

6.3.12 WISH

- WISH is short for Wireless Intelligent Stream Handling, a technology developed to enhance your experience of using a wireless network by prioritizing the traffic of different applications.

WISH

WISH (Wireless Intelligent Stream Handling) prioritizes the traffic of various wireless applications.

WISH

Enable WISH :

Priority Classifiers

HTTP :
 Windows Media Center :
 Automatic : (default if not matched by anything else)

- Enable WISH:** Place a check in this box to enable the WISH feature.
- HTTP:** Place a check in this box to add HTTP as a classifier. This allows the device to recognize HTTP transfers for many common audio and video streams and prioritize them above other traffic. Such streams are frequently used by digital media players.
- Windows Media Center:** Place a check in this box to add HTTP as a classifier. This enables the router to recognize certain audio and video streams generated by a Windows Media Center PC and to prioritize these above other traffic. Such streams are used by systems known as Windows Media Extenders, such as the Xbox 360.
- Automatic:** Place a check in this box for the device to automatically configure the classifiers. When enabled, this option causes the router to automatically attempt to prioritize traffic streams that it doesn't otherwise recognize, based on the behaviour that the streams exhibit. This acts to deprioritize streams that exhibit bulk transfer characteristics, such as file transfers, while leaving interactive traffic, such as gaming or VoIP, running at a normal priority.

Add WISH Rule

Enable :
 Name :
 Priority : Video (VI)
 Protocol : 257
 Host 1 IP Range : -
 Host 1 Port Range : -
 Host 2 IP Range : -
 Host 2 Port Range : -

WISH Rules

	Name	Priority	Host 1 IP Range	Host 2 IP Range	Protocol / Ports	
<input checked="" type="checkbox"/>	wish01	Best Effort	192.168.1.8 to 192.168.1.16	192.168.1.17 to 192.168.1.21	TCP 4 / 5 7 / 9	<input type="button" value="v"/> <input type="button" value="x"/>

- Enable:** Place a check in this box to enable the WISH rule. A WISH Rule identifies a specific message flow and assigns a priority to that flow. For most applications, the

priority classifiers ensure the right priorities and specific WISH Rules are not required. WISH supports overlaps between rules. If more than one rule matches for a specific message flow, the rule with the highest priority will be used.

- **Name:** Assign a meaningful name to the WISH rule.
- **Priority:** Select a priority from the drop-down list. The four priority message flows are:
 - BK: Background (least urgent).
 - BE: Best Effort.
 - VI: Video.
 - VO: Voice (most urgent).
- **Protocol:** Select a protocol from the drop-down list.
- **Host1 IP Range:** Specify the IP range for the rule.
- **Host 1 Port Range:** Specify the port range for the rule.
- **Host 2 IP Range:** Specify the IP range for the rule.
- **Host 2 Port Range:** Specify the port range for the rule.
- Click on the **Save** button to insert the entry into the WISH rules list.

6.3.13 Wi-Fi Protected Setup

- Wi-Fi Protected Setup is a feature that locks the wireless security settings and prevents the settings from being changed by any new external registrar using its PIN. Devices can still be added to the wireless network using Wi-Fi Protected Setup.

Wi-Fi Protected Setup

Wi-Fi Protected Setup is used to easily add devices to a network using a PIN or button press. Devices must support Wi-Fi Protected Setup in order to be configured by this method.

Wi-Fi Protected Setup

Enable :

Lock Wireless Security Settings :

PIN Settings

Current PIN : 24681353

Add Wireless Station

- **Enable:** Place a check in this box to enable this feature.
- **Lock:** Place a check in this box to lock the wireless security settings and prevents the settings from being changed by any new external registrar using its PIN. Devices can still be added to the wireless network using Wi-Fi Protected Setup.
- **Reset PIN to Default:** Press this button to reset the PIN to its default setting.
- **Generate NEW PIN:** Press this button to generate a new random PIN.
- **Add Wireless Device Wizard:** Please refer to Chapter 4 in order to configure Wi-Fi Protected Setup using the Wizard.
- Click on the **Save Settings** button to store these settings.

6.3.14 Advanced Network (UPnP, WAN Ping...)

- In this section you can configure the UPnP, WAN Ping, WAN port speed, multicast streams, and PPPoE pass-through settings.

Advanced Network

If you are not familiar with these Advanced Network settings, please read the help section before attempting to save settings.

Save Settings

Don't Save Settings

UPnP

Universal Plug and Play (UPnP) supports peer-to-peer Plug and Play functionality for network devices.

Enable UPnP :

Allow Users to disable Internet Access :

Allow Users to modify Virtual Server Mappings :

WAN Ping

If you enable this feature, the WAN port of your router will respond to ping requests from the Internet that are sent to the WAN port.

Enable WAN Ping Respond:

WAN Ping Inbound Filter :

Details :

- Enable UPnP:** Place a check in this box to enable UPnP. UPnP is short for Universal Plug and Play, which is a networking architecture that provides compatibility among networking equipment, software, and peripherals. This router has optional UPnP capability, and can work with other UPnP devices and software.
- Allow Users to disable Internet Access:** Place a check in this box if you would like to allow a user to terminate the WAN session.
- Allow Users to modify Virtual Server Mappings:** Place a check in this box if you would like the users to add, modify, or delete server mapping entries.
- Enable WAN Ping Respond:** Place a check in this box if you would like this device to be pinged from the WAN side.
- WAN Ping Inbound Filter:** You may select the computer that may ping this device from the WAN side.

WAN Port Speed

WAN Port Speed:

10Mbps
100Mbps
Auto 10/100Mbps

Multicast Streams

Enable Multicast Streams:

PPPoE Pass Through

Enable PPPoE Pass Through:

- WAN Port Speed:** You may select a WAN port speed from the drop-down list. It is recommended that you select **Auto**.

-
- **Enable Multicast Streams:** Place a check in this box to enable multicast streams. The router uses the IGMP protocol to support efficient multicasting -- transmission of identical content, such as multimedia, from a source to a number of recipients. This option must be enabled if any applications on the LAN participate in a multicast group. If you have a multimedia LAN application that is not receiving content as expected, try enabling this option.
 - **Enable PPPoE Pass Through:** Place a check in this box to enable PPPoE pass-through. This option controls whether LAN computers can act as PPPoE clients and negotiate the PPP sessions through the router over the WAN ethernet link. Enabling this option allows LAN computers to act as PPPoE clients. Disabling this option prevents LAN computers from establishing PPPoE pass-through connections.
 - Click on the **Save Settings** button to store these settings.

6.4 Tools



- Click on the **Tools** link on the navigation drop-down menu. You will then see seven options: Time, System, Firmware, SysLog, Dynamic DNS, System Check, and Schedules. The configuration steps for each option are described below.

6.4.1 Time Zone Setting

- Click on the **Time** link in the navigation menu. This feature allows you to configure, update, and maintain the correct time on the device's internal system clock as well as configure the time zone. The date and time of the device can be configured manually or by synchronizing with a time server.

Note: If the device loses power for any reason, it will not be able to keep its clock running, and will not display the correct time once the device has been restarted. Therefore, you must re-enter the correct date and time.

Time Configuration

Current Router Time : Saturday, January 31, 2004 10:41:59 AM

Time Zone : (GMT-08:00) Pacific Time (US/Canada), Tijuana

Enable Daylight Saving :

Daylight Saving Offset : +1:00

Daylight Saving Dates :

	Month	Week	Day of Week	Time
DST Start	Apr	1st	Sun	2 am
DST End	Oct	5th	Sun	2 am

Automatic Time Configuration

Enable NTP Server :

NTP Server Used : time.nist.gov << time.nist.gov

Set the Date and Time Manually

Date And Time :

Year: 2007 | Month: Sep | Day: 08

Hour: 09 | Minute: 21 | Second: 37 | PM

[Copy Your Computer's Time Settings](#)

- **Current Router Time:** Displays the current time on the device.
- **Time Zone:** Select your time zone from the drop-down list.
- **Enable Daylight Saving:** Place a check in this box to enable daylight savings time.
- **Daylight Saving Offset:** Select the offset from the drop-down list.
- **Daylight Saving Date:** Select the daylight savings date from the drop-down list. Select the starting and ending times for the change to and from daylight saving time. For example, suppose for DST Start you select Month="Oct", Week="3rd", Day="Sun" and Time="2am". This is the same as saying: "Daylight saving starts on the third Sunday of October at 2:00 AM."
- **Enable NTP Server:** Place a check in this box if you would like to synchronize the device's clock to a Network Time Server over the Internet. If you are using schedules or logs, this is the best way to ensure that the schedules and logs are kept accurate.
- **NTP Server Used:** Specify the NTP server or select one from the drop-down list.
- **Set the Date and Time:** Select a date and time from the drop-down list or do to use computer's time and date click on the **Copy Your Computer's Time Settings** button.
- Click on the **Save Settings** button once you have modified the settings.

6.4.2 System

- Click on the **System** link in the navigation menu. This page allows you to reboot the device using the current settings or restore all the settings to the factory defaults.

System Settings

The screenshot shows the 'System Settings' interface with the following elements:

- Save To Local Hard Drive:** A blue button labeled 'Save Configuration'.
- Load From Local Hard Drive:** A text input field followed by a 'Browse...' button, and a blue button labeled 'Restore Configuration from File' below it.
- Restore To Factory Default:** A blue button labeled 'Restore Factory Defaults' with the text 'Restore all settings to the factory defaults.' below it.
- Reboot The Device:** A blue button labeled 'Reboot the Device'.

6.4.2.1 Save Configuration to a File

- This option allows you to save the current configuration of the device into a file. Click on the **Save Configuration** button to begin.
- Save the file on your local disk by using the **Save** or **Save to Disk** button in the dialog box.



6.4.2.2 Restore the Configuration from a File

- This option allows you to restore a backup configuration from a file to the device. Click on the **Browse** button to select the file and then click on **Restore Configuration from a File** button.
- The system then prompts you to reboot the device.



- Click on the **OK** button to continue. You will then see the **Rebooting** page.



- Please wait while the system is rebooting.
Note: Do not unplug the device during this process as this may cause permanent damage.

6.4.2.3 Restore Settings to Default

- Click on the **Restore all Settings to Factory Defaults** button. This option restores all configuration settings back to the settings that were in effect at the time when the device was shipped from the factory.



- Once the dialog box appears, click on the **OK** button to confirm the action.
Note: The current settings will be lost.
- Click on the **OK** button to continue. You will then see the **Rebooting** page.



- Please wait while the system is rebooting.
Note: Do not unplug the device during this process as this may cause permanent damage.

6.4.2.4 System Reboot

- Click on the **Reboot the Device** button to reboot the device using its current settings. Once the dialog box appears, click on the **OK** button to confirm the action.



- Once the dialog box appears, click on the **OK** button to confirm the action.
Note: The current settings will be lost.
- Click on the **OK** button to continue. You will then see the **Rebooting** page.



- Please wait while the system is rebooting.

Note: Do not unplug the device during this process as this may cause permanent damage.

6.4.3 Firmware Upgrade

- Click on the **Firmware** link in the navigation menu. This page allows you to upgrade the firmware of the device in order to improve the functionality and performance. This page also displays the current firmware version and its release date.

Firmware Information

Current Firmware Version : **1.0.03**

Current Firmware Date : **2007/08/17**

Firmware Upgrade

Note: Some firmware upgrades reset the configuration options to the factory defaults. Before performing an upgrade, be sure to save the current configuration from the **Tools** → **System** screen.

To upgrade the firmware, your PC must have a wired connection to the router. Enter the name of the firmware upgrade file, and click on the Upload button.

Upload :

- Ensure that you have downloaded the appropriate firmware from the vendor's website. Connect the device to your PC using an Ethernet cable, as the firmware cannot be upgraded using the wireless interface.
- Click on the **Browse** button to select the firmware and then click on the **Upload** button.

6.4.4 System Logs

- Logs display a list of events that are triggered on the Ethernet and Wireless interface. This log can be referred when an unknown error occurs on the system or when a report needs to be sent to the technical support department for debugging purposes

SysLog

The SysLog options allow you to send log information to a SysLog Server.

SysLog Settings

Enable Logging To Syslog Server :

Syslog Server IP Address : << ▾

- **Enable Logging to a Syslog Server:** Place a check in this box to enable syslog logging.
- **Syslog Server IP Address:** Specify the IP address of the syslog server.
- Click on the **Save Settings** button once you have modified the settings.

6.4.5 Dynamic DNS

- The Dynamic DNS feature allows you to host a server (Web, FTP, Game Server, etc.) using a domain name that you have purchased with your dynamically assigned IP address. Most broadband Internet Service Providers assign dynamic (changing) IP addresses. When you use a Dynamic DNS service provider, your friends can enter your host name to connect to your server, no matter what your IP address is.

Dynamic DNS

Enable Dynamic DNS:	<input checked="" type="checkbox"/>
Server Address:	www.DynDNS.org (Free) <input type="button" value="v"/>
Host Name:	me.mydomain.net <small>(e.g.: me.mydomain.net)</small>
Username or Key:	admin
Password or Key:	●●●
Verify Password or Key:	●●●
Timeout:	576 (hours)

- Enable Dynamic DNS:** Place a check in this box to enable the DDNS feature.
- Service Address:** Select a DDNS service provider from the drop-down list. DynDNS is a free service while TZO offers a 30 day free trial.
- Host Name:** Specify the website URL.
- User Name:** Specify the user name for the DDNS service.
- Password:** Specify the password for the DDNS service and verify it once again in the next field.
- Timeout:** Specify the time between periodic updates to the Dynamic DNS, if the dynamic IP address has not changed. The timeout period is entered in hours.
- Click on the **Save Settings** button once you have modified the settings.

6.4.6 System Check

- Click on the **System Check** link in the navigation menu. This page allows you to ping a host name or IP address.

Ping Test

Ping Test sends "ping" packets to test a computer on the Internet.

Ping Test

Host Name or IP Address :	192.168.1.20	<input type="button" value="Ping"/>	<input type="button" value="Stop"/>
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Ping Result

```
No response from host, retrying...
No response from host, retrying...
No response from host, retrying...
User stopped
Pings sent: 3
Pings received: 0
Pings lost: 3 (100% loss)
```

- Host Name or IP address:** Specify the host name or IP address and then click on the **Ping** button.

6.4.7 Schedules

- Click on the **Schedules** link in the navigation menu. Schedules can be created for use with enforcing rules. For example, if you want to restrict web access to Mon-Fri from 3pm to 8pm, you could create a schedule selecting Mon, Tue, Wed, Thu, and Fri and enter a Start Time of 3pm and End Time of 8pm.

Add Schedule Rule

Name :

Day(s) : All Week Select Day(s)

Sun Mon Tue Wed Thu Fri Sat

All Day - 24 hrs :

Start Time : : (hour:minute, 12 hour time)

End Time : : (hour:minute, 12 hour time)

Schedule Rules List

Name	Day(s)	Time Frame	
video	Sun Fri Sat	All Day	 
web browsing	Every Day	All Day	 

- Name:** Specify a name for the schedule.
- Day(s):** Select the days at which you would like the schedule to be effective.
- All Day – 24 hrs:** Place a check in this box if you would like the schedule to be active for 24 hours.
- Start Time:** If you do not use the 24 hours option, you may specify a start time.
- End Time:** If you do not use the 24 hours option, you may specify an end time.
- Click on the **Save** button to add this schedule into the list.

6.5 Status



- Click on the **Status** link on the navigation drop-down menu. You will then see six options: Wireless, Logs, Statistics, WISH Sessions, Routing, and Internet Sessions. The configuration steps for each option are described below.

6.5.1 Wireless Status

- Click on the **Wireless** link in the navigation menu. The wireless section allows you to view the wireless clients that are connected to the device.

Wireless

View the wireless clients that are connected to your wireless router.

Number Of Wireless Clients : 1

MAC Address	IP Address	Mode	Rate	Signal (%)
00166F9B760B	192.168.1.199	11g	54	36

- MAC Address:** The Ethernet ID (MAC address) of the wireless client.
- IP Address:** The LAN-side IP address of the client.
- Mode:** The transmission standard being used by the client. Values are 11a, 11b, 11g, or 11n for 802.11a, 802.11b, 802.11g, or 802.11n respectively.
- Rate:** The actual transmission rate of the client in megabits per second.
- Signal:** This is a relative measure of signal quality. The value is expressed as a percentage of theoretical best quality. Signal quality can be reduced by distance, by interference from other radio-frequency sources (such as cordless telephones or neighboring wireless networks), and by obstacles between the router and the wireless device.

6.5.2 Logs Status

- Click on the **Logs** link in the navigation menu. The router automatically logs (records) events of possible interest in its internal memory. If there is not enough internal memory for all events, logs of older events are deleted, but logs of the latest events are retained. The Logs option allows you to view the router logs. You can define what types of events you want to view and the level of events to view. This router also has

external Syslog Server support so you can send the log files to a computer on your network that is running a Syslog utility.

Log Options

What to View : Firewall & Security System Router Status
View Levels : Critical Warning Informational

Log Details

12 Log Entries:

Priority	Time	Message
[INFO]	Sat Jan 31 10:53:43 2004	Wireless system with MAC address 00166F9B760B associated
[INFO]	Sat Jan 31 10:48:50 2004	Stored configuration to non-volatile memory
[INFO]	Sat Jan 31 10:48:33 2004	Above message repeated 1 times
[INFO]	Sat Jan 31 10:44:50 2004	Allowed configuration authentication by IP address 192.168.1.20
[INFO]	Sat Jan 31 10:44:49 2004	Starting DHCP server
[INFO]	Sat Jan 31 10:44:40 2004	LAN interface is up
[INFO]	Sat Jan 31 10:44:40 2004	LAN Ethernet Carrier Detected
[INFO]	Sat Jan 31 10:44:40 2004	Device initialized
[INFO]	Sat Jan 31 10:44:40 2004	Wireless Link is up
[INFO]	Sat Jan 31 10:44:39 2004	Unlock AP setup
[INFO]	Sat Jan 31 10:44:39 2004	No Internet access policy is in effect. Unrestricted Internet access allowed to everyone
[INFO]	Wed Dec 31 16:00:00 1969	Loaded configuration from non-volatile memory

- **What to View:** Select the features of which you would like to view the logs: Firewall & Security, System, or Router Status.
- **View Levels:** Select the warning levels for the logs: Critical, Warning, or Informational.
- Click on the **Apply Log Settings Now** to make the new log effective.

6.5.3 Statistics

- Click on the **Statistics** link in the navigation drop-down menu. This page displays the transmitted and received packet statistics of the wired (LAN & WAN) and wireless interface. Click on the Refresh button to refresh the statistics.

LAN Statistics

Sent : 2346	Received : 1280
TX Packets Dropped : 0	RX Packets Dropped : 0
Collisions : 0	Errors : 0

WAN Statistics

Sent : 0	Received : 0
TX Packets Dropped : 0	RX Packets Dropped : 0
Collisions : 0	Errors : 0

Wireless Statistics

Sent : 1000	Received : 348
TX Packets Dropped : 0	RX Packets Dropped : 0
	Errors : 0

6.5.4 WISH Session Status

- Click on the **WISH Sessions** link in the navigation drop-down menu. The WISH Sessions page displays full details of active local wireless sessions through your router when WISH has been enabled. A WISH session is a conversation between a program or application on a wirelessly connected LAN-side computer and another computer, however connected.

WISH Sessions

The WISH Sessions page displays full details of active local wireless sessions through your router when WISH has been enabled. A WISH session is a conversation between a program or application on a wirelessly connected LAN-side computer and another computer, however connected.

WISH Sessions

Originator	Target	Protocol	State	Priority	Time Out
192.168.1.199:1589	24.99.181.137:4618	TCP	SS	BE	239
192.168.1.199:1588	84.248.249.151:80	TCP	SS	BE	238
192.168.1.199:1587	140.247.95.165:7888	TCP	SS	BE	237
192.168.1.199:1586	84.248.249.151:443	TCP	SS	BE	239
192.168.1.199:1585	84.248.249.151:2532	TCP	SS	BE	237

- Originator:** The IP address and, where appropriate, port number of the computer that originated a network connection.
- Target:** The IP address and, where appropriate, port number of the computer to which a network connection has been made.
- Protocol:** The communications protocol used for the conversation.
- State:** State for sessions that use the TCP protocol.
 - NO:** None -- This entry is used as a placeholder for a future connection that may occur.
 - SS:** SYN Sent -- One of the systems is attempting to start a connection.
 - EST:** Established -- the connection is passing data.
 - FW:** FIN Wait -- The client system has requested that the connection be stopped.
 - CW:** Close Wait -- the server system has requested that the connection be stopped.
 - TW:** Time Wait -- Waiting for a short time while a connection that was in FIN Wait is fully closed.
 - LA:** Last ACK -- Waiting for a short time while a connection that was in Close Wait is fully closed.
 - CL:** Closed -- The connection is no longer active but the session is being tracked in case there are any retransmitted packets still pending.
- Priority:** The priority given to packets sent wirelessly over this conversation by the WISH logic. The priorities are:
 - BK:** Background (least urgent).
 - BE:** Best Effort.
 - VI:** Video.
 - VO:** Voice (most urgent).
- Time Out:** The number of seconds of idle time until the router considers the session terminated. The initial value of Time Out depends on the type and state of the connection.
 - 300 seconds** - UDP connections.
 - 240 seconds** - Reset or closed TCP connections. The connection does not close instantly so that lingering packets can pass or the connection can be re-established.
 - 7800 seconds** - Established or closing TCP connections.

6.5.5 Internet Session Status

- Click on the **Internet Sessions** link in the navigation drop-down menu. The Internet Sessions page displays full details of active Internet sessions through your router. An Internet session is a conversation between a program or application on a LAN-side computer and a program or application on a WAN-side computer.

Internet Sessions

This page displays the full details of active internet sessions to your router.

Local	NAT	Internet	Protocol	State	Dir	Priority	Time Out
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- Local:** The IP address and, where appropriate, port number of the local application.
- NAT:** The port number of the LAN-side application as viewed by the WAN-side application.
- Internet:** The IP address and, where appropriate, port number of the application on the Internet.
- Protocol:** The communications protocol used for the conversation.
- State:** State for sessions that use the TCP protocol.
 - NO:** None -- This entry is used as a placeholder for a future connection that may occur.
 - SS:** SYN Sent -- One of the systems is attempting to start a connection.
 - EST:** Established -- the connection is passing data.
 - FW:** FIN Wait -- The client system has requested that the connection be stopped.
 - CW:** Close Wait -- the server system has requested that the connection be stopped.
 - TW:** Time Wait -- Waiting for a short time while a connection that was in FIN Wait is fully closed.
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 - BK:** Background (least urgent).
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Appendix A – Glossary

8

802.11

A family of specifications for wireless local area networks (WLANs) developed by a working group of the Institute of Electrical and Electronics Engineers (IEEE).

A

Access Control List

ACL. This is a database of network devices that are allowed to access resources on the network.

Access Point

AP. Device that allows wireless clients to connect to it and access the network

ActiveX

A Microsoft specification for the interaction of software components.

Address Resolution Protocol

ARP. Used to map MAC addresses to IP addresses so that conversions can be made in both directions.

Ad-hoc network

Peer-to-Peer network between wireless clients

ADSL

Asymmetric Digital Subscriber Line

Advanced Encryption Standard

AES. Government encryption standard

Alphanumeric

Characters A-Z and 0-9

Antenna

Used to transmit and receive RF signals.

AppleTalk

A set of Local Area Network protocols developed by Apple for their computer systems

AppleTalk Address Resolution Protocol

AARP. Used to map the MAC addresses of Apple computers to their AppleTalk network addresses, so that conversions can be made in both directions.

Application layer

7th Layer of the OSI model. Provides services to applications to ensure that they can communicate properly with other applications on a network.

ASCII

American Standard Code for Information Interchange. This system of characters is most commonly used for text files

Attenuation

The loss in strength of digital and analog signals. The loss is greater when the signal is being transmitted over long distances.

Authentication

To provide credentials, like a Password, in order to verify that the person or device is really who they are claiming to be

Automatic Private IP Addressing

APIPA. An IP address that that a Windows computer will assign itself when it is configured to obtain an IP address automatically but no DHCP server is available on the network

B**Backward Compatible**

The ability for new devices to communicate and interact with older legacy devices to guarantee interoperability

Bandwidth

The maximum amount of bytes or bits per second that can be transmitted to and from a network device

Basic Input/Output System

BIOS. A program that the processor of a computer uses to startup the system once it is turned on

Baud

Data transmission speed

Beacon

A data frame by which one of the stations in a Wi-Fi network periodically broadcasts network control data to other wireless stations.

Bit rate

The amount of bits that pass in given amount of time

Bit/sec

Bits per second

BOOTP

Bootstrap Protocol. Allows for computers to be booted up and given an IP address with no user intervention

Bottleneck

A time during processes when something causes the process to slowdown or stop all together

Broadband

A wide band of frequencies available for transmitting data

Broadcast

Transmitting data in all directions at once

Browser

A program that allows you to access resources on the web and provides them to you graphically

C**Cable modem**

A device that allows you to connect a computer up to a coaxial cable and receive Internet access from your Cable provider

CardBus

A newer version of the PC Card or PCMCIA interface. It supports a 32-bit data path, DMA, and consumes less voltage

CAT 5

Category 5. Used for 10/100 Mbps or 1Gbps Ethernet connections

Client

A program or user that requests data from a server

Collision

When do two devices on the same Ethernet network try and transmit data at the exact same time.

Cookie

Information that is stored on the hard drive of your computer that holds your preferences to the site that gave your computer the cookie

D**Data**

Information that has been translated into binary so that it can be processed or moved to another device

Data Encryption Standard

Uses a randomly selected 56-bit key that must be known by both the sender and the receiver when information is exchanged

Database

Organizes information so that it can be managed updated, as well as easily accessed by users or applications.

Data-Link layer

The second layer of the OSI model. Controls the movement of data on the physical link of a network

DB-25

A 25 pin male connector for attaching External modems or RS-232 serial devices

DB-9

A 9 pin connector for RS-232 connections

dBd

Decibels related to dipole antenna

dB_i

Decibels relative to isotropic radiator

dB_m

Decibels relative to one milliwatt

Decrypt

To unscramble an encrypted message back into plain text

Default

A predetermined value or setting that is used by a program when no user input has been entered for this value or setting

Demilitarized zone

DMZ: A single computer or group of computers that can be accessed by both users on the Internet as well as users on the Local Network, but that is not protected by the same security as the Local Network.

DHCP

Dynamic Host Configuration Protocol: Used to automatically assign IP addresses from a predefined pool of addresses to computers or devices that request them

Digital certificate:

An electronic method of providing credentials to a server in order to have access to it or a network

Direct Sequence Spread Spectrum

DSSS: Modulation technique used by 802.11b wireless devices

DMZ

"Demilitarized Zone". A computer that logically sits in a "no-mans land" between the LAN and the WAN. The DMZ computer trades some of the protection of the router's security mechanisms for the convenience of being directly addressable from the Internet.

DNS

Domain Name System: Translates Domain Names to IP addresses

Domain name

A name that is associated with an IP address

Download

To send a request from one computer to another and have the file transmitted back to the requesting computer

DSL

Digital Subscriber Line. High bandwidth Internet connection over telephone lines

Duplex

Sending and Receiving data transmissions at the same time

Dynamic DNS service

Dynamic DNS is provided by companies to allow users with Dynamic IP addresses to obtain a Domain Name that will always be linked to their changing IP address. The IP address is updated by either client software running on a computer or by a router that supports Dynamic DNS, whenever the IP address changes

Dynamic IP address

IP address that is assigned by a DHCP server and that may change. Cable Internet providers usually use this method to assign IP addresses to their customers.

E**EAP**

Extensible Authentication Protocol

Email

Electronic Mail is a computer-stored message that is transmitted over the Internet

Encryption

Converting data into cyphertext so that it cannot be easily read

Ethernet

The most widely used technology for Local Area Networks.

F**Fiber optic**

A way of sending data through light impulses over glass or plastic wire or fiber

File server

A computer on a network that stores data so that the other computers on the network can all access it

File sharing

Allowing data from computers on a network to be accessed by other computers on the network with different levels of access rights

Firewall

A device that protects resources of the Local Area Network from unauthorized users outside of the local network

Firmware

Programming that is inserted into a hardware device that tells it how to function

Fragmentation

Breaking up data into smaller pieces to make it easier to store

FTP

File Transfer Protocol. Easiest way to transfer files between computers on the Internet

Full-duplex

Sending and Receiving data at the same time

G**Gain**

The amount an amplifier boosts the wireless signal

Gateway

A device that connects your network to another, like the internet

Gbps

Gigabits per second

Gigabit Ethernet

Transmission technology that provides a data rate of 1 billion bits per second

GUI

Graphical user interface

H**H.323**

A standard that provides consistency of voice and video transmissions and compatibility for videoconferencing devices

Half-duplex

Data cannot be transmitted and received at the same time

Hashing

Transforming a string of characters into a shorter string with a predefined length

Hexadecimal

Characters 0-9 and A-F

Hop

The action of data packets being transmitted from one router to another

Host

Computer on a network

HTTP

Hypertext Transfer Protocol is used to transfer files from HTTP servers (web servers) to HTTP clients (web browsers)

HTTPS

HTTP over SSL is used to encrypt and decrypt HTTP transmissions

Hub

A networking device that connects multiple devices together

I**ICMP**

Internet Control Message Protocol

IEEE

Institute of Electrical and Electronics Engineers

IGMP

Internet Group Management Protocol is used to make sure that computers can report their multicast group membership to adjacent routers

IIS

Internet Information Server is a WEB server and FTP server provided by Microsoft

IKE

Internet Key Exchange is used to ensure security for VPN connections

Infrastructure

In terms of a wireless network, this is when wireless clients use an Access Point to gain access to the network

Internet

A system of worldwide networks which use TCP/IP to allow for resources to be accessed from computers around the world

Internet Explorer

A World Wide Web browser created and provided by Microsoft

Internet Protocol

The method of transferring data from one computer to another on the Internet

Internet Protocol Security

IPsec provides security at the packet processing layer of network communication

Internet Service Provider

An ISP provides access to the Internet to individuals or companies

Intranet

A private network

Intrusion Detection

A type of security that scans a network to detect attacks coming from inside and outside of the network

IP

Internet Protocol

IP address

A 32-bit number, when talking about Internet Protocol Version 4, that identifies each computer that transmits data on the Internet or on an Intranet

IPsec

Internet Protocol Security

IPX

Internetwork Packet Exchange is a networking protocol developed by Novel to enable their Netware clients and servers to communicate

ISP

Internet Service Provider

J**Java**

A programming language used to create programs and applets for web pages

K**Kbps**

Kilobits per second

Kbyte

Kilobyte

L**L2TP**

Layer 2 Tunneling Protocol

LAN

Local Area Network

Latency

The amount of time that it takes a packet to get from the one point to another on a network. Also referred to as delay

LED

Light Emitting Diode

Legacy

Older devices or technology

Local Area Network

A group of computers in a building that usually access files from a server

LPR/LPD

"Line Printer Requestor"/"Line Printer Daemon". A TCP/IP protocol for transmitting streams of printer data.

M**MAC Address**

A unique hardware ID assigned to every Ethernet adapter by the manufacturer.

Mbps

Megabits per second

MDI

Medium Dependent Interface is an Ethernet port for a connection to a straight-through cable

MDIX

Medium Dependent Interface Crossover, is an Ethernet port for a connection to a crossover cable

MIB

Management Information Base is a set of objects that can be managed by using SNMP

Modem

A device that Modulates digital signals from a computer to an analog signal in order to transmit the signal over phone lines. It also Demodulates the analog signals coming from the phone lines to digital signals for your computer

MPPE

Microsoft Point-to-Point Encryption is used to secure data transmissions over PPTP connections

MTU

Maximum Transmission Unit is the largest packet that can be transmitted on a packet-based network like the Internet

Multicast

Sending data from one device to many devices on a network

N

NAT

Network Address Translation allows many private IP addresses to connect to the Internet, or another network, through one IP address

NetBEUI

NetBIOS Extended User Interface is a Local Area Network communication protocol. This is an updated version of NetBIOS

NetBIOS

Network Basic Input/Output System

Netmask

Determines what portion of an IP address designates the Network and which part designates the Host

Network Interface Card

A card installed in a computer or built onto the motherboard that allows the computer to connect to a network

Network Layer

The third layer of the OSI model which handles the routing of traffic on a network

Network Time Protocol

Used to synchronize the time of all the computers in a network

NIC

Network Interface Card

NTP

Network Time Protocol

O**OFDM**

Orthogonal Frequency-Division Multiplexing is the modulation technique for both 802.11a and 802.11g

OSI

Open Systems Interconnection is the reference model for how data should travel between two devices on a network

OSPF

Open Shortest Path First is a routing protocol that is used more than RIP in larger scale networks because only changes to the routing table are sent to all the other routers in the network as opposed to sending the entire routing table at a regular interval, which is how RIP functions

P**Password**

A sequence of characters that is used to authenticate requests to resources on a network

Personal Area Network

The interconnection of networking devices within a range of 10 meters

Physical layer

The first layer of the OSI model. Provides the hardware means of transmitting electrical signals on a data carrier

Ping

A utility program that verifies that a given Internet address exists and can receive messages. The utility sends a control packet to the given address and waits for a response.

PoE

Power over Ethernet is the means of transmitting electricity over the unused pairs in a category 5 Ethernet cable

POP3

Post Office Protocol 3 is used for receiving email

Port

A logical channel endpoint in a network. A computer might have only one physical channel (its Ethernet channel) but can have multiple ports (logical channels) each identified by a number.

PPP

Point-to-Point Protocol is used for two computers to communicate with each over a serial interface, like a phone line

PPPoE

Point-to-Point Protocol over Ethernet is used to connect multiple computers to a remote server over Ethernet

PPTP

Point-to-Point Tunneling Protocol is used for creating VPN tunnels over the Internet between two networks

Preamble

Used to synchronize communication timing between devices on a network

Q**QoS**

Quality of Service

R**RADIUS**

Remote Authentication Dial-In User Service allows for remote users to dial into a central server and be authenticated in order to access resources on a network

Reboot

To restart a computer and reload it's operating software or firmware from nonvolatile storage.

Rendezvous

Apple's version of UPnP, which allows for devices on a network to discover each other and be connected without the need to configure any settings

Repeater

Retransmits the signal of an Access Point in order to extend it's coverage

RIP

Routing Information Protocol is used to synchronize the routing table of all the routers on a network

RJ-11

The most commonly used connection method for telephones

RJ-45

The most commonly used connection method for Ethernet

RS-232C

The interface for serial communication between computers and other related devices

RSA

Algorithm used for encryption and authentication

S

Server

A computer on a network that provides services and resources to other computers on the network

Session key

An encryption and decryption key that is generated for every communication session between two computers

Session layer

The fifth layer of the OSI model which coordinates the connection and communication between applications on both ends

Simple Mail Transfer Protocol

Used for sending and receiving email

Simple Network Management Protocol

Governs the management and monitoring of network devices

SIP

Session Initiation Protocol. A standard protocol for initiating a user session that involves multimedia content, such as voice or chat.

SMTP

Simple Mail Transfer Protocol

SNMP

Simple Network Management Protocol

SOHO

Small Office/Home Office

SPI

Stateful Packet Inspection

SSH

Secure Shell is a command line interface that allows for secure connections to remote computers

SSID

Service Set Identifier is a name for a wireless network

Stateful inspection

A feature of a firewall that monitors outgoing and incoming traffic to make sure that only valid responses to outgoing requests are allowed to pass through the firewall

Subnet mask

Determines what portion of an IP address designates the Network and which part designates the Host

Syslog

System Logger -- a distributed logging interface for collecting in one place the logs from different sources. Originally written for UNIX, it is now available for other operating systems, including Windows.

T

TCP

Transmission Control Protocol

TCP Raw

A TCP/IP protocol for transmitting streams of printer data.

TCP/IP

Transmission Control Protocol/Internet Protocol

TFTP

Trivial File Transfer Protocol is a utility used for transferring files that is simpler to use than FTP but with less features

Throughput

The amount of data that can be transferred in a given time period

Traceroute

A utility displays the routes between you computer and specific destination

U**UDP**

User Datagram Protocol

Unicast

Communication between a single sender and receiver

Universal Plug and Play

A standard that allows network devices to discover each other and configure themselves to be a part of the network

Upgrade

To install a more recent version of a software or firmware product

Upload

To send a request from one computer to another and have a file transmitted from the requesting computer to the other

UPnP

Universal Plug and Play

URL

Uniform Resource Locator is a unique address for files accessible on the Internet

USB

Universal Serial Bus

UTP

Unshielded Twisted Pair

V**Virtual Private Network**

VPN: A secure tunnel over the Internet to connect remote offices or users to their company's network

VLAN

Virtual LAN

Voice over IP

Sending voice information over the Internet as opposed to the PSTN

VoIP

Voice over IP

W**Wake on LAN**

Allows you to power up a computer though it's Network Interface Card

WAN

Wide Area Network

WCN

Windows Connect Now. A Microsoft method for configuring and bootstrapping wireless networking hardware (access points) and wireless clients, including PCs and other devices.

WDS

Wireless Distribution System. A system that enables the interconnection of access points wirelessly.

Web browser

A utility that allows you to view content and interact with all of the information on the World Wide Web

WEP

Wired Equivalent Privacy is security for wireless networks that is supposed to be comparable to that of a wired network

Wide Area Network

The larger network that your LAN is connected to, which may be the Internet itself, or a regional or corporate network

Wi-Fi

Wireless Fidelity

Wi-Fi Protected Access

An updated version of security for wireless networks that provides authentication as well as encryption

Wireless ISP

A company that provides a broadband Internet connection over a wireless connection

Wireless LAN

Connecting to a Local Area Network over one of the 802.11 wireless standards

WISP

Wireless Internet Service Provider

WLAN

Wireless Local Area Network

WPA

Wi-Fi Protected Access. A Wi-Fi security enhancement that provides improved data encryption, relative to WEP.

X**xDSL**

A generic term for the family of digital subscriber line (DSL) technologies, such as ADSL, HDSL, RADSL, and SDSL.

Y**Yagi antenna**

A directional antenna used to concentrate wireless signals on a specific location

Appendix B – Specifications

Hardware Summary

Physical Interface	<ul style="list-style-type: none"> ▪ WAN: One 10/100/1000 Gigabit RJ-45 ▪ LAN: Four 10/100/1000 Gigabit RJ-45 ▪ Reset Button (1 second for Reboot, 5 second for Reset to Factory Default) ▪ Power Jack ▪ JTAG (for debug only)
LED Status	<ul style="list-style-type: none"> ▪ Power/ Status ▪ WAN (Internet connection) ▪ LAN1~LAN4 (10/100/1000Mbps) ▪ WLAN (Wireless Connection)
Power Requirements	<ul style="list-style-type: none"> ▪ Power Supply: 90 to 240 VDC \pm 10% (depends on different countries) ▪ Device: 12 V/ 1.25A

Radio Specifications

Frequency Band	2.400~2.484 GHz
Media Access Protocol	Carrier sense multiple access with collision avoidance (CSMA/CA)
Modulation Technology	OFDM: BPSK, QPSK, 16-QAM, 64-QAM DBPSK, DQPSK, CCK
Operating Channels	11 for North America, 14 for Japan, 13 for Europe
Receive Sensitivity (Typical)	<ul style="list-style-type: none"> ▪ 2.412~2.472G(IEEE802.11b) (1Rx) -93dBm @ 1Mbps -91dBm @ 11Mbps ▪ 2.412~2.472G(IEEE802.11g) (2Rx) -92dBm @ 6Mbps -79dBm @ 54Mbps ▪ 2.412~2.472G(IEEE802.11N) (2Rx) -90 dBm MCS 8 -70 dBm MCS 15
Available transmit power	<ul style="list-style-type: none"> ▪ 2.412~2.472G(IEEE802.11b) 19dBm @1~11Mbps ▪ 2.412~2.472G(IEEE802.11g) 19 dBm @6Mbps 16 dBm @54Mbps ▪ 2.412~2.472G(IEEE802.11N) 20 dBm MCS 8

	16 dBm MCS 15
Antenna Gain	<ul style="list-style-type: none"> ▪ Peak Gain = 2 dBi ▪ Average Gain = 1.08 dBi (@ 2.45GHz, H-Plan)

Router and Gateway

Topology	Infrastructure
Operation Mode	AP/ Router/ WDS Bridge
LAN	<ul style="list-style-type: none"> ▪ DHCP Server ▪ Static IP ▪ DNS ▪ UPNP
WAN	<ul style="list-style-type: none"> ▪ Static IP ▪ DHCP Client ▪ PPPoE ▪ PPTP ▪ Clone MAC ▪ DNS Relay ▪ DDNS-8 Verified Services
Router	<ul style="list-style-type: none"> ▪ NAT/ NATP ▪ Static Routing- RIPv2 ▪ Dynamic Route ▪ Virtual server mapping ▪ IP address mapping ▪ Port Forwarding ▪ Port Triggering ▪ MAC address Filtering ▪ ALG(Application Layer Gateway) support (RTP/RTSP, AOL, FTP, ICMP, WMP/MMS, NetMeeting, SIP)
Firewall	<ul style="list-style-type: none"> ▪ Blocking Ping ▪ ICMP Bolcking ▪ SPI (Stateful Packet Inspection) ▪ Rule Based (IP Address Ranges, Port Ranges & Schedule) ▪ DMZ (Demilitarized Zone) Host ▪ Policy Based Parental Controls

	<ul style="list-style-type: none"> ○ Time Based Internet Access ○ Port Range / Service Filtering ○ Internet Domain Restriction ○ Dynamic URL Filtering (OEM subscription service)
VPN	VPN pass-through (PPTP, L2TP, IPSEC)
Wireless	<ul style="list-style-type: none"> ▪ 64/128 bit WEP Encryption ▪ WPA Personal (WPA-PSK using TKIP or AES) ▪ WPA Enterprise (WPA-EAP using TKIP) ▪ 802.1x Authenticator ▪ Hide SSID in beacons ▪ Wi-Fi Protection Setup (WPS) ▪ Auto Channel Selection
QoS	<ul style="list-style-type: none"> ▪ WMM ▪ Intelligent Stream Handling/Wireless Intelligent Stream Handling <ul style="list-style-type: none"> ○ Automatic Traffic Classification & Prioritization ○ Dynamic Traffic Shaping & Packet Fragmentation ○ Automatic Configuration

Management

Configuration	Web-based configuration (HTTP)
Firmware Upgrade	Upgrade firmware via web-browser
Administrator Setting	<ul style="list-style-type: none"> ▪ Administrator password change ▪ Idle time out
Reset Setting	<ul style="list-style-type: none"> ▪ Reboot ▪ Reset to Factory Default
System monitoring	Status and Statistics, Time Zone & NTP Client, Event Log, Email Alarm

Environment & Physical

Temperature Range	<ul style="list-style-type: none">▪ 0 to 50°C (32 F to 122 F) - Operating▪ -40 to 70 °C(-40 F to158 F) - Storage
Humidity (non-condensing)	15%~95% typical
Dimensions	167mm (L) x 108mm (W) x 25mm (H)
Weight	295g

FCC Interference Statement

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: 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.

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.

IC Statement

IC statement

Operation is subject to the following two conditions:

This device may not cause interference and

This device must accept any interference, including interference that may cause undesired operation of the device.

This device has been designed to operate with an antenna having a maximum gain of 2dBi. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

IMPORTANT NOTE:

IC Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. 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.

Règlement d'Industry Canada

Les conditions de fonctionnement sont sujettes à deux conditions:

Ce périphérique ne doit pas causer d'interférence et.

Ce périphérique doit accepter toute interférence, y compris les interférences pouvant perturber le bon fonctionnement de ce périphérique.

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

- EN 60950-1: 2001+A11: 2004
Safety of Information Technology Equipment
- EN50385 : (2002)
- Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz - 40 GHz) - General public
-
- EN 300 328 V1.7.1 (2006-10)
Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive.
- EN 301 489-17 V1.2.1 (2002-08) and EN 301 489-1 V1.6.1 (2005-09)
Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

 Český [Czech]	<i>[Jméno výrobce]</i> tímto prohlašuje, že tento <i>[typ zařízení]</i> je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
 Dansk [Danish]	Undertegnede <i>[fabrikantens navn]</i> erklærer herved, at følgende udstyr <i>[udstyrets typebetegnelse]</i> overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
 Deutsch [German]	Hiermit erklärt <i>[Name des Herstellers]</i> , dass sich das Gerät <i>[Gerätetyp]</i> in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
 Eesti [Estonian]	Käesolevaga kinnitab <i>[tootja nimi = name of manufacturer]</i> seadme <i>[seadme tüüp = type of equipment]</i> vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele

	teistele asjakohastele sätetele.
 English	Hereby, <i>[name of manufacturer]</i> , declares that this <i>[type of equipment]</i> is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
 Español [Spanish]	Por medio de la presente <i>[nombre del fabricante]</i> declara que el <i>[clase de equipo]</i> cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
 Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ <i>[name of manufacturer]</i> ΔΗΛΩΝΕΙ ΟΤΙ <i>[type of equipment]</i> ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
 Français [French]	Par la présente <i>[nom du fabricant]</i> déclare que l'appareil <i>[type d'appareil]</i> est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
 Italiano [Italian]	Con la presente <i>[nome del costruttore]</i> dichiara che questo <i>[tipo di apparecchio]</i> è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo <i>[name of manufacturer / izgatavotāja nosaukums]</i> deklarē, ka <i>[type of equipment / iekārtas tips]</i> atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo <i>[manufacturer name]</i> deklaruoja, kad šis <i>[equipment type]</i> atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
 Nederlands [Dutch]	Hierbij verklaart <i>[naam van de fabrikant]</i> dat het toestel <i>[type van toestel]</i> in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
 Malti [Maltese]	Hawnhekk, <i>[isem tal-manifattur]</i> , jiddikjara li dan <i>[il-mudel tal-prodott]</i> jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn rilevanti li hemm fid-Dirrettiva 1999/5/EC.
 Magyar [Hungarian]	Alulírott, <i>[gyártó neve]</i> nyilatkozom, hogy a <i>[... típus]</i> megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
 Polski [Polish]	Niniejszym <i>[nazwa producenta]</i> oświadczam, że <i>[nazwa wyrobu]</i> jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
 Português [Portuguese]	<i>[Nome do fabricante]</i> declara que este <i>[tipo de equipamento]</i> está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
 Slovensko [Slovenian]	<i>[Ime proizvajalca]</i> izjavlja, da je ta <i>[tip opreme]</i> v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	<i>[Meno výrobcu]</i> týmto vyhlasuje, že <i>[typ zariadenia]</i> spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
 Suomi [Finnish]	<i>[Valmistaja = manufacturer]</i> vakuuttaa täten että <i>[type of equipment = laitteen tyyppimerkintä]</i> tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
 Svenska [Swedish]	Härmed intygar <i>[företag]</i> att denna <i>[utrustningstyp]</i> står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.



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