



KVM Remote RS-232 Control

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INTRODUCTION

HSL KVM Remote RS-232 control

This guide explains how to use RS-232 to remotely control an HSL KM, KVM, or Mini-Matrix.

To control an HSL switch using RS232, the user needs to connect a controlling device to the RS-232 port of a KVM, KM, or Mini-Matrix. The controlling device can be a PC or any custom device with RS-232 capability.

Remote controlling means performing actions that users could otherwise do only using the front panel, including:

- For a KM or KVM - switching channels
- For a Mini-Matrix - switching:
 - Channels on the left or right sides or between sides
 - Keyboard and mouse control between the left and right sides
 - Sound between the left and right sides
 - DPP between the left and right sides

Note: This manual is relevant for both HSL's secure and non-secure product lines

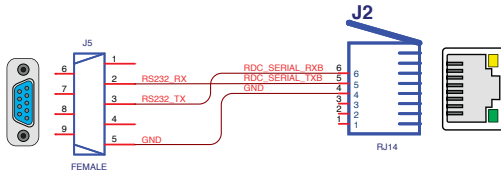
INSTALLATION

Connecting a KM, KVM, or Mini-Matrix Switch to a Remote-Control Device

This procedure shows how to connect a KM, KVM, or Mini-Matrix switch to a remote-control device.

What is needed:

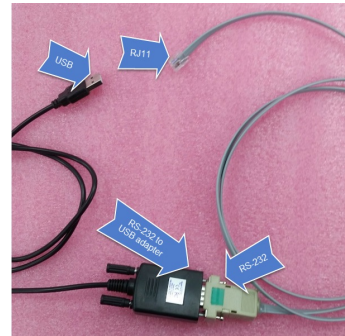
Use HSL's special remote-control cable, with an RJ11 jack, on one end and a serial RS-232 (DB-9) jack, on the other, like the one shown below:



Pinout for the RDC cable:

- Pin 1: 5V
- Pin 2: Not connected
- Pin 3: Not Connected
- Pin 4: GND
- Pin 5: RX
- Pin 6: TX

Note: If working in a PC environment with a device that does not have an RS-232 port (for example, a USB port) it is possible to connect a standard USB-to-serial cable adapter, as shown below:



To connect a KM, KVM, or Mini-Matrix to a remote-control device:

Using the cable explained above:

1. Connect the RJ11 jack to the KVM's RDC port.
2. Connect the RS-232 (DB-9) jack:
 - Directly to the remote-control device's RS-232 port, OR-
 - If working in a PC environment, via the USB-to-serial adapter, to the remote-control device's USB port

OPERATION

Configuring Example Using PuTTY for a KM, KVM, or Mini-Matrix Switch

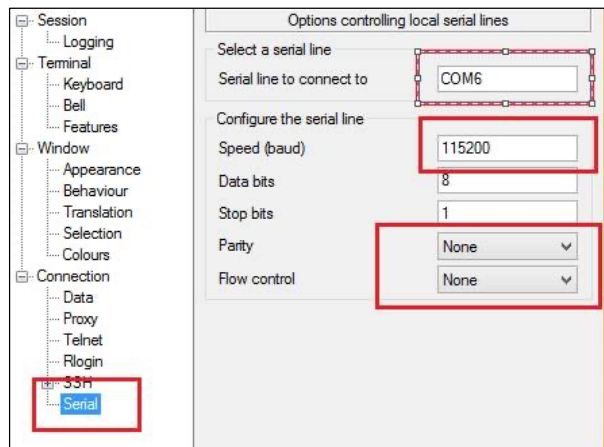
This procedure demonstrates how to switch channels via RS-232, without a translator. Here the user needs a PC running Windows OS with PuTTY software installed. This demo requires using the HSL special remote-control cable connected to the standard USB-to-serial adapter, described above.

To configure using PuTTY (if remotely controlling with a PC):

Pre-configuration

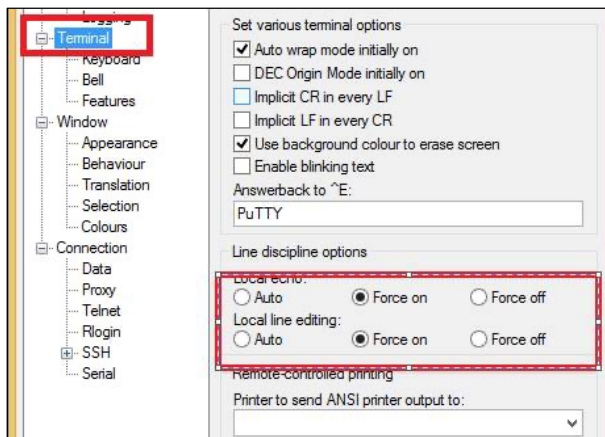
1. Install PuTTY on the client computer.
2. Connect the USB connector of the USB-to-serial cable, to the laptop.
3. Connect the special HSL RJ11-to-serial cable to the USB-to-serial cable.
4. Connect the RJ11 connector of the RJ11-to-serial cable, to the KM, KVM, or Mini-Matrix unit.
5. Run the PuTTY terminal.

PuTTY Configuration (Step 1 of 3)

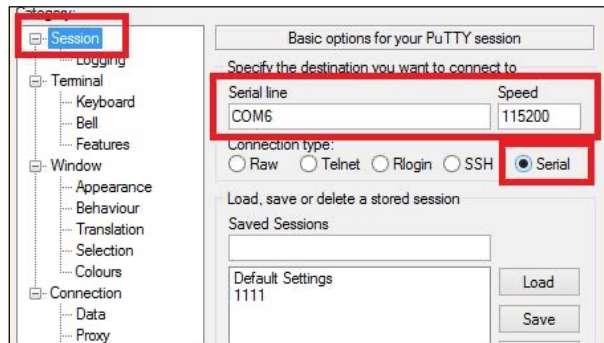


OPERATION

PuTTY Configuration (Step 2 of 3)



PuTTY Configuration (Step 3 of 3)



Note: At this point, the device sends keep-alive events every five seconds.

OPERATION

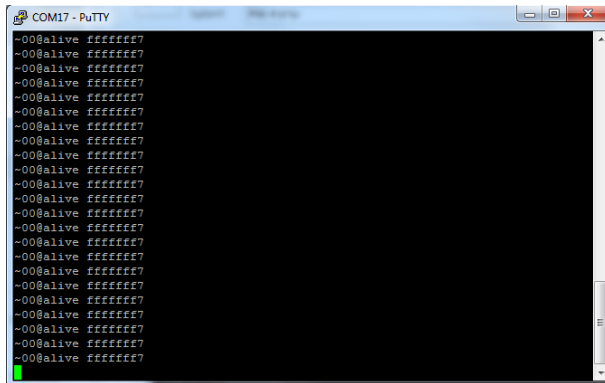
What are Keep-Alive Events?

Keep-alive events are what the device use to periodically communicate the status of its current configuration – to the remote controller – using the RS232 protocol.

For example, using a KVM, to switch to Channel 4, the user types:

#AFP_ALIVE F7

Then, every five seconds, the device sends the following keep-alive event: **00@alive fffffff7 as seen below:**

A screenshot of a terminal window titled "COM17 - PuTTY". The terminal displays a series of 20 lines of text, each representing a keep-alive event: "-00@alive fffffff7". The events are printed in a light blue color on a black background. The terminal window has standard Windows-style window controls (minimize, maximize, close) in the top right corner.

NOTE: The interval time of keep-alive events can be changed, using the following commands:

- 0.1 second: #ANATA 1
- 0.3 second: #ANATA 3
- 0.5 second: #ANATA 5
- 1 second: #ANATA 10
- 3 seconds: #ANATA 30
- 5 seconds: #ANATA 50
- etc.

OPERATION

Sending Commands to a KM or KVM Switch

To remotely control a KM or KVM, use the #AFP_ALIVE command with the arguments in the following table:

To switch to:	Type
Channel 1	FE
Channel 2	FD
Channel 3	FB
Channel 4	F7
Channel 5	EF
Channel 6	DF
Channel 7	BF
Channel 8	7F

For example, to remotely switch to Channel 5, type:

#AFP_ALIVE EF

OPERATION

Sending Commands to a 4-Port Mini-Matrix Switch

To remotely control a 4-port Mini-Matrix, use the #AFP_ALIVE command with the arguments in the following table:

Side	To switch to	Type
L E F T	Channel 1	FFFE
	Channel 2	FFFD
	Channel 3	FFFB
	Channel 4	FFF7
	KM (Switches control of keyboard and mouse to left computer)	FDFF
	Sound (Switches control of sound to left computer)	FBFF
	DPP (Switches control of DPP to left computer)	EFFF

Side	To switch to	Type
R I G H T	Channel 1	FFEF
	Channel 2	FFDF
	Channel 3	FFBF
	Channel 4	FF7F
	KM (Switches control of keyboard and mouse to right computer)	FEFF
	Sound (Switches control of sound to right computer)	F7FF
	DPP (Switches control of DPP to right computer)	DFFF

Sound/DPP Lock (on one of the 4 Ports Mini-Matrix sides):

For locking Sound or DPP on a left or right side, run either the DPP or Sound command twice. To unlock - run the relevant command once again .

For example, twice running the command **#AFP_ALIVE FBFF** (for sound) or **#AFP_ALIVE EFFF** (for DPP), locks the Sound/DPP on the the left side.

To Unlock the Sound - run once **#AFP_ALIVE FBFF** , to unlock DPP – run once **#AFP_ALIVE EFFF**

OPERATION

Sending Commands to an 8-Port Mini-Matrix Switch

To remotely control an 8-port Mini-Matrix, use the #AFP_ALIVE command with the arguments in the following table:

Side	To switch to	Type
L E F T	Channel 1	FFFFFFE
	Channel 2	FFFFFFD
	Channel 3	FFFFFFB
	Channel 4	FFFFFF7
	Channel 5 (For 8-port only)	FFFFFFF
	Channel 6 (For 8-port only)	FFFFDF
	Channel 7 (For 8-port only)	FFFFBF
	Channel 8 (For 8-port only)	FFFF7F
	KM (Switches control of keyboard and mouse to left computer)	FFFFFF
	Sound (Switches control of sound to left computer)	FBFFFF
	DPP (Switches control of DPP to left computer)	FFFFFF

Side	To switch to	Type
R I G H T	Channel 1	FFFEFF
	Channel 2	FFFDFF
	Channel 3	FFBFFF
	Channel 4	FF7FFF
	Channel 5 (For 8-port only)	FFFFFFF
	Channel 6 (For 8-port only)	FFDFFF
	Channel 7 (For 8-port only)	FFBFFF
	Channel 8 (For 8-port only)	FF7FFF
	KM (Switches control of keyboard and mouse to right computer)	FDFFFF
	Sound (Switches control of sound to right computer)	F7FFFF
	DPP (Switches control of DPP to right computer)	DFFFFF

Sound/DPP Lock (on one of the 8 Ports Mini-Matrix sides):

For locking Sound/DPP on a left or right side, run either the DPP or Sound command twice. To unlock - run the relevant DPP command once again.

For example, twice running the command #AFP_ALIVE **FBFFFF** (for sound) or #AFP_ALIVE **FFFFFF** (for DPP), locks the Sound/DPP on the left side. To Unlock the Sound - run once #AFP_ALIVE **FBFFFF**, to unlock DPP - run once #AFP_ALIVE **FFFFFF**



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