Gmorgan

Documentation
Release 0.75
10/7/2015
by Robert Vogel

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Earlier Documentation by Josep Andreu & Gilles Maire

Table of content

A good technical document is a document you can read in your bed or under the shower or elsewhere but without the product in front of view.

Marylin Monroe

Gmorgan and this documentation is GPL licensed. It is free software available at sourceforge.com where you will find links to video demos.

This document heavily revised **2015** using LibreOffice Writer, is only in English. Translators invited.

Previous documentation is made with OpenOffice in sxw format.

You can convert it to HTML, MS Word, PDF, or Text format.

Open Office is Open Source, (http://www.openoffice.org)

I believe music is freedom

I - Introduction

Gmorgan is a midi processor, a pattern based generator, sequencer, a drum box. There is a demo on Youtube: http://youtu.be/3uIRq6M1tCs

It can be voiced using Linux synths, midi connected equipment, or using one or more of the many soundcards available. It is best to use a velocity sensing keyboard so that voices can be layered but it also possible to use the computer keyboard in an accordian-like mode or a piano style, the mouse can specify chords.

It recognizes chords being played on the keyboard, and on the background terminal prints the input notes in both numeric and alpha form. See the Youtube video links from the sourceforge home page to see it in action.

Other features include a rhythm arranger, a style based sequencer, midi recorder. For recording, you may prefer to use kmidimon.

Use aconnectgui or Jack to connect to a midi keyboard, a soundfont compatible soundcard, or a software synthesizer like fluidsynth or Timidity(++).

Gmorgan is free, GNU2, licensed software, available at

http://gmorgan.sf.net

This version of gmorgan (0.75), as far as I know, runs only in Linux. However it is written in C and C++, uses FLTK a good cross-platform gui, and ALSA audio, it probably would not be difficult to bring it to Windows or Mac. (Volunteers ?)

This English documentation has been updated for version .75, translations have not, nor has the [old] official web page of gmorgan:

For some excellent, platform independent, free software see impro-visor at http://www.cs.hmc.edu/~keller/jazz/improvisor/ and its large collection of leadsheets.

In source code for this version, there is a converter (**ls2gmod**) that will convert impro-visor songs to gmorgan format. If you convert them, you may need to supply patterns. The Chordtable resolves most of the notation differences. It is easy to edit the Chordtable for any other notation differences.

Requirements

Use the standard install procedure for gmorgan: configure, make, install as root.

If you do not install, files will not be in their expected places, so you will need to move them. For example, the Chordtable will have to be moved to your user directory. Otherwise it will not run.

Before you install, be sure you have:

- Linux.
- ALSA.
- FLTK Fast Light Toolkit.

Voicing :

You need to voice gmorgan for the synths you are using. You can change the midi channel, velocity, keyboard range, volume, or pan of any voice, and you direct that channel to any of a wide variety of internal or external devices. You can use a sound card, or with a good computer: timidity, hydrogen, soft synths, csound, and others in combination.

For best results, use a good velocity sensing Midi Keyboard. But read on if you just want to use your computer keyboard or mouse.

Older computers may have trouble keeping up or not sound too good. Slow graphics can cause rhythm problems. In this version (.75) the sequencer display has been lightened so that it should be better, but it doesn't scroll.

I.A -Before you start

The virtue of a Unix-like system is that many small programs can be combined to accomplish a larger job. So, in addition to the many synths available, midi monitors can record and show actual midi events. Try Kmidimon, available in most every major distribution, to monitor, record, and save midi files.

Connect hardware or synths using Qjackctl or Aconnectgui.

See http://tldp.org/HOWTO/MIDI-HOWTO-10.html

If you don't have a midi keyboard or sound card, install a virtual Sound Font synthesizer like **fluidsynth** or **Timidity**. Both are well documented.

Type this into the command line for details :

>**man timidity**

   or

>**man fluidsynth**

Try Hydrogen for drums. See aconnectgui to connect it.

If you have a sound card with wave table support, like a SoundBlaster, you need to load a Sound Font file. See notes by Takashi Iwai.

The "Sound Font file" contains the sampled sound. For example: GM Sound Font file "8RealGS20.SF2" available at :

  ftp://ftp.lysator.liu.se/pub/awe32/soundfonts/8RealGS20.zip

Find other SF2 files on sites like http://www.hammersound.net.

I.B -Command line syntax

When you start gmorgan, it is possible, but not necessary to use the command line. The gui panel, explained below, can set defaults more easily. Opening message looks like this:

gmorgan v0.75 - Copyright (c) 2003-2004 Josep Andreu (Holborn)

 ... modifications by Robert Vogel 2015

Usage: gmorgan [OPTION]

-h	**--help**	**display command-line help and exit**
-d File,	**--drump=File**	**loads the drum map file list**
-p File,	**--preset=File**	**loads the preset file list**
-l File,	**--load=File**	**loads the Styles**
-b File,	**--bank=File**	**loads the Sound Bank**
-r File,	**--rhyt=File**	**loads the Patterns**

Example files are located in your source directory in the data folder, and /usr/share/Gmorgan, but it is better to run and load files from your source directory because you can update or save them when you need to without being admin.

An example of command line to start Gmorgan overriding the config files:

```
./gmorgan -l MisStyles.gms -b MisProgs.gmo -r MisPat.gmp
```

I.C -The settings menu

Rather than using the command line, when you first start Gmorgan, you can establish default settings, save them, and restart Gmorgan. After that connect to your devices without entering anything on the command line.

Example files are located in /usr/local/share/Gmorgan in the default installation, but are also in the source data directory. It is better to use your home/source directory, because you can modify and save them without admin privileges.

From the main screen, go to **settings → globals** path and you will see the panel below:

Settings

Midi Input to:
```
Not Connected
Timer
Announce
```

Midi Output to:
```
Not Connected
TiMidity port 0
TiMidity port 1
```

Skin:
```
Default
Blue
Aluminium
Aluminium2
```

Sounds Filename:
/usr/share/gmorgan/MisProgs.gmo   Browse

Patterns Filename:
/usr/share/gmorgan/MisPat.gmp   Browse

Styles Filename:
/usr/share/gmorgan/MisStyles.gms   Browse

Preset List Filename:
/usr/share/gmorgan/GMPresetList.txt   Browse

Drum Note Name Filename
/usr/share/gmorgan/GMDN.txt   Browse

Help Filename
/usr/share/gmorgan/help/help.html   Browse

Skin Filename
/usr/share/gmorgan/skins/skin.txt   Browse

Mutes depends on patterns ☐   Save   Close

I.C.1-Global item

Two browsers of ALSA sequencer Midi Ports are shown in this window, one is for **MIDI In** an the other one is for **MIDI Out**.

Select one device in each one. When you restart Gmorgan, it will connect to the specified devices in your configuration.

For example, if you use timidity you can choose MIDI Output to timidity port 0. For help with timidity see this link.

http://linux-audio.com/TiMidity-howto.html

Browse your paths and select the files to load when it starts, the files are located in the [source]/data directory in the default installation.

The Preset file is named "GMPresetList.txt".

The Drum Note Name File is named "GMDN.txt".

The Help file is located in /usr/local/share/help/help.html in the default installation.

Mute pattern dependent, check this box if you want the patterns to control the mute (On/Off) of each accompaniment channel.
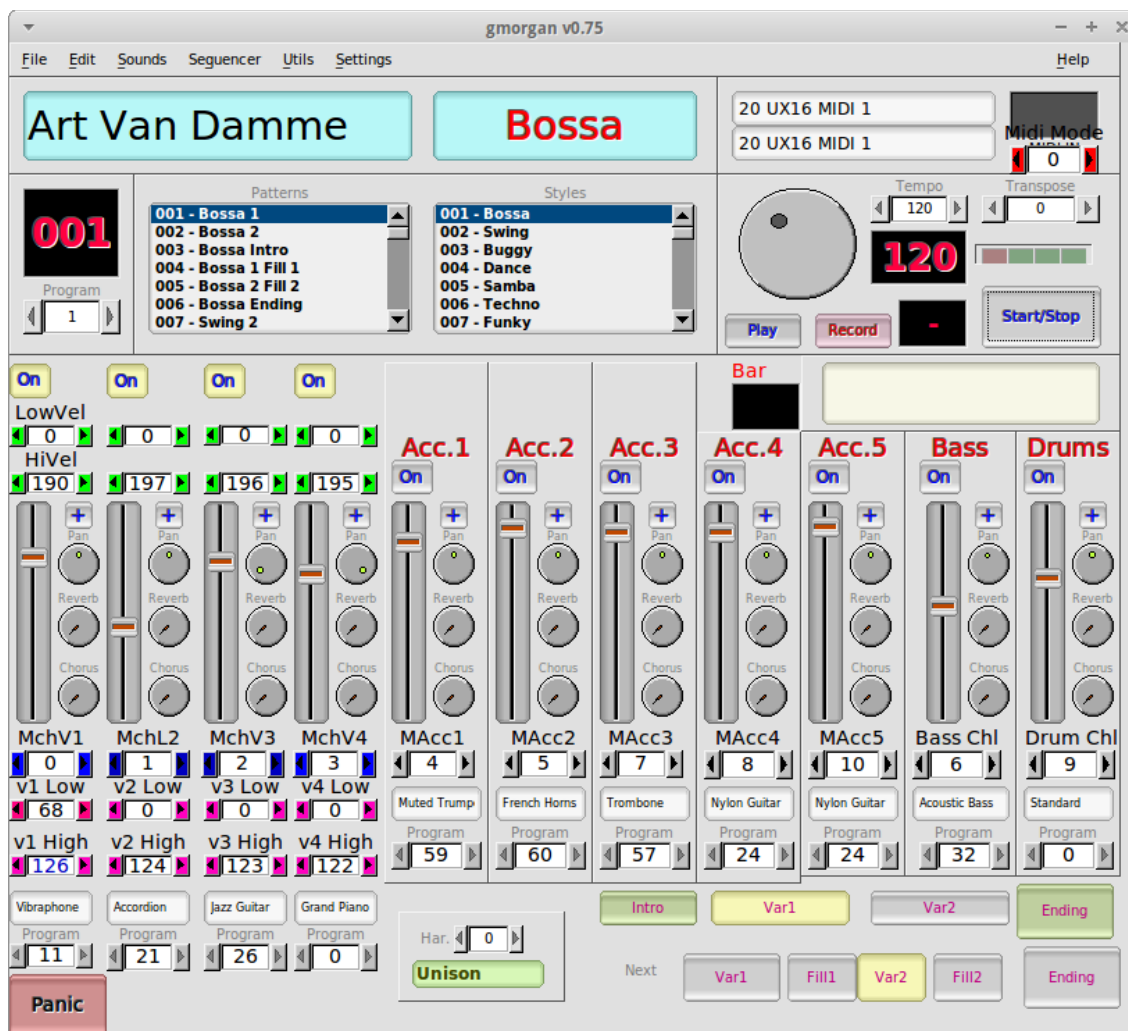
After entering the settings, save them, and restart the program.

You mostly likely will only need to do this once after installing.

If you do not install, files will likely not be where they belong.

II - Main Screen

This is Gmorgan's main screen.

Art Van Damme   Bossa   24 UX16 MIDI 1
                                          24 UX16 MIDI 1   Midi Mode
                                                                      0

On the left, the main screen information area displays the current sound selected. The **sound** determines settings for the first four (leftmost) voices.

The second area displays the **style** of music (here the Bossa)

Next the name of the MIDI input and the name of the MIDI output (I use a UX16 Yamaha usb to midi connector for the keyboard).

The last area **MIDI IN should** light when you play on your keyboard.

Below that is a switch. Many of the functions of the main screen are potentially duplicated on an attached keyboard, so this switch can inhibit control messages from reaching the keyboard.

001

Program

1

Just below the information area, the program button allows you to select the sound: loading the instrument and mixer settings for the first four voices.

Using velocity settings you can layer the voices. Using the high and low keyboard settings you can split the keyboard. (See the diagram below.)

II.0.1- Sounds

The left part of the screen defines the settings and MIDI programs for the first four voices, which altogether are referred to as Sounds.
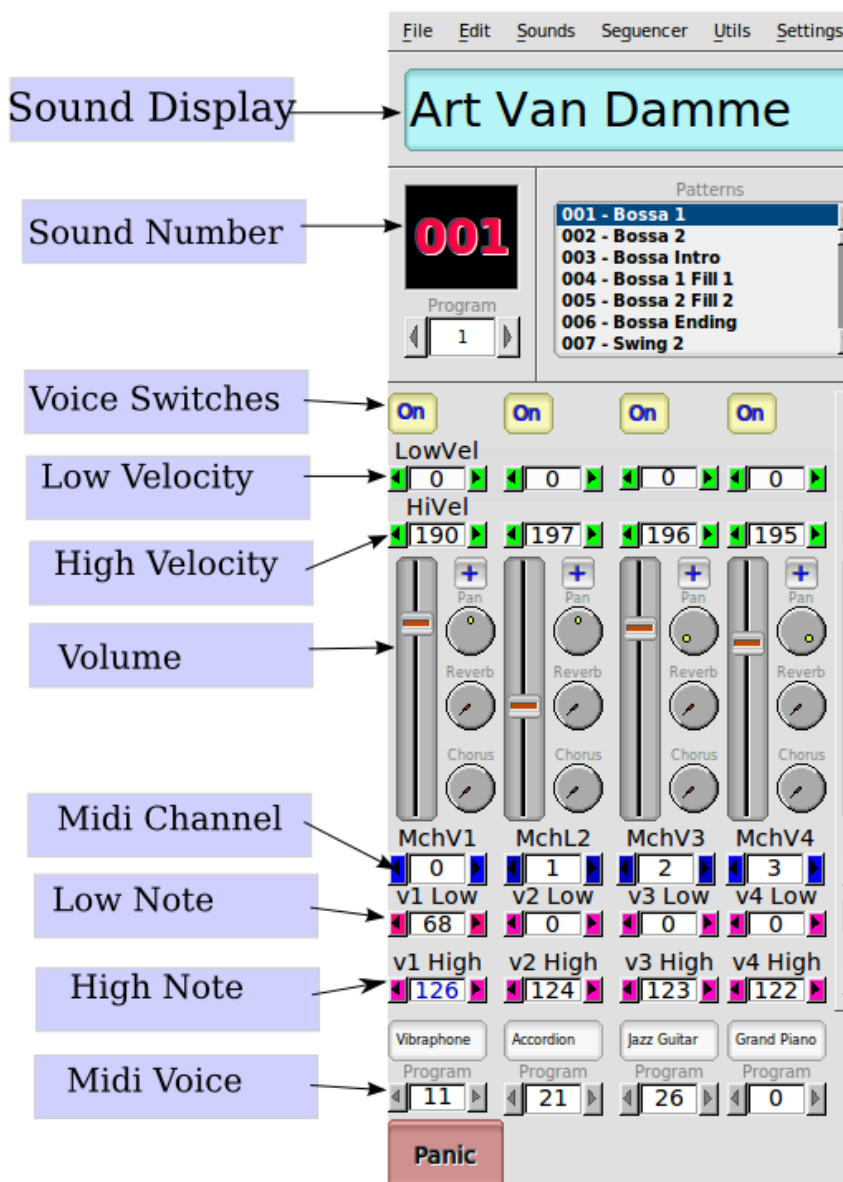
Change them as you play.

Gmorgan can load 100 sounds. Use a different file for 100 more.

The first (leftmost) voice controls harmony. You likely will not want to harmonize the entire range of the keyboard, especially if you play chords in your left hand. So set the low note for the first voice at the key where you would like harmonization to begin.

Using a keyboard, if you press more than two keys, chord recognition will take place. Not all combinations of keys will result in a valid chord. See the Appendix for a description of how it works.
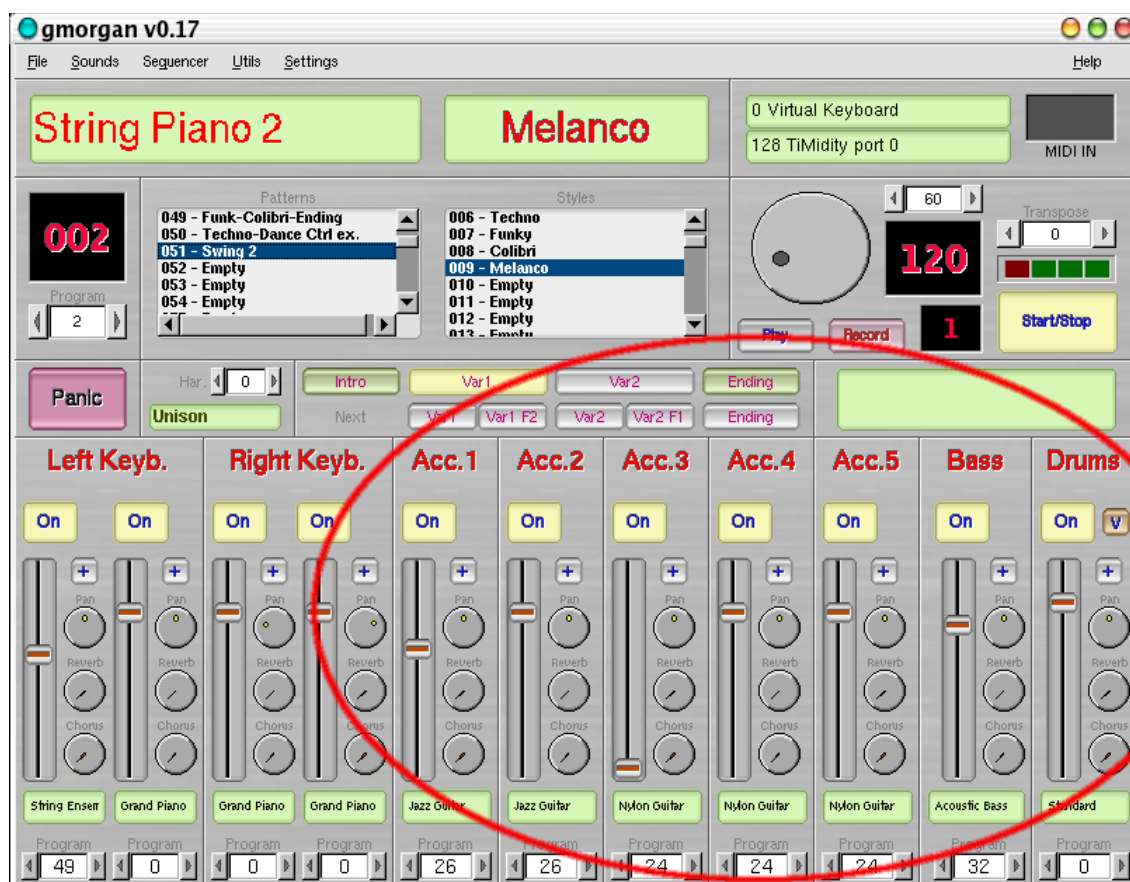
Settings for velocity can layer sound.

High and Low key settings can split the keyboard.

The lowest note of voice 1, the leftmost voice, determines where harmonization will begin.

Alt-B shortcut opens the Bank window to select. See the **File** menu to save the whole bank, or a single one.

II.0.2- Patterns

Gmorgan can load 500 patterns (use additional files for more), each pattern contains settings for the rest of the mixer, Acc1, Acc2 ,Acc3,Acc4,Acc5, Bass & Drums and the musical pattern itself. You can select with left click in the pattern browser or edit with right click.

You can save the all the patterns, or a single one.

Patterns parameters are modified in the Pattern Editor. (described below.)

All changes made in the mixer pattern section are stored in the pattern. Don't forget to save the changes.

Remember in General Midi, drums are assigned to Bank 128, you need to change the Bank MSB parameter to 128 in the Extra Params win (+) if you use General Midi Sound Fonts. Empty Patterns are "hardcoded"

to use the 128 Bank for the drums section, but you need to change it if you don't use General Midi.

II.0.3- Styles

Styles are groups of pattern.

Right click on the Style browser to display patterns selected.
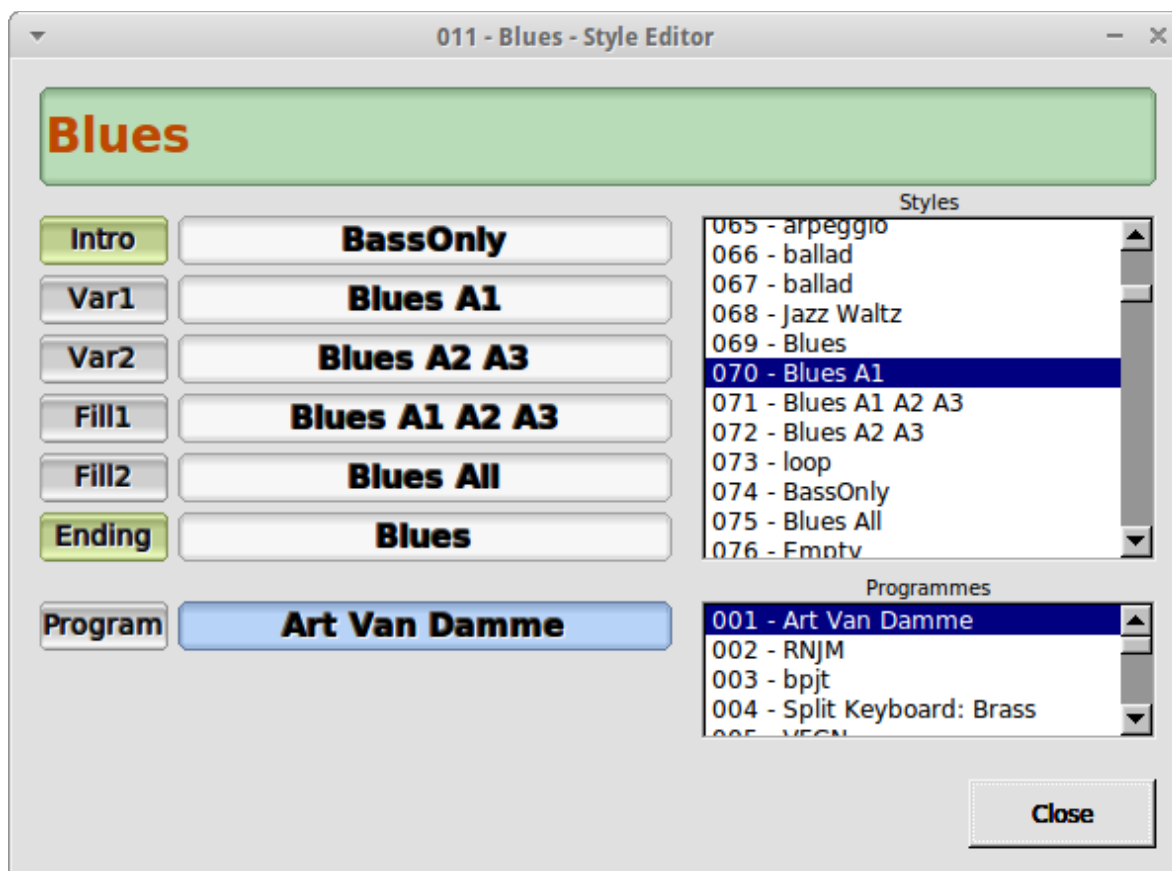
A style has a name like swing or waltz, and stores the *number* of each pattern for Var1, Var2, Fill1, Fill2, Intro, Ending, the tempo, and the sound program selected.

Using the File menu, you can save all styles, or one by one.

Two lines of buttons named **Intro** and **Next** can only be used when you select a style, the line Pattern changes in real time the played pattern, the Next Pattern line changes the pattern when they finish.

Var1 F2 and Var2 F1 changes the pattern playing the "F" (Fill) pattern before start the next pattern,

REMEMBER to edit your Fill1 and Fill2 patterns with minus bars than the Var1 or Var2 Pattern.

Shortcuts

Press F1 for Help.

Pattern:

- 1 -> Var1 The Main Window

- 2 -> Var2

- i -> Intro

- e -> Ending

Next:

- z -> Var1

- x -> Var1F2

- c -> Var2

- v -> Var2F1

– b -> Ending

III - Using Gmorgan

III.0.1- Hmode Panic

The **Hmode** can be turned on for the keyboard, as well as for accompaniments 2 -5.

- **mode 0**: unison doesn't harmonize,
- **mode 1**: thirds.
- **Mode 2**: sixths
- **mode 3**: triad 1
- **mode 4**: triad 2
- **mode 5**: block chords
- **mode 6**: drop 2

Careful with the polyphony of your devices because, the soli mode uses 5 notes for each note played , and -> 4 notes * 2 channels = 8 notes for each note played. If you play four .... = 32 notes, many devices don't support that polyphony.

- You can also use **Hmode** for the Accompaniments described below. (Try Blue Spoon for an example.)

The **Panic** button allows you to turn off all the sound produced by the MIDI keyboard. It will **mute** the entire MIDI keyboard.

III.0.2-The mixers

Each Mixer controls channel parameters.

You can set each mixer with the same kind of mixer settings with an extra setting for the drum mixer.

Turn each voice On or off with the left mouse button.

The vertical slider can increase or decrease the volume of each instrument.

The **Pan** button can be turned by mouse action and sets the direction of voice using the right and left channel.

The **Reverb button** in the same manner sets the reverb effect.

The **Chorus** button has the same effect.

Not all devices recognize (Reverb and Chorus).

The green area displays the name of instrument selected by click on < and > symbol on the bottom of the mixer.

The button "+" for each channel in the mixer open a window with extra parameters for this channel.

Octave is to change the musical octave using positive or negative values.

Bank MSB changes Banks (0-127) and **Bank Lsb** changes 127*Bank Lsb. + Bank MSB.

PORT means portamento, portamento makes glissando between two notes. Some instruments can't do that : the piano, and other can like the violin. Portamento has two values : the first is On/off button and the second is the time of portamento. Not all synths accept Portamento : timidity does but not the AWE sound blasters.
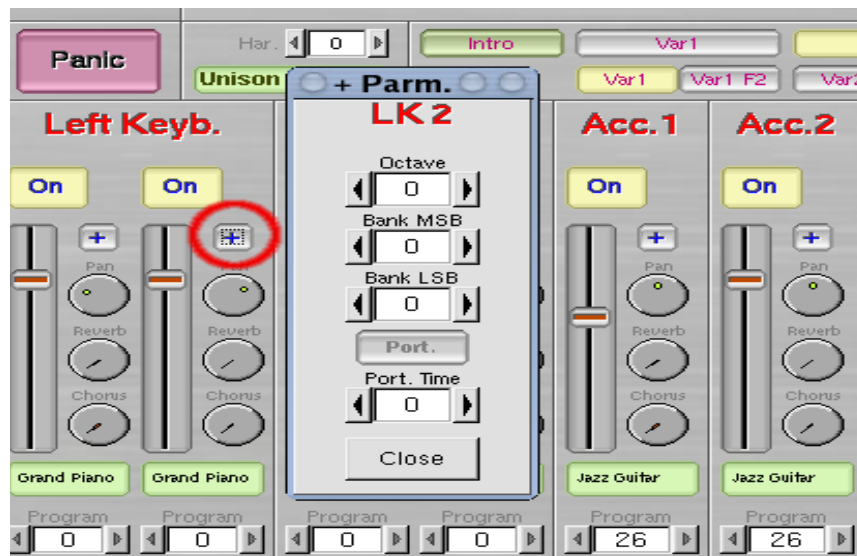
III.A -The Play/Stop Area

The big knob or the tempo counter (marked 120), can select the tempo of your song. The tempo is displayed in red on black background.

The other red/black just beside area show you the bar in style while music is played.

The **Record** button records your performance and also all Pattern/Sound or mixer changes during recording.

In the **Play** Mode the organ and the sequencer operation is disabled, but you can "play" with the mixer to correct volumes, but will not be saved. It is only for monitoring.

You can record 64.000 events.

If you find that is a limitation, try kmidimon.

The big **Start/Stop** button allows you to play the whole style without playing keyboard.

The **Transpose** area allows you to transpose the melody.

Hints for Recording

Is extremely hard to click on record and start play, but you can use a special trick: edit your favorite style and put as intro a count or a empty pattern, then select this style click Intro in the current Pattern line and Var1 in the Next Pattern line ... then click "Record", Gmorgan starts with the Intro pattern and then will change to the Var1 pattern.

III.B -The Pattern area and style area

In the pattern browser, selecting a line with the left mouse button, will selects the pattern.

If you select a line with the right button, you will see the pattern editor Window explained below.

The **Style** pattern allows you to define or select the variations of the style of music you want to play. To select the style, click with the left button of the mouse.

By clicking with the right button of you mouse, you get the style definition window.
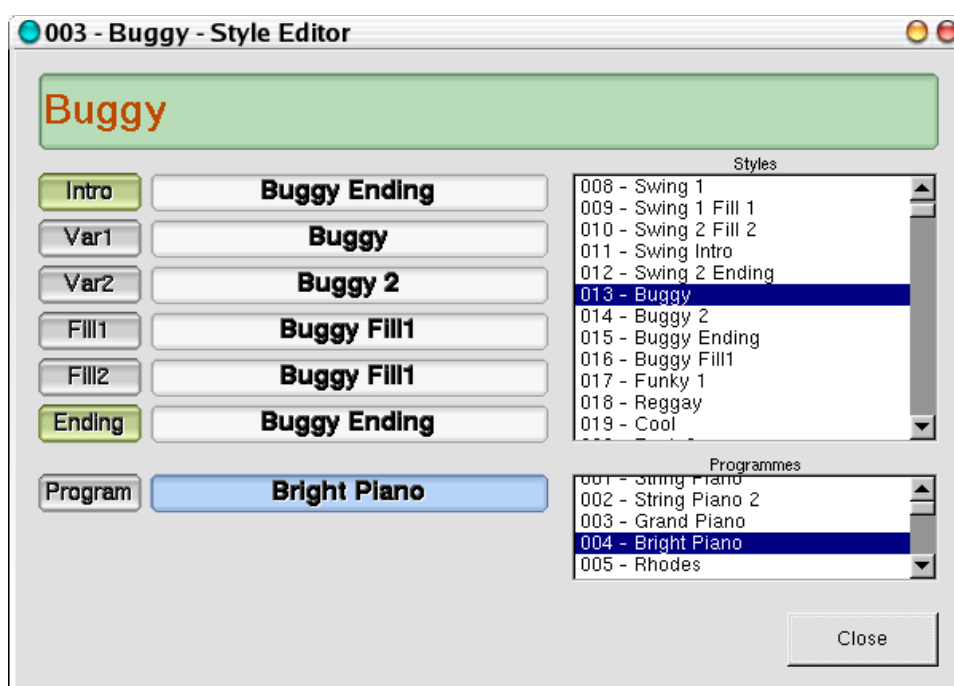
In this window, you can select the Intro by clicking on the left button of the first line, then select the style in the right area.

Repeat the selection on each the button (Var1,Var2 until Ending).

Change the name of the style by clicking on the green area (here buggy) to write your own style name.

IV - Accompaniments

IV.A -Edit Pattern Window

The Pattern window appears when you right click the mouse button in the Pattern definition browser in the main window. You can edit the pattern and listen at the same time.

Each group of four input area, represents 16th notes.

IV.A.1- Pattern Editor Help
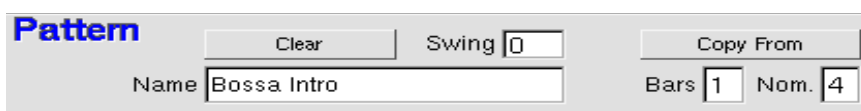
The Help Button displays values for notes and durations. Notes are relative to the chord currently being played.

Help

Note Edit Help

Value	Interval	Example C	Length	Note
-12	2m	Db	0	W NoteOff
-11	2M	D	1	Full
-10	3m	Eb	2	White
-9	3M	E	3	Dot Black
-8	4J	F	4	Black
-7	5dis	Gb	6	Dot Eigth
-6	5J	G	8	Eigth
-5	6m	Ab	12	Dot 16Note
-4	6M	A	16	16Note
-3	7m	Bb	24	Dot32Note
-2	7M	B	32	32Note
0	No	-		
1	1M	C		
2	2m	Db		
3	2M	D		
4	3m	Eb		
5	3M	E		
6	4J	F		
7	5dis	Gb		
8	5J	G		
9	6m	Ab		
10	6M	A		
11	7m	Bb		
12	7M	B		

Close

IV.A.2-Pattern item

The first parameters are the name, the number of bars, (1 to 8) and the Nominator, nominator means the "nominator bar" 3/4 4/4 -> 3 for Waltz, 4 for Disco .. etc.

The swing parameter is the amount of what each second eight note for each black note in the whole pattern delays. That's swing. :-)

The button **Copy From**, copies the whole contents of a pattern in the selected pattern. When you click on the **Copy From** button, you see a small windows asking you the name of the pattern you want to copy.
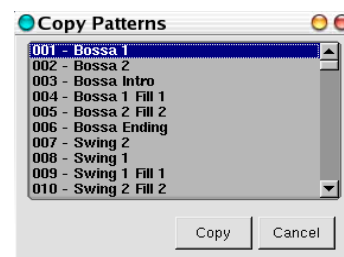
The button **Clear** reset the pattern to a "Empty" state.

IV.A.3- The Bars item

This counter, selects the bar of the pattern to be edited.

The Copy button in this section, copies the selected bar for all the sections in the pattern.

IV.A.4-The Drums

By clicking on **Global Drum Editor** button you get a window with the definition of all the drums.

Drum Edit Window

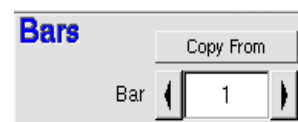|	1	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	2	_	_	_	_	_	_
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
High Q	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Slap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scratch Push	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scratch Pull	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sticks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Square Click	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Metronome Clic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Metronome Bel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
oustic Bass Dru	100	0	0	55	84	0	0	53	100	0	0	52	80	0	0	51	97	0	0	48	85	0	
Bass Drum 1	0	0	70	0	0	61	0	0	69	0	0	46	0	0	0	0	0	0	70	0	0	65	
Side Stick	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acoustic Snare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hand Clap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Electric Snare	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Low Floor Tom	100	58	81	48	85	53	72	46	95	58	83	40	82	55	76	44	100	55	82	49	81	54	7
Closed Hi-Hat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
High Floor Tom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedal Hi-Hat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Low Tom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Open Hi-Hat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Low-Mid Tom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hi-Mid Tom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Whatever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
High Tom	100	0	0	0	90	0	0	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ride Cymbal 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Chinese Cymba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ride Bell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tambourine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Splash Cymbal	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cowbell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Crash Cymbal 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Vibraslap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Copy From   Copy From   Clear Instrument   Velocity Mixer   Ok   Cancel

The **Copy** Button in this section, copies a bar, for the whole drum notes.

The **Copy** button, copies only the selected instrument. The button Clear, clear the bar for the selected instrument.

IV.A.5-Global Drum Edit

Click on the instrument note to select and hear the instrument.

Click on a grid and drag to change the value or use the keyboard to enter the velocity.

Instrument Copy: Copy bars form the selected instrument only.

Bars Copy : Copy bars from-to.

The groups of four inputs values are 16th notes for the bar, in the case of the drums, you select the note in the slider, the length is fixed, and only you need to put the velocity. (0-127).

Scroll the list of drum to choose the instrument you want, then click on the name of a drum to listen the sound produced by the drum.

At top of the window you can see the bar number (red number on green color).

The name of the drum instrument is on each line followed by input areas. Scroll bars make all values visible. Each area is 1/16 of tempo and you need to put a value :

· 0 : no sound

· 1 : min volume

· 127 : max volume.

of course all the values between 1 and 127 are possible.

IV.A.6-The Bass

The St-Lt slider means "Stacatto/Legatto", this affects the length of the note.

The Copy Button in this section, copies a bass bar.

The Clear Button clears bass notes in the selected bar.

Here you need to specify the note, the length and the velocity.

The note is referenced to the fundamental of the chord.

Value	Note
-12	2º grade flat
-11	2º grade
-10	3º grade flat
-9	3º grade
-8	4º grade
-7	5º grade flat
-6	5º grade
-5	6º grade flat
-4	6º grade
-3	7º grade flat
-2	7º grade
-1	
0	No sound
1	Fundamental
2	2º grade flat
3	2º grade
4	3º grade flat

Value	Note
5	3º grade
6	4º grade
7	5º grade flat
8	5º grade
9	6º grade flat
10	6º grade
11	7º grade flat
12	7º grade
13	8º grade

The **Length** is the same valor as ALSA sequencer

Value	Length
1	whole bar
2	white note
4	black note
8	Eight note
16	sixth note

also you can use the intermediate values for a "dot" note ..

The **Velocity** can have a value from 1-127.

IV.A.7-The Acc1

Acc1 plays a pattern of block chords with the root of the current chord on top.

The parameters are **Length** and **Velocity** as described above..

The St-Lt slider means "Stacatto/Legatto", this affects the length of the note.

The Clear Button clears Acc1 notes in the selected bar.

The Copy button copies bars like in the other sections.

IV.A.8-The Acc2 to 4

Edits **Acc2** or **Acc4**.

Is a melodic accompaniment, the parameters are much the same as the Bass section.

The **Mode** parameter is the same as **harmonization** on the main panel. Its value can be set for each of the accompaniments 2-5. See the description of harmonization above.

The **St-Lt** slider means "Stacatto/Legatto", this affects the length of the note.

The **Play Octave** button plays also one octave bellow the same note.

The **Thirds** button plays in "thirds" with the notes chords, maybe sometimes are forth..

The **Sixths** button plays in "sixths" edit the notes chords, and maybe sometimes are fifth..

The **Clear** Button clears Acc2 notes in the selected bar.

The **Copy** button copies bars like in the other sections.

IV.A.9-The Modes

Accompaniments 2-5 can use the harmonic mode as described for **Hmode** (above).

If you set harmonic mode to produce block chords on the keyboard, and also on the accompaniments 2-5, you could be playing 25 notes at a time...in addition to the bass and drum parts. Your equipment will tell you if that's ok.

IV.A.10-The Acc3 5

Edits **Acc3** or **Acc5**.

Is a melodic accompaniment harmonized with the chord notes, also has mode, but that is a sure way to harmonize. The parameters are the same like always.

The **St-Lt** slider means "Stacatto/Legatto", this affects the length of the note.

The **Clear** Button clears Acc3 notes in the selected bar.

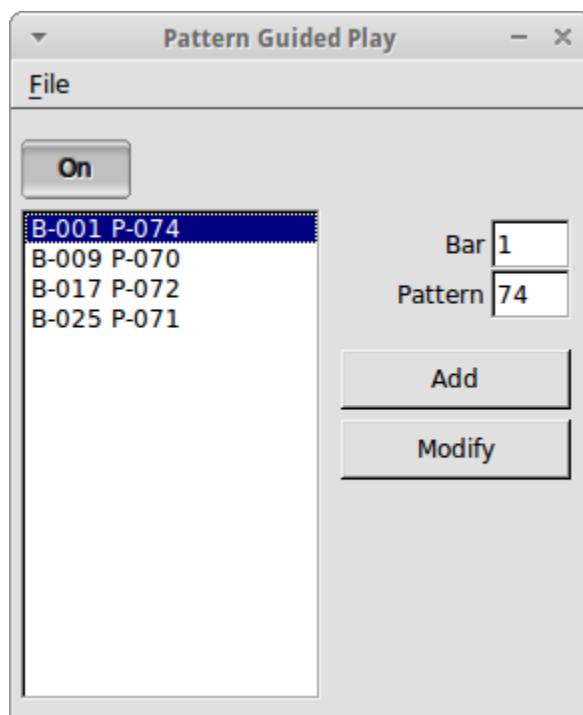The **Copy** button copies bars like in the other sections.

IV.A.11-The Acc4

Exactly same than **Acc2**.

IV.A.12-The Acc5

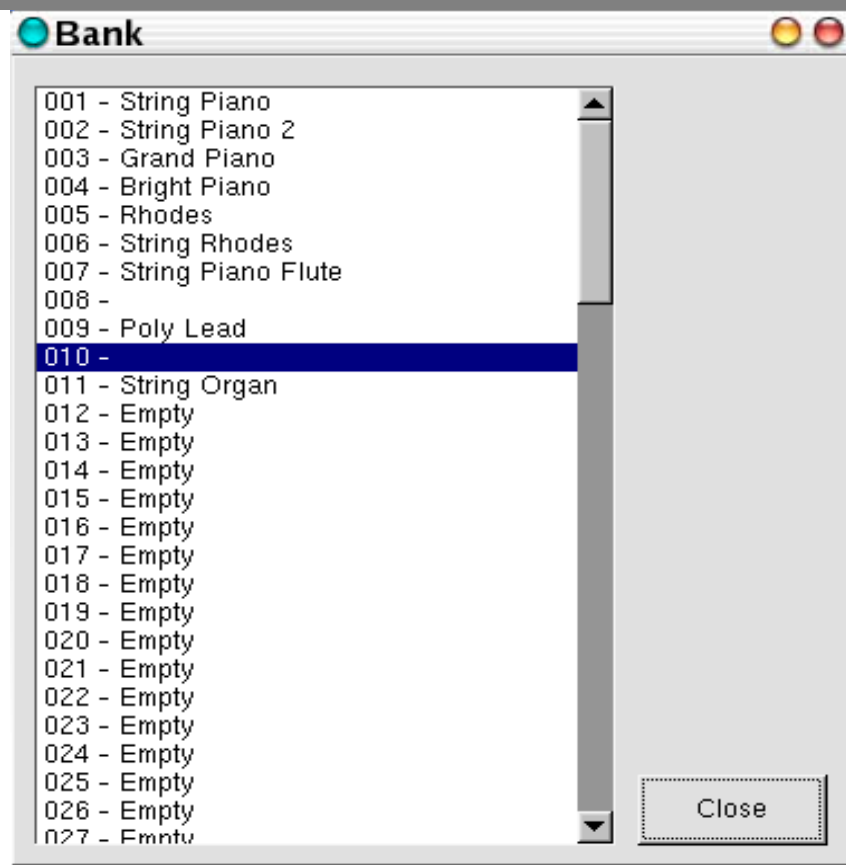Exactly same than **Acc3**.

IV.B -Guided Play

You can use the guided play by itself, or, turn it on to over-ride the patterns in the song loaded in the sequencer.

Just enter the number of the bar for your chosen pattern, and continue adding until you have reached the end of the song.

If the guided play ends first, the last pattern will continue until the end.

IV.C -The Sounds Bank

Bank

```
001 - String Piano
002 - String Piano 2
003 - Grand Piano
004 - Bright Piano
005 - Rhodes
006 - String Rhodes
007 - String Piano Flute
008 -
009 - Poly Lead
010 -
011 - String Organ
012 - Empty
013 - Empty
014 - Empty
015 - Empty
016 - Empty
017 - Empty
018 - Empty
019 - Empty
020 - Empty
021 - Empty
022 - Empty
023 - Empty
024 - Empty
025 - Empty
026 - Empty
027 - Empty
```
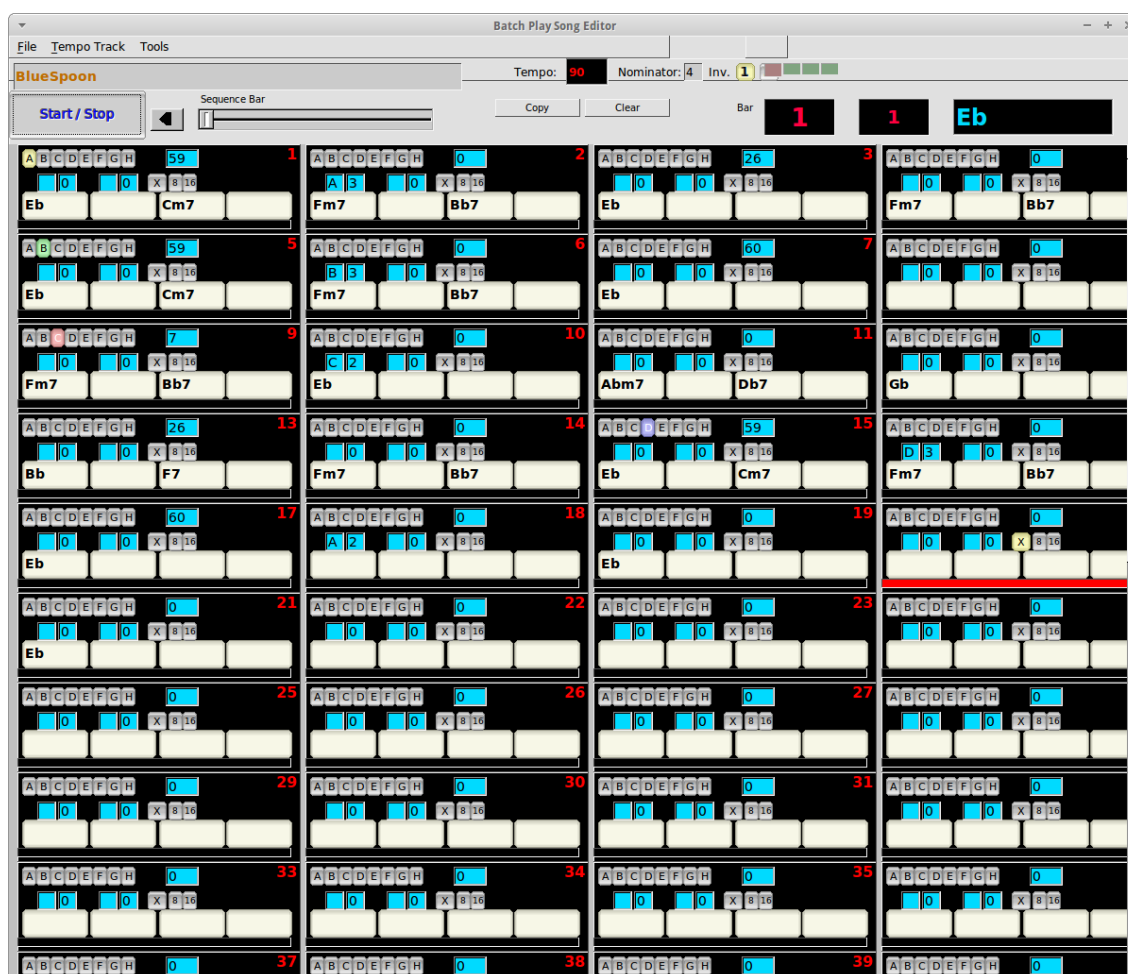
Close

Left click the main menu **sound** item or **alt/b** in main window to display this screen.

Left click in this window to change sound.

This panel can only be used for selection.

Save the sound file from the main screen menu. If you need, have several sound files.

V - The Sequencer

Open the sequencer from the menu in the main window.

If you have been playing in the main screen, using either chord recognition or the '**funny keyboard**' your changes will appear here. It is possible to enter your changes either way.

Go to File and select the **data** directory to find sample songs that you can try. The samples are also in the /usr/share/local directory, but, unless you are admin, you can't modify and save them there, so use the data directory instead.

V.0.1-The Scroll

128 bars for each song, each box represents a quarter note in this bar, Each can contain a chord. The available chords are defined in the chord table, which you can modify to any specification you like. Take a look at the chord table file using your favorite editor to see how it works. Description of the chord table is in the Appendix.

Load the "Mendigation" song for an example ... You can load it by the file menu in the sequencer screen (NOT from the file menu of the main window).

The diminished (ejem ...) chord C°7 is with the "grade" symbol.

° -> Shift + Alt-Gr + 0   in my keyboard.

Other notations can easily be incorporated using the **chordtable** file.

The eight   buttons **A,B,C,D,E,F,G,H**   are markers. Click on a letter to turn the marker on. Each marker can be selected only once.

The first of these pairs of values, The Go input value ..... can be filled with A B C D ...
Gmorgan check that before play the bar, the next blank input value are the times the sequencer goes to the marker, after this times the sequencer plays the bar.

The second Go input value .... can be filled also with A B C D ... and means ... "go after x times" ... the next blank input value is the times.

Together these emulate the first and second endings ... -1-----   -2----- in a score. But see the 'BlueSpoon' example above: the first 2 bars repeat three times and then continue...

The **Pattern** number defines accompaniments beginning in this bar, which continues until the next non-zero pattern. Change the accompaniment by changing the patterns in any measure. On a slow machine, there can be interruptions in rhythm caused by pattern changes. On a recent machine it shouldn't be a problem.

There is a drawback to this. You cannot repeat a song and have it change each time. The way around this is to use the **guided play screen** to over-ride pattern changes in the sequencer. When **guided play** is turned **on**, the sequencer pattern is over-ridden. (See the guided play screen below.

The song stops when an **X** button is encountered. Otherwise the song continues to eternity, but not when exporting a MidiFile. If X point is not present it stops in sequence bar 128.

Please see the song FourAntiR.gmsong for an example.

Use the slider to start the song at any position, carefully with this because if the selected bar does not contain a pattern number, that can produce unexpected results. At the next pattern change it will recover.
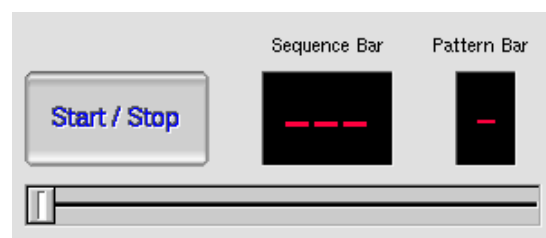
The 8 and 16 buttons means "rhythmic" anticipation, Gmorgan plays the chord in the next bar in the las 8 or 16 position of the bar. That has effect if the pattern has rhythmic anticipation.

V.A -Lilypond Print

On the sequencer menu: **file->print** does not print the file. It produces a lilypond file. To try it, install lilypond and execute it with the **.ly** file produced.

Just type this on the command line.

>lilypond filename.ly

I think it is mostly working, but lilypond will stop if the output is not in its format. In that case, you made need to make a modification to lilypond file using a simple editor. It's usually ok though.
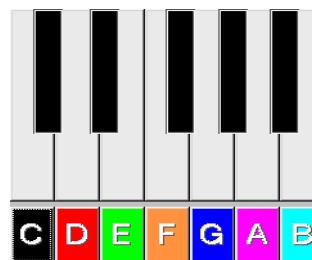
V.B -Utils

These menus are from the Utils menu of the main Window.

V.B.1- The Keyb Window

If you are entering a leadsheet or want to play using only the mouse, this is for you.

The "funny" chord virtual keyboard. Is divided in two sections, a musical keyboard and a box keyboard. That's the "clicked chord" .

In the musical keyboard part, click on the note.

- Left Click -----------> Maj7

- Right Click ----------> °7

- Shift + Left Click ---> 7

- Shift + Right .Click -> 7(Sus4)

- Ctrl + Left Click ----> m7

- Ctrl + Right Click ---> m7(b5)

- Shift+Alt+Left Click -> +7

- Shift+Alt+Right Click > 6

In the box keyboard use left and right click for obtain the different notes.

- Left Click -----------> Maj7

- Rigth Click ----------> bMaj7

- Shift + Left Click --> 7

- Shift + Right Click -> b7

- Ctrl + Left Click ----> m7

- Ctrl + Right Click ---> bm7

I am right handed, so to use the mouse with this, I cannot readily play the midi keyboard that I normally use.

To get around this problem, there is an accordion mode (from the **selector** panel) that maps the computer keyboard to frequently used chords. See notes about this.

Using this technique, your left hand is on the computer keyboard determining the chord, and the right hand is free to use the midi keyboard.

V.B.2- The Selector

Select the kind of value to change (Sounds, Patterns or Styles), enter the selected value, and pres Return.
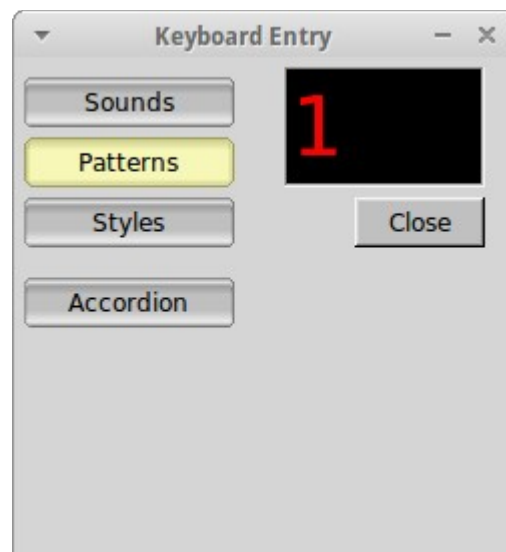
When this panel is active, and the accordion feature is on, the computer keyboard is analogous to an accordion keyboard. You can play chords (major, minor, 7ths, diminished) using your left hand while continuing to play melodic lines on your midi keyboard with your right hand.

The computer keyboard is mapped this way:

1 = Cdim7

q = C7

a = Cmaj7

z = Cm7

2 = Ddim7

w = D7

s = Dmaj7

x = Dm7

...

If you press the shift key the root changes to #.

For other selections, numbers are assigned in this way:

Key	*Value*
A	1
Z	2
E	3
R	4
T	5
Y	6
U	7
I	8
O	9
P	0

Backspace and Del keys clear entry even the entry displays the actual sound, pattern or style. Also the Arrows are available:
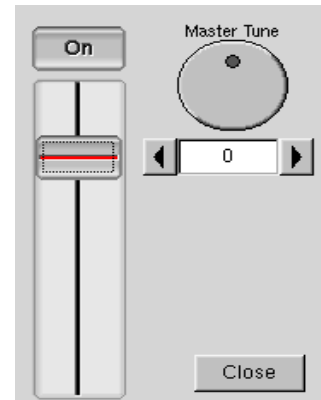
- "J" or Left Arrow Value -1

- "L" or Right Arrow Value +1

- "K" or Up Arrow   Tempo +1

- "M" or Down Arrow Tempo -1

V.C - The Master

V.C.1-Volume or Tuning

This is a MIDI volume, when is activated adds a percentage volume to the "saved" volume of each channel, in fact multiply (0-1.25) the volume of each channel.

This changes the **global tuning**.

V.C.2- The Preset Files

Settings->Preset brings up this panel.
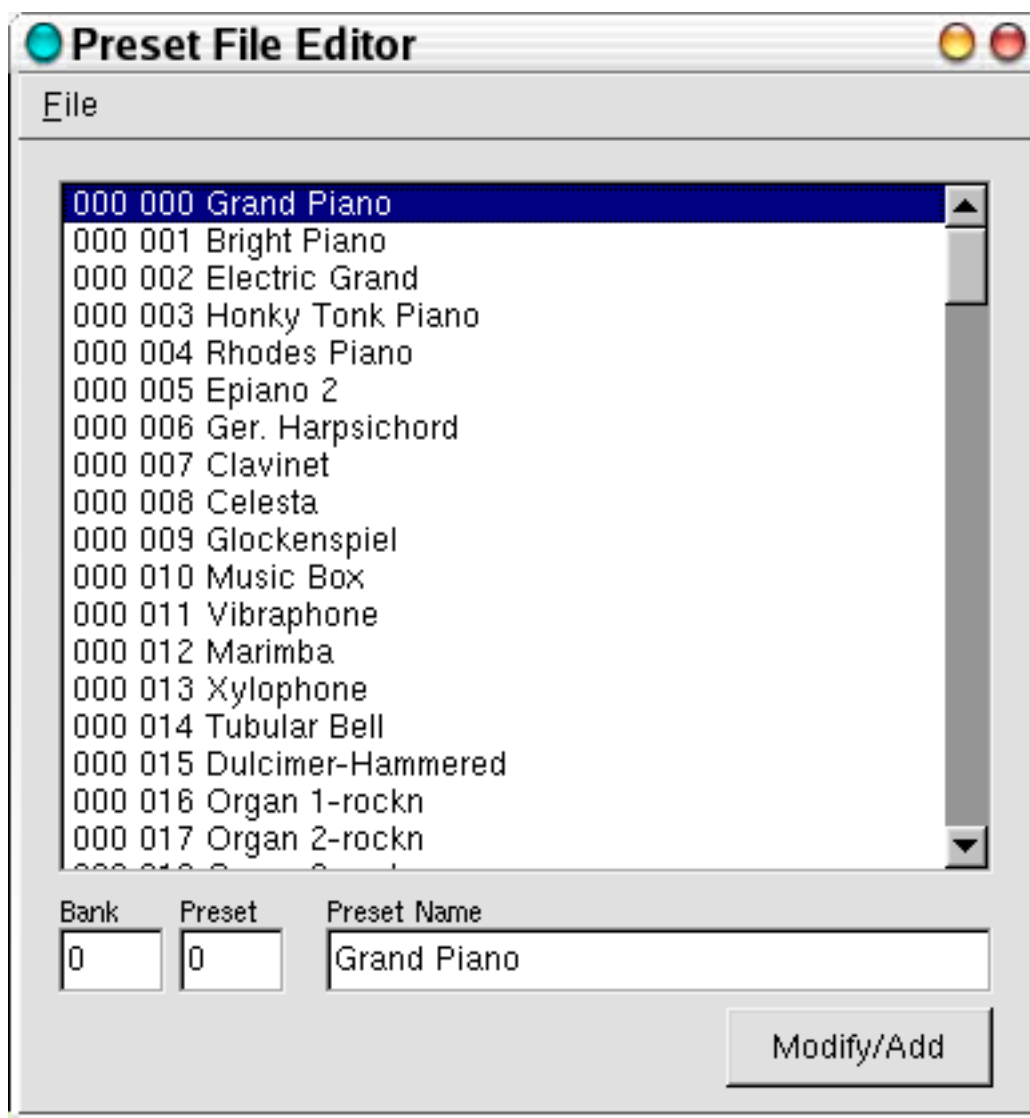
Gmorgan uses two files with the preset names, one for the bank-sounds names, and another for the drum-notes-names, Gmorgan install this two files in /usr/share/Gmorgan and are called GMPresetList.txt and

GMDN.txt. You can add Sound Font preset names by editing these files. Gmorgan loads both when start, or edit your own files and load with a command line parameter.

Don't forget to save the editor by the file/save menu at the end of your own modifications.

The format of Preset list is exactly the same as a small utility that comes with a wonderful program of Takashi Iwai called *vkeyb*, the utility is called *sftovkb*.

The format is :
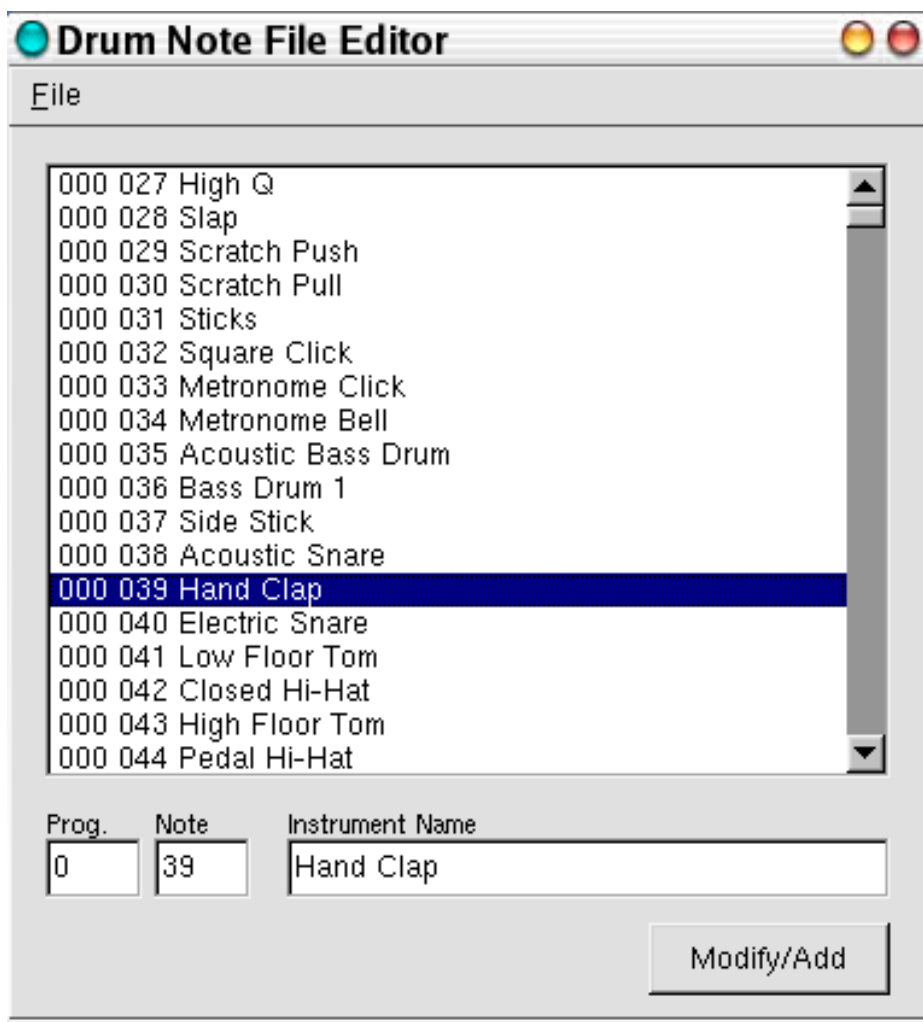
```
Bank Program Name

0    0        Piano
```

The format for Drum note file list is from my own . The format is:

```
Program Note Name

0 44 Pedal Hi-Hat
```

V.C.3- The Drum note file

Settings → Drum Note File brings up this screen.

Drum Note File Editor

File

```
000 027 High Q
000 028 Slap
000 029 Scratch Push
000 030 Scratch Pull
000 031 Sticks
000 032 Square Click
000 033 Metronome Click
000 034 Metronome Bell
000 035 Acoustic Bass Drum
000 036 Bass Drum 1
000 037 Side Stick
000 038 Acoustic Snare
000 039 Hand Clap
000 040 Electric Snare
000 041 Low Floor Tom
000 042 Closed Hi-Hat
000 043 High Floor Tom
000 044 Pedal Hi-Hat
```

Prog.   Note   Instrument Name

0   39   Hand Clap

Modify/Add

Modify the selected Program-Note Name or add new ones.

V.D -FAQ

What can Gmorgan do ?

Gmorgan is a pattern based sequencer, a drum box, a midi processor. It can drive a synthesizer, midi connected equipment, or a soundcard. It is best to use a velocity sensing midi keyboard so that the first 4 voices can be mixed or layered.

Demo at Youtube: http://youtu.be/3uIRq6M1tCs

How can I get answers to questions ?

Subscribe to the Sourceforge mailing list gmorgan-user for bug reports, support, announcements, questions, suggestions, and comments.

Please, if you enjoy this program, send your patterns or other ideas.

what are other Linux music tools ?

Ardour for recording, audacity for wav and mp3 recording/editing, Jackd or aconnectgui for the connections, timidity or qsynth for the synth. There are many others including Hydrogen, AMS, zynaddsubfx. Csound can also be used.

See notes on free software at http://www.seconnecticut.com/free_software.htm

Where can I find libraries files for gmorgan like pattern ?

Impro-visor (google it) has an imaginary book which can be converted to gmorgan using the ls2gmod utility included. After conversion you still need to apply Pattern files, repeats, and so on.

VI - Technical issues

Gmorgan uses scheduled events in ALSA sequencer, and is based on a miniArp.c from Matthias Nagorni.

In addition to a midi keyboard, you can also use a soundfont compatible soundcard or a software synthesizer like fluidsynth or Timidity(++).

This program was first developed in a debian PIII 933 with emu10k1, also was tested in a debian PII 300 with a old SB16 ISA card with timidity with kernels 2.6.0-test11 2.4.23.

It runs well in Ubuntu and in various Linux distributions, but Planet CCRMA is currently the best for audio applications. See http://ccrma.stanford.edu/planetccrma/software/

VI.A -FLTK

Originally, Gmorgan used the FLTK gui generator, called fluid, to produce gui code. Since I didn't know how to use it, I handcoded subsequent changes.

The original GMORGAN.fl file is still in the source code so you can see how it works and identify most of the widgets, but, as it stands, you can't use the code from it now.

http://www.c-jump.com/bcc/common/Talk2/Cxx/FltkFluid/FltkFluid.html

VI.B -The skins

See the fltk documentation for details to change the skins.

Skin files are located in /usr/local/share/Gmorgan/skins in the default installation.

The Skin file is named "skin.txt" and is located in the default installation in /usr/local/share/Gmorgan/skins/, then you can select a skin name. To change skin, edit this file.

Skins only work for the main window.

You need to know the name of the fltk widgets of Gmorgan and some patience to do new skins, run fluid (the Fast Light GUI Toolkit) and load Gmorgan.fl located at the src in the sources package, and you can obtain the names.

Bear in mind that code generated by fluid has been modified so that it cannot be readily regenerated.

See the skin examples.

VI.C - Chord Recognition

If you have a midi keyboard connected, Gmorgan can recognize chords played. This works because octaves do not have any bearing on the type of chord.

Keyboard input produces a vector of midi notes. Each midi note is reduced to mod 12, so only 0-11 is possible even if every single keyboard key is pressed. the intervals between them is figured, and then the signature is evaluated. Right now this is done using an elaborate series of switches, but might be done through table lookup.

I just thought the switches would be faster.

Works for most chords, although there is some ambiguity. For example E-G-Bb-D could be an Em9, but in context might be a C7.

Here is a listing of the Chord table: the first digit is the inversion number, for example the number 1 is root position.

That is followed by the chord identification, then a space separates the vector found.

See the code for specifics.

Here is a listing of the current table. You can add to it if you have different notation or more chords.

1 4,3,0,0,0,0,0,0

1M 4,3,0,0,0,0,0,0

1#913 3,1,3,2,1,0,0,0

1(b9)13 1,3,5,1,0,0,0,0

1+ 4,4,0,0,0,0,0,0

1+(Maj7) 1,4,4,0,0,0,0,0

1+7 4,4,2,0,0,0,0,0

1+7 5,4,2,0,0,0,0,0

1+7#9 3,1,4,2,0,0,0,0

17#5#9 3,1,4,2,0,0,0,0

1+M7 4,4,3,0,0,0,0,0

111 2,2,1,2,3,0,0,0

111-9 1,3,1,2,3,0,0,0
111-9 2,3,1,2,3,0,0,0
113 4,5,1,0,0,0,0,0
113 2,2,5,1,0,0,0,0
113 4,3,2,1,0,0,0,0
113b5 4,2,3,1,0,0,0,0
113sus4 2,3,2,2,1,0,0,0
16 4,3,2,0,0,0,0,0
1M6 4,3,2,0,0,0,0,0
169 2,2,3,2,0,0,0,0
1M69 2,2,3,2,0,0,0,0
169#11 2,2,2,1,2,0,0,0
17 4,6,0,0,0,0,0,0
17 4,3,3,0,0,0,0,0
17#5 4,4,2,0,0,0,0,0
17#9 3,1,3,3,0,0,0,0
17(b9) 1,3,3,3,0,0,0,0
179 2,2,3,3,0,0,0,0
179#11 2,2,2,1,3,0,0,0
17#11 2,2,2,1,3,0,0,0
17b13 4,3,1,2,0,0,0,0
17b9 1,3,6,0,0,0,0,0
17b9#11 1,3,2,1,3,0,0,0
17#5b9 1,3,2,1,3,0,0,0
17b9b5 1,3,2,1,3,0,0,0
17b9#1113 1,3,2,3,1,0,0,0
17b9(13) 1,3,2,1,0,0,0,0
1713b9 1,3,2,1,0,0,0,0
113b9 1,3,2,1,0,0,0,0
17b9(13) 1,3,3,1,2,0,0,0

17b9(13) 1,3,3,2,1,0,0,0
17b9(13) 2,3,3,1,2,0,0,0
17b9(13) 2,3,3,2,1,0,0,0
17b913 1,1,2,5,1,0,0,0
17b9b13 1,3,3,2,0,0,0,0
17b9b13 1,3,4,2,0,0,0,0
17sus4 5,2,3,0,0,0,0,0
17sus4b9b13 1,4,2,1,2,0,0,0
17susb9 1,4,2,3,0,0,0,0
19 2,2,3,0,0,0,0,0
19#1113 2,4,1,2,1,0,0,0
19#5#11 2,2,2,2,2,0,0,0
19-5 2,2,2,4,0,0,0,0
19/13 2,2,3,2,1,0,0,0
19b13 2,2,4,2,0,0,0,0
19b13 2,2,3,1,2,0,0,0
19sus4 2,3,2,3,0,0,0,0
1M7#11 4,2,1,4,0,0,0,0
1M7b5 4,2,5,0,0,0,0,0
1M7b6 4,3,1,3,0,0,0,0
1M7b9 1,3,3,4,0,0,0,0
1M9b5 2,2,2,5,0,0,0,0
1Maj11 2,2,1,2,4,0,0,0
1Maj6/9 2,2,3,2,2,0,0,0
1Maj7 4,7,0,0,0,0,0,0
1M7 4,7,0,0,0,0,0,0
1Maj7 4,3,4,0,0,0,0,0
1Maj7/9 2,2,3,4,0,0,0,0
1Maj79#11 2,2,2,1,4,0,0,0
1(b5) 4,2,0,0,0,0,0,0

1dim 3,3,0,0,0,0,0,0
1o 3,3,0,0,0,0,0,0
1dim7 3,3,3,0,0,0,0,0
1o7 3,3,3,0,0,0,0,0
1m 3,4,0,0,0,0,0,0
1m#5M7 3,5,3,0,0,0,0,0
1m(Maj7) 3,4,4,0,0,0,0,0
1m(Maj7)(b5) 3,3,5,0,0,0,0,0
1m11 3,2,0,0,0,0,0,0
1m11#5 2,1,2,3,2,0,0,0
1m11b5 2,1,2,1,4,0,0,0
1m13 2,1,2,2,1,0,0,0
1m6 3,4,2,0,0,0,0,0
1m69 2,1,4,2,0,0,0,0
1m6/9 2,1,4,2,0,0,0,0
1m7 3,7,0,0,0,0,0,0
1m7 3,4,3,0,0,0,0,0
1m7#5 3,5,2,0,0,0,0,0
1m7(13) 3,2,2,3,0,0,0,0
1m7(b5) 3,3,4,0,0,0,0,0
1m7b5 3,3,4,0,0,0,0,0
1m7/9 2,1,4,3,0,0,0,0
1m711 2,1,2,2,3,0,0,0
1m7911 2,1,2,2,3,0,0,0
1m7911 2,1,2,2,4,0,0,0
1m9#5 2,1,5,2,0,0,0,0
1m911 2,1,1,4,0,0,0,0
1m911 2,1,2,5,0,0,0,0
1m9b5 2,1,3,4,0,0,0,0
1mM7 3,8,0,0,0,0,0,0

1mM7b6 3,4,1,3,0,0,0,0
1mM9 2,1,4,4,0,0,0,0
1madd9 2,1,4,0,0,0,0,0
1maj13 2,1,2,2,2,0,0,0
1mb6b9 1,2,2,0,0,0,0,0
1sus4 5,2,0,0,0,0,0,0
1susb9 1,4,2,0,0,0,0,0
1xb913 1,2,2,5,1,0,0,0
2 5,4,0,0,0,0,0,0
2+7 2,4,4,0,0,0,0,0
27 2,4,0,0,0,0,0,0
27 2,4,3,0,0,0,0,0
27(Sus4) 2,5,2,0,0,0,0,0
27b9 3,6,2,0,0,0,0,0
29 2,2,2,3,0,0,0,0
2M7 1,4,0,0,0,0,0,0
2Maj7 1,4,3,0,0,0,0,0
2Maj9 1,2,2,3,0,0,0,0
2(b5) 6,4,0,0,0,0,0,0
2dim 6,3,0,0,0,0,0,0
2dim(Maj7) 1,3,3,0,0,0,0,0
2m 5,3,0,0,0,0,0,0
2m(Maj7) 1,3,4,0,0,0,0,0
2m7 2,3,0,0,0,0,0,0
2m7 2,3,4,0,0,0,0,0
2m7(b5) 2,3,3,0,0,0,0,0
2m711 7,3,0,0,0,0,0,0
2m9 2,2,1,4,0,0,0,0
2mM7 1,3,0,0,0,0,0,0
3 3,5,0,0,0,0,0,0

3 5,5,0,0,0,0,0,0

3+7 2,2,4,0,0,0,0,0

37 6,2,0,0,0,0,0,0

37 3,2,4,0,0,0,0,0

37(Sus4) 3,2,5,0,0,0,0,0

37-5 4,2,4,0,0,0,0,0

39 3,2,2,2,0,0,0,0

3Maj7 7,1,0,0,0,0,0,0

3Maj7 4,1,4,0,0,0,0,0

3Maj7 5,1,4,0,0,0,0,0

3Maj9 4,1,2,2,0,0,0,0

3(b5) 2,6,0,0,0,0,0,0

3dim 3,6,0,0,0,0,0,0

3m 4,5,0,0,0,0,0,0

3m(Maj7) 4,1,3,0,0,0,0,0

3m(Maj7) 5,1,3,0,0,0,0,0

3m11 2,7,0,0,0,0,0,0

3m7 7,2,0,0,0,0,0,0

3m7 2,1,3,0,0,0,0,0

3m7 3,1,3,0,0,0,0,0

3m7 3,2,3,0,0,0,0,0

3m9 3,2,2,1,0,0,0,0

3sus 2,5,0,0,0,0,0,0

4+(Maj7) 3,1,4,0,0,0,0,0

4+7 4,2,2,0,0,0,0,0

47 3,3,2,0,0,0,0,0

47(Sus4) 2,3,2,0,0,0,0,0

47b5 2,4,2,0,0,0,0,0

49 3,3,2,2,0,0,0,0

4? 1,3,2,0,0,0,0,0

4Maj7 3,4,1,0,0,0,0,0

4Maj9 3,4,1,2,0,0,0,0

4m6 4,2,3,0,0,0,0,0

4m9 4,3,2,2,0,0,0,0

4mMaj7 4,4,1,0,0,0,0,0

54ths 3,2,3,2,0,0,0,0

59 2,3,3,2,0,0,0,0

64ths 2,2,2,3,2,0,0,0

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