

Great Ensemble Recordings Start to Finish

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Stand-Alone Digital Recorders

- Hand-held recorder
 - MicroTrack (\$199)
- CD and Hard Disk recording
 - Superscope CD recorder (\$999)
 - Korg MR-1000 (\$1199)



Computer Recording Interface

- Allows you to connect high-quality microphones directly to your computer.

- M-Audio Mobile Pre (\$149)



- Pro Tools Mbox (\$349)



- M-Audio Project Mix (\$1249)



Microphone Terms

Pick-up Patterns:

- *Cardioid*
 - Responds to sound mostly from the front
- *Bi*
 - Responds to sound from the front and back but not the sides
- *Omni*
 - Responds to sound all around

Mic Types:

- *Dynamic*
 - Rugged
 - Good for close-miking
- *Condenser*
 - Requires a battery or Phantom Power
 - Good for miking an ensemble and close-miking
 - Crisp, clear, detailed sound
- *Ribbon*
 - Fragile
 - Expensive
 - Warm, mellow tone

Microphone Options

- Blue Snowball USB Mic (\$99)
 - Condenser, Cardioid/Omni
 - Good for almost anything but best for podcasting
 - No interface required!
- Shure SM57 or SM58 (\$100)
 - Dynamic, Cardioid
 - Single Instrument, close mic



Microphone Options

- Shure KSM27 (\$200)
 - Condenser, Cardioid
 - Single Instrument or Ensemble (pair) - Excellent for strings/choir
- Audio Technica AT825 (\$375)
 - Condenser, Cardioid x 2
 - Ensemble - Excellent for band
- Earthworks TC30 (\$1700 pair)
 - Condenser, Omni
 - Ensemble



Accessories

- XLR microphone cables
- Mic Stands
 - Light Duty (\$30)
 - Heavy Duty
 - QuikLok A-50 (\$150)
- Stereo Bar
 - Generic (\$20)
 - Shure A27M (\$70)
- Pop Filter
 - Required for voice recording



Accessories

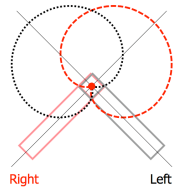
- Headphone
 - AKG K240 (\$99)
- Monitor Speakers
 - M-Audio BX5 (\$299/pair)
 - JBL LSR2325 (\$398/pair)



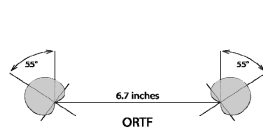
Setup for Stereo Recording

- Distance - a few feet in front of the ensemble
- Height - above conductors head
- 3 stereo mic techniques:

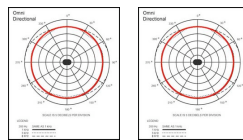
XY Technique



Near Coincident



Spaced Omni Pair



14" apart

Stereo Recording Techniques and Pro Tools Recording Basics
by Marc Schonbrun

Software Options

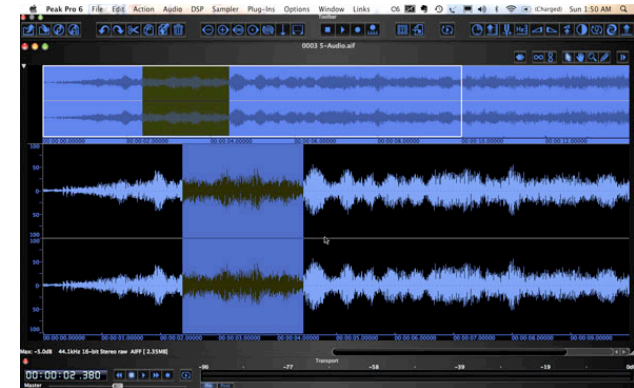
Stereo Software

MAC

- Peak LE (\$99)

PC

- Sony Sound Forge (\$54)



Software Options

Entry-Level Multi-track Software

MAC

- Audacity (Free)
- GarageBand (\$79)

PC

- Audacity (Free)
- Mix Craft (\$49)
- Sony Acid Music Studio (\$49)



Software Options

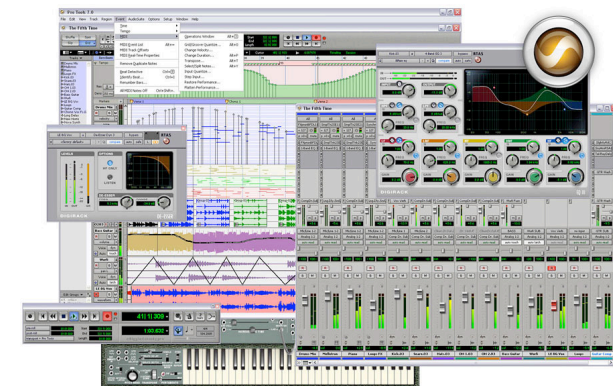
Professional Multi-track Software

MAC

- Pro Tools (\$149/\$349+)
- Logic (\$179/\$449)
- Digital Performer (\$395)

PC

- Pro Tools (\$149/\$349+)
- Cubase (\$399)
- Sonar (\$99/\$399)



Audio Editing in GarageBand

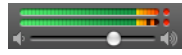
■ Check input levels



Too Soft



Good Levels



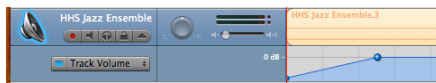
CLIPPING!

■ Split and Trim the regions

- Split: ⌘-T
- Trim: Lower right/left corner of a region

■ Fade in/out

- Open automation window
- Click point on the blue line



Signal Processing in GarageBand

■ Equilization (EQ)

- Adjust the tone of the recording
- AUGraphicEQ or Equalizer

■ Reverb

- Add room ambience
- AUMatrixReverb

■ Dynamic Controls (Limiter/Compressor)

- Reduce the volume of the loudest levels to increase the overall volume
- AUDynamicsProcessor

Publishing

■ Exporting/Bouncing

- The final process to export a multi-track audio file with edits/processing to a single stereo file ready to be burned to CD.
- AIFF or WAV, Stereo Interleaved, 16 bit, 44100 hz
- MP3 or AAC - compressed file formats

■ This allows you to:

- Add to iTunes library
- Burn to CD
- Email to a friend or post to the internet
 - Convert to MP3 first!
 - www.podomatic.com - free podcasting
- Import into other software

Copyright Concerns

■ Teacher's Guide to Music, Media, and Copyright Law by Dr. James Frankel

■ How can I use audio recordings legally?***

- Use a PUBLIC DOMAIN work
- Contact the publisher
- Harry Fox for mechanical or digital licensing (www.harryfox.com)
- Fair Use - education, less than 10%, not avoiding purchase
- Password protected website

***I am not a lawyer.