EXTREMETECH™

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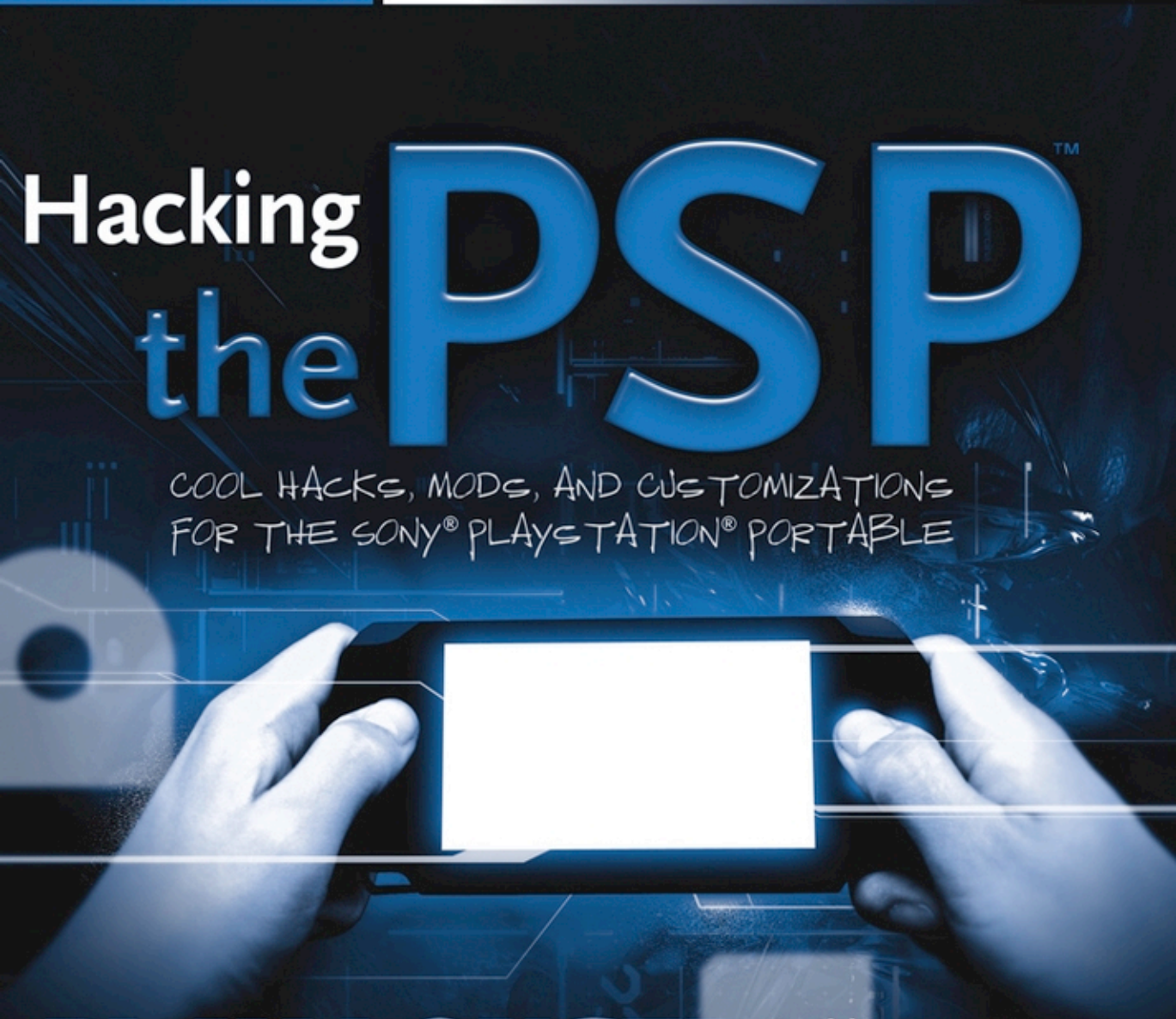
Hacking the PSP™

COOL HACKS, MODS, AND CUSTOMIZATIONS FOR THE SONY® PLAYSTATION® PORTABLE



PLAY LONGER Build your own battery pack

SHHH! Save your Xbox® games on your PSP, too

Homebrew Write and run your own apps

Time Machine Revert your firmware

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Table 11-2 Audio bit rates

Type of audio	*Bit rate*
Music	160kbps MP3 or 128kbps AAC or ATRAC3
Audio Books	128 kbps MP3 or 64kbps AAC or ATRAC3

Transferring Music to Your PSP

While not as small as an iPod or many of the other digital music players out there, the PSP is very capable of bringing music to your ears. Using the iPSP or PSPWare program, you can automatically convert and fill your PSP with music from your iTunes, Windows Media, and other music collections. The only gotcha is protected music — because that music is encrypted, you can't legally transfer it to your PSP. Of course, any audio CDs you have can be ripped and transferred to your PSP because they are not encrypted.

Create a "PSP shuffle" — Automatically Fill Your PSP with Music

In 2005, Apple released the iPod shuffle, a slick little device the size of a flash memory thumb drive that has an MP3 + AAC music player built-in. The approach taken by the iPod shuffle was you could queue up your iTunes playlists and automatically send one or more of them to your iPod shuffle for quick mixes on-the-fly. You can perform that same useful task with your PSP, plus add the ability to quickly take video and images with you, something the iPod shuffle doesn't even support.

Using the free program PSP shuffle, available for download at `http://www.pspshuffle.com`, you can shuffle music, photos and video onto your PSP using a very easy-to-use interface. First, you tell PSP shuffle where to look in your media files. Then, using simple sliders, you can set what percentage of space on your PSP you want taken up by music, video, and images, as shown in Figure 11-1. Then simply click, and media is siphoned from your PC to your PSP for a random assortment of media goodness.

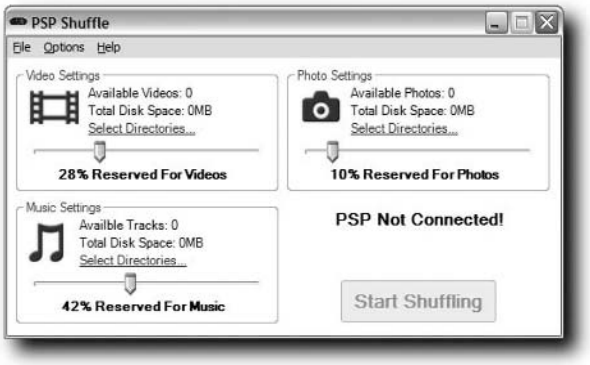

FIGURE 11-1: Space percentage sliders in PSP shuffle

Determining Encoded File Sizes

When you encode a file in MP3 or AAC (MPEG-4) format, you encode it at a certain bit rate, which dictates how much storage space per second the encoded audio will use. This is often called the *bps*, or *bits per second*. Table 11-3 contains the formulas you can apply to approximate the amount of storage space you need when encoding an audio file from a standard audio CD. Keep in mind that the formulas assume a "constant bit rate," which means the data will always use 256 kilobits per second, even if an entire 256 kilobits are not needed after the one second of uncompressed audio has been processed, compressed, and encoded. There is another setting for many encoders called *variable bitrate encoding*, which varies the bps as needed up to the maximum set by the user's encoding preferences.

Table 11-3 Standard CD vs. MP3 CD data rates for 150 seconds of audio

Audio source	*Data/second*	*Average song size*
CD Audio (44.1 KHz 16-Bit Stereo Audio)	(((16 bits * 44100 Hz) / 1024 bits) / 8 bits) * 2 audio channels* 150 secs = 172 Kbytes/sec	25,800 Kbytes
128 Kb/s Stereo MP3	((128,000 bits/8 bits) / 1024 bits) * 150 secs = 15 Kbytes/sec	2,344 Kbytes

Listening to AudioBooks

Many books today are available on audio CDs, via Audible (`www.audible.com`), iTunes, and many other stores. The PSP is capable of reading any unprotected MP3, AAC, or ATRAC3 file, so you can easily rip any CD with audiobook content to your PSP and listen to it on the go. The ideal bit rate for audiobooks when ripping them from CD in MP3 format is mono audio at 128 kbps. For AAC or ATRAC3, use mono audio at 96 kbps.