

# RECORDING SOUND FOR YOUR SHORT FILM

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These notes are designed as a crash course in sound recording, to avoid that miserable moment many first-time film-makers experience, when you finally show your cherished film to people and they say, “Yeah, it was good, but the sound was awful!”

Sound recording is as technically complex as photography and it takes a while to learn! These notes try to provide some basic knowledge which will give you a better chance of recording good audio for your film. There are no quick fixes to recording sound, a lot of understanding comes from just getting out and doing it, but the following information will help you along the way.

## Use a Separate Microphone

We’re going to show you why the only real way to get good quality sound is to have a microphone which is used separately from the one on the camera. If you really have no alternative but to use the mic which is built into your camera, there are a few things you can do to improve the sound and you’ll find them later under ‘For Better Sound - Control Your Location’.

There’s a lot to think about on the day of your shoot so don’t let equipment get in the way. It is essential that you spend time with your kit in advance, understanding and practicing over and over again, until the technical stuff is second nature and you can concentrate on being creative.

## Getting Started

We’re assuming you have little or no budget for your film and have probably scrounged some very basic equipment for your shoot. If you are lucky enough to be in a better position than that, all of the advice here will still apply, but you may have to give *even more time* to preparing in advance in order to avoid pitfalls, because the more advanced the equipment, the more chance there is of the sound going wrong!

Firstly, consider what you are going to be filming. You should bear in mind that very often the real sound accompanying live images contributes very strongly to bringing the picture to life and engaging the viewer fully in your film. Footage with only voice-over or music and with no ‘real’ audio will have a different effect – make a deliberate choice of what audio you want to get beforehand, rather than having to retrospectively patch it up.

So, let’s assume that you have somebody speaking on camera in your film, or that you want to record important, synchronised, live sounds coming from the images you’re shooting. The following notes will take time for you to read through properly, but in both film and TV the sound often contributes to 50% or more of the information that the viewer needs to make sense of the story, so please allow your project this time to get the best audio recording that you can.

Your chances of getting good sound start way before you are out filming – they start when you plan your equipment. The best way to understand about the practical business of sound recording, is with the

equipment in front of you. So please first assemble your kit and then continue these notes. Here is a list of items we strongly recommend you get hold of:

## SOUND EQUIPMENT CHECKLIST

**Camera** – Your camera is your sound recording equipment and the functions are not that much different from anything else you may have recorded on; sometimes the unfamiliar buttons and menus can really flummox you so make time to get to grips with them. Get an Instruction Manual for the camera you're going to be using (you can almost certainly download it from the manufacturer's site). Take time to make sense of any information about setting sound recording levels, as this can sometimes be very confusing.

**Headphones** – 'Closed cup' (not 'in ear') headphones with a mini-jack connector at the end of the cable and ideally an extension for the headphone cable (mini-jack socket to mini-jack plug)

**Microphone** – With even the tiniest home camcorder, try to use a separate microphone so you can get the mic as close as possible to what you DO want to hear. You can decide now if this matters for your project. If it matters, **do your very best to source a camera into which you can plug a microphone and headphones**. That means, as soon as possible, speak to the person lending you the camera or explore the one you have – these sockets can be hidden under rubber covers.

Borrow or hire a suitable microphone (ideally 'directional' or 'shotgun') and a clip or mount which you can use to attach the mic to a pole, mic stand or hand-held 'pistol grip'. This may end in an XLR plug (large 3-pin) and you may need to sort out adapting this to a mini-jack on your camera. Certain cameras will not accept the XLR – find out about this as soon as possible. A 'dynamic' mic like the ones singers use on stage will NOT do. You need one which is powered either by its own battery or by the camera. A hire company can be very helpful in working out what you need.

**Cables** – A cable a minimum of 3 metres long to take the sound from the mic into the camera. You should also try to get an extension for the mic cable so you can get the mic nearer to the action if necessary, plus another one for back-up. Don't have one failed cable ruin your shoot.

**Boom pole** – If you are filming people walking and talking or standing and talking, you really need a suitable extending pole (1.5 – 3m) for use as a boom and/or as a mic stand – ideally with fittings onto which the mic holder can be screwed.

**Recording Media and Batteries** – Blank video tapes or memory cards and either mains or battery power sources, with all necessary cables for the camera.

**Compatibility** – Make sure you have the necessary cables and software to get your precious material out of the camera and onto your chosen editing software. **DON'T LEAVE THIS UNTIL THE LAST MINUTE AND ALWAYS TEST IT!**

### **ADVANCE TESTING THE KIT AND RECORDING SOUND**

Fit the microphone gently into its clips and, if you are using a boom pole, screw it to the end of the pole (if it will not fit but is some kind of holder you can attach this securely to the pole with tape; taping the mic itself will most likely produce bad handling noise). The mic may need a battery – check this - and if necessary, switch it on. Connect the mic cable from the microphone to the camera. Always put the mic down somewhere safe, never leave it on the floor.

Plug the headphones into the camera, using an extension cable if you have one. The headphone socket may be covered and indicated by a tiny headphone symbol.

Switch the camera on and put the tape or memory card in, if required. Switch the camera to 'standby' or 'record pause'. If you can only go into record mode, do so.

If you have a switch or menu setting that says LINE/MIC it should be on MIC. If your mic does not contain a battery you may have to select 'Plug-in Power' or +48V to provide electricity to the mic.

You may have two mic inputs on the camera (1 and 2) – just plug into one of them and your sound will appear on the meter on one 'channel'. You may have a setting which will send the sound to channels 1 and 2, you can use this and then reduce the audio level on one of the channels for safety (it is always better to be too low than too high as when the sound is too high the distortion is unusable).

Ask someone to talk *NORMALLY* into the mic while you listen on headphones. (If you're on your own, talk into it yourself – you can always just say 1-2-1-2-1-2!) Take time to get the idea of what the mic picks up in a realistic noise environment. Remember to try to get it as close as possible to the sound you are trying to record – really TRY, it's amazing how close you can get with a separate mic and this is what defines professional sound.

If you can't hear anything you may have to spend time understanding the camera switches or menu – you may have to set it to EXT – external mic - or have other options. Also, try different headphones, the output may not be strong enough for them.

### **SET THE SOUND LEVELS**

If you know how to adjust manual sound levels on the camera, try to do it so that the meters hit the middle of the scale when someone is talking normally at about 20 – 50cm from the mic. If the scale or control shows numbers 1 – 10, set the meter to about 5 or 6. If there are minus numbers on the scale, set the meter to about -20. You may be able to set AGC (Automatic Gain Control) to ON or OFF – set it to OFF, you are controlling your own levels.



**If you are unable to adjust anything, set the headphone volume control, if there is one, to the centre position.** You may have no means to make adjustments, in which case the audio levels are set automatically.

## **RUN A TEST RECORDING**

Get silence for your test recording and try it out as if it is the real thing, so the speech is the right volume and any movement is carried out.

Record at least a minute. If you can adjust the sound levels while you are recording, try them at a low, middle and high positions – say the words ‘low’, ‘middle’ and ‘high’ when you do. Listen carefully to the sound and pay close attention to the difference between the volume of the voice and the general background noise. This is your experiment to get the sound levels right. With professional equipment you would have carefully lined-up audio, this is the low-budget option and taking time can really pay off later.

Stop recording, and **listen back** to what you recorded. If someone is positioning the mic for you (the ‘boom operator’) let them listen too. Look at the audio levels if you have them, the meters should register in the middle of the scale, ideally ‘peaking’ around -12 or about 6 if your scale is 1-10. If everything is very high, you will need to reduce your recording level or move the mic away from the sound a bit. If everything is very low, you will need to turn up your levels and/or get the mic closer. You are trying to get ‘separation’ between the sound you want to hear (nice and loud and clear, and not distorted) and the sound you don’t (background).

**BEWARE** - sometimes it’s just your headphone volume which is too low or too high, check this first!

## **NOW TO THE BUSINESS OF THINKING ABOUT THE SOUND YOU ARE GOING TO RECORD...**

### **Sound is not easily controlled!**

When you choose your camera shots, you usually have quite a lot of control over the size of the frame; what’s in the picture and what’s not. If only sound was as simple! Sound travels everywhere you don’t want it to be. The world is filled with all sorts of noises that may not belong in your video; tractors, planes, laughter from next door, barking dogs, loud TVs...

### **Get the microphone *close*.**

A microphone positioned on the camera is just not near enough to the people talking. If you have gone to the trouble of writing a script, you want to be able to make out all the words! That’s why we put the mic on a long cable, so we can put it in the best position.

### What's the best position for the mic?

If you're recording speech, it's no surprise to find that the best position for the mic is in front of the mouth! That's why, even in the 21<sup>st</sup> century, and with all our technology, singers still hold the mic to their mouths – nothing else will do.

But photography doesn't want to see a big mic in the shot, so we compromise. We take the mic 'out of shot', but then it's too far away from the sound we want to hear and will pick up too many distracting background noises. So we use mics with special directional or 'zoom' abilities. These mics 'hear' more in one direction than others and help you to get the sound you want. Getting the mic in the best position is *VERY* important for getting the best sound. If you haven't got someone to hold the mic for you, consider using a mic stand like the ones musicians use so you can position the mic in the best place.

If you really can't get close, consider hiding a sound recorder close to the speech and fitting the audio to the picture later, or using a radio mic if you are confident about using it.

### What's the boom pole for?

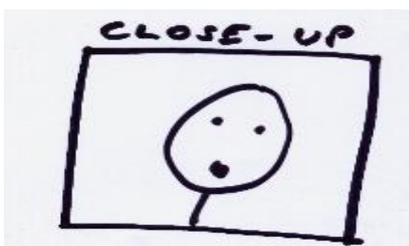
Let's look at some typical camera frames:



When you can see all of someone, including their feet, this is usually a 'wide shot'. Where would be the closest place for the microphone to get to the mouth, yet stay out of shot? Yup – over the top. You're going to get a very sore arm if you don't use a pole to hold the mic.



A mid-shot usually means you can see someone from their head to their waist. Look again for the shortest distance from the edge of the frame to the mouth.



In a close-up shot your options improve. The bottom of the frame might even be closer to the mouth BUT people do have a habit of waving their arms around. And if they're walking about as well then you might find you're in their way.

So the best place to try the mic to start with is over the top – but beware of shadows! If the sun is out or there are strong lights then the mic will cast a shadow – you will have to experiment to find a

place where you can get close enough to the mouth but not make a shadow or get in shot!

The above methods are the accepted means to achieve quality sound and can make your film sound thoroughly professional. For speech, avoid standing at the side and pointing the mic horizontally – it will pick up everything in that direction, even noises quite a distance away!

**Safety:** Be careful where your cables are going. Try to make sure they lie flat on the ground and are not likely to trip someone. Don't run them in front of doorways or across corridors where people might not notice them.

## WORKING ALONE

If you have to do everything yourself, don't skip the checks. On the day, take time to run a test recording for audio levels and play it back to make sure it's OK. Don't just wear headphones, look at the levels on the meter if you have one – the headphones will not tell you that the recording level is right. Even if you don't have a separate mic, still run a test and listen back, it's amazing what you may notice and be able to fix before your important recording.

Carry a microphone stand – with a boom arm if possible. Then you can use it to position the mic (assuming a person is not walking around) as close to the mouth as possible. Make sure it is weighted at the bottom and doesn't fall on your subject! Figure out how to adjust it beforehand!

Don't discount the idea of hiding a mic somewhere in the shot at the end of a long cable, be inventive!

## FOR BETTER SOUND - CONTROL YOUR LOCATION

**NOTE - If you only have a fixed mic on the camera, this is simplest way to improve your sound.**

This starts right at the beginning when you are planning your shoot (pre-production).

The quieter your surroundings are, the easier it will be to record the sound that you want, as clearly as possible. Make a checklist, because when you reach the location you will be thinking about pictures!

**Recce the location** – Take time to go to where you plan to film, if possible in advance of your filming day, or before you even take the equipment out (in case you need to look for an alternative). Take main crew with you - it helps everybody to see the location.

**Stand & Listen** – Are there any obviously disturbing noises which you can prevent when you are filming? Is there a noisy time? Will that matter? Your video may be all about busy roads, or suit being in a shopping precinct. This can make background sounds acceptable but, depending on what microphones you have and how you shoot it, you need to make sure you will comfortably hear the speech you want over the background noise.

**Acoustics** – Indoors - clap your hands or speak loudly. Do you notice an echo? The more echo (or *reverberation time*) a room has, the worse your sound will be on the video. Avoid large box-shaped rooms with hard, bare walls. Look for somewhere with an irregular shape, and soft furnishings.

**No separate mic? Other solutions** – You could get a separate sound recorder and place it, or a mic attached to it, close enough to pick up important sounds? This will give you more work during your shoot and can give you a lot of work in post-production, so don't choose this option lightly. Make sure you can handle the sound file format. If you need perfect lip sync you will need to use a clapperboard to match up sound and pictures and should seek advice from a professional.

If you have to make do with the camera mic and are working outdoors, you **MUST** protect it from wind, as even the smallest breeze will destroy the audio. See below and improvise!

**Wind and Filming Out Of Doors – wind will ruin your sound!** – Sound is really moving waves of air and it can go anywhere that air can go – that's why you can speak to someone round the corner or shout to someone in an upstairs room.

Because a microphone detects these vibrations of air waves we need to protect it from the wind. The sound vibrations can be very tiny and a gust of wind on the microphone will drown everything else out and make it sound like a nasty rumble. If you are going to work outdoors at all, you must protect your mic from the wind – especially if it is the mic on the camera. Hopefully you have managed to get a directional mic – make sure it comes with a WINDSHIELD and a FLUFFY WINDJAMMER, or failing that, a SOFTIE, which is protective fur that protects the mic from wind. If you have nothing at all, a loose-knit woolly scarf works well, mohair is best. Don't leave this till the last minute, solve the problem in advance. If you have little 'personal' mics, try to get fluffies for them or bury them in a scarf.

## ON THE DAY OF THE SHOOT

### Practice! Have a Rehearsal!

Rehearsals really help everyone to know what's going to happen and they can try to get their bit right. Even documentaries rehearse some camera moves and try a little bit of interview to get the sound right. It can relax your interviewee to let them chat about nothing important for a while.

This will probably be the first time you hear what you're going to record without the chatter of other people in the background. Check that the sound levels both look and sound OK, that they're not hitting the top of the scale all the time or not just loitering at the bottom. See if the boom operator (or you, if you're on your own) has the mic in the best position. If you don't hear what you want to hear, find ways to get the mic closer and/or the person to speak up.

Make sure all mobile phones are off, not just on silent, as this can still cause interference.

When everyone – camera, sound, actors, director – is ready, then you can go for a **TAKE!**

The director usually follows this procedure:

- 1) Asks everyone to “Stand By!”
- 2) Shouts “Turn Over!” (run camera)
- 3) Asks for “Quiet Please!”
- 4) Checks the camera is running and everyone is ready
- 5) Shouts “Action!”

### **Check it’s there!**

After your first recording it’s a very good idea to play it back and check it has recorded!

### **Voice-Over And Sound Effects (Fx)**

You can use your camera to record any additional sound you need like voice-over, special fx or live music. This means all your digital files will be in one place and makes editing easier. It’s also useful to record background sounds which you might add in quietly to smooth your soundtrack.

Just use the camera in the same way as for filming, with a separate microphone if possible and a set of headphones, or just by holding the camera so the mic is close to the sound. Now you don’t have to worry about getting the mic in shot.

Bear in mind that whatever you’re recording has to fit with the picture – your sound of running water might be good close up but may best fit the story if you record it from further away. If in doubt, record several variations to give you options to choose from later. Identify each item you record by announcing it on the tape before you record it and ideally making a list and numbering the items (believe me this is incredibly useful!)

### **Remember Your Sound Levels at All Times**

Be just as aware of sound levels for all the other audio that you want to add and watch the meter or do tests and listen back. The sound levels will not magically balance themselves and lack of attention to this can ruin your film soundtrack.

### **Difficult Sounds**

Some sounds are very difficult to record because they are very quiet - birdsong, wind in trees, a heartbeat, distant sounds. Seriously consider looking for your sounds in an online effects library. Someone else will have done all the work and provided just what you were looking for, and many are free.

**Music** is not necessarily difficult, sometimes it’s just best to position the mic in a central point where it sounds good, or by a speaker (but watch those levels!). Allow plenty of time to run tests, listen back and adjust.

## **POST-PRODUCTION & EDITING**

Plan post-production sound and look after audio recording levels here too. Now is the time to remember what levels you recorded your sound at. If at the beginning of your recording you said 'this is minus 20', as the meter read -20, you can confidently set your editing audio at this level. This helps when you make copies later too (that's what the tone does at the start of professional films). If you worked hard to get good sound during your shoot you will have saved yourself a vast amount of time and trouble in post-production!

Familiarise yourself with digital editing software such as Final Cut Pro. As you learn to edit the picture you will naturally learn to edit the sound. Practice moving it to different tracks (whilst staying locked to the picture) so you can overlap sounds. Try separating the audio from the picture too.

Ideally you will set aside time to edit the sound once you are happy with the picture. Add layers of music or effects as you want. Using background 'atmospheres' can smooth out your sound track and really add a professional finish. Use fades and cross-fades between the tracks you want so they don't jar suddenly. All of this you learn best just by practicing, so allow lots of time because it takes it!

If you discover that there are bits of soundtrack missing, you can fill them in by recording missing dialogue or effects on whatever recording device you have, and adding the file to your edit. Try to match the recording conditions to the rest of your soundtrack so that it sounds like it 'belongs'.

If you use music, make sure you have the correct permissions!

Learn as much as you can before you start filming. There are plenty of good websites providing guidance and advice – you are better to know what you are supposed to do and then drop your standards in the circumstances, rather than struggling on unsure of how to cope. Above all, allow time to get what you want and remember to take the occasional deep breath and relax - this will also help the people you are with! Film-making should be fun!