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## User Manual

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# USB Serial Adapter for MAC OS 8.6 - 9.x (Software v 2.2)

Model: USA-19HS

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**Note:** This documentation applies to Keyspan's USB Serial Adapter Software for Mac OS 8.6 - 9.x and covers the features and use of this software on that platform. For Mac OS X information and instructions, please read the **Keyspan USB Serial Software for Mac OS X User Manual** or visit Keyspan's web page  [<http://www.keyspan.com>](http://www.keyspan.com).

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This User Manual applies to the Keyspan USB Serial Adapter Software for **Mac OS**.

# Keyspan:USB Serial Adapter for Mac OS-v2.2 User Manual

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## 1.1 - Introduction

Looking for a way to connect a graphics tablet, modem, GPS receiver, or Palm Organizer to your USB equipped Macintosh computer? The **Keyspan USB Serial Adapter** is a simple, inexpensive, and reliable way to make the connection.

The Adapter plugs into any USB port on your Mac. It provides one DB9 serial port which can be used to connect your Dt.

Up to 8 Keyspan USB Serial Adapters may be installed on one CPU if desired.

## Requirements

The **Keyspan USB Serial Adapter Software for Mac OS** requires the following:

- Macintosh:
  - At least one available USB port
  - Mac OS 8.6 - 9.x

## Contents

The **Keyspan USB Serial Adapter** package includes:

- Keyspan USB Serial Adapter (USA-19H)
- USB cable
- Mac and Windows compatible CD with software and user manual

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## 2.1 - Capabilities

The Keyspan USB Serial Adapter provides **one male DB9 serial port** which supports **RS-232** asynchronous communications at **data rates up to 230 Kbps**. Please read our [Compatibility List for Mac OS](#) for a list of serial devices that have been tested with the Keyspan USB Serial Adapter.

AppleTalk (LocalTalk) and Geoport are not supported on the Keyspan USB Serial Adapter's port. Please note that AppleTalk (LocalTalk) and Geoport are not disabled by the Keyspan USB Serial Adapter if you have these features installed already.

### Keyspan USB Serial Adapter Port

Keyspan USB Serial Adapter  
**Serial Port**



Keyspan USB Serial Adapter  
**Port Icon And Name**



P#1USA19H0212

On Mac OS, **Port 1** on the Keyspan USB Serial Adapter is named "**P#1USA19Hyyxx**". This port is accessible by selecting the "**P#1USA19Hyyxx**" port name or the USA19H icon in your serial device's software or by selecting . This port is published via the *CommToolBox* and can be accessed by *CommToolBox Savvy* software.

On Macs that do not have built-in serial ports (ie 'Blue and White' G3s, iMacs, iBooks, G4s, etc...), **Port 1** can emulate the **PRINTER** port (as found on older Macintosh computers) for serial devices that are *not CommToolBox Savvy* and can't access the "**P#1USA19Hyyxx**" port. Printer Port emulation can be turned ON by using the [Keyspan Serial Assistant's](#) Advanced Setting's screen. Once you've emulated the Printer port, Port 1 will be accessible by selecting the 'PRINTER' port icon or 'Printer Port USB' port name in your serial device's software. Printer port emulation is turned OFF by default.

**Note:** If you install more than one Keyspan USB Serial Adapter on your Mac, Port 1 on subsequent adapters will have different names (please contact Keyspan for details). The PRINTER port can only be emulated once on your Mac.

## 3.1 - Installation Instructions

### Installing the USB Serial Adapter Software for Mac OS

**Note:** These instructions apply to installing the Keyspan USB Serial Adapter on Mac OS 8.6 through 9.x. If you are installing this software on Mac OS X via CLASSIC, please read the **Keyspan USB Serial Software for Mac OS X User Manual** or visit Keyspan's web page <<http://www.keyspan.com>> before proceeding.

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#### Step 1 - Insert the Keyspan Serial Adapter CD-ROM

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Turn your computer ON. When your computer starts up, place the **Keyspan USB Serial Adapter** CD into the CD-ROM drive. When the CD icon appears on your desktop, double click on this icon to display its contents.

Locate the Keyspan Mac OS 8.6 - 9.x folder and then locate the **Keyspan USA19H Installer** for Mac OS.

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#### Step 2 - Run the Keyspan USB Serial Software for Mac OS Installer

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If the Keyspan Adapter is connected to your computer, **disconnect** it now.

Run the **Keyspan USA19H Installer** for Mac OS by double clicking the installer icon. This will start the installer. Once the installer is running, follow the instructions on screen.

The installer will install the following items:

- " KeyspanUSBLoader" (in the *Extensions* folder)
- "KeyspanUSA19Hdrv" (in the *Extensions* folder)
- "[Keyspan Serial Assistant](#)" (in the *Control Panels* folder)
- "Keyspan Manager" (in the *System Folder* folder)

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#### Step 3 - Software Installation Complete!

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Now that you have installed the Keyspan USB Serial Adapter software, you are ready to install the Keyspan USB Serial Adapter hardware. Please proceed to the **installing the Keyspan USB Serial Adapter Hardware** instructions.

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### Installing the Keyspan USB Serial Adapter Hardware

The following hardware installation instructions provide a basic overview on installing the **Keyspan USB Serial Adapter** in a USB port. For detailed instructions on how to connect USB devices your specific computer, please refer to the USB Device Install section in your computer's user's manual.

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#### **Step 4** - Connect the USB cable to the Adapter (if necessary)

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If your Keyspan adapter does not have an attached USB cable, attach the included USB cable into the Keyspan adapter's USB port.

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#### **Step 5** - Connect the Adapter to your USB port

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Attach the Adapter to your computer by connecting the Adapter's USB cable into any built-in USB port on your computer or USB Hub. It is not necessary to turn off your computer when attaching the Adapter.

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#### **Step 6** - Hardware Installation Complete!

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Your Keyspan USB Serial Adapter is ready for use now that you have installed hardware and software.

Please proceed to the [Configuring Your Serial Device](#) section in this manual for instructions on what to do next.

### 4.1 - Configuring Your Serial Device

Prior to using your serial device (modem,UPS, etc.) with the Keyspan USB Serial Adapter, you must:

1. connect your serial device (*hardware*) to the Keyspan port
2. configure your serial device's *software* to use the Keyspan port

The following instructions provide a general overview of this process however we do provide specific configuration instructions for certain serial devices. For a list of these examples, please read the [Configuration Examples for Mac OS](#) Appendix in this manual.

#### Connecting Your Serial Device (Hardware)

If your Keyspan adapter is not connected, please do so NOW.

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##### Step 1 - Connect Your Serial Device To The Keyspan Adapter

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Attach your serial device's (ie Palm cradle, GPS, cell phone) serial cable to the serial port on your Keyspan USB Serial Adapter.

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##### Step 2 - Determine Which Keyspan Port Your Serial Device Is Connected To

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If you have a Keyspan product that has more than one serial port, please note which Keyspan serial port your serial device is connected to (the serial port on the Keyspan product, not your USB ports on your computer or USB hub). This information will become useful as we start [Configuring Your Serial Device's Software](#).

#### Configuring Your Serial Device's Software

The following configuration instructions provide a basic overview of how to configure your software to use your Keyspan serial port(s). For specific instructions on how to operate your serial device, please refer to your serial device's user's manual for detailed instructions...

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##### Step 3 - Check the Keyspan Serial Assistant

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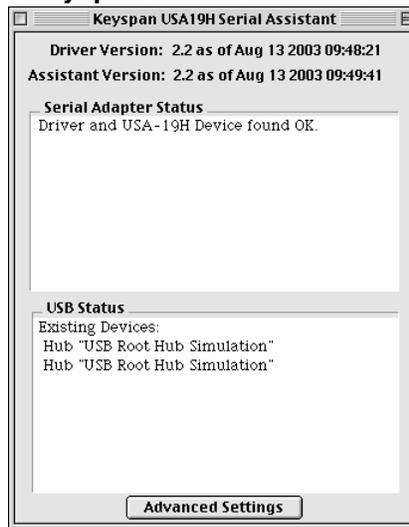
Now that your serial device is connected to the Keyspan adapter, you should check to see if the Keyspan serial port is installed correctly.

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To do this, open the [Keyspan Serial Assistant](#) (located in Control Panels). When you open the [Keyspan Serial Assistant](#), you will see the following window:

the **Keyspan Serial Assistant** window



If your Keyspan hardware and software are installed correctly, the '**Serial Adapter Status**' text box will report 'Driver and USA-19H Device found OK' or '...Renumerating...Done'.

If you see either of these messages, proceed to **Step 4**. If you do not receive either of these messages, proceed [Problem Solving](#) section in this manual.

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### **Step 4** - Determine Where To Select/Configure The Keyspan Serial Port(s)

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Prior to using your serial device with a Keyspan serial port, you must first tell that serial device's **software** which serial port your serial device **hardware** is connected to.

For example, if you have a Palm, you will have to tell the Palm Desktop **software** to look for your Palm handheld (**hardware**) on a Keyspan serial port. By doing this, you establish communication between your serial device's **software** (ie the Palm Desktop software) and your serial device hardware (the Palm handheld unit).

Most serial devices will have software that will allow you to select which serial port the device is connected to. Depending on your serial device and its software, you may have to configure: a Control Panel (ie modems accessing ISPs), an application (ie UPSes), or some combination of these (ie modems accessing terminals using Zterm).

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Please refer to your serial devices documentation on which method your serial device uses and how to access that software's serial port "configuration" screen.

Once you've determined where to select or configure your serial device's software's serial port settings, please proceed to **Step 5**.

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### **Step 5** - Determine Which Serial Port To Select In Your Serial Device's Software

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When you've found the port selection screen in your serial device's software, you may be presented with a list of serial port names, a list of icons, or some combination of both.

At this point, you have to select the name or icon of the Keyspan serial adapter you are connecting to. Please note that you can see the port name and icon port name of your Keyspan Serial Adapter in the [Capabilities](#) section in this manual.

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### **Step 6** - Use Your Serial Device

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Once you've configured your serial software to use the Keyspan serial port, you're ready to start using your serial device under Mac OS.

### 5.1 - Keyspan Serial Assistant

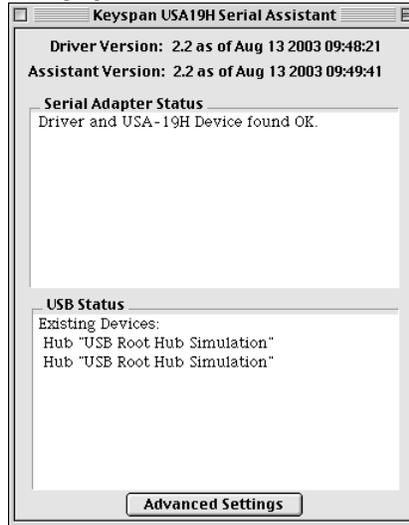
Besides the required drivers, the Keyspan USB Serial Adapter software installer installs an application called **Keyspan Serial Assistant**. This application is used to:

- Determine the status of the adapter software and hardware
- Assist in problem solving

#### Launching the Keyspan Serial Assistant

To launch the Assistant, double click the "Keyspan Serial Assistant" icon in your **Control Panels** folder. This will open the **Keyspan Serial Assistant** window.

the **Keyspan Serial Assistant** window



The Keyspan Serial Assistant will display any Keyspan USB Serial Adapters connected to your computer. If your Keyspan adapter hardware and software are installed correctly you will see 'Driver and USA-19H Device found OK' or '...Renumerating...Done' in the **Serial Adapter Status** text box. If you do not receive either of these messages, proceed [Problem Solving](#) section in this manual.

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### Explanation of Assistant Features

The following is a description of all the relevant text boxes and menus found in the Keyspan Serial Assistant. You can also obtain this information by selecting '**Show Balloons**' in the Help menu and moving the cursor over any item in the Assistant.

### Keyspan Serial Assistant Window

the **Driver and Assistant Version** items

**Driver Version: 2.2 as of Aug 13 2003 09:48:21**  
**Assistant Version: 2.2 as of Aug 13 2003 09:49:41**

The **Driver Version** and **Assistant Version** items show the version numbers of the *installed* Keyspan USA-19H driver and Assistant respectively. The two version numbers should always match. If these numbers do not match, you should reinstall the Keyspan software.

the **Serial Adapter Status** text box

**Serial Adapter Status**  
Driver and USA-19H Device found OK.

The **Serial Adapter Status** text box displays the status of your Keyspan adapter hardware and software. It detects if the Keyspan driver (*software*) is installed (or found) and whether or not a Keyspan adapter (*hardware*) is connected.

If your Keyspan adapter hardware and software are installed correctly you will see 'Driver and USA-19H Device found OK' or '...Renumerating...Done' in the **Serial Adapter Status** text box. If you do not receive either of these messages, proceed [Problem Solving](#) section in this manual.

the **USB Status** text box

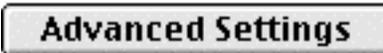
**USB Status**  
Existing Devices:

The **USB Status** text box shows what USB devices (ie hubs, keyboards, mice, etc.) are connected to your USB bus. This text box will not display serial devices connected to your Keyspan adapter.

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the **Advanced Settings** button

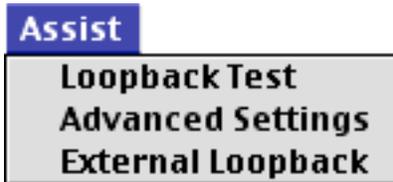


The **Advanced Settings** button will access the Keyspan adapter's advance configuration options. Once you click this button, you will open the [Keyspan Manager](#) window.

You should only access this option if your serial device requires that you turn on an advanced option on or if you are sure of what you are doing. In most cases, you will not need to change any of the adapter's advanced options.

### The Assist Menu

the **Assist** menu



The Keyspan Serial Assistant's **Assist** menu is located in the Menu bar and provides access to the following command(s):

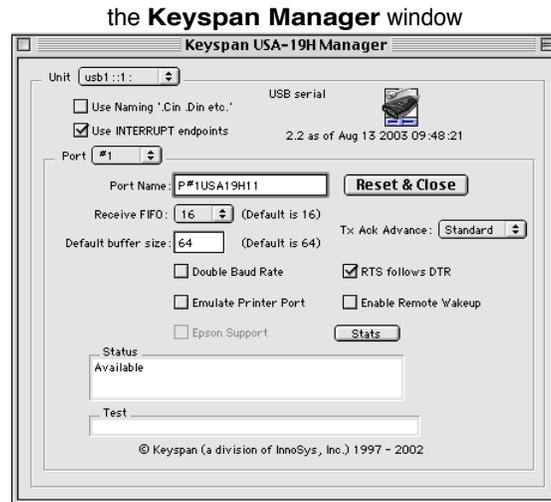
- The **Loopback Test** command performs an 'internal loopback test.' This tests the ability of the Adapter to **send** data. Since this test **does not test the ability to receive data**. Results of this test listed in the **Serial Adapter Status** text box. Please note that this test cannot take place when the Keyspan serial port is in use by another application.
- The **Advanced Settings** button will access the Keyspan adapter's advance configuration options. Once you click this button, you will open the [Keyspan Manager](#) window.
- The **External Loopback** command tests the Adapter's ability to **send and receive** data. This test requires an external 'loopback connector'. For details about external loop back connectors, please read the **External Loopback Connector** information in [Serial Port Pin Outs](#) appendix in this manual.

### Keyspan Manager

The **Keyspan Manager** window allows you to modify characteristics of your Keyspan serial port(s). You should only change settings in this window if you are sure that you specifically need to change them.

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To open the **Keyspan Manager**, click the "Advanced Settings" button in the **Keyspan Serial Assistant** control panel (located in your **Control Panels** folder (located in your hard drive's **System Folder**)). This will open the **Keyspan Manager** window.



### Explanation of Manager Features

The following is a description of all the relevant text boxes and menus found in the **Keyspan Manager**. You can also obtain this information by selecting '**Show Balloons**' in the Help menu and moving the cursor over any item in the Manager.

### Keyspan Manager Window

Unit  ▾

The **Unit** popup menu is used to select which **Keyspan Adapter** you would like to configure. The available items in this menu will correspond to the physical location of any USB Serial Adapter (or adapters) that has been installed in your computer.

Use Naming '.Cin .Din etc.'

The **Use Naming '.Cin .Din'** check box allows use of an alternative port naming conventions. This option is provided for compatibility with certain applications which adopted this naming convention. Please contact the manufacturer of your serial to see if you require this setting to be enabled. The default state is unchecked. A change in this setting will take effect upon restart of your computer or until you disconnect and reconnect the adapter.

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Use INTERRUPT endpoints

The **Use INTERRUPT endpoints** check box is used to change how the Keyspan adapter communicates with your computer's USB bus. When this option is turned on, the Keyspan adapter will use the INTERRUPT endpoints to communicate with your computer's USB bus. When this option is turned off, the Keyspan adapter will use the BULK method of communicating with your computer's USB bus.

Port

The **Port** popup menu allows you to select the Keyspan serial port that you want to configure. Please note that each port maintains its own separate settings. As a result you must configure each port individually.

Port Name:

The **Port Name** text box allows you to change the name of the selected port. Changes will take effect upon reboot. Please note that you cannot change the port name on ports that use the **Emulate Modem/Printer Port** check box.

**Reset & Close**

The **Reset & Close** button can be used to recover use of a serial port that is open and cannot be closed by the application that opened it. When you click on this button, Keyspan Manager will send calls to the port which should reset the port and close it. This will not prove effective in every circumstance.

Receive FIFO:

The **Receive FIFO** popup menu allows you to configure the number of characters which are stored in the card's "First In First Out" input buffer ("FIFO") before they are made available to the computer. The default value of this parameter is "16". The **Receive FIFO** improves the reliability of data transfer at high speeds. You can turn this option OFF for performance reasons however this is not necessary in most cases.

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Default buffer size:

The **Default buffer size** text box allows to set a different buffer size to be established for the specified Adapter port. This change takes effect upon restart of your computer. Since most applications which use serial ports supply their own buffer, this setting often has no benefit.

Double Baud Rate

The **Double Baud Rate** check box will allow certain older applications to use higher data rates than were foreseen when the application was written. Some applications, for example, may not provide the opportunity to select a baud rate above 57.6 Kbps. When this check box is checked, the port will use a baud rate which is exactly double the rate specified in the application software. Changes will take effect upon restart of your computer.

**WARNING: DO NOT enable this check box if you do not need to. Enabling this check box in software that supports the baud rates higher than 57.6 will cause that software to operate incorrectly.**

Tx Ack Advance:

The **Tx Ack Advance** popup menu allows you to set the Keyspan adapter's transmit behavior to achieve the optimum compromise between compatibility (exact emulation of built-in ports) and maximum throughput. Please read the [TX Ack Advance](#) appendix in this manual for more detailed information.

RTS follows DTR

The **RTS follows DTR** check box will cause the **RTS** modem signal to follow the **DTR** modem signal. This option is ON by default. You should not modify this setting unless you are sure that you need to.

Emulate Modem Port

The **Emulate Modem/Printer Port** check box allows your Keyspan adapter to emulate the "Printer Port" or "Modem Port" as found on older Macintosh computers. This allows software that is not CommToolBox Savvy to use a port on the Keyspan adapter.

**Note: This option is only available on Macs that do not have a built-in Modem or Printer (ie "Blue and White" G3s, iMacs, iBooks, etc.). On Keyspan Adapters that only have ONE serial port, you can only emulate the **Printer** port.**

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Epson Support

The **Epson Support** check box allows one you to use certain Epson printers with your Keyspan USB Serial Adapter. Only use this option if you our [Compatibility List for Mac OS](#) instructs you to do so or if you are having problems with your Epson printer. **IMPORTANT!!! Turning on this feature will disable any device connected to an internal modem slot.**

**Note:** This option is only available on an emulated Printer port. Please check our [Compatibility List for Mac OS](#) page for information on which Epson printers require this setting. This option is **DISABLED** on the Keyspan USB Serial Adapter.

Enable Remote Wakeup

The **Enable Remote Wakeup** check box allows to specify if you want your computer to 'wake up' from SLEEP/SUSPEND mode. Remote wakeup is provided via the RI (ring indicator) pin (see the [Serial Port Pin Outs](#) appendix) of the device).

**Note:** Remote Wakeup is enabled on a per-port basis.

**Stats**

The **Stats** button will cause a Port Statistics window to appear. The Stats window can be used to confirm that a baud rate for the selected port is set at your intended value. It may also be used to document the existence of communications errors.

Status:   
Available

The **Status** text box displays current status of the selected port. Information in this text box is dynamically updated.

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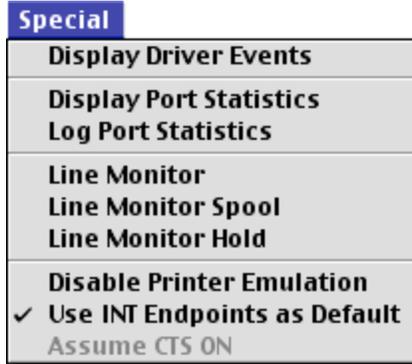
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This User Manual applies to the Keyspan USB Serial Adapter Software for **Mac OS**.

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## The Special Menu

the **Special** menu



The Keyspan Manager's **Special** menu is located in the Menu bar and provides access to the following command(s):

### Display Driver Events

The **Display Driver Events** command copies the Keyspan Adapter's serial driver's internal event buffer into the Keyspan Manager's event log and displays it in a window. This capability may be useful when troubleshooting a communications problem with the help of Keyspan staff.

### Display Port Statistics

The **Display Port Statistics** command functions the same as the **Stats** button in the Keyspan Manager's window.

### Log Port Statistics

The **Log Port Statistics** command copies port statistics to the Keyspan Manager's event log, but does not display the "Stats" window. Adding statistical data to the event log enriches the information provided to Keyspan staff during troubleshooting.

### ✓ Line Monitor

The **Line Monitor** option will display a Line Monitor window for port selected in the **Port** popup menu. The Line Monitor will display all data and all modem control state changes sent to and from the Keyspan Adapter.

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### ✓ Line Monitor Spool

The **Line Monitor Spool** creates a file where information from the Keyspan Manager's Line Monitor will be stored. You can turn this option on or off.

### ✓ Line Monitor Hold

The **Line Monitor Hold** command will stop the Keyspan Manager from spooling the Line Monitor data. Deselecting this option will resume the collection of Line Monitor data.

### ✓ Disable Printer Emulation

The **Disable Printer Emulation** command will disable Printer port emulation on ALL Keyspan USB Serial Adapters connected to your computer. Deselecting this option will allow Printer port emulation on any Keyspan USB Serial Adapter connected to your computer.

### ✓ Use INT Endpoints as Default

The **USE INT Endpoints as Default** command will make ALL Keyspan Keyspan USB Serial Adapters connected to your computer default to use **INTERRUPT endpoints** (for better performance at high baud rates).

### ✓ Assume CTS ON

The **Assume CTS ON** command will force ALL Keyspan USB Serial Adapters connected to your computer to assume that the CTS signal is ON (or HIGH) when CTS is not specified by your serial device's software or serial cable.

**Note:** This option is **DISABLED** on the Keyspan USB Serial Adapter.

### 6.1 - Problem Solving

If you are having problems with your **Keyspan USB to Serial Adapter in Mac OS**, please read the following instructions to assist you in troubleshooting your Keyspan adapter.

#### Hardware Troubleshooting

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##### **Step 1** - Use the Keyspan Serial Assistant

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Launch the [Keyspan Serial Assistant](#) application. When you open the [Keyspan Serial Assistant](#) application, the '**Serial Adapter Status**' text box will report 'Driver and USA-19H Device found OK' or '...Renumerating...Done'. These messages indicate the Keyspan adapter software and hardware are installed properly.

#### Software/Serial Device Troubleshooting

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##### **Step 2** - Check The Physical Connections

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Make certain that your serial device is powered on and is properly connected to the Keyspan Serial Adapter.

Proceed to **Step 3** ...

##### **Step 3** - Check Your Serial Device's Software Configuration

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Check to see if your serial device's software is configured to use the Keyspan port . Please refer to your serial device's documentation for instructions on how to select/switch/configure a serial port in that software.

## 7.1 - Appendices -

- [Frequently Asked Questions \(FAQs\)](#)  
Frequently Asked Questions
- [Compatibility List for Mac OS](#)  
List of serial devices that have been tested with Keyspan serial adapters...
- [Configuration Examples for Mac OS](#)  
Instructions on configuring select serial devices to use Keyspan serial ports
- [Serial Port Pin Outs](#)  
Serial Port Pin Out and Loopback Test Information
- [TX Ack Advance](#)  
White Paper on the TX Ack Advance feature
- [Notices](#)  
FCC, CE, VCCI, Copyright and Trademark Information
- [Keyspan Warranty Information](#)  
Keyspan Warranty Information

## 7.1.a - Frequently Asked Questions (FAQs)

The following is a list of Frequently Asked Questions (FAQs) about the Keyspan USB Serial Adapter for Mac OS. Keyspan frequently updates and adds the questions and answers list below. For the latest list, please visit the our web site at: <http://www.keyspan.com>

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### Frequently Asked Question List

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**Question:**

**How do I configure my serial device to recognize the Keyspan USB Serial Adapter?**

**Answer:**

To configure any serial device to use a serial port on any Keyspan USB Serial Adapter, you must:

1. Locate the software that controls your serial device.
2. Access that software's port or connection configuration screen/dialog/menu/etc.
3. Select the Keyspan port that your device is connected to in port or connection configuration screen/dialog/menu/etc. for that device

Depending on what type of serial device you have, you may have to configure a control panel, an application, a plug-in, or an icon in the Chooser. Keyspan provides documentation on how to configure many popular serial devices in the [Configuration Examples for Mac OS](#) appendix in this manual.

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**Question:**

**Why doesn't my internal modem work on my USB Mac (ie iMac, 'blue and white G3', G4, etc.) after I install the Keyspan Adapter?**

**Answer:**

This is a known problem with Apple's MODEM control panel. On USB equipped Macs (ie iMac , 'blue and white G3', G4, etc.), Apple's MODEM control panel assumes that there is only one serial port and configures itself to use the first available port that it 'sees' (assuming that it will always encounter the internal MODEM Port). However, the Keyspan Adapter's ports are registered prior to the internal MODEM port and thus the MODEM control panel 'sees' one of the

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Keyspan ports and incorrectly configures itself to the Keyspan port.

To solve this problem, please read the following:

1. Open the MODEM control panel and select CONFIGURATIONS command from the FILE menu.
2. Select any 'configuration' and then click on the DUPLICATE button (you can name the file anything you want).
3. Once you've created a new 'configuration', select it and then click on the MAKE ACTIVE button. This will return you to the MODEM control panel window.
4. Once you are back in the MODEM control panel window, select Internal Modem' from the Connect Via popup menu
5. Close the MODEM control panel window to save your changes and you are done.

---

### Question:

**Can I connect my Keyspan USB device to a USB hub?**

### Answer:

Yes, any Keyspan USB device can be connected to a USB hub. However, there are some USB hubs that cannot fully support some USB devices. If you are having problems with a Keyspan USB device that is connected to a USB hub, please connect the Keyspan USB device to a built-in USB port on your computer. If this solves the problem, then this may be an issue with your USB hub.

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### 7.1.b - Compatibility List for Mac OS

The following is a list of serial devices that have been tested with various Keyspan Serial Products on Mac OS (8.6 - 9.x). This list is intended to be used as reference guide and not as complete compatibility list. We are constantly testing products and adding them to this list.

Although compatibility testing of the Keyspan USB Serial Adapter software has been focused on modems and Palm PDAs, most Mac OS (8.6 - 9.x) compatible serial devices are compatible with the Keyspan USB Serial Adapter.

For the latest version of this list, please visit our web site at: <http://www.keyspan.com>

For the compatibility list for other operating system (ie Mac OS X, Windows, etc.), please refer to the user manual for that platform or visit our web site at: <http://www.keyspan.com>

#### Legend

- = See notes
- √ = Configuration Guide Available
- Δ = Not Tested
- Y = Compatible
- N = Not Compatible
- ! = See Guide for Information
- ∅ = not compatible with Operating System

#### Compatibility List for Mac OS (8.6 - 9.x)

<u>Product</u>	<u>Guide</u>	<u>USA28</u>	<u>USA28x</u>	<u>USA19</u>	<u>USA19W</u>	<u>USA49w</u>	<u>SXPro</u>
<b>Graphic Tablets</b>							
Wacom Intous		Y	Y	Y	Y	Y	Y
Wacom Artz II		Y	Y	Y	Y	Y	Y
<b>PDAs</b>							
Palm - all models	√	Y	Y	Y	Y	Y	Y

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## Keyspan:USB Serial Adapter for Mac OS-v2.2 User Manual

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### **Modem and Modem Software**

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Remote Access (Apple)	Y	Y	N	Y	Y	Y
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Modems (analog) - <i>all models</i>	Y	Y	N	Y	Y	Y
--	---	---	---	---	---	---

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### **Digital Cameras**

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Olympus - <i>using CamerAid - www.cameraid.com</i>	Y	Y	Y	Y	Y	Y
---	---	---	---	---	---	---

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## 7.1.c - Configuration Examples for Mac OS -

The following is a list of available configuration examples for Mac OS. These example provide step-by-step instructions on configuring select serial devices. The current example available are:

- [Palm Desktop](#)

For the latest version of this list, please visit our web site at: <http://www.keyspan.com>

For the configuration examples for other operating system (ie Mac OS X, Windows, etc.), please refer to the user manual for that platform or visit our web site at: <http://www.keyspan.com>

## 7.1.c.01 - Palm Desktop

### Before you begin...

This Configuration Example assumes that you have already done the following:

1. installed the Keyspan serial port *hardware* and *software*
2. installed the Palm Desktop *software*
3. connected the Palm Serial Cradle *hardware* to a Keyspan serial port

If you have not performed any of the steps mentioned above, please do so before proceeding.

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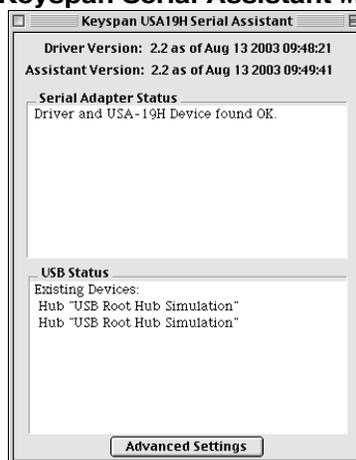
### Step 1 - Check the Keyspan Serial Assistant

---

Before proceeding, you should check to see if the Keyspan serial port is installed correctly.

To do this, open the [Keyspan Serial Assistant](#) (located in Control Panels). When you open the [Keyspan Serial Assistant](#), you will see the following window:

the **Keyspan Serial Assistant** window



If your Keyspan hardware and software are installed correctly, the '**Serial Adapter Status**' text box will report 'Driver and USA-19H Device found OK' or '...Renumerating...Done'.

If you see either of these messages, proceed to **Step 2**. If you do not receive either of these messages, proceed [Problem Solving](#) section in this manual.

# Keyspan:USB Serial Adapter for Mac OS-v2.2 User Manual

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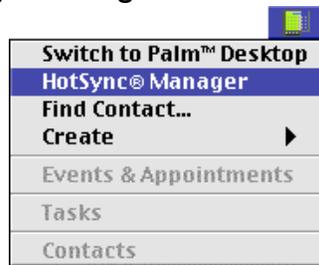
## Step 2 - Open the HotSync® Manager application

---

Before you can begin to HotSync your Palm, you must access and configure the HotSync® Manager application. The HotSync Manager is the program that manages the serial communication between your Palm and your computer.

Open the HotSync® Manager application by double clicking the HotSync® Manager application icon in your Palm folder or by selecting the HotSync® Manager selection in the Palm menu (as shown below).

the **HotSync Manager** selection in the Palm menu



Once the HotSync® Manager application is opened, you will be presented with the HotSync Software Setup window.

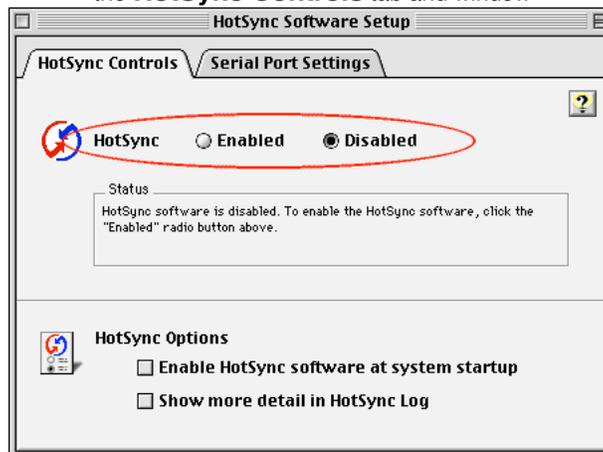
---

## Step 3 - Configure the HotSync Software Setup window

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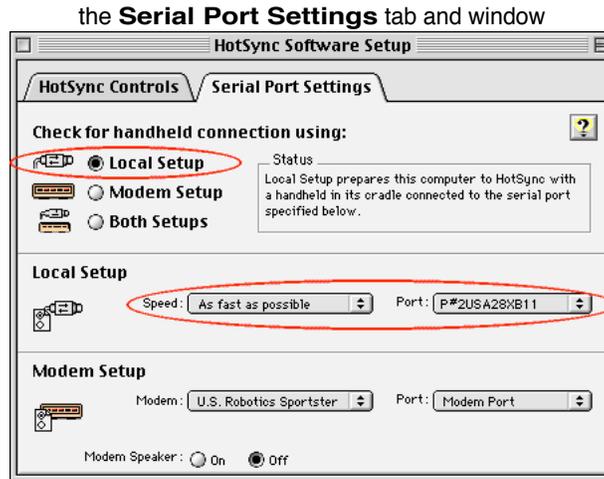
In the HotSync Software Setup window, click on the **HotSync Controls** tab at the top of the window. This will display the HotSync Controls options.

the **HotSync Controls** tab and window



## Keyspan:USB Serial Adapter for Mac OS-v2.2 User Manual

Click on the **Disabled** radio button to temporarily turn off HotSync monitoring. Then click on the Serial Port Settings tab at the top of the HotSync Software Setup window. This will display the serial port options.



In the Serial Port Settings tab, select either the **Local Setup** or **Both Setups** radio button. This tells the HotSync® Manager application to monitor any HotSync activity on a serial port.

Also, in the Local Setup section in the Serial Port Settings tab, select the **Keyspan port** that your Palm Organizer is connected to in the port popup menu. This tells the HotSync® Manager application to monitor the port on the Keyspan USB Serial Adapter.

**Please note:** The name(s) of your Keyspan serial port(s) vary from Keyspan product to product. Please check the [Capabilities](#) section in your Keyspan product's user manual for the specific port names.

Once you've made the selections mentioned above, click on the HotSync Controls tab at the top of the HotSync Software Setup window then select the Enabled button.

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### Step 4 - HotSync your Palm Organizer

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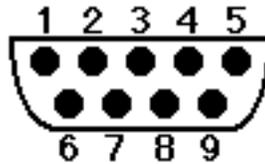
Palm Software configuration is now complete. To initiate a 'HotSync' session, place your Palm Organizer in its cradle and then press the HotSync button on the cradle. Your Palm Organizer will now "HotSync."

# Keyspan:USB Serial Adapter for Mac OS-v2.2 User Manual

## 7.1.d - Serial Port Pin Outs

The pin assignments for the Keyspan USB Serial Adapter's male DB9 port are illustrated below:

Keyspan USB Serial Adapter's  
male DB9 port



<u>Pin</u>	<u>Name</u>	<u>Signal Designation</u>
1	DCD	Data Carrier Detect (Input)
2	RX	Received Data (Input)
3	TX	Transmitted Data (Output)
4	DTR	Data Terminal Ready (Output)
5	GND	Ground
6	DSR	Data Set Ready (Input)
7	RTS	Request To Send (Output)
8	CTS	Clear To Send (Input)
9	RI	Ring Indicator (Input)

In order to ensure compliance with emission specifications, cables should be shielded using braided shields and metal hoods with complete 100% contact between the shields and hoods.

### External Loopback Connector Information

The [Keyspan Serial Assistant](#) allows you to perform two types of loopback tests - internal and external. The external test requires the use of a special loopback connector. This connector requires a "DB9 Female Loopback plug" with the following wiring:

<u>Pin(s)</u>	<u>Wired to</u>	<u>Pin(s)</u>
1	<->	4,8
2	<->	3
6	<->	7,9

### Additional Port Information

The Keyspan USB Serial Adapter provides one male DB9 serial ports . This port supports asynchronous **RS-232** communications at data rates up to 230 Kbps.

### 7.1.e - LED Behavior

The Keyspan USB Serial Adapter part number **USA-19H** comes equipped with a green LED light that reports the status of the Keyspan adapter *USB hardware* and serial port.

The following table shows all of the possible states of these LED light and what they mean:

Color	State	Significance
Green	Off	The Keyspan adapter is not connected or not receiving power from your computer
Green	On-Blinking Slowly	The Keyspan adapter software and hardware are working properly. The Keyspan serial port is available for use.
Green	On-Steady Light	The Keyspan serial port is ' <b>in use</b> ' by an application on your computer and is ready to send and receive data to and from your serial device.
Green	On-Blinking Rapidly	The Keyspan serial port is sending and/or receiving data

Please note that the LED light is only available on the Keyspan USB Serial Adapter part number **USA-19H**. It is not available on other part numbers.

### 7.1.f - TX Ack Advance

#### USA-19H Tx Ack Advance Overview

Many Keyspan USB serial adapters support configurable "Transmit Acknowledgment Advance" (aka TX-ACK threshold, aka TX-ACK(nowledge)ment advance, etc.) in the **Keyspan Manager**. This feature allows the user to adjust a device's transmit behavior to achieve the optimum compromise between compatibility (exact emulation of built-in ports) and improved throughput. This document describes the factors which a user should be aware of to guide their configuration of this feature.

#### The Problem

In the case of a standard, "built-in" serial port, the host CPU (the "brain" of the computer) can communicate directly with the serial hardware because the (serial) hardware is in the address space directly accessible to the CPU. When the serial port has transmitted all the data in its transmit FIFO (the buffer that holds characters waiting to be sent), it interrupts the CPU, which then adds more characters to the transmit FIFO with a minimal time delay.

By contrast, in a USB to serial adapter, information about the state of the serial port FIFO reaches the CPU by means of USB messages. The USB subsystem in most computers delays the delivery of inbound (USB peripheral to USB host computer) USB messages by about 1 millisecond. The impact of this delay on serial throughput depends on the baud rate. At 9600 baud, it takes about 1 millisecond to transmit a character. If the serial adapter signals the host when it begins transmitting the last character in its FIFO, the host learns about it at about the same time the character is actually finished being transmitted. Since outbound (USB host computer to USB peripheral) USB messages are not subject to such a long delay, the host can supply new data before the serial port has been idle for too long.

At higher baud rates, however, this 1-millisecond delay becomes more of a problem. For example, at 920 Kbps, 1 millisecond is enough time to send 92 characters. So, if you're sending 92 characters at a time, you will only achieve 50% throughput, since half the time is spent with the adapter waiting for the host to send more data.

#### The Work Around

Since there's no way to eliminate the USB delays, there's only one work around: the serial adapter has to lie about when it's done transmitting. This way, the adapter still has some data to transmit while it's waiting for more to arrive from the host. If the next data from the host arrives before the previous data is completely sent, the new data can be sent with no delay, and the device will achieve improved transmit throughput.

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### Notes about the Work Around

In most situations, the serial adapter's lie is harmless or beneficial, even. However, in some circumstances, this lie gets us into trouble. There are several ways this can happen:

**Flow control:** If the adapter is programmed to use flow control, the remote (receiving) end of the serial connection can ask the adapter to suspend its data transmission (e.g. if it's not ready to receive more data). Since this state can persist indefinitely, the "I'm done" indication, if it were sent early, could arrive at the host a significant amount ahead of time. As a result, the application might use the "I'm done" signal as an indication that the remote end is ready, leading to various kinds of trouble.

**Data flushing:** Sometimes, an application will issue a "transmit flush" command to the adapter get rid of extra data. For example, let's say that an application sends "AAAA" to the adapter, and then, once it's received the "I'm done" indication, sends "BBBB." Now, let's say that some time after sending "BBBB," the application decides to cancel whatever part of the "BBBB" has yet to leave the serial port, and sends a "transmit flush" command to the adapter. If the adapter had been lying about being done sending "AAAA," it might still not be done, and the flush could purge the transmit FIFO of some of the A's (which is not what the application was expecting) in addition to the B's.

**Timing:** In some applications, the receipt of the "I'm done" indication is used as a timing reference point. For example, an application could send a data stream like this:

COMMAND.....

The extra periods following COMMAND would be just used to establish a timing interval: the application would know that once the serial port said "I'm done," the receiver would have had at least 64 character times to process COMMAND. If the "I'm done" indication was sent early, the application might then do its subsequent action too early.

There are many other communication protocols in which time periods are counted from the point that a message has been delivered. Any time you change the timing of the "I'm done" indication, you run the risk of interfering with such protocols.

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## Keyspan:USB Serial Adapter for Mac OS-v2.2 User Manual

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### What Should I Use?

There are two ways you can configure Tx Ack Advance:

**Standard:** If you're using a baud rate of 57600 or less, you probably don't have a problem. The 1 millisecond delay will not significantly affect your throughput, and you can select this option. This option is also a good choice if you are running an application in which throughput is not an issue, or one in which guaranteeing 100% correct operation is important enough that you'd prefer not to risk having problems.

**Faster:** If you're using a baud rate above 57600, you can simply try increasing this setting, and see whether it improves performance (in which case, great!), causes problems (in which case, don't use it), or doesn't make any difference (in which case it doesn't matter what you do).

## **7.1.x - Notices**

### **Notices**

#### United States FCC

#### DECLARATION OF CONFORMITY

We, InnoSys Incorporated at  
3095 Richmond Parkway, Suite 207  
Richmond, CA 94806 USA  
(510) 222-7717

declare under our sole responsibility that the

#### **KEYSPAN USB Serial Adapter, Model USA19H**

complies with Part 15 of 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.

**CAUTION:** Changes or modifications to the USB Serial Adapter not expressly approved by InnoSys Incorporated could void the user's authority to operate this equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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 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 InnoSys Incorporated or an experienced radio/TV technician for help.

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## Keyspan:USB Serial Adapter for Mac OS-v2.2 User Manual

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### **CE MARK DECLARATION OF CONFORMITY**

(According to EN 45014)

Manufacturer's Name and Address

InnoSys Incorporated  
3095 Richmond Parkway, Suite 207  
Richmond, CA 94806

Declares that the product:

Product Name: KEYSpan USB Serial Adapter  
Model Number: USA-19H  
Conforms to the following Product Specifications:

EN 55022: 1998 Class B  
EN 55024: 1998

following the provisions of the Electromagnetic Compatibility Directive.

Mike Ridenhour, Richmond, CA, USA,  
President, April, 2002

### **Canada Digital Apparatus EMI Standard**

This Class B digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numerique de la classe B respecte toutes les exigences du Reglement sur le material brouilleur du Canada.

### **VCCI**

Voluntary Control Council for Interference from Information Technology Equipment

#### Class B ITE

<p>この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。 取扱説明書に従って正しい取り扱いをして下さい。</p>
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This User Manual applies to the Keyspan USB Serial Adapter Software for **Mac OS**.

## **Keyspan:USB Serial Adapter for Mac OS-v2.2 User Manual**

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Translation:

This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

### **Australia/New Zealand**

This device complies with AS/NZS 3548 Class B limits for the operation of Information Technology Equipment.

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## Keyspan:USB Serial Adapter for Mac OS-v2.2 User Manual

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### **2-Year Limited Warranty**

TRIPP LITE warrants its products to be free from defects in materials and workmanship for a period of two (2) years from the date of initial purchase. TRIPP LITE's obligation under this warranty is limited to repairing or replacing (at its sole option) any such defective products. To obtain service under this warranty, you must obtain a Returned Material Authorization (RMA) number from TRIPP LITE or an authorized TRIPP LITE service center. Products must be returned to TRIPP LITE or an authorized TRIPP LITE service center with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase. This warranty does not apply to equipment which has been damaged by accident, negligence or misapplication or has been altered or modified in any way. EXCEPT AS PROVIDED HEREIN, TRIPP LITE MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

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