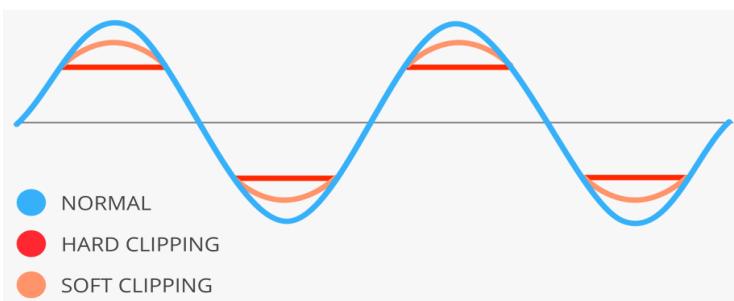


Recording Eras (Direct To Mono Tape) - Knowledge Organiser

GLOSSARY	
Mixing 'on the fly'	Balancing a recording pre-capture due to limitations in technology
Tape Saturation	The clipping of an audio signal due to the limitations of magnetic tape
1950s RECORDING PROCESS	
<ul style="list-style-type: none">• Complete performances would be recorded in one take• Recordings would take place in a single live room with all performers present<ul style="list-style-type: none">• Lack of headphone monitoring• Acoustic baffles would sometimes be used to help absorb undesired sound• A limited number of microphones were available<ul style="list-style-type: none">• Levels and balance were primarily controlled by the positioning of the performers and by utilising the dead spots of microphones• Levels couldn't be changed post-capture due to all the microphone channels being summed together to create a single signal• Very limited post-production processing<ul style="list-style-type: none">• Any post-production processing that was applied would have to be applied to the entire mix	
TYPICAL 1950s SIGNAL FLOW	
<pre>graph LR; Music[Music] --> Microphones[Microphones]; Microphones --> Outboard[Outboard Effects]; Outboard --> Mixer[Mixer]; Mixer --> Stereo[Stereo Tape Machine];</pre>	
MONOPHONIC RECORDING	
<ul style="list-style-type: none">• Most professional recordings would have been done in mono due to the cost of equipment<ul style="list-style-type: none">• The industry was slow to catch on to new advancements in technology• Most consumer playback mediums were mono (i.e. gramophones)• Multiple takes would be taken from start to finish<ul style="list-style-type: none">• If something went wrong, they would have to record a new take• Tape machines were commonly stereo machines, but the final mixes would be mono productions<ul style="list-style-type: none">• The stereo machines would usually be used to capture the vocal on one track, and then sum the channels of all other instruments to the other to allow the engineer to change the volume of the backing relative to the main vocal before committing it to tape	

TAPE SATURATION



- Tape machines work by using **magnetic tape** and **iron oxide powder** to replicate sound waves
- **Tape saturation** is the result of an **overloaded** magnetic tape and occurs when the signal is too loud when entering the record head of the tape machine
- If an audio signal **exceeds** the point at which the tape can accurately map out the waveform, **clipping** occurs because an increase in input volume can't recreate an equivalent increase in magnetisation
 - Can cause the audio to sound as if **light compression** has been added
 - Positive and negative peaks of the graph have their amplitude range shortened
 - Also causes some harmonic distortion creating a unique warmth to the sound