

# Digital Recording Basics For Ensemble Directors

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## What do you want to do?

1. Record ensemble practice sessions and rehearsals
2. Record live concerts
3. Sell CDs to the community
4. Develop a recording studio in the school
5. Teach digital audio to students

## Digital Audio Recording Options

### Computer and digital audio software

- Recommended for experienced computer users
- Recommended for studio/classroom use

### Stand-alone recording devices

- Mobile Recorders
- CD stereo recorders
- Multitrack recorders
- Can be transferred to the computer for editing

\*Stand-alone is the focus of today's session\*

## A. Selecting Microphones

Purchase good quality **condenser microphones** for recording ensembles.

- Audio Technica Stereo Condenser mic
  - AT825 – (\$549.00 list)

Or purchase a pair of condenser mics for ensemble recording

- Shure KSM27 – (\$575 list)
- M-Audio Luna (\$249 list)
- M-Audio Nova (\$129 list)

## **Dynamic Microphones**

### **Dynamic microphones (\$100 price range)**

- Use for vocal solos and close micing instruments such as a drum set. Purchase as many needed.
  - Shure SM-57 (instruments)
  - Shure SM-58 (vocals)

## **B. Microphone Stands**

### **Buy Quality Mic Stands**

- Quik Lok A300 (\$49.95) microphone stand.
  - Purchase two stands for stereo recording.
- Quik Lok A50 (\$200) with stereo bar for 2 mics.
  - Purchase a stereo bar. Secure both mikes on the same stand \*

## **C. Mobile Digital (flash) Recorders**

- Fostex FR-2 (\$1,499 list)
- Edirol R-1 (\$599 list)
- HHB's MDP500 Minidisk (\$1,700 list)
- Marantz PMD660 (\$649.99 list)
- M-Audio MicroTrack (\$499 list)
  - Records to Flash memory
  - Transfer to computer via USB
  - Edit and burn CD using computer

## **D. Stand-Alone Digital Recorders**

- Choose from stereo or multitrack
  - Stereo units (with Phantom Power).
    - Tascam CD-RW750 (\$679 list price)
      - Will need a mixer or preamp
      - Mackie Mixer: DFX12 (\$319 list)

Superscope PSD-340 CD-Recorder (\$1,090 list)

- Phantom Power upgrade available
- Record CDs
- Copy CDs
- Slow down tempo
- Transpose key \*

### **E. Multitrack Digital Recorders**

- Advantage: Separate tracks can be recorded for soloists and overdubs.
- Disadvantage: Takes time to learn. Multitrack projects require mixing.

Multitrack Recorders

- Boss BSR900 (\$799 list)
- Korg D1200MKii (\$1,250 list)
- Roland VS-2000CD (\$2,395 list)
- Yamaha AW1600 (\$1,495 list)

Others from Akai, Alesis Fostex, Tascam

### **F. Editing CDs by Computer**

Use 2-track (stereo) editing software to edit CDs on a Mac or Windows computer

- Peak (MAC)
  - Peak LE (light version - \$99)
- Sound Forge (WIN)
  - Sound Forge Audio Studio (light version - \$65) \*

### **G. Computer-Based Digital Recording**

- High Quality Audio Interface (USB or Firewire)
  - M-Audio FireWire 410 (\$399 L)

- Digital Audio Software: Live, Pro Tools, GarageBand, Sonar, Digital Performer, others...
- Lots of Hard Drive space and a robust (newer) computer.

## CD Recording Terms

- CD-R or Compact Disc Recordable
  - Record only once (cannot be erased)
- CD-RW or Compact Disc Re-Recordable
  - Can be erased up to 1,000 times

## H. Burning CDs

- Mac:
  - iTunes - Free software from Apple.
  - Toast ([www.roxio.com](http://www.roxio.com))
- Windows
  - iTunes - Free software from Apple.
  - Sony CD Architect

## I. Copyright Considerations

- Selling CDs for profit
  - Mechanical License required [www.harryfox.com](http://www.harryfox.com)
- Posting copyrighted material on web sites
  - performance rights required  
[www.soundexchange.com](http://www.soundexchange.com)

## J. Where to get help

- Contact companies for purchasing and support:
  - SoundTree: 800-963-8733 ([www.soundtree.com](http://www.soundtree.com))
- Book: *Recording in the Digital World* Rudolph/Leonard
- Join TI:ME - Technology Institute for Music Educators [www.ti-me.org/trial.html](http://www.ti-me.org/trial.html)
- Summer courses on digital audio: [www.ti-me.org/summer](http://www.ti-me.org/summer)