

## Multimedia Reporting Gear Guide

### SOUND – Hardware

(NOTE: descriptions are from company websites)

#### **\$100 - \$150 range: Olympus WS-100 or Olympus WS-320M**

"USB Direct" design means you can connect it right to the USB port on your computer and download or transfer audio, music, photos and more. Backlight Full-Dot LCD. USB mass storage class support means the WS-320M can store documents, images, and more in addition to audio. Play recordings in Fast and Slow Playback mode (50% faster or 25% slower than real time). Organize up to 199 files in each of 5 available folders for quick retrieval and storage convenience. Use the Voice Activation mode and record sound via the built-in microphone without ever lifting a finger. Set a portion of an audio file to play back on a repeat basis with the Repeat Playback option. Remove any chance of files being accidentally erased with the ability to lock them. Locate important sound bites quickly and easily by inserting index marks where desired. Erase single or entire files. Adjust the microphone sensitivity to set the recorder to meet your specific needs.

#### **\$200 range: Disonic DR-51128**

This 128MB recorder will record up to 35 hours of digital voice recording. Mp3, portable USB HD, FM stereo radio, cell phone/phone recorder, voice activate, date and time stamp, flash memory, a/c adaptor, easy to read dot matrix screen all this packed into one tiny device and is perfect for home, office or personal use.

#### **\$400 range: Edirol R-1**

Searching for the highest recording quality in a portable device? EDIROL handpicked the top analog and digital components for the R-1. The unit records and plays back at a crystal-clear, 24-bit audio resolution without compression. Electrolytic capacitors provide stable, reliable power to the analog circuits, eliminating DC interference and supplying low-distortion sound. Audio recorded into the R-1 is stored as stereo files directly onto removable Compact Flash card. Maximum recording time is approximately 137 minutes when using the bundled 64 MB card. Nine format-quality modes are provided, ranging from 64 kbps compression to linear WAV.

#### **\$500 range: M-Audio MicroTrack 24/96**

The MicroTrack is a rugged high-fidelity mobile 2-channel digital recorder that records WAV and MP3 files to CompactFlash or microdrives—perfect for everything from professional field recording to corporate meetings, training, education and worship. Record via balanced line inputs or built-in high-fidelity microphone preamps complete with phantom power for studio-quality microphones. Connect MicroTrack to a PC or Mac via USB and simply drag and drop recordings to your computer for immediate editing or Web posting. Power derives from a lithium-ion battery, and the unit can recharge via the computer's USB connection or USB power adapter. The MicroTrack combines quality beyond that of DAT recording with the convenience and cost-effectiveness of personal digital recorders for the ultimate solution in mobile recording.

#### **\$500+ range: Marantz Professional Digital Audio Recorder PMD680**

Uses solid state PC Cards and Compact flash, as well as IBM Microdrives. Mono recording, with XLR mic input and phone jack input. The PMD680 is a monaural audio recorder that records high-quality digital audio files that can be immediately transferred to a computer for archiving, editing, or uploading to the Internet. Simply insert a recorded PC Card (or compact flash or IBM MicroDrive with adaptor) into your computer's PC Card (PCMCIA) slot. The PMD680's Type III PC Card slot is compatible with both compact flash (using an adaptor) and ATA-size PC Cards.

This media is widely available at computer and electronics retailers. The slot is designed to accept future PCMCIA memory options. Flash memory (compact flash, PC Card, contain no moving parts and are impervious to temperature extremes and shock which might damage recordings. Compressed MP2 digital audio files recorded on the PMD680 can be stored as MP2 (.mp2) or in the Broadcast Wave standard (.bwf). The PMD680 also allows uncompressed recording (PCM) in the true wave (.wav) file format. The PMD680 uses an on-the-fly system for marking tracks during recording. The marking points can be easily searched during playback, or used to create a custom playback sequence that doesn't alter the original recorded files.

### **SOUND – Software**

(NOTE: Some of the following information comes from *Transom Tools*.)

#### **Audacity (FREE)**

Audacity is a free, easy-to-use audio editor and recorder for Windows, Mac OS X, GNU/Linux, and other operating systems. You can use Audacity to: Record live audio; Convert tapes and records into digital recordings or CDs; Edit Ogg Vorbis, MP3, and WAV sound files; Cut, copy, splice, and mix sounds together; Change the speed or pitch of a recording. Audacity is free software, developed by a group of volunteers and distributed under the GNU General Public License (GPL). <http://audacity.sourceforge.net>

#### **ProTools (ProTools FREE: \$0, ProTools LE w/ USB M-Box: street US\$450)**

The most popular small-studio audio application. For this reason alone many people use this program, so they can share multitrack sessions with other ProTools producers. PT is a quick versatile tool. ProTools 5.0 and earlier, including ProToolsFree, must convert stereo sound-files (joint-stereo) into 2 individual files (split-stereo, one for each channel). So stereo uses two tracks (one each for right and left channels). ProTools 5.1 and higher will record and edit joint-stereo files. So stereo must take up two tracks (one each for right and left channels). But tracks can be grouped for simultaneous multitrack editing and mixing. What makes ProTools even more popular is that Digidesign often offers a free version, which is limited to 8 tracks, but is otherwise fully functional. It can capture (record) audio from analog, USB and PCI sound sources.

<http://www.digidesign.com>

#### **Deck (list US\$300), from Bias Inc. (Berkeley Integrated Audio Software)**

Another good multi-track tool. Deck cannot use single stereo sound-file (joint stereo), but must convert it into 2 files (split stereo), and put it on two separate tracks. However, it does not allow grouping of tracks for editing and mixing, making it inconvenient for stereo production. It can capture (record) audio from analog, USB and PCI sound sources. The latest version of Deck, as well as the two-track editor Peak, is now OSX native. <http://www.bias-inc.com>

#### **Cool Edit Pro (list US\$350)**

A tried and true audio app for home studios. It can work with joint stereo files, and can put both left and right channels on one track. Syntrillium, the manufacturer, continues to add new features, like MP3 export, and one of the finest noise-reduction filters available.

<http://www.syntrillium.com>

#### **Cool Edit 2000 (list US\$70)**

Syntrillium's stripped-down version of their multitrack program. It is limited to only two audio tracks (for one stereo file), but has most of the other features and filters of Cool Edit Pro.

<http://www.syntrillium.com>

**Sound Forge** (Full version 5: \$350 download; XP version \$60 download)

A Versatile stereo editor with many available plug-in effects, can input and output many different file types. Full version will export WAV, MP3, .RA and other file formats, and includes integral CD burning from the program. <http://www.sonicfoundry.com>

**Garage Band** (Full version 3: \$79 – Mac only)

Easy to edit sound and to add other tracks. Ideal for creating and publishing podcast audio files. <http://www.apple.com/ilife/garageband>

<<**File Converters**>>

**SoundApp** (\$0) can play almost any format sound-file, including MP3s and CD Audio. It can also convert the sound-file from any format into any other format: wavs to aiff, MP3s to CD Audio, you name it. (It plays and converts MP3s, but does not encode MP3s or any other MPEG format). For playing and converting sound-files, you cannot buy a better tool than SoundApp at any price. You can't even buy SoundApp at any price, because it's FREE. <http://www-cs-students.stanford.edu/~franke/SoundApp>

**EasyWMA** (\$10)

EasyWMA allows you to convert wma, wmv audio, asf and ogg vorbis files to aiff, mp3, m4a or wav so that you can play your favorite songs in iTunes or any other player on your Mac.

EasyWMA can be helpful if you need to play wma files on your iPod, or if you need to convert files created by your Olympus voice recorder.

Waves (bundles list US\$300 and up)

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**SOUND – Microphones**

(NOTE: Information from Transom.org. For more, see:

[http://www.transom.org/tools/recording\\_interviewing/200106.microphones.itowne.html](http://www.transom.org/tools/recording_interviewing/200106.microphones.itowne.html))

<a href="#">Electrovoice 635N/D (pdf file)</a>	Dynamic, Omni, Small diaphragm	All-around workhorse reporter's mic. Cheap. Can hammer nails with it. (80hz-13khz)
<a href="#">Electrovoice RE-50 (pdf file)</a>	Dynamic, Omni, Small diaphragm	Same microphone as the 635A, but with better pop filtering and isolation from handling noise. (80hz-13khz)
<a href="#">Beyer M-58 (pdf file)</a>	Dynamic, Omni, Small diaphragm	Better frequency response than above mics (40hz-20khz), hotter output. Long handle.
<b>AKG D230</b>	Dynamic, Omni, Small diaphragm	Similar to RE-50, but with much wider frequency response (40hz-20khz)
<b>Shure SM-58</b>	Dynamic, Cardioid, Small diaphragm	The most popular all-purpose vocal mic in the world. Very rugged, good sound. Cheap. (about \$100)
<b>AKG C-1000</b>	Condenser, Cardioid, Small diaphragm	Good frequency response (50hz-20khz,) uses standard 9 volt battery for power.
<b>Sennheiser K6/ME66</b>	Condenser, Short shotgun, Small diaphragm	Modular, can fit different capsule on K6 power supply. Very tight pattern, good for recording from medium distance. (50hz-20khz)
<b>Sennheiser K6/ME64</b>	Condenser, Cardioid, Small diaphragm	Modular, can fit different capsule on K6 power supply. (50hz-20khz)
<b>Sennheiser K6/ME62</b>	Condenser, Omni, Small diaphragm	Modular, can fit different capsule on K6 power supply. (20hz-20khz)
<b>Neumann 180 series</b>	Condenser, Small diaphragm	Omni, cardioid and hypercardioid mics. Very small. (20hz-20khz)
<b>AKG C-414</b>	Condenser, Variable Pattern, Large Diaphragm	Classic, versatile large-diaphragm condenser, suited for studio announce.
<b>AKG C-3000</b>	Condenser, Cardioid, Large Diaphragm	Affordable large-diaphragm condenser, with sound similar to AKG 414.
<b>Neumann U87</b>	Condenser, Variable Pattern, Large Diaphragm	THE big, warm announce mic. Large-diaphragm condenser with superb sound. Pricy.
<b>Neumann TLM 103</b>	Condenser, Cardioid only, Large Diaphragm	Affordable Large-diaphragm condenser with Neumann sound. (About \$700)
<a href="#">Electrovoice RE-20 (pdf file)</a>	Dynamic, Cardioid, Large Diaphragm	Perhaps the most common on-air announce mic. Warm, flat sound. Good pop-rejection. (45hz-18khz)
<b>Sennheiser 421</b>	Dynamic, Cardioid, Large Diaphragm	Versatile mic effective on everything from voice to drums. (30hz-17khz)
<b>Rode NT1</b>	Condenser, Cardioid, Large Diaphragm	Very inexpensive large-diaphragm condenser (about \$200) Good sound quality, similar to Sennheiser 421, but louder. (20hz-20khz)
<b>Oktava 319</b>	Condenser, Cardioid, Large Diaphragm	Another very inexpensive large-diaphragm condenser mic (about \$200 in some stores and catalogs) rounder, warmer sound than AKG or Rode.

### Cameras for Reporters - Still Digital Photography

#### **BlackBerry**

The newest BlackBerry Pearl comes with an adjustable 1.3-megapixel camera. In a pinch, it'll take decent pictures that can be emailed directly from the phone. Works beautifully with a Mac or PC.

#### **Canon**

The Canon PowerShot series offer very small, lightweight cameras that are fully adjustable. Our favorite is the Canon PowerShot SD600. Integrates with both Mac and PC.

### Cameras for Reporters - Digital Video

The **Sony Handycam** series offers several different handheld digital video cameras at affordable prices. Whichever one you purchase, always opt for the built-in hard drive version rather than a camera that relies on tape. One we like: Sony DCR-SR100 3MP 30GB Hard Drive Handycam Camcorder w/10x Optical Zoom.

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#### Other Misc.

Make sure to *a/ways* carry the following in your pack:

- Extra batteries
- Extra USB cables
- Memory card reader
- Adapters
- Connection cables
- Wireless device that will double as a modem
- Laptop (I use a MacBook Pro)
- Either online file storage or a lightweight external hard drive
- Thumb drive
- List of passwords, usernames and URLs (encrypted, of course!)
- Blank media (a few CDs)