ATEN

Simply Better Connections

CS1942DPA / CS1944DPA

2/4-Port USB 3.0 8K DisplayPort
Dual-Display KVMP™ Switch
User Manual

Compliance Statements

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The 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.

Warning

Operation of this equipment in a residential environment could cause radio interference.

Achtung

Der Gebrauch dieses Geräts in Wohnumgebung kann Funkstörungen verursachen.

KCC Statement

유선 제품용 / A 급 기기 (업무용 방송 통신 기기)
이 기기는 업무용 (A 급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며 , 가정 외의 지역에서 사용하는 것을 목적으로 합니다 .

Industry Canada Statement

This Class A digital apparatus complies with Canadian ICES-003.

CAN ICES-003 (A) / NMB-003 (A)

RoHS

This product is RoHS compliant.

User Information

Online Registration

Be sure to register your product at our online support center:

International	http://eservice.aten.com

Telephone Support

For telephone support, call this number:

International	886-2-8692-6959
China	86-400-810-0-810
Japan	81-3-5615-5811
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988
	1-949-428-1111

User Notice

All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed *as is*. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

The manufacturer of this system is not responsible for any radio and/or TV interference caused by unauthorized modifications to this device. It is the responsibility of the user to correct such interference.

The manufacturer is not responsible for any damage incurred in the operation of this system if the correct operational voltage setting was not selected prior to operation. PLEASE VERIFY THAT THE VOLTAGE SETTING IS CORRECT BEFORE USE.

Product Information

For information about all ATEN products and how they can help you connect
without limits, visit ATEN on the Web or contact an ATEN Authorized
Reseller. Visit ATEN on the Web for a list of locations and telephone numbers:

International	http://www.aten.com
North America	http://www.aten-usa.com

Package Contents

Check to make sure that all the components are in working order. If you encounter any problem, please contact your dealer.

CS1942DPA

- 1 CS1942DPA 2-Port USB 3.0 8K DisplayPort Dual-Display KVMP™ Switch
- 4 DisplayPort cables*
- 2 USB Type-A to USB Type-B cables
- 2 microphone cables
- 2 speaker cables
- 1 remote port selector
- 1 power adapter and power cord
- 1 user instructions

CS1944DPA

- 1 CS1942DPA 4-Port USB 3.0 8K DisplayPort Dual-Display KVMP™ Switch
- 8 DisplayPort cables*
- 4 USB Type-A to USB Type-B cables
- 4 microphone cables
- 4 speaker cables
- 1 remote port selector
- 1 power adapter and power cord
- 1 user instructions

Note: The high quality DisplayPort cables included in the package (or cable of equal standards) are required to achieve 8K video resolutions.

Contents

4. Hotkey Operation

5. Keyboard Emulation

6. RS-232 Operation

About this Manual

This User Manual is provided to help you get the most from your CS1942DPA / CS1944DPA unit. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

Chapter 1, Introduction, introduces you to the CS1942DPA / CS1944DPA. Its purpose, features and benefits are presented, and its front, side, and back panel components are described.

Chapter 2, Hardware Setup, describes how to set up your installation. The necessary steps are provided.

Chapter 3, Basic Operation, explains the fundamental concepts involved in operating the CS1942DPA / CS1944DPA.

Chapter 4, Hotkey Operation, details all of the concepts and procedures involved in the Hotkey operation of your CS1942DPA / CS1944DPA installation.

Chapter 5, Keyboard Emulation, provides tables that list the PC to Mac and PC to Sun keyboard emulation mappings.

Chapter 6, RS-232 Operation, provides details on the functions and RS-232 commands that you can use to control the CS1942DPA / CS1944DPA using a serial controller.

Chapter 7, The Firmware Upgrade Utility, explains how to use the CS1942DPA / CS1944DPA's firmware with the latest available versions.

Appendix, which provides specifications and other technical information regarding the CS1942DPA / CS1944DPA.

Note:

- Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the unit or any connected devices.

- The product may be updated, with features and functions added, improved or removed since the release of this manual. For an up-to-date user manual, visit http://www.aten.com/global/en

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. If keys need to be chorded, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt].
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, and then select *Run*.
⚠	Indicates critical information.

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Chapter 1
Introduction

Overview

Built on ATEN's enterprise-grade design heritage, the CS1942DPA / CS1944DPA belongs to ATEN's first KVM switch series with 8K support, delivering professional-grade performance and reliable multi-computer control from a single console.

Ultra-High Resolution for Versatile Professional Applications

With DisplayPort 1.4 and HDR 10+, the CS1942DPA / CS1944DPA supports resolutions up to 8K@60Hz and 4K@120Hz high-refresh-rate output, delivering crisp, ultra-smooth visuals and allowing users to view more content simultaneously. Premium internal chipsets and high-quality included cables ensure stable signal transmission and broad wide-screen compatibility, outperforming typical industry alternatives. This makes it ideal for CAD/CAM modeling, financial trading, office desktop productivity, immersive gaming setups, and any workflow that relies on wide-screen or multi-window efficiency.

Centralized Multi-Computer Access for Seamless Workflows

The switch provides a centralized, clutter-free way to manage multiple computers using a single keyboard, mouse, and dual-monitor setup. This streamlined configuration enhances productivity for designers, post-production artists, CAD engineers, and TV broadcasting professionals. All required DisplayPort and USB cables are included, enabling a smooth, plug-and-play experience right out of the box.

Hassle-Free Switching and Ergonomic Design

The CS1942DPA / CS1944DPA features a compact footprint to save desk space and ergonomically designed pushbuttons for comfortable, intuitive switching. Users can also switch between computers via a remote port selector, hotkeys, mouse switching, or RS-232 commands. This flexibility accommodates diverse workflows and user preferences, ensuring smooth and efficient system control.

Daisy-Chain Your Screens. Unlock Quad-Display Productivity

For expanded setups, two units can be daisy-chained to create quad-display configurations—allowing professionals to work across multiple high-resolution screens with exceptional clarity, improving both productivity and visual precision. The built-in USB 3.1 Gen 1 hub delivers SuperSpeed 5 Gbps data transfers, enabling efficient sharing of peripherals without additional USB hubs.

Features

High-Performance Hardware and Display Capabilities

- Supports Quad-Display by connecting two Dual-Display KVM switches
- Superior video quality – up to 7680 × 4320 @ 60 Hz, 5120 × 2880 @ 60 Hz, and 4096 × 2160 @ 120 Hz
- Two USB 3.1 Gen 1 ports with SuperSpeed 5 Gbps transfer rates
- Supports DisplayPort Dual-Mode technology (DP++)[1]
- Supports MST (Multi-Stream Transport)[2]
- DisplayPort 1.4 compliant
- HDCP compliant
- Supports HDR 10+
- Supports HD Audio[3]
- Supports hot-plugging

Comprehensive Management and Switching Controls

- One USB keyboard and mouse control two or four DisplayPort computers and share two USB peripherals
- Computer selection via pushbuttons, remote port selector, hotkeys, mouse[4], and RS-232 commands
- Independent switching of KVM, USB, and Audio
- Console keyboard/mouse emulation/bypass support
- Power-on detection automatically switches to the next active computer
- Firmware upgradable
- Multilingual keyboard mapping – supports English, Japanese, French, and German keyboards[5]

Streamlined, Ready-to-Use Experience

- Plug & play
- All DisplayPort/USB cables and power adapter included for hassle-free installation—no extra purchases needed
- Multiplatform support – Windows, Mac, and Linux

Note: 1. DP++ (DP Dual Mode) requires a DP++ adapter (powered DP++ adapter recommended). The graphics source must be DP++ compliant.

2. MST (Multi-Stream Transport) requires monitors capable of DisplayPort 1.4 daisy-chaining or the use of a powered DisplayPort MST hub. The PC source must be DisplayPort 1.4 compliant. A DisplayPort 1.1a or 1.2 display can be the last display in a DisplayPort 1.4 chain.

3. HD audio through HDMI cannot be switched independently.

4. For 3-button USB wheel mouse only. Mouse-port switching is supported only under mouse emulation mode.

5. PC keyboard combinations emulate Mac keyboards. Mac keyboards only work with Mac computers.

Requirements

Console

- Two DisplayPort monitors capable of the highest possible resolution
- A USB mouse
- A USB keyboard
- Microphone and speakers

Computers

The following equipment must be available on each computer:

- Two DisplayPort ports
- A USB Type-A port
- Audio ports

Cables

To guarantee video quality, we recommend using only ATEN DisplayPort KVM cables. Two (CS1942DPA) or four (CS1944DPA) cables are provided with this package.

Note: 1. The quality of the display is affected by the quality and length of the cables you use.We recommend the total length from the source to the monitor not exceed 3 meters. If you need additional cable sets, please contact your dealer to purchase ATEN approved cables.

2. If you use DisplayPort cables that are DP 1.1 compliant, make sure the DisplayPort setting on the monitor is set to auto or DP 1.1.

<u>Operating Systems</u>

OS		Version
Windows		2K / XP / 2003 / 2008 / Vista (x64 / x86) / 7 / 10 or above
Linux	RedHat	9.0, Fedora and higher, RHEL AS 4, RHEL 5
	SuSE	10 / 11.1 and higher; OpenSUSE 10.2; SLES 10 SP1
	Debian	3.1 / 4.0
	Ubuntu	7.04 / 7.10 or later
Unix	IBM AIX	4.3 / 5L (V5.2, V5.3) / V6 (V6.1)
	FreeBSD	5.5 / 6.1 / 6.2
	Novell	Netware 6.0 / 6.5
Mac	OS	10.1 / 10.2 / 10.3 / 10.4 / 10.5 / 10.7 / 10.8 or later

Components

CS1942DPA Top View
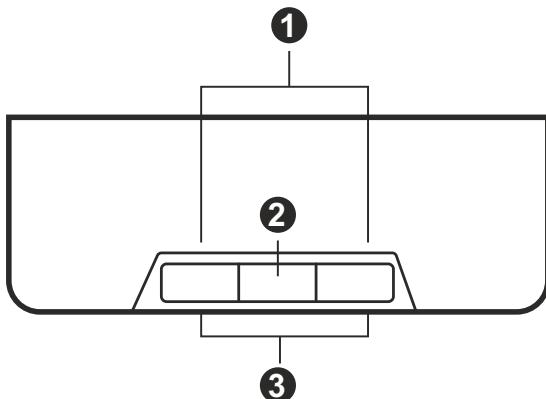
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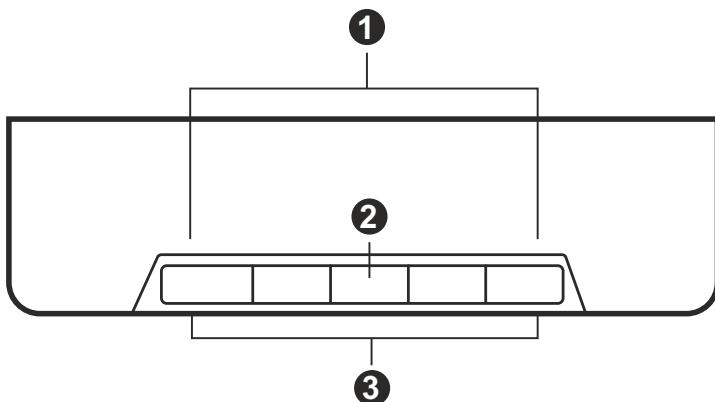
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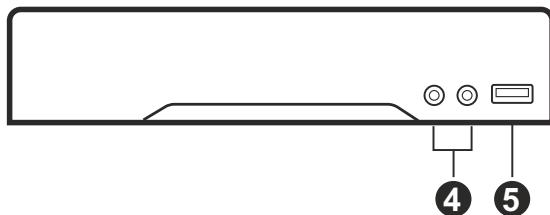
CS1944DPA Front View
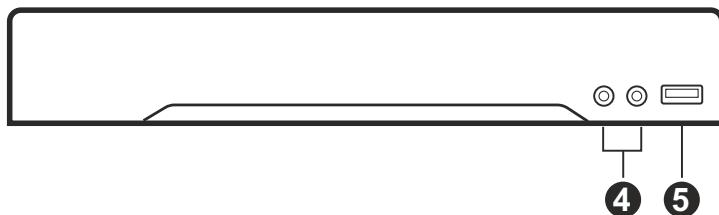
CS1942DPA Rear View
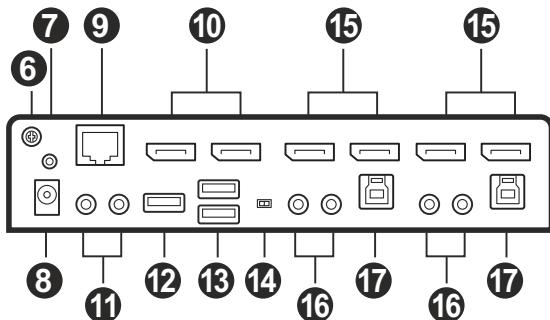
CS1944DPA Rear View

No.	Component	Description
Front View		
1	port LEDs	This panel contains LED icons that light to indicate mode and port status. The mode and port selection pushbuttons have three corresponding LED icons that light to indicate status – **KVM**, **Audio**, and **USB**.
2	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. See *The Firmware Upgrade Utility*, page 63.

No.	Component	Description
3	port selection pushbuttons	For manual port selection (see *Manual Switching*, page 19):
		◆ Press a port selection pushbutton for less than two seconds to bring the KVM, USB hub, and audio focus to the computer attached to its corresponding port.
		Note: This function is disabled when the fast switching mode is enabled, see *Power Saving Mode*, page 31.
		◆ Press a port selection pushbutton twice to bring the audio focus to the computer attached to its corresponding port.
		◆ Press a port selection pushbutton for longer than two seconds to only bring the KVM focus to the computer attached to its corresponding port.
		◆ Press port selection pushbutton 1 and 2 simultaneously for 2 seconds to start Auto Scan Mode (see *Auto Scanning*, page 27).
		◆ Press port selection pushbutton 3 and 4 simultaneously for 2 seconds to perform a Keyboard/Mouse reset.
		Note: This feature is for CS1924A only.
4	audio jacks	Your main console microphone and speakers plug in here. **Note:** The microphone and speakers plugged into the front panel have priority over those plugged into the rear panel.
5	USB 3.1 Gen 1 Type-A port (peripheral)	USB peripheral (printers, scanners, drives etc.) plug into this port. This USB 3.1 Gen 1 port features 5 Gbps data transfer rates for compatible USB peripherals.

Rear View

No.	Component	Description
6	grounding terminal	The grounding wire used to ground the switch attaches here.
7	remote port selector jack	The supplied remote port selector plugs in here. To use a remote port selector for port selection, make sure to slide the primary / secondary switch to the p position. See page 10.
8	power jack	The power adapter cable plugs into this lockable jack.

Rear View (Console Ports Section)

No.	Component	Description
9	RJ-45 port (Daisy Chain Control)	This RJ-45 port is used to connect two units together when setting up DCC mode for a quad-display mode. See *Quad-Display Installation*, page 17.

No.	Component	Description
10	DisplayPort output ports	The cables from your monitors plug in here. Each connector is marked with an appropriate icon to indicate itself.
11	audio jacks	The cables from your microphone and speakers plug in here. Each connector is marked with an appropriate icon to indicate itself.
12	USB 3.1 Gen 1 Type-A port (peripheral)	USB peripheral (printers, scanners, drives etc.) plug into this port. This USB 3.1 Gen 1 port features 5 Gbps data transfer rates for compatible USB peripherals.
13	USB 2.0 Type-A ports (keyboard / mouse)	The cables from your keyboard and mouse plug in here. Each connector is marked with an appropriate icon to indicate itself.
14	primary / secondary switch	Slide the primary / secondary switch to the S position to allow the KVM switch to receive RS-232 commands via an RJ45-to-DB9 cable. Please see *RS-232 Operation*, page 41.

Rear View (KVM Ports Section)

No.	Component	Description
15	DisplayPort input ports	The monitor cables that link the switch to your computers plug in here. Each KVM port section is comprised of a microphone jack, speaker jack, USB Type-B port, and a DisplayPort connector.
16	audio jacks	The audio cables that link the switch to your computers plug in here. Each KVM port section is comprised of a microphone jack, speaker jack, USB Type-B port, and a DisplayPort connector.
17	USB Type-B ports	The USB Type-A to USB Type-B cables that link the switch to your computers plug in here. Each KVM port section is comprised of a microphone jack, speaker jack, USB Type-B port, and a DisplayPort connector.

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* on page 19.

Button Press	Mode LED that Lights up	Follow-Up Action
Once	KVM, Audio, USB	Press any of the port selection pushbutton to select focus for **all connectors**
Twice	KVM	Press any of the port selection pushbutton to select focus for **KVM connector**
Three times	Audio	Press any of the port selection pushbutton to select focus for **audio connectors**
Four times	USB	Press any of the port selection pushbutton to select focus for **USB link**

Buzzer Behavior

To diagnose which task the CS1922A / CS1924A is performing through the buzzer, please refer to the table below.

Sound	Description
1 beep	◆ Changing port ◆ Activating auto-scan mode ◆ Pausing/resuming auto-scan
1 long beep	◆ Powering on the unit ◆ Resetting the unit
2 beeps	◆ Interrupting auto-scan ◆ Entering keyboard emulation off mode ◆ Finishing USB synchronization

Refer to *Buzzer Control* on page 31 if you wish to turn the buzzer on or off.

Chapter 2
Hardware Setup

1. Important safety information regarding the placement of this device is provided on page 71. Please review it before proceeding.

2. To prevent damage to your installation from power surges or static electricity. It is important that all connected devices are properly grounded.

3. Make sure that power to all the devices you will be installing has been turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.

4. Please operate the device with caution when under high environmental temperatures, as the surface of the device may become overheated under such conditions. For instance, the surface temperature of the device may reach 70 °C (158 °F) or higher when the environmental temperature reaches close 50 °C (122 °F).

Cable Connections

To set up your installation, refer to the installation diagram on the following page (the numbers in the diagram on page 15 correspond to the steps below), and do the following:

1. Ground the CS1942DPA / CS1944DPA by connecting one end of a grounding wire to the grounding terminal and the other end to a suitable grounded object.

   Note: Do not omit this step. Proper grounding helps to prevent damage to the unit from power surges or static electricity.

2. Connect your USB keyboard and USB mouse to the unit's USB 2.0 Type-A ports (keyboard / mouse).

3. Connect your DisplayPort-enabled displays to the unit's DisplayPort output ports.

4. Connect your primary microphone and speakers to the unit's audio jacks located on the front panel. Optionally, connect your secondary microphone and speakers to the unit's audio jacks located on the rear panel.

   Note: The microphone and speakers plugged into the front panel have priority over those plugged into these jacks.

5. Use the provided cables, connect the audio, video, and USB ports of up to 2 PCs (for CS1942DPA) or 4 PCs (for CS1944DPA) to the KVM ports section on the KVM switch.

   Note: Make sure that all the connectors from one PC are connected to the same KVM ports section (all in CPU1, all in CPU2, etc.).

6. (Optional) Connect your USB peripherals to the unit's USB 3.1 Gen 1 Type-A ports (peripheral).

7. (Optional) Connect the remote port selector to the unit's remote port selector jack for port selection.

   Note: To use the remote port selector for port selection, make sure to slide the primary / secondary switch to the **P** position.

8. Connect the power adapter to the unit's power jack. Now the CS1942DPA / CS1944DPA is turned on.

9. Power on the computers, displays, and the other connected devices.

   Note:
   - By default, the switch links to the first computer that is powered on.
   - We recommend that the total video cable length from the PC to the console monitor cannot exceed 3 meters.
   - Choosing high quality cables helps to ensure that 8K UHD (7680 x 4320 @ 60 Hz) resolutions can be reached.
   - Make sure the computers and devices that the CS1942DPA / CS1944DPA connects to are also properly grounded.

Installation Diagram

CS1944DPA
Front View

Audio

USB

Mic Speakers

USB Flash
Drive

4

6

7

Remote Port
Selector

3

3

2

Monitor Monitor Mouse

DP DP USB

2.5mm

1

CS1944DPA
Rear View

USB

Power Audio USB

Audio USB DP DP

Power
Adapter

Mic Speakers Hub Keyboard

PC x 4

5

8

4

6

2
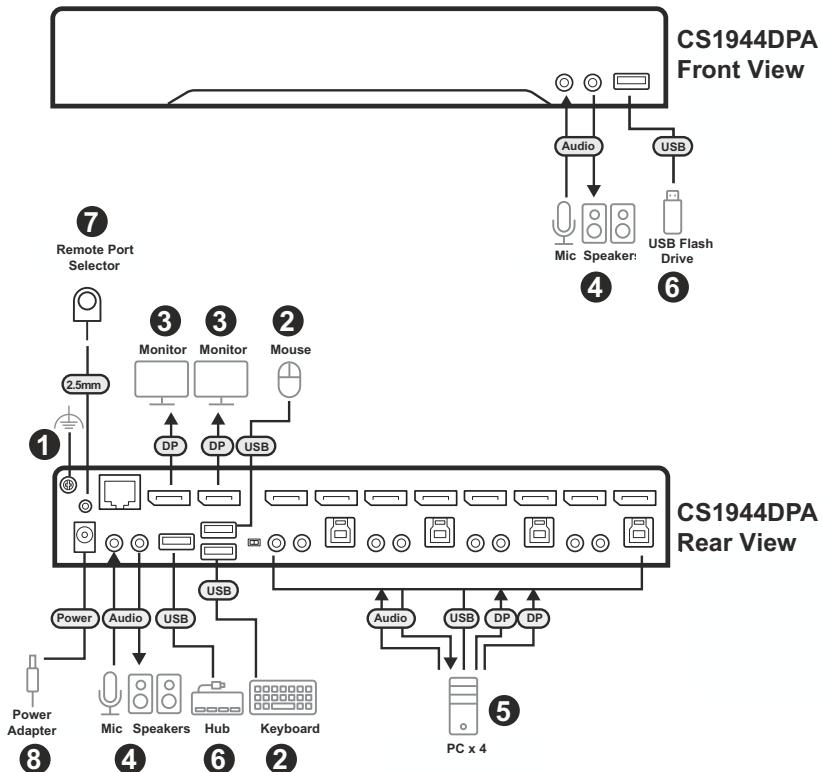
Quad-Display (DCC Mode)

To expand your installation to a Quad-Display, you can use DCC Mode to connect two CS1942DPA / CS1944DPA units together, and use four displays in unison.

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

1. Connect all the computers to the *Host* as described in Hardware Setup, *Cable Connections*, page 13.

2. On the *Client*, using two DisplayPort cables, plug the DisplayPort connectors into the DisplayPort sockets in the same KVM port section of the switch.

3. At the other end of the two DisplayPort cables, plug the monitor cable into the respective ports on the computer.

4. Repeat steps 2 and 3 for all computers.

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

6. Use an RJ-45 cable to connect the RJ-45 port (Daisy Chain Control) of the *Host* to the RJ-45 port (Daisy Chain Control) port of the *Client*.

7. On the rear of the *Client* set the primary / secondary switch to **S (Secondary)**.*

8. On the rear of the *Host* set the primary / secondary switch to **P (Primary)**.

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:◆ P means Primary, and S means Secondary.

 ◆ In DCC mode, the *Client's* front panel pushbuttons are disabled, and it takes all commands directly from the *Host.*

 ◆ Setting the primary / secondary switch to the *S* position will disable all front panel pushbuttons on that switch.

 ◆ Make sure the computers and devices that the CS1942DPA / CS1944DPA connects to are also properly grounded.

Quad-Display Installation
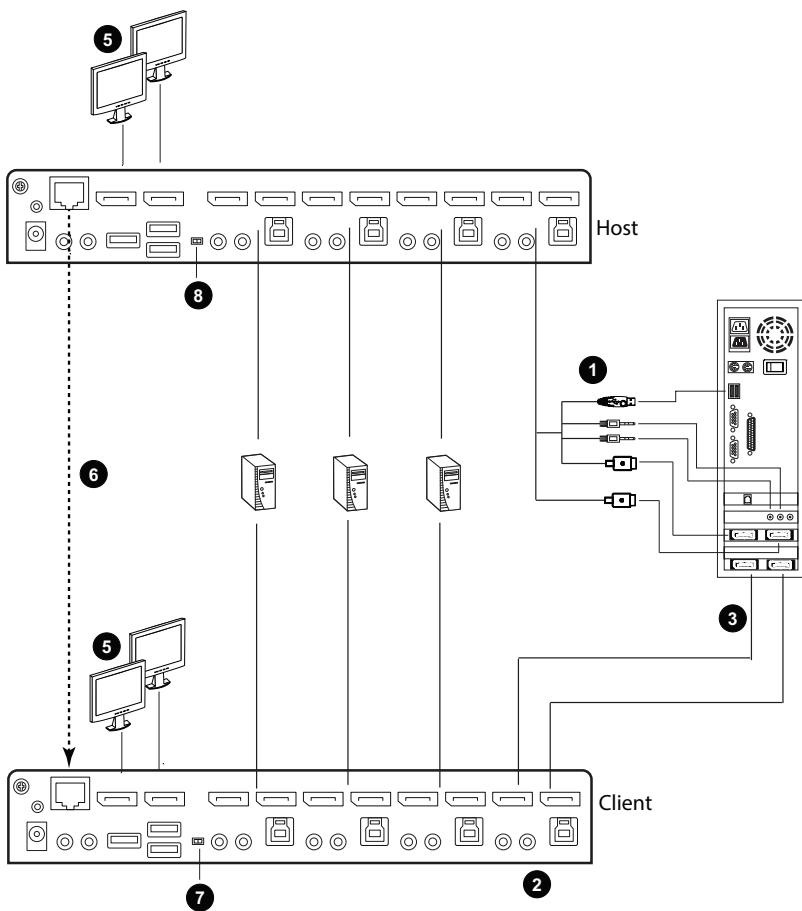
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Chapter 3
Basic Operation

Port Switching

There are five convenient methods to switch between the computers: Manual – by pressing the port selection pushbuttons on the front panel, Mouse – by clicking the scroll wheel of the mouse, Hotkey – by entering combinations on the keyboard, Remote Port Selector – by pressing the remote port selector button, and RS-232 Commands – by entering the correct command and control.

Manual Switching

For manual port selection:

- To bring complete focus (**audio, KVM, and USB**) to a computer, *either*, a) press the port selection pushbutton that corresponds to that computer; *or* b) press the Mode pushbutton **once** (the Mode pushbutton's three icons light up) and then press the port selection pushbutton that corresponds to that computer. All three port icons light up.

- To bring only the **KVM** focus to a computer, press the Mode pushbutton **twice** (the Mode pushbutton's KVM icon lights up), and 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), and 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), and then press the port selection pushbutton that corresponds to that computer. The port's USB icon lights up.

Note: If a port is not selected within five seconds of pushing the Mode pushbutton, the Mode pushbutton will power off.

- Press and hold port selection pushbutton 1 and 2 for more than 2 seconds to start Auto Scan Mode (see page 27 for details).

- Press and release either port selection pushbutton to stop Auto Scan Mode. The KVM focus goes to the computer attached to the corresponding port of the switch your pressed.

- Press and hold port selection pushbutton 3 and 4 for more than 2 seconds to start keyboard and mouse reset, see *USB Reset*, page 30.

Note: This function is only applicable to CS1944DPA.

Mouse Switching

For mouse port selection: Double-click the scroll wheel of your USB mouse to cycle through the ports.

Note: 1. Mouse switching is only supported by USB 3-key scroll wheel mice.

2. Mouse switching is disabled by default. See *Hotkey Setting Mode (HSM)*, page 28, to enable mouse switching.

3. Mouse switching is only supported when Mouse Emulation is enabled.

Hotkey Switching

For hotkey port selection: All port switches from the keyboard begin by pressing the Scroll Lock key twice. Regarding details of the hotkey parameters, see *Hotkey Operation*, page 23.

Remote Port Selector

For remote port selector port selection: Press the remote port selection pushbutton to bring the KVM focus, plus the USB and Audio focus, to the computer attached to its corresponding port.

RS-232 Commands

For RS-232 port selection: Enter the correct command and control to switch port. Regarding details of the RS-232 command and control, see *Switch Port*, page 46.

Hot Plugging

The CS1942DPA / CS1944DPA supports 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 switch, before powering it back on, you must do the following:

1. Shut down all the computers that are attached to the switch.

2. Unplug the switch's power adapter cable.

3. Wait 10 seconds, then plug the switch's power adapter cable back in.

4. Once the switch is powered up, power on the computers.

Port ID Numbering

Each KVM port section on the switch is assigned a port number (1 or 2 for the CS1942DPA) or (1 to 4 for the CS1944DPA). The port numbers are marked (CPU 1, CPU 2, CPU 3, etc.) on the rear panel of the switch.

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 peripheral, and audio focus with the Hotkey port selection method (see page 25 for details).

Alternative Manual Port Selection Settings

When Hotkey Setting Mode has been activated (page 36), pressing [S] will invoke the alternative front panel pushbutton manual port selection functions, as explained below:

◆ Press a port selection pushbutton once to bring only the KVM 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.

> **Note:** This function is disabled when the fast switching mode is enabled, see *Power Saving Mode*, page 35.

◆ Press and hold a port selection pushbutton for more than 2 seconds to bring the KVM, audio and USB 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 page 27 for details.

◆ Press and hold port selection pushbuttons 3 and 4 for more than 2 seconds to start keyboard and mouse reset, see page 30 for details.

> **Note:** This function is only applicable to CS1942DPA.

Chapter 4
Hotkey Operation

The switch provides an extensive, easy-to-use, hotkey function that makes it convenient to control and configure your KVM installation from the keyboard.

Hotkey Port Switching

All port switches begin with tapping the **[Scroll Lock]** key 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 Keys*, page 29, for details.

Cycling Through the Ports

Hotkey	Action
[Scroll Lock] [Scroll Lock] [Enter]	Brings the KVM, USB hub, and audio focus from the port that currently has the KVM focus to the next port on the installation (CS1942DPA: 1 to 2; 2 to 1) (CS1944DPA: 1 to 2; 2 to 3; 3 to 4; 4 to 1). **Example:** 1. Press **[Scroll Lock] twice**. 2. Press **[Enter]**.
[Scroll Lock] [Scroll Lock] [K] [Enter]	Brings only the KVM focus from the port that currently has it to the next port on the installation (CS1942DPA: 1 to 2; 2 to 1) (CS1944DPA: 1 to 2; 2 to 3; 3 to 4; 4 to 1). The USB and audio focus remain where they are. **Example:** 1. Press **[Scroll Lock] twice**. 2. Press **[K]**. 3. Press **[Enter]**.

Hotkey	Action
[Scroll Lock] [Scroll Lock] [U] [Enter]	Brings only the USB hub focus from the port that currently has it to the next port on the installation (CS1942DPA: 1 to 2; 2 to 1) (CS1944DPA: 1 to 2; 2 to 3; 3 to 4; 4 to 1). The KVM and audio focus remain where they are.
	Example:
	1. Press **[Scroll Lock] twice**.
	2. Press **[U]**.
	3. Press **[Enter]**.
[Scroll Lock] [Scroll Lock] [S] [Enter]	Brings only the audio focus from the port that currently has it to the next port on the installation (CS1942DPA: 1 to 2; 2 to 1) (CS1944DPA: 1 to 2; 2 to 3; 3 to 4; 4 to 1). The KVM and USB hub focus remain where they are.
	Example:
	1. Press **[Scroll Lock] twice**.
	2. Press **[S]**.
	3. Press **[Enter]**.

Going Directly to a Port

Hotkey	Action
[Scroll Lock] [Scroll Lock] [n] [Enter]	Brings the KVM, USB hub, and audio focus to the computer attached to the port corresponding to the specified Port ID (CS1942DPA: 1 and 2) (CS1944DPA: 1, 2, 3, and 4). **Example:** 1. Press **[Scroll Lock] twice**. 2. Press **[2]**. 3. Press **[Enter]**.
[Scroll Lock] [Scroll Lock] [n] [K] [Enter]	Brings only the KVM focus to the computer attached to the specified Port ID (CS1942DPA: 1 and 2) (CS1944DPA: 1, 2, 3, and 4). The USB hub and audio focus remain where they are. **Example:** 1. Press **[Scroll Lock] twice**. 2. Press **[2]**. 3. Press **[K]**. 4. Press **[Enter]**.
[Scroll Lock] [Scroll Lock] [n] [U] [Enter]	Brings only the USB hub focus to the computer attached to the specified Port ID (CS1942DPA: 1 and 2) (CS1944DPA: 1, 2, 3, and 4). The KVM and audio focus remain where they are. **Example:** 1. Press **[Scroll Lock] twice**. 2. Press **[2]**. 3. Press **[U]**. 4. Press **[Enter]**.
[Scroll Lock] [Scroll Lock] [n] [S] [Enter]	Brings only the audio focus to the computer attached to the specified Port ID (CS1942DPA: 1 and 2) (CS1944DPA: 1, 2, 3, and 4). The KVM and USB hub focus remain where they are. **Example:** 1. Press **[Scroll Lock] twice**. 2. Press **[2]**. 3. Press **[S]**. 4. Press **[Enter]**.

Hotkey	Action
[Scroll Lock] [Scroll Lock] [n] [K] [U] [Enter]	Brings the KVM and USB hub focus to the computer attached to the specified Port ID (CS1942DPA: 1 and 2) (CS1944DPA: 1, 2, 3, and 4). The audio focus remains where it is. **Example:** 1. Press **[Scroll Lock] twice**. 2. Press **[2]**. 3. Press **[K]**, and then press **[U]**. 4. Press **[Enter]**.
[Scroll Lock] [Scroll Lock] [n] [K] [S] [Enter]	Brings the KVM and audio focus to the computer attached to the specified Port ID (CS1942DPA: 1 and 2) (CS1944DPA: 1, 2, 3, and 4). The USB hub focus remains where it is. **Example:** 1. Press **[Scroll Lock] twice**. 2. Press **[2]**. 3. Press **[K]**, and then press **[S]**. 4. Press **[Enter]**.
[Scroll Lock] [Scroll Lock] [n] [U] [S] [Enter]	Brings the USB hub and audio focus to the computer attached to the specified Port ID (CS1942DPA: 1 and 2) (CS1944DPA: 1, 2, 3, and 4). The KVM focus remains where it is. **Example:** 1. Press **[Scroll Lock] twice**. 2. Press **[2]**. 3. Press **[U]**, and then press **[S]**. 4. Press **[Enter]**.
[Scroll Lock] [Scroll Lock] [n] [K] [S] [U] [Enter]	Brings the KVM, USB hub and audio focus to the computer attached to the specified Port ID (CS1942DPA: 1 and 2) (CS1944DPA: 1, 2, 3, and 4). **Example:** 1. Press **[Scroll Lock] twice**. 2. Press **[2]**. 3. Press **[K]**, **[S],** and then press **[U]**. 4. Press **[Enter]**. **Note:** This is the same action as [Scroll Lock] [Scroll Lock] [n] [Enter].

Note: The **n** stands for the computer's Port ID number (CS1942DPA: 1 and 2) (CS1944DPA: 1, 2, 3, and 4). See *Port ID Numbering*, page 21 for details. Replace the **n** with the appropriate Port ID when using the hotkey port switching.

Auto Scanning

The CS1942DPA / CS1944DPA's Auto Scan feature automatically cycles the KVM focus through the computer ports at regular intervals. This allows you to monitor the computer activity without having to take the trouble of switching from port to port manually. See the table below for details.

Hotkey	Action
[Scroll Lock] [Scroll Lock] [A] [Enter]	Invokes Auto Scan. The KVM focus cycles from port to port at **5 second intervals**. Five second intervals is the Default setting.
[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 CS1942DPA / CS1944DPA should dwell on a port before moving on to the next. Replace the **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 audio 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 the **[Esc]** key, or the **[Spacebar]**.

Hotkey Setting Mode (HSM)

Hotkey Setting Mode (HSM) is used to set up your switch's configuration. All operations begin with invoking Hotkey Setting Mode (HSM). After invoking HSM, use the hotkeys listed on the pages that follow to configure the switch. A summary of the HSM hotkeys is provided on page 36.

Invoking HSM

To invoke HSM do the following:

1. Press and hold down the **[Num Lock]** key.

2. Press and release the **[-]** key.

3. Release the **[Num Lock]** key.

> **Note:** 1. There is an alternate key combination to invoke HSM, see page 29 for details.
>
> 2. The minus key must be released within one half-second, otherwise Hotkey invocation is canceled.

When HSM is active, the Caps Lock, and Scroll Lock LEDs flash in succession They stop flashing and revert to normal status when you exit HSM.

Ordinary keyboard and mouse functions are suspended – only Hotkey-compliant keystrokes and mouse clicks (described in the sections that follow), can be input.

At the conclusion of some hotkey operations, you automatically exit HSM mode. With some operations, you must exit manually. To exit HSM manually, press the **[Esc]** key, or the **[Spacebar]**.

Alternate HSM Invocation Keys

An alternate set of HSM invocation keys is provided in case the default set conflicts with programs running on the computers.

To switch to the alternate HSM invocation set, do the following:

1. Invoke HSM (see page 28).

2. Press and release the **[H]** key.

> **Note:** The HSM invocation keys become the **[Ctrl]** and **[F12]** key (instead of **[Num Lock]** and **[-]**). This procedure is a toggle. Repeat to revert to the original setting.

Alternate Port Switching Keys

An alternate way of activating port switching is by pressing the **[Ctrl]** key twice. To use the alternate port switching hotkeys, do the following:

1. Invoke HSM (see page 28).

2. Press and release **[T]**.

> **Note:** This procedure is a toggle between the two methods. To revert back to the original **[Scroll Lock] [Scroll Lock]** method, go through the steps above.

Keyboard Operating Platform

The switch's default port configuration is for a PC-compatible keyboard operating platform. If your console uses a PC-compatible keyboard and you have a Mac attached to a port, for example, you can change the port's keyboard operating platform configuration so that the PC-compatible keyboard emulates the Mac keyboard. The procedure is as follows:

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

2. Invoke HSM (see page 28).

3. Press and release the appropriate Function key (see table below). After completing this procedure, you automatically exit HSM.

Function Key	Operation
[F1]	Sets the SPC mode so that it can work under special operating systems as a standard (104 key) keyboard.
[F2]	Enables Mac keyboard emulation, see page 39, for details.
[F10]	Enables Windows keyboard emulation.

List Switch Settings

To see a listing of the current switch settings, do the following:

1. Open a text editor or word processor and place the cursor in the page window.

2. Invoke HSM (see page 28).

3. Press and release **[F4]** to display the settings.

USB Reset

If the USB loses focus and needs to be reset, do the following:

1. Invoke HSM (see page 28).

2. Press and release **[F5]**.

Keyboard Language

To change the keyboard language, do the following:

1. Invoke HSM (see page 28).

2. Press and release **[F6] [nn] [Enter]**.

> **Note:** **nn** is a two-digit number that represents the keyboard language code (US English: 33; French: 08; Japanese: 15; German: 09).

Buzzer Control

To toggle the buzzer on or off, do the following:

1. Invoke HSM (see page 28).

2. Press and release **[B]**.

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

Hotkey Port Switching

To enable/disable hotkey port switching, do the following:

1. Invoke HSM (see page 28).

2. Press **[X] [Enter]**.

When disabled, port switching hotkeys **[Scroll Lock] [Scroll Lock]** (and the alternative **[Ctrl] [Ctrl]**) will not work.

Restore Default Settings

To reset the switch to its default hotkey settings, do the following:

1. Invoke HSM (see page 28).

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

> **Note:** All Hotkey settings return to the factory default values (*Hotkey Default Settings*, page 79).

Firmware Upgrade Mode

To set the switch to Firmware Upgrade Mode, do the following:

1. Invoke HSM (see page 28).

2. Key in: **[U] [P] [G] [R] [A] [D] [E]**.

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

> **Note:** To exit Firmware Upgrade Mode, you must power off the switch.

Power on Detection / Hotdesk Mode

◆ With Power on Detection, if the focus computer is powered off, the switch will automatically switch to the next powered-on computer. Power on Detection can be enabled or disabled. The default setting is enabled.

◆ With Hotdesk Mode, the switch will automatically switch to the latest detected powered-on computer. Hotdesk Mode can be enabled or disabled.

To enable/disable Power on Detection and Hotdesk Mode, do the following:

1. Invoke HSM (see page 28).

2. Press and release **[E]**.

3. Press and release the appropriate Function key (see table below).

Function Key	Operation
0	Disables Power on Detection / Hotdesk Modes.
1	Enables Power on Detection.
2	Enables Hotdesk Mode.

Alternative Manual Port Selection

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

1. Invoke HSM (see page 28).

2. Press **[S]**.

This procedure is a toggle. Repeat to revert to the original setting. See *Alternative Manual Port Selection Settings*, page 22, for more information.

Keyboard Emulation

The console keyboard port emulation/bypass feature supports most gaming/ multimedia keyboards. The default setting is enabled. To disable keyboard emulation, do the following:

1. Invoke HSM (see page 28).

2. Press **[N]**.

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

   Note: When keyboard emulation is disabled, the [M], [Q], [W], [F2], [F4], [F5], [F6], and [F10] hotkey operations are disabled. See page 36, for details.

Mouse Emulation

To toggle between mouse emulation enabled and disabled, do the following:

1. Invoke HSM (see page 28).

2. Press **[M]**.

   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 (clicked twice) to switch ports. For Mouse Port Switching to work, Mouse Emulation (above) must be enabled. To toggle between mouse port switching enabled and disabled, do the following:

1. Invoke HSM (see page 28).

2. Press **[W]**.

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

   Note: This feature is only supported by USB 3-key scroll wheel mice. The default setting is disabled. This feature is only supported when mouse emulation is also enabled. See *Mouse Emulation*, above.

Monitor Re-detection

If the monitor's display is blank, use this hotkey to re-detect the monitor's EDID. Monitor re-detection can be enabled or disabled. The default setting is disabled. To enable monitor re-detection, do the following:

1. Invoke HSM (see page 28).

2. Press **[Q] [n] [Enter]**.

   The **n** is a one-digit number that represents the port number: n = 1-2 (CS1942DPA); or n = 1-4 (CS1944DPA).

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

Switching Mode Selection

The Switching Mode Selection allows you to select an appropriate switching mode between Normal Switching Mode and Fast Switching Mode.

Note: The function (press a port selection pushbutton twice to bring the audio focus to the computer attached to its corresponding port) will be disabled when the fast switching mode is enabled, see *Alternative Manual Port Selection Settings*, page 22.

To change the switching mode, do the following:

1. Invoke HSM (see page 28).

2. Press **[P]**.

3. Press and release the appropriate Function key (see table below).

Function Key	Operation
1	Sets the KVM to Normal Switching Mode (Default).
2	Sets the KVM to Fast Switching Mode.

4. Press **[Enter]**. After completing this procedure, you automatically exit HSM.

Note: The configuration of Fast Switching Mode might not work with some monitors. If your video output does not display successfully or work properly, please use the default Normal Switching Mode instead.

N-Key Rollover Keyboard Supporting Function

To enable/disable N-key rollover keyboard supporting function, do the following:

1. Invoke HSM (see page 28).

2. Press **[K] [Enter]**.

Note: If you encounter any problem when using the BIOS when your computer is starting up, please turn off the N-Key rollover keyboard supporting function and then try again.

Power Saving Mode

To enable/disable power saving mode, do the following:

1. Invoke HSM (see page 28).

2. Press **[P] [S] [Enter]**.

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

HSM Summary Table

After invoking HSM (see page 28), key in one of the following keys to perform the corresponding function:

Key	Function
[B]	Enables/disables the buzzer.
[E] [n] [Enter]	Enables/disables the power on detection feature or hotdesk mode. ◆ n = 0, disables power on detection / hotdesk modes. ◆ n = 1, enables power on detection. ◆ n = 2, enables hotdesk mode.
[H]	Toggles between the default and alternate HSM invocation keys.
[K] [Enter]	Enables/disables N-key rollover keyboard supporting function.
[M]	Enables/disables mouse emulation.
[N]	Enables/disables keyboard emulation.
[P] [n] [Enter]	Sets the KVM switching mode. ◆ n = 1, sets the KVM to Normal Switching Mode. ◆ n = 2, sets the KVM to Fast Switching Mode. **Note:** The function (press a port selection pushbutton twice to bring the audio focus to the computer attached to its corresponding port) will be disabled when the fast switching mode is enabled, see *Alternative Manual Port Selection Settings*, page 22.
[P] [S] [Enter]	Enables/disables the power saving mode.
[Q] [n] [Enter]	Enables/disables the monitor re-detection on port [n]. ◆ n = 1-2 (CS1942DPA); or n = 1-4 (CS1944DPA).
[R] [Enter]	Rests the hotkey settings to their default statuses.
[S]	Toggles between the default and alternative manual port selection pushbutton settings.
[T]	Toggles between the default ([Scroll Lock] [Scroll Lock]) and alternate ([Ctrl] [Ctrl]) port switching keys.
[U] [P] [G] [R] [A] [D] [E] [Enter]	Invokes firmware upgrade mode.
[W]	Enables/disables mouse port switching.

Key	Function
[X] [Enter]	Enables/disables hotkey port switching.
[F1]	Allows the keyboard and mouse to work under special operating system as a standard (104 key) keyboard/mouse.
[F2]	Enables Mac keyboard emulation.
[F4]	Print the switch's current settings via a text editor or word processor.
[F5]	Performs a reset on all USB devices.
[F6] [n][n] [Enter]	Sets the keyboard language layout. *nn* represents one of the following keyboard language codes: US English: 33; French: 08; Japanese: 15; German: 09.
[F10]	Enables Windows keyboard emulation.

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Chapter 5
Keyboard Emulation

Mac Keyboard

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
[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.

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RS-232 Operation

Overview

The CS1942DPA / CS1944DPA's built-in bi-directional RS-232 serial interface allows system control through a high-end controller or PC. RS-232 serial operations in a CS1942DPA / CS1944DPA installation are managed via HyperTerminal sessions on systems that are running Windows. In order to use this feature to send commands to the CS1942DPA / CS1944DPA, you must first download and install a HyperTerminal application.

Setup

Install a HyperTerminal application on a computer that is not part of the installation, which will be used to control the switch via the RS-232 connection. HyperTerminal applications can be download from the Internet, and many operating systems are embedded with HyperTerminal applications.

Hardware Connection

Use a RJ-45 to DB-9 serial adapter to connect a computer's serial port to the RJ-45 port (Daisy Chain Control) on the CS1942DPA / CS1944DPA and slide the primary / secondary switch to s position, as shown below:

Note: The unit used in the diagram below is CS1944DPA, the procedure for connecting CS1942DPA is identical with fewer KVM ports.

RJ-45 to DB-9 Adapter
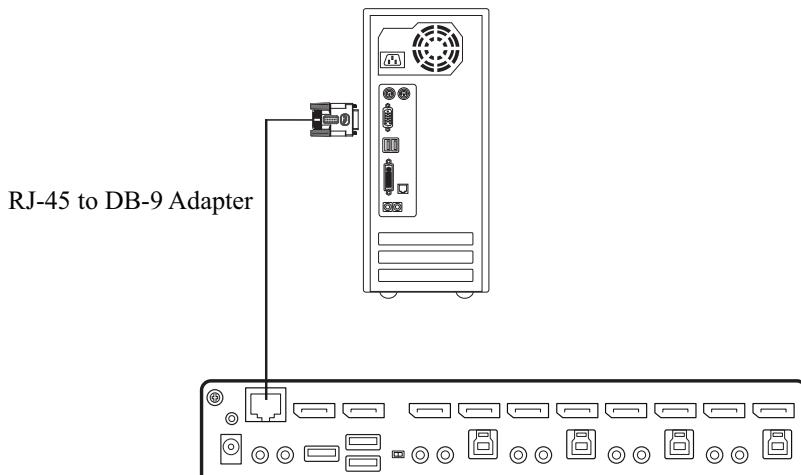
RS-232 Pin Assignments

Pin assignments for the CS1942DPA / CS1944DPA's rear RJ-45 port (Daisy Chain Control) that is used for connecting to a serial terminal are given in the table, below:

Pin	Assignment	
1	N/A	
2	N/A	
3	TXD: Transmit Data	
4	N/A	
5	GND: Signal Ground	
6	RXD: Receive Data	
7	N/A	
8	N/A	
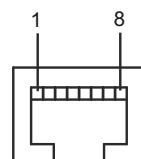
RJ-45 Female

Console Login - HyperTerminal

Once a physical connection from the computer to the CS1942DPA / CS1944DPA has been made, you can establish a HyperTerminal session using the instructions below.

1. Open the *HyperTerminal* application, and configure the port settings for COM1 port, then click **OK**.
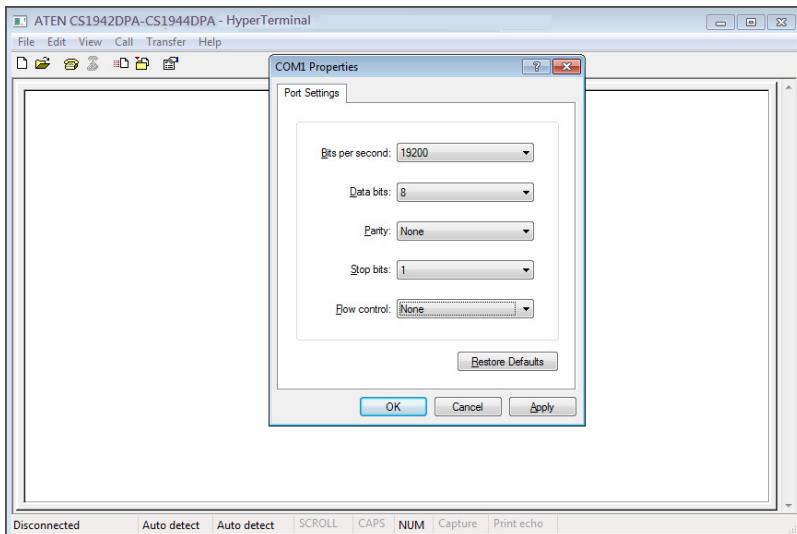
Bits per Second: **19200**, Data Bits: **8**, Parity: **None**, Stop bits: **1**, Flow Control: **None**.

2. After configuring the port settings you must enable serial control on the switch by typing the command: **Open + [Enter]**.
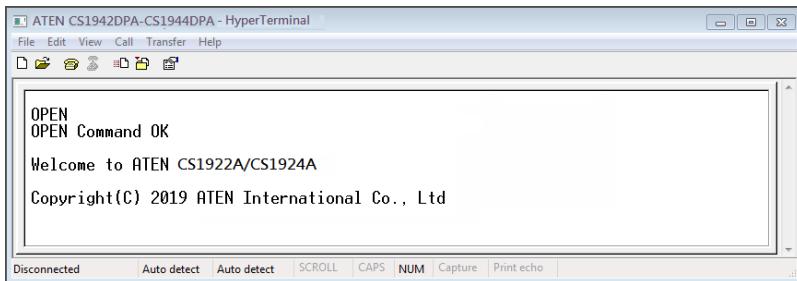
RS-232 Commands

After you login via HyperTerminal (see page 43) use the instructions below to send RS-232 commands to control the switch from the computer.

When RS-232 control is enabled via the **Open** + **[Enter]** command, the CS1942DPA / CS1944DPA's front panel pushbuttons, mouse switching, hotkeys, and remote port selector will be disabled, until the serial connected is closed.

Verification

After entering a command, a verification message appears, as shown below, at the end of the command line, as follows:

Response Message	Description
Command OK	Command or parameter is correct.
Command incorrect	Command or parameter is incorrect.

With all commands in the sections that follow:

 Each command string can be separated with a space.

 The [Enter] command can be replaced with the ASCII code: 0x0D0A

Open / Close

The *Open* and *Close* commands allows you to start and end the link between the computer sending RS-232 commands and the CS1942DPA / CS1944DPA. When the link is open, the CS1942DPA / CS1944DPA only accepts RS-232 commands and will not respond to front panel pushbuttons, mouse switching, hotkeys, and remote port selector. The link starts with the *open* command and ends with the *close* command or after 2 minutes if no command is sent. The default value is close.

Note: To regain full control of front panel pushbuttons, mouse switching, hotkeys, and remote port selector, close the RS-232 link command and slide the DCC Switch to the p position (primary).

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formulas:

Command + [Enter]

Parameters:

Command	Description
open	Open RS-232 Link command
close	Close RS-232 Link command

Enter	Description
Enter	Enter and send out command

Open/Close RS-232 Link Command

The available formulas for the Open/Close RS-232 Link commands are as follows:

1. Command + [Enter]

For example, to open the RS-232 link between the computer and CS1942DPA / CS1944DPA, type the following:

open [Enter]

2. Command + [Enter]

For example, to close the RS-232 link between the computer and CS1942DPA / CS1944DPA, type the following:

close [Enter]

Switch Port

The *Switch Port* command allows you to switch ports. The default port is 01.

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formula:

Command + Control + [Enter]

Parameters:

Command	Description
sw	Switch Port Command

Control	Description
ixx	Input Port Number x= 01~02 (CS1942DPA); 01~04 (CS1944DPA)

Enter	Description
Enter	Enter and send out command

Switch Port Command

Some available formula for the Switch Port commands is as follows:

Command + Control + [Enter]

For example, to switch to port 2, type the following:

   sw i02 [Enter]

Note: The **Control** command can be skipped and the default value will be used.

Switch to Next Port

The *Switch to Next Port* command allows you to switch ports from 01~02 and 02~01 (CS1942DPA); 01~02, 02~03, 03~04, and 04~01 (CS1944DPA).

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formula:

Command + [Enter]

Parameters:

Command	Description
sw	Switch Port Command

Enter	Description
Enter	Enter and send out command

Switch to Next Port Command

The available formula for the Switch to Next Port command is as follows:

Command + [Enter]

For example, to switch to from port 1 to port 2, type the following:

    sw [Enter]

Switch Port (KVM Focus only)

The switch port command allows you to switch the KVM focus among computers connected to the CS1942DPA / CS1944DPA's ports.

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formula:

Command + Control + [Enter]

Parameters:

Command	Description
sw	Switch Port Command

Control	Description
ixx	Input Port Number x= 01~02 (CS1942DPA); 01~04 (CS1944DPA)
kvm	Switch KVM focus only

Enter	Description
Enter	Enter and send out command

Switch Port (KVM Focus only) Command

Some available formula for the Switch Port (KVM Focus only) command is as follows:

Command + Control + [Enter]

For example, to switch the KVM focus to port 2, type the following:

sw i02 kvm [Enter]

Note: The **Control** command string can be skipped, and the default value will be used.

Switch Port (USB Peripherals Focus only)

The switch port command allows you to switch the USB peripherals focus among computers connected to the CS1942DPA / CS1944DPA's ports.

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formula:

Command + Control + [Enter]

Parameters:

Command	Description
sw	Switch Port Command

Control	Description
ixx	Input Port Number x= 01~02 (CS1942DPA); 01~04 (CS1944DPA)
usb	Switch USB peripherals focus only

Enter	Description
Enter	Enter and send out command

Switch Port (USB Peripherals Focus only) Command

Some available formula for the Switch Port (USB Peripherals Focus only) command is as follows:

Command + Control + [Enter]

For example, to switch the USB peripherals focus to port 2, type the following:

sw i02 usb [Enter]

Note: The **Control** command string can be skipped, and the default value will be used.

Switch Port (Audio Focus only)

The switch port command allows you to switch the audio focus among computers connected to the CS1942DPA / CS1944DPA's ports.

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formula:

Command + Control + [Enter]

Parameters:

Command	Description
sw	Switch Port Command

Control	Description
ixx	Input Port Number x= 01~02 (CS1942DPA); 01~04 (CS1944DPA)
audio	Switch audio focus only

Enter	Description
Enter	Enter and send out command

Switch Port (Audio Focus only) Commands

Some available formula for the Switch Port (Audio Focus only) command is as follows:

Command + Control + [Enter]

For example, to switch the audio focus to port 2, type the following:

sw i02 audio [Enter]

Note: The **Control** command string can be skipped, and the default value will be used.

Switch Port (KVM and USB Peripherals Focus)

The switch port command allows you to switch the KVM and USB peripherals focus among computers connected to the CS1942DPA / CS1944DPA's ports.

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formula:

Command + Control + [Enter]

Parameters:

Command	Description
sw	Switch Port Command

Control	Description
ixx	Input Port Number
	x= 01~02 (CS1942DPA); 01~04 (CS1944DPA)
kvm usb	Switch KVM and USB peripherals focus

Enter	Description
Enter	Enter and send out command

Switch Port (KVM and USB Peripherals Focus) Commands

Some available formula for the Switch Port (KVM and USB Peripherals Focus) command is as follows:

Command + Control + [Enter]

For example, to switch the KVM and USB peripherals focus to port 2, type the following:

sw i02 kvm usb [Enter]

Note: The **Control** command string can be skipped, and the default value will be used.

Switch Port (KVM and Audio Focus)

The switch port command allows you to switch the KVM and audio focus among computers connected to the CS1942DPA / CS1944DPA's ports.

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formula:

Command + Control + [Enter]

Parameters:

Command	Description
sw	Switch Port Command

Control	Description
ixx	Input Port Number x= 01~02 (CS1942DPA); 01~04 (CS1944DPA)
kvm audio	Switch KVM and audio focus

Enter	Description
Enter	Enter and send out command

Switch Port (KVM and Audio Focus) Commands

Some available formula for the Switch Port (KVM and Audio Focus) command is as follows:

Command + Control + [Enter]

For example, to switch the KVM and audio focus to port 2, type the following:

sw i02 kvm audio [Enter]

Note: The **Control** command string can be skipped, and the default value will be used.

Switch Port (USB Peripherals and Audio Focus)

The switch port command allows you to switch the USB peripherals and audio focus among computers connected to the CS1942DPA / CS1944DPA's ports.

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formula:

Command + Control + [Enter]

Parameters:

Command	Description
sw	Switch Port Command

Control	Description
ixx	Input Port Number
	x= 01~02 (CS1942DPA); 01~04 (CS1944DPA)
usb audio	Switch USB peripherals and audio focus

Enter	Description
Enter	Enter and send out command

Switch Port (USB Peripherals and Audio Focus) Commands

Some available formula for the Switch Port (USB Peripherals and Audio Focus) command is as follows:

Command + Control + [Enter]

For example, to switch the USB peripherals and audio focus to port 2, type the following:

sw i02 usb audio [Enter]

Note: The **Control** command string can be skipped, and the default value will be used.

Set Baud Rate

The *Set Baud Rate* command allows you to configure the baud rate setting for the serial port connection. The default baud rate is 19200.

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formula:

Command + Control + [Enter]

Parameters:

Command	Description
baud	Baud Rate Command

Control	Description
19200	Set baud rate to 19200 (Default)
38400	Set baud rate to 38400
9600	Set baud rate to 9600

Enter	Description
Enter	Enter and send out command

Set Baud Rate Commands

Some available formula for the Set Baud Rate command is as follows:

Command + Control + [Enter]

For example, to set the baud rate to 19200, type the following:

baud 19200 [Enter]

Keyboard Language Layout

The *Keyboard Language Layout* command allows you to change the keyboard language layout. The default language is English.

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formula:

Command + Control + [Enter]

Parameters:

Command	Description
layout	Keyboard Language Layout Command

Control	Description
en	Change the keyboard language layout to English
fr	Change the keyboard language layout to French
jp	Change the keyboard language layout to Japanese
ge	Change the keyboard language layout to German

Enter	Description
Enter	Enter and send out command

Keyboard Language Layout Commands

Some available formulas for Keyboard Language Layout commands are as follows:

1. Command + Control + [Enter]

For example, to change the keyboard language layout to Japanese, type the following:

layout jp [Enter]

2. Command + Control + [Enter]

For example, to change the keyboard language layout to French, type the following:

layout fr [Enter]

Hotkey Setting

The *Hotkey Setting* command allows you to change the hotkey used to invoke the HSM (Hotkey Setting Mode). The default hotkey is [Num Lock] + [-].

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formulas:

Command + Control + [Enter]

Parameters:

Command	Description
hotkey	Hotkey Setting Command

Control	Description
num	Change the HSM invoke key to: [Num Lock] + [-]
f12	Change the HSM invoke key to: [Ctrl] + [F12]

Enter	Description
Enter	Enter and send out command

Hotkey Setting Commands

Some available formulas for Hotkey Setting commands are as follows:

1. Command + Control + [Enter]

For example, to change the HSM invoke key to [Num Lock] + [-], type the following:

hotkey num [Enter]

2. Command + Control + [Enter]

For example, to change the HSM invoke key to [Ctrl] + [F12], type the following:

hotkey f12 [Enter]

Hotkey Switching

The *Hotkey Switching* command allows you to change the hotkey used for switching. The default hotkey is [Scroll][Scroll].

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formulas:

Command + Control + [Enter]

Parameters:

Command	Description
switch	Hotkey Switching Command

Control	Description
scroll	Change hotkey switching key to: [Scroll] [Scroll]
ctrl	Change hotkey switching key to: [Ctrl] [Ctrl]

Enter	Description
Enter	Enter and send out command

Hotkey Switching Commands

Some available formulas for Hotkey Switching commands are as follows:

1. Command + Control + [Enter]

For example, to change the hotkey switching mode to [Scroll] [Scroll], type the following:

    switch scroll [Enter]

2. Command + Control + [Enter]

For example, to change the hotkey switching mode to [Ctrl] [Ctrl], type the following:

    switch ctrl [Enter]

USB Reset

The *USB Reset* command allows you to reset the USB connection. The default USB reset setting is off.

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formulas:

Command + Control + [Enter]

Parameters:

Command	Description
usbreset	USB Reset Command

Control	Description
on	Enable USB reset connection

Enter	Description
Enter	Enter and send out command

USB Reset Command

The available formula for the USB Reset command is as follows:

Command + Control + [Enter]

For example, to reset the USB connection, type the following:

usbreset on [Enter]

Restore Default Settings

The *Restore Default Settings* command allows you to reset all of the settings back to the default. The default setting is off.

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formulas:

Command + Control + [Enter]

Parameters:

Command	Description
reset	Restore Default Settings Command

Control	Description
on	Enable restore default values

Enter	Description
Enter	Enter and send out command

Restore Default Value Command

The available formula for the Restore Default Settings command is as follows:

Command + Control + [Enter]

For example, to restore all CS1942DPA / CS1944DPA settings back to the default, type the following:

reset on [Enter]

Firmware Upgrade

The *Firmware Upgrade* command allows you to enable the firmware upgrade mode. The default setting is off.

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formulas:

Command + Control+ [Enter]

Parameters:

Command	Description
upgrade	Firmware Upgrade Command

Control	Description
on	Enable firmware upgrade mode

Enter	Description
Enter	Enter and send out command

Firmware Upgrade Command

The available formula for the Firmware Upgrade command is as follows:

Command + Control + [Enter]

For example, to enable firmware upgrade mode, type the following:

upgrade on [Enter]

KVM Status

The *KVM Status* command allows you to display read-only information about the switches' current configuration status. The default setting is off.

Use the **Formula** - to set **Parameters** - to create a **Command**.

Formulas:

Command + Control + [Enter]

Parameters:

Command	Description
status	KVM Status Command

Control	Description
on	Enable KVM status

Enter	Description
Enter	Enter and send out command

KVM Status Command

The available formula for the KVM Status command is as follows:

Command + Control + [Enter]

For example, to display the CS1942DPA / CS1944DPA's configuration status, type the following:

status on [Enter]

A message similar to the one below will then appear:

hotkey: [numlock]+[-] / [scrolllock],[scrolllock]

os setting: pc

keyboard emulation: enabled/disabled

keyboard layout: English

mouse emulation: enabled/disabled

monitor re-detection: enabled/disabled

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Chapter 7
The Firmware Upgrade Utility

The Windows-based Firmware Upgrade Utility (FWUpgrade.exe) provides a smooth, automated process for upgrading the KVM switch's firmware. The Utility comes as part of a Firmware Upgrade Package that is specific for each device. Check the website regularly to find the latest packages and information relating to them:

http://www.aten.com/global/en/support-and-downloads/downloads/

Before You Begin

1. From a computer that is not part of your KVM installation, go to our Support & Downloads site and choose the model name that relates to your device (CS1942DPA / CS1944DPA) 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 your computer.

3. Unzip the downloaded firmware upgrade package.

4. Power off the CS1942DPA / CS1944DPA. Connect the USB cable's Type-A connector to a USB Type-A port on your computer.

Note: The unit used in the diagram below is CS1944DPA, the procedure for connecting CS1942DPA is identical with fewer KVM ports.

CS1944DPA Top View

CS1944DPA Rear View
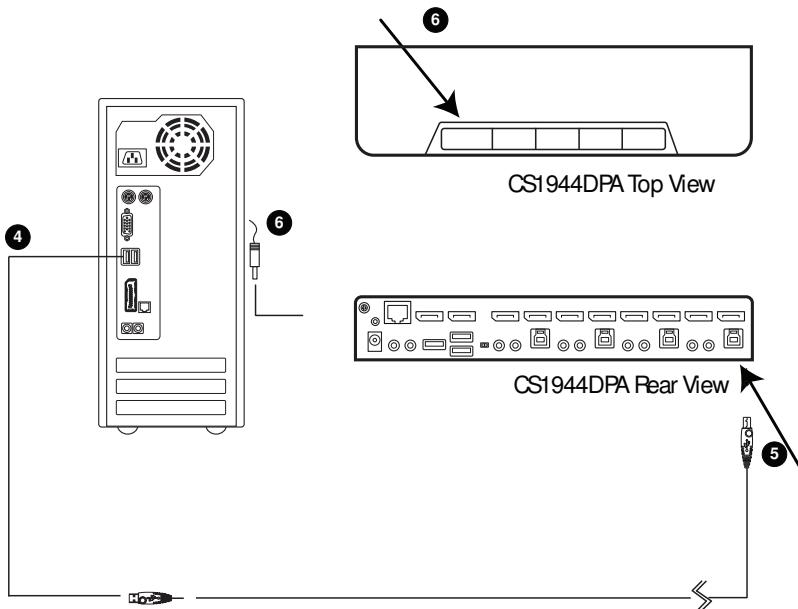
5. At the other end of the USB cable, connect the USB Type-B connector to the USB Type-B port in the Port 1 KVM section.

   Note: The USB cable's USB Type-B connector can be connected to any KVM port section, but the Port Selection pushbutton in Step 5, below, must be Port 1.

6. Press and hold the mode selection pushbutton or remote port selector pushbutton 1. While you are holding the button, connect the power adapter to the CS1942DPA / CS1944DPA to enter Firmware Upgrade Mode. The front panel LEDs flash together to indicate Firmware Upgrade Mode is in effect.

   Note: The USB mouse becomes not functional when the 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:
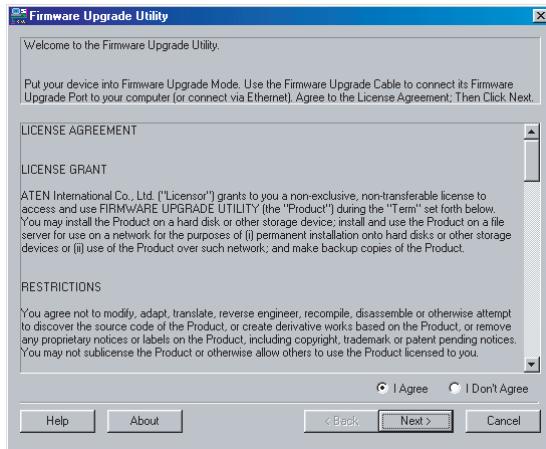
    Note: The screens shown in this section are for reference only. The wording and layout of the actual screens put up by the Firmware Upgrade Utility may vary slightly from these examples.

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

3. Click **Next** to continue. The Firmware Upgrade Utility main screen appears:
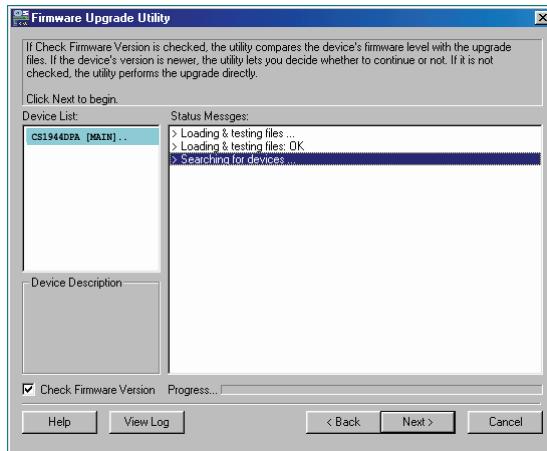

The Utility inspects your installation. All the devices capable of being upgraded by the package are listed in the *Device List* panel.

4. As you select a device in the list, its description appears in the Device Description panel.
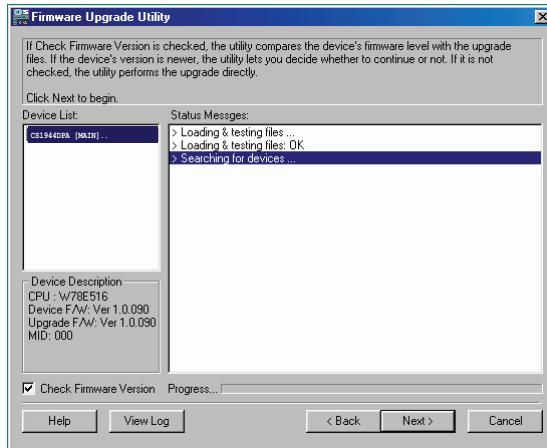
5. After you have made your device selection(s), Click **Next** to perform the upgrade.
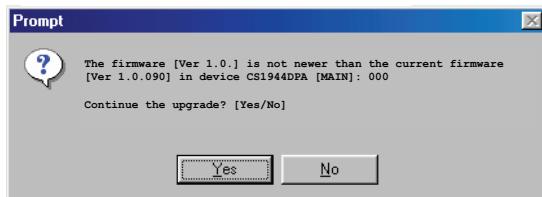

If you enabled Check Firmware Version, the Utility compares the device's firmware level with that of the upgrade files. If it finds that the device's version is higher than the upgrade version, it brings up a dialog box informing you of the situation and gives you the option to Continue or Cancel.

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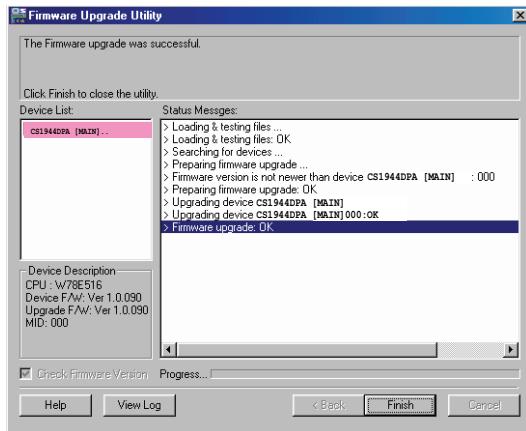
Click **Finish** to close the Firmware Upgrade Utility.

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-Display (DCC Mode)*, page 16).

Upgrade Failed

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 CS1942DPA / CS1944DPA by removing the power jack.

2. Invoke Firmware Upgrade Mode by holding down the *Mode Selection* pushbutton on the front panel (see *mode selection pushbutton*, page 8 for CS1942DPA, and see page 8 for CS1944DPAA) and power on the CS1942DPA / CS1944DPA. The orange LEDs flash together.

3. Do the firmware upgrade procedure again.

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Appendix

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.

- Avoid circuit overloads. Before connecting equipment to a circuit, know the power supply's limit and never exceed it. Always review the electrical specifications of a circuit to ensure that you are not creating a dangerous condition or that one doesn't already exist. Circuit overloads can cause a fire and destroy equipment.

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

- 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.

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

- 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.

    - The power cord or plug has become damaged or frayed.

    - Liquid has been spilled into the device.

    - The device has been exposed to rain or water.

    - The device has been dropped, or the cabinet has been damaged.

    - The device exhibits a distinct change in performance, indicating a need for service.

    - 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.

Rack Mounting

- Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.

- Always load the rack from the bottom up, and load the heaviest item in the rack first.

- Make sure that the rack is level and stable before extending a device from the rack.

- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.

- Make sure that all equipment used on the rack – including power strips and other electrical connectors – is properly grounded.

- Ensure that proper airflow is provided to devices in the rack.

- Ensure that the operating ambient temperature of the rack environment does not exceed the maximum ambient temperature specified for the equipment by the manufacturer

- Do not step on or stand on any device when servicing other devices in a rack.

- **Caution:** Slide/rail (LCD KVM) mounted equipment is not to be used as a shelf or a work space.

Troubleshooting

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

In addition, updating the product's 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 Chapter 6, *The Firmware Upgrade Utility*, for upgrade details.

Symptom	Possible Cause	Action
Mouse and/or Keyboard not responding.	Improper mouse and/or keyboard reset.	Unplug the cable(s) from the console port(s), then plug it/them back in.
	CS1942DPA / CS1944DPA needs to be reset.	Power off all devices on the installation (see safety note, top of page 13); power off the CS1942DPA / CS1944DPA; wait five seconds; then power up
USB devices not responding.	USB ports need to reset.	Unplug the device's USB cable from the USB port on the CS1942DPA / CS1944DPA's rear panel, then plug it back in.
	PC or OS does not support USB 2.0/3.0.	The CS1942DPA / CS1944DPA has a built-in USB 3.0 hub, so will not support PCs or OS that do not support USB 2.0/3.0.
		For an OS that does not support USB 2.0, keyboard and mouse functions can be reset using the [F1] Hotkey function. See page 36.
Device not recognized (Windows).	Windows timing problem.	1. Unplug the KVM cable from the computer's USB port. 2. Go into Windows' *System Settings* and remove the *Unknown Device* entry. 3. Plug the KVM cable back in. Windows will now recognize the device.
Front Panel Pushbuttons not responding when pushed.	The daisy chain switch located on the back of the CS1942DPA / CS1944DPA is set to Client.	Make sure the daisy chain switch located on the rear of the switch is set to *Host*. You should only set the daisy chain switch to *Client* when connecting two units in a Hex-Display installation, see *Quad-Display (DCC Mode)*, page 16.

Symptom	Possible Cause	Action
The Front Panel Pushbutton Combo key doesn't work after its set.	Some Hotkeys are not supported as front panel pushbutton combo keys.	The **[X] [Enter]**, **[R] [Enter]**. and **[upgrade] [Enter]** Hotkeys can not be set as a front panel pushbutton combo key. Select a different Hotkey to use.

Technical Support

Technical support is available both by email and online (with a browser over the web):

International

◆ For online technical support – including troubleshooting, documentation, and software updates: http://support.aten.com

◆ For telephone support, see *Telephone Support*, page iv:

North America

Email Support		support@aten-usa.com
Online Technical Support	Troubleshooting Documentation Software Updates	http://www.aten-usa.com/support
Telephone Support		1-888-999-ATEN ext 4988
		1-949-428-1111

When you contact us, please have the following information ready beforehand:

◆ Product model number, serial number, and date of purchase.

◆ Your computer configuration, including operating system, revision level, expansion cards, and software.

◆ Any error messages displayed at the time the error occurred.

◆ The sequence of operations that led up to the error.

◆ Any other information you feel may be of help.

Specifications

Function			CS1942DPA	CS1944DPA
Computer Connections			2	4
Port Selection			Hotkey, Pushbutton, Mouse Wheel*, RS-232 Commands, Remote Port Selector	
Connectors	Console Ports	Keyboard	1 x USB Type-A Female	
		Mouse	1 x USB Type-A Female	
		Video	2 x DisplayPort Female (Black)	
		Speakers	2 x 3.5mm Audio Jack Female (Green; 1 x front, 1 x rear)	
		Microphone	2 x 3.5mm Audio Jack Female (Pink; 1 x front, 1 x rear)	
	KVM Ports	KB / Mouse	2 x USB 3.1 Gen 1 Type-B Female (Blue)	4 x USB 3.1 Gen 1 Type-B Female (Blue)
		Video	4 x DisplayPort Female (Black)	8 x DisplayPort Female (Black)
		Speakers	2 x 3.5mm Audio Jack Female (Green)	4 x 3.5mm Audio Jack Female (Green)
		Microphone	2 x 3.5mm Audio Jack Female (Pink)	4 x 3.5mm Audio Jack Female (Pink)
	Daisy Chain Port		1 x RJ-45 Female	
	Remote Port Selector		1 x 2.5mm Audio Jack Female	
	Power		1 x DC Jack	
	USB Hub		2 x USB 3.1 Gen 1 Type-A Female (Blue; 1 x front, 1 x rear)	
LED	KVM		3 (Orange)	5 (Orange)
	Audio		3 (Green)	5 (Green)
	USB Link		3 (Green)	5 (Green)
Switches	Selected		3 x Pushbutton	5 x Pushbutton
	Station Selection		1 x Slide switch	
Emulation	KB / Mouse		USB	
Video			Up to 7680 x 4320 @ 60 Hz, 5120 x 2880 @ 60 Hz, 4096 x 2160 @ 120 Hz	
Scan Interval			1–99 secs. (default: 5 seconds)	

Function		CS1942DPA	CS1944DPA
Power Consumption		DC12V:3.29W:81BTU/h	DC12V:4.88W:88BTU/h
		Note: ◆ The measurement in Watts indicates the typical power consumption of the device with no external loading. ◆ The measurement in BTU/h indicates the power consumption of the device when it is fully loaded.	
Environmental	Operating Temp.	0–50ºC	
	Storage Temp.	-20–60ºC	
	Humidity	0–80% RH, Non-condensing	
Physical Properties	Housing	Metal	
	Weight	0.47 kg (1.04 lb)	0.62 kg (1.37 lb)
	Dimensions (L x W x H)	20.00 x 7.18 x 4.30 cm (7.87 x 2.83 x 1.69 in)	26.00 x 7.18 x 4.30 cm (10.24 x 2.83 x 1.69 in)

* Port switching only works with 3-key USB mouse wheel in emulation mode.

Hotkey Default Settings

The hotkey factory default settings are as follows:

Setting	Default
Port Switching	[Scroll Lock] [Scroll Lock]
Invoking HSM	[Number Lock] [-]
Keyboard Emulation	Enabled
Mouse Emulation	Enabled
Auto Scan Interval	5 Seconds
Mouse Wheel Switching	Disabled
Power On Detection	Enabled
Keyboard Operating Platform	Windows
Keyboard Language Layout	English
Beeper	Enabled
Firmware Upgrade Mode	Disabled
Port Switching Keys	Enabled
Monitor Re-detection	Disabled
Switching Mode Selection	Normal Switching Mode
N-Key Rollover Keyboard	Disabled
Power Saving Mode	Enabled

ATEN Warranty Policy

The warranty policy may vary by product category and region of purchase. For details, please visit ATEN's official website, select your purchase counties/regions and then go to the Support Center, or contact your local ATEN sales representative for further assistance.