

Choosing a Handheld Digital Recorder – 2011 Edition

You're probably reading this because it's nearly Music Camp time and you figure it's time to bring along a recorder or upgrade your old one. Every year about a week before camp, people are asking what to buy, and this was my response this year. Most manufacturers bring out a new model once or twice a year and it's really hard to keep up with them, but here are my current thoughts.

Last minute decisions about these things are always tough because they're basically the same except that every one seems to have some little thing about it that's almost sure to bug you once you find it. You should have come to camp LAST year and come to the workshop that I do about these recorders to get some insight (and of course you can come this year).

I own a Zoom H2. I've had it for several years and it's still probably the best buy in an all-around handheld recorder. Its only shortcoming is that it's of the generation before very low power devices. Many of the current generation of recorders will go 10 to as much as 20 hours or more on a set of batteries. The H2 will go 2-4 hours on a set depending on how you use it. That's why Seth and I and most others who get it find rechargeable batteries to be an almost necessary accessory. It cost \$200 when it

was first introduced but is now available nearly everywhere for \$150 or less.

If I were to buy one today, I'd probably go for a Sony PCM-M10. Compared to the Zoom H2, It's a little smaller and lighter, sounds a little better in most situations, has an easier-to-read display, 10+ hour battery life, and comes with a remote control that's sometimes worth its weight in gold.

If you've set yourself a budget of \$100, which certainly isn't unreasonable today, there are a lot of choices. Zoom has the H1 and TASCAM has the DR-07. My primary objection to most of the \$100-and-less recorders (as well as those from Yamaha and Olympus, that Paul likes) is that they're just too darn small. To some, that's an advantage, but think about it.

It's hard to make a mistake and choose totally the wrong recorder, but it's helpful if you can get to a shop (Guitar Center stores carry a reasonable selection) and fondle a few different models before making your choice. There are reviews of a few recorders on my web page. Most of these have been replaced by newer versions, but by reading the reviews and the following article about using a handheld recorder (that's my camp class handout) you'll get some idea about details that may matter to you once you get to using it.

Resources

<http://mikeriversaudio.wordpress.com> Reviews and Articles

http://tascam.com/applications/recording/handheld_recorder/ (TASCAM)

<http://tinyurl.com/2q73yd> (Zoom H2)

<http://tinyurl.com/24qmmwc> (Zoom H1)

<http://tinyurl.com/Sony-PCM-M10> (Sony PCM-M10)

Tips for Using Your Portable Recorder

Mike Rivers © 2009

Microphones and Positioning

The most important thing to consider when making a recording is where to put the microphone. Think of your pocket-sized recorder as a microphone with a recorder attached, not as a recorder with a built-in microphone. Think about where you want the microphone to be, and put the recorder there.

Microphones “hear” differently than ears do. You’ll pick up more room sound than you hear when you’re in the room with the music. Try to get close to the source. Plug in a set of headphones and listen to what the microphones are hearing.

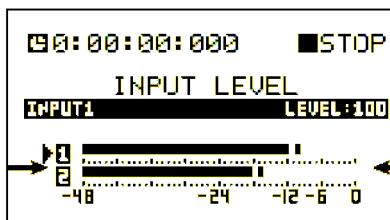
Most recorders have a connector for an external microphone. This can make it easy to put the mic right where you want it but there’s a lot to know. Some mics require no power, some have a battery, some can be powered from the recorder, and there are two schemes for this, phantom and plug-in power. There’s a dark side here, and most built-in mics are mighty good these days.

Consider using a mic stand. Putting your recorder on the floor often sounds murky. A table can work. Don’t put it too close to YOU! (unless you’re recording yourself) .At a concert you may need to be discreet, but when jamming with friends, don’t be afraid to get in the way when setting up. Then relax and enjoy the music.

Setting the Record Level

Learn your recorder’s limitations, how its controls work, and what the meters are really telling you. Set the record level control so that the meters stay below maximum. On many recorders, the record level control can lie to you, resulting in a distorted recording even if the meters look normal.

Use the Sensitivity switch to get the level in the ballpark with the record level control set



near maximum If its range is 0-127, start with it set at 100. Experiment with your own recorder to learn how this works. Don’t constantly fiddle with the record level. Find a level that works and leave it there. You can make volume adjustments later, but you can’t easily un-distort a distorted recording.

Automatic record level has its place, but it’s rarely good for recording music. A limiter can be helpful but learn how it works before relying on it.

Formats, Recording Time and Memory Cards

WAV or PCM = “CD Quality”

MP3 = “Radio quality” (or worse)

WAV, 16-bit, 44.1 kHz stereo is best if you plan to make a CD from your recording. This format give approximately 1.5 hours of recording time per gigabyte of memory. 24-bit recording allows you to be more conservative when setting the record level which is an advantage when you can’t (or don’t want to) pay attention to the recording, but don’t be careless.

MP3 recording time and quality varies. 128 kbps is “decent cassette quality” without the flutter and gives approximately 10x as much recording time as 16/44.

Most pocket sized recorders use interchangeable flash memory cards, They come in different sizes and they keep getting cheaper. The temptation is to buy the biggest one you can find, but an older recorder may not accommodate the newer and larger capacity memory cards. Also, cards can fail and you can get careless. Don’t put all your eggs in one basket. 2-4 GB cards work in most recorders and are dirt cheap. Check with the manufacturer before you buy a card that’s too large. There may be a firmware update available that allows larger capacity memory cards.

Power - Batteries and Plugging In

Know how long your recorder runs on a set of batteries or a charge. Replaceable batteries will keep you running all day. Internal batteries will need recharging.

Rechargeable, replaceable batteries are economical but don't forget the charger!

Standard NiMH cells lose their charge after a few weeks on the shelf, so don't go out without a fresh charge. Hybrid (Hybrio, Eneloop) cells generally have slightly lower capacity (Ma-H) but will hold a charge for several months. These are good if you use your recorder occasionally and might forget to charge up before taking it out.

Recorders that use replaceable batteries usually won't charge them in the recorder. Internal batteries usually charge when connected to an AC power supply or USB port. An external AC power supply is a useful accessory, but don't forget to pack an extension cord.

Recording from a Mixing Console – Line Inputs

Playing a gig with a PA system? You can probably get a better recording of your show by connecting your recorder to the mixing console. If you're not bringing your own PA, bring your own cables. You can't expect the sound crew to have them. There will usually be spare mixer outputs on 1/4" or RCA phono jacks. You won't always get a stereo output from a mixer. Bill Monroe recorded in mono, so can you.

Your recorder's line input is probably a 1/8" stereo jack, but may be 1/4" phone jacks. My "line in" kit (Radio Shack part numbers) should accommodate most setups:

- Cable – 1/8" stereo plug to two RCA plugs 42-2551
- RCA to 1/4" plug adapters (274-320)
- Y adapter – two RCA jacks to 1/4" mono plug 42-2546
- 12 dB attenuators (optional)

The same cautions about setting the record level apply here. You may need an attenuator between the mixer and the recorder. The Harrison Labs 12 dB RCA attenuator will do the job. Search the Amazon.com web site for B0006N41B0.

Managing Your Recordings

This is a personal thing, and a little philosophical, but it's food for thought. These recorders are so handy, it's easy to record far more than you can ever deal with,

and your recordings can't stay in the recorder forever. At some point you'll need to either decide to delete the recording or move it somewhere else. Unless you simply remove the memory card, store it, and put a new card in the recorder (just like we used to do with tape – remember?), managing your recordings involves a computer.

Nearly all recorders have a USB port which makes the recorder look to your computer like an external disk drive. Files can be dragged from the recorder to a folder on the computer. We're an impatient bunch, though, and a card reader for (or in) your computer is almost always faster.

If you've recorded a jam or concert, the whole program will be in a single file. Be honest – you really don't want to listen to the whole jam over again, though there are probably a few tunes you'll want to learn. A couple of good (and free) tools for editing and saving your selections are:

Audacity – <http://audacity.sourceforge.net>
(versions available for PC, Mac, and Linux)

MP3 Direct Cut (Windows)
<http://mpesch3.de1.cc/mp3dc.html> or
http://majorgeeks.com/mp3DirectCut_d4668.html

For shelf storage of memory cards, the CardSafe is really slick. Available from:
<http://www.cyberguys.com>

