IOGEAR®

User Manual

4-Port 4K Triple View DisplayPort KVMP™
Switch with USB 3.0 Hub and Audio

GCS1964
PART NO. M1607

Safety Instructions

- Read all of these instructions. Save them for future reference

- This device is for indoor use only

- Follow all warnings and instructions marked on the device

- Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result

- Do not use the device near water

- Do not place the device near, or over, radiators or heat registers

- The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered

- The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided

- Never spill liquid of any kind on the device

- Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning

- The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company

- The device is designed for IT power distribution systems with 230V phase-to-phase voltage

- To prevent damage to your installation, it is important that all devices are properly grounded

- The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes

- Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over

- If an extension cord is used with this device, make sure that the total Ampere ratings of all products used on this cord does not exceed the extension cord Ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 Amperes.

- To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or un-interruptible power supply (UPS)

- Position system cables and power cables carefully; Be sure that nothing rests on any cable

- Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock

- Do not attempt to service the device yourself. Refer all servicing to qualified service personnel

- If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair
  o The power cord or plug has become damaged or frayed
  o Liquid has been spilled into the device
  o The device has been exposed to rain or water
  o The device has been dropped, or the cabinet has been damaged
  o The device exhibits a distinct change in performance, indicating a need for service
  o The device does not operate normally when the operating instructions are followed
- Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair
- Do not connect the RJ-11 connector marked "UPGRADE" to a public telecommunication network

Conventions

This manual uses the following conventions

Monospaced	Indicates text that you should key in
[ ]	Indicates keys you should press. For example, [Enter] means to press the Enter key.
1.	Numbered lists represent procedures with sequential steps
■	Bullet lists provide information, but do not involve sequential steps
→	Indicates selecting the option (on a menu or dialog box, for example), that comes next. For example, Start → Run means to open the *Start* menu, then select *Run*
⚠	Indicates critical information

Introduction

IOGEAR's GCS1964 4-Port 4K Triple View DisplayPort KVMP Switch with USB 3.0 Hub and Audio takes a giant leap forward in KVM switch functionality by combining KVM switch with a Triple View KVM switch with DisplayPort video interface, 2-Port USB 3.0 hub and 2.1 channel audio for rich bass in surround sound. DisplayPort technology provides up to Cinema 4K - 4096 x 2160 @60Hz and 4K UHD - 3840 x 2160 @60Hz resolution that displays the most vivid high definition images available while delivering premium sound for music, movies, and gaming.

GCS1964 allows users to access four DisplayPort computers from a single USB keyboard, USB mouse, HDMI monitors. In addition to the front panel pushbutton and hotkeys, IOGEAR's GCS1964 offers the latest mouse port-switching functionality to change ports. Power ON detection feature also ensures that if one computer is powered OFF, the GCS1964 will automatically switch port to the next powered ON computer. Video DynaSyncTM optimizes display resolution and enables fast switching between computer sources, eliminating video delays.

With built-in USB 3.0 hub, each connected computer has SuperSpeed 5Gbps transfer rate to all connected peripherals. GCS1964's independent (asynchronous) switching feature allows the KVM to focus on one computer while the USB peripheral focus on another. This eliminates the need to purchase separate USB hub or stand-alone peripheral sharing device – such as printer server, modem splitter, etc.

Featuring a revolutionary combination of 4K resolutions, the next generation USB 3.0 Hub, and enhanced user-friendly operation, IOGEAR's GCS1964 provides the latest innovations in desktop KVM technology.

Package Contents

GCS1964

• 1 x 2-Port 4K Triple View DisplayPort KVMP Switch
• 6 x DisplayPort Cables
• 2 x USB 3.0 Cables
• 2 x Audio Cable Set
• 1 x Power Adapter
• 1 x Quick Start Guide

Please verify that all components are present and nothing was damaged in shipping. If you encounter a problem, contact your dealer.

Read this manual thoroughly and follow the installation and operation procedure to prevent any damage to the unit, and/or any of the devices connected to it

Features

- 4-Port 4K Triple View DisplayPort KVMP Switch with USB 3.0 hub and 2.1 surround sound audio
- One USB console controls four computers and two USB 3.0 peripherals
- Video DynaSync[TM1] support optimizes switching between computers, eliminating delays
- Computer selection via front panel pushbuttons, hotkeys, mouse[2], or RS-232 command[3]
- Independent switching of KVM, USB, and Audio focus
- Superior 4K video quality – 4K UHD (3840 x 2160 @60Hz) and Cinema 4K (4096x2160 @60Hz)
- 2-Port USB 3.0 Hub with SuperSpeed 5Gbps transfer rate
- DisplayPort 1.2 compliant and HDCP compliant
- Supports N-key Rollover[4] (NKRO) - permits collision-free keying
- Supports 7.1 HD audio through DisplayPort[5]
- Full bass response for high quality 2.1 channel surround sound systems
- Power On Detection – if a computer is powered OFF, GCS1964 automatically switches to the next powered ON computer
- Hot pluggable – add or remove computers without turning GCS1964 power OFF
- Mouse emulation or bypass feature supports most mouse drivers and multifunction mice
- Multi-platform support
- Multilingual keyboard mapping supports English, French, German, and Japanese keyboards
- Mac® keyboard support and emulation[6]
- Auto Scan Mode feature to monitor all computers
- Firmware upgradeable

Note:

1. DynaSync[TM] support optimizes switching between sources and eliminates boot-up issue
2. Mouse port switching supported by mouse emulation mode using a USB 3-button mouse wheel
3. Slide the DCC switch to the **s** (Client) position to allow the GCS1964 to receive RS-232 commands via a DB9 to RJ-45 cable. Please refer to the GCS1964 RS-232 Commands Manual. DB9 to RJ-45 cable is not included.
4. N-key Rollover supports up to 15 simultaneous keystrokes
5. HD audio through DisplayPort cannot be switched independently
6. PC keyboard combinations emulate Mac® keyboards.

Requirements

Console

- 3 x HDMI monitors
- Standard 2 or 3-button wired USB mouse
- Standard 104-key wired USB keyboard
- Microphones and speakers (optional)

Computers

- 3 x DisplayPort ports
- Type-A USB port
- Audio ports (optional)

Cables

We recommend using the included IOGEAR DisplayPort KVM cable sets, designed specifically to work with the GCS1964. Extra cable sets G2L9302U may be purchased separately.

Note:

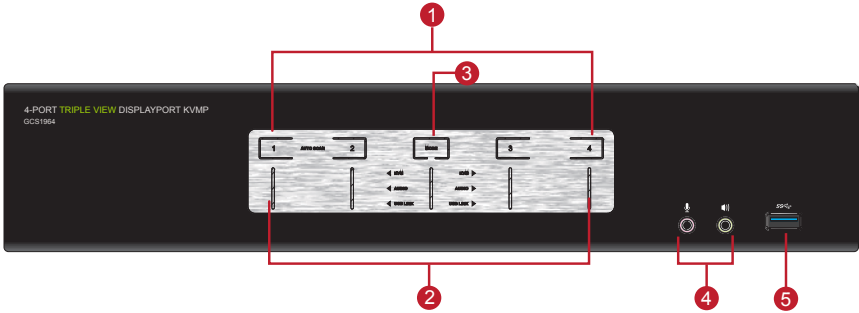The quality of the display is affected by the quality and length of the cables.

If DisplayPort 1.1 cables are being used instead, please make sure that the DisplayPort EQ setting on the monitor is set to auto or DP 1.1
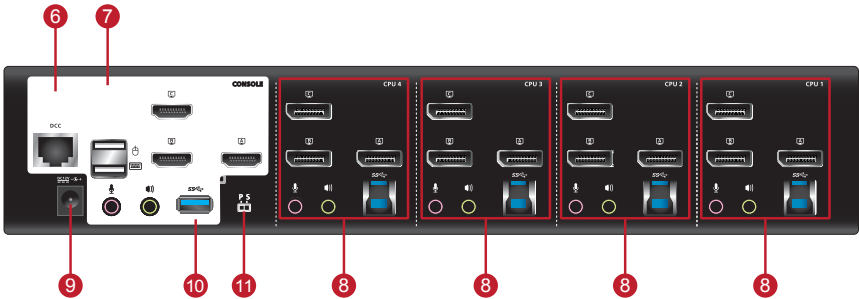
Operating Systems

OS	Version
Windows	7 / 8 / 10 and higher
Linux	RedHat 9.0, Fedora and higher, RHEL AS 4, RHEL 5
	SUSE 10 / 11.1 and higher; Open SUSE 10.2; SLES 10 SP1
	Debian 3.1 / 4.0
	Ubuntu 7.04 / 7.10 and higher
Mac	OS 10.1 / 10.2 / 10.3 / 10.4 / 10.5 / 10.7 / 10.8 and higher

Overview

GCS1964 Front View

GCS1964 Back View

No.	Component	Description
1	Port Selection Pushbuttons	For manual port selection (see **Manual Switching**) • Press a port selection pushbutton for longer than two seconds to bring the KVM, USB hub, and audio focus to the computer connected to its corresponding port • Press a port selection pushbutton twice to bring the audio focus to the computer connected to its corresponding port • Press a port selection pushbutton for less than two second to bring only the KVM focus to the computer connected to its corresponding port • Press pushbutton 1 and 2 simultaneously for two seconds
2	Port LEDs	The Port LEDs are built into the Port Selection Pushbuttons. The upper LEDs are KVM Port LEDs, the lower LEDs are the USB LEDs: **KVM** • Online LED lights DIM GREEN to indicate that the computer attached to the corresponding port is connected • Selected LED lights BRIGHT GREEN to indicate that the computer attached to the corresponding port is the one that has the KVM FOCUS (Selected) • LED flashes to indicate that the computer attached to its corresponding port is being accessed under Auto Scan Mode **USB** • Selected LED lights GREEN to indicate that the computer plugged to its corresponding port has the access to the USB Peripherals
3	Mode Selection Pushbutton	• This pushbutton allows you to cycle through the four focus modes – complete, KVM, audio and USB • Press and hold Mode Selection Pushbutton before powering on to enter **Firmware Upgrade Mode**
4	Console Audio Ports	The cables from the main microphone and speakers are to be connected into these audio ports Microphone and speakers connected into these audio ports have priority over those connected in the rear side panel of the GCS1964
5	USB 3.0 Hub	USB peripherals (printers, scanners, etc.) can be connected into this port. The built-in USB 3.0 ports feature 5 Gbps data transfer rates for compatible USB peripherals.
6	DCC Port (Daisy Chain Control)	This RJ-45 port is used to • Connect two units together when setting up DCC mode for Six-Display mode. See **Six-Display (DCC Mode)** for instructions • Connect an RJ-45 to DB9 cable for RS-232 accesss (cable not included)
7	Console Ports	The cables from the HDMI monitors, USB keyboard, USB mouse, speakers, and microphone are connected into these ports. Each connector is marked with an appropriate icon to indicate its use
8	KVM Ports	The KVM cables from the computers are connected into these ports. Each KVM port section is comprised of a microphone jack, speaker jack, USB type B socket and three DisplayPort connectors
9	Power Jack	The power adapter cable is connected into this jack.
10	USB 3.0 Hub	USB peripherals (printers, scanners, etc.) can be connected into this port. The built-in USB 3.0 ports feature 5 Gbps data transfer rates for compatible USB peripherals.
11	DCC Switch	This switch is used to • Specify the Host **(p)** and *Client* **(s)** when setting up two units in Six-Display DCC mode. See **Six-Display (DCC Mode)** for instructions • Receive RS-232 commands by sliding switch to **s** position.

Port LED Behavior

The LED of currently focused connectors (KVM, Audio, USB Link) will be fully-lit

The LED(s) of KVM connectors not currently focused but connected will be half-lit

The LED(s) of Audio and USB link connectors not currently focused will be dimmed

Mode Selection Pushbutton and Mode LED Behavior

Pressing the Mode Selection Pushbutton different number of times will light up different Mode LED, which allows for the follow-up action shown in the table. For more information on the follow-up actions, please refer to **Manual Switching**

Button Press	Mode LED that lights up	Follow-up Action
Once	KVM, Audio, USB	Press any of the Port pushbutton to select focus for **all connectors**
Twice	KVM	Press any of the Port pushbutton to select focus for the **KVM connector**
Three times	Audio	Press any of the Port pushbutton to select focus for **Audio connectors**
Four Times	USB	Press any of the Port pushbutton to select focus for **USB link**

Note: When Mode KVM LED blinks, that means the KVM was set to "**s**" (Client)

Hardware Setup

Hardware Installation

Please read **Safety Instructions** before proceeding with installation

Please make sure that all devices including the GCS1964, HDMI monitors, and computers are powered **OFF**

1. Please make sure that GCS1964 DCC Switch is on **p** *(Host)*.
2. Connect the USB keyboard and the USB mouse to the GCS1964 Console ports located on the rear side panel
3. Connect the HDMI monitors to the GCS1964 Console ports located on the rear side panel. For multiple monitor setups, see **Six-Display (DCC)** section
4. Turn monitor(s) power to ON
5. Connect the main analog microphone and speakers into the GCS1964 microphone and speaker jacks located on the front side panel *(optional)*. The microphone and speakers connected into this front port have priority over those connected on the rear port.
6. Connect the secondary analog microphone and speakers into the GCS1964 Console microphone and speaker jacks located on the rear panel *(optional)*
7. Using the included DisplayPort 1.2 cables, connect the connector into any available DisplayPort "A" port in the KVM Port section of the GCS1964. Then, connect the included USB 3.0 cable, microphone and/or speaker cables into their corresponding sockets.
8. At the other end of the cable sets from step 7, connect the DisplayPort 1.2 cable, USB 3.0 cable, and microphone/speaker cables into their respective ports on the computer
9. Using three separate DisplayPort 1.2 cables, connect the DisplayPort connectors into the DisplayPort "B" and "C" ports in the same KVM port section of the switch.
10. At the other end of the DisplayPort 1.2 cables from step 9, connect the monitor cables into their respective ports on the computer.
11. Repeat steps 7 – 10 for each triple display PC system being installed
12. Connect the USB peripherals into the front or the rest of the USB peripheral ports *(optional)*
13. Connect the provided power adapter to an AC power source. Then, connect the power adapter cable into the GCS1964 power jack.
14. Turn all connected computers power to **ON**

Note: Verify that all the connectors are on the same KVM Port sockets (all in Port 1, all in Port 2, etc.) and that each socket is marked with an appropriate icon to indicate itself

By default, the GCS1964 switches to the first computer that is powered ON

We recommend that the total video cable length from the computer to the console monitor not to exceed 3 meters (10 feet).

Please make sure that only high quality video cables used in order to achieve Cinema 4K (4096 x 2160 @60Hz) or 4K UHD (3840 x 2160 @60Hz).

GCS1964
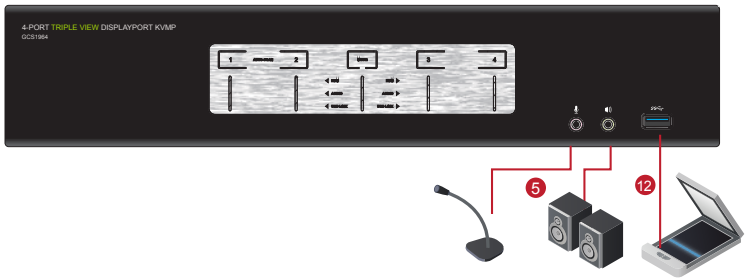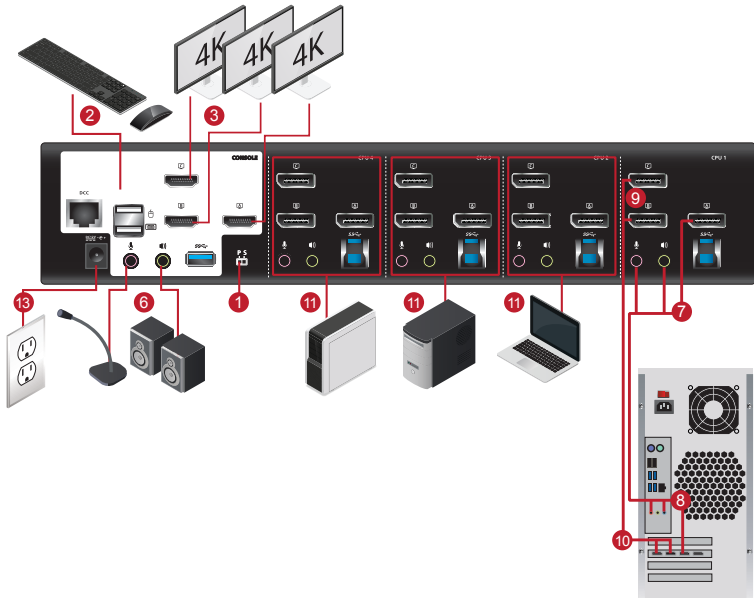
Six-Display (DCC Mode)

To expand your installation from a Two-Display to a Six-Display, please use DCC Mode to connect the two GCS1964 units together and use four 4K displays in unison

To set up DCC mode, power **OFF** all devices and refer to the installation diagram on the next page (the numbers in the diagram correspond to the steps below), and follow below steps:

1. Please make sure your computer has 6 x DisplayPort ports to achieve Six-Display setup.

2. Please also make sure you have two GCS1964 ready for Six-Display installation. For each installation, one KVMP switch will act as *Host* while the other as Client

3. On the rear side by console section of the *Client* GCS1964, set the DCC switch to "**s**"

4. On the rear side by console section of the *Host* GCS1964, set the DCC switch to "**p**"

5. Connect all computers to the Host GCS1964 as described in **Hardware Setup**.

6. On the Client GCS1964, using three DisplayPort cables, connect the DisplayPort connectors into the DisplayPort ports "A", "B" and "C" in the same KVM port section of the switch.

7. At the other end of the three DisplayPort cables, connect the monitor cables into their respective ports on the computer for each triple screen PC system installed

8. Repeat steps 6 and 7 for all computers

9. Connect the console monitors into the DisplayPort console ports located on the Host's and the *Client's* rear panel.

10. Use an RJ-45 cable to connect the DCC port of the Host to the DCC port of the *Client*

11. Connect the power cord for the *Host* and *Client* to wall sockets then turn both installations on. After both units are up, turn on the computer or video source devices.

Note:

1. *P* stands for Primary, *S* stands for Secondary

2. In DCC Mode, the *Client's* front panel pushbuttons are disabled, and it will take com mands directly from the *Host*

3. Setting the DCC switch to *Client* will disable all front panel pushbuttons on that switch.

GCS1964
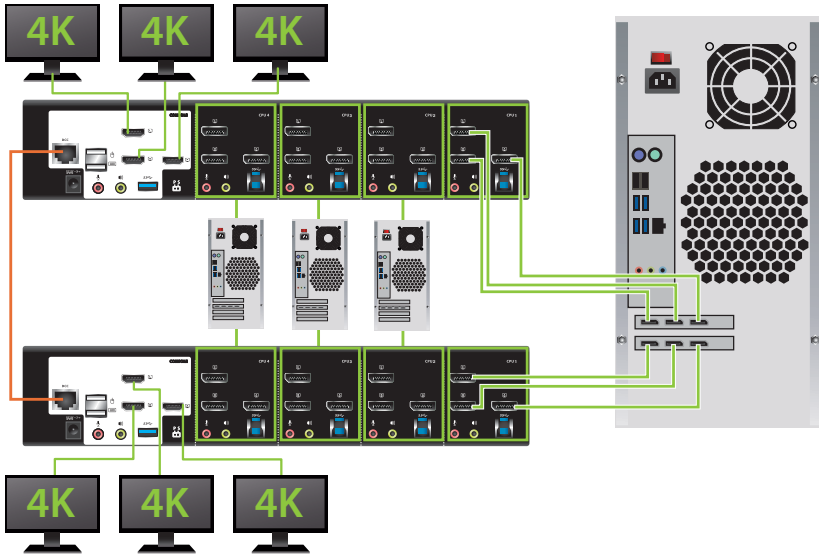
Basic Operation

There are three convenient methods to access the computer:

- a. Manual – involves pressing the port selection pushbuttons located on the GCS1964's front panel
- b. Hotkey – involves entering combinations from the keyboard (see **Hotkey Operation** section for details)
- c. Mouse – involves pressing the mouse wheel button (clicking it twice) to switch between ports (see **Mouse Emulation** and **Mouse Port Switching** section for more details)

Manual Switching

For Manual Port Selection:

- ■ To bring complete focus of **Audio, KVM/Video and USB**
    - ○ Press the **Mode** pushbutton once (the **Mode** pushbutton's three icons light up) then press the port selection pushbutton that corresponds to the computer attached to the corresponding port. All three port icons lights up.
- ■ To bring only the **KVM/Video** focus to a computer
    - ○ Press the **Mode** pushbutton twice (the **Mode** pushbutton's KVM icon lights up) then press the port selection pushbutton that corresponds to that computer. The port's KVM icon (the port number) lights up.
- ■ To bring only the **Audio** focus to a computer
    - ○ Press the **Mode** pushbutton three times (the **Mode** pushbutton's audio icon lights up) then press the port selection pushbutton that corresponds to that computer. The port's audio icon lights up.
- ■ To bring only the **USB** focus to a computer
    - ○ Press the **Mode** pushbutton four times (the **Mode** pushbutton's USB icon lights up) then press the port selection pushbutton that corresponds to that computer. The port's USB icon lights up.
- ■ To start **Auto Scan Mode**, press and hold port selection pushbutton 1 and 2 simultaneously for two seconds. To stop Auto Scan Mode, press and release either port selection. The KVM focus goes to the computer attached to the corresponding port of the pushbutton you pressed.

<u>Note:</u>

If a port is not selected within 5 seconds of pushing the **Mode** pushbutton, the **Mode** pushbutton will power off

Hot Plugging

The GCS1964 support USB hot plugging – components can be removed and added back into the installation by unplugging their cables from the USB hub ports, without the need to shut the unit down.

Powering OFF and Restarting

If it becomes necessary to Power OFF the GCS1964, before switching it back ON, you must follow below steps:

1. Shut down or Power OFF all computers that are attached to the GCS1964
2. Unplug the GCS1964 power adapter cable
3. Wait for 10 (ten) seconds, then plug the GCS1964 power adapter cable back into the unit
4. After the GCS1964 turns ON, power ON all the attached computers

Port ID Numbering

Each KVM port section on the GCS1964 is assigned a port number

1, 2, 3, or 4 for the GCS1964

The port numbers are marked on the rear panel of the GCS1964

The Port ID of a computer is derived from the KVM port number it is connected to. For example, a computer connected to KVM port 2 has a Port ID of 2.

The Port ID is used to specify which computer gets the KVM, USB peripherals, and audio focus with the Hotkey port selection method (see **Hotkey Operation** for details)

Alternative Manual Port Selection Settings

When Hotkey Setting Mode has been activated, pressing **[S]** will invoke the alternative front panel pushbutton manual port selection functions as follows:

• Press a port selection pushbutton once to bring only the KVM, audio and USB focus to the computer attached to its corresponding port
• Press a port selection pushbutton twice to bring the audio focus to the computer attached to its corresponding port
• Press and hold a port selection pushbutton for more than 2 seconds to bring only the KVM focus to the computer attached to its corresponding port
• Press and hold port selection pushbuttons 1 and 2 for more than 2 seconds to start Auto Scan Mode (see **Auto Scan Mode** for details)

Hotkey Operation

IOGEAR's GCS1964 provides an extensive, easy-to-use, hotkey function for convenience in controlling and configuring KVM installation from the keyboard. Hotkeys provide asynchronous (independent) switching of the KVM, USB hub, and audio focus. Therefore, users can give one computer the KVM focus, another the USB hub focus, while a third has the audio focus.

Port Switching

All port switching begins by clicking **[Scroll Lock]** twice. The tables below describe the actions that each combination performs

Note: If using the **[Scroll Lock]** key conflicts with other programs running on the computer, the [Ctrl] key can be used, instead. See **Alternate Port Switching Key** for details.

Cycling Through the Ports

Hotkey	Function
[Scroll Lock][Scroll Lock][Enter]	Brings the **KVM**, **USB** hub, and **Audio** focus to the next higher port (1 to 2; 2 to 3; 3 to 4; 4 to 1). **Note:** The KVM, USB hub, and Audio focus all go to this port even if they were on different ports to begin with.
[Scroll Lock][Scroll Lock][K][Enter]	Brings only the **KVM** to the next higher port. The USB and audio focus remain where they are.
[Scroll Lock][Scroll Lock][U][Enter]	Brings only the **USB** to the next higher port* The KVM and audio focus remain where they are.
[Scroll Lock][Scroll Lock][S][Enter]	Brings only the **Audio** to the next higher port. The KVM and USB hub remain where they are.

Going Directly to a Port

Hotkey	Function
[Scroll Lock][Scroll Lock][n][Enter]	Brings the **KVM**, **USB** hub, and **Audio** focus to computer attached to [n] port. [n] stands for the computer's Port ID number. Replace [n] with the appropriate Port ID when entering hotkey combinations. **Note:** The **KVM**, **USB**, and **Audio** focus all go to this port even if they were on different ports to begin with.
[Scroll Lock][Scroll Lock][n][K][Enter]	Brings only the **KVM** to the computer on [n] port. The USB hub and audio focus remain where they are.
[Scroll Lock][Scroll Lock][n][U][Enter]	Brings only the **USB** focus to the computer on [n] port. The KVM and audio focus remain where they are.
[Scroll Lock][Scroll Lock][n][S][Enter]	Brings only the **Audio** to the computer on [n] port. The KVM and USB hub focus remain where they are.
[Scroll Lock][Scroll Lock][n][K][U] [Enter]	Brings the **KVM** and **USB** focus to the computer on [n] port. The audio focus remain where it is.
[Scroll Lock][Scroll Lock][n][K][S] [Enter]	Brings the **KVM** and **Audio** focus to the computer on [n] port. The USB hub focus remain where it is.
[Scroll Lock][Scroll Lock][n][U][S] [Enter]	Brings the **USB** hub and **Audio** focus to the computer on [n] port. The KVM focus remain where it is.

Auto Scan Mode

GCS 1964's Auto Scan feature allows you to monitor computer activities without switching from port to port manually. This feature automatically cycles the KVM focus through the computer ports at regular intervals. See table below for details

When Auto Scan is in effect, only Auto Scan Mode compliant keystrokes and mouse clicks work. Ordinary keyboard and mouse functions are suspended. Click **[Esc]** or **Space Bar** to exit **Auto Scan Mode** to regain normal control of the console.

Although video focus switches from port to port, keyboard, mouse and USB focus do not switch. They remain on the port when **Auto Scan** began.

Hotkey	Function
[Scroll Lock][Scroll Lock][A][Enter]	Invokes Auto Scan The KVM focus cycles from port to port at 5 seconds (default) intervals.
[Scroll Lock][Scroll Lock][A][n][Enter]	The KVM focus cycles from port to port at [n] second intervals.

Note

1. The [n] stands for the number of seconds that the GCS1964 should dwell on a port before moving on to the next port. Replace [n] with a number between 1 and 99 when entering this hotkey combination.

2. While **Auto Scan Mode** is in effect, ordinary keyboard and mouse functions are suspended – only **Auto Scan Mode** compliant keystrokes and mouse clicks can be input. You must exit **Auto Scan Mode** in order to regain normal control of the console

3. Although the video focus switches from port to port, the keyboard, mouse, and USB focus do not switch. They stay at the port they were on when Auto Scanning started

4. To exit Auto Scan Mode, press [Esc] or Spacebar

Advance Configuration

Hotkey Setting Mode

Hotkey Setting Mode is used to set up your GCS1964 switch configuration. All operations begin with invoking Hotkey Setting Mode (HSM).

To invoke HSM (Default)

1. Press and hold down **[Num Lock]** (use **[Clear]** on Mac)
2. Press and release **[-]** minus key
3. Release **[Num Lock]** key (use **[Clear]** on Mac)
4. To exit HSM manually, press **[Esc]** or **Spacebar**

Note: The **[-]** minus key must be released within one half second, otherwise Hotkey invocation is cancelled

When HSM is active, **[Caps Lock]** and **[Scroll Lock]** LEDs will flash in succession to indicate that HSM is in effect. They will stop flashing and revert to normal status when you exit HSM

Only Hotkey compliant keystrokes and mouse clicks (described on **Hotkey Settings Mode Summary** table) function. Ordinary keyboard and mouse functions are suspended while on HSM

At the conclusion of some hotkey operations, you can automatically exit hotkey mode. With some operations, you must exit manually by pressing **[Esc]** or **Spacebar**

Alternative HSM Invocation Keys

In some instances, the default hotkey settings conflict with programs running on your computer and in some instances the default hotkeys either do not exist on your keyboard (Mac keyboards do not have **[Scroll Lock]**), or are inconvenient to use, Hotkey Setting Mode allows you to select alternate configurations for the KVM's hotkeys. An alternate set of HSM invocation keys is provided in case the default set conflicts with programs running on the computers.

On Alternate HSM, the HSM invocation keys become the **[Ctrl]** key (instead of **Num Lock**) and **[F12]** (instead of **[-]** minus key)

To switch to the Alternate HSM invocation set:
1. Invoke Default HSM above
2. Press and release **[H]**

Note: This procedure is a toggle between the two methods. To revert back to the original HSM invocation keys, invoke HSM, then press and release **[H]** key again.

Alternative Port Switching Keys

The port switching activation keys can be changed from clicking **[Scroll Lock]** key twice (**[Scroll Lock][Scroll Lock]**) to clicking **[Ctrl]** key twice (**[Ctrl][Ctrl]**)

To change the port switching activation keys:
1. Invoke HSM
2. Press and release **[T]** key

Note: This procedure is a toggle between the two methods. To revert back to the default **[Scroll Lock][Scroll Lock]** method, invoke HSM, then press and release **[T]** key again

List Switch Settings

To see a listing of the current switch settings:
1. Open a text editor or word processor and place the cursor in the page window
2. Invoke HSM
3. Press and release **[F4]** to display the settings

USB Reset

If the USB loses focus and needs to be reset:
1. Invoke HSM
2. Press and release **[F5]**

Keyboard Language

To change the keyboard language:
1. Invoke HSM
2. Press **[F6] [nn] [Enter]**

Note: **[nn]** is a two-digit number that represents the keyboard language code

    US English: **33**
    French: **08**
    German: **09**

Hotkey Beeper

The Beeper can be hotkey toggled ON and OFF. To toggle the Beeper:
1. Invoke HSM
2. Press and release **[B]**

The Beeper toggles ON or OFF

Port Switching Keys

To disable the Port Switching Keys (**[Scroll Lock][Scroll Lock]**) or (**[Ctrl][Ctrl]**):
1. Invoke HSM
2. Press **[X] [Enter]**

Note: This procedure is a toggle. To enable the Port Switching keys, repeat Step 1 and 2

Firmware Upgrade Mode

To set the GCS1964 to Firmware Upgrade Mode:

1. Invoke HSM

2. Key in **[u][p][g][r][a][d][e]**

3. Press **[Enter]**
   The front panel LEDs will flash to indicate the Upgrade has started

Note: To exit Firmware Upgrade Mode, you must power **OFF** the GCS1964

Restore Default Settings

To reset the GCS1964 to its default hotkey settings:

1. Invoke HSM

2. Press **[R][Enter]**

All hotkey settings return to the factory default settings

Alternative Manual Port Selection

To toggle between the default and the alternative front panel pushbutton manual port selection settings:

1. Invoke HSM

2. Press **[S]**
   This procedure is a toggle. Repeat to revert to the original setting. See **Alternative Manual Port** Selection for more information

Power on Detection

With Power on Detection, if the focus computer is powered OFF, the GCS1964 will automatically switch to the next powered ON computer. Power on Detection can be enabled or disabled. The default setting is enabled. To disable Power on Detection:

1. Invoke HSM

2. Press and release **[E]**
   This procedure is a toggle. Repeat to revert to the original setting

SPC Mode

To set the keyboard/mouse to use SPC mode so that it can work under special operating systems as a standard (104 key) keyboard/mouse:

1. Invoke HSM

2. Press **[F1]**

Mouse and Keyboard Emulation

Mouse Emulation

To toggle between mouse emulation enabled and disabled:

1. Invoke HSM

2. Press **[M]**

3. This procedure is a toggle. Repeat to revert to the original setting.

Mouse Port Switching

Mouse Port Switching allows you to use the mouse wheel button (clicking it twice) to switch between ports. Mouse Emulation (above) must be enabled in order for Mouse Port Switching to work. To toggle between mouse port switching enabled and disabled:

1. Invoke HSM

2. Press **[W]**
   This procedure is a toggle. Repeat Step 1 and 2 to disable Mouse Port Switching

Note: This feature is only supported by 3-key USB scroll wheel mice. The default setting is OFF. This feature is only supported when mouse emulation is also enabled.

Keyboard Emulation

Console keyboard port emulation/bypass feature supports most gaming/multimedia keyboards. The default setting is enabled. To disable:

1. Invoke HSM

2. Press **[N]**
   This procedure is a toggle. Repeat Step 1 and 2 to enable Keyboard Emulation

Note: When keyboard emulation is disabled, the **[M]**, **[W]**, **[F2]**, **[F3]**, **[F4]**, **[F5]**, **[F6]**, and **[F10]** are also disabled

Keyboard Operating Platform

IOGEAR's GCS1964 default port configuration is for PC compatible keyboard operating platform. If the console uses a PC compatible keyboard and a Mac or Sun computer is attached to GCS1964, the port's Keyboard Operating Platform configuration can be changed so that the PC compatible keyboard emulates Mac keyboard, by

1. Bring the KVM focus to the port you want to set

2. Invoke HSM

3. Press and release the appropriate Function keys listed on table below

Key	Function
[F1]	To set the keyboard/mouse in SPC mode so it works under special operating system as a standard (104 key) keyboard/mouse
[F2]	Enables Mac keyboard emulation, see **Mac Keyboard Emulation**.
[F10]	Disables keyboard emulation. Key presses are passed straight through. You're your console uses a Mac keyboard to access a Mac attached to a port, for example. Automatically detects and sets the keyboard operating platform

4. You will automatically exit HSM once this procedure is completed

N-Key Rollover Keyboard Supporting Function

Keyboard must have NKRO support in order this function to work on the GCS1964. Also, please make sure to turn off Keyboard emulation off first in order to turn NKRO function on.

To enable/disable N-key rollover keyboard supporting function:

1. Invoke HSM
2. Press **[K]**

Hotkey Settings Mode Summary Table

Key	Function
[B]	Enables/Disables the beeper/buzzer
[E]	Enables/Disables Power ON Detection feature
[H]	Toggles between the default combination (**[Num Lock][-]**) and alternate combination (**[Ctrl][F12]**)
[K]	Enables/Disables N-key rollover keyboard supporting function
[M]	Enables/Disables mouse emulation
[N]	Enables/Disables keyboard emulation
[R][Enter]	Resets the hotkey settings to their default status*
[S]	Toggles between the default and alternate manual port selection pushbutton settings
[T]	Toggles between the default combination (**[Scroll Lock][Scroll Lock]**) and alternate combination (**[Ctrl][Ctrl]**)
[u][p][g][r][a][d][e] [Enter]	Invokes Firmware Upgrade Mode
[W]	Enables/Disables mouse port-switching
[X][Enter]	Enables/Disables the port switching keys*
[Wheel][Wheel]	When the mouse switching function is activated, double click the mouse wheel to switch to the next port
[F1]	Allows the keyboard/mouse to work under special operating systems as a standard (104 key) keyboard/mouse
[F2]	Enables Mac keyboard emulation
[F3]	Enables Sun keyboard emulation
[F4]	Lists current switch settings via Paste function of a text editor
[F5]	Performs a reset on all USB devices
[F6][nn][Enter]	Sets the keyboard language Note: **nn** is a two-digit number that represents one of the following keyboard language code: US English:33 French:08 German:09 Japanese:15
[F10]	Automatically detects and sets the keyboard operating platform
[Esc] or [Spacebar]	Quits and exits the setting mode

*Hotkey cannot be set as a front panel pushbutton combo key

Keyboard Emulation

Mac Keyboard Emulation

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

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

Note: When using key combinations, press and release the first key [Ctrl], then press and release the activation key.

Sun Keyboard

The PC compatible (101/104 key) keyboard can emulate the functions of the Sun keyboard when the Control key [Ctrl] is used in conjunction with other keys. The corresponding functions are shown in the table below

PC Keyboard	Sun Keyboard
[Ctrl] [T]	Stop
[Ctrl] [F2]	Again
[Ctrl] [F2]	Props
[Ctrl][F4]	Undo
[Ctrl][F5]	Front
[Ctrl][F6]	Copy
[Ctrl][F7]	Open
[Ctrl][F8]	Paste
[Ctrl][F9]	Find
[Ctrl][F10]	Cut
[Ctrl] [F1]	▭▭ ◄
[Ctrl] [F2]	◑ - ◄
[Ctrl] [F3]	◑ + ◄))
[Ctrl] [F4]	☾
[Ctrl] [H]	Help
📑	Compose
⊞	◆

Note: When using key combinations, press and release the first key [Ctrl], then press and release the activation key.

Firmware Upgrade Utility

Firmware Upgrade Configuration

GCS1964 Windows based Firmware Upgrade Utility (FWUpgrade.exe) provides a smooth-automated process for firmware upgrade.

The Utility comes as part of a Firmware Upgrade Package that is specific for each device. New firmware upgrade packages are posted on our IOGEAR.COM website, as new firmware revisions become available. Please check the website regularly to find latest packages and information relating to firmware revisions and upgrades.

Before Starting Firmware Upgrade

In order to better perform a firmware upgrade, using a computer that is not connected to the GCS1964 setup is recommended. To set GCS1964 to Firmware Upgrade Mode:

1. From a computer that is *not part of the KVM installation*, go to www.iogear.com/product/GCS1964 to get a list of available Firmware Upgrade Packages

2. Choose the Firmware Upgrade Package (usually the most recent one), and download the file to a computer that is not part of the *KVM installation*

3. If you have a DCC mode installation, remove the RJ-45 cable connected to the DCC port that connects the two units, and set both DCC switches to **"p"** *(Host)*

4. Disconnect the GCS1964 from the KVM installation and power the switch **OFF**.

5. Connect one of the USB DisplayPort KVM cable set's Type A USB connectors to a USB Type A port on the computer that is *not part of your KVM installation*

6. At the other end of the cable set, connect the USB Type B connector to the Type B USB port in Port 1 KVM section on the GCS1964.

   Note: The USB DisplayPort KVM cable set's USB Type B connector can be connected to any USB Type KVM Port Section, but the Port Selection pushbutton in **Step 6** below **must be** Port 1

7. Press and hold **Mode** selection pushbutton.

8. While holding **Mode** selection pushbutton, connect the power adapter to the GCS1964 to enter Firmware Upgrade Mode.

9. The front panel LEDs will flash together, indicating **Firmware Upgrade Mode** is in effect.
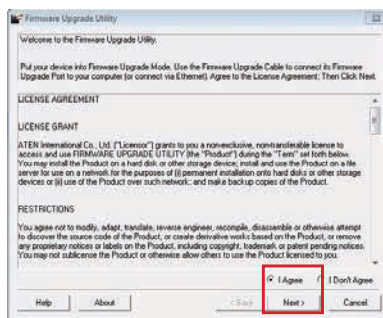
Starting Firmware Upgrade

1. Run the downloaded Firmware Upgrade Package file – either by double clicking the file icon, or using a command line to enter the full path.

| Name	Date modified	Type	Size
GCSI964_v1.0.063	8/16/2016 11:42 AM	Application	649 KB

2. The Firmware Upgrade Utility Welcome screen appears.
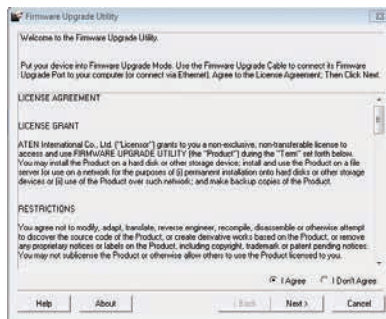
3. Read the License Agreement and click "I Agree" button and click "Next".

4. The Firmware Upgrade Utility main screen appears. The Utility inspects your installation. All the devices capable of being upgraded by the package are listed in the Device List panel.

5. As you select a device from the list, the device's description appears in the Device Description panel. After you have made your device selection(s), Click "Next" to perform the upgrade
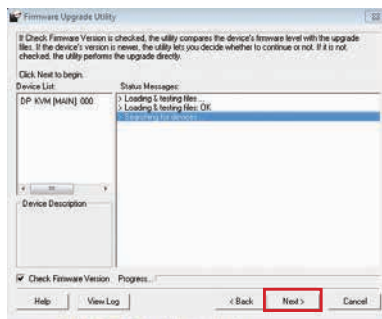
6. If you enabled Check Firmware Version, the Utility compares the device's firmware level with that of the upgrade files. If the device's version is higher than the upgrade version, a dialog box below will give you the option to Continue or Cancel.

7. If you did not enable Check Firmware Version, the Utility installs the upgrade files without checking whether they are of higher level, or not.

8. As the Firmware Upgrade proceeds, a vstatus message will appear in the Status Messages panel, and the progress toward completion is shown on the Progress bar

9. After the upgrade has completed, a screen appears to inform you that the procedure was successful. Click Finish to close the Firmware Upgrade Utility.

10. After a successful completion, the GCS1964 will exit the Firmware Upgrade Mode and resets itself.

11. If the GCS1964 is under DCC mode installation, then please be sure to reconnect the cable connected to the DCC port and set the DCC switch on the Client KVM switch back to "**s**" *(Client)* (see **Six-Display DCC Mode**)
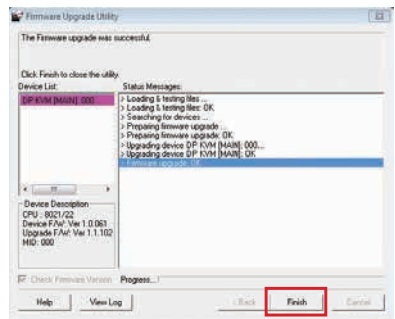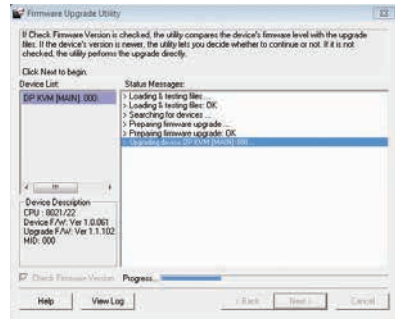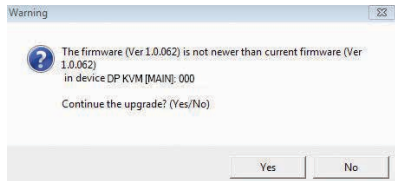
Firmware Upgrade Fail

If the Upgrade Succeeded screen does not appear, this means that the upgrade failed to complete successfully. If this occurs, please follow below steps:

1. Power off the GCS1964 by removing the power adapter

2. Invoke Firmware Upgrade Mode by holding down the Mode Selection pushbutton on the front panel (see **Mode Selection Pushbutton**) and power on the GCS1964. The orange LEDs flash together.

3. Repeat the upgrade procedure from the beginning (see **Before Starting Firmware Upgrade**).

Specifications Chart

Function			GCS1964
Connections	Computer		4
	Console		1
Port Selection			Pushbuttons, Hotkey, Mouse*, RS-232 Commands
Connectors	Console Ports	Keyboard	1 x USB Type A (Black)
		Video	3 x DisplayPort (Black)
		Mouse	1 x USB Type A (Black)
		Speakers	1 x 3.5 mm Mini Stereo Jack (Green; Front) 1 x 3.5 mm Mini Stereo Jack (Green; Rear)
		Microphone	1 x 3.5 mm Mini Stereo Jack (Pink; Front) 1 x 3.5 mm Mini Stereo Jack (Pink; Rear)
	KVM Ports	Keyboard / Mouse	4 x USB 3.1 Gen1 Type B (Blue)
		Video	12 x DisplayPort (Black)
		Speakers	4 x 3.5mm Mini Stereo Jack (Green)
		Microphones	4 x 3.5mm Mini Stereo Jack (Pink)
	USB Hub		1 x USB 3.0 Type A (Blue; Front)
			1 x USB 3.0 Type A (Blue; Rear)
	Serial		1 x RJ-45 Female
	Power		1 x DC Jack
Switches	Selected		5 x Pushbutton
LED	On Line / Selected		4 (Green)
	USB Link		4 (Green)
Emulation	Keyboard / Mouse		USB
Video			4096 x 2160 @60Hz (Cinema 4K) 3840 x 2160 @60Hz (4K UHD)
Scan Interval			1-99 second (5 second Default)
Power Consumption			DC 12V
Environment	Operating Temp.		0 - 50°C
	Storage Temp.		-20 – 60°C
	Humidity		0 – 80% RH, Non-c ondensing
	Housing		Metal

*Mouse emulation mode and mouse port switching mode must be turned on for mouse port switching with 3-button wheel USB mouse

Troubleshooting

Operation problems occur due to variety of causes. The first step in solving them is to make sure that all cables are securely attached and plugged in completely in their sockets.

In addition, updating the GCS1964 firmware may solve problems that have been discovered and resolved since the prior version was released. If your product is not running the latest firmware version, we strongly recommend that you upgrade. See **The Firmware Upgrade Utility** for upgrade details.

Limited Warranty

Warranty Information

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

Register online at https://www.iogear.com/registration

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

FCC Information

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital service, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver

   is connected.

• Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. this device may not cause harmful interference, and

2. this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

CE Compliance

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

⚠️**WARNING:** This product can expose you to chemicals including styrene which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov