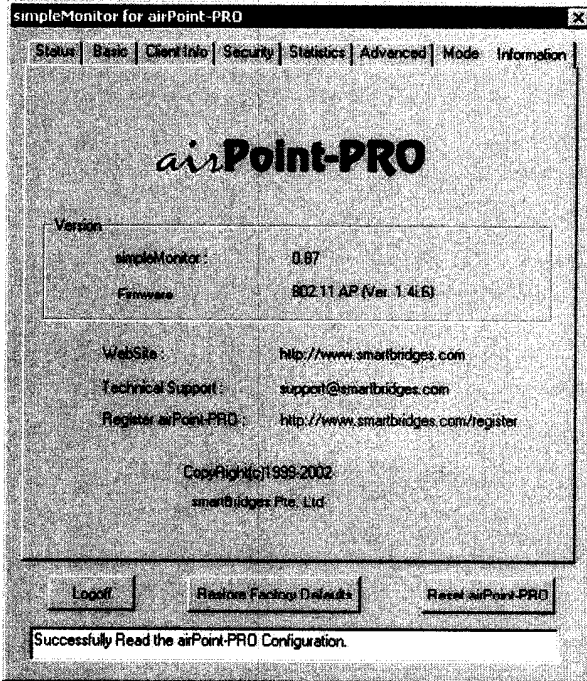Press the?Set Mode?button in order to Set the airPoint-PRO in the desired Mode.

simpleMonitor Information

The information about the simpleMonitor and Firmware are shown here. smartBridges website can be accessed from here, and you will be able to write to us at **support@smartbridges.com** for any issues you face.
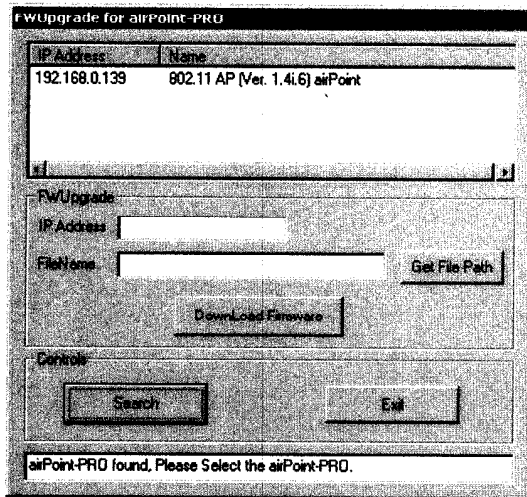
The FWUpgrade

airPoint-PRO Firmware upgrade can be done through the Ethernet port by using the FWUpgrade utility. Start the FWUpgrade from the shortcut provided on the Program Menu as smartbridges/airPoint-PRO/FWUpgrade.

FWUpgrade window will open.
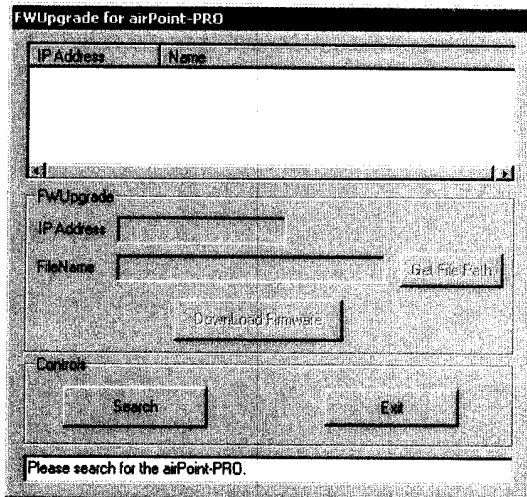
Search for the airPoint-PRO by clicking on Search button, if it finds the airPoint-PRO then it shows

if it doesn☐ find the airPoint-PRO then check the ethernet and Power connections to airPoint-PRO.

Browse for the appropriate file (e.g.bridge. rom) by pressing the ⬜et File Path?button. Finally press the
ownload Firmware?button to download the firmware.

The Firmware download will be completed successfully if a message in the right bottom corner appears
indicating ⬜irmware Download has been completed? If you receive the message ⬜imed Out? during the
download procedure, you need to check if the airPoint-PRO is powered on and if it has a valid IP address. In
order to check the validity of the airPoint-PRO you must ping airPoint-PRO. If you receive the message ⬜lash
Programming in progress?during firmware download process you should not power off the airPoint-PRO.

Note : If the download procedure has not been completed successfully you must try again, but before starting
the download you need to confirm that you using the correct firmware file.

Uninstall Setup Software

In order to uninstall the Setup Software choose Start -> Programs ->smartBridge -> airPoint-PRO -> Uninstall.

Understanding Wireless Networking

With the recent adoption of new standards for high-rate wireless LANs, mobile users can realize levels of performance, throughput, and availability comparable to those of traditional wired Ethernet. As a result, WLANs are on the verge of becoming a mainstream connectivity solution for a broad range of business customers. The next sections will explain the wireless networking for
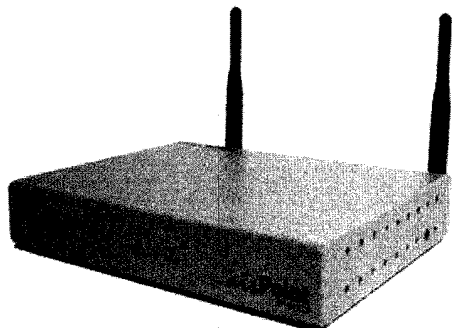
- airPoint-PRO
- Wireless LAN is general
- Wireless Bridges

Getting familiar with the airPoint-PRO Wireless Access Point for the Enterprise

airPoint-PRO conforms to the IEEE standard 802.11b and operates in the 2.4 GHz ISM band. It has data rate of up to 11Mbps, which makes it one of the fastest Wireless Access Point in the market today. airPoint-PRO operate in Infrastructure mode providing the wireless network connection to any Wi-Fi compliant Wireless Client Adapter.

airPoint-PRO is capable of 64-bit and 128-bit WEP (Wired Equivalent Privacy) Encryption to provide secure network connection. It allows secure sharing of data, DVD/CD-ROM drives, Zip drives, printers and high-speed Internet access over the Wireless Network. The powerful built-in antenna ensures strong and consistent signals over a long range.

airPoint-PRO is equipped with a Ethernet port, 2 external Antennas and 3 LED indicators.

airPoint-PRO has a high-power external Antenna which is sufficient for transmission over long ranges.

There is a Ethernet port at the back of airPoint-PRO. One end of the Ethernet cable is plugged into this port and the other end is plugged into a LAN directly or through the power injector for; PoE.

airBridge has 3 LED indicators that indicate the status of Power, Etherent Link & Data Transmission.

Power indicates that the airPoint-PRO has been powered up.

Ethernet Link indicates that airPoint-PRO is getting the ethernet connection and ready for use.

Transmission indicates the flow of data over wireless media.

Getting familiar with Wireless LANs

If you have experience working with wired LAN, you won't find Wireless LAN (WLAN) much different from it, except that WLAN offers unmatched flexibility, mobility, scalability and convenience. WLAN can be easily used to extend your existing wired LAN or to quickly set up a new LAN environment. Computers in a wireless LAN need to be configured to share the same radio channel.

There are two modes of Wireless Network operation:

Ad-hoc mode
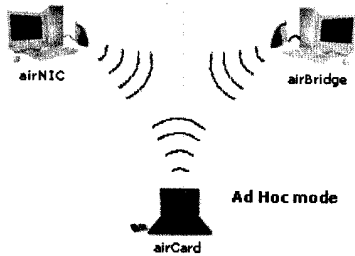
In this mode of operation, peer-to-peer (or point-to-point) connectivity is established between two PCs for Internet sharing, file sharing applications etc. Each PC is equipped with the Wireless client Adapter and they can talk to each other without an Access Point.

Infrastructure mode
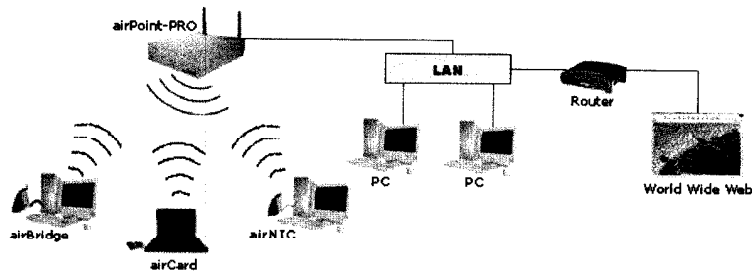
In this mode of operation, multiple wireless network Adapters can connect to an Access Point to form a complete Wireless network similar to a Wired LAN. Also, in this mode, the Access Point can act as a bridge between the Wireless and Wired LAN.

Wireless Bridge
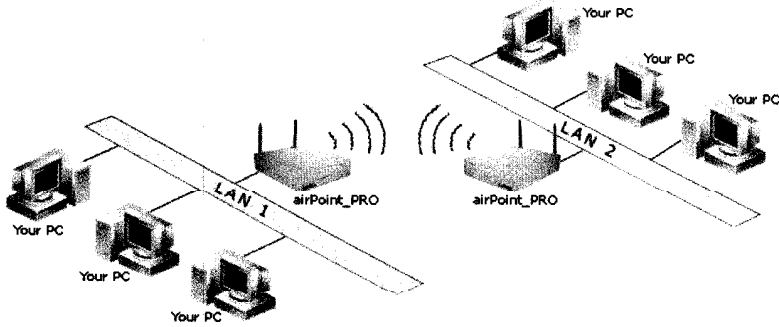
A network bridge is a device that lets two networks talk to each other. These networks might be the same type of network, like two ethernet networks, or different networks, like an ethernet network and Wireless network. When your networks are bridged, they act just like one big network.
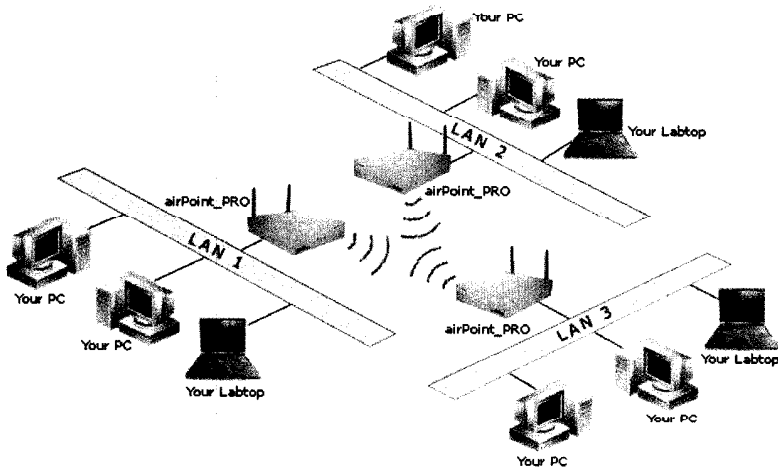
There are two modes of Wireless Network Bridge operation :

Point to Point mode

This mode lets one LAN talk to another LAN wirelessly linking two Ethernet LANs behind together. All the clients on both LANs can talk to each other as if they are on the one bigger LAN.

Point to MultiPoint Mode

This mode lets multiple Ethernet LANs linking with Wireless Networks Bridges.

airPoint-PRO?Frequently Asked Questions

About airPoint-PRO

Question	Answer
How fast is airPoint-PRO?	airPoint-PRO is capable of a data rate of up to 11Mbps.
How do I connect airPoint-PRO to my LAN/PC?	It is connected to the Ethernet port of the PC using cross cable or to your LAN using straight cable. Please refer the user guide for detailed installation procedure.
Can I use airPoint-PRO with my laptop?	Yes. airPoint-PRO can be used with any Ethernet-ready computer.
What standard does airPoint-PRO conform to?	IEEE802.11b for WLAN
Where can I find additional information about airPoint-PRO?	You can refer to the manual on the setup CD, or check out our online User Guide.
Can it work with any Wireless Access Point Client?	Yes. It can work with any IEEE802.11b compliant Wireless Access Point Client.
Would the Internet connection speed be affected if I connect more than one PC at the same time?	There might be a slight loss in the speed but it will be very insignificant.
What do the different lights (LEDs) on the airPoint-PRO case indicate?	- Orange indicates Device Power On, Power cable is connected. - Green indicates Ethernet Link is OK, Ethernet cable is connected. - Blue indicates Device is in Wireless Transmit / Receive mode.
What operating systems are supported by airPoint-PRO?	airPoint-PRO works with any operating system capable of TCP/IP networking. The setup software is supported on Windows 98, 98SE, 2000, ME, XP
Will I be able to see other computers on LAN?	Yes. airPoint-PRO allows you to connect to other computers on your network.
Is the Wireless Connection secure?	Yes. airPoint-PRO is capable of providing 64 / 128-bit WEP encryption.
How can I find out if my PC supports Ethernet?	- Right-click on "My Computer" on your desktop - Click "Properties" - Click "Device Manager" - Click "Network Adapters". You should see at least one real network adapter.
What are the minimum computer requirements for the proper operation of airPoint-PRO setup software?	- An IBM compatible PC - Pentium processor (166 MHz or above) - Microsoft Windows 98SE/2000/Me/XP - CD-ROM drive - A spare Ethernet port
How do I uninstall airPoint-PRO setup software from my PC?	In order to uninstall airPoint-PRO from your computer, follow the following steps: - Click on Start -> Programs -> smartBridges -> airPointPRO - Select and click on "Uninstall airPoint-PRO". A dialog box will pop up to confirm that you want to uninstall airPoint-PRO. Click "Yes".

General Questions

What is WEP?	Wired Equivalent Privacy (WEP) is an encryption scheme used to protect wireless data communication. It is part of the system security behind the wireless IEEE 802.11 protocol, and its goals are to provide confidentiality and data integrity, and to protect access to the network infrastructure by rejecting all non-WEP packets.
What is an Access Point?	It is a hardware device that converts a wired LAN port / outlet to a wireless port typically for Infrastructure mode.
What is Ad-Hoc mode ?	Peer-to-Peer networking mode usually used for sharing local resources between wireless Networked PCs.
What is Infrastructure mode ?	Infrastructure Mode allows a wireless network to be integrated into an existing, wired network through an Access Point, permitting roaming between Access Points while maintaining a connection to all network resources.
What is IEEE 802.11 standard?	It is a standard set by Institution of Electrical & Electronics Engineers for standardizing the wireless networking hardware so that they are interoperable.
What is ISM band ?	The FCC and their counterparts outside of the U.S. have set aside bandwidth for unlicensed use in the ISM (Industrial, Scientific and Medical) band. The ISM band comprises of frequencies in the vicinity of 2.4 GHz.
What is Direct-Sequencing Spread Spectrum (DSSS)?	Wireless LAN products are available in three different technologies - Direct Sequencing Spread Spectrum (DSSS), Frequency Hopping Spread-Spectrum (FHSS) and Infrared. DSSS and FHSS are spread-spectrum techniques that operate over the radio airwaves in the unlicensed ISM band (Industrial, Scientific, and Medical). DSSS uses radio transmitter to spread data packets over a fixed range of frequency band.
How does the Wireless LAN connect the PCs?	The Wireless LAN uses Radio Frequency (RF) to transmit data. In this respect, it is similar to radio stations and cordless phones. Devices "tune in" to different signals on specific frequency bands and ignore others, allowing the devices to co-exist and PCs to communicate securely over the Wireless LAN.
Will Wireless LAN interfere with other RF devices like cordless phones?	Use of DSSS and FHSS techniques eliminate the interference between different RF devices.
What is PoE ?	Power-over-Ethernet (PoE) or "Active Ethernet" eliminates the need to run 110 / 220 V AC power to Wireless Access Points and other network devices on a wired LAN. Using Power-over-Ethernet system installers need to run only a single CAT5 Ethernet cable that carries both power and data to each device.
What is Wireless Bridge ?	Wireless Bridge connects 2 or more different types of LANs together wirelessly.

Common Problems and Solutions

I can't connect to the Access Point.	• Make sure that the airPoint-PRO is powered on and is properly connected to the LAN • Make sure that airPoint-PRO is configured on the same channel, SSID, and WEP as the other computers in the Infrastructure configuration.
LEDs are flickering.	• Orange should be continuously on. If it flickers, make sure that Power cable is securely plugged into the Power jacket. • Green should be continuously on if no network traffic is going through airPoint-PRO. It will blink when there is Network Traffic. • Blue should be blinking, indicating that the radio is alternating between transmit and receive modes.
LEDs do not light up at all.	Make sure that the Power cable is properly connected and the PC is powered on.
All the Ethernet ports on my PC are already connected to other Ethernet devices.	Remove one of the Ethernet device or install a new ethernet network card on your PC.
airPoint-PRO does not work when connected through a Ethernet hub.	Check the ethernet cable. You may need the cross over ethernet cable depending on your HUB.

Service and Support

This User Manual provides comprehensive information on Installation and Configuration of airPoint-PRO. If, however, you still have problems or need further support, you can get in touch with us at:

http://www.smartbridges.com

You can also send your queries to **support@smartbridges.com**

Please **register airPoint-PRO** so that you will be updated with the latest software releases.

Appendices

- Appendix A - Specifications of airPoint-pro
- Appendix B - Warranty Information
- Appendix C - Declaration of Conformity and Regulatory Information

Appendix A

Specifications : airPoint-PRO

General Characteristics

Type	Wireless Access Point and Bridge
Compatibility	IEEE 802.11b (High Rate) Wi-Fi IEEE 802.3 10/100MBps
Media Access Protocol	CSMA/CA with ACK & RTS/CTS (Carrier Sense Multiple Access / Collision Avoidance with Acknowledgment)
Data Rates	High Rate: 11Mbps (CCK) Medium Rate: 5.5Mbps (CCK) Standard Rate: 2Mbps (DQPSK) Low Rate: 1Mbps (DBSK)
Network Operating System	Microsoft Windows Networking Novell Client 3.x, 4.x
Host Operating System	Windows 98SE, ME, 2000, XP
LEDs	Power, Eth, Transmission

Radio Characteristics

Frequency Band	2.4 GHz ISM Band (2.4 - 2.4835 GHz)
Number of Selectable Channels (Overlapping)	North America (FCC) 11 Europe (ETSI) 13 France (FR) 4 Japan (JP) 14 Singapore (iDA) 13 Other Countries FCC 11, ETSI 13
Modulation Techniques	DSSS (Direct Sequence Spread Spectrum): • CCK (Complimentary Code Keying), for High and Medium Transmit Rates • DQPSK (Differential Quadrature Phase Shift Keying) for Standard Transmit Rate • DBPSK (Differential Binary Phase Shift Keying) for Low Transmit Rate
Security	64-bit & 128-bit WEP encryption
Spreading Sequence	11 chip Barker Sequence
Frame Error Rate	Better than 8%
Output Power	100mW Max with 2.5dBi/5dBi antenna

Regulations	Europe	ETSI 300-328, CE Marked
	USA	FCC 47 CFR Part 15C, Section 15.247 - FCC Certification- ID: PWG AIRPOINTPRO
	Canada	RSS 139
	Japan	MPT Radio Regulations
	Singapore	iDA approved

Power Characteristics

Power Consumption	350 mA at 12V DC
Power Supply	• 12 to 50V DC • 12 V DC External Adapter provided.(100 V ~ 264 V / 50 ~60 Hz AC IN 12V DC OUT) • Power Injector Provided.

Physical Characteristics

Dimensions	L 150mm; W 128mm; H 28mm
Weight	250 gms
Operating Temperature	0° to 40° C
Storage Temperature	-25° to 60° C
Humidity	Operating: 0 to 70% (non-condensing) Storage: 10 to 90% (non-condensation)

Supported Frequency sub-bands (in MHz)

Channel number	FCC countries	ETS countries	France	Japan	Singapore
1	2412	2412	Not Allocated	2412	2412
2	2417	2417	Not Allocated	2417	2417
3	2422	2422	Not Allocated	2422	2422
4	2427	2427	Not Allocated	2427	2427
5	2432	2432	Not Allocated	2432	2432
6	2437	2437	Not Allocated	2437	2437
7	2442	2442	Not Allocated	2442	2442
8	2447	2447	Not Allocated	2447	2447
9	2452	2452	Not Allocated	2452	2452

10	2457	2457	2457	2457	2457
11	2462	2462	2462	2462	2462
12	Not Allocated	2467	2467	2467	2467
13	Not Allocated	2472	2472	2472	2472
14	Not Allocated	Not Allocated	Not Allocated	2484	Not Allocated

NOTE:

FCC countries adhere to the regulations as defined by the U.S. Federal Communications Commission (FCC).
ETSI countries adhere to the regulations as defined by the European Telecommunications Standards Institute (ETSI).

Range

Distance in meters	11Mbps	5Mbps	2Mbps	1Mbps
Outdoor Open Space	800	1000	1300	1600
Semi-Open Office	70	80	100	120
Closed Office	40	50	70	80

NOTE:

The range of values listed in the table above are typical distances measured at smartBridges' premises. These represent indicative values and may vary according to actual radio conditions at the location where the airPoint-PRO will be used.

The range of your wireless devices can be affected when they are placed near metal surfaces and solid high-density materials like concrete walls, wood constructions, steel structures etc.

Range is also affected by "obstacles" in the signal path of radio. These obstacles may either absorb or reflect the radio signal.

Environments can be described as follows:

- Outdoor Open Space environment: Devices are in Radio Line of Sight (RLOS) and there is no physical obstruction between them.
- Semi-Open Office environment: Workspace is divided by shoulder-height, hollow (glass, plastic) wall elements; airPoint-PRO is placed at desktop level.
- Closed Office environment: Workspace is divided by high-density solid wall structures.

Appendix B

Warranty Information

smartBridges warrants product to be free of defects, and agrees to repair or replace the product that proves defective. airPoint-PRO is warranted for one year from date of purchase. This warranty does not cover accidents, misuse, neglect, unauthorized product modification, or acts of nature.

Please visit customer support area of smartBridges web site for making warranty claims. smartBridges may elect to exchange the product or refund the full purchase price of the unit.

Except as expressly provided above, smartBridges makes no warranties or conditions, express, implied, or statutory, including without limitation, the implied warranties of merchantability and fitness for a particular purpose or infringement of any patent, copyright or other intellectual property right. smartBridges shall not be liable for damage to other property caused by any defects in this product, damages based upon inconvenience, loss of use of the product, loss of time or data, commercial loss, or any other damages, whether special, incidental, consequential, or otherwise, whether under theory of contract, tort (including negligence), indemnity, product liability, or otherwise. smartBridges products are not intended for use in medical, life saving, or life sustaining applications. In no event shall smartBridges' liability exceed the normal purchase price for this product.

Software License

No license, express or implied, by estoppels or otherwise, to any intellectual property rights is granted by this document. The setup software is licensed for use with the airPoint-PRO Wireless Access Point only. The software may be copied only for backup purpose.

Copyright & Trademarks

Copyright © 2001 smartBridges. All Rights Reserved. airPoint-PRO and simpleMonitor are trademarks of smartBridges. Microsoft Windows 98SE, Windows ME, Windows 2000, and Windows XP are trademarks of Microsoft Corporation. All other trademarks and brand names mentioned in this Manual are registered trademarks or trademarks of their respective owners.

Appendix C

Declaration of Conformity and Regulatory Information

DECLARATION OF CONFORMITY TO FCC REGULATIONS, Part 15
FCC ID - PWG AIRPOINTPRO

smartBridges declares that the equipment described in this document is within the requirements of the Code of Federal Regulations - Title 47 Part 15, Subpart B, Class B for a digital device. This declaration is based upon the compliance of the airPoint-pro Wireless Access Point to the above standards. smartBridges has determined that airPoint-pro has been shown to comply with the applicable technical standards if no unauthorized changes are made to the equipment and if the equipment is properly maintained and operated. These units are identical to the units tested and found acceptable with the applicable standards. Records maintained by smartBridges continue to reflect that the units being produced under this Declaration of Conformity, within the variation that can be expected due to quantity production and tested on a statistical basis, continue to comply with the applicable technical standards.

FCC Rules and Regulations - Part 15

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. 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 or more of the following measures:

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

Changes or modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission rules.

In order to maintain compliance with FCC regulations, standard network cables must be used with this equipment. Operation with non-approved equipment or non-standard cables is likely to result in interference to radio and TV reception. 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.

CANADIAN DEPARTMENT OF COMMUNICATION, INDUSTRY CANADA STATEMENT

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Commu-nications du Canada.

EUROPEAN COMMUNITY CE MARK, DECLARATION OF CONFORMITY

smartBridges Pte. Ltd. declares that the equipment described in this document is in conformance with the

requirements of the European Council Directives - 73/23/EEC, Low Voltage Directive with Amendment 93/68/EEC and 89/336/EEC, EMC Directive with Amendments 92/31/EEC and 93/68/EEC. This declaration is based upon compliance of the product to the following standards: EN 55022 (CISPR 22B), RF Emissions Control and EN 50082-1 (IEC 801-2, 3, 4) Immunity to Electromagnetic Disturbance.

SAFETY NOTICE

This product is intended for use with UL 1950/EN60950/IEC950 (or other NRTL) listed ITE computer that contains operator-accessible Ethernet ports.
This being a electromagnetic radiating device we recommend keeping the equipment 20 cm away from the human body. Radiating levels are within safety limits set by FCC