Set up network media streaming

Use Windows Media Player and Windows Media Center to stream music, video and more

Windows Media Player 11 (WMP) has a built-in network-sharing feature that allows you to play back music, video and photos on other PCs and media-streaming devices over your network.
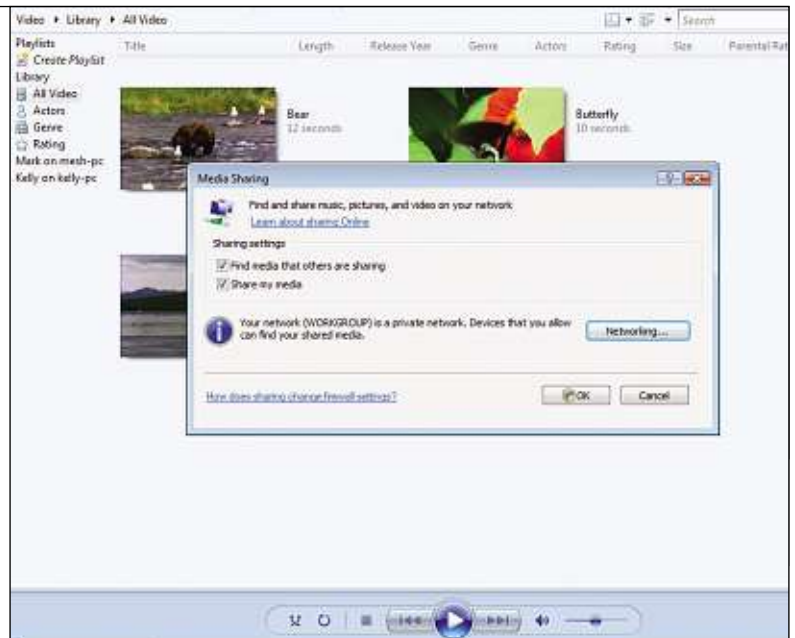
What's more, those with Microsoft's all-in-one entertainment system – Windows Media Center Edition (MCE) – installed on their PCs can, with the right equipment, stream the entire MCE experience to another room. You used to have to buy a special Media Center computer to do this, but now anyone who owns a PC running Windows Vista Home Premium will find that Media Center comes installed as standard.

In this workshop, we'll be showing you how to set up your Windows Media Player library to share your music, and photo and video libraries over your network. We'll also show you how to add a Media Center Extender to the mix so that you can enjoy all the features of Media Center on your living room TV.

Step 1

For the purposes of this Workshop, we'll assume you have Windows Media Player 11 installed on your computer, and that you have already used it to rip a library of CDs and organise your video files. We'll also assume you have set up and configured your wired or wireless network correctly. In order to stream video and audio from the Windows Media Player library to other computers on the network, the relevant sharing settings must first be configured. Make sure all your networked computers are switched on. On the computer that houses all the media files, launch Windows Media Player, click the small arrow at the bottom of the Library button at the top of the screen and select Media Sharing. Tick the options labelled 'Find media that others are sharing' and 'Share my media' and click OK. Enabling sharing in this way will automatically open the required ports in Windows' firewall.
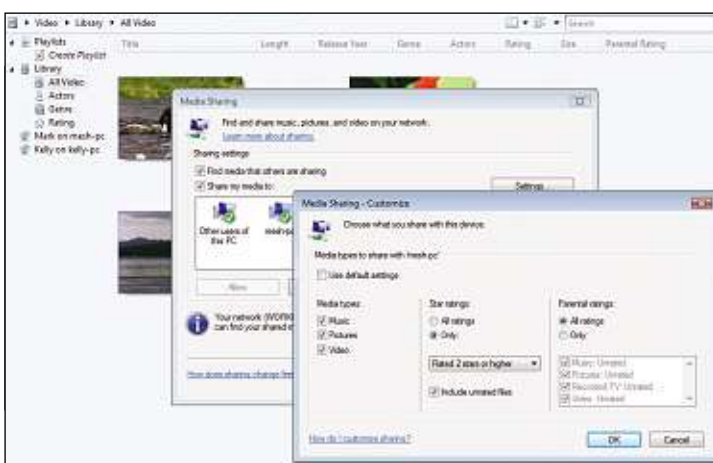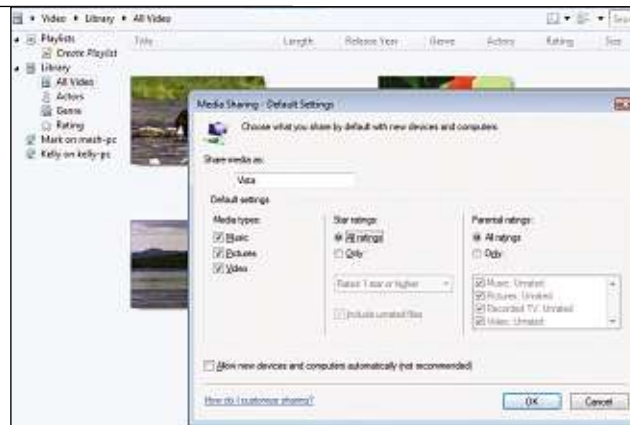

Step 2

Click the icon labelled 'Other users of this PC' and then click the Allow button below. If icons representing your other networked computers do not appear automatically after a short pause, it may be necessary to launch Windows Media Player on these computers. Once the icons are visible, click each one followed by the Allow button. If there are any computers you would prefer not to share the media library with, click the Deny button instead. When these basic sharing settings have been put in place, click Apply to save them. The next thing to do is configure the type of media file that should be shared with each computer.

Step 3

You may wish to configure the default media sharing settings that will be applied to all computers that have been allowed to access the media library. Click the Settings button at the top of the Media Sharing dialogue box. Start by entering a name for the host computer, which other computers will be able to use to identify it, and then use the tick boxes to indicate whether music, pictures and video files should be shared. In the 'Star ratings' and 'Parental ratings' sections it is possible to place further restrictions on the types of media file that other computers can access based on the ratings that have been applied. Click OK to save the settings.
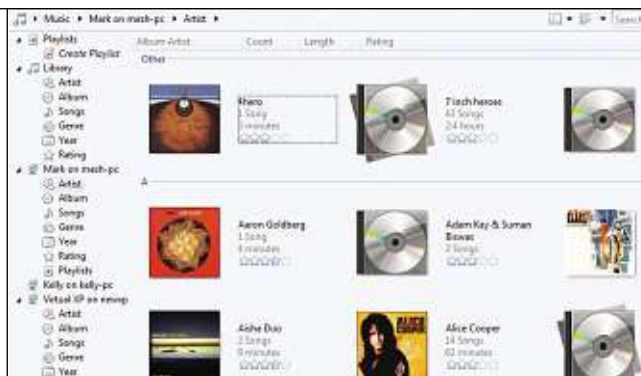
Step 4

The settings configured in the previous steps will automatically be applied to any computer for which media sharing has been permitted. Click the icon representing one of the networked computers, then click the Customize button. To override the default sharing option, untick the box labelled 'Use default settings' and then choose the sharing settings for the selected computer. Once all settings have been configured, click OK and repeat the process for any other computers on the network as required. Using this method it is possible to prevent a child's computer from accessing inappropriate material such as video files with an age rating. It can also be used to keep certain media file private, while leaving them in the media library.

Step 5

Once all these settings have been configured, permitted computers will be able to access the host machine's media files. On another computer, launch Windows Media Player and click the Library button at the top of the screen. In the navigation panel to the left of the screen, beneath the list of local playlist and library, will be a list of computers that are sharing media files. Click the small arrow beneath the Library button and select the type of media that should be displayed. Then use the navigation pane to view the available media. Any files that are displayed can be played in exactly the same way as local files stored on the **hard drive**.
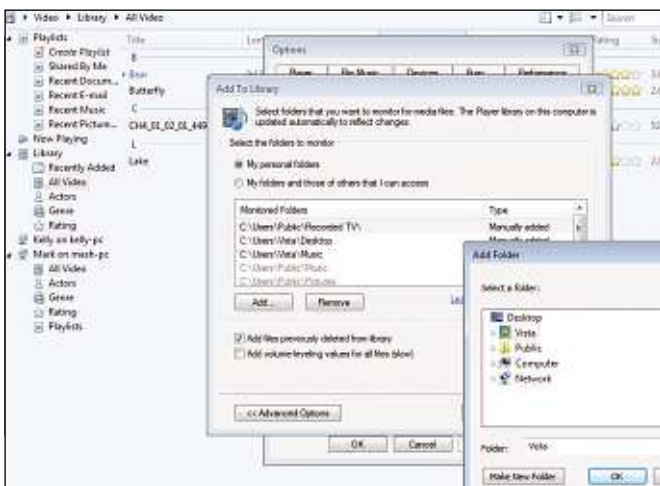
Step 6

It is possible that the media libraries stored on one or more computers include files that are played often enough to warrant keeping them, but not often enough to warrant sharing them across the network. We have already mentioned how file ratings can be used to filter file sharing, and this must be correctly configured on a file-by-file basis in order to work correctly. Click the Library tab in Windows Media Player and select the type of file that is to be rated before navigating to the relevant file or album. Right-click the **icon** representing the item and use the Rate submenu to apply a star rating.

Step 7

Similarly, a shared library that can be accessed by children may contain unsuitable content, and this can be filtered out by using the Parental Rating filter as described above. To assign ratings to individual files, click the Library button and select the type of media that is to be rated before navigating to the relevant files. Click the small black arrow to the left of the Search bar at the top of the screen and select Details from the menu that appears. The Parental Rating column should now be visible to the right of the screen. Click once in this column to select a file and then again to activate the text area. Type a rating for the file. You can then opt to share only files that do not have a rating to prevent unwanted accessibility to particular files.
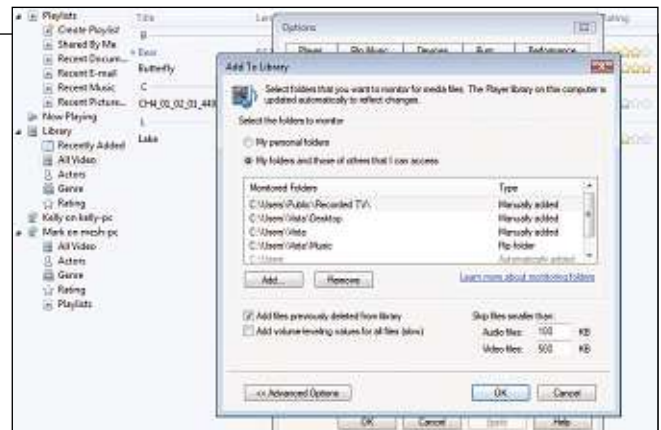
Step 8

Windows Media Player will automatically add items to the Library if they are stored in specific folders within Windows – such as Videos or Pictures. However, it is possible that many people will want to add files to the library that are stored in other folders. To configure this, click the Library button and select More Options from the menu that appears. Make sure the Library tab is active and click the Monitor Folders button. If the Advanced Options button is available, click it and then ensure that the 'My personal folders' option is selected. Click the Add button and navigate to a folder that contains media files. Click OK, followed by OK, and the newly selected folders will be scanned for files and added to the library.

Step 9

In a similar vein, computers that have been configured for use by more than one user are likely to contain media files that are shared between users. To ensure that these are automatically included in Windows Media Player's library, use the method described in the previous step to access the Add To Library **dialogue box**. Select the option labelled 'My folders and those of others that I can access' and click OK. This will automatically add any files that have been stored in Public folders, or that other users of the same computer have chosen to share. Another useful option back at the main Options dialogue box is 'Delete files from my computer when deleted from the library', which does precisely what it says.
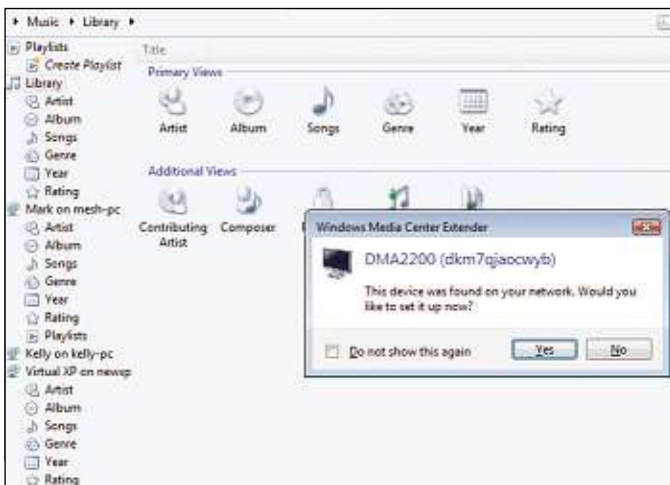
Step 10

While there are undeniable benefits to streaming media files from one computer to another, in the case of some media files, particularly videos, it may be preferable to access them from a more traditional entertainment device. This is where a network streaming player or a Media Center Extender can be useful. These two types of device are similar in that they both act as a network bridge between a computer with a media library stored on it and a TV or hi-fi. The difference with a Media Center Extender is that it can replicate the Windows Media Center interface on your TV (assuming Windows Media Center is installed on your PC). Here we'll show you how to set up the Linksys DMA2200 Media Center Extender (www.linksys.com), but there are other devices available, such as the Xbox 360 (see page 60), that perform the same task.

Step 11

The DMA2200 can be used in wired or wireless mode as desired. If there is an **Ethernet** cable long enough to reach the TV, make use of this, otherwise attach the three wireless antennae to the back of the box. The device must then be connected to an input on your TV using one or more of the supplied cables. There is a choice between component, **Scart** or **composite**, but an **HDMI** cable will need to be purchased separately. On the audio font, there is a choice between standard analogue (red and white) or digital **coaxial**, but a digital **optical** lead will need to be purchased separately. Establish the desired connection and plug the device into the mains.

Step 12

Switch on the DMA2200 along with the TV and switch to the relevant AV input. Use the Linksys remote to head to the Settings section on screen, then move to the Video section before indicating which type of connection has been used. Now move to the Network section and choose between a wired or wireless network. If using a wireless network, perform a search for your network and then supply the required password to establish a connection. On the computer with Windows Media Center installed on it, a pop up should indicate that a Windows Media Center Extender has been detected. Click the pop up, then click Yes to start the configuration process.

Step 13

When Windows Media Center appears on your PC, click Next followed by Next, read the privacy statement and click Next again. Indicate whether you'd like to join the Customer Improvement Program and click Next. Choose whether album art should be automatically downloaded and click Next followed by Next. Choose the 'Set up extender' option and click Next, followed by Next. Return to the television and head to the Extender section of Settings before choosing 'Set up Extender'. Press Next, make a note of the code displayed on screen and type it into the boxes that appear in Windows Media Center on the computer and click Next. Click Next and then opt to enable Away Mode before clicking Next again.

Step 14

When asked if media folders should be made visible on the media extender, select Yes and click Next, then wait a moment while the configuration takes place. Windows Media Center should now be displayed on the TV. Click Finish on the computer. Working with Windows Media Center on the television is virtually identical to using the software on a computer. Use the Extender's remote control in place of the mouse to navigate through the menu options to select the type of media to view or listen to. The first time any of the libraries are accessed, there will be a pause while files are added and then the option to monitor files on other computers will appear.

Use your Xbox 360
as a media streamer

Add an Xbox 360 games console to your network for streaming music, photos and video

Microsoft's Xbox 360 is more than a games console – it's a home entertainment 'hub'. It can play DVD movies, and features built-in networking to allow you to **stream** music, photo and video libraries from your PC, as well as download **on-demand high-definition** movies direct to your console from the Xbox Live online store.
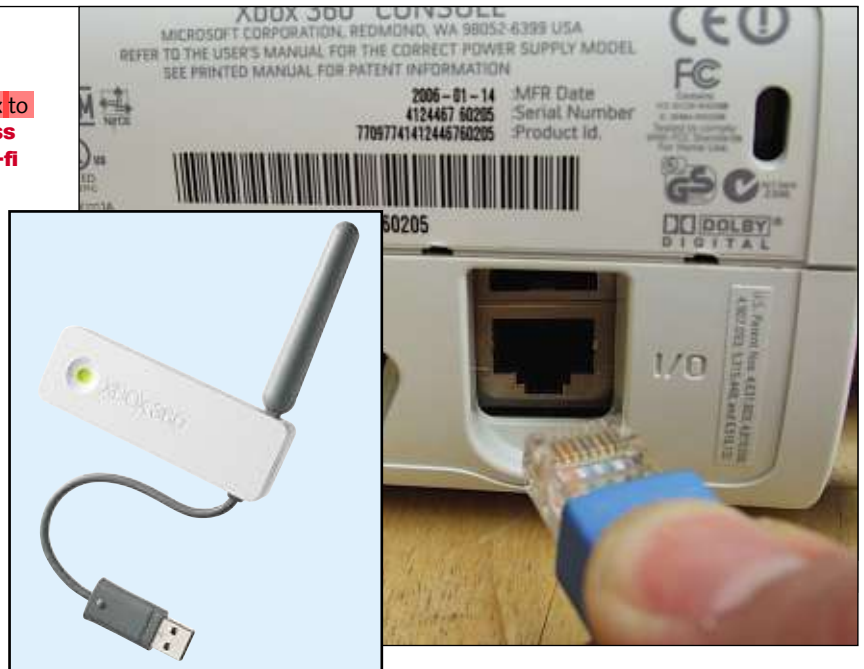
On top of the console's standard streaming capabilities, the Xbox 360 has an integrated Windows Media Center Extender facility. This essentially means that if you have a PC with Windows Media Center installed, you can stream the entire Windows Media Center interface from your PC to your TV via the Xbox. It's a neat trick and definitely worth setting up if you have either a Windows XP Media Center Edition 2005 PC or a computer running Windows Vista Home Premium or Ultimate editions, both of which come with Media Center built in.

Step 1

The first thing to do is physically connect your Xbox to the network. The 360 doesn't have built-in **wireless** capabilities, although Microsoft does produce a **Wi-fi** add-on for the console – the Official Xbox 360 Wireless Network Adaptor is available for £55 from **www.play.com**. It's also possible to use a **wireless bridge**, such as the D-Link DWL-G810 (£52 from **www.dabs.com**), which plugs into the Xbox 360's **Ethernet** socket.

By far the easiest way to connect your console to your network is to use a length of network cable to connect the Xbox 360's Ethernet socket directly to your **router**. You'll find the Ethernet socket at the rear, marked with the label 'I/O'. Bear in mind that if your router and console are in different rooms, it's possible to connect them via a wired link by using a power-line networking connection. See page 38 for more on this.
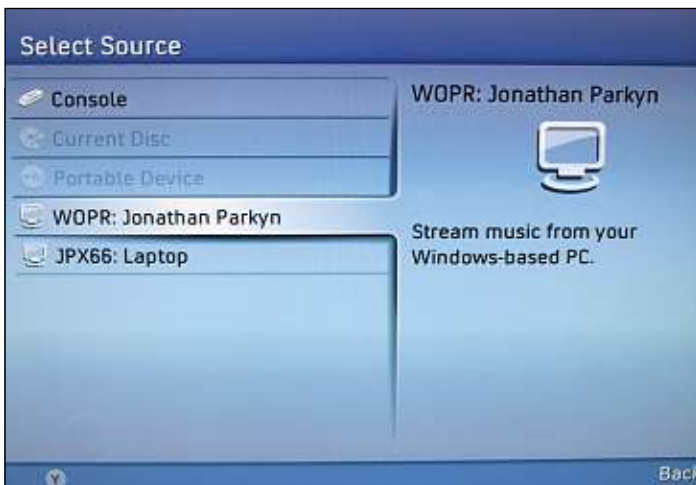
Step 2

With a straightforward wired connection to a router, your console should automatically detect the internet as soon as you switch it on. Those using the Wireless Networking Adaptor to connect to a Wi-fi router should turn their Xbox on, plug the adaptor into a spare **USB** port on the console and go to the System tab of the main Xbox Dashboard interface, using the D-pad buttons to navigate and 'A' button to select options. Go to Network Settings > Edit Settings > Wireless Mode. Here, choose your network name (**SSID**) from the list, whereupon you'll be prompted to enter the security key for your network (assuming you've set up **WPA** or **WEP** protection). Select 'Test Xbox Live', then click 'Yes' to run a diagnostic. Also sign up to the Xbox Live service – go to the Xbox Live tab of the Dashboard and select 'Join Xbox Live' to do so.

Step 3

If you don't have Windows Media Center on your PC, you can make use of the Xbox 360's media-streaming capabilities by setting up the media-sharing component of Windows Media Player 11 (WMP), as described on page 48. To recap, open Windows Media Player and click the down arrow underneath where it says 'Library'. Select Media Sharing from the menu. In the Media Sharing dialogue box, give your share a name, highlight your Xbox 360 and click on Allow. If this is the first time you've used Media Sharing, you may need to change your PC's network or firewall settings. You'll also need to set up music and video libraries in WMP; click on the down arrow underneath 'Library' and select 'Add to library'.
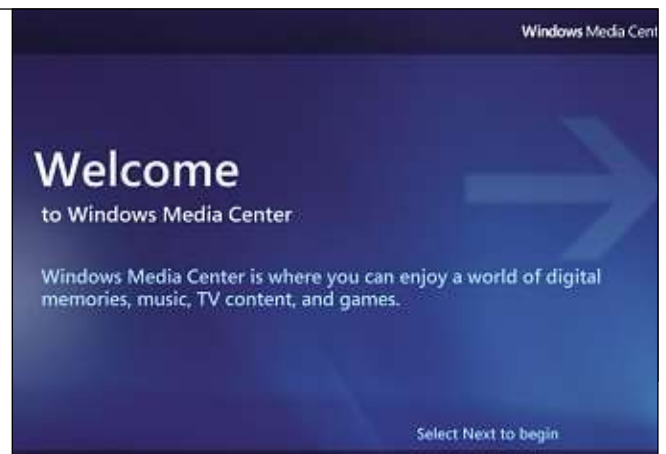
Step 4

With Media Sharing set up, go back to your Xbox. Go to the Media (blue) Dashboard blade by pressing the right button on your controller's D pad. Select Music, Pictures or Photos from the Xbox Media Menu. If it's not displayed, press the blue 'X' button on the controller to get to the Select Source screen. Your computer should be listed with its network name and the name you chose for Media Sharing. Select the computer using the green 'A' button and start browsing. If your computer isn't listed, press the red 'B' button to go to the Dashboard, navigate to the System (purple) tab and go to Network > Test Media Connection to diagnose the problem.

Step 5

If you have a Media Center PC and you'd like to take full advantage of the Xbox's Media Center Extender feature, then be prepared for a slightly more complicated setup procedure – although with the added benefit of being able to schedule and watch Media Center TV recordings via your Xbox, it's undoubtedly worth the extra effort. The first thing to do is set up Media Center on the PC. We won't go into too much detail on that subject here. Basically, open Media Center (go to Start > All Programs > Windows Media Center on a Vista Home Premium PC, for example) and work your way through the initial **wizard**, step by step, until setup is complete.

Step 6

Leave Media Center running on your PC and go back to your Xbox. On the console, navigate to the Media (blue) blade and select Media Center with the green 'A' button to enter the Media Center Extender setup wizard. The initial screen just provides information. Press 'A' again to continue. If you have connected wirelessly, the next screen may display a warning about performance problems over certain network types. You can always test yours later, so ignore this and press the 'A' button on your controller again to continue. On the next screen, the console will provide you with an eight-digit setup key. Write this down and head back to your PC.

Step 7

Open Media Center and navigate along the vertical menu until you get to Tasks. Then navigate to the right of the horizontal menu until you get to the Add Extender option – select this. The first page provides a summary. Press Next to continue. On the following screen, enter the eight-digit code the Xbox provided you with and press Next. If you're using a firewall (other than Windows Firewall), Media Center may flag up a warning – if so, minimise Media Center and open your firewall to make sure it's configured to allow Media Center to work over the network. Precise instructions vary, so check your firewall's help guide. Once finished, maximise the Media Center window, click on 'I have already set up my firewall' and press Next.
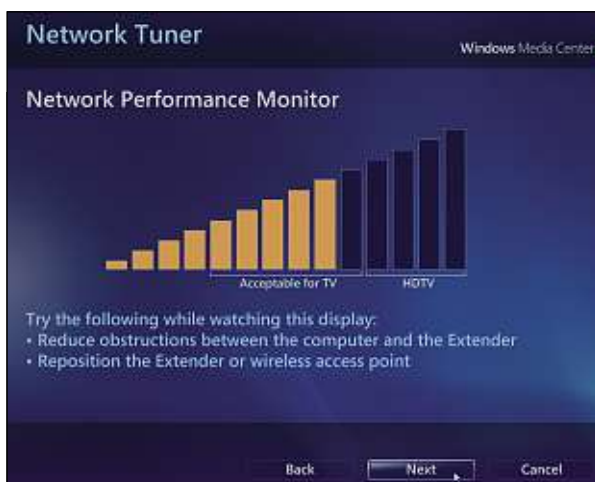
Step 8

You may see a 'Changing Computer Settings' screen at this point. If so, click Next to continue. On the following screen, if you are asked 'Do you want to be able to see your media folders on your Extender?', put a tick next to Yes and click Next. Vista users may see a User Account Warning message now. Click Continue. Media Center will take a few moments to configure and complete the setup, after which it will attempt to connect with your Xbox. Go back to your console and you should see the full Media Center interface on your TV screen. You can navigate it in exactly the same way as you can on your PC, except that you use the directional buttons on your Xbox controller and select using the green 'A' button.

Step 9

On your Xbox, head to the Music Library section and select it with the 'A' button to open it. You'll see that the Xbox is in the process of reconstructing your PC's music library on your console. That doesn't mean it's transferring all your music files across; it's just replicating the Media Center library on your console. This can take a while, however, so let it do its stuff and come back later. The same is true of the video and photo libraries. It only has to do this once and you won't have to wait next time you use Media Center on your Xbox. While it's building its libraries, you can still navigate around the rest of the interface and watch TV or experiment with various settings.

Step 10

Back on your PC, there's one last step to work through. The Network Tuner screen will be displayed and it's worth allowing Media Center to perform a few tests and tweaks to optimise network performance. Click 'Yes (recommended)', then Next. Wait while Media Center tests the network and reads through the results. If you're using a Wi-fi network, you may get a warning about not having enough bandwidth for high-definition video. Click Next, put a check against the Bar View option and click Next again. The resulting graph will help you judge how Media Center is likely to perform. If it's really low, you should consider using another connection – perhaps a wired link or use a wireless range booster (see page 82). Click on Next, then Exit, then Next again and finally on Finish.