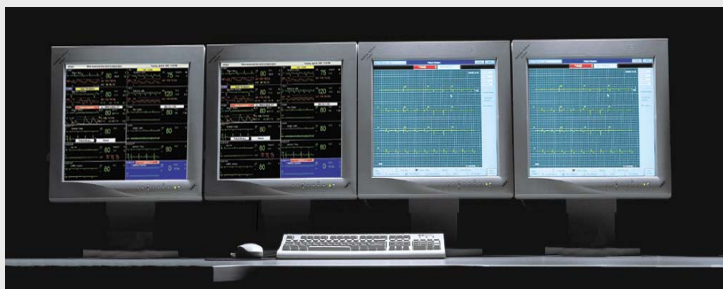


# HR HALL RESEARCH

## User's Manual

### 4-to-1 Keyboard & Mouse Switch



**Control 4 PC's Using one Keyboard and Mouse**



UMA1017 Rev. C



# Introduction

**"4-to-1"** allows one keyboard and mouse to control 4 different PC's eliminating the need for a separate mouse and keyboard for each PC.

Upon power up the **"4-to-1"** will locate and identify the type of mouse and keyboard connected to it, and also emulate and present a fully functioning keyboard and mouse to each connected PC

The unit draws power from the connected PC's and no power supply is needed (though there is a connector for external power). The external power supply is only needed if a special keyboard or mouse with high power requirement is used.

There are 2 ways the **"4-to-1"** can switch from one PC to another. First through the buttons located on the front panel, and second via hot-key sequence from the keyboard.

The unit supports 2-button, 3-button, and scroll mice.

When the **"4-to-1"** is powered up or reset, the PC that was last selected will be selected by default.

There are two different types of LEDs on the front panel. When the LED labeled ON is illuminated then, the PC attached to that port is powered on. When the LED labeled SEL is illuminated, then the PC attached to that port is currently being controlled by the keyboard and mouse.

## Supported Systems and Peripherals

- All PC compatible systems and notebooks
- Standard PS/2 and AT Keyboards (Legacy AT keyboards may require connector adapters)
- Standard (2-button) and wheel (3-button) (e.g. Microsoft Intellimouse) mice. 4-button mice are not supported.

## Features

- No Power Supply needed
- Reliable, Rugged, and easy to use
- Quick and seamless switching between PC's
- LED indicators of PC power status and PC selected
- Comprehensive PS/2 protocol emulation for keyboard and mouse for all PC's at all times
- Hot-swapping capabilities of the PC's and the devices

- Returns to last selected PC after power off or reset
- Designed and manufactured in the USA

## Setup

1. Use special “Y” input cables (ordered separately) to connect the PCs to the Switch. The black end connects to the Switch. The purple connector, of the “Y” cable, plugs into the keyboard port on PC #1 and the green connector plugs into the mouse port of PC (it is best to turn off all PC’s when you are hooking them to the the 4-to-1).
2. Connect a mouse and a keyboard to the ports of the Switch.
3. Turn the PC’s on
4. The keyboard and mouse may now be treated as a keyboard and mouse connected directly to the PC that is selected through the unit.

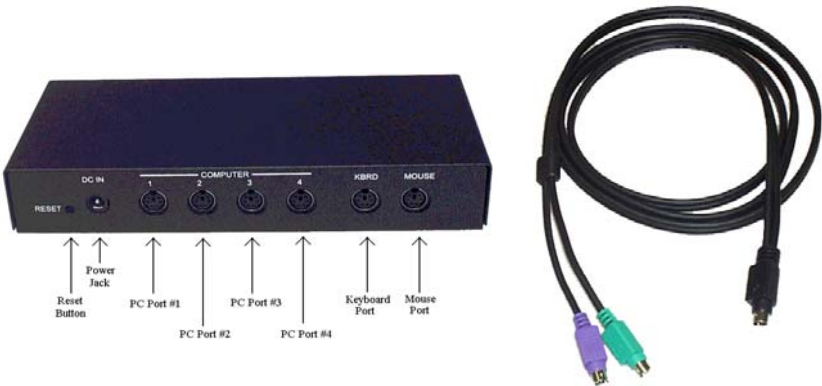


FIGURE 1 "4-to-1" connector functions and the Y-input cable

## Operation

The keyboard and mouse will function no differently than if the keyboard and mouse were connected directly to the PC.

## Switching

The first way to switch between the PC’s is to simply press the button for the desired PC on the front panel of the Switch.

The second way to switch is through a hot-key combination from the keyboard. The hot-key combination is as follows.

Press and release: “Scroll Lock”

Press and release: “Scroll Lock”

Press and release: “1” or “2” or “3” or “4”

The **"4-to-1"** will now switch to the PC connected to the port corresponding to the number pressed.

There is a 2 second timeout between each hot key. This means that if the second Scroll Lock is not pressed within 2 seconds of the release of the first Scroll Lock, the sequence will be aborted and will not switch. The same situation applies to the number pressed after the release of the second Scroll Lock.

## Hot Swapping Mice and Keyboards

Hot swapping is not recommended but may be successfully performed. You may unplug the mouse and/or the keyboard while the switch is powered up and PC's are connected and powered on. You may then plug in the same keyboard/mouse or a different keyboard/mouse and the switch will recognize the new keyboard/mouse and initialize it. The PC's will not know the difference. The only restriction to this is the following. The mouse you plug back in must be the same type of mouse as was plugged in when the switch was first powered up. If the original mouse was a 3-button mouse then you must plug in a 3-button mouse. You may not plug in a 2-button mouse. If the original mouse was a 2-button mouse then you may plug in a 2-button mouse or a 3-button mouse.

### Hot Swapping PC's

You may hot swap a PC while the **"4-to-1"** is powered up only after that PC has been turned off. After the PC has been turned off, unplug the keyboard and mouse connectors of the “Y” cable then plug them into the PC you wish to insert into the **"4-to-1"** setup. Then power on the new PC and the **"4-to-1"** will detect it and set it up accordingly.

# Troubleshooting

Symptom	Possible Cause(s)
Keyboard locks up	<ol style="list-style-type: none"><li>1. Check PS2 cable and connection</li><li>2. Keyboard is unplugged</li><li>3. Keyboard needs to be unplugged and re-plugged in</li><li>4. Press Reset button on the rear of 4-to-1</li></ol>
Mouse locks up	<ol style="list-style-type: none"><li>1. Check PS2 cable and connection</li><li>2. Mouse is unplugged</li><li>3. Mouse needs to be unplugged and re-plugged in</li><li>4. Press Reset button on the rear of 4-to-1</li></ol>
Power LED(s) not on	<ol style="list-style-type: none"><li>1. PC may not be powered up</li><li>2. Check PS2 cable and connection</li></ol>
Selected LED(s) not on	<ol style="list-style-type: none"><li>1. <b>"4-to-1"</b> has no power (all cpu's are off)</li></ol>





Product Designed and Made in the USA

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