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ATEN CS1922M Display Port MST KVMP Switch User Manual

CS1922M / CS1924M
2/4-Port USB 3.0 4K DisplayPort MST KVMP™ Switch
RS-232 Commands
V1.0
User Manual

www.aten.com

Contents

EMC Information

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

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

1. this device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

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

RoHS
This product is RoHS compliant.

Overview

The CS1922M / CS1924M'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 CS1922M / CS1924M installation are managed via HyperTerminal sessions on systems that are running Windows. In order to use this feature to send commands to the CS1922M / CS1924M, 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 CS1922M / CS1924M user manual.
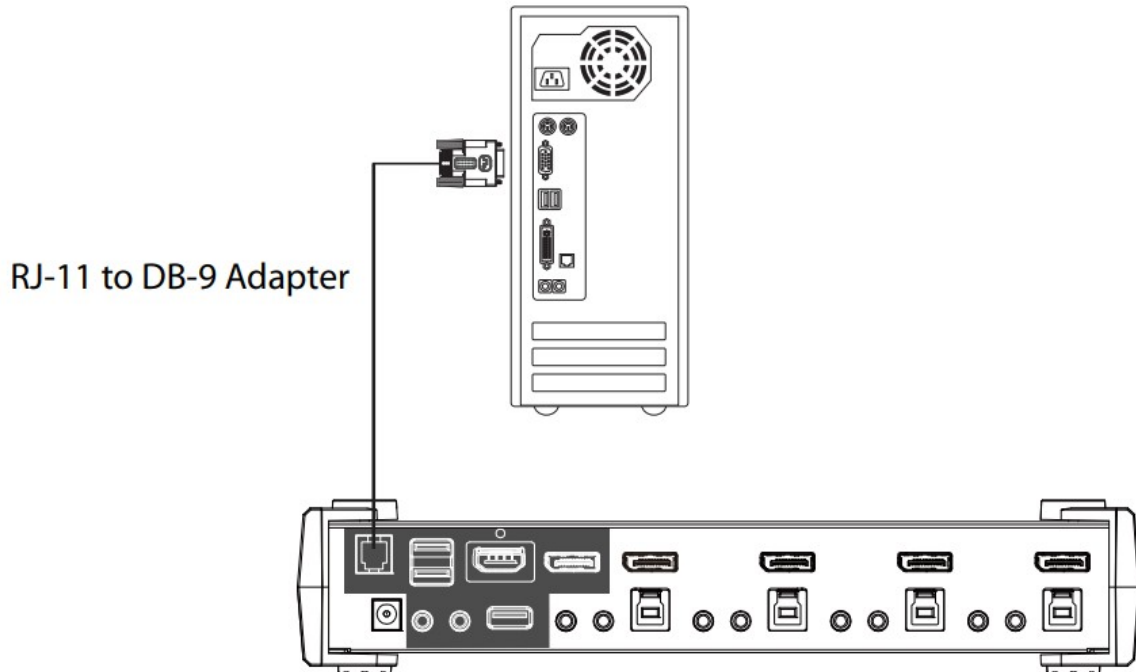
Setup

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-11 to DB-9 serial adapter (LIN5-04A2-J11G) to connect a computer's serial port to the serial port on the CS1922M / CS1924M, as shown below:
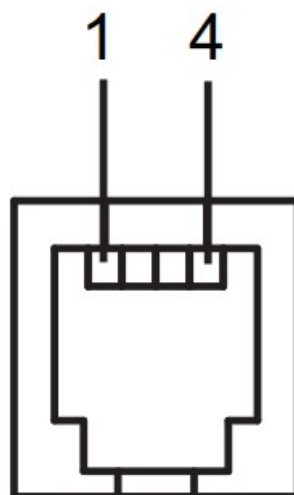
Note: The unit used in the diagram below is CS1924M, the procedure for connecting CS1922M is identical with fewer KVM ports.

RJ-11 to DB-9 Adapter

RS-232 Pin Assignments

Pin assignments for the CS1922M / CS1924M's rear RJ-11 Serial Port that is used for connecting to a serial terminal are given in the table, below:
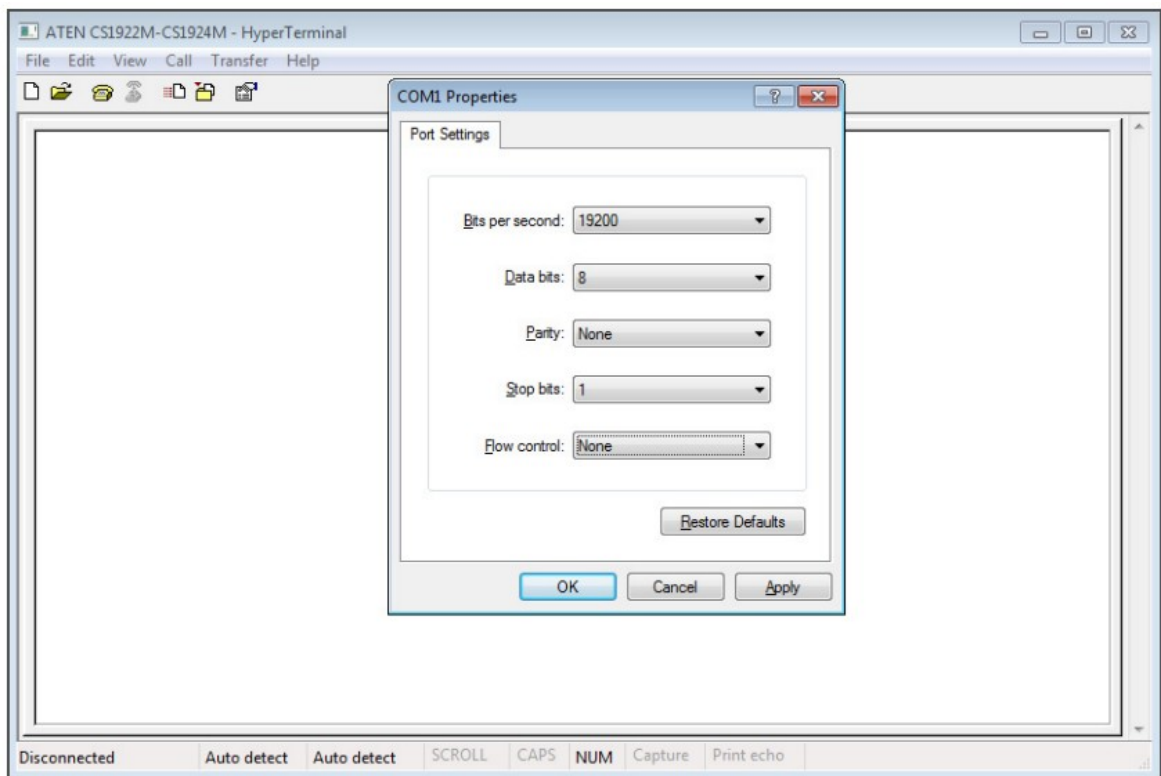
Note: This RJ-11 female connector is 4P4C.

RJ-11 Female

Pin	Assignment
1	TXD: Transmit Data
2	RXD: Receive Data
3	N/A
4	GND: Signal Ground

Console Login – HyperTerminal

Once a physical connection from the computer to the CS1922M / CS1924M has been made, you can establish a HyperTerminal session using the instructions below.
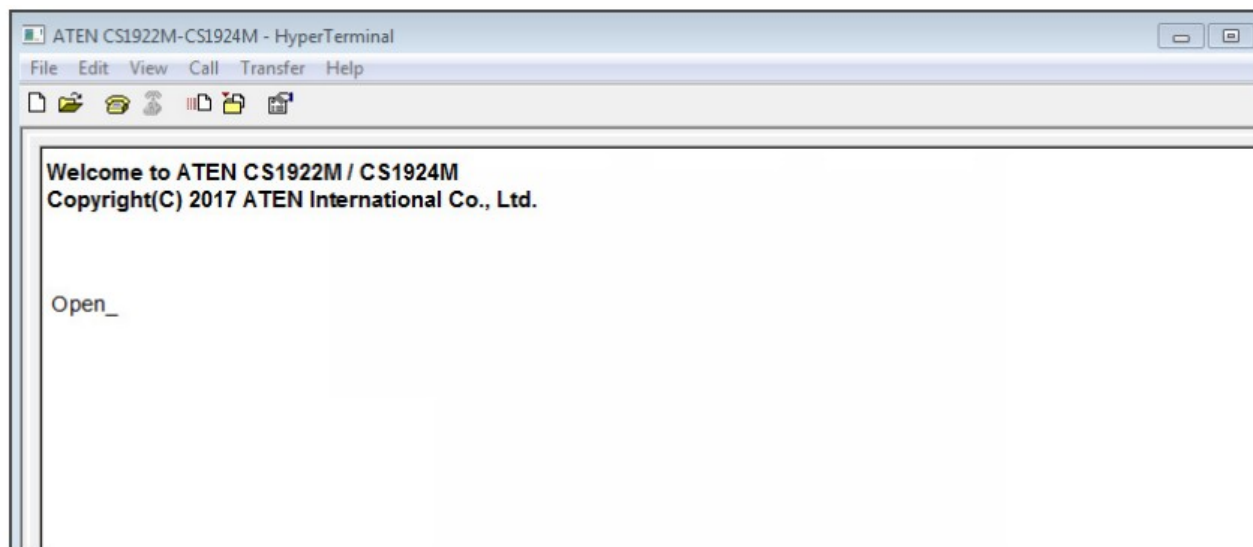
1. Open the HyperTerminal application, and configure the port settings for COM1 port, then click OK.

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 5) 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 CS1922M / CS1924M'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 CS1922M / CS1924M 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 CS1922M / CS1924M. When the link is open, the CS1922M / CS1924M 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:

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 CS1922M / CS1924M, type the following:

    open [Enter]

2. Command + [Enter] For example, to close the RS-232 link between the computer and CS1922M / CS1924M, 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 (Default: 01) Example: i02

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]

Note: The Control command 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:**

Comman	Description
baud	Baud Rate Command
Control	**Description**
19200	Set baud rate to 19200
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 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:**

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 Setting 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 key to [Scroll Lock] [Scroll Lock], type the following:

   switch scroll [Enter]

2. Command + Control + [Enter] For example, to change the hotkey switching key 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:

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:**

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:

1. Command + Control + [Enter] For example, to restore all CS1922M / CS1924M 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:

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**:

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:
1. Command + Control + [Enter] For example, to display the CS1922M / CS1924M'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

Display Mode

The Display Mode command allows you to set the switch to use SST Mode or MST Mode to configure the monitor setup.

Use the Formula – to set Parameters – to create a Command.

Formula:

Command + Control + [Enter] **Parameters**:

Command	Description
display	Display Mode Command
Control	**Description**
sst	Set the Switch to use Single Stream Transport (SST) mode
mst	Set the Switch to use Multi-Stream Transport (MST) mode
Enter	**Description**
Enter	Enter and send out command

Display Mode Commands

Some available formulas for Change Display Mode commands are as follows:

1. Command + Control + [Enter] For example, to set the switch to use SST mode, type the following:

   display sst [Enter]

2. Command + Control + [Enter] For example, to set the switch to use MST mode, type the following:

   display mst [Enter]

Documents / Resources

ATEN CS1922M Display Port MST KVMP Switch [pdf] User Manual
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