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ACT-IR200L/220L/220L+
IrDA[®] PC RS232 ComPort Adapter
User's Manual



January 20, 2010
Version 1.5.2.3

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<<<<<< WARNING >>>>>>

Please do Not read this manual, NOR install IrDA driver from Windows, if the Windows application software bundled with your equipment, uses ACT-IR220L+ as a "Raw IR", instead of an "IrDA" dongle. Please just plug in this IR dongle, install no driver, and ACT-IR220L+ will work well with your Windows software! Otherwise, ACT-IR220L+ will not work with your Windows application software for Raw IR.

FCC Compliance Statement

This device complies with part 15 of the 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.

WARNING-FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user authority to operate this equipment

NOTE: This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to Part 15 of the FCC Rules. 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:

- Increase the separation between the equipment and receiver.
- Reorient or relocate the receiving antenna.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for helps.

NOTE: Must be used with shielded cable only.

FOR YOU RECORDS

For your assistance in reporting this product in case of loss or theft, please record the model and serial number that is located on the bottom of the case. Please retain this information.

Model Number _____ **Serial Number** _____

Date of Purchase _____ **Place of Purchase** _____

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TABLE OF CONTENTS

REVISION HISTORY	4
1. OVERVIEW	5
2. PACKAGE CONTENT	5
3. SYSTEM REQUIREMENTS	5
4. BIOS SETUP VERIFICATION	5
5. WINDOWS 98 INSTALLATION GUIDE	6
6. WINDOWS 98 UNINSTALLATION GUIDE	10
7. WINDOWS 2000 INSTALLATION GUIDE	12
8. WINDOWS 2000 UNINSTALLATION GUIDE	16
9. WINDOWS XP INSTALLATION GUIDE	18
10. WINDOWS XP UN-INSTALLATION GUIDE	22
11. WINDOWS VISTA INSTALLATION GUIDE	24
12. WINDOWS VISTA UNINSTALLATION GUIDE	30
13. WINDOWS 7 INSTALLATION GUIDE	33
14. WINDOWS 7 UNINSTALLATION GUIDE	39
15. TROUBLE SHOOTING	41
16. SPECIFICATIONS	42
17. WARRANTY INFORMATION	43
18. CONTACT INFORMATION	44

REVISION HISTORY

Revision History		
Revision	Date	Comment
1.5.1	1/6/2006	<ul style="list-style-type: none">• Overall Reformat. Rewrite some Chapters.• Add cross-out wheeled bin logo at the warranty chapter, per WEEE directive, EN-50419.
1.5.1.1	7/08/2008	<ul style="list-style-type: none">• Updated company address
1.5.2	9/25/2008	<ul style="list-style-type: none">• Added Chapters of Installation & Uninstallation in Vista OS
1.5.2.1	1/5/2009	<ul style="list-style-type: none">• Revised Chapter of System Requirement
1.5.2.2	8/19/2009	<ul style="list-style-type: none">• Added Warning Note on cover page and re-write the Overview• Deleted chapters for Windows ME; update package content
1.5.2.3	01/20/2010	<ul style="list-style-type: none">• Added Chapters of Installation & Uninstallation in Windows 7 OS

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1. OVERVIEW

This manual provides instructions to install/uninstall the **IrDA®** driver for ACT-IR200L/IR220L/IR220L+ from Windows 98/2000/XP/Vista.

[Note for ACT-IR220L+]: The driver we refer here is ONLY the **IrDA** driver which is already embedded in Windows O.S. In addition to playing as an IrDA dongle, ACT-IR220L+ can also play as a raw IR. If your application software bundled with your equipment, uses ACT-IR220L+ as a “Raw IR”, instead of an “IrDA” dongle, do NOT install IrDA driver from Windows per this manual. Just plug in this IR dongle, install no driver, and ACT-IR220L+ will work well with your software.

Otherwise it will not work with your Windows application software for Raw IR and you need to uninstall the IrDA driver from your PC then.

2. PACKAGE CONTENT

When you unpack the package, the following items should be found:

- A. ACT-IR200L. or ACT-IR220L or ACT-IR220Lplus
- B. Printed manual for raw IR (No CD for this manual for IrDA. You can download this document from ACTiSYS WEB site: <http://www.actisys.com/Downloads.html>).

3. SYSTEM REQUIREMENTS

To use ACT-IR200L/220L/220L+, your PC MUST meet the following minimum requirements:

- A. Windows 98/ME/2000/XP, Vista (32/64 bit) and Win7.
- B. One unoccupied Serial (RS232) COM port, or one unoccupied virtual COM port (COM 4)

4. BIOS SETUP VERIFICATION

Before installing the device driver, you **MUST** setup or verify your BIOS **FIRST**.

Below demonstrates an example of ACT-IR220L+ being installed on COM 2:

- A. Choose **PNP & PCI** from BIOS SETUP:

PNP OS Installed:	NO
Resource Controlled by:	Manual

- B. Choose **Integrated Peripherals** from BIOS SETUP:

Onboard UART2 Serial Port 2 :	2F8H/IRQ3
Onboard IR function:	Disable or
UART2:	Normal

5. WINDOWS 98 INSTALLATION GUIDE

Note 1: If you have not verified your BIOS setup at this point, we strongly recommend you to refer back to the Chapter 4 BIOS SETUP VERIFICATION and verify your BIOS setup again.

Note 2: Verify that the COM port you will use to install ACT-IR200L/220L/220L+ has not been already used or occupied by any hardware or software. We recommend users to completely delete any files or drivers that can interrupt clean fresh installation of our product.

Note 3: You are trying to install an SIR product. Your operating system can always be upgraded to FIR products. However you can never downgrade from an FIR product to an SIR product. Therefore make sure that you have not previously installed any other FIR products on your system.

Followings are the instructions to properly install ACT-IR200L/220L/220L+ Dongle. You need a computer system with Windows 98 already installed and at least one serial port available. The best choice for the system is a desktop PC.

A. Connect ACT-IR200L/220L/220L+ serial adapter to the COM Port of Desktop PC.

B. Boot up your computer system.

C. Double Click **My Computer** on DeskTop.

D. Double Click **Control Panel**.

E. Double Click **Add New Hardware** on Control Panel Window.

F. Click **Next>**.



G. Click **Next>**.



H. Select **No, I want to select the hardware from a list**. Then click **Next>**.



I. Highlight **Infrared Devices** from the **Hardware types** list, then click **Next>**.



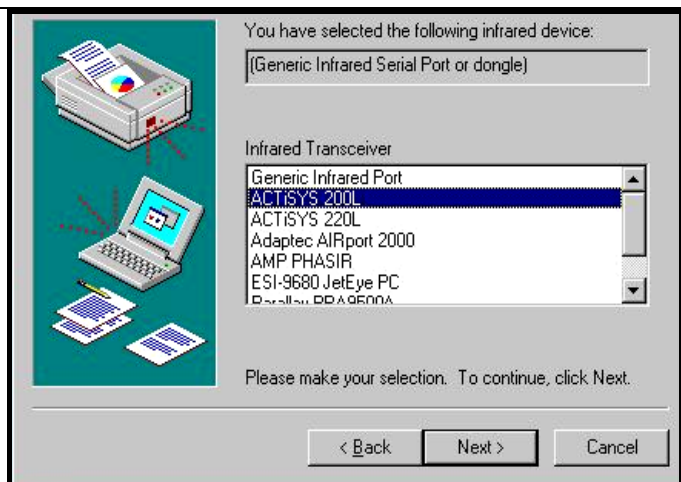
J. Click **Next>**.



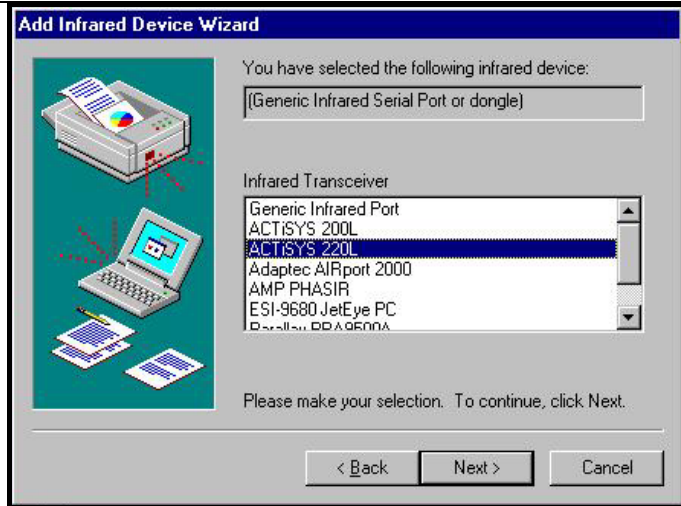
K. From **Manufacturers** list, choose **[Infrared COM port or dongle]**. From **Infrared Devices** list, choose **(Generic Infrared Serial Port or dongle)**. Then click **OK>**.



L. Choose **ACTiSYS IR-200L** if you are an ACT-IR 200L user. Then click **Next**.



- M. Choose **ACTiSYS IR-220L/ 220L+** if you are an ACT-IR-220L/ ACT-IR220L+ User. Then click **Next>**.



- N. Select **COM port** which is physically connected to the Dongle. In most cases, the Dongle is connected to COM2. Choose **Communication Port (COM2)** from the Port list, click **Next>**.



- O. Reboot your computer.

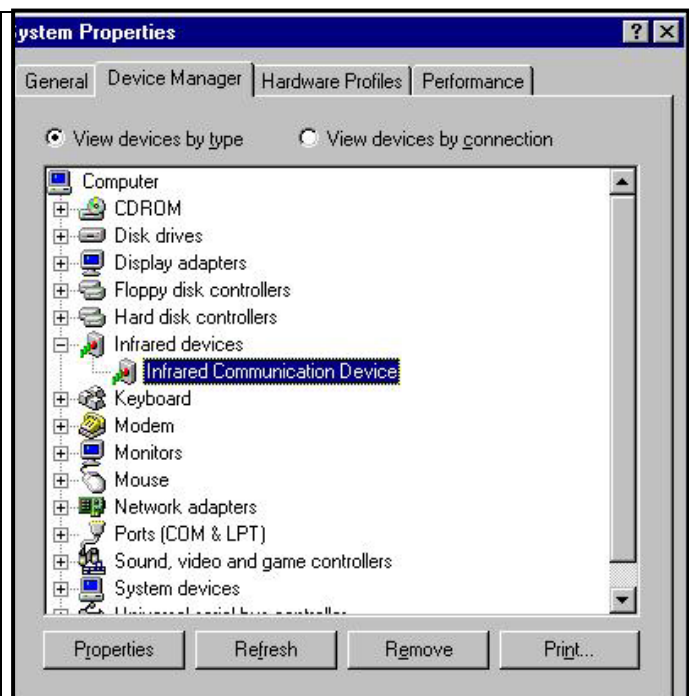
6. WINDOWS 98 UNINSTALLATION GUIDE

- A. Boot up your computer system.
- B. Click **Control Panel**.
- C. Double click **System** Icon.

- D. Click **Device Manager** tab.



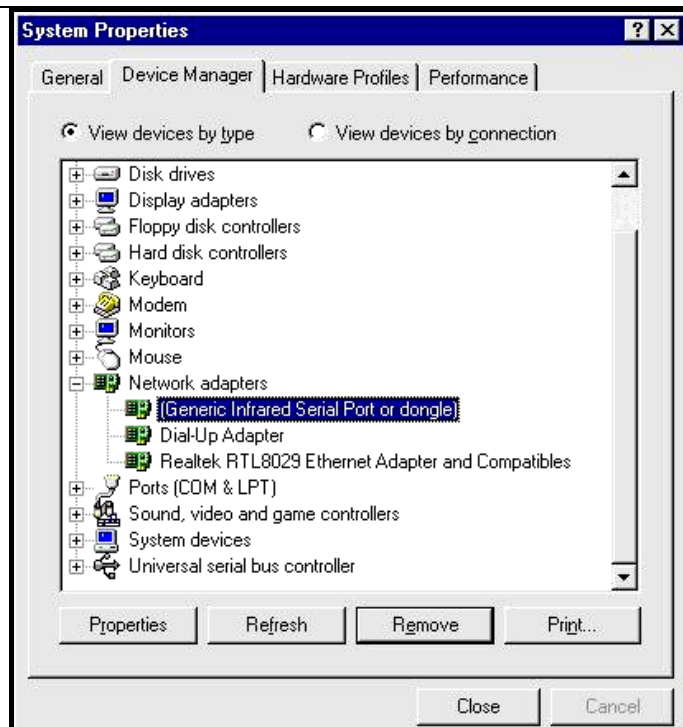
- E. Highlight **Infrared Communication Device** from **Infrared devices**, and then click **Remove**.



F. Click **OK** in the **Confirm Device Removal** box.



G. Highlight **(Generic Infrared Serial Port or dongle)**, then click **Remove**.



H. Click **OK** in the **Confirm Device Removal**.



I. Click **Yes** to restart your computer.



7. WINDOWS 2000 INSTALLATION GUIDE

Note1.: If you have not verified your computer BIOS setting, **STOP** here and go to Chapter 4 BIOS SETUP VERIFICATION.

Note2: If your computer system has installed some devices on the same COM port before, you **MUST** properly uninstall the devices first. ACT-IR200L/220L/220L+ would **NOT** work with your system any more if the devices are uninstalled improperly because some drivers are still there and cause conflicts with ACT-IR200L/220L/220L+ driver. You **HAVE** to re-install your Windows 2000 again.

Note3: If your computer system has installed an **FIR** device before, ACT-IR200L/220L/220L+ would **NOT** work with your system any more. You **HAVE** to re-install your Windows 2000 again.

Note4: If you want to use **Virtual COM Port** in your application, **STOP** here and change ACT-IR200L/220L/220L+ to USB-IR Dongle.

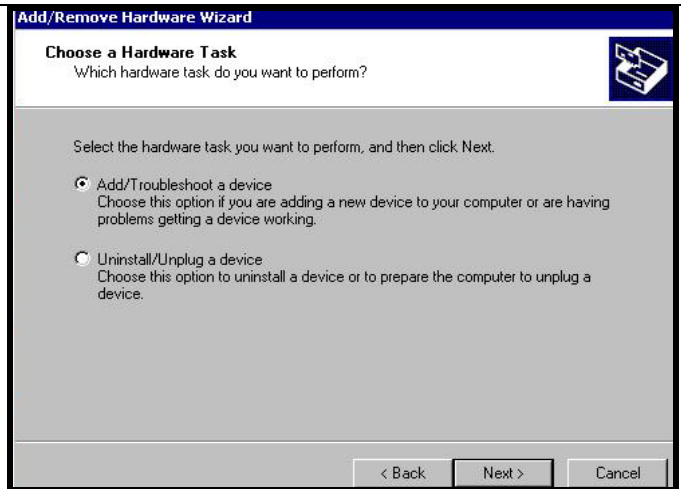
Following are the instructions to properly install the ACT-IR200L/220L/220L+ Dongle. You need a computer system with at least one serial port available.

- A. Connect ACT-IR200L/220L/220L+ serial adapter to the COM Port of Desktop PC.
- B. Startup your computer system
- C. Click on **Control Panel**.
- D. Double Click **Add/Remove Hardware**.

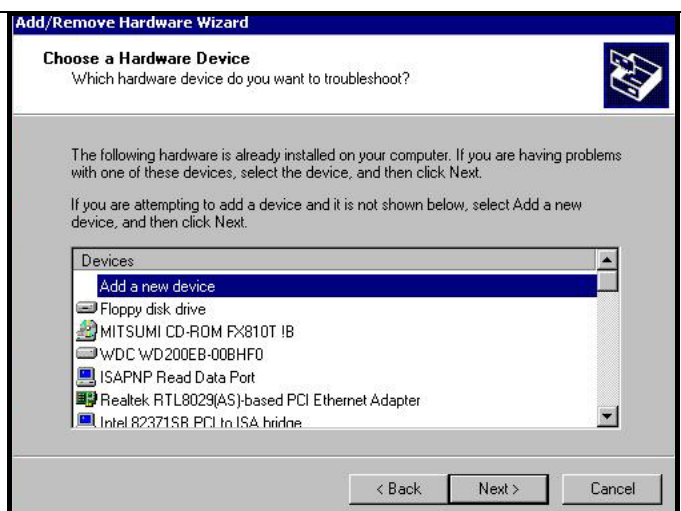
- E. On **Welcome to the Add/Remove Hardware Wizard**, click **Next>**.



F. Choose **Add/Troubleshoot a device**, then click **Next>**. You may have to wait a while when the wizard searches for Plug and Play hardware.



G. Highlight **ADD a new drive** then click **Next>**.



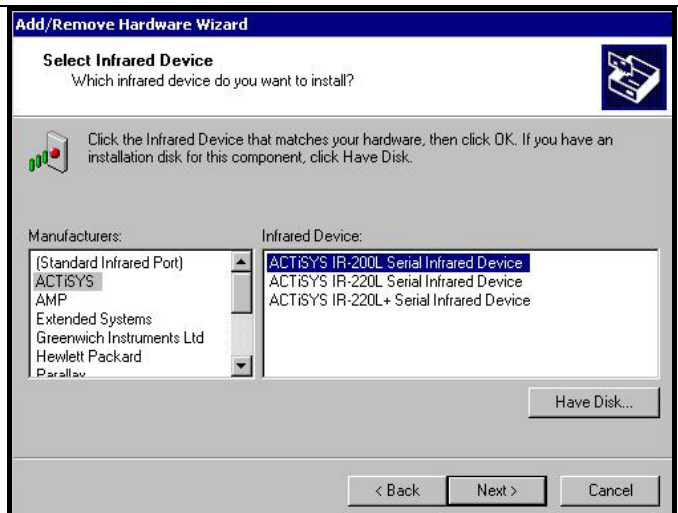
H. Choose **No, I want to select the hardware form a list** then click **Next>**



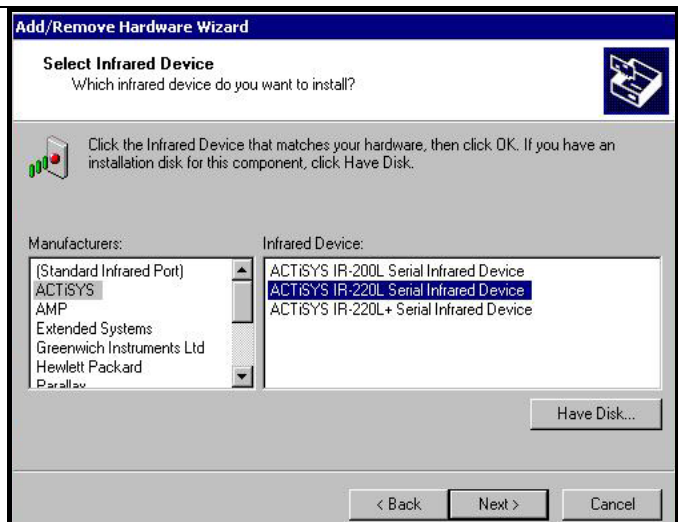
- I. Select the **Infrared device** from the Hardware types.



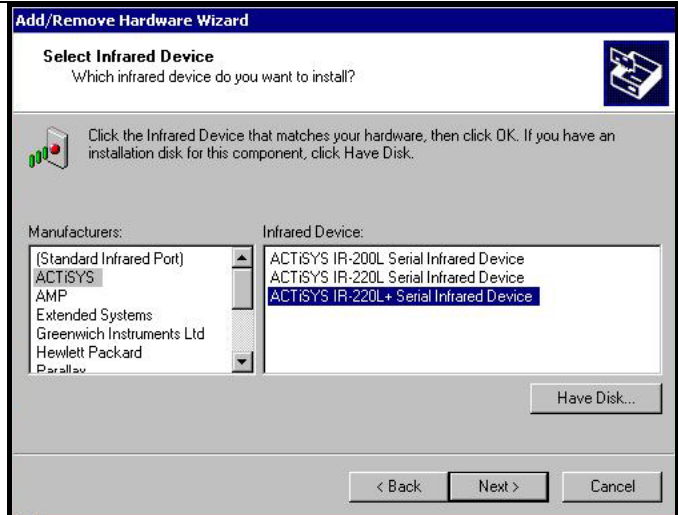
- J. From Manufacturers list, choose **ACTiSYS**, from Infrared Device list, choose **ACTiSYS IR-200L Serial Infrared Device** for IR200L; click **Next>**.



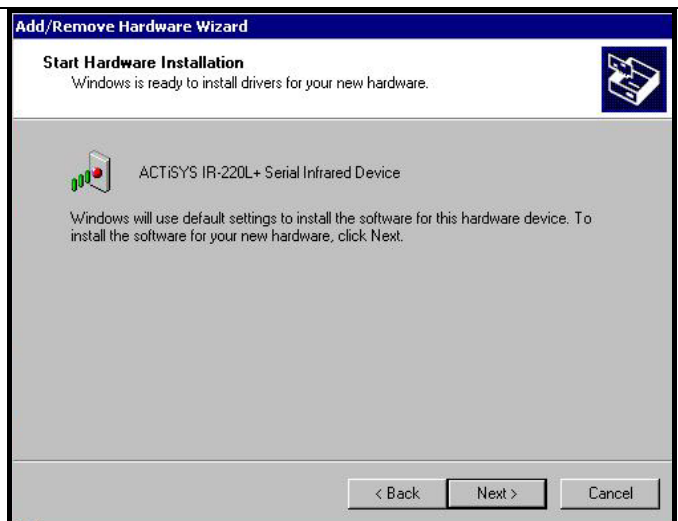
- K. Choose **ACTiSYS IR-220L Serial Infrared Device** for IR220L, click **Next>**.



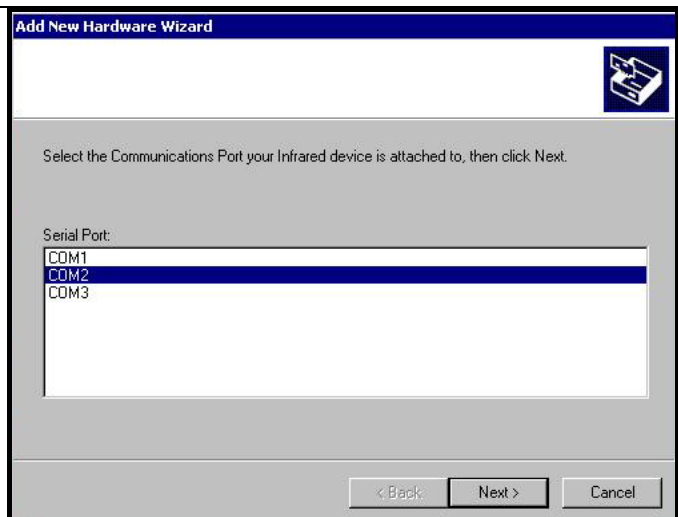
- L. Choose **ACTiSYS IR-220L+ Serial Infrared Device** for IR220L+, click **Next>**.



- M. Click **Next>**.



- N. Choose **COM2** in the most cases, then click **Next>**.



- O. Click **Finish**.

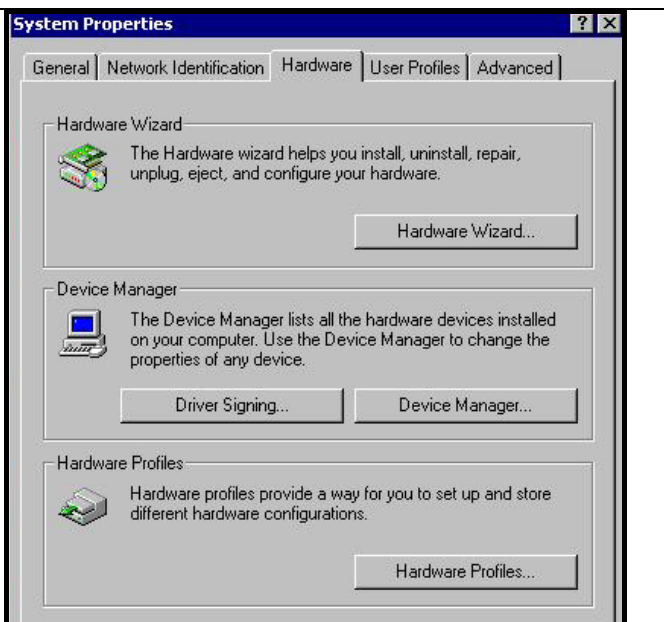
8. WINDOWS 2000 UNINSTALLATION GUIDE

A. Startup your computer system.

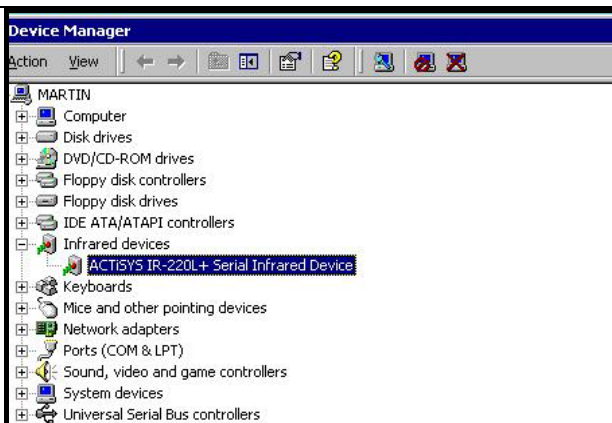
B. Click on **Control Panel**.

C. Double click **System** Icon.

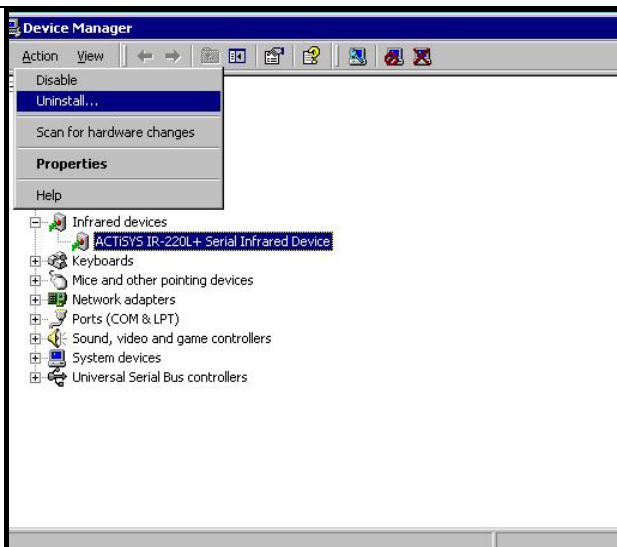
D. Click on **Hardware** tab, then click **Device Manager** button.



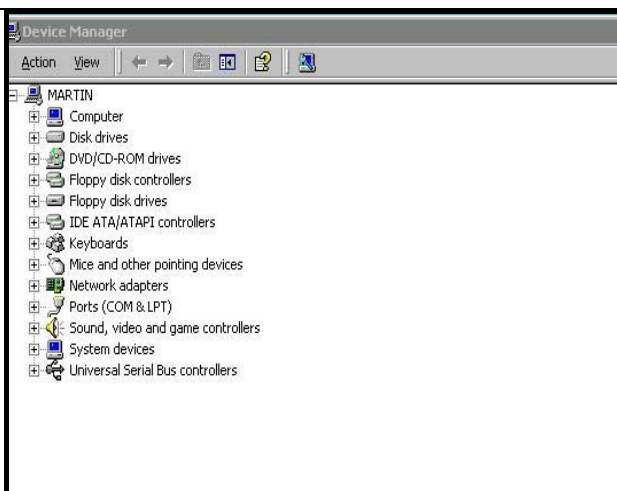
E. Click on **Infrared devices**, then highlight **ACTiSYS IR-220L+Serial Infrared Device**.



F. Click **Action** from the main and then click **Uninstall**.



G. The device has then been uninstalled.
You need to close device manager and restart your computer.



9. WINDOWS XP INSTALLATION GUIDE

A. From Start menu, open **Control Panel**.

B. Double click **Add Hardware** icon.



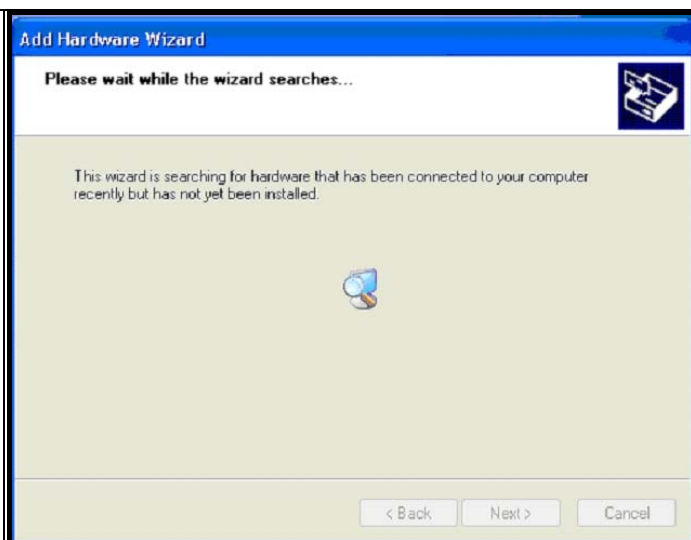
C. Click **Next>** from Add Hardware Wizard.



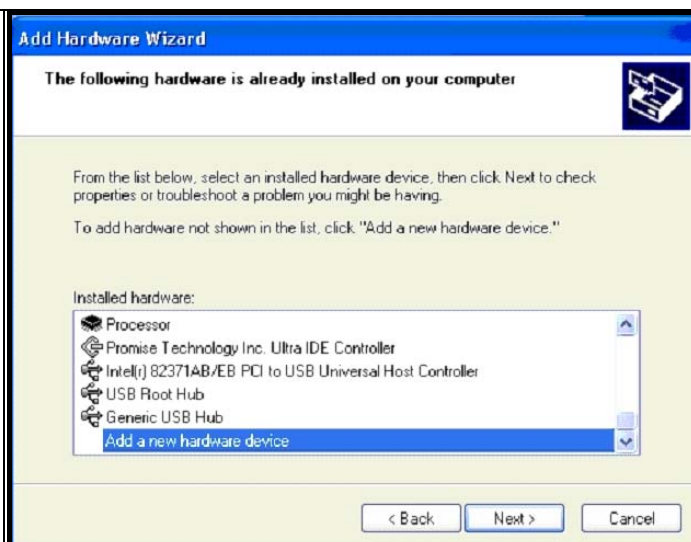
D. Choose Yes. I have already connected the hardware. Then click Next>.



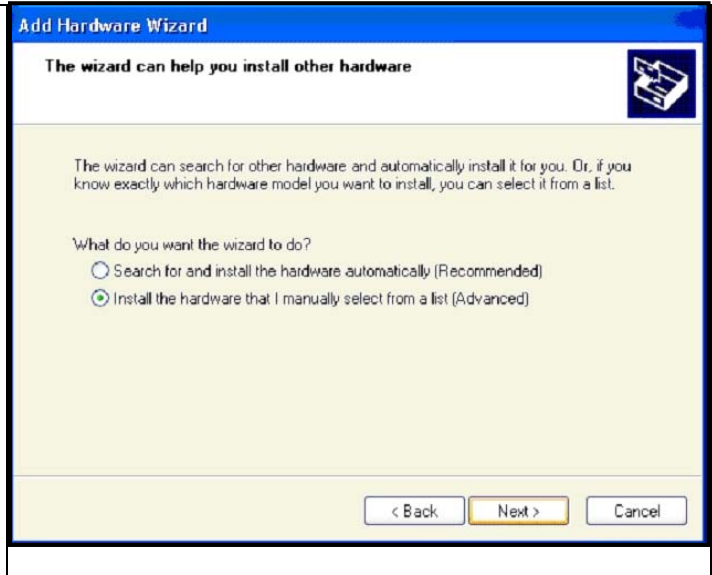
E. Wait processing



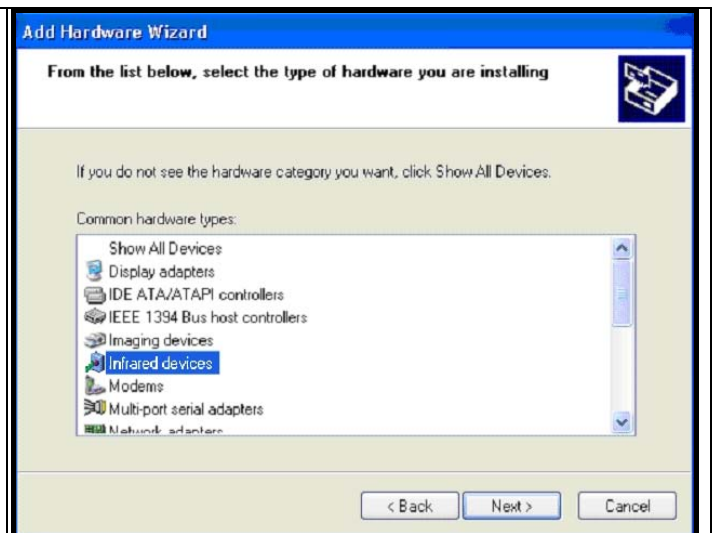
F. Choose Add a new hardware device. Then click Next>.



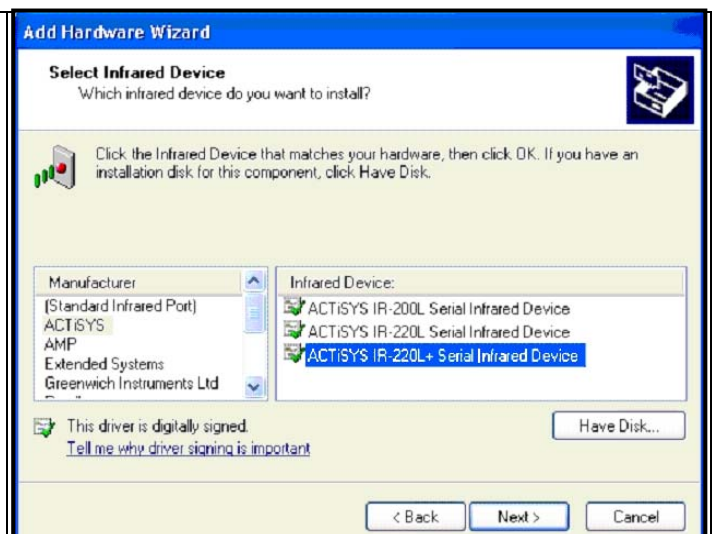
G. Choose install the hardware that I manually select from a list (Advanced). Then click Next>.

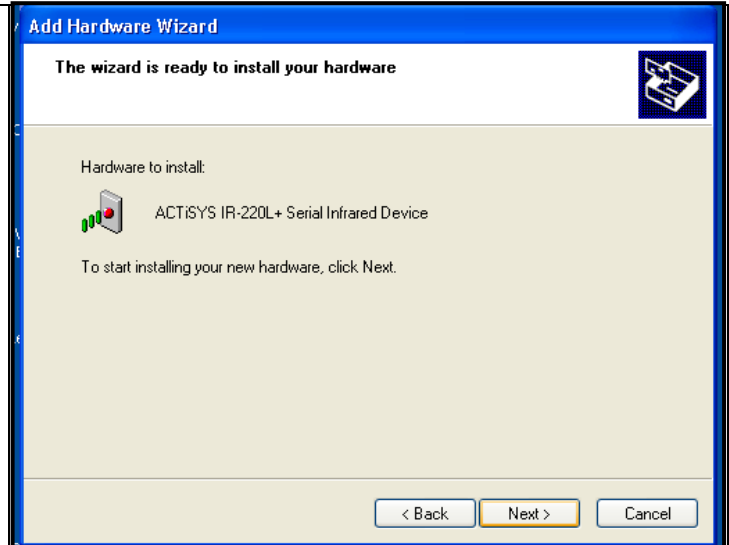
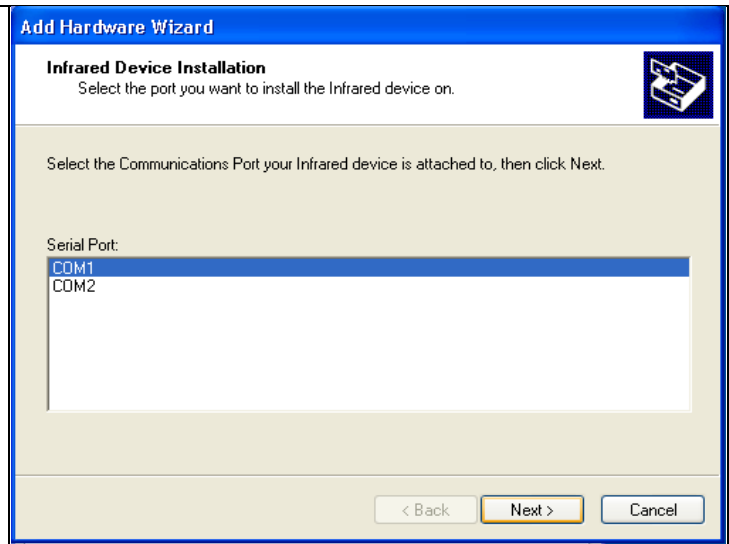
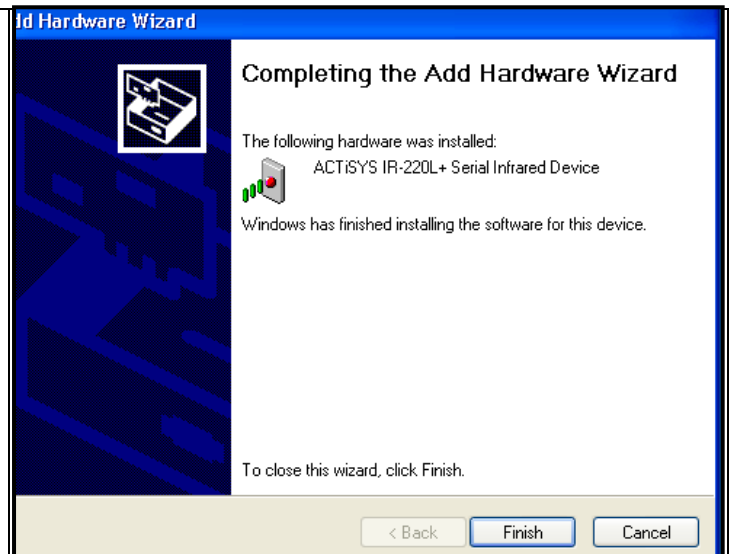


H. Choose Infrared devices. Then click Next>



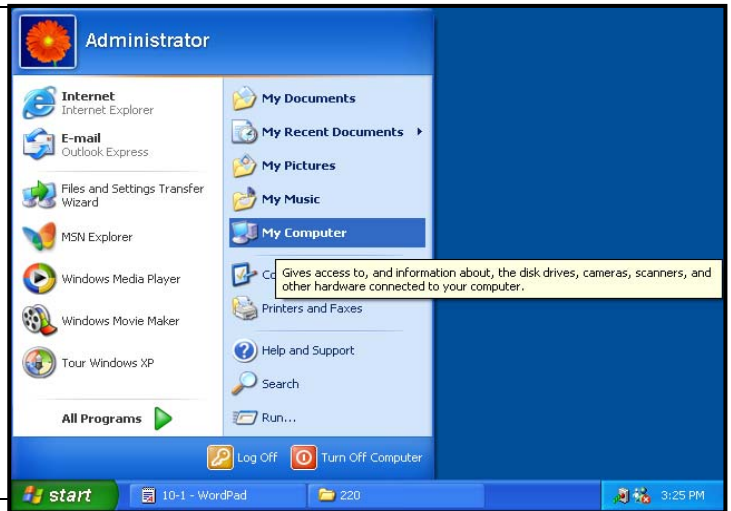
I. Choose respective ACT model from Infrared Device. Then click Next>



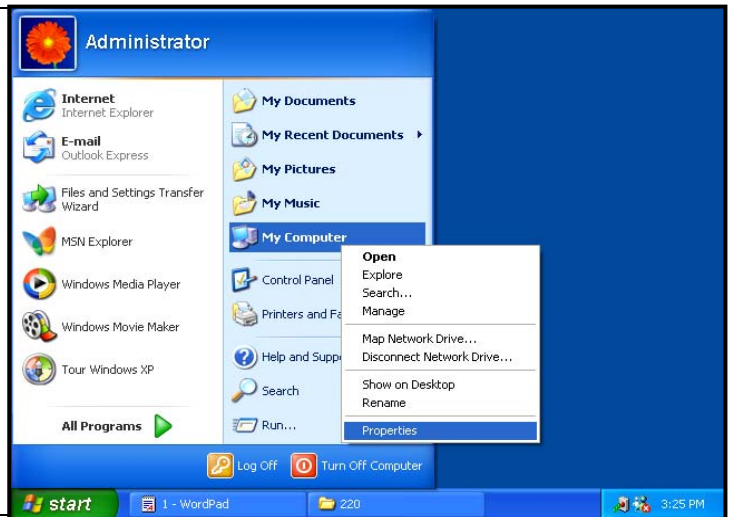
J. Click Next>**K. Choose the Com port which the device physically connected. Click Next>****L. Click Finish**

10. WINDOWS XP UN-INSTALLATION GUIDE

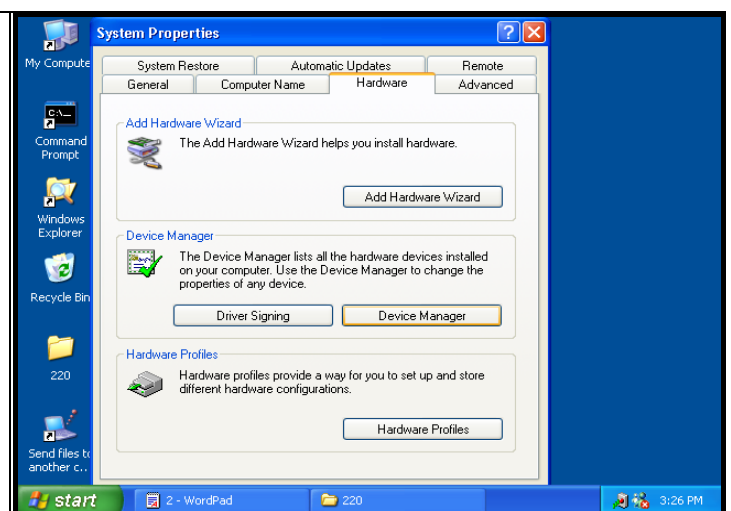
A. Highlight **My Computer**, then right click for quick menu.



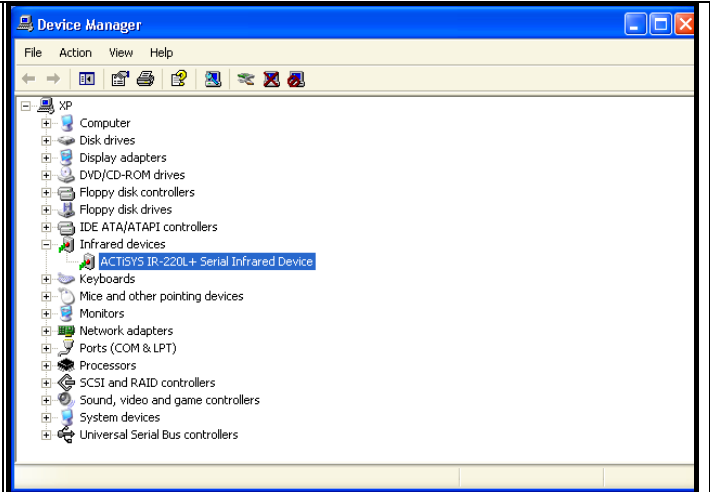
B. Select **Properties**.



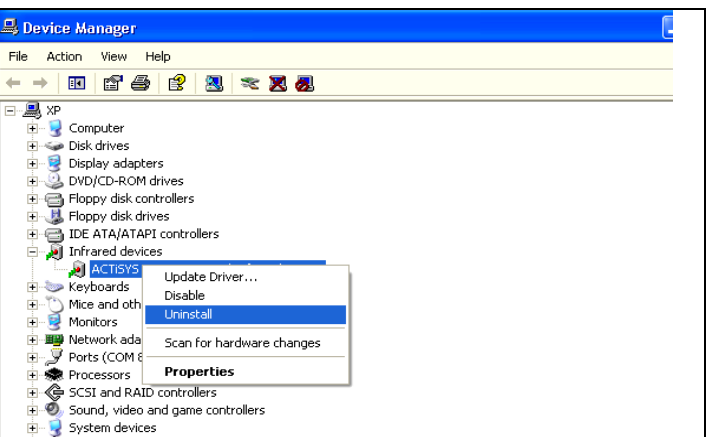
C. Click **Device Manager** from **Hardware** page.



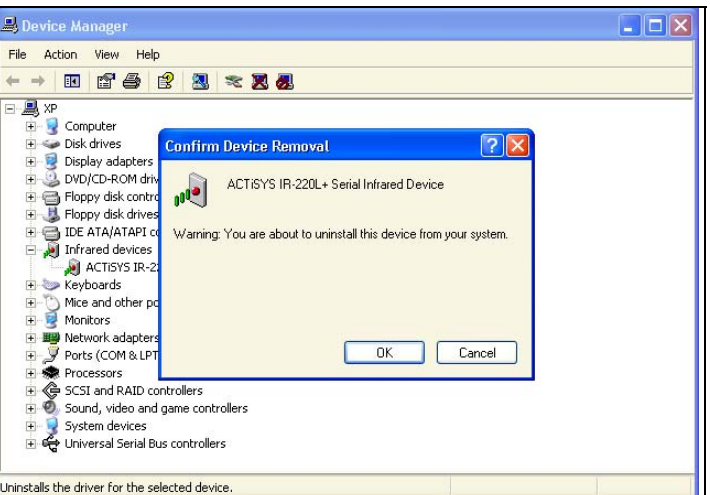
- D. Highlight the items under **Infrared device**, then right click for quick menu.



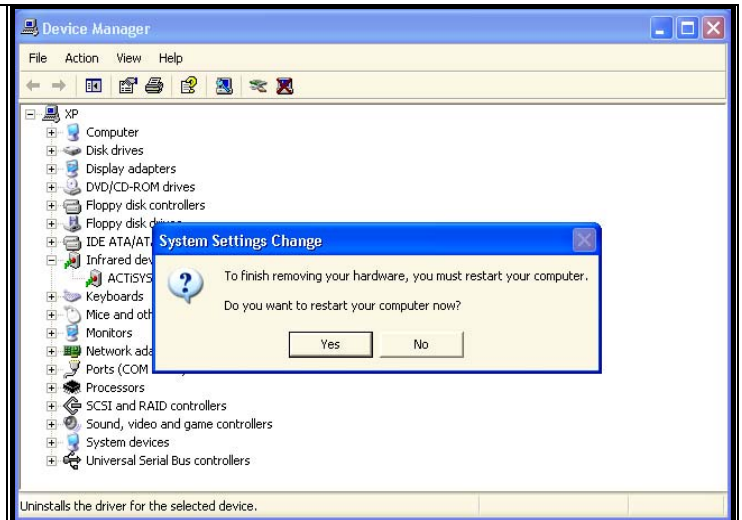
- E. Click **Uninstall** from the quick menu.



- F. Click **OK**. You have successfully uninstalled the device on your system.

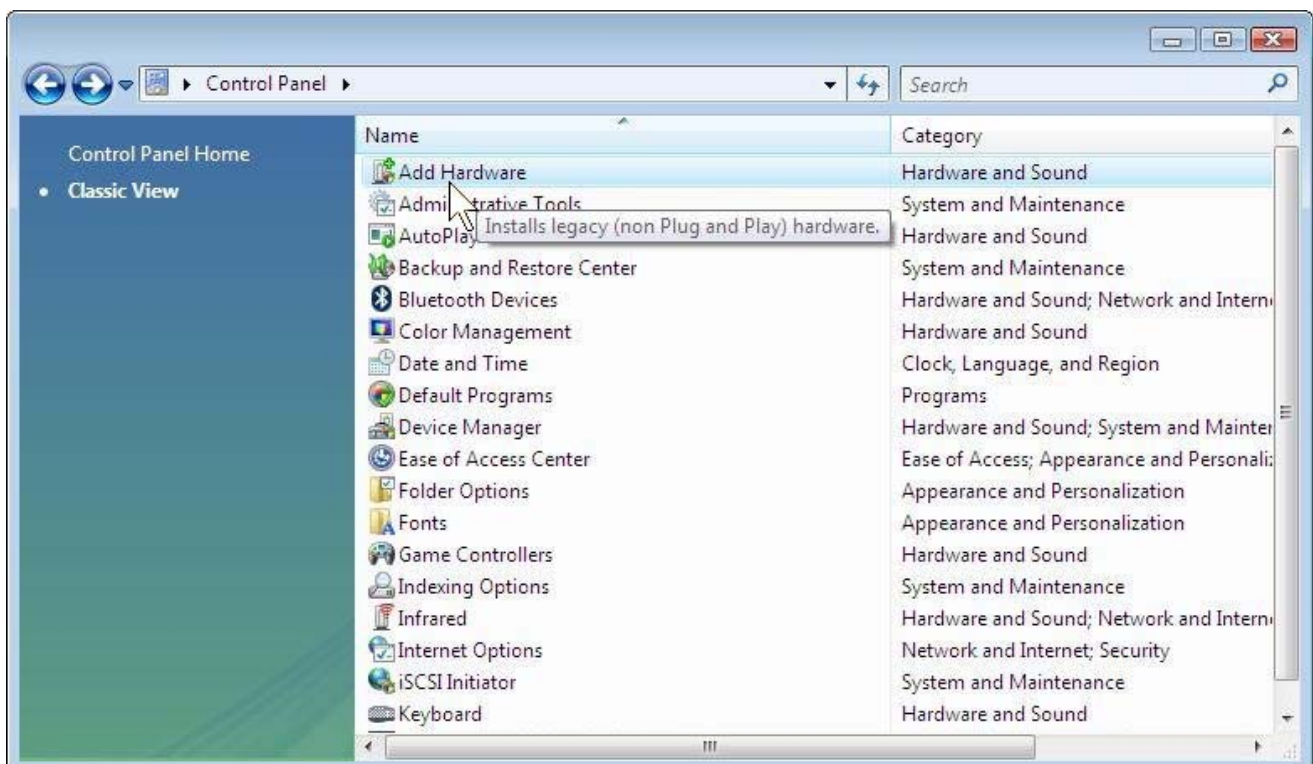


G. Click **Yes** to reboot your computer.



11. WINDOWS VISTA INSTALLATION GUIDE

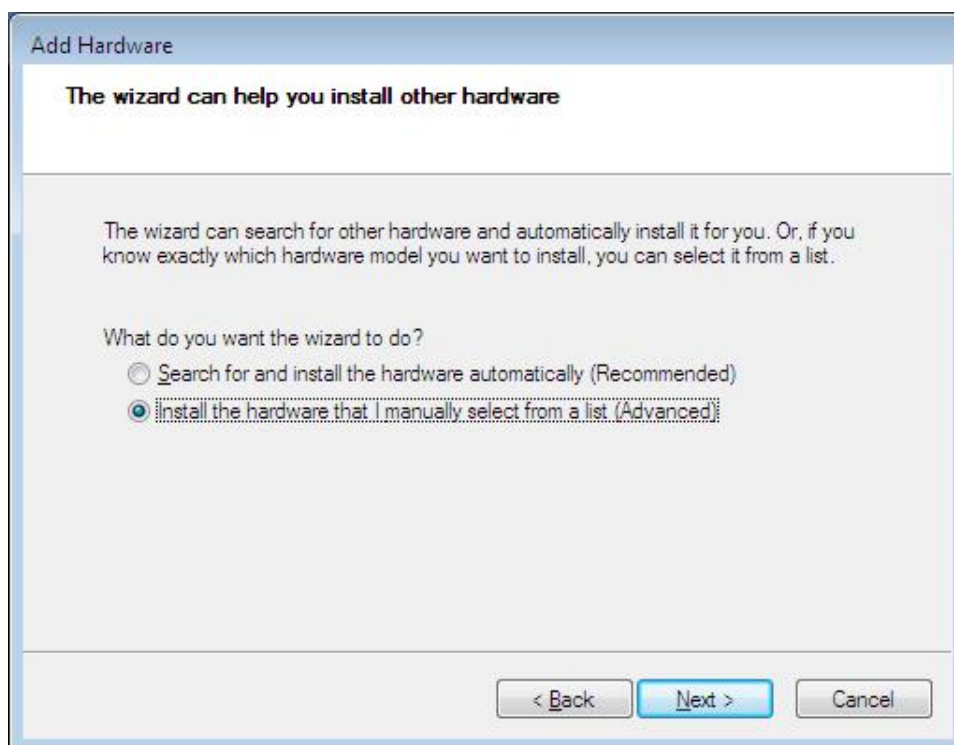
A. From Control Panel, select "Add Hardware".



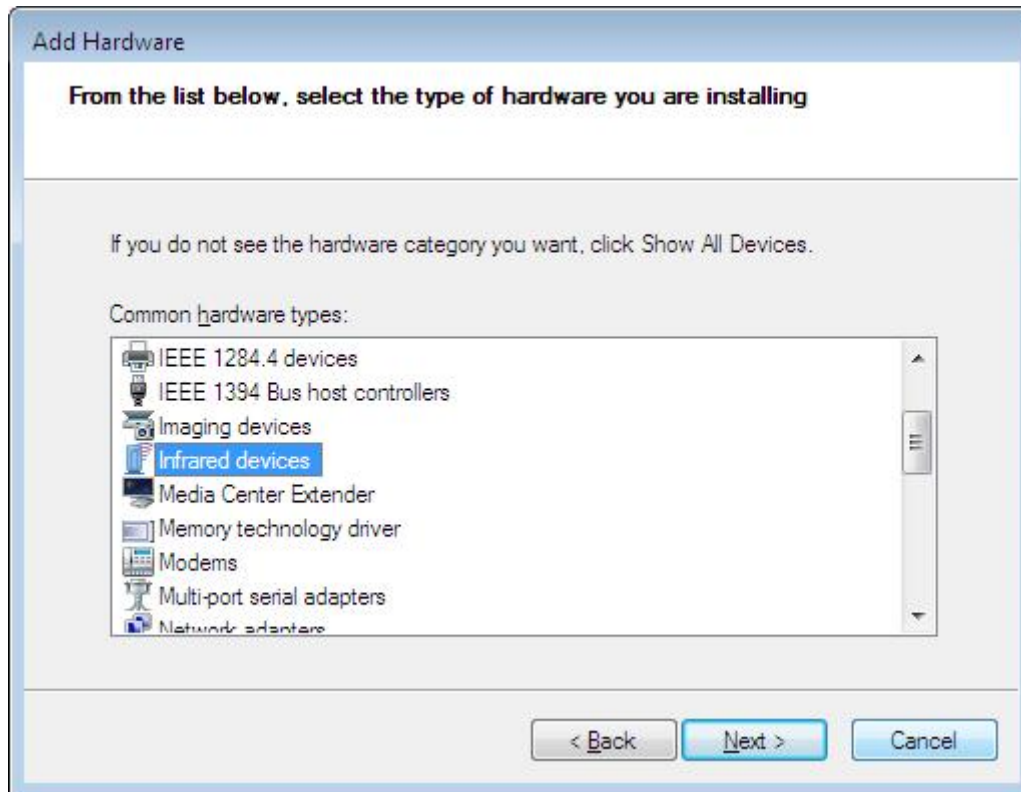
B. It will prompt a Welcome screen as follows. Click **N**ext.



C. The installation window will ask "What do you want the wizard to do?" Select "Install the hardware that I manually select from a list (Advanced)." Then click **N**ext.



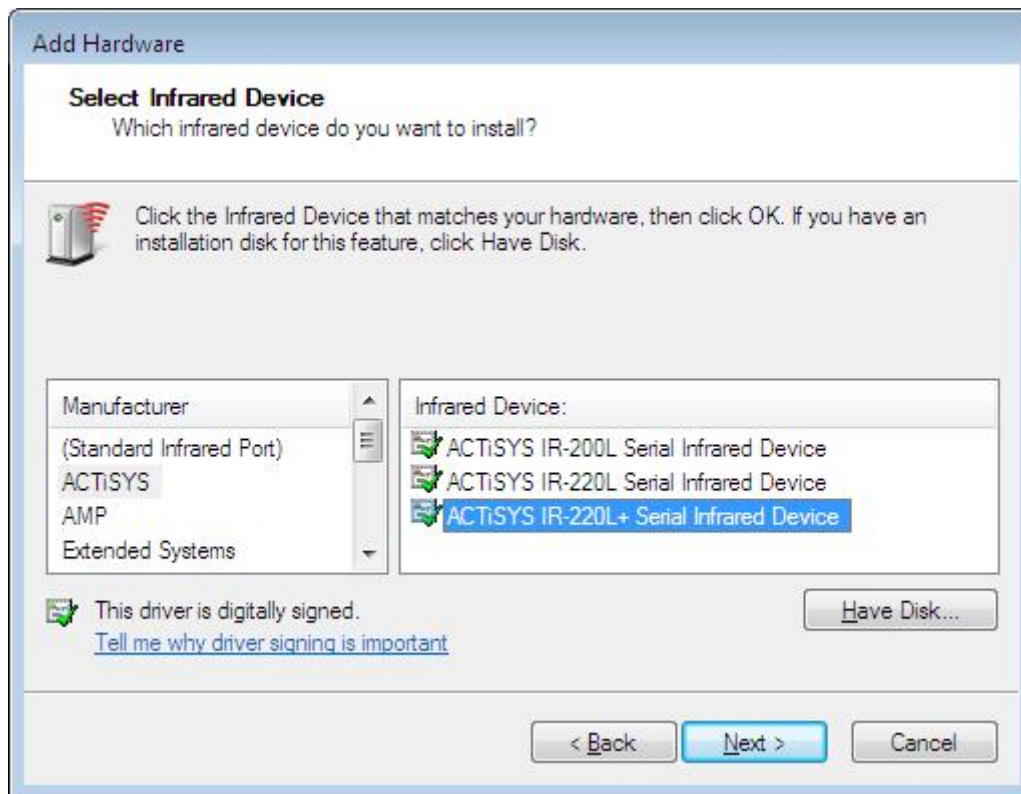
D. Select "Infrared device". Then click "**N**ext".



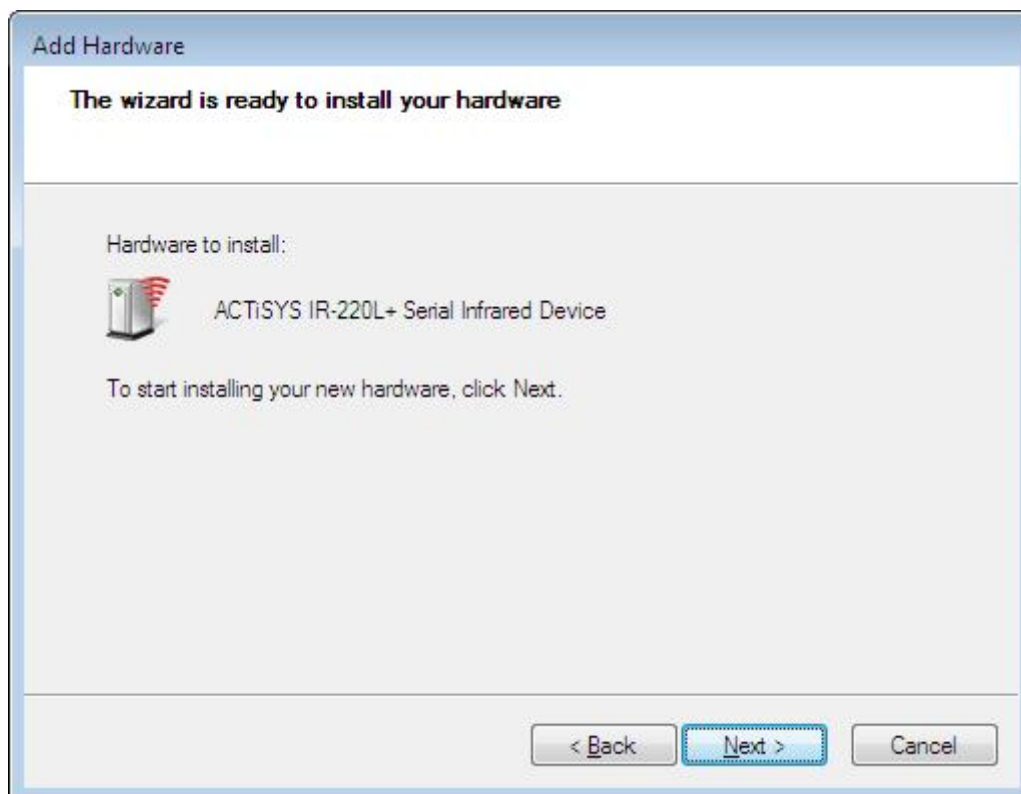
E. Select "ACTiSYS" from "Manufacturer".



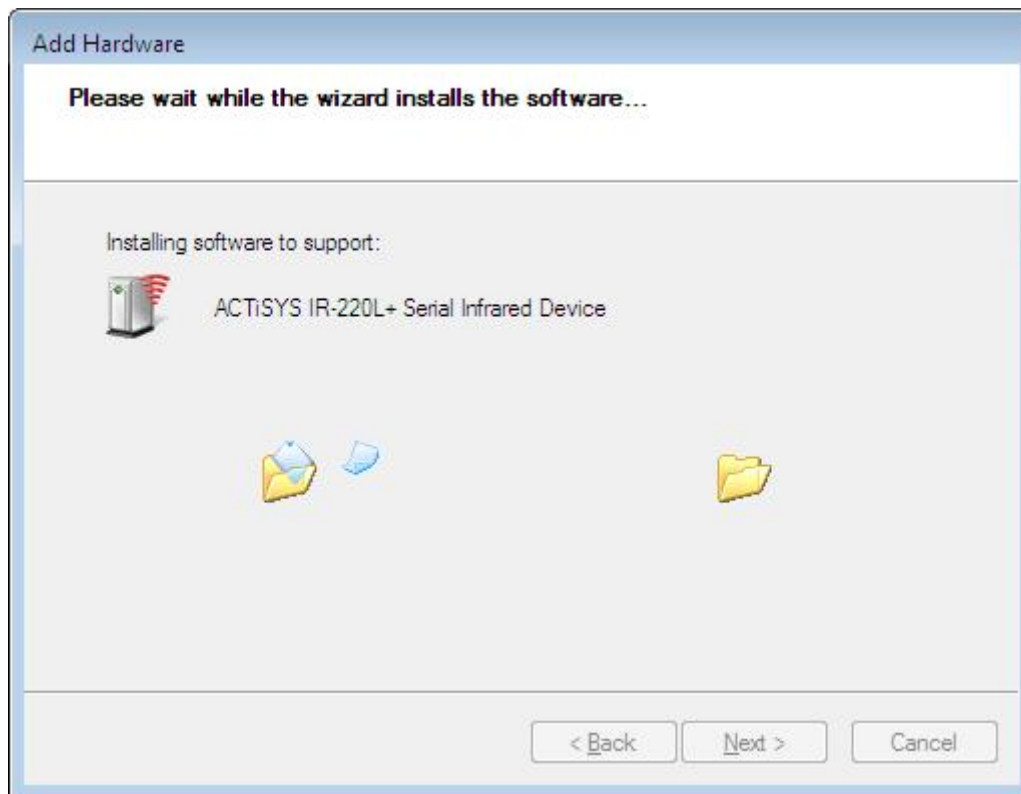
F. Select the right device, e.g., "IR220L+", from "Infrared Device". Then click "**N**ext".



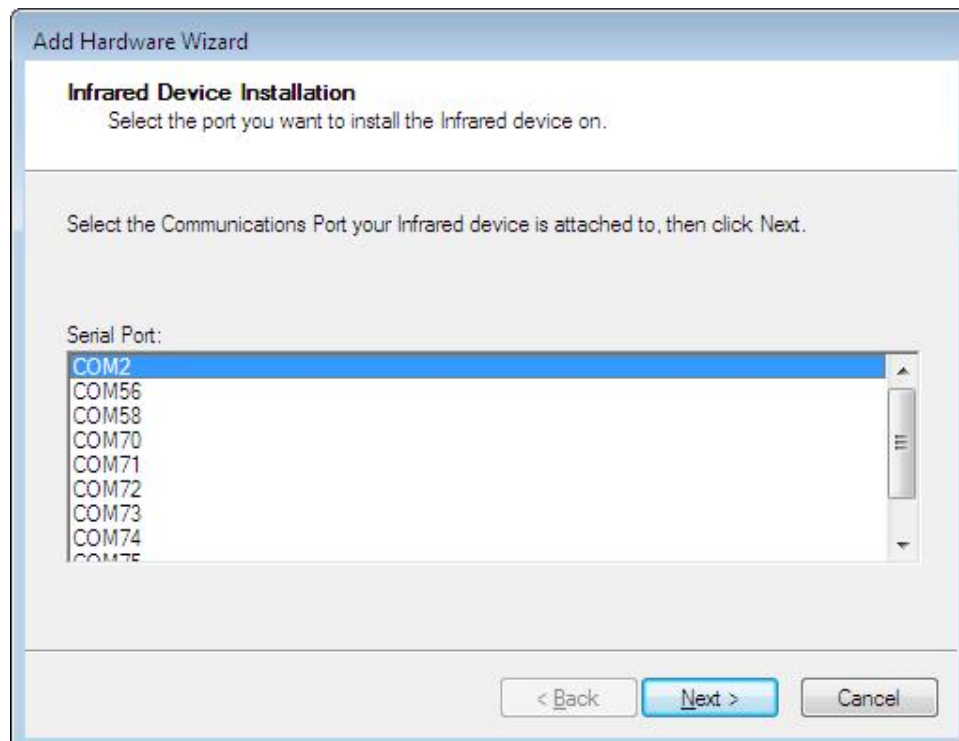
G. It will pop up a window displaying as below: Click "**N**ext".



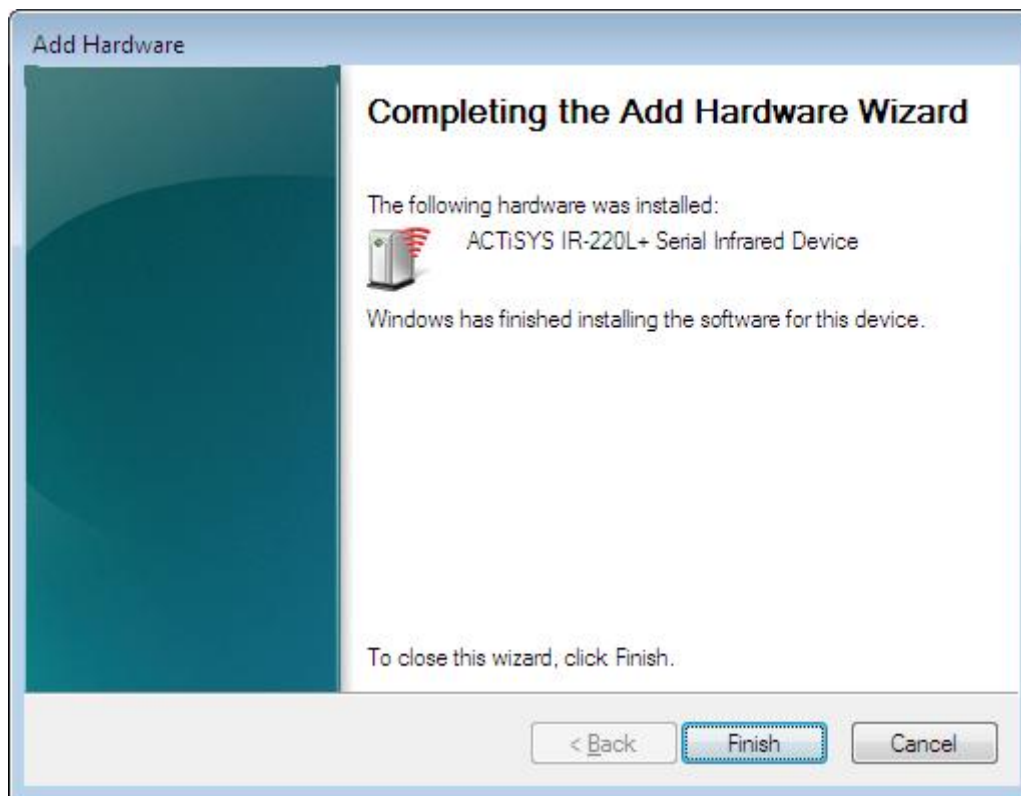
H. Then it will display installation process window as below.



- I. Then it will ask you to select the COM port. Select the port where you plugged your device, e.g., COM2. Then click “**N**ext”.

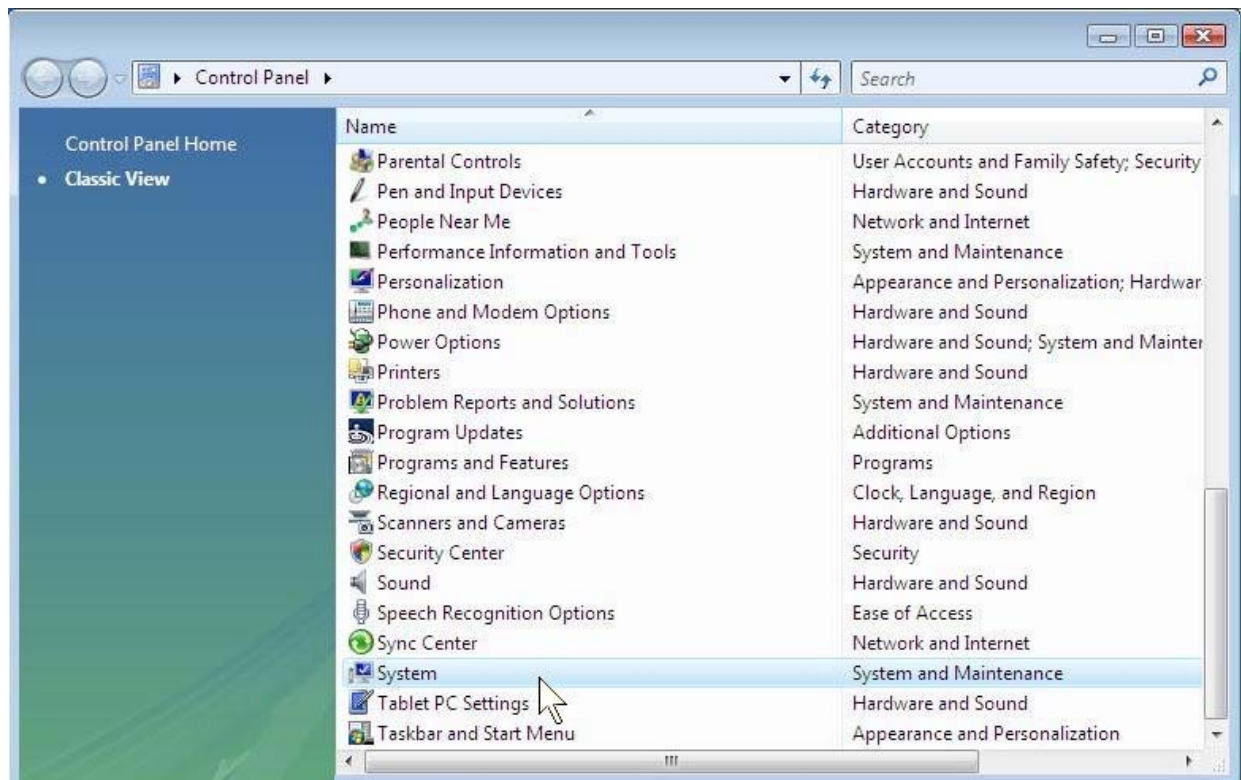


J. Now it completes the process. Click “Finish” to end the installation.

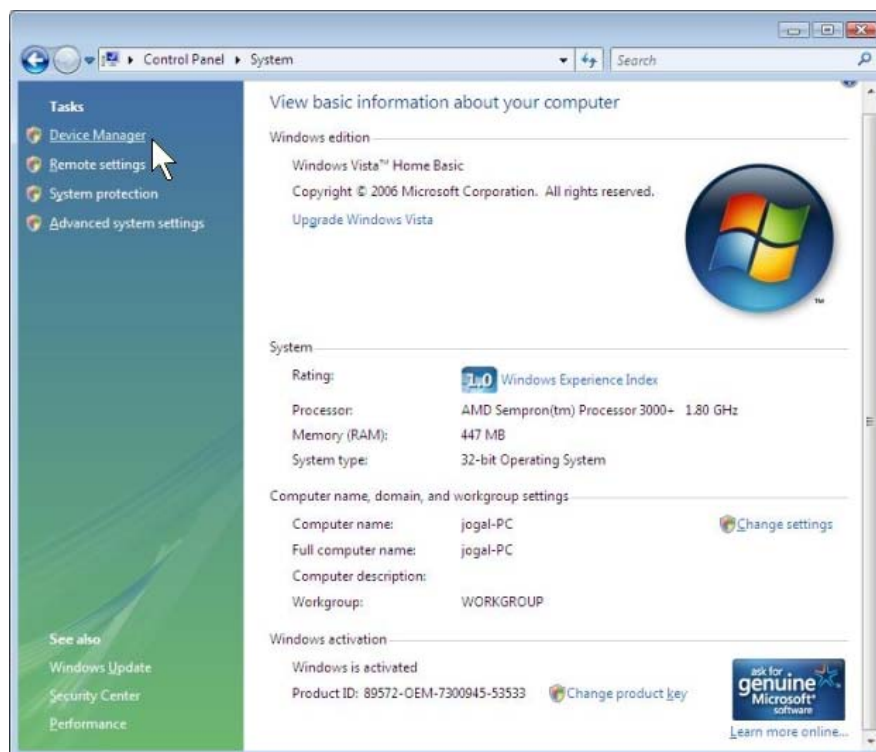


12. WINDOWS VISTA UNINSTALLATION GUIDE

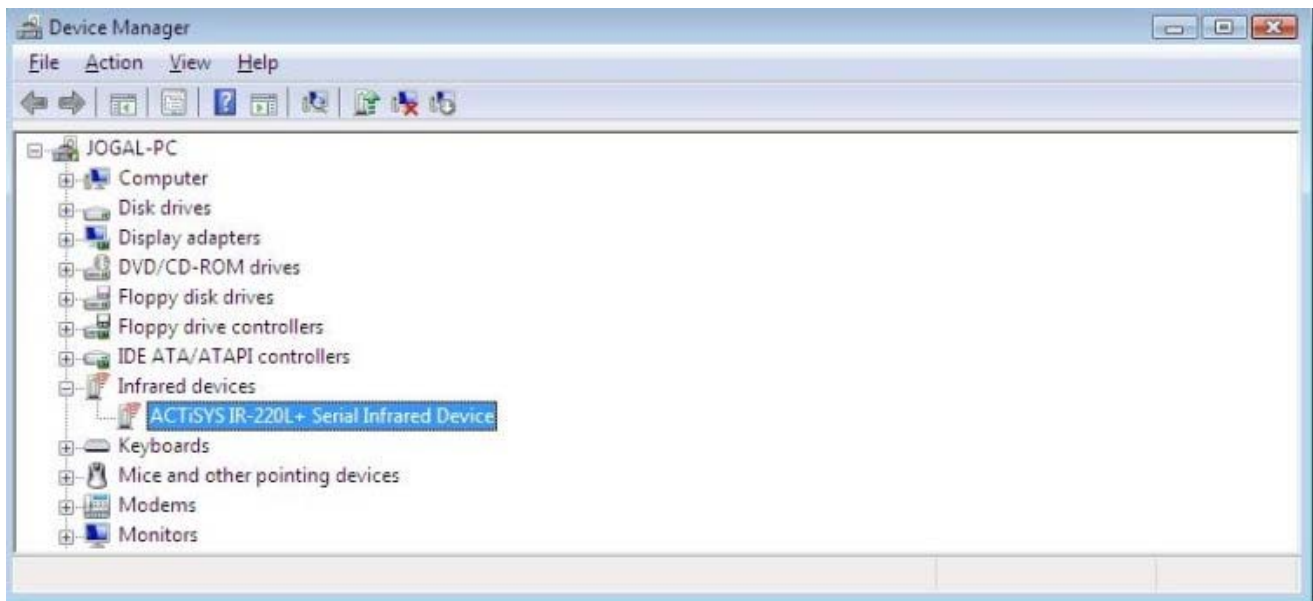
A. From Control Panel, select “System”.



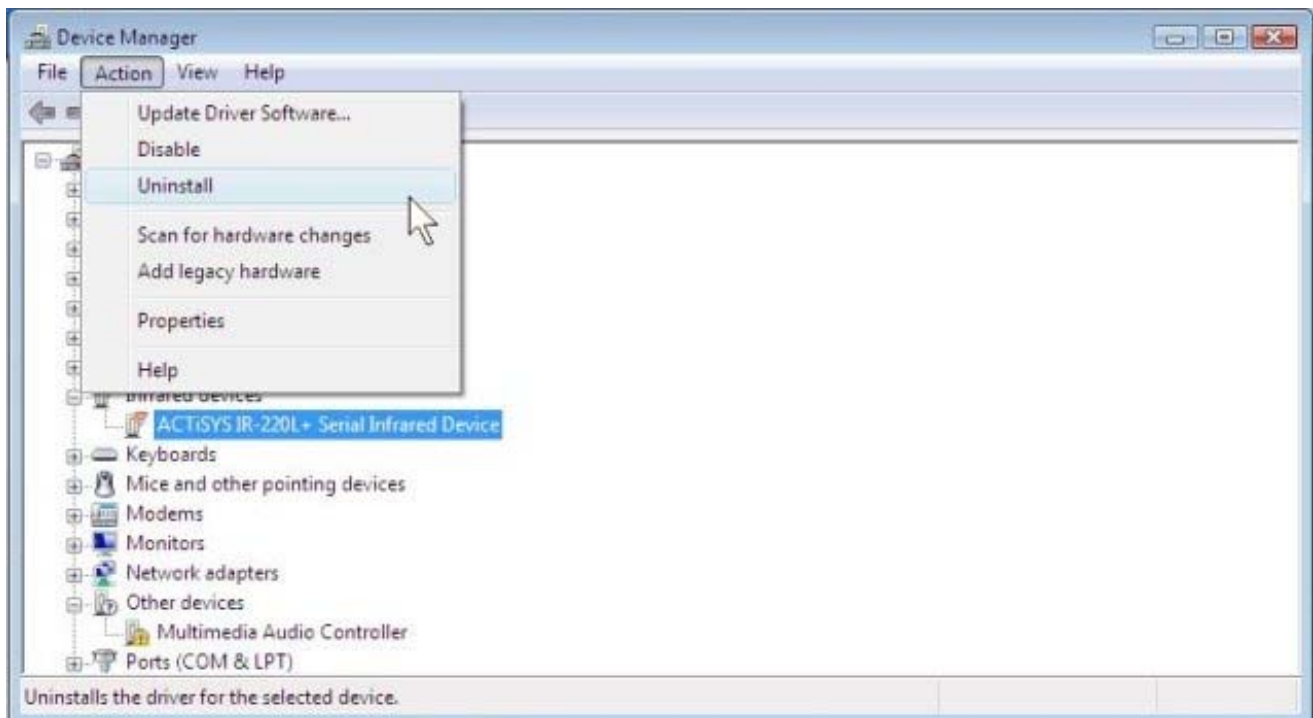
B. Select “Device Manager”.



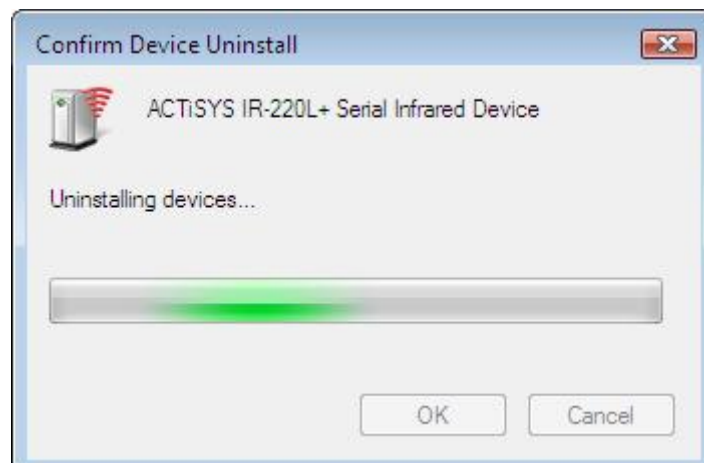
C. Select the right “Infrared device” from the list. E.g., “ACTiSYS IR 220L+ Serial Infrared Device” as below.



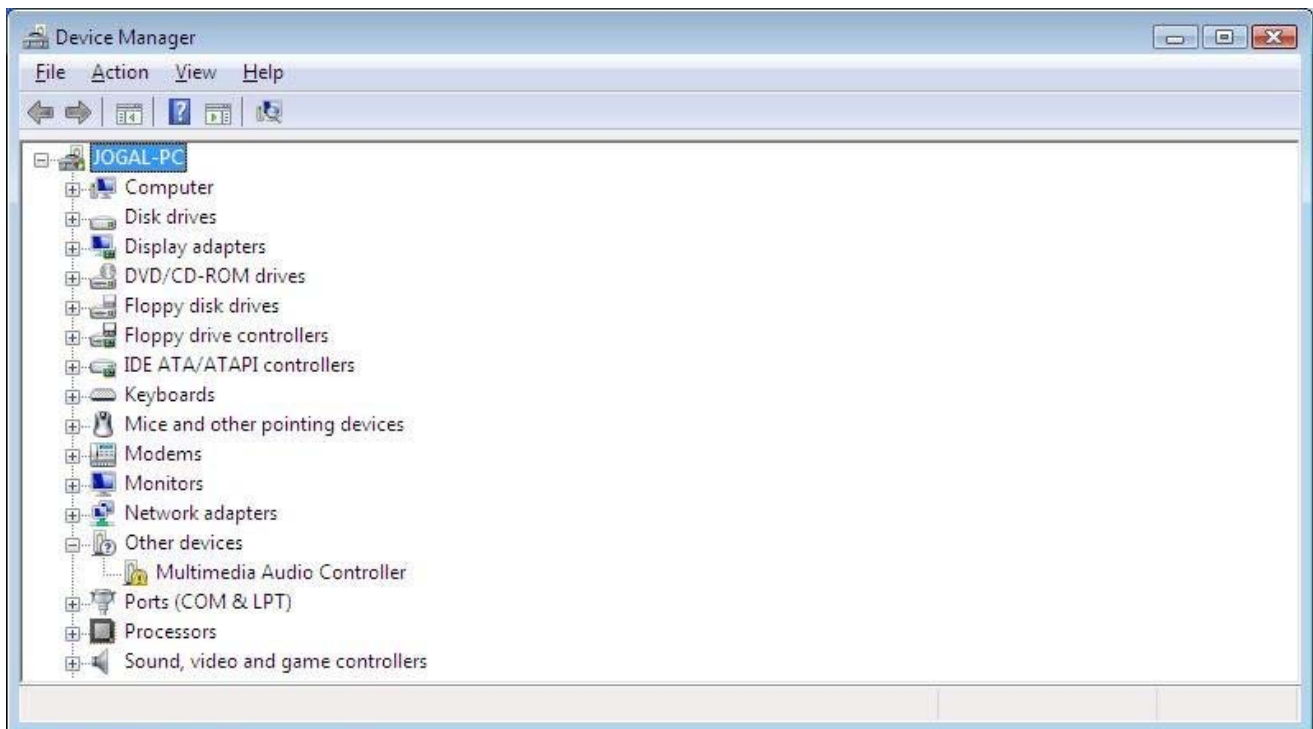
D. Select "Uninstall" from "Action" pull down menu as below.



E. Click "OK" to "Confirm Device Uninstall".

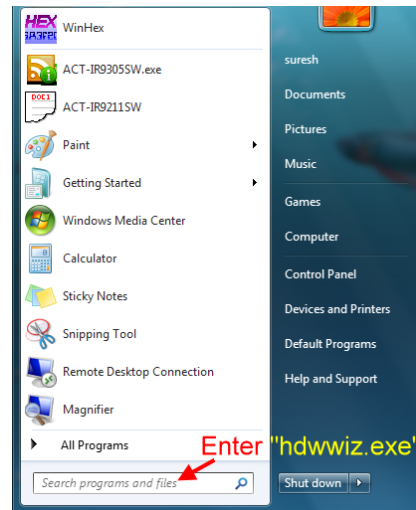


F. Then it completes the uninstallation. Original Infrared Device will be disappeared from the Device Manager as below.



13. WINDOWS 7 INSTALLATION GUIDE

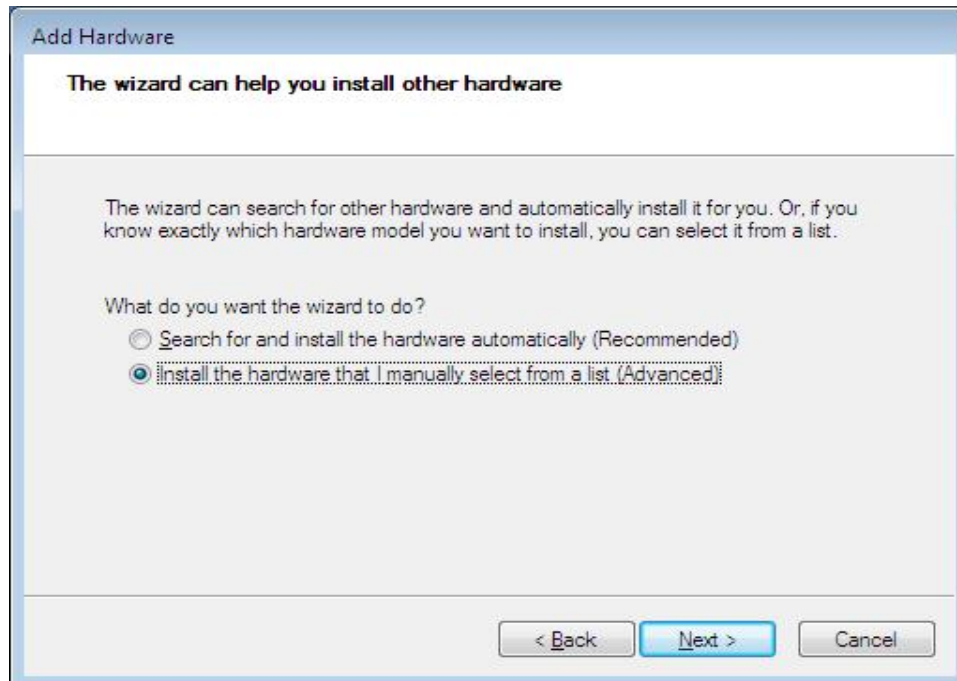
- A. Click on Start and type “hdwwiz.exe” in the edit box of “Search programs and files” and press enter, like below screen shot.



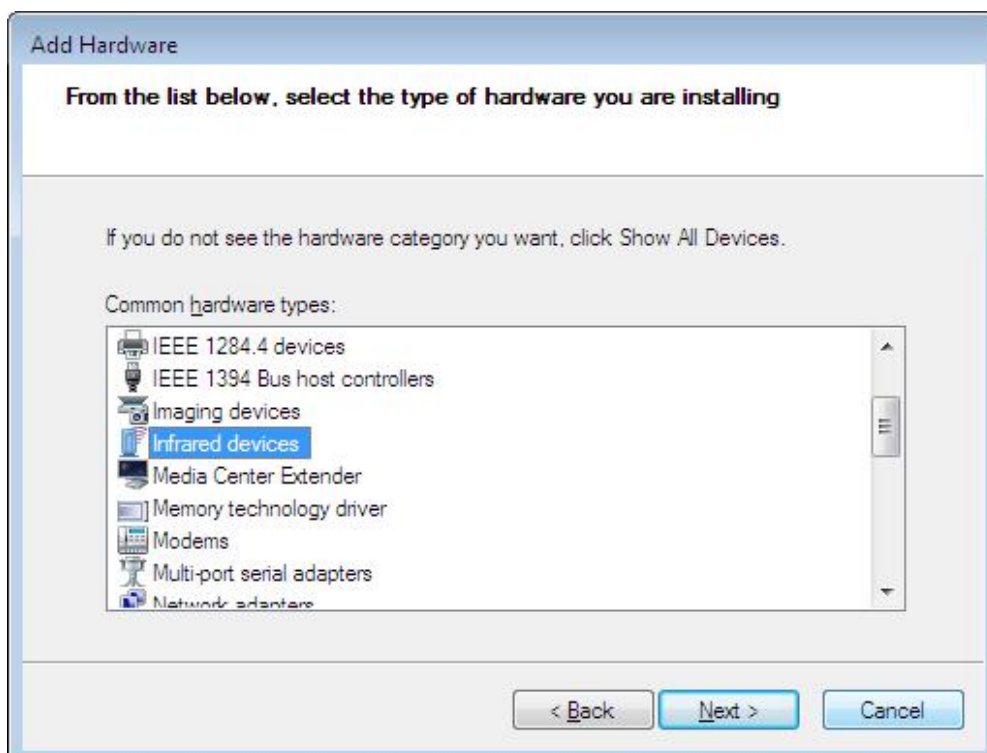
- B. It will prompt a Welcome screen as follows. Click **N**ext.

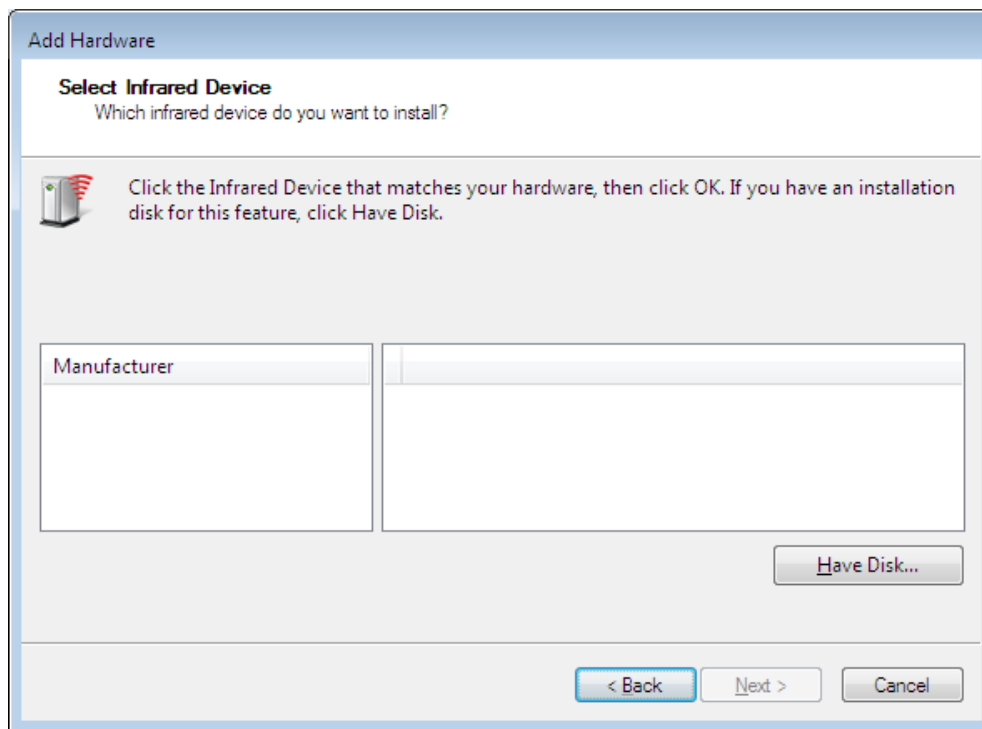
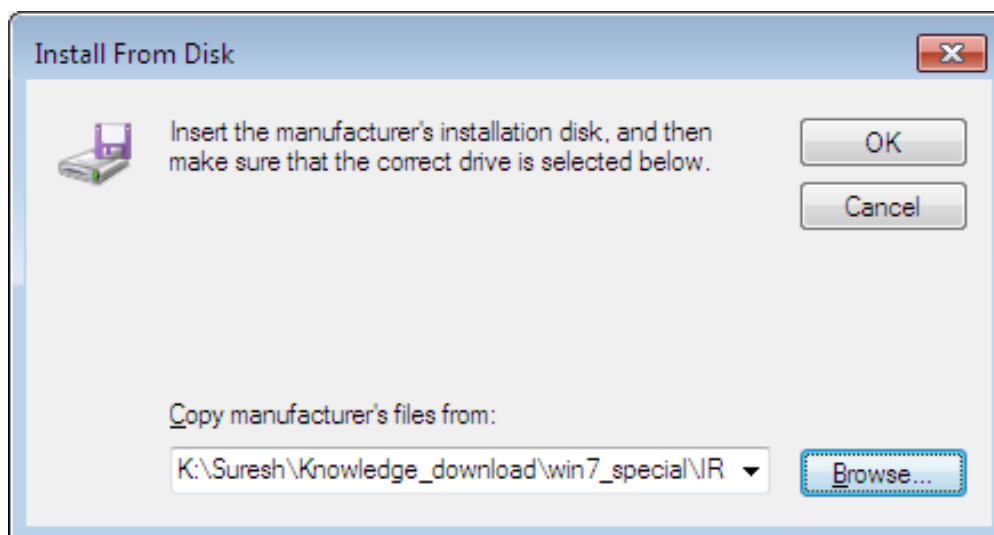


- C. The installation window will ask “What do you want the wizard to do?” Select “Install the hardware that I manually select from a list (Advanced).” Then click **N**ext.

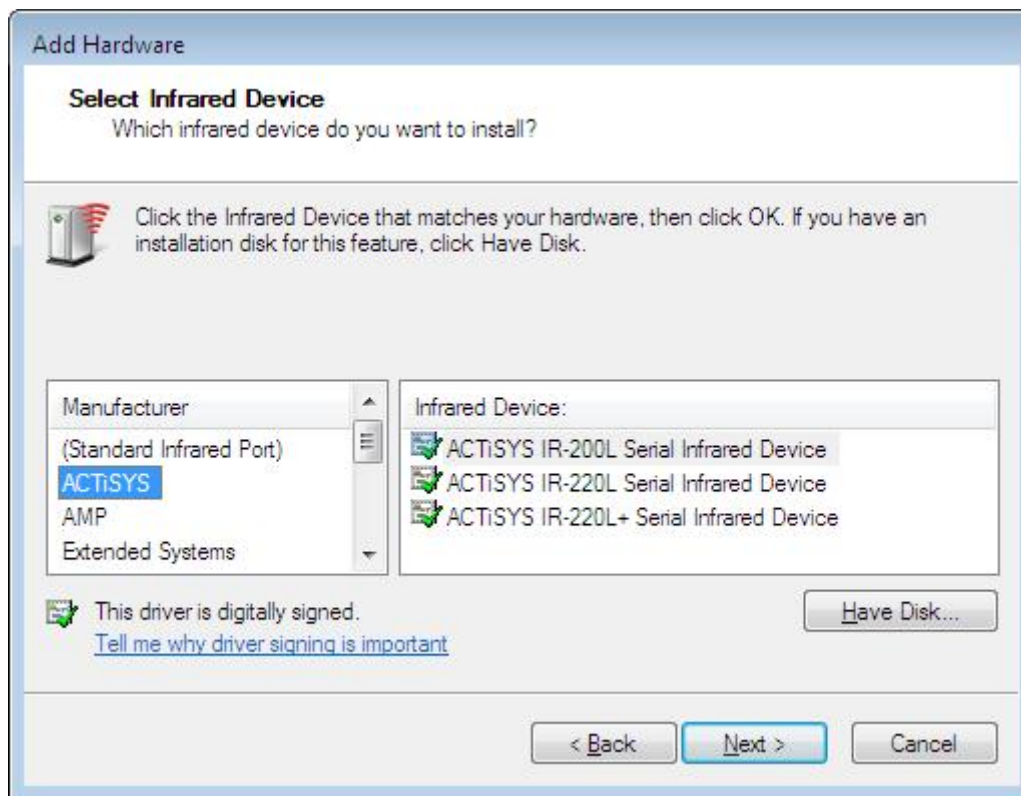


- D. Select “Infrared device”. Then click “**N**ext”.

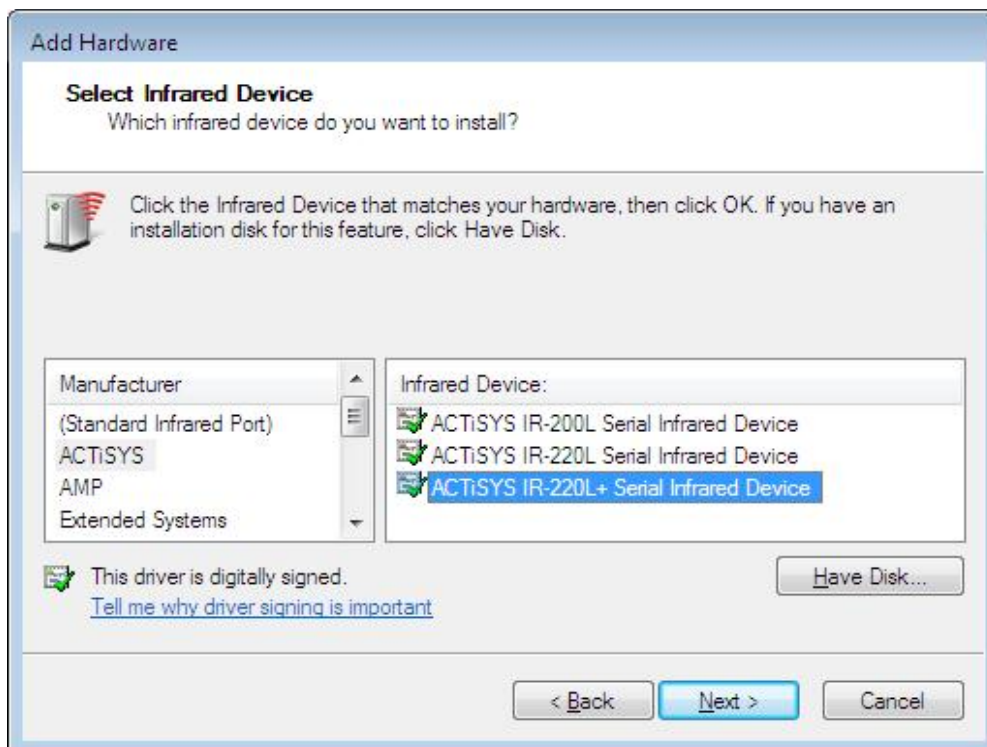


E. Click on Have Disk.**F. Now browse and give the driver's inf file from proper location.**

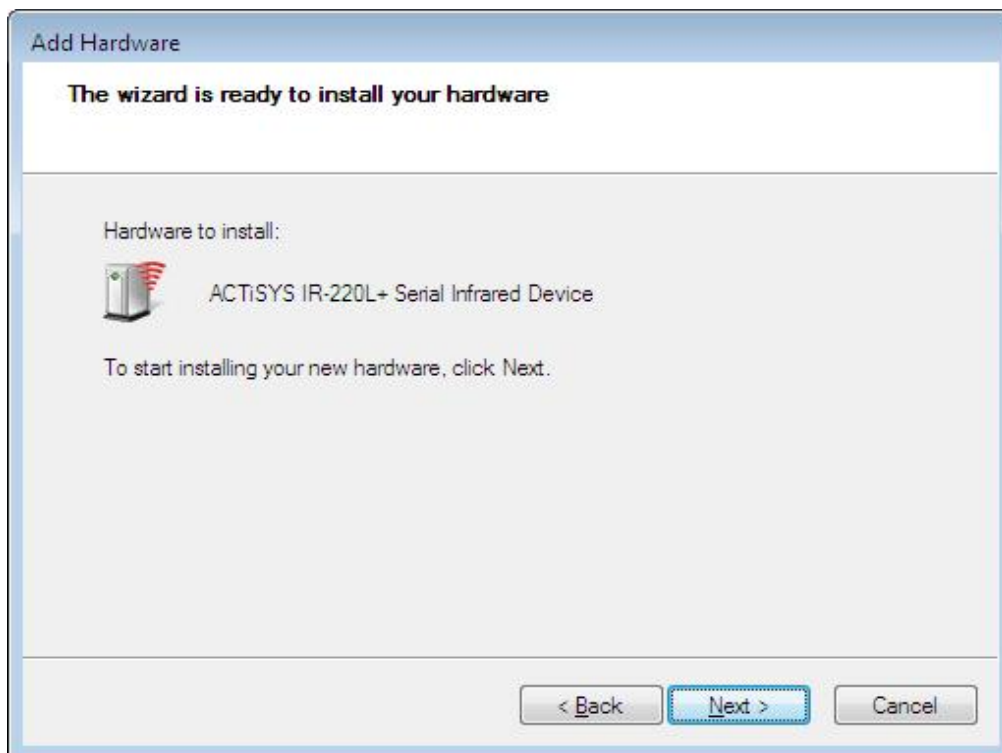
G. Select "ACTiSYS" from "Manufacturer".



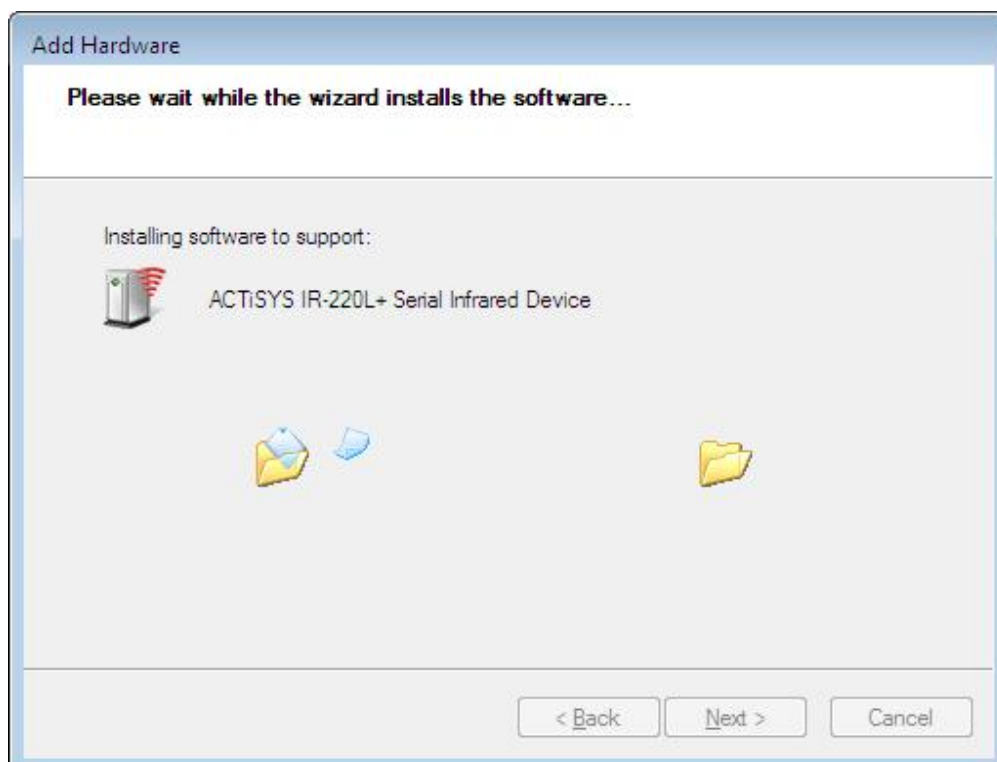
H. Select the right device, e.g., "*IR200L*" or "*IR220L+*", from "Infrared Device". Then click "**N**ext".



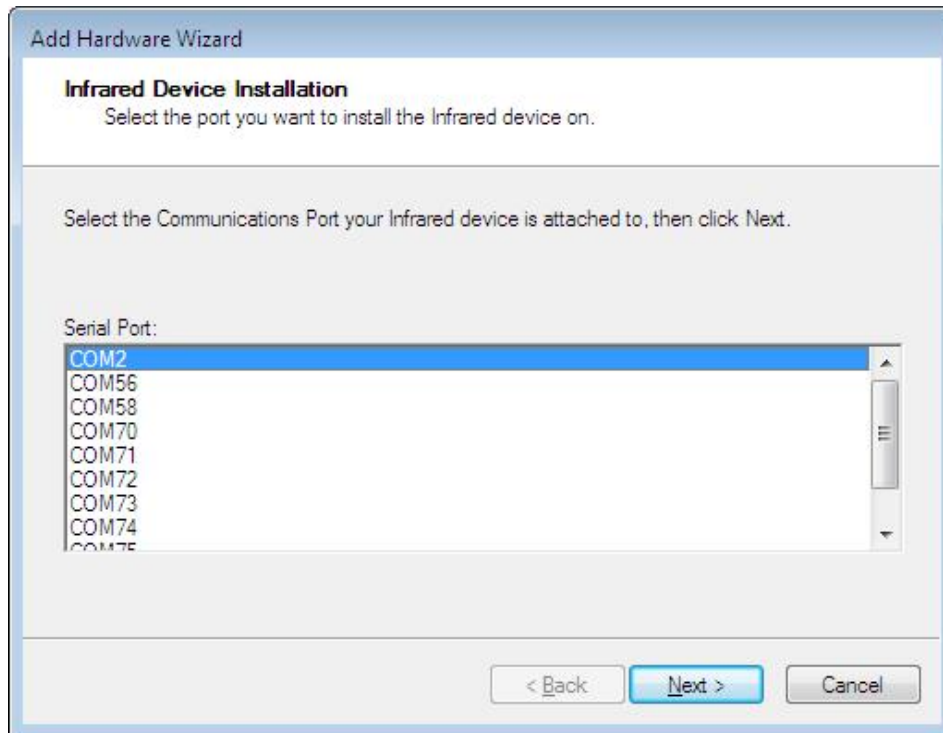
I. It will pop up a window displaying as below: Click “**N**ext”.



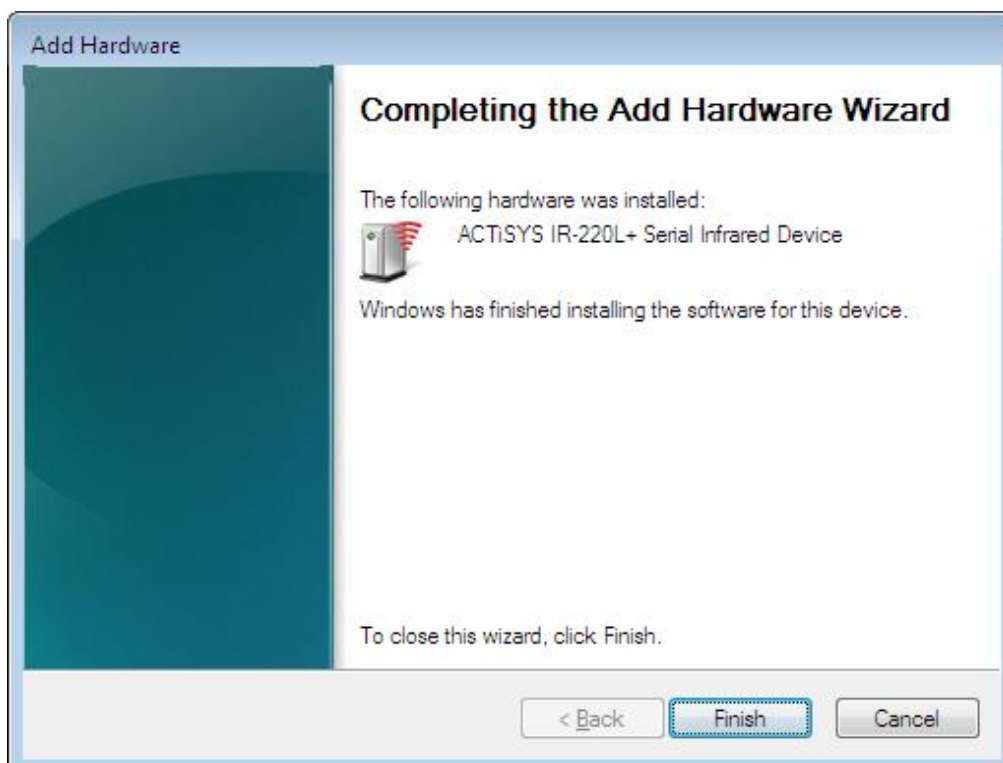
J. Then it will display installation process window as below.



K. Then it will ask you to select the COM port. Select the port where you plugged your device, e.g., COM2. Then click **Next**.



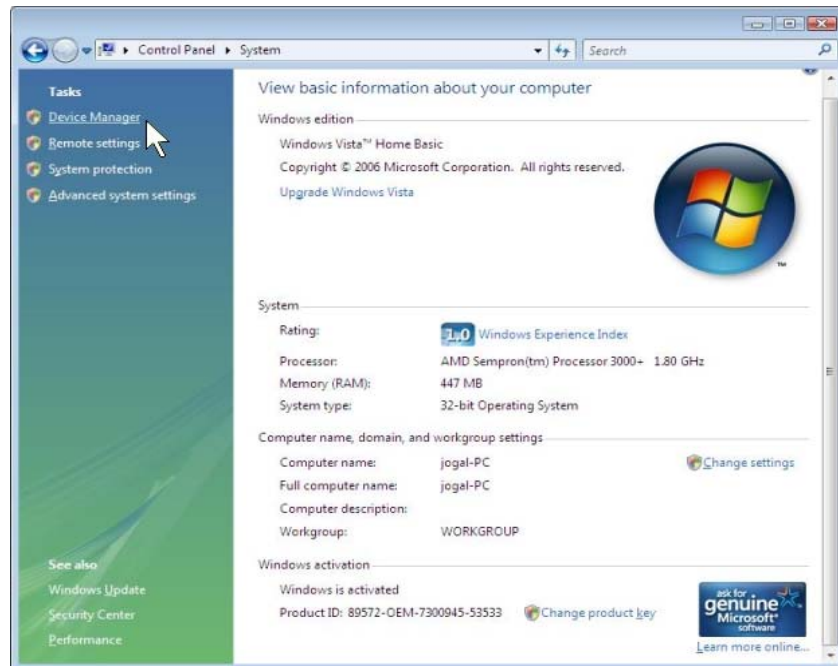
L. Now it completes the process. Click "Finish" to end the installation.



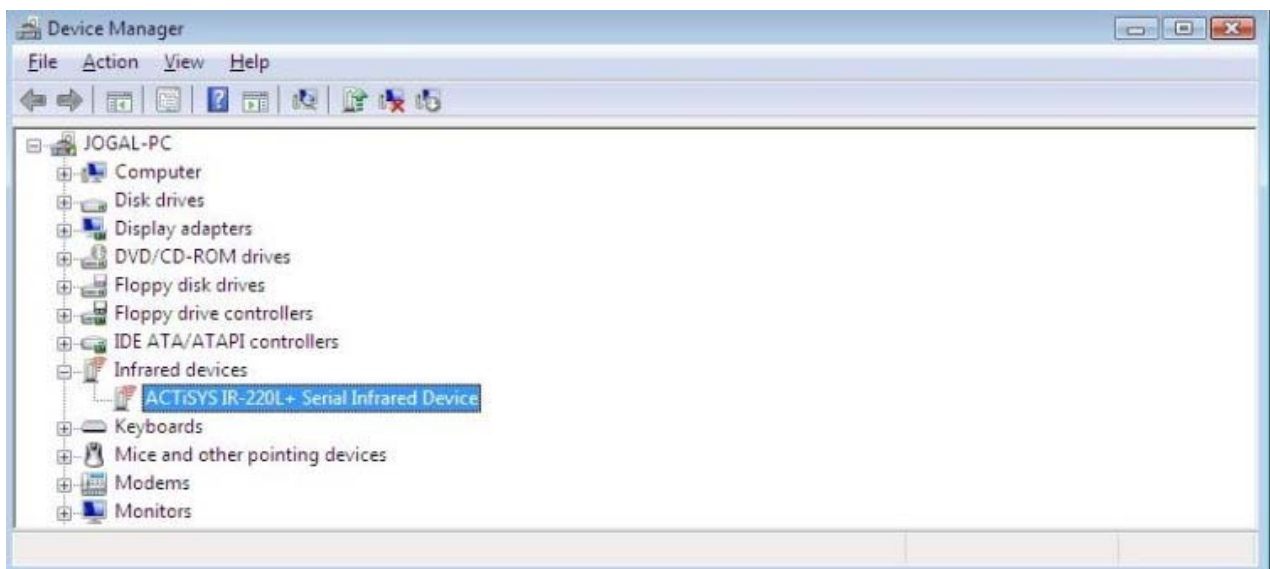
14. WINDOWS 7 UNINSTALLATION GUIDE

A. Right Click on **Computer** icon and Select "**Properties**".

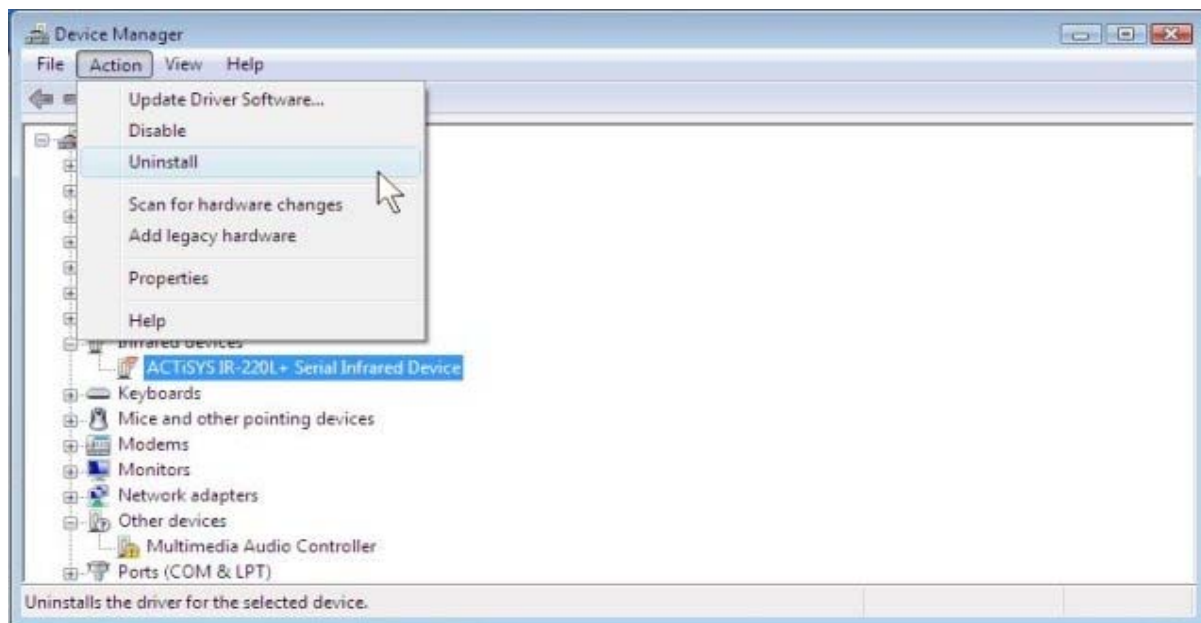
B. Select "Device Manager" as arrow pointed below.



C. Select the right "Infrared device" from the list. E.g., "ACTiSYS IR 220L+ Serial Infrared Device" as below.



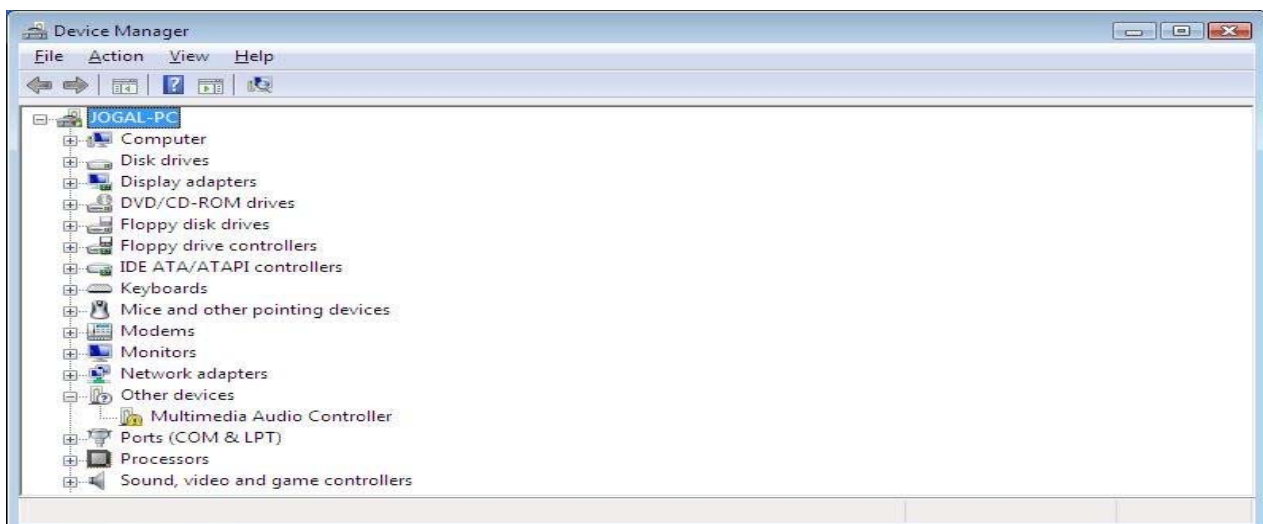
D. Select "Uninstall" from "Action" pull down menu as below.



E. Click "OK" to "Confirm Device Uninstall".



F. Then it completes the uninstallation. Original Infrared Device will be disappeared from the Device Manager as below.



15. TROUBLE SHOOTING

For help on general and miscellaneous problems you may be experiencing with your printing, refer to the following pages for possible solutions. Look up your problem and try the solution.

SYMPTOM	PROBLEM	SOLUTION
Can not establish link (General)	1. The two IR devices are not aligned properly. 2. Distance is too near or far. 3. The device is inactivated. 4. The device is not installed properly	1. Properly align them again. 2. Move one device to a proper distance. 3. Activate it by IR monitor. 4. Refer to Un-installation Guide to remove the device, then reinstall again.
ACT-IR200L/220L/220L+ is connected to and takes power only from the serial port of the notebook computer.	The power-saving feature in the notebook computer either stops or reduces power output from the signal lines of the serial port to the ACT-IR200L/220L/220L+ devices.	Set the "Power Management" control to "Advanced" or "Off" to enable power supplied from computer serial port to ACT-IR200L/220L/220L+ devices. Go to Integrate Peripheral to set the COM port to "Infrared". Do not install more than one infrared device on one computer.
File Transfer between IR-equipped PDA and ACT-IR device-attached host computer stops before finishing up and an error message appears.	The infrared communication is interfered. For example, something blocks out the infrared beam or the burst of string light source, etc. Software does not support the IrDA controller chip on the motherboard. Serial port is occupied and not available for IR transmission.	Check to find out the source of interference and eliminate it before trying again. If you were restoring data, simply try again. If you were doing backup something the PDA does not reset its flags and keeps stopping at the same position unless you press the RESET button once. Be very careful. DO NOT initialize (press ON key and RESET button at the same time) your PDA. Otherwise you may lose all your data. Make proper model # selection in the software as specified in your PC system user's manual. Make sure to disconnect modem, etc. from the serial port to make it available for IR transmission.

16. SPECIFICATIONS

Model:	ACT-IR200L/220L/220L+	
Carrier:	Infrared radiation (peak wavelength: 850 to 1050 nm)	
Sub-Carrier:	500 KHz for SHARP ASK-IR and ASK(37KHz) for TV remote spec.(IR200L only)	
Communication Distance:	IR200L	From 0 to 80 cm. For best results, from 20 to 60 cm (7.9 in to 1 ft. 11.6 in)
	IR220L	From 0 to 250 cm. For best results, from 10 to 150 cm (3.95 in to 4 ft. 11.05 in)

	SHARP ASK-IR:	IrDA-IR:
Baud Rate:	9600 bps to 38.4K bps (IR200L only)	9.6, 19.2, (38.4), 57.6, 115.2K bps (IR200L/220L+)
Parity Bit:	Odd	None
Data:	8 bit	8 bit
Stop Bit:	1 bit	1 bit
Error Check:	Check Sum	CRC

Serial Interface:	Cable Interface (to host computer)
Signal Level:	RS-232 Standards
Connector:	DB-9 female connector
Power Source:	PC RS-232 Serial Port
Power Consumption:	0.30mW (11mA max.)
Operating temperature:	0°C to 40°C (32°F to 104°F)
Dimensions:	2.0 in. L x 1.63 in W x 0.62 in H (51mm x 41mm x 16mm)
Weight:	2.0 oz (54 gr.)
Accessories:	User Manual
Optional Accessories:	DB9/DB25 Converter ; IR Software for Windows 95/98/ME/2000

Pin Assignments of Serial Interface DB9 female connector				
Pin	Name	Symbol	I/O	Function
2	Receive Data	RXD	I	Input signal
3	Transmit Data	TXD	O	Output signal
4	Data Terminal Ready	DTR	O	For data link to build up and maintain
5	Signal Ground	GND	-	Reference ground (0V) for all signals
7	Request to send	RTS	O	Output signal from host computer
8	Clear to send	CTS	I	Input signal to host computer

17. WARRANTY INFORMATION

THE FOLLOWING WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE THE OTHER RIGHTS WHICH VARY FROM STATE TO STATE:

ACTiSYS Corporation warrants the first end-user purchaser, for a period of one year from the date of purchase, that this wireless interface ("the Product") will be free from defective workmanship and materials, and agrees that it will, at its option, either repair the defect or replace the defective Product or part thereof at no charge to the purchaser for parts or for labor.

This warranty does not apply to any appearance items of the Product, any consumable items such as paper, ink ribbon, or batteries supplied with the Product, or to any equipment or any hardware, software, firmware, or peripheral other than the Product. This warranty does not apply to any Product the exterior of which has been damaged or defected, which has been subjected to misuse, abnormal service or handling, or which has been altered or modified in design, construction or interfacing.

Tampering With Label Voids Warranty.

In order to enforce the rights under this limited warranty, the purchaser should mail, ship, or carry the Product, together with proof of purchase, to ACTiSYS.

The limited warranty described above is in addition to whatever implied warranties may be granted to purchasers by law. To the extent permitted by applicable law, ALL IMPLIED WARRANTIES INCLUDING THE WARRANTIES OF MERCHANT ABILITY AND FITNESS FOR USE ARE LIMITED TO A PERIOD OF ONE YEAR FROM THE DATE OF PURCHASE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Neither the sales personnel of the seller nor any other person is authorized to make any warranties other than those described above, nor to extend the duration of any warranties beyond the time period described above on behalf of ACTiSYS Corporation.

The warranties described above shall be the sole and exclusive remedy available to the purchaser. Correction of defects, in the manner and for the period of time described above, shall constitute full satisfaction of all claims, whether based on contract, negligence, strict liability or otherwise. In no event shall ACTiSYS Corporation be liable, or in any way responsible, for any damages or defects in the Product which were caused by repairs or attempted repairs performed by anyone other than ACTiSYS technician. Nor shall ACTiSYS Corporation be liable or in any way responsible for any incidental or consequential economic or property damage. Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply for you.



18. CONTACT INFORMATION

Go WIRELESS WITH **ACTiSYS IR**



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