CHAPTER 13

Configuring a Multimedia Computer

After completing this chapter, you will be able to:

- **Connect the audio and video components of a multimedia computer in order to optimize functionality and minimize the complexity of the cabling**
- **Save slots by combining multiple features onto a single circuit board**
- **Use a low-cost audio/video switch that can increase the number of devices connected to your computer**
- **Mix volume levels to keep the audio from getting too loud or too soft when the sound source changes**

Sometimes computers have so many peripherals connected that it becomes difficult to add more devices due to the hopelessly entangled snare of cables. This chapter provides you with a better strategy for connecting the audio and video components of a multimedia computer. When you configure your multimedia PC, you can minimize the number of wires that can become entangled by integrating multiple features onto a single circuit board. If you still have more devices than your computer has input jacks, you can get a low-cost switch that lets you connect more audio/video sources without having to plug and unplug cables repeatedly. With your computer's mixing software, you can adjust the input levels to balance the volume of the incoming sound. This chapter teaches you how to perform all three tasks, namely, integrating, switching, and mixing.

Integrating

The place to begin simplifying your computer's configuration is to minimize the number of expansion boards by getting cards that integrate multiple features into one device. If you are installing a video overlay board, for example, and you also want a TV tuner card, consider purchasing an overlay board that also has a TV tuner on it, such as the Win/TV board shown in Figure 13-1. Not only will you save an expansion slot in your computer, but you will need fewer cables due to the on-board connection between the TV tuner and the overlay board.

Figure 13-1 The Win/TV-pci board has jacks for plugging in a TV cable, video input, and left and right audio channels.

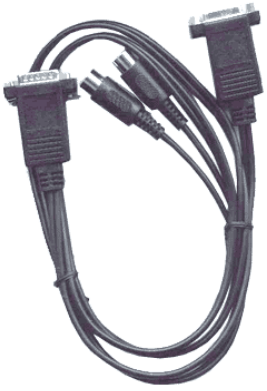

Figure 13-2 The MIDI adapter from Creative Labs plugs into the game port of the SoundBlaster card and provides MIDI IN and OUT jacks for connecting a MIDI keyboard to your computer.

Another opportunity to save a slot is if you are planning to connect a MIDI keyboard to your computer. To connect a MIDI keyboard, your computer needs MIDI IN and OUT ports. You could purchase a MIDI card that has these ports, but why take up another slot inside your computer when you can get a waveform audio card that also lets you connect external MIDI devices? If you are planning to connect a MIDI keyboard, therefore, try to get an audio card that lets you plug in your MIDI IN and OUT cables without having to devote an expansion slot to a separate MIDI card. Chances are good that, if your computer has a Soundblaster-compatible sound card, you can use the adapter shown in Figure 13-2 to plug in a MIDI keyboard without needing another circuit board.

For more information about the latest advances in multimedia expansion card technology, follow the *Multilit* Web site links to Creative Labs, Hauppauge Computer Works, Diamond Multimedia, ATI Technologies, and 3Com. For a list of available feature cards, follow the links to CNET and the Computer Shopper and search for the key word Cards.

Switching

No matter how well you plan, eventually you may encounter a situation in which you need to connect to your computer more audio or video sources than you have jacks in which to plug them. Radio Shack makes a low-cost but highly useful switch that comes in handy in this kind of situation. Pictured in Figure 13-3, the Radio Shack switch costs less than $25. You can connect up to four devices to it.

Suppose you need to be able to record sound from different audio sources, such as a CD player, a cassette tape deck, a VCR, and a radio station. You can connect the audio outputs from all four of these devices to the Radio Shack switch, which in turn connects to your computer's line input audio jack. When you want to record sound from one of these four audio devices, you simply press the corresponding button on the Radio Shack switch, which connects the device to your computer's audio input jack.

Figure 13-3 Radio Shack's Stereo Audio/Video Selector Switch lets you connect up to four devices and select any one of them by simply pressing a button.

You can connect video as well as audio to the Radio Shack switch. Suppose your video capture card lacks multiple inputs, for example, and you want to be able to capture video from several sources, such as a camera, a VCR, a satellite receiver, and a videodisc player. Without a switch, you would have to keep disconnecting and plugging in different wires each time you decided to record from a different video source. Happily, you can connect all four of these video sources to the Radio Shack switch. Instead of unplugging cables, you just press one button, and its video source instantly gets switched into your computer's video input jack.

For ordering information, follow the *Multilit* Web site link to Radio Shack and search for product number 15-1956.

Mixing

As you learned in Chapter 2, multimedia computers can play back several kinds of sound recordings, including waveform audio, MIDI songs, and CD audio tracks. A common problem encountered on multimedia PCs is that one of these kinds of audio sounds too much louder than the others, and you find yourself adjusting the volume knob to keep the audio from getting too loud or too soft when the sound source changes. Figure 13-4 shows how you can solve this problem by using your computer's audio mixer software to adjust the relative volume settings of the sound sources. In Chapter 25, which teaches you how to record sound on your computer, you will receive detailed instructions on using your computer's audio mixer.

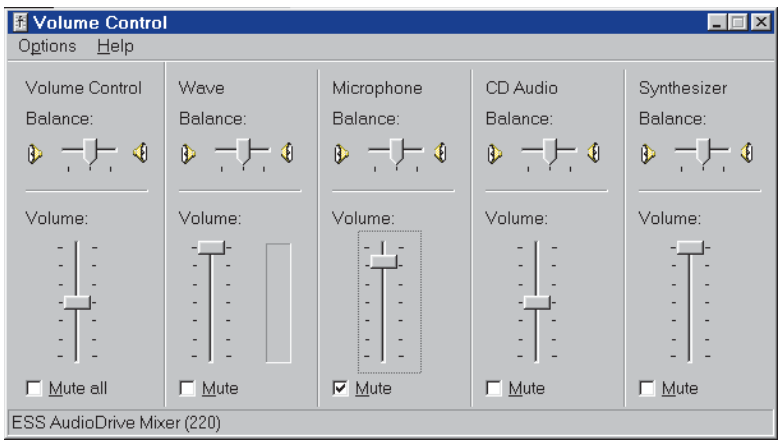

Figure 13-4 The Windows audio mixer.

exercises

1. This chapter told how you can save a slot in your computer by combining onto a single circuit card the video-recording and TV-tuner functions that might otherwise come on separate feature cards. Can you think of another way to save a slot in your computer?

2. Do you think you will ever need to connect to your computer a switching device such as the Radio Shack switch featured in this chapter? Explain why or why not. If you answer yes, describe the situation that would require such a switch. What specific devices would you plug into the Radio Shack switch?

3. How does the mixing screen for your digital audio board compare to the one illustrated in this chapter? Does your computer's mixing software let you control the volume of your microphone input? Of your waveform audio? Of your MIDI synthesizer? Of your CD audio playback? Do you have separate left and right volume controls, or is there a balance control that lets you adjust how much volume goes to your left and right speakers?