

# *DMA-1100P*

*Digital Media Adapter*

## ***User's Guide***

Version 1.00

11/2007

Edition 1





# About This User's Guide

## Intended Audience

This manual is intended for people who want to use and configure the DMA-1100P. You should have at least basic computer usage knowledge.

## Related Documentation

- Quick Start Guide  
The Quick Start Guide is designed to help you get up and running right away. It contains information on setting up your network and configuring for Internet access.
- Supporting Disk  
Refer to the included CD for software and support documents.
- ZyXEL Web Site  
Please refer to [www.zyxel.com](http://www.zyxel.com) for additional support documentation and product certifications.

## User Guide Feedback

Help us help you. Send all User Guide-related comments, questions or suggestions for improvement to the following address, or use e-mail instead. Thank you!

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# Document Conventions

## Warnings and Notes

These are how warnings and notes are shown in this User's Guide.



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Warnings tell you about things that could harm you or your device.

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Notes tell you other important information (for example, other things you may need to configure or helpful tips) or recommendations.












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## Syntax Conventions

- The DMA-1100P may be referred to as the “DMA”, the “device”, the “system” or the “product” in this User's Guide. Distinctions are made where needed.
- Product labels, screen names, field labels and field choices are all in **bold** font.
- A key stroke is denoted by square brackets and uppercase text, for example, [ENTER] means the “enter” or “return” key on your keyboard.
- “Enter” means for you to type one or more characters and then press the [ENTER] key. “Select” or “choose” means for you to use one of the predefined choices.
- A right angle bracket ( > ) within a screen name denotes a mouse click. For example, **Maintenance > Log > Log Setting** means you first click **Maintenance** in the navigation panel, then the **Log** sub menu and finally the **Log Setting** tab to get to that screen.
- Units of measurement may denote the “metric” value or the “scientific” value. For example, “k” for kilo may denote “1000” or “1024”, “M” for mega may denote “1000000” or “1048576” and so on.

## Icons Used in Figures

Figures in this User's Guide may use the following generic icons. The DMA icon is not an exact representation of your device.

DMA 	DMA with Remote Control 	Notebook computer 
Computer 	Television (TV) 	USB Memory Stick 
Server 	Firewall 	Switch 
Router 	Powerline 	

# Safety Warnings



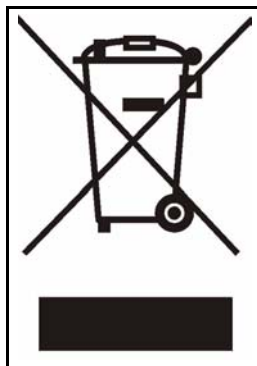
---

For your safety, be sure to read and follow all warning notices and instructions.

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- Do NOT use this product near water, for example, in a wet basement or near a swimming pool.
- Do NOT expose your device to dampness, dust or corrosive liquids.
- Do NOT store things on the device.
- Do NOT install, use, or service this device during a thunderstorm. There is a remote risk of electric shock from lightning.
- Connect ONLY suitable accessories to the device.
- Do NOT open the device or unit. Opening or removing covers can expose you to dangerous high voltage points or other risks. ONLY qualified service personnel should service or disassemble this device. Please contact your vendor for further information.
- Make sure to connect the cables to the correct ports.
- Place connecting cables carefully so that no one will step on them or stumble over them.
- Always disconnect all cables from this device before servicing or disassembling.
- Use ONLY an appropriate power adaptor or cord for your device. Connect it to the right supply voltage (for example, 110V AC in North America or 230V AC in Europe).
- Do NOT allow anything to rest on the power adaptor or cord and do NOT place the product where anyone can walk on the power adaptor or cord.
- Do NOT use the device if the power adaptor or cord is damaged as it might cause electrocution.
- If the power adaptor or cord is damaged, remove it from the device and the power source.
- Do NOT attempt to repair the power adaptor or cord. Contact your local vendor to order a new one.
- Do not use the device outside, and make sure all the connections are indoors. There is a remote risk of electric shock from lightning.
- If you wall mount your device, make sure that no electrical lines, gas or water pipes will be damaged.

This product is recyclable. Dispose of it properly.







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# PART I

# Introduction

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Introducing the DMA (23)

Hardware (25)



# Introducing the DMA

This chapter introduces the main applications and features of the DMA. See the Quick Start Guide for instructions on connecting the DMA.

## 1.1 Overview

The DMA lets you play DVD-quality movie, music and photo files on your television from your computer, USB memory stick or other file storage device. You can connect the DMA to your computer directly or to multiple computers on your home network. The DMA is HomePlug compatible, so you can also connect your DMA to other devices with a HomePlug connection using standard home electrical wiring. After you connect to your computer or other file storage device, select the files you want to play from the DMA menu that appears on your TV screen using the remote control included with the DMA.

### 1.1.1 Play Movies, Music or Photos on Your TV

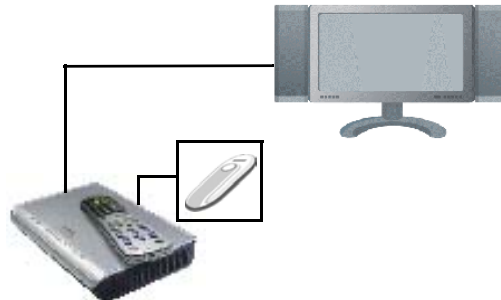
The DMA supports a large number of file formats (see [Appendix A on page 99](#) for a list of supported file formats). It also supports HDMI (High Definition Multimedia Interface) for high quality digital video and audio output.

### 1.1.2 Play Files from Your Computer or on USB

Use standard LAN (Ethernet) cables to connect the DMA directly to your computer or file storage device, such as ZyXEL's NSA-220 network storage appliance. See the Quick Start Guide to install the included media server software on Windows XP computers to use them as media servers.

The DMA can also play media files stored on a USB device like a memory stick or hard drive.

**Figure 1** DMA with USB



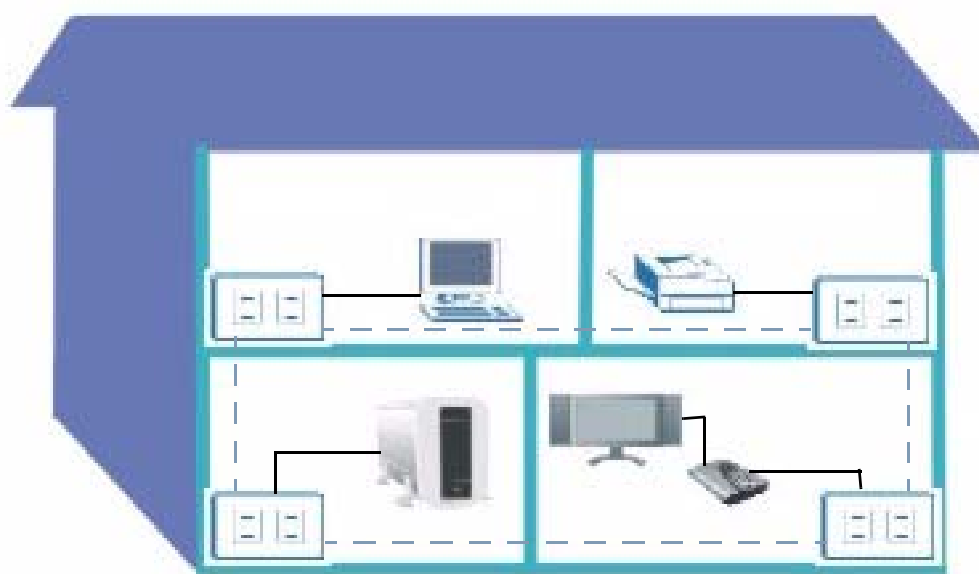
### 1.1.3 Connect your DMA to Your Home (Powerline) Network

You can connect the DMA to your wired home network to access multiple computers and file storage devices. See [Chapter 10 on page 68](#) for information on wired network settings.

You can use the DMA's powerline feature to connect your DMA to your home computer or file storage device on your home powerline network using the electrical wiring you have in your house. The DMA is HomePlug AV compatible, providing high speed data transfer rates over the range of an average house. See [Appendix A on page 97](#) for speeds and range currently supported.

The figure below shows the DMA connected to a home computer and file storage device on a home powerline network.

**Figure 2** Connect the DMA to Your Home Powerline Network



### 1.1.4 Use the Remote Control to Select From the On-Screen Menu

Use the remote control that came in the package to make selections from the DMA menu that appears on your television screen. The remote control lets you easily browse and play your digital content files and configure the DMA's settings.



# Hardware

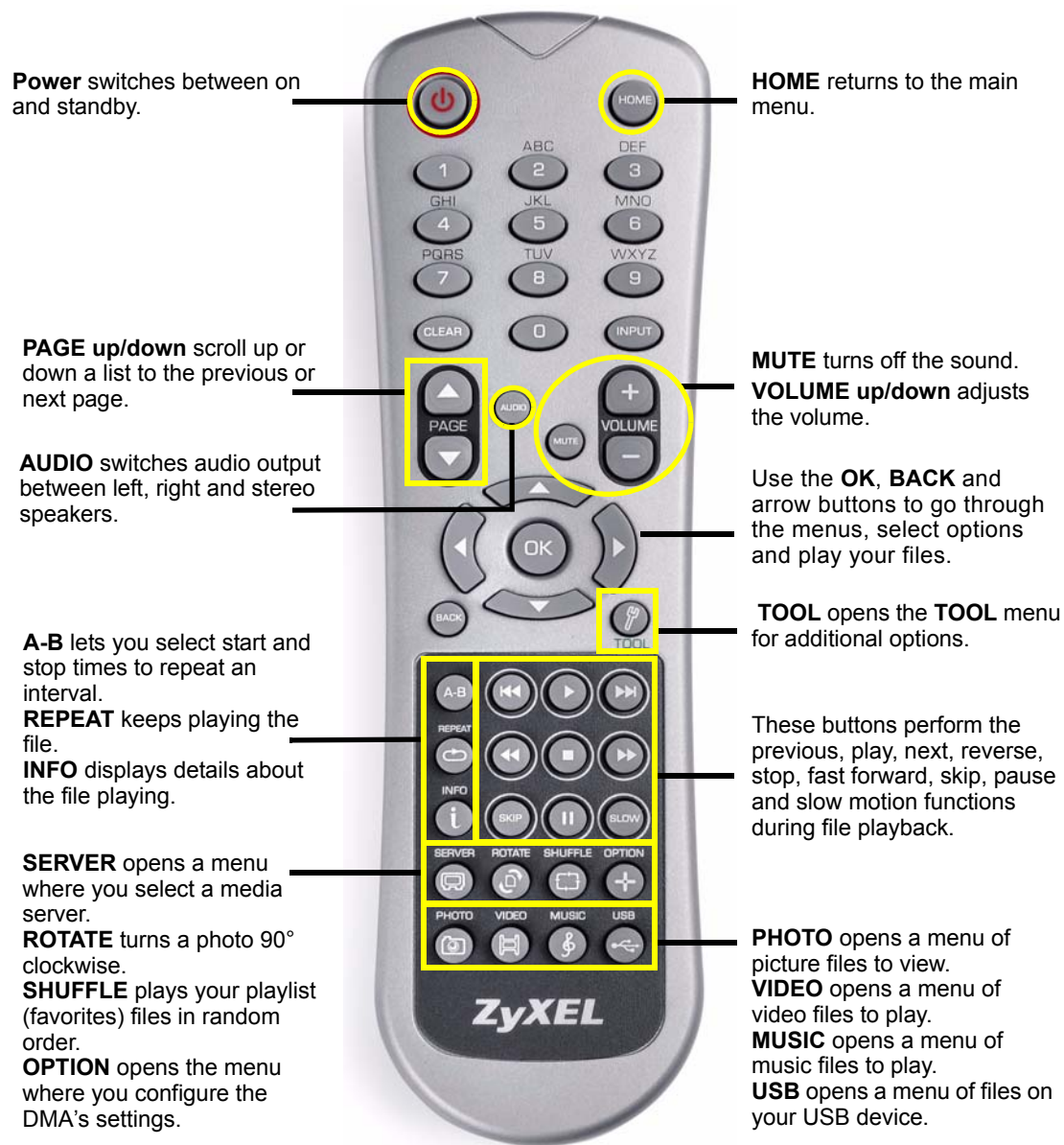
## 2.1 Overview

This chapter describes the DMA's hardware: the remote control and the LEDs (lights).

## 2.2 Using the Remote Control

Use the remote control to navigate the menus, play files and configure the DMA. The following figure describes the function of each button on the remote control.

Point the remote control at the front of the DMA.

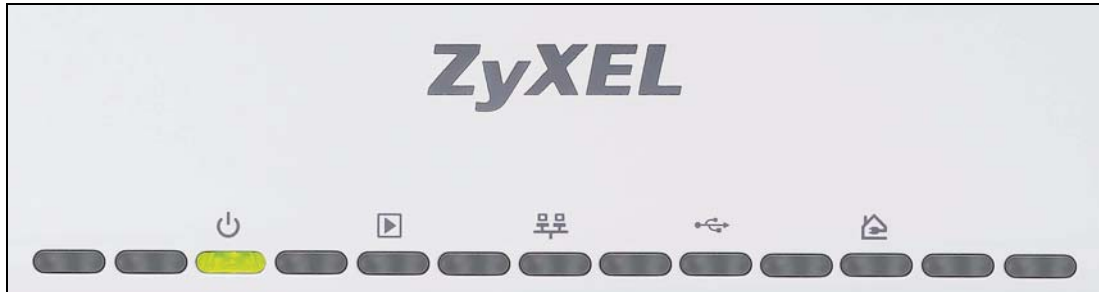
**Figure 3** Remote Control

You cannot use the **SERVER**, **OPTION**, **PHOTO**, **MUSIC** or **VIDEO** buttons while a dialog box, popup screen or **TOOL** menu is displayed.

## 2.3 LEDs






The LEDs (lights) tell you about the current status of the DMA.

**Figure 4** LEDs



The following table describes the DMA LEDs.

**Table 1** LEDs

LED	COLOR	STATUS	DESCRIPTION
POWER 	Green	On	The DMA is receiving power and in operation mode (on).
	Red	On	The DMA is receiving power and in standby mode (off).
		Off	The DMA is not receiving power.
PLAY 	Blue	Blinking	The DMA is playing a file.
		Off	The DMA is not playing a file.
LAN 	Green	On	The DMA has a successful Ethernet connection.
		Blinking	The DMA is sending/receiving data on this port.
		Off	The DMA does not have a connection on this port.
USB 	Green	On	The DMA has a USB stick (or hard drive) connected.
		Off	The DMA does not have a USB stick connected.
HomePlug 	Green	On	The DMA has a powerline connection with a HomePlug AV compatible device.
		Blinking	The DMA is sending/receiving data on its powerline connection.
		Off	The DMA does not have a powerline connection with a HomePlug AV compatible device.



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# PART II

## Using the DMA

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DMA Menus (31)  
VIDEO Menu (39)  
MUSIC Menu (43)  
PHOTO Menu (49)  
Favorites (Playlists) (53)  
SERVER Menu (57)  
USB Menu (61)



## DMA Menus

This chapter introduces the DMA's menus and how to navigate them.

### 3.1 Menus Overview



The DMA uses menus that display on your television screen. The **HOME** menu is the first menu you see when you turn on the DMA.

**Figure 5** HOME Menu

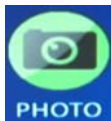


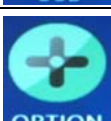



This table describes the **HOME** menu.

**Table 2** Menus Summary

MENU	DESCRIPTION
	This menu shows video files on the media server you are accessing. Video files on a USB stick that you add to a favorites folder also display here. See <a href="#">Chapter 4 on page 39</a> for details.
	This menu shows music files on the media server you are accessing. Music files on a USB stick that you add to a favorites folder also display here. See <a href="#">Chapter 5 on page 43</a> for details.

**Table 2** Menu Summary

MENU	DESCRIPTION
	This menu shows photos on the media server you are accessing. Photos on a USB stick that you add to a favorites folder also display here. See <a href="#">Chapter 6 on page 49</a> for details.
	Select a media server with content files that you want to play. See <a href="#">Chapter 8 on page 57</a> for details.
	This menu displays the files on an attached USB device. See <a href="#">Chapter 9 on page 61</a> for details.
	Use this menu to change the DMA's settings. See <a href="#">Chapter 10 on page 65</a> for details.
	This is the number of media servers the DMA has detected. If it is two or more, use the <b>SERVER</b> menu to select the one you want to use. See <a href="#">Section 8.2 on page 57</a> for details.

## 3.2 Menu Navigation

Use the remote control's **OK**, **BACK** and arrow buttons to go through the menus, configure the DMA and play your files.



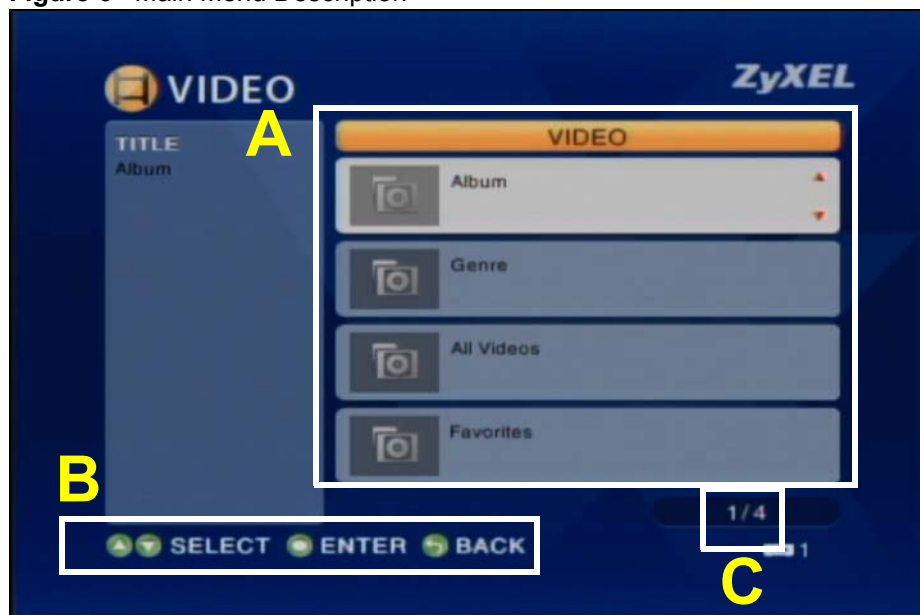
Use the remote control's arrow and **OK** buttons to select fields and field options.



### 3.3 VIDEO, MUSIC and PHOTO Menus

The **VIDEO**, **MUSIC** and **PHOTO** menus work in a similar way. (The specific features of the **VIDEO**, **MUSIC** and **PHOTO** menus are described in the **VIDEO**, **MUSIC** and **PHOTO** chapters in this User's Guide.) The **VIDEO** menu is shown below as an example.

**Figure 6** Main Menu Description



This table describes the main **VIDEO**, **MUSIC** and **PHOTO** menus.

**Table 3** Main Menu Description

AREA	DESCRIPTION
<b>A</b>	<p>This is a list of the file folders. The currently selected item is white. The arrows show that you can move up or down in the menu.</p> <p>The DMA categorizes files into album, artist and genre folders according to the information stored in your files. Files may not appear in the proper folders if they have missing, incorrect or incomplete information.</p> <p><b>Album</b> - Search for videos, music or photos by album (VIDEO, MUSIC and PHOTO folders).</p> <p><b>Artist</b> - Search for music by artist (MUSIC folder only).</p> <p><b>Genre</b> - Search for videos or music by genre (VIDEO and MUSIC folders).</p> <p><b>All Music / All Videos / All Photos</b> - All of the menu's files display here.</p> <p><b>Favorites</b> - This section contains folders of the files you have marked as favorites. You can use a favorites folder to have the DMA play the entire list of files (this is also known as a playlist).</p>
<b>B</b>	<p>This shows which remote control buttons to use in the menu. For example, in this menu, use the remote control's arrow and <b>OK</b> buttons to select a folder to see the files sorted by that criteria. Or use the <b>BACK</b> button to go up in the menu structure (return to the <b>HOME</b> screen).</p>
<b>C</b>	<p>This displays the number of the selected menu item followed by the total number of items. In this example menu, the first of four items is selected.</p>

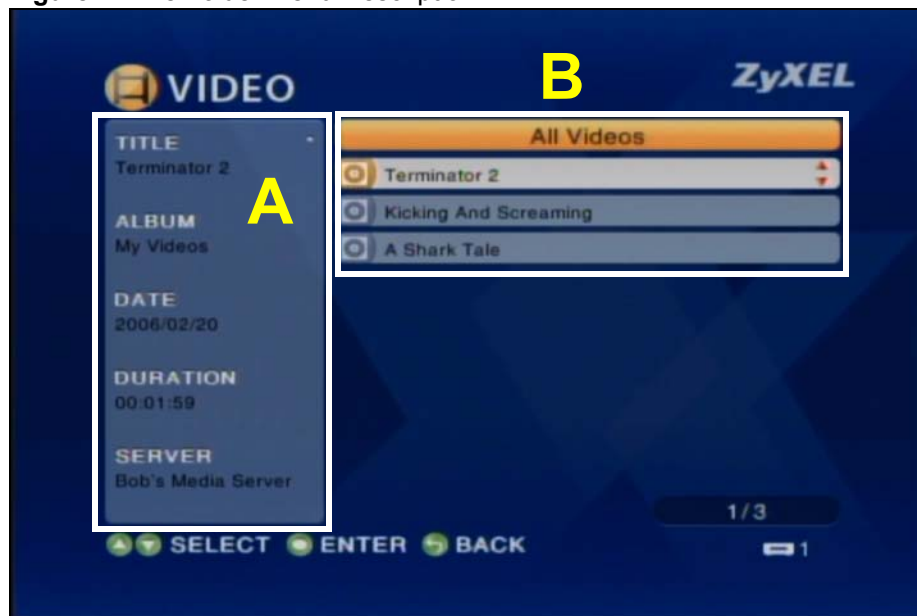
### 3.4 VIDEO, MUSIC and PHOTO File Folders

This section describes a file folder menu of videos, music or photos.

Select a folder (or sub-folder, if that is where your files are) in the **VIDEO**, **MUSIC** or **PHOTO** menus and click **OK** to reach a list of files. The file folder menu displays.

The **VIDEO > All Videos** menu is shown as an example. The **MUSIC** and **PHOTO** menu file folders work the same way.

**Figure 7** File Folder Menu Description



This table describes a **VIDEO** file folder menu. **MUSIC** and **PHOTO** file folders have similar features.

**Table 4** File Folder Menu Description

AREA	DESCRIPTION
A	Details about the currently selected file. <b>TITLE</b> - The name of the file. <b>ARTIST</b> - The name of the artist (MUSIC folder only). <b>ALBUM</b> - Which album the file belongs to. <b>DATE</b> - The date the file was created (or last modified). <b>DURATION</b> - The play time of the file in hours:minutes:seconds. <b>SERVER</b> - The name of the media server where the file is located.
B	This is a list of files in your file folder.

### 3.5 The TOOL Button

Use the **TOOL** button on your remote to set how you view files in the **VIDEO**, **MUSIC** and **PHOTO** menus and file folders. See the **VIDEO**, **MUSIC** and **PHOTO** sections for information on using the **TOOL** button while playing back files.

### 3.5.1 VIDEO, MUSIC and PHOTO Menus: TOOL

In the **VIDEO**, **MUSIC** or **PHOTO** menus, select **TOOL** > **Change View** to view files as a list and/or as thumbnails.

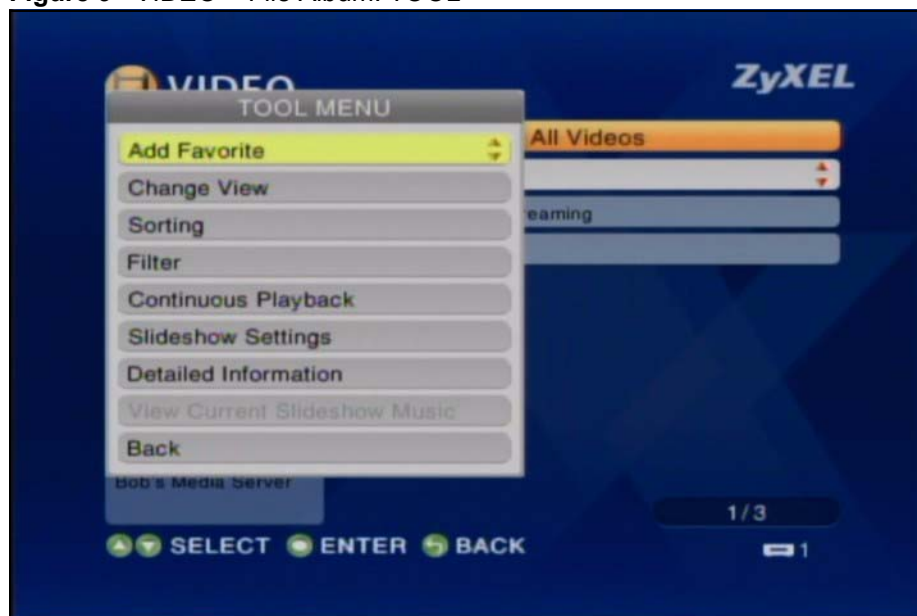
**Figure 8** VIDEO: TOOL > Change View



### 3.5.2 Using the TOOL Menu From a File Album

In a **VIDEO**, **MUSIC** or **PHOTO** album, use the remote's **TOOL** button to set up file options.

**Figure 9** VIDEO > File Album: TOOL



The following table describes the options in this menu.

**Table 5** VIDEO > File Album: TOOL

LABEL	DESCRIPTION
Add Favorite	Use this to add the photo to a favorite photos list.  Note: After adding to or editing a favorites list, use the remote control's <b>Power</b> button to turn the DMA off and then back on to save your change.
Change View	Use this to select how the files display in the favorites menu. You can have them display as a <b>List</b> , <b>Thumbnails</b> , or a <b>List with Thumbnails</b> .
Sorting	Use sorting to set whether the files display in ascending or descending order according to <b>TITLE</b> , <b>GENRE</b> , <b>DATE</b> .
Filtering	Use the filter to search for files by title (or part of a title). After you select this option and select <b>OK</b> , the on-screen keyboard displays (see <a href="#">Figure 10 on page 36</a> ). Use the on-screen keyboard to specify up to 16 characters of text that you want to search for in the file titles.
Continuous Playback	This option is for VIDEO folders only. Select this option to replay the file without stopping.
Slideshow Settings	Use this to configure how the slideshow changes from one photo file to the next and how long it displays each photo file. You can choose slide transition effects such as <b>Auto</b> , <b>Fade to White</b> , <b>Fade to Black</b> and <b>None</b> . You can set the viewing time for each photo from three seconds to one minute.
Detailed Information	Select this option to view detailed information about the highlighted file. Not available for music files in the file folder.
View Current Slideshow Music	You can play music while you navigate the DMA's menus and play photo files or slideshows. When a music file is playing, you can use this option to go to the music file that is playing.
Back	Use this to exit the menu.

### 3.5.3 Keyboard Input

When you use the **Change Name** option, you use an on-screen keyboard to edit the name.

**Figure 10** Keyboard Input



The following table describes the options in this menu.

**Table 6** Keyboard Input

TOOL MENU	DESCRIPTION
Favorite Name	This is the playlist name that you are editing. Use the fields below to edit the name in this field.
Number	Select this to change the text input mode to numbers. A check mark displays next to the selected input mode.
Lower	Select this to change the text input mode to lower-case letters. A check mark displays next to the selected input mode.
Upper	Select this to change the text input mode to upper-case letters. A check mark displays next to the selected input mode.
Symbol	Select this to change the text input mode to symbols. A check mark displays next to the selected input mode.
Text Input Characters	Select characters from the center section of the screen to display in the name field.
Delete	Select this option and press <b>OK</b> to back space (delete individual characters from the name starting on the right). Press the <b>OK</b> button once for each character you want to delete.
Clear	Select this option to delete the whole name.
Space	Select this option and press <b>OK</b> to add a space in the name. Press the <b>OK</b> button once for each space you want to add.
OK	Select this to save your changes back to the DMA.
CANCEL	Select this to exit this screen without saving your changes.



## VIDEO Menu

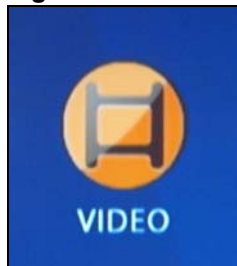
This chapter shows how to use the VIDEO menu.

### 4.1 Playing a Video

The DMA automatically arranges the video files on the media server into folders in the **VIDEO** menu. Here is an example of how to play a video file in the **All Videos** file folder.

- 1 Press the **VIDEO** button on the remote control or use the arrow and **OK** buttons to select the **VIDEO** icon in the **HOME** menu.

Figure 11 VIDEO Icon



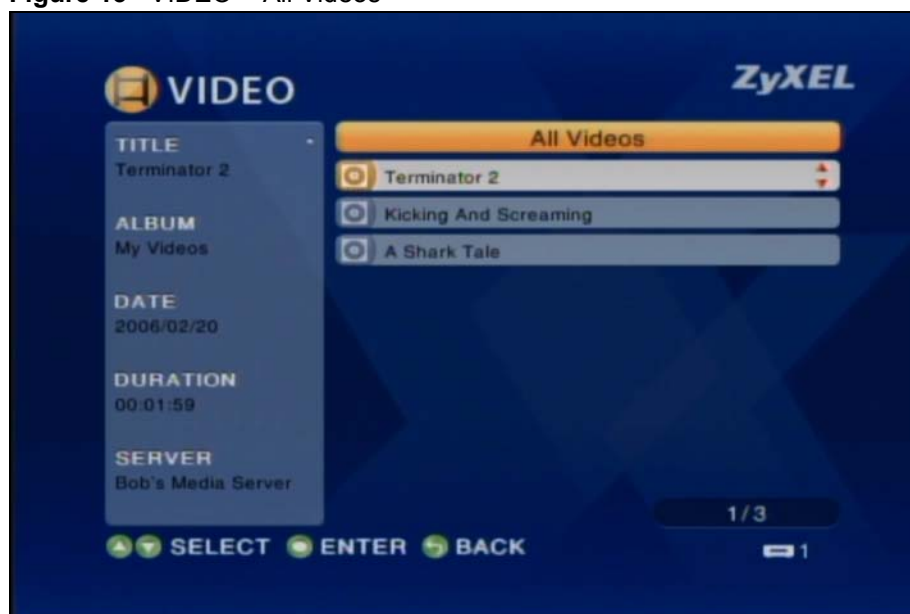
- 2 The **Video** menu opens. You can choose a video according to the **Album** (folder) it is in, its **Genre**, **All Videos**, or you can choose from your **Favorites**.

Figure 12 VIDEO Menu



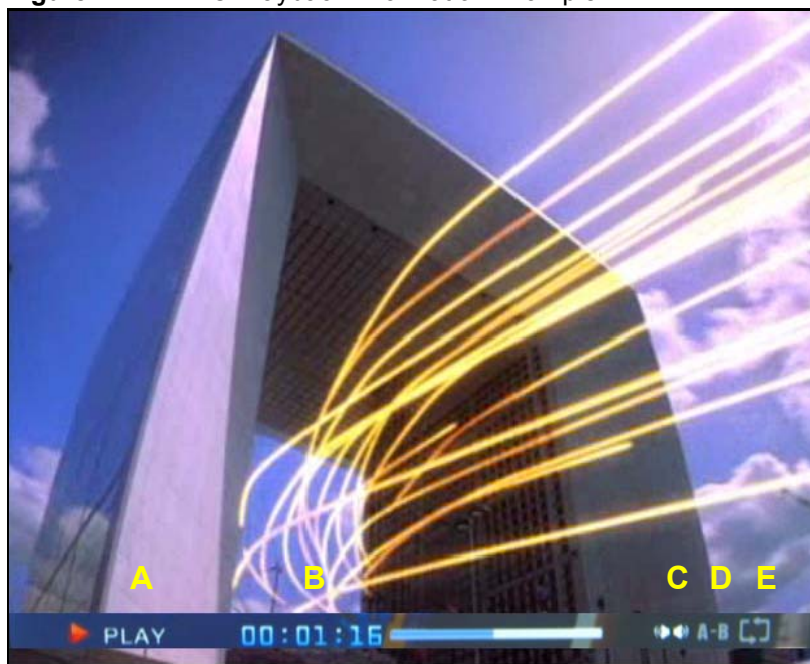
- 3 Use the remote control's arrow and **OK** buttons to select the **All Videos** folder. A list of videos appears.

**Figure 13** VIDEO > All Videos



- 4 Use the remote's arrow and **OK** buttons to select and play a video file.
  - During playback, use the remote control's buttons for fast forward, reverse and pause.
  - Press the remote control's **INFO** button to display information on the screen as shown in the following figure.

**Figure 14** VIDEO Playback Information Example





The following table describes the information you can display during video playback.

**Table 7** VIDEO Playback Information

AREA	DESCRIPTION
A	Current function.
B	Elapsed time.
C	Audio (Left, Right or Stereo).
D	The A-B function lets you repeat a certain section of a video or music file. This can be useful for language learners wanting to repeat a particular word or phrase. See <a href="#">Section 4.1.1 on page 41</a> for an example.
E	Repeat - Keep playing (looping) the file.

### 4.1.1 A-B

The following example use the A-B function to set the DMA to keep repeating a section of the video starting at ten seconds into the video and ending at 30 seconds into the video.

- 1 Play a video or music file.
- 2 Press **A-B** at 0:10. The “A-” part of the **A-B** icon on the screen lights up.
- 3 Press **A-B** at 0:30. The rest of the **A-B** icon on the screen lights up.
- 4 The video or music repeats playing from A to B (0:10 to 0:30).

### 4.1.2 Using the TOOL Menu During Video Playback

While a video file is playing, press the remote control’s **TOOL** button to open the **TOOL** menu.

**Figure 15** VIDEO > All Videos > File: TOOL



The following table describes the options in this menu.

**Table 8** VIDEO > All Videos > File: TOOL Menu

LABEL	DESCRIPTION
Add Favorite	Use this to add the video to a favorite videos list (which you can use as a playlist).  Note: After adding to or editing a favorites list, use the remote control's <b>Power</b> button to turn the DMA off and back on to save your change.
Time Search	Select this to skip to a specific time in the video. After you select this, use the arrow and <b>OK</b> buttons to select the <b>HOURL</b> and <b>MINUTES</b> input boxes. Then press numbers and the <b>OK</b> button to enter the start time. Then use the arrow and <b>OK</b> buttons to select <b>OK</b> .
Back	Use this to exit the menu.

## MUSIC Menu

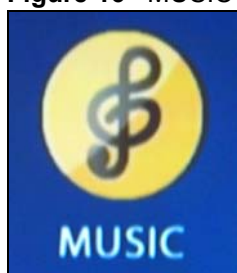
This chapter covers how to use the **MUSIC** menus.

### 5.1 MUSIC Menu

The DMA automatically arranges the music files on the media server into folders in the **MUSIC** menu. Use the **MUSIC** menu to select music files to play.

To open the **MUSIC** menu, press the **MUSIC** button on the remote control or use the arrow and **OK** buttons to select the **MUSIC** icon in the **HOME** screen.

**Figure 16** MUSIC Icon



The following menu appears on your screen. You can select music according to its **Album** (folder), **Artist**, **Genre**, or from **All Music** or your list of **Favorites** (see [Chapter 7 on page 53](#)). You can also play **Podcasts** (see [Section 5.2 on page 45](#)).

**Figure 17** MUSIC Menu



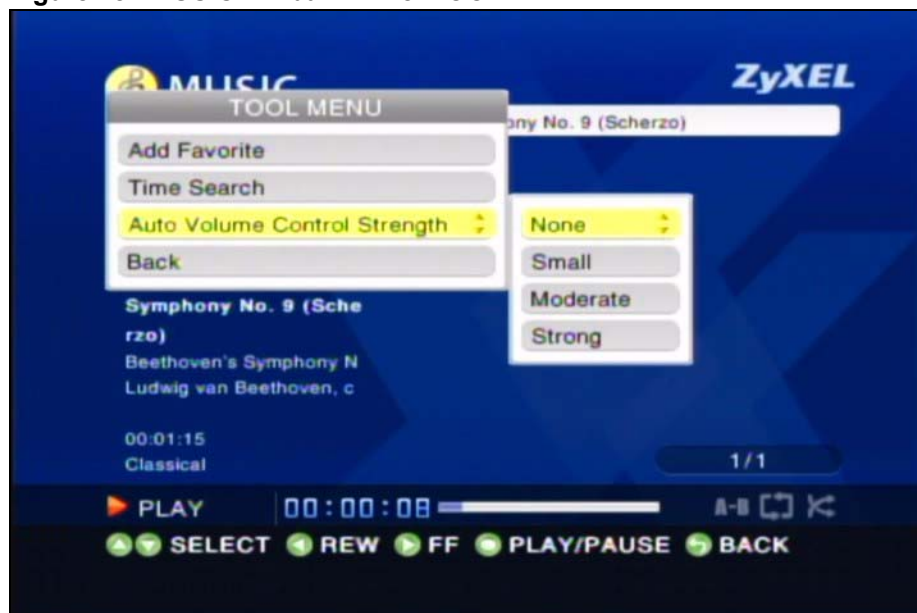
Playing music files is similar to playing video files (see [Section 4.1 on page 39](#) for an example of how to play a video file).

You can also play music files while you use the DMA's menus or play photo files or slideshows (use the **TOOL** menu and the **View Current Slideshow Music** option to identify a music file that is playing).

### 5.1.1 Using the TOOL Menu While Playing Music

You can also use the TOOL button to make adjustments while playing music.

**Figure 18** MUSIC > Album > File: TOOL



The following table describes the options available.

**Table 9** MUSIC > Album > File: TOOL Menu

LABEL	DESCRIPTION
Add Favorite	Use this to add the song to a favorite songs list (which you can use as a playlist).  Note: After adding to or editing a favorites list, use the remote control's <b>Power</b> button to turn the DMA off and back on to save your change.
Time Search	Select this to skip to a specific time in the song. 1. Use the OK button to highlight the minute box and/or the seconds box. 2. Then use the remote control to enter the time in the box you have highlighted. 3. Press the <b>OK</b> button on your remote control to set the start time you have entered. 4. Then use the arrow and <b>OK</b> buttons to select <b>OK</b> in the screen.
Auto Volume Control Strength	Select the music playback volume. Options are <b>None</b> , <b>Small</b> , <b>Moderate</b> and <b>Strong</b> .
Back	Use this to exit the menu.

## 5.2 Podcast (RSS)

Podcasting is a way of publishing frequently updated audio files on the Internet. You use an aggregator (also called a reader) to subscribe to podcasts. Subscribe to a podcast and you can access new audio files as they are added. You usually play the content on your computer or a portable music player like an iPod.

At the time of writing, the DMA servers as a reader for audio podcasts that use Really Simple Syndication (RSS 2.0) and iTunes RSS feeds. Websites with an RSS feed usually display an RSS icon (shown next). Add the podcast's URL in the DMA's **Podcast** menu to be able to play the feed's audio files.

**Figure 19** RSS Feed Icon



## 5.3 Podcast Menu

Go to the **Podcast** menu within the **MUSIC** menu and press the remote control's **TOOL** button to open the **TOOL** menu. Use this menu to configure podcast and slideshow settings.

**Figure 20** MUSIC > Podcast: TOOL



The following table describes the items related to podcast settings.

**Table 10** MUSIC > Podcast: TOOL Menu

TOOL MENU	DESCRIPTION
Import	You can use your computer to import a podcast URL information from your USB memory stick. See <a href="#">Section 5.3.1 on page 46</a> for details.
Add Podcast	Use this to add the URL of an RSS feed that you want to listen to. See <a href="#">Section 5.3.2 on page 46</a> for details.

**Table 10** MUSIC > Podcast: TOOL Menu

TOOL MENU	DESCRIPTION
Change Podcast	Do the following to edit a podcast URL entry. 1. Select a podcast URL entry in the <b>MUSIC</b> menu. 2. Open the <b>TOOL</b> menu. 3. Select <b>Change Podcast</b> to edit the podcast URL entry from the DMA.
Delete Podcast	Do the following to remove a podcast URL entry. 1. Select a podcast entry in the <b>MUSIC</b> menu. 2. Open the <b>TOOL</b> menu. 3. Select <b>Delete Podcast</b> to remove the podcast entry from the DMA.
Slideshow Settings	Use this to configure how the slideshow changes from one photo file to the next and how long it displays each photo file. You can choose slide transition effects such as <b>Auto</b> , <b>Fade to White</b> , <b>Fade to Black</b> and <b>None</b> . You can set the viewing time for each photo from three seconds to one minute.
View Current Slideshow Music	You can play music while you navigate the DMA's menus and play photo files or slideshows. When a music file is playing, you can use this option to go to the music file that is playing.
Back	Use this to exit the menu.

### 5.3.1 Importing Podcasts

You can import a song list from the iTunes Podcast website. You must have the iTunes program installed on your computer to do this.

- 1 Go to the iTunes Podcast website and select a song list.
- 2 Export the song list in opml format.
- 3 Copy the exported file onto a USB stick. Use the root (top) level, in the USB stick. Do not put the file in a folder.
- 4 Insert the USB stick into the DMA.
- 5 Press the remote control's **TOOL** button to open the **TOOLS** menu.
- 6 Select **Import**.

### 5.3.2 Adding Podcasts

You can also add a podcast by setting the DMA to play a podcast directly from an URL.

- 1 From MUSIC > Podcast > TOOL select **Add Podcast**. The following screen appears.

**Figure 21** MUSIC > Podcast: TOOL: Add Podcast

Use arrows to make sure the URL field is highlighted, then press **OK** on your remote. use the following screen to input the correct URL for your podcast.

**Figure 22** MUSIC > Podcast: TOOL: Add Podcast: Keyboard Input.

See [Section 3.5.3 on page 36](#) for information on how to use the on-screen keyboard.





# PHOTO Menu

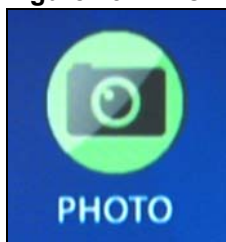
This chapter explains how to use the **PHOTO** menu.

## 6.1 PHOTO Menu

The DMA automatically arranges the photo files on the media server into folders in the **PHOTO** menu. Use the **PHOTO** menu to select photo files to view.

To open the **PHOTO** menu, press the **PHOTO** button on the remote control or use the arrow and **OK** buttons to select the **PHOTO** icon in the **HOME** screen.

**Figure 23** PHOTO Icon



The following menu appears on your screen.

**Figure 24** PHOTO Menu



## 6.2 Organizing Your Photos

The DMA automatically organizes your files by album according to their filenames and the folders in which they are stored.

- You can use your computer to arrange your photo files in folders to make them easier to browse.
- You can also use the **TOOL** menu to add photo files to favorites folders in the DMA to make them easier to find (see [Section 7.4 on page 55](#) for details).
- You can use the **TOOL** menu from within an album to change the way you view photo files.
  - Use **Change View** to view photos as a list and/or as thumbnails.
  - Use **Sorting** to specify how files are ordered. You can order them according to title and date, in ascending or descending order.
  - Use **Filter** to search for a file name.

**Figure 25** PHOTO > Album: TOOL



## 6.3 Slideshow

Start a slideshow from within a **PHOTO** album (you may have to click through your folders more than once to reach your photos) by using the arrow buttons to choose a photo and then pressing the **Play** button. The photos display in clockwise order starting from the selected photo.

- During a slideshow, use the **Previous**, **Play**, **Next**, **Stop**, and **Pause** buttons to control the file playback.
- Press the **ROTATE** or **Fast Forward** button to rotate a photo 90 degrees clockwise.
- Use the **Reverse** button to rotate the photo 90 degrees counter-clockwise.

### 6.3.1 Configuring Slideshow Settings

During a slideshow, or in a photo album, press the remote's **TOOL** button to open the **TOOL** menu to configure the slideshow's settings.

**Figure 26** PHOTO > Album > File: TOOL



The following table describes the options in this menu.

**Table 11** PHOTO > Album > File: TOOL

LABEL	DESCRIPTION
Add Favorite	Use this to add the photo to a favorite photos list.  Note: After adding to or editing a favorites list, use the remote control's <b>Power</b> button to turn the DMA off and back on to save your change.
Slideshow Music Settings	Select this to choose a music playlist (favorites list) to play during the slideshow.
Slideshow Settings	Use this to set how the slideshow changes from one photo file to the next and how long it displays each photo file. You can choose slide transition effects such as <b>Auto</b> , <b>Fade to White</b> , <b>Fade to Black</b> and <b>None</b> . You can set the viewing time for each photo from three seconds to one minute.
Back	Use this to exit the menu.



# Favorites (Playlists)

This chapter introduces the DMA's favorites feature.

## 7.1 Favorites (Playlists) Introduction

You can have the DMA play video, music and photo files in a favorites folder. This is also known as a playlist.

- See [Section 7.2 on page 53](#) for how to add files to favorites folders.
- See [Section 7.3 on page 54](#) for how to edit a favorites folder.
- See [Section 7.4 on page 55](#) for how to play a favorites folder.

## 7.2 Adding a File to a Favorites Folder

You can add video, music or photo files to favorites folders during playback.

- 1 While playing a file press the TOOL button.
- 2 Select **Add Favorite** and click **OK** on your remote control.
- 3 Select a **Favorite group** to add your file to and click **OK** on the on-screen menu.

**Figure 27** Adding a Favorite Example.



## 7.3 Editing a Favorites Folder

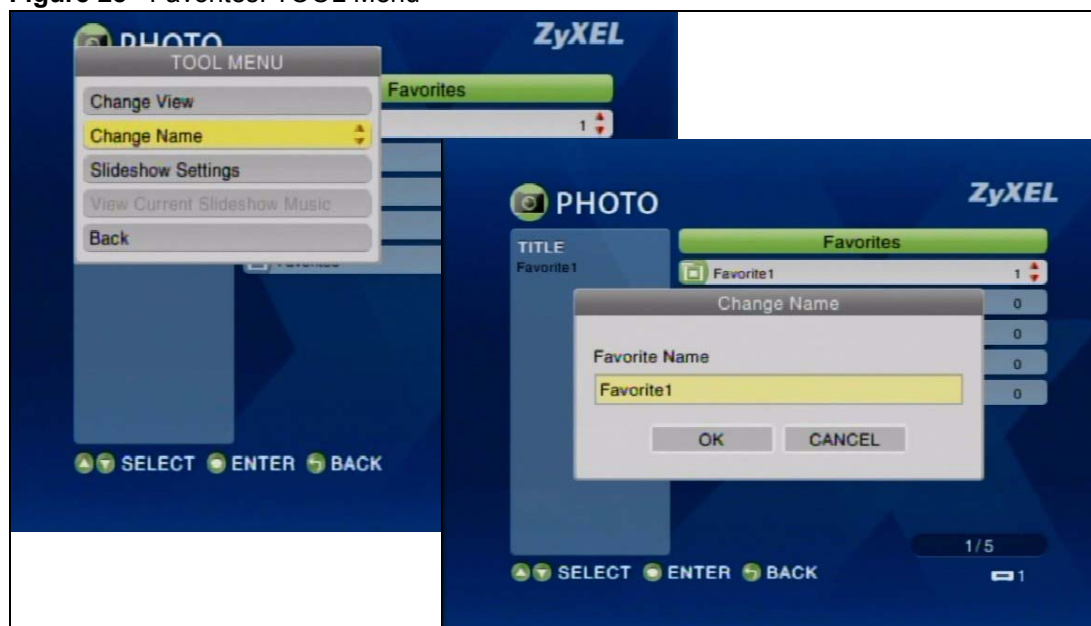
You can edit a favorites folder from within **Favorites** or from within the favorites folder you wish to edit.

### 7.3.1 Changing the Name of a Favorite Folder

From **Favorites** you can use the **TOOL** button to edit a playlist name.

- 1 From within **Favorites**, press the remote's **TOOL** button to open the **TOOL** menu.
- 2 Select **Change Name**.
- 3 The **Change Name** screen appears. Select the highlighted name field and click **OK** on your remote control.
- 4 Use the **Keyboard Input** screen to input a new name for your favorites folder.

**Figure 28** Favorites: TOOL Menu



The following table describes the options in this menu.

**Table 12** Favorite > TOOL Menu

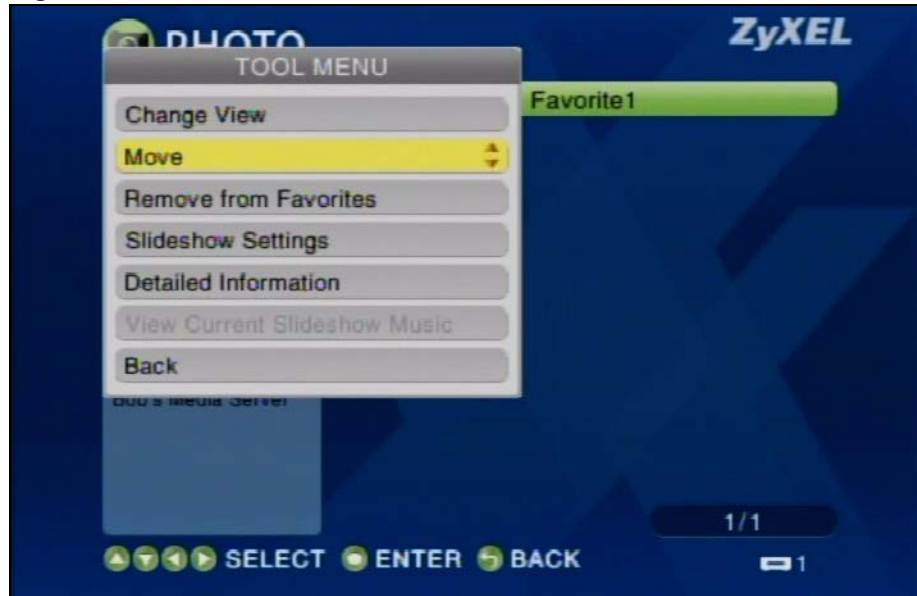
TOOL MENU	DESCRIPTION
Change View	Use this to select how the files display in the favorites menu. You can have them display as a list, thumbnails, or a list with thumbnails.
Change Name	Use this to change the name of the currently selected playlist. After you select <b>Change Name</b> , select the folder's name and press <b>OK</b> to use an on-screen keyboard to edit the name. See <a href="#">Section 3.5.3 on page 36</a> for how to use the software keyboard. You can enter up to 21 characters.
Slideshow Settings	Use this to configure how a slideshow changes from one photo file to the next and how long it displays each photo file.
View Current Slideshow Music	You can play music while you navigate the DMA's menus and play photo files or slideshows. When a music file is playing, you can use this option to go to the music file that is playing.
Back	Use this to exit the menu.

### 7.3.2 Changing the Contents of a Favorites Folder

You can also move and remove files from a favorites folder.

In **Favorites**, open a favorites folder and click the **TOOL** button to display the following screen.

**Figure 29** Favorites > Favorite folder: TOOL Menu



The following table describes the options in this menu.

**Table 13** Favorites > Favorite folder: TOOL Menu

TOOL MENU	DESCRIPTION
Change View	Use this to select how the files display in the favorites menu. You can have them display as a list, thumbnails, or a list with thumbnails.
Move	Use this to move a file from a source location to a destination location.
Remove from Favorites	Use this to delete the currently selected file from the playlist.
Slideshow Settings	Use this to configure how a slideshow changes from one photo file to the next and how long it displays each photo file.
Detailed Information	Use this to view details about the currently selected file.
View Current Slideshow Music	You can play music while you navigate the DMA's menus and play photo files or slideshows. When a music file is playing, you can use this option to go to the music file that is playing.
Back	Use this to exit the menu.

## 7.4 Favorites Playback

In the **Favorites** folder, select a favorites folder (playlist) and press **OK** to go to that list.

- Press **Play** to start playing the play list.
- Select a file and press **OK** to play the individual file.





# SERVER Menu

This chapter covers how to use the **SERVER** menu.

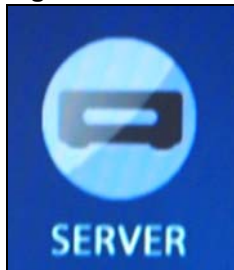
## 8.1 Accessing the SERVER Menu

If you have content files stored on more than one media server, use the **SERVER** menu to select the one you want to use.

To open the **SERVER** menu:

- Press the **SERVER** button on the remote control.
- or
- From the **HOME** menu, use the remote control's arrow and **OK** buttons to select the **SERVER** icon.

**Figure 30** SERVER Icon

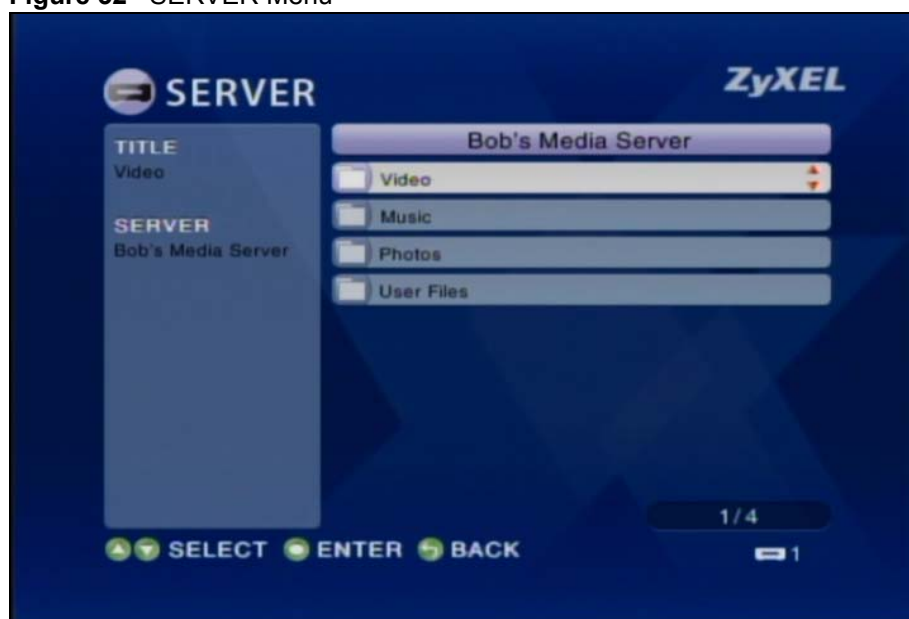


## 8.2 SERVER Menu

After you are in the **SERVER** menu, use the remote control's arrow and **OK** buttons to select the media server you want to use.

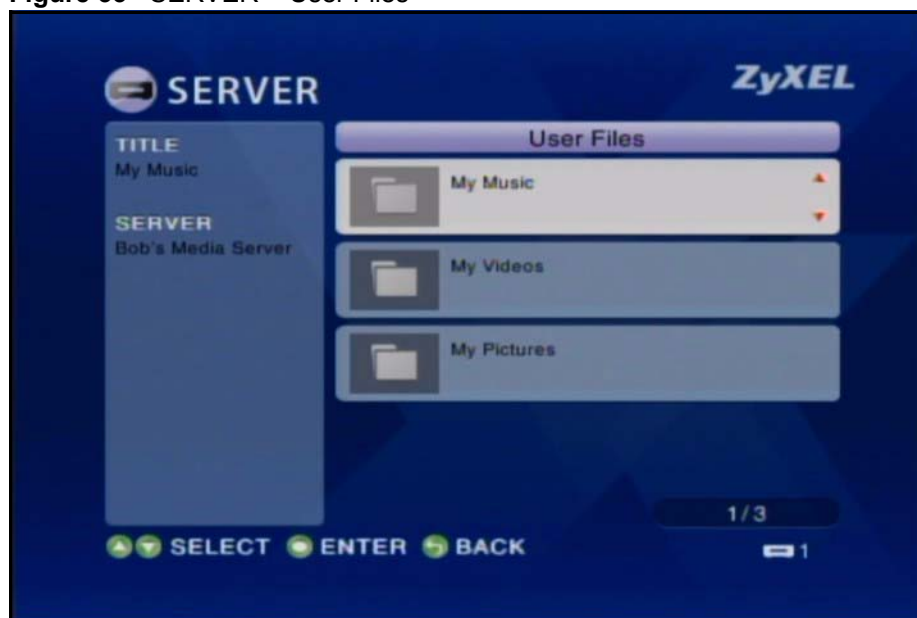
**Figure 31** SERVER Menu > Server

After successfully connecting to a media server, the following screen displays.

**Figure 32** SERVER Menu

Use the remote control to navigate to the files you want to play (or use the main menus to do so).

You can click on **User Files** to display the shared folders on your computer.

**Figure 33** SERVER > User Files



# USB Menu

This chapter covers how to use the USB menu.

## 9.1 USB Menu

Use the **USB** menu to browse the contents stored on a USB device connected to the DMA such as a USB memory stick or USB hard drive.

To open the **USB** menu:

- Press the **USB** button on the remote control.
- or
- Use the arrow and **OK** buttons to select the **USB** icon in the **HOME** menu.

**Figure 34** USB Icon



The **USB** menu displays your USB devices. Select a USB device to browse through its folders for files to play. The USB device's folders and files may just display automatically if this is the same USB device that the DMA last accessed.



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# PART III

## DMA Setup and Troubleshooting

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Configuring the DMA (65)  
Media Server Software (81)  
The ENCRYPT Button (83)  
Troubleshooting (87)





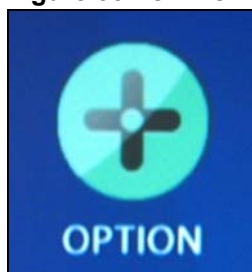
# Configuring the DMA

This chapter explains how you use the remote control to configure the DMA.

## 10.1 Accessing the OPTION Menu

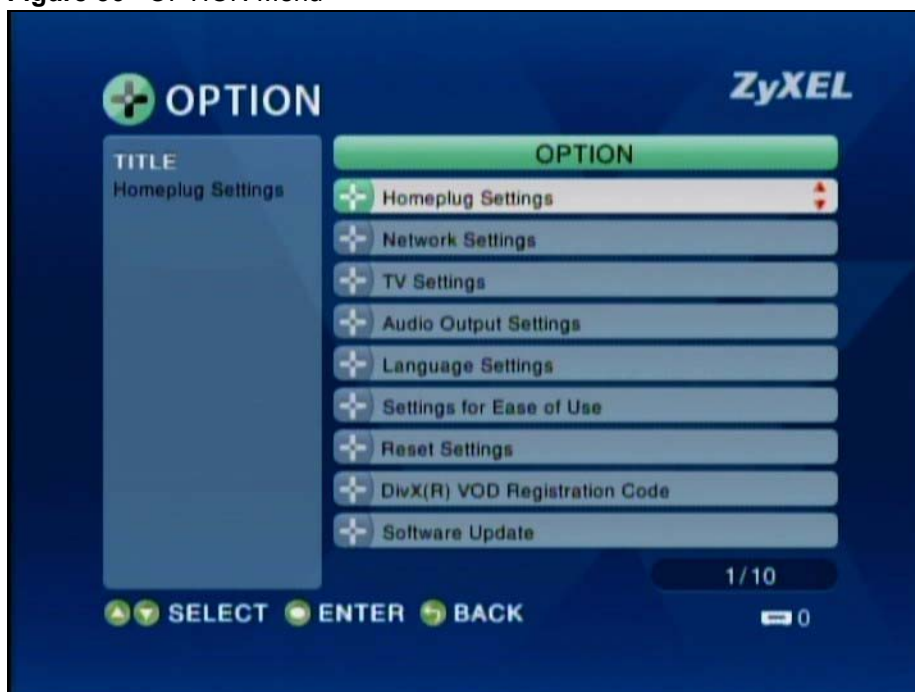
Use the **OPTION** menu to configure the DMA.

**Figure 35** OPTION Icon



- 1 To open the **OPTION** menu, press the **OPTION** button on the remote control or use the arrow and **OK** buttons to select the **OPTION** icon in the **HOME** screen.

**Figure 36** OPTION Menu



- 2 Use the remote's arrow and **OK** buttons to select an option sub-menu to configure.

## 10.2 HomePlug Settings

You can use your existing home electrical wiring to connect the DMA to a computer (or file storage device) directly, through your wired home network, or through a powerline HomePlug AV network.



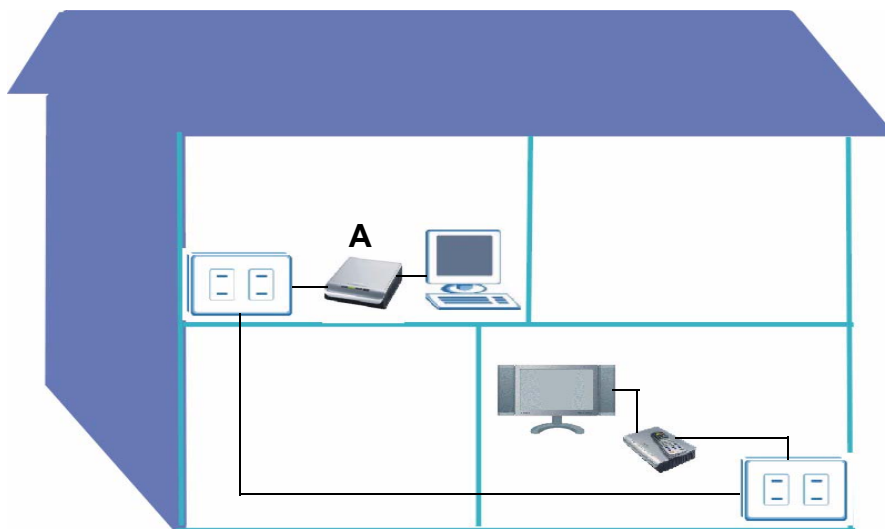
Powerline refers to the wiring you can use to connect devices such as your computer on a network. HomePlug refers to the network standards which are used for this kind of networking. The DMA uses HomePlug AV, which is one kind of HomePlug standard used for powerline networks.

### 10.2.1 Connecting to a Single Computer with HomePlug

Follow the instructions below to connect your DMA to a single computer (or other file storage device) with powerline.

- 1 Connect your DMA directly to a power outlet.
- 2 You will need to use a powerline adapter such as ZyXEL's PLA-400 (A) to connect your computer to a power outlet.

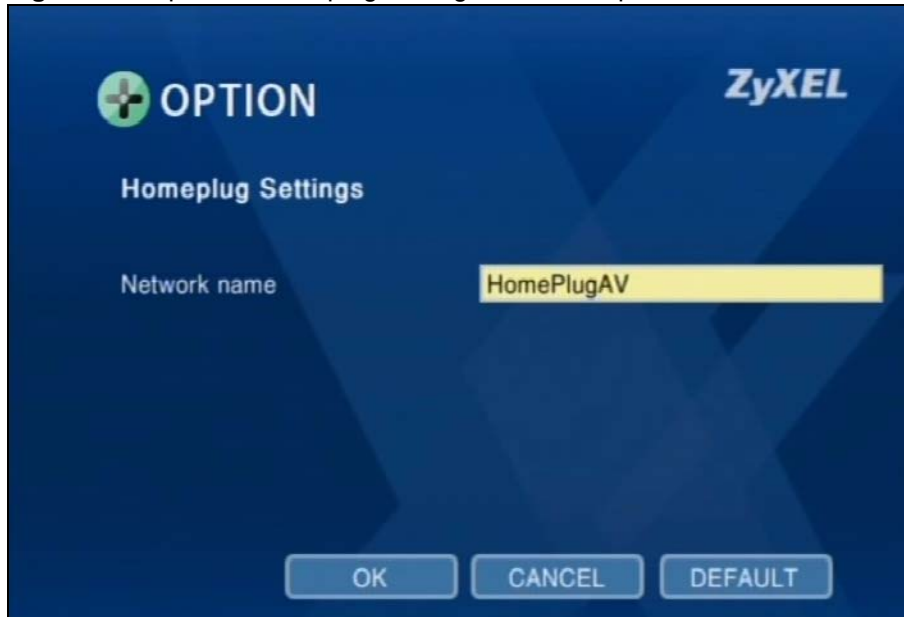
**Figure 37** Connect Directly to a Computer with Powerline



- 3 Set a new **Network name** on your powerline adapter. This is also known as the network password, NMK or Network Membership Key. Follow the instructions that came with your ZyXEL powerline adapter on setting the **Network name**.

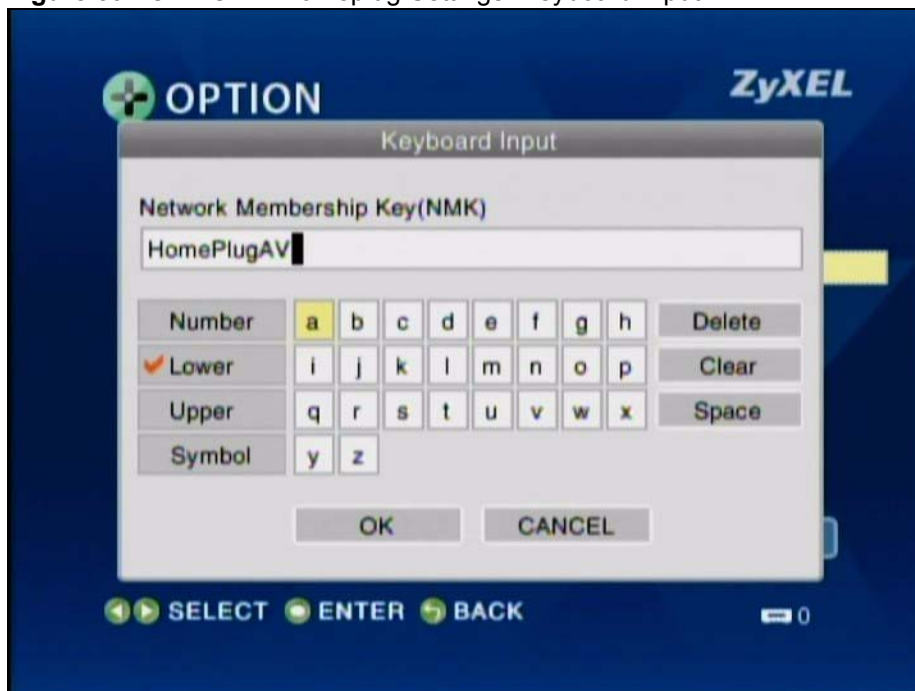
- 4 Then change **Network name** the Go to **OPTION > Powerline** on your DMA's onscreen menu. The screen shown below displays.
- 5 Click **OK** with your remote control when the **Network name** field is highlighted, as shown in the screen below.

**Figure 38** Option > Homeplug Settings: NMK Setup



- 6 The **Keyboard Input** screen appears. See [Figure 10 on page 36](#) for instructions on how to use this screen.
- 7 Enter the same **Network name** that you set on your computer's powerline adapter.

**Figure 39** OPTION > Homeplug Settings: Keyboard Input





**HomePlugAV** is the default **Network name**. For better security choose a secure password for your powerline connection.

## 10.2.2 Connecting to a Wired Home Network with Powerline

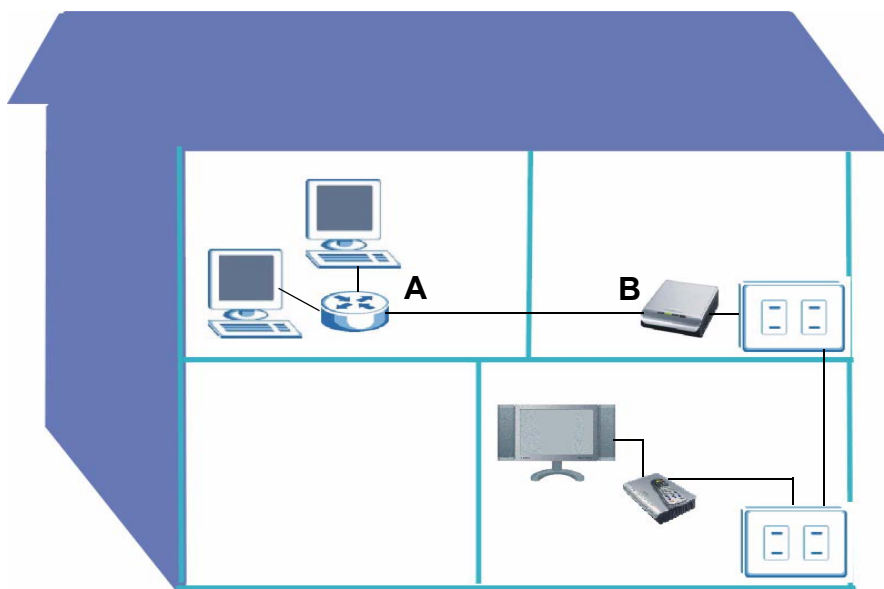
You can also connect your DMA to your home wired network.

- 1 Connect your DMA directly to a power outlet.
- 2 Connect the router on your network (**A**) to a powerline adapter such as ZyXEL's PLA-400 (**B**) using an Ethernet cable.

If your router already has a powerline feature, you can connect your router directly to a power outlet without using a powerline adapter.

- 3 Follow the instructions given above for setting the **Network name** on both your router's powerline adapter and your DMA.

**Figure 40** Connect to a Computer on Your Home (wired) Network



## 10.3 Network Settings

The DMA needs an IP address to communicate with the media servers on your network. The DMA can get an IP address automatically if you have a device on your network that gives them out. Or you can assign the DMA a static (fixed) IP address.

### 10.3.1 DNS Server Address

A DNS (Domain Name System) server maps domain names (like `www.zyxel.com`) to their corresponding IP addresses (`204.217.0.2` in the case of `www.zyxel.com`). This lets you use domain names to access web sites without having to know their IP addresses. The DMA can receive the IP address of a DNS server automatically (along with the DMA's own IP address). You can also manually enter a DNS server IP address in the DMA.

### 10.3.2 MAC Address

Every Ethernet device has a unique MAC (Media Access Control) address. The MAC address is assigned at the factory and consists of six pairs of hexadecimal characters, for example, `00:A0:C5:00:00:02`.

## 10.4 Network Settings Menu

Use this menu to configure your DMA's settings for connecting to your wired Ethernet network.

Select **OPTION** > **Network Settings** to open the following menu.

**Figure 41** OPTION > Network Settings

The screenshot displays the 'OPTION' menu interface for a ZyXEL device. The title 'Wired LAN Settings' is centered. Below it, several configuration options are listed:

- Get IP Address:** A dropdown menu currently showing 'NO'.
- IP Address:** A numeric keypad showing the value 192.168.1.3.
- Subnet Mask:** A numeric keypad showing the value 255.255.255.0.
- Default Gateway:** A numeric keypad with empty fields.
- DNS Server:** A numeric keypad showing the value 172.23.5.1.
- MAC Address:** A text field displaying the hexadecimal value 00:40:CA:99:A2:3F.

At the bottom of the screen, there are five navigation buttons: 'OK', 'CANCEL', 'SELECT', 'ENTER', and 'BACK'. A small status indicator '0' is visible in the bottom right corner.

## 10.5 Wired LAN Settings

Use this menu to configure the DMA's wired LAN settings.

**Figure 42** OPTION > Network Settings > Wired LAN Settings

**Wired LAN Settings**

Get IP Address **NO**

IP Address 192 . 168 . 1 . 3

Subnet Mask 255 . 255 . 255 . 0

Default Gateway . . . .

DNS Server 172 . 23 . 5 . 1

MAC Address 00:40:CA:99:A2:3F

OK CANCEL

SELECT ENTER BACK

The following table describes the fields in this menu.

**Table 14** OPTION > Network Settings

LABEL	DESCRIPTION
Get IP Address	Use the arrow and <b>OK</b> buttons to select this field. Then use the arrow and <b>OK</b> buttons to select an option. Select <b>YES</b> to have the DMA get IP address information automatically. If no IP address information is assigned, the DMA uses Auto-IP to assign itself an IP address and subnet mask. For example, you could connect the DMA directly to your media server computer. If the computer is also set to get an IP address automatically, the computer and the DMA will choose addresses for themselves and be able to communicate. Select <b>NO</b> if you want to assign the DMA a static (fixed) IP address.
IP Address	Enter the IP address in this field if you selected <b>NO</b> in the <b>Get IP Address</b> field.
Subnet Mask	Enter the IP subnet mask in this field if you selected <b>NO</b> in the <b>Get IP Address</b> field.
Default gateway	Enter the gateway IP address in this field if you selected <b>NO</b> in the <b>Get IP Address</b> field.
DNS server	Enter the DNS server IP address (if your ISP gave you one) in this field if you selected <b>NO</b> in the <b>Get IP Address</b> field.
MAC Address	This field displays the MAC address of the DMA. The MAC (Media Access Control) or Ethernet address on a LAN (Local Area Network) is unique to your computer (six pairs of hexadecimal notation). A network interface card such as an Ethernet adapter has a hardwired address that is assigned at the factory. This address follows an industry standard that ensures no other adapter has a similar address.
OK	Select this to save your changes back to the DMA.
CANCEL	Select this to exit this screen without saving your changes.

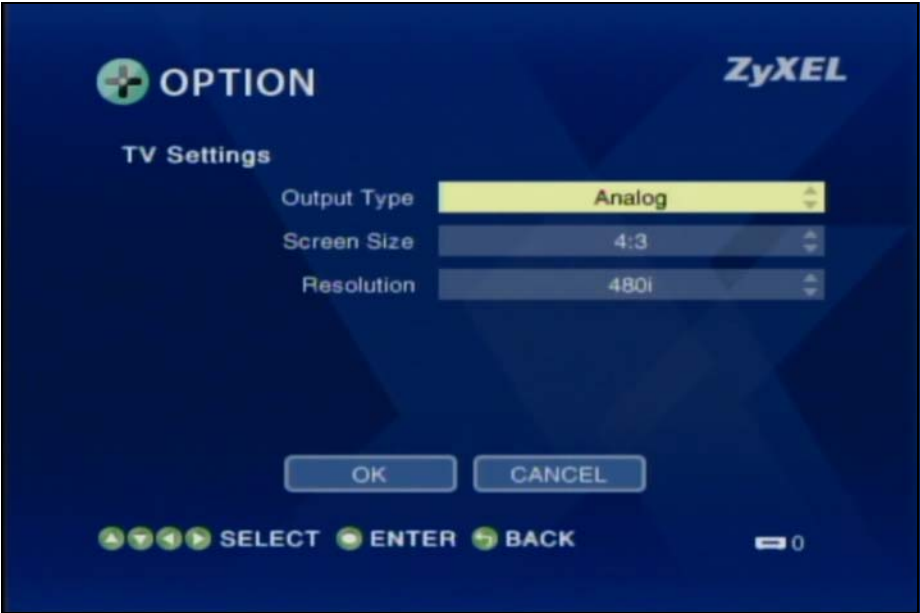
# 10.6 Video Modes

The DMA supports 480i, 480p, 720p and 1080i video modes. 720p and 1080i are high definition television modes. 480i is used with most standard definition televisions. The number (“1080” for instance) stands for the number of lines of vertical resolution. The letter “i” stands for interlaced scan. The letter “p” stands for progressive scan. Progressive scan provides higher picture quality than interlaced but requires twice the bandwidth.

# 10.7 TV Settings

Use this menu to configure the video output that the DMA sends to your television. Select **OPTION > TV Settings** to open the following menu.

**Figure 43** OPTION > TV Settings



The following table describes the fields in this menu.

**Table 15** OPTION > TV Settings

LABEL	DESCRIPTION
Output Type	Select <b>Digital</b> if your television accepts digital input. Select <b>Analog</b> if your television only accepts analog input.
Screen Size	Select <b>16:9</b> if your television supports the 16:9 format (widescreen). Select <b>4:3</b> if your television supports the 4:3 format (traditional television).
Resolution	Select a video mode. Use the highest number that your television supports. Select from <b>480i</b> , <b>480p</b> , <b>720p</b> and <b>1080i</b> . You can also select <b>Auto</b> when the <b>Output Type</b> is set to <b>Digital</b> .
OK	Select this to save your changes back to the DMA.
CANCEL	Select this to exit this screen without saving your changes.

## 10.8 Audio Settings



The DMA only provides 2 channel (stereo) output. When the DMA plays 5.1 channel files, it downmixes the analog or digital input and provides 2 channel (stereo) analog or digital output.

Use this menu to configure the DMA's audio output for music playback. You can turn the S/PDIF connector's output (the DMA's digital output) on or off for individual audio formats. The analog output is always on. You can also select how much volume smoothing you want during audio file playback.

See [Section 10.8.1 on page 73](#) for details on the individual audio formats.

Select **OPTION** > **Audio Output Settings** to open the following menu.

**Figure 44** OPTION > Audio Output Settings



The following table describes the fields in this menu.

**Table 16** OPTION > Audio Output Settings

LABEL	DESCRIPTION
Analog Output	The DMA sends two channel (also called left and right or stereo) audio output through the <b>LEFT</b> and <b>RIGHT</b> audio connectors for music files.
S/PDIF Output	Use this column to turn the S/PDIF connector's output (the DMA's digital output) on or off for individual audio formats.
AAC	Select whether or not the DMA sends digital audio output through the S/PDIF audio connector for AAC music files. Select <b>LPCM</b> to turn on the channel digital output (also called left and right or stereo) for AAC music files. Select <b>OFF</b> to turn off the digital output for AAC music files.



**Table 16** OPTION > Audio Output Settings (continued)

LABEL	DESCRIPTION
Dolby Digital	Select whether or not the DMA sends digital audio output through the S/PDIF audio connector for Dolby Digital music files. Select <b>LPCM</b> to turn on the channel digital output (also called left and right or stereo) for Dolby Digital music files. Select <b>OFF</b> to turn off the digital output for Dolby Digital music files.
WMA	Select whether or not the DMA sends digital audio output through the S/PDIF audio connector for WMA music files. Select <b>LPCM</b> to turn on the channel digital output (also called left and right or stereo) for WMA music files. Select <b>OFF</b> to turn off the digital output for WMA music files.
Auto Volume Control Strength	Automatic volume control averages the volume during music playback to help smooth out the sound level. Select the amount of volume smoothing you want for music playback. <b>None</b> provides no volume smoothing. <b>Small</b> provides a low degree of volume smoothing. <b>Moderate</b> provides some volume smoothing. <b>Strong</b> provides the greatest degree of volume smoothing.
OK	Select this to save your changes back to the DMA.
CANCEL	Select this to exit this screen without saving your changes.

## 10.8.1 Audio Formats

This section provides background information on audio formats mentioned in the previous section.

### 10.8.1.1 S/PDIF

S/PDIF (Sony/Philips Digital Interface Format) is also IEC 958 type II, part of IEC-60958. S/PDIF is a collection of low-level protocol and hardware specifications for carrying digital audio signals between devices and stereo equipment.

### 10.8.1.2 AAC

AAC (Advanced Audio Coding) is a standardized digital audio compression method. Sony, AT&T, Dolby, Nokia, Fraunhofer (FhG) and other companies cooperated to develop AAC to provide improved performance compared to MP3 (MPEG-1 Audio Layer 3). Various products including Apple's iTunes and iPod, the Sony PlayStation 3 and many cell phones support AAC playback. AAC has been promoted as the successor to MP3 although at the time of writing, MP3 still remains popular. AAC is also known as MPEG-4 AAC because it is included in the Moving Pictures Experts Group (MPEG) MPEG-4 standard.

### 10.8.1.3 Dolby Digital

Dolby Digital is one of several audio compression technologies (codecs) produced by Dolby Laboratories.

Dolby Digital (also called AC-3) is the most common version. It contains up to six discrete channels of sound. Five channels for normal-range speakers (right front, center, left front, right rear and left rear) and one channel for the subwoofer. This is often abbreviated as 5.1. The Dolby Digital format also supports mono and stereo usage.

Dolby Digital is also known as DD, DD 5.1, Dolby Surround AC-3 Digital, Dolby Stereo Digital, Dolby SR-Digital, SR-D, Adaptive Transform Coder 3, AC-3, Audio Codec 3, Advanced Codec 3, Acoustic Coder 3, ATSC A/52, and ATSC A/52 Rev. B.

#### 10.8.1.4 WMA

WMA (Windows Media Audio) is Microsoft's proprietary audio compression format. Although WMA has not been nearly as popular as MP3, WMA Pro is part of Microsoft's Windows Media framework and is positioned as a competitor to AAC. Many consumer devices and media players support the playback of WMA files.

#### 10.8.1.5 LPCM

LPCM (Linear Pulse Code Modulation) is a method for digitally encoding audio information. In LPCM an audio waveform is represented by a sequence of amplitude values recorded at a sequence of times. LPCM most commonly supports two audio channels (stereo).

## 10.9 Language Settings

Use this menu to select the language that the DMA menus use.

Select **OPTION > Language Settings** to open the following menu.

**Figure 45** OPTION > Language Settings



The following table describes the fields in this menu.

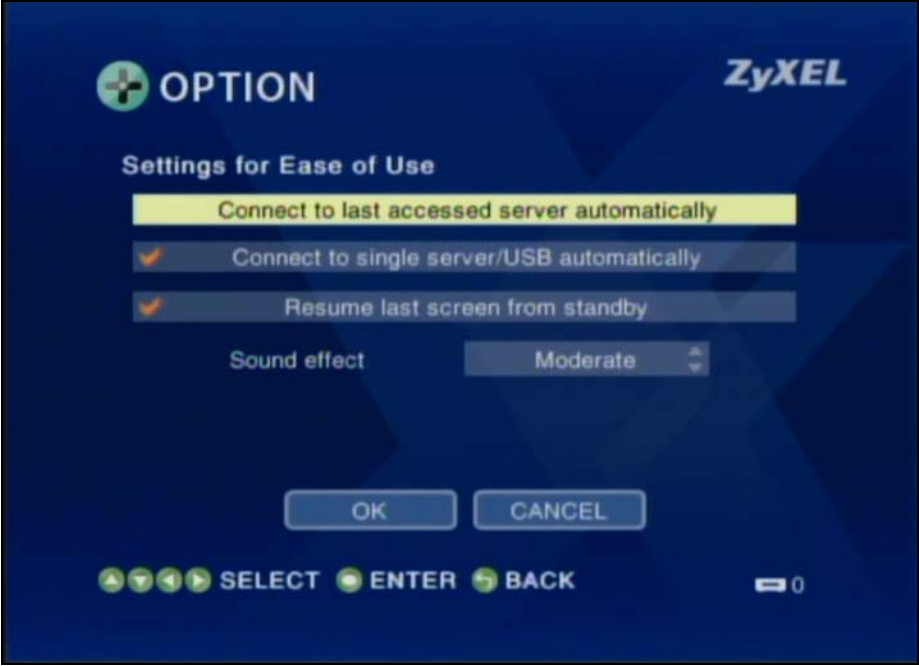
**Table 17** OPTION > Language Settings

LABEL	DESCRIPTION
Language Settings	Select the language that you want the DMA menus to use. A check mark appears next to the current display language.
OK	Select this to save your changes back to the DMA.
CANCEL	Select this to exit this screen without saving your changes.

## 10.10 Settings For Ease of Use

Use this menu to configure settings that control the DMA’s operation.  
 Select **OPTION > Settings for Ease of Use** to open the following menu.

**Figure 46** OPTION > Settings for Ease of Use



The following table describes the fields in this menu.

**Table 18** OPTION > Settings for Ease of Use

LABEL	DESCRIPTION
Connect to last accessed server automatically	When the DMA starts up, this option has it automatically connect to the media server that you last used. A check mark appears next to the option if it is selected.
Connect to single server/USB automatically	When the DMA starts up, this option has it automatically connect to the media server or USB device that you last used. A check mark appears next to the option if it is selected.
Resume last screen from standby	If you were playing a file when you turned off the DMA, this option has the DMA automatically continue playback from where you left off when you turn the DMA back on. A check mark appears next to the option if it is selected.
Sound effect	Set how loud you want the DMA to beep when you press buttons on the remote control.
OK	Select this to save your changes back to the DMA.
CANCEL	Select this to exit this screen without saving your changes.

## 10.11 Reset Settings

Use this menu to set the DMA back to the factory default settings.



You will lose all of your changes when you reset to the default settings.

Select **OPTION** > **Reset Settings** to open the following menu.

**Figure 47** OPTION > Reset Settings



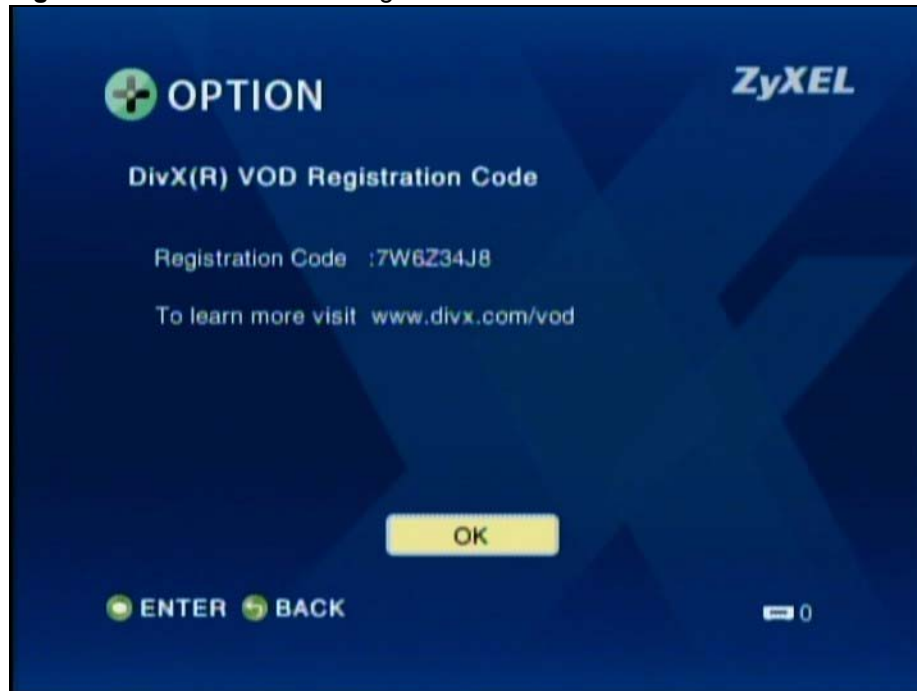
The following table describes the fields in this menu.

**Table 19** OPTION > Reset Settings

LABEL	DESCRIPTION
RESET	Select this to restore all of the DMA's settings to the factory defaults.
CANCEL	Select this to exit this screen without saving your changes.

## 10.12 Registration Code

Use this menu to display information about the DivX VOD Registration Code

**Figure 48** OPTION > DivX Registration Code.

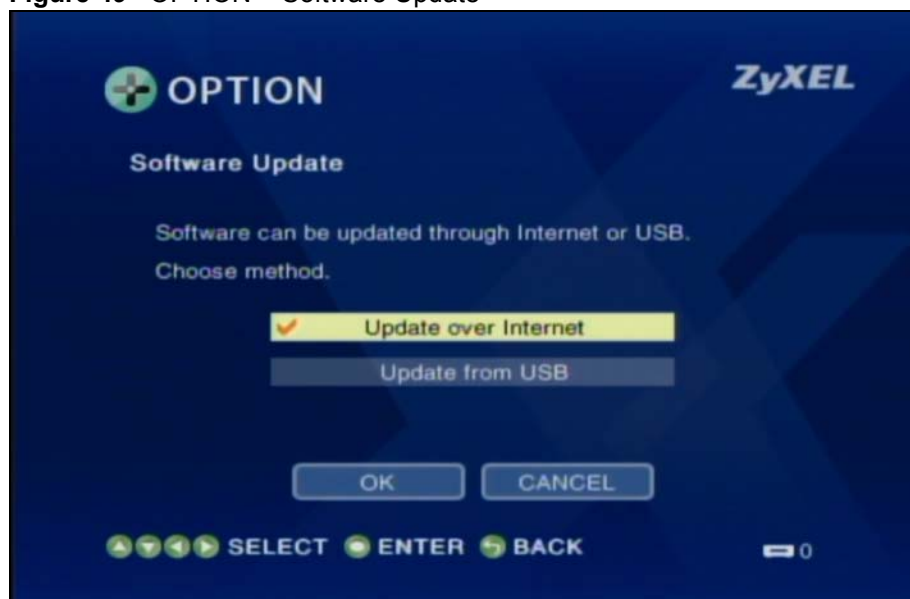
## 10.13 Software Update

Use this menu to upload new software to the DMA.



Only use software for your device's specific model. Refer to the label on the bottom of your DMA.

Select **OPTION > Software Update** to open the following menu.

**Figure 49** OPTION > Software Update

The following table describes the fields in this menu.

**Table 20** OPTION > Software Update

LABEL	DESCRIPTION
Update over Internet	Select this option and follow the on-screen instructions to have the DMA check for and download new software from a server. The DMA must be connected to the Internet in order to do this. A check mark appears next to the option if it is selected.
Update from USB	Select this option and follow the on-screen instructions to have the DMA download new software from a USB stick. You must first download the software file, unzip it and put the folder on a USB stick. Find software at <a href="http://www.zyxel.com">www.zyxel.com</a> in a file that (usually) uses the system model name with a .bin extension, for example, "DMA-1100P.bin". A check mark appears next to the option if it is selected.
OK	Select this to save your changes back to the DMA.
CANCEL	Select this to exit this screen without saving your changes.



**Do not turn off the DMA while software upload is in progress!**

The upload process may take up to two minutes. After a successful upload, the system will reboot. See [Section 10.14 on page 78](#) for how to check the software version to know if the new software upload was successful.

## 10.14 Device Information

Use this menu to display information about the DMA.

Select **OPTION > Device Information** to open the following menu.

**Figure 50** OPTION > Device Information



The following table describes the fields in this menu.

**Table 21** OPTION > Device Information

LABEL	DESCRIPTION
Device Name	This is the name of the series to which your device belongs.
Version	This is the version of the software currently on the DMA. See <a href="#">Section 10.13 on page 77</a> for how to update software when there is a new version.
Wired LAN MAC Address	This field displays the MAC address of the DMA's wired Ethernet interface.
OK	Select this to exit this screen.

## 10.15 Screen Saver

The DMA automatically displays a screen saver when it is on and you are not using it. Press any button on the remote control to return to the normal screens.





# Media Server Software

This chapter introduces the media server software included on the CD.

## 11.1 Media Server Introduction

The DMA can play files on DLNA (Digital Living Network Alliance) compliant media servers. The DLNA is a group of leading personal computer and electronics companies that works to make products compatible and able to work in a home network in order to make digital living easy and seamless. The group's members include Nokia, Intel, Microsoft, Sony, Motorola, Philips, Samsung, Matsushita, and Hewlett-Packard.

Install the included DLNA-compliant media server software on your Windows XP computers to let the DMA play files stored on the computers.

- The software requires Windows XP.
- If you do not have Windows XP or do not want to install software, you can put your files on a USB stick. The USB stick connects directly to the DMA without need of the media server software
- You must install the media server software on each computer that you will use to share files with the DMA.
- See the Quick Start Guide for how to install the media server software and the requirement details.

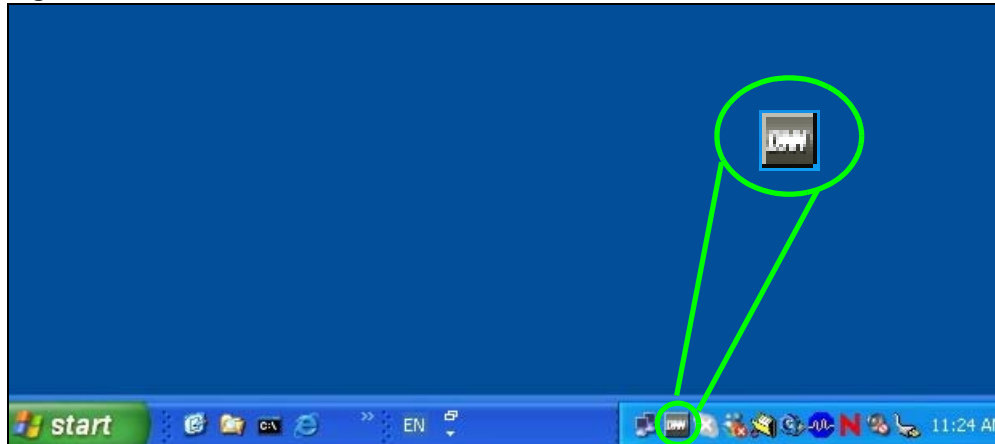
The NSA-220 network storage appliance is also a media server.

## 11.2 Media Server Tool

Use the media server tool to configure the media server settings. Do one of the following to start the media server tool.

- Click **Start > All Programs > DigiOn > DiXiM Media Server Tool**.
- Double-click the DiXiM icon in the system tray (see the following figure).

**Figure 51** Media Server Tool Icon



## 11.3 Configuring the Media Server Software

Refer to the Quick Start Guide and the help (**Start > All Programs > DigiOn > Help**) for details on how to configure and use the media server software.

## 11.4 Windows Media Connect Server

Windows Media Digital Rights Management (DRM) restricts the playback of protected files to computers which have a license key. To play a media file protected by Windows Media DRM:

- 1 Play the file on the same computer you use as your media server. This unlocks the file.
- 2 Use Windows Media Connect, which is included in Windows Media Player 11 (or higher), as your media server.

# The ENCRYPT Button

Use the **ENCRYPT** button to automatically set up a secure powerline connection between your powerline devices.

## 12.1 ENCRYPT Button Overview


The ENCRYPT button allows you to set up a secure powerline connection with other HomePlug AV compliant powerline devices which also support the ENCRYPT feature. No other powerline setting changes are required to connect.

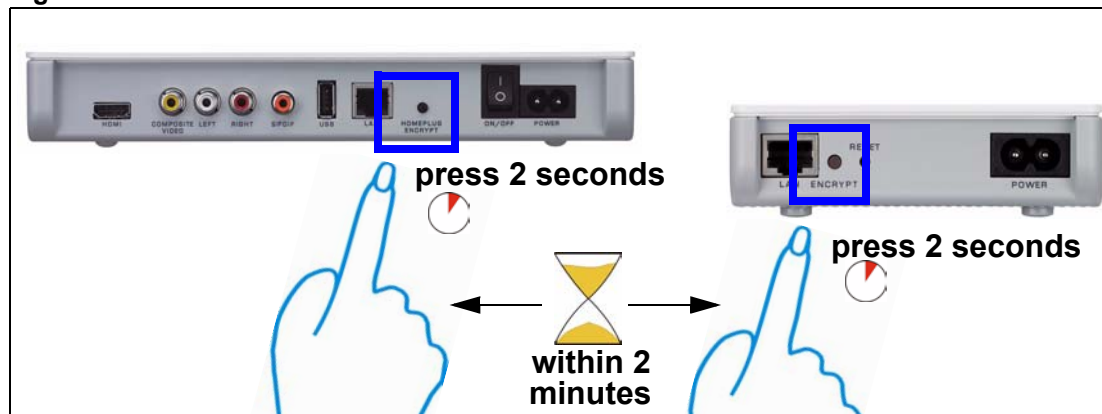
You can use the **ENCRYPT** button to:

- set up a new powerline network
- add a powerline device to the network
- separate an existing powerline network into multiple networks

## 12.2 Set Up a HomePlug AV Network with ENCRYPT


You can connect a number of devices on a powerline network, but you can use the ENCRYPT button on only two devices at a time. The DMA and PLA-400 v2 are shown below as examples.


- 1** Place a powerline device close to another powerline device so you have time to set up each one. After you set up the first powerline device, you have 120 seconds to set up the second powerline device.
- 2** You can disconnect them from your computer or modem (or other networking equipment) if you need to move them close to each other, but the powerline devices need to be plugged into power outlets.
- 3** Press the **ENCRYPT** button at the rear of your powerline device for more than 10 seconds until the HomePlug (  ) turns off. This resets the network name to a random value and removes your device from any network it may belong to.
- 4** Press the **ENCRYPT** button at the rear of your powerline device for 1~2 seconds.

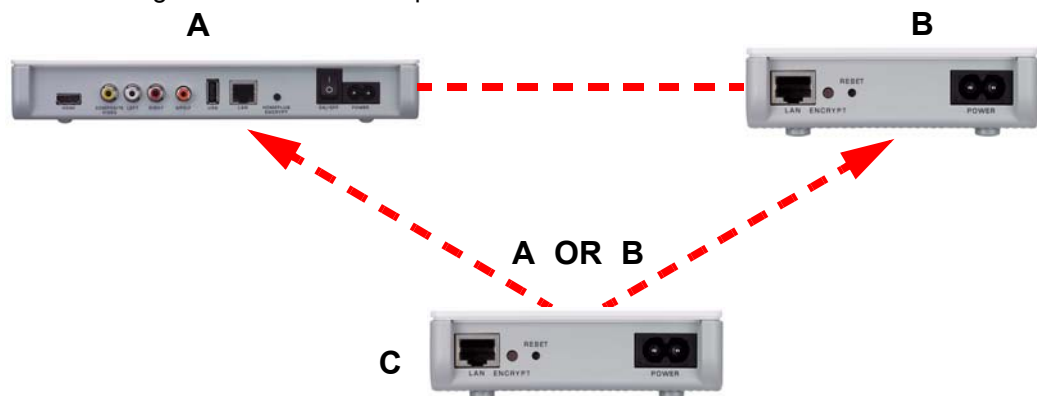
**Figure 52 ENCRYPT Connection Procedure**

- 5 Repeat step 4 in this section for the other powerline device you wish to connect. This must be done within 120 seconds of pressing the **ENCRYPT** button on the DMA. Wait for about one minute while your powerline devices connect.



If the HomePlug (  ) lights on both powerline devices do not light up, the powerline devices are not connected. Repeat steps 4 and 5 in this section. If that doesn't work, see Section 13.3 on page 91 for suggestions.

- 6 To add more powerline devices to your network, press the **ENCRYPT** button on device C (shown below) for more than 10 seconds until the HomePlug (  ) turns off.
- 7 Then repeat steps 4 and 5 in this section using any powerline device (A or B) you have connected using **ENCRYPT** and the powerline device you want to connect (C). You must use the **ENCRYPT** button on both devices.

**Figure 53 Adding More Powerline Adapters to Your Network**

- 8 If you disconnected your computer or modem (or any other networking product connected to your powerline device) in step 1 of this section, you can now reconnect them.

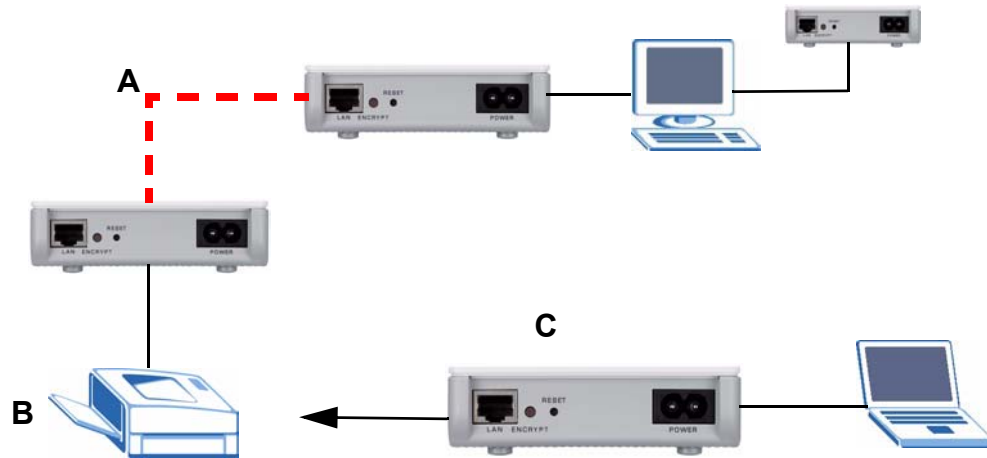
This sets up your powerline network between your powerline devices.

## 12.3 Setting Up Multiple Networks

You can use the **ENCRYPT** button to set up multiple powerline networks using your existing powerline network.

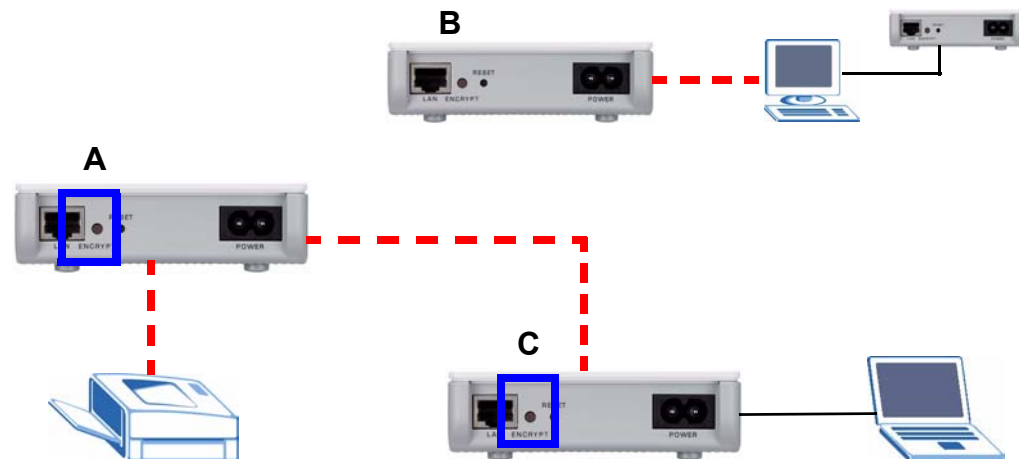
For example, you have already set up a powerline network in your home (**A**) which accesses a printer (**B**). Now you want a separate powerline network connection from your laptop to your printer (**C**).

**Figure 54** One Existing Powerline Network




- 1 Click the **ENCRYPT** button on (A) for more than 10 seconds until the HomePlug (🏠) turns off. This disconnects (A) from (B).
- 2 Click the **ENCRYPT** button on (A) and (C) for 1~2 seconds and within two minutes of each other.
- 3 Wait for roughly one minute while (A) and (C) connect.
- 4 Check the LEDs on both (A) and (C). When the HomePlug (🏠) lights shine steadily, the devices are connected.

**Figure 55** Two Separate Powerline Networks



Congratulations. You now have two separate powerline networks as shown above.



If the HomePlug (  ) lights on both powerline devices do not light up, the powerline devices are not connected. Repeat the connection process, making certain you press the **ENCRYPT** buttons for the correct time and within two minutes of each other. If that does not work see Section 13.3 on page 91 for suggestions.

# Troubleshooting

This chapter offers some suggestions to solve problems you might encounter. The potential problems are divided into the following categories.

- [Power, Hardware Connections, and LEDs](#)
- [DMA Usage](#)
- [Powerline Problems](#)

## 13.1 Power, Hardware Connections, and LEDs



---

None of the LEDs turn on.

---

- 1 Make sure the DMA is turned on.
- 2 Make sure you are using the power adaptor or cord included with the DMA.
- 3 Make sure the power adaptor or cord is connected to the DMA and plugged in to an appropriate power source. Make sure the power source is turned on.
- 4 Turn the DMA off and on using the power switch on the rear panel (instead of the **Power** button on the remote control).
- 5 If the problem continues, contact the vendor.



---

One of the LEDs does not behave as expected.

---

- 1 Make sure you understand the normal behavior of the LED (see [Section 2.3 on page 27](#)).
- 2 Check the hardware connections. See the Quick Start Guide and [Section 13.1 on page 87](#).
- 3 Inspect your cables for damage. Contact the vendor to replace any damaged cables.
- 4 Turn the DMA off and on using the power switch on the rear panel (instead of the **Power** button on the remote control).
- 5 If the problem continues, contact the vendor.

## 13.2 DMA Usage



---

I cannot see the DMA menus on the television screen.

---

- 1 Check the hardware connections, and make sure the LEDs are behaving as expected. See the Quick Start Guide and [Section 13.1 on page 87](#).
- 2 Make sure your television is set to display the DMA's input. If you used an HDMI connection between the television and the DMA, make sure the television input is set to HDMI.
- 3 Turn the DMA off and on using the power switch on the rear panel (instead of the **Power** button on the remote control).
- 4 If the problem continues, contact the vendor.



---

I cannot see or access the media server folders on the television screen.

---

- 1 If the server icon in the bottom right of the screen has a 0, try turning the DMA off and on using the power switch on the rear panel (instead of the **Power** button on the remote control).
- 2 Check the hardware connections, and make sure the LEDs are behaving as expected. See the Quick Start Guide and [Section 13.1 on page 87](#).
- 3 Make sure the media server computer is on and has an IP address in the same subnet as the DMA. (If you know that there are routers between your computer and the DMA, skip this step.)
- 4 Check the media server program's **Published Folder** and **Security** settings. If you have to change these settings, turn the DMA off and on again afterwards.
- 5 Check the security settings of any software firewalls on the media server computer. Make sure that any software firewalls on the media server computer are configured to allow the DMA to access the media server. See the [The DMA cannot access the media server](#). If you have to change any firewall settings, turn the DMA off and on again afterwards.



---

The DMA cannot access the media server.

---

Make sure that any software firewalls on the media server computers are configured to allow the DMA to access the media server.

The media server installation wizard can automatically configure the Windows XP firewall. See the media server help (**Start > All Programs > DigiOn > Help**) for instructions on how to manually configure the Windows XP firewall.



You need to configure any other software firewalls (like ZoneAlarm for example). Your software firewall may automatically prompt you when it detects the DMA's access attempts and give you the option to allow or deny access.

Use the following information to manually configure your software firewall's settings if the firewall does not automatically prompt you to allow or deny access.

APPLICATION	PROGRAM FILE NAME	FUNCTION	PORT NO.	PROTOCOL
DiXiM Media Server	dmsf.exe <sup>A</sup>	DiXiM SSDP <sup>B</sup> Discovery	1900	UDP
		DiXiM Media Server Device	30000	TCP
		DiXiM Media Server HTTP	30001	TCP

A. This file will be installed into the C:\Program Files\DigiOn\DiXiM Media Server folder by default during the installation.

B. The DMA uses SSDP (Simple Service Discovery Protocol) to find the media server.



**The number of items in a list does not match the number of files in a media server folder.**

- 1 Files with unsupported formats or codecs may not display in the list. See [Appendix A on page 99](#) for details on the supported file formats and codecs.
- 2 You may have Windows Media Center (WMC) and the DiXiM media server on the same computer and be sharing out the same folder. Either uninstall one of the media servers or set them to share out different folders.



**Some of the files in my media server folder do not display in the list on the DMA.**

Files with unsupported formats or codecs may not display in the list. See [Appendix A on page 99](#) for details on the supported file formats and codecs.



**Some of the files in my DMA's list do not play or do not play properly.**

- Files with unsupported formats or codecs may not play or may not play properly. See [Appendix A on page 99](#) for details on the supported file formats and codecs.
- Files which are digitally protected may not be playable. For files that have Windows Media Digital Rights Management (DRM) protection, first play the file on the same computer you use as your media server. This unlocks the file. Then use Windows Media Connect, which is included in Windows Media Player 11 (or higher), as your media server.



---

Some of my photo files do not display thumbnails.

---

Some files do not support thumbnails and thus will not display them.



---

I cannot see the files on my USB device.

---

- 1 Make sure you have the USB device properly connected to the USB port. See the Quick Start Guide for details.
- 2 Files with unsupported formats or codecs may not play or may not play properly. See [Section on page 99](#) for details on the supported file formats and codecs.
- 3 Turn the DMA off and on using the power switch on the rear panel (instead of the **Power** button on the remote control)
- 4 Try using a different USB stick.



---

The A-B function does not work on some files.

---

Some files do not have time tags and cannot support the A-B function.



---

My favorites settings were not saved.

---

After adding to or editing a favorites list, press the remote's **Power** button to make the DMA enter standby mode to save your change. Then press the **Power** button again to return to operation mode.



---

I connected the DMA to two televisions but it only displays on one.

---

The DMA only provides output through one connection at a time (either the HDMI connection or the S-Video connection). Not both at the same time.



---

The DMA menu display does not fill my television screen.

---

Check the DMA's video output settings (see [Section 10.7 on page 71](#)).



The content playback does not fill my television screen.

- 1 Check the DMA's video output settings (see [Section 10.7 on page 71](#)).
- 2 The content may be a different format from your television. For example, a 4:3 format video file will not fill the width of a 16:9 (widescreen) format television.



The audio on my 5.1 channel speakers does not sound right or I only hear audio from my rear left and right speakers.


When the DMA plays 5.1 channel files, it downmixes the analog or digital input and provides 2-channel (stereo) analog or digital output.

- On some 5.1 channel audio systems will only play on the rear left and right speakers.
- Some 5.1 channel audio systems can simulate the 2 channels to 5.1 channels, but the sound will not be as good as with original 5.1 channel output.

### 13.3 Powerline Problems



The HomePlug LED does not turn on.

- 1 Use the **PLA-4xx Series Configuration Utility** to detect all other ZyXEL HomePlug AV-compliant devices on your powerline network. Make sure that the network password is the same on all of your powerline adapters. Download the Utility from the ZyXEL website.
- 2 Check the DAK and MAC address for all powerline adapters are typed correctly.
- 3 Make sure that all your powerline adapters are HomePlug AV compliant. Check the package it came in or ask your vendor. This DMA can not detect earlier versions of HomePlug powerline adapters such as HomePlug 1.0 or 1.0.1. (Although they can coexist on the same electrical wiring without interfering with each other.)
- 4 Make sure that the powerline adapters on your network are all on the same electrical wiring. Connect another powerline adapter into an outlet close to your DMA's power outlet. They are probably now on the same electrical wiring. Check the **Link**  LED. If it now lights up your powerline adapter was probably previously on separate electrical wiring. Ask an electrician for more information on the electrical wiring in your building.
- 5 If your powerline network is using coaxial cable, check all powerline adapters are on the same coaxial cable.
- 6 If your powerline network is using electrical wiring (not coaxial cable), check you do not have a power meter between powerline adapters. Powerline signals cannot pass this.



---

**The signal on my powerline network is weak.**

---

- 1 Your powerline adapters may be connected to electrical surge protectors. Connect them to standard power outlets.
- 2 Your powerline adapters may be located close to large appliances such as refrigerators or air-conditioners that cause interference with the powerline signal. Move the adapters further away from such appliances to reduce interference.
- 3 Your powerline adapters may be placed close to electrical devices such as electrical insect-killers which produce radio waves. These may interfere with the powerline signals. Move the adapters further away from such electrical devices.
- 4 Your wiring may be old and/or low quality or with a long wiring path.

### 13.4 ENCRYPT Button Problems

This section applies only to DMAs with the **ENCRYPT** button.



---

**The HomePlug light is already on, but I haven't pressed the ENCRYPT button yet.**

---

Your device has already connected to another powerline device. Press the **ENCRYPT** button for more than 10 seconds to release the connection.



---

**The HomePlug light does not turn on.**

---


- Ensure you have pressed the **ENCRYPT** button on **both** devices.
- Wait for about a minute while the devices set up a connection.
- If that does not work, try again with both devices connected to a power strip next to each other. If they now connect, then the devices were not on the same electrical circuit before.



---

**The POWER lights on both devices finished blinking, but only one device's HomePlug light is on.**

---

One device may have connected to a third powerline device. To check device A is connected to device B and not another device, disconnect device B from its power source. Device A's HomePlug (  ) light will turn off if the connection is with Device B. Press the **ENCRYPT** button on **both** devices for more than 10 seconds, then try to reconnect, pressing the **ENCRYPT** button for less than 3 seconds on both devices.



---

**I pressed the **ENCRYPT** button for more than 10 seconds, but the HomePlug light is still on.**

---

The HomePlug light is on, indicating it is still connected to another powerline device. Try again, pressing the **ENCRYPT** button for more than 10 seconds.



---

# PART IV

## Appendices and Index

---

Product Specifications (97)  
Setting up Your Computer's IP Address (107)  
Windows Vista Media Server (129)  
Open Software Announcements (137)  
Legal Information (183)  
Customer Support (187)  
Index (193)





# Product Specifications

## General Specifications

The following tables summarize the DMA's hardware and software features.

**Table 22** Hardware Specifications

Dimensions	244 mm (W) x 165.44 mm (D) x 38.8 mm (H)
Device Weight	0.597 kg
Power Specification	100 - 240 V AC, 50/60 Hz
Ethernet Port	Auto-negotiating: 10 Mbps or 100 Mbps in either half-duplex or full-duplex mode.
Powerline Port	1 x 200 Mbps Powerline port compliant with HomePlug AV standard
Television Connectors	HDMI Composite Video RCA connector Left/Right Video RCA connectors S/PDIF coaxial RCA connector
Remote Control	Recommended operating range up to 5 m. Point the remote control at the front of the DMA at an angle of no less than 30 degrees.
USB Port	USB version 2.0, type A
Operation Environment	Temperature: 5° C ~ 45° C Humidity: 5% ~ 85% RH (Noncondensing)
Storage Environment	Temperature: 0° C ~ 65° C Humidity: 5% ~ 95% RH (Noncondensing)
Distance between the centers of the holes (for wall mounting) on the device's back.	137 mm
Recommended type of screws for wall-mounting	M4 Tap Screw, see <a href="#">Figure 57 on page 104</a> .
Certifications	Safety: CSA C22.2 No 60950-1, UL60950-1, EN60950-1 EMC: EN55022 Class B (1988), FCC Part 15 (Class B)

**Table 23** Software Specifications

FEATURE	DESCRIPTION
Default IP Address	DHCP client. If no DHCP server is found, the DMA uses Auto-IP to choose an IP address in the 169.254.X.X subnet (where X is a number from 1 to 254).
Default Subnet Mask	DHCP client by default. If no DHCP server is found, the subnet mask defaults to 255.255.255.0 (24 bits).
Device Management	Make selections and configure settings on a (television) screen using the remote control. Use the PLA-4xx Series Configuration Utility to configure the DMA powerline settings.
Software Upgrade	Upload new software (when available) from the ZyXEL website. Or download the new software from the ZyXEL website and use a USB stick to put it on the DMA.  <b>Note: Only upload software for your specific model!</b>
Configuration Reset	The DMA provides an option for restoring the default settings.
DHCP (Dynamic Host Configuration Protocol) Client	The DMA can receive IP addresses, an IP default gateway and DNS servers via DHCP.
Universal Plug and Play (UPnP)	A UPnP-enabled device can dynamically join a network, obtain an IP address and convey its capabilities to other devices on the network.
Media Sharing	DLNA compliant client.
Favorites (Playlist)	Set up lists of files to play.
Audio Input Formats Supported	Dolby Digital, DVD-Audio, MPEG-1 and MPEG-2 Layers I, II and III(MP3), MPEG-2 BC multi-channel Layers I, II and III, MPEG-2 and MPEG-4 AAC-LC, WMA9. See <a href="#">page 99</a> for details.
Podcast RSS Feeds Supported	RSS 2.0 and iTunes RSS
Video Input Formats Supported	MPEG-1, MPEG-2 MP@ML, MPEG-4 simple and advanced simple profile, MPEG-4 AVI files and WMV version 9. See <a href="#">page 99</a> for details.
Photo Input Formats Supported	TIFF, PNG, GIF, BMP and JPEG. See <a href="#">page 99</a> for details.
Video Output Formats	Digital, analog 4:3, 16:9 480i, 480p, 720p and 1080i
Audio Output Formats	two channel (stereo)

The following list, which is not exhaustive, illustrates the standards supported in the DMA.

**Table 24** Standards Supported

STANDARD	DESCRIPTION
DLNA v1 Client	The DLNA (Digital Living Network Alliance) group of personal computer and electronics companies works to make products compatible and able to work in a home network in order to make digital living easy and seamless.
HDMI	HDMI (High Definition Multimedia Interface) is an interface that allows high quality, all-digital video and audio streams.

**Table 24** Standards Supported (continued)

STANDARD	DESCRIPTION
USB 2.0	USB (Universal Serial Bus) version 2.0 allows for interfacing devices with data transfers rates of up to 480 Mbps.
HomePlug AV	<p>The HomePlug AV standard specifies how network devices communicate using standard electrical wiring.</p> <p>It supports a data transfer rate of up to 200Mbps.</p> <p>Data is encrypted using 128-bit AES (Advanced Encryption Standard).</p> <p>HomePlug AV compatible devices co-exist with HomePlug 1.0 devices but do not detect each other.</p> <p>The range of a HomePlug AV network is 300 meters/984 feet in optimal conditions.</p> <p>HomePlug AV is compatible with all OSs.</p> <p>The maximum number of powerline devices on a single network is 64.</p>
Windows Media Digital Rights Management (DRM)	This Windows standard restricts the playback of protected media to computers holding a license key for the media file.

## Supported Content Formats and Codecs

The following describes the details about the files that the DMA can play. Files with specifications lower or higher than the listed ranges may not play or may not play properly. For the media server software included on the CD, refer to the help (**Start > All Programs > DigiOn > Help**) for a list of file formats that the media server software can play.

### Video File Formats Supported

**Table 25** MPEG PS Video File Specifications

Extensions	mpg mpeg mpe m2p
Video Stream	MPEG-1, MPEG-2 Profile Level: up to MP@HL Resolution: Maximum 1920 x 1080 Bit rate: VBR/CBR, Maximum 15 Mbps
Audio Stream	MPEG-1/2 Layer-II Sample Frequency: Maximum 48 kHz Channels: Maximum 2 Channels Bit rate: VBR/CBR, Maximum 384 kbps LPCM Sample Frequency: Maximum 48 kHz Bits per sample: Maximum 16 bit Channels: Maximum 2 Channels AC3 Sample Frequency: Maximum 48 kHz Channels: Maximum 6 Channels Bit rate: Maximum 640 kbps

**Table 26** MPEG-2 TS/TTS Video File Specifications

Extensions	The DMA supports the playback of mpeg, mpg, and mpe MPEG-2 TS and TTS video files. The DMA cannot play MPEG-2 TTS files from a USB device. The DMA can play MPEG-2 TTS files shared on a media server that supports them (although the included media server software does not support them).
Video Stream	MPEG-2 Profile Level: up to MP@HL Resolution: Maximum 1920 x 1080 Bit rate: VBR/CBR, Maximum 25 Mbps
Audio Stream	MPEG-1/2 Layer-II Sample Frequency: Maximum 48 kHz Channels: Maximum 2 Channels Bit rate: VBR/CBR, Maximum 448 kbps AC3 Sample Frequency: Maximum 48 kHz Channels: Maximum 6 Channels Bit rate: Maximum 448 kbps MPEG-2/4 AAC LC Sample Frequency: Maximum 48 kHz Channels: Maximum 6 Channels Bit rate: VBR/CBR, Maximum 384 kbps

**Table 27** WMV Video File Specifications

Extensions	asf wmv
Video Stream	WMV9 Profile Level: up to MP@HL Resolution: Maximum 1920 x 1080 Bit rate: VBR/CBR, Maximum 10 Mbps
Audio Stream	WMA8 Sample Frequency: Maximum 48 kHz Channels: Maximum 2 Channels Bit rate: Maximum 320 kbps WMA9, WMA9 Professional (WMA Lossless and Voice formats are not supported.) Sample Frequency: Maximum 48 kHz Channels: Maximum 6 Channels Bit rate: VBR/CBR, Maximum 768 kbps
Notes	Combination of WMV HD and WMA Pro may result in frames being dropped. Depending on some WMV HD contents, noise may be generated in the audio signal when starting playback or during the seek operation. Contents with a Complex decoder complexity are not supported.

**Table 28** AVI Video File Specifications

Extensions	avi
------------	-----

**Table 28** AVI Video File Specifications

Video Stream	XviD, 3ivx Resolution: Maximum 1280 x 720
Audio Stream	MPEG-1/2 Layer-III Sample Frequency: Maximum 48 kHz Channels: Maximum 2 Channels Bit rate: VBR/CBR, Maximum 320 kbps AC3 Sample Frequency: Maximum 48 kHz Channels: Maximum 6 Channels Bit rate: Maximum 640 kbps

**Table 29** MPEG4 Video File Specifications

Extensions	mp4
Video Stream	MPEG-4 ASP Resolution: Maximum 1920 x 1080 Bit rate: VBR/CBR, Maximum 5 mbps
Audio Stream	MPEG-4 AAC LC Sample Frequency: Maximum 48 kHz Channels: Maximum 6 Channels Bit rate: Maximum 448 kbps

**Table 30** DVR-MS Video File Specifications

Supports content recorded by Windows Media Center Edition 2005. The DMA cannot play DVR-MS files from a USB device. The DMA can play DVR-MS files shared by the included media server software.
---

**Table 31** IFO Video File Specifications

Supports IFO defined by DLNA 1.0 Errata. The DMA cannot play IFO files from a USB device. The DMA can play IFO files shared on a media server that supports them (although the included media server software does not support them).
---

## Music File Formats Supported

**Table 32** Music File Specifications

TYPE	EXTENSIONS	DETAILS
MP3	mp3	<p>Audio Stream: MPEG-1/2 Layer-III</p> <p>Sample Frequency: Maximum 48 kHz</p> <p>Channels: Maximum 2 Channels</p> <p>Bit rate: VBR/CBR, Maximum 320 kbps</p> <p>ID3 tag: ID3 version 1.x, 2.2, 2.3, 2.4 tags</p> <p>MP3 file ID3 tags provide information like the title, name of the artist, album name, and track number. The USB browse screens can retrieve and display English language ID3 tag information. The retrieval and display of non-English language tag information is not supported.</p>
LPCM	lpcm	<p>The DMA cannot play LPCM files from a USB device. The DMA can play LPCM files shared on a media server that supports them. The included media server software does not share LPCM files by default. To share LPCM files, you would need to add a published file type using "lpcm" as the file extension and "audio/L16" as the MIME-TYPE.</p> <p>Audio Stream: LPCM</p> <p>Sample Frequency: Min. 8 kHz, Maximum 64 kHz</p> <p>Bits per sample: Maximum 16 bit</p> <p>Channels: Maximum 2 Channels</p>
WAV	wav	<p>Audio Stream: PCM</p> <p>Sample Frequency: Min. 8 kHz, Maximum 64 kHz</p> <p>Bits per sample: Maximum 16 bit</p> <p>Channels: Maximum 2 Channels</p>
WMA	asf wma	<p>Audio Stream: WMA8</p> <p>Sample Frequency: Maximum 48 kHz</p> <p>Channels: Maximum 2 Channels</p> <p>Bit rate: Maximum 320 kbps</p> <p>Audio Stream: WMA9, WMA9 Professional (Contents with a Complex decoder complexity are not supported. )</p> <p>Sample Frequency: Maximum 48 kHz</p> <p>Channels: Maximum 6 Channels</p> <p>Bit rate: VBR/CBR, Maximum 768 kbps</p> <p>With EM8620, L2 profile WMA content must meet the following conditions.</p> <p>Bit rate: 48 kbps ~ 192 kbps</p> <p>Sample Rate: 32 kHz ~ 48 kHz</p>
Ogg	ogg	<p>Audio Stream: Vorbis</p> <p>Sample Frequency: Maximum 48 kHz</p> <p>Channels: Maximum 2 Channels</p> <p>Bit rate: ABR/CBR, Maximum 496 kbps</p>
M4A	m4a	<p>Audio Stream: MPEG-2/4 AAC LC</p> <p>Sample Frequency: Maximum 48 kHz</p> <p>Channels: Maximum 5.1 Channels</p> <p>Bit rate: CBR/VBR, Maximum 640 kbps</p>

## Photo File Formats Supported

**Table 33** Photo File Specifications

TYPE	EXTENSIONS	DETAILS
JPEG	jpg jpeg	Maximum Resolution: 67174416 pixels (8196 × 8196) When displaying JPEG images that meet the conditions below, the max resolution is 67108864 pixels (8192 × 8192.) It may get smaller when the following conditions are not met. Color Space: YCbCr Not progressive mode The format is YUV420, YUV422 or YUV444 When a JPEG image's color space is RGB or grayscale, the max resolution is 983040 pixels (1280 × 768).
BMP	bmp	Maximum Resolution: Unlimited
PNG	png	Maximum Resolution: 2097152 pixels (2048 × 1024) Although transparent PNG files can be played, they will be displayed as non-transparent images.
TIFF	tif tiff	Maximum Resolution: 2097152 pixels (2048 × 1024) Compression: No compression, ZIP, LZW, Packbits, Huffman RLE, CCITT Fax 3, CCITT Fax 4
GIF	gif	Maximum Resolution: 2097152 pixels (2048 × 1024) Animation GIF formats are not supported.

## Wall-mounting Instructions

Complete the following steps to hang your DMA on a wall.



See [Table 22 on page 97](#) for the size of screws to use and how far apart to place them.

- 1 Select a high position on a sturdy wall that is free of obstructions.
- 2 Drill two holes for the screws. The distance between the centers of the holes is listed in the product specifications appendix.

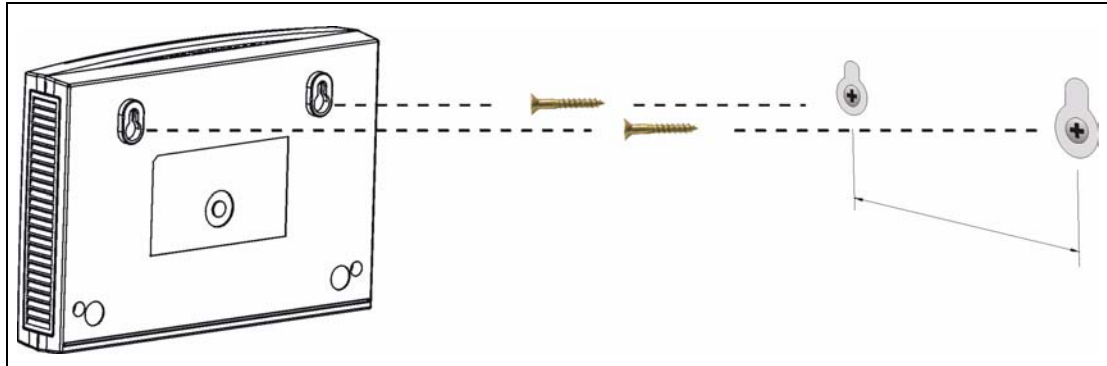


**Be careful to avoid damaging pipes or cables located inside the wall when drilling holes for the screws.**

- 3 Do not insert the screws all the way into the wall. Leave a small gap of about 0.5 cm between the heads of the screws and the wall.
- 4 Make sure the screws are snugly fastened to the wall. They need to hold the weight of the DMA with the connection cables.

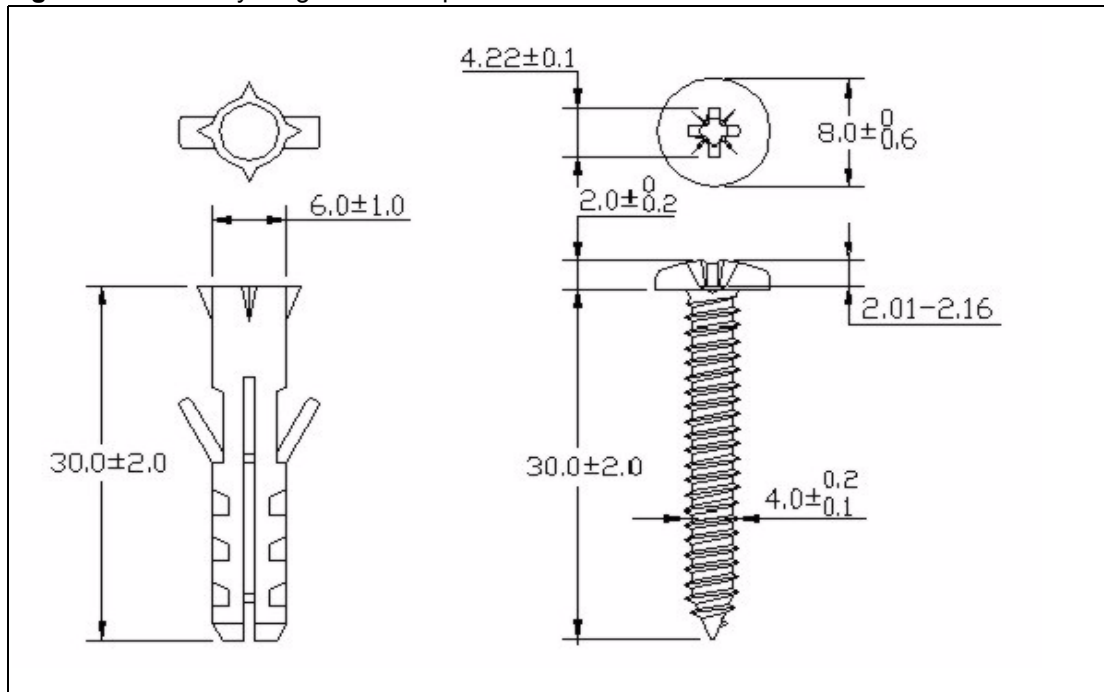
- 5 Align the holes on the back of the DMA with the screws on the wall. Hang the DMA on the screws.

**Figure 56** Wall-mounting Example



The following are dimensions of an M4 tap screw and masonry plug used for wall mounting. All measurements are in millimeters (mm).

**Figure 57** Masonry Plug and M4 Tap Screw





# Cable Pin Assignments

**Table 34** Ethernet Cable Pin Assignments

LAN ETHERNET CABLE PIN LAYOUT			
Straight-through			
(Switch)		(Adapter)	
1	IRD +	1	OTD +
2	IRD -	2	OTD -
3	OTD +	3	IRD +
6	OTD -	6	IRD -



# Setting up Your Computer's IP Address

All computers must have a 10M or 100M Ethernet adapter card and TCP/IP installed.

Windows 95/98/Me/NT/2000/XP, Macintosh OS 7 and later operating systems and all versions of UNIX/LINUX include the software components you need to install and use TCP/IP on your computer. Windows 3.1 requires the purchase of a third-party TCP/IP application package.

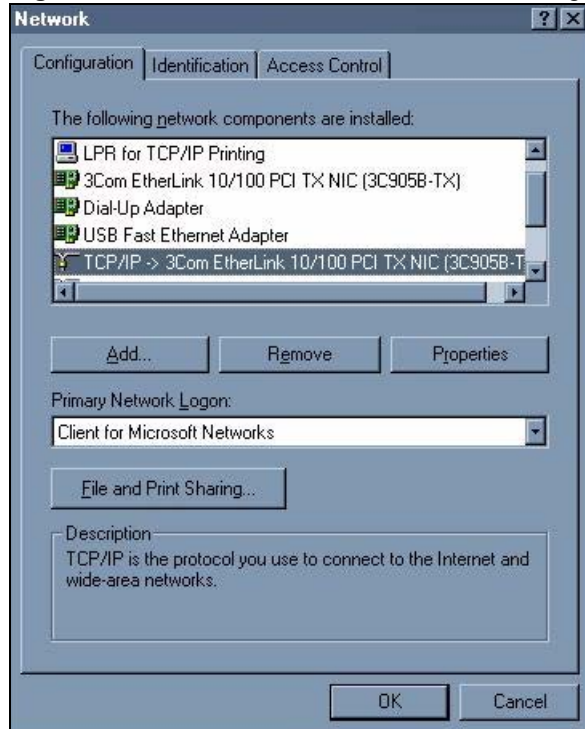
TCP/IP should already be installed on computers using Windows NT/2000/XP, Macintosh OS 7 and later operating systems.

After the appropriate TCP/IP components are installed, configure the TCP/IP settings in order to "communicate" with your network.

If you manually assign IP information instead of using dynamic assignment, make sure that your computers have IP addresses that place them in the same subnet as the DMA's LAN port.

## Windows 95/98/Me

Click **Start**, **Settings**, **Control Panel** and double-click the **Network** icon to open the **Network** window.

**Figure 58** WIndows 95/98/Me: Network: Configuration

## Installing Components

The **Network** window **Configuration** tab displays a list of installed components. You need a network adapter, the TCP/IP protocol and Client for Microsoft Networks.

If you need the adapter:

- 1 In the **Network** window, click **Add**.
- 2 Select **Adapter** and then click **Add**.
- 3 Select the manufacturer and model of your network adapter and then click **OK**.

If you need TCP/IP:

- 1 In the **Network** window, click **Add**.
- 2 Select **Protocol** and then click **Add**.
- 3 Select **Microsoft** from the list of **manufacturers**.
- 4 Select **TCP/IP** from the list of network protocols and then click **OK**.

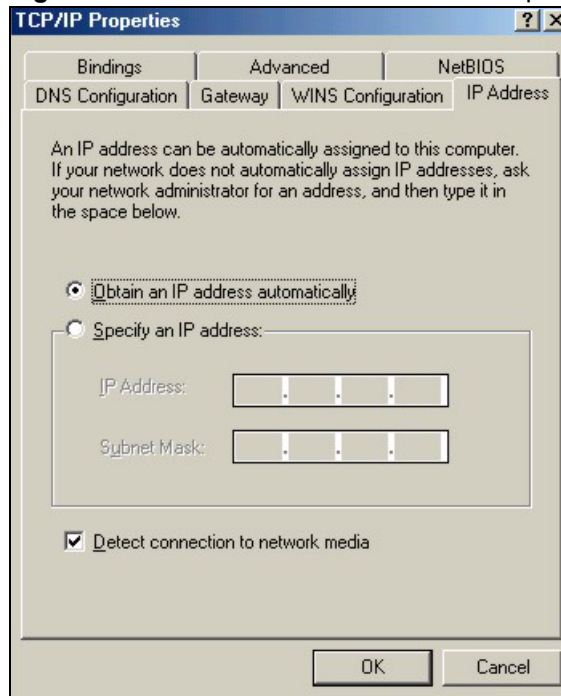
If you need Client for Microsoft Networks:

- 1 Click **Add**.
- 2 Select **Client** and then click **Add**.
- 3 Select **Microsoft** from the list of manufacturers.
- 4 Select **Client for Microsoft Networks** from the list of network clients and then click **OK**.
- 5 Restart your computer so the changes you made take effect.

## Configuring

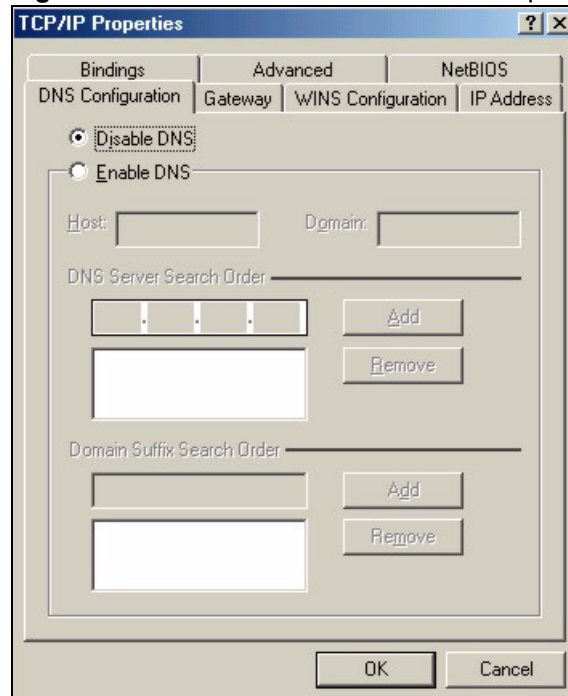
- 1 In the **Network** window **Configuration** tab, select your network adapter's TCP/IP entry and click **Properties**
- 2 Click the **IP Address** tab.
  - If your IP address is dynamic, select **Obtain an IP address automatically**.
  - If you have a static IP address, select **Specify an IP address** and type your information into the **IP Address** and **Subnet Mask** fields.

**Figure 59** Windows 95/98/Me: TCP/IP Properties: IP Address



- 3 Click the **DNS Configuration** tab.
  - If you do not know your DNS information, select **Disable DNS**.
  - If you know your DNS information, select **Enable DNS** and type the information in the fields below (you may not need to fill them all in).

**Figure 60** Windows 95/98/Me: TCP/IP Properties: DNS Configuration



- 4 Click the **Gateway** tab.
  - If you do not know your gateway's IP address, remove previously installed gateways.
  - If you have a gateway IP address, type it in the **New gateway field** and click **Add**.
- 5 Click **OK** to save and close the **TCP/IP Properties** window.
- 6 Click **OK** to close the **Network** window. Insert the Windows CD if prompted.
- 7 Turn on your DMA and restart your computer when prompted.

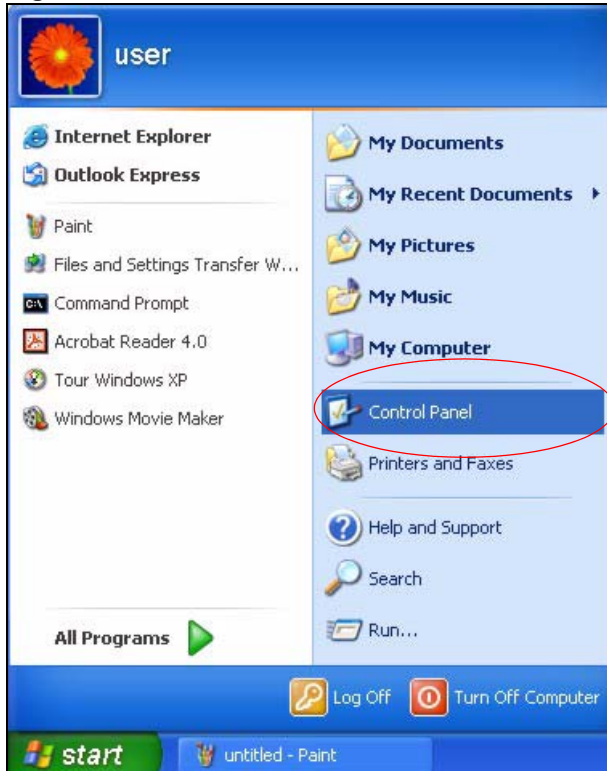
## Verifying Settings

- 1 Click **Start** and then **Run**.
- 2 In the **Run** window, type "winipcfg" and then click **OK** to open the **IP Configuration** window.
- 3 Select your network adapter. You should see your computer's IP address, subnet mask and default gateway.

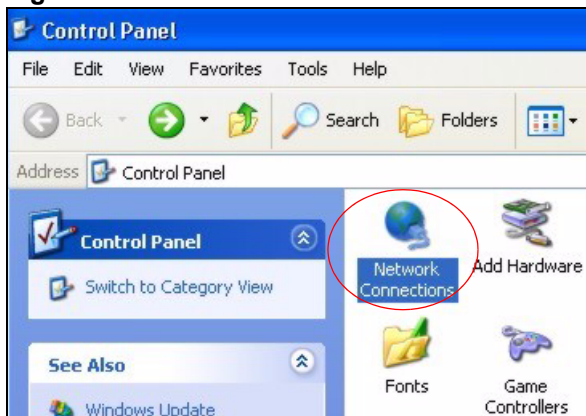
## Windows 2000/NT/XP

The following example figures use the default Windows XP GUI theme.

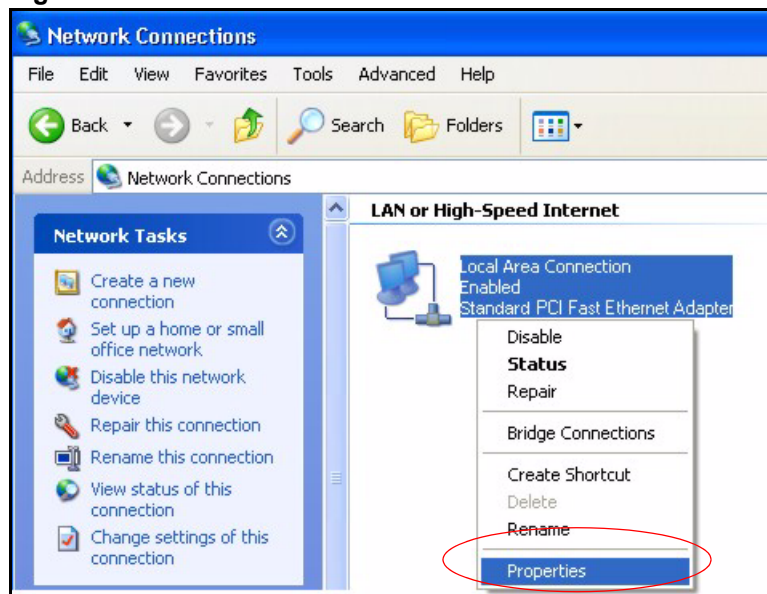
- 1 Click **start** (**Start** in Windows 2000/NT), **Settings**, **Control Panel**.

**Figure 61** Windows XP: Start Menu

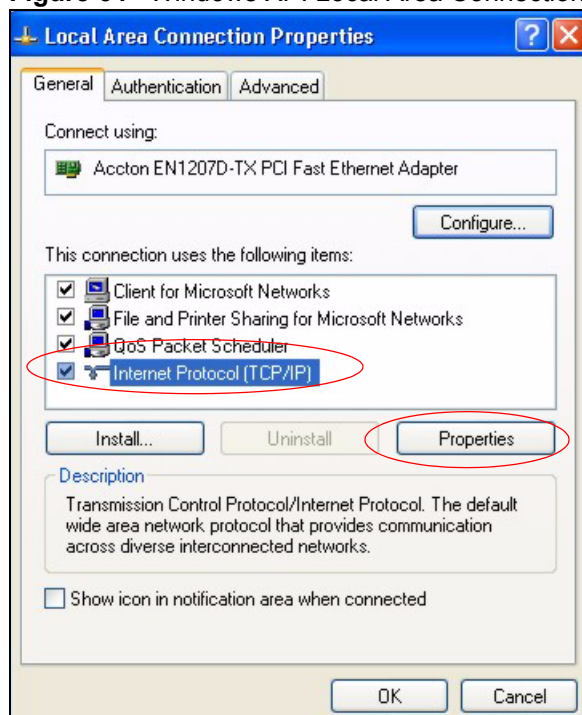
- 2 In the **Control Panel**, double-click **Network Connections** (Network and Dial-up Connections in Windows 2000/NT).

**Figure 62** Windows XP: Control Panel

- 3 Right-click **Local Area Connection** and then click **Properties**.

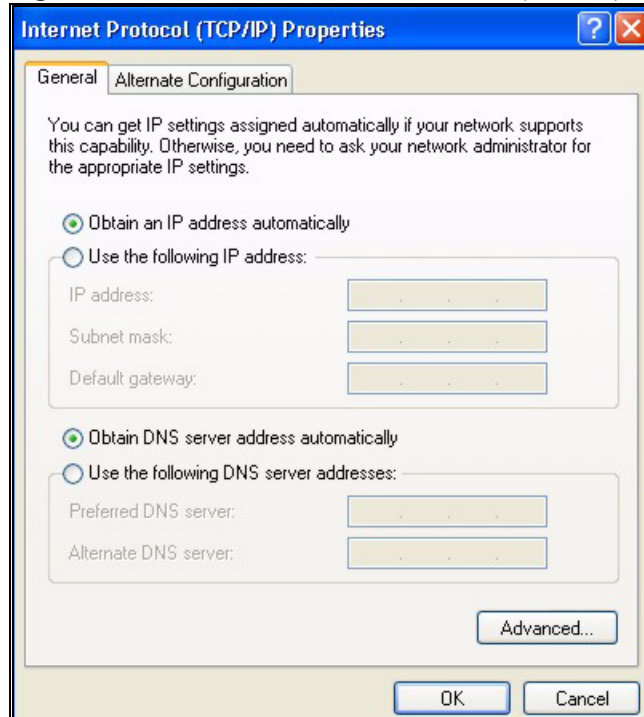
**Figure 63** Windows XP: Control Panel: Network Connections: Properties

- 4 Select **Internet Protocol (TCP/IP)** (under the **General** tab in Win XP) and then click **Properties**.

**Figure 64** Windows XP: Local Area Connection Properties

- 5 The **Internet Protocol TCP/IP Properties** window opens (the **General** tab in Windows XP).
- If you have a dynamic IP address click **Obtain an IP address automatically**.
  - If you have a static IP address click **Use the following IP Address** and fill in the **IP address**, **Subnet mask**, and **Default gateway** fields.
  - Click **Advanced**.

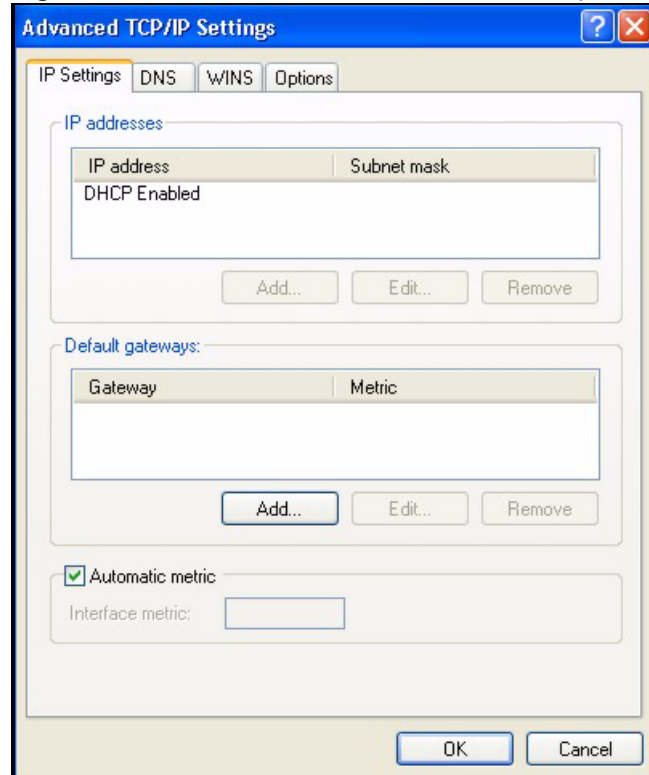


**Figure 65** Windows XP: Internet Protocol (TCP/IP) Properties

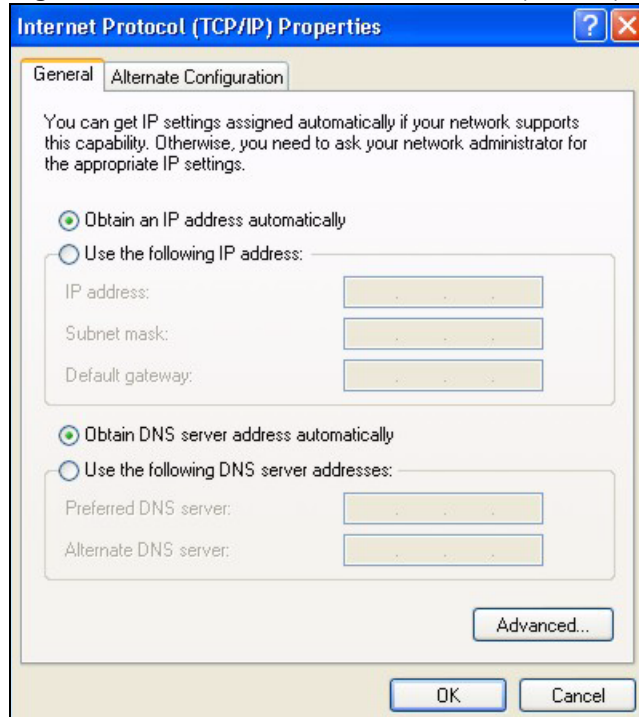
- 6** If you do not know your gateway's IP address, remove any previously installed gateways in the **IP Settings** tab and click **OK**.

Do one or more of the following if you want to configure additional IP addresses:

- In the **IP Settings** tab, in IP addresses, click **Add**.
- In **TCP/IP Address**, type an IP address in **IP address** and a subnet mask in **Subnet mask**, and then click **Add**.
- Repeat the above two steps for each IP address you want to add.
- Configure additional default gateways in the **IP Settings** tab by clicking **Add** in **Default gateways**.
- In **TCP/IP Gateway Address**, type the IP address of the default gateway in **Gateway**. To manually configure a default metric (the number of transmission hops), clear the **Automatic metric** check box and type a metric in **Metric**.
- Click **Add**.
- Repeat the previous three steps for each default gateway you want to add.
- Click **OK** when finished.

**Figure 66** Windows XP: Advanced TCP/IP Properties

- 7 In the **Internet Protocol TCP/IP Properties** window (the **General** tab in Windows XP):
- Click **Obtain DNS server address automatically** if you do not know your DNS server IP address(es).
  - If you know your DNS server IP address(es), click **Use the following DNS server addresses**, and type them in the **Preferred DNS server** and **Alternate DNS server** fields.
- If you have previously configured DNS servers, click **Advanced** and then the **DNS** tab to order them.

**Figure 67** Windows XP: Internet Protocol (TCP/IP) Properties

- 8** Click **OK** to close the **Internet Protocol (TCP/IP) Properties** window.
- 9** Click **Close** (**OK** in Windows 2000/NT) to close the **Local Area Connection Properties** window.
- 10** Close the **Network Connections** window (**Network and Dial-up Connections** in Windows 2000/NT).
- 11** Turn on your DMA and restart your computer (if prompted).

## Verifying Settings

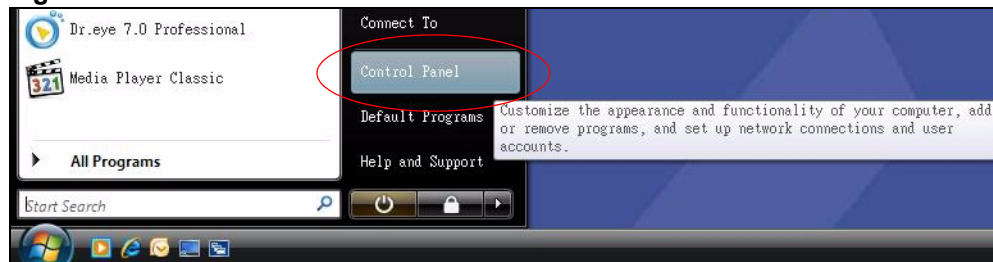
- 1** Click **Start**, **All Programs**, **Accessories** and then **Command Prompt**.
- 2** In the **Command Prompt** window, type "ipconfig" and then press [ENTER]. You can also open **Network Connections**, right-click a network connection, click **Status** and then click the **Support** tab.

## Windows Vista

This section shows screens from Windows Vista Enterprise Version 6.0.

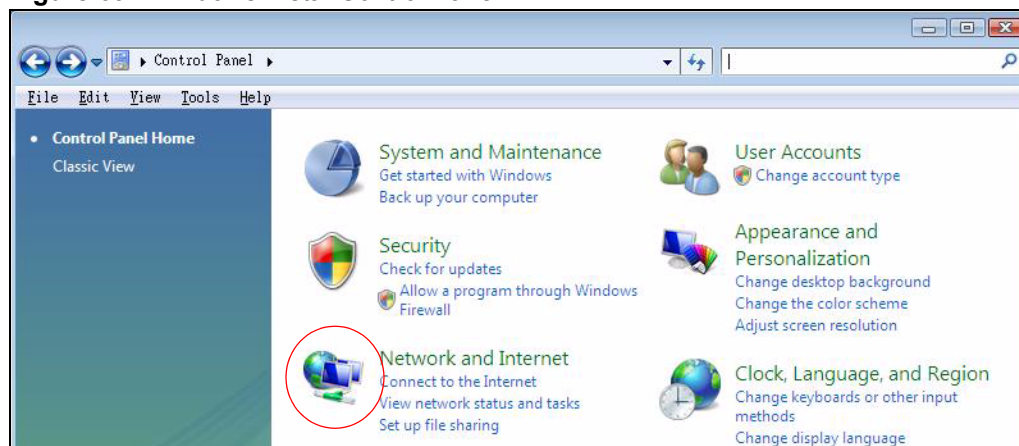
- 1** Click the **Start** icon, **Control Panel**.

**Figure 68** Windows Vista: Start Menu



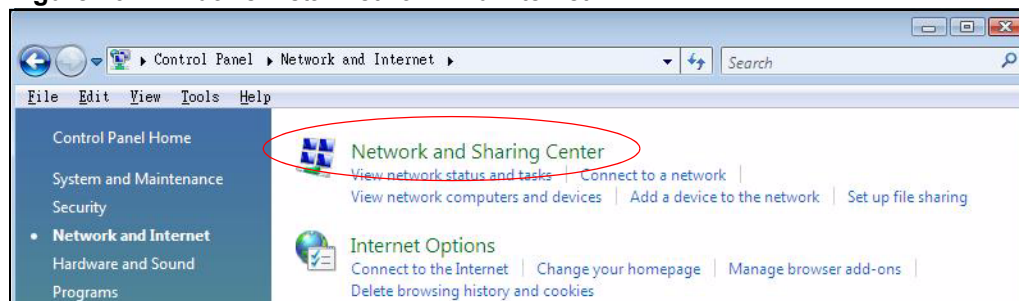
**2** In the **Control Panel**, double-click **Network and Internet**.

**Figure 69** Windows Vista: Control Panel



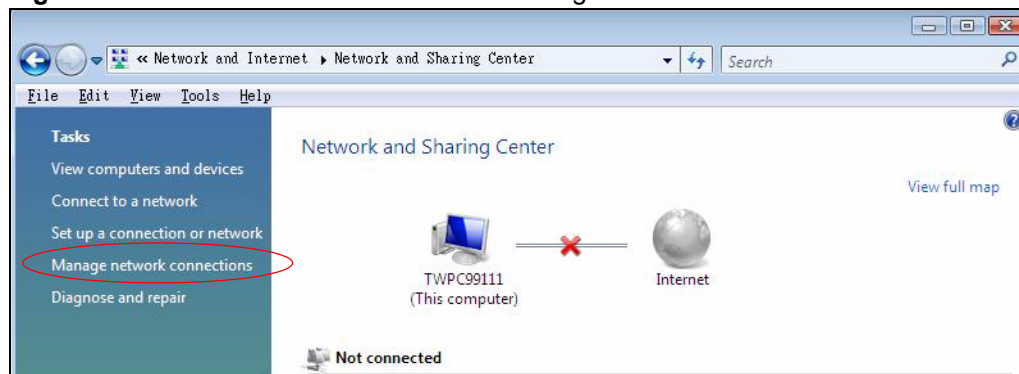
**3** Click **Network and Sharing Center**.

**Figure 70** Windows Vista: Network And Internet



**4** Click **Manage network connections**.

**Figure 71** Windows Vista: Network and Sharing Center

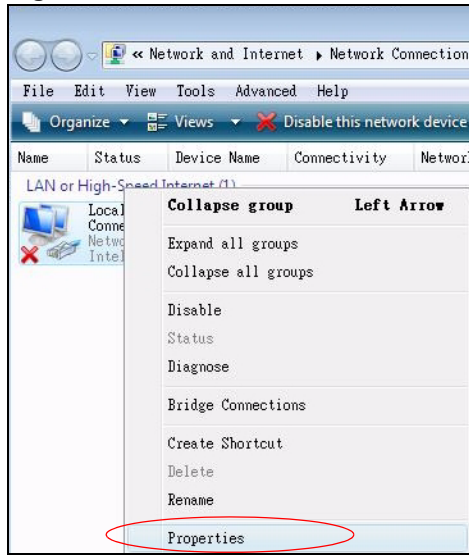


- 5 Right-click **Local Area Connection** and then click **Properties**.



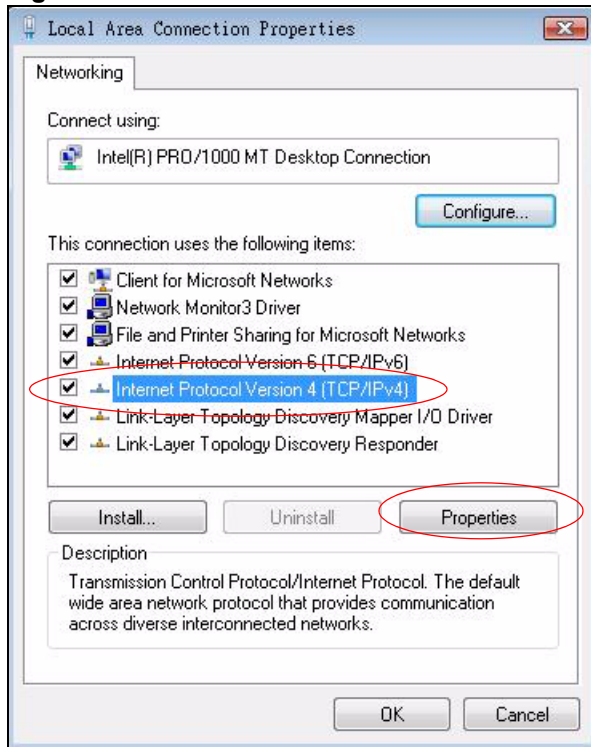
During this procedure, click **Continue** whenever Windows displays a screen saying that it needs your permission to continue.

**Figure 72** Windows Vista: Network and Sharing Center



- 6 Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.

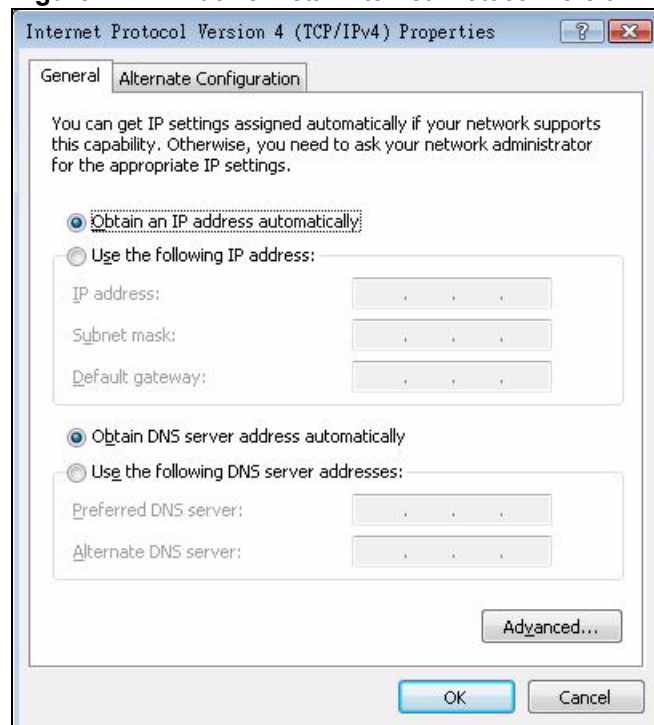
**Figure 73** Windows Vista: Local Area Connection Properties



**7** The **Internet Protocol Version 4 (TCP/IPv4) Properties** window opens (the **General** tab).

- If you have a dynamic IP address click **Obtain an IP address automatically**.
- If you have a static IP address click **Use the following IP address** and fill in the **IP address**, **Subnet mask**, and **Default gateway** fields.
- Click **Advanced**.

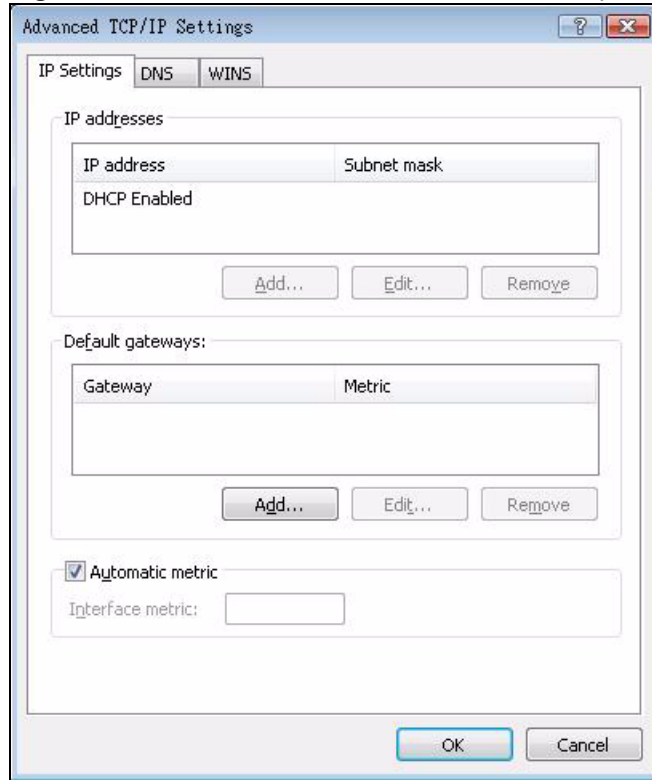
**Figure 74** Windows Vista: Internet Protocol Version 4 (TCP/IPv4) Properties



**8** If you do not know your gateway's IP address, remove any previously installed gateways in the **IP Settings** tab and click **OK**.

Do one or more of the following if you want to configure additional IP addresses:

- In the **IP Settings** tab, in IP addresses, click **Add**.
- In **TCP/IP Address**, type an IP address in **IP address** and a subnet mask in **Subnet mask**, and then click **Add**.
- Repeat the above two steps for each IP address you want to add.
- Configure additional default gateways in the **IP Settings** tab by clicking **Add** in **Default gateways**.
- In **TCP/IP Gateway Address**, type the IP address of the default gateway in **Gateway**. To manually configure a default metric (the number of transmission hops), clear the **Automatic metric** check box and type a metric in **Metric**.
- Click **Add**.
- Repeat the previous three steps for each default gateway you want to add.
- Click **OK** when finished.

**Figure 75** Windows Vista: Advanced TCP/IP Properties

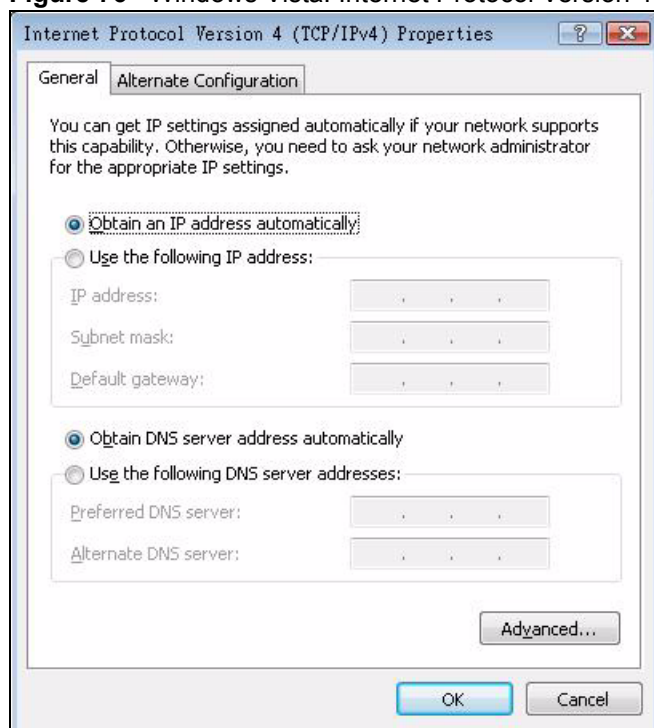
**9** In the **Internet Protocol Version 4 (TCP/IPv4) Properties** window, (the **General** tab):

- Click **Obtain DNS server address automatically** if you do not know your DNS server IP address(es).
- If you know your DNS server IP address(es), click **Use the following DNS server addresses**, and type them in the **Preferred DNS server** and **Alternate DNS server** fields.

If you have previously configured DNS servers, click **Advanced** and then the **DNS** tab to order them.



**Figure 76** Windows Vista: Internet Protocol Version 4 (TCP/IPv4) Properties



- 10** Click **OK** to close the **Internet Protocol Version 4 (TCP/IPv4) Properties** window.
- 11** Click **Close** to close the **Local Area Connection Properties** window.
- 12** Close the **Network Connections** window.
- 13** Turn on your DMA and restart your computer (if prompted).

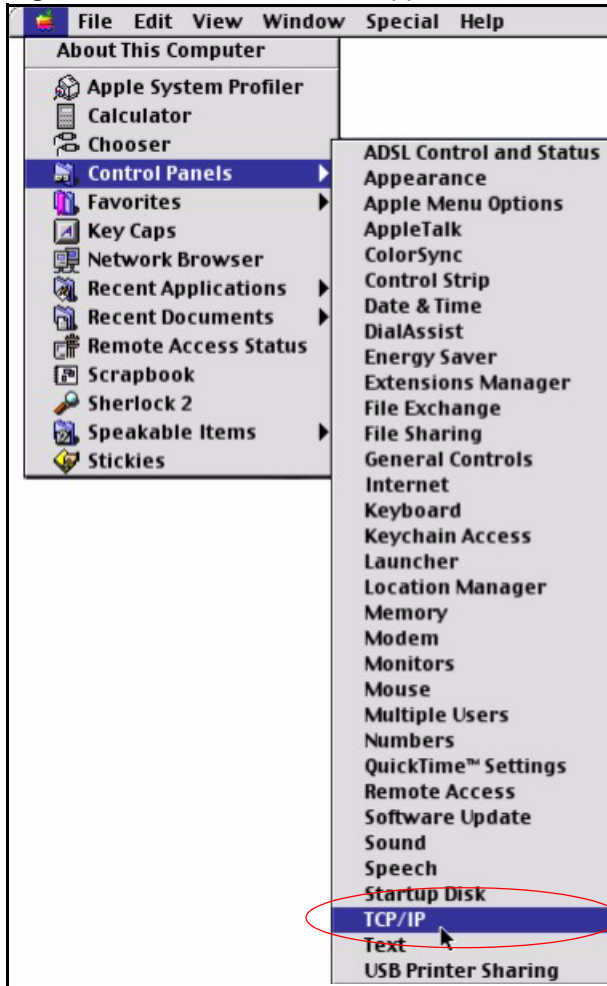
## Verifying Settings

- 1** Click **Start**, **All Programs**, **Accessories** and then **Command Prompt**.
- 2** In the **Command Prompt** window, type "ipconfig" and then press [ENTER]. You can also open **Network Connections**, right-click a network connection, click **Status** and then click the **Support** tab.

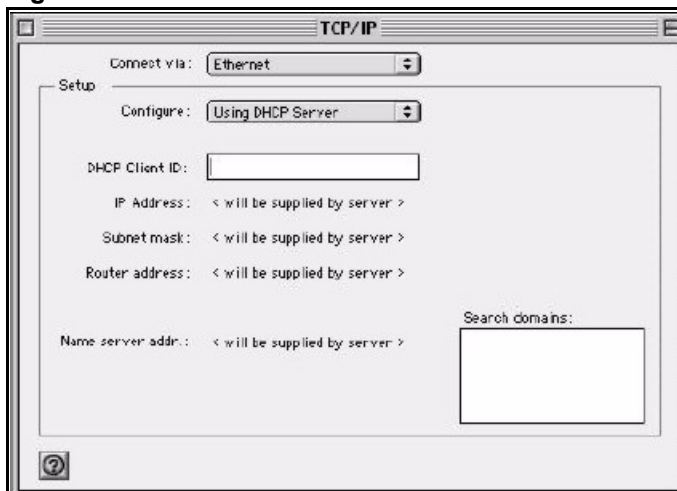
## Macintosh OS 8/9

- 1** Click the **Apple** menu, **Control Panel** and double-click **TCP/IP** to open the **TCP/IP Control Panel**.



**Figure 77** Macintosh OS 8/9: Apple Menu

- 2 Select **Ethernet built-in** from the **Connect via** list.

**Figure 78** Macintosh OS 8/9: TCP/IP

- 3 For dynamically assigned settings, select **Using DHCP Server** from the **Configure:** list.
- 4 For statically assigned settings, do the following:
  - From the **Configure** box, select **Manually**.

- Type your IP address in the **IP Address** box.
  - Type your subnet mask in the **Subnet mask** box.
  - Type the IP address of your DMA in the **Router address** box.
- 5** Close the **TCP/IP Control Panel**.
  - 6** Click **Save** if prompted, to save changes to your configuration.
  - 7** Turn on your DMA and restart your computer (if prompted).

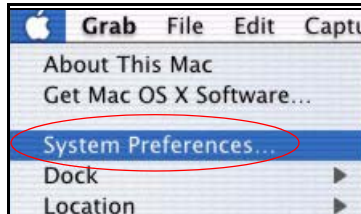
## Verifying Settings

Check your TCP/IP properties in the **TCP/IP Control Panel** window.

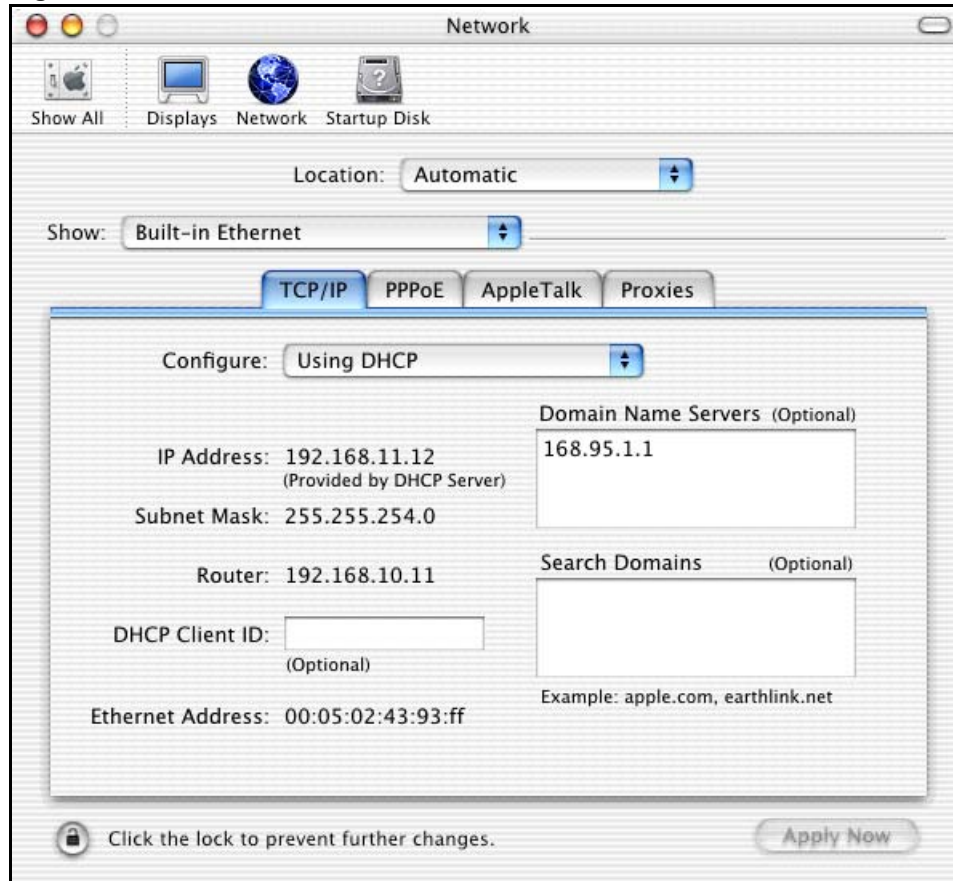
## Macintosh OS X

- 1** Click the **Apple** menu, and click **System Preferences** to open the **System Preferences** window.

**Figure 79** Macintosh OS X: Apple Menu



- 2** Click **Network** in the icon bar.
  - Select **Automatic** from the **Location** list.
  - Select **Built-in Ethernet** from the **Show** list.
  - Click the **TCP/IP** tab.
- 3** For dynamically assigned settings, select **Using DHCP** from the **Configure** list.

**Figure 80** Macintosh OS X: Network

- 4 For statically assigned settings, do the following:
  - From the **Configure** box, select **Manually**.
  - Type your IP address in the **IP Address** box.
  - Type your subnet mask in the **Subnet mask** box.
  - Type the IP address of your DMA in the **Router address** box.
- 5 Click **Apply Now** and close the window.
- 6 Turn on your DMA and restart your computer (if prompted).

## Verifying Settings

Check your TCP/IP properties in the **Network** window.

## Linux

This section shows you how to configure your computer's TCP/IP settings in Red Hat Linux 9.0. Procedure, screens and file location may vary depending on your Linux distribution and release version.



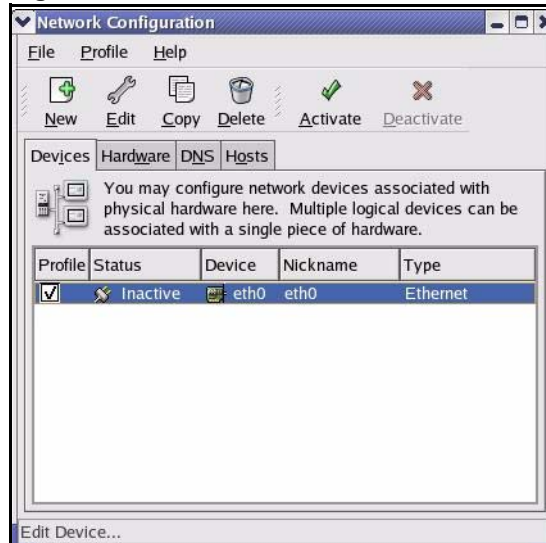
Make sure you are logged in as the root administrator.

## Using the K Desktop Environment (KDE)

Follow the steps below to configure your computer IP address using the KDE.

- 1 Click the Red Hat button (located on the bottom left corner), select **System Setting** and click **Network**.

**Figure 81** Red Hat 9.0: KDE: Network Configuration: Devices

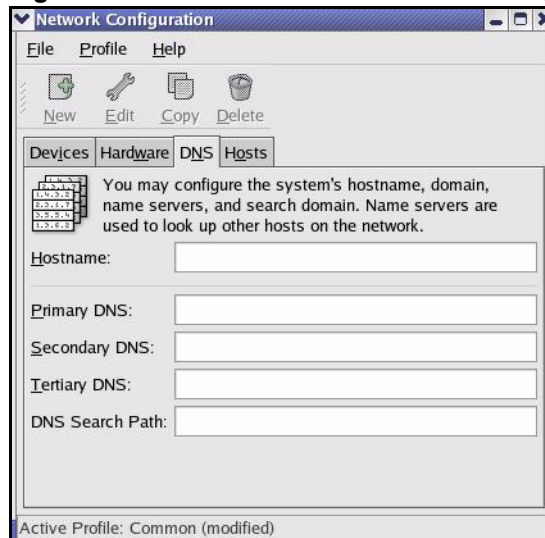


- 2 Double-click on the profile of the network card you wish to configure. The **Ethernet Device General** screen displays as shown.

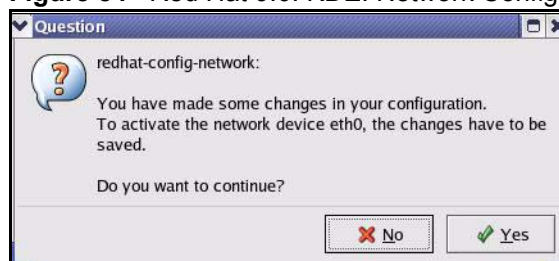
**Figure 82** Red Hat 9.0: KDE: Ethernet Device: General



- If you have a dynamic IP address, click **Automatically obtain IP address settings with** and select **dhcp** from the drop down list.
  - If you have a static IP address, click **Statically set IP Addresses** and fill in the **Address**, **Subnet mask**, and **Default Gateway Address** fields.
- 3 Click **OK** to save the changes and close the **Ethernet Device General** screen.
  - 4 If you know your DNS server IP address(es), click the **DNS** tab in the **Network Configuration** screen. Enter the DNS server information in the fields provided.

**Figure 83** Red Hat 9.0: KDE: Network Configuration: DNS

- 5 Click the **Devices** tab.
- 6 Click the **Activate** button to apply the changes. The following screen displays. Click **Yes** to save the changes in all screens.

**Figure 84** Red Hat 9.0: KDE: Network Configuration: Activate

- 7 After the network card restart process is complete, make sure the **Status** is **Active** in the **Network Configuration** screen.

## Using Configuration Files

Follow the steps below to edit the network configuration files and set your computer IP address.

- 1 Assuming that you have only one network card on the computer, locate the `ifconfig-eth0` configuration file (where `eth0` is the name of the Ethernet card). Open the configuration file with any plain text editor.
  - If you have a dynamic IP address, enter **dhcp** in the `BOOTPROTO=` field. The following figure shows an example.

**Figure 85** Red Hat 9.0: Dynamic IP Address Setting in ifconfig-eth0

```
DEVICE=eth0
ONBOOT=yes
BOOTPROTO=dhcp
USERCTL=no
PEERDNS=yes
TYPE=Ethernet
```

- If you have a static IP address, enter **static** in the `BOOTPROTO=` field. Type `IPADDR=` followed by the IP address (in dotted decimal notation) and type `NETMASK=` followed by the subnet mask. The following example shows an example where the static IP address is 192.168.1.10 and the subnet mask is 255.255.255.0.

**Figure 86** Red Hat 9.0: Static IP Address Setting in ifconfig-eth0

```
DEVICE=eth0
ONBOOT=yes
BOOTPROTO=static
IPADDR=192.168.1.10
NETMASK=255.255.255.0
USERCTL=no
PEERDNS=yes
TYPE=Ethernet
```

- 2 If you know your DNS server IP address(es), enter the DNS server information in the `resolv.conf` file in the `/etc` directory. The following figure shows an example where two DNS server IP addresses are specified.

**Figure 87** Red Hat 9.0: DNS Settings in resolv.conf

```
nameserver 172.23.5.1
nameserver 172.23.5.2
```

- 3 After you edit and save the configuration files, you must restart the network card. Enter `./network restart` in the `/etc/rc.d/init.d` directory. The following figure shows an example.

**Figure 88** Red Hat 9.0: Restart Ethernet Card

```
[root@localhost init.d]# network restart

Shutting down interface eth0:           [OK]
Shutting down loopback interface:       [OK]
Setting network parameters:             [OK]
Bringing up loopback interface:         [OK]
Bringing up interface eth0:             [OK]
```

## Verifying Settings

Enter `ifconfig` in a terminal screen to check your TCP/IP properties.

**Figure 89** Red Hat 9.0: Checking TCP/IP Properties

```
[root@localhost]# ifconfig
eth0      Link encap:Ethernet  HWaddr 00:50:BA:72:5B:44
          inet addr:172.23.19.129  Bcast:172.23.19.255  Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:717 errors:0 dropped:0 overruns:0 frame:0
          TX packets:13 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:100
          RX bytes:730412 (713.2 Kb)  TX bytes:1570 (1.5 Kb)
          Interrupt:10 Base address:0x1000
[root@localhost]#
```





# Windows Vista Media Server



---

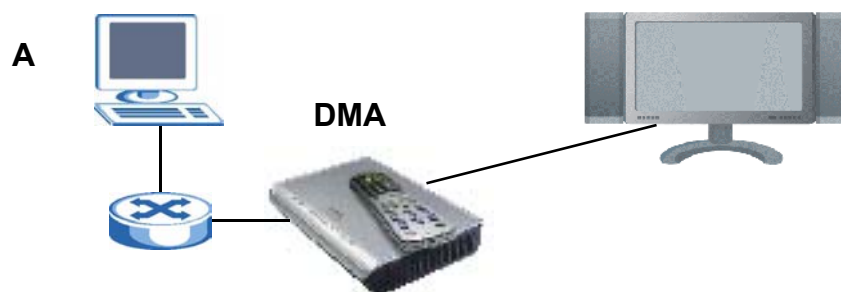
This appendix is provided for your information only. The DMA is not Vista certified.

---

## Playing Media Files From Your Windows Vista Computer

This appendix covers using the media server included in Windows Vista to let the DMA play media files on the computer. This way you do not need to install media server software. In the following figure, the DMA and your Windows Vista computer (A) are both connected to your home network.

**Figure 90** DMA with Windows Vista Computer



This appendix walks you through the following tasks:

- Starting the Windows Media Player
- Setting Your Computer to Trust Your Network
- Setting Your Computer to Share Files With the DMA
- Selecting Files to Share

Complete the sections in sequence. The DMA and the computer must be on the same home network (private LAN). This appendix shows screens from Windows Vista Enterprise Version 6.0.

## Starting the Windows Media Player Network Sharing Service

If you are using Windows Vista, do the following to turn on the Windows Media Player.

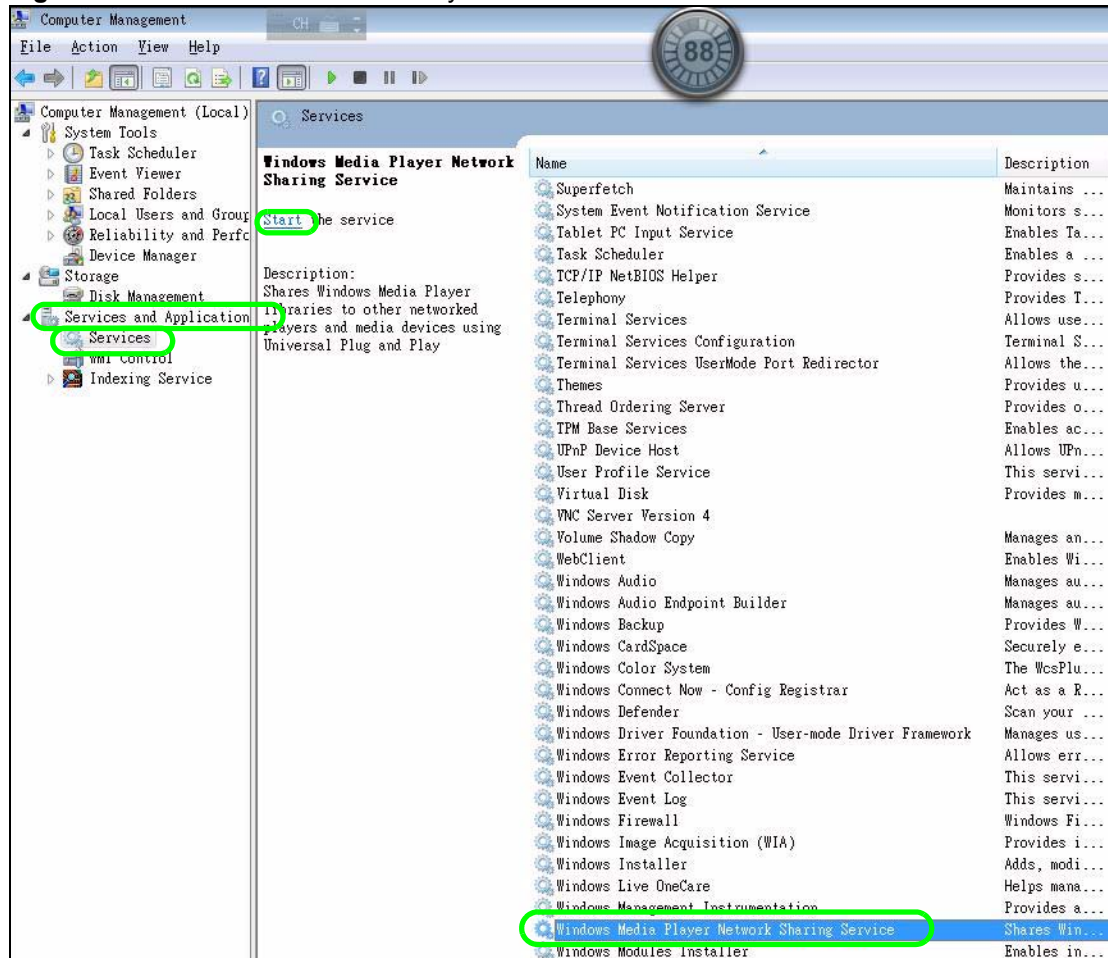
- 1 Follow the Quick Start Guide Instructions to connect the DMA to your computer.
- 2 Right-click the **Computer** icon and click **Manage**.



During this procedure, click Continue whenever Windows displays a screen saying that it needs your permission to continue.

- 3 In the following screen, click **Services and Applications > Services > Windows Media Player Network Sharing Service > Start**.

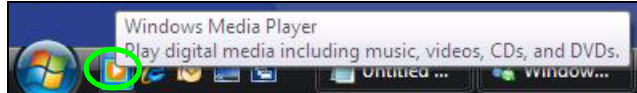
**Figure 91** Start Windows Media Player



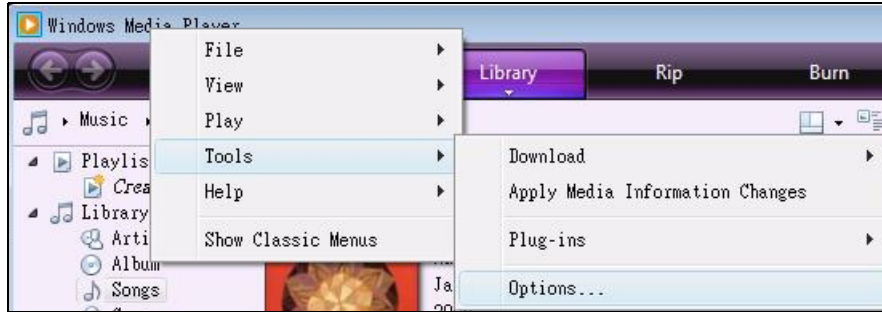
## Setting Your Computer to Trust Your Network

The DMA and your computer are both on your home network, so you use this section to configure your computer to treat the network connection as a trusted private network. Make sure the DMA has a network connection to your computer before using this section.

- 1 Click the **Windows Media Player** icon in the system tray.

**Figure 92** Start Windows Media Player

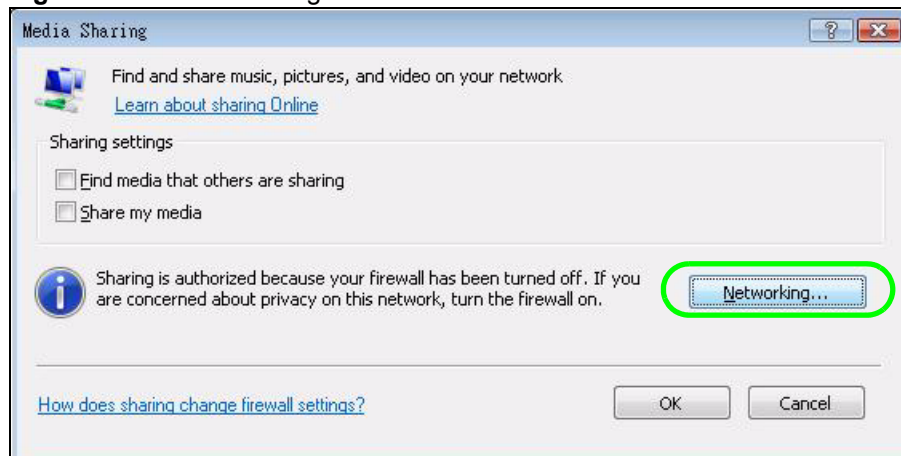
**2** Right-click in the menu bar and click **Tools > Options**.

**Figure 93** Windows Media Player Tools> Options

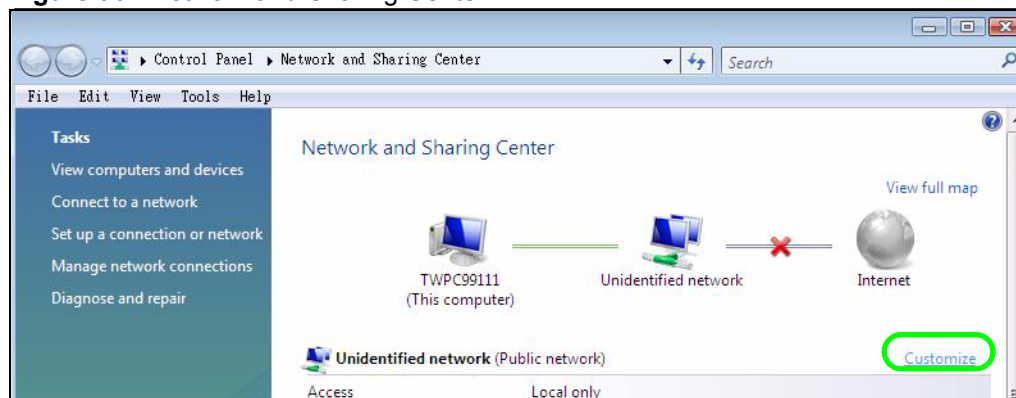
**3** In the **Library** tab, click **Configure Sharing**.

**Figure 94** Library

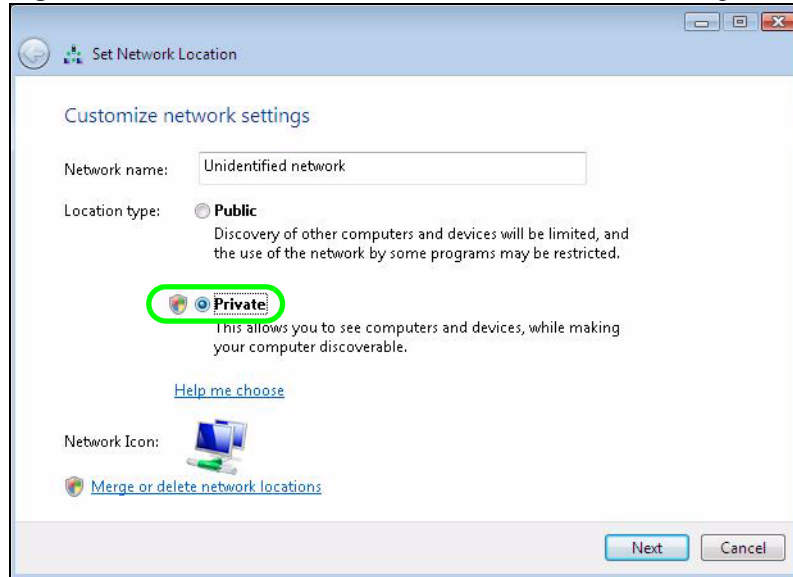
**4** Click **Networking**.

**Figure 95** Media Sharing

- 5 Windows searches for your network connections and displays them in the following window. Click **Customize**.

**Figure 96** Network and Sharing Center

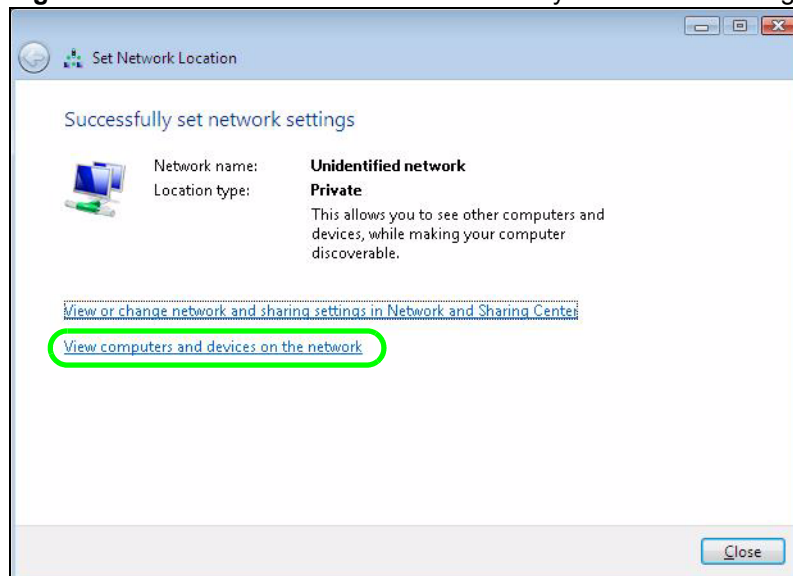
- 6 Select **Private** and click **Next** to have the computer trust the network connection to the DMA.

**Figure 97** Set Network Location: Customize network settings

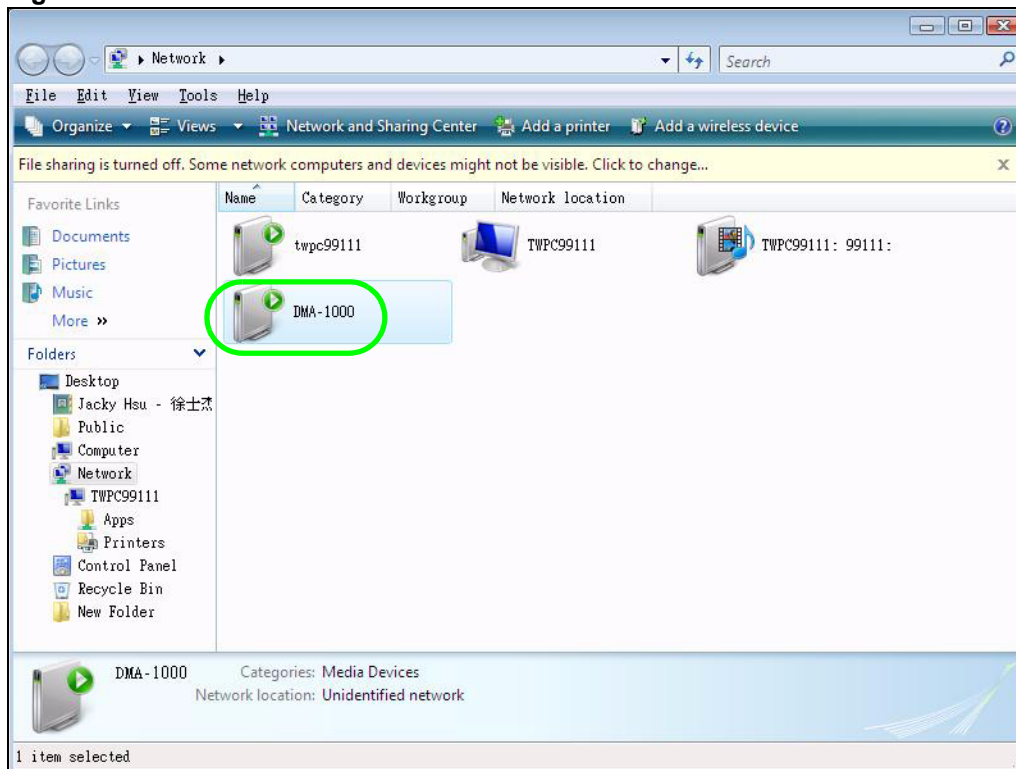
## Setting Your Computer to Share Files With the DMA

This section covers how to set Windows Media Player to allow the DMA to play media files.

- 1 Click **View computers and devices on the network**.

**Figure 98** Set Network Location: Successfully set network settings

- 2 Right-click the DMA icon and click **Open Media Sharing**.

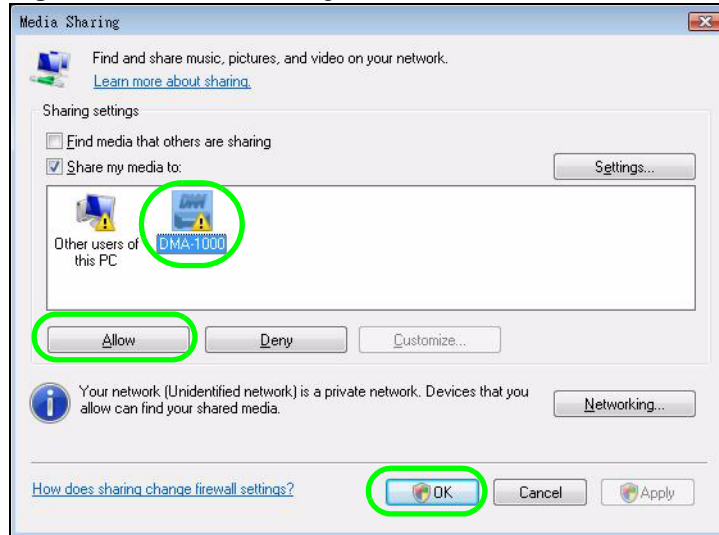
**Figure 99 Network**

**3** Select **Share my media** and click **OK**.

**Figure 100 Media Sharing**

**4** Identify the device that the computer should share media files with. Select the DMA icon and click **Allow** > **OK**.

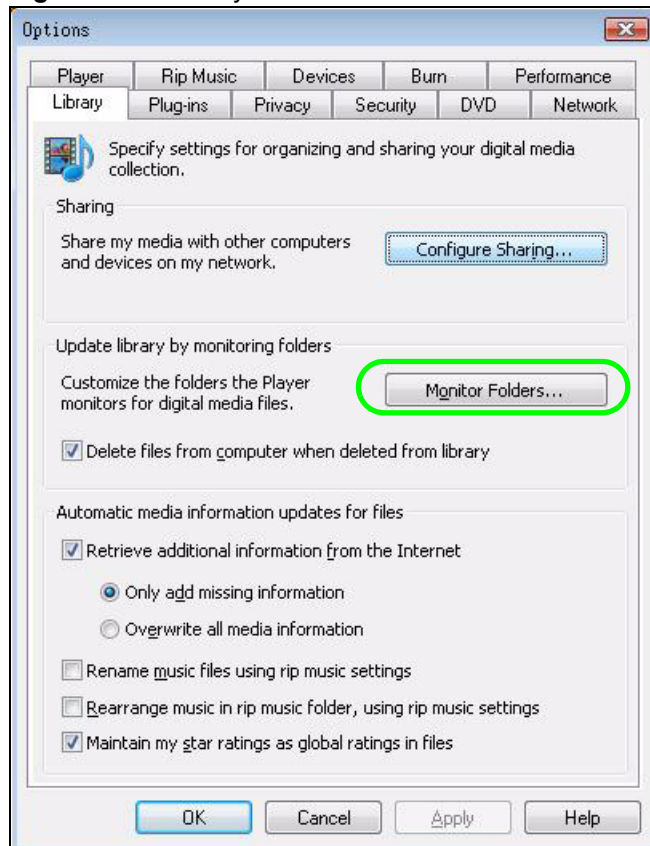


**Figure 101** Media Sharing: Select DMA

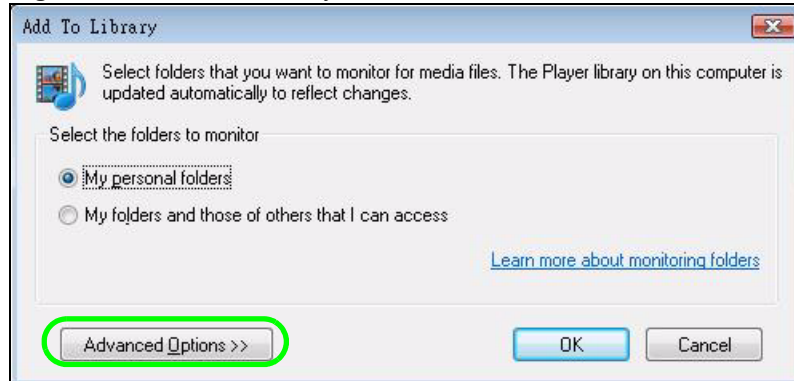
## Selecting Files to Share

This section covers how to select the media files that the DMA is allowed to play.

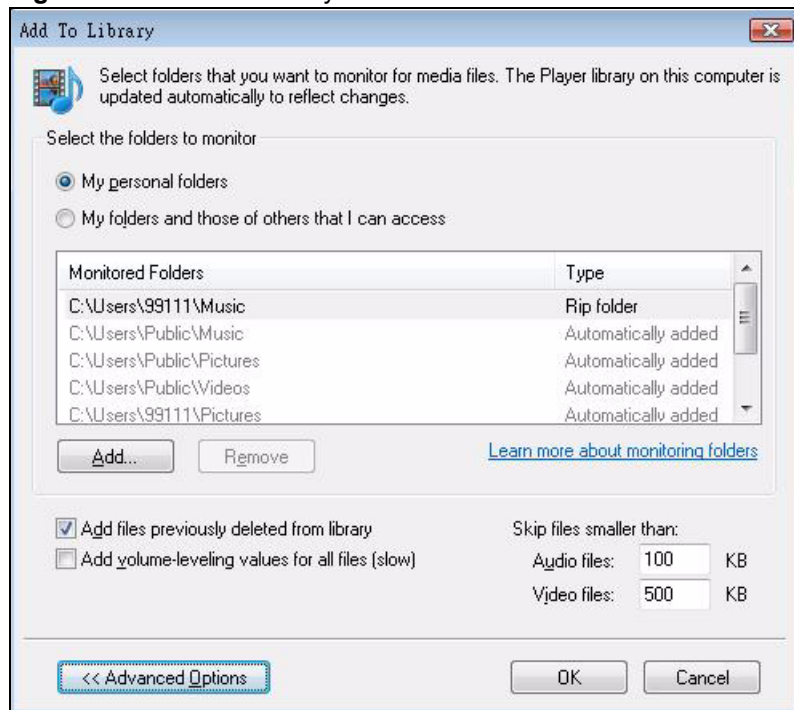
- 1 In the **Library** tab, click **Monitor Folders**.

**Figure 102** Library

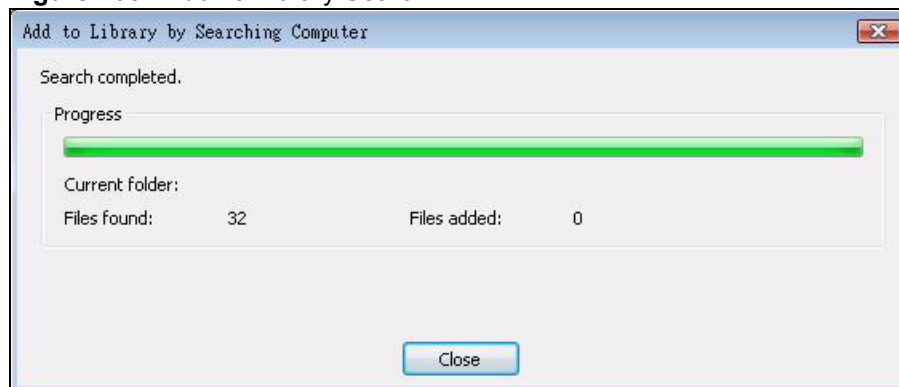
- 2 Click **Advanced Options**.

**Figure 103** Add To Library

**3** Select the folders to share and click **OK** when you are done.

**Figure 104** Add To Library > Advanced

**4** Click **OK** after the computer finds the files to share.

**Figure 105** Add To Library Search



# Open Software Announcements

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This DMA-1100P product included Third Party Software with the license conditions as specified below.

DiXiM DMA application is proprietary of DigiOn except:

Below GPL modules by GUN General Public License.

\*busybox 1.0.0  
original:  
busybox-1.00.tar.bz2

patch:  
busybox-1.00+autoip.060915.patch

\*uClinux 2.4.22  
original:  
linux-2.4.22.tar.bz2  
uClinux-2.4.22-uc0.diff.bz2

patch:  
linux-2.4.22-patches.tar.bz2

Sigma SDK provided by Sigma Designs covering below third party license

MRUA Package

Software included in the MRUA package is proprietary Sigma Designs except:

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All the files in MRUA\_src/rmlibjpeg/src/libjpeg Custom license

Png library:

All the files in MRUA\_src/rmlibpng/src/libpng Custom license

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All the files in MRUA\_src/rmlibungif/src/libungi Custom license

http library:

MRUA\_src/rmlibhttp/src/common.c

MRUA\_src/rmlibhttp/src/http.c

Custom license

Vera.ttf:

MRUA\_src/samples/Vera.ttf

bin/Vera.ttf

Custom license

VeraMono.ttf:

File located in MRUA\_src/samples/VeraMono.ttf File located in bin/VeraMono.ttf

Custom license

UPnP Library:

MRUA\_src/rmupnp/upnp\_stack/\_MediaServerControlPointStack/MmsCp.h MRUA\_src/  
rmupnp/upnp\_stack/\_MediaServerControlPointStack/MmsCp.c MRUA\_src/rmupnp/  
upnp\_stack/\_Utility/MyString.c

MRUA\_src/rmupnp/upnp\_stack/\_Utility/MyString.h

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/ILibSSDPClient.c

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/ILibParsers.c

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/ILibWebClient.h

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/MSCP\_ControlPoint.c

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/ILibParsers.h

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/ILibWebServer.c

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/ILibWebServer.h

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/ILibSSDPClient.h

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/UPnPControlPointStructs.h

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/BrowseOnly-Posix.upnpsg

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/ILibAsyncServerSocket.h

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/ILibWebClient.c

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/ILibAsyncSocket.h

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/ILibAsyncSocket.c

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/ILibAsyncServerSocket.c

MRUA\_src/rmupnp/upnp\_stack/\_ControlPointCoreStack/MSCP\_ControlPoint.h

Intel license

Mambolfb (Linux Frame Buffer Driver):

em86xxfb-2\_6.c

vfb.c

GPL License (see ARMUtils package)

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- \* libpng version 1.2.5 - October 3, 2002
- \* Copyright (c) 1998-2002 Glenn Randers-Pehrson
- \* (Version 0.96 Copyright (c) 1996, 1997 Andreas Dilger)
- \* (Version 0.88 Copyright (c) 1995, 1996 Guy Eric Schalnat, Group 42, Inc.)
- \*
- \* Authors and maintainers:
- \* libpng versions 0.71, May 1995, through 0.88, January 1996: Guy Schalnat
- \* libpng versions 0.89c, June 1996, through 0.96, May 1997: Andreas Dilger
- \* libpng versions 0.97, January 1998, through 1.2.5 - October 3, 2002: Glenn
- \* See also "Contributing Authors", below.
- \*
- \* Note about libpng version numbers:
- \*
- \* Due to various miscommunications, unforeseen code incompatibilities
- \* and occasional factors outside the authors' control, version numbering
- \* on the library has not always been consistent and straightforward.
- \* The following table summarizes matters since version 0.89c, which was
- \* the first widely used release:
- \*
- \* source png.h png.h shared-lib
- \* version string int version
- \*
- \* 0.89c "1.0 beta 3" 0.89 89 1.0.89
- \* 0.90 "1.0 beta 4" 0.90 90 0.90 [should have been 2.0.90]
- \* 0.95 "1.0 beta 5" 0.95 95 0.95 [should have been 2.0.95]
- \* 0.96 "1.0 beta 6" 0.96 96 0.96 [should have been 2.0.96]
- \* 0.97b "1.00.97 beta 7" 1.00.97 97 1.0.1 [should have been 2.0.97]
- \* 0.97c 0.97 97 2.0.97
- \* 0.98 0.98 98 2.0.98
- \* 0.99 0.99 98 2.0.99
- \* 0.99a-m 0.99 99 2.0.99
- \* 1.00 1.00 100 2.1.0 [100 should be 10000]
- \* 1.0.0 (from here on, the 100 2.1.0 [100 should be 10000]
- \* 1.0.1 png.h string is 10001 2.1.0
- \* 1.0.1a-e identical to the 10002 from here on, the shared library

- \* 1.0.2 source version) 10002 is 2.V where V is the source code
- \* 1.0.2a-b 10003 version, except as noted.
- \* 1.0.3 10003
- \* 1.0.3a-d 10004
- \* 1.0.4 10004
- \* 1.0.4a-f 10005
- \* 1.0.5 (+ 2 patches) 10005
- \* 1.0.5a-d 10006
- \* 1.0.5e-r 10100 (not source compatible)
- \* 1.0.5s-v 10006 (not binary compatible)
- \* 1.0.6 (+ 3 patches) 10006 (still binary incompatible)
- \* 1.0.6d-f 10007 (still binary incompatible)
- \* 1.0.6g 10007
- \* 1.0.6h 10007 10.6h (testing xy.z so-numbering)
- \* 1.0.6i 10007 10.6i
- \* 1.0.6j 10007 2.1.0.6j (incompatible with 1.0.0)
- \* 1.0.7beta11-14 DLLNUM 10007 2.1.0.7beta11-14 (binary compatible)
- \* 1.0.7beta15-18 1 10007 2.1.0.7beta15-18 (binary compatible)
- \* 1.0.7rc1-2 1 10007 2.1.0.7rc1-2 (binary compatible)
- \* 1.0.7 1 10007 (still compatible)
- \* 1.0.8beta1-4 1 10008 2.1.0.8beta1-4
- \* 1.0.8rc1 1 10008 2.1.0.8rc1
- \* 1.0.8 1 10008 2.1.0.8
- \* 1.0.9beta1-6 1 10009 2.1.0.9beta1-6
- \* 1.0.9rc1 1 10009 2.1.0.9rc1
- \* 1.0.9beta7-10 1 10009 2.1.0.9beta7-10
- \* 1.0.9rc2 1 10009 2.1.0.9rc2
- \* 1.0.9 1 10009 2.1.0.9
- \* 1.0.10beta1 1 10010 2.1.0.10beta1
- \* 1.0.10rc1 1 10010 2.1.0.10rc1
- \* 1.0.10 1 10010 2.1.0.10
- \* 1.0.11beta1-3 1 10011 2.1.0.11beta1-3
- \* 1.0.11rc1 1 10011 2.1.0.11rc1
- \* 1.0.11 1 10011 2.1.0.11
- \* 1.0.12beta1-2 2 10012 2.1.0.12beta1-2
- \* 1.0.12rc1 2 10012 2.1.0.12rc1

- \* 1.0.12 2 10012 2.1.0.12
- \* 1.1.0a-f - 10100 2.1.1.0a-f (branch abandoned)
- \* 1.2.0beta1-2 2 10200 2.1.2.0beta1-2
- \* 1.2.0beta3-5 3 10200 3.1.2.0beta3-5
- \* 1.2.0rc1 3 10200 3.1.2.0rc1
- \* 1.2.0 3 10200 3.1.2.0
- \* 1.2.1beta1-4 3 10201 3.1.2.1beta1-4
- \* 1.2.1rc1-2 3 10201 3.1.2.1rc1-2
- \* 1.2.1 3 10201 3.1.2.1
- \* 1.2.2beta1-6 12 10202 12.so.0.1.2.2beta1-6
- \* 1.0.13beta1 10 10013 10.so.0.1.0.13beta1
- \* 1.0.13rc1 10 10013 10.so.0.1.0.13rc1
- \* 1.2.2rc1 12 10202 12.so.0.1.2.2rc1
- \* 1.0.13 10 10013 10.so.0.1.0.13
- \* 1.2.2 12 10202 12.so.0.1.2.2
- \* 1.2.3rc1-6 12 10203 12.so.0.1.2.3rc1-6
- \* 1.2.3 12 10203 12.so.0.1.2.3
- \* 1.2.4beta1-3 13 10204 12.so.0.1.2.4beta1-3
- \* 1.0.14rc1 13 10014 10.so.0.1.0.14rc1
- \* 1.2.4rc1 13 10204 12.so.0.1.2.4rc1
- \* 1.0.14 10 10014 10.so.0.1.0.14
- \* 1.2.4 13 10204 12.so.0.1.2.4
- \* 1.2.5beta1-2 13 10205 12.so.0.1.2.5beta1-2
- \* 1.0.15rc1-3 10 10015 10.so.0.1.0.15rc1-3
- \* 1.2.5rc1-3 13 10205 12.so.0.1.2.5rc1-3
- \* 1.0.15 10 10015 10.so.0.1.0.15
- \* 1.2.5 13 10205 12.so.0.1.2.5
- \*
- \* Henceforth the source version will match the shared-library major
- \* and minor numbers; the shared-library major version number will be
- \* used for changes in backward compatibility, as it is intended. The
- \* PNG\_LIBPNG\_VER macro, which is not used within libpng but is available
- \* for applications, is an unsigned integer of the form xyyzz corresponding
- \* to the source version x.y.z (leading zeros in y and z). Beta versions
- \* were given the previous public release number plus a letter, until
- \* version 1.0.6j; from then on they were given the upcoming public

\* release number plus "betaNN" or "rcN".

\*

\* Binary incompatibility exists only when applications make direct access

\* to the info\_ptr or png\_ptr members through png.h, and the compiled

\* application is loaded with a different version of the library.

\*

\* DLLNUM will change each time there are forward or backward changes

\* in binary compatibility (e.g., when a new feature is added).

\*

\* See libpng.txt or libpng.3 for more information. The PNG specification

\* is available as RFC 2083 <<ftp://ftp.uu.net/graphics/png/documents/>>

\* and as a W3C Recommendation <<http://www.w3.org/TR/REC.png.html>>

\*/

/\*

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\* A "png\_get\_copyright" function is available, for convenient use in "about" \* boxes and the  
 like:  
 \*

```

* printf("%s",png_get_copyright(NULL));
*

```

\* Also, the PNG logo (in PNG format, of course) is supplied in the  
 \* files "pngbar.png" and "pngbar.jpg (88x31) and "pngnow.png" (98x31).  
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\* The contributing authors would like to thank all those who helped \* with testing, bug fixes,  
 and patience. This wouldn't have been \* possible without all of you.  
 \*

\* Thanks to Frank J. T. Wojcik for helping with the documentation.  
\*/  
/\*  
\* Y2K compliance in libpng:  
\* =====  
\*  
\* October 3, 2002  
\*  
\* Since the PNG Development group is an ad-hoc body, we can't make  
\* an official declaration.  
\*  
\* This is your unofficial assurance that libpng from version 0.71 and  
\* upward through 1.2.5 are Y2K compliant. It is my belief that earlier  
\* versions were also Y2K compliant.  
\*  
\* Libpng only has three year fields. One is a 2-byte unsigned integer  
\* that will hold years up to 65535. The other two hold the date in text  
\* format, and will hold years up to 9999.  
\*  
\* The integer is  
\* "png\_uint\_16 year" in png\_time\_struct.  
\*  
\* The strings are  
\* "png\_charp time\_buffer" in png\_struct and  
\* "near\_time\_buffer", which is a local character string in png.c.  
\*  
\* There are seven time-related functions:  
\* png.c: png\_convert\_to\_rfc\_1123() in png.c  
\* (formerly png\_convert\_to\_rfc\_1152() in error)  
\* png\_convert\_from\_struct\_tm() in pngwrite.c, called in pngwrite.c  
\* png\_convert\_from\_time\_t() in pngwrite.c  
\* png\_get\_tIME() in pngget.c  
\* png\_handle\_tIME() in pngutil.c, called in pngread.c  
\* png\_set\_tIME() in pngset.c  
\* png\_write\_tIME() in pngwutil.c, called in pngwrite.c  
\*  
\* All handle dates properly in a Y2K environment. The

```

* png_convert_from_time_t() function calls gmtime() to convert from system
* clock time, which returns (year - 1900), which we properly convert to
* the full 4-digit year. There is a possibility that applications using
* libpng are not passing 4-digit years into the png_convert_to_rfc_1123()
* function, or that they are incorrectly passing only a 2-digit year
* instead of "year - 1900" into the png_convert_from_struct_tm() function,
* but this is not under our control. The libpng documentation has always
* stated that it works with 4-digit years, and the APIs have been
* documented as such.
*
* The tIME chunk itself is also Y2K compliant. It uses a 2-byte unsigned
* integer to hold the year, and can hold years as large as 65535.
*
* zlib, upon which libpng depends, is also Y2K compliant. It contains
* no date-related code.
*
* Glenn Randers-Pehrson
* libpng maintainer
* PNG Development Group
*/

```

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Software included with the ARM utilities package (as inferred from the list of Makefiles):

binutils:

binutils-2.11.2

GPL

<ftp://sources.redhat.com/pub/binutils/releases>

busybox:

busybox-1.00-pre3 and busybox-1.00

GPL

<http://www.busybox.net/downloads>

ccache:

ccache-2.3

GPL

<http://ccache.samba.org/ftp/ccache/>

cdrtools:

cdrtools-2.00.3

GPL

<http://www.fokus.gmd.de/research/cc/gclone/employees/joerg.schilling/private/cdrecord.html>

elf2flt:

elf2flt-20020214 and elf2flt-20030314

GPL

<http://www.uclinux.org/pub/uClinux/utilities/>

gcc:

gcc-2.95.3

GPL

<http://gcc.gnu.org>

ext2root:

genext2fs-1.3

GPL

<http://packages.debian.org/unstable/admin/genext2fs>

genromfs:

genromfs-0.5.1

GPL

<http://www.uclinux.org/pub/uClinux/utilities/>

linux:

linux-2.4.22

GPL

<http://www.kernel.org/pub/linux/kernel/v2.4>

uClinux-2.4.22-uc0

GPL

<http://www.uclinux.org/pub/uClinux/uClinux-2.4.x>

microwin:

microwindows-src-snapshot-013004

MPL (Mozilla Public License) -OR- GPL <ftp://ftp.microwindows.org/pub/microwindows>

madwifi:

madwifi-cvs20040331

Dual license:

a) Custom license - source redistribution OK - see  
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b) GPL

<http://madwifi.org/pub/linux/snapshot/tars>

mtd:

mtd-20040901

GPL

<ftp://ftp.uk.linux.org/pub/people/dwmw2/mtd/cvs>

ncurses:

ncurses-5.2

GPL

<http://ftp.gnu.org/pub/gnu/ncurses>

openssl:

openssl-0.9.7d

Dual license:

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b) SSLeay license

The resulting license is a copyleft free software license (cf <http://www.gnu.org/licenses/license-list.html#OpenSSL>)

<http://www.openssl.org/source>

prism54:

prism54-cvs20040318

GPL

<http://prism54.org/pub/linux/snapshot/tars> Software issue at <http://www.prism54.org/software/>

STLport:

STLport-4.5.3

Custom license - source redistribution OK - see

<http://www.stlport.org/archive>

tinylogin:

tinylogin-1.4

GPL -AND- Shadow utilities license (BSD-style) -PLUS- derived work from code licensed under the Eindhoven University of Technology license

<http://tinylogin.busybox.net/downloads>

uclibc:

uClibc-0.9.21 and uClibc-0.9.26

LGPL

<http://www.uclibc.org/downloads>

udhcp:

udhcp-0.9.8

GPL

<http://udhcp.busybox.net/downloads/>

wtools:

wireless\_tools.26

GPL

<http://pcmcia-cs.sourceforge.net/ftp/contrib/>

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That's all there is to it!

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\* README file for STLport 4.5 \*

\* \*

\*

This directory contains STLport-4.5 release. What's inside :

README - this file

INSTALL - installation instructions

stlport - main STLport include directory

src - source and makefiles for iostreams implementation

lib - installation directory for STLport library (if you use STLport iostreams only)

test/regression - regression test, using wrapper iostreams

test/eh - exception handling test using STLport iostreams

etc - miscellaneous files (ChangeLog, TODO, scripts, etc.)

GETTING STLPORT

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- This device must accept any interference received, including interference that may cause undesired operations.

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- 1 Reorient or relocate the receiving antenna.
- 2 Increase the separation between the equipment and the receiver.
- 3 Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
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