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# Welcome



## Introduction

The Adder TS4 is a robust keyboard and mouse switch created specifically for trading floors and control rooms, where information must be controlled across numerous systems and screens. The TS4 allows a single keyboard and mouse to fulfil the function that previously required four separate sets. This provides immediate savings in both desk space and also the time required to access information spread across up to four systems and screens.

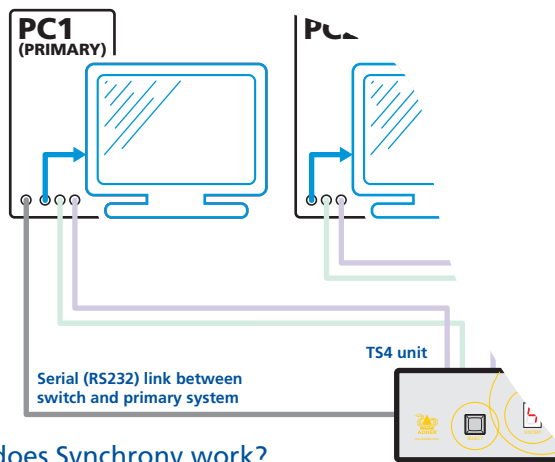
Switching between the systems connected to the Adder TS4 can be achieved in five different ways:

- The Adder TS4 unit SELECT button
- The optional RC4 Remote control selector
- Keyboard hotkey combinations
- Mouse button combinations
- Automatic switching using the Synchrony utility (see below)

### Automatic switching between systems

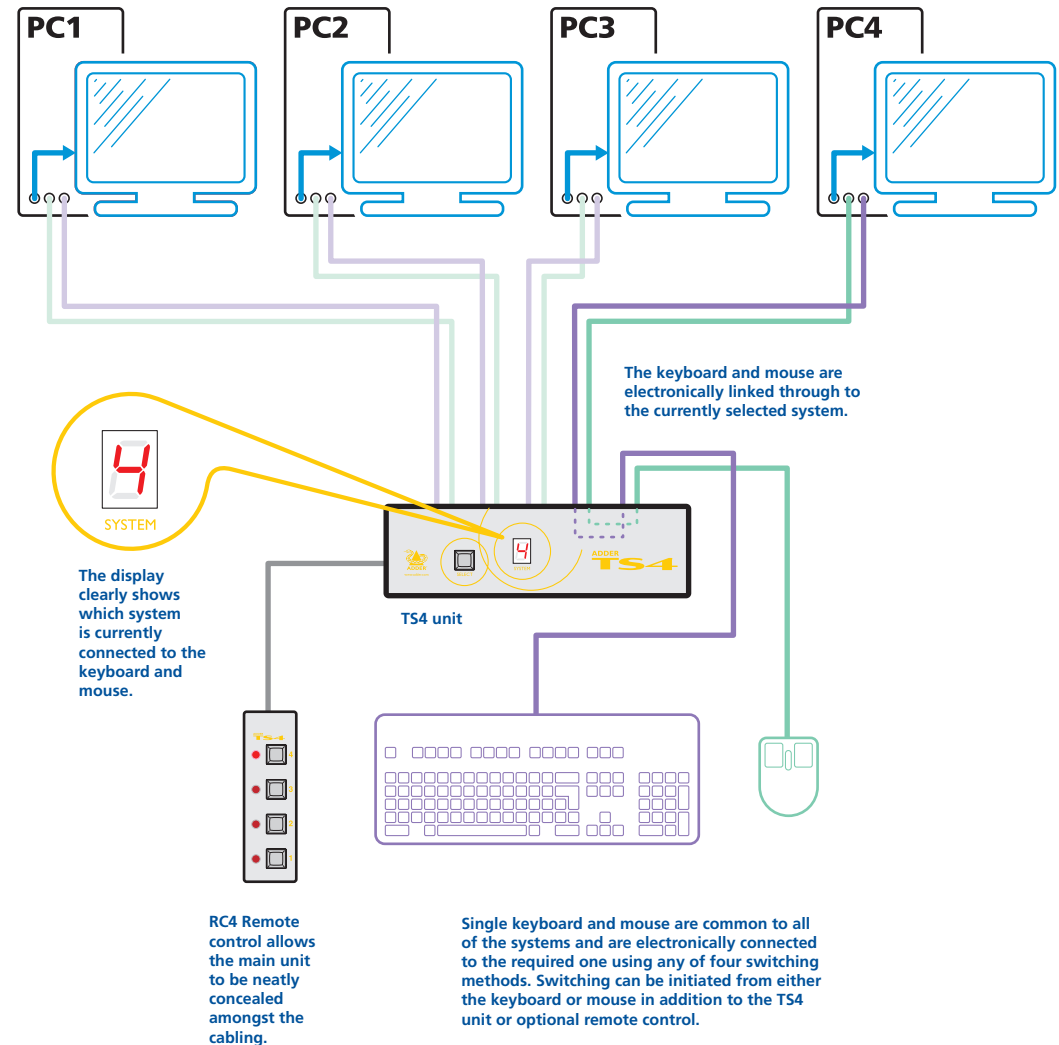
When used with Synchrony software, the Adder TS4 allows automatic switching between the connected systems and screens. The switching between the systems is determined primarily by the position of the mouse cursor. As the cursor exceeds the periphery of one screen, control is seamlessly switched to the next screen/system.

This operation requires all of the systems to run the Synchrony utility and one of them to be designated as the 'primary'. Additionally, a serial link is required between the primary system and the Adder TS4.



See page 3 for further details: [How does Synchrony work?](#)

The video displays are connected directly to their respective systems as usual. The keyboard and mouse ports of each system, however, are connected to the TS4 unit.



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# How does Synchrony work?

Synchrony is a small software utility that runs on each of your computer systems and continually tracks the current mouse cursor position. One system is designated as the 'primary' and the other systems use standard network links to report their mouse cursor information back to it.

The primary system has an extra communication link directly to the Adder TS4 switch. When the Synchrony utility detects that the cursor has moved over the edge of a screen boundary, it instructs (via the primary computer) the Adder TS4 to switch the common keyboard and mouse through to the appropriate computer.

The Adder TS4 and Synchrony combination minimises any potential security risks in two important ways:

- The network messages flowing between the systems contain only benign cursor positioning reports.
- All keyboard and real mouse data flow only through the direct keyboard and mouse connections via the Adder TS4, not via the network.

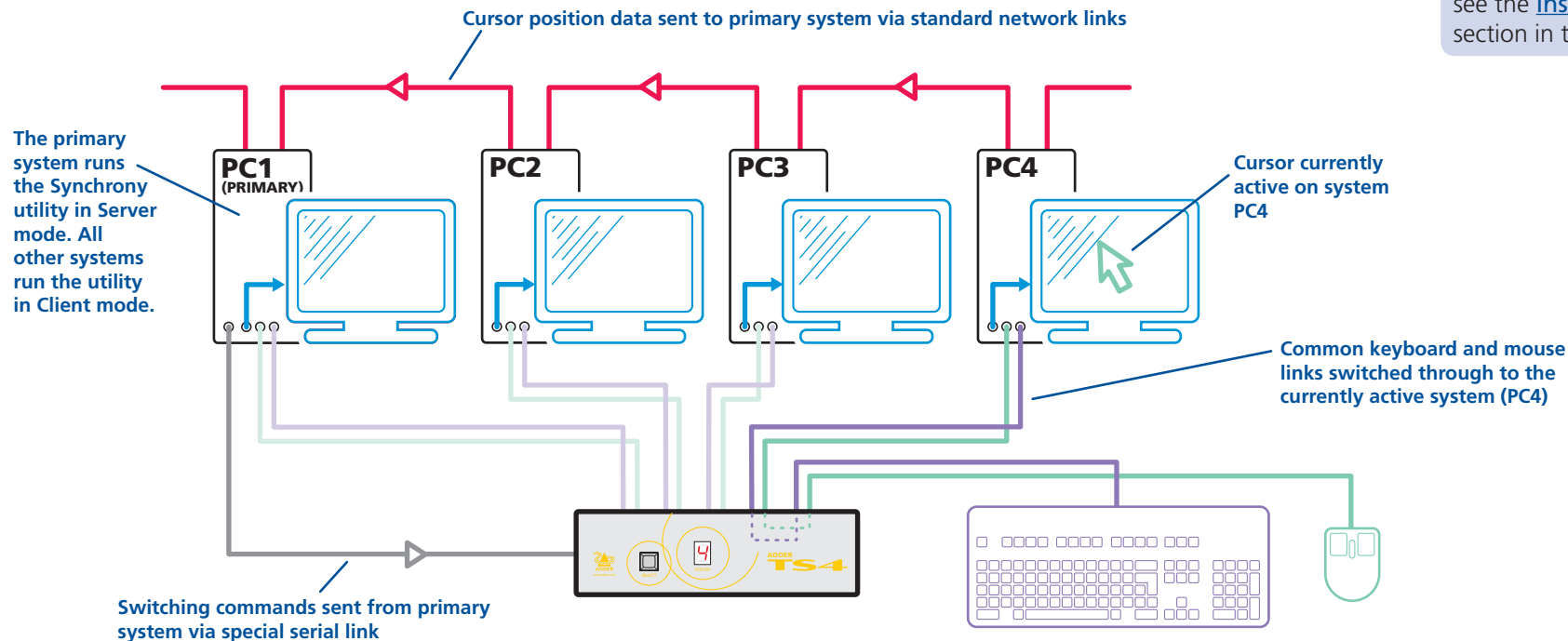
The Synchrony utility provides straightforward configuration in which you can define the connected systems, their network identities and their relevant switching scenarios. The primary system runs Synchrony in *server mode* whereas the other systems run Synchrony within its *client mode*.

## Synchrony configuration tips

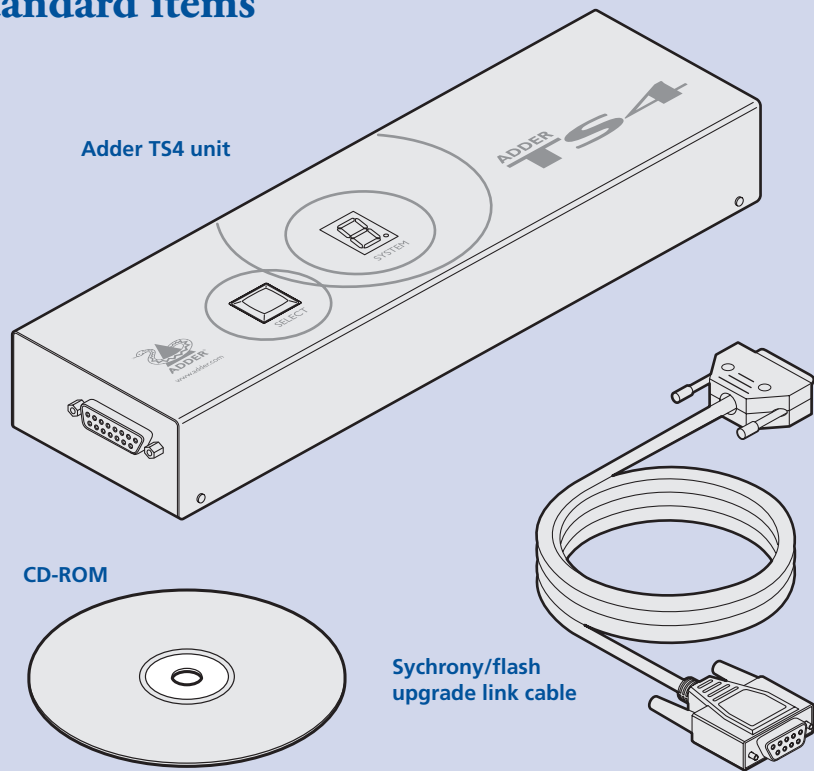
In combination with the installation instructions provided with the Synchrony utility, please consider these configuration tips:

- You are recommended to use a native serial port or third-party serial card on the primary system. USB to serial adapters will work, but won't provide such a rapid switching action between systems.
- Option switch 5 is used to place the Adder TS4 into Synchrony mode, however, the setup switches are only consulted during the power on phase, or when the TS4 is reset using option switch 8. Moving option switch 5 whilst the unit is on will have no effect.
- For each system, the screen name that you enter in the Synchrony setup must be the name that identifies the system on the network (it cannot be random). In Windows this can be found in *My Computer > Properties > Computer Name*. Alternatively, you can discover the screen name by running the Synchrony software and selecting "Advanced". The computer name of the current computer is then shown in the *Screen Name* field.

Full instructions on how to install and configure Synchrony, please see the [Installing Synchrony](#) section in this guide.



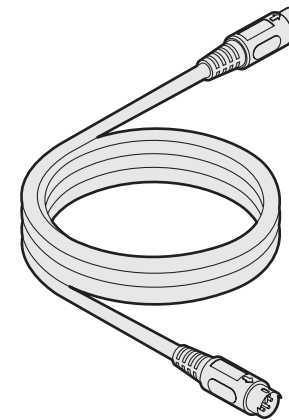
## Standard items



Adder TS4 unit

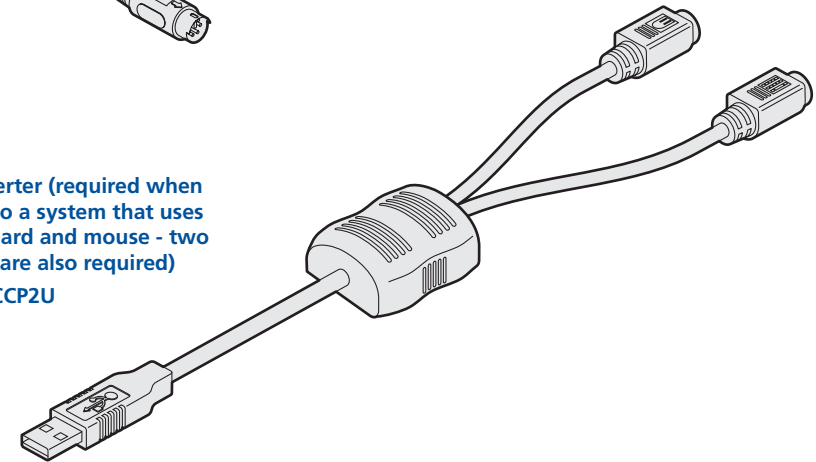
CD-ROM

Synchrony/flash  
upgrade link cable

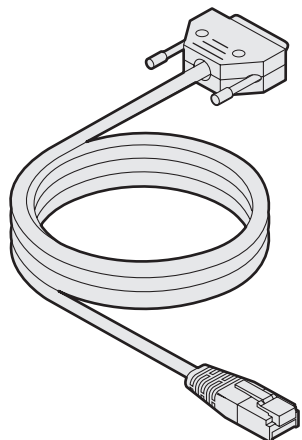


PS/2-style keyboard/mouse cable, 2 metres  
(two required per system)  
Adder P/N: VSC3

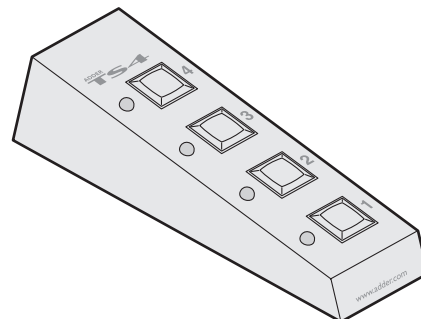
CCP2U converter (required when  
connecting to a system that uses  
a USB keyboard and mouse - two  
VSC3 cables are also required)  
Adder P/N: CCP2U



## Additional and optional items

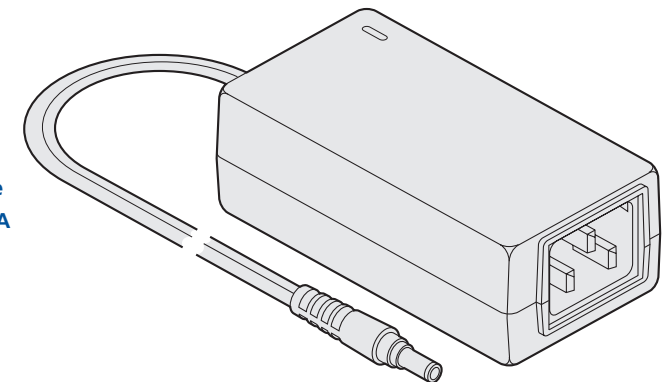


RC4 Remote control plus link cable  
(not usable when Synchrony auto  
switching is in use)



Optional power supply  
(required only when long  
cables are used) plus  
country-specific mains cable  
Adder P/N: PSU-IEC-5VDC-2A

Converter for connecting a SUN  
computer to the Adder TS4  
(not pictured)  
Adder P/N: CCSUN



# Installation



## Locations

Please consider the following important points when planning the position of the Adder TS4 unit:

- Situate the Adder TS4 unit close to the systems to which it will be connected. The Adder TS4 does not require a power supply providing that its connection cables are no longer than 2 metres.
- Thanks to the remote control, the Adder TS4 unit can be situated out of sight within the cabling cradle of a desk or adjacent to the systems.
- Consult the precautions listed within the [Safety information](#) section.

## Mounting

Before you begin connecting to the keyboard, mouse and source systems, it is advisable to mount the Adder TS4 unit in place, either:

- On a horizontal surface using the supplied self adhesive feet, or
- Amongst the cabling at the rear of the desk.

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# Making connections

Connections to the Adder TS4 unit do not need to follow the precise order given in this user guide, although if one or more systems must be [hot-plugged](#), connect these after all other connections have been made.

## System connections

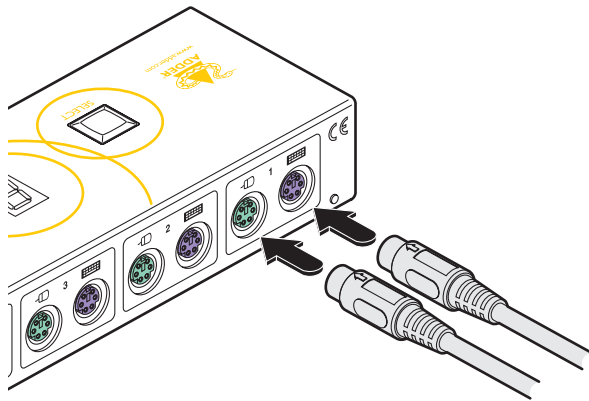
### To connect a system (PS/2-style connections)

Note: Two Adder VSC3 link cables are required per connected system.

- 1 Ensure that the computer system to be connected is switched off and power is removed from the Adder TS4.

(Note: If it is not possible to switch off systems prior to connection, then a 'Hot plug' procedure is available – see the [Hot plugging and mouse restoration](#) section for more details).

- 2 At the rear panel of the Adder TS4 unit, attach a VSC3 link cable to the (purple) keyboard socket of port 1.



- 3 Attach the other end of the VSC3 link cable to the keyboard socket (usually coloured purple) on the first system.
- 4 Repeat steps 1 and 2 for the mouse connection (green) between the Adder TS4 port 1 and the first system.

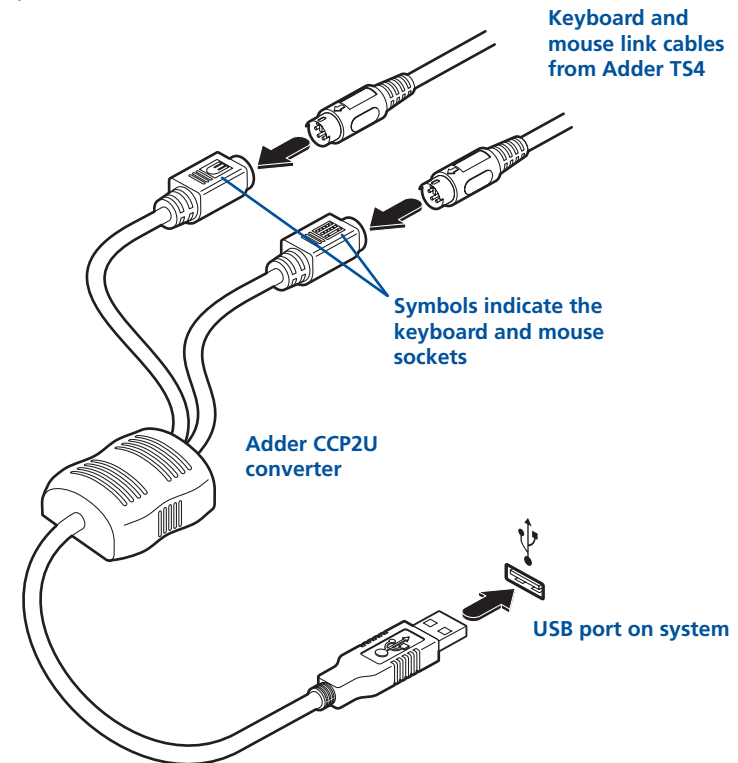
Note: For neatness and accessibility it is advisable to join the keyboard and mouse link cables, that lead to each system, using several cable ties.

- 5 Repeat the above steps for systems 2, 3 and 4 to the corresponding ports of the Adder TS4. If any systems do not have PS/2-style keyboard and mouse connectors, please use an Adder CCP2U converter, as discussed opposite.

### To connect a system (USB-style connections)

Note: Two Adder VSC3 link cables plus one CCP2U converter are required per connected system.

- 1 At the rear panel of the Adder TS4 unit, attach a VSC3 link cable to the (purple) keyboard socket of port 1.
- 2 Attach the other end of the VSC3 link cable to the inline keyboard socket of the CCP2U converter.
- 3 Repeat steps 1 and 2 for the mouse connection (green) between the Adder TS4 port 1 and the CCP2U converter.



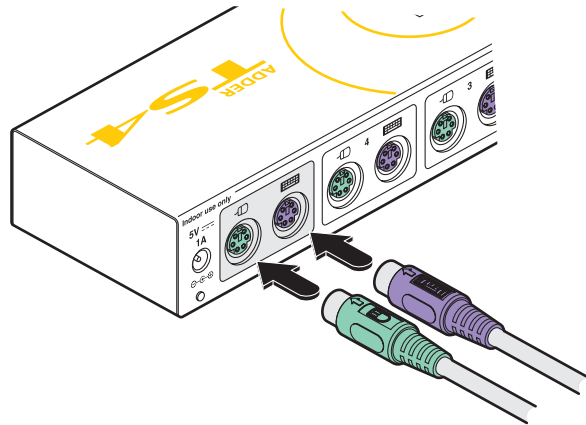
Note: For neatness and accessibility it is advisable to join the keyboard and mouse link cables, that lead to each system, using several cable ties.

- 4 Attach the USB connector of the CCP2U converter to a vacant USB socket of the first system.
- 5 Repeat the above steps for any other system that requires USB connections.

## Keyboard and mouse connections

### To connect a keyboard and mouse

- 1 At the rear panel of the Adder TS4 unit, attach the connector from the keyboard to the purple socket that is closest to the power input socket.
- 2 At the rear panel of the Adder TS4 unit, attach the connector from the mouse to the green socket that is closest to the power input socket.



## Optional power supply connections

*Note: The Adder TS4 can obtain its power from the keyboard connections of any of the four connected systems. Thus, an external power supply is not required unless the connection cables used exceed 2 metres.*

*Important: Please read and adhere to the electrical safety information given within the [Safety information](#) section of this guide. In particular, do not use an unearthed power socket or extension cable.*

### To connect the optional power supply

- 1 Attach the output connector of the power supply (country specific power supplies are available) to the socket on the far left of the rear panel of the Adder TS4.
- 2 When all other connections have been made, connect the main body of the power supply to a nearby earthed mains socket.

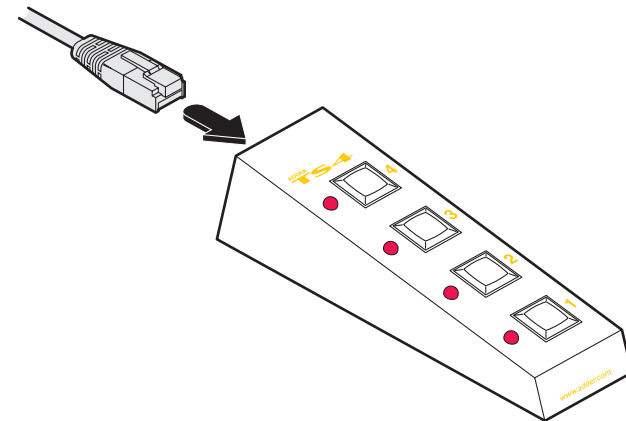
## Remote control connections

The remote control unit can be used to provide manual switching between systems.

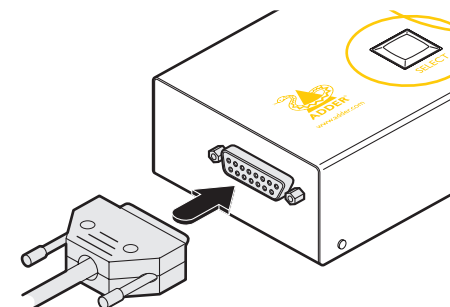
*Note: The remote control cannot be used in conjunction with the Adder TS4 when a Synchrony auto switching link is being used because they both use the same switching socket.*

### To connect the remote control

- 1 On the underside of the Adder TS4 unit, ensure that switch 5 is switched OFF. *Note: The switch settings are consulted by the unit only during its power up phase, i.e. when power is first supplied by a keyboard socket of a powered system. Therefore, change the setting while the unit is disconnected or use switch 8 to force a reset, whereupon the other switches will be consulted.*
- 2 Locate the remote control unit and the remote control cable. Attach the smaller of the two cable connectors to the socket at the rear of the remote control.



- 3 At the other end of the cable, attach the larger connector to the socket on the end of the Adder TS4 unit.



# Installing Synchrony

This section covers the connections, switch setting and software installation procedures required to use the Synchrony application with the Adder TS4 unit.

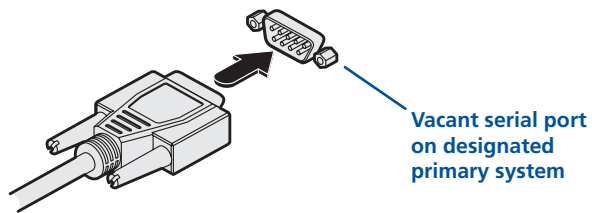
## Connections for Synchrony

When using the Synchrony software utility to provide automatic system switching (according to mouse movements) it is necessary to link the Adder TS4 to the designated 'primary' system that will run the software utility.

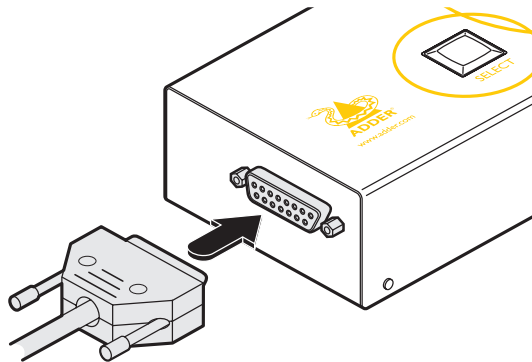
*Note: The remote control cannot be used in conjunction with the Adder TS4 when a Synchrony auto switching link is being used because they both use the same switching socket.*

### To connect the Synchrony serial link cable

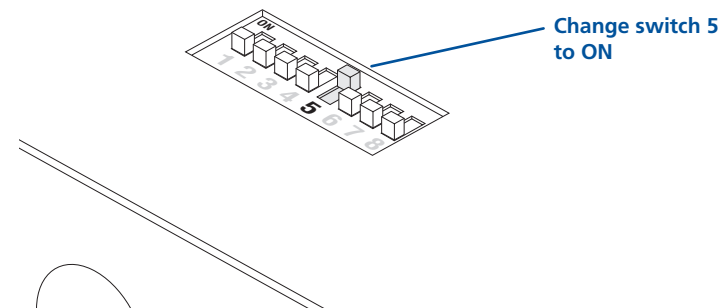
- 1 Locate the Synchrony serial link cable.
- 2 Attach the smaller of the two cable connectors to a vacant serial port socket on the designated 'primary' computer system.



- 3 At the other end of the cable, attach the larger connector to the socket on the end of the Adder TS4 unit.



- 4 On the underside of the Adder TS4 unit, remember to set switch 5 to ON to enable the auto switching mode.



- For application setup details, please refer to [Configuration for Synchrony](#) starting on the next page.
- For more information about [how the Synchrony system works](#), please refer to page 3.

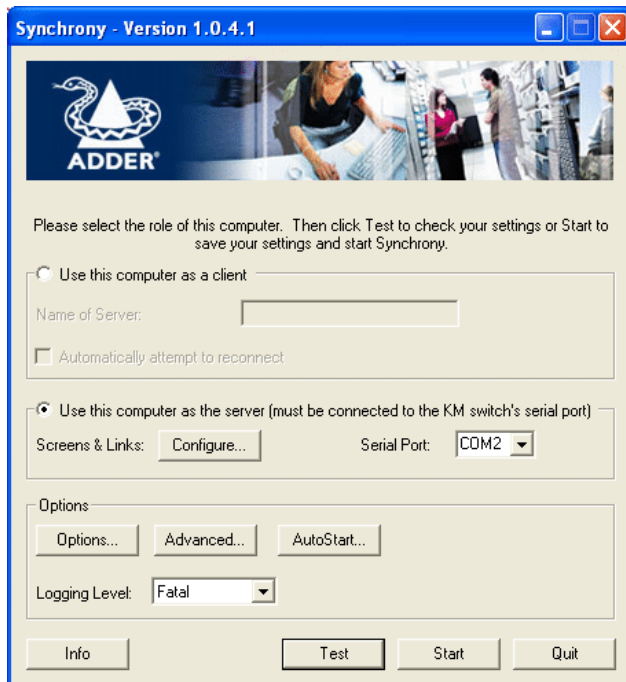


## Configuration for Synchrony

To correctly configure Synchrony, you need to install a copy on each system, configure one as the server and the rest as clients. You then need to define the relationships between the screens so that Synchrony knows when to switch, and to which screen.

### To configure Synchrony

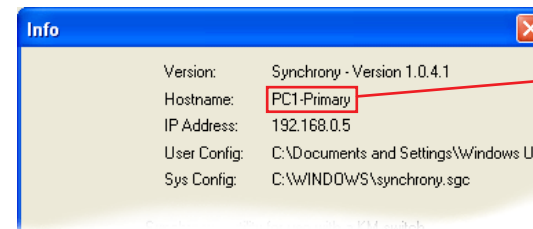
- 1 Locate the Synchrony zip file on the supplied Adder CD-ROM (issue v6.0e or later) or download it from the [adder.com](http://adder.com) website.
- 2 Unzip the file and place the resulting group of files within a 'Synchrony' folder on each of the computer systems that are connected to the Adder TS4 unit.
- 3 On each system, run the 'synchrony.exe' file. The main Synchrony window will be displayed:



The Synchrony application consists of three main files plus other supporting items. The three files are as follows:

- |                       |   |
|-----------------------|---|
| <i>Synchrony.exe</i>  | The main file used to perform the initial configuration.      |
| <i>Synchronyc.exe</i> | This is the application file that runs on the client systems. |
| <i>Synchronys.exe</i> | This is the application file that runs on the server system.  |

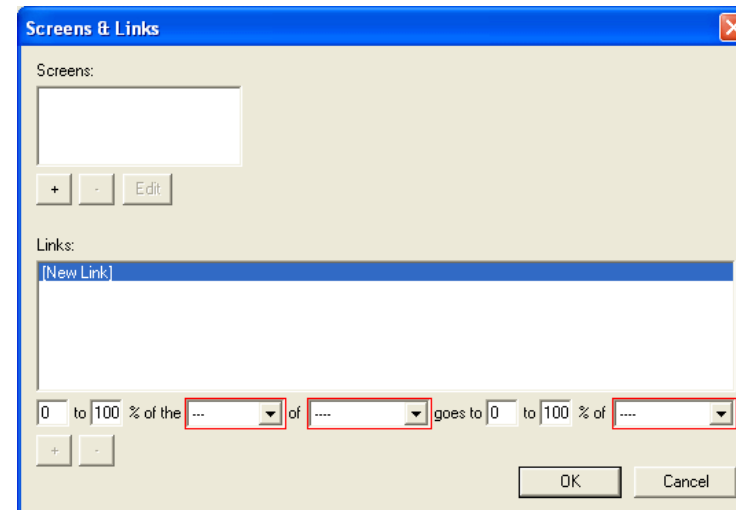
- 4 First, you need to discover the fixed 'Hostname' of each system as these will be used to address each of them on the network. Click the 'Info' button to display the following dialog box:



Note the 'Hostname' as you will need to reference this system using this name.

Repeat this procedure within the copy of Synchrony on each system.

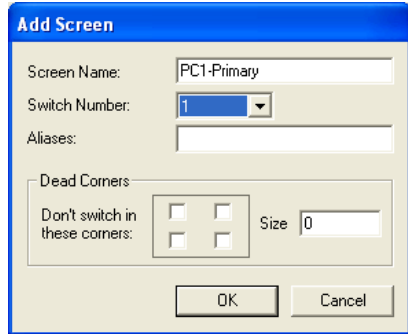
- 5 On the 'primary system' only (the one that has its serial port connected to the Adder TS4 unit), select the 'Use this computer as the server...' radio button and then click the 'Configure' button:



This is where you will register each computer (including the primary system itself) and define the positional relationships between their monitor screens.

*continued*

- Beneath the Screens field, click the '+' button to display the Add Screen dialog so that you can add a new screen (computer system):



- In the 'Screen Name' field, enter the 'Hostname' (see step 4) of one of the computer systems and choose the corresponding 'Switch Number' (its port number on the Adder TS4 unit).

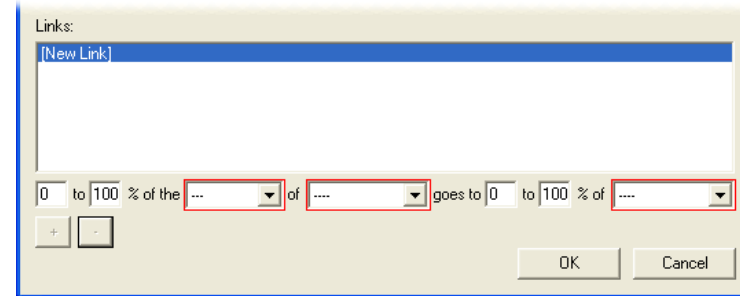
You can optionally use the other controls within this dialog:

**Aliases** - Enter one or more unique names that you would prefer to use for the system.

**Dead Corners** - This option allows you to define one or more corner regions of the screen where you need to prevent switching to another screen. This is most often used in the corner where the Windows Start button is located so that you do not accidentally switch screens. Check one or more of the boxes to select the appropriate corner(s) and use the 'Size' field to define a square area (side length of the square in pixels, extending out from the corner) in which switching should be disabled.

- Click the OK button when all items have been entered.
- Repeat steps 6 to 8 to define each system, including the primary server system itself.

- You now need to define the positional relationships between the various screens of the systems, using the lower part of the Screens & Links window.



- Use the drop down controls (ringed in red), to select the border (left, right, top or bottom) of a screen, and the screen to which it should switch, e.g.

*0 to 100% of the **right** of **PC1-Primary** goes to 0 to 100% of **PC2***

The above setting will change to PC2 when the mouse exceeds the right border of PC1-Primary.

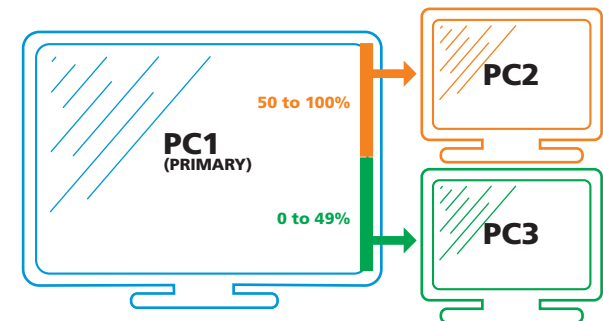
See the next page for typical setup examples ➡

- Click the '+' button to add your entry to the list. The above entry would be added to the list as follows:

*PC2 is right of PC1-Primary*

- Repeat steps 11 and 12 for each screen border that leads to another screen. This must be done for both switching directions, i.e. '...right of PC1 goes to PC2' and left of PC2 goes to PC1'.

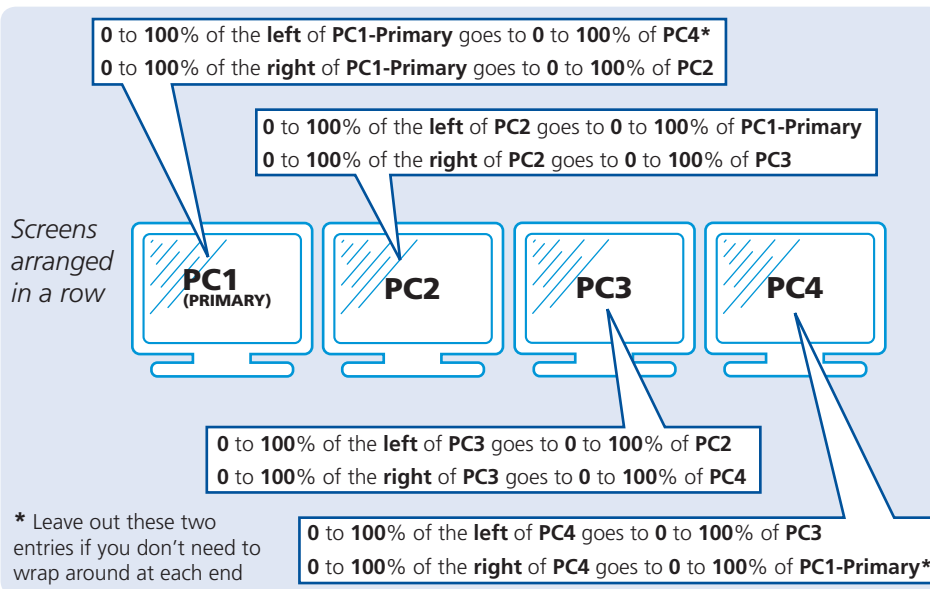
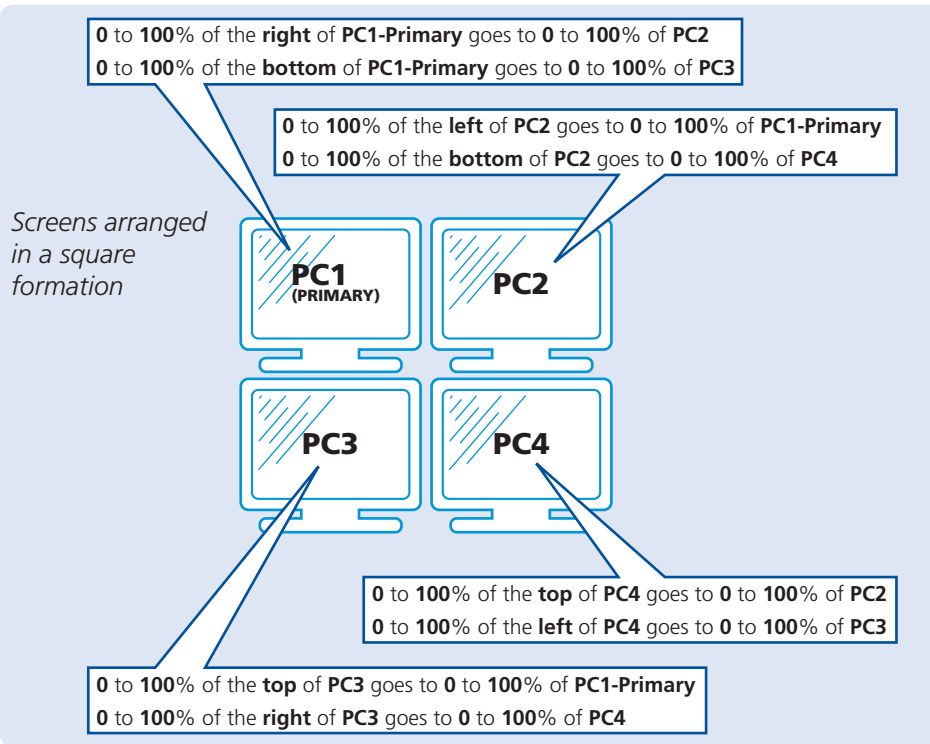
The percentage values only need to be changed if different switching routes from the same screen are required. In the example right, the bottom half of the right side of PC1 switches to PC3, while the top half goes to PC2. This would be expressed as follows:



**0 to 49%** of the right of PC1-Primary goes to 0 to 100% of PC3

**50 to 100%** of the right of PC1-Primary goes to 0 to 100% of PC2

## Set up examples for positional relationships



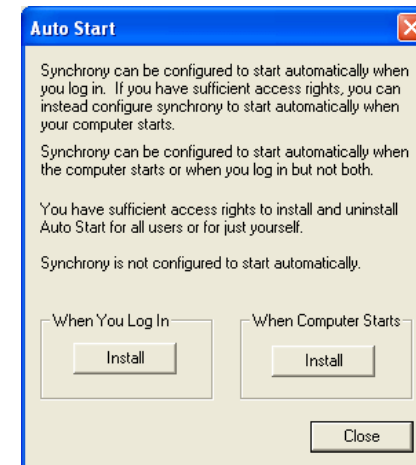
- When all of the screen switching entries have been entered, click the OK button to return to the main window. Now choose the Serial Port on the primary computer to which the Adder TS4 serial cable is connected.
- On each client system, select the 'Use this computer as a client' radio button and enter the Screen Name (Hostname) of the primary system in the 'Name of Server' field.

*Tip: To confirm that each client can see the server on the network, open the Windows Command Prompt and enter: ping <server hostname>. If the server can be seen, you will see replies to each outgoing message listed within the Command Prompt window. This test can also be performed from the server system to verify each of the clients.*

- On every system you now need to determine when Synchrony should start. Depending on your access rights on each system, you can choose to launch Synchrony either:
  - When the system first starts up, or
  - When you log in.

Click the 'AutoStart...' button to display the following dialog:

The application will check your current login status and present the available choices to you.



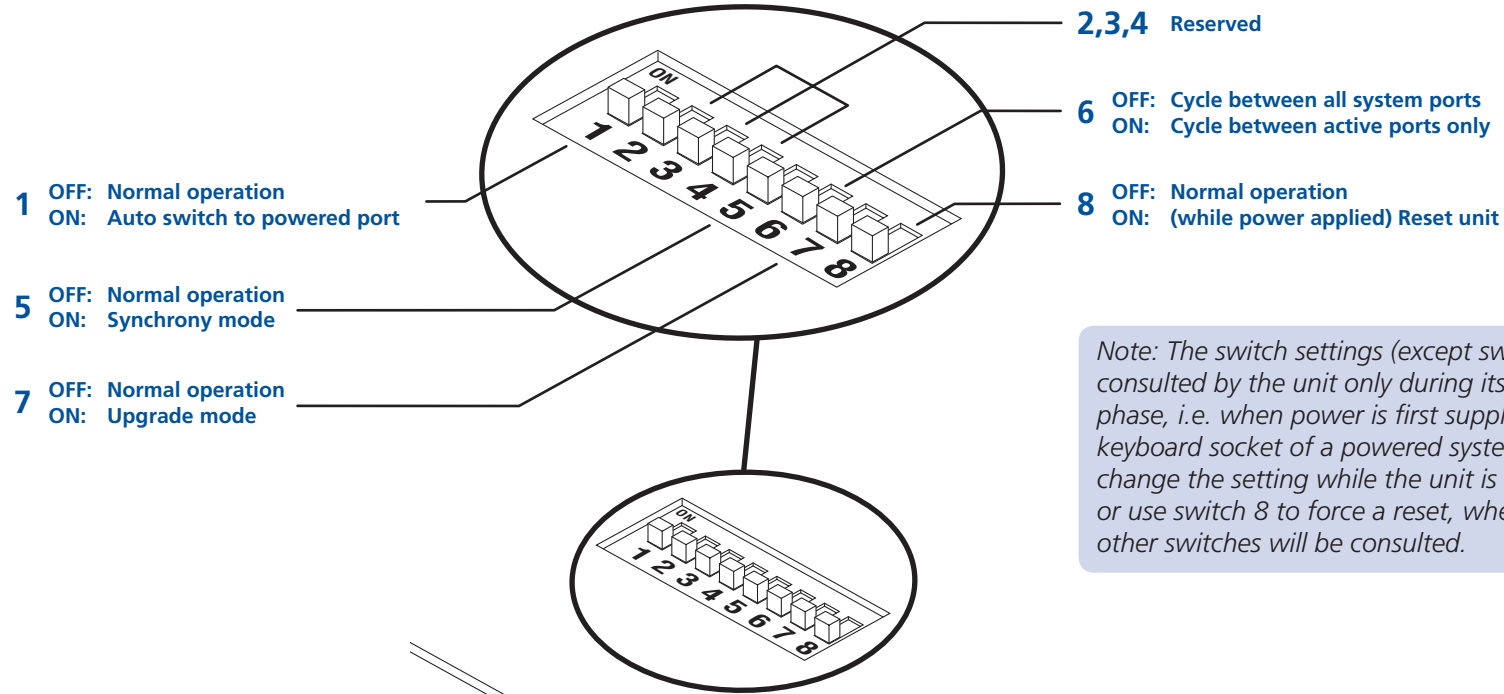
- Click the relevant Install button and then click the Close button to return to the main window.

You can now either click the Start button to begin each Synchrony session immediately or wait until each system is next restarted. The taskbar on the server system will begin greyed out and will become coloured once the client systems are located.

In operation, as the mouse exceeds the boundary of one screen, the Adder TS4 unit should switch across to the next system and screen.

# Configuration switch settings

The underside of the TS4 unit features a block of eight switches which are used to configure various fundamental settings. When shipped, all switches are set to OFF, which produces normal operation within the TS4 unit. Further details about switch settings can be found within sections of this guide dealing with specific setup issues.



*Note: The switch settings (except switch 8) are consulted by the unit only during its power up phase, i.e. when power is first supplied by a keyboard socket of a powered system. Therefore, change the setting while the unit is disconnected or use switch 8 to force a reset, whereupon the other switches will be consulted.*

## Hot plugging and mouse restoration

It is strongly recommended that you switch off a host system before attempting to connect it to the Adder TS4. However, if this is not possible then you need to 'hot plug' the system while it is still running. There is not normally a danger of damage to the system, however, when PS/2-style mouse or IntelliMouse communications (i.e. non-USB) are interrupted, often they fail to re-initialise when reconnected. The Adder TS4 provides a feature to reinstate mouse communications once the necessary connections have been made.

There are two main types of data formats used by current non-USB mice, these are the older 'PS/2' format and the more recent 'IntelliMouse®' format introduced by Microsoft. These use slightly different data arrangements and it is important to know which type was being used before you hot-plugged the system to the Adder TS4. The previous setting depends both on the type of mouse and the type of driver, as various combinations of PS/2 and IntelliMouse are possible. Using the incorrect restore function may produce unpredictable results and require the system to be re-booted.

### Which restore setting do I use?

The general rule is that unless both the mouse *and* the driver are *both* IntelliMouse compatible then you need to restore the mouse as 'PS/2'. An IntelliMouse can operate in either mode, whereas a PS/2 mouse cannot.

### Recognising an IntelliMouse-style mouse

The IntelliMouse format was introduced to support, among other features, the scroll wheel function. If the mouse has a scroll wheel, then it is likely to support the IntelliMouse format. If it is a Microsoft-branded mouse, then it will usually state that it is an IntelliMouse on its underside label.

### Recognising an IntelliMouse driver

Before hot plugging to the Adder TS4 (or afterwards using only keyboard control), access the Windows Control Panel of the system and select either the *Mouse* option (on Windows NT, 2000 and XP) or the *System* option (on Windows 95, 98, ME). Look for the name of the driver, which will usually include the words *PS/2* or *IntelliMouse*.

### To restore mouse operation when hot plugging:

- 1 Using link cables, carefully make the keyboard and mouse connections between the host system and the appropriate ports on the Adder TS4.
- 2 Press and hold the **SELECT** button on the Adder TS4 front panel for five seconds, until the **SYSTEM** readout shows **⏏** (Configuration mode).
- 3 Choose one of the following actions:

- To restore a standard PS/2-style mouse: Press **F5** **⏏**
- To restore an IntelliMouse: Press **F6** **⏏**

The **SYSTEM** readout will show the entered characters and then return to show **⏏** when you press **⏏**. The mouse restoration should now be complete.

*Note: The restore functions predict the likely mouse resolution settings but may not restore the exact speed or sensitivity settings that were originally set.*

- 4 Move the mouse a short distance and check for appropriate on-screen cursor movement. If the mouse cursor darts erratically around the screen, then cease moving the mouse. This is an indication that the chosen restore function is incorrect. Try again using the other restore function.
- 5 To exit from Configuration mode, press **E** **⏏**.

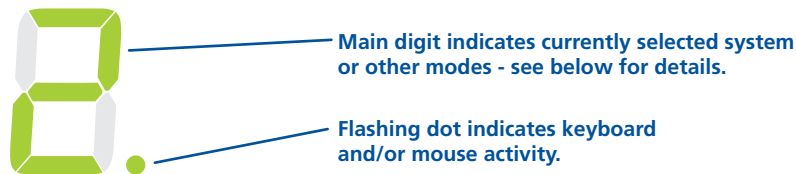
# Operation

In operation, the Adder TS4 allows you to quickly switch between up to four systems. One system can be accessed at a time, whereupon the common keyboard and mouse are linked to that system. The Adder TS4 deceives the other systems that they still have a keyboard and mouse connected to them in order that they respond quickly and correctly once they are again selected.

## The SYSTEM readout

On the front panel of the Adder TS4 unit, the SYSTEM readout indicates either:

- The computer system to which the keyboard and mouse are connected, or
- An alternative mode of operation, such as password protected mode, configuration mode, upgrade mode, etc.



Typical SYSTEM readout displays are:

- 1, 2, 3 or 4** Indicates the currently selected system. The selected channel will also be indicated on the remote control.
- 0** The Adder TS4 is disabled, no system is currently selected. The remote control will not show any channel indication.
- P** The Adder TS4 is password protected. You must enter the current password to gain access. See [Setting \(or changing\) a password](#) for details. The remote control will not show any channel indication.
- [** Configuration mode is currently active. Press to exit. See [Configuration options](#) for details. The remote control will not show any channel indication.
- u** Upgrade mode is currently active. See [Upgrading](#) for details. The remote control will not show any channel indication.
- U** The upgrade process is complete. Set mini switch 7 to OFF to exit upgrade mode.

## Selecting systems

There are five ways to select a system:

- The Adder TS4 unit SELECT button
- The optional RC4 Remote control selector
- Keyboard hotkey combinations
- Mouse button combinations
- Automatic switching using the optional Synchrony utility

### To use the Adder TS4 unit SELECT button

*Note: You can determine whether the Adder TS4 visits every port in turn (regardless of whether active systems are connected to them) or only those with active systems connected. See [All channel/active channel cycling](#) for details.*

- Press the SELECT button repeatedly until the SYSTEM readout shows the required system number.

### To use the remote control selector

- Press the remote control button that corresponds to the required system. The adjacent indicator will illuminate to show that the chosen system is selected.

### To use keyboard hotkey combinations

*Note: The standard hotkeys can be changed to avoid clashes with software applications, see [Changing hotkeys](#) for details.*

- **To select a particular system:** Press and hold the hotkeys (usually and ), then also press the number of the required system and release all three keys.
- **To select the next system:** Press and hold the hotkeys (usually and ), then press and release the key until the required system is selected. Release the hotkeys.

*Note: You can determine whether the Adder TS4 visits every port in turn (regardless of whether active systems are connected to them) or only those with active systems connected. See [All channel/active channel cycling](#) for details.*

### To use mouse button combinations

*Note: The mouse button arrangements can be changed, see [Mouse button switching modes](#) for details.*

- Press and hold the mouse scroll wheel (or centre mouse button) and then press either the left mouse button to change to the next system or the right mouse button to change to the previous system.

### To use automatic switching (optional Synchrony utility required)

Simply move the mouse cursor beyond the edge of the current screen in the direction of the next screen. Control should switch to a new screen/system.

# Configuration options

The Adder TS4 provides numerous configuration options to ensure that it best suits your circumstances and the tasks carried out by the connected systems.

## Setting (or changing) a password

The password option allows you to quickly impose a level of security suitable to prevent system tampering while you are away from your desk for short periods. When enabled, the Adder TS4 will default to protected mode when switched on or when you press the hotkeys and L (lock).

### To set (or change or cancel) a password

*Note: If the SYSTEM readout shows P then the current password must be entered before attempting to enter the configuration mode.*

- 1 Enter configuration mode: Press and hold the SELECT button until the SYSTEM readout shows E.
- 2 Press P ↵. The SYSTEM readout will show = to indicate that you should enter your new password.

*Note: The password is not case sensitive and can be any combination of keystrokes including the function keys but excluding Ctrl, Alt, Shift and ↵.*

*Note: To cancel the password protection function, do not enter any characters, merely press ↵.*

- 3 When the password has been entered, press ↵ to fix it and press E ↵ to exit from configuration mode.

### To lock the system (invoking password protection)

- Press and hold the hotkeys (usually Ctrl and Alt) and press L. The SYSTEM readout should show P.

*Note: If the SYSTEM readout shows B, there is no password currently set.*

### To enter a password and unlock the system

- 1 Enter the current password (upper and lower cases are not differentiated).
- 2 Press ↵. The SYSTEM readout should show the number of the first available system.

### If the password is forgotten

- 1 Remove power from the Adder TS4. If any systems are active, either switch them off or remove their keyboard link connectors from the Adder TS4. If an optional power supply is used, remove it.
- 2 Press and hold the SELECT button and re-apply at least one source of power. The SYSTEM readout will show E to signify that configuration mode is active.
- 3 Follow the standard procedure 'To set (or change or cancel) a password' from step 2 to create a new password.

## Changing hotkeys

Hotkeys are two normal keyboard keys that, when pressed simultaneously with a third key, signal to the Adder TS4 that you are sending a message specifically to it and not to the currently selected system. The hotkeys are ordinarily Ctrl and Alt, while a third keypress determines what you want the Adder TS4 to do, e.g. change to different system, invoke password protection, etc.

If the standard Ctrl and Alt hotkeys are also needed for computer system tasks, you can change them for another combination, as discussed below.

### To change the hotkeys

- 1 Enter configuration mode: Press and hold the SELECT button until the SYSTEM readout shows E.
- 2 Press H followed by a number to select the required hotkey setting, as follows:

H 1	'CTRL' and 'ALT' keys together (default)
H 2	'CTRL' and 'SHIFT' keys together
H 3	'ALT' and 'SHIFT' keys together
H 4	'RIGHT ALT' key
H 5	'LEFT ALT' and 'RIGHT ALT' keys together
H 6	'LEFT CTRL' and 'LEFT ALT' keys together
H 7	'RIGHT CTRL' and 'RIGHT ALT' keys together
H 8	No hotkey enabled
- 3 When the hotkey combination selection has been made, press ↵ to fix it and press E ↵ to exit from configuration mode.



## Mouse button switching modes

You can use a three button mouse to switch between systems. However, when used in this way, the action of the middle mouse button or scroll wheel click is 'trapped' by the Adder TS4 and is not passed to the system. This makes it unavailable for use in controlling applications on the selected system. The scroll wheel scrolling action is unaffected and passed on normally to the systems, only the scroll wheel click is used by the Adder TS4.

- To use the mouse buttons to change systems, use options U1 (default) or U4.
- To use the scroll wheel click/third mouse button with the systems, use options U3 or U5.
- To report only a simple 2-button mouse to the systems, use option U2.

### To change the mouse button switching modes

- 1 Enter configuration mode: Press and hold the SELECT button until the SYSTEM readout shows **C**.
- 2 Press **U** followed by a number to select the required mouse button setting, as follows:
  - U 1** System channels are switchable using a 3-button mouse or IntelliMouse (default). Adder TS4 reports 2-button mouse mode to the systems.
  - U 2** System channels are not switchable using the mouse. Adder TS4 reports 2-button mouse mode to the systems.
  - U 3** System channels are not switchable using the mouse. Adder TS4 reports 3-button mouse mode to the systems.
  - U 4** System channels are switchable using a 3-button mouse or IntelliMouse (default). Adder TS4 reports IntelliMouse mode to the systems.
  - U 5** System channels are not switchable using the mouse. Adder TS4 reports IntelliMouse mode to the systems.
- 3 When the mouse button selection has been made, press **↵** to fix it and then press **⏏** to exit from configuration mode.

## All channel/active channel cycling

The Adder TS4 provides the option, when cycling between the system channels, to visit each channel (irrespective of whether an active system is connected) or to only select active channels. You can affect the keyboard/mouse setting independently from the front panel SELECT switch setting.

### To change keyboard/mouse channel cycling

- 1 Enter configuration mode: Press and hold the SELECT button until the SYSTEM readout shows **C**.
- 2 Press **U** followed by a number to select the required keyboard/mouse channel cycling setting, as follows:
  - U 7** Cycle between all ports when switching with 'hotkeys and Tab' or three button mouse (default).
  - U 8** Cycle between active ports only when switching with 'hotkeys and Tab' or three button mouse (default).
- 3 When the channel cycling selection has been made, press **↵** to fix it and then press **⏏** to exit from configuration mode.

### To change SELECT button channel cycling

- 1 Remove power from the Adder TS4. If any systems are active, either switch them off or remove their keyboard link connectors from the Adder TS4. If an optional power supply is used, remove it.
- 2 On the rear panel, click mini switch 6 to the required position, as follows:
  - To cycle between all system ports, set switch 6 to OFF.
  - To cycle between active ports only, set switch 6 to ON.
- 3 Re-apply power to the Adder TS4.

## Resetting and restoring default settings

On occasions it may be necessary to reset the Adder TS4 or to remove all custom settings and return the Adder TS4 to its factory default state.

### To reset the Adder TS4

- 1 On the rear panel, click mini switch 8 to its ON position for a moment and then return it to its OFF position.

### To restore default settings

- 1 Enter configuration mode: Press and hold the SELECT button until the SYSTEM readout shows **C**.
- 2 On the connected keyboard, press **F** and then press **8**, followed by **↵** to perform the restoration of the default settings. The SYSTEM readout will momentarily show **r** to confirm that the process is complete.





## Upgrading

Like all Adder products, the internal software (firmware) of the TS4 is designed to be easily upgraded in order to take advantage of a continual process of improvement and innovation.

You can discover the current version of your Adder TS4 in two ways, either using the upgrade application (discussed later) or within the configuration mode as discussed next.

### To discover the current firmware version

- 1 Enter configuration mode: Press and hold the **SELECT** button until the **SYSTEM** readout shows **␣**.
- 2 You need to discover the three digits of the firmware release individually, as follows:
  - Press **F1** **␣** to discover the first firmware release digit.
  - Press **F2** **␣** to discover the second firmware release digit.
  - Press **F3** **␣** to discover the third firmware release digit.

At each stage, the **SYSTEM** readout will momentarily show **=** and then the relevant digit, before returning to the **␣** prompt. For example, the respective digits 1, 4 and 6 mean that the firmware version is v1.46.

- 3 Once completed, press **E** **␣** to exit from configuration mode.

### To upgrade the Adder TS4

- 1 Download the latest TS4 firmware upgrade file from the Adder website: [www.adder.com](http://www.adder.com). The upgrade files are compressed using pkzip format which you will need to decompress them. If you do not have pkzip, go to [www.pkware.com](http://www.pkware.com) to download the latest version. Place the decompressed upgrade files onto the Windows system that will be connected (via a vacant serial port) to the Adder TS4 unit.
- 2 Remove power from the Adder TS4. If any systems are active, either switch them off or remove their keyboard link connectors from the Adder TS4. If an optional power supply is used, remove it.
- 3 Connect the supplied upgrade cable between the remote control socket on the end of the Adder TS4 unit adjacent to the Adder logo, and a vacant serial port on the system containing the upgrade files.
- 4 On the underside of the unit, click mini switch 7 to its ON position.
- 5 Re-apply power to the Adder TS4 and switch on the system to be used for the upgrade. The **SYSTEM** readout will show **␣**.

- 6 Locate and run the application 'KVMUploader' to display this window:



- 7 Click the *Browse...* button and locate the TXT file that accompanied the upgrade utility. Highlight the TXT file and click the *Open* button.
- 8 Click the *Advanced...* button and in the subsequent dialog, ensure that the *Serial Port* entry matches the port to which the upgrade cable is attached. Also select the *Program and verify* option. Click the *OK* button.
- 9 Click the *Query Unit* button to check the name and version of the current firmware - the application will interrogate the TS4 via the upgrade cable. Once the version information is displayed, check that the *Intended Target Units* field matches the *Unit Connected* field and the *New Firmware Version* field exceeds that of the *Current Firmware Version*.
- 10 Click the *Upload Now* button to begin transferring the upgrade data from the system to the Adder TS4. The progress of the upload is shown in the status bar (indicating the advancement of the current task) and the progress bar (indicating the progress of the upload as a whole). The **SYSTEM** readout will show **␣**.

During the upload, all buttons become disabled except for the *Abort* button. The upload can take as long as fifteen minutes. Should you need to abandon the upload at any stage, click the *Abort* button.

Following the upload, a verification will be carried out and the results displayed within the upgrade application window.
- 11 When complete, switch off the Adder TS4, disconnect the upgrade cable, return mini switch 7 to its OFF position and resume operation of the Adder TS4 in the usual manner.



# Further information



## Troubleshooting

If you experience problems when installing or using the Adder TS4, please check through this section for a possible solution. If your problem is not listed here and you cannot resolve the issue, then please refer to the 'Getting assistance' section.

### Mouse does not move cursor on screen.

- If you move the mouse and the activity indicator (dot on 7 segment display) does not flash then the Adder TS4 is not receiving data from the mouse. Check the mouse connection to the Adder TS4, try resetting the mouse using the reset function or re-powering the Adder TS4. If you are attempting to connect the Adder TS4 to a system with a PS/2 mouse connection that has not been powered down then you will need to use the mouse restoration functions.

### Keyboard does not function or functions intermittently. Num lock light does not always come on when the num lock key is pressed.

- Some older keyboards were designed for use with specific systems and are not truly AT or PS/2 compatible. These are not common but if you experience problems try another keyboard.

### Mouse causes channel to change.

- Some cheaper mice are not fully compatible with the Adder TS4 and can lose data causing the channel to be changed (if mouse switching of channels is enabled). Ensure that you are using a Microsoft compatible mouse driver on your system. Some other manufacturers' drivers may switch the mouse to use a proprietary mouse data format not supported by the Adder TS4. If you have unplugged and re-connected a mouse to the Adder TS4 then ensure that you reset it using the mouse reset function.

### Mouse jumps around the screen after disconnecting the mouse cable or powering down the Adder TS4.

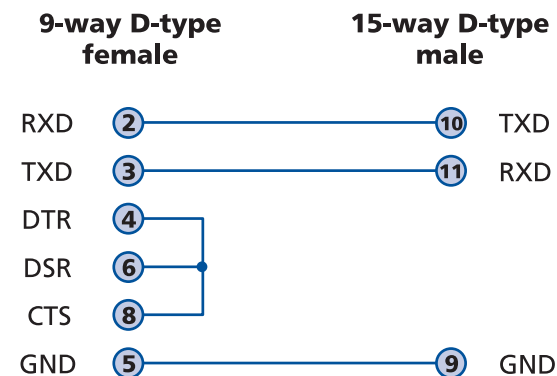
- The mouse data format may be out of synchronisation with that required by the system (PS/2 or Intellimouse). Try the 'restore Intellimouse' function (F6) to resolve the problem or repower the system.

## Getting assistance

If you are still experiencing problems after checking the list of solutions in the Troubleshooting section then we provide a number of other solutions:

- Adder Technology website – [www.adder.com](http://www.adder.com)  
Check the Support section of our website for the latest solutions.
- Email [support@adder.com](mailto:support@adder.com)
- Fax in the UK: **01954 780081**  
in the US: **+1 888 275 1117**
- Phone in the UK: **01954 780044**  
in the US: **+1 888 932 3337**

## Upgrade cable pin out



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## Safety information

- For use in dry, oil free indoor environments only.
- Not suitable for use in hazardous or explosive environments or next to highly flammable materials.
- The optional power adapter is only required when the link cables used exceed 2 metres in length. Otherwise the Adder TS4 can derive its power from any of the host systems via the keyboard connections.
- Warning – the optional power adapter contains live parts.
- No user serviceable parts are contained within the optional power adapter - do not dismantle.
- Do not use the optional power adapter if the power adapter case becomes damaged, cracked or broken or if you suspect that it is not operating properly.
- Replace the optional power adapter with a manufacturer approved type only.
- If you use a power extension cable, make sure the total ampere rating of the devices plugged into the extension cable do not exceed the cable's ampere rating. Also, make sure that the total ampere rating of all the devices plugged into the wall outlet does not exceed the wall outlet's ampere rating.
- Do not attempt to service the Adder TS4 unit or its remote control yourself.
- The optional power adapter can get warm in operation – do not situate it in an enclosed space without any ventilation.
- The Adder TS4 unit does not provide ground isolation and should not be used for any applications that require ground isolation or galvanic isolation.
- When using the optional power adapter, use only with a grounded outlet. When using a backup power supply (UPS), power the computers, the monitors and the Adder TS4 from the same supply.

## Warranty

Adder Technology Ltd warrants that this product shall be free from defects in workmanship and materials for a period of two years from the date of original purchase. If the product should fail to operate correctly in normal use during the warranty period, Adder will replace or repair it free of charge. No liability can be accepted for damage due to misuse or circumstances outside Adder's control. Also Adder will not be responsible for any loss, damage or injury arising directly or indirectly from the use of this product. Adder's total liability under the terms of this warranty shall in all circumstances be limited to the replacement value of this product. If any difficulty is experienced in the installation or use of this product that you are unable to resolve, please contact your supplier.



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## Emissions and Immunity

All interface cables used with this equipment must be shielded in order to maintain compliance with radio frequency energy emission regulations and ensure a suitably high level of immunity to electromagnetic disturbances.

### European EMC directive 89/336/EEC



This equipment has been tested and found to comply with the limits for a class A computing device in accordance with the specifications in the European standard EN55022. These limits are designed to provide reasonable protection against harmful interference. This equipment generates, uses and can

radiate radio frequency energy and if not installed and used in accordance with the instructions may cause harmful interference to radio or television reception. However, there is no guarantee that harmful interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to correct the interference with one or more of the following measures: (a) Reorient or relocate the receiving antenna. (b) Increase the separation between the equipment and the receiver. (c) Connect the equipment to an outlet on a circuit different from that to which the receiver is connected. (d) Consult the supplier or an experienced radio/TV technician for help.

### FCC Compliance Statement (United States)

This equipment generates, uses and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a class A computing device in accordance with the specifications in Subpart J of part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area may cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

### Canadian Department of Communications RFI statement

This equipment does not exceed the class A limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

*Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le règlement sur le brouillage radioélectriques publié par le ministère des Communications du Canada.*



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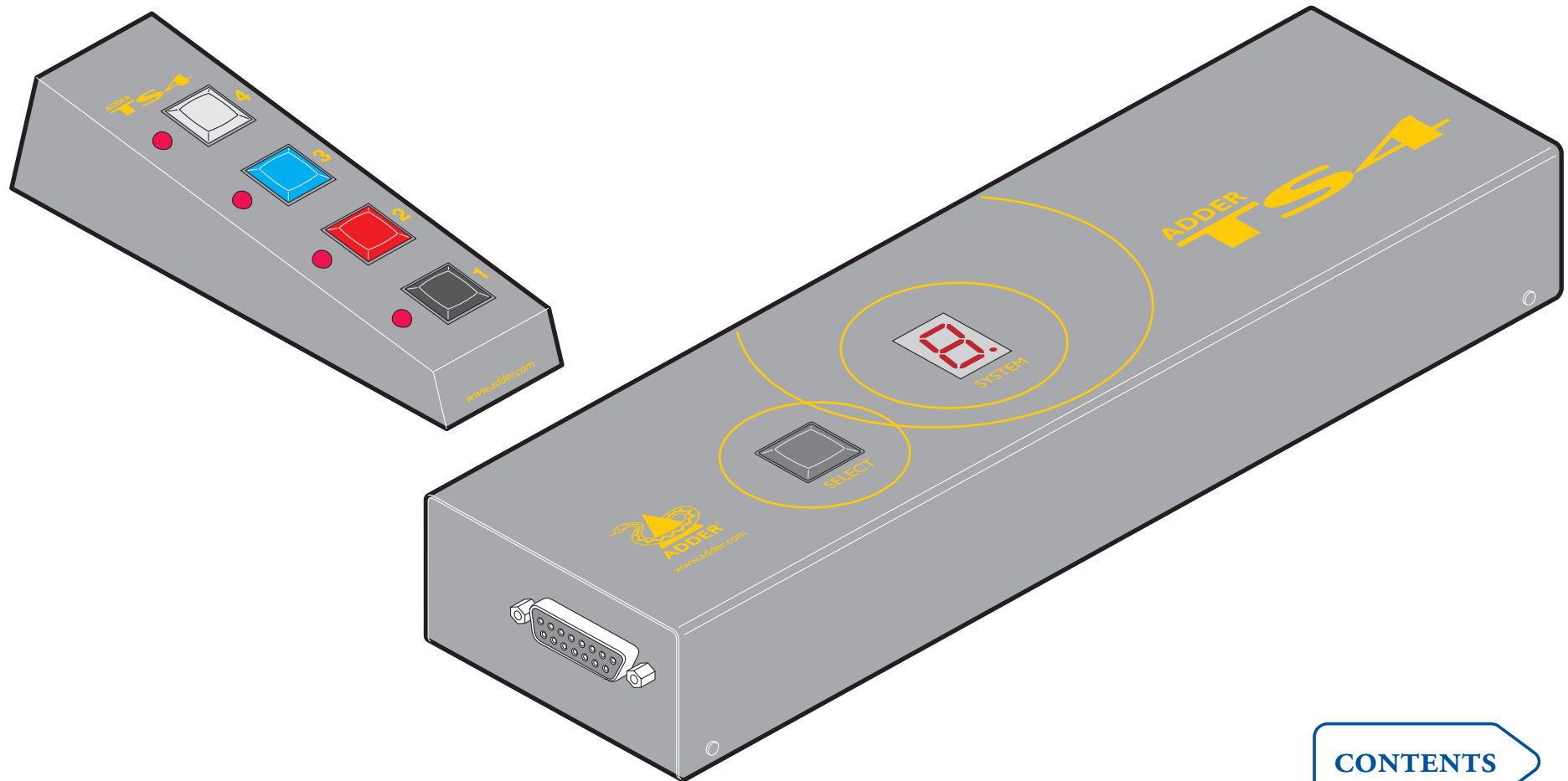
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# Adder TS4

Four-port keyboard and mouse switch



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