Production - Sound

Sound

Sound is the most easily overlooked aspect of filmmaking. The worst thing is to return to edit your shots and find they look beautiful but your sound is bad. It is very important to realise that slightly over or under exposed shots can be corrected in the edit but very little can in fact be corrected in sound which is not 'clean', i.e. sounds that have lots of background noise. The best situation is to have a sound recordist who can monitor and record all your sound, adjusting levels when needed. If this is not the case and you have to do this yourself it is imperative you read the information below as a guide.

Hints and tips – recording sound

- When recording your own sound always make sure you have a good set of headphones so you can hear the sound you are recording.
- If there is a sound problem, a loud bang or the sound cuts out do not be afraid to say 'cut' and start the interview again, making sure you cover the section of interviewee replies that was interrupted.
- Remember to record an atmosphere or buzz track in your key locations. This is a separate recording of background noise that is very useful for blending the sound mix when you get editing. Approximately 30-60 seconds is sufficient.
- Remember to record your sound on both sound channels through your camera. If possible, one channel will record using the camera microphone and the second channel will record your sound using an external microphone – one that is plugged in to the camera.
- It may seem obvious, but do make sure you point your microphone in the direction of the sound you want to record.
- When recording exterior interviews do make sure you try and position your interviewee away from busy roads as you will pick up this sound too. If you have no option but to include some very loud noise such as road works, always try and record a shot of this activity. It helps the viewer accept the noise if at some point they can see it in vision.

Types of microphones

There are a wide variety of microphones available that suit specific situations such as indoor or outdoor.

Inbuilt camera microphone All DV cameras have built in microphones. These are usually good for recording atmosphere but not good enough for recording interviews and key dialogue. These microphones are adequate in controlled situations.

Boom microphone These microphones are directional and can either be connected to a boom pole or held by the interviewer on a handle called a pistol grip. They are very good quality, but strong wind and strong background noises can make them unusable. In these conditions, only use a boom microphone if you can get in close; use a radio microphone if you are filming from any distance

Radio microphone This is a small microphone and a transmitter that can be clipped on to the interviewee's or actor's clothing. The receiver is then plugged into the camera. These are very useful during an interview, but be aware that the batteries run out very quickly. Also, clothes can rustle against them and mobile phone signals can interfere with them. These microphones are very good when you want to record someone 'walking and talking' from a distance.

On-camera microphone or top microphone This is normally the microphone that comes with the camera and is attached to the top of it. It is detectable and not in-built. These microphones are usually directional and can record fairly good sound in controlled situations if you are close to the sound taking place.

Hints and tips – advanced sound

Sound is often the least appreciated and most crucial part of a film. If you are lucky enough to have an experienced sound recordist it will make your shoot much easier so you can concentrate on direction and interviews. The information below shows how to operate sound on a technical level.

- **Automatic sound settings**
  The automatic sound settings work fine for almost all situations. However in situations where very loud and very soft sounds are expected, use the manual sound mode.

- **Manual sound levels**
  Manual sound levels To change the sound settings to manual on the Sony Z1 for example:
  Press the menu button
  Scroll to "Tape Set"
  Select "Audio Set"
  Select "Mic Level"
  Click "AGC off" for either Channel 1 or 2
  Press Menu button to save the settings
  Press the "Audio Level" button on the back of the camera
  Use the wheel to select the track and adjust it
  Adjust the relevant track till the sound level peaks at -10dB

If you are really worried about the sound and are using one microphone only, record the sound on both channel 1 and 2. On the audio control box on top of the Z1 move the INPUT slider to Ch1+Ch2. This records the sound from the microphone on both tracks. Leave channel 1 in audio mode, and follow the instructions above to put channel 2 in manual mode.

- **Special situations**
  For concerts, live music, and situations where the sound will be seriously loud, use the Mic Attn setting. This cuts the level of the sound before it reaches the tape. On the audio control panel for INPUT 1/INPUT LEVEL, switch the controls to and from Mic to Mic Attn.

  The 3rd option on this slider is LINE. Only use this if the sound is coming direct from a mixing desk, or a sound feed from a PA system.

- **On Location**
  When you arrive at a location, check it for noise. Try to eliminate any unwanted background interference. If it is still noisy, go somewhere else! If it is OK, go ahead and remember to make sure mobiles are switched off. If you have to shoot in a noisy location do not forget to show the audience why it is noisy.

- **Microphones**
  If you are using the built-in microphone on your DV camera, you can skip this segment.

  It is good to know how the microphone picks up sound, so you can figure out if it is the right tool for the job.

- **Omni-directional**
  Some clip, radio, reporter microphones are omni- directional. That means they collect sound from all directions.

- **Directional microphones**
  Like the shotgun microphone, register sound coming from directly in front of the microphone. They pick up less background noise, which is useful when filming in a noisy area.

- **Stick microphones**
  Are good for conducting interviews on camera. But they cover an arc of sound from all directions so they need to be close to the source.

- **Clip microphones**
  Are designed to be clipped to the contributors clothing. Like reporter microphones they are omni-directional and need to be close to the source. Clip microphones pick up close sounds. Clothes rustling and even heavy breathing can be a problem. So be careful where you clip them.

All microphones are sensitive to wind blast. With a gun microphone a foam or fluffy shield should always be used when outside. Gun microphones are best operated on a pole. They are great for reacting to spontaneous action. The microphone must always be pointed at the person talking. Be careful the microphones do not drop into the shot. Learn where the edge of the frame is.

Radio microphones can be very useful, but they require a little more pre-planning. What you lose in spontaneity is often made up in the freedom they allow you, as people forget they are wearing one. They are complex bits of equipment, they need batteries and the range varies depending on location.

How to hold a boom pole

Wind the cables attached to the microphone along the length of the pole to keep them out of the way.

Grip the end of the pole and the cables with one hand, and support the pole with the other hand so it can roll back and forth on the palm. Keep your hands at least shoulder width apart.

Hold the pole above your head so the microphone is above the subject but out of frame.

OR Tuck one end of the boom pole under the arm and support it with both hands. Point the pole downwards and position the microphone at knee height and out of frame. Make sure you, the microphone and your shadow are out of shot at all times.

Remember: Take regular breaks to avoid hurting your back.

Distribute your weight equally on both feet.

If your back starts hurting think about using a clip or radio microphone

Check the levels Always wear a set of headphones and check the sound before pressing record.

Check the audio levels. They should peak at around minus twenty decibels. If the levels are too low adjust them manually, get closer or ask your subject to speak up

Distortion If the source is very loud, the audio levels will go off the scale. This tells you the sound is distorting.

This is a bad thing and cannot be cured later. To avoid distortion switch the control on the audio panel to Mic Attn.

This will cut the levels and stop distortion.

Buy or rent a sound kit

Thinking about buying a microphone?

Good microphones are expensive so think about spending at least £150 on it. Most high street retailers sell cheaper own-brand microphones, but you get what you pay for. A cheap microphone is a false economy – it will not produce good quality sound. Consider renting a sound kit instead.

Make sure the microphone has an XLR connection – not a mini jack.

A basic directional microphone like the Sennheiser ME66 costs around £150.

If you have no budget for sound the Sony Z1 camera comes with a separate microphone mounted on

the camera. It's a useful microphone so do use it. Unscrew it from the camera mount and plug in a long XLR cable so you can use it as a hand held microphone for on camera interviews.

Buy the right microphone for the job

Below is a list of microphones specific for each job

Light	Power	Use
Blonde	2 Kw	KEY light. Flood lamp. The light may be hard to control but it is good for lighting large areas.
Red Head	750w	KEY light Flood lamp. The light may be hard to control but it is good for lighting large areas.
Pepper Light	200w	KEY light or FILL light. Small light. Can use for highlighting small areas.
Halogen work lamp	150w to 500w	KEY light. Good for lighting large areas. Will need a diffuser gel.
Domestic light bulb	100w to 275w	FILL or BACK light.

When sound goes wrong

If there is no sound coming through the headphones try the following:

- Check the headphones are working
- Go into the audio menu to check the sound levels on channel 1 and 2
- If these are registering sound, there is a problem with the headphones
- If they are not then you can;
- Check/replace the cable connecting the microphone to the camera
- Check the microphone works with another piece of kit

If a radio microphone is not picking up sound:

- Replace the batteries in the microphone and receiver packs
- Check the microphone and receiver are set to the same frequency
- Check/replace the cable connecting the receiver to the camera
- Check the microphone is working