



**CS1964**

**4-Port USB 3.0**

**4K DisplayPort Triple Display**

**KVMP™ Switch**

**RS-232 Commands**

**User Manual**



## EMC Information

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### 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.

### 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.

## RoHS

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This product is RoHS compliant.



# RS-232 Operation

## Overview

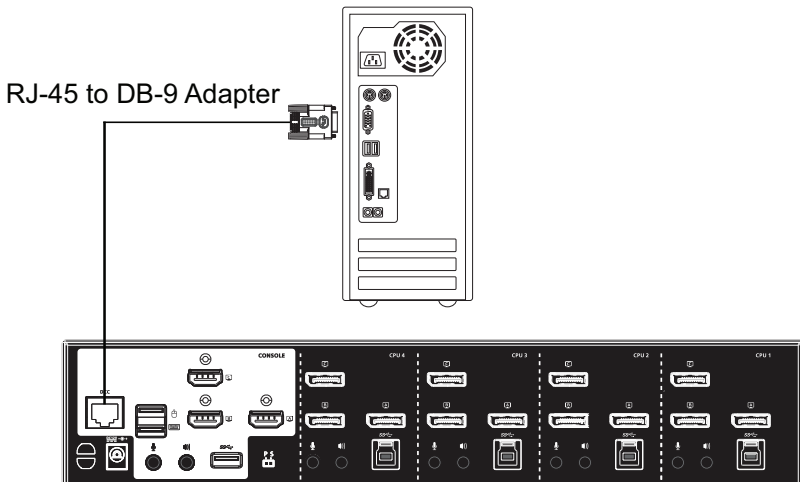
The CS1964's built-in bi-directional RS-232 serial interface allows system control through a high-end controller or PC. RS-232 serial operations in a CS1964 installation are managed via HyperTerminal sessions on systems that are running Windows. In order to use this feature to send commands to the CS1964, you must first download and install a HyperTerminal application. For detailed instructions and information about each of the commands provided in this manual, please refer to the CS1964 user manual.

## 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

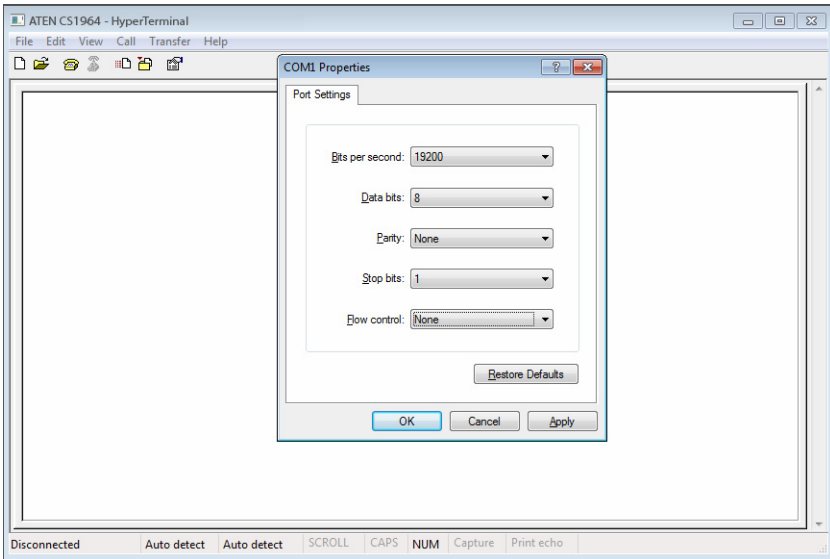
Use a RJ-45 to DB-9 serial adapter to connect a computer's serial port to the serial port on the CS1964, as shown below:



## Console Login - HyperTerminal

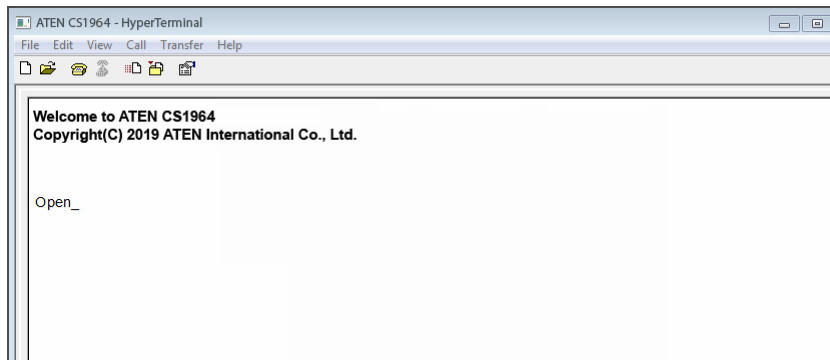
Once a physical connection from the computer to the CS1964 has been made, you can establish a HyperTerminal session using the instructions below.

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

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After you login via HyperTerminal (see *Console Login - HyperTerminal*) 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 CS1964's front panel pushbuttons and hotkeys (excluding the mouse cursor shift and monitor layout hotkeys) will be disabled, until the serial connection is closed.

For detailed information about the controls listed in this guide, please refer to the CS1964 user manual.

### 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 CS1964. When the link is open, the CS1964 only accepts RS-232 commands and will not respond to front panel pushbuttons and hotkeys (excluding the mouse cursor shift and monitor layout hotkeys) – until the link is closed. 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.

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

### **Formulas:**

Command + [Enter]

### **Parameters:**

<b>Command</b>	<b>Description</b>
open	Open RS-232 Link command
close	Close RS-232 Link command

<b>Enter</b>	<b>Description</b>
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 CS1964, type the following:

**open [Enter]**

2. Command + [Enter]

For example, to close the RS-232 link between the computer and CS1964, 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= 01~04 (CS1964)

Enter	Description
Enter	Enter and send out command

## Switch Port Commands

Some available formulas for the Switch Port commands are as follows:

1. Command + Control + [Enter]

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

**sw i02 [Enter]**

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

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## **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:**

<b>Command</b>	<b>Description</b>
baud	Baud Rate Command

<b>Control</b>	<b>Description</b>
19200	Set baud rate to 19200 (Default)
38400	Set baud rate to 38400
9600	Set baud rate to 9600

<b>Enter</b>	<b>Description</b>
Enter	Enter and send out command

## **Set Baud Rate Commands**

Some available formulas for the Set Baud Rate commands are as follows:

1. 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:**

<b>Command</b>	<b>Description</b>
layout	Keyboard Language Layout Command

<b>Control</b>	<b>Description</b>
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

<b>Enter</b>	<b>Description</b>
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:**

<b>Command</b>	<b>Description</b>
hotkey	Hotkey Setting Command

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

<b>Enter</b>	<b>Description</b>
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:**

<b>Command</b>	<b>Description</b>
usbreset	USB Reset Command

<b>Control</b>	<b>Description</b>
on	Enable USB reset connection

<b>Enter</b>	<b>Description</b>
Enter	Enter and send out command

### **USB Reset Command**

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

1. 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:**

<b>Command</b>	<b>Description</b>
reset	Restore Default Settings Command

<b>Control</b>	<b>Description</b>
on	Enable restore default values

<b>Enter</b>	<b>Description</b>
Enter	Enter and send out command

## **Restore Default Value Command**

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

1. Command + Control + [Enter]

For example, to restore all CS1964 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:**

<b>Command</b>	<b>Description</b>
upgrade	Firmware Upgrade Command

<b>Control</b>	<b>Description</b>
on	Enable firmware upgrade mode

<b>Enter</b>	<b>Description</b>
Enter	Enter and send out command

### **Firmware Upgrade Command**

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

1. 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:**

<b>Command</b>	<b>Description</b>
status	KVM Status Command
<b>Control</b>	<b>Description</b>
on	Enable KVM status
<b>Enter</b>	<b>Description</b>
Enter	Enter and send out command

## **KVM Status Command**

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

1. Command + Control + [Enter]

For example, to display the CS1964'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

