

5 - High-level equipment and Techniques

What's coming up in this lecture

- 1. A review of the assignment... there seems to be some confusion.**
- 2. What the pros use.**
- 3. Additional equipment**
- 4. Different techniques**

Ok the format today is going to be a little scatterbrained.

Firstly the assignments.

Everyone passed. There were enough demonstrations of knowledge in the assignments to show that you all had a decent idea of BASIC sound principles....

Disclaimer - I'm making heaps of assumptions based on what I heard, saw on the videos, and what you guys wrote to support your decisions.

There were a few things that stood out to me as being a little odd.

- OMNI-Directional = ALL directions.
- It is IMPOSSIBLE to have an omni-directional Shotgun mic.
- CARDIOID - not CARDIO, is another type of polar-pattern, so having an OMNI-CARDIO mic is another confusing statement.
- RECORD TABS people - I think there were only 4 tapes in the entire lot that had their record tabs in. I may not have stressed the importance of this enough, but if you hand in something on a recordable media - pop the record tab over, so it doesn't get wiped by accident.
- WIND - I know that many of you were hit by an unfortunate GALE during your recording days - and it's a problem that may have been un-solvable with the equipment you had access to. But just for the record, no matter what style of program you're recording, wind hitting the microphone isn't an acceptable thing.
- Monitoring the recording - I don't think I can stress enough - the importance of monitoring the recordings while you are the recordist. Equipment fails, mixers don't work, whatever. The camera still has a headphone out. Please use it. This would have helped quite a few groups notice that their entire recordings were

being distorted, (one group noticed, then modified their schedule to re-record a majority of their assignment, then documented the entire experience - they got REALLY high marks).

- I was blown-away by how many of you were adept at problem solving, there was a lot of equipment failure, and even more problem solving going on - this makes me SO happy I want to cry. Honestly - this was the MOST IMPRESSIVE thing about the entire assignment. Some people were missing group members, connecting cables, but you all pushed on and finished the assignments. WELL DONE.
- Perspective recordings. I was really impressed that some people were thinking about the perspective of the recordings when doing the drama stuff. I personally wouldn't recommend using the lavs for CU and the boom on the wide... but that comes into play with mic continuity which has a higher importance than perspective. Still, great to see that some were thinking about it.
- Interesting Lav placement and plant microphones. I'd prefer if the lav were placed FORWARD of the ears (*mitch), it was very gratifying to see how well some groups managed to use the body mics (lavs). A lot of hidden mics on set, which was also nice to see. Again - try to keep it in front of the characters instead of buried behind them in a couch.
- I know that the equipment precluded the ability to set manual levels. Some groups still managed to keep a good handle on the matching levels thing - well done. Others had WILD fluctuations between Handheld *(really loud) and the radios (really soft). No worries from me, but it's something that should be looked at, and would most definitely be noticed if there were headphones on the recordist.
- Booming - as expected, the boom positions of a lot of people could use some work, but I was generally impressed. For a group of people who were unfamiliar with microphone placement a few weeks ago you show real promise. That said, it was very noticeable when someone hit the right spot. And made a massive difference to the quality of the recording.
- Mic positions - remember that a shotgun has an active rear - so pointing it directly away from a noise source (like an air-conditioner) will actually record more noise than iff the mic came from the other side. Like everything though, playing around with the positioning in a really noisy area will yield the best results.

- ATMOS - mic in the SAME position, mixer at the SAME levels. That's all I got to say. (I saw quite a few people re-positioning the mic ABOVE their heads for atmos)

Overall I'm really impressed with the level of recording by some groups, others gave me exactly what I expected, and some made it pretty clear that they didn't really want to spend too much time on the assignment. It's all good people, thanks for your effort.

Ok

Middle of Nowhere Photos



Techno-crane on the towing vehicle. This car (TRUCK) tows an A-Frame version of the hero vehicle - "A" shaped rigging point to the car's chassis - there are NO ACTIVE CONTROLS on the vehicle, aside from the parking brake. Meaning that the actors can "act" without fear of breaking anything. The Techno-crane allows for a multitude of camera positions to be achieved (including some funky camera moves) with minimal re-rigging. On this day, we were unable to rig any plant microphones in the vehicle due to the wide shots being employed, so Body mics on the actors - watch out for the seatbelts rubbing.

Guntis' Trolley is on the behind the light on the left (just out of shot). The camera operator, director, and video split are on top of the cab, inside a make-shift tent.



Libra 3 axis Head - actively removes camera shake. As well as allowing adjustment on 3 axis - pan/tilt/rotate (is it pitch/yaw?)

The head physically shakes the camera in an opposite direction to any bumps it receives, therefore maintaining a rock-steady picture. It looks really weird when you see it driving down the road - your point of reference is the truck, which seems steady - and you see the camera being shaken to death, when infact it's REMOVING the shakes.

VERY noisy when it's cranked to it's most powerful shake removal setting.

An alternative to this system is a gyroscopic stabilization (like SPACECAM, et al.) but they are heavier and much noisier.



The Remote Car "C" - All controls are routed to the safety cage on the roof. A Stunt driver then controls the vehicle while a camera is on-board, shooting forward. This way the cast can be in the front-seats, seemingly in control of the vehicle.



a Sanken CUB-01 Boundary layer Microphone - to capture the dialog of a character in the back of the vehicle, during a stunt - this is attached to the remote "C" car.



The CUB-01 microphone was wirelessly transmitting to our "follow vehicle".

...Which I needed to keep within range of during a high-speed stunt...



Guntis in the Follow vehicle - I would drive during the take, following the stuntie-controlled remote car. Guntis would be in the back mixing as we went. Note the "shark-fin" antennae on top of the car.

Seeing as we had the roads locked down (no public), it's not illegal to be riding in the back without a seatbelt - don't try this at home kiddies.



Guntis' Trolley on the towing vehicle. You can see the aaton Hard-disk recorder on top, and his Cooper 108 Mixing panel under the headphones.

Lets take a look at WHAT THE PROS USE

Morten's trolley

- Has a DC powered AUDIO DEVELOPMENTS AD149 mixer - with 4 or 6 channels.
- Advantages over an ENG mixer:
- Better microphone pre-amplifiers (quieter, particularly when used with better microphones)
- More control over the EQ (though as previously discussed, it's rarely used in the field)
- Linear faders (easier to move more than one at a time)
- More monitoring options (you can route different signals to different outputs - a boomie can get just the boom, director a mix-down of it all, the recorder can get isolated channels + a mixdown, etc)

Radio microphones of a much higher quality - this is where the money REALLY makes a difference - Diversity receivers (*give an explanation), higher quality components, it's SOOOOOOO much better.

DAT recorder. Well it's fairly obvious that a machine DEDICATED to recording only sound will be better at it's job than something like a video camera which records pictures (and has sound tacked on as a bonus)

All powered by a DC battery. So there's no need to hassle the electricians for power. MUCH BETTER

ADDITIONAL EQUIPMENT

Talk about the slates, mics, whatever gets used to help recordings. Carpet, mats, shoe foam, anything that helps to make the unwanted noises quieter.

TIMECODE

Not anywhere as involved as it is in the studio. On a film set, timecode is used by the sound department to help identify sections on the recorded material, assisting the synchronization to picture.

For FILM - the Recordist will feed/sync the timecode slate, with a highly stable and accurate source (like the dat recorder). When both the audio recorder and the film camera are rolling, the slate is displayed in front of the camera. The camera records a visual record of the audio machine's timecode. In post, when they look to sync the two together, they can read the numbers off the slate,

find the right spot on the audio (by typing the numbers into the audio player) and let all their expensive gear line up in synchronization.

Numbers are important, because it allows there to be recorded easily, and referenced later on if needed.

Blah blah blah, it's pretty simple for us - but I'm sure I explained it adequately when delivering the lecture.

MICING A SCENE

2 schools of thought. (well there are most likely a heap more, but I like to over-simplify things, it makes it easier to explain them - in real life it's a combination of the 2)

Throw EVERYTHING at the scene

Radio mics, booms, plants; as many options as you have. Record it all to separate tracks and let post figure it out.

Record a scene based on it's *COVERAGE*

Let the wide shot sound REALLY WIDE, the editor will most likely use the dialog from the CLOSE UP anyway - so why stress getting multiple mics out there for the wide shot.

What actually happens

It's a combination of the 2, dependant on the *COVERAGE* of the scene.

All playing out in a single master shot - then you NEED to throw everything at it, so they actually have the dialog (even if it's only a guide track for ADR)

It's a Wide to start, then multiple closer angles of the scene. Let the wide go as more of a guide, and concentrate of getting a really good close up.

WAX LYRICAL about the experiences with GUNTIS on EyeScreamMan, and MiddleOfNowhere.

Take your time Ian, there's a heap of stuff to talk about, mention what happens when you play a 3 min scene in a WIDE SHOT and birds are in the vicinity.

GAIN vs FADERS

Set the microphone gain, with the faders at unity (ie: no fading, or boosting) then during the SCENE, only move the faders. This'll make sure that you don't

change the microphone's self noise, and make it easier for the editor to chop between the shots.

SETTING MIXING LEVELS

Aim to get the peaks of your recordings within -10 to 0 dBFS (*digital), with the average falling around

-20 dBFS. All the while allowing, for any unscripted transient screams.

Remember that hitting 0 in digital recordings is a bad thing. **CLIPPING IS BAD.** Avoid it.

in TV land as I discovered on Today tonight, need their peaks **UNDER** -10dBFS (something to do with satellite transmissions, and keeping continuity throughout their systems)

BEWARE - and check with post production

TRACK ASSIGNMENT

If using something with more than one-track (stereo or multi-track recorders) you have more options to give post-production variety of isolated signals.

The most common would be to put a radio mic on one track, and the boom on the other. Allowing post production to select whichever works better. Perhaps the boom is too far away, or has too much of the unwanted noises. They can go with the lav. Or maybe the lav has clothing rustle, so they can use the boom. Either way, if both signals were mixed to the one track (at the same time), it's impossible to use one or the other. It's permanently **MIXED**, and you can **NEVER** isolate them again.

2 mics one source - phase issues. Check your textbooks - it's not good.

CONTINUITY of MICROPHONES USED IN A SCENE

When starting a scene with one-type of mic, it's quite disconcerting to have the quality of the sound change (not perspective). Radios and boom mics sound vastly different, so if you start a scene on radios, to record the rest of the scene on and overhead boom, would be more of a distraction in the final product than keeping with the radios. Even if the boom sounds better in the closeup, it's **MORE** important to maintain the continuity of the microphones used.

As with the atmos, this hold true only for a **SCENE**, once you change locations it's back to the start - whatever works best.

I'm sure I went into more detail during the lecture, but as these are only notes, I'm not going to try and type it all out.