



921 Corporate Way, Fremont, CA 94539, USA Tel: +1-510-490-8024, Fax: +1-510-623-7268 Web: http://www.actisys.com, E-mail: irda-info@actisys.com

ACT-IR2002UL IrReadyTM FIR USB Adapter

User's Manual



June 26, 2009 Ver. 1.0.0 © Copyright 2002-2009 ACTiSYS Corporation, All Rights Reserved

Warning! Please Install Driver BEFORE you plug in the

Dongle to USB port, for MAC & all Windows OS;

EXCEPT Windows Vista, which should First Plug the dongle beforehand.

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 nor 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 help.

This equipment is in the 2nd 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 below the model number and serial, 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 the following pages are copyrights and trademarks of their respective corporations.



TABLE OF CONTENTS

	REVISION HISTORY
1	INTRODUCTION
2	PACKAGING CHECK LIST
3	SYSTEM REQUIREMENTS
4	BIOS SETUP
5	DRIVER INSTALLATION FOR WINDOWS XP/2000/ME/98SE
6	DRIVER INSTALLATION FOR WINDOWS VISTA 12
7	DRIVER INSTALLATION FOR MAC OS INTEL BASED PC 14
8	CHECK DRIVER INSTALLATION IN WINDOWS VISTA/XP/2000/ME
9	CHECK DRIVER INSTALLATION IN WINDOWS 98SE 18
10	CHECK DRIVER INSTALLATION IN MAC OS 19
11	DRIVER UN-INSTALLATION FOR WINDOWS XP/2000/ME/98SE
12	DRIVER UN-INSTALLATION FOR WINDOWS VISTA
13	DRIVER UN-INSTALLATION IN MAC OS
14	TROUBLE SHOOTING
15	SPECIFICATION
16	PRECAUTIONS
17	WARRANTY INFORMATION
18	CONTACT INFORMATION



REVISION HISTORY

	Revision History				
Revision	Date	Comment			
1.0	6/26/2009	Initial released			

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.

All trademarks, logos, organizations or company names and product model names are the properties of the respective organizations or companies.



1 INTRODUCTION

ACT-IR2002UL is an advanced wireless Fast Infrared USB adapter designed to replace the serial port or FIR controller based FIR/SIR wireless peripheral through the PC USB (Universal Serial Bus) port. Taking advantage of the true plug-and-play nature and high bandwidth of USB, ACT-IR2002UL offers the easiest conversion of existing wireless to the legacy-free PC platform with the following features:

- Supports Win 98SE/ME/XP (32 & 64 bit)/ Vista (32 & 64 bit), Win CE 4.2 & 5.0 (USB host), Mac 10.x (both Intel & Power PC based) and Linux.
- WHQL certified.
- Fully compliant to USB specification 1.1 and IrDA specification 1.4
- Full-speed (12 Mbps) USB device operation
- Supports FIR (4Mbps), MIR (1.152 Mbps) and all SIR speeds (9.6, 19.2, 38.4, 57.6 and 115.2 kbps).
- Bus-powered device. Obtain power from USB port. No external power supply required.
- Low power consumption in standby mode (Standby current 20 mA).
- Not occupy PC's COM or Parallel port and has no complicated hardware port and resource setting and conflict, such as IO address / IRQ / DMA numbers.
- Package size: 2.4"L x 1.4"W x 0.74"H; Weight: 50.3 g (1.8 oz).

2 PACKAGING CHECK LIST

The package includes

- 1. ACT-IR2002UL USB Dongle
- 2. ACT-USB Adapter Driver and CD for User's manual.

3 SYSTEM REQUIREMENTS

- Windows 98SE/ME/2000/XP/Vista., Win CE 4.2 & 5.0 (USB host), Mac 10.x (both Intel & Power PC based) and Linux
- 2. One unoccupied USB port.

4 BIOS SETUP

Before you use this device, You MUST enable your computer USB port in BIOS Settings.



5 DRIVER INSTALLATION FOR WINDOWS XP/2000/ME/98SE

Followings are the instructions to properly install ACT-IR2002UL under Windows XP, Windows 2000, Windows ME, or Windows 98SE.

Warning! Please install driver BEFORE you plug in ACT-IR2002UL to PC USB port.

- Insert the installation CD, Windows will auto run
 "setup.exe" file and ask you to choose setup language. Please select one to continue.
- It will then pop up a Welcome window. Click
 "Next>" to continue.

Choose S	etup Language	×
R	Select the language for this installation from the choices below.	
	English (United States)	
	OK Cancel	



3. The Installer will install ACT-IR2002UL in the Destination Folder. To install to a different folder, click "<u>C</u>hange...".
Otherwise click "<u>N</u>ext>" to continue.

ACTISYS

	ion Folder			
Click Ne	xt to install to this folder, or o	click Change to inst	all to a different folde	
	Install USB-Ir Adapter to:			
	C:\Program Files\MosUred\			⊆hange
				-
istallShield				

 It will then display the "Current Settings" as right figure. Click "<u>Install</u>" to continue.

USB-Ir Adapter - InstallShield Wizard	x
Ready to Install the Program The wizard is ready to begin installation.	
If you want to review or change any of your installation settin exit the wizard.	igs, click Back. Click Cancel to
Current Settings:	
Setup Type:	
Typical	
Destination Folder:	
C:\Program Files\MosUred\	
User Information:	
Name: xyz	
stallShield	
< <u>B</u> ack	Install Cancel



5. If your OS is Windows XP, this setup.exe file will pop up the right figure to alert. Just click "<u>C</u>ontinue Anyway" to go on. But you will not see this alert window if you run under Windows 98SE/ME/2000.

ACTiSYS

Software Installation



6. The InstallShield Wizard will then show"Completed". Click"Finish" to exit the Wizard.

🔀 USB-Ir Adapter - InstallSh	ield Wizard	×
	InstallShield Wizard Completed	
4	The InstallShield Wizard has successfully installed USB-Ir Adapter, Click Finish to exit the wizard.	
	< Back. Finish Cancel	1



7. Now plug the dongle ACT-IR2002UL. A
"Found New Hardware Wizard" will pop up as right figure. Choose "No, not this time" and click
"<u>N</u>ext>" to continue.

Found New Hardware Wizard	ana za bi beta teta desta
	Welcome to the Found New Hardware Wizard
	Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). <u>Read our privacy policy</u>
	Can Windows connect to Windows Update to search for software?
	\odot Yes, this time only
	 C Yes, now and <u>e</u>very time I connect a device ⊙ No, not this time
	Click Next to continue.
	<back next=""> Cancel</back>

8.

und New Hardware Wiz	ard
	This wizard helps you install software for:
	USB-Infrared Adapter
	If your hardware came with an installation CD or floppy disk, insert it no w .
	What do you want the wizard to do?
	Install the software automatically (Recommended)
	C Install from a list or specific location (Advanced)
	Click Next to continue.
	< <u>B</u> ack <u>N</u> ext> Cancel



9. It will then search the USB-Infrared Adapter.

nd New Hardware Wizard Please wait while the wizard se	arches
USB-Infrared Adapter	
	<u>S</u>
	Cancel

10. If your OS is Windows XP, this will pop up the right window to alert. Just click "<u>C</u>ontinue Anyway" to go on. But you will not see this alert window if you run under Windows 98SE/ME/2000.

1	The software you are installing for this hardware:
<u> </u>	USB-Infrared Adapter
	has not passed Windows Logo testing to verify its compatibility with Windows XP. (<u>Tell me why this testing is important.</u>)
	Continuing your installation of this software may impai or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.



11.

12.

Found New Hardware Wizard It will then install Please wait while the wizard installs the software... the driver as right window. USB-Infrared Adapter 1000 MosIrUsb.sys To C:\WINDOWS\system32\DRIVERS Next > Found New Hardware Wizard This completes Completing the Found New the driver installation. Hardware Wizard Click "Finish" to close The wizard has finished installing the software for: the window. USB-Infrared Adapter 10 Click Finish to close the wizard. Finish < <u>B</u>ack Cancel



6 DRIVER INSTALLATION FOR WINDOWS VISTA

IMPORTANT: Please Plug in ACT-IR2002UL to USB port First for Vista Driver installation!

This is totally different procedure from that for Windows XP and Windows 2000.

- The OS comes up with a "Found New Hardware Wizard" which guides you through the installation procedure. Click on the option "Locate and install driver software" as shown right.
- Select the option "Browse my computer for driver software" as shown in the right screen shot.







 Browse for driver software on your computer using the option "Browse" and click on "Next" to proceed further.

G	Update Driver Software - USB-Infrared Adapter #2
	Browse for driver software on your computer
	Search for driver software in this location: MCS7780_Vista_32bit\MCS7780_Vista_32bit\MCS7780_Vista\Vista32 Browse
	✓ Include subfolders
	Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver software in the same category as the device.
	Next
-	

4. Click on "**Close**" to finish the driver installation.

0	Update Driver Software · USB-Infrared Adapter	
	Windows has successfully updated your driver software Windows has finished installing the driver software for this device: USB-Infrared Adapter	
		lose



7 DRIVER INSTALLATION FOR MAC OS INTEL BASED PC

IMPORTANT: Please install driver **BEFORE** you plug in ACT-IR2002UL to PC USB port.

- Insert the installation CD, Double click the package file MCS7780DriverDisk.p kg for installing the driver or go to Applications and double click the installer and browse for the MCS7780DriverDisk.p kg
- An installer wizard will popup. Click Continue to start the installation.

4 - 18 =	□ 禄→			Q	
Network MAC 10.4.9 mac 10.5.5 Untitled 2 Untitled 3 Untitled 4 MAC 10.5.3 re MAC 10.5 Untitled 5 Desktop root Applications	MCS7830stallUtility Picture 1.png Picture 2.png Picture 3.png Picture 5.png Release1.0.0.2 Release1.0.0.3 Release1.0.0.6 Release1.0.0.7 ZTerm1.1b7.OSX.dmg	4 4 4 4	MCS7780DriverDsk MCS7780DriverDsk.zip Release Notes.txt	 MCS7780DriverDsk SerialApplication 	в





 Select the Destination volume for the software to install. Click "Continue" to start the installation.



4. Click "install" to proceed further.

5. A message window pops up informing that the system requires you to restart the system after the installation. Press "Continue Installation"



6.

Click on "Restart" to	e e e e linstall MCS7780Driver
finish installing the driver.	 Introduction Select Destination Installation Type Install Finish Up Click Restart to finish installing the software.
	Go Back (Restart

This completes the Installation of the driver.



8 CHECK DRIVER INSTALLATION IN WINDOWS VISTA/XP/2000/ME

From *Device Manager*, you can see "USB-Infrared Adapter" under "Infrared devices. This confirms correct detection of ACT-IR2002UL.

🖳 Device Manager	
Eile Action View Help	
SURESH Acute PC-Based Instrument Computer Disk drives Display adapters DVD/CD-ROM drives DVD/CD-ROM drives D	
Infrared devices USB-Infrared Adapter Event Keyboards Event Mice and other pointing devices	

Device Manager under Windows 2000



Device Manager under Windows Vista



9 CHECK DRIVER INSTALLATION IN WINDOWS 98SE

From *Device Manager*, you can see **"Infrared Communication Device"** under "**Infrared devices**". This confirms correct detection of ACT-IR2002UL.

System Properties	?×
General Device Manager Hard	ware Profiles Performance
View devices by type	View devices by <u>c</u> onnection
🕀 🚭 Hard disk controllers	<u> </u>
E 🔊 Infrared devices	
Infrared Communica	ation Device
E Stevboard	
⊡	
Network adapters	
Dial-Up Adapter	
SiS 900 PCI Fast El	thernet Adapter
USB-Infrared Adapt	er
🖅 👻 Other devices	
Ports (COM & LPT)	
Communications Po	
ECP Printer Port (LF	
Virtual Infrared LPT	
AR C	-
Properties Refresh	Remove Print
	OK Cancel

Device Manager under Windows 98SE



10 CHECK DRIVER INSTALLATION IN MAC OS

The driver installation can be confirmed by typing "kextstat" in the terminal window.

On successful installation, "com.mosChip.driver.moschipIrDA" can be seen in the loaded driver.



11 DRIVER UN-INSTALLATION FOR WINDOWS XP/2000/ME/98SE

Following are the instructions to properly uninstall ACT-IR2002UL under Windows XP, Windows 2000, Windows ME, and Windows 98SE.

Important: Please keep ACT-IR2002UL plugging into the computer until prompted to remove it.

 Open the Control Panel and select Add or Remove Programs.



 Select "USB Ir Adapter" from the list. Click Remove button to begin the uninstallation process.

Currently installed programs:	☐ Show up <u>d</u> ates	Sort by: Name	
Skype™ 3.8		Size	27.62MB
SoundMAX		Size	16.41MB
🔀 USB 2.0 IrDA Bridge		Size	0.12MB
📳 USB-Ir Adapter		Size	<u>1.66MB</u>
Click here for support information.		Used	rarely
To change this program or remove it from your computer, c	lick Change or Remove.	Change	Remove
📳 VIA Platform Device Manager			
	Skype™ 3.8 SoundMAX I ^{III} USB 2.0 IrDA Bridge I ^{III} USB - Ir Adapter <u>Click here for support information.</u> To change this program or remove it from your computer, o	Skype™ 3.8 SoundMAX USB 2.0 IrDA Bridge Click here for support information. To change this program or remove it from your computer, click Change or Remove.	Skype™ 3.8 Size SoundMAX Size USB 2.0 IrDA Bridge Size USB 1.0 IrDA Bridge Size USB 1.0 IrDA Bridge Size Click here for support information. Used To change this program or remove it from your computer, click Change or Remove. Change

 To continue, click the Yes button to uninstall ACT-IR2002UL Adapter.





 To complete the removal process, click the Finish button. Unplug ACT-IR2002UL from your USB jack.

🔂 USB-Ir Adapter - InstallSh	ield Wizard	×
	InstallShield Wizard Completed	
	The InstallShield Wizard has successfully uninstalled USB-Ir Adapter. Click Finish to exit the wizard.	
4		
	< Back Finish Cancel	



12 DRIVER UN-INSTALLATION FOR WINDOWS VISTA

 From Device Manager, select "USB-Infrared Adapter" under "Infrared devices.

 Right click the mouse to show the quick Menu. Select "Uninstall".

 Click "OK" to "Confirm Device Uninstall".





 You will see the un-installation under process. This will complete the un-installation afterward.

Confirm	Device Uninstall
	USB-Infrared Adapter #2
Uninstal	ling devices
	OK Cancel



13 DRIVER UN-INSTALLATION IN MAC OS

- 1. To un-install the driver, "moschiplrDA.kext", "MCS7780DriverDsk" files must be deleted from the following location.
- Finder Current Partition System Library ---> Extensions moschipIrDA.kext (Delete the file / Move to Trash) Finder Current Partition Library ---> Receipts MCS7780DriverDsk.pkg (Delete the file / Move to Trash)





00	📁 Receipt	ts
▲ ▶ :::: ≡		Q
Network MAC 10.4.9 mac 10.5.5 Untitled 2 Untitled 3 Untitled 4 MAC 10.5.3 Tre MAC 10.5.3 re MAC 10.5 Untitled 5 Desktop root Applications	 Internet Plug-Ins Java Keyboard Layouts Keychains LaunchAgents LaunchDaemons Logs Mail Modem Scripts PDF Services Perl Preferences Printers Python QuickTime Receipts Screen Savers Scripts Spotlight StartupItems User Pictures 	 Iweb_Temp_fr.pkg iWeb_Temp_ja.pkg iWeb_Temp_other.pkg iWeb_Temp_other.pkg iWork Trial.pkg Java.pkg Java.pkg Java14Tools.pkg Korean.pkg LexmarkPrfivers.pkg MacOSX10.3.9.pkg MacOSX10iversal.pkg MacOSX10iversal.pkg MacOSX10iversal.pkg Mail.pkg Size 92 KB on disk Created Yesterday at 5:52 AM Modified Yesterday at 5:52 AM Modified Yesterday at 5:52 AM Modified Yesterday at 5:52 AM More info PClelSA-Serial.pkg PCleParallnstall.pkg

3. Reboot the system to complete the un-installation procedure.

14 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	1. The two IR devices are	1.	Properly align them
(General)	not aligned properly.		again
	2. Distance is too near or	2.	Move one device to a
	far.		proper distance.
	3. Device is inactivated	3.	Enable the device by IR
	4. BIOS setting incorrect		monitor.
	5. Installation is not correct.	4.	Correct the BIOS
			Setting.
		5.	Refer to un-installation
			guide to remove the
			device, then install
			again.
File Transfer between	The infrared	Ch	eck to find out the
IR-equipped PDA and	communication is	so	urce of interference and
ACT-IR device-attached	interfered. For example,	eli	minate it before trying
host computer stops before	something blocks out the	ag	ain.
finishing up and an error	infrared beam or the burst		
message appears.	of string light source, etc.		
The device work well	Improper unplug and plug	Be	fore you unplug it, you
before. But after I unplug it	procedure	sh	ould disable the device.
then plug, it does not work		An	d enable the device after
again.		yo	u plug it into your
		со	mputer



15 SPECIFICATION

- Product Name: ACT-IR2002UL FIR-USB Adapter
- Compatibility: Fully compliant to USB specification 1.1 and IrDA specification 1.4
- Communication speed and Distance:

SIR (9.6, 19.2, 38.4, 57.6, 115.2 kbps): 1-158 cm;

MIR 1.152 Mbps : 1-158 cm

FIR (4 Mbps): 1-100 cm;

- Connection: Standard USB connector with 4-ft USB cable
- Power Source:

Obtain power from USB port. No external power supply required.

• Power Consumption:

Active current - sending= 55 mA; Active current – receiving = 24 mA; Standby current: = 20 mA

- Dimension: 61mm(L) X 35mm(W) X 18mm(H), 2.4"(L) X 1.4"(W) X 0.7"(H)
- Weight:
 - 1.8 oz (50.3 g)
- **Operating Temperature:** 0° C TO 60° C
- Storage Temperature: -20° C TO 85° C



16 PRECAUTIONS

To ensure trouble-free operation, please observe the following precautions: Optical communications are easily affected by external light sources, weak batteries, transfer distance, transfer angle, etc. Any of these conditions may cause a data transfer failure, incomplete, missing or incorrect data. Make sure that the wireless interface is away from direct sunlight and other strong light source.

- Do not terminate arbitrarily during file transfer process between DUT and computers until finished. Otherwise DUT internal data integrity may be damaged, which is due to the violation of DUT's.
- Do not expose the unit to moisture, as this will damage the internal circuitry.
- Do not expose the unit to extreme temperatures. It should not be placed in direct sunlight or in a closed vehicle, neither should it be placed near heaters nor other heat sources.
- Do not store the unit in a humid or dusty place.
- Use a soft, dry cloth to clean the unit. Do not use a wet cloth or any solvent.
- Do not drop the unit or handle the unit carelessly.

CAUTION:

- Never touch the pins of computer connection terminal. An Electro Static Discharge can damage the internal circuits. If this device requires any servicing, use only an ACTiSYS service dealer, an ACTiSYS approved service facility, or an ACTiSYS repair service.
- When exchanging data with host computer, be sure the appropriate serial communication port is available and is not in conflict with other peripheral device or software.

17 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.

FOR YOU RECORDS

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

Model Number: Serial Number:	Date of Purchase:
------------------------------	-------------------





18 CONTACT INFORMATION





ACTiSYS Corporation 921 Corporate Way, Fremont, CA 94539, USA TEL:+1-510-490-8024, FAX:+1-510-623-7268 E-Mail: <u>irda-info@actisys.com</u> Web: http://www.actisys.com