

Audio examples 9, 10, 11: Same for the harmonica.

Audio examples 12, 13, 14: Again, using a vocal track this time.

Audio example 15: What's missing in this mix?

## Refining the Mix

Refining a mix involves two main steps: finding and rectifying problems with the recorded tracks and creatively enhancing those tracks. Problems should be dealt with first to make room for creative, productive adjustments. Several issues are explained here along with possible ways to fix them.

### *Problems to listen for*

#### **The tracks sound muddy and boomy**

##### *Explanation:*

All acoustic sound sources have a resonant frequency range. This is a region of frequencies that stands out in level from the rest of the sound, resulting in muddying the overall sound. Resonant frequencies are usually in the low-mid range. If not removed, the combined effect from all tracks will result in an overall muddy sounding mix which lacks clarity in the bottom end.

##### *Example:*

Muddy, cardboard sound in a kick drum or upright bass

##### *Solution:*

Use a parametric EQ to find the offending frequency range on each affected track.

A parametric EQ provides an extra control that allows sweeping around the frequency spectrum to find specific frequencies to boost or cut, as opposed to a graphic EQ which is set to a fixed frequency. Most recording consoles have some type of parametric EQ. For each band (hi, mid, lo, etc) there will be two controls: one to boost or cut the signal level, another to select the desired frequency.

##### *How to find the resonance:*

Solo the kick drum track by pressing the solo button on its channel. Make sure the overall solo level control, found on the right side of the console, is turned up. Turn on the EQ, if necessary. Turn up the gain for the low-mid EQ at least 6 dB or so (or around 2-3:00). (*dB* is a unit of audio level measurement.) Now rotate the frequency select control adjacent to it and listen for the changing sound of the frequencies as you move up and down the scale. Turn back and forth until you can distinguish a region which stands out beyond the others and sounds quite muddy.