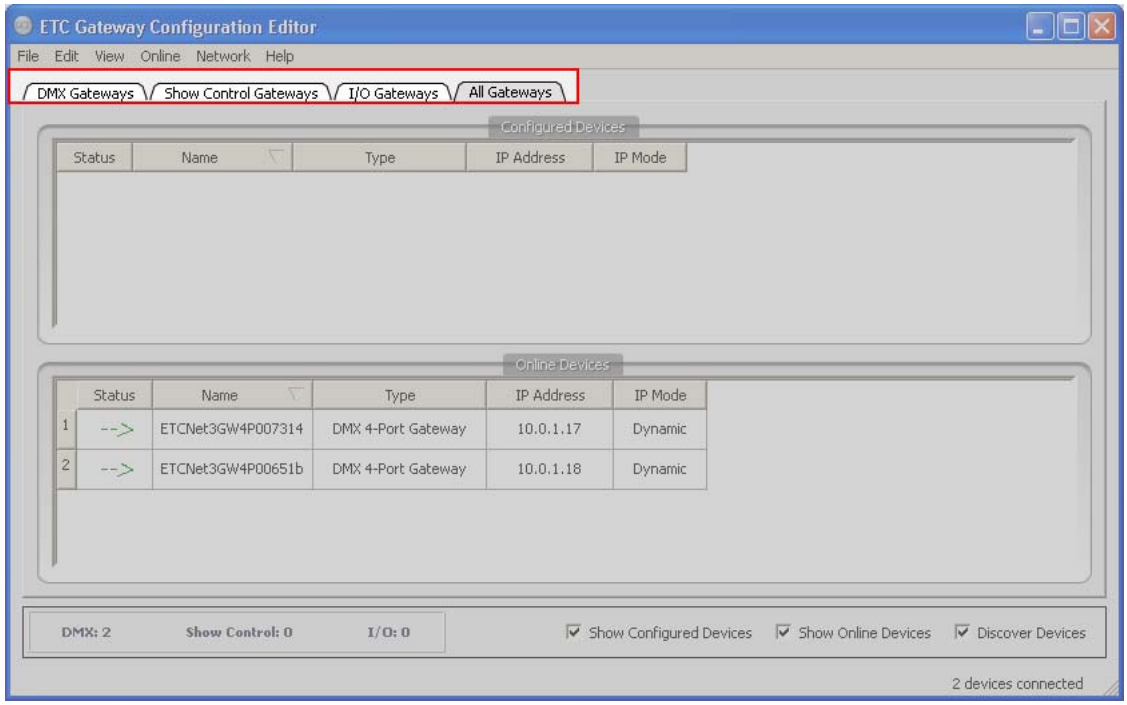
GCE Log Settings

Do not changes these unless directed to do so by ETC Technical Support personnel.

When updating device, do not show this dialog again

Turned OFF by default.

Section 4: Main Display Tabs



All Gateways

Displays only common properties from each gateway type.

Status

Displays the current status of a given gateway. The icons will vary from the Configured Table to the Online Table. Below are the icons used for the different status messages in the tables.

These icons can be found in the Help>Legend in the Legend.

Name

Is the name given to the device. It can be set by the user to help tell the difference between the different gateways and their intended uses (as defined by the user).

Net3 DMX Gateways default to a unique name made up of the manufacturer (ETC), the gateway type (Net3GW4P) and the last half of its MAC address (00651b).An example is: ETCNet3GW4P00651b

Type (of Device)

Displays the type of gateway that it is. Examples are: DMX 4-Port Gateway, DMX 2-Port Gateway, Show Control Gateway and I/O Gateway. Other types may be added in the future.

IP Address

Displays the IP address of the gateway.

IP Mode

Displays whether the IP address has been assigned dynamically (for example via DHCP address server) or has manually been given a static IP address.

Displays only the properties for Gateways

Status

Displays the current status of a given gateway. The icons will vary from the Configured Table to the Online Table. Below are the icons used for the different status messages in the tables.

These icons can be found in the Help>Legend in the Legend.

Name

Is the name given to the device. It can be set by the user to help tell the difference between the different gateways and their intended uses (as defined by the user).

Net3 DMX Gateways default to a unique name made up of the manufacturer (ETC), the gateway type (Net3GW4P) and the last half of its MAC address (00651b).An example is: ETCNet3GW4P00651b

Type (of Device)

Displays the type of gateway that it is. Examples are: DMX 4-Port Gateway, DMX 2-Port Gateway, Show Control Gateway and I/O Gateway. Other types may be added in the future.

IP Address

Displays the IP address of the gateway.

IP Mode

Displays whether the IP address has been assigned dynamically (for example via DHCP address server) or has manually been given a static IP address.

Port1 Mode

Displays the mode of the first DMX port (left to right looking at the rear of a Four-Port Gateway).

Available modes are:

Disabled - No DMX is received or transmitted.

>Input<- DMX is able to be received by this port.

<Output>- DMX is transmitted by this port.

Port1 Universe

Displays the Universe number the DMX port will either receive or transmit on the network.

The range is from 1 to 65279.

Port2 Mode

Displays the mode of the second DMX port (left to right looking at the rear of the unit).

Available modes are:

Disabled - No DMX is received or transmitted.

>Input<- DMX is able to be received by this port.

<Output>- DMX is transmitted by this port.

Port2 Universe

Displays the Universe number the DMX port will either receive or transmit on.

The range is from 1 to 65279.

Port3 Mode

Displays the mode of the third DMX port (left to right looking at the rear of the unit).

Available modes are:

Disabled - No DMX is received or transmitted.

>Input<- DMX is able to be received by this port.

<Output>- DMX is transmitted by this port.

Port3 Universe

Displays the number the DMX port will either receive or transmit on.

The range is from 1 to 65279.

Port4 Mode

Displays the mode of the fourth DMX port (left to right looking at the rear of the unit).

Available modes are:

Disabled - No DMX is received or transmitted.

>Input<- DMX is able to be received by this port.

<Output>- DMX is transmitted by this port.

Port4 Universe

Displays the Universe number the DMX port will either receive or transmit on.

The range is from 1 to 65279.

Show Control Gateways

Status

Displays the current status of a given gateway. The icons will vary from the Configured Table to the Online Table. Below are the icons used for the different status messages in the tables.

These icons can be found in the Help>Legend in the Legend.

Name

Is the name given to the device. It can be set by the user to help tell the difference between the different gateways and their intended uses (as defined by the user).

Net3 DMX Gateways default to a unique name made up of the manufacturer (ETC), the gateway type (Net3GW4P) and the last half of its MAC address (00651b).An example is: ETCNet3GW4P00651b

Type (of Device)

Displays the type of gateway that it is. Examples are: DMX 4-Port Gateway, DMX 2-Port Gateway, Show Control Gateway and I/O Gateway. Other types may be added in the future.

IP Address

Displays the IP address of the gateway.

IP Mode

Displays whether the IP address has been assigned dynamically (for example via DHCP

address server) or has manually been given a static IP address.

SMPTE ID

A SMPTE port on a gateway only acts as an input port converting SMPTE signal into an ACN stream.

SMPTE ID displays the ID that the SMPTE received via the SMPTE port is tagged with for transmission via ACN over Ethernet to a console or similar device to receive. That receiving device must also be set to the same SMPTE ID as the SMPTE port you want to receive SMPTE from.

The range is from 0 to 32.

MIDI Rx ID

The MIDI Rx port on a gateway acts as an input port converting MIDI signal into an ACN stream.

MIDI Rx ID displays the ID that the MIDI received via the MIDI Rx port is tagged with for transmission via ACN over Ethernet to a console or similar device to receive. That receiving device must also be set to the same MIDI ID as the MIDI Rx port you want to receive MIDI from.

The range is from 0 to 32.

MIDI Tx ID

The MIDI Tx port on a gateway acts as an output port converting an ACN stream into a MIDI signal.

MIDI Tx ID displays the ID that the MIDI received via ACN is tagged from a transmitting console or similar device. That transmitting device must also be set to the same MIDI ID as the MIDI Tx port you want to send MIDI to.

The range is from 0 to 32.

I/O Gateways

Status

Displays the current status of a given gateway. The icons will vary from the Configured Table to the Online Table. Below are the icons used for the different status messages in the tables.

These icons can be found in the Help>Legend in the Legend.

Name

Is the name given to the device. It can be set by the user to help tell the difference between the different gateways and their intended uses (as defined by the user).

Net3 DMX Gateways default to a unique name made up of the manufacturer (ETC), the gateway type (Net3GW4P) and the last half of its MAC address (00651b). An example is: ETCNet3GW4P00651b

Type (of Device)

Displays the type of gateway that it is. Examples are: DMX 4-Port Gateway, DMX 2-Port Gateway, Show Control Gateway and I/O Gateway. Other types may be added in the future.

IP Address

Displays the IP address of the gateway.

IP Mode

Displays whether the IP address has been assigned dynamically (for example via DHCP

address server) or has manually been given a static IP address.

Analog ID

Displays the Analog Group ID.

The Group ID is similar in concept to a DMX Universe, except that you can have 65536 addresses per Group ID. Each Analog input has an address (1 to 65536) within each Analog Group ID. Both the Analog Group ID and the Analog Address for a particular analog input is needed to access that information.

The Analog Group ID range is from 0 to 32.

Relay ID

Displays the Relay Group ID.

The Group ID is similar in concept to a DMX Universe, except that you can have 65536 addresses per Group ID. Each Relay output has an address (1 to 65536) within each Relay Group ID. Both the Relay Group ID and the Relay Address for a particular relay is needed to access/control that relay.

The Relay Group ID range is from 0 to 32.

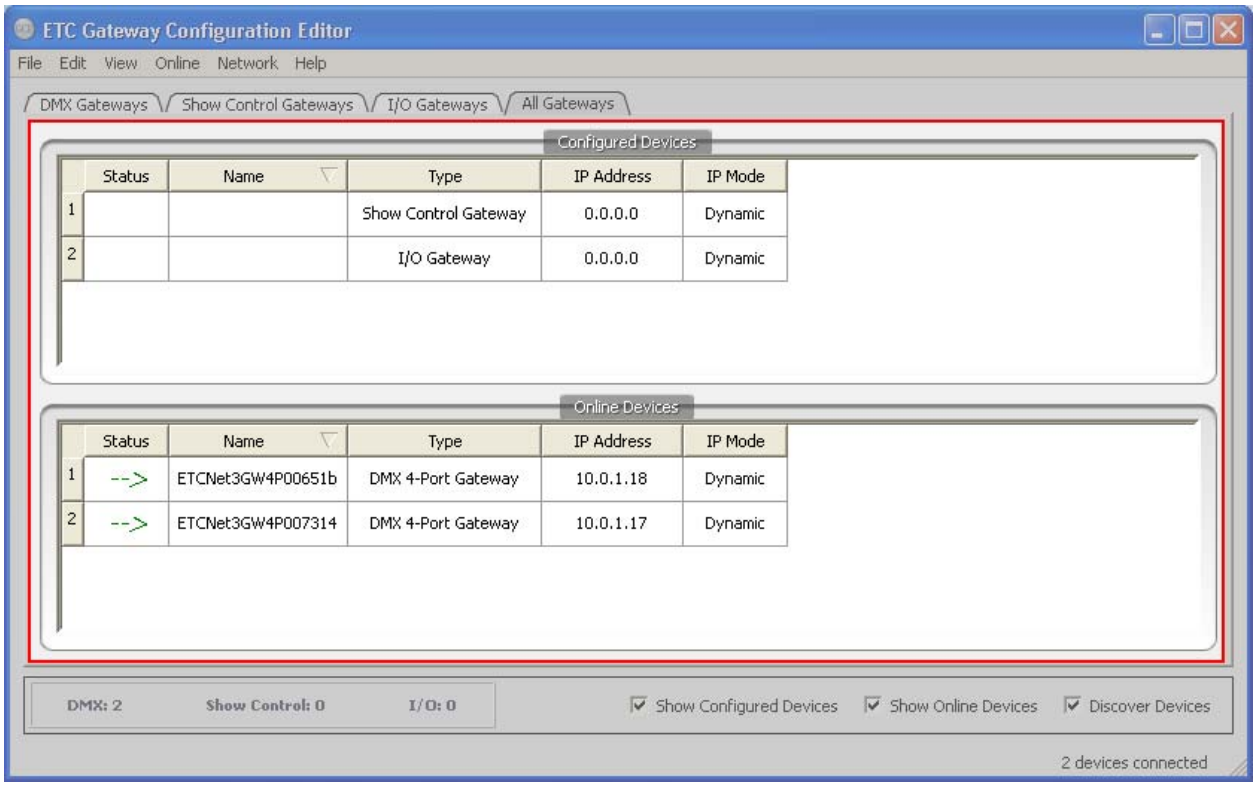
Serial ID

Displays the Serial Group ID.

Serial Group ID also has Serial Address, but it is snot currently used. Only the Serial Group ID is used to identify a serial port on a gateway.

The Serial Group ID range is from 0 to 32.

Configured & Online Devices Tables



Configured Devices Table

This table displays the configuration information for gateways. This is the information that is saved when you save a configuration to disk. The Online Devices table information is not saved.

This is also where configuration files appear when they are opened.

Online Devices Table

This table displays the devices/gateways that have been discovered online via the Discovery Service (SLP). This information is a "snapshot" in time from the last time GCE received information from each one of the gateways in the table. This is not a live updating table of the configuration properties. The only column that updates live is the status.

To update the properties in the Online Devices table, use Refresh (Crtl+r). See Main Menu>Online>Refresh

Dragging & Dropping

Dragging a row from the **Configured Devices** table and dropping it on an **Online Devices** table row updates the online device with all properties of the configuration device (except for possibly the name and IP settings. See "Preferences")

Dragging a row from the **Online Devices** table and dropping it on a **Configured Devices** table row updates the configuration information to match the settings of the online device. This will only happen if the devices are of the same type. The target row is Bound (appears with a green background) in the sense that it has a unique ID (CID) that points to/matches that of the online device.

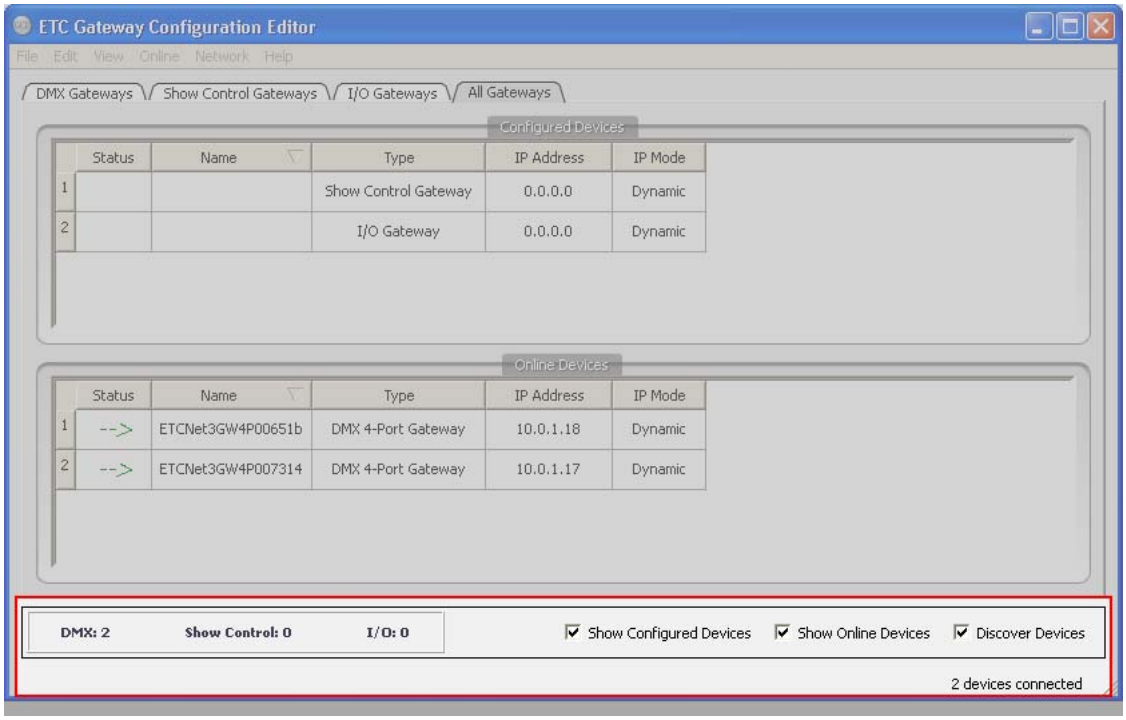
Dragging a row from the **Online Devices** table and dropping it in an empty area of the **Configured Devices** table creates a new row that is an exact copy of the source row.

See "Preferences"

Dragging a row from the **Configured Devices** table and dropping it in an empty area in the **Configured Devices** table will result in the creation of a new row containing a copy of the source row with the exception that the unique ID (CID) property will not be copied.

The Bottom Counters & Controls

This section covers the area circled in red below.



These are discussed in the order of left to right then down.

Gateway Counters

On the bottom-left of the main screen is a frame containing a running total of the number of devices of known types that are currently online. These totals are broken down by DMX, Show Control & I/O Gateway types.

Show Configured Devices

There is a check box that controls the Show Configured Devices Table. This table shows the list of devices in the current configuration. If the Online Table is not visible on the main window, the Configuration Table takes up the entire window. If the Online Table is visible, the main window is divided equally among both visible tables.

Show Online Devices

There is a check box that controls the Show Online Devices Table. This table showing the list of devices discovered online. If the Configuration Table is not visible on the main window, the Online Devices Table takes up the entire window. If the Configuration Table is visible, the main window is divided equally among both visible tables.

Discover Devices

On the bottom-right of the main screen there is a check box that controls the Discovery Service (SLP), effectively freezing the list of gateways in the Online Devices table. When the Discovery service (SLP) is turned off, you will not be able to see if a new gateway has come online. You can not change the properties of a gateway in the online table if it has gone offline. The configuration for the gateway is still editable in the configuration table if there is a bound configuration record for it. That configuration may be applied at a later time when the gateway is online.

When GCE is terminated and restarted, discovery will be enabled by default and the

previous list of online devices will be lost.

Total Number of Devices Connected

On the very bottom-right corner, there is a running total of all of the gateways found and connected to by GCE.

Right-Click Menus

The main screen supports right click menus as follow.

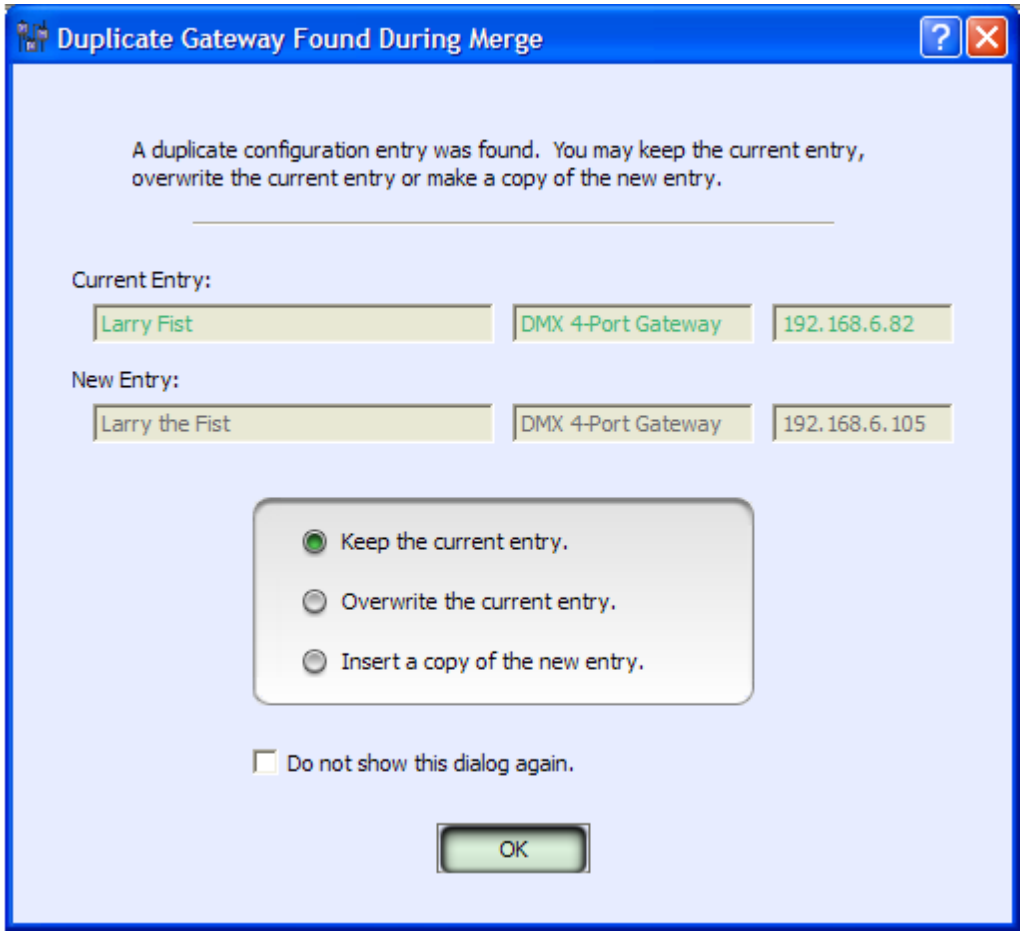
A right-click when the mouse is over the **Configured Devices** table:

- Add Device – same as Edit menu's Insert New Device functionality.
- Edit Device Properties – same as Edit menu's Edit Device Configuration functionality.
- Delete Entry – delete the selected row entry.
- Apply – selecting this menu item causes GCE to apply configuration settings to the online device corresponding to the row with focus or the selected rows.

A right-click when the mouse is over the **Online Devices** table:

- Edit Device Properties – same as Edit menu's Edit Device Configuration functionality.
- Delete Entry – delete the selected row entry.
- Refresh – same as the Online Devices menu's Refresh function.
- Identify – selecting this menu choice causes a message to be sent to the device(s) represented by the selection or focus in the table. The message is to trigger the identify functionality of the selected devices which is typically to flash the LCD back light of the device.
- Deleting an entry (via Cut/Delete) from the Online Devices table can be temporary. To make deleted entries immediately reappear, select Online, Refresh from the main menu.

Merge Dialog



While merging a configuration file with the contents of the Configured Devices table, a duplicate may be found. This dialog will offer the user 3 choices at to how this conflict might be resolved.

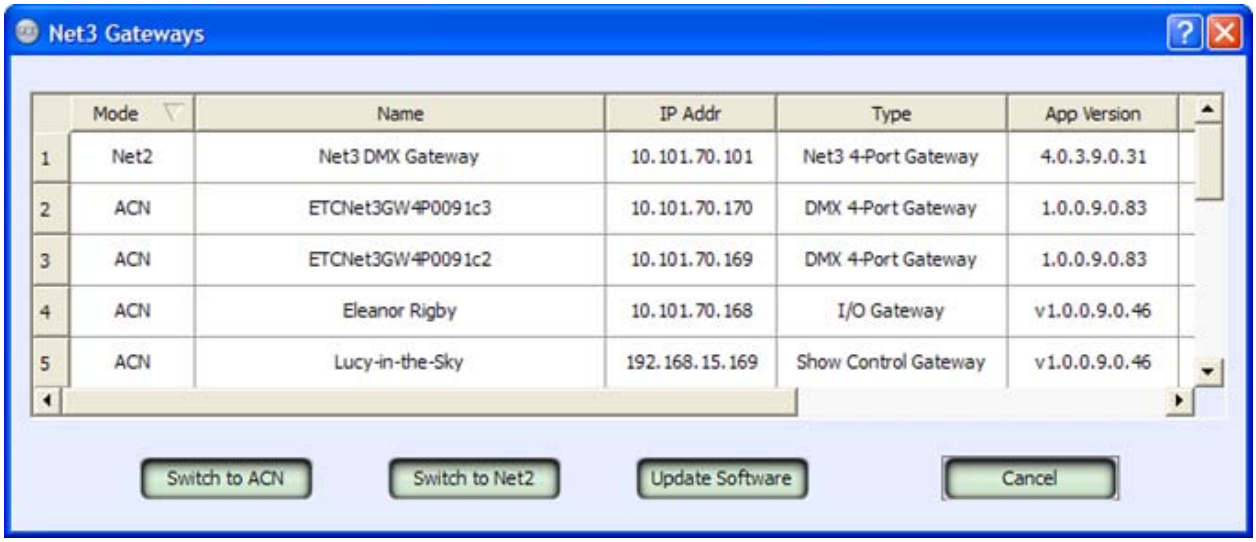
Step 1: Keep the current Configured Devices table entry (discard the merging duplicate entry.)

Step 2: Overwrite the current Configured Devices table entry.

Step 3: Insert a copy of the merging entry (contains a null CID and is not bound.)

If you decide not to show this dialog again, the default choice is the last selected choice made in this dialog ("Keep the current entry" is the default) You may change the preference for this dialog to be shown by changing the Show file merge duplicate detection dialog check-box in the Preferences dialog.

Set Device Network Mode Dialog



This dialog displays the current mode of operation, device name, IP Address, device type, software version and CID of all Net3 online devices including Net3 devices operating in Net2 mode.

This dialog provides buttons to allow the user to send a command to one or more nodes telling them to switch Net2 nodes to ACN mode or switch ACN nodes to Net2 mode.

Switch to ACN (Net3)

Pressing the Switch to ACN button tells the selected devices to change their operating mode to ACN/Net3.

If no devices are selected, you are asked if you want to change the mode of all devices.

If you confirm this action, all devices in the online table are sent a message telling them to change their mode of operation to ACN/Net3.

Switch to Net2

Pressing the Switch to Net2 button tells the selected devices to change their operating mode to ETCNet2.

If no devices are selected, you are asked if you want to change the mode of all devices.

If you confirm this action, all devices in the online table are sent a message telling them to change their mode of operation to ETCNet2.

Update Software

Pressing the Update Software button tells the selected devices to get new software. This works for devices both in Net2 mode and ACN/Net3 mode.

If no devices are selected, you are asked if you want to upgrade all devices.

If you confirm this action, all devices in the online table are sent a message telling them to get new software.

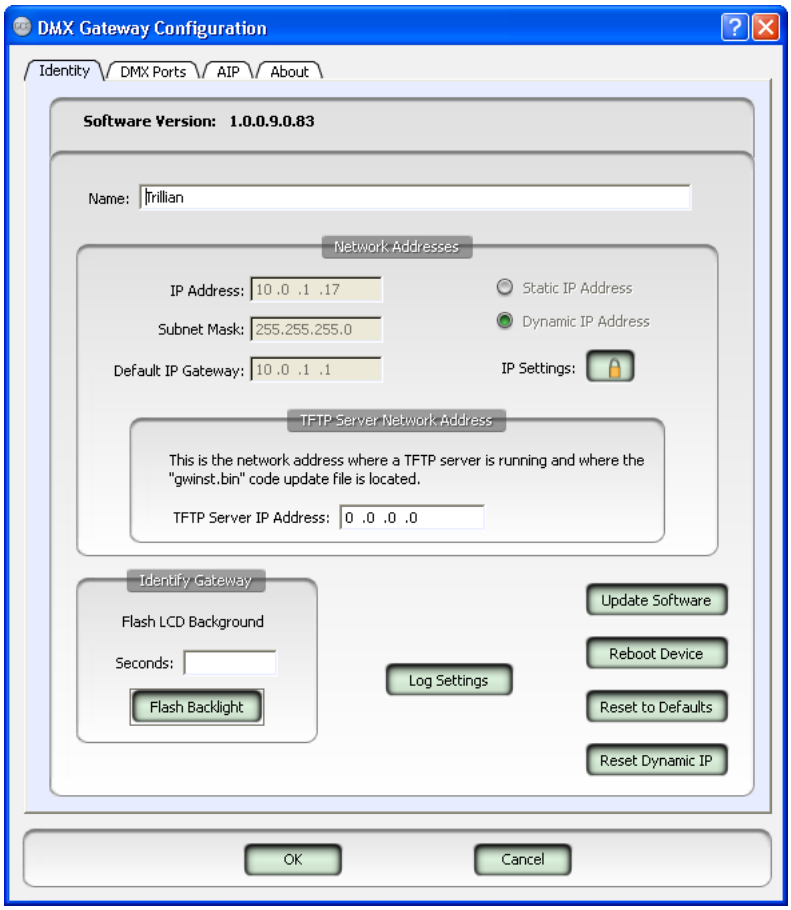
See "Update Gateway Software" on page 53.

Section 5: Configuring DMX Gateways

This dialog contains multiple tabs used for setting the writable properties and displaying the read-only properties of a Net3 DMX Gateway.

DMX Gateway Identity Tab

This tab of the DMX Gateway configuration dialog displays the general settings for Net3 DMX Gateways.



Software Version (Display only)

This displays the current full version number of software loaded in the gateway. The first three digits (1.0.0) are considered the normal software version number and the last three are internal development numbers.

Name

The name of the gateway can be changed here. If the name is blank or the default generated name (for example ETCNet3GW4P00651b), then the actual gateway hardware will display its IP address on its LCD. Be aware that the Gateway LCD is only capable of displaying the first 20 characters of a name. You can assign a name that is longer, but it will be truncated by the display.

Note: *If you want to turn on the LCD backlight on DMX gateways, you will need to append the name of the gateway with ":on". You can also set it to ":off" which will prevent the backlight from turning on even when moving though the menu. It also supports ":auto" which is the same as having nothing appended to the name. In auto mode, the backlight will come on with the first menu button press and turn off after the backlight times out.*

Network Addresses

IP addresses are not editable unless you have enabled their editing by entering the password in the IP Settings dialog. You can open that dialog from here by clicking on the button with the padlock icon.

Once you've enabled editing IP address information, you can change the settings for Static IP address and Dynamic IP address. If you choose static IP address, you can edit the network address fields of IP address, Subnet Mask and Gateway IP address.

TFTP Server Network Address

This is where you can edit the TFTP Server Network IP address that is stored in the Net3 gateway. This IP address is used (if chosen in the update software dialog) to request software from a TFTP server (update service) that is expected to be running at that IP address.

When editing an **Online Devices** table row, Flash Backlight, Update Software, Reboot Device, Reset to Default & Reset Dynamic IP buttons all act immediately on the selected gateway.

Identify Gateway/Flash Backlight

This function can be used to easily locate a specific gateway in an equipment rack or any other location where you can see the LCD screens of the gateways.

Enter the amount of time in seconds and click on Flash Backlight. The LCD backlight of the gateway you are connected to will flash on and off for the specified amount of time and return the LCD backlight to its previous state.

Update Software

Pressing the Update Software button tells the selected devices to get new software from the IP address specified in the TFTP Server Network Address field.

Upon downloading the software the gateway will reboot.

Reboot Device

Clicking this button sends a message to the current gateway telling it to reboot. This is a soft-reboot.

Reset to Defaults

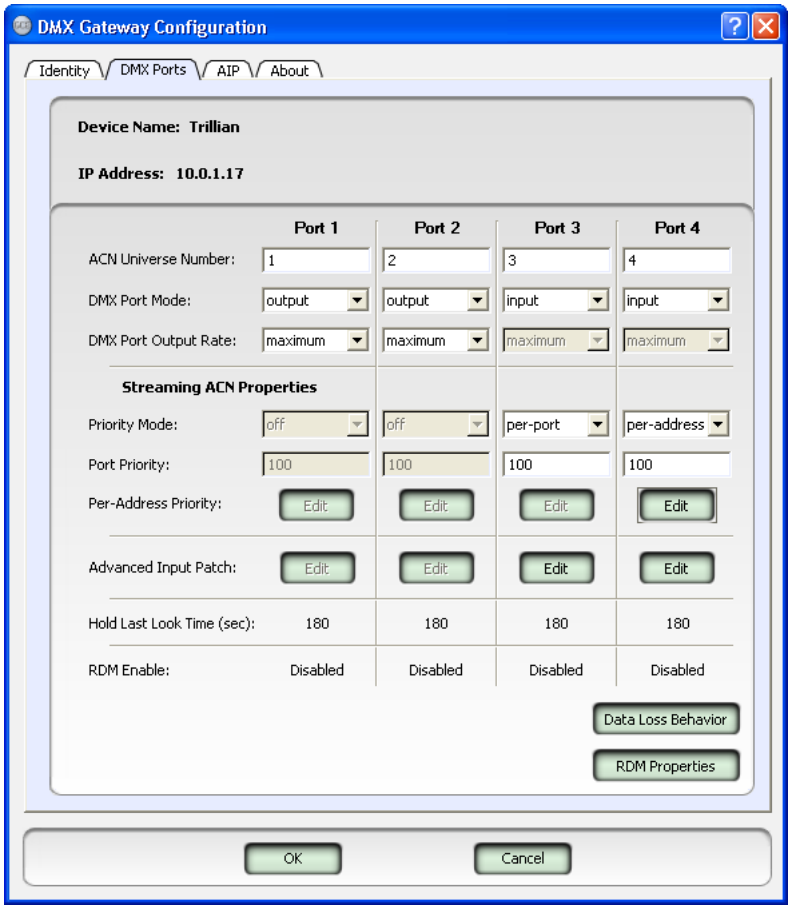
Clicking this button tells the gateway to restore to factory defaults on all properties and reboot.

Reset Dynamic IP (Renew DHCP Lease)

Clicking this button deletes the current dynamic IP address information and reboots the gateway. Upon booting, the gateway will request a new dynamic IP address from an address service (DHCP Server).

DMX Gateway DMX Tab

Clicking on this tab of the DMX Gateway configuration dialog displays the DMX port settings for Net3 DMX Gateways.



Name (Display only)

The name of the gateway is displayed here.

IP Address (Display only)

Displays the IP address of the gateway.

DMX Ports

This area displays the four ports on the DMX gateway. If you are configuring a Two-Port Gateway, Ports 3 and 4 are grayed out.

ACN Universe Number

Displays the Universe number the DMX port will either receive or transmit on the network.

The range is from 1 to 65279.

DMX Port Mode

Displays the mode of the DMX port.

Available modes are:

Disabled - No DMX is received or transmitted.

>Input< - DMX is able to be received by this port.

<Output> - DMX is transmitted by this port.

DMX Port Output Rate

Displays the output rate of the DMX port.

Available modes are:

Maximum- (Default) This is the maximum rate the DMX port can generate. This speed is typically 44Hz (refreshes 44 times a second).

Fast, Medium, Slow - These are varying slower speeds to better accommodate legacy DMX devices that may not be able to handle the full DMX refresh rate.

Synced - This setting matches the DMX output rate with the incoming sACN data rate. This is significant for use with some moving lights. In the unlikely event that a DMX Gateway drops a packet of DMX data from the network, it will simply send a duplicate of the previous DMX packet out on the DMX line. This works great for dimmers, but can adversely affect the movement/timing algorithm of some moving lights causing them to throw off their calculations momentarily resulting in uneven movement. Setting the port to Synced will cause the DMX port to wait for the next sACN packet before sending out the next DMX packet. This tends to work much better for the moving lights that may be affected by a duplicate DMX packet.

Streaming ACN Properties

These settings can only be made for a port set to input.

Priority Mode

Displays the priority mode of the DMX input port.

Available modes are:

Off - No priority is applied when creating the sACN data on the network.

Per Port - A single priority is used for all addresses on this port. It is set via the Port Priority field.

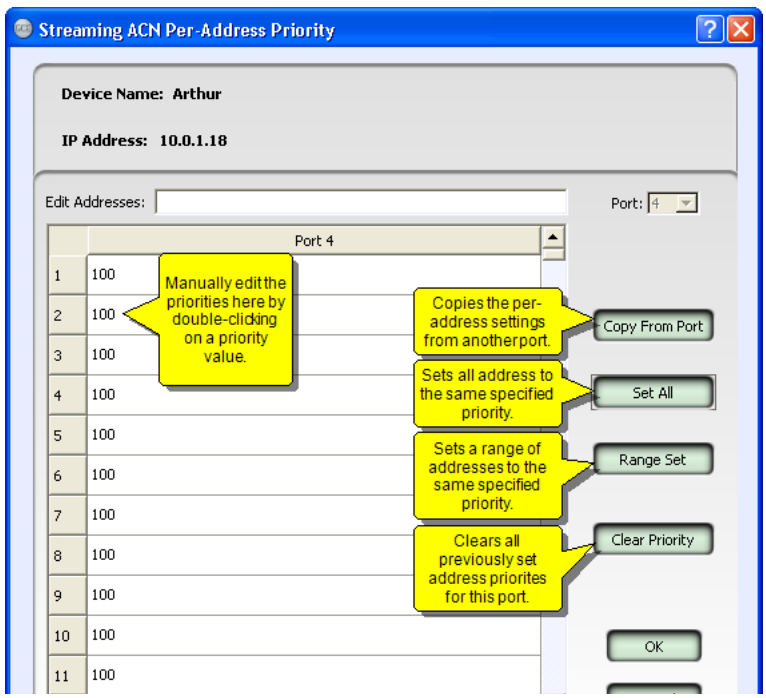
Per Address - A separate priority is available for each address on this port. It is set via the Per-Port Priority edit button.

Port Priority

If the above **Priority Mode** is set to **Per-Port**, this is the port priority that is assigned to all address input on this DMX port.

Per-Address Priority

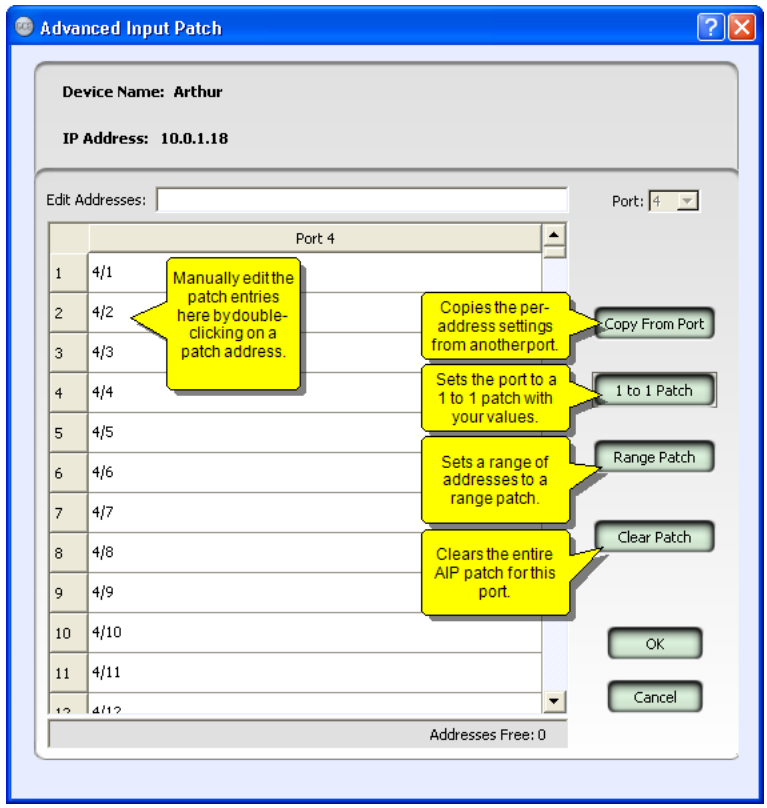
Clicking on the Edit button for this property opens the dialog box below for you to set the individual address priority values.



Advanced Input Patch (AIP)

Clicking on the Edit button for this property opens the dialog box below for you to set the individual address patch assignments.

See "DMX Gateway AIP Tab" on page 33.



Hold Last Look Time (sec) (Display Only)

This displays the Hold Last Look Time in seconds from the Data Loss Behavior dialog.

This setting show the amount of time a port will continue to hold the last received data packet and continue to generate output based on that level information.

RDM Enable (Display Only)

RDM is not currently supported in the Net3 DMX Gateway.

Data Loss Behavior

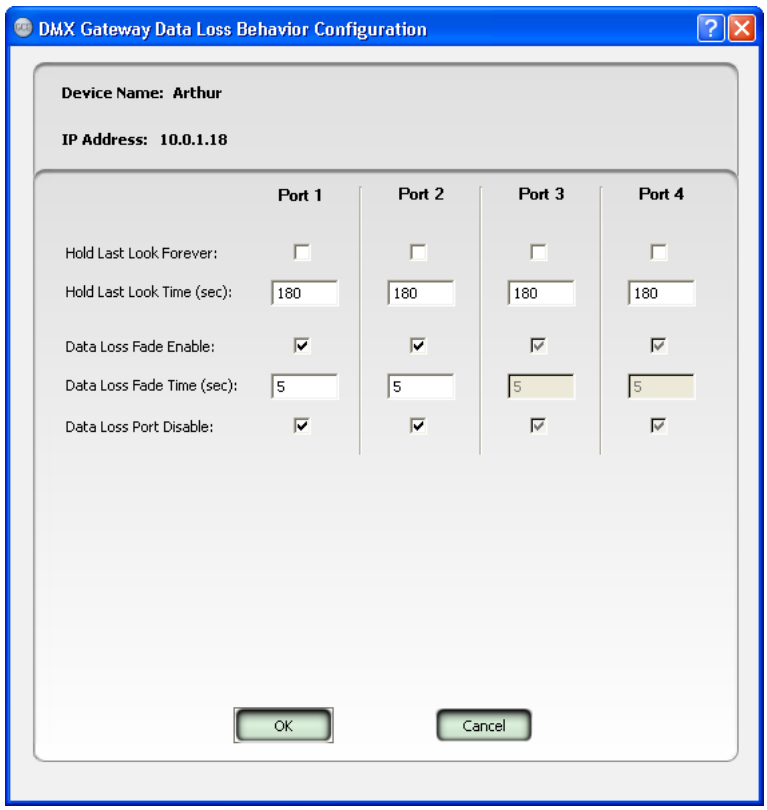
Clicking on the Data Loss Behavior button opens the dialog box below for you to set the individual port data loss behaviors.

The fields for each port are laid out in a logical manner beginning with the top most (Hold Last Look Forever) down to the last (Data Loss Port Disable). This is the order in which they are logically applied to the DMX ports.

Note:

Recommended. data loss settings for moving lights:
Hold Last Look Forever=Not Checked
Hold Last Look Time=0 or your preference
Data Loss Fade Enable=Not Checked
Data Loss Port Disable=Checked

These settings allow the individual DMX device(s) own data loss behaviors to function without interference from the gateway's settings.



Name (Display only)

The name of the gateway is displayed here.

IP Address (Display only)

Displays the IP address of the gateway.

Hold Last Look Forever

Not checked by default.

When checked/enabled, this will continue to repeat the last valid data until the until it is reset or valid data returns.

When the port is set to be a DMX output port, it means that it takes the last valid sACN packet and continues to output DMX.

When the port is set to be a DMX input port, it means that it takes the last valid DMX packet and continues to put that level information out on the network.

Hold Last Look Time (sec)

180 seconds (3 minutes) by default. (only available if Hold Last Look Forever is not checked/enabled)

The port will continue to repeat the last valid data until the time specified is up.

When the port is set to be a DMX output port, it means that it takes the last valid sACN packet and continues to output DMX.

When the port is set to be a DMX input port, it means that it takes the last valid DMX packet and continues to put that level information out on the network.

Data Loss Fade Enable

Checked by default. (only available if Hold Last Look Forever is not checked/enabled)

When checked/enabled, this setting causes the DMX level information to fade to zero (0) as specified in the next field after the Hold Last Look Time has expired.

Data Loss Fade Time (sec)

5 seconds by default. (only available if Hold Last Look Forever is not checked/enabled)

Data Loss Fade Time specifies the amount of time that will be used by Data Loss Fade Enable to fade to zero (0)

Data Loss Port Disable

Checked by default. (only available if Hold Last Look Forever is not checked/enabled)

After all other data loss behavior settings have been executed, this setting determines whether or not the DMX port is shut off (no more DMX output) or if it will continue to output level information with all levels at zero (0).

RDM Properties

RDM is not currently supported in the Net3 DMX Gateway.

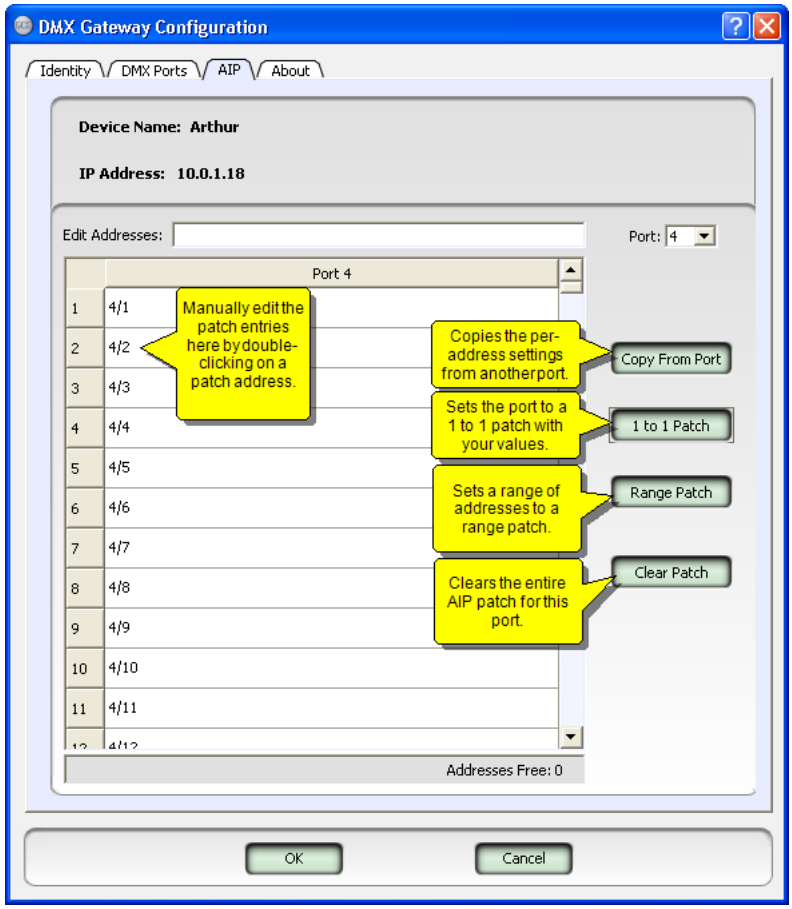
DMX Gateway AIP Tab

Clicking on the AIP tab opens the dialog box below for you to set the individual address patch assignments.

Advanced Input Patch (AIP)

If you need a highly customized input patch, this is the place to go. You can set each DMX input address to go to any specific sACN address (via Port/Offset notation as shown above). You can also set each DMX input address to multiple sACN addresses by either appending to the current patch or via manual editing of a specific location.

Double-click on a port address to edit that field.



Name (Display only)

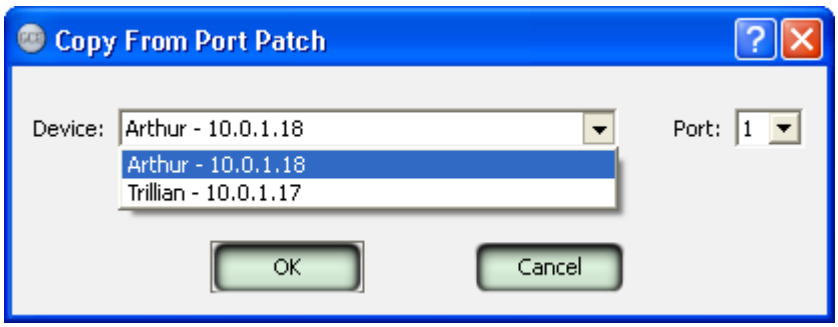
The name of the gateway is displayed here.

IP Address (Display only)

Displays the IP address of the gateway.

Copy From Port

Clicking on this button open the dialog show below. From this dialog, you specify the gateway and port for the AIP you want to copy to the gateway and port that you are currently editing.



One-to-One Patch

One-to-One Patch sets a one-to-one patch for this DMX universe.

You must specify an ACN Universe number (1 to 65279) to patch, however if you leave the offset blank it will use 1 automatically.

If you choose to append this patch action, you will add it to the current patch information for the AIP. If left unchecked, the current patch will be cleared and replaced with the result of this patch action.

Range Patch

Range Patch is a tool to set sequential address patches over a specified range, starting point, and length of patch.

ACN Universe Number sets the ACN universe to be patched to the DMX addresses.

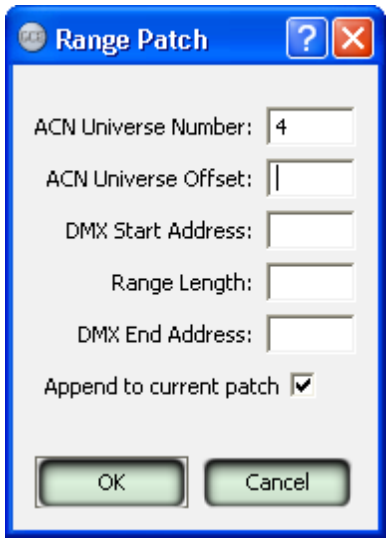
ACN Universe Offset sets the starting place within the ACN universe to be patched.

DMX Start Address sets the first DMX address for the patch to be applied to.

Range Length sets how many DMX addresses will be affected.

DMX End Address sets the last DMX address to be affected by the patch.

Setting either Range Length or DMX End Address will auto-fill the other setting.



If you choose to append this patch action, you will add it to the current patch information for the AIP. If left unchecked, the current patch will be cleared and replaced with the result of this patch action.

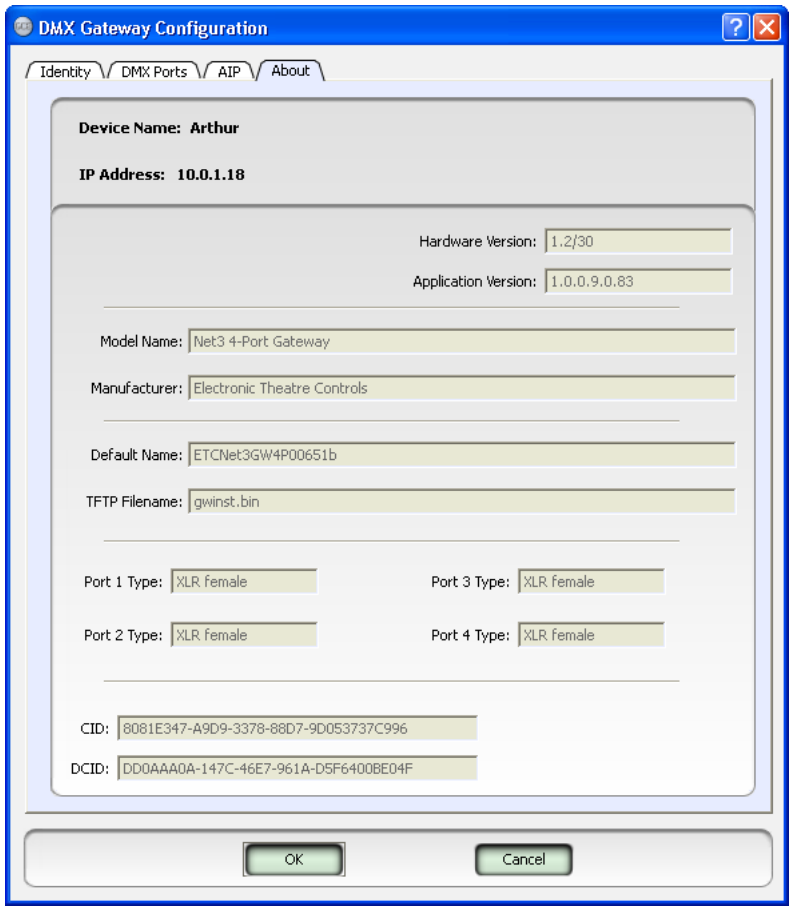
Clear Patch

Clicking this button immediately clears the entire AIP patch for this port.

DMX Gateway About Tab

Clicking on this tab of the DMX Gateway configuration dialog displays an information only tab for Net3 DMX Gateways.

Nothing on this page can be edited or changed.



Name (Display only)

This field displays the current name of the gateway.

IP Address (Display only)

This field displays the IP address of the gateway.

Hardware Version

This field displays the hardware revision level for this gateway.

Application Version

This is the same as the Software Version

This displays the current full version number of software loaded in the gateway. The first three digits (1.0.0) are considered the normal software version number and the last three are internal development numbers.

Model Name

This field displays the model name for this gateway.

Manufacturer

This field displays who the manufacturer is for this gateway.

Default Name

This field displays the calculated default name for this gateway. If you reset the gateway to factory defaults, it would have this name.

If the name is blank or the default generated name (for example ETCNet3GW4P00651b), then the actual gateway hardware will display its IP address on its LCD.

TFTP Filename

This field displays the filename for the software it will ask to download from a TFTP server when told to update software.

Port Type

This field displays the type of port installed in a DMX gateway. The following are the available options:

XLR male - A 5-pin XLR male connector, typically used for DMX input defaults the port to an input port.

XLR female - A 5-pin XLR female connetor, typically use for DMX output, defaults the port to an output port.

RS-485 other - Either a terminal strip connector or an RJ-45 connector, defaults the port to an output port.

Empty - indicates that no DMX port is currently installed, defaults the port to disabled.

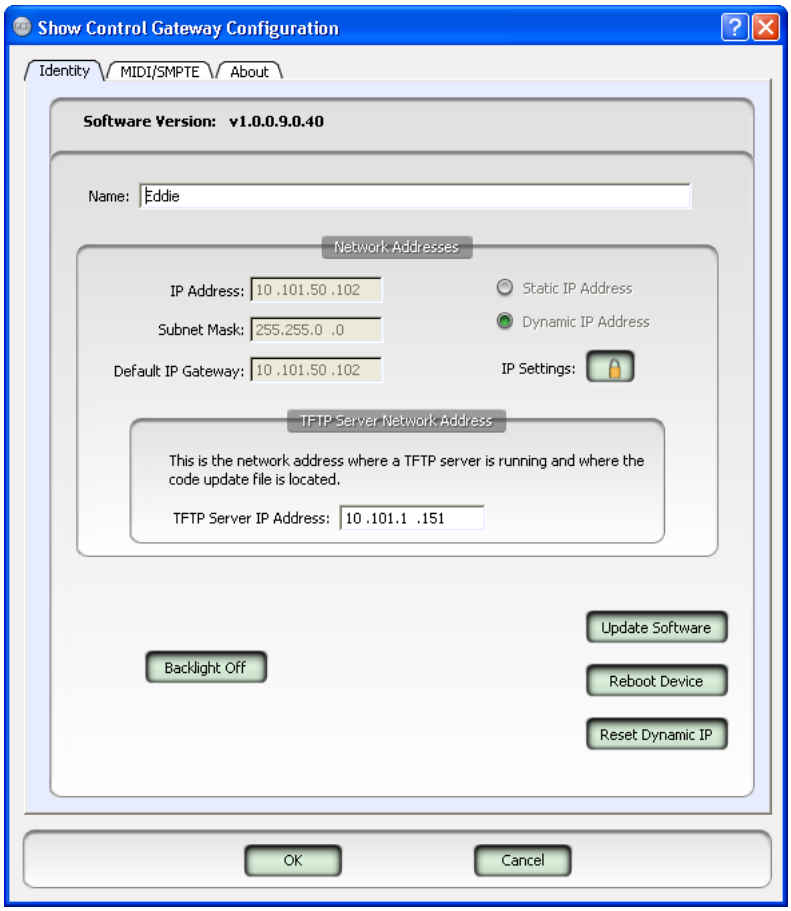
CID

The CID is a giant 128-bit number that is a completely unique ID number to this ACN device. No other ACN device will have a duplicate CID.

DCID

The DCID is a giant 128-bit number that identifies a type of device with particular set of functions. Those functions may change with software versions and therefore change the DCID.

This dialog contains multiple tabs used for setting the writable properties and displaying the read-only properties of a Show Control Gateway.



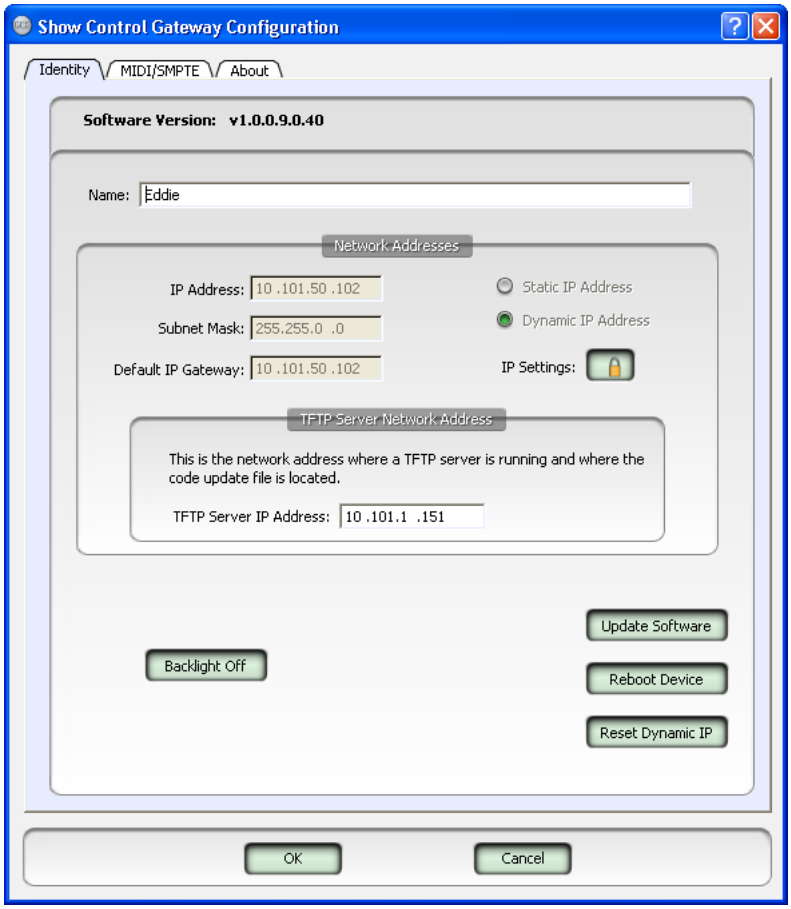
When this dialog is opened from the **Configured Devices** table, selecting the **OK** button saves changes to the configuration record only and does not make any changes to any online device.

When the dialog is opened from the **Online Devices** table, selecting the **OK** button sends changes to the online device only and does not affect any bound entries in the Configured Devices table.

The **Cancel** button ignores any changes that were made and closes the dialog.

Show Control Gateway Identity Tab

This tab of the Show Control Gateway configuration dialog displays the general settings for Net3 Show Control Gateways.



Software Version (Display only)

This displays the current full version number of software loaded in the gateway. The first three digits (1.0.0) are considered the normal software version number and the last three are internal development numbers.

Name

The name of the gateway can be changed here. If the name is blank or the default generated name (for example ETCNet3GW4P00651b), then the actual gateway hardware will display its IP address on its LCD. Be aware that the Gateway LCD is only capable of displaying the first 20 characters of a name. You can assign a name that is longer, but it will be truncated by the display.

Network Addresses

IP addresses are not editable unless you have enabled their editing by entering the password in the IP Settings dialog. You can open that dialog from here by clicking on the button with the padlock icon.

Once you've enabled editing IP address information, you can change the settings for Static IP address and Dynamic IP address. If you choose static IP address, you can edit the network address fields of IP address, Subnet Mask and Gateway IP address.

TFTP Server Network Address

This is where you can edit the TFTP Server Network IP address that is stored in the Net3 gateway. This IP address is used (if chosen in the update software dialog) to request software from a TFTP server (update service) that is expected to be running at that IP address.

Note: *When editing an* **Online Devices** *table row, Backlight On/Off, Update Software, Reboot Device, Reset to Default & Reset Dynamic IP buttons all act immediately on the selected gateway.*

Backlight On/Backlight Off

Clicking on this button sends a command to turn on or turn off the LCD backlight on the front of the gateway.

The button text displays the action that will be taken when clicked.

When the backlight is turned off, it will still illuminate for menu button presses on the front panel of the gateway.

Update Software

Pressing the Update Software button tells the selected devices to get new software from the IP address specified in the TFTP Server Network Address field.

Upon downloading the software the gateway will reboot.

Reboot Device

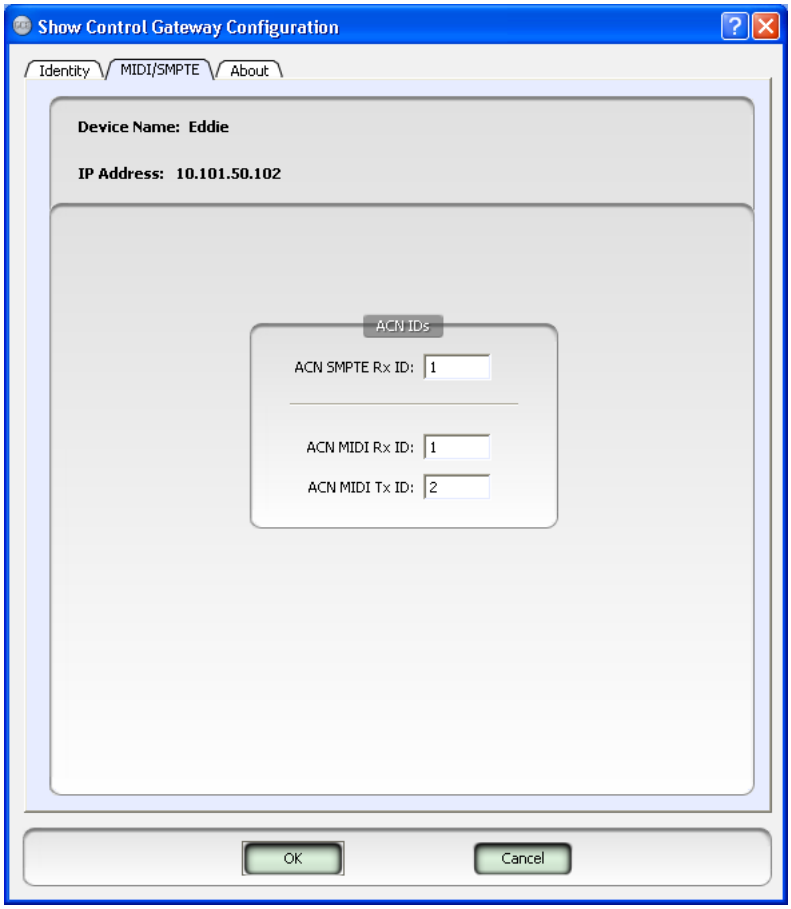
Clicking this button sends a message to the current gateway telling it to reboot. This is a soft-reboot.

Reset Dynamic IP (Renew DHCP Lease)

Clicking this button deletes the current dynamic IP address information and reboots the gateway. Upon booting, the gateway will request a new dynamic IP address from an address service (DHCP Server).

Show Control Gateway MIDI/SMPTE Tab

Clicking on this tab of the Show Control Gateway configuration dialog displays the SMPTE and MIDI port settings for Net3 Show Control Gateways.



Name (Display only)

The name of the gateway is displayed here.

IP Address (Display only)

Displays the IP address of the gateway.

SMPTE ID

Defaults to a group ID of 1.

A SMPTE port on a gateway only acts as an input port converting SMPTE signal into an ACN stream.

SMPTE ID displays the ID that the SMPTE received via the SMPTE port is tagged with for transmission via ACN over Ethernet to a console or similar device to receive. That receiving device must also be set to the same SMPTE ID as the SMPTE port you want to receive SMPTE from.

The range is from 0 to 32.

MIDI Rx ID

Defaults to a group ID of 1.

The MIDI Rx port on a gateway acts as an input port converting MIDI signal into an ACN

stream.

MIDI Rx ID displays the ID that the MIDI received via the MIDI Rx port is tagged with for transmission via ACN over Ethernet to a console or similar device to receive

This MIDI Rx ID must match the MIDI Tx ID of the device you are intending on getting the MIDI information from.

The range is from 0 to 32.

MIDI Tx ID

Defaults to a group ID of 2.

The MIDI Tx port on a gateway acts as an output port converting an ACN stream into a MIDI signal.

MIDI Tx ID displays the ID that the MIDI received via ACN is tagged from a transmitting console or similar device.

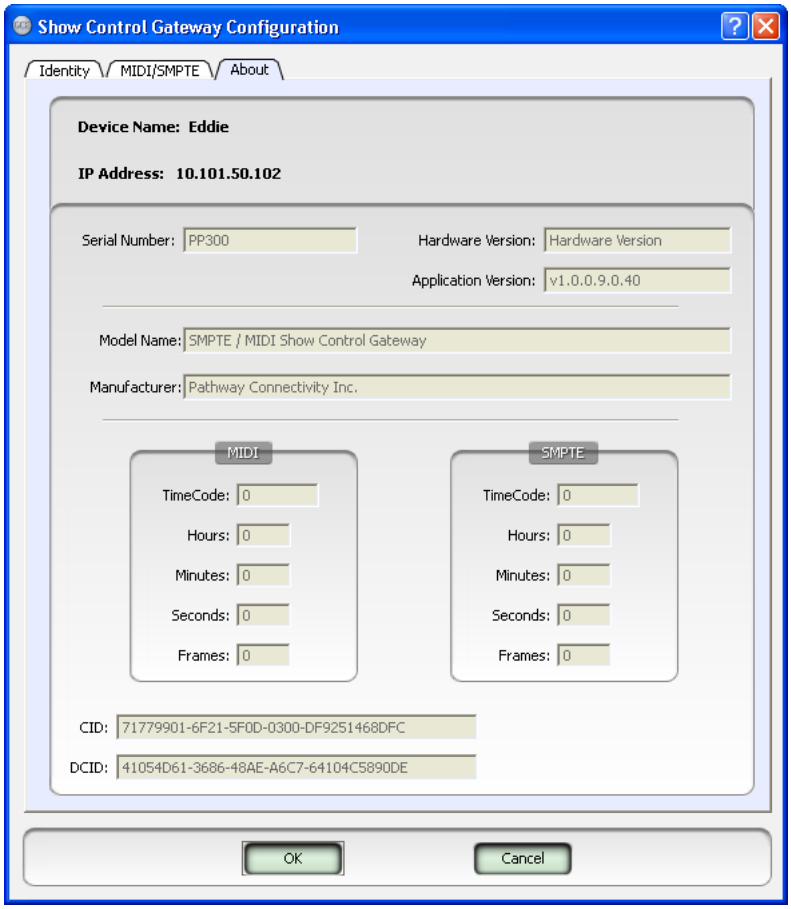
This MIDI Tx ID must match the MIDI Rx ID of the device you are intending on sending the MIDI information to.

The range is from 0 to 32.

Show Control Gateway About Tab

Clicking on this tab of the DMX Gateway configuration dialog displays an information only tab for Net3 DMX Gateways.

Nothing on this page can be edited or changed.



Name (Display only)

This field displays the current name of the gateway.

IP Address (Display only)

This field displays the IP address of the gateway.

Serial Number

This field displays the serial number for this gateway.

Hardware Version

This field displays the hardware revision level for this gateway.

Application Version

This is the same as the Software Version

This displays the current full version number of software loaded in the gateway. The first three digits (1.0.0) are considered the normal software version number and the last three are internal development numbers.

Model Name

This field displays the model name for this gateway.

Manufacturer

This field displays who the manufacturer is for this gateway.

MIDI Time Fields

This section displays the MIDI timecode values for Hours, Minutes, Seconds and Frames as those fields were read by GCE at the time of the last connection.

These are not "live" fields do not automatically update with new/ current timecode information.

SMPTE Time Fields

This section displays the SMPTE timecode values for Hours, Minutes, Seconds and Frames as those fields were read by GCE at the time of the last connection.

These are not "live" fields do not automatically update with new/ current timecode information.

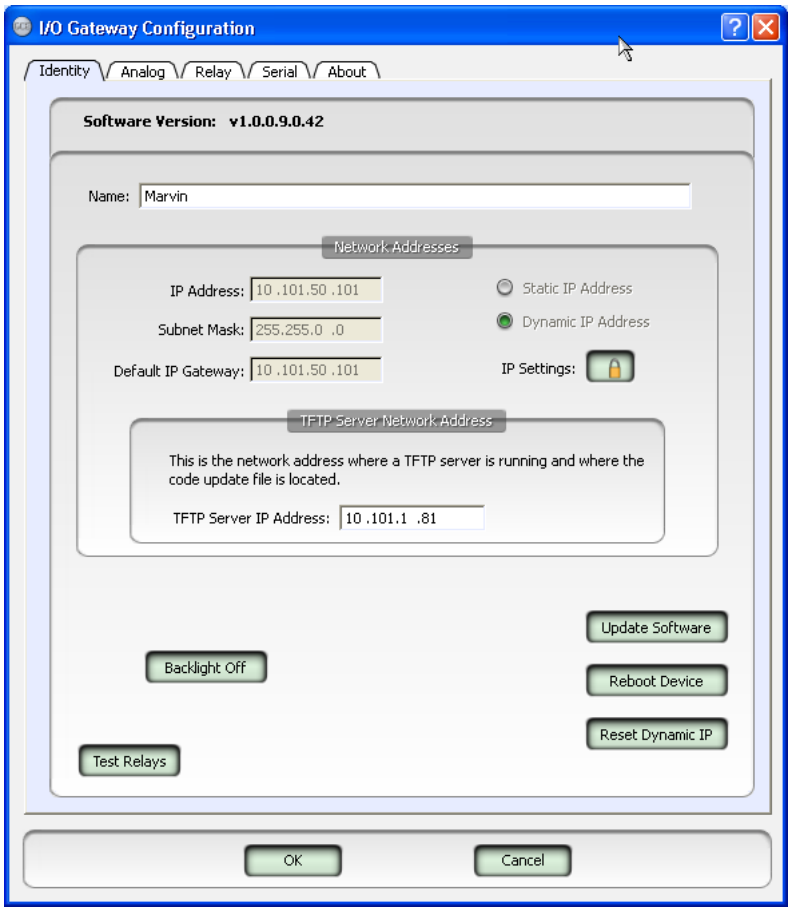
CID

The CID is a giant 128-bit number that is a completely unique ID number to this ACN device. No other ACN device will have a duplicate CID.

DCID

The DCID is a giant 128-bit number that identifies a type of device with particular set of functions. Those functions may change with software versions and therefore change the DCID.

This dialog contains multiple tabs used for setting the writable properties and displaying the read-only properties of an I/O Gateway.



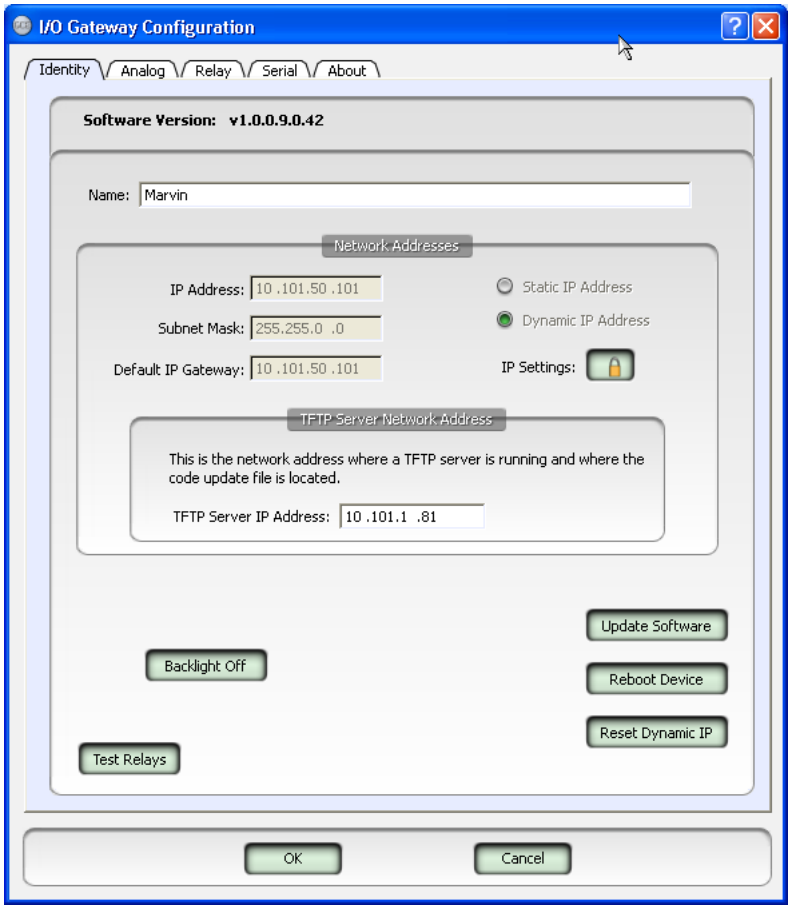
When this dialog is opened from the **Configured Devices** table, selecting the **OK** button saves changes to the configuration record only and does not make any changes to any online device.

When the dialog is opened from the **Online Devices** table, selecting the **OK** button sends changes to the online device only and does not affect any bound entries in the Configured Devices table.

The **Cancel** button ignores any changes that were made and closes the dialog.

I/O Gateway Identity Tab

This tab of the I/O Gateway configuration dialog displays the general settings for Net3 I/O Gateways.



Software Version (Display only)

This displays the current full version number of software loaded in the gateway. The first three digits (1.0.0) are considered the normal software version number and the last three are internal development numbers.

Name

The name of the gateway can be changed here. If the name is blank or the default generated name (for example ETCNet3GW4P00651b), then the actual gateway hardware will display its IP address on its LCD. Be aware that the Gateway LCD is only capable of displaying the first 20 characters of a name. You can assign a name that is longer, but it will be truncated by the display.

Network Addresses

IP addresses are not editable unless you have enabled their editing by entering the password in the IP Settings dialog. You can open that dialog from here by clicking on the button with the padlock icon.

Once you've enabled editing IP address information, you can change the settings for Static IP address and Dynamic IP address. If you choose static IP address, you can edit the network address fields of IP address, Subnet mask and Gateway IP address.

TFTP Server Network Address

This is where you can edit the TFTP Server Network IP address that is stored in the Net3 gateway. This IP address is used (if chosen in the update software dialog) to request software from a TFTP server (update service) that is expected to be running at that IP address.

Note: *When editing an* **Online Devices** *table row, Backlight On/Off, Update Software, Reboot Device, Reset to Default & Reset Dynamic IP buttons all act immediately on the selected gateway.*

Backlight On/Backlight Off

Clicking on this button sends a command to turn on or turn off the LCD backlight on the front of the gateway.

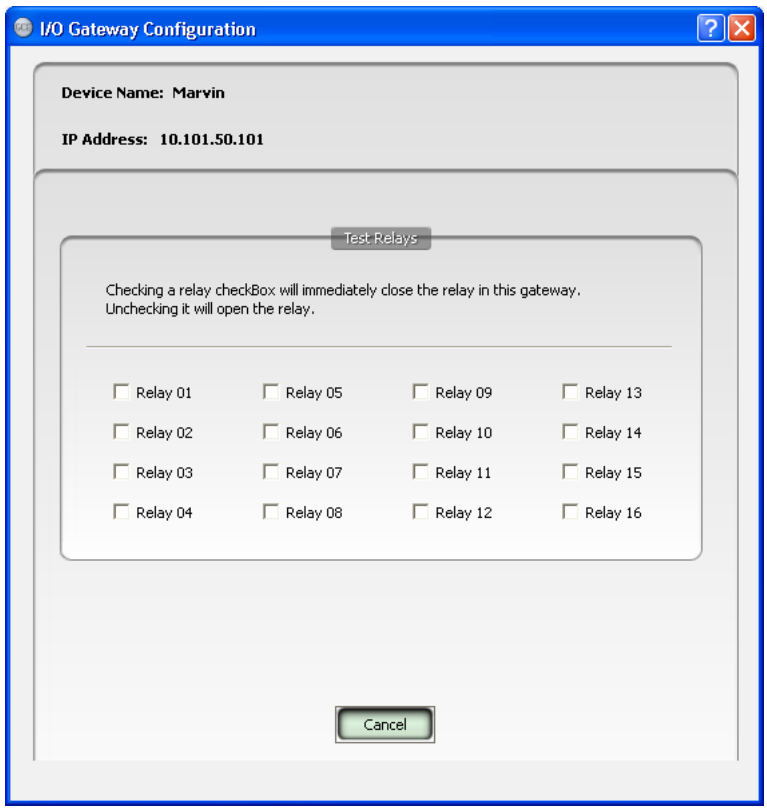
The button text displays the action that will be taken when clicked.

When the backlight is turned off, it will still illuminate for menu button presses on the front panel of the gateway.

Test Relays

This button only appears when you are editing an online I/O Gateway.

Clicking on the Test Relays button open the dialog shown below.



In this dialog, it will show you a snapshot of the state of the relays the last time GCE read information from the I/O Gateway. Clicking on any of the boxes will immediately open or close the associated relay and give you a way to test all of the relays.

Closing this Test Relays window will return all of the relays to their state prior to opening this window.

Update Software

Pressing the Update Software button tells the selected devices to get new software from the IP address specified in the TFTP Server Network Address field.

Upon downloading the software the gateway will reboot.

Reboot Device

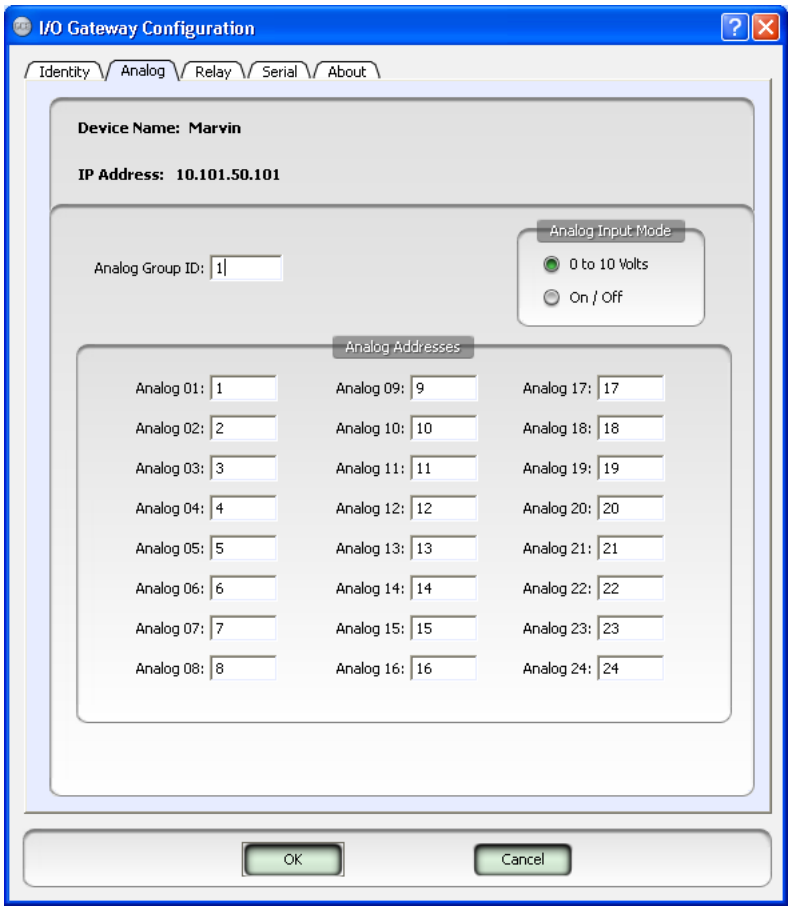
Clicking this button sends a message to the current gateway telling it to reboot. This is a soft-reboot.

Reset Dynamic IP (Renew DHCP Lease)

Clicking this button deletes the current dynamic IP address information and reboots the gateway. Upon booting, the gateway will request a new dynamic IP address from an address service (DHCP Server).

I/O Gateway Analog Tab

Clicking on this tab of the I/O Gateway configuration dialog displays the analog input port settings for Net3 I/O Gateways.



Name (Display only)

The name of the gateway is displayed here.

IP Address (Display only)

Displays the IP address of the gateway.

Analog Group ID

Displays the Analog Group ID.

The Group ID is similar in concept to a DMX Universe, except that you can have 65536 addresses per Group ID. Each Analog input has an address (1 to 65536) within each Analog Group ID. Both the Analog Group ID and the Analog Address for a particular analog input is needed to access that information.

The Analog Group ID range is from 0 to 32.

Analog Input Mode

This setting of either **0 to 10 Volts** or **On / Off** configures inputs to be read in either an analog manner returning values between 0 and 10 or in a digital mode returning 0 or 255 respectively. In either mode, you are measuring 0 to 10 Volts dc from an external source. The mode only changes how it is reported.

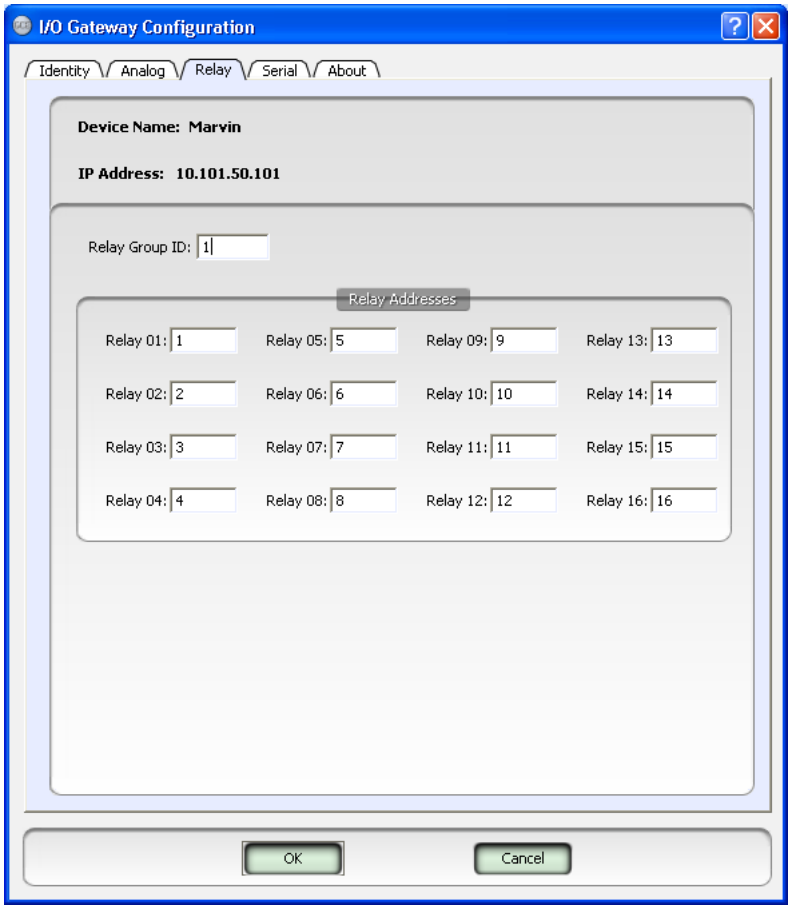
Analog Addresses

Each Analog input has an address (1 to 65536) within each Analog Group ID. Both the Analog Group ID and the Analog Address for a particular analog input is needed to access that level.

The addresses default to a 1-to-1 patch, but can be configured to be anywhere in the 1 to 65536 range.

I/O Gateway Relay Tab

Clicking on this tab of the I/O Gateway configuration dialog displays the relay output (contact closure) port settings for Net3 I/O Gateways.



Name (Display only)

The name of the gateway is displayed here.

IP Address (Display only)

Displays the IP address of the gateway.

Relay ID

Displays the Relay Group ID.

The Group ID is similar in concept to a DMX Universe, except that you can have 65536 addresses per Group ID. Each Relay output has an address (1 to 65536) within each Relay Group ID. Both the Relay Group ID and the Relay Address for a particular relay is needed to access/control that relay.

The Relay Group ID range is from 0 to 32.

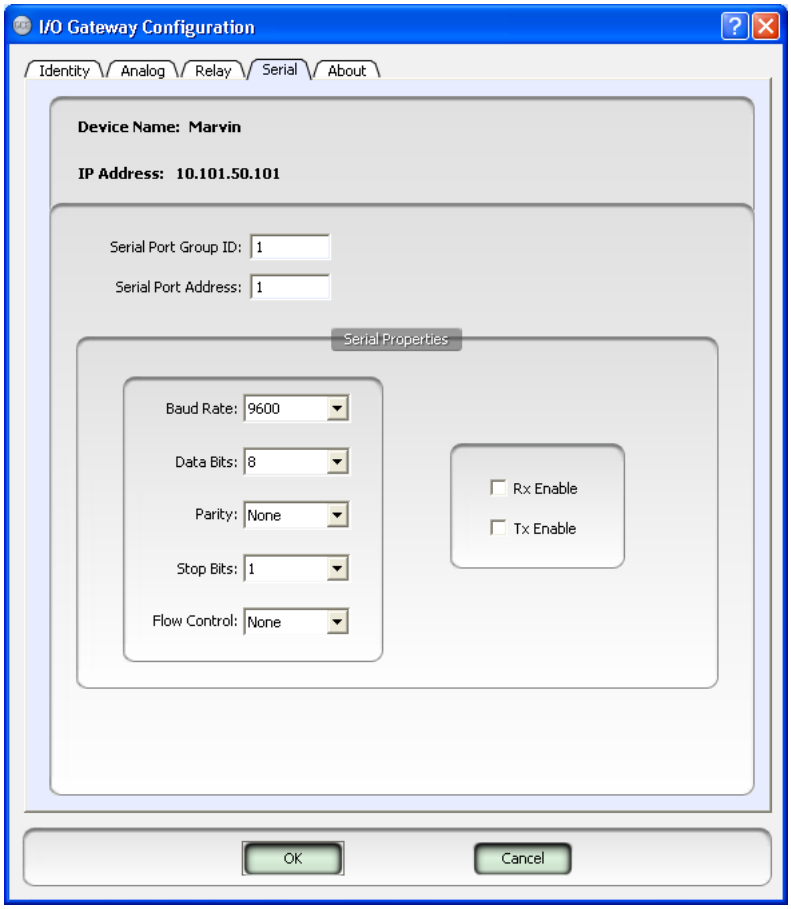
Relay Addresses

Each relay output has an address (1 to 65536) within each Relay Group ID. Both the Relay Group ID and the Relay Address for a particular analog input is needed to access that relay.

The addresses default to a 1-to-1 patch, but can be configured to be anywhere in the 1 to 65536 range.

I/O Gateway Serial Tab

Clicking on this tab of the I/O Gateway configuration dialog displays the RS-232 serial port settings for Net3 I/O Gateways.



Name (Display only)

The name of the gateway is displayed here.

IP Address (Display only)

Displays the IP address of the gateway.

Serial Port Group ID

Displays the Serial Group ID.

Serial Group ID also has Serial Address, but it is not currently used. Only the Serial Group ID is used to identify a serial port on a gateway.

The Serial Group ID range is from 0 to 32.

Serial Port Address

This field is not currently used.

Serial Properties

9600bps, 8N1 None are the default settings for the serial port.

Baud Rate

The Baud Rate is the data transfer rate and refers to the number of bits per second.

Data Bits

Data Bits refers to the number of bits of data in a transferred byte.

Parity

Parity refers to the even or oddness of the data.

Stop Bits

Stop Bits refers to the extra bit's worth of time to announce the end of asynchronous data transmission.

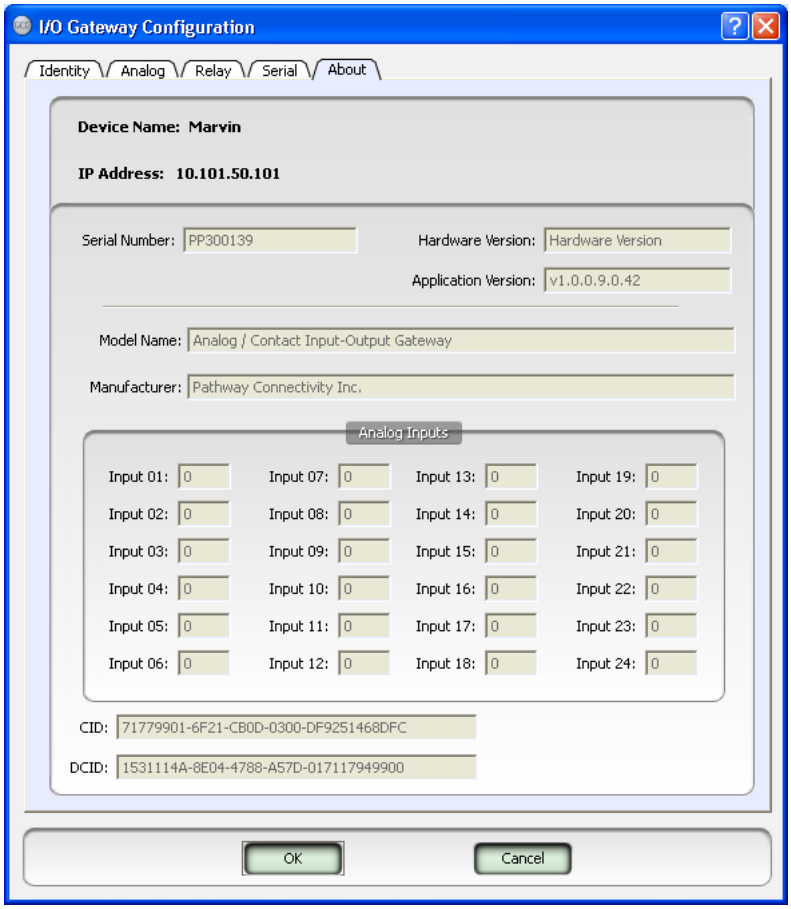
Flow Control

Flow Control refers to whether the data is throttled by software or by hardware. It is the process of managing the rate of data transmission between two nodes. Flow control is important because it is possible for a sender to transmit information at a faster rate than the destination can receive and process it. This can happen if the receiver has a heavy traffic load in comparison to the sender, or if the receiver has less processing power than the sender.

I/O Gateway About Tab

Clicking on this tab of the I/O Gateway configuration dialog displays an information only tab for Net3 I/O Gateways.

Nothing on this page can be edited or changed.



Name (Display only)

This field displays the current name of the gateway.

IP Address (Display only)

This field displays the IP address of the gateway.

Serial Number

This field displays the serial number for this gateway.

Hardware Version

This field displays the hardware revision level for this gateway.

Application Version

This is the same as the Software Version

This displays the current full version number of software loaded in the gateway. The first three digits (1.0.0) are considered the normal software version number and the last three are internal development numbers.

Model Name

This field displays the model name for this gateway.

Manufacturer

This field displays who the manufacturer is for this gateway.

Analog Inputs

This is shows a snapshot of the state of the analog input values when GCE last got the properties from this gateway. The values are displayed in the range of 0 to 255.

CID

The CID is a giant 128-bit number that is a completely unique ID number to this ACN device. No other ACN device will have a duplicate CID.

DCID

The DCID is a giant 128-bit number that identifies a type of device with particular set of functions. Those functions may change with software versions and therefore change the DCID.

Section 8: How To Topics

These are a couple of quick topics to help you learn some basic but important tasks within GCE.

Convert Gateways From ETCNet2 Mode to Net3/ACN Mode

First, it's important to know that only certain gateways have the ability to switch between ETCNet2 and Net3 operational modes.

- The network devices that can include:
- Net3 Four-Port DMX Gateway

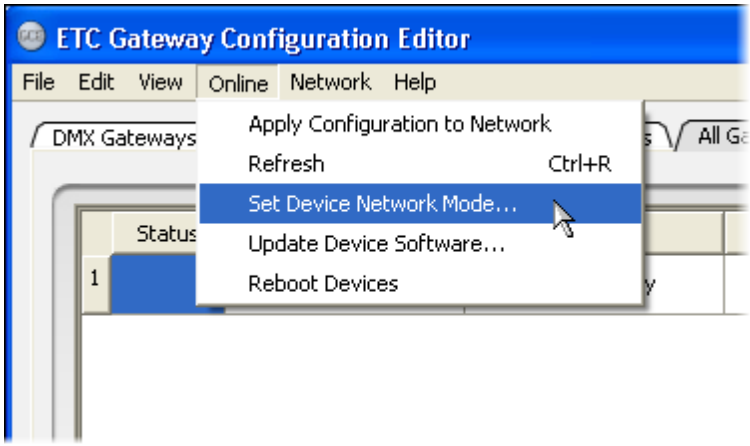
- Net3 Two-Port DMX Gateway
- Net3 One-Port DMX Gateway

Some other network devices that cannot change between ETCNet2 and Net3 include:

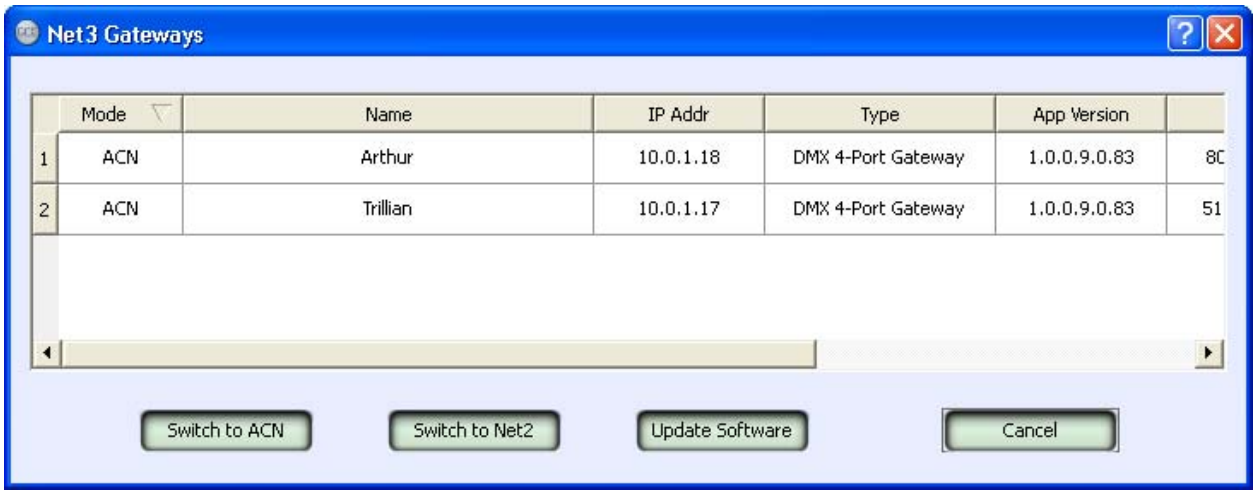
- Net3 Show Control Gateway (Net3 only)
- Net3 I/O Gateway (Net3 only)
- ETCNet2 DMX Nodes (ETCNet2 only)
- ETCNet2 Video Node (ETCNet2 only)

To change the mode of gateways on your network:

Select **Set Device Network Mode...** from the **Online** menu.



Step 4: Select the devices you want to change (ctrl-click to select multiple gateways) or don't select any to change them all at once. This dialog shows both Net3/ACN devices and ETCNet2 devices that are online. **Net3/ACN** devices are shown as **ACN** and **ETCNet2** devices are shown as **Net2**.



Step 5: Click on the **Switch to ACN** button or the **Switch to Net2** button to tell the gateways to **reboot** into their new operating mode.

Update Gateway Software

Updating gateway software involves selecting the gateways you want to update and telling them to request software from a TFTP server (update service). They will request the software, and if available, download it, confirm that it is all there and error-free, then begin to install it. Once done installing, the gateways will automatically reboot to begin using their new software.

Make sure you have a TFTP server running

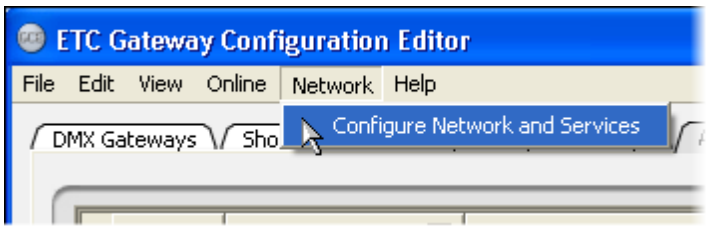
A TFTP server can be running in any of a couple different kinds of places.

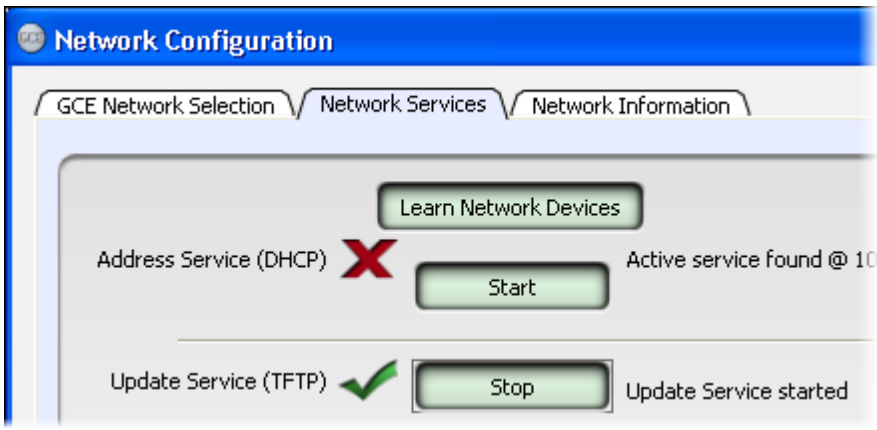
- As part of GCE
- On a console as part of Net3 Services (Eos, Ion, Congo/jr)
- On a standalone computer running Net3 Services

Make sure you know where it is and if it's running.

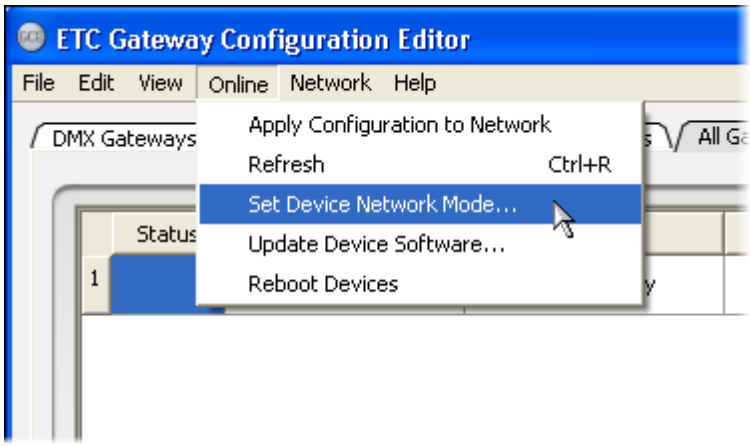
Since there are many ways of accomplishing this, we will only cover the TFTP server included with GCE.

Step 1: Start the TFTP server (update service).



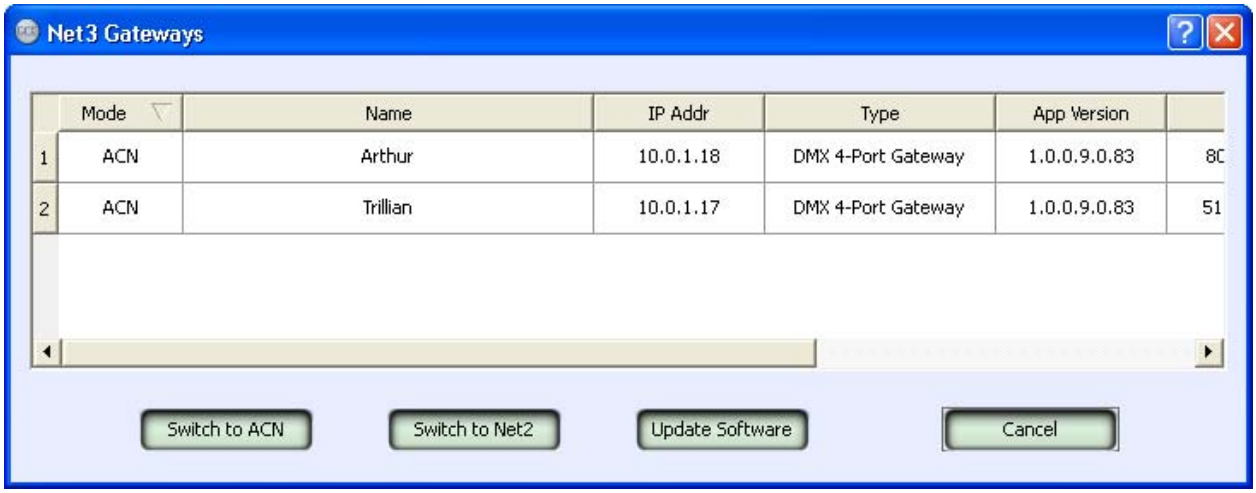


Step 2: Select **Set Device Network Mode...** from the **Online** menu.



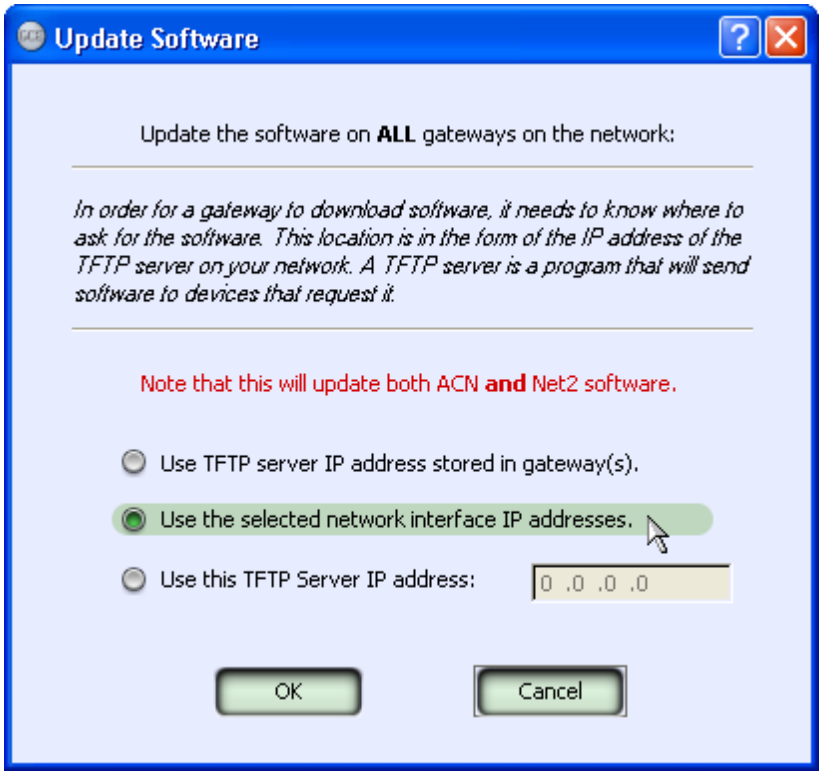
Step 3: Select the devices you want to update (ctrl-click to select multiple gateways) or don't select any to update them all at once. This dialog shows both Net3/ACN devices and ETCNet2 devices that are online. **Net3/ACN** devices are shown as **ACN** and **ETCNet2** devices are shown as **Net2**.

Note: *Updating software will tell both ETCNet2 devices and Net3 devices to get new software. This is the only place in GCE to see all of those devices at once.*



Step 4: Click on the **Update Software** button.

Step 5: Specify the location of the TFTP server in this dialog. Use the option shown below.

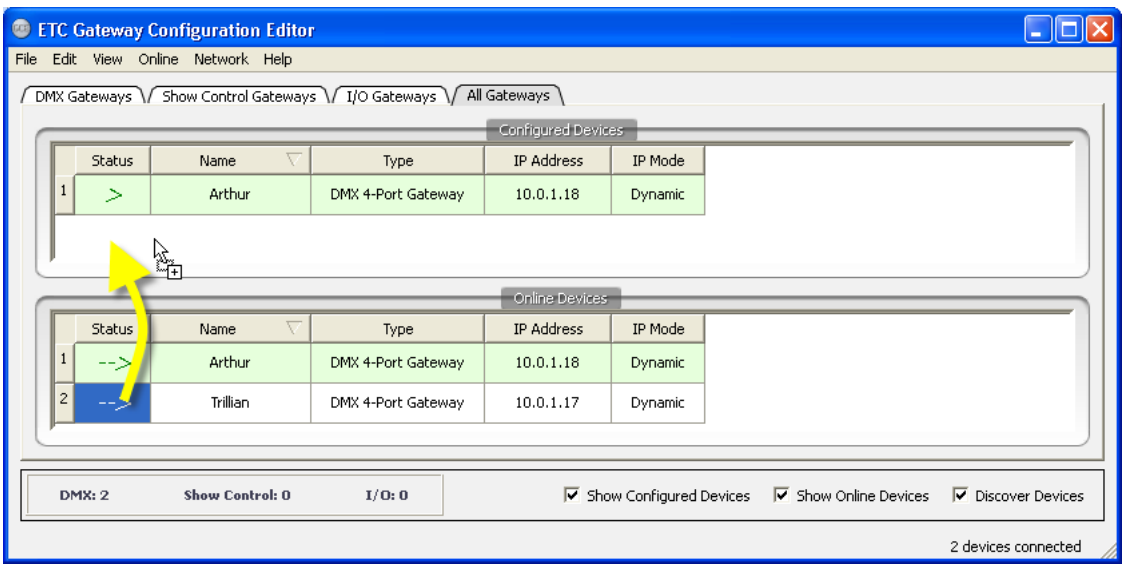


Step 6: Click **OK** to tell the gateways to download new software and **reboot** into it.

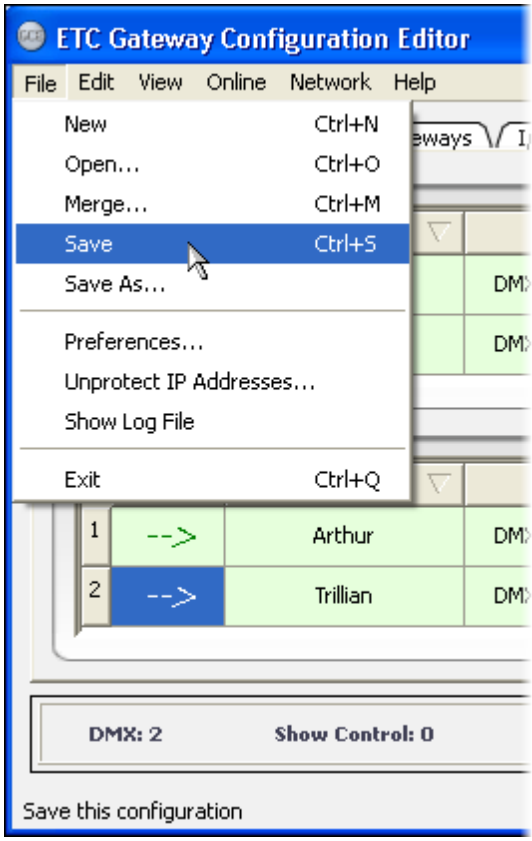
Save Your Configuration

The most important thing to know about saving a configuration file from GCE is that it only saves configuration information from the **Configured Devices** (top) table.

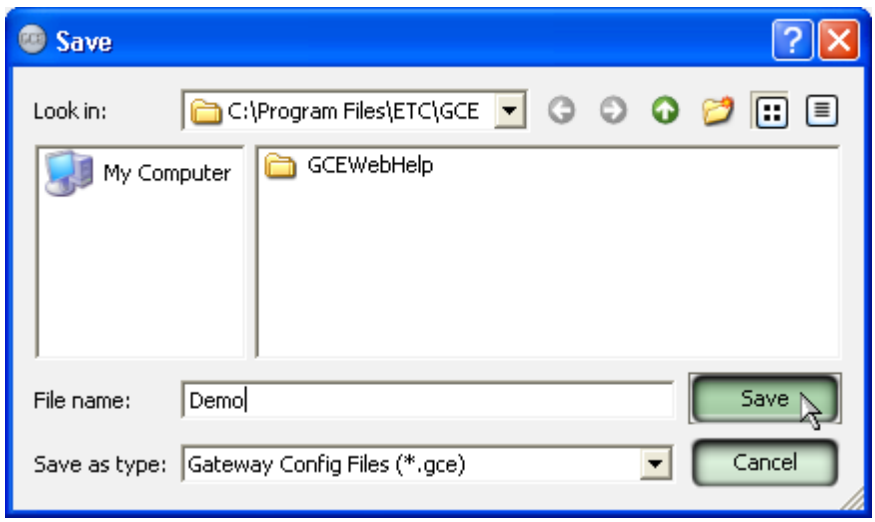
Step 1: To get gateway configuration information to the **Configured Devices** table, you must drag them there one at a time.



Step 2: Once you have the devices you want to save showing in the **Configured Devices** table, select **Save** or **Save As...** from the **File** menu as shown.



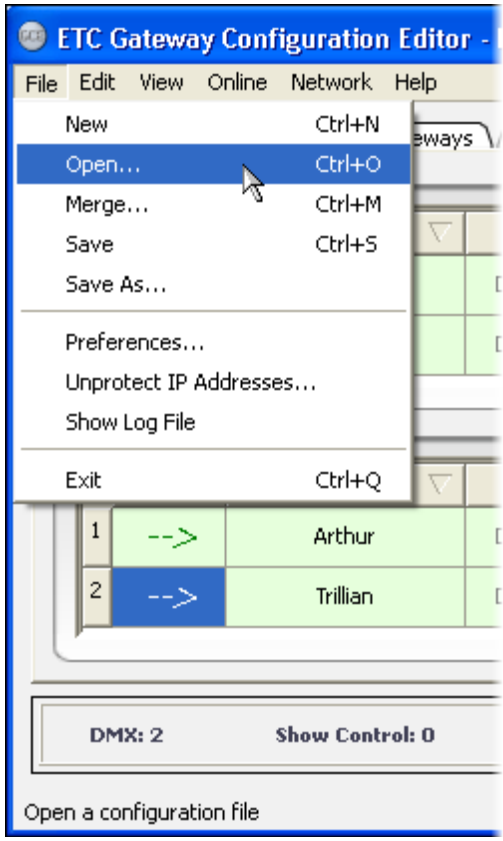
Step 3: In the save window, give your file a name and click **Save**.



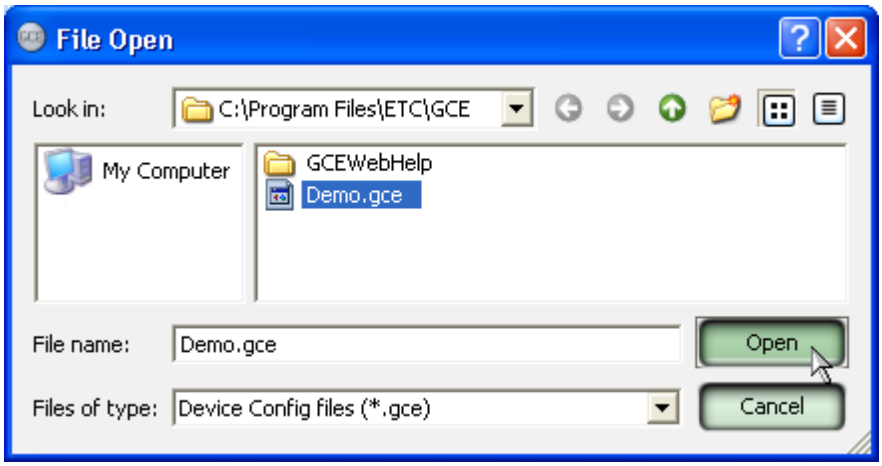
Load Your Configuration

The most important thing to know about loading a configuration file in GCE is that it only loads the configuration information to the **Configured Devices** (top) table. It does not immediately send the configuration out to the gateways on the network.

Step 1: Select **Open...** from the File menu as shown.

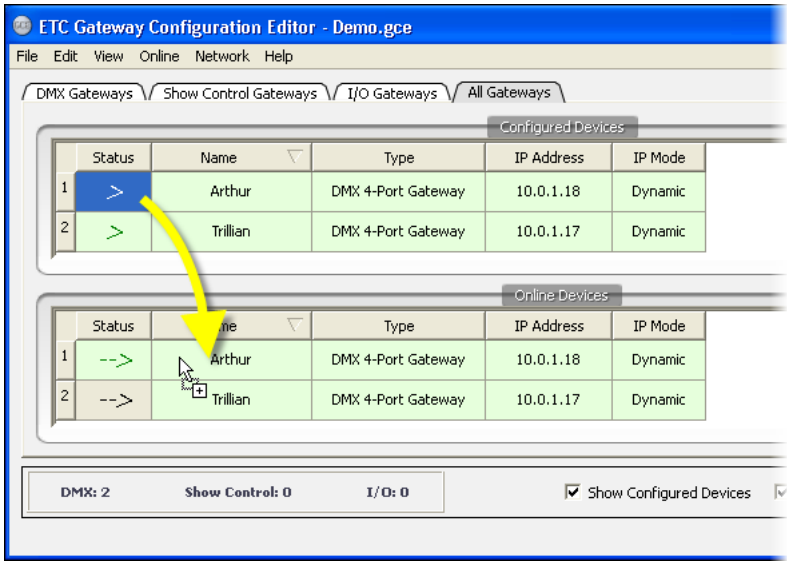


Step 2: Select the file you want to load and click **Open**.

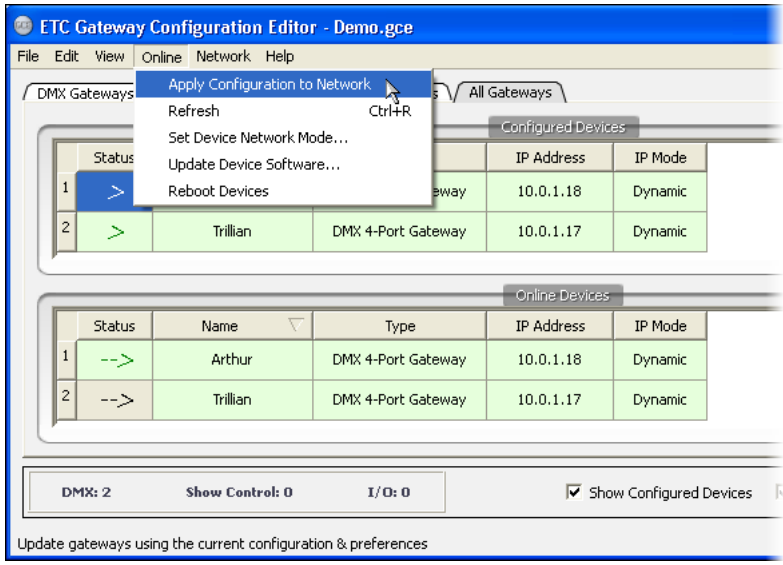


Step 3: Once the configuration is loaded, you need to apply it to the devices online in one of two ways.

Step 4: Drag individual device configuration rows (from **Configured Devices**) down to the targeted device (to **Online Devices**), either the same corresponding device or a different device you want to copy the configuration information on to.



Step 5: Select **Apply Configuration to Network** from the **Online** menu. This option sends the all of the configuration information from the **Configured Devices** table to the matching gateways in the **Online Devices** table.



- Address Service (DHCP server): The user is responsible for setting the starting pool IP address (First Address) of their DHCP (Address) server. If the primary network interface does not match the starting pool IP address, the DHCP server may serve up addresses that cannot be reached.
- The NIC using the Update service (TFTP server) must have a Default Gateway IP defined in Windows Network Connections.
- No Net3 devices found… message displays before devices are found. This may confuse a user. GCE displays the message when no devices are in the table. The problem arises when the Discovery Service (SLP) is slow to report discovered devices to GCE. This is aggravated when Discovery Service (SLP) is started and stopped by GCE.
    - GCE starts
    - GCE starts the Discovery Service (SLP)
    - GCE initializes the ACN libs (discovery and so on.)
    - GCE displays the No Net3 devices found… message
    - Discovery Service (SLP) reports discovered devices
    - GCE removes the message and displays the devices reported by the Discovery Service (SLP).
    - The time between 4 and 6 is when the message is shown, BEFORE the Discovery Service (SLP) reports any discovered devices.
- If a network interface card change happens outside of GCE, GCE will have to be restarted. For example, if a network cable is plugged in while GCE is running, GCE will display any discovered devices found on the newly plugged in network but will be unable to connect to them because the ACN libraries know notahing about that network.

    Device Selection:

    - Select: click on any cell in the row or click on the row header.
    - Deselect: click in table white space (outside of any cell) or Ctrl-click the selected cell or row header.
- The property values seen in GCE are a snapshot of the state of the gateway at the time of (re)connection. The gateways do not update GCE unless GCE asks for the properties. This means that if gateway properties are changed by another computer or console, your local GCE will not be updated to display the latest state of the properties. The user must use Refresh' to get up-to-date properties of a device.
- Disallow copy of IP address and mode values if the Online entry is dynamic. The user MUST explicitly change this via the Online table. If the user has turned off the showing of the Preferences dialog (unchecking the checkbox for When updating devices, do not show this dialog again.) they will not be notified that the drop could not make any IP address or mode changes.
- Cannot drag & drop more than one device at a time.
- Cannot update more than one device at a time unless choosing Online, Apply Configuration to Network which updates all "Online Devices" with their corresponding device entries from the Config Devices table.

- Default password to edit IP addresses: net3
- The Copy From Port' dialog in the DMX AIP edit dialog will not copy a newly edited, but unsaved, patch from a port in the same document. The configuration needs to be saved before the new edits would be available to be copied to a different port.
- Online> Apply Configuration to Network and Drag & Drop (from Config table to Online table) will do a blanket update of all properties based upon the current preferences. A right-click Apply' will only update properties that are different based upon the current preferences.
- I/O (Contact Closure) Gateway
    - Serial Address is not used by any known device.

Corporate Headquarters ■ 3031 Pleasant View Road, P.O. Box 620979, Middleton, Wisconsin 53562-0979 USA ■ Tel +608 831 4116 ■ Fax +608 836 1736
London, UK ■ Unit 26-28, Victoria Industrial Estate, Victoria Road, London W3 6UU, UK ■ Tel +44 (0)20 8896 1000 ■ Fax +44 (0)20 8896 2000
Rome, IT ■ Via Ennio Quirino Visconti, 11, 00193 Rome, Italy ■ Tel +39 (06) 32 111 683 ■ Fax +39 (06) 32 656 990
Holzkirchen, DE ■ Ohmstrasse 3, 83607 Holzkirchen, Germany ■ Tel +49 (80 24) 47 00-0 ■ Fax +49 (80 24) 47 00-3 00
Hong Kong ■ Rm 1801, 18/F, Tower 1 Phase 1, Enterprise Square, 9 Sheung Yuet Road, Kowloon Bay, Kowloon, Hong Kong ■ Tel +852 2799 1220 ■ Fax +852 2799 9325
Service: (Americas) service@etcconnect.com ■ (UK) service@etceurope.com ■ (DE) techserv-hoki@etcconnect.com ■ (Asia) service@etcasia.com
Web: www.etcconnect.com ■
4265M1200-1.0.0 ■ Rev A ■ Released 08/2008