

## Setting up a Live Webcam Feed

Date: Apr 28, 2006 By [Kulvir Singh Bhogal](#).

Unless you are telepathic, it is difficult to find out what's happening on the other side of the earth without technology aiding you. Instead of telepathy, you and your audience can now broadcast and tune into the live feeds over the Internet. Kulvir Bhogal shows you how to set up a live web camera feed with some free software.

Although I don't have a child myself, I recall my sister having one of those baby monitors that relayed the sounds heard from her baby's room to her baby monitor receiver. I found the idea to be pretty neat, but that was a few years ago. In the tech world, a few years equates to eons. Nowadays, with just a few bucks, some free software, and some know how, you can set up something much more functional than those arcane baby monitors. In this article I'll show you how to set up a web camera (webcam) to your computer so you can broadcast video and audio over the internet. Without further ado, let's begin.

### What You'll Need

For this webcam experiment, I assume that you are running Windows XP. Also, because I am demonstrating how to set up a webcam that broadcasts over the internet, you will also need a web camera. Your local electronics store probably has a number of these. I would suggest a USB camera instead of a serial one. I picked up a pretty basic one for \$15. Each camera will vary in its setup, so I won't delve into the setup of your PC to your camera. However, before we get started, make sure that your camera can work properly with the software that was bundled with your web camera.

Besides the USB web camera, to broadcast the web camera feed over the Internet you need some software to facilitate things. I chose to go with Microsoft Windows Media Encoder version 9. Windows Media Encoder is a free download, which captured my vote. You can download it [here](#).

Last but not least, you need a broadband Internet connection if you plan to broadcast your webcam feed over the Internet for others to watch.

### Installation and Setup

Setup of Windows Media Encoder 9 is quite easy given that you have your web camera connected to your machine and the drivers set up properly. Simply launch the installer and choose a location on your hard drive in which you want the application to be installed. Next, launch Windows Media Encoder from your Start menu.

You should see the New Session Wizard display. Choose the Broadcast A Live Event option, as shown in Figure 1, and click Next.



[Figure 1](#) Broadcast a Live Event option

In the Device Options screen that appears, make sure that your webcam is selected for the video source and (if you want to broadcast audio) your sound card is selected for the audio source and click Next (see Figure 2).



[Figure 2](#) Device Options screen

In the Broadcast Method screen shown in Figure 3, choose the Pull From the Encoder option.



[Figure 3](#) Pull From the Encoder option

You need to specify the port via which the audience will access the audio and video stream. By default, Windows Media Encoder uses port 8080. If this port is not open on your machine, you can use the Find Free Port button to allow Windows Media Encoder to find an open port for you. In the Broadcast Connection screen, take note of the HTTP port you finally choose as well as the URL for Internet connections (see Figure 4). We'll use these later on when clients tune in to the broadcast. Click Next to continue.



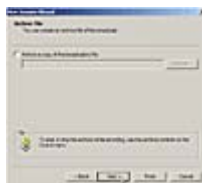
[Figure 4](#) Broadcast Connection screen

Next, you need to specify the encoding options, which can be a daunting task. I'll try and shed some light. The options you should pick in the Encoding Options screen, shown in Figure 5, should be based on your upload bandwidth and your audience's download bandwidth. The general rule of thumb is this: The higher the total bit rate and the frame rate, and the larger the output size, the more upload bandwidth and download bandwidth are required. I suggest that you play around with these values to see what is optimal for your webcam broadcasting needs. I would start with the Live Broadcast Video (CBR) option for video and Multiple Bit Rates Audio (CBR) for audio.



[Figure 5](#) Encoding Options screen

You'll be asked if you want to create an archive of your broadcast in the Archive File screen (see Figure 6). Skip this step by leaving the checkbox unchecked and click Next.



[Figure 6](#) Archive File screen

Windows Media Encoder allows you to include video files that can be dynamically appended in front of, in the middle of, and after your broadcasts. We'll skip doing this. Select the No, I Want to Encode from My Selected Devices Only option in the Include Video Files screen and click Next (see Figure 7).



[Figure 7](#) Include Video Files screen

The Display Information screen (see Figure 8) lets you add information about your broadcast that can be displayed during its playback. You can go ahead and leave it all blank. Click Next again.



[Figure 8](#) Display Information screen

You should see a review of the options you set for your session in the Settings Review screen (see Figure 9). Review the settings and click Finish.



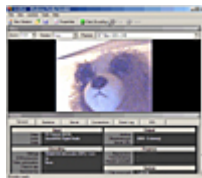
[Figure 9](#) Settings Review screen

At this point, you might see a Windows Media Encoder screen that says the following: By Default, There Is No Restriction On Which Clients Can Connect To This Broadcast. To Protect the Stream, You Can Restrict Access By IP Address (see Figure 10). As the screen states, our broadcast will be available to anyone who knows our endpoint. We can restrict incoming clients by their IP addresses. However, doing is so is an advanced configuration that is beyond the scope of this article. For now, go ahead and click OK.

[Figure 10](#)

[Figure 10](#) Windows Media Encoder with restriction message

At this point, you should see your web camera's view showing in the Windows Media Encoder preview screen, as shown in Figure 11.



[Figure 11](#) Preview screen

To start the streaming process, you need to click the Start Encoding button as shown in Figure 11. You are ready for clients to listen and watch the live webcam broadcast. But before the clients can hook up, you have some preparation to do. For now, go ahead and turn off the encoding process by clicking Stop (next to the Start Encoding button).

## Forwarding Your Port

Before your clients can listen to and watch your broadcast over the Internet, we have to make sure that the broadband router (if you have one) is forwarding external IP requests for your webcam stream to your broadcasting machine. This process, known as *port forwarding*, varies for broadband router brands. Refer to your router product documentation to see how to set up port forwarding. In short, you want to route external requests from the

web to the IP and port you defined when you created your broadcast session earlier. For example, in my case, I need to forward incoming requests coming into port 8080 of my broadband router onto port 8080 of my internal IP address of 192.168.10.14.

### Tuning Into Your Web Camera Broadcast

After you have forwarded your ports, you can start the encoding process again to begin broadcasting your web camera feed (that is, click the Start encoding button).

At this point, you can have your audience tune into the web camera broadcast. Clients can hook up by opening Windows Media Player on their machines and specifying either the LAN address (if the client is on the same local network as the broadcasting machine) or the external WAN address if the client is outside the network of the broadcasting machine. To find out your WAN address, a good trick is to go to [WhatIsMyIP.com](http://WhatIsMyIP.com) (see Figure 12), which lets you know what your external WAN address is. To let people outside your LAN tune into your webcam broadcast, you'll need to provide this external WAN address.



Figure 12 [WhatIsMyIP.com](http://WhatIsMyIP.com)

From Windows Media Player, a client interested in watching and listening to your broadcast should go to, go to File > Open URL. In the Open URL window (see Figure 13), provide the URL for LAN connections established via the session creation wizard earlier if you are local to the broadcasting machine. If the connecting machine is outside of the LAN of the broadcasting machine, you need to swap the LAN IP address with the WAN IP address of the broadcasting machine.

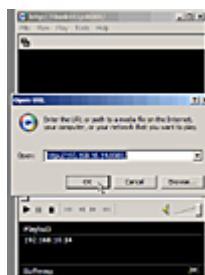


Figure 13 Open URL window

After some buffering, the client machine should be able to start seeing the web camera broadcast.

### Conclusion

In this article, I showed you how to set up a live web camera feed using Windows Media Encoder, a broadband Internet connection, and a web camera. Using the simple setup described in this article, you can let people view what your web camera can see. Alternatively, you can be your own audience. You can use the setup described in this article to build yourself a baby monitor that can hear—and see!