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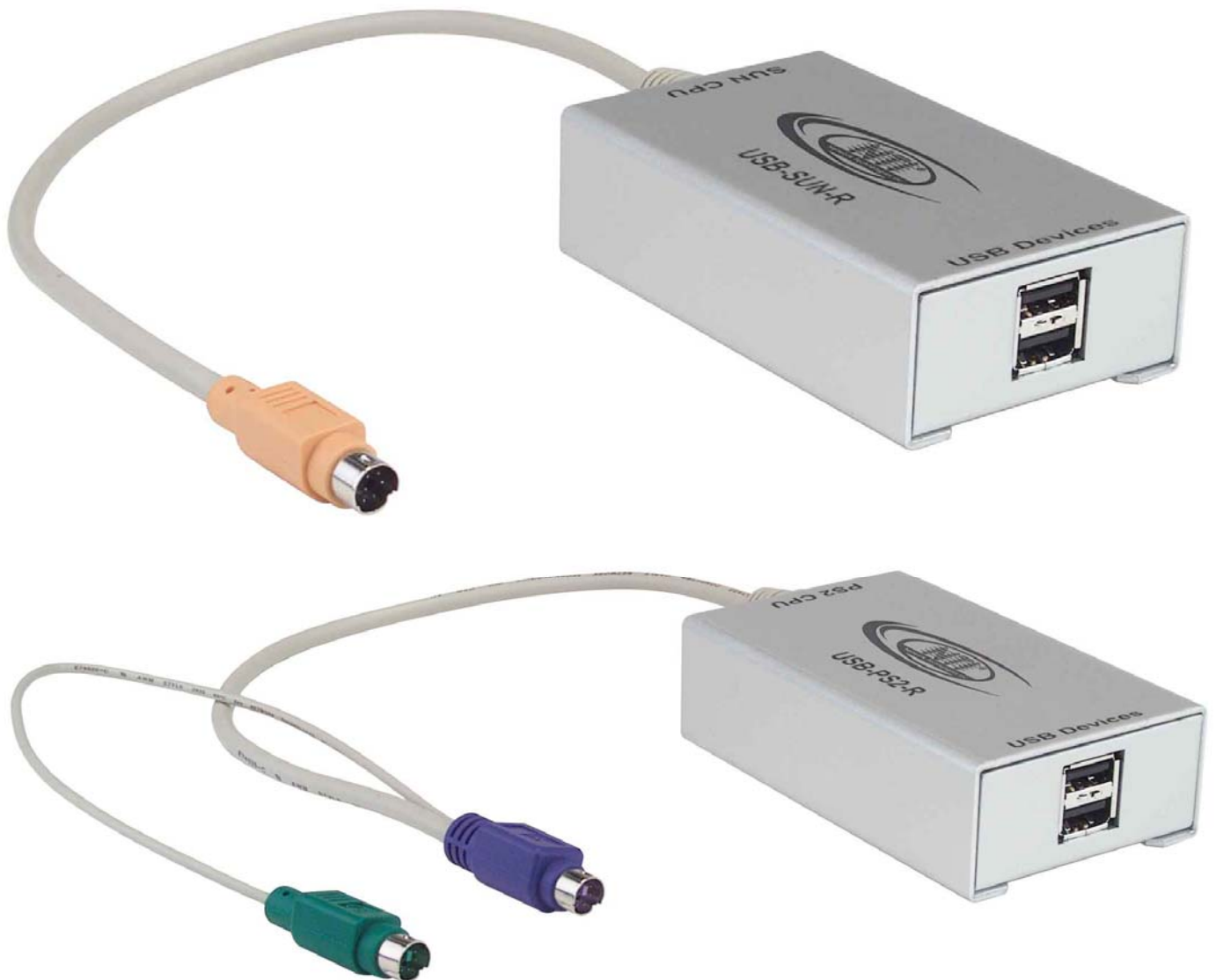
# USB-SUN-R

## LEGACY SUN TO USB ADAPTER

# USB-PS2-R

## PS2 TO USB ADAPTER

### Installation Manual



## Warranty Information

The warranty period on this product (parts and labor) is one (1) year from the date of purchase. Please contact Network Technologies Inc at **(800) 742-8324** (800-RGB-TECH) or **(330) 562-7070** or visit our website at <http://www.nti1.com> for information regarding repairs and/or returns. A return authorization number is required for all repairs/returns.

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### **CHANGES**

The material in this guide is for information only and is subject to change without notice. Network Technologies Inc reserves the right to make changes in the product design without reservation and without notification to its users.

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## INTRODUCTION

The NTI USB-SUN-R is a legacy SUN to USB adapter designed to enable the connection of a legacy SUN CPU to an NTI USB KVM switch. It also enables the connection of a USB keyboard and mouse to a legacy SUN CPU, or to an NTI Universal KVM switch.

The NTI USB-PS2-R is a PS/2 to USB adapter designed to enable the connection of a PS2 CPU to an NTI USB KVM switch. The USB-PS2-R also enables the connection of a USB keyboard and mouse to a PS/2 CPU, or to an NTI PS/2 KVM switch.

### Features

- Support for USB 1.1 Specification
- Sun extra keys are emulated when using a PS/2 or MAC layout keyboard with the USB-SUN-R
- Adapter is powered by the CPU it is connected to
- USB connection(s) can be hot-plugged to the adapter without effecting the CPU performance

### Definitions

Legacy SUN CPU - a SUN CPU that has 8 pin miniDIN connector for keyboard/mouse connection

PS/2 CPU - a CPU that has two 6 pin miniDIN connectors for keyboard and mouse connection

### Supported Devices

- NTI USB KVM switches
- USB Sun Keyboard - All foreign USB Sun keyboards are detected and supported
- USB PS/2 Keyboard - Extra keys from Sun keyboard are emulated through sequences of 2 keys
- USB Mac Keyboard - Extra keys from Sun keyboard are emulated through sequences of 2 keys
- USB Mouse
- USB Intellimouse® (wheel) – Sun operating system may not have wheel support
- USB Hub with only USB keyboard and/or USB mouse connected at its inputs
- Logitech Wireless keyboard/mouse
- Crystal Vision keyboard with touchpad
- Gyration wireless keyboard/mouse
- Ergo2000 keyboard/mouse drawer

***FYI: Use a foreign SUN USB keyboard to properly present a country code to an attached SUN CPU. A foreign Windows USB keyboard will not present a foreign keyboard country code.***

### Materials

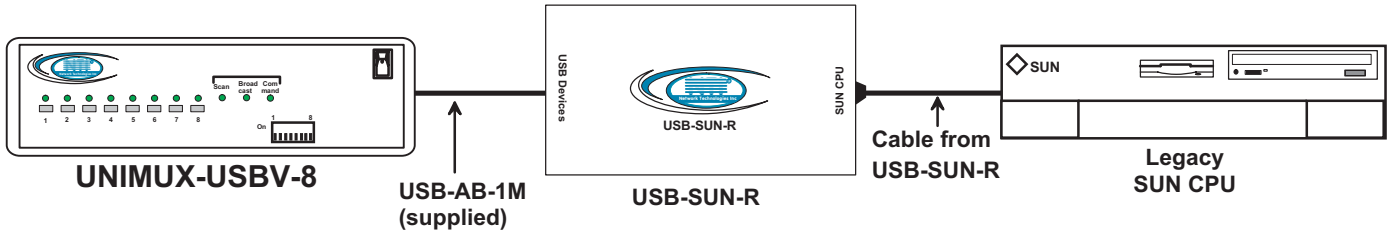
Materials supplied this kit:

- USB-SUN-R or USB-PS2-R
- USB-AB-1M Cable
- This manual

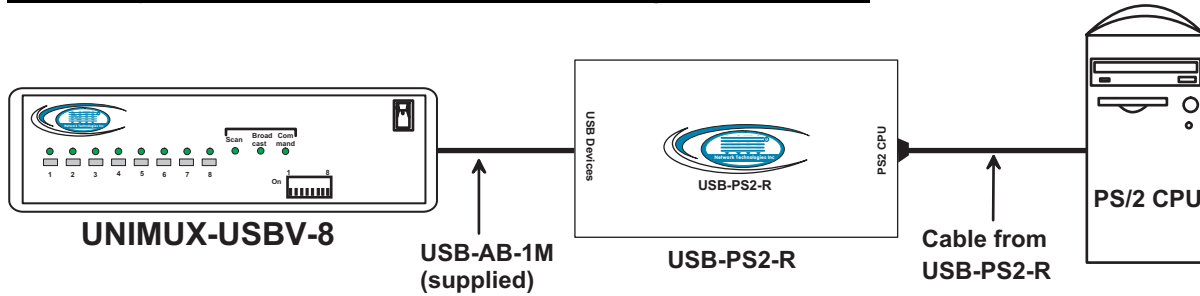
Other lengths of USB-AB-xM cable are available. (xM = length of the cable in meters) Available lengths include .5,1,2,3,4, or 5 meter cables) Contact NTI for additional cables if desired at **(800) 742-8324** (800-RGB-TECH) or **(330) 562-7070** or visit our website at <http://www.nti1.com>.

## APPLICATIONS

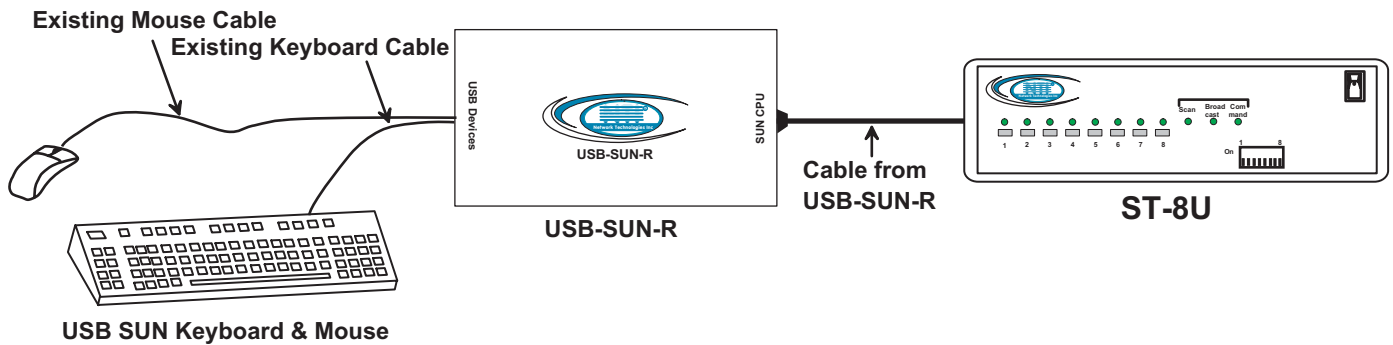
**Connect any NTI USB KVM Switch to a legacy SUN CPU (See Figs. 1 & 2 for details)**



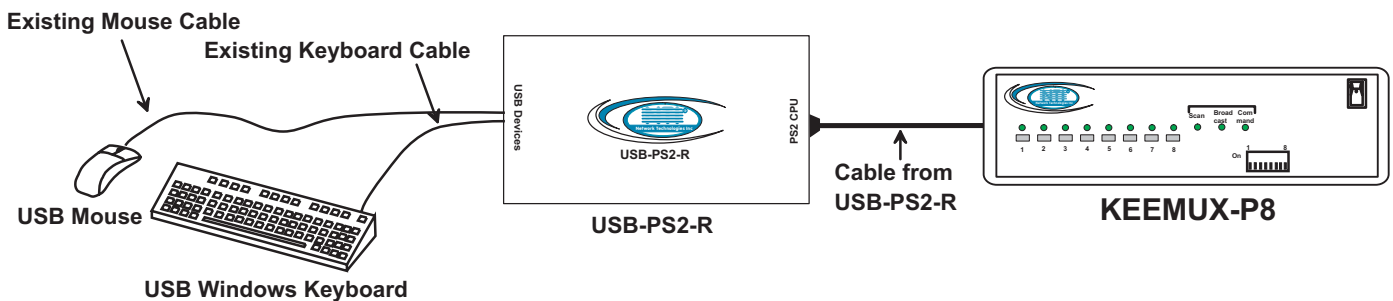
**Connect any NTI USB KVM Switch to a PS/2 CPU (See Figs 5 & 6 for details)**



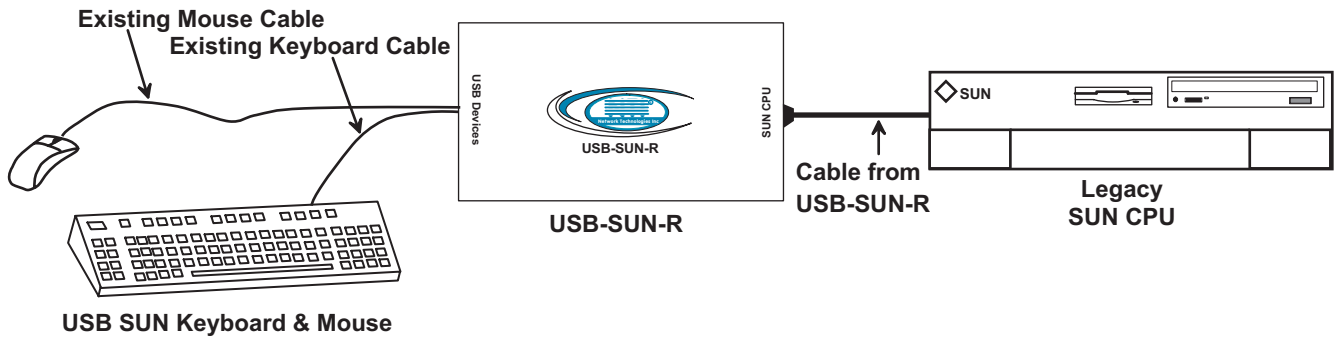
**Connect a USB SUN keyboard and/or mouse to an NTI NODEMUX Universal KVM Switch (See Figs. 3 & 4 for details)**



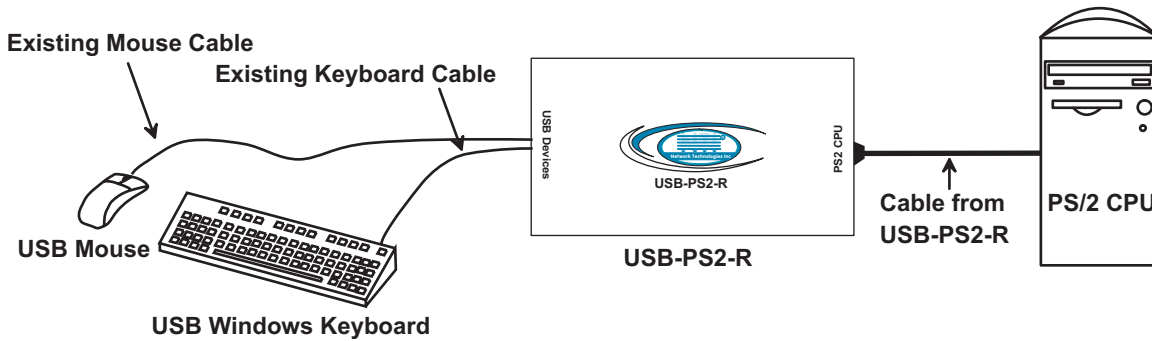
**Connect a supported USB keyboard and/or mouse to an NTI KEEMUX PS/2 KVM Switch (See Figs. 7 & 8 for details)**



**Connect a USB SUN keyboard and/or mouse to a legacy SUN CPU (See Figs. 1 & 3 for details)**



**Connect a supported USB keyboard and/or mouse to a PS/2 CPU (see Figs. 5 & 7 for details)**



# INSTALLATION

## USB-SUN-R

### Connect to a legacy SUN CPU

**Note:** The CPU should be powered down before connection of the USB-SUN-R.

Connect the orange 8 miniDIN male connector to the device port on a legacy SUN CPU (See Fig. 1)

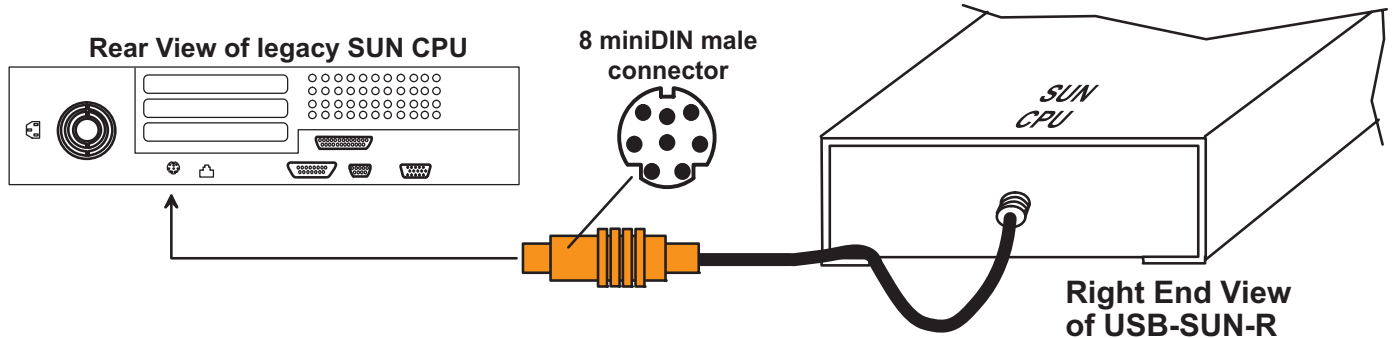


Figure 1- Connect to a legacy SUN CPU

### Connect to a USB Switch

Using a USB-AB-xM cable (xM = .5,1,2,3,4, or 5 meter cable), connect the USB Type A male connector end to either of the ports marked 'USB DEVICES' on the adapter. Connect the USB Type B male connector end to a "CPU" port on the NTI UNIMUX USB KVM matrix switch. (See Fig. 2.)

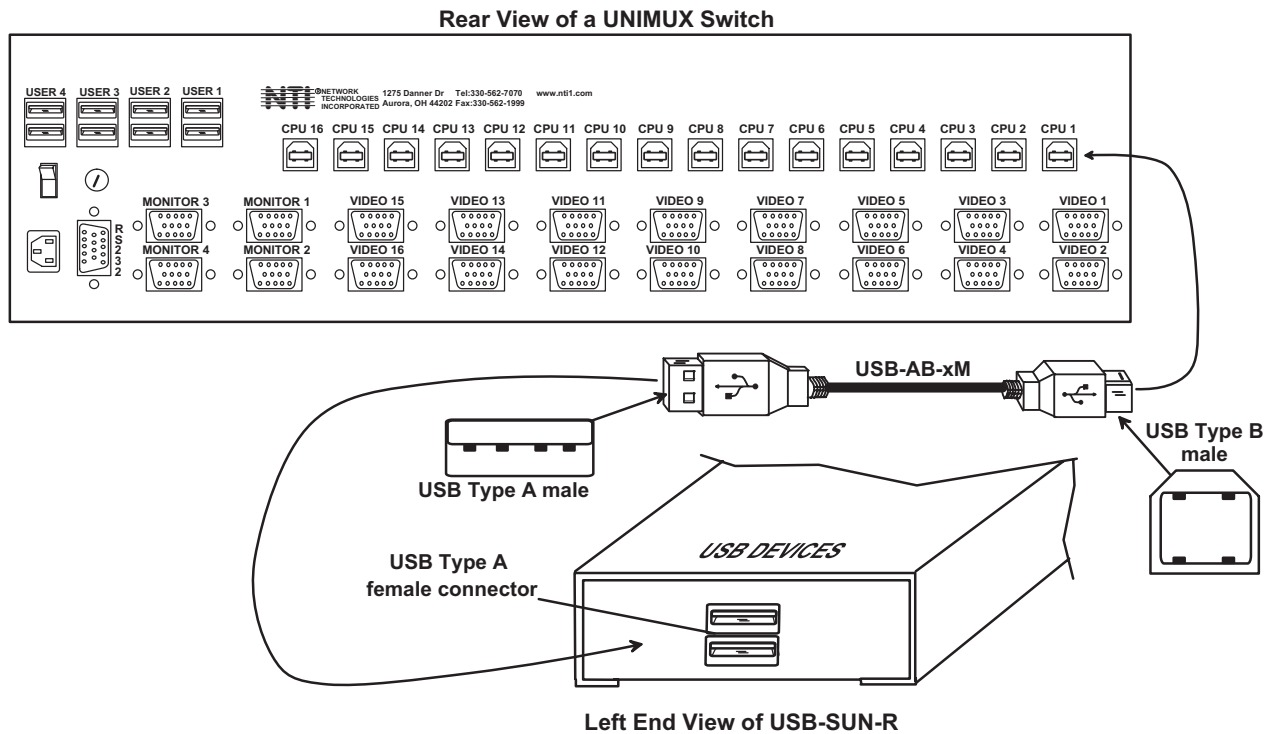


Figure 2- Connect the USB-SUN-R to a UNIMUX switch

### Connect to a USB Keyboard and Mouse

Alternatively, connect any supported USB keyboard and mouse to either of the two USB type A female connectors marked "USB DEVICES" as seen in Fig. 3.

*FYI: The USB connections can be hot-plugged at any time.*

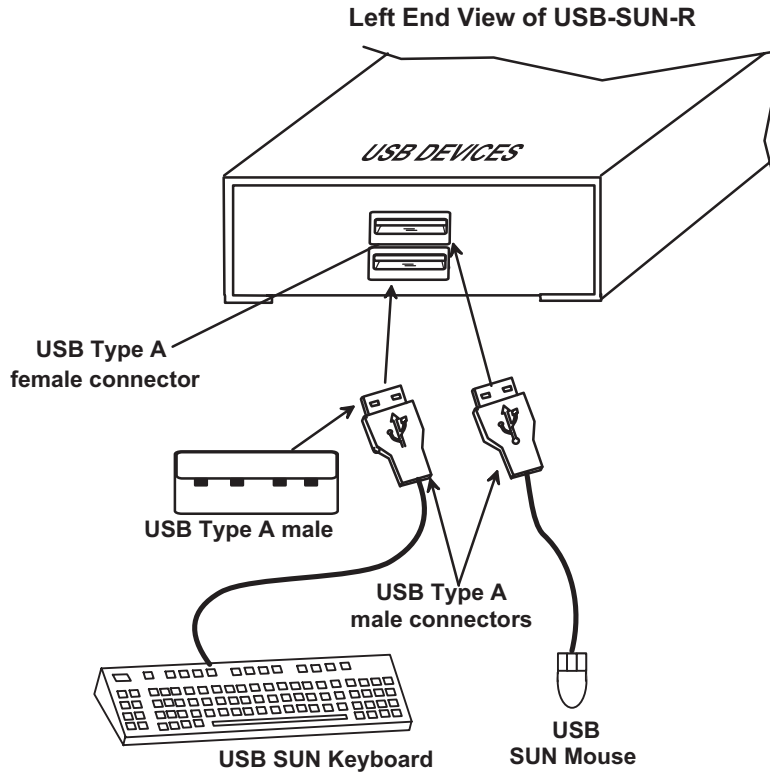


Figure 3- Connect keyboard and mouse to USB-SUN-R

### Connect to an NTI Universal KVM Switch

*Note: The switch should be powered down before connection of the USB-SUN-R.*

The USB-SUN-R can be used to connect a supported USB keyboard and mouse (see "Supported Devices on page 1) as shown above to the 8 pin miniDIN user "DEVICES" port on a NODEMUX Universal KVM switch (multi-user or single-user).

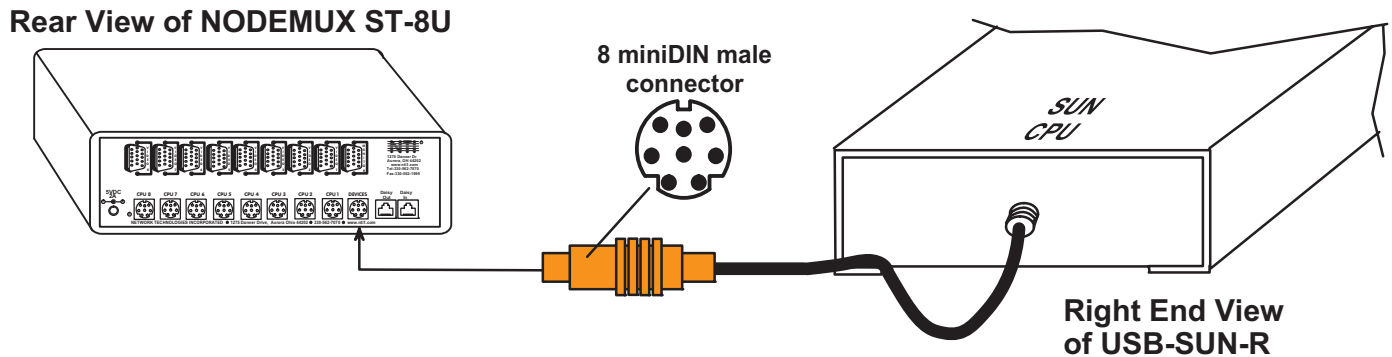


Figure 4- Connect USB-SUN-R to an NTI Universal KVM switch



## USB-PS2-R

### Connect to a PS/2 CPU.

**Note:** The CPU or switch should be powered down before connection of the USB-PS2-R.

1. Connect the green 6 miniDIN male mouse connector to the mouse port on the CPU. (See Fig. 5)
2. Connect the purple 6 miniDIN male keyboard connector to the keyboard port on the CPU.

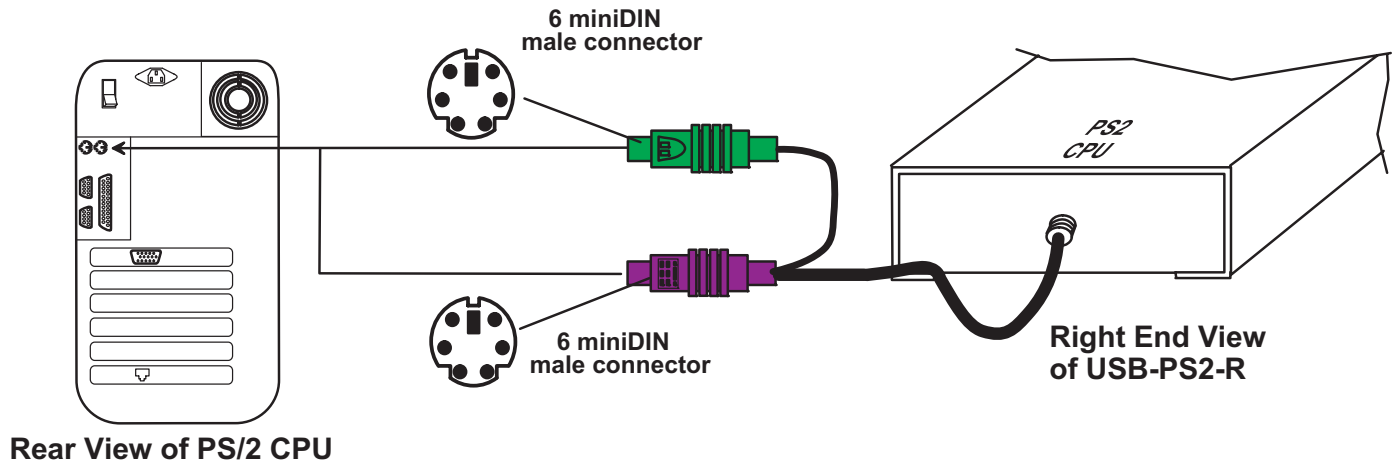


Figure 5- Connect to a PS/2 CPU

### Connect to a USB Switch

Using a USB-AB-xM cable (xM = .5,1,2,3,4, or 5 meter cable), connect the USB Type A male connector end to either of the ports marked 'USB DEVICES' on the adapter. Connect the USB Type B male connector end to a "CPU" port on the NTI UNIMUX USB KVM matrix switch. (See Fig. 6.)

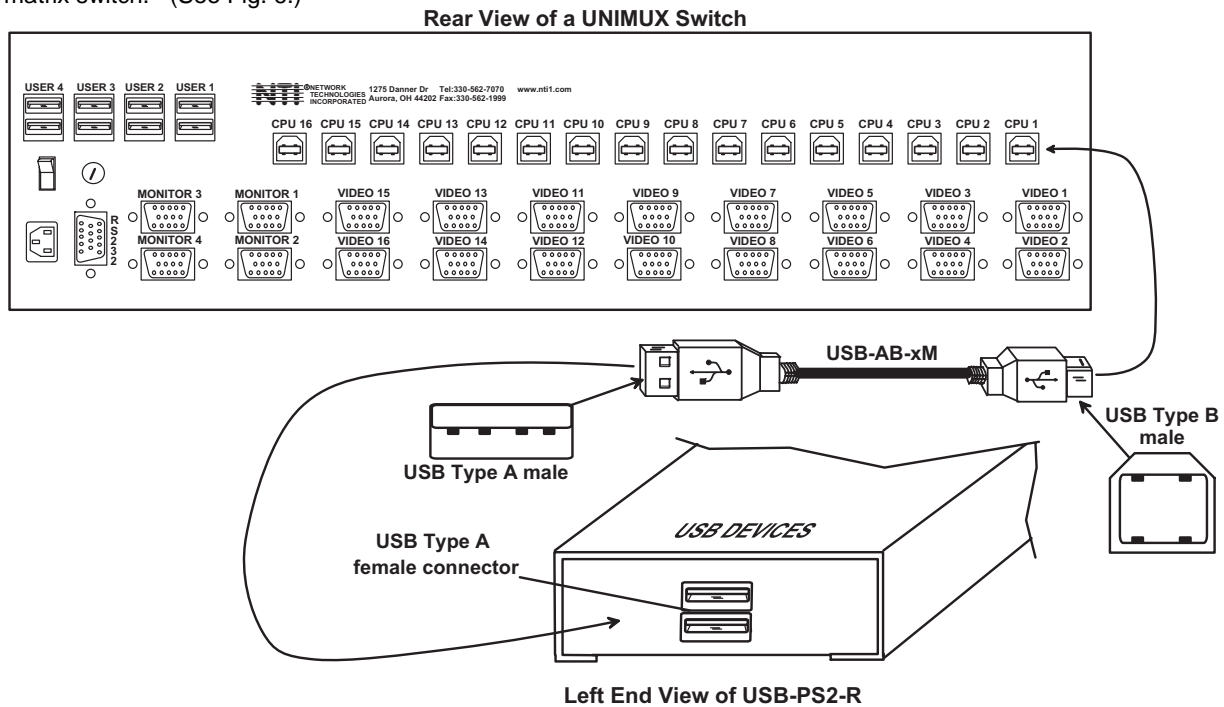


Figure 6- Connect to a PS/2 CPU

## Connect USB Keyboard and Mouse

Connect any supported USB keyboard and mouse to either of the two USB type A female connectors marked "USB DEVICES" as seen in Fig. 7.

*FYI: The USB connections can be hot-plugged at any time.*

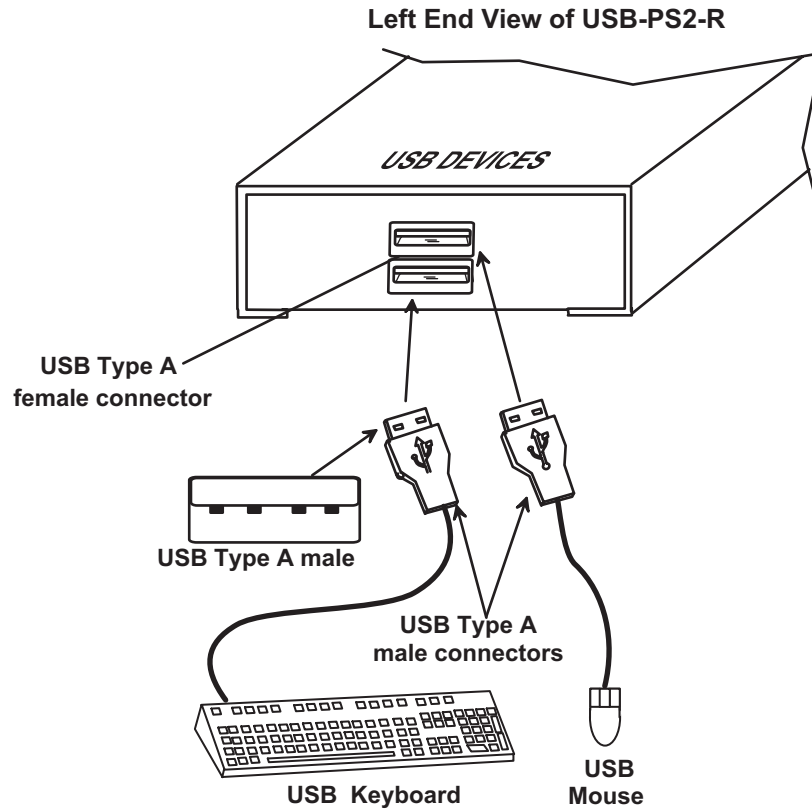


Figure 7- Connect keyboard and mouse to adapter

## Connect to NTI PS/2 KVM Switch

The USB-PS2-R can be used to connect a supported USB keyboard and mouse (see "Supported Devices on page 1) as shown above to the 6 pin miniDIN user "Keyboard" and "Mouse" ports on a KEEMUX PS/2 KVM switch.

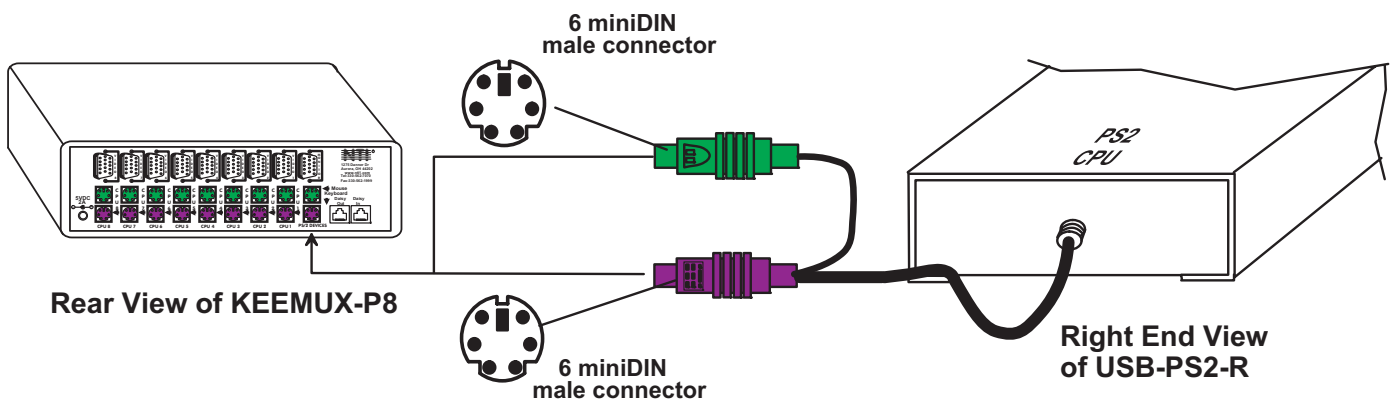


Figure 8- Connect a USB-PS2-R to a an NTI PS/2 KVM switch

## POWER UP

If the USB-SUN-R or USB-PS2-R has been connected to a CPU, power up the CPU. The CPU will boot up normally whether a USB keyboard and mouse are attached to the UNIMUX switch or not.

Exception: If a USB Sun foreign keyboard is being used, it must be connected before the CPU is powered up in order to communicate the country code to the CPU.

## KEY EQUIVALENTS

Using the chart below, find the character needed to be typed on the CPU, then follow the row across for the equivalent on the keyboard being used. See Fig. 9 on page 9 for reference.

USB 101	WINxx	MAC (Apple USB)	SUN
L-Ctrl	L-Ctrl	L-Ctrl	L-Ctrl
L-Alt	L-Alt	L-Option	L-Alt
SB+F12	Application	SB+F12	Compose
R-Alt	R-Alt	R-Option	Alt-Graph
SB+Alt	Windows Logo	Command	Meta
SB+R Arrow	SB+R Arrow	Power	Suspend

SB = Space Bar

L and R = Left and Right keys when two keys are marked the same on a keyboard.


## SUN's 16 Extra Keys

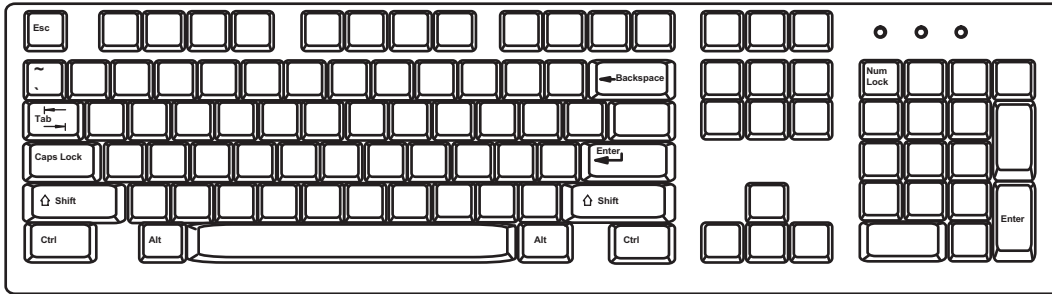
Use the chart below to type SUN's additional 16 keys using a 101, WINxx, or MAC (Apple) USB keyboard

101,WINxx,MAC Keyboards	SUN Extras	101,WINxx,MAC Keyboards	SUN Extras
SB+F1	Stop (L1)	SB+F9	Find (L9)
SB+F2	Again (L2)	SB+F10	Cut (L10)
SB+F3	Props (L3)	SB+F11	Help
SB+F4	Undo (L4)	SB+F12	Compose
SB+F5	Front (L5)	SB + Up Arrow	Vol +
SB+F6	Copy (L6)	SB + Down Arrow	Vol -
SB+F7	Open (L7)	SB + L Arrow	Mute
SB+F8	Paste (L8)	SB + R Arrow	Suspend

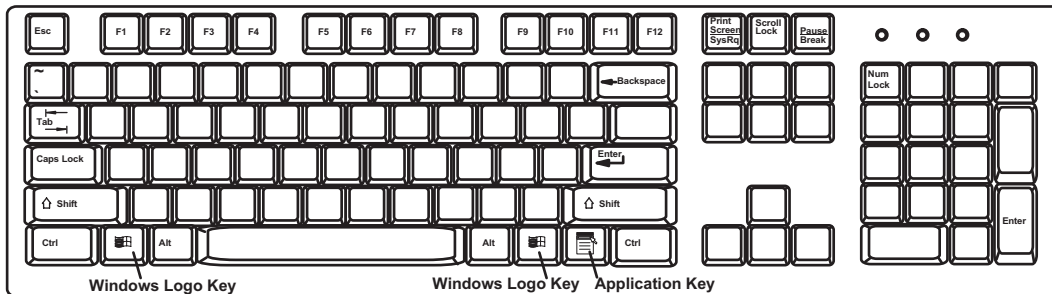
SB= Space Bar

## Mouse Click Equivalents

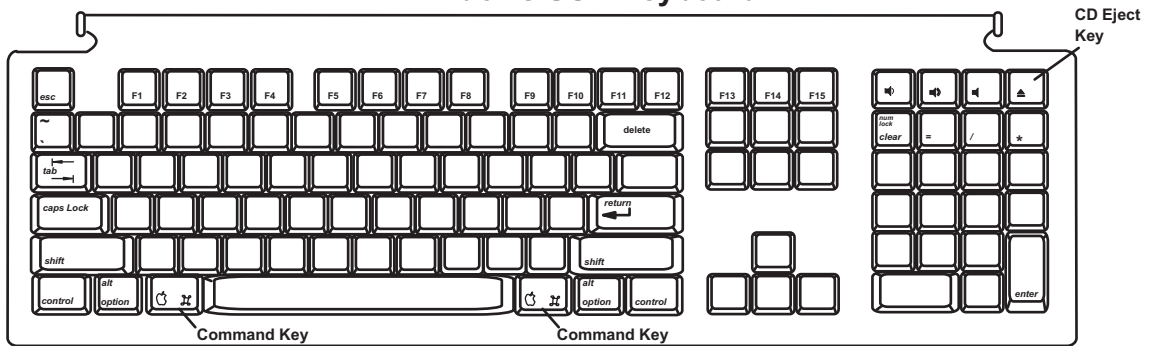
To emulate a right button click using Apple 1 button mouse, hold down the Command key () while pressing the mouse button.



Typical 101 Keyboard



Windows USB Keyboard



Apple Pro USB Keyboard



SUN USB Keyboard

Figure 9- Keyboard Layouts

MODEL NO:       USB-SUN-R  
                     USB-PS2-R

SERIAL NO: \_\_\_\_\_

DATE: \_\_\_\_\_

INSPECTED BY: \_\_\_\_\_

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