

## Field Techniques: A rough guide by Richard Wolf (Fall 2009)

(Note: the latest technological advances are not reflected here and the prices may not be current)

### I. Planning: The following are cumulative concerns

#### A. What is the purpose of documentation?

1. *Analytic*: use for writing, transcription, observing relationship of performance to context, etc.

2. *Classroom and conference presentation*: collect audio and visual examples to illustrate either your own research or research of others that is accessible only in written form.

3. *Professional publication*: Compact Disk, DVD, Video, Film (I cannot deal with film here today), photographs for an article or book (art photography a different matter entirely).

#### B. What is your budget?

[1. Write grants, etc. that fit your purposes, if necessary]

2. If basic equipment is available, you'll still need to plan for accessories, film, tape, etc.

3. Do you need to pay performers or assistants? Do you need to pay for access to recording? Do you need to make copies (pay for tapes and prints) for a large number of people?

#### C. How much can you carry?

#### D. What is the scope of your documentation?

Do you want to be very thorough in one type of documentation, or alternate?

#### E. Know as much as possible about your subject of documentation in advance:

Where will it take place, moving or stationary, over what period of time, how close can you get, will there be electricity or a sound board, etc. What is the appropriate dress and decorum and how willing are you to stick out with your equipment? What might be the result of your salient technological presence and how will account for it later?

#### F. Remember archival concerns right at the beginning

G. Find out about possibilities for repair of equipment in the place you are going. Order and carry with you professional repair manuals. Learn basic soldering techniques. Bring extra parts such as drive belts.

H. Make sure equipment is serviced just before you are ready to go. Test equipment and setup each time before setting out; check batteries, cables, playback, periodically and before use.

### II. Checklist, and issues

#### A. General

##### 1. Power

a. Batteries: rechargeable portable, backups of lead acid or commercial cells

b. Rechargers: You may need to have special ones built

c. AC adapters

i. Check if AC-DC converter works for multiple voltages

ii. Do you need a line conditioner or heavy duty transformer?

iii. Physical plugs for wall sockets etc.

## A. General continued

### 2. Cables

- a. Microphone (get the best possible, certainly shielded)
- b. RCA miscellaneous, to connect between all your machines; bring extra
- c. Adapters: a good selection to connect between your machines and any line or microphone feed that might be made available to you in your particular field situation.

### 3. Media

- a. A variety of hard disk, flash memory, memory stick, and PCMCIA card options for solid state recorders. Advantage: upload, copy, resample at faster than real time copying. No moving parts. Disadvantages: yet to be tested long term
- b. DAT tapes: get a variety of brands, do some research on what people are using; professional quality may or may not be better.  
(CONVENIENT, BUT POOR ARCHIVAL STANDARD)
- c. MINI disk: excellent result, but recorders not set up for professional microphones, heavy duty cables, etc. Also, sampling rate is less than DAT.
- d. Reel to reel: You probably won't bother with this, but if you have access to a reel-to-reel field deck, esp. a Nagra, and will be in one place, this is still an option.
- e. Audio tapes: Chrome or Metal for originals or for copies of DAT; normal OK for copies of Chrome or Metal or for some kinds of interview. Look for solid construction. Depends on your recorder.

### f. Video:

- i. 8mm or High 8. These serve as excellent originals but can be used as compact backups as well. High 8 used to be problematic archivally because particles would rust. Now?
- ii. Mini DV: decide whether you want to invest in cassettes with memory.
- iii. VHS or S-VHS not recommended except for transcription copies.
- iv. hard disk options now available
- v. choosing high def may mean sacrificing audio sound quality (now high quality sound also available)
- g. Film: Best to make a variety of slides, prints, color and black and white. Each has a different purpose and archival life. I prefer Fuji for color slides and prints and Ilfa for black and white. Generally you will want crisp lines in your shots (not grainy), so ask for appropriate film.

### 4. Carrying cases and luggage

- a. Something to carry everything important, either as carry-on baggage on a plane, sitting on a bus, train, or wherever. Remove individual cases and padding and put all valuable equipment carefully in one or two bags. can redistribute later at field site
- b. Individual straps, belts, or cases to carry equipment **while you are actually using it**. This calls for a bit of practice. What can you carry and use at one time for what kinds of field events?
- c. Carrying cases for stands

### 5. Stands

- a. Tripod for video or camera—depends on weight of cameras and kind of shooting

- b. Tall mike stand with boom; possibly two, or a bracket to hold 2 mics if necessary
6. Maintenance
- a. head demagnetizers
  - b. head cleaning cassettes for all machines
  - c. styrofoam swabs and fluid for machines you can clean manually
  - d. Lens cleaning accessories.
7. Headphones: Covering ears completely! (Sony MDR-V6 are good, about \$100)

## B. Audio

1. Recorder: do you want a backup recorder? for duplication? interviews?
  - a. DAT: best to get a substantial machine, not a walkman, one that takes XLR cables, has capability for phantom power, and that can record at 44.1k (compatible with audio CDs) as well as 48k.  
Tascam DA-P1 in lab is fine and affordable.
  - b. Cassette recorder: Sony makes excellent field machines. The TCD5-M is a classic, reliable machine; costs almost as much as a cheap DAT recorder. The Marantz decks in the ethno lab are comparable, perhaps 1 step down. Both have advantage of variable playback speeds, individual level controls (discuss Marantz), and substantial mic inputs (1/4"—I don't know about XLR)
    - i. Walkman: The WMD6-C is smaller than the TCD5-M and has less flexibility, but it is sturdy and the results soundwise are comparable. Have listed at about \$400 for almost 20 years. Mine is 16 years old and going strong. Disadvantage is the size of the mic inputs (1/8th inch mini) and the ability to adjust only overall volume, not individual channels
    - ii. For interviews you might want a medium quality walkman with automatic level controls and a built-in mike. I use my WMD6 for interviews and for making backup tapes.
  - c. MINIdisk—I don't have much info on this. Don't know how long the technology will support it. Viable, but has disadvantages of walkman. Any CD-type storage mechanism is not archivally viable
  - d. Reel to reel—best archival format; expensive and heavy, but most reliable
  - e. direct to hard disk or various forms of flash memory  
Note: some otherwise excellent machines, like the portable linear PCM recorder by Sony, PCM-D1, fail for durable high-end recording because they cannot take external mics with XLR connectors. This is bound to lead to trouble.
2. Microphones: get the best you can afford. Preferably with XLR connectors: NOTE: THE LESS POWERFUL THE MICROPHONE, THE CLOSER YOU HAVE TO MIKE THE SOURCE TO GET A WARM SOUND
  - a. By signal mechanism
    - i. Condenser  
advantages: bright sound, good quality for the money; cheap ones don't handle bass and midrange as well as dynamic. Also can be a bit fragile. Normally this is what you want for the field.
    - ii. Dynamic

Good for loud signals with heavy attack, drums, etc. More robust than condenser. Not as sensitive, not good for softer music, interviews, etc.

b. by sound coverage

- i. omnidirectional—picks up from all directions. Good for total sound. Place mics substantially apart for stereo separation. Not good for recording a single source from a distance.
- ii. cardioid and other patterns—directional coverage. good for isolating particular instruments for analytical recording, or enhancing the signal of desired sound in a complex sonic environment.
- iii. shotgun mics—a directional mike with very narrow range, good for video coverage in which the subject is some distance from the camera, speaking or playing
- iv. stereo—single mics with two modules; can usually adjust the virtual directionality, 90 degree, 180 degrees, etc.; or records front and side with possibility of mixing later

c. by power mechanism

- i. passive: these will be the cheapest and least useful for music recording, but are fine for interviews; lapel mikes are an example.
- ii. battery powered. these are potentially mid range in quality. The Audio Technica stereo mic in the ethnolab (AT 825?) is an excellent, affordable choice (lists \$300-\$400 I think). Holds up well in the field, good as hand held or on a stand
- iii. phantom powered: these are mics powered through the tape recorder or custom-built power supply. This is not the same as ordinary remote power on battery powered mikes. this is the next step up in the expense range. mike have far more gain than battery powered ones. Neumans in ethnolab are probably \$1,000 a piece. With a DAT machine and proper mike placement the results can be astounding. Shure VP88 is a good stereo mike, phantom powered (list \$1,266.60, available for under \$700)

d. combined with flash recorder

- i. Hhb FlashMic DRM85, a condenser mic that records up to 1 GB, mono, at various sample rates
- ii. PCM-D1 (see above)

### C. Video

In general it is a good idea to find a way to make the audio level manually controllable. But this is often difficult in consumer machines. Best to avoid digital zoom on any of these; the longer the focal length, the more natural the result. Ability to change lenses also helpful

1. Mini DV: seems the way to go. Very small, flexible, works in low light, might have infrared built in; excellent sound quality. Cassettes with memory allow one to add subtitles and other kinds of info to the original tape. can also take digital photographs with some of these cameras. If you can go professional, camera will be larger, with better focal length and more focus controllability. autofocus fine when you are on the move though.

Note: now there are several formats of tape for recording digital signal, including 8 mm tape (see below)

2. 8 mm. Next best choice. Sony very reliable. Hi-8 better quality than 8 mm, but choose a

good camera. Older cameras were larger but had advantage of better focal length. If autofocus causes trouble in some situations, be ready and practiced with manual.

3. Lenses: Ideally you'll want to have wide angle capability. It is very difficult to get the "big picture" and a good shot close up, with good sound, without being nearby yourself.
4. Avoid trying to shoot video on digital still cameras; the results will be disappointing; and don't rely on a digital video camera for photographs either.

#### D. Camera

1. Small, automatic/autofocus: Good results, compact, excellent for on-the-move shots. More complex mechanism, so might be less reliable in rough conditions and more difficult to get repaired.
2. Compact manual camera: also good results; tends to have wider angle lens than cameras with changeable lenses; must get up closer for full frame images. Check how easy it is to focus on the fly and in low light; your reason for getting this would be for convenience and price.
3. Full size automatic or manual camera with changeable lenses; there are different size lenses and film sizes; consult a professional camera manual. These will be a bit more of an investment and will involve fumbling around with lenses, but will give maximum flexibility if you have the time and space.
4. Watch out for: maneuverability, fungus on lenses in humid climates, frequency of battery replacement.
5. Keep in mind that if you want your lighting to be excellent, and to cover more than 10-15 feet at night, you'll need a substantial flash attachment, and if you are really serious, a light meter.
6. Digital cameras. These vary in size and capabilities. You want the best possible lens and the largest number of megapixels. Take photos in RAW format if you plan to publish them. Must learn to make subject appear "natural" if that is your desire, since digital cameras can make objects at different distances all appear in focus. I have had trouble photographing moving objects at night.

#### III. Things to watch out for

- A. Wind (bring windscreens for mics, or set up ad hoc protection)
- B. Rain and humidity: DAT and digital video read error messages and will not function if it is too damp.
- C. Loose connections
- D. Dead batteries
- E. Dangerous or faulty electrical wiring
- F. Levels on microphones
- G. Read all your manuals and practice!