

Four-part barbershop music



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T. when I've found the day to bid fare - well out there. So

L. when I've found the day to bid fare - well out there. So

Bar. when I've found the day to bid fare - well out there. So

B. tale. Out there. So

Human tagger

Input in .txt

```
En7(en3c,gn4 ,en4c,gn4 ,240
Anm(en3t,cn4 ,en4t,an4 )240
Anm(en3 ,cn4 ,en4t,an4 )1920
Cn7(a#3t, ,en4t, )480
Cn7(a#3t,cn4t,en4t, )480
Cn7(a#3 ,cn4 ,en4t,f#4 )960
EnM(bn3 ,g#4t,en4t,bn4t)1920
EnM(en3 ,g#4 ,en4 ,bn4 )960
An7(en3 ,c#4 ,an3 ,gn4 )960
```

Parser

Internal data
structure

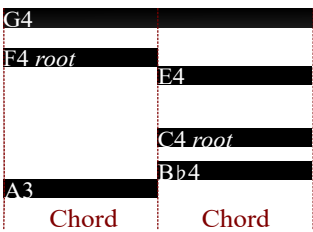


Diagram illustrating the internal data structure for two chords. The left chord (Chord) contains notes G4, F4 root, and A3. The right chord (Chord) contains notes E4, C4 root, and Bb4.

a) input: tagged chords

Main algorithm

Tuned internal data structure

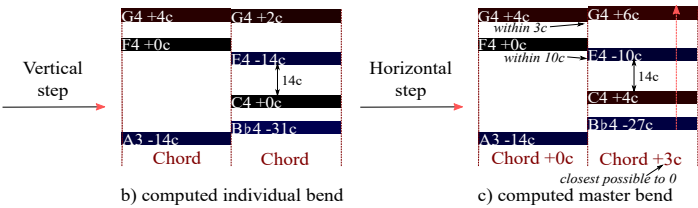


Diagram illustrating the tuned internal data structure. It shows two chords (Chord and Chord) with notes and their tuned values. The vertical step shows the initial state, and the horizontal step shows the result of the tuning process, where notes are adjusted to be within 10c of the target.

b) computed individual bend

c) computed master bend

DryWetMidi integration

Tuned MIDI



Diagram illustrating the Tuned MIDI output, showing a piano roll with notes and their durations. The notes are color-coded (blue, red, green) and the piano roll is labeled with C4 and C3.