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## ***ACT-IR224UN***

### ***USB to RAW SIR Serial Adapter***

#### ***User's Manual***



**May 22<sup>nd</sup>, 2007**

**Version 1.1.4**

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## REVISION HISTORY

| Revision History |            |   |
|------------------|------------|---|
| Revision         | Date       | Comment   |
| 0.1              | 10/05/2006 | Draft version   |
| 1.0              | 10/30/2006 | Initial release   |
| 1.0.1            | 1/3/2007   | Extracted Chapt. of detailed description for models & IR pulse format   |
| 1.1              | 1/25/2007  | <ul style="list-style-type: none"><li>• Added new configuration models and re-edited the chapter</li><li>• Expanded function models to include competitors' compatible models</li></ul>   |
| 1.1.1            | 4/14/2007  | Removed IrReady label from dongle case; added CRoHS logo  |
| 1.1.2            | 4/25/2007  | <ul style="list-style-type: none"><li>• Revised Uninstallation Chapters for utility &amp; driver; added FAQ</li><li>• Modification in Installation Package for one time removal of both utility &amp; driver at a click</li></ul>   |
| 1.1.3            | 5/16/2007  | <ul style="list-style-type: none"><li>• Not released officially. Only for Internal use</li></ul>  |
| 1.1.4            | 5/22/2007  | <ul style="list-style-type: none"><li>• Modification In Utility GUI (COM Port Listing, Check For IR224UN During Launching Etc)</li><li>• Removed Installation Package For Utility Program.</li><li>• Modified Chapter Of Installation &amp; deleted section of Configuration insatallation &amp; Chapter of Configuration uninstallation</li><li>• Modified Chapter 14 for USB spec 2.0</li></ul> |

ACTiSYS reserves the right to make changes without further notice to any products herein to improve reliability, function or design. ACTiSYS does not assume any liability arising out of the application or use of any product or circuit described herein.

## 1. FEATURES

- a. Supports 8 baud rates: 1.2k, 2.4k, 4.8k, 9.6k, 19.2k, 38.4k, 57.6k and 115.2k bps.
- b. 1.63  $\mu$ s IR pulse.
- c. No IrDA protocols supported, only Raw IR.
- d. Compatible with four ACTiSYS Raw IR RS232 adapters: IR220L+, IR220L, IR220Li and IR220LN. Also compatible with competitors' models: JetEYE 9860 Level mode & Pulse mode, IFSYS 8001A Level mode & Pulse mode, iMATE IR-210. An utility SW is provided to select the above models.
- e. Virtual COM port supported. Nothing or minimum changes in user's software which are already working with ACTiSYS RS232 adapters.
- f. Less Latency time, average is 1.5 ms. The latency of a real COM port is about 0.5ms.
- g. Fully compliant with USB 2.0 (Full speed, 12 Mbps).
- h. 256 bytes outbound buffer and 256 bytes inbound buffer.
- i. Designed for Windows XP Certified logo drivers.
- j. Provides drivers supporting Windows 2000 & XP, Mac OS, Linux and WinCE.
  - **JetEye, IFSYS and iR mate are the trademarks of their respective companies.**

## 2. OVERVIEW

Many customers have used ACTiSYS RS232 Raw IR adapters for a long time. But since RS232 has been not now a standard COM port on current notebook PC any more, it then becomes an issue for them. Some customers may use an USB-to-RS232 conversion cable to solve this problem. But still it is not a good solution yet. ACT-IR224UN is so designed for this purpose.

ACT-IR224UN is an USB-to-IR adapter, which can generate a virtual COM port for user to transmit data with other IR devices without IrDA protocols required. And its driver will help user to make IR connection without changing any Application Program in new PC, which is only equipped with USB for COM port access.

## 3. PACKAGE CONTENT

ACT-IR224UN package contains the following items:

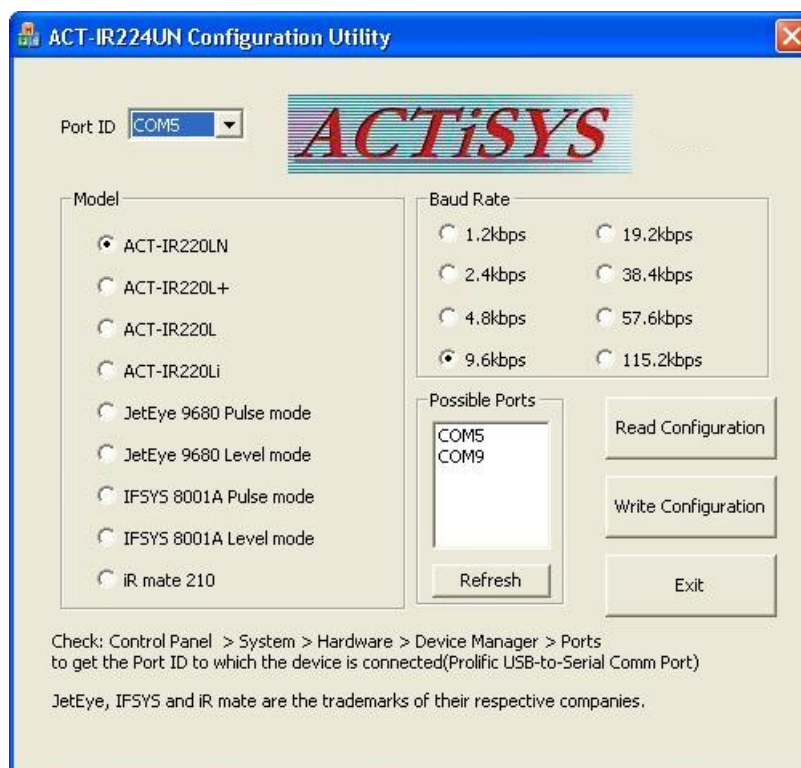
- 1 ACT-IR224UN USB to Serial SIR Adapter x1
- 2 Installation CD x1, which includes:
  - a. Device driver installer
  - b. ACT-IR224UN Configuration Utility Program
  - c. User's Manual.
  - d. Quick Installation Guide

## 4. FAQ (Frequently Asked Questions)

- **Q1:** While uninstalling the ACT-IR224 Configuration utility or Driver, Windows is prompting to Restart. Do I need to restart the PC?
- **A1:** We highly recommend to restart the PC after you have completed the uninstaltion successfully.
- **Q2:** In some Windows XP, while Un-installing ACT-IR224UN driver (from Add/Remove Programs), it is not restarting automatically when I select “yes” to Restart. Why?
- **A2:** We recommend Method 1 in Chapter 10 to uninstall the driver. If system still doesn't restart automatically, it is highly recommended to restart manually.

## 5. CONFIGURATION UTILITY

ACT-IR224UN supports ACTiSYS RS232 Raw IR adapters (ACT-IR220L+, ACT-IR220L, ACT-IR220Li, ACT-IR220LN) and other competitor's IR adapters. ACTiSYS provides a Windows configuration utility for customers as following figure. You can select a proper model as you are using right now. For example, if you are using ACT-IR220LN96, you can just select “Port ID”, say, COM5, “Model” as ACT-IR220LN and “Baud Rate” as 9.6 kbps. Then press “Write Configuration”.



**Note :** ACT-IR220LN is the only model required to select baud rate when using this utility. The other models are not required at this point.

## 6. DIFFERNECE BETWEEN ACT-IR204UN AND ACT-IR224UN

ACT-IR204UN will automatically adjust the baud rate when virtual COM port is created. For ACT-IR224UN, you have to use the method of changing DTR & RTS signal from serial port to set baud rate because it is designed to simulate as all the models listed in configuration utility. For baud rate setting details, please refer to Chapter of “Detailed Description for Models” in Technical Manual. Since ACT-IR224UN has a mechanism to handle the speed itself, so no matter what baud rate software assigns, ACT-IR224UN will not obey directly.

ACT-204UN has ACTiSYS own driver while ACT-IR224UN uses Prolific driver.

## 7. GENERAL SETUP PROCEDURE

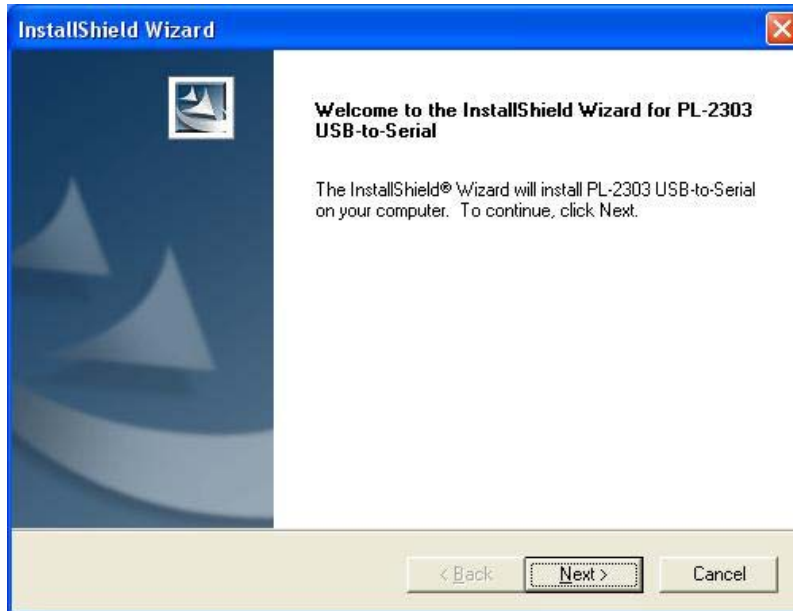
- a) Insert the installation CD and it will install driver automatically.
- b) Plug ACT-IR224UN adapter into USB port. It will lead you to a “Found New Hardware” procedure to complete the installation.

## 8. INSTALLATION

1. Make sure **USB** dongle is **NOT** plugged into PC until you have installed the driver.
2. From **Add or Remove Program**, make sure there is no driver named: “**PL-2303 USB-to-Serial**” in PC. If exists, please **remove it first**.
3. When CD is inserted, the following files will be copied to the path:  
C:\Program Files\ACTiSYS\ACT-IR224UN
  - ACT-IR224UN Configuration utility
  - ACT-IR224UN-Manual Configuration
  - ACT-IR224UNDriverInstaller is copied to the subdirectory named “Driver”
4. Initiates ACT-IR224UN Driver Installation. In most cases this should start the installation automatically. If it does, go to next section. Otherwise explore the CD contents and double click “**ACT-IR224UNDriverInstaller.exe**” to start the installation.

## 8.1. Driver Installation

1. Welcome screen for PL-2303 Driver installer will show up. Click “**Next**” to continue.



2. When this Installation completes, click “**Finish**” to close the Wizard window.

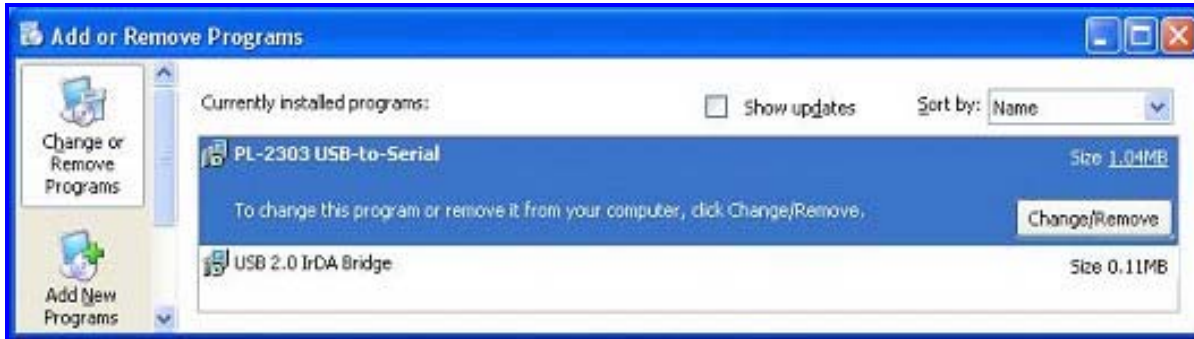


3. Now plug ACT-IR224UN IR adapter to USB port of your PC. System will pop up a “**Found New Hardware**” bubble window at the right corner of Tool Bar and display the message: “**Prolific USB-to-Serial Comm Port**” at the first time you plug in.
4. This completes the driver installation. Now you need to confirm the installation as the next chapter.

## 9. INSTALLATION CHECK

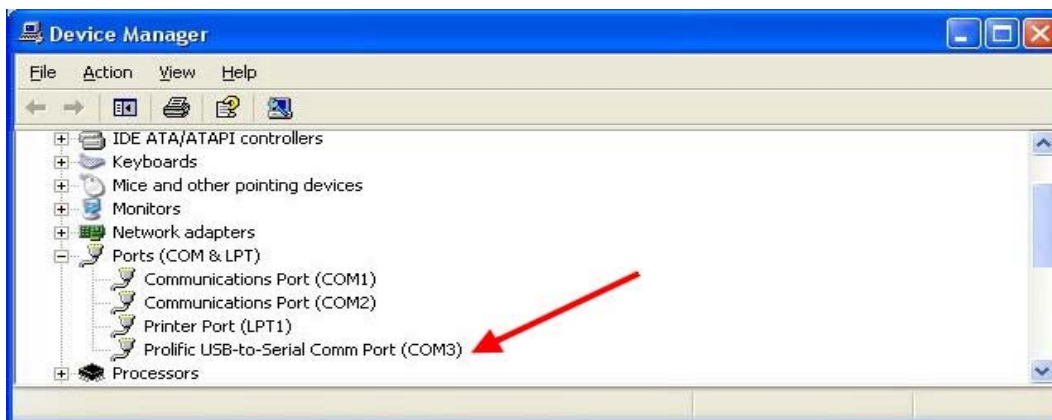
### 9.1. Add or Remove Programs Check

Open the “**Add or Remove Programs**” window from **Control Panel**. Check if “**PL-2303 USB-to-Serial**” is listed as shown below:



### 9.2. Device Manager Check

1. Please insert ACT-IR224UN USB Dongle to USB Port of your PC.
2. To confirm if the installation is successful, look at the window from **Device Manager**.
3. You will see the device described as “**Prolific USB-to-Serial Comm Port (COMx)**” installed under **Ports (COM & LPT)**, where COMx is the COM port number, COM3 for this example. This is the place you can check which virtual COM port this device has been connected. See below.

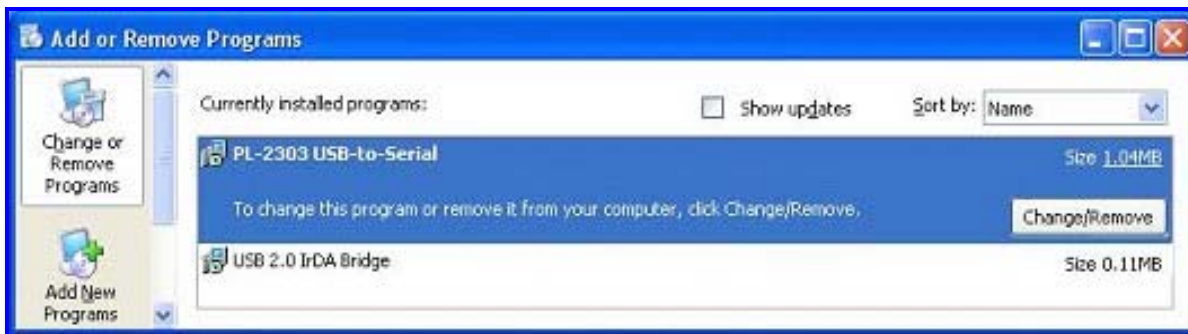


## 10. UNINSTALL DRIVER OF ACT-IR224UN

**Note:** This chapter is for you just in case you want to remove the dongle driver alone.

### 10.1. Method 1 - Add or Remove Programs

1. Double click “Add or Remove Program” under “Control Panel”.



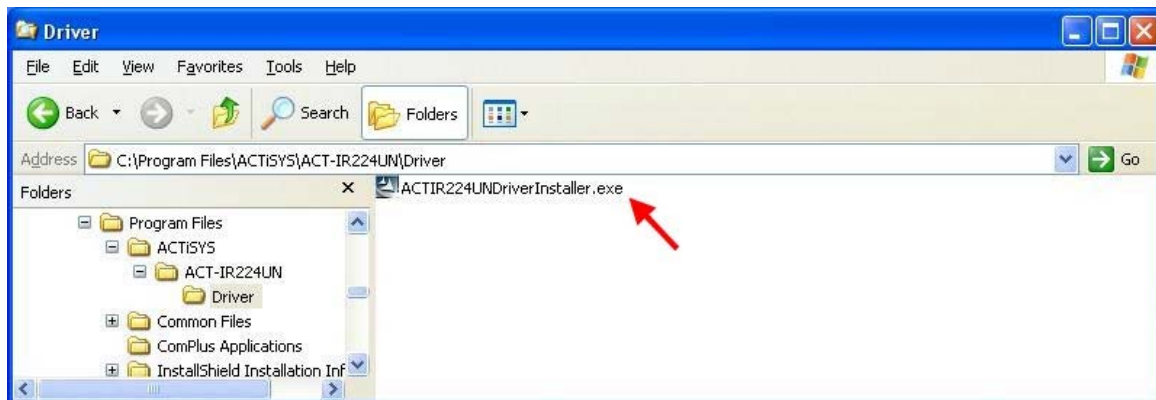
2. Select “PL-2303 USB-to-Serial” and click on “Change/Remove” to remove the drivers.



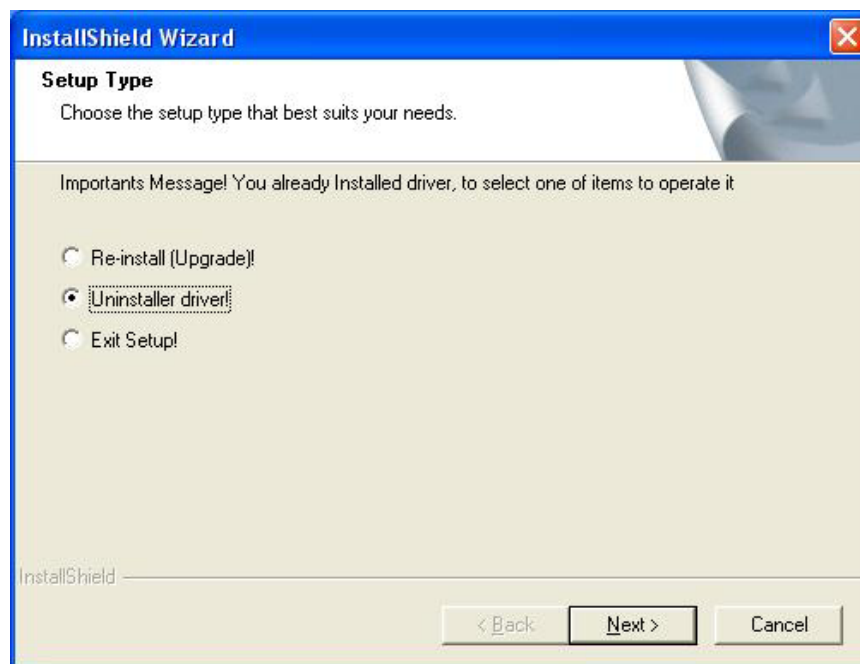
3. After Uninstallation completed, it will ask you to restart your computer, select “**Yes**” and click “**Finish**” to complete the wizard and restart the Windows.

## 10.2. Method 2 - Driver Installer

1. From C:\Program Files\ACTiSYS\IR224UN\Driver, run “ACT-IR224UNDriverInstaller.exe”.



2. It will show a “Setup Type” screen. Select Uninstaller driver.



3. Then it will complete the driver uninstallation procedure and show the same window: “**PL-2303 Driver UninstallCompleted!**” as shown in the step 2 of section 10.1, Method 1.

### 10.3. Method 3 - Program Uninstaller

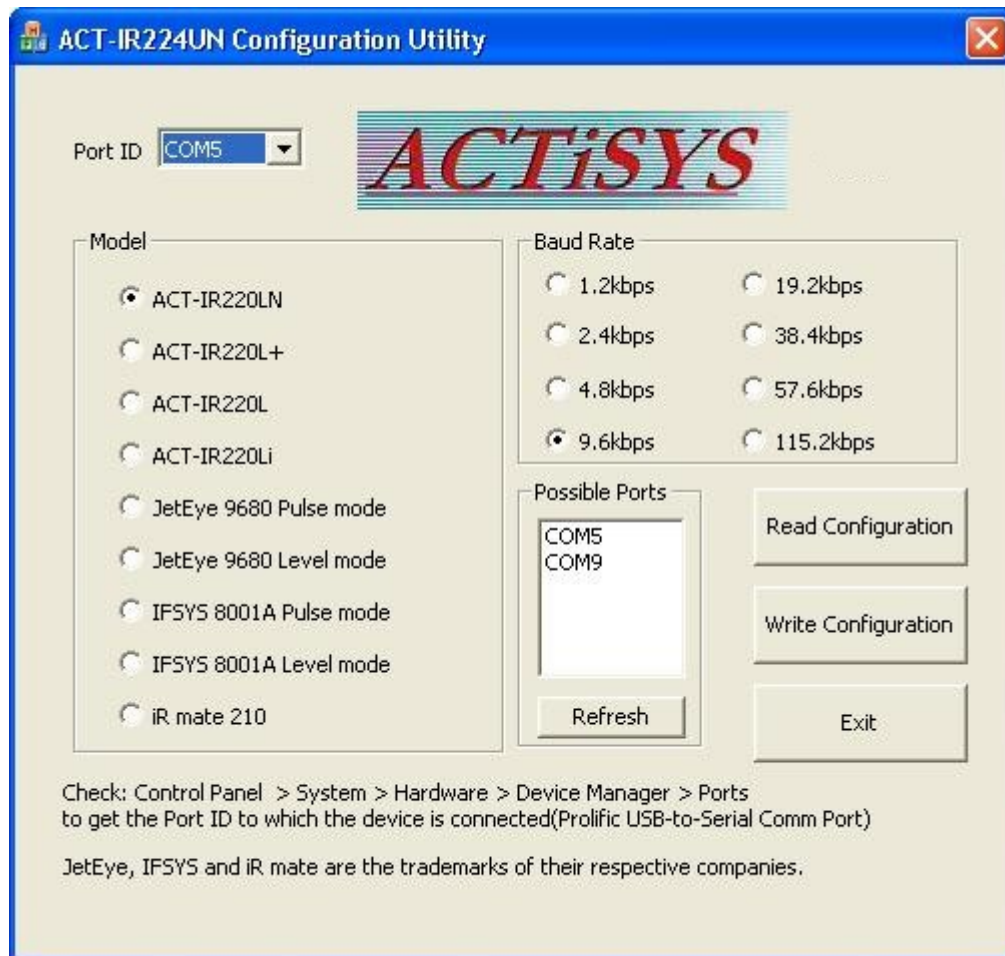
1. You can run from Windows **Start** → “**All Programs**” → “**PL-2303-USB-Serial Driver**” → “**Uninstaller**” as shown below:



2. Then it will complete the driver removal procedure and display the same window: “PL-2303 Driver UninstallCompleted!” as shown in the same screen of step 2 in the Method 1.
3. Select “**Yes**” and Click “**Finish**” to restart the Windows.

## 11. APPLICATION GUIDELINE FOR CONFIGURATION UTILITY

- 1 Run this utility from C:\Program Files\ACTiSYS\ACT-IR224UN\ACT-IR224UNConfigUtility.exe.



- 2 Select Port ID of which ACT-IR224UN dongle is connected.

### Note:

1. ACT-IR224UN Configuration Utility program will display the Port ID in which ACT-IR224UN may be connected (i.e., '**Possible Ports**' in above screen).
2. To get the Port ID, please refer to section 9.2 Device Manager Check.

### 11.1. Refresh

This will refresh the 'Possible Ports' list and also check for ACT-IR224UN device from that list. If device found, it will read the configuration detail and display in the screen,

## 11.2. Read Configuration

This will read the Current Configuration from ACT-IR224UN device.

Default setting is ACT-IR220LN, 115.2 kbps.

## 11.3. Write Configuration

You can change to different Model from original or default setting. After change, please click "Write Configuration" to write the new settings to ACT-IR224UN device.

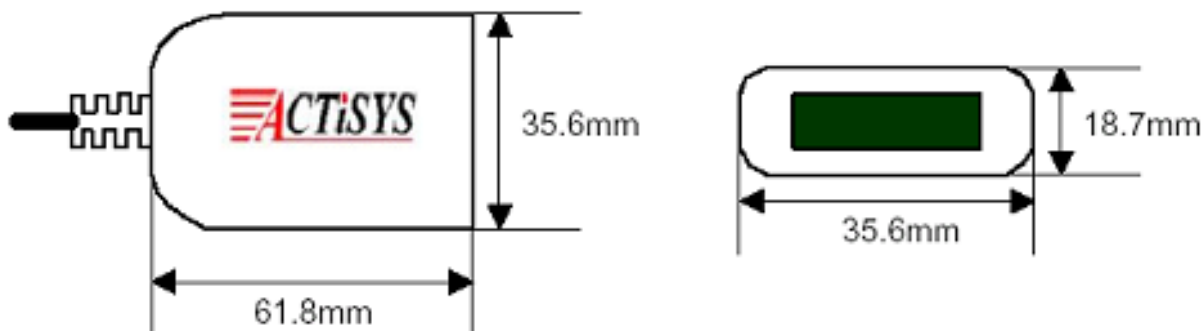
## 12. OPERATION OF ACT-IR224UN

Establish IR Connection with another PC. After confirming the detection of ACT-IR224UN as indicated above. Place any other Raw IR device (e.g., ACT-IR220 L+). Launch your Communications application like "HyperTerminal" from **Start**→ **Programs**→ **Accessories**→ **Communications** or any other application in the Windows.

## 13. LED BEHAVIOR

| Status                             | Behavior   |
|------------------------------------|--|
| Power on                           | LED on for one second                                |
| Standby and receiving              | LED off.   |
| Transmitting                       | Blinks rapidly but weak                              |
| Configuring by ACT-IR224UN utility | LED on for one second for read and write operations. |

## 14. ACT-IR224UN DIMENSIONS



**Cable Length: 120 cm.**

**USB Connector: USB Spec 2.0 or above**

## 15. CHARACTERISTIC AND SPECIFICATION

| Parameter                       | MIN. | TYPICAL | MAX. | Units |
|---------------------------------|------|---------|------|-------|
| DC supply voltage               |      | 5.0     | 5.2  | V     |
| Supply voltage, VSS             |      | 0       |      | V     |
| Operating temperature range, TA | 0    |         | 60   | °C    |
| DC current (Ready mode)         |      | 15      | 20   | mA    |
| DC current (Active mode)        |      | 60      | 100  | mA    |
| Infrared Transmitting range     | 1    | 158     | 200  | cm    |
| USB signal threshold level      | +4.8 | +5V     | +5.5 | V     |

## 16. WARRANTY INFORMATION

ACTiSYS Corporation warrants the first end-user purchaser, for a period of 1 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 INCLUDE THE WARRANTIES OF MERCHANT ABILITY AND FITNESS FOR USER ARE LIMITED TO A PERIOD OF 1 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, or 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 repair 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 to you.



## 17. CONTACT INFORMATION

**GO WIRELESS WITH ACTiSYS IR**



**ACTiSYS**  
*The Wireless Infra-red Expert*

- ◆ IrDA Protocol Software For Portable Devices
- ◆ IrDA Test Software For Hardware Systems
- ◆ IrDA Printer And Computer Adapters

115.2K, 4M and 16M bps

IR100M/1000M

IR2000L

IR220L/L+

The graphic features a central red background with the ACTiSYS logo and tagline. Below the logo is a list of services. In the center, there are three images of IrDA hardware: a computer mouse and keyboard with an IrDA adapter (IR100M/1000M), a black IrDA adapter (IR2000L), and a small IrDA adapter (IR220L/L+). Surrounding these central images are various electronic devices connected by red lines, including a printer, a PDA, a mobile phone, a digital camera, a laptop, and a desktop monitor.

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