

Yamaha Keyboards – Keyboard and Style Articles

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1.1 Introduction

This documents describes

- the Yamaha keyboard style file format
- some methods for style file modification
- some playing tricks
- the Multi Pad format
- download, save and repair style files

1.1.1 General about Yamaha keyboard Style Files

The Yamaha keyboard style files contain a number of sections:

- A MIDI section, where the MIDI information are divided into parts
- A CASM section, where the Ctab are set.
- An OTS section, where the One Touch Settings are defined.
- A MDB section, where the Music Data Base records are set.

Read about Style Creation at http://www.jososoftware.dk/yamaha/articles/style_1.htm

Please mail me (js@jososoftware.dk) for questions, comments and suggestions for extending this course. Thank you.

1.2 Style MIDI Section Format

The MIDI section can be created and edited in sequencer software.

Read about the MIDI Format at http://www.jososoftware.dk/yamaha/articles/style_1.htm

The Yamaha keyboard styles are MIDI format 0 files. The internal structure of the style file can be viewed in any midi program that supports Text Markers (e.g. Cakewalk, Cubase, and WinJammer).

The MIDI section is divided in style parts with Text Markers (a normal MIDI "tag"), which defines where the MIDI data for this particular style part (e.g. "Main A") begins.

Each style part matches the keyboard model features. Normally keyboards can use all style files even though they may have fewer or more style parts.

The first measure holds voice definitions, volume, reverb, chorus, pan etc. settings. The following measures hold the accompaniment patterns.

If you change the extension of a style file to "mid", you can open it and listen to it with any midi player though it may sound strange.

NOTE:

Don't save a style file in sequencer software. The abovementioned additional sections will be lost.

1.3 Style CASM Section Format

CASM sections can be created and edited with my CASM Editor software at <http://www.jososoftware.dk/yamaha/software/casmedit/index.htm>

The CASM section holds the Ctab settings and some other settings of the style. Only some of these settings can be done at the keyboard.

The CASM section defines values for all channels (up to 16) and all style parts (up to 15 depending on keyboard model). For all these combinations, the CASM defines:

Redirection schema	This scheme defines how the 16 source channels are used in the 8 keyboard style channels: Rhythm Sub, Rhythm Main, Bass, Chord 1, Chord 2, Pad, Phrase 1 and Phrase 2. This feature is the key in utilizing the "Active Chords" settings.
Chord Root / Chord Type	These settings determine the original key of the source pattern (i.e. the key used when recording the pattern). The default is CMaj7 (the chord root is "C" and the chord type is "Maj7"). Valid Chord Types: Maj, Maj6, Maj7, M7#11, Madd9, M7(9), M6(9), aug, m, m6, m7, m7b5, m(9), m7(9), m7(11), mM7, mM7(9), dim, dim7, 7, 7sus, 7b5, 7(9), 7(#11), 7(13), 7(b9), 7(b13), 7(#9), M7aug, 7aug, 1+8, 1+5, sus4 and 1+2+5

Note Transposition Rule	NTR specify the transposition rule to be used by the transposition table. Three settings are available:	
	ROOT TRANS:	When transposed the pitch relationship between notes is maintained. For example, the notes C3, E3, and G3 in the key of C will become F3, A3, and C4 when transposed to F. Use this setting for parts that contain melodic lines.
	ROOT FIXED:	The note is kept as close as possible to the previous note range. For example, the notes C3, E3, and G3 in the key of C will become C3, F3, and A3 when transposed to F. Use this setting for chordal parts.
	GUITAR: (SFF2 format only. More in 1.6)	This is exclusively for transposing guitar accompaniment. Notes are transposed to approximate the chords played with natural guitar fingering.
Note Transposition Table	NTT specify the note transposition table to be used for source pattern transposition.	
	The following table types are available for NTR "Root Trans" and "Root Fixed":	
	BYPASS:	No transposition.
	MELODY:	Suitable for melody line transposition. Use for melody parts such as PHRASE 1 and PHRASE 2.
	CHORD:	Suitable for chord transposition. Use for the CHORD 1 and CHORD 2 parts when they contain piano or guitar-like chordal parts.
	BASS (Replaced by MELODY in newer models):	Suitable for bass line transposition. This table is basically similar to the MELODY table, but recognizes "on-bass" chords allowed in the FINGERED 2 fingering mode. Use primarily for bass lines.
	MELODIC MINOR:	This table lowers the third scale degree by a semitone when changing from a major to a minor chord, or raises the minor third scale degree a semitone when changing from a minor to a major chord. Other notes are not changed. Use for parts which respond to major/minor chords, e.g. Intros and Endings.
	MELODIC MINOR 5th Var.:	In addition to the table above, augmented and diminished chords affects the 5th note of the pattern.
	HARMONIC MINOR:	This table lowers the third and sixth scale degrees by a semitone when changing from a major to a minor chord, or raises the minor third and flatted sixth scale degrees a semitone when changing from a minor to a major chord. Other notes are not changed. Use for parts which respond to major/minor chords, e.g. Intros and Endings.
	HARMONIC MINOR 5th Var.:	In addition to the table above, augmented and diminished chords affects the 5th note of the pattern.
	NATURAL MINOR:	This table lowers the third, sixth and seventh intervals in the scale by a semitone when changing from a major to a minor chord; or raises the minor third, flatted sixth and flattened seventh intervals by a semitone when changing from a minor to a major chord. Other notes are not changed. Use for parts which respond to major/minor chords, e.g. Intros and Endings.
	NATURAL MINOR 5th Var.:	In addition to the table above, augmented and diminished chords affects the 5th note of the pattern.
	DORIAN:	This table lowers the third and seventh intervals in the scale by a semitone when changing from a major to a minor chord; or raises the minor third and flattened seventh intervals by a semitone when changing from a minor to a major chord. Other notes are not changed. Use for parts which respond to major/minor chords, e.g. Intros and Endings.

	DORIAN 5th Var.:	In addition to the table above, augmented and diminished chords affects the 5th note of the pattern.
	The following table types are available for NTR "Guitar":	
	ALL-PURPOSE:	This table covers both strummed- and arpeggio-played sound.
	STROKE:	Suitable for stroke-played sound of the guitar. Some notes may sound as if it is muted — this is normal condition when the chord is played on guitar by stroke.
	ARPEGGIO:	Suitable for arpeggio-played sound of the guitar. Using this table, four notes arpeggio sounds most beautiful.
High Key	HIGH KEY specifies the upper root limit. Chords with a root higher than the specified limit will be played in the octave immediately below the high-key limit. This setting is effective only when the NTR parameter (above) is set to ROOT TRANS. Example: When HIGH KEY = F. Root Motion: C C# D F F# Notes Produced: C3-E3-G3 / C#3-F3-G#3 / D3-F#3-A3 / F3-A3-C4 / F#2-A#2-C#3	
Note Low Limit / Note High Limit	NOTE LIMIT LOW and HIGH specify the low and high note limits for all notes in the specified part. Notes outside this range are transposed to the nearest octave within the range. Example: When LOW = C3 and HIGH = D4 Root Motion: C C# D# Notes Produced: E3-G3-C4 / F3-G#3-C#4 / D#3-G3-A#3	
Retrigger Rule	RTR (Retrigger Rule) specify how notes held through chord changes will be handled. These settings are available:	
	STOP:	The note is stopped, and resumes sounding from the next note data.
	PITCH SHIFT:	The pitch of the note will bend without attack to match the type of the new chord.
	PITCH SHIFT TO ROOT:	The pitch of the note will bend without attack to match the root of the new chord.
	RETRIGGER:	The note is retriggered with attack at a new pitch matching the new chord type.
	RETRIGGER TO ROOT:	The note is retriggered with attack at a new pitch matching the new chord root.
Bass On	If set, the channel recognizes on-bass chords allowed in the Fingered On Bass mode, regardless of the NTT setting.	
Auto Start	If set, the channel will start playing when a key is pressed (if Sync Start is On). Normally used for Drum and Percussion channels.	
Editable	If set, the channel can be edited in the Keyboard Style Creator.	
Active Keys	If a note value (e.g. the "A" note) is set to "On", all "A" notes in the channel will play. If a note value is set to "Off" all notes of this value in the channel will be muted. Valid note values: C - C# - D - Eb - E - F - F# - G - Ab - A - Bb - B	
Active Chords	If a chord type (e.g. the "aug" chord) is set to "On", all "aug" chords in the channel will play. If a chord type is set to "Off" all chords of this type in the channel will be muted. This feature in conjunction with the Redirection schema makes it possible to create multiple pattern channels for one voice, e.g. the Bass channel.	

	<p>Often one channel is designed for Major chords, another one for minor chords and a third one for 7th chords.</p> <p>Valid chord types: Maj, Maj6, Maj7, M7#11, Madd9, M7(9), M6(9), aug, m, m6, m7, m7b5, m(9), m7(9), m7(11), mM7, mM7(9), dim, dim7, 7, 7sus, 7b5, 7(9), 7(#11), 7(13), 7(b9), 7(b13), 7(#9), M7aug, 7aug, 1+8, 1+5, sus4, 1+2+5</p>
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1.4 Style OTS Section Format

OTS sections can be created and edited with my OTS Editor software at <http://www.jososoftware.dk/yamaha/software/otseditor/index.htm>

- The OTS section holds the 4 One Touch Settings (OTS).

Each OTS has some common settings for the entire OTS, and some specific settings for 4 channels:

- Right 1
- Right 2
- Right 3
- Left

1.4.1 Common settings

A number of System Exclusive (SysEx) messages controlling Harmony, Multi Pad etc.

1.4.2 Channel specific settings

- Voice Control: Program, Voice MSB, Voice LSB
- The 20+ MIDI Controllers for Modulation, Main Volume, Panpot, Expression, Sustain etc.
- The 10+ NRPN controllers for Vibrato Rate, Vibrato Depth, Vibrato Delay etc.
- The 4 RPN controllers for Pitch Bend Sensitivity, Fine Tune, Coarse Tune, Modulation Sensitivity
- A number of System Exclusive (SysEx) Messages for Velocity Sense Depth, Velocity Sense Offset, EQ Bass Gain etc.
- DSP Effect Settings

1.5 Style MDB Section Format

MDB sections can be created and edited with my MDB Editor software at <http://www.jososoftware.dk/yamaha/software/mdbedit/index.htm>

- The MDB section contains the Music Data Base records.

Each record has these data:

- Song Title
- Genre
- Keyword 1
- Keyword 2
- Tempo
- Time Signature

1.6 Style File Features

The features in Yamaha keyboard style files have changed over the years. The most important differences are:

Period ▶	Late 00's	Mid 00's	Early 00's	Mid/Late 90's	Early 90's
Models ▶	Tyros 3 PSR S710/S910 CVP 5xx	Tyros 1-2 PSR S700/S900 PSR 3000 CVP 4xx	PSR 2x00 PSR 1x00	PSR 9/8000 PSR 7/640	PSR 7000
Format	SFF2	SFF1	SFF1	SFF1	SFF1
CASM Format	2	1	1	0	0
Mega Voices	Yes	Yes	No	No	No
OTS and MDB sections	Yes	Yes	Yes	No	No
.sty file extension required	No	No	No	Yes	Yes
Max. MIDI resolution	1920	1920	1920	1920	480

Use my Style Format 2 Converter software from

<http://www.jososoftware.dk/yamaha/software/sf2c/index.htm> to convert format SFF2 to format SFF1

Use my Style Old Format Converter software at

<http://www.jososoftware.dk/yamaha/software/sofc/index.htm> to convert format SFF1.

The "Style Format 2 Converter" program will convert SFF2 styles to SFF1 styles with CASM section format 1.

If a SFF2 format style has to be converted to run at an older keyboard using CASM section format 0, e.g. PSR 9000 follow this procedure:

- Convert the style file in the "Style Format 2 Converter" program
- Then convert the converted style file in the "Style Old Format Converter" program while setting the appropriate parameters

1.7 Style Part Rearranging

1.7.1 Rearranging and deleting Style Parts

A special kind of style editing is rearranging and deletion of style parts, which can be used just to rearrange the style.

But it can be used for style file size reduction as well. This will make it possible to use large styles from newer keyboard models in smaller models with limited space for user styles.

Furthermore non-accessible style parts (e.g. Intro C) can be moved to accessible parts (e.g. Intro A) in these models too.

The operation can be done in several ways (within a single style / using more styles), and using different tools (dedicated software / MIDI sequencer software).

1.7.2 Delete and/or Remix style parts in a single style file

For this purpose my Style Remixer software at

<http://www.jososoftware.dk/yamaha/software/sremix/index.htm> can be used to some extent.

All style parts in a group (e.g. Intro) are interchangeable. But an Intro part can not be used as a Main part.

Style parts can be deleted by not selecting a part for the resulting style. This will reduce the overall style file size.

The non-MIDI data (CASM, OTS and MDB) are kept in the file and updated according to the changes made.

1.7.3 Mix style parts from more styles

For this purpose the Visual Styler software can be used. More at the Software Page at <http://www.jososoftware.dk/yamaha/software.htm>

All style parts in a number of styles are interchangeable. However the style may need some adjustments later to sound good (e.g. adjusting differences in volume levels).

Style parts can be deleted by not selecting a part for the resulting style. This will reduce the overall style file size.

The non-MIDI data (CASM, OTS and MDB) are kept in the file, but not updated according to the changes made.

1.7.4 Delete and/or mix style parts in a single style file or more style files

In MIDI sequencer software you can do anything.

But before you edit a style file in MIDI software, you will have to preserve the non-MIDI data.

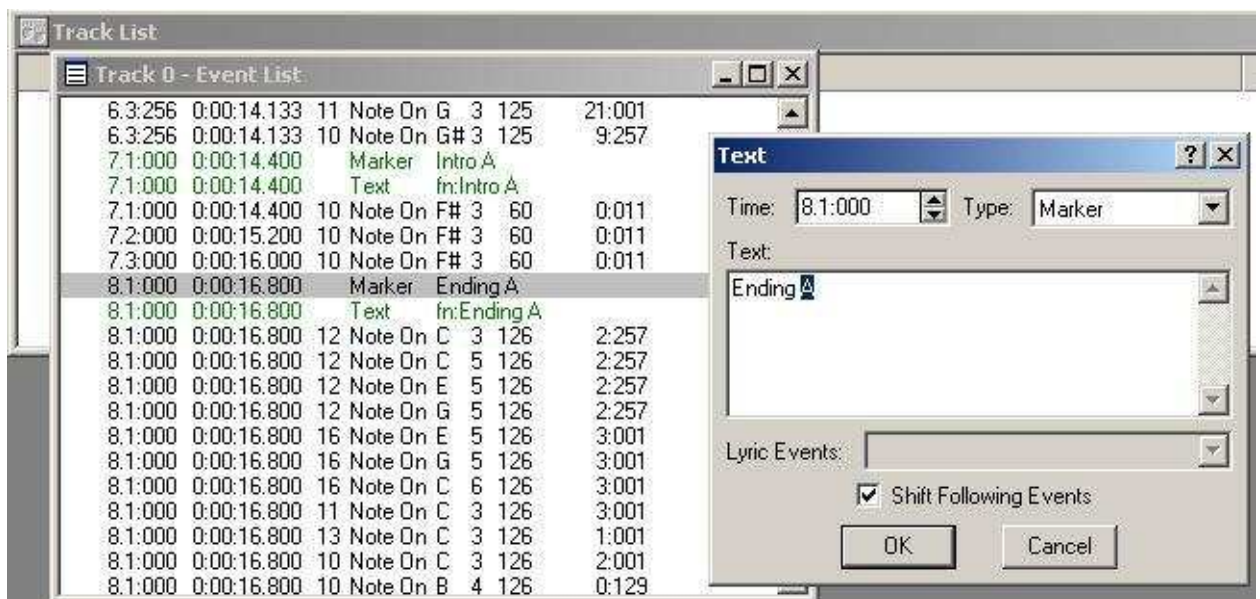
Otherwise these will be lost as most MIDI software treats non-MIDI data as garbage, and deletes this when the file is saved.

Use my Style Split and Splice software at

<http://www.jososoftware.dk/yamaha/software/sands/index.htm> to split the style file BEFORE editing in MIDI software and to splice the parts again AFTER this editing.

1.7.5 Advanced editing

Display the Event List in your MIDI software.



1.7.6 Switch two style parts

E.g. if Intro A and Intro B are to be shifted around:

- change "A" to "B" in the Text Marker event "Intro A"
- change "B" to "A" in the Text Marker event "Intro B"
- change the names in the following Text Text event (e.g. fn:Ending A) to same names as the preceding event. This event is for the keyboard display only.

1.7.7 Delete a style part

E.g. if the Intro A part is to be deleted:

- delete the 5 events in measure #7
- move all following events one measure, this is to start from 7.1:000.

1.7.8 Replace a style part with one from another style

E. g. if the Intro A part is to be replaced with a 2 measure long part:

- delete the 5 events in measure #7
- move Text Marker event "Ending A" and all following events to begin at 9.1:000
- open the other style
- copy all events from the new part's Text Marker event until the next Text Marker event
- paste the copied events to begin at the original start point at 7.1:000.

NOTE:

For detailed instructions about deleting, copying and pasting MIDI events consult your software manual / help file.

The non-MIDI data is by nature not updated when using MIDI software as editor.

Use my

- CASM Editor software at <http://www.jososoftware.dk/yamaha/software/casmedit/index.htm> to edit the CASM section
- OTS Editor software at <http://www.jososoftware.dk/yamaha/software/otseditor/index.htm> to edit the OTS section
- MDB Editor software at <http://www.jososoftware.dk/yamaha/software/mdbeditor/index.htm> to edit the MDB section

1.8 MIDI to Style Conversion

1.8.1 General

MIDI to Style conversion is technically possible, but the quality of the resulting style may be poor.

The main problem is that you have to reverse the MIDI file creation process to get elements (blocks of measures) for building a style file. It is almost like to reverse bread into flour, sugar, water etc., and use these ingredients for a cake. As it might be understood, this is a quite complex task.

Use my midi2style software at <http://www.jososoftware.dk/yamaha/software/midi2style/index.htm> - or one of the other tools listed at the Software page (<http://www.jososoftware.dk/yamaha/software.htm>) - to convert MIDI files to Style Files.

At the midi2style page you will find sample conversions, trouble shooting tips, a 'Getting Started' manual etc. for detailed information.

1.8.2 Styles vs. Music minus One

It must be noted that a style file can NOT be created by just eliminating the melody line in a MIDI file. This will only change the file to a "Music minus One" file.

As the measures have not been "neutralized" to the CMaj7 scale, the file will not respond correctly to the chords played with your left hand. These will so to speak be placed "on top" of the chords in the original file, which most probably will give unpredictable results.

Furthermore the file will not be loopable as it has no part Markers; and if the CASM section is not added it will not react properly on chord changes etc.

1.8.3 Style Conversion Problems

There are several reasons for poor conversion results:

- The MIDI file has only one intro and one ending, which makes it impossible to create several Intro and Ending Parts for the Style.
- The chord and scale detection may be fooled by un-complete chords, and not theoretical correct scales.
- The values of parameter changes, e.g. sustain changes, program change are not stored correctly.
- One or more MIDI file channels have both "Melody Line" and "Accompaniment Pattern" content.
- The MIDI file has limited variety in accompaniment patterns which makes it impossible to create several Main Parts.
- The MIDI file is musically too simple or ordinary to make a well working style file.

1.9 MIDI and Style Voices

1.9.1 Voice Types

Voices in MIDI files and in Yamaha keyboard styles can be either GM (General MIDI) voices (see list at <http://www.jososoftware.dk/yamaha/articles/gm.htm>) as defined in the MIDI Specifications; or XG (Yamaha defined) voices.

- GM voices are defined through the Voice Number in the MIDI Program Change event.
- XG voices are defined through the MSB (Most Significant Byte) and the LSB (Least Significant Byte) Bank Select MIDI events, followed by the Voice Number in the MIDI Program Change event.

By definition the MSB and LSB values for GM voices in Yamaha equipment are 0 and 0.

1.9.2 XG Voices

The XG voices are subdivided in a number of groups, as shown in the table below.

Voice Type	MSB	LSB	Voice Number
GM	0	0	0 to 127
XG - Non Drum Instruments	0	0 to 101	0 to 127
Panel	0	102 to 128	0 to 127
Mega and Super Articulation	8	1 or 2	0 to 127
Sound Effects	64	0	0 to 127
Drums	126 or 127	0	0 to 127

To get a list of the voices in your keyboard, consult your manual.

1.9.3 Voice Numbering

Please notice that the Voice Lists in newer Yamaha keyboard manuals lists the Voice Numbers (Program Change) ranging from 1 to 128. However programmatically the value range is 0 to 127. This often leads to errors, e.g. in Instrument definition files.

To find out whether the manual uses one or the other value range, check the Voice Number (Program Change) for Acoustic Piano.

If this is "0" the range is 0 to 127. If this is "1" the range is 1 to 128.

In all my software the Voice Number (Program Change) is assumed to range from 0 to 127.

1.9.4 Voice Selection

If a MSB or LSB value is defined AFTER the Voice Number, the keyboard will automatically change to the default voice (= the GM voice).

MSB Bank Select, LSB Bank Select and Program Change events can be placed anywhere in a style or MIDI file. This will redefine Voice selection in this style part.

If a MIDI or style file defines a Voice which is not present in the keyboard, the keyboard will automatically change to the default voice (= the GM voice).

MIDI or style files may sound in an unexpected way. The most common cause is that the file defines voices which are not found in the keyboard. And sometimes the default GM voice is rather far from the original voice.

This is a more complicated problem if the defined voice is a "Mega Voice" or a "Super Articulation Voice". These voice types hold special sound effects (e.g. Guitar Fret Noise) in the upper octaves (above the B5 note).

If these files are used on keyboards without these voice types, these voices will default to the GM voices, which often is an Acoustic Piano. This means that you will get a piano voice in a high octave (a "plink") instead of e.g. a Guitar Fret Noise.

1.9.5 Voice Problems

To correct Voicing problems, use my

- MIDI Mega Voice Cleaner software at <http://www.jososoftware.dk/yamaha/software/nomegainmidi/index.htm> to automatically change Mega Voices in MIDI files to equivalent voices.
 - MIDI Revoicer software at <http://www.jososoftware.dk/yamaha/software/revmidi/index.htm> to revoice all voices in MIDI files. This program can change a number of other parameters too.
 - Style Old Format Converter software at <http://www.jososoftware.dk/yamaha/software/sofc/index.htm> to automatically change Mega Voices in Style files to equivalent voices.
 - Style Revoicer software at <http://www.jososoftware.dk/yamaha/software/revmidi/index.htm> to revoice all voices in Style files. This program can change a number of other parameters too.
- To check if a given combination of Voice Number (Program Change value); MSB and LSB is a valid voice selection in your keyboard, use my
- Voice Finder software at <http://www.jososoftware.dk/yamaha/software/xgvoice/index.htm>

1.10 Style parts with different Time Signatures

The Yamaha style format does only allow one Time Signature in a style.

However some songs in 4/4 require a 2/4-break; and some songs (e.g. Granada) have two main parts: one in 4/4 and one in 3/4.

A solution might have been to insert new Time Signature MIDI events in the beginning of the parts which have different Time Signatures.

But the keyboard does not read these!

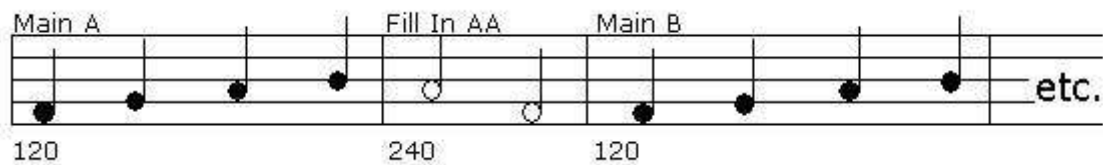
Consider this simplified style:

- Main A is in 4/4 time
- Fill In AA is in 2/4 time
- Main B is in 4/4 time



To make this work, follow these steps:

- Change all notes in Fill In AA to double value (e.g. quarter notes to half notes).
- Move note start to the double tick value (e.g. notes at "2" in 2/4 must be moved to "3" in 4/4).
- Insert a MIDI Tempo Event with the double tempo as the FIRST event in Fill In AA (e.g. 240 if the "normal" tempo is 120).
- Insert a MIDI Tempo Event with the "normal" tempo as the FIRST event in ALL other parts which must play in "normal" tempo



The keyboard reads tempo changes, and will always play in the last tempo given.

Therefore you MUST add the "normal" tempo to ALL other parts as the FIRST event in these style parts (right after the Part Marker).

Otherwise the keyboard will continue playing in the "abnormal" tempo when another style part is selected.

These changes must be done in sequencer software OR take a look at my Style Half Bar Fill Creator software at <http://www.jososoftware.dk/yamaha/software/filledit/index.htm> OR my Style Time Editor software at <http://www.jososoftware.dk/yamaha/software/stytime/index.htm>

1.11 Breaks and Variations

1.11.1 Variation

If you tap a Main button twice rapidly, the Main will change WITHOUT playing a fill in.

1.11.2 Break using 3 fingers = Drums will play

When playing in the ACMP mode AND using Fingered 1 or 2 fingering, a break can be made by pressing any THREE close notes (e.g. F, F# and G) at the left side of the split point.

Now only the drum channels will be playing until you play a chord with your left hand.

1.11.3 Break using 4 fingers = Drums AND Bass will play

When playing in the ACMP mode AND using Fingered 1 or 2 fingering, a break can be made by pressing any FOUR close notes (e.g. E, F, F# and G) at the left side of the split point.

Now only the drum and the bass channels will be playing until you play a chord with your left hand. The bass channel will play its pattern with the lowest note of the four notes pressed as the root note. In the example above the bass pattern will be played with E as root.

1.12 Multi Pads

A Multi Pads file is a format 1 MIDI file containing 5 tracks.

The Multi Pad file has resolution of 96 ticks at smaller/older keyboards (e.g. PSR 740); but Tyros Multi Pads has a resolution of 1920.

The format differs slightly between models.

1.12.1 Tyros

The first track (Track 0) contains 10 MIDI Text events ALL placed at MIDI tick 0.

- 1. text event has a length of 6:
"CMxxxx", where xxxx corresponds to Chord Match value in Multi Pad 1, 2, 3, and 4. Values for x are: 0 = No and 1 = Yes
- 2. text event has a length of 6:
"RPxxxx", where xxxx corresponds to Repeat value in Multi Pad 1, 2, 3, and 4. Values for x are: 0 = No and 1 = Yes
- 3. - 6. text event has a length of 52:
This holds the Multi Pad name and number, e.g. "NyHipHop1 yxxxx...", where y is the Multi Pad number, e.g. "N2HipHop1 2". Rests of the 52 bytes are blanks.
- 7. - 10. text event has a length of 6:
This holds information about the image attached to the MultiPad. E.g. "IyS375": "I" indicates image; "y" is the Multi Pad number; and "S375" is a reference to the image.

The following tracks (Track 1 - 4) are normal MIDI tracks with a length of one measure.

- The tracks contain voice definitions and note events.
- In Track 1 channel 1 is used; in Track 2 channel 2 is used; and so on.

1.12.2 Other models

Save a Multi Pad from your keyboard to a file. Open this file in your sequencer software and study the structure.

1.12.3 Creating Multi Pads

In Sonar (CakeWalk) you set the resolution in the Project Menu.

There is no "Loop" option when you record your PADs on the keyboard, but with Sonar (CakeWalk) you can set "Loop" command for PADs:



- CM - means "Chord Match"
- RP - means "Repeat"

The numbers after them are "Flags":

- 0 - means "NO" for each of 4 PAD-buttons
- 1 - means "YES" for each of 4 PAD-buttons

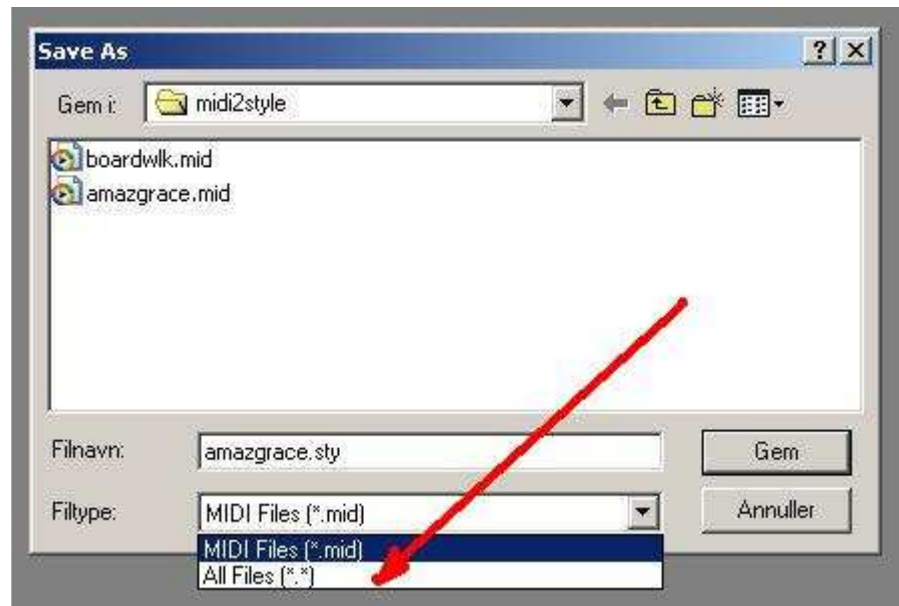
1.13 Downloading Styles to Disc

Yamaha keyboard style files are MIDI files, but with some additional non-MIDI data interleaved.

Therefore, when downloading style files the computer system suggests saving style files as MIDI files.

To save style files with the original file extension (e.g. ".sty") select "All Files (*.*)" when saving.

Otherwise the example style below will be saved as "amazgraze.sty.mid".



If style files have been saved with the erroneous ".mid" file extension; my Style File Renamer software can rename single files; or entire folders containing style files.

Another method is to rename the style file in Windows Explorer.

However the default option in Windows Explorer is to hide file extensions, which makes it hard to localize the style files.

Therefore, change this (to my opinion: foolish) default option in Windows Explorer like this:

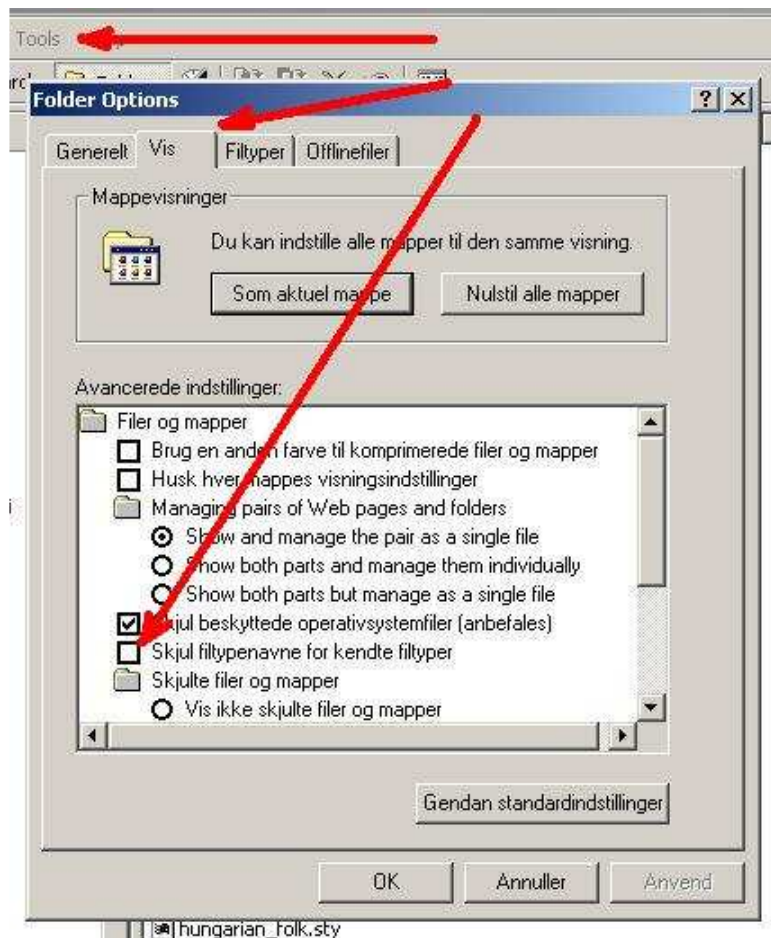
- Open Windows Explorer
- Open the 'Tools' menu
- Open the 'Folder Options' sub-menu
- Select the 'View' Tab

and you will see the figure to the right.

- Locate "Hide extensions for known file types"
- Make sure it is NOT checked
- Save by clicking the OK-button

Once done, Windows Explorer will always show file extensions.

- Now locate the file(s) to rename
- Right-click the file(s) and select "Rename"

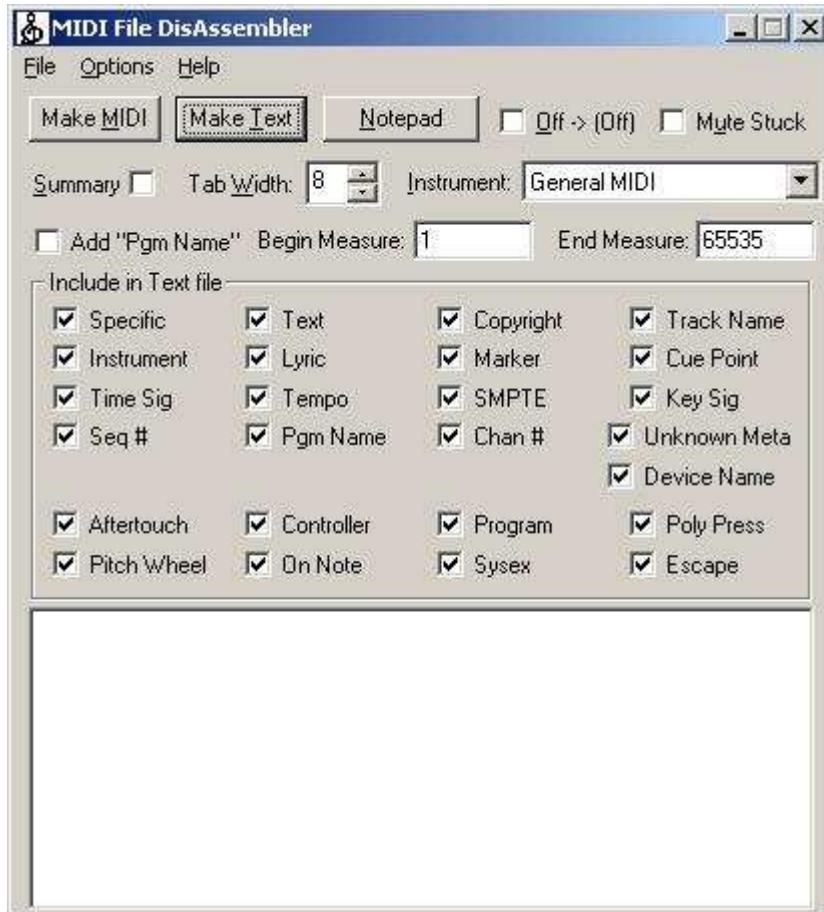


1.14 MIDI and Style File Repair

1.14.1 The software

For editing and repair of MIDI and Style files get the MIDI File Disassembler/Assembler software from Jeff Glatt at <http://home.roadrunner.com/~jgglatt/progs/software.htm>

This software translates MIDI data to readable text; and backwards again. Editing a text file is somewhat easier than editing the binary data in MIDI and Style files.



Remember to get MidiFile DLL and GenMidi DLL files from the page as well. These files are executables. Just run the files, they will install in the Windows folder.

1.14.2 Error correcting - Step 1

Click the "Make Text" button; and select the file to repair. If it is a style file - e.g. "HappyStyle.sty" - you will have to select "All Files" in the File Type list in the File Dialog.

During this process any error messages will be shown in the lower window; and a text file (e.g. "HappyStyle.txt") will be created in the same folder as the file opened.



Right now forget the loading error message.

1.14.3 Error correcting - Step 2

Click the "Make MIDI" button; and select the text file to repair; e.g. "HappyStyle.txt". This conversion will stop at the first error; and an error message is displayed.

```
Making the MIDI file...
Line 5441: Event time exceeds current time signature!
```

1.14.4 Error correcting - Step 3

Open the text file in a text editor by clicking the NotePad button. Or better select a text editor with line numbers; by selecting menu "Options" - "Set Editor".

```
Sommer_Stadt_Ty.txt
1 | MThd | Format=0 | # of Tracks=1 | Division=1920
2 |
3 | Track #0 *****
4 | Time      Event
5 | 1: 1: 0 | Time Sig | 4/4      | MIDI-clocks\clock
6 | | Tempo | BPM=125 | micros\quarter=480000
7 | | Marker | len=4 |
8 | Ox53 Ox46 Ox46 Ox31 | <SFF1>
9 | | Track Name | len=32 |
10 | Ox53 Ox6F Ox6D Ox6D Ox65 Ox72 Ox20 Ox53 Ox74 Ox6:
11 | Ox74 Ox20 Ox54 Ox79 Ox2E Ox53 Ox54 Ox59 Ox00 Ox00
12 | Ox00 Ox00 Ox00 Ox00 Ox00 Ox00 Ox00 Ox00 Ox00 Ox00
13 | | Sysex | len=14 |
```

(Top of text file showing MIDI header information)

Now go to the line mentioned in the error message; e.g. line 5441

```
Sommer_Stadt_Ty.txt
5440 | 168 | On Note | chan=13 | pitch=G :
5441 | 41840 | Off Note | chan=14 | pitch:
5442 | | Off Note | chan=14 | pitch=e :
5443 | | Off Note | chan=14 | pitch=g :
5444 | 1904 | Off Note | chan=11 | pitch:
5445 | | Off Note | chan=12 | pitch=g :
5446 | | Off Note | chan=12 | pitch=c :
```

In this file you will notice there is a Note Off event at tick 41840. This is an error; as the MIDI resolution in this file is 1920. It is not possible to know which the right value is; but it must be less than 1920 and less than the subsequent value, in this case 1904.

Correct the error; save the text file; and start over from Step 2 until this message appears:

```
Making the MIDI file...
Successfully created MIDI from Text.
```

1.14.5 Other errors

Invalid MIDI channel - Invalid Note number - Invalid Volume

```
146 | | Off Note | chan=10 | pitch=f#1 | vol=189
147 | | Off Note | chan=18 | pitch=e 3 | vol=64
148 | 28 | On Note | chan=12 | pitch=G-2 | vol=64
149 | 32 | Off Note | chan=13 | pitch=c 3 | vol=64
150 | 36 | On Note | chan=12 | pitch=C 3 | vol=111
```

For valid values read the MIDI Reference at http://www.jososoft.dk/yamaha/articles/midi_1.htm

Unknown Chunks - just delete!

```
Sommer_Stadt_Ty.txt |
8374: 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 (
8375:
8376: Unknown Chunk | ID=<
8377: <di> | len=1981838196 *****
8378: 0x79 0x6C 0x65 0x3D 0x22 0x74 0x65 (
8379: 0x6C 0x69 0x67 0x6E 0x3A 0x20 0x63 (
8380: 0x72 0x3B 0x22 0x3E 0x3C 0x64 0x69 (
8381: 0x79 0x6C 0x65 0x3D 0x22 0x70 0x6F (
```

These examples only show few error types; and only show few features in the program. Get it!