

## Portable Recorders

What to look for when you are presented with a new portable recorder:

- **Power Supply**
  - Does the recorder run on mains power or batteries?
  - What type of batteries? Are they easy to obtain (e.g. AA batteries can be found in many shops)
  - How long do the batteries last?
- **Types of microphone:**
  - Does the recorder have internal or external microphones?
  - How many microphones does the recorder have?
  - Are they cardioid or omni-directional?
  - Can you see what direction the microphones are facing, and the width they are capturing?
  - Does the recorder provide phantom power for external microphones?
- **Handling:**
  - Is the recorder comfortable to hold for a long period of time?
  - Is there a lot of handling noise created on the recording when you are holding it?
  - Can the recorder be attached to a stand or boom?
  - Can the recorder be placed in a shoulder bag?
- **Performance:**
  - How does the recorder perform in an outdoor environment? Think of recording in a windy environment or in the rain.
  - Does it have a windshield?
  - Will the recorder work in extreme temperatures (cold/hot conditions)?
- **Intuitive design:**
  - Is it easy to stop and start recording and set the record level?
  - Is it easy to read the screen display? Is it backlit?
  - Is it easy to playback recorded material?
- **Recording formats:**
  - What type of files does the recorder create (wav, mp3, bwf)?
  - Are the file formats loss-less (e.g wav) or lossy (e.g. mp3)?
  - What type of resolutions can you record? (44.1, 48, 96 kHz, 16, 24 bit)
- **Storage:**
  - What kind of storage media does the recorder take? (SD card HCSD, memory)
  - What is the maximum size of the storage?
  - Is the storage media easy to buy?
  - How do you get the audio from the recorder into your editing software? (e.g. via USB connection, SD card)
  - How do you rename, delete and format the storage media? (e.g. can you format the media via a computer)

- **Replay:**
  - Can you replay files on the recorder - through an internal speaker or headphones?
- **External connections:**
  - What type of connectors does the recorder have?
  - USB or firewire for connecting to a computer?
  - External microphone jack (3.5mm or XLR/cannon?)
  - Headphone jack (3.5mm or 1/4" jack?)
  - Line-level input? (from a mixing desk, 3.5mm jack or XLR/cannon?)
- **Support:**
  - Is the recorder widely supported?
  - If it malfunctions can it easily be repaired or replaced?
  - Can you find manuals online?
  - Are there forums online that can offer technical support?
- **Accessories:**
  - Does the recorder have a hard carry-case?  
*(if not, can the recorder fit into a digital camera case)*
  - Can the recorder be attached to a tripod or stand?  
*(many recorders can be screwed onto a camera tripod)*
  - Does the recorder come with a wind-shield for the microphone?  
*(tip: if you are caught without a wind-shield you can use material like a silk scarf, or pantyhose's to diffuse the wind)*

**Before you leave your office go through a technical checklist with your recorder:**

- Is there enough battery power?
- Do you have spare batteries?
- Is the sample rate and bit rate correctly set?
- Do you have enough storage space on your recording media?
- Do the microphones work?
- Do you have a wind shield?
- Do your headphones work?

- Are the device settings correctly set?

Particularly:

- Microphone gain: Many recorders have a low / mid / high gain setting. The gain is the broad setting for how much level the microphone will output.

Generally try to have the gain on the mid or high setting for speech or soft-sounds; and fine-tune your input level using the record level +/- buttons. However if you are in a noisy environment you may need to set the gain to the low setting, otherwise you may get distortion on your recording.

If you record too loudly you will get peak distortion and if you record too quietly you will affect the quality of the sound as the recorder doesn't have enough information to sample.

General conversation should be recorded at around -10 and -15dB. This allows headroom if someone laughs or slams a door for the recorder to capture it.

- Limiter: Many recorders have a "limiter". The limiter will drop the input level so that your recording will never go over 0db. However this does not mean you won't get distortion - as the microphone may not be able to physically cope with a very loud sound – even with the limiter turned on.

When it's turned on AND you have a high input level your recording may sound squashed, or you may hear a ducking affect - where the sound level quickly drops and then comes back.

Generally the limiter should be turned off. You should learn to estimate and control the recording level for each recording you do, rather than relying on the limiter.

- Bass cut: Many recorders have a bass cut switch which allows the gentle rolling-off of bass frequencies. This can be useful in very windy situations where you may encounter wind thuds.

Generally it is best to switch the bass cut off, capture the sound as naturally as possible and do any equalisation in post-production.

## **Should I record my interview in mono or stereo?**

Many portable recorders have an inbuilt stereo microphone (with a left and right capsule).

- If you are recording a single source (e.g. one interviewee) you could hold your recorder so that both capsules are pointing towards the sound source – so that the interviewee is equally on both the left and right channel. The interviewee will be placed in the middle of the sound picture, with the atmosphere in stereo surrounding them.
- Another way of recording is to point one capsule at the interviewer and one capsule at the interviewee. This will mean that the two voices are more separated on the left and right channels. This will allow you to visually see the question and answer in your audio editing software. It may also be possible to remove loud background noise - as you can remove the interviewers channel when they are not talking.

Note this way of recording may require more post-production time as you should either mono or bring the left and right channels closer together (just in case a listener only has one speaker plugged in). Also note that some audio software may not give you the option of making a stereo recording mono.