User's Manual

MS-SWCVT-0,
RS485 Serial to Wireless CVT

Microlink Communications Inc.

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1. Introduction

Thank you for purchasing your MS-SWCVT-0. This Installation Guide will assist you with the installation procedure.

The package you have received should contain the following items:
• MS-SWCVT-0; RS485 Serial to Wireless CVT.
• Installation Guide
• CD containing Wireless LAN Management utility, drivers and Multi-lingual User's Guide
   Note: if anything is missing, please contact your vendor

   The CD contains drivers and Configuration Utility program that is used for managing the MS-SWCVT-0 and establishing the wireless connection with your Local Area Network.

   Note: This manual is valid for all RS485 Serial to Wireless CVT products, such as PC Card, USB, mini-USB, PCI adapter, mini-PCI…etc.

2. Wireless LAN Basics

Wireless LAN (Local Area Networks) systems offer a great number of advantages over a traditional, wired system. Wireless LANs (WLANs) are more flexible, easier to setup and manage and often more cost effective than their wired equivalence.

Using radio frequency (RF) technology, WLANs transmit and receive data over the air, minimizing the need for wired connections. Thus, WLANs combine data connectivity with user mobility, and, through simplified configuration, enable movable LANs.

With wireless LANs, users can access shared information without looking for a place to plug in and network managers can set up or augment networks without installing or moving wires. Wireless LANs offer the following productivity, convenience and cost advantages over traditional wired networks:

• Mobility - Wireless LAN systems can provide LAN users with access to real-time information any where in their organization. This mobility supports productivity and service opportunities not possible with wired networks.

• Installation Speed and Simplicity - Installing a wireless LAN system can be fast and easy and can eliminate the need to pull cable through walls and ceilings.

• Installation Flexibility - Wireless technology allows the network to go where wires cannot go.

• Reduced Cost-of-Ownership - While the initial investment required for wireless LAN hardware might be higher than the cost of wired LAN hardware, overall installation expenses and life-cycle costs will be significantly lower. Long-term cost benefits are greatest in dynamic environments requiring frequent moves, adds, and changes.

• Scalability - Wireless LAN systems can be configured in a variety of topologies to meet the needs of specific applications and installations. Configurations are easily changed and range from peer-to-peer to full infrastructure networks, also allow roaming over a broad area.

3. Installation for Windows platform

The following section will assist you in installing MS-SWCVT-0.successfully. You will first install software (Utility) and then insert / attach the MS-SWCVT-0; to your system, and finally set the network properties to accommodate resource sharing and select the type of wireless network that you wish to install. The Wireless LAN card can easily be installed and used, without bothering to connect cables for keeping your computer to use network resources.

3.1 Installation Overview

Here are some steps you will perform in establishing your wireless network connection:

- Install the Access Point at first. AP is needed in case of Infrastructure network mode.
- Install the software using the Install CD.
- Install the Wireless LAN Card (MS-SWCVT-0).
- Install the network protocol(s) required to communicate on your network. Most likely you will need the TCP/IP protocol.

3.2 Install Procedure for Windows XP

1. Insert the given Installation CD in the CD-ROM and then click on the Install Config Utilities. Follow the instruction to finish the installation.

2. Insert your WLAN card into PCMCIA/PCI slot or USB connector of your system, and then system will detect new hardware.

Select "Install the software automatically (Recommended) ", and then click Next to continue.

Note: Do not insert the MS-SWCVT-0 until you are asked to do so, failure of which may result in unsuccessful installation of your WLAN device.

Once your system detected the driver, Microsoft will show a warning message as below.

Click " Continue Anyway " for next step.

After copy the file to your system, then the setup is finish.

3.3 Install Procedure for Windows 98/ME/2000

Note: Do not insert the WLAN Adapter until you are asked to do so, failure of which may result in unsuccessful installation of your WLAN device.
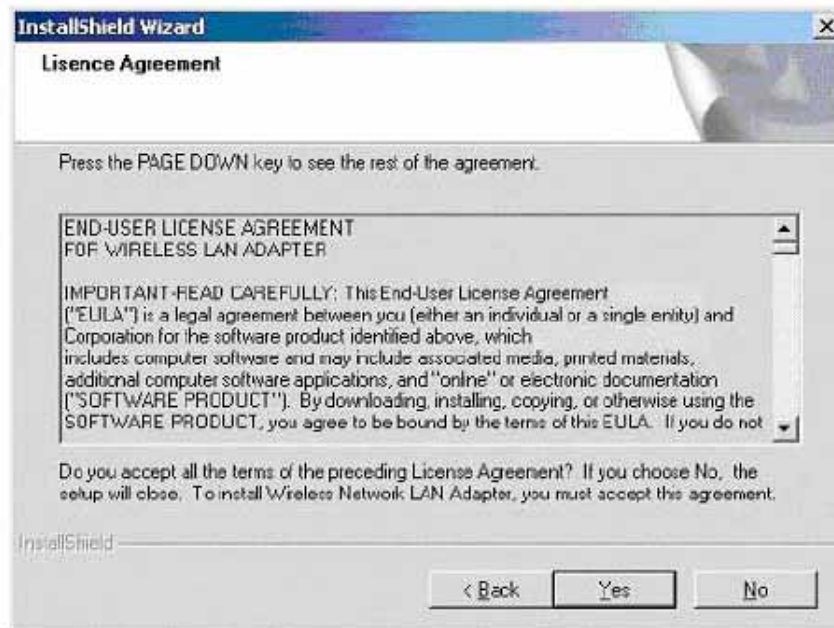
Please follow the following steps one by one in order to install the MS-SWCVT-0 successfully.

1. Power on your computer and allow Windows 98/ME/2000 to load fully.

2. Be sure that the MS-SWCVT-0is not inserted yet.

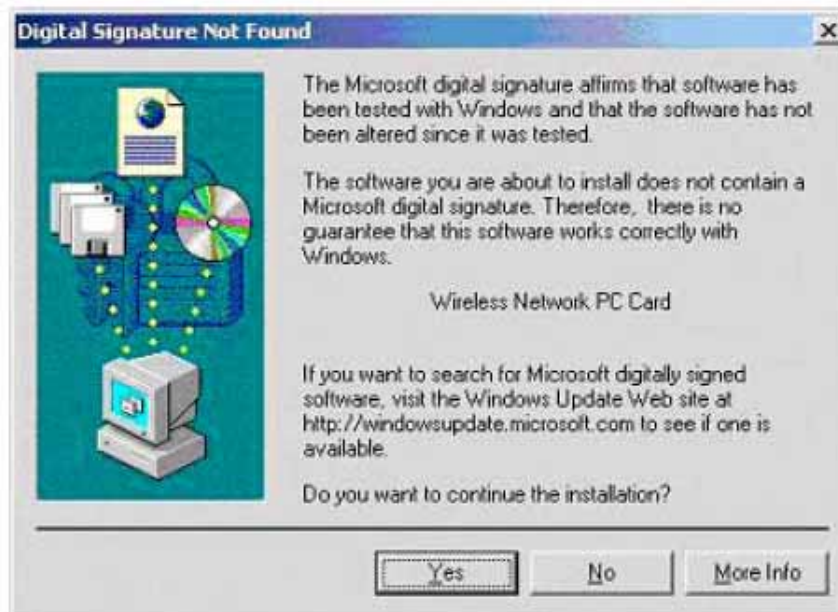**3. Insert the given Installation CD in the CD-ROM and then click on the Install Config Utilities.**

At the " Welcome" window, click **Next.**
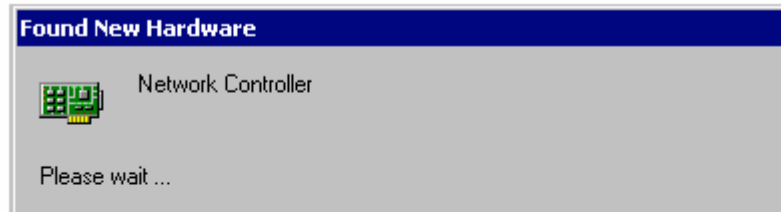
1. **Accept the license agreement.**

Accept the license agreement. Click **Yes** to accept.

Click **Yes** to finish the setup.

2. Insert / attach MS-SWCVT-0 to your system Windows will recognize MS-SWCVT-0 and auto detect the driver, if the system did not find the driver automatically, please install the driver manually.

**Found New Hardware**

Network Controller

Please wait ...

Click **Yes** to finish the installation.

6. Click the right button of mouse on **My Computer** → **Properties** → **Hardware**→**Device Manager**. Check whether it has WLAN adapter in one of the sockets or not. If you find **Wireless Network PC Card** in one of the sockets, it means the card is detected properly.
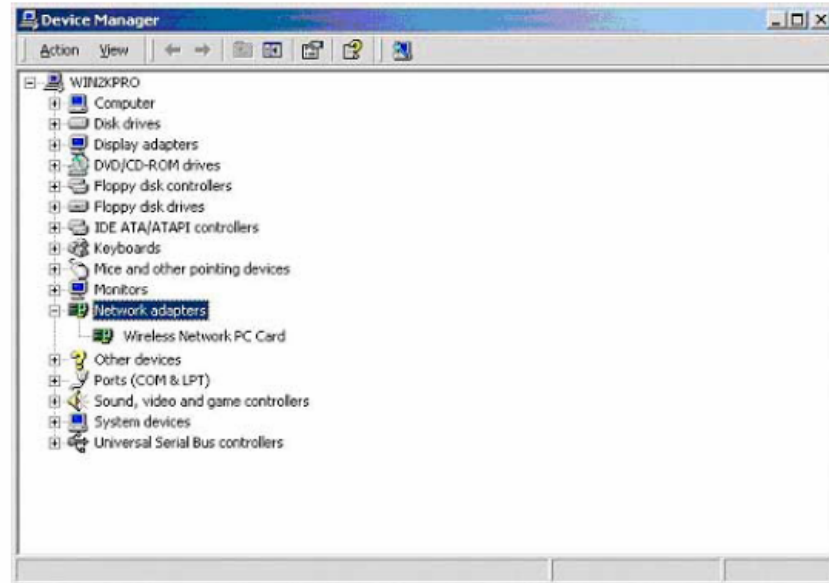
7. Click right button of mouse on the **Network Neighborhood**.

8. Select **Properties** from the pop up menu. For Windows 98 the network's properties box appears.
    " For Windows ME and 2000, please select the Local Area Connection's properties to check the following menu.
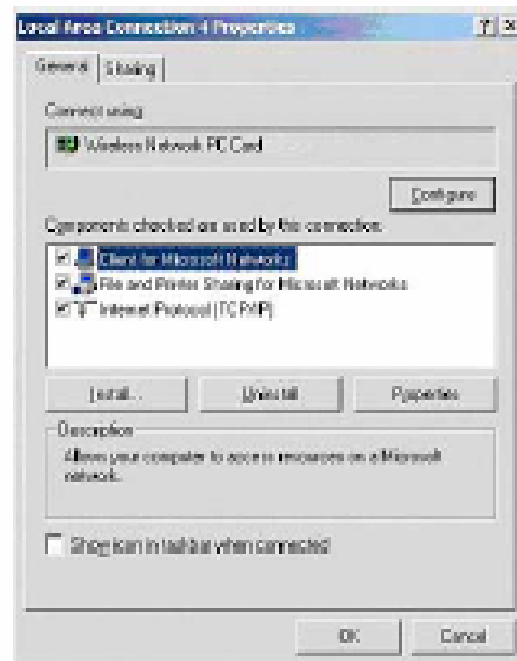
9. Click on the **General** tab and then click on the **Install** button. Select Network Component Type box appears. Click on the **Protocol** then click the Add button.

10. Select Network Protocols box appears. From the list of network protocols list, select **NetBEUI**, then click **OK**.
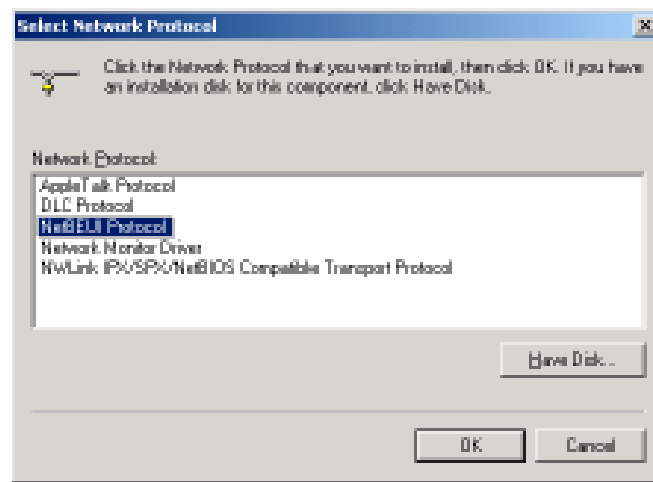
11. The **NetBEUI** protocol is now installed. After clicking on OK return back to Network Component Type box.
12. Repeat the step 9 and 10 to add IPX/SPX protocol.

13. Click on the TCP/IP option for setting the IP address for your computer. You can select either Obtain an IP address automatically or Use the following IP address setting. If your choice is the second one then enter the IP value, Subnet masking, DNS, Domain/ Workgroup name, and Gateway Address values. After setting these parameters appropriately, click OK to return to Network Component Type and you can select the File and Printer Sharing options as well for sharing your computers resources. Click on OK.
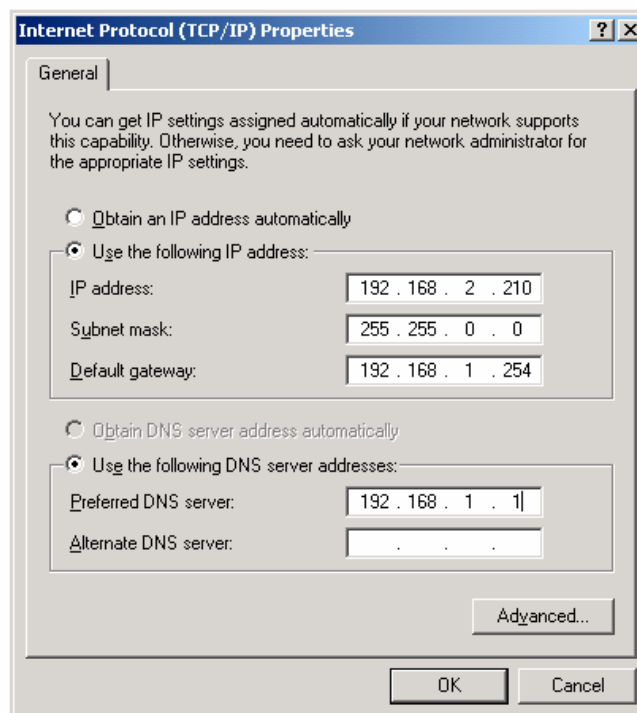
14. Screen message **do want to restart your Computer** will pop up. Select **Yes**. It will shut down your computer and restart.

Important: In order to make sure that the changed values could take effect, please Restart your computer before continue.

4. Configuration Utility
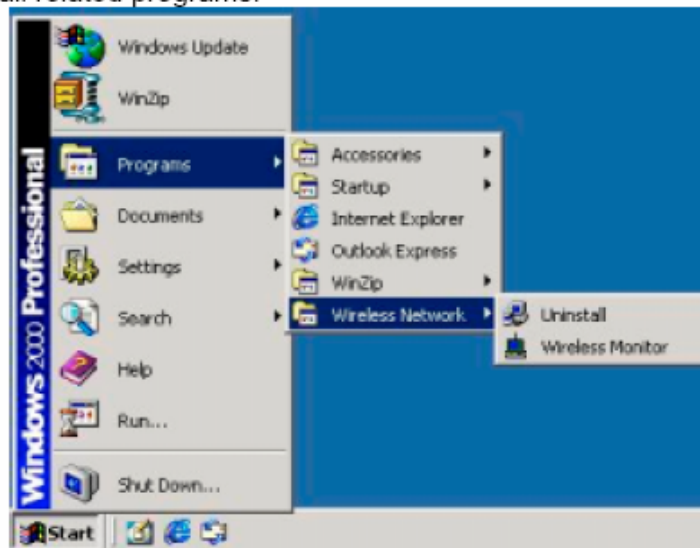
Uninstall Procedure

Step 1:

If you want to uninstall the WLAN adapter, just simply click

Start Menu → Program → Wireless Network → Uninstall,

it shall uninstall all related programs.

Step 2:

Restart your Computer.

4. 1 Link Information

This field is used to display the current status of connection. When the state shows "Connected to Network" means normal flow of operation in Infrastructure mode. The PC is connected to access point. Networking is available.

A state of "Scanning" means that the node is searching for available access point and detecting the SSID for an available access point within range.

This field will also display an error message for some reason if the driver fails to initialize.

Network Type

Infrastructure Mode - The driver will scan all available channels continuously until it finds one or more Access Points that match its SSID. At that point it will try and authenticate and associate with the Access Point.

Peer to Peer Mode - The driver will scan for 5 seconds looking for an existing Ad Hoc network using the same SSID.

- **Current Channel and Transmit Rate**

Shows the channel of the radio and transmit rate being currently used for an active connection. This value has no meaning when the radio is "Scanning"

- **Link Quality**

The Link Quality bar graph is only active when the node is in Infrastructure Mode. The bar graph displays the quality of the link between the node and Access Point.

- **Signal Strength**

The Signal Strength bar graph is only active when the node is in Infrastructure Mode. The bar graph displays normalized signal strength as reported by the radio, averaged over all frames over 100 bytes long that are received from the Access Point.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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 of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- 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.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

Statement Needed to be Shown on End Product

Since this module is installed inside the end product, the end product should be affixed a label on visible area showing that this product contain a RF module, and also its FCC ID.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the users manual of the end product which integrate this module.

This device is intended only for OEM integrators under the following conditions:

1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and
2) The transmitter module may not be co-located with any other transmitter or antenna.

As long as the 2 conditions above are met, further transmitter testing will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and Obtaining a separate FCC authorization.

Antenna Connected Construction

ANTENNA (1) : PIFA antenna, 0dBi, J.T. Spring Industrial Inc, C5191

ANTENNA (2) : Dipole antenna, 2dBi, Input Output Precise Corp., W119-141-D200

ANTENNA (3) : Omni-directional antenna, 5dBi, CUSHCRAFT, S2403BPX

ANTENNA (4) : Patch antenna, 6dBi, CUSHCRAFT, S2406P

ANTENNA (5) : Patch antenna, 6dBi, D-Link, DWL-R60AT

ANTENNA (6) : Patch antenna, 7.5dBi, CUSHCRAFT, S2407

The maximum Gain of this antenna is only 7.5dBi.

End Product Labeling

This transmitter module is authorized only for use in devices where the antenna may be installed such that 20 cm may be maintained between the antenna and users (for example access points, routers, wireless ASDL modems, Notebook and similar equipment). The final end product must be labeled in a visible area with the following: " Contains TX FCC ID: QVZ58905933 ".

Manual Information That Must be Included

The users manual for end users must include the following information in a prominent location "IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with

any other antenna or transmitter."

Microlink Communications Inc. declare that MS-SWCVT-0,RS485 Serial to Wireless CVT(FCC ID: QVZ58905933) is limited in CH1~CH11,by specified firmware controlled in U.S.A.