Musical MIDI Accompaniment

Tutorial

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Table Of Contents

Chapter 1

Introduction

This document is provided as a aid for the new *MMA* user to get started in a easy, gentle manner. It is a supplement to the main reference manual.

MMA is a complex and powerful program. We don't intend to show each and every possible command in this tutorial; we'll be quite happy if we show enough of the basics to get you started! And, please, read the reference manual!

We hope to cover the following topics:

- ♫ Installing *MMA* on your system,
- ♫ A step-by-step example showing how to create a simple backing track,
- ♫ An example showing how to create a library file.

The examples may include songs which are probably **not** in the public domain. Certainly "Happy Birthday" should be public domain, but isn't. User's should note[1] that the copyrighted songs in this document are examples only. It is probably not legal for you to copy it or play them. If this document is violating copyright by including any of the sheet music used in the examples, please let us know and it will be removed.

<div align="center">
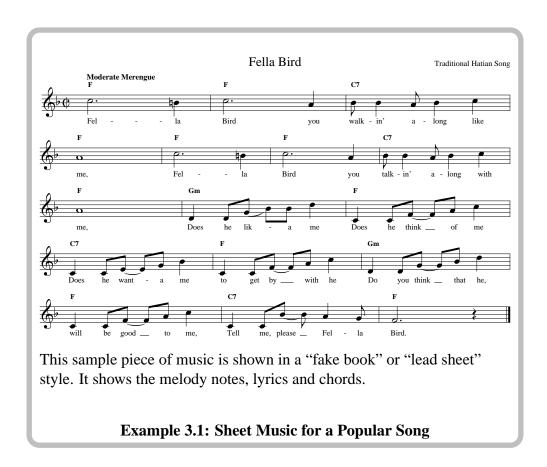
This is a **draft** document. Feedback is solicited!

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[1]Bad pun intended!

Installation

For now, you'll have to rely on the reference manual and the READMEs for this.

A Simple Example

3.1 Fella Bird, Basic Edition

Example 3.1: Sheet Music for a Popular Song

As a first try at making a MIDI accompaniment file, we have created the following file:

```
// Sample tutorial file
// Fella Bird, try 1

Tempo 120
Groove Rhumba


1       F
```

```
2        F
3        C7
4        F
5        F
6        F
7        C7
8        F
9        Gm
10       F
11       C7
12       F
13       Gm
14       F
15       C7
16       F  /   /  z!
```

After the comments in the file, the first line to note is:

Tempo 120

This sets the tempo, or speed, of the piece to 120 beats per minute. You may have to guess the tempo—very few pieces (especially in "fake book" style) will include a metronome setting. For slow pieces you might want to start with a tempo setting of "80"; for faster pieces like swings try around "150"; polkas and marches, which are really in $\frac{2}{2}$ time, may require fast sounding tempos like "250". Feel free to modify the tempo setting in the example files—you're not going to break anything.

Since we are using the standard library which was shipped with *MMA*, we can select one of the predefined grooves:

Groove Rhumba

Note that this command also sets up the "time signature" to $\frac{4}{4}$. Not quite the same as the "cut" time indicated, but close enough. And speaking of "close enough", we're using a rhumba rhythm instead of the merengue indicated in the score.

Finally, we have the chord information. The first bar (in the sheet music) indicates an "F" chord. So that's what we tell *MMA* to use:

1 F

We continue in a similar manner for the rest of the song.

We've simplifed the song a bit and show only one chord per bar. *MMA* automatically fills out the bars so that each has four chords. We could have entered the first bar as:

2 F F F F

or, more simply:

2 F / / /

and had the same result. But, who wants to do all that typing?

In the final bar, the last beat is a rest.

The line:

```
16 F / / z!
```

causes an "F" chord to be used on the first three beats, the fourth beat is completely silent due the to the "z!". Note the difference between a "z" and "z!"—the first silences all but the drum track, the second silences everything. See the reference manual for more details on "z".

Now, let's create our first MIDI file! If you are using the standard distribution, you should find a file "fella1.mma" in the tutorial directory. Change to this directory and type the command:

```
mma fella1
```

Your computer should run the python script called "mma" and process the file "fella1.mma". The MIDI file "fella1.mid" should be created. If this doesn't happen, please check your python installation, and make sure that you have installed "mma" where your shell can find it. If you are completely stuck, drop me an email.

Now, use your favorite MIDI file player to play the song.

How'd that sound? A piano doing some chords, a jazzy bass line, and a bit of drumming? Wonderful!

3.2   Fella Bird, Improved Edition

If you play the MIDI created in the previous section you'll find a number of things lacking. Certainly:

♫ It is hard to sing to because there is no aural indication of when to start,

♫ The whole piece is the same volume,

♫ It's a pretty short song, so let's play it twice.

The following example has a number of improvements:

```
// Sample tutorial file
// Fella Bird, try 2

Tempo 120
Groove Metronome2-4


z * 2


Groove Rhumba
Repeat
Volume mp
Cresc mf 4
```

```
1       F
2       F
3       C7
4       F
5       F
6       F
7       C7
8       F
9       Gm
10      F
11      C7


Decresc p 4


12      F
13      Gm
14      F
15      C7


RepeatEnding


16      F  /  / z


RepeatEnd


17      F  /  / z!
cut -1
```

Try running ℳℳA on this file and listen to it. Oh my, much better.

So, let's look at the changes.

Groove Metronome2-4

This sets the current "groove" to a metronome. To find this groove ℳℳA will automatically process the library file "metronome".

The metronome groove consists of wood-blocks being struck in a $\frac{4}{4}$ pattern. In order to "sound" the metronome, we need to create an empty bar:

```
z * 2
```

Mind you, we could have specified a chord here and gotten the same result (the groove has no definitions for any instruments other than the wood-block, so nothing else will sound). But, it seems to be more clear to use a "z".

Okay, we lied. We didn't create an empty bar for the metronome. If you're sharp you'll notice that the "z" is followed by "* 2". This means to play this bar two times. So, you get 2 bars of metronome. Cool.

We've not made any changes to the chords, but a few little changes do help this simple piece. Remember than dull, single volume? Well, have a look at the "volume" directives we've included in this version. We start the song off at a moderate volume, and increase it in several steps. And, at the end we use a "decresc" to reduce the volume to "quiet" over the final 4 bars.

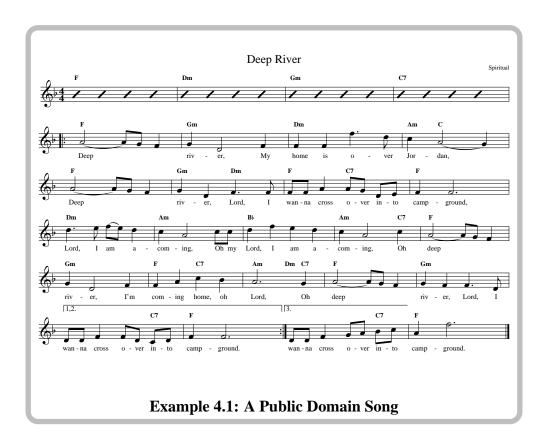Please refer to the *MMA* Reference Manual for salient details on the volume commands.

One minor change we did make in the chords is in bar 16. Note the change between this and bar 17. In the first we have a "z", the second a "z!". The difference between the two is that we want the precussion tracks to continue though the ending, but not on the final beat.

Finally, to ensure a complete cutoff in the final bar we have added a "cut" command. We're sure you'll find these minor improvements a great aid.

A More Complex Example

Fun time. We're going to take an old (slow) spiritual and surprise some people! We'll also learn about repeats, play with volumes, and do some interesting tempo things.

4.1   Deep River—A Swinging Spiritual

Example 4.1: A Public Domain Song

Rather than list the song separately, we've inter spaced the listing with textual comments. If you want to see the listing, it is in the **egs** directory.

We start out with a comment block.

```
// Deep River
```

Start off by selecting the 4 beat metronome.

```
Groove metronome2-4
```

We want to surprise our listeners a bit, so we start off with a "normal" tempo. The single "z" produces a 4 beat introduction.

```
Tempo 90
z
Groove FolkArticulated
```

As an introduction we play some nice, gentle chords for 4 bars.

```
1 F
2 Dm
3 Gm
4 C7
```

Surprise time. We are going to pump the tempo up to 140 BPM and select the Swing2 Groove.

```
Tempo 140
Groove Swing2
```

If we just did a switch of rhythm and tempo it'd be quite "interesting". We need some kind of a transition. Hmmm, what if we have two beats (not four) of swing drums? We could create a 2 beat measure, but it's quite cool to give the drummer a real workout. So, here we double the time and put in a single "z" bar.

```
Tempo *2
z
```

Now, we restore the tempo to the original 140.

```
Tempo *.5
```

Each time we restart the piece we want the same volume setting. This is bit of overkill, but it's supposed to be an example. So, we set the volume to "mf" and assign that to the **Volume Groove** "Main".

```
Volume mf
DefVolume Main
```

Now, just like the sheet music we insert a repeat start.

```
Repeat
```

Set the volume, and advise *MMA* that we'd like it get softer over the next 8 bars.

```
SetVolume Main
Decresc mp 8
```

This is straightforward chording.

```
5 F
6 Gm
7 Dm
```

```
8 Am C
9 F
10 Gm / Dm
11 F / C7
12 F
13 Dm
14 Am
```

Increase the volume over the next 4 bars, and more chording.

```
Cresc ff 4
```

```
15 Bb
16 Am / / C7
17 F
18 Gm
19 F / C7
20 Am / Dm C7
21 F
22 Gm
```

This is the first/second ending. Note how we've put a "2" at the end of the next line ... this forces 2 repeats.

```
RepeatEnding 2
```

```
23 / / / C7
24 F
```

For the second and third time we play this we want a more interesting accompaniment. So, we select "Swing2Plus" which adds a clarinet doing its thing.

```
Groove Swing2Plus
```

This ends the repeated section.

```
RepeatEnd
```

For our 2 bar ending we select the "Swing2End" groove. Next, we ritard our tempo over the next 2 bars.

```
Groove Swing2End
Tempo -40 2
```

```
1 / / / C7
```

The "Swing2End" groove has a neat little saxophone scale. But only on the third and fourth bars. It is a four bar sequence and the first two give the sax player time to rest. The **Seq 3** forces the sequence to use the bar with the solo. We also set the solo to a louder volume.

```
Scale Volume ff
Seq 3
```

```
1 F
Fermata -1 1 200
```

To finish off the example, we add a bit of time to the last note with a **fermata** command.
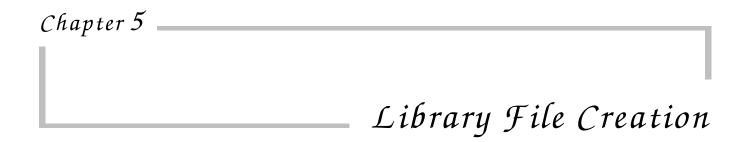
Compile this example and play it. Follow along on both the sheet music and the *MmA* file so you understand what's happening.

4.2   Future Directions

Well, that's two examples.

Certainly, the ideas here only scratch the surface of what *MmA* can do. We, as developers, can only hope that we've included enough commands and options for you to create wonderful music. And hope that if we haven't, that you let us know.

May we suggest that you list and examine some of the sample songs—then, it's all up to you. Have fun!

Library File Creation

For now, you'll have to rely on the reference manual and the READMEs for this.