

LINKSYS[®]
A Division of Cisco Systems, Inc.



2.4GHz
802.11b **Wireless-B**



Media Link for Music **User Guide**

Model No. **WML11B/WMLS11B**



Copyright and Trademarks

Linksys is a registered trademark or trademark of Cisco Systems, Inc. and/or its affiliates in the U.S. and certain other countries. Copyright © 2004 Cisco Systems, Inc. All rights reserved.

How to Use this Guide

This User Guide has been designed to make understanding networking with the Media Link easier than ever. Look for the following items when reading this Guide:



This checkmark means there is a Note of interest and is something you should pay special attention to while using the Media Link.



This exclamation point means there is a Caution or Warning and is something that could damage your property or the Media Link.



This question mark provides you with a reminder about something you might need to do while using the Media Link.

In addition to these symbols, there are definitions for technical terms that are presented like this:

word: definition.

Also, each figure (diagram, screenshot, or other image) is provided with a figure number and description, like this:

Figure 0-1: Sample Figure Description

Figure numbers and descriptions can also be found in the "List of Figures" section in the "Table of Contents".

Table of Contents

Chapter 1: Introduction	1
Welcome	1
What's in this Guide?	2
Chapter 2: Getting to Know the Wireless-B Media Link for Music or the Wireless-B Music System	4
Front Panel	4
Back Panel	4
Remote Controller	5
Speakers (Optional)	6
Chapter 3: Connecting the Wireless-B Media Link for Music to Your Network for Setup	8
Overview	8
Connection to a Wired Network for Setup	8
Chapter 4: Setting up the Wireless-B Media Link for Music	10
Overview	10
Running the Setup Wizard	10
Setting up Musicmatch Jukebox	16
Chapter 5: Connecting the Wireless-B Media Link for Music to Your Audio System	17
Overview	17
Connecting the Media Link to Its Speakers (Optional)	17
Connecting to the Media Link to Your Stereo	19
Connecting the Media Link to Your Network	21
Using the LCD Menus to Set up the Media Link	22
Installing the Media Server Software	26
Setting up Musicmatch Jukebox	26
Chapter 6: Using the LCD Menus of the Wireless-B Media Link for Music	28
Overview	28
LCD Menu Icons	29
Playlist Menu	30
Favorites Menu	30
Browse Menu	30

Wireless-B Media Link for Music

Internet Radio Menu	31
Media Server Menu	31
Network Setup Menu	31
Network Status Menu	36
Update Radio List Menu	36
EQ Menu	36
Chapter 7: Using the Web-based Utility of the Wireless-B Media Link for Music	37
Overview	37
Login	37
Setup	38
Favorites	40
Password	41
Status	42
Help	43
Appendix A: Troubleshooting	44
Common Problems and Solutions	44
Frequently Asked Questions	45
Appendix B: Wireless Security	47
Security Precautions	47
Security Threats Facing Wireless Networks	47
Appendix C: Planning Your Use of the Wireless-B Media Link for Music	49
Overview	49
Using the Media Link as Part of Your Wireless Network	49
Using the Media Link as Part of Your Wired Network	49
Appendix D: Upgrading Firmware	50
Appendix E: Windows Help	51
Appendix F: Glossary	52
Appendix G: Specifications	57
Appendix H: Warranty Information	59
Appendix I: Regulatory Information	60
Appendix J: Contact Information	61

List of Figures

Figure 2-1: Media Link Front Panel	4
Figure 2-2: Media Link Back Panel	4
Figure 2-3: Remote Controller	5
Figure 2-4: Right Speaker Back Panel	6
Figure 2-5: Left Speaker Back Panel	7
Figure 3-1: Connect the Ethernet Network Cable	8
Figure 3-2: Connect the Media Link's Power	8
Figure 3-3: Insert the Base Plate	9
Figure 4-1: Welcome Screen	10
Figure 4-2: License Agreement Screen	11
Figure 4-3: Connection for Setup Screen	11
Figure 4-4: Media Link Selection Screen	12
Figure 4-5: Connection after Setup Screen	12
Figure 4-6: Basic Settings Screen	13
Figure 4-7: Basic Wireless Settings Screen	13
Figure 4-8: Wireless Security Settings Screen	14
Figure 4-9: Confirmation Screen	14
Figure 4-10: Media Services Screen	15
Figure 4-11: Congratulations Screen	15
Figure 4-12: Musicmatch Jukebox Icons	16
Figure 4-13: CD Lookup/Connectivity Tab	16
Figure 5-1: Connecting the Media Link to Its Speakers (WMLS11B only)	17
Figure 5-2: Attaching the Right Speaker	18
Figure 5-3: Connecting the RCA Cable to the Right Speaker	18
Figure 5-4: Connecting the Speakers	18
Figure 5-5: Connecting the Power Cord to the Right Speaker	18
Figure 5-6: Connecting the Media Link to Your Stereo	19
Figure 5-7: Connecting the RCA Cable to Your Stereo	20

Wireless-B Media Link for Music

Figure 5-8: Connecting the Optical Cable to Your Stereo	20
Figure 5-9: Connect the Power	21
Figure 5-10: Wireless Network Icon	21
Figure 5-11: Wired Network Icon	21
Figure 5-12: Main Menu Screen	22
Figure 5-13: Network Setup Screen	22
Figure 5-14: Wireless Screen	23
Figure 5-15: SSID Screen	23
Figure 5-16: Network Type Screen	23
Figure 5-17: Encryption Screen	24
Figure 5-18: Site Survey Screen	24
Figure 5-19: TCP/IP Screen	25
Figure 5-20: IP Address Screen	25
Figure 5-21: Welcome Screen	26
Figure 5-22: Musicmatch Jukebox Icons	26
Figure 5-23: CD Lookup/Connectivity Tab	27
Figure 6-1: Main Menu Screen	28
Figure 6-2: Song Playing Screen	28
Figure 6-3: Wired Network	29
Figure 6-4: Wireless Network	29
Figure 6-5: No Network Signal	29
Figure 6-6: Music Track Playing	29
Figure 6-7: Music Track Paused	29
Figure 6-8: Mute Music Track	29
Figure 6-9: Shuffle Music Tracks	29
Figure 6-10: Repeat Music Track	29
Figure 6-11: Repeat All Music Tracks	29
Figure 6-12: Playlist Screen	30
Figure 6-13: Favorites Screen	30
Figure 6-14: Browse Screen	30

Wireless-B Media Link for Music

Figure 6-15: Internet Radio Screen	31
Figure 6-16: Media Server Screen	31
Figure 6-17: Network Setup Screen	31
Figure 6-18: Device Name Screen	32
Figure 6-19: Wireless Screen	32
Figure 6-20: SSID Screen	32
Figure 6-21: Network Type Screen	33
Figure 6-22: Encryption Screen	33
Figure 6-23: Key Screen	33
Figure 6-24: Site Survey Screen	34
Figure 6-25: TCP/IP Screen	34
Figure 6-26: IP Address Screen	34
Figure 6-27: Proxy Screen	35
Figure 6-28: Hostname Screen	35
Figure 6-29: Device Name Screen	36
Figure 6-30: Update Radio List Screen	36
Figure 6-31: EQ Screen	36
Figure 7-1: Password Screen	37
Figure 7-2: Setup Tab	38
Figure 7-3: Security Setting Screen	39
Figure 7-4: Favorites Tab	40
Figure 7-5: Password Tab	41
Figure 7-6: Status Tab	42
Figure 7-7: Help Tab	43
Figure C-1: Example of a Wireless Network	49
Figure C-2: Example of a Wired Network	49
Figure D-1: Firmware Upgrade Screen	50
Figure D-2: Congratulations Screen	50

Chapter 1: Introduction

Welcome

Thank you for choosing the Wireless-B Media Link for Music. This Media Link lets you send the digital music stored on your computer to your stereo, without running cables through the house. You can also listen to music streaming from your favorite Internet radio station. And with the powered speakers included with the Wireless-B Music System, you can hear your digital music collection wherever you don't have a stereo, such as the patio or kitchen.

How does the Media Link for Music do all of this? The Wireless-B Media Link for Music sits by your home stereo and connects to it using standard audio cables. Then it connects to your home network by Wireless-B (802.11b) networking, or if you prefer, it can be connected via standard 10/100 Ethernet cabling. Using the included remote control and the user-friendly menus on the Media Link's LCD screen, you can browse through the digital music tracks by album, artist, genre, or playlist. Choose the music you want, and let the Wireless-B Media Link for Music play it through your stereo system.

Use the instructions in this Guide to help you integrate the Media Link for Music into your network. These instructions should be all you need to get the most out of the Wireless-B Media Link for Music.

802.11b: an IEEE wireless networking standard that specifies a maximum data transfer rate of 11Mbps and an operating frequency of 2.4GHz.

Ethernet: an IEEE standard network protocol that specifies how data is placed on and retrieved from a common transmission medium.

What's in this Guide?

This user guide covers the steps for setting up and using the Wireless-B Media Link for Music.

- **Chapter 1: Introduction**
This chapter describes the Media Link's applications and this User Guide.
- **Chapter 2: Getting to Know the Wireless-B Media Link for Music or the Wireless-B Music System**
This chapter describes the physical features of the Media Link, its Remote Controller, and optional speakers.
- **Chapter 3: Connecting the Wireless-B Media Link for Music to Your Network for Setup**
This chapter instructs you on how to connect the Media Link to your network before you run the Setup Wizard.
- **Chapter 4: Setting up the Wireless-B Media Link for Music**
This chapter instructs you on how to use the Setup Wizard for setup and configuration of the Media Link. It also explains how to configure the Media Server software on your PC, so you can send music files to the Media Link.
- **Chapter 5: Connecting the Wireless-B Media Link for Music to Your Audio System**
This chapter explains how to connect the Media Link to its speakers (optional) and/or your stereo system. If you prefer to set up the Media Link using its LCD menus, without using a computer, then refer to this chapter.
- **Chapter 6: Using the LCD Menus of the Wireless-B Media Link for Music**
This chapter describes the menus available through the front panel LCD screen, so you can easily select music tracks or Internet radio stations.
- **Chapter 7: Using the Web-based Utility of the Wireless-B Media Link for Music**
This chapter describes the utility, which lets you designate your favorite Internet radio stations and change the Media Link's settings.
- **Appendix A: Troubleshooting**
This appendix describes some potential problems and solutions, as well as frequently asked questions, regarding installation and use of the Media Link.
- **Appendix B: Wireless Security**
This appendix discusses security issues regarding wireless networking and measures you can take to help protect your wireless network.
- **Appendix C: Planning Your Use of the Wireless-B Media Link for Music**
This appendix explains how you can integrate the Wireless-B Media Link into your network.

Wireless-B Media Link for Music

- **Appendix D: Upgrading Firmware**
This appendix instructs you on how to upgrade the Media Link's firmware using its Firmware Upgrade Utility.
- **Appendix E: Windows Help**
This appendix describes how you can use Windows Help for instructions about networking, such as installing the TCP/IP protocol.
- **Appendix F: Glossary**
This appendix gives a brief glossary of terms frequently used in networking.
- **Appendix G: Specifications**
This appendix provides the technical specifications for the Media Link.
- **Appendix H: Warranty Information**
This appendix supplies the warranty information for the Media Link.
- **Appendix I: Regulatory Information**
This appendix supplies the regulatory information regarding the Media Link.
- **Appendix J: Contact Information**
This appendix provides contact information for a variety of Linksys resources, including Technical Support.

Chapter 2: Getting to Know the Wireless-B Media Link for Music or the Wireless-B Music System

Front Panel

You can control the Media Link through the front panel buttons and LCD screen, which you can also control using the Remote Controller. The arrow buttons enable you to navigate through the LCD menus.

- (Up and Down)** To the left of the LCD screen, the up and down arrow buttons allow you to scroll through a menu. While music is playing, they also act as volume control buttons.
- (Play/Pause)** To the right of the LCD screen, the left arrow/pause button allows you to play or pause a music track.
- (Stop)** The square button stops the playing of the selected music track.
- (Left and Right)** The left arrow button allows you to cancel a selection or move back through the menus. The right arrow button allows you to make a selection or move forward through the menus.
- (Power)** The power button allows you to power on and off the Media Link.



Figure 2-1: Media Link Front Panel

Back Panel

On the Media Link's back panel, there is an inset that features six ports, a crossover (X-II) switch, and a Reset button.

- Power** The **Power** port is where you will connect the Media Link's power adapter.
- Speaker DC** The **Speaker DC** port is where you will connect the speaker power cord (WMLS11B only).



IMPORTANT: The only speaker you should connect to the Speaker DC port is the right speaker included with the Wireless-B Music System (WMLS11B). Do not connect your own powered speakers to the Media Link's Speaker DC port; otherwise, the Media Link and your powered speakers may be severely damaged.

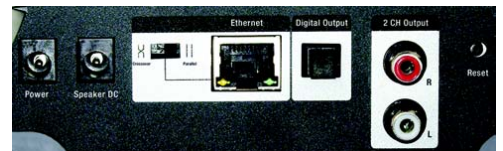


Figure 2-2: Media Link Back Panel

***Ethernet:** an IEEE standard network protocol that specifies how data is placed on and retrieved from a common transmission medium.*

Wireless-B Media Link for Music

Crossover The **Crossover (X-II)** switch is used only when the Media Link is connected to a wired network device. If the Media Link is connected to a PC, then the switch should be in the Crossover (X) position. If the Media Link is connected to a router or switch, then the switch should be in the Parallel (II) position.

Ethernet The **Ethernet** port is where you will connect the Ethernet network cable.

Digital Output The **Digital Output** port is where you will connect the optical cable.

2 CH Output The **2 CH Output** ports are where you will connect the left and right RCA audio cables.

Reset The **Reset** button is what you will push if you need to reset the Media Link.



NOTE: When you want to reset the Media Link to its factory default settings, which are listed below, press the **Reset** button and hold it in for five seconds.

- TCP/IP setting: DHCP
- mode setting: infrastructure
- SSID: any
- WEP encryption setting: disabled

Remote Controller

The Media Link includes a Remote Controller, a convenient way to control the Media Link. Use it to navigate through the menus and make selections on the front panel LCD screen.

Before using the Remote Controller, insert the included AAA batteries into the battery compartment. Make sure you align the batteries according to the compartment's diagram.

Here are descriptions of the remote's various buttons:

Power This turns the Media Link on or off.

Menu It displays the main menu.

Playlist This displays the Playlist menu.

Favorites It displays the Favorites menu.

Browse It displays the Browse menu.

TCP/IP (Transmission Control Protocol/Internet Protocol): a set of instructions PCs use to communicate over a network.

Infrastructure: a wireless network that is bridged to a wired network via an access point.

SSID: your wireless network's name.

WEP (Wired Equivalent Privacy): a method of encrypting data transmitted on a wireless network for greater security.



Figure 2-3: Remote Controller

Wireless-B Media Link for Music

- Select/arrows** Use the Select or right arrow button to make a selection, like the Enter key on your computer's keyboard. Use the arrow keys to move through menus.
- Page up/down** Use these buttons to page or scroll through an extensive menu.
- Volume up/down** Press these buttons to control the volume.
- Play/Pause** It plays or pauses the selected music track.
- Stop** This stops the playing of a music track.
- Mute** Use these button to instantaneously silence the music track being played. Press it again to restore the initial volume setting.
- Previous** Press this button to switch to a previous music track.
- Forward** Press this button to go forward within the same music track.
- Next** Press this button to switch to the next music track.
- Setup** Use this button to view the *Network Setup* screen. For more details, refer to "Chapter 5: Connecting the Wireless-B Media Link for Music to Your Audio System."
- Server** Use this button to view the *Media Server* screen. For more details, refer to "Chapter 6: Using the LCD Menus of the Wireless-B Media Link for Music."
- iRadio** Use this button to view the Internet Radio screen. For more details, refer to "Chapter 6: Using the LCD Menus of the Wireless-B Media Link for Music."
- Repeat** If you want to hear a music track played again, press this button. Press it again to repeat an entire album or playlist.
- Shuffle** Press this button to shuffle the playing order of selected music tracks, so they will play in a random sequence.

Speakers (Optional)

The Wireless-B Music System (model number WMLS11B) comes with the Media Link and two speakers. The Media Link can be connected to its speakers and/or a stereo.

Right Speaker

On the back of the right speaker are four ports.

INPUT (L and R) These **INPUT** ports are where you will connect the RCA audio cables from the Media Link.

CONNECT TO LEFT SPEAKER The **Connect to left speaker** port is where you will connect the RCA speaker cable.

DC 12V The **DC 12V** port is where you will connect the speaker power cord.

Left Speaker

On the back of the left speaker is one port.

CONNECT FROM RIGHT SPEAKER The **CONNECT FROM RIGHT SPEAKER** port is where you will connect the RCA speaker cable.



Figure 2-4: Right Speaker Back Panel



Figure 2-5: Left Speaker Back Panel

Chapter 3: Connecting the Wireless-B Media Link for Music to Your Network for Setup

Overview

This chapter will explain how to connect the Media Link to your wired computer or network for setup.

If you want to set up the Media Link using its front panel LCD screen (without using your computer), then proceed to "Chapter 5: Connecting the Wireless-B Media Link for Music to Your Audio System."

Connection to a Wired Network for Setup

1. Connect the included Ethernet network cable to an Ethernet (LAN) port on your PC, router, or switch.
2. Connect the other end of the cable to the Ethernet port on the Media Link's back panel.
3. If you have connected the Media Link to your PC, then move the Media Link's crossover (X-II) switch to the Crossover (X) position.

If you have connected the Media Link to your router or switch, then move the crossover (X-II) switch to the Parallel (II) position.

4. Plug the power adapter into the Media Link's Power port, and plug the other end into an electrical outlet.
5. The Media Link will automatically power on, and the green LED adjacent to the Ethernet port will light up.



Figure 3-1: Connect the Ethernet Network Cable



Figure 3-2: Connect the Media Link's Power

Wireless-B Media Link for Music

6. Insert the bottom panel of the Media Link into the base plate.
7. Snap the Media Link into the base, so it fits snugly.

Proceed to “Chapter 4: Setting up the Wireless-B Media Link for Music.”



Figure 3-3: Insert the Base Plate

Chapter 4: Setting up the Wireless-B Media Link for Music

Overview

This chapter will describe how to set up the Media Link using the Wireless-B Media Link for Music Setup Wizard. Linksys recommends using the Setup Wizard, which will guide you through the configuration procedure. However, if you want to set up the Media Link using the front panel LCD screen (without a wired connection to a computer), refer to "Chapter 5: Connecting the Wireless-B Media Link for Music to Your Audio System."

Before setting up the Media Link, decide whether the Media Link will be connected to your wireless or wired network AFTER you have configured it. For more information, refer to "Appendix C: Planning Your Use of the Wireless-B Media Link for Music."

When you run the Setup Wizard, you will be asked to install the Media Server software on your PC. You must install this software so your PC can send music to the stereo via the Media Link.

Running the Setup Wizard

1. Insert the Setup CD-ROM into your PC's CD-ROM drive. The Setup Wizard should run automatically, and the *Welcome* screen should appear. If it does not, click the **Start** button and choose **Run**. In the field that appears, enter `D:\setup.exe` (where "D" is the letter of your CD-ROM drive).
 - **Setup** - Click the **Setup** button to begin the installation process.
 - **Install Media Server**- Click the **Install Media Server** button to install the Media Server on your PC. (You will also be asked to install the Media Server at the end of the Setup Wizard.)
 - **Media Services**- Click the **Media Services** button to sign up for a free trial of the Rhapsody subscription service or visit vTuner's website for more information. (The *Media Services* screen also appears during the Setup Wizard.)
 - **User Guide** - Click the **User Guide** button to open the PDF file of this User Guide.
 - **Exit** - Click the **Exit** button to exit the Setup Wizard.
2. To install the Media Link, click the **Setup** button on the *Welcome* screen.



Figure 4-1: Welcome Screen

Wireless-B Media Link for Music

3. Read the License Agreement, and click **Next** if you accept the Agreement. If you do not accept the Agreement, then click **Cancel** to end the installation of the Media Link.
4. Make sure the Media Link's green Ethernet LED is solidly lit. (This LED is located next to the Ethernet port on the back panel.) This indicates that the Media Link is properly connected to your wired network. Then click **Next** to continue.



Figure 4-2: License Agreement Screen



Figure 4-3: Connection for Setup Screen

Wireless-B Media Link for Music

- The screen shown in Figure 4-4 displays a list of Wireless-B Media Links for Music that have been found on your network, along with the settings for the Media Link whose name is highlighted. To select the Media Link you are currently installing, click its name in the *Adapters Found* box. Then click **Next**.
- On the screen shown in Figure 4-5, choose whether the Media Link will be connected to your wireless or wired network AFTER you have configured it.

If you will connect the Media Link to your PC or access point/router wirelessly, then click the **Yes** button for the *Wireless network* choice.

If you will connect the Media Link to your PC or router/switch using an Ethernet network cable, then click the **Yes** button for the *Wired network* choice.

Click **Next**.



NOTE: For more information, refer to "Appendix C: Planning Your Use of the Wireless-B Media Link for Music."



Figure 4-4: Media Link Selection Screen

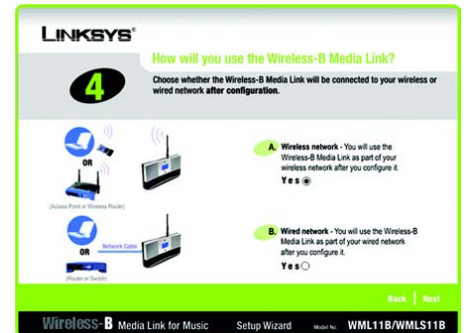


Figure 4-5: Connection after Setup Screen

- On the *Basic Settings* screen, enter a unique name for the Media Link in the *Device Name* field.

If your network has a router or other DHCP server, select **Automatic** for the Network Setting, and click **Next**.

If the Media Link requires a static IP address, select **Static IP** for the Network Setting. Enter a unique IP Address that is in the range of IP addresses appropriate for your network. In the *Subnet Mask*, *Default Gateway*, and *DNS Server* fields, enter the Subnet Mask, Default Gateway address, and DNS Server address of your network; all devices on your network must use the same Subnet Mask, Default Gateway, and DNS Server. You must specify an IP Address, Subnet Mask, Default Gateway, and DNS Server for the Media Link on this screen if it will use a static IP address. Then click **Next**.



NOTE: If you set a static IP address on the Media Link, then you may also need to set a static IP address on your PC. For instructions, refer to Windows Help.

- If you will connect the Media Link to your PC or router using an Ethernet network cable AFTER configuration, then go to step 10.

If you will connect the Media Link to your PC or router wirelessly AFTER configuration, then the *Basic Wireless Settings* screen will appear.

The Mode setting shows a choice of two wireless modes. Select **Infrastructure** if you want the Media Link to communicate using an access point or wireless router. Select **Ad-Hoc** if you want the Media Link to communicate directly with a wireless PC.

In the *SSID* field, enter your wireless network's SSID or name. This is the unique name shared by all devices in a wireless network. The SSID is case-sensitive and should have 32 characters or fewer.

If your network uses WEP encryption, select **Enable**. If not, select **Disable**, and go to step 10.

Click **Next**.

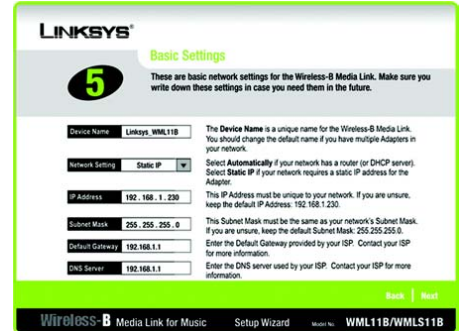


Figure 4-6: Basic Settings Screen

Static IP address: a fixed address assigned to a computer or device connected to a network.

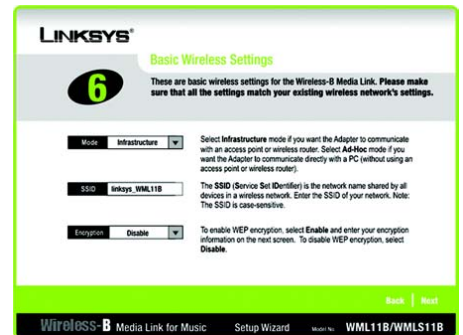


Figure 4-7: Basic Wireless Settings Screen

Ad-hoc: a group of wireless devices communicating directly to each other (peer-to-peer) without the use of an access point.

Infrastructure: configuration in which a wireless network is bridged to a wired network via an access point.

SSID: your wireless network's name.

- The *Wireless Security Settings* screen will appear next. Select a level of WEP encryption, **64-bit** or **128-bit**. Enter a Passphrase, and click the **Generate** button to generate a WEP key. If you want to enter the WEP key manually, then complete the *KEY #1* field. (The Media Link's WEP settings must match the WEP settings of your existing wireless network.) Click **Next** to continue.

Passphrase - Instead of manually entering a WEP key, you can enter a Passphrase, so a WEP key will be automatically generated when you click the Generate button. The Passphrase is case-sensitive and should have 16 alphanumeric characters or fewer. It must match the passphrase of your wireless network and is compatible with Linksys wireless products only. (You will have to enter the WEP key(s) manually on any non-Linksys wireless products.)

KEY #1 - If you enter a Passphrase, then the WEP key will automatically appear in this field after you click the Generate key. If you prefer to enter the WEP key manually, then complete this field. If you are using 64-bit WEP encryption, then the key must consist of exactly 10 hexadecimal characters. If you are using 128-bit WEP encryption, then the key must consist of exactly 26 hexadecimal characters. Valid hexadecimal characters are "0"- "9" and "A"- "F".

- Review your settings on the *Confirmation* screen before you save them. Click **Save** to continue. To change your settings, click **Back**. To exit the Setup Wizard without saving your changes, click **Exit without Saving Changes**.



Figure 4-8: Wireless Security Settings Screen

WEP (Wired Equivalent Privacy): a method of encrypting data transmitted on a wireless network for greater security.

Passphrase: used much like a password, a passphrase simplifies the WEP encryption process by automatically generating the WEP encryption for Linksys products.



Figure 4-9: Confirmation Screen

Wireless-B Media Link for Music

11. The *Media Services* screen will appear. The Rhapsody Digital Music Service is a subscription service that offers unlimited access to its catalog of legal online music. To install the Rhapsody software and sign up for a free trial of the Rhapsody Digital Music Service, click the **Rhapsody Digital Music Service** button.

The Media Link offers built-in support of vTuner, which is a program that allows you to find and listen to radio and TV broadcasts over the Internet. For more information, click the **vTuner Information** button.

Click **Finish** to continue.

12. The *Congratulations* screen will appear. The Wireless-B Media Link for Music is now properly configured.

For the Media Link to work properly, you must install the Media Server software on at least one PC in your network. This software, which is called Musicmatch Jukebox, allows your computer to communicate with the Media Link, so music tracks can be sent to the stereo and/or Media Link speakers (WMLS11B only). Musicmatch Jukebox also organizes the music tracks and creates playlists, so you can easily find the songs you want to play. To install the software, click **Install Media Server**, and follow the on-screen instructions. If you have already installed this software, click **Exit**.

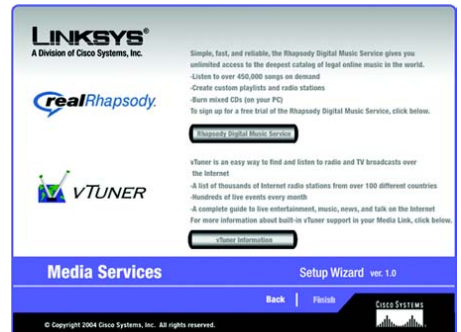


Figure 4-10: Media Services Screen



Figure 4-11: Congratulations Screen



NOTE: If the computer running Musicmatch Jukebox goes into Sleep mode, then you will not be able to use the Media Link. To prevent Sleep mode:

1. Click the **Start** button.
2. Depending on the type of Windows operating system you are using, click **Control Panel** or click **Settings** and then **Control Panel**.
3. Depending on the type of Windows operating system, either double-click **Power Options**, or click **Performance and Maintenance** and then **Power Options**.
4. On the *Power Schemes* screen, select **Never** for the *System standby* and *System hibernate* settings.
5. Click the **OK** button.

Proceed to the "Setting up Musicmatch Jukebox" section.

Setting up Musicmatch Jukebox

After you have installed Musicmatch Jukebox, you will see its icon in the system tray of your taskbar, as well as on your desktop. Double-click either icon to start the software.

To enable communication between Musicmatch Jukebox and the Media Link, follow these instructions:

1. Click the **Options** menu.
2. Click **Settings**.
3. Click the **CD Lookup/Connectivity** tab.
4. In the *Services* section, click the checkbox next to *Enable Music Server*.
5. Then click the checkbox next to *Universal Plug and Play*.
6. Click the **OK** button to save your changes.

For information on how to use Musicmatch Jukebox, visit www.musicmatch.com, or click the **Help** menu of the software program.



NOTE: If you want to send music to the Media Link from multiple computers, you have two options:

You can install Musicmatch Jukebox on multiple computers, so you can switch between Media Servers when you want to send music to the Media Link from a different computer; or

You can install Musicmatch Jukebox on one computer and use shared drives on the network, so the music files can be accessed through the computer running Musicmatch Jukebox.

Proceed to “Chapter 5: Connecting the Wireless-B Media Link for Music to Your Audio System.”



Figure 4-12: Musicmatch Jukebox Icons

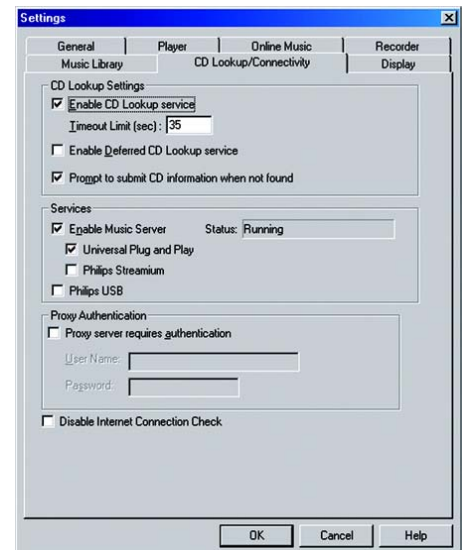


Figure 4-13: CD Lookup/Connectivity Tab

Chapter 5: Connecting the Wireless-B Media Link for Music to Your Audio System

Overview

The first part of this chapter will explain how to connect the Media Link to its speakers (WMLS11B only) and/or your stereo. Proceed to the instructions appropriate for the installation you want. If you did not run the Setup Wizard, first connect the Media Link, and then follow the instructions in the "Using the LCD Menu to Set up the Media Link" section.

Connecting the Media Link to Its Speakers (Optional)

Follow the instructions in this section to make the connections shown in Figure 5-1. (The connection to the desktop PC will be made only if the Media Link will work as part of your wired network.)

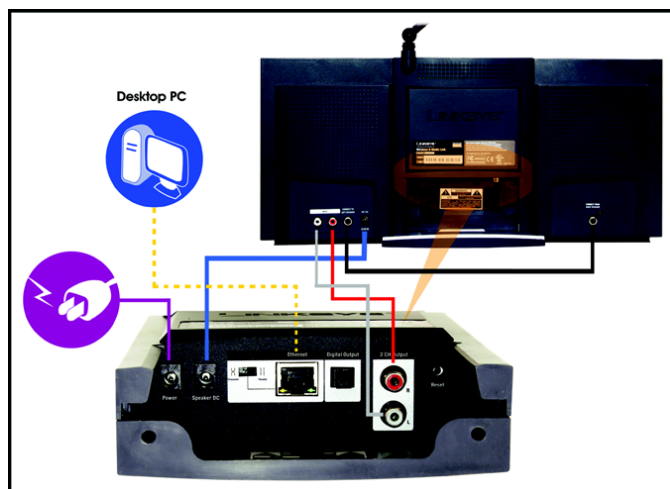


Figure 5-1: Connecting the Media Link to Its Speakers (WMLS11B only)

Wireless-B Media Link for Music

1. If you did not run the Setup Wizard, go to step 4. Otherwise, press the Media Link's power button on its front panel to power it off.
2. Unplug the power adapter from the Media Link's Power port and electrical outlet.
3. Unplug the Ethernet network cable from the Media Link's Ethernet port and the Ethernet port of your PC, router, or switch.
4. Move the Media Link to the room where you want to hear music playing.
5. Line up the pegs of the right speaker with the mounting holes on the right side of the Media Link, and insert the pegs. Then slide the right speaker down until the pegs fit into the bottom of the mounting holes.

Do the same for the left speaker.

6. Connect the color-coded RCA audio cable to the Media Link's 2 CH Output (left and right) ports.
Then connect the other end to the right speaker's INPUT (left and right) ports.
7. Connect the RCA speaker cable to the right speaker's CONNECT TO LEFT SPEAKER port.
Then connect the other end to the left speaker's CONNECT FROM RIGHT SPEAKER port.
8. Connect the speaker power cord to the Media Link's Speaker DC port.
Then connect the other end to the right speaker's DC 12V port.

Proceed to the "Connecting the Media Link to Your Network" section.



Figure 5-2: Attaching the Right Speaker

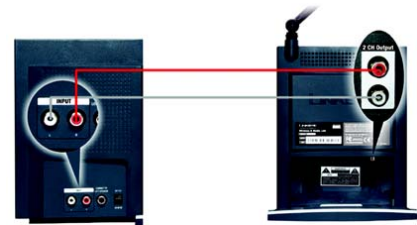


Figure 5-3: Connecting the RCA Cable to the Right Speaker

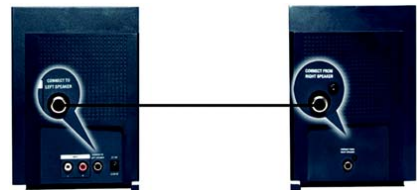


Figure 5-4: Connecting the Speakers

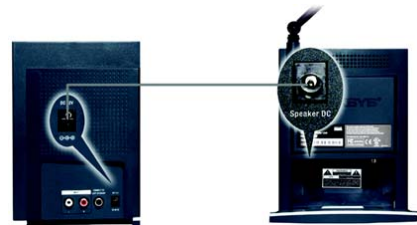


Figure 5-5: Connecting the Power Cord to the Right Speaker

Connecting to the Media Link to Your Stereo

Follow the instructions in this section to make the connections shown in Figure 5-6. (The connection to the desktop PC will be made only if the Media Link will work as part of your wired network.)

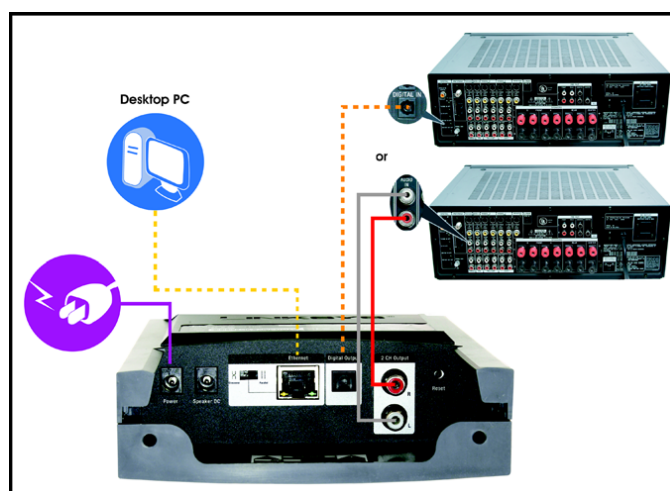


Figure 5-6: Connecting the Media Link to Your Stereo

1. If you did not run the Setup Wizard, go to step 4. Otherwise, press the Media Link's power button on its front panel to power it off.
2. Unplug the power adapter from the Media Link's Power port and electrical outlet.
3. Unplug the Ethernet network cable from the Media Link's Ethernet port and the Ethernet port of your PC, router, or switch.
4. Move the Media Link to the stereo.

Wireless-B Media Link for Music

5. If you want to connect the Media Link to your stereo's RCA input, connect the color-coded RCA cable to the Media Link's 2 CH Output (left and right) ports. Then connect the other end to your stereo's RCA input.

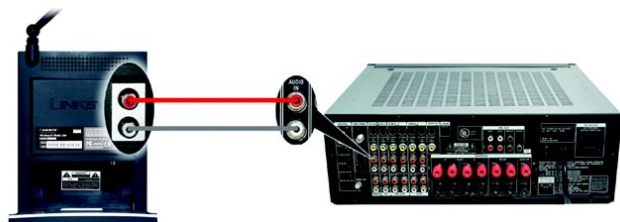


Figure 5-7: Connecting the RCA Cable to Your Stereo

If you want to connect the Media Link to your stereo's digital input, connect the optical cable (not included) to the Media Link's Digital Output port. Then connect the other end to your stereo's digital input.



NOTE: If you have already connected the Media Link to its speakers and you also want to connect it to your stereo, then you must use the Media Link's Digital Output port for connection to your stereo.



Figure 5-8: Connecting the Optical Cable to Your Stereo

6. Select the stereo input that the Media Link will use.

Proceed to the "Connecting the Media Link to Your Network" section.

Connecting the Media Link to Your Network

1. If the Media Link will be part of your wireless network, go to step 2.

If the Media Link will be part of your wired network, then connect the Ethernet network cable from the Media Link's Ethernet port to an Ethernet port on your PC or a wired network device, such as a router or switch.

If you have connected the Media Link to your PC, then move the Media Link's crossover (X-II) switch to the Crossover (X) position.

If you have connected the Media Link to your router or switch, then move the crossover (X-II) switch to the Parallel (II) position.

2. Plug the power adapter into the Media Link's Power port, and plug the other end into an electrical outlet.
3. If you haven't already done so, insert the included AAA batteries into the Remote Controller.
4. If you did not run the Setup Wizard, then proceed to the "Using the LCD Menus to Set up the Media Link" section.

If you used the Setup Wizard, then the Media Link will automatically find the computer running the Media Server software, Musicmatch Jukebox.

5. If the Media Link connects to your wireless network, the Wireless Network icon will appear on the LCD screen.

If the Media Link connects to your wired network, the Wired Network icon will appear on the LCD screen.

6. Use the arrow and Select buttons on the remote to select music tracks.



NOTE: To navigate the menus of the LCD screen, use the directional arrows on the remote or the Media Link's front panel. Press the **Select** or right arrow button to make a selection. Press the right arrow button to save any changes. Press the **Menu** button to access the main menu at any time.

If you have already set up the Media Link using the Setup Wizard, then proceed to "Chapter 6: Using the LCD Menus of the Wireless-B Media Link for Music."



Figure 5-9: Connect the Power



Figure 5-10: Wireless Network Icon



Figure 5-11: Wired Network Icon

Using the LCD Menus to Set up the Media Link

Before setting up the Media Link, decide whether the Media Link will be connected to your wireless or wired network AFTER you have configured it. For more information, refer to “Appendix C: Planning Your Use of the Wireless-B Media Link for Music.”

To navigate the menus of the LCD screen, use the directional arrows on the remote or the Media Link’s front panel. Press the **Select** or right arrow button to make a selection. Press the right arrow button to save any changes. Press the left arrow button to cancel any selection or changes. Press the **Menu** button to access the main menu at any time.

To set up the Media Link directly from the front panel, follow these instructions:

1. On the LCD screen, select **Network Setup**.
2. You will see these choices: Change to wired (network), Device Name, Wireless (settings), TCP/IP (settings), and Proxy (settings). Depending on the configuration of your network, follow the instructions in the appropriate section.



NOTE: Every time you want to save a new setting, you must press the right arrow button on the remote or front panel. Then the Media Link will save the setting and restart itself.

Change to wired

If you want to use the Media Link as part of your wired network, select **Change to wired**. When asked if you are sure, select **Yes** to continue, or select **No** to cancel the setup. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Device Name

If you want to change the Media Link’s Device Name, select **Device Name**. Use the arrow keys to scroll through the uppercase alphabet, lowercase alphabet, numbers, and punctuation. To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.



Figure 5-12: Main Menu Screen



Figure 5-13: Network Setup Screen

Wireless

To change the Media Link's wireless settings, select **Wireless**. You have four choices: SSID, Network Type, Encryption, and Site Survey.

SSID

The Media Link's default SSID is **any**. If you want to change its default SSID, select **SSID**. Use the arrow keys to scroll through the uppercase alphabet, lowercase alphabet, numbers, and punctuation. To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Network Type

If you want to change the wireless network type, select **Network Type**. If your network uses infrastructure mode, then select **Infrastructure**. If your network uses ad-hoc mode, then select **Ad-Hoc**. Your selection will be denoted by a bracketed asterisk, [*]. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.



Figure 5-14: Wireless Screen

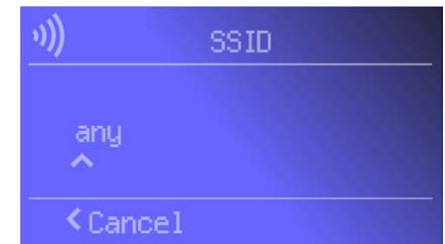


Figure 5-15: SSID Screen

SSID: your wireless network's name.

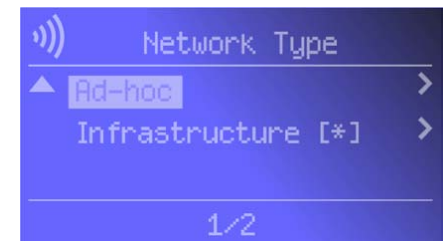


Figure 5-16: Network Type Screen

***Ad-hoc:** a group of wireless devices communicating directly with each other (peer-to-peer) without the use of an access point.*

***Infrastructure:** configuration in which a wireless network is bridged to a wired network via an access point.*

Encryption

If you want to change the Media Link's encryption settings, select **Encryption**. You will see four choices: WEP (Wired Equivalent Privacy), Key Entry Method, Key Size, and Key.

WEP - To enable or disable WEP encryption, select **WEP**. To enable WEP encryption, select **Enable**. To disable WEP encryption, select **Disable**. Your selection will be denoted by a bracketed asterisk, [*]. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Key Entry Method - To change how you want to enter the WEP key, select **Key Entry Method**. If you want to enter a passphrase to generate a WEP key, select **ASCII**. If you want to enter the WEP key using hexadecimal characters, select **HEX**. Your selection will be denoted by a bracketed asterisk, [*]. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Key Size - To change the size of the WEP key, select **Key Size**. If you want to use a 64-bit key, select **64**. If you want to use a 128-bit key, select **128**. Your selection will be denoted by a bracketed asterisk, [*]. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Key - To change the passphrase or WEP key, select **Key**. Enter the passphrase (ASCII characters) or WEP key (hexadecimal characters) in this field. Use the arrow keys to scroll through the available ASCII or hexadecimal characters. To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change. If you are entering hexadecimal characters, make sure you enter the exact number of hexadecimal characters requested on the **Key** screen.

Site Survey

If you want to search for all available wireless networks, select **Site Survey**. A list of wireless networks will appear. To connect to a specific network, select it, and press the right arrow button. If the network uses WEP encryption, a new screen will appear and ask you to enter the WEP key.

TCP/IP

To change the Media Link's TCP/IP settings, select **TCP/IP**. You will see up to six choices: DHCP, IP Address, Subnet Mask, Gateway, DNS Server 1, and DNS Server 2.



Figure 5-17: Encryption Screen

WEP (Wired Equivalent Privacy): a method of encrypting data transmitted on a wireless network for greater security.

Passphrase: used much like a password, a passphrase simplifies the WEP encryption process by automatically generating the WEP encryption for Linksys products.

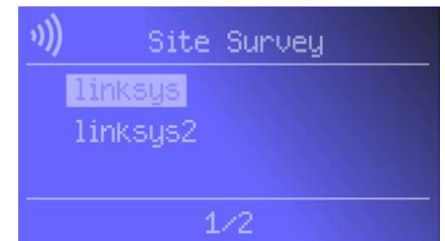


Figure 5-18: Site Survey Screen

DHCP

To change the Media Link's DHCP setting, select **DHCP**. If the Media Link will be assigned an IP address automatically by a router or other DHCP server, then select **Enable**. You will not see the IP Address, Subnet Mask, Gateway, and DNS Server menus because these settings will be set automatically. If the Media Link needs a static IP address, then select **Disable**. You will need to configure the IP Address, Subnet Mask, Gateway, and at least one of the DNS Server settings.

Your selection will be denoted by a bracketed asterisk, [*]. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

IP Address

To change the Media Link's static IP address, select **IP Address**. Use the arrow keys to scroll through the numbers 0-9 and punctuation (a period). To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Subnet Mask

To change the Media Link's subnet mask, select **Subnet Mask**. Use the arrow keys to scroll through the numbers 0-9 and punctuation (a period). To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Gateway

To change the Media Link's gateway, select **Gateway**. Use the arrow keys to scroll through the numbers 0-9 and punctuation (a period). To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

DNS Server 1 and DNS Server 2

To change the Media Link's DNS server address, select **DNS Server 1** and/or **DNS Server 2**. (You must enter at least one DNS server address.) Use the arrow keys to scroll through the numbers 0-9 and punctuation (a period). To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

For information about the other LCD menus, refer to "Chapter 6: Using the LCD Menus of the Wireless-B Media Link for Music."

After you have finished configuring the Media Link's network settings, proceed to the next section, "Installing the Media Server Software."



Figure 5-19: TCP/IP Screen



Figure 5-20: IP Address Screen

Static IP address: a fixed address assigned to a computer or device connected to a network.

Installing the Media Server Software

For the Media Link to work properly, you must install the Media Server software on at least one PC in your network. This software, which is called Musicmatch Jukebox, allows your computer to communicate with the Media Link, so music tracks can be sent to the stereo and/or Media Link speakers (WMLS11B only). Musicmatch Jukebox also organizes the music tracks and creates playlists, so you can easily find the songs you want to play. To install the software, follow these instructions:

1. Insert the Setup CD-ROM into your PC's CD-ROM drive. The Setup Wizard should run automatically, and the *Welcome* screen should appear. If it does not, click the **Start** button and choose **Run**. In the field that appears, enter `D:\setup.exe` (where "D" is the letter of your CD-ROM drive).
2. Click **Install Media Server**, and follow the on-screen instructions.



NOTE: If the computer running Musicmatch Jukebox goes into Sleep mode, then you will not be able to use the Media Link. To prevent Sleep mode:

1. Click the **Start** button and **Control Panel**.
2. Depending on the type of Windows operating system you are using, click **Control Panel** or click **Settings** and then **Control Panel**.
3. Depending on the type of Windows operating system, either double-click **Power Options**, or click **Performance and Maintenance** and then **Power Options**.
4. On the *Power Schemes* screen, select **Never** for the *System standby* and *System hibernate* settings.
5. Click the **OK** button.

Proceed to the "Setting up Musicmatch Jukebox" section.

Setting up Musicmatch Jukebox

After you have installed Musicmatch Jukebox, you will see its icon in the system tray of your taskbar, as well as on your desktop. Double-click either icon to start the software.

To enable communication between Musicmatch Jukebox and the Media Link, follow these instructions:

1. Click the **Options** menu.
2. Click **Settings**.



Figure 5-21: Welcome Screen



Figure 5-22: Musicmatch Jukebox Icons

3. Click the **CD Lookup/Connectivity** tab.
4. In the *Services* section, click the checkbox next to *Enable Music Server*.
5. Then click the checkbox next to *Universal Plug and Play*.
6. Click the **OK** button.

For information on how to use Musicmatch Jukebox, visit www.musicmatch.com, or click the **Help** menu of the software program.



NOTE: If you want to send music to the Media Link from multiple computers, you have two options:

You can install Musicmatch Jukebox on multiple computers, so you can switch between Media Servers when you want to send music to the Media Link from a different computer; or

You can install Musicmatch Jukebox on one computer and use shared drives on the network, so the music files can be accessed through the one computer.

Proceed to “Chapter 6: Using the LCD Menus of the Wireless-B Media Link for Music.”

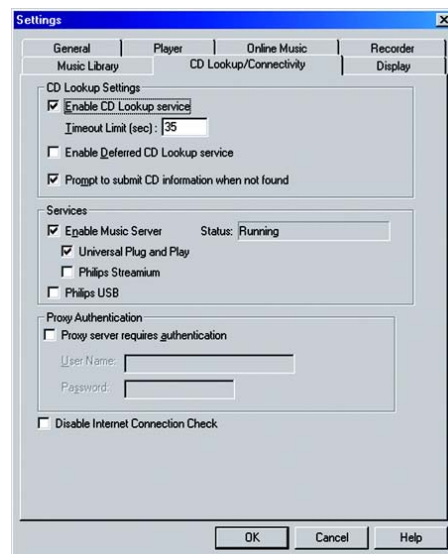


Figure 5-23: CD Lookup/Connectivity Tab

Chapter 6: Using the LCD Menus of the Wireless-B Media Link for Music

Overview

This chapter explains how to use the Media Link via the LCD menus on its front panel. For example, you can choose a playlist, browse for an album, or choose an Internet radio station.

After you have set up the Media Link and connected it to your stereo, the main menu will appear (see Figure 6-1). It has nine choices:

- Playlists
- Favorites
- Browse
- Internet Radio
- Media Servers
- Network Setup
- Network Status
- Update Radio List
- EQ

If you haven't already done so, insert the included AAA batteries into the Remote Controller.

To navigate the menus of the LCD screen, use the directional arrows on the remote or the Media Link's front panel. Press the **Select** or right arrow button to make a selection. Press the right arrow button to save any changes. Press the left arrow button to cancel any selection or changes. Press the **Menu** button to access the main menu at any time.

As a music track plays, the screen shown in Figure 6-2 will be displayed on the LCD screen. It shows information about the music track, such as playlist title, song title, artist, and/or album title. At the bottom of the screen, it also shows how much of the song has been played and how long the song is.

Use the Play/Pause and Stop buttons on the remote to control music playback. Use the Forward and Backward buttons to move forward or go backward within a music track. Use the Previous and Next buttons to move between music tracks.

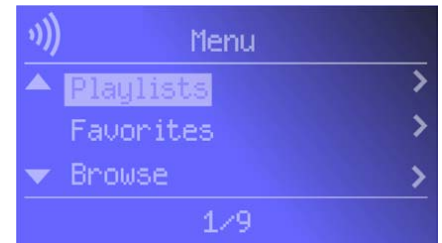


Figure 6-1: Main Menu Screen



Figure 6-2: Song Playing Screen

LCD Menu Icons

At the top of the LCD screen, you will see one or more icons indicating the Media Link's network type, the status of the music track, and which options you have selected. Here are descriptions of the nine icons:

- Wired Network - The Media Link is functioning as part of your wired network.
- Wireless Network - The Media Link is functioning as part of your wireless network.
- No Network Signal - The Media Link is not receiving a signal from any network.
- Music Track Playing - The Media Link is playing the selected music track.
- Music Track Paused - You have paused the selected music track.
- Mute Music Track - You have silenced the music track that is currently playing.
- Shuffle Music Tracks - The selected music tracks are playing in a random sequence.
- Repeat Music Track - You are re-playing the selected music track.
- Repeat All Music Tracks - You are re-playing all of the selected music tracks.



Figure 6-3: Wired Network



Figure 6-4: Wireless Network



Figure 6-5: No Network Signal



Figure 6-6: Music Track Playing



Figure 6-7: Music Track Paused



Figure 6-8: Mute Music Track



Figure 6-9: Shuffle Music Tracks



Figure 6-10: Repeat Music Track



Figure 6-11: Repeat All Music Tracks

Playlist Menu

At any time, you can use the Music button on the remote to access the Music menu. To play certain songs in a specific sequence, select the Playlist menu, which will list the playlists that you have created using Musicmatch. Select the playlist you want, and press the right arrow button.

Favorites Menu

The Favorites menu will list your favorites. Select the radio station you want, and press the right arrow button.

To designate your favorite radio station, scroll to Internet Radio, and select the radio station you want. Press the **Select** button, and select **Add to Favorites**. Then press the **Select** button again. If you already know the URL for your favorite radio station, use the Media Link's Web-based Utility to add up to 20 favorites. Refer to "Chapter 7: Using the Web-based Utility of the Wireless-B Media Link for Music."

Browse Menu

The Browse menu offers seven choices: Albums, All Tracks, Artists, Artists/Albums, Genres, Genres/Artists, and Playlists. Press the right arrow button to make a selection. As you browse, you will see additional screens with more choices. Select the song you want, and press the right arrow button.

Albums

The *Albums* screen lets you select the music you want to play according to album.

All Tracks

Select **All Tracks** to play every track in your digital music library.

Artists, Artists/Albums, Genres, Genres/Artists

If you want to play all the songs by a certain artist, select **Artists**. To browse by Artist and Album title, select **Artists/Albums**. To play all the songs of a certain genre, such as jazz or classical, select **Genres**. To browse by Genre and Artist, select **Genres/Artists**.

Playlists

To play certain songs in a specific sequence, select the Playlist menu, which will list the playlists that you have created using Musicmatch. Select the playlist you want, and press the right arrow button.

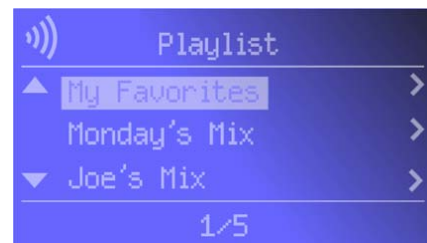


Figure 6-12: Playlist Screen



Figure 6-13: Favorites Screen



Figure 6-14: Browse Screen

Internet Radio Menu

The Media Link uses vTuner to find radio and TV broadcasts over the Internet. When you select the Internet Radio menu, you have three choices: Genres, Countries, and All Stations. At any time, you can use the iRadio button on the remote to access the Internet Radio menu.

Genres

You have an extensive list of genres available, from the Blues to News Talk to World Tropical. Press the right arrow button to make a selection. As you proceed with your browsing, you will see additional screens offering the available choices. When you have selected the Internet radio station you want, then press the right arrow button.

Countries

You can select from an extensive list of countries, from Antigua to Italy to Thailand. Press the right arrow button to make a selection. As you proceed with your browsing, you will see additional screens offering the available choices. When you have selected the Internet radio station you want, then press the right arrow button.

All Stations

Scroll through the list of all Internet radio stations. When you have selected the Internet radio station you want, press the right arrow button.

Media Server Menu

You can play music from any computer that has the Media Server installed (refer to "Chapter 4: Setting up the Wireless-B Media Link for Music"). To play music located on a different computer, use the Media Server menu to switch between computers.

When you select the Media Server menu, you will see a list of servers available on your network. "MM" denotes a Musicmatch server, while "RM" denotes a Rhapsody music server. Press the right arrow button to make a selection.

Network Setup Menu

If you want to set up the Media Link without using a computer, then use the Network Setup menu.

After you have selected the Network Setup menu, you will see these choices: Change to wired (network), Device Name, Wireless (settings), TCP/IP (settings), and Proxy (settings).



Figure 6-15: Internet Radio Screen



Figure 6-16: Media Server Screen



Figure 6-17: Network Setup Screen

Change to wired

If you want to use the Media Link as part of your wired network, select **Change to wired**. When asked if you are sure, select **Yes** to continue, or select **No** to cancel the setup. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Device Name

If you want to change the Media Link's Device Name, select **Device Name**. Use the arrow keys to scroll through the uppercase alphabet, lowercase alphabet, numbers, and punctuation. To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Wireless

To change the Media Link's wireless settings, select **Wireless**. You have four choices: SSID, Network Type, Encryption, and Site Survey.

SSID

The Media Link's default SSID is **any**. If you want to change its default SSID, select **SSID**. Use the arrow keys to scroll through the uppercase alphabet, lowercase alphabet, numbers, and punctuation. To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.



NOTE: Every time you want to save a new setting, you must press the right arrow button on the remote or front panel. Then the Media Link will save the setting and restart itself.

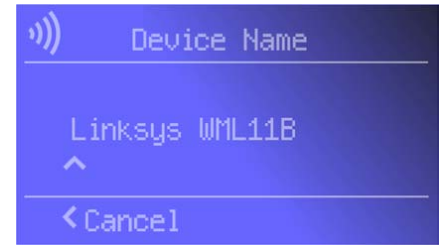


Figure 6-18: Device Name Screen



Figure 6-19: Wireless Screen

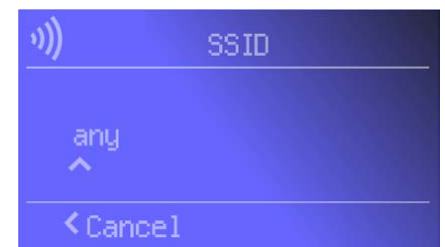


Figure 6-20: SSID Screen

Network Type

If you want to change the wireless network type, select **Network Type**. If your network uses infrastructure mode, then select **Infrastructure**. If your network uses ad-hoc mode, then select **Ad-Hoc**. Your selection will be denoted by a bracketed asterisk, [*]. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Encryption

If you want to change the Media Link's encryption settings, select **Encryption**. You will see four choices: WEP (Wired Equivalent Privacy), Key Entry Method, Key Size, and Key.

WEP - To enable or disable WEP encryption, select **WEP**. To enable WEP encryption, select **Enable**. To disable WEP encryption, select **Disable**. Your selection will be denoted by a bracketed asterisk, [*]. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Key Entry Method - To change how you want to enter the WEP key, select **Key Entry Method**. If you want to enter a passphrase to generate a WEP key, select **ASCII**. If you want to enter the WEP key using hexadecimal characters, select **HEX**. Your selection will be denoted by a bracketed asterisk, [*]. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Key Size - To change the size of the WEP key, select **Key Size**. If you want to use a 64-bit key, select **64**. If you want to use a 128-bit key, select **128**. Your selection will be denoted by a bracketed asterisk, [*]. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Key - To change the passphrase or WEP key, select **Key**. Enter the passphrase (ASCII characters) or WEP key (hexadecimal characters) in this field. Use the arrow keys to scroll through the available ASCII or hexadecimal characters. To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change. If you are entering hexadecimal characters, make sure you enter the exact number of hexadecimal characters requested on the *Key* screen.



NOTE: Every time you want to save a new setting, you must press the right arrow button on the remote or front panel. Then the Media Link will save the setting and restart itself.



Figure 6-21: Network Type Screen

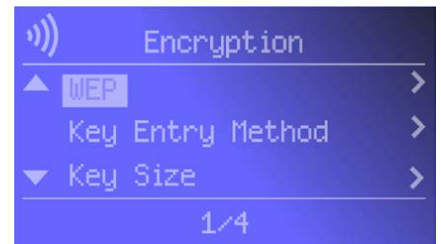


Figure 6-22: Encryption Screen

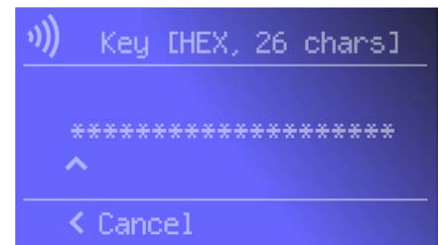


Figure 6-23: Key Screen

Site Survey

If you want to search for all available wireless networks, select **Site Survey**. A list of wireless networks will appear. To connect to a specific network, select it, and press the right arrow button. If the network uses WEP encryption, a new screen will appear and ask you to enter the WEP key.

TCP/IP

To change the Media Link's TCP/IP settings, select **TCP/IP**. You will see up to six choices: DHCP, IP Address, Subnet Mask, Gateway, DNS Server 1, and DNS Server 2.

DHCP

If the Media Link will be assigned an IP address automatically by a router or other DHCP server, then select **Enable**. You will not see the IP Address, Subnet Mask, Gateway, and DNS Server menus because these settings will be set automatically. If the Media Link needs a static IP address, then select **Disable**. You will need to configure the IP Address, Subnet Mask, Gateway, and at least one of the DNS Server settings.

Your selection will be denoted by a bracketed asterisk, [*]. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

IP Address

To change the Media Link's static IP address, select **IP Address**. Use the arrow keys to scroll through the numbers 0-9 and punctuation (a period). To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Subnet Mask

To change the Media Link's subnet mask, select **Subnet Mask**. Use the arrow keys to scroll through the numbers 0-9 and punctuation (a period). To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Gateway

To change the Media Link's gateway, select **Gateway**. Use the arrow keys to scroll through the numbers 0-9 and punctuation (a period). To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.



NOTE: Every time you want to save a new setting, you must press the right arrow button on the remote or front panel. Then the Media Link will save the setting and restart itself.



Figure 6-24: Site Survey Screen



Figure 6-25: TCP/IP Screen

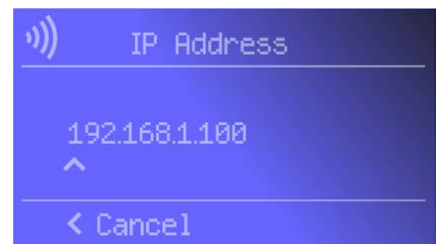


Figure 6-26: IP Address Screen

DNS Server 1 and DNS Server 2

To change the Media Link's DNS server address, select **DNS Server 1** and/or **DNS Server 2**. (You must enter at least one DNS server address.) Use the arrow keys to scroll through the numbers 0-9 and punctuation (a period). To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Proxy

If you have a proxy server on your network, configure the Media Link's proxy settings using this menu. You will see three choices: Proxy Server, Hostname, and Port.

Proxy Server

If you want to change the Media Link's Proxy Server setting, select **Proxy Server**. If you want to use the Proxy Server feature, select **Enable**. If you do not want to use this feature, select **Disable**. To make a selection, press the **Select** button. Your selection will be denoted by a bracketed asterisk, [*]. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Hostname

To change the Media Link's Hostname setting, select **Hostname**. Enter the URL or IP address of the host. Use the arrow keys to scroll through the uppercase alphabet, lowercase alphabet, numbers, and available punctuation (a period). To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Port

To change the port number that the proxy server is using, select **Port**. Use the arrow keys to scroll through the numbers 0-9. To make a selection, press the **Select** button. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.



Figure 6-27: Proxy Screen

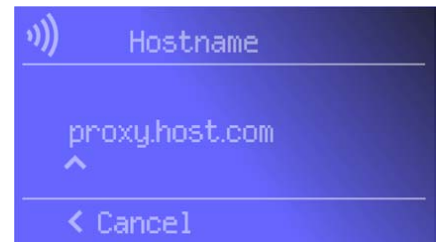


Figure 6-28: Hostname Screen



NOTE: Every time you want to save a new setting, you must press the right arrow button on the remote or front panel. Then the Media Link will save the setting and restart itself.

Network Status Menu

If you want to see the Media Link's network status information, use the Network Status menu.

After you have selected this menu, you will see the *Device Name* screen. Scroll down to see additional status screens: Firmware Version, Hardware Version, SSID, Network Type, Encryption, Wireless Signal (strength), Wireless Channel, MAC Address, DHCP, IP Address, Subnet Mask, Gateway, DNS Server 1, DNS Server 2, Proxy Server, Proxy Name, and Proxy Port.

Update Radio List Menu

The Media Link uses vTuner to find radio and TV broadcasts over the Internet. To update the Media Link's list of radio stations, use this menu. You will see three choices: Radio List Version, Automatic Update, and Manual Update.

Radio List Version

To view the version number of your radio list, select **Radio List Version**.

Automatic Update

If you want the Media Link to automatically update the radio list, select **Enable**. If you do not want automatic updates, select **Disable**. Your selection will be denoted by a bracketed asterisk, [*]. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

Manual Update

To manually update the radio list, select **Start Update?** on this screen. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

EQ Menu

To set the Media Link's equalizer setting, use this menu. You will see six choices: Flat, Classical, Acoustic, Jazz, Rock, and Pop. Scroll down the menu to select the setting that best suits your musical sensibility. Your selection will be denoted by a bracketed asterisk, [*]. Press the right arrow button to save your new setting. Press the left arrow button to cancel your change.

You may also change the Media Link's settings using its Web-based Utility. If so, refer to "Chapter 7: Using the Web-based Utility of the Wireless-B Media Link for Music."



Figure 6-29: Device Name Screen



Figure 6-30: Update Radio List Screen

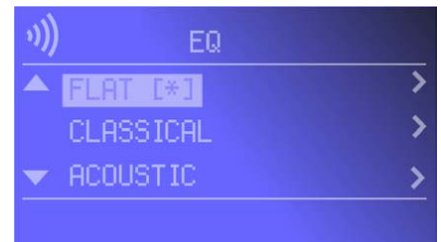


Figure 6-31: EQ Screen

Chapter 7: Using the Web-based Utility of the Wireless-B Media Link for Music

Overview

The Media Link is designed to function properly after you configure it using the Setup Wizard. However, if you would like to change these basic settings or designate favorite radio stations, use your web browser and the Wireless-B Media Link Web-based Utility. This chapter explains how to use the Utility.

Login

1. Open your web browser, and enter the IP address of the Wireless-B Media Link. Press the **Enter** key, and the screen shown in Figure 7-1 will appear. In lowercase letters, enter the default password, **admin**, in the *Password* field. Click the **OK** button. You can set a new password on the *Password* screen later.



NOTE: If you do not know the Media Link's IP address, select **Network Status** on the LCD screen. Then scroll down the menu and select **IP Address**. The Media Link's IP address will be displayed on this screen.

2. The Utility's *Setup* screen, shown in Figure 7-2, will appear.

The Utility provides a convenient, web-browser-based way to alter the Media Link's settings and designate your favorite radio stations. It offers five main tabs:

- Setup - Enables you to configure the IP address and wireless settings.
- Favorites - Lets you add up to 20 Internet radio stations to the Media Link's Favorites menu.
- Password - Allows you to change the password or reset all settings to factory defaults.
- Status - Displays the Media Link's current settings.
- Help - Provides explanations of various configuration settings and links to online technical support resources.



Figure 7-1: Password Screen

Setup

The *Setup* screen lets you configure the wired and wireless network settings for the Media Link.

- **Firmware** - The version number of the Media Link's firmware is displayed here. Firmware should be upgraded **ONLY** if you experience problems with the Media Link. Firmware updates are posted at www.linksys.com.
- **MAC Address** - The MAC Address of the Media Link is displayed here.

LAN

- **Device Name** - You may assign any name to the Media Link. Unique, memorable names are helpful, especially if you are using multiple Media Links on the same wireless network.
- **Configuration Type** - If the Media Link will obtain an IP address automatically from a DHCP server, such as a router, then select **Automatic Configuration-DHCP**.

If you are assigning the Media Link a static IP address, select **Static IP Address**. Then enter a unique IP Address in the *IP Address* field. Enter the Subnet Mask, Gateway address, and DNS address of your network in the *Subnet Mask*, *Gateway*, and *DNS* fields. (You must enter at least one DNS address.)

Wireless

- **SSID** - The SSID is the network name shared among all devices in a wireless network. The SSID must be identical for all devices in the wireless network. It is case-sensitive and must not exceed 32 alphanumeric characters, which may be any keyboard character (do not use any spaces). Make sure this setting is the same for all devices in your wireless network. The current default SSID is **any**, so the Media Link will accept any SSID. For added security, Linksys recommends that you change the default SSID to a name of your choice.
- **Network Type** - Choose a wireless operating mode for the Media Link. Keep the default setting, **Infrastructure**, if you want your wireless-equipped device to communicate with computers and other devices on your wired network using a wireless access point or router. Select **Ad-Hoc** button if you want multiple wireless-equipped devices to communicate directly with each other.
- **Security** - If your network uses WEP encryption, select **Enable**, and click the **Apply** button. Then click **Edit Security Settings**. To disable WEP encryption, select **Disable**.

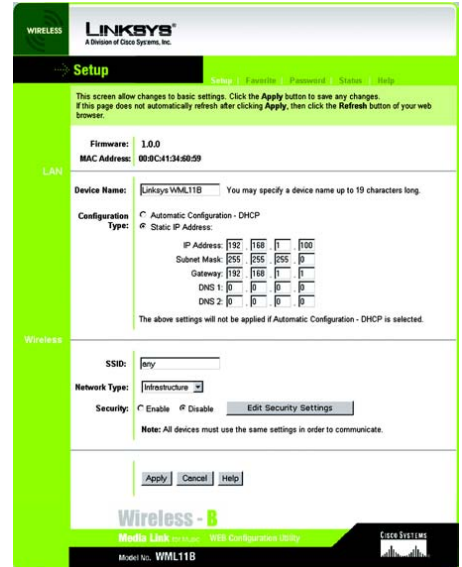


Figure 7-2: Setup Tab

If you clicked the Edit Security Settings button, then the *Security Setting* screen will appear. From the *Wireless Encryption Level* drop-down menu, select a level of encryption, **64Bit** or **128Bit**.

Enter a Passphrase and click the **Generate** key to automatically generate WEP keys. If you prefer to manually enter WEP key(s), then complete the *WEP Key 1-4* fields. From the *Active Key* drop-down menu, make a selection that specifies which WEP key to use for encryption.

Click the **Apply** button to save your changes. Click the **Undo** button to cancel your changes and return to the *Setup* screen. Click the **Clear** button to clear all your changes.

- **Wireless Encryption Level** - In order to use WEP encryption, select **64Bit** or **128Bit**.
- **Passphrase** - Instead of manually entering WEP keys, you can enter a Passphrase. This Passphrase is used to generate one or more WEP keys. It is case-sensitive and should have no more than 16 alphanumeric characters. (The Passphrase function is compatible with Linksys wireless products only. If you want to communicate with non-Linksys wireless products, you will need to enter your WEP key manually on the non-Linksys wireless products.) After you enter the Passphrase, click the **Generate** button to create WEP key(s).
- **Active Key** - Select which WEP key (1-4) will be used when the Media Link sends data. Make sure the other wireless-equipped devices are using the same key.
- **WEP Keys 1-4** - If you are not using a Passphrase, then you can enter one or more WEP keys manually. In each key field, manually enter a set of values. (Do not leave a key field blank, and do not enter all zeroes. These are not valid key values.) If you are using 64-bit WEP encryption, then each key must consist of exactly 10 hexadecimal characters in length. If you are using 128-bit WEP encryption, then each key must consist of exactly 26 hexadecimal characters in length. Valid hexadecimal characters are "0"-"9" and "A"-"F".

To save your changes, click the **Apply** button. Click the **Cancel** button to cancel your changes. Click the **Help** button for additional on-screen information.

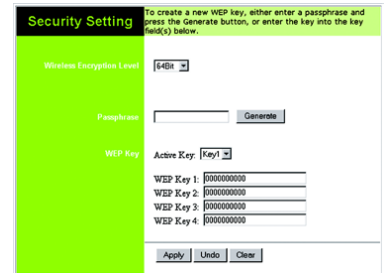


Figure 7-3: Security Setting Screen



NOTE: Make sure that your encryption settings match the encryption settings of your wireless network. Otherwise, the connection will fail.



NOTE: After you click the Apply button, the Media Link will restart itself to save the new settings.

Favorites

The *Favorites* screen lets you add up to 20 Internet radio stations to the Media Link's Favorites menu. Once added, you can easily select one of your favorite stations using the Media Link's remote control and LCD menus.

Favorites

For each favorite radio station, enter its name and URL (or IP address).

- Station Name - You may assign any name to this radio station. A unique, memorable name is helpful, especially if you are specifying several favorites.
- Station URL - Enter the radio station's URL or IP address in this field.

To save your changes, click the **Apply** button. Click the **Cancel** button to cancel your changes. Click the **Help** button for additional on-screen information.



NOTE: After you click the Apply button, the Media Link will restart itself to save the new settings.

	Station Name	Station URL
Favorite 1	<input type="text"/>	<input type="text"/>
Favorite 2	<input type="text"/>	<input type="text"/>
Favorite 3	<input type="text"/>	<input type="text"/>
Favorite 4	<input type="text"/>	<input type="text"/>
Favorite 5	<input type="text"/>	<input type="text"/>
Favorite 6	<input type="text"/>	<input type="text"/>
Favorite 7	<input type="text"/>	<input type="text"/>
Favorite 8	<input type="text"/>	<input type="text"/>
Favorite 9	<input type="text"/>	<input type="text"/>
Favorite 10	<input type="text"/>	<input type="text"/>
Favorite 11	<input type="text"/>	<input type="text"/>
Favorite 12	<input type="text"/>	<input type="text"/>
Favorite 13	<input type="text"/>	<input type="text"/>
Favorite 14	<input type="text"/>	<input type="text"/>
Favorite 15	<input type="text"/>	<input type="text"/>
Favorite 16	<input type="text"/>	<input type="text"/>
Favorite 17	<input type="text"/>	<input type="text"/>
Favorite 18	<input type="text"/>	<input type="text"/>
Favorite 19	<input type="text"/>	<input type="text"/>
Favorite 20	<input type="text"/>	<input type="text"/>

Apply Cancel Help

Wireless-B
Media Link for Music with Embedded Web
Model No. WML11B

Figure 7-4: Favorites Tab

Password

The *Password* screen lets you change the Media Link's Password or restore the factory default settings.

- **Administrative Password** - It is strongly recommended that you change the factory default password of the Media Link from **admin** to a new password that you create. All users who try to access the Media Link's Web-based Utility will be prompted for the Media Link's Password. The new Password must not exceed 12 characters in length and must not include any spaces. Enter the new Password a second time to confirm it.
- **Restore Factory Defaults** - Click the **Yes** radio button to reset all configuration settings to their default values (all custom settings will be lost). If you do not want to restore the factory defaults, then keep the default setting, **No**.

To save your changes, click the **Apply** button. Click the **Cancel** button to cancel your changes. Click the **Help** button for additional on-screen information.



Figure 7-5: Password Tab



NOTE: After you click the **Apply** button, the Media Link will restart itself to save the new settings.



IMPORTANT: Any settings you have saved will be lost if the default settings are restored.

Status

The *Status* screen displayed the Media Link's current status and settings. All information is read-only.

- Device Name - The name you have assigned to the Media Link is displayed here.
- Firmware Version - The version number of the Media Link's firmware is displayed here. Firmware updates are posted at www.linksys.com. Firmware should be upgraded **ONLY** if you experience problems with the Media Link. To upgrade the Media Link's firmware, refer to "Appendix D: Upgrading Firmware."
- MAC Address - The MAC Address of the Media Link is displayed here.

LAN Settings

- IP Address - The Media Link's IP Address is displayed here.
- Subnet Mask - The Media Link's Subnet Mask is displayed here.
- Gateway - The Gateway address for the Media Link is displayed here.
- DNS 1 - This is the first DNS address you entered for the Media Link.
- DNS 2 - This is the second DNS address you entered for the Media Link.

Wireless

- SSID - The Media Link's SSID or network name is displayed here.
- Network Type - The Media Link's mode is displayed here.
- Channel - The Media Link's channel setting is displayed here.
- WEP Encryption Status - The status of the Media Link's encryption setting is displayed here.
- TX Rate - The Media Link's transmission rate is displayed here. If the TX Rate is shown as Auto, then the Media Link automatically seeks the highest transmission rate possible at any time.
- Link Quality - The quality of the Media Link's wireless connection is displayed here.

Click the **Refresh** button to obtain the most up-to-date information. Click the **Help** button for additional on-screen information.



Figure 7-6: Status Tab

Help

The *Help* screen offers links to all of the help information for the Web-based Utility's screens and the Media Link's online technical support resources (all information is read-only). If you want to upgrade the Media Link's firmware, refer to "Appendix D: Upgrading Firmware."

- Linksys Website - Click the **Linksys Website** link to visit Linksys's website, www.linksys.com.
- Online manual in PDF format - Click the **Online manual in PDF format** to view this User Guide on-screen. It is in Adobe Acrobat Portable Document File (.pdf) format, so you will need the free Adobe Acrobat Reader to view the pdf. If you do not have the Reader, click the **Adobe Website** link to download it.
- Adobe Website (software for viewing PDF documents) - If you need to download the Adobe Acrobat Reader to view the User Guide pdf, then click the **Adobe Website** link.



Figure 7-7: Help Tab

Appendix A: Troubleshooting

This appendix provides solutions to problems that may occur during the installation and operation of the Wireless-B Media Link for Music. Read the description below to solve your problems. If you can't find an answer here, check the Linksys website at www.linksys.com.

Common Problems and Solutions

1. *The Media Link cannot find the Media Server on the network. What should I do?*

Follow these instructions until your problem is solved:

- Make sure the Media Link's network settings are correct. For instructions on how to view the Media Link's status information, refer to "Chapter 6: Using the LCD Menus of the Wireless-B Media Link for Music" or "Chapter 6: Using the Web-based Utility of the Wireless-B Media Link."
- In Musicmatch Jukebox, click the **Options** menu. Select **Settings**, and then select the **CD Lookup/Connectivity** tab. Make sure the checkboxes next to *Enable Music Server* and *Universal Plug and Play* are checked.
- Make sure your network is operating properly.

2. *I don't hear any music from my speakers (WMLS11B only).*

Follow these instructions until your problem is solved:

- Make sure the speaker power cord is securely connected to the Media Link's Speaker DC port and the right speaker's DC 12V port. For more information, refer to "Chapter 5: Connecting the Wireless-B Media Link for Music to Your Audio System."
- Make sure the colored-coded RCA audio cable is securely connected to the Media Link's 2CH Output ports and the right speaker's INPUT ports. Then make sure the RCA speaker cable linking the two speakers is secure.

3. *When I listen to music, I hear too much bass/midrange/treble. How can I make adjustments?*

Adjust the equalizer (EQ) settings. The Media Link offers six preset EQ settings. Select the one that best suits your musical sensibility.

4. *The Media Link's LCD screen is displaying the Wired Network icon, but I want to use the Media Link on my wireless network.*

Unplug the Ethernet network cable from the Media Link's Ethernet port. On the LCD screen, scroll down to Network Setup, and select it. Then select **Change to wireless** and press the right arrow button. The Media Link will restart itself and operate in its wireless mode.

Frequently Asked Questions

How do I set my favorite Internet radio stations?

You have two ways to set your favorite radio stations.

- Using the Media Link's LCD screen, scroll down to Internet Radio. Select the radio station you would like to set as your favorite. Press the **Select** button on the remote, and select **Add to Favorites**. Then press the **Select** button again.
- If you already know the URL for the station you would like to play, access the Media Link's Web-based Utility. Click the **Favorites** tab. Enter the station's name and URL. Click the **Apply** button to save your changes. The Media Link will restart itself after you click the Apply button. If it does not restart automatically, power the Media Link off and back on again. Refer to "Chapter 7: Using the Web-based Utility of the Wireless-B Media Link for Music" for more information.

What kind of Internet radio stations does the Media Link support?

The Media Link currently supports only Internet radio stations that broadcast via MP3 streaming. The Media Link will not play stations that broadcast via Windows Media Audio or Real Audio.

Can I have more than one Media Server on my network?

Yes. You can install the Media Server software on multiple computers; however, the Media Link can only connect to one Media Server at a time. You can switch to a different Media Server using the LCD screen. Scroll down to Media Server, and press the right arrow button. Then select the Media Server you want to use.

Can I use the digital output to play music streamed from the Rhapsody service?

No. Music streamed from Rhapsody will not play from the digital output. In its music stream, Rhapsody embeds Digital Content Management information that the Media Link cannot interpret.

I have my own speakers. Can I use them with the Media Link?

Yes, if they are powered speakers. The Media Link's RCA outputs are pre-amp outputs, so they have to be connected to an amplified source. The Media Link will not work with non-powered speakers.

What is the IEEE 802.11b standard?

It is one of the IEEE standards for wireless networks. The 802.11b standard allows wireless networking hardware from different manufacturers to communicate, provided that the hardware complies with the 802.11b standard. The 802.11b standard states a maximum data transfer rate of 11Mbps and an operating frequency of 2.4GHz.

Wireless-B Media Link for Music

What is ad-hoc mode?

When a wireless network is set to ad-hoc mode, the wireless-equipped computers are configured to communicate directly with each other. The ad-hoc wireless network will not communicate with any wired network.

What is infrastructure mode?

When a wireless network is set to infrastructure mode, the wireless network is configured to communicate with a wired network through a wireless access point or router.

Appendix B: Wireless Security

Linksys wants to make wireless networking as safe and easy for you as possible. The current generation of Linksys products provide several network security features, but they require specific action on your part for implementation. So, keep the following in mind whenever you are setting up or using your wireless network.

Security Precautions

The following is a complete list of security precautions to take (at least steps 1 through 5 should be followed):

1. Change the default SSID.
2. Disable SSID Broadcast.
3. Change the default password for the Administrator account.
4. Enable MAC Address Filtering.
5. Change the SSID periodically.
6. Enable WEP 128-bit Encryption. Please note that this may reduce your network performance.
7. Change the WEP encryption keys periodically.

For information on implementing these security features, refer to "Chapter 4: Setting up the Wireless-B Media Link for Music."

Security Threats Facing Wireless Networks

Wireless networks are easy to find. Hackers know that in order to join a wireless network, wireless networking products first listen for "beacon messages". These messages can be easily decrypted and contain much of the network's information, such as the network's SSID (Service Set Identifier). Here are the steps you can take:

Change the administrator's password regularly. With every wireless networking device you use, keep in mind that network settings (SSID, WEP keys, etc.) are stored in its firmware. Your network administrator is the only person who can change network settings. If a hacker gets a hold of the administrator's password, he, too, can change those settings. So, make it harder for a hacker to get that information. Change the administrator's password regularly.



NOTE: Some of these security features are available only through the network router or access point. Refer to the router or access point's documentation for more information.

Wireless-B Media Link for Music

SSID. There are several things to keep in mind about the SSID:

1. Disable Broadcast
2. Make it unique
3. Change it often

Most wireless networking devices will give you the option of broadcasting the SSID. While this option may be more convenient, it allows anyone to log into your wireless network. This includes hackers. So, don't broadcast the SSID.

Wireless networking products come with a default SSID set by the factory. (The Linksys default SSID is "linksys".) Hackers know these defaults and can check these against your network. Change your SSID to something unique and not something related to your company or the networking products you use.

Change your SSID regularly so that any hackers who have gained access to your wireless network will have start from the beginning in trying to break in.

MAC Addresses. Enable MAC Address filtering. MAC Address filtering will allow you to provide access to only those wireless nodes with certain MAC Addresses. This makes it harder for a hacker to access your network with a random MAC Address.

WEP Encryption. Wired Equivalent Privacy (WEP) is often looked upon as a panacea for wireless security concerns. This is overstating WEP's ability. Again, this can only provide enough security to make a hacker's job more difficult.

There are several ways that WEP can be maximized:

1. Use the highest level of encryption possible
2. Use "Shared" Key authentication
3. Use multiple WEP keys
4. Change your WEP key regularly

Implementing encryption may have a negative impact on your network's performance. If you are transmitting sensitive data over your network, encryption should be used.

These security recommendations should help keep your mind at ease while you are enjoying the most flexible and convenient technology Linksys has to offer.

Appendix B: Wireless Security
Security Threats Facing Wireless Networks



IMPORTANT: Always remember that each device in your wireless network **MUST** use the same encryption method and encryption key or your wireless network will not function properly.

Appendix C: Planning Your Use of the Wireless-B Media Link for Music

Overview

Before you set up the Media Link, you need to decide how the computer running the Media Server software (called Musicmatch Jukebox) will send digital music to the Media Link; you have a choice of a wireless or wired connection. This information is necessary for the proper setup and configuration of the Media Link.

Using the Media Link as Part of Your Wireless Network

If the Media Link connects directly to a wireless-equipped computer, or the Media Link connects via an access point or wireless router (see Figure C-1), then the Media Link is part of your wireless network. If any part of the connection to the Media Link is wireless, then the overall connection will be considered wireless.

Using the Media Link as Part of Your Wired Network

If the Media Link connects directly to your wired computer, or the Media Link connects via a wired router or switch (see Figure C-2), then the Media Link is part of your wired network. Within a wired network, the devices are connected with Ethernet network cables.

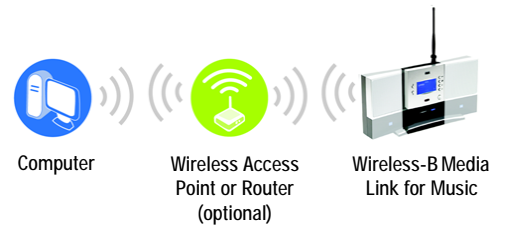


Figure C-1: Example of a Wireless Network

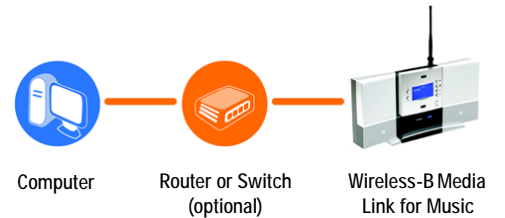


Figure C-2: Example of a Wired Network

Appendix D: Upgrading Firmware

You can use the Wireless-B Media Link Firmware Upgrade Utility to upgrade the firmware; however, firmware should be upgraded ONLY if you experience problems with the Media Link.

To upgrade the Bridge's firmware, follow these instructions:

1. Open Linksys's website at www.linksys.com.
2. Click the **Products** tab and select the appropriate product category.
3. Select the Wireless-B Media Link.
4. Download its firmware upgrade file, and extract it on your PC.
5. Connect an Ethernet network cable to the Media Link's Ethernet port, and connect the other end to your PC.



NOTE: You must use an Ethernet network connection when you upgrade the Media Link's firmware.

6. Click **Start** and then **Programs**.
7. Select **Linksys Media Link**, and click **Firmware Upgrade Utility**.
8. The screen shown in Figure D-1 will appear and display a list of the Wireless-B Media Links found on your network, as well as their MAC addresses. Select the appropriate Media Link, and then click the **Upgrade** button.



NOTE: If the Utility does not find the appropriate Media Link, click the **Search for Adapters Again** button.

9. In the *Firmware* field, enter the name of the extracted firmware upgrade file, or click the **Browse** button to find this file.
10. After you have selected the appropriate file, click the **Upgrade** button.
11. When the firmware has been upgraded, the *Congratulations* screen will appear. Click the **Exit** button.

Congratulations! The Media Link's firmware has been upgraded successfully.



NOTE: If you upgrade the Media Link's firmware, you may lose its configuration settings.



Figure D-1: Firmware Upgrade Screen



Figure D-2: Congratulations Screen

Appendix E: Windows Help

Almost all wireless products require Microsoft Windows. Windows is the most used operating system in the world and comes with many features that help make networking easier. These features can be accessed through Windows Help and are described in this appendix.

TCP/IP

Before a computer can communicate with an access point or router, TCP/IP must be enabled. TCP/IP is a set of instructions, or protocol, all PCs follow to communicate over a network. This is true for wireless networks as well. Your PCs will not be able to utilize wireless networking without having TCP/IP enabled. Windows Help provides complete instructions on enabling TCP/IP.

Shared Resources

If you wish to share printers, folders, or files over your network, Windows Help provides complete instructions on using shared resources.

Network Neighborhood/My Network Places

Other PCs on your network will appear under Network Neighborhood or My Network Places (depending upon the version of Windows you're running). Windows Help provides complete instructions on adding PCs to your network.

Appendix F: Glossary

802.11b - An IEEE wireless networking standard that specifies a maximum data transfer rate of 11Mbps and an operating frequency of 2.4GHz.

Access Point - A device that allows wireless-equipped computers and other devices to communicate with a wired network. Also used to expand the range of a wireless network.

Adapter - A device that adds network functionality to your PC.

Ad-hoc - A group of wireless devices communicating directly with each other (peer-to-peer) without the use of an access point.

Backbone - The part of a network that connects most of the systems and networks together, and handles the most data.

Bandwidth - The transmission capacity of a given device or network.

Bit - A binary digit.

Boot - To start a device and cause it to start executing instructions.

Bridge - A device that connects different networks.

Broadband - An always-on, fast Internet connection.

Browser - An application program that provides a way to look at and interact with all the information on the World Wide Web.

Buffer - A shared or assigned memory area that is used to support and coordinate different computing and networking activities so one isn't held up by the other.

Byte - A unit of data that is usually eight bits long

Cable Modem - A device that connects a computer to the cable television network, which in turn connects to the Internet.

CSMA/CA (Carrier Sense Multiple Access/Collision Avoidance) - A method of data transfer that is used to prevent data collisions.

Wireless-B Media Link for Music

CTS (Clear To Send) - A signal sent by a wireless device, signifying that it is ready to receive data.

Daisy Chain - A method used to connect devices in a series, one after the other.

Database - A collection of data that is organized so that its contents can easily be accessed, managed, and updated.

Default Gateway - A device that forwards Internet traffic from your local area network.

DHCP (Dynamic Host Configuration Protocol) - A networking protocol that allows administrators to assign temporary IP addresses to network computers by "leasing" an IP address to a user for a limited amount of time, instead of assigning permanent IP addresses.

DNS (Domain Name Server) - The IP address of your ISP's server, which translates the names of websites into IP addresses.

Domain - A specific name for a network of computers.

Download - To receive a file transmitted over a network.

DSL (Digital Subscriber Line) - An always-on broadband connection over traditional phone lines.

DSSS (Direct-Sequence Spread-Spectrum) - Frequency transmission with a redundant bit pattern resulting in a lower probability of information being lost in transit.

DTIM (Delivery Traffic Indication Message) - A message included in data packets that can increase wireless efficiency.

Dynamic IP Address - A temporary IP address assigned by a DHCP server.

Encryption - Encoding data transmitted in a network.

Ethernet - IEEE standard network protocol that specifies how data is placed on and retrieved from a common transmission medium.

Finger - A program that tells you the name associated with an e-mail address.

Firewall - A set of related programs located at a network gateway server that protects the resources of a network from users from other networks.

Firmware - The programming code that runs a networking device.

Full Duplex - The ability of a networking device to receive and transmit data simultaneously.

Wireless-B Media Link for Music

Gateway - A device that interconnects networks with different, incompatible communications protocols.

Half Duplex - Data transmission that can occur in two directions over a single line, but only one direction at a time.

Hardware - The physical aspect of computers, telecommunications, and other information technology devices.

HTTP (HyperText Transport Protocol) - The communications protocol used to connect to servers on the World Wide Web.

IEEE (The Institute of Electrical and Electronics Engineers) - An independent institute that develops networking standards.

Infrastructure - A wireless network that is bridged to a wired network via an access point.

IP (Internet Protocol) - A protocol used to send data over a network.

IP Address - The address used to identify a computer or device on a network.

IPCONFIG - A Windows 2000 and XP utility that displays the IP address for a particular networking device.

ISM band - Radio bandwidth utilized in wireless transmissions.

ISP (Internet Service Provider) - A company that provides access to the Internet.

LAN - The computers and networking products that make up your local network.

MAC (Media Access Control) Address - The unique address that a manufacturer assigns to each networking device.

Mbps (MegaBits Per Second) - One million bits per second; a unit of measurement for data transmission.

Network - A series of computers or devices connected for the purpose of data sharing, storage, and/or transmission between users.

Node - A network junction or connection point, typically a computer or work station.

OFDM (Orthogonal Frequency Division Multiplexing) - Frequency transmission that separates the data stream into a number of lower-speed data streams, which are then transmitted in parallel to prevent information from being lost in transit.

Packet - A unit of data sent over a network.

Wireless-B Media Link for Music

Passphrase - Used much like a password, a passphrase simplifies the WEP encryption process by automatically generating the WEP encryption keys for Linksys products.

Ping (Packet INternet Groper) - An Internet utility used to determine whether a particular IP address is online.

POP3 (Post Office Protocol 3) - A standard mail server commonly used on the Internet.

Port - The connection point on a computer or networking device used for plugging in cables or adapters.

Preamble - Part of the wireless signal that synchronizes network traffic.

RJ-45 (Registered Jack-45) - An Ethernet connector that holds up to eight wires.

Roaming - The ability to take a wireless device from one access point's range to another without losing the connection.

Router - A networking device that connects multiple networks together.

RTS (Request To Send) - A networking method of coordinating large packets through the RTS Threshold setting.

Server - Any computer whose function in a network is to provide user access to files, printing, communications, and other services.

Software - Instructions for the computer. A series of instructions that performs a particular task is called a "program".

SOHO (Small Office/Home Office) - Market segment of professionals who work at home or in small offices.

Spread Spectrum - Wideband radio frequency technique used for more reliable and secure data transmission.

SSID (Service Set IDentifier) - Your wireless network's name.

Static IP Address - A fixed address assigned to a computer or device that is connected to a network.

Static Routing - Forwarding data in a network via a fixed path.

Subnet Mask - An address code that determines the size of the network.

Switch - 1. A data switch that connects computing devices to host computers, allowing a large number of devices to share a limited number of ports. 2. A device for making, breaking, or changing the connections in an electrical circuit.

Wireless-B Media Link for Music

TCP (Transmission Control Protocol) - A network protocol for transmitting data that requires acknowledgement from the recipient of data sent.

TCP/IP (Transmission Control Protocol/Internet Protocol) - A set of instructions PCs use to communicate over a network.

Telnet - A user command and TCP/IP protocol used for accessing remote PCs.

TFTP (Trivial File Transfer Protocol) - A version of the TCP/IP FTP protocol that has no directory or password capability.

Throughput - The amount of data moved successfully from one node to another in a given time period.

Topology - The physical layout of a network.

TX Rate - Transmission Rate.

UDP (User Datagram Protocol) - A network protocol for transmitting data that does not require acknowledgement from the recipient of the data that is sent.

Upgrade - To replace existing software or firmware with a newer version.

Upload - To transmit a file over a network.

URL (Uniform Resource Locator) - The address of a file located on the Internet.

WAN (Wide Area Network)- The Internet.

WEP (Wired Equivalent Privacy) - A method of encrypting network data transmitted on a wireless network for greater security.

WINIPCFG - A Windows 98 and Me utility that displays the IP address for a particular networking device.

WLAN (Wireless Local Area Network) - A group of computers and associated devices that communicate with each other wirelessly.

Appendix G: Specifications

Model	WML11B, WMLS11B
Standards	IEEE 802.11b, 802.3, 802.3u
Ports	LAN, Audio Out (L, R, Digital), Power, Speaker DC
Buttons	Play/Pause, Stop, Up, Down, Left, Right, Power, Parallel/Crossover, Reset
Cabling Type	CAT 5 Ethernet, SPDIF Optical, RCA
LEDs	Power, Link
Transmit Power	22 dBm
UPnP able/cert	able
Security Features	WEP
WEP Key Bits	64-Bit, 128-Bit
Dimensions (W x H x D)	WML11B: 6.06" x 3.39" x 8.5" (154 mm x 86 mm x 216 mm) WMLS11B: 16.02" x 3.39" x 8.5" (407 mm x 86 mm x 216 mm)
Unit Weight	WML11B: 1 lb. and 6.5 oz. (0.64 kg) WMLS11B: 3 lbs. and 2.7 oz. (1.44 kg)
Power	12 V, 1.5 A
Certifications	FCC, IC-03
Operating Temp.	0°C to 40°C (32°F to 104°F)

Wireless-B Media Link for Music

Storage Temp.	-20°C to 70°C (-4°F to 158°F)
Operating Humidity	10% to 85%, Non-Condensing
Storage Humidity	5% to 90%, Non-Condensing

Appendix H: Warranty Information

LIMITED WARRANTY

Linksys warrants to You that, for a period of one year (the "Warranty Period"), your Linksys Product will be substantially free of defects in materials and workmanship under normal use. Your exclusive remedy and Linksys' entire liability under this warranty will be for Linksys at its option to repair or replace the Product or refund Your purchase price less any rebates. This limited warranty extends only to the original purchaser.

If the Product proves defective during the Warranty Period call Linksys Technical Support in order to obtain a Return Authorization Number, if applicable. BE SURE TO HAVE YOUR PROOF OF PURCHASE ON HAND WHEN CALLING. If You are requested to return the Product, mark the Return Authorization Number clearly on the outside of the package and include a copy of your original proof of purchase. RETURN REQUESTS CANNOT BE PROCESSED WITHOUT PROOF OF PURCHASE. You are responsible for shipping defective Products to Linksys. Linksys pays for UPS Ground shipping from Linksys back to You only. Customers located outside of the United States of America and Canada are responsible for all shipping and handling charges.

ALL IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE DURATION OF THE WARRANTY PERIOD. ALL OTHER EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF NON-INFRINGEMENT, ARE DISCLAIMED. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to You. This warranty gives You specific legal rights, and You may also have other rights which vary by jurisdiction.

This warranty does not apply if the Product (a) has been altered, except by Linksys, (b) has not been installed, operated, repaired, or maintained in accordance with instructions supplied by Linksys, or (c) has been subjected to abnormal physical or electrical stress, misuse, negligence, or accident. In addition, due to the continual development of new techniques for intruding upon and attacking networks, Linksys does not warrant that the Product will be free of vulnerability to intrusion or attack.

TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT WILL LINKSYS BE LIABLE FOR ANY LOST DATA, REVENUE OR PROFIT, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES, REGARDLESS OF THE THEORY OF LIABILITY (INCLUDING NEGLIGENCE), ARISING OUT OF OR RELATED TO THE USE OF OR INABILITY TO USE THE PRODUCT (INCLUDING ANY SOFTWARE), EVEN IF LINKSYS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT WILL LINKSYS' LIABILITY EXCEED THE AMOUNT PAID BY YOU FOR THE PRODUCT. The foregoing limitations will apply even if any warranty or remedy provided under this Agreement fails of its essential purpose. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to You.

Please direct all inquiries to: Linksys, P.O. Box 18558, Irvine, CA 92623.

Appendix I: Regulatory Information

FCC STATEMENT

This product has been tested and complies with the specifications 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 according to 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 is found 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 or devices

Connect the equipment to an outlet other than the receiver's

Consult a dealer or an experienced radio/TV technician for assistance

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 and your body.

INDUSTRY CANADA (CANADA)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

The use of this device in a system operating either partially or completely outdoors may require the user to obtain a license for the system according to the Canadian regulations.

Chapter J: Contact Information

Need to contact Linksys?

Visit us online for information on the latest products and updates to your existing products at:

<http://www.linksys.com> or
[ftp.linksys.com](ftp://ftp.linksys.com)

Can't find information about a product you want to buy on the web? Do you want to know more about networking with Linksys products? Give our advice line a call at:
Or fax your request in to:

800-546-5797 (LINKSYS)
949-823-3002

If you experience problems with any Linksys product, you can call us at:

800-326-7114
support@linksys.com

Don't wish to call? You can e-mail us at:

If any Linksys product proves defective during its warranty period, you can call the Linksys Return Merchandise Authorization department for obtaining a Return Authorization Number at:
(Details on Warranty and RMA issues can be found in the Warranty Information section in this Guide.)

949-823-3000