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ACT-IR220Li / ACT-IR220LN / ACT-IR220L+

RAW IR RS232 Serial Port Adapter

User's Manual



March 31, 2014

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<<<<<<< NOTE >>>>>>>

This printed manual only applies to the users who use ACT-IR220Li/IR220LN/IR220L+ as a Raw IR dongle. For users who use ACT-IR220L+ as an IrDA® dongle, do NOT read this manual. Windows O.S. already provides native driver for it. Please download the Manual for installation procedure from ACTiSYS Website: <http://www.actisys.com/Downloads.html>.

FEDERAL COMMUNICATIONS COMMISSION

DECLARATION OF CONFORMITY

FOR THE FOLLOWING EQUIPMENT:

PRODUCT NAME: RAW IR RS232 SERIAL PORT ADAPTER

MODEL NO.: ACT-IR220Li/IR220LN/IR220L+

IS HEREWITH CONFIRMED AND FOUND TO COMPLY WITH THE REQUIREMENTS OF CFR 47 PART 15 REGULATION. THE RESULTS OF ELECTROMAGNETIC EMISSION EVALUATION ARE SHOWN IN THE REPORT NO.: *D85XXXX*, ISSUED ON *YYYY*.

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 UNDESIRE OPERATION.

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 trademarks, logos, organization & company names and product model names are the properties of the respective owners.**

TABLE OF CONTENTS

DECLARATION OF CONFORMITY	2
REVISION HISTORY.....	4
1. PRODUCT INTRODUCTION	5
1.1. ACT-IR220Li	5
1.2. ACT-IR220LN.....	5
1.3. ACT-IR220L+.....	5
2. CONNECTOR PIN DEFINITION.....	6
3. BAUD RATE SELECTION	6
3.1. ACT-IR220Li - Level Mode.....	6
3.2. ACT-IR220LN - Preset (Hardware)	6
3.3. ACT-IR220L+ - Pulse Mode.....	6
4. TRANSMISSION CHARACTERISTICS	7
5. SPECIFICATIONS.....	7
6. WARRANTY INFORMATION	8
7. CONTACT INFORMATION	9

REVISION HISTORY

Revision History		
Revision	Date	Comment
1.3.3.2	3/14/2014	Revised overall format to our standard. Revised OS support.
1.3.3.3	3/31/2014	Revised FCC Compliance Statement

1. PRODUCT INTRODUCTION

ACT-IR220Li, ACT-IR220LN and ACT-IR220L+ convert RS232 port to IR instantly. If used as RAW IR, all are O.S. independent. No need any driver installation. No any IrDA[®] protocol software is required.

1.1. ACT-IR220Li

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

1.2. 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 5 optional IR speeds: 9.6k, 19.2k, 38.4k, 57.6k, 115.2k bps as a factory preset for you.

1.3. ACT-IR220L+

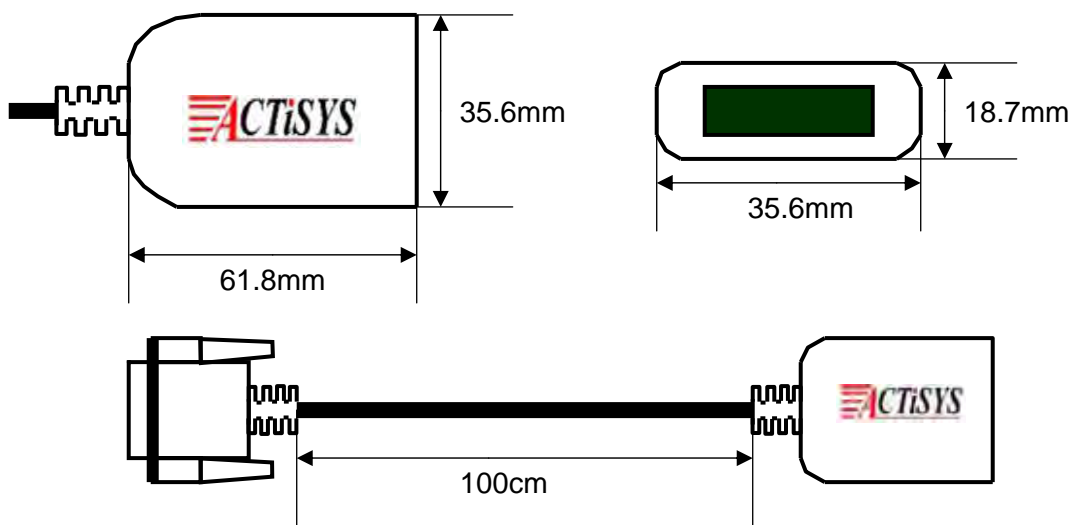
Easily connects to the RS232 serial port on any computer. No external power needed!

IR communication speeds: 9.6k, 19.2k, 38.4k, 57.6k, 115.2k bps.

ACT-IR220L+ can be used as either IrDA[®] or Raw IR.

When used as Raw IR, it is O.S. independent and no any driver required.

But if used as IrDA, it is built into Windows IrDA driver, up to Windows 7 by Microsoft[®] Corp. But driver is not built into Windows 8.



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)

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

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

3.3 ACT-IR220L+ - Pulse Mode

ACT-IR220L+ is also a baud rate selectable adapter. It supports 5 speeds: 9.6k, 19.2k, 38.4k, 57.6k & 115.2k bps.

4. TRANSMISSION CHARACTERISTICS

Parameters	Typical	Unit
IR transmit pulse width	1.63	μ S
Optical cone angle	\pm 15	Degree
Transmission distance	1 to 200	cm
Receiver latency	100	μ S

5. SPECIFICATIONS

Physical Layer	IrDA [®] – 1.0 (SIR) compatible
Communication Speeds	9.6 k, 19.2k, 115.2k bps; and 38.4k, 57.6k bps (IR220Li excluded)
Connection	Standard DB9F RS-232 Serial COM port to IR communication
Power Source	RS-232 port power only. No external power required
Power Consumption	0.065 Watt
Dimensions (Excl. Cable)	61.8 mm (L) X 35.6 mm (W) X 18.7 mm (H) (2.4" X 1.4" X 0.74")
Weight	77.2 g (2.85 oz)
Operating Temperature	0°C to 60°C (32°F to 140°F)
Cable Length	100 cm \pm 3 cm

6. 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.

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7. 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 advertisement features a central red graphic with the ACTiSYS logo and tagline. It lists three product categories: IrDA Protocol Software For Portable Devices, IrDA Test Software For Hardware Systems, and IrDA Printer And Computer Adapters. Below this, it specifies data rates of 115.2K, 4M, and 16M bps. Three product images are shown: IR100M/1000M (a laptop with a device connected), IR2000L (a device with a cable), and IR220L/L+ (a device with a cable). The graphic is surrounded by various electronic devices including a printer, a scanner, a mobile phone, a PDA, a camera, and a laptop, all connected to the central hub by red lines.

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