

# Refinement Best Practice

## 1 Audio Scrubbing

- Go to the areas that didn't quite feel right in your vub and examine them in detail using the left/right arrow keys to audio scrub through the frames.
- Listen carefully to what sounds are being made on each frame, and check that the lip shapes and timings are correct.

## 2 Use Headphones

When refining you must use headphones in order to hear the details and subtleties of per-frame audio.

## 3 Light Moves Faster Than Sound

In the real world, you always **see** things fractionally before you **hear** them – never the other way round. So, if the timing of a mouth shape action is possibly **late** compared to the audio, play it safe and adjust it to happen fractionally **early**.

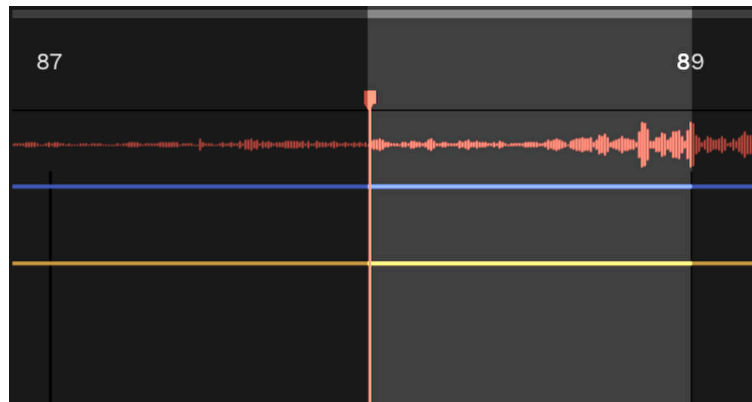
## 4 Work to the sound at the END of the frame

In the real world, you always **see** things fractionally before you **hear** them – never the other way round.

We are interested in the sound at the end of the frame of audio, such that we never hear a sound before we see the physical action.

For example:

- If you hear 'EM', or just 'M', then you want an 'M' mouth shape.
- If you hear 'MA', the mouth shape should be releasing from the 'M' on this frame and moving into the 'Ah' shape.

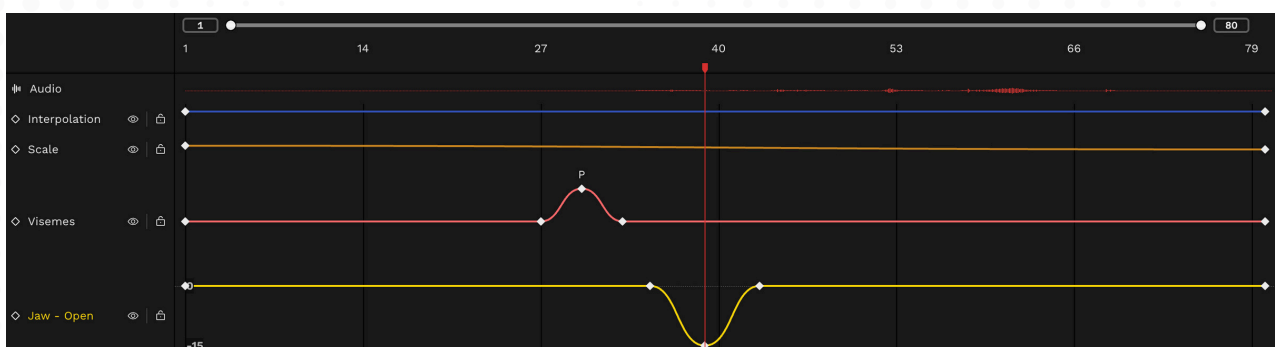


## 5 Placement of keyframes

When applying overrides to refine a mouth shape, it is important to place your keyframes such that they don't cause **additional unwanted** movements.

For each override, you will typically apply **three** keyframes:

- Start Keyframe – where you want the adjustment to start taking effect.
- Centre Keyframe – where the peak of the adjustment takes place.
- End Keyframe – where you want the adjustment to finish.



The most common refinement that takes place is to enhance articulation that already exists in the Driving Data: it is therefore important that:

- The **start** and the **end** keyframes correspond to the start and the end of the movement that **already exists** in the Driving Data.
- The **centre** keyframe(s) (the peak of the override) correspond(s) to the peak of the movement that **already exists** in the Driving Data.

This is most easily understood by thinking about a **Jaw – Open** override. If you want to make an existing jaw opening bigger, then:

- Place your **start** keyframe where the existing jaw opening starts.
- Place the **centre** keyframe where the existing jaw movement peaks.
- Place the **end** keyframe where the existing jaw movement finishes.



Where possible, avoid short, sharp overrides. These are at risk of creating unnatural, inorganic movement.

## 6 Zoom in to get the best look

In the main window, zoom in on the character's face to make assessment as easy as possible.



## 7 Less Is More

You should never need to add a large number of keyframes – the majority of the final vub should be derived automatically by DeepEditor. Too many overrides can introduce an inorganic feel.

## 8 Mirror Tip

Consider grabbing a handheld mirror or opening your phone camera. Use your own lips and jaw to see how it moves for the specific word you're working on.