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# *ACT-IR220Li / ACT-IR220LN*

## *IR Serial Port Adapter*

### *User's Manual*



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## FCC & VCCI 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.

This equipment is in the 2<sup>nd</sup> Class category (information equipment to be used in a residential area there to) and conforms to the standards set by the Voluntary Control Council For Interference by Data Processing Equipment and Electronic Office Machines aimed at preventing radio interference in such residential area.

When used near a radio or TV receiver, it may become the cause of radio interference. Read the instructions for correct handling.

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, which are located on the bottom of the case. Please retain this information.

Model Number:

Serial Number:

Date of Purchase:

Place of Purchase:

- **All indicated copyrights and trademarks in this document are copyrights and trademarks of their respective corporations.**

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## REVISION HISTORY

Revision History		
Revision	Date	Comment
1.0	05/15/2003	Initial released
1.1	03/28/2005	Added current description in Electrical characteristics
1.2	03/28/2006	Modified DSR description in chapter of Connector Pin Definition
1.3	02/05/2007	Extracted technical portion
1.3.1	05/15/2007	Deleted IrReady Logo & added CRoHS logo
1.3.1.1	04/22/2008	Updated Corporate Address
1.3.1.2	09/25/2008	Added general introduction in Chapter 1.Product Introduction

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.

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## 1. PRODUCT INTRODUCTION

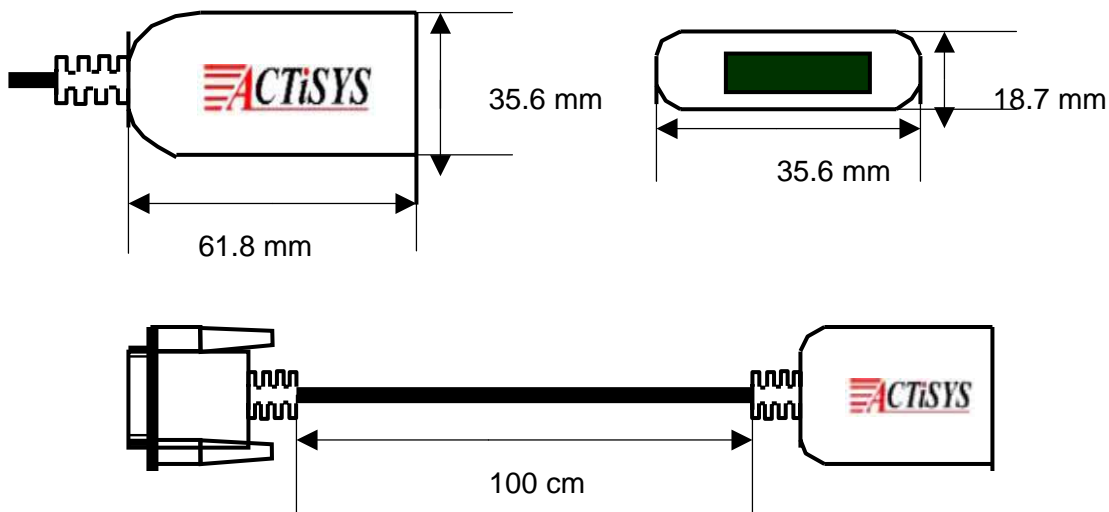
Both ACT-IR220LN and ACT-IR220Li instantly convert RS232 port to IR. Both support Windows 2000/XP/Vista. No need any driver installation. No special IrDA<sup>®</sup> protocol software required.

### 1.1. ACT-IR220LN

No SW Modification required. Single IR speed. You may use exactly the same RS232 protocol software you have now if you use it on both sides of two communicating devices. You can select one of the optional IR speeds: 9.6k, 19.2k, 38.4k, 57.6k, 115.2k bps as a factory preset speed for you.

### 1.2. ACT-IR220Li

Replace RS232 serial wires on embedded systems without using IrDA<sup>®</sup> protocol and with self-programmable speed selection in user's own application software. This is a direct replacement for ESI9680 in level mode.



## 2. CONNECTOR PIN DEFINITION

Signal Name	Pin Number	Signal Description
DCD	1	Not Connected
Rx	2	Data transmitted from IR dongle to PC
Tx	3	Data transmitted from PC to IR dongle
DTR	4	Supplies power and selects baud rate
GND	5	Signal Ground
DSR	6	Not Connected
RTS	7	Supplies power and selects baud rate
CTS	8	Not Connected
RI	9	Not Connected

### 3. BAUD RATE SELECTION

#### 3.1. ACT-IR220Li - Level Mode

ACT-IR220Li is a baud rate selectable adapter. It supports 3 baud rates: 9.6k, 19.2k & 115.2km bps.

#### 3.2. ACT-IR220LN – Preset (Hardware Jumper Setting)

ACT-IR220LN is a series product that supports 5 optional preset baud rates as below. User cannot self change the baud rate since it is preset at factory by jumper setting.

Product No.	Baud Rate
ACT-IR220LN9.6	9.6k bps
ACT-IR220LN19	19.2k bps
ACT-IR220LN38	38.4k bps
ACT-IR220LN57	57.6k bps
ACT-IR220LN115	115.2k bps

### 4. TRANSMISSION CHARACTERISTICS

Parameters	Typical	Unit
IR transmit pulse width	1.63	μS
Optical cone angle	± 15	Degree
Transmission distance	1 to 200	cm
Receiver latency	100	μS

## 5. SPECIFICATIONS

<b>Physical Layer</b>	IrDA <sup>®</sup> – 1.0 (SIR) compatible
<b>Communication Speeds</b>	Programmable (9.6 k, 19.2k, 38.4k, 57.6k, 115.2k bps)
<b>Connection</b>	Standard DB9F RS-232 Serial COM port to IrDA <sup>®</sup> communication
<b>Power Source</b>	RS-232 port power only. No external power required
<b>Power Consumption</b>	0.3 W (Peak)
<b>Dimensions (Excl. Cable)</b>	61.8 mm (L) X 35.6 mm (W) X 18.7 mm (H) (2.4" X 1.4" X 0.74")
<b>Weight</b>	77.2 g (2.85 oz)
<b>Operating Temperature</b>	0°C to 60°C (32°F to 140°F)
<b>Cable Length</b>	100 cm ± 3 cm

## 6. MATERIAL COMPOSITION

Component	Material	Part Number	UL Flame Rating	Color
Top Case	ABS: GE GPP 4500 / GE GPM 5500	03-502-006	UL94HB	Black / Beige
Bottom Case	ABS: GE GPP 4500/ GE GPM 5500	03-502-007	UL94HB	Black / Beige
Lens	GE Lexan PC (IR) 920A / 940A / 141L	03-502-008	UL USA E 121562 UL 94V-2 (0.061") UL 94V-0 (0.12")	DYE 21051
Cable	Cable Insulation: PVC	03-402-004	UL 2725 USB Cable	Black / Beige
Cable Molding Compound	PVC		UL94HB UL94V-O	Black
PC Board	FR-4	03-A03-001	UL94V-O	Green

## 7. REGULATORY SPECIFICATIONS

### 7.1 Radiated and Conducted EMC

FCC-B
VCCI-2
EN50081-1 EN55022 (1988)

### 7.2 Susceptibility Compliance

EN50081-1 (1992)	EN55024 (1998)	EN61000-4-5 (1995)
EN55022 (1998)	EN61000-4-2 (1995)	EN61000-4-6 (1996)
EN61000-3-2 (1992)	EN61000-4-3 (1995)	EN61000-4-8 (1994)
EN61000-3-3 (1995)	EN61000-4-4 (1995)	EN61000-4-11 (1994)

## 8. 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, 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 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.



## 9. 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+

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