**Sunny - Creating a BB song from a robust 15 track midi file.**

**Step 1 - listen to the file.**

You have to hear and see what you are working with.

Also take a listen to the original song from which the midi was sourced.

In this case, they are quite different. In the recording the vocal starts almost immediately, while in the midi, there is an intro.

Let's take a look at the setup of the midi file. I use Logic Pro. You may use a different DAW. Hopefully most of what I do can be easily interpreted for another DAW.
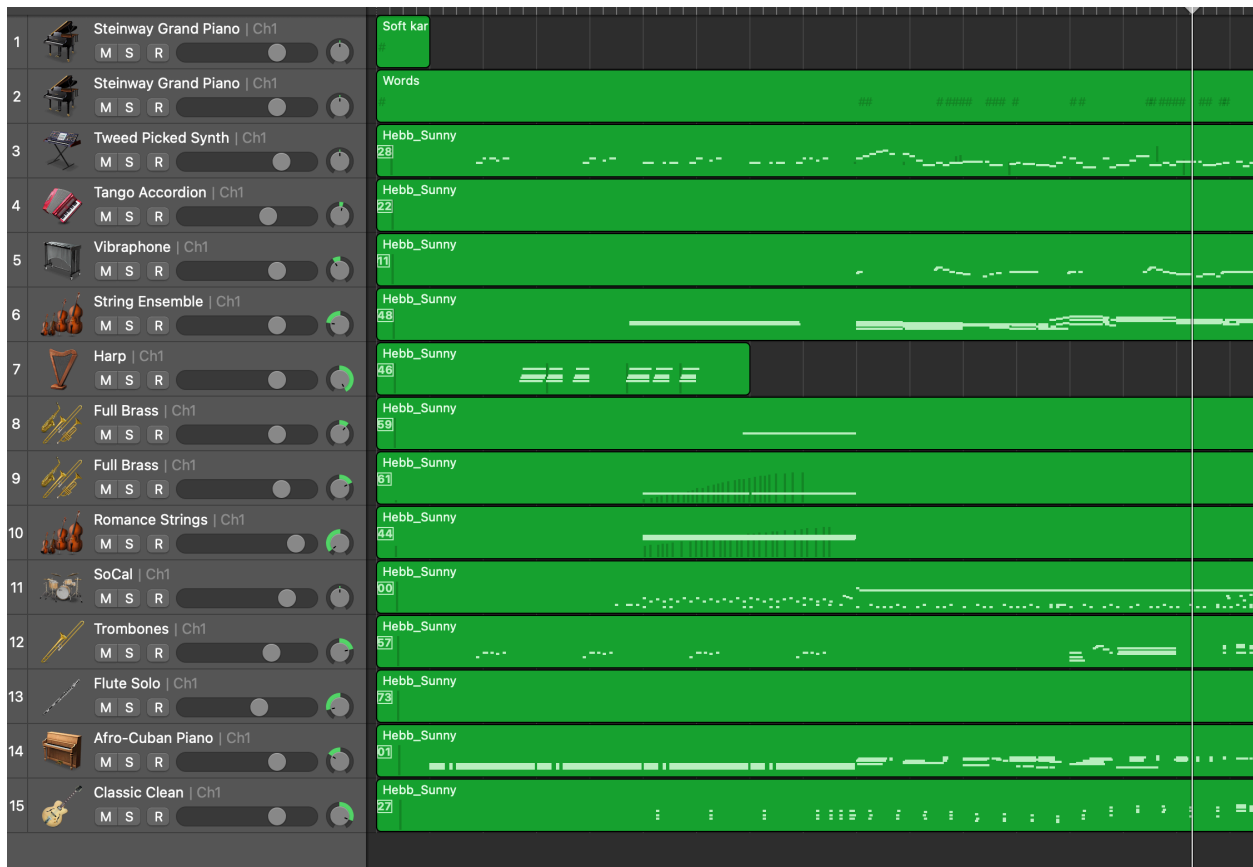


Right off, we can see that tracks 1 and 2 are not needed. This was a midi karaoke file, and track 1 has some identifying information, while track 2 is the lyrics.  We can delete those.

Next, we want to delete other parts which we won't need. We'll start with the parts that you will provide as the live musicians. When working in Logic or any DAW, save your work regularly and do a SAVE AS at every major STEP, in case you need to go back.

**Step 2 - Remove what you are going to play.**

Since you play guitar, we can delete the guitar comping track, although there is something to be learned from it. Note how it is almost entirely 2, 3 and 4 note chords. There are no full 6 string chords being played here, and the chords are played as short muted strokes. This keeps the guitar from being dominant in the arrangement, Keep this is mind as you play it. Go ahead and delete the Classic Clean guitar part, original track 15.

**Step 3 - Practicalities and BB Limitations**

With the BB, we only get 128 slots for notes. In this arrangement, even after we have cut it down to now 12 tracks, that would still leave 12x128 or 1536 possible note locations, so we still need to edit more. The key will be finding instruments we can combine, or deleting parts that are doubled. While doubling is a very nice arrangement technique, it is not practical given the limits of the BB. We also have to be aware of the need to delete things that the BB cannot handle, like pitch bend and other midi controlled effects. We only have note on, note off, and velocity.

Lets look at the necessities. We'll keep the drums and bass. Drums are the So-Cal on now, track 9. The Bass is on the Tweed Picked Synth, now on track 1. We'll move those tracks to the bottom of the arrangement to get them out of the way. Right now, my arrangement looks like this.
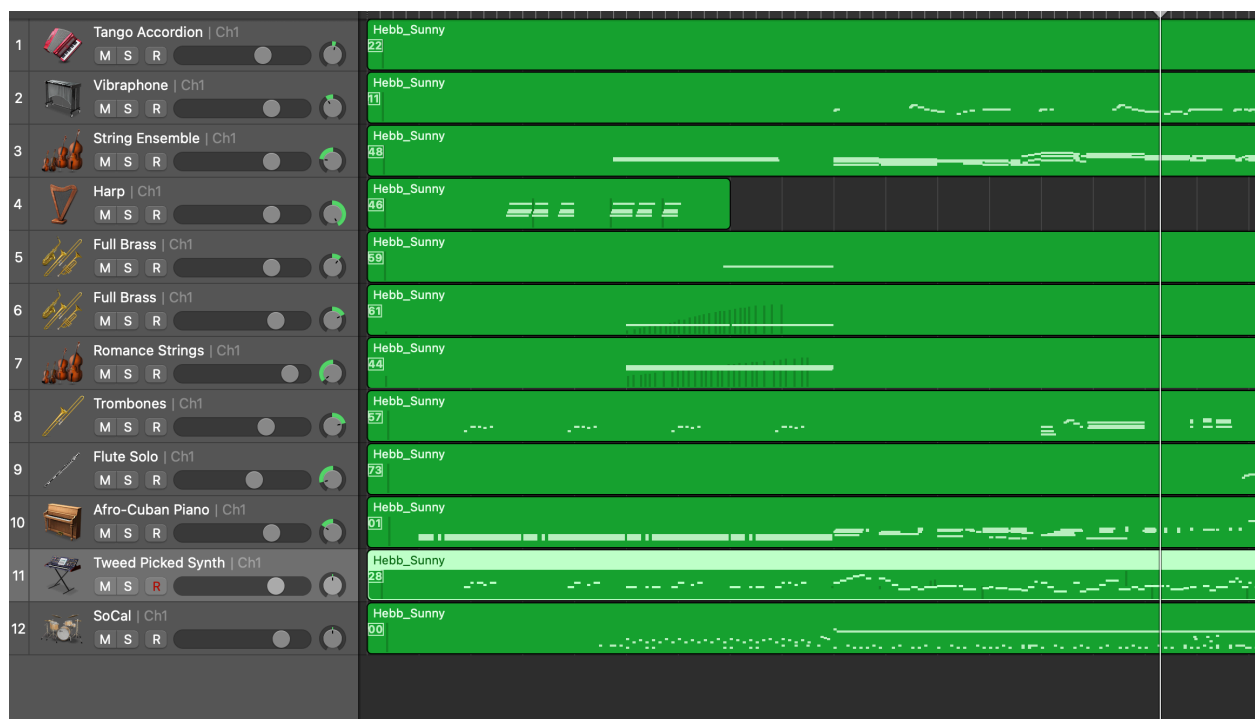
Notice those light green vertical lines in the brass and string parts. We also have them in some of the other parts including the bass. These are automated midi effects which the BB will not be able to reproduce. We are going to remove that information from the bass line, and then listen to the bass line to be sure it still sounds correct. In Logic, we can view the midi list editors. Midi is simply a programming language that says play this note this hard at this time time for this long. It can also pass along other information like bend the note this much, or change the instrument on this track to another instrument. We need to keep the note information, but we need to get rid of the bend information and any other information that BB cannot use. In Logic, we can open the midi list editor and see this:

| | | Notes | | | | Progr. Change | | | | | Pitch Bend | | | | | Controller | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Aftertouch | | | | Poly Aftertouch | | | | | Syst. Exclusive | | | | | Additional Info | | |

**+** **Notes** ⌄     Quantize: **Off** ⌄ **Q**

| L | M | Position | | | | Status | Ch | Num | Val | Length/Info | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 1 1 | | 1 | Program | | 2 | -1 | 28 | Muted Gt. | ⌄ |
| | | | | | MSB/LSB | | | | ÷ | | |
| | | 1 1 1 | | 1 | Control | | 2 | 93 | 90 | Chorus Send... | ⌄ |
| | | 1 1 1 | | 1 | Control | | 2 | 91 | 20 | Reverb | ⌄ |
| | | 1 1 1 | | 1 | Control | | 2 | 7 | 95 | Volume | ⌄ |
| | | 1 1 1 | | 1 | Control | | 2 | 10 | 64 | Pan | ⌄ |
| | | 1 2 1 | | 81 | Control | | 2 | 11 | 127 | Expression | ⌄ |
| | | 2 4 2 231 | | Control | | 2 | 1 | 0 | Modulation | ⌄ |
| | | 2 4 3 | | 1 | Note | | 2 | B0 | 64 | 0 0 1 200 | |
| | | | | | Rel Vel | | | | 64 | | |
| | | 2 4 3 | | 1 | PitchBd | | 2 | 0 | 17 = | -6016 | |
| | | 2 4 3 | | 91 | PitchBd | | 2 | 0 | 21 = | -5504 | |
| | | 2 4 3 141 | | PitchBd | | 2 | 64 | 34 = | -3776 | |
| | | 2 4 3 191 | | PitchBd | | 2 | 64 | 57 = | -832 | |
| | | 2 4 3 231 | | PitchBd | | 2 | 0 | 64 = | 0 | |
| | | 3 1 1 | | 1 | Note | | 2 | E1 | 72 | 0 0 0 120 | |
| | | | | | Rel Vel | | | | 72 | | |
| | | 3 1 3 | | 1 | Note | | 2 | E1 | 58 | 0 0 1 200 | |
| | | | | | Rel Vel | | | | 58 | | |
| | | 3 2 1 | | 1 | Note | | 2 | D1 | 74 | 0 0 0 190 | |
| | | | | | Rel Vel | | | | 74 | | |
| | | 3 2 3 | | 1 | Note | | 2 | E1 | 66 | 0 0 1 200 | |
| | | | | | Rel Vel | | | | 66 | | |
| | | 4 4 3 | | 1 | Note | | 2 | B0 | 65 | 0 0 1 230 | |
| | | | | | Rel Vel | | | | 65 | | |
| | | 4 4 4 231 | | PitchBd | | 2 | 0 | 24 = | -5120 | |
| | | 5 1 1 | | 1 | Note | | 2 | E1 | 79 | 0 0 1 220 | |
| | | | | | Rel Vel | | | | 79 | | |

While a programmer might like to see this much data, to me it is a list of problems. I don't want it. But I do want the notes. So, I click on notes at the top of the window so I no longer see the note data:

| L | M | Position | Status | Ch | Num | Val | Length/Info |
|---|---|----------|--------|----|----|-----|-------------|
| | | 1 1 1  1 | Program | 2 | -1 | 28 | Muted Gt. ⌄ |
| | | | MSB/LSB | | | ÷ | |
| | | 1 1 1  1 | Control | 2 | 93 | 90 | Chorus Send... ⌄ |
| | | 1 1 1  1 | Control | 2 | 91 | 20 | Reverb ⌄ |
| | | 1 1 1  1 | Control | 2 | 7 | 95 | Volume ⌄ |
| | | 1 1 1  1 | Control | 2 | 10 | 64 | Pan ⌄ |
| | | 1 2 1  81 | Control | 2 | 11 | 127 | Expression ⌄ |
| | | 2 4 2 231 | Control | 2 | 1 | 0 | Modulation ⌄ |
| | | 2 4 3  1 | PitchBd | 2 | 0 | 17 = | -6016 |
| | | 2 4 3  91 | PitchBd | 2 | 0 | 21 = | -5504 |
| | | 2 4 3 141 | PitchBd | 2 | 64 | 34 = | -3776 |
| | | 2 4 3 191 | PitchBd | 2 | 64 | 57 = | -832 |
| | | 2 4 3 231 | PitchBd | 2 | 0 | 64 = | 0 |
| | | 4 4 4 231 | PitchBd | 2 | 0 | 24 = | -5120 |
| | | 5 1 1  31 | PitchBd | 2 | 64 | 34 = | -3776 |
| | | 5 1 1  71 | PitchBd | 2 | 64 | 41 = | -2880 |
| | | 5 1 1 111 | PitchBd | 2 | 0 | 52 = | -1536 |
| | | 5 1 1 151 | PitchBd | 2 | 0 | 64 = | 0 |
| | | 6 4 4 221 | PitchBd | 2 | 64 | 26 = | -4800 |
| | | 7 1 1  31 | PitchBd | 2 | 64 | 35 = | -3648 |
| | | 7 1 1  71 | PitchBd | 2 | 64 | 44 = | -2496 |
| | | 7 1 1 111 | PitchBd | 2 | 0 | 57 = | -896 |
| | | 7 1 1 151 | PitchBd | 2 | 0 | 64 = | 0 |
| | | 8 4 2 201 | PitchBd | 2 | 64 | 7 = | -7232 |
| | | 8 4 3  31 | PitchBd | 2 | 64 | 12 = | -6592 |
| | | 8 4 3  71 | PitchBd | 2 | 64 | 23 = | -5184 |
| | | 8 4 3 111 | PitchBd | 2 | 0 | 43 = | -2688 |
| | | 8 4 3 151 | PitchBd | 2 | 0 | 64 = | 0 |

Now I just see the this control data and the Pitch Bend information. I need to delete this. I select it all and delete it.

Now, My notes are still there without the data that BB cannot play.

The bass track now looks like this:



The vertical green lines are gone.

Now its time to solo the bass track and play it.

Fortunately, it still sound good, we won't need to rewrite it. It does use a bass instrument with effects on it, but it will sound acceptable on an electric bass.

I am going to change the bass to an electric bass, and play the arrangement, looking for opportunities to cut or combine parts.

Upon playing the bass part, I found it was an octave too low. This will not be important in the final arrangement, as it will be transposed anyway, but for now, I have moved it up one octave, while I am editing.

**Step 4 - Combing and removing parts.**

The Tango Accordion takes up the melody from the Vibraphone at measure 49. I surely won't have room for both. I might not have room for either. But, for now, I will combine them.

I put it all on the Vibraphone and deleted the Accordion track.

The first 10 measures of the trombone double the bass. I am deleting those.

Now, I want to play the arrangement with just the accompaniment parts, without bass and drums.
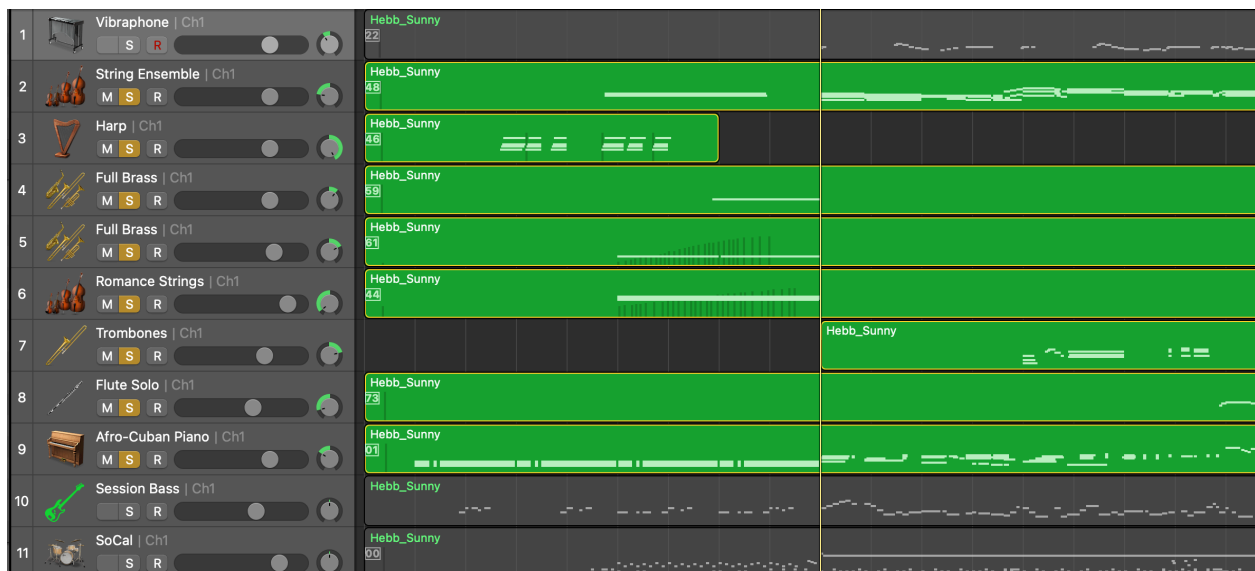
What I have left is a piano, brass and strings accompaniment with a harp and flute for some added color.

**Step 5** - **Practical application and experience**

This is where my prior knowledge and some art come into play. As I built most, if not all, of the drumkits that I use, I have a better knowledge of what is there than most other users. The reality is that I will have a practical limitation of 4 unique parts: Bass; Drums; a keyboard or guitar; and some other color instrument, which, in this case, will be brass or strings.  I have found that the strings generally sound more like strings than the brass can sound like brass. This is due to lack of available midi commands. Trombones will not sound like trombones on the BB. They cannot slide between notes. Strings suffer some of the same problems. We cannot introduce volume swells on a held note. But, in general, I think the strings acting as pads sound fairly good. This means I will keep the piano, and combine as much of the rest  as I can into a string part.

One important consideration here is that we do want to avoid stacking notes on top one one another. We want to cut overlapping notes from instruments we add.

Lets look at them one by one, and see what we can do.

The string ensemble enters at measure 6, and plays until the end. We'll keep that, and, in fact, let's try just that with the piano bass and drums.

Surprisingly, it sounds real good.

Now, what can I add with getting in the way of the existing strings.

The first three sets of harp arpeggios will not conflict, but the rest of the part does. Just the first 3 arpeggios get added.

The first full brass part ends up right on top of the strings, so it gets cut.

The second full brass part looks like it will add to the existing strings. I will merge the String Ensemble and Harp first. In Logic, this is done with the Join command. Now I'll add the remaining Full Brass part and play back the arrangement. Remember, it is being added to the strings.

This still sounds good. I will keep it, and then delete the excess midi commands as I did earlier with the bass and play it again.

And, I still like it. We only have 3 tracks left, Romance Strings, Trombones and Flute Solo.

**Step 6 - Remaining Tracks**

These three remaining tracks also, much to my surprise, do not get in the way of the existing string parts. I will, therefore, add each one separately, auditioning the arrangement and deleting the excess midi information as I add each track.

Strings - OK
Trombones - OK
Flute - OK

Note, If any of these had caused conflicts, I would have simply deleted that track from the final arrangement. Frequently in this process less is more. Keep it simple.

**Step 7 - Midi file done**

I now have a 5 track midi file. We won't use track 1, which is the melody, as that will be handled by the singer.  But this is the file that we will convert to a BB .sng file. This 5 track midi file is attached, with excess midi commands removed from all tracks. I like to have a two-bar count to my songs, So I added that to the drum track on the hi-hats.

**Step 8 - Fit the midi file to a BB drumkit**

We have piano, bass, drums and strings, so we need to find a kit that might work with that arrangement.

The following kits might work:

Motown Celeste & Strings
NP EJ Piano & Strings
NP Jazz Trio Brushes & Korg Strings
NP Jazz Trio Brushes & Softer Strings
STAX Yamaha Piano & High Strings

You might not have any of these. I'll give a link to the selected kit with the tutorial.

But, first, we need to look at the parts and delete or edit any outlying data.

Drums - The track gets very tambourine heavy at measure 11. We might need to keep an eye on this. At measure 77, there are some extreme velocity cymbals. These will need to be tamed down.  Select all of those very loud notes and reduce the velocity to 60. That will still be plenty to come through on the BB. The rest of the part is fine. There are no notes outside of the range that we intend to use. Most drums kits without latin percussion pieces will plays notes placed between midi 35 (B0) through 59 (B2).

Bass - The range for the bass on most of my kits is set at midi 0 through 31. We can lower the bass part displayed by 3 octave so that the lowest note is E -2. The kits are designed for this to trigger note E1 on the bass, which equates to the lowest string on an electric bass. The highest notes available on my basses is G3, which is played at G0 aka midi 31 on my kits. This is why some kits have a 0-31 in their names or descriptions. After transposing, our highest bass note is F#3, so we are in the range.

Piano - Depending upon the kit, Piano will play notes that are placed at midi 60 through 95 or 96. There is some variance here. So you do need to look at the kit to decide what will work. Our Piano part, before trying to edit it, ranges from E1 through F#5. We will have to compress it into the 3 octave range that we are intending to use. I generally find it best to work on these parts in sections.

The first bit, through measure 10, get raised 2 octaves. So does the next section, through measure 18. Measure 19 through 28 are OK. Measures 20 through 36 come up two octaves.  Measure 40 through 50 are OK. Measure 51 though 58 get raised 1 octave. Delete the low G# note.  Measure 66 though 76 get raised 1 octave. Delete everything that remains below C3 in this section. Measures 83 through the end get raised 1 octave, delete the resulting series of F#2 notes.

Mute the bass, and playback the resulting arrangement. It still works, The piano sounds very high, but it will be lower in the kit,

Strings - We need to move the strings higher, so that the lowest note appears to be at C6. After moving it up two octaves, we're in trouble, we can't get up another full octave, and we are already out of range on top. First, we can try working in sections to change the register part by part, but again you run out of space. However, remember this is background accompaniment. The arrangement works well with just bass, drums and piano, so what we do here is trim out that which will not fit in the area we need to get it into, which 96 through 127, or maybe 97 through 127, depending which kit we pick.

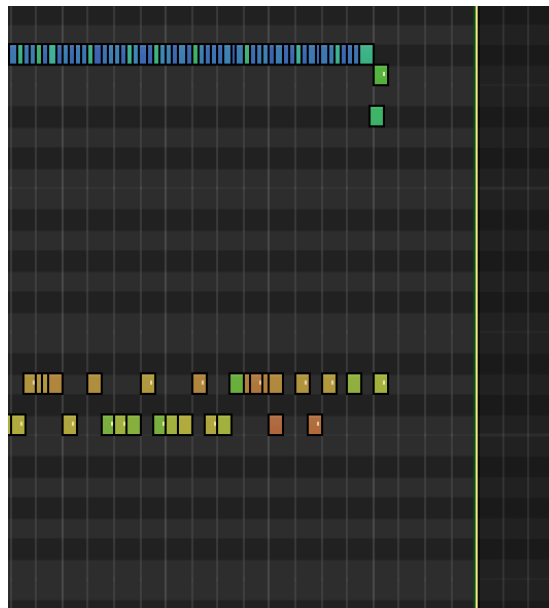Step A - delete everything below C5
Step B - delete everything above G7
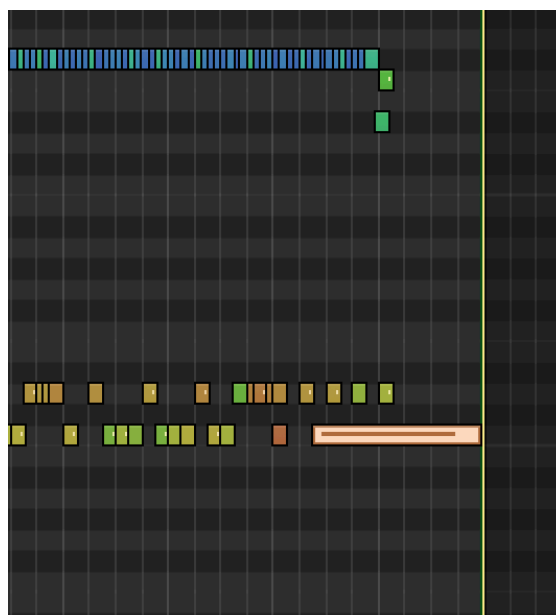Step C - move what is left up one octave

**Step 9** - combine the resulting tracks (except for the melody track) into one midi track.

Trim the blank measure from the track at measure 91. Extend the last kick drum note at C1through to the end of the arrangement.

From this:



To this:

Otherwise the song will not start properly on beat 1.

Save this track as a midi file.

**Step 10 - BB Manager**

Open BB Manager.

Add the drumkits that we want to try. The link for the selected kit is also in the BB Forum post with this tutorial.

Motown Celeste - https://forum.singularsound.com/t/aint-no-mountain-high-enough/29175/6

NP EJ Piano and Strings - https://forum.singularsound.com/t/stax-jazz-trio-brushes-synth-strings-np-jazz-trio-brushes-strings-ej-piano-strings/11206

NP Jazz Trio Brushes and Korg Strings - https://forum.singularsound.com/t/np-jazz-trio-brushes-korg-strings/11761

NP Jazz Trio & Softer Strings - https://forum.singularsound.com/t/np-jazz-trio-brushes-softer-strings/11788

STAX Yamaha Piano & Hi- Strings - https://forum.singularsound.com/t/stax-yamaha-piano-hi-strings/11144

Download the kits from the links. Then use File>Import>Drumset to add them to your project.

Find the kit names in the Drum Sets list in BB Manager, and click the box in front of each of their names to make them active in your project.

Next create a new song, where we will load the midi part we created. Pick a folder in your folders list or create a new folder.  Create a new song within that folder by clicking the +Song button at the bottom of the existing songs in the folder.  Change the Title to Sunny.  Set the Default Tempo to 129. Select the first kit that we want to try, Motown Celeste and Strings. Click on Main loop and navigate to the midi file that we created with the combined tracks. I have called that Sunny OPBks. Click on the play arrow within the main loop 1 box that was created when you added the midi file.

Well, it's interesting, but the strings don't work for me. Let's try the next kit. STAX Jazz Trio & Synth Strings. I like this more, but it's still not a keeper.

Korg Strings - No, strings are too low.

Softer Strings - pretty good - some piano notes sound cut off, and the strings are a bit loud, but this can be fixed.

Yamaha & Hi Strings - I like this one the best. It needs the following edits. Tambourine velocity down. Strings Velocity down. Piano minimum note length increased.

**Step 11 - Making the edits.**

These processes may be specific to Logic, but this is how I did it. I set the Tambourine velocity limit to 12 by selecting note  F#2, and lowered velocity to 12. For the Strings, I selected everything above C6 and set the maximum velocity to 60. For the Piano, I selected everything from C3 through B5, and used Midi Transform>minimum note length, and set it to a 1/16 note, or 0 0 1  0.

**Step 12 - Setting the song up the way I prefer.**

I set up my one press songs with the entire song in the intro. It plays through when I press the pedal. It will then loop continuously in a null loop until I double tap to end the song. This keeps the song from starting over and can give me a few moments to find and introduce the next song.

I've included my null files in the .zip with this tutorial.