

FORENSIC AUDIO VS STUDIO AUDIO

- Capture environment
- Equipment
 - Write blocker
 - Demo

Again forensic audio and studio audio is very different.

CAPTURE ENVIRONMENT

- A studio attempts to make the more pristine capture environment possible, with a very high signal to noise ratio. The HVAC system in a professional studio will be inaudible, to not get captured on the recording. The attitude of a professional studio is to not “fix it in the mix” but to get the best result from the start
- Forensic audio is the opposite of this, we have no control over the capture environment, and we have to “fix it in the mix”
- common examples include recordings made in venues containing crowds of people talking and loud background music, recordings made by emergency call centre systems of some form of violent altercation (often containing shouting, sirens, screaming, and subsequently clipping) and recordings captured two rooms away from the related event.

EQUIPMENT

- can capture multiple inputs simultaneously
- racks of processing units for reverb, compressors, equalizers
- while its easy to add these effects to an unprocessed sound, its quiet difficult to take it away. One major difficultly is removing reverb.
- forensic and studios both are capable of audio playback
- they generally don't have ways to capture audio
- might be common to see equipment to convert tape to digital audio
- more common to not see rack mounted gear
- BIG THING - typically examiners use headphones, while mixing engineers like to listen on monitor speakers
 - the reason is that they more effectively block out external noise that is not on the recording
 - examiners might listen on different headphones to make sure what they're hearing isn't being influenced by the frequency response of one set of headphones
- forensic labs also come with write blockers to ensure ensure recordings are imaged to the workstation in a forensically sound manner and prevent changes being made to the original version on the device or the external memory.

MICROPHONES

- Undercover devices - Pen recorder - Pen recording audio
- Police body camera
- Mobile phones

Speaker notes

There are small microphones that can be used specifically to capture a crime, think undercover recording.

But most recordings were not made trying to capture a crime so are not optimized for that purpose.

- phone microphones are generally designed to pick up speech when the subject is speaking directly into the microphone, any source besides speech will be of limited quality
- Also, if people are trying to record covertly they may be covering the microphone, causing a muffled recording and noise when hitting the microphone

Remember that the operators of these devices often are not trained at all;

examples: A real casework example is the use of a mobile phone capturing audio in a low bit rate MP3 format placed under a bed in a house, with the gain setting at a maximum in an attempt to capture a spouse's every action while they were out.

Recordings captured by an audio device in a trouser pocket or an inside jacket pocket are also a prevalent scenario, resulting in a broadband rustling sound caused by even the slightest movement, due to the noise generated by the clothing rubbing against the microphone.

AUDIO FORMATS FORMATS

- Lossy and compressed is the most common
 - mp3, ogg, wma, etc.
- PCM - more usual for premeditated recordings
 - wav, aiff, etc.
- sample rates - 8 - 48 kHz

Speaker notes

- Formats
 - portable devices mean space is at a premium
 - also, users of the devices might not be able to make informed decisions about the quality of the audio
 - PCM
- sample rates can vary between 8 kHz and 48 khz