IOGEAR®

User Manual
2/4-Port Dual View Dual Link DVI KVMP Switch with Audio

GCS1642/GCS1644/GCS1642X
PART NO. M1087-g / M1088-g

www.iogear.com

Table of Contents

Package Contents

1 x 2/4-Port Dual View Dual Link DVI KVMP Switch with Audio
2/4 x Dual Link DVI KVM Cables (2 for GCS1642 / 4 for GCS1644)
2/4 x Dual Link DVI Cables (2 for GCS1642 / 4 for GCS1644)
1 x Power Adapter
1 x Installation Guide
1 x Warranty Card

Note:
GCS1642X does not include KVM and DVI cables.

System Requirements

Console
– Two displays with DVI inputs
– A Keyboard and Mouse

Computer
– Computers with DVI outputs
– An open USB port

Optional Audio
– Analog audio connections for speakers and mic.

GCS1642 Overview

Front View

1. Port 1 Pushbutton
2. Mode Button
3. Port 2 Pushbutton
4. Front Panel Console Mic. Connection
5. Front Panel Console Audio connection
6. Front Panel USB 2.0 Peripheral Sharing Port
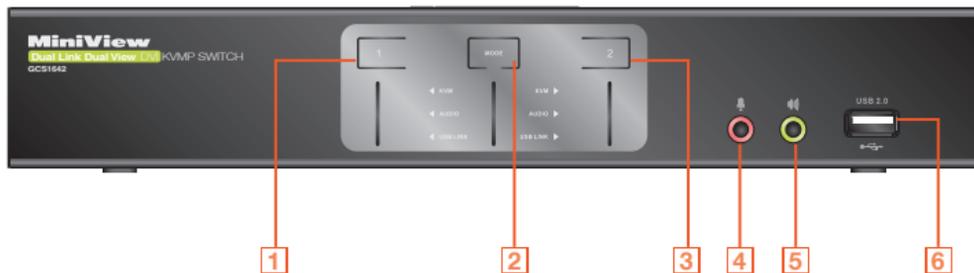
Rear View

1. DDC Port (Daisy Chain Port)
2. DC Power Jack
3. Console USB Mouse Port
4. Console USB Keyboard Port
5. Console DVI Video Port B
6. Console DVI Video Port A
7. DDC Switch (Host/Client)

8. USB 2.0 Peripheral Sharing Port
9. Console Mic. Connection
10. Console Audio Connection
11. CPU2 DVI Video Port 2B
12. CPU2 DVI Video Port 2A
13. CPU2 USB Connection

14. CPU2 Mic. Connection
15. CPU2 Audio Connection
16. CPU1 DVI Video Port 1B
17. CPU1 DVI Video Port 1A
18. CPU1 USB Connection
19. CPU1 Mic. Connection
20. CPU1 Audio Connection

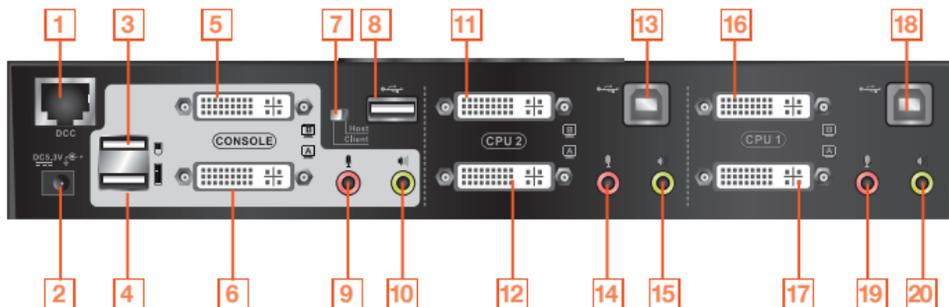## GCS1644 Overview

Front View

1. Port 1 Pushbutton
2. Port 2 Pushbutton
3. Mode Button
4. Port 3 Pushbutton

5. Port 4 Pushbutton
6. Front Panel Console Mic. Connection
7. Front Panel Console Audio connection
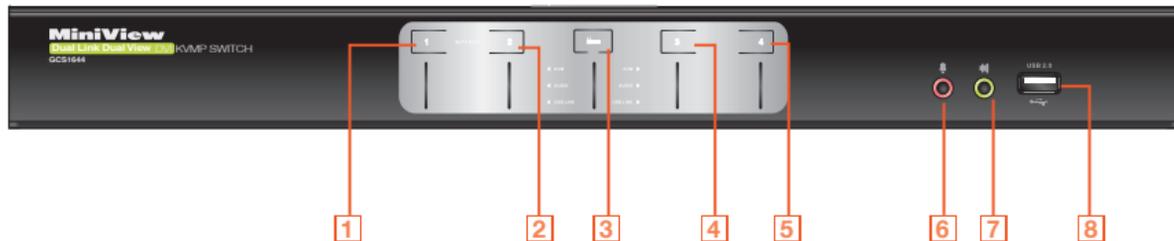8. Front Panel USB 2.0 Peripheral Sharing Port

Rear View

1. DDC Port (Daisy Chain Port)
2. DC Power Jack
3. Console USB Mouse Port
4. Console USB Keyboard Port
5. Console DVI Video Port B
6. Console DVI Video Port A
7. DDC Switch (Host/Client)
8. USB 2.0 Peripheral Sharing Port
9. Console Mic. Connection
10. Console Audio Connection

11. CPU4 DVI Video Port 4B
12. CPU4 DVI Video Port 4A
13. CPU4 USB Connection
14. CPU4 Mic. Connection
15. CPU4 Audio Connection
16. CPU3 DVI Video Port 3B
17. CPU3 DVI Video Port 3A
18. CPU3 USB Connection
19. CPU3 Mic. Connection
20. CPU3 Audio Connection

21. CPU2 DVI Video Port 2B
22. CPU2 DVI Video Port 2A
23. CPU2 USB Connection
24. CPU2 Mic. Connection
25. CPU2 Audio Connection
26. CPU1 DVI Video Port 1B
27. CPU1 DVI Video Port 1A
28. CPU1 USB Connection
29. CPU1 Mic. Connection
30. CPU1 Audio Connection
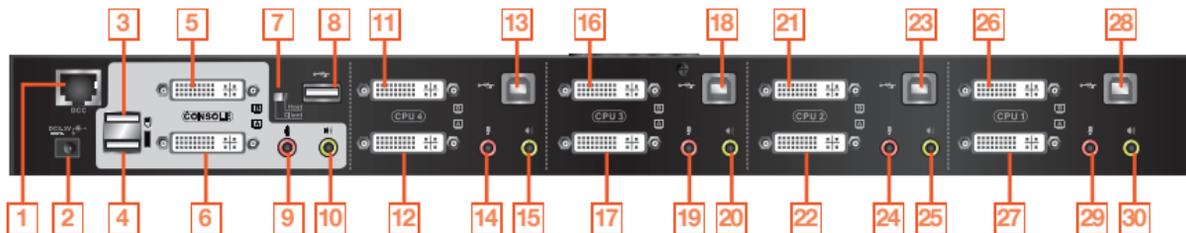
Single Stage Installation

Step 1

Please make sure your source devices and display are powered off before you start.

Step 2

Plug the power adapter into the power outlet and connect it to the DC power jack from the KVM.

Step 3

Connect the DVI cables from your monitors to the console DVI port A and B. Port A will be your main monitor and Port B will be your extended desktop monitor.

Step 4

Connect your USB keyboard and mouse to the console USB keyboard port and console USB mouse port.

Step 5

Connect a set of your Dual Link DVI KVM cable from the KVM switch to each of your computers – DVI connection from DVI Port A to the DVI output and USB connection to open USB port from your computer. Connect the audio and mic. connectors to your audio output and mic. input.
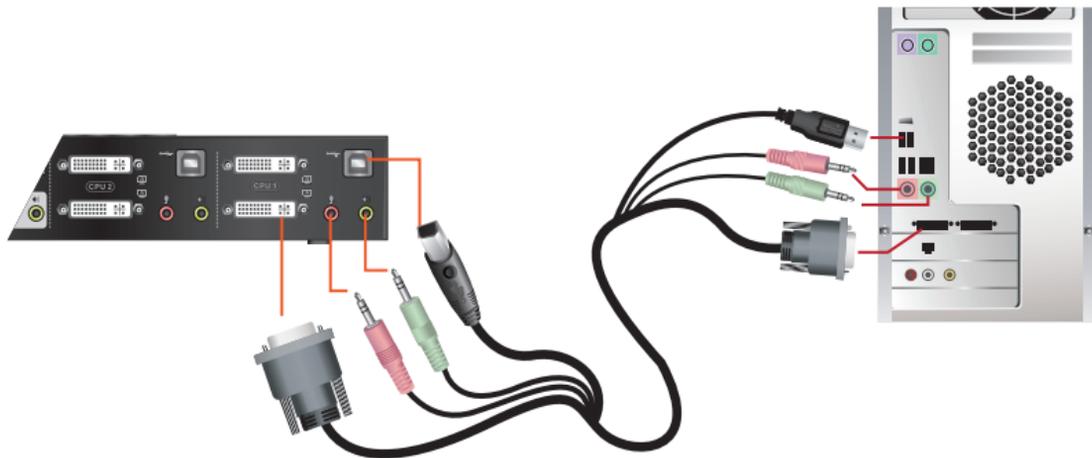
Step 6

Connect Dual Link DVI cables from DVI Port B of the KVM to your second DVI output of your computers.
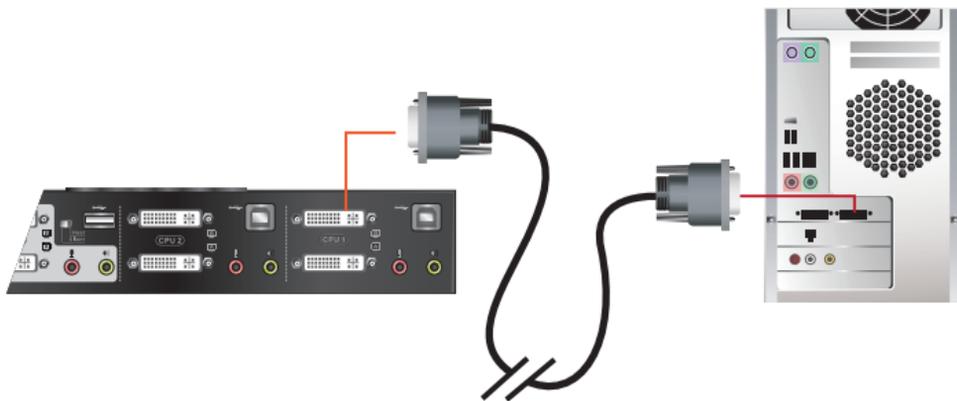
Final Step

Turn on your source devices.

Quad View (DDC Mode)

To expand your installation from Dual View displays to Quad view displays, you can use the DDC Mode port to connect two GCS1642 / GCS1644 units together. After doing so, you will be able to configure the quad displays video settings on the computer in extended mode or Mirrored mode.

To set up DDC mode, power off all devices, refer to the installation diagram on the next page.

1. Connect all the computers to the Host as described in Hardware Setup, Cable Connection on page 18.
2. On the Client, using two custom DVI Dual Link cables, plug the DVI connectors into the DVI sockets A and B in the same KVM port section of the switch.
3. At the other end of the two custom DVI Dual Link cables, plug the monitor cable into the respective ports on the computer.
4. Repeat steps 2 and 3 for all computers.
5. On the rear of the second GCS1644, set the DCC switch to Client.*
6. On the rear of the primary GCS1644, set the DCC switch to Host.
7. Plug the console monitors into the DVI console ports located on the Host's and Client's rear panel.
8. Using an RJ-45 cable, connect the DCC port of the Host to the DCC port of the Client.
9. Power up the installation: plug in the power cord for the Host and Client, then power on both. After both units are up, power on the computer/video source devices.

Note:
1. In DCC mode the Client's front panel pushbuttons are disabled and it takes all commands directly from the Host.
2. Setting the DCC switch to Client will disable all front panel pushbuttons on that switch.
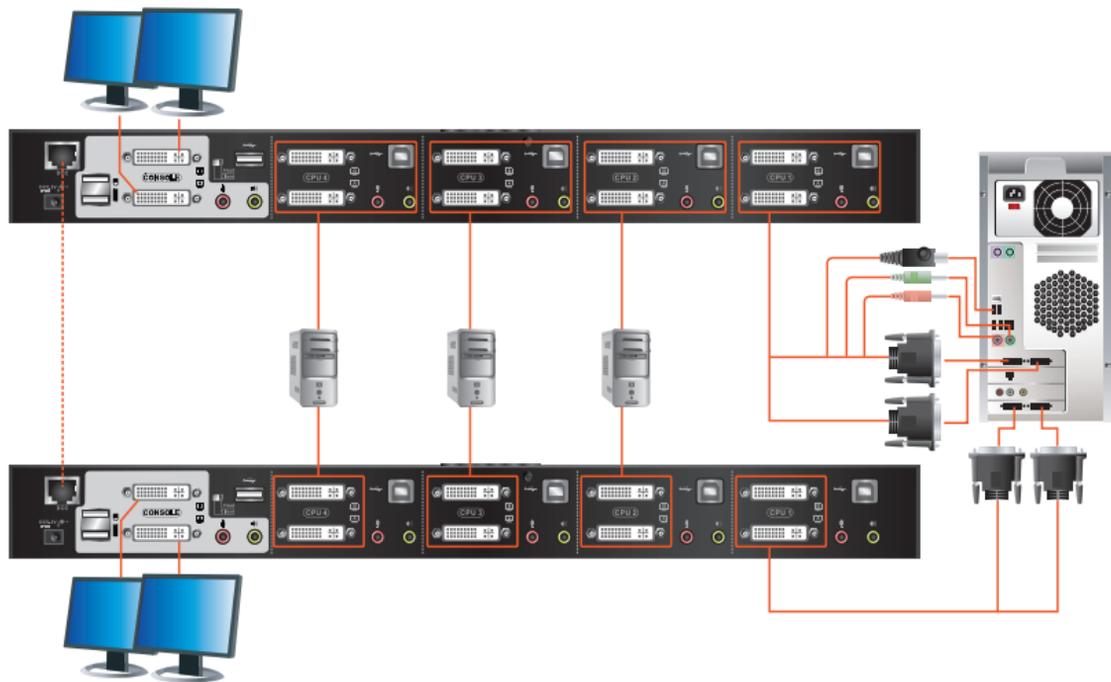
LED Indication

LED		Description
Mode	Orange	Shows the pushbutton mode that the KVM is in
Online / Selected	Dim Green	A device is connected to the KVMP switch but the port is not on focus
	Bright Green	The specific port has focus on the KVM (Keyboard, video and mouse)
Audio	Green	The specific port has focus on the audio
USB Link	Green	The specific port has focus on the USB peripheral sharing ports

Port Switching

Simply press the front panel Pushbutton from the multimedia KVMP switch or trigger hotkeys from your keyboard.

Port Switching via Front Panel Pushbutton

Function	Description
Switch all focus (KVM, audio and USB) to a specific port	Press the correspond push button once for the desire port that you wish to switch focus to.
Switch KVM focus to a specific port	Press the Mode button once (Orange LED will show you are in KVM Mode), then press the correspond push button for the desire port that you wish to switch focus to.
Switch audio focus to a specific port	Press the Mode button twice (Orange LED will show you are in Audio Mode), then press the correspond push button for the desire port that you wish to switch focus to.
Switch USB focus to a specific port	Press the Mode button three times (Orange LED will show you are in USB Mode), then press the correspond push button for the desire port that you wish to switch focus to.

Port Switching via Hotkeys

Port Switching via Hotkeys

Hotkeys	Description
[Scroll Lock] [Scroll Lock] [Enter]	Switch all focus (KVM, audio and USB) to the next port
[Scroll Lock] [Scroll Lock] [n] [Enter]	Switch all focus (KVM, audio and USB) to port n*
[Scroll Lock] [Scroll Lock] [k] [Enter]	Switch KVM focus to the next port
[Scroll Lock] [Scroll Lock] [n] [k] [Enter]	Switch KVM focus to port n*
[Scroll Lock] [Scroll Lock] [s] [Enter]	Switch audio focus to the next port
[Scroll Lock] [Scroll Lock] [n] [s] [Enter]	Switch audio focus to port n*
[Scroll Lock] [Scroll Lock] [u] [Enter]	Switch USB focus to the next port
[Scroll Lock] [Scroll Lock] [n] [u] [Enter]	Switch USB focus to port n*

Port Switching via Hotkeys

[Scroll Lock] [Scroll Lock] [n] [k] [u] [Enter]	Switch KVM and USB focus to port n*
[Scroll Lock] [Scroll Lock] [n] [k] [s] [Enter]	Switch KVM and audio focus to port n*
[Scroll Lock] [Scroll Lock] [n] [u] [s] [Enter]	Switch USB and audio focus to port n*

*Note: n is an interval that stands for the Port number
k stands for KVM focus
s stands for audio focus
u stands for USB focus

Port Switching via Mouse

Mouse Port Switching allows you to use the mouse wheel button (clicking it twice) to switch between ports. Mouse Emulation must be enabled in order for Mouse Port Switching to work. To enable mouse port switching invoke HSM and press [W] (default setting is off)

Auto Scanning

You can either activate Autoscan Mode via front panel push button or hotkeys.

Function		Description	
Auto Scan	Front panel pushbutton	Press and hold port 1 and port 2 Pushbutton simultaneously for 2 seconds to activate Autoscan Mode*	
	Hotkeys	[Scroll Lock] [Scroll Lock] [a] [Enter]	Activate Autoscan mode. It will cycle from port to port every 5 seconds (default)
		[Scroll Lock] [Scroll Lock] [a] [n] [Enter]	Activate Autoscan mode. It will cycle from port to port every n seconds**

*Note: Autoscan Mode from front panel push button will be scanning a port every 5 seconds by default. If you wish to have the Autoscan Mode be scanning with different time interval, please refer to trigger Autoscan Mode from hotkeys.
**Note: n is an interval between 1 and 99 that stands for the time (in second) desire for scanning each port.

Hotkey Setting Mode (HSM)

Hotkey	Description
1. Press and hold [Num Lock] ([Clear] key on Mac keyboard) 2. Press and release [-] 3. Release [Num Lock] ([Clear] key on Mac keyboard)	Invoking hotkey setting mode
Invoke HSM, then press [h]	Change the HSM invocation keys from [Num Lock] to [Ctrl] and from [-] to [F12]
Invoke HSM, then press [t]	Switch port switching hotkey sequence between [Scroll Lock] [Scroll Lock] and [Ctrl] [Ctrl]
Invoke HSM, then press [F2]	Enables Mac keyboard emulation
Invoke HSM, then press [F3]	Enables Sun keyboard emulation
Invoke HSM, then press [F10]	Auto-detect the keyboard operating platform (for PC compatible systems). Activates Pass Through Keyboard Mode (keystrokes are sent directly to the computer instead of through the Mac emulator).
Invoke HSM, then press [F4]	Open a text editor such as notepad and the information will be displayed after use the hotkey shown to the left.

Invoke HSM, then press [F5]	USB Reset
Invoke HSM, then press [b]	Toggle hotkey beepers on or off
Invoke HSM, then press [x] [Enter]	Disable or enable port switching hotkey
Invoke HSM, then press [u] [p] [g] [r] [a] [d] [e] [Enter]	Activate Firmware Upgrade Mode – Front panel KVM LED will flash indicating Firmware Upgrade Mode is activated.
Invoke HSM, then press [r] [Enter]	Restore default KVM settings
Invoke HSM, then press [d]	Capture and store video information on specific port
Invoke HSM, then press [m]	Enable or disable mouse emulation
Invoke HSM, then press [F1]	Reset keyboard and mouse under some special OS' that do not support USB 2.0
Invoke HSM, then press [n]	Toggles keyboard emulation on/off (default is on)
Invoke HSM, then press [w]	Toggles mouse port switching on/off. To use this function, mouse emulation must be enabled
Invoke HSM, then press [c]	Changes front panel push buttons to a hotkey of your choice (GCS1644 only)

*Note: To exit HSM manually, press Esc or spacebar

Mac Keyboard Emulation

The PC compatible (101/104 key) keyboard can emulate the functions of the Mac keyboard. The emulation mappings are listed in the table below.

PC Keyboard	Mac Keyboard		PC Keyboard	Mac Keyboard
[Shift]	Shift		[Print Screen]	F13
[Crtl]	Ctrl		[Scroll Lock]	F14
⊞	⌘		▤	=
[Ctrl] [1]	🔇		[Enter]	Return
[Ctrl] [2]	🔊		[Backspace]	Delete
[Ctrl] [3]	🔉		[Insert]	Help
[Ctrl] [4]	⏏		[Ctrl] ⊞	F15
[Alt]	Alt			

*Note: When using key combinations, press and release the first key (Ctrl), then press and release the second key.

Sun Keyboard Emulation

The PC compatible (101/104 key) keyboard can emulate the functions of the Sun keyboard. The emulation mappings are listed in the table below

PC Keyboard	Sun Keyboard		PC Keyboard	Sun Keyboard
[Crtl] [t]	Stop		[Crtl] [F10]	Cut
[Crtl] [F2]	Again		[Crtl] [1]	▭ ◀
[Crtl] [F3]	Props		[Crtl] [2]	◐ - ◀
[Crtl] [F4]	Undo		[Crtl] [3]	◐+ ◀))
[Crtl] [F5]	Front		[Crtl] [4]	☾
[Crtl] [F6]	Copy		[Crtl] [h]	Help
[Crtl] [F7]	Open		📋	Compose
[Crtl] [F8]	Paste		🪟	◆
[Ctrl] [F9]	Find			

*Note: When using key combinations, press and release the first key (Ctrl), then press and release the second key.

Factory Default Hotkeys Settings

Function	Default
Port Switching	[Scroll Lock] [Scroll Lock]
Invoking HSM	[Num Lock] [-]
Auto Scan Interval	5 Seconds
Beeper	On
Keyboard Operating Platform	PC Compatible
Port Switching Keys	Enabled
Mouse Emulation	On

The Firmware Upgrade Utility

The Windows-based Firmware Upgrade Utility (FWUpgrade.exe) provides a smooth, automated process for upgrading the GCS1642 / GCS1644's firmware. The Utility comes as part of a Firmware Upgrade Package that is specific for each device. New firmware upgrade packages are posted on our website as new firmware revisions become available. Check the website regularly to find the latest packages and information relating to them: www.iogear.com

Before you Begin

To prepare for the firmware upgrade, do the following:

1. Go to our Internet support site and choose the model name that relates to your device (GCS1642 / GCS1644) to get a list of available Firmware Upgrade Packages.

2. Choose the Firmware Upgrade Package you want to install (usually the most recent), and download it to the computer connected to port 1 on the GCS1642 / GCS1644.

3. If you have a DCC mode installation, remove the cable connected to the DCC port, which connects the two GCS1642 / GCS1644 units, and set both DCC switches to Host.

4. Shut down all other computers connected to the GCS1642 / GCS1644 installation, except the computer connected to port 1.

5. Invoke Firmware Upgrade Mode (see Firmware Upgrade Mode, page 23). The front panel LEDs flash together to indicate Firmware Upgrade Mode is in effect.
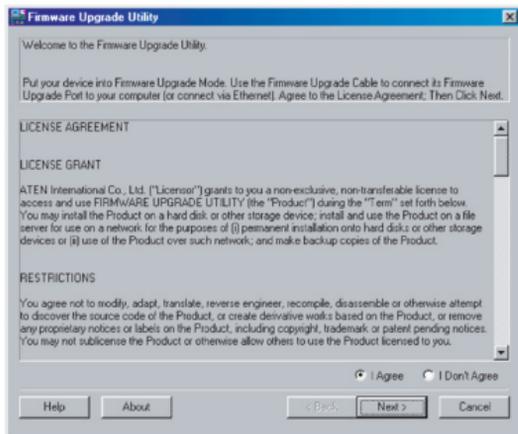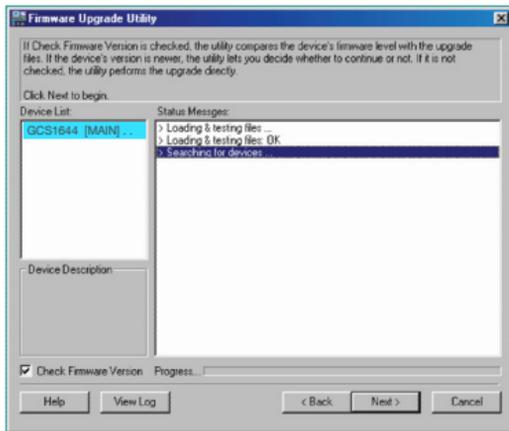
Starting the Upgrade

To upgrade your firmware:

1. Run the downloaded Firmware Upgrade Package file – either by double clicking the file icon, or by opening a command line and entering the full path to it.

   The Firmware Upgrade Utility Welcome screen appears:

2. Read the License Agreement (enable the I Agree radio button).

3. Click **Next** to continue. The Firmware Upgrade Utility main screen appears:
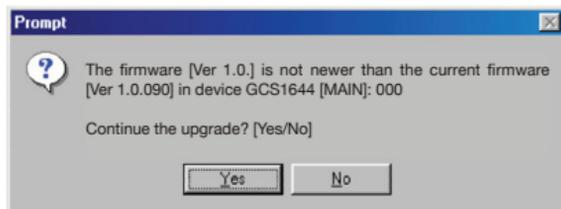
4. As you select a device in the list, its description appears in the Device Description panel.

The Utility inspects your installation. All the devices capable of being upgraded by the package are listed in the Device List panel.
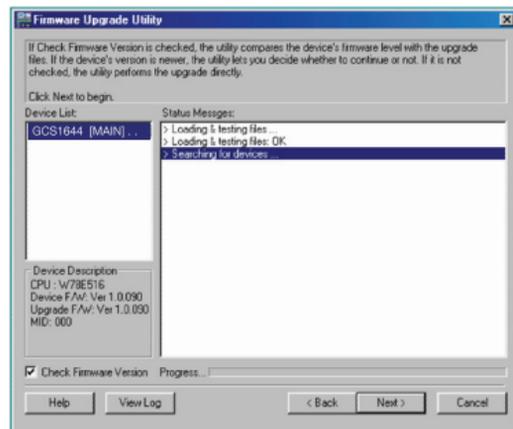
5. After you have made your device selection(s), Click Next to perform the upgrade.
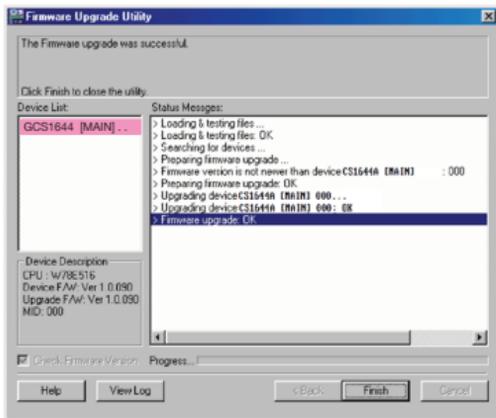

If you enabled Check Firmware Version, the Utility compares the device's firmware level with that of the upgrade files. If it finds that the device's version is higher than the upgrade version, it brings up a dialog box informing you of the situation and gives you the option to Continue or Cancel.

If you didn't enable Check Firmware Version, the Utility installs the upgrade files without checking whether they are a higher level, or not.

As the Upgrade proceeds, status messages appear in the Status Messages panel, and the progress toward completion is shown on the Progress bar.

Upgrade Succeeded

After the upgrade has completed, a screen appears to inform you that the procedure was successful: After the upgrade has completed, a screen appears to inform you that the procedure was successful:

After a successful completion, the switches exit Firmware Upgrade Mode, and reset themselves.

If you have a DCC mode installation be sure to reconnect the cable connected to the DCC port, and set the DCC switch back to Client on the appropriate switch (See Quad-View (DCC Mode), page 15).

Click **Finish** to close the Firmware Upgrade Utility.

Upgrade Fail

If the Upgrade Succeeded screen doesn't appear, it means that the upgrade failed to complete successfully, in which case you should do the following:

1. Power off the GCS1642 / GCS1644 by removing the power jack.
2. Invoke Firmware Upgrade Mode by holding down the Mode button on the front panel (see Mode button, page 6 & 8) and power on the GCS1642 / GCS1644. The orange LEDs flash together.
3. Do the firmware upgrade procedure again.

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential setting. This product generates, uses, and can radiate radio frequency energy and, if not installed and used as directed, it may cause harmful interference to radio communications. Although this product complies with the limits for a Class B digital device, there is no guarantee that interference will not occur in a particular installation.

CE Statement

This device has been tested and found to comply with the following European Union directives: Electro-magnetic Capability (2004/108/EC), Low Voltage (2006/95/EC) and R&TTED (1999/5/EC).

Limited Warranty

Warranty Information
This product carries a 3 Year Limited Warranty. For the terms and conditions of this warranty, please go to http://www.iogear.com/support/warranty

Register online at http://www.iogear.com/register

Important Product Information
Product Model _____
Serial Number _____

Contact

WE'RE HERE TO HELP YOU!
NEED ASSISTANCE SETTING UP THIS PRODUCT?

Make sure you:
1. Visit www.iogear.com for more product information
2. Visit www.iogear.com/support for live help and product support

IOGEAR
www.iogear.com
iogear.custhelp.com
support@iogear.com