

# Style Files - Introduction and Details

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## 1 Preface

Modern Yamaha<sup>1</sup> keyboards provide sophisticated accompaniment functions. They have built in "accompaniment styles" for a number of different musical genres. But many keyboards are not limited to these built in styles. They provide the capability to use additional styles loaded into the keyboard, or even to create new styles. Additional styles may be purchased, downloaded from the internet, created from various sources or created from scratch.

There is a lot of information available on the internet regarding these styles. But this information is widely spread and difficult to find, especially for beginners.

This document tries to summarize all this information to provide an easy entry point for beginners as well as a reference for advanced style creators or software programmers. The document focuses on the technical details of styles. It does not cover the musical aspects for creating styles (see chapter 7.3 for links to style creation info).

As said, most of the information is already available on the Internet, due to the hard work and generosity of a lot of people. Please refer to chapter 6 for details about the contributing people. The authors of this document explicitly want to avoid the impression that they may claim credit for other peoples work.

The authors of this document are not affiliated with Yamaha in any way, and Yamaha has not specifically approved the inclusion any of the information therein. The information presented has assembled from material posted by others on the internet, or discovered through private experimentation; no representation is made regarding its accuracy or completeness.

## 2 Introduction

This document is about styles for Yamaha keyboards. Keyboards from other manufacturers may have similar style functionality, but the details are very different. So everything in this document is only related to Yamaha keyboards. Some features of styles are not available on all keyboards, especially not on older models.

There are two categories of styles:

- Built in styles
- Loadable styles

Smaller/older keyboards may have only built in styles and do not support loadable styles. Modern keyboards often support both categories.

A loadable style is a file, exactly like used on Microsoft Windows<sup>2</sup> computers. How this style file is loaded into the keyboard depends on the keyboard model. It may be loaded using a standard floppy disk, an USB stick, a Smart Media card, a CD or a connection to a computer. This implies that the style file may easily be transferred to/from a computer.<sup>3</sup>

Style files can be modified by some keyboard models as well as with programs running on a computer. There are a lot of free programs available that allow creating and modifying styles in any manner. (See chapter 7.1 for more information.)

The main subjects of this document are the details about these style files.

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<sup>1</sup> Yamaha is a trademark of Yamaha Corporation.

<sup>2</sup> Windows is a trademark of Microsoft Corporation.

<sup>3</sup> Periodically users report problems trying to access, view, rename or save style files.

To eliminate these problems, in Windows Explorer/Tools/Folder Options/View Tab, confirm the following settings:

'Hide extensions for known file types' is unchecked

'Display the content of system folders' is checked

'Show hidden files and folders' is checked.

### 3 Styles – What they are and how they work in general

A style is a special form of a type 0 midi file followed by several information sections. To function, it must be loaded into the PSR. This process reads the file and establishes some of the instrument settings based upon commands in the midi and information sections. When the accompaniment is started (via synch start, the Start button or an external midi command) the portions of the midi section are played in response to the state of the front panel style control buttons.

Internally, a style starts by specifying the tempo, the time signature and the copyright followed by several sections that are defined by marker events. The first two, SFF1 and SInt, occupying the first measure of the midi section, include a Midi On plus midi commands to setup the default instruments and the amount of DSP (only DSP1 as a system effect is available for styles) used for each track. Each of the other markers (Intro A, Main B, etc) defines musical patterns that are triggered by the keying chords. Intros play only once when triggered and then turn control over to the next section selected by the panel buttons. Main sections (A, B, C, and D) repeat until the style is stopped or an Ending or an Intro is selected. Ending sections play once and the style is stopped. Fill Ins are triggered manually, or play automatically (if Auto Fill is On) when a new main section is selected.

Fill Ins are limited to one measure in length; other sections can be any length up to 255 measures, but are typically 2-8 measures.

### 4 Style File Format

This chapter describes how the various data is stored in style files. This includes the structures of the data, their sizes, their order, their coding, etc. This information is especially useful for programmers.

A description about the contents and detailed meaning of the data (i.e. everything that may be added or modified with one of the special style editors) is described in chapter 5. This information is useful for programmers as well as for all people trying to create or modify styles.

#### 4.1 Conventions

Throughout the document numbers are written in different kinds, depending on what is appropriate in the context:

- Decimal                    Decimal numbers are written without any prefix or suffix, e.g. 256.
- Hexadecimal            Hexadecimal numbers are written with the suffix "H", e.g. 1FH, 25H.
- Binary                    Binary numbers are written with the suffix "B", e.g. 00001110B

See the appendix A for a decimal-hexadecimal translation table.

#### 4.2 General

Style files may have different file extensions. Currently the following are known:

- ".sty"                    Standard
- ".bcs"                    Basic
- ".prs"                    Professional
- ".sst"                    Session
- ".pcs"                    PianoCombo

- ".pst" Pianist

All these style file types have the same format, which is described in this chapter. Older keyboard may require that the style file has the extension ".sty". In this case, just renaming the style file to the extension ".sty" will often work.

Currently not much is known about the effect of these style file extensions except that the style file type is displayed together with the style name on some instruments.

### **4.3 General structure of a style file**

A simple style file is just a standard midi file. This midi file has to be a midi type 0 file. It contains the musical sequences of the style as well as some control information. The midi data has to follow a number of rules. These rules are described in detail in chapter 4.5.

Modern style files are extended by adding special data sections at the end of this midi file.

An extended style file consists of one or more different sections of the following types:

- MIDI section (mandatory)
- CASM section (optional)
- OTS (One Touch Setting) section (optional)
- MDB (Music Finder) section (optional)
- MH section (optional) (very rarely used)

The midi section is the only mandatory section. It contains the musical sequences of the style. An optional CASM section contains extended information for the keyboard how to interpret and control playing of the style section. While its inclusion is optional, very likely the style's author used it to convey important information and the style will not reproduce properly if removed. The OTS (One Touch Setting) section contains information for the four settings selectable from the keyboard. These can be used to easily setup the keyboard before using the style. The MDB (Music Finder) section contains information for what songs this particular style is appropriate. This information is automatically added to the Music Finder function, if the keyboard supports it. In very rare cases there is a MH section at the end of the style file. Nothing is known about the purpose of this section. For details see the next chapters.

Only one section of each type may be present in a style file.

Note that older/smaller keyboard models may not support styles with OTS or MDB sections. There may also be a limit on the size of the style file that can be loaded into the keyboard. There are programs available that can be used in this case to remove unwanted sections or parts from the style file. For more details see chapter 7.1.

The common order of the sections in the file is at follows:

1. Midi section
2. CASM section
3. OTS (One Touch Setting) section
4. MDB (Music Finder) section
5. MH section

Other orders may also work, but for compatibility reasons it is recommended to use the above order.

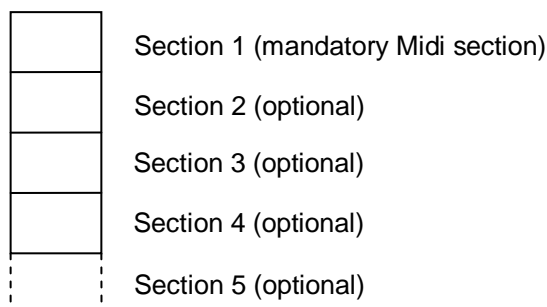
Programs that work with style files should not depend on the order and existence of optional sections when reading style files. When writing style files, the programs should use the common order of the sections to avoid possible problems with the various keyboard models.

Note: Many programs designed to read and/or edit standard midi files (e.g. sequencers, editors, players) will remove the optional sections and the files generated by them will not

function properly in the instrument. This can be avoided by using programs that specifically designed to work with style files.

### 4.4 General structure of sections

The overall structure of a style file is:

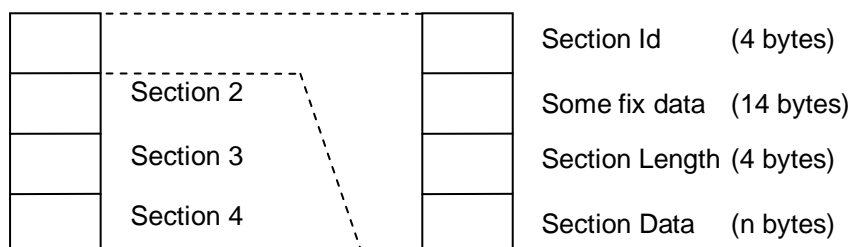


Note: As the optional section 5 (MH section) is very rarely used, and especially not present in current style files, it is no more shown in the following diagrams.

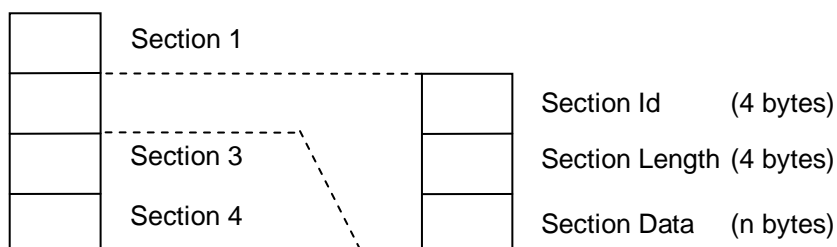
The sections are structured in such a way that the beginning and end of a section can be found without having to know all the internal details of the concerning structure. This allows a program to find the beginning of a specific section without even to know anything about the other section types.

As said above, section 1 is always a standard midi file structure of a midi type 0 file. The general structure of this section is a little bit different than the structure of sections 2...4, which share the same common structure.

Structure of section 1 (midi section):



Common structure for sections 2...4:



Details of general structure for section 1 (midi section):

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Byte Index <sup>4</sup>		Description
0..3	byte[0] = 'M' (4DH) byte[1] = 'T' (54H) byte[2] = 'h' (68H) byte[3] = 'd' (64H)	This 4-character sequence identifies this section as a midi file, which in a style consists of a midi header followed by a track header and track data.  Note: The characters are case sensitive.
4..7	Nr of data bytes = 256*256*256*byte[4] + 256*256*byte[5] + 256*byte[6] + byte[7]	Indicates the nr of header data bytes following. The length of the midi header is always 6 bytes. This means, the first byte which is counted here of the track header is byte[14].
8..13	Data bytes	Midi header data.
14..17	byte[14] = 'M' (4DH) byte[15] = 'T' (54H) byte[16] = 'r' (72H) byte[17] = 'k' (6BH)	This 4-character sequence identifies the midi track.  Note: The characters are case sensitive.
18..21	Nr of data bytes = 256*256*256*byte[18] + 256*256*byte[19] + 256*byte[20] + byte[21]	Number of bytes in the midi track. The first byte that is counted here is byte[22].
22..n	Midi data bytes (Number as given above)	Midi track data. More details are described in chapter 4.5.

**Table 1**

Details of common structure for section 2...4:

Byte Index		Description
0..3	byte[0] = 'X' byte[1] = 'X' byte[2] = 'X' byte[3] = 'X'	This 4-character sequence identifies the type of the section. (See the individual section chapters for more information.)  Note: The characters are case sensitive.
4..7	Nr of data bytes = 256*256*256*byte[4] + 256*256*byte[5] + 256*byte[6] + byte[7]	Indicates the nr of data bytes following. This means, the first byte that is counted here is byte[8].
8..n	Data bytes (Number as given above)	Section dependent data. More details are described in chapter 4.5.2, 4.7 and 4.8.

**Table 2**

More details are described in the individual section chapters below.

<sup>4</sup> The byte index always starts from the beginning of the section, structure or substructure which is currently discussed.

## 4.5 *Midi Data section*

### 4.5.1 General

The midi section is midi type 0, which means that there is one midi track.

### 4.5.2 Midi Command Format

#### 4.5.2.1 General

The data following the Midi and Track headers are midi events. Unlike the header data, the fields are not organized in a fixed format, but are records of various lengths whose general format is:

Execution Time - Command Byte – Data

They are generally organized as follows.

Function	Description	Byte Length
Execution Time	Number of ticks since last event.	Variable length, <=4
Command ID	Identifies the type of the command  00H .. 7FH running mode, command id not present 80H .. EFH midi events FOH sysex FFH meta data	1
Data	3 types: midi events, sysex events, meta events	Varies by command type

**Table 3**

There is also an abbreviated command format, called running mode where the Command ID is omitted, i.e.: Time Data. In this case the last Command ID is used. This mode is identified by a value <128 in the Command ID location.

The use of variable length formatting and running mode was included in the specification to reduce the size (and hence transmission time) of midi files.

#### 4.5.2.2 Details

##### 4.5.2.2.1 Time

There are one to four time bytes that are at the beginning of each midi event. Time is measured in “delta time” which is defined as the number of ticks (the resolution of which is defined in the header) before the midi event is to be executed. I.e., a delta time of 0 = immediately; a delta time of 960 when the resolution is 1920 ticks per quarter note is after a 1/8 note rest. Delta time is a variable length format using 7 of the 8 available bits; the maximum time value of any time byte is 127 (7FH). The first or 8th bit is used to identify the last of the delta time bytes; the least significant byte is indicated by a leading bit =0, all other bytes have a leading bit=1.

Total delta time= 128<sup>3</sup> (byte4) + 128<sup>2</sup>(byte3) + 128\*(byte2) + byte1

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### 4.5.2.2.2 Midi Events (Command ID 127-239)

Midi event send commands to one of the 16 possible midi channels. The event command consists of a leading 4 bits that identifies the command and a trailing 4 bits that identifies the midi channel. In the table below, X=midi channel (0-15, 0H-FH). Available commands are:

Command ID (Hex)	Data	Description	Byte Length
8X	nn vv	Note On. nn=note number (0-127); vv= velocity (0-127)	3
9X	nn vv	Note Off; see above	3
AX	kk vv	Key Press	3
BX	cc uu	Control Change; cc=controller number*, uu = data value	3
CX	pp	Program Change; pp= program number (0-127)	2
EX	v1 v2	Pitch Wheel Change; v1= bottom value, v2=top value	3

\* allowed values listed in "Meaning, Functionality and Requirements of Midi Data used in Styles" later in this document.

**Table 4**

### 4.5.2.2.3 Sysex Events

Sysex Events which are used to provide instrument control such a master pitch, DSP settings, etc. They do not specify a channel. The total event length is equal to the sum of the command ID byte, data length byte(s) in variable length format and the data length.

Byte	Function	Description
1	Command ID	always 240 (F7H)
1+	Length, not including ID and length byte(s)	Variable length format
Defined by length	Sysex Data	Last byte always 247 (F7H)

**Table 5**

### 4.5.2.2.4 Meta Events

Meta events convey general information such as copyright, lyrics, tempo, time & key signature. They do not specify a channel. The total event length is equal to the sum of the command ID byte, data length byte(s) in variable length format and the data length.

Command ID	Meta ID	Length	Data Description
255(FFH)	0(00H)	2	Sequence number
"	1(01H)	Length of text	Text data
"	2(02H)	Length of text	Copyright text
"	3(03H)	Length of text	Track name text
"	4(04H)	Length of text	Track Instrument name text
"	5(05H)	Length of text	Lyric text
"	6(06H)	Length of text	Marker text
"	7(07H)	Length of text	Cue point text
"	32(20H)	1	Midi Channel Prefix
"	33(21H)	1	Midi Port
"	47(2FH)	1	End of Track
"	81(51H)	3	Tempo in microseconds /quarternote
"	84(54H)	5	SMPTE Offset (hr + min + sec + frame + frame)
"	88(58H)	4	Time signature=numerator + denominator (2= quarter, 3= eighth) + Ticks in

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			metronome click + number of 32 <sup>nd</sup> notes to the quarter note
"	89(59H)	2	Key signature= sharps/flats (- value= number of flats, 0= key of C, + value = number of sharps) + major/minor(0/1)
"	127 (7FH)	Length of data	Yamaha sequencer specific info.

Table 6

### 4.6 CASM section

The information in the CASM section is necessary if the midi section does not follow the rules for "simple" style files, which do not necessarily need a CASM section (see chapter 5.2.1 for the rules). The CASM section gives instructions to the instrument on how to deal with the midi data.

This includes:

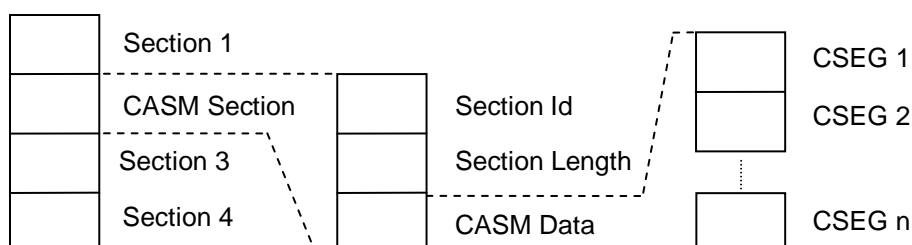
- Assigning the sixteen possible midi channels to 8 accompaniment channels which are available to a style in the instrument (9 = sub rhythm, 10 = rhythm, 11 = bass, 12 = chord 1, 13 = chord 2, 14 = pad, 15 = phrase 1, 16 = phrase 2). More than one midi channel may be assigned to an accompaniment channel.
- Allowing the PSR to edit the source channel in StyleCreator. This setting is overridden by the instrument if the style has > 1 midi source channel assigned to an accompaniment channel. In this case the source channels are not editable.
- Muting/enabling specific notes or chords to trigger the accompaniment. In practice, only chord choices are used.
- The key that is used in the midi channel. Styles often use different keys for the midi data. Styles without a CASM must be in the key of CMaj7.
- How the chords and notes are transposed as chords are changed and how notes held through chord changes are reproduced.
- The range of notes generated by the style.

See chapter 5.2 for a more detailed description of the usage of this data.

#### 4.6.1 General

There is only one CASM section in a style file.

The CASM section allows defining separate instructions for each style part (e.g. Intro A, Main B) of each source midi channel.



First level of details about the structure of the CASM section:

Byte Index		Description
0..3	byte[0] = 'C' (43H) byte[1] = 'A' (41H) byte[2] = 'S' (53H) byte[3] = 'M' (4DH)	This 4-character sequence identifies this section as a CASM section. Note: The characters are case sensitive.
4..7	Nr of data bytes = 256*256*256*byte[4] + 256*256*byte[5] + 256*byte[6] + byte[7]	Indicates the nr of data bytes following. This means, the first byte that is counted here is byte[8].
8..n	Data bytes (Number as given above)	CASM data. More details are described in chapter 4.6.2.

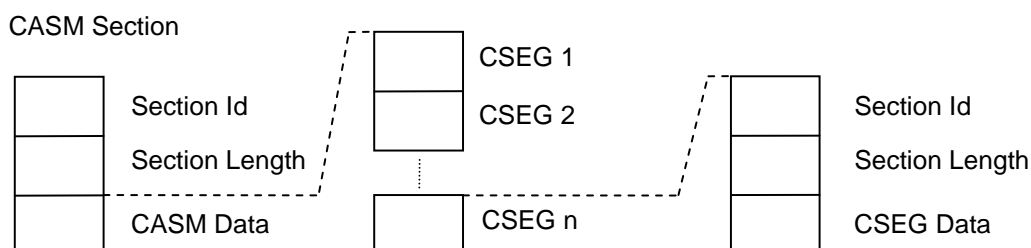
**Table 7**

### 4.6.2 CASM data

The CASM data consists of one or more CSEG structures.

A CSEG structure contains the data related to a style part in the midi section (e.g. Intro A, Main B). One CSEG structure may be associated to more than one style part, which means that these style parts share the same data. For current instruments there may be a maximum number of 16 CSEG structures (for 3 Intros, 3 Endings, 4 Variation Fill Ins, 4 Mains and 1 Break Fill In).

The number of CSEG structures depends on the number of style parts in the midi section and whether there are CSEG structures covering multiple style parts. The actual number of CSEG structures has to be derived from the size of the CASM data. This means, as long as the total size of found structures is less than the size of the CASM data, there will be additional CSEG structures.



Details about the CSEG structure:

Byte Index		Description
0..3	byte[0] = 'C' (43H) byte[1] = 'S' (53H) byte[2] = 'E' (45H) byte[3] = 'G' (47H)	This 4-character sequence identifies this section as a CSEG structure. Note: The characters are case sensitive.
4..7	Nr of data bytes = 256*256*256*byte[4] + 256*256*byte[5] + 256*byte[6] + byte[7]	Indicates the nr of data bytes following. This means, the first byte that is counted here is byte[8].

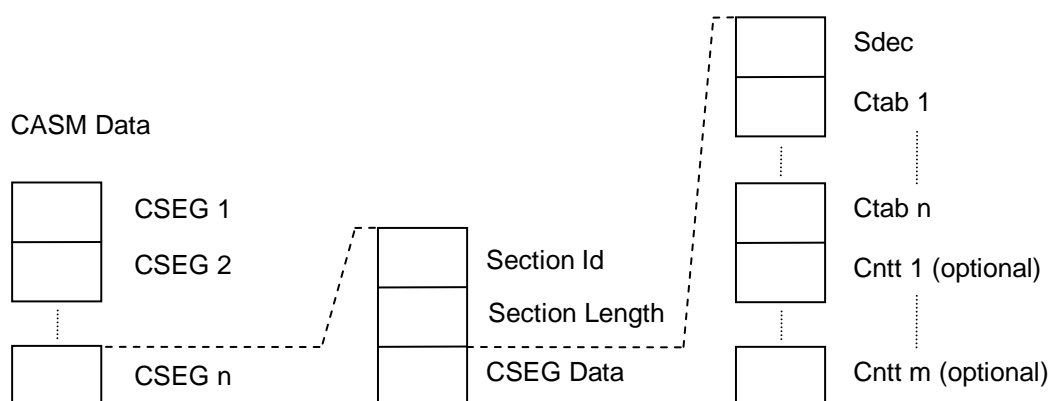
8..n	Data bytes (Number as given above)	CSEG data. More details are described in chapter 4.6.3
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**Table 8**

### 4.6.3 CSEG Data

The CSEG structure consists of one Sdec structure, one or more Ctab structures and one or more optional Cntt structures.

The number of Ctab and Cntt structures has to be derived from the size of the CSEG data. This means, as long as the total size of found structures is less than the size of the CSEG data there will be additional Ctab or Cntt structures. Alternatively, examining the data for repeated use of the IDs used in the CASM section (CSEG, Sdec, Ctab and Cntt) will also access any additional CASM data.



#### 4.6.3.1 Sdec structure

There is one Sdec structure at the beginning of the CSEG data.

The Sdec structure defines for which style part or parts (e.g. Intro A, Main B) the following data in the Ctab and Cntt structures belongs to. If there is more than one style part listed, this means that these style parts share the same data.

Details about the Sdec structure:

Byte Index		Description
0..3	byte[0] = 'S' (53H) byte[1] = 'd' (64H) byte[2] = 'e' (65H) byte[3] = 'c' (63H)	This 4-character sequence identifies this structure as an Sdec structure.  Note: The characters are case sensitive.
4..7	Nr of data bytes = 256*256*256*byte[4] + 256*256*byte[5] + 256*byte[6] + byte[7]	Indicates the nr of data bytes following. This means, the first byte that is counted here is byte[8].
8..n	Data bytes (Number as given above) e.g.	Sdec data.  Contains one or more names of style parts for

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byte[8] = 'M' byte[9] = 'a' byte[10] = 'i' byte[11] = 'n' byte[12] = ' ' byte[13] = 'A' byte[14] = ',' byte[15] = 'l' byte[16] = 'n' byte[17] = 't' byte[18] = 'r' byte[19] = 'o' byte[20] = ' ' byte[21] = 'B'	which this CSEG data has to be used. Multiple names are separated with commas. There is no comma after the last style part name string.  The strings are case sensitive. Valid strings are: Intro A Intro B Intro C Intro D (only supported by PSR-2000) Main A Main B Main C Main D Fill In AA Fill In BB Fill In CC Fill In DD Fill In BA (for the "Break" section) Ending A Ending B Ending C Ending D (only supported by PSR-2000)
--	--

**Table 9**

### 4.6.3.2 Ctab structure

Immediately after the Sdec structure there are one or more Ctab structures. The number of Ctab structures depends upon the number of midi channels used in style parts covered by the SDEC section. There is one Ctab structure for each midi source channel used in the midi section for the related style sections.

The number of Ctab structures has to be derived from the size of the CSEG data.

Details about the Ctab structure:

Byte Index		Description
0..3	byte[0] = 'C' (53H) byte[1] = 't' (64H) byte[2] = 'a' (65H) byte[3] = 'b' (63H)	This 4-character sequence identifies this structure as a Ctab structure.  Note: The characters are case sensitive.
4..7	Nr of data bytes = $256*256*256*byte[4]$ $+ 256*256*byte[5]$ $+ 256*byte[6]$ $+ byte[7]$	Indicates the nr of data bytes following. This means, the first byte that is counted here is byte[m+8].
8..n	Data bytes (Number as given above)	Ctab data. More details are described in chapter 4.6.3.3.

**Table 10**

### 4.6.3.3 Ctab data

Byte Index		Description
0	Source channel	Midi source channel

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	Values 00H .. 0FH	<p>The values 00H .. 0FH represent the midi channels 1..16.</p> <p>For details about the meaning see chapter 5.2.2.</p>
1...8	<p>Name</p> <p>Character 1 = byte[1]</p> <p>:</p> <p>Character 8 = byte[8]</p>	<p>Name.</p> <p>The name can be any string up to 8 characters long. Unused characters at the end of the name are filled with spaces (20H). Does not contain any "end of string" termination (like '\0').</p>
9	<p>Destination channel</p> <p>Values 08H .. 0FH</p>	<p>The accompaniment midi channel to which the source channel should be mapped.</p> <p>The values 08H .. 0FH represent the midi channels 9..16.</p> <p>Valid destination channels are 9..16:</p> <ul style="list-style-type: none"> <li>9 = sub rhythm</li> <li>10 = rhythm</li> <li>11 = bass</li> <li>12 = chord 1</li> <li>13 = chord 2</li> <li>14 = pad</li> <li>15 = phrase 1</li> <li>16 = phrase 2</li> </ul> <p>For details about the meaning see chapter 5.2.2.</p>
10	<p>Editable</p> <p>Values 00H or 01H</p>	<p>Defines if the data in the source channel is editable.</p> <p>00H = Channel data is editable</p> <p>01H = Channel data is NOT editable</p> <p>The instruments inhibit editing of non rhythm parts (destination &gt; 10) and force the user to delete all events in the Style Creator. The setting only has meaning to Style Creator, and then not always there. If a destination channel has more than one source channel, then the instrument will not allow editing, regardless of this setting.</p>
11	<p>Note Mute (Part 1)</p> <p>Values 00H .. 0FH</p> <p>This byte has to be interpreted as an array of bits. Each bit represents one note. (Bit 7 = highest bit (MSB))</p> <p>Bit 7 = unused, always 0          Bit 6 = unused, always 0          Bit 5 = unused, always 0          Bit 4 = unused, always 0          Bit 3 = note B          Bit 2 = note Bb          Bit 1 = note A          Bit 0 = note G#</p>	<p>Bit = 1 -&gt; note will be played</p> <p>Bit = 0 -&gt; note will NOT be played</p> <p>Example: 0EH (= 00001110B) means:</p> <ul style="list-style-type: none"> <li>• Notes A, Bb, B will be played.</li> <li>• If note G# is pressed the accompaniment is muted.</li> </ul> <p>For details about the meaning of these values see chapter 5.2.4.</p>
12	<p>Note Mute (Part 2)</p> <p>Values 00H .. FFH</p>	<p>Bit = 1 -&gt; note will be played</p> <p>Bit = 0 -&gt; note will NOT be played</p>

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	<p>This byte has to be interpreted as an array of bits. Each bit represents one note. (Bit 7 = highest bit (MSB))</p> <p>Bit 7 = note G Bit 6 = note F# Bit 5 = note F Bit 4 = note E Bit 3 = note Eb Bit 2 = note D Bit 1 = note C# Bit 0 = note C</p>	
13	<p>Chord Mute (Part 1) Values 00H .. 0FH</p> <p>This byte has to be interpreted as an array of bits. Each bit represents one chord type. (Bit 7 = highest bit (MSB))</p> <p>Bit 7 = unused, always 0 Bit 6 = unused, always 0 Bit 5 = unused, always 0 Bit 4 = unused, always 0 Bit 3 = ? (maybe unused?) Bit 2 = autostart enable Bit 1 = 1+2+5 Bit 0 = sus4</p>	<p>Bit = 1 -&gt; when this chord is played the accompaniment is played. Bit = 0 -&gt; when this chord is played the accompaniment is muted.</p> <p>Example: 02H (= 00000010B) means: When playing a sus4 chord the accompaniment is muted.</p> <p>Bit 2 and Bit 3 are only used for drum and percussion channels.</p> <p>If Bit 2 = 1 then Auto Start is enabled and the channel will play accompaniment before a chord is pressed. This allows the drums to play from the beginning and instruments to come in later.</p> <p>For details about the meaning of these values see chapter 5.2.3.</p>
14	<p>Chord Mute (Part 2) Values 00H .. FFH</p> <p>This byte has to be interpreted as an array of bits. Each bit represents one chord type. (Bit 7 = highest bit (MSB))</p> <p>Bit 7 = 1+5 Bit 6 = 1+8 Bit 5 = 7aug Bit 4 = Maj7aug Bit 3 = 7(#9) Bit 2 = 7(b13) Bit 1 = 7(b9) Bit 0 = 7(13)</p>	<p>Bit = 1 -&gt; when this chord is played the accompaniment is played. Bit = 0 -&gt; when this chord is played the accompaniment is muted.</p>
15	<p>Chord Mute (Part 3) Values 00H .. FFH</p> <p>This byte has to be interpreted as an array of bits. Each bit represents one chord type.</p>	<p>Bit = 1 -&gt; when this chord is played the accompaniment is played. Bit = 0 -&gt; when this chord is played the accompaniment is muted.</p>

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	<p>(Bit 7 = highest bit (MSB))</p> <p>Bit 7 = 7#11          Bit 6 = 7(9)          Bit 5 = 7b5          Bit 4 = 7sus4          Bit 3 = 7th          Bit 2 = dim7          Bit 1 = dim          Bit 0 = minMaj7(9)</p>	
16	<p>Chord Mute (Part 4)          Values 00H .. FFH</p> <p>This byte has to be interpreted as an array of bits. Each bit represents one chord type.          (Bit 7 = highest bit (MSB))</p> <p>Bit 7 = minMaj7          Bit 6 = min7(11)          Bit 5 = min7(9)          Bit 4 = min(9)          Bit 3 = m7b5          Bit 2 = min7          Bit 1 = min6          Bit 0 = min</p>	<p>Bit = 1 -&gt; when this chord is played the accompaniment is played.          Bit = 0 -&gt; when this chord is played the accompaniment is muted.</p>
17	<p>Chord Mute (Part 5)          Values 00H .. FFH</p> <p>This byte has to be interpreted as an array of bits. Each bit represents one chord type.          (Bit 7 = highest bit (MSB))</p> <p>Bit 7 = aug          Bit 6 = Maj6(9)          Bit 5 = Maj7(9)          Bit 4 = Maj(9)          Bit 3 = Maj7#11          Bit 2 = Maj7          Bit 1 = Maj6          Bit 0 = Maj</p>	<p>Bit = 1 -&gt; when this chord is played the accompaniment is played.          Bit = 0 -&gt; when this chord is played the accompaniment is muted.</p>

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18	Source Chord Values 00H .. 0BH	<p>Determines the original key of the source channel together with the following byte (i.e. the key used when recording the source channel). On the instruments the default, CMaj7 (the source root is "C" and the source chord type is "Maj7"), is automatically selected whenever the preset data is deleted prior to recording a new style, regardless of the source root and chord included in the preset data.</p> <p>00H = C  01H = C#  02H = D  03H = Eb  04H = E  05H = F  06H = F#  07H = G  08H = G#  09H = A  0AH = Bb  0BH = B</p>		
19	Source Chord Type Values 00H .. 21H	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> 00H = Maj  01H = Maj6  02H = Maj7  03H = Maj7#11  04H = Maj(9)  05H = Maj7(9)  06H = Maj6(9)  07H = aug  08H = min  09H = min6  0AH = min7  0BH = min7b5  0CH = min(9)  0DH = min7(9)  0EH = min7(11)  0FH = minMaj7 </td> <td style="width: 50%; vertical-align: top;"> 10H = minMaj7(9)  11H = dim  12H = dim7  13H = 7th  14H = 7sus4  15H = 7b5  16H = 7(9)  17H = 7#11  18H = 7(13)  19H = 7(b9)  1AH = 7(b13)  1BH = 7(#9)  1CH = Maj7aug  1DH = 7aug  1EH = 1+8  1FH = 1+5  20H = sus4  21H = 1+2+5  22H = cancel (stop all instruments) </td> </tr> </table>	00H = Maj 01H = Maj6 02H = Maj7 03H = Maj7#11 04H = Maj(9) 05H = Maj7(9) 06H = Maj6(9) 07H = aug 08H = min 09H = min6 0AH = min7 0BH = min7b5 0CH = min(9) 0DH = min7(9) 0EH = min7(11) 0FH = minMaj7	10H = minMaj7(9) 11H = dim 12H = dim7 13H = 7th 14H = 7sus4 15H = 7b5 16H = 7(9) 17H = 7#11 18H = 7(13) 19H = 7(b9) 1AH = 7(b13) 1BH = 7(#9) 1CH = Maj7aug 1DH = 7aug 1EH = 1+8 1FH = 1+5 20H = sus4 21H = 1+2+5 22H = cancel (stop all instruments)
00H = Maj 01H = Maj6 02H = Maj7 03H = Maj7#11 04H = Maj(9) 05H = Maj7(9) 06H = Maj6(9) 07H = aug 08H = min 09H = min6 0AH = min7 0BH = min7b5 0CH = min(9) 0DH = min7(9) 0EH = min7(11) 0FH = minMaj7	10H = minMaj7(9) 11H = dim 12H = dim7 13H = 7th 14H = 7sus4 15H = 7b5 16H = 7(9) 17H = 7#11 18H = 7(13) 19H = 7(b9) 1AH = 7(b13) 1BH = 7(#9) 1CH = Maj7aug 1DH = 7aug 1EH = 1+8 1FH = 1+5 20H = sus4 21H = 1+2+5 22H = cancel (stop all instruments)			
20	Note Transposition Rule (NTR) Values 00H .. 01H	<p>Specifies the transposition rule to be used by the transposition table.</p> <p>00H = Root Transposition  01H = Root Fixed</p> <p>For details about the meaning of these values see chapter 5.2.5.</p>		
21	Note Transposition Table (NTT) Values 00H .. 05H	<p>Specifies the note transposition table to be used for source pattern transposition.</p> <p>00H = Bypass  01H = Melody  02H = Chord  03H = Bass  04H = Melodic Minor  05H = Harmonic Minor</p>		

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		For details about the meaning of these values see chapter 5.2.6.
22	High Key Values 00H .. 0BH	<p>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 (Note Transposition Rule) (above) is set to "Root Trans".</p> <p>00H = C 01H = C# 02H = D 03H = Eb 04H = E 05H = F 06H = F# 07H = G 08H = G# 09H = A 0AH = Bb 0BH = B</p> <p>For details about the meaning see chapter 5.2.8.</p>
23	Note Low Limit Values 00H .. 7FH	<p>The values 00H .. 7FH represent the midi note numbers 0 .. 127.</p> <p>"Note Low Limit" and "Note High Limit" 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.</p> <p>For details about the meaning see chapter 5.2.7.</p>
24	Note High Limit Values 00H .. 7FH	<p>The values 00H .. 7FH represent the midi note numbers 0 .. 127.</p> <p>For details about the meaning see chapter 5.2.7.</p>
25	Retrigger Rule (RTR) Values 00H .. 05H	<p>Specifies how notes held through chord changes will be handled.</p> <p>00H = Stop 01H = Pitch shift 02H = Pitch shift to root 03H = Retrigger 04H = Retrigger to root 05H = Note generator</p> <p>For details about the meaning of these values see chapter 5.2.9.</p>
26..n	Special features	<p>One or more data bytes.</p> <p>If the value of byte 26 is 00H (= no special feature), then there are no following bytes.</p> <p>If the value of byte 26 is 01H (=extra break drum voice), then there are 4 following bytes (bytes 27...30).</p> <p>For more details see chapter 5.2.10.</p>

**Table 11**

**4.6.3.4 Cntt structure**

Immediately after the last Ctab structure there may be one or more optional Cntt structures. The number of Cntt structures has to be derived from the size of the CSEG data. Alternatively, the following data may be examining by looking for repeating "Cntt" section identifiers.

It seems that for (newer) instruments supporting the Cntt structure, the data in the Cntt structure overrides the data of the corresponding NTT.

The presence of Cntt data in the CASM section of a style file is incompatible with the Mixer in some (older) models, e.g. PSR 740. The Mixer (PSR 740 manual page 90) just don't work.

Details about the structure of the Cntt structure:

Byte Index		Description
0..3	byte[0] = 'C' (43H) byte[1] = 'n' (6EH) byte[2] = 't' (74H) byte[3] = 't' (74H)	This 4-character sequence identifies this section as a Cntt structure.  Note: The characters are case sensitive.
4...7	Nr of data bytes = 256*256*256*byte[4] + 256*256*byte[5] + 256*byte[6] + byte[7]	Indicates the nr of data bytes following. This means, the first byte which is counted here is byte[8].  As the Cntt is a two byte record, this value is always = 2.
8	Source Channel Values 00H .. 0FH	Midi source channel. The values 00H .. 0FH represent the midi channels 1..16.
9	Note Transposition Table  Bit 7 indicates Bass on/off Bits 6 .. 0 define the table type  (Bit 7 = highest bit (MSB))	00H / 80H = Bypass 01H / 81H = Melody 02H / 82H = Chord 03H / 83H = Bass 04H / 84H = Melodic minor 05H / 85H = Harmonic minor 06H / 86H = Harmonic minor 5 <sup>th</sup> Var. 07H / 87H = Natural minor 08H / 88H = Natural minor 5 <sup>th</sup> Var. 09H / 89H = Dorian minor 0AH / 8AH = Dorian minor 5 <sup>th</sup> Var.  If Bass is off values 00H - 0AH are used, else values 80H - 8AH.  The part (channel) for which Bass is set to On recognizes on-bass chords allowed in the Fingered-on-Bass fingering mode, regardless of the NTT setting.  For details about the meaning of these values see chapter 5.2.6.

**Table 12**

## 4.7 OTS (One Touch Setting) section

The OTS is used to establish keyboard settings that can be saved and recalled from a style, and is generally used to set up the right/left voices. OTS data includes similar, but fewer, settings than a registration.

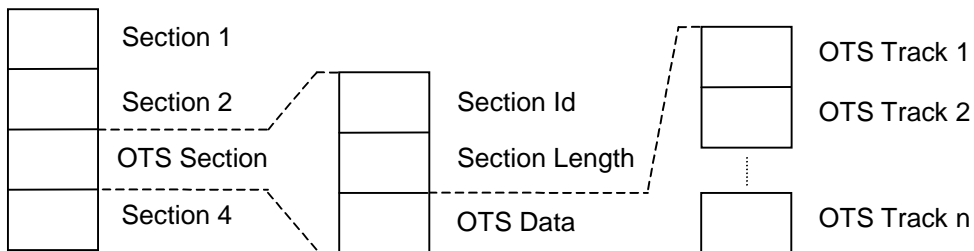
### 4.7.1 General

The OTS settings are stored in the OTS section of a style file in form of OTS tracks. Each OTS setting corresponds to one OTS track.

### 4.7.2 General structure

The OTS section consists of a section id, section length, and the OTS data. The OTS data itself consists of one or more OTS tracks. The number of OTS tracks follows from the section length and the length of the individual OTS tracks. Each OTS track also contains the information about its size.

Note: The file format allows that there may be an OTS section with no OTS tracks; the section length is 0 in this case. As it makes no sense to have an empty OTS section, programs creating/modifying styles should not create such empty OTS sections. In this case no OTS section should be created in the style file.



Details about the structure of the OTS section:

Byte Index		Description
0..3	byte[0] = 'O' (4FH) byte[1] = 'T' (54H) byte[2] = 'S' (53H) byte[3] = 'c' (63H)	This 4-character sequence identifies this section as an OTS section.  Note: The characters are case sensitive.
4...7	Nr of data bytes = $256 * 256 * 256 * \text{byte}[4]$ + $256 * 256 * \text{byte}[5]$ + $256 * \text{byte}[6]$ + $\text{byte}[7]$	Indicates the nr of data bytes following. This means, the first byte which is counted here is byte[8].
8..n	Data bytes (Number as given above)	OTS data. More details are described in chapter 4.7.3

Table 13

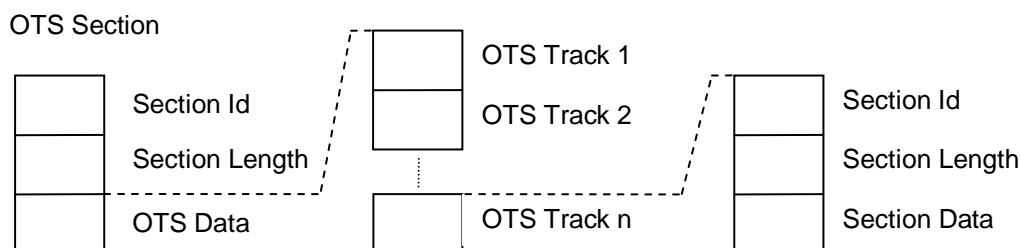
### 4.7.3 OTS data

The OTS data consists of one or more OTS tracks. The number of OTS tracks follows from the section length and the length of the individual OTS tracks. Therefore the number of OTS

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tracks is variable. Currently a maximum of 4 is used, but the file format supports any number of OTS tracks.

An OTS track is a standard midi track.



So the following data structure may exist multiple times inside the OTS data area shown above. This can be derived from the size of the OTS data area and the size of the individual OTS midi tracks.

Byte Index		Description
0..3	byte[0] = 'M' (4DH) byte[1] = 'T' (54H) byte[2] = 'r' (72H) byte[3] = 'k' (6BH)	This 4-character sequence identifies the following data as an OTS track, which is in standard midi track format. Note: The characters are case sensitive.
4..7	Nr of data bytes = 256*256*256*byte[4] + 256*256*byte[5] + 256*byte[6] + byte[7]	Indicates the nr of data bytes following. This means, the first byte which is counted here is byte[8].
8..x	Data bytes (Number as given above)	OTS (midi) track data. These data bytes form a standard midi track.

**Table 14**

### 4.8 MDB (Music Finder) section

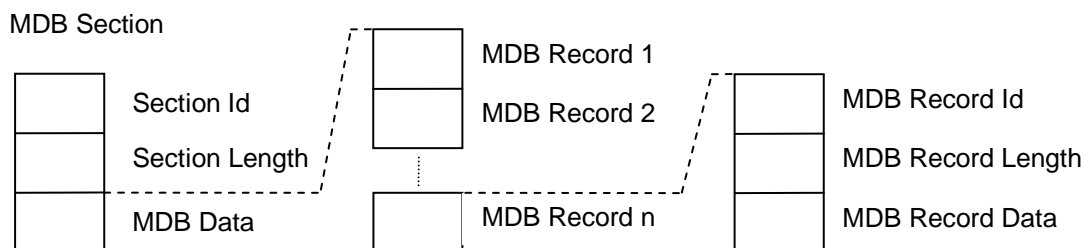
The music finder function supports the musician in setting up the keyboard for playing a certain song.

When activated on the keyboard, the music finder function shows a list of song titles (also called a list of song records). For each song title there are additional fields for style, tempo and time signature. If the musician selects a song, the keyboard will load the associated style and adjusts the tempo.

There are some more fields (genre, keyword1 and keyword2), which are used by the music finder search function.

#### 4.8.1 General

The assignment between the song title and style, tempo, time signature, is done in the style file via so-called MDB records, which are stored in the MDB section of the style file. One MDB record defines one song title and the associated information. There may be any number of MDB records in a style file.

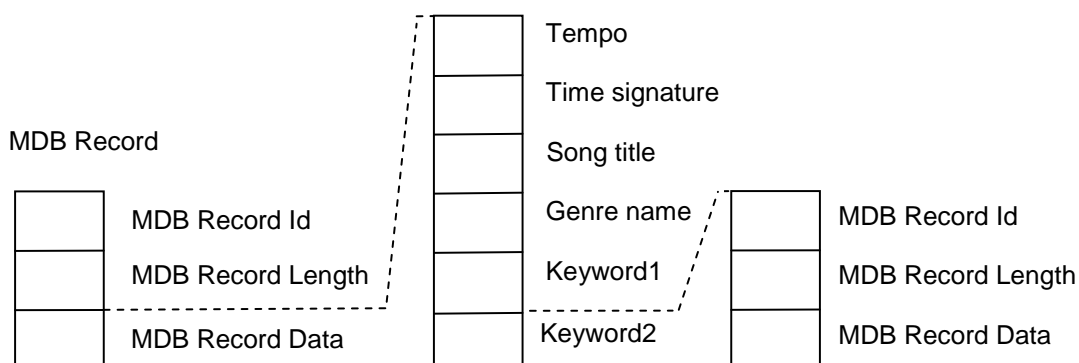


### 4.8.2 MDB section

Byte Index		Description
0..3	byte[0] = 'F' byte[1] = 'N' byte[2] = 'R' byte[3] = 'c'	This 4-character sequence identifies this section as a MDB section.  Note: The characters are case sensitive.
4..7	Nr of data bytes = 256*256*256*byte[4] + 256*256*byte[5] + 256*byte[6] + byte[7]	Indicates the length of the MDB section. The first byte counted is byte[8].
8..n	Data bytes (Number as given above)	MDB data area. This area contains one or more MDB records described in chapter 4.8.3.

**Table 15**

### 4.8.3 MDB record



Byte Index		Description
0..3	byte[0] = 'F' byte[1] = 'N' byte[2] = 'R' byte[3] = 'P'	This 4-character sequence identifies the following data as a MDB record, which contains the data for one song.
4..7	Nr of data bytes = 256*256*256*byte[4]	Indicates the length (in number of bytes) of the MDB record data. The first byte counted is

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	+ 256*256*byte[5] + 256*byte[6] + byte[7]	byte[8].
8..n	Data bytes (Number as given above)	MDB record data. More details are described in chapter 4.8.4.

**Table 16**

### 4.8.4 MDB record data

Byte Index		Description
0..2	tempo = 256*256*byte[0] + 256*byte[1] + byte[2]	Tempo Unit: Microseconds per quarter note. Note: To calculate the tempo in BPM: BPM = 60,000,000 / tempo_in_microseconds
3..4	byte[3] = beats per measure byte[4] = note that gets one beat	Time signature (e.g. for a waltz: byte[3] = 3 byte[4] = 4)
5..n	Data bytes (The number is variable)	MDB song title data record. More details are described in chapter 4.8.5.
n1..n2	Data bytes (The number is variable)	MDB genre data record. More details are described in chapter 4.8.6.
n3..n4	Data bytes (The number is variable)	MDB keyword1 data record More details are described in chapter 4.8.7
n5..n6	Data bytes (The number is variable)	MDB keyword2 data record More details are described in chapter 4.8.8.

**Table 17**

### 4.8.5 MDB song title data record

Byte Index		Description
0..3	byte[0] = 'M' byte[1] = 'n' byte[2] = 'a' byte[3] = 'm'	This 4-character sequence identifies the following data as the title of the song.
4..7	titlelength = 256*256*256*byte[4] + 256*256*byte[5] + 256*byte[6] + byte[7]	Indicates the length (in number of bytes) of the following character sequence. The first byte counted is byte[8].
8..n	byte[8] = 'x' byte[9] = 'x' byte[10] = 'x' : : : byte[titlelength+7]	The title of the song.

**Table 18**

4.8.6 MDB genre title data record

Byte Index		Description
0..3	byte[0] = 'G' byte[1] = 'n' byte[2] = 'a' byte[3] = 'm'	This 4-character sequence identifies the following data as the name of the genre.
4..7	genrelength = 256*256*256*byte[4] + 256*256*byte[5] + 256*byte[6] + byte[7]	Indicates the length (in number of bytes) of the following character sequence. The first byte counted is byte[8].
8..n	byte[8] = 'x' byte[9] = 'x' byte[10] = 'x' : : : byte[genrelength+7]	The genre of the song

Table 19

4.8.7 MDB keyword1 record

Byte Index		Description
0..3	byte[0] = 'K' byte[1] = 'w' byte[2] = 'd' byte[3] = '1'	This 4-character sequence identifies the following data as the keyword1.
4..7	keyword1length = 256*256*256*byte[4] + 256*256*byte[5] + 256*byte[6] + byte[7]	Indicates the length (in number of bytes) of the following character sequence. The first byte counted is byte[8].
8..n	byte[8] = 'x' byte[9] = 'x' byte[10] = 'x' : : : byte[keyword1length+7]	The keyword1

Table 20

4.8.8 MDB keyword2 record

Byte Index		Description
0..3	byte[0] = 'K' byte[1] = 'w' byte[2] = 'd' byte[3] = '2'	This 4-character sequence identifies the following data as the keyword2.
4..7	keyword2length = 256*256*256*byte[4] + 256*256*byte[5] + 256*byte[6] + byte[7]	Indicates the length (in number of bytes) of the following character sequence. The first byte counted is byte[8].

8..n	byte[8] = 'x' byte[9] = 'x' byte[10] = 'x' : : byte[keyword2length+7]	The keyword2
------	--	--------------

Table 21

#### 4.9 MH Section

This section can be found in a very small number of style files. Typically the section is at the end of the style file. Nothing is known about the purpose of this section. (Maybe the section is related to PSR-8000 keyboards?)

Details of general structure for the MH section:

Byte Index		Description
0..3	byte[0] = 'M' (4DH) byte[1] = 'H' (48H) byte[2] = 'h' (68H) byte[3] = 'd' (64H)	This 4-character sequence identifies this section as a MH section.  Note: The characters are case sensitive.
4..7	Nr of data bytes = 256*256*256*byte[4] + 256*256*byte[5] + 256*byte[6] + byte[7]	Indicates the nr of header data bytes following. This means, the first byte which is counted here is byte[8]. The length of the MHhd header is always 8 bytes.
8..15	Data bytes	MHhd header data.
16..19	byte[16] = 'M' (4DH) byte[17] = 'H' (48H) byte[18] = 't' (74H) byte[19] = 'r' (72H)	This 4-character sequence identifies the MHtr track.  Note: The characters are case sensitive.
20..23	Nr of data bytes = 256*256*256*byte[20] + 256*256*byte[21] + 256*byte[22] + byte[23]	Number of bytes in the MHtr track. This means, the first byte that is counted here is byte[24].
24..n	Data bytes (Number as given above)	MHtr track data. Nothing is known about the purpose of this data.

Table 22

## 5 Style File Data

This chapter describes the details about the meaning, functionality and requirements about the data stored in the style file sections described in chapter 4.

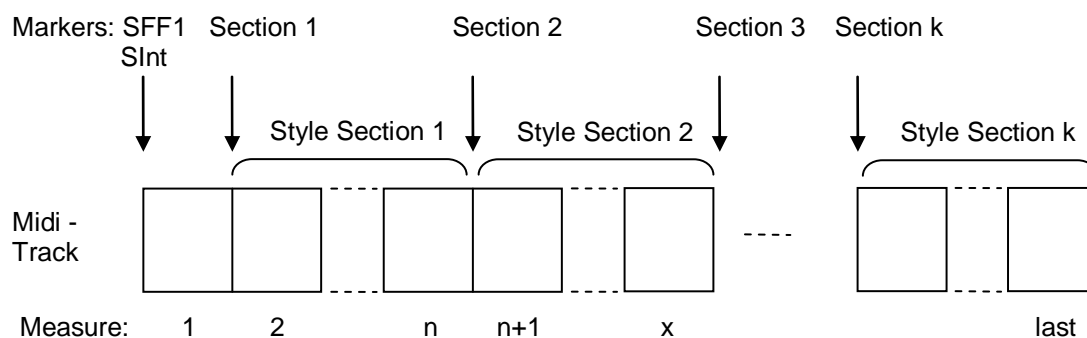
### 5.1 Midi section

For the following description it is helpful to have a basic knowledge of midi and standard midi files. For some links to midi tutorials and midi specifications see chapter 7.2.

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### 5.1.1 Meaning, Functionality and Requirements of Midi Data used in Styles

The midi section of a style consists of some initial file related data, then two initializing markers SFF1 and SInt used to initialize the PSR/Tyros, set up instrument voices, and the markers used to delineate the midi patterns by the selected sections (e.g. Main A, Ending B).



Generally a style should include at least Main A, Intro A, Ending A and Fill AA sections. The instrument will operate with less, but other users will miss these basic sections. However, all styles should have a Main A. Some instruments will not load them otherwise. Also, if a style does not have all fill sections for all contained main parts, then the Ending A may repeat (e.g. if you are playing Main B and you call Ending A, but there is no Fill BB).

Markers are case sensitive and correct spelling, including spaces, is critical.

Valid markers are:

Intro A	Main A	Fill In AA	Ending A
Intro B	Main B	Fill In BB	Ending B
Intro C	Main C	Fill In CC	Ending C
	Main D	Fill In DD	
		Fill In BA	
		Fill In AB (only for PSR 8000)	

**Table 23**

Note: "Fill In BA" represents the "Break" section.

Not all midi events are processed by style files in any section of the midi data. See the table below:

Event	Setup Sections (SFF1, SInt)	Other Sections
Note Off	—	OK
Note On	—	OK
Program Change	OK	OK
Pitch Bend	OK	OK
Control#0 (Bank Select MSB)	OK	OK
Control#1 (Modulation)	OK	OK
Control#6 (Data Entry MSB)	OK	—
Control#7 (Master Volume)	OK	OK
Control#10 (Panpot)	OK	OK
Control#11 (Expression)	OK	OK
Control#32 (Bank Select LSB)	OK	OK
Control#38 (Data Entry LSB)	OK	—
Control#71 (Harmonic Content)	OK	OK

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Control#72 (Release Time)	OK	—
Control#73 (Attack Time)	OK	—
Control#74 (Brightness)	OK	OK
Control#84 (Portamento Control)	—	OK
Control#91 (Reverb Send Level)	OK	OK
Control#93 (Chorus Send Level)	OK	OK
Control#94 (Variation Send Level)	OK	OK
Control#98 (NRPN LSB)	OK	—
Control#99 (NRPN MSB)	OK	—
Control#100 (RPN LSB)	OK	—
Control#101 (RPN MSB)	OK	—

**Table 24**

### 5.1.1.1 Measure 1

The following midi data has to be completed in the first measure of the midi data. Usually all events are on measure 1, beat 1, tick 0 (1:01:000). It is important that they are located in the file in the sequence as mentioned below.

**Initial data:** The first commands after the midi track header are usually time signature, tempo and copyright (optional). Time Signature is used to determine the metronome behavior and perhaps the score display; its value does not affect the play back of the note events. This is determined by the time values associated with the note on-off events. The tempo sets the default tempo of the instrument.

**SFF1:** This marker must come before the Slnt marker. It is followed by the StyleName, which is a Meta Event identified by ID=3 (see Table 6). The length of meta text events (except copyright) usually is limited in practice to a size which fits in a PSR display field. In factory styles, StyleName is generally followed by sysex events that define the style (see Table 25). The importance of these sysex is not understood.

Sysex Event	Description
F0 43 76 1A 10 00 01 01 01 00 01 00 00 F7	XGWorks Style code
F0 43 73 39 11 00 46 00 F7	Clavinova function
F0 43 73 01 51 05 00 01 08 00 00 00 00 00 00 00 F7	Clavinova function
F0 43 73 01 51 05 00 02 08 00 00 00 00 00 00 00 F7	Clavinova function

**Table 25**

**Slnt:** The Slnt marker must be after the above data and is generally followed by Midi On, Controller and Program Change Midi Events necessary to initialize the midi channels and sysex to set up the DSP:

Command	Description
F0 7E 7F 09 01 F7	Midi On sysex
BX, 7, volume data (0-127)	Control Change Volume
BX, 91, level data (0-127)	Control Change Reverb Send Level
BX, 93, level data (0-127)	Control Change Chorus Send Level
BX, 0, MSB value (0-127)	Control Change Bank Select MSB
BX, 32, LSB value (0-127)	Control Change Bank Select LSB
CX, program change number (0-127)	Program Change; Note: For XG voices to be properly recognized, the program change must be preceded by MSB & LSB Bank Select Events.
F0 43 10 4C 02 01 00 DD DD F7	Reverb Type; DD from Effects List
F0 43 10 4C 02 01 20 DD DD F7	Chorus Type; DD from Effects List
F0 43 10 4C 02 01 40 DD DD F7	Variation Type; DD from Effects List
F0 43 10 4C 02 01 5A TT F7	Variation Connection Type;

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	for styles, TT = 01 (system)
F0 43 10 4C 08 08 07 03 F7	Channel 9 assigned to drums 1
F0 43 10 4C 08 09 07 02 F7	Channel 10 assigned to drums 2

**Table 26**

Any following sections use these definitions until they are overwritten. E.g.; if channel 1 has a program change in SInt and Main C, then channel 1 will use the SInt definitions until Main C is played. Thereafter channel 1 will use the new definition. For this reason, if any changes are made in a section following SInt, then all sections should have commands which establish these parameters.

### 5.1.1.2 Measure 2 and following measures

Measures 2 and following contain the musical patterns of the style.

**Intros, Mains, Endings, Fill Ins, Break:** These can be in any order, and should begin in measure 2. Primarily midi events include note-on and note off, controller (e.g. expression), pitch wheel and program change events. Fill Ins and Break are limited to a single measure; other sections can be any length but are generally  $\geq 4$  measures.

### 5.1.2 Midi Channel Usage

The accompaniment system supports the following midi channels for accompaniment input:

Acc. Channel	Acc. Part	Usage
9	Sub-Rhythm	Secondary percussion instruments.
10	Rhythm	Main percussion instruments.
11	Bass	Main bass instrument.
12	Chord 1	Often used for rhythm guitar.
13	Chord 2	Often used for piano.
14	Pad	Often used for violins or similar.
15	Phrase 1	Often used for brass instruments.
16	Phrase 2	Often used for brass instruments.

**Table 27**

The midi section may either follow these channel assignment, or a CASM section has to be added to the style. A CASM section allows mapping any midi channel to the required accompaniment channels (see chapter 5.2).

### 5.1.3 Key and allowed Notes

During playback the accompaniment system transposes the musical sections of the style according to the chord currently played by the musician. For this the instrument needs to know the original key of the musical section. If nothing is stated the instrument assumes the key CMaj7. If the key of the musical section is not CMaj7, a CASM section has to be added to the style. A CASM section allows using any key (see chapter 5.2.2).

There are restrictions about the notes which are allowed to be used in the style. Using other notes may lead to a wrong transposition.

The allowed notes are:

Acc. Channel	Acc. Part	Allowed notes (based on CMaj7)
9	Sub-Rhythm	All
10	Rhythm	All
11	Bass	C, D, E, G, A, B

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12	Chord 1	C, E, G, B
13	Chord 2	C, E, G, B
14	Pad	C, E, G, B
15	Phrase 1	C, D, E, G, A, B
16	Phrase 2	C, D, E, G, A, B

**Table 28**

For Intro and Ending sections autonomously playing all chord changes, which means that for these sections no transposition will be performed (selected in the corresponding NTT, see chapter 5.2.6), all notes are allowed also in acc. channels 11 .. 16 of these sections.

### 5.1.4 Voices

Styles may use any factory voices, except SA and organ flute voices. User voices made by editing preset voices cannot be used. In the Tyros 2, Custom Voices are allowed. (Note: SA voices can be assigned using PC programs; it is not known if this has any negative consequences.)

Voices are identified by two values. The bank and the program (= instrument) number. The bank number defines a group of instruments; the program number identifies the instrument inside this group. The bank number is usually given as a two byte value MSB (Most Significant Byte) and LSB (Least Significant Byte).

Currently the following voices are known:

Voice Type	Voice Bank (MSB)	Voice Bank (LSB)	Program Nr.
GM	0	0	0 .. 127
XG	0	0 .. 101	0 .. 127
Panel	0	102 .. 127	0 .. 127
Mega and Super Articulation	8	0 .. 127	0 .. 127
Sound Effects	64	0	0 .. 127
GM2 Drums	120	0	0 .. 127
GM2	121	0 .. 127	0 .. 127
Drum and Percussion, Special Effects	126 .. 127	0	0 .. 127

**Table 29**

When using these voices it has to be taken into account that not all voices are available on all keyboard models. If a style uses a voice that is not supported by the keyboard, and the MSB Bank Select value is zero, the instrument will automatically substitute the voice. Therefore the style will work, but it will sound (maybe only slightly) different. The result of this substitution may sound acceptable (e.g. when substituting XG and GM voices) or unusable (e.g. when substituting Mega voices with GM voices).

There are software programs available, which can substitute voices in styles in a more sophisticated way, to adapt them for various keyboard models. See chapter 7.1.

A similar problem may arise when the style uses a drum kit, which is not available on the keyboard model. Then wrong percussion instruments may be used.

Currently no software program is known, which supports total (MidiPlayer does Latin Kits) remapping of drum kits, so this has to be done manually.

### 5.1.5 Special Effects

#### 5.1.5.1 Half Bar Fill Ins

The Fill In section of a style has to be one measure in length. If a style should have a Fill In section that is only a half measure in length, this is not possible in the common way, but by a trick. For the Fill In measure the tempo is doubled (therefore the measure plays in  $\frac{1}{2}$  of the time of an original measure) and all note event durations in this measure are doubled (so that the notes and rests have again the original duration).

This modification is supported by the programs "StyleAdjust" and "Style Half Bar Fill Creator" (see chapter 7.1.3).

#### 5.1.5.2 Multiple Time Signatures

In general styles can only have one time signature. But, by the same trick used for the "Half Bar Fill Ins", this can also be achieved by increasing/decreasing the tempo and decreasing/increasing the note event durations in the opposite direction.

This modification is supported by the program "Style Tempo Editor" (see chapter 7.1.3).

### 5.1.6 Restrictions for older keyboard models

This chapter lists restrictions for older keyboard models, which are not mentioned before.

Midi file resolution: Is limited to max. 480 ticks per quarter note for e.g. PSR7000 and PSR8000 (?).

## 5.2 CASM section

This chapter will provide information which is useful when creating or modifying CASM data using one of the CASM editors or style creation programs.

The CASM section gives instructions to the instrument on how to deal with the midi data. It provides additional possibilities to create more diversified styles.

The CASM section allows defining separate instructions for each style part (e.g. Intro A, Main B) of each source midi channel. To reduce the complexity, some CASM editor programs may only support defining separate instructions for each source midi channel, treating all style parts the same. However, these sections can be easily expanded as required.

### 5.2.1 Styles without a CASM Section

Style files do not necessarily need a CASM section, as long as the midi section of the style follows these rules:

- Only midi channels 9 .. 16 are used.
- Usage of midi channels is according to Table 27.
- Midi channels have to be based on key CMaj7.
- There is only one channel per part ( i.e. no separate channel for major and minor chord types)

### 5.2.2 Midi channel usage and assignment

The accompaniment system supports 8 midi channels (accompaniment channels) as listed in Table 27.

If no CASM section is present in the style file, then the accompaniment system assumes that the midi part of the style file only uses these midi channels, with the assignment according to Table 27.

A CASM section instead allows using up to 16 midi channels in the midi part of the style file. These “source channels” are then assigned to the 8 “accompaniment channels”. In the instrument, any source channel can be assigned to any accompaniment channel, with the restriction that drum voices can only be assigned to the Rhythm channel (10); the SubRhythm channel can accept both. Multiple source channels can be assigned to a single accompaniment channel. In PC programs, any instrument can be assigned to any channel.

In general, any voice non-drum channel can be assigned to any of the accompaniment channels 11 .. 16, as it seems that they work quite equally. E.g. a source channel containing chord data may be assigned to accompaniment channel 11, which is identified as the Bass part on the instrument. Since the instrument display always calls channel 11 “Bass”, it would be confusing if the channel does not contain the bass pattern.

When assigning the channels the restrictions regarding the allowed notes have to be followed according to Table 28.

This provides e.g. the following possibilities:

- One accompaniment channel can play more than one instrument depending upon the chord type, if source tracks redefine the voice.
- One accompaniment channel can play different instruments in style sections by redefining the voice within the style section.

### 5.2.3 Chord Mute

Normally the accompaniment is played by the instrument continuously until it is stopped or an ending part has been finished. The “Chord Mute” allows the style to define chord types, which when played, temporarily mute the accompaniment contributed by that track. Use chord type “cancel” to mute all instruments.

This can be specified for each style part of each source midi channel.

Valid chord types are:

Maj	min6	dim7	7(#9)
Maj6	min7	7 <sup>th</sup>	Maj7aug
Maj7	min7b5	7sus4	7aug
Maj7#11	min(9)	7b5	1+8
Maj(9)	min7(9)	7(9)	1+5
Maj7(9)	min7(11)	7#11	sus4
Maj6(9)	minMaj7	7(13)	1+2+5
Aug	minMaj7(9)	7(b9)	cancel
Min	dim	7(b13)	

**Table 30**

This provides e.g. the following possibilities:

- Different patterns play in response to chord types (Maj, min, ...).
- The whole non rhythm accompaniment can be muted by keying a cancel chord (equal to three consecutive keys in Fingered Mode).
- The whole non rhythm accompaniment excluding the bass can be muted by keying a cancel chord (equal to four consecutive keys in Fingered Mode).
- Dedicated source channels can be muted to disable a voice at certain times during playback by keying a dedicated chord.

- Dedicated source channels can be unmuted to enable a voice at certain times during playback by keying a dedicated chord.

### 5.2.4 Note Mute

The “Note Mute” allows the style to mute (or enable) a track based upon the Root Chord.

E.g. when C is disabled for a bass track, then keying chords C, Cm etc. mutes the bass track.

### 5.2.5 Note Transposition Rule (NTR)

This specifies what notes of the possible chord notes will be played when a chord is transposed. There are two modes available:

- **Root Transposition:**  
When transposed the pitch relationship between notes is maintained, i.e. the same inversion of the chord is used. 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, i.e. a different inversion of the chord may be used. 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, e.g. for rhythm guitar parts.

### 5.2.6 Note Transposition Table (NTT)

The note transposition table specifies the method to be used for source pattern transposition.

- **Bypass: No transposition.**  
No transposition. Playback is independent of the chord used during playback. This has to be used for drum channels (as these notes should never be transposed) and for other special effects sounds.

Sometimes used for Intros and Endings

- **Melody:**  
Should be used for melodic channels that are assigned to accompaniment channels “Phrase 1” and “Phrase 2”.
- **Chord:**  
Should be used for chord oriented channels that are assigned to accompaniment channels “Chord 1” and “Chord 2” when they contain piano or guitar-like chordal parts.
- **Bass:**  
Should be used for bass channels that are assigned to accompaniment channel “Bass”.
- **Melodic Minor:**  
Should be used for melodic channels that are assigned to accompaniment channels “Phrase 1” and “Phrase 2” for style parts where only major/minor chords are played, e.g. Intros and Endings.  
Lowers the third scale degree by a semitone when the played chord changes 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.

- **Harmonic Minor:**  
Should be used for chord oriented channels that are assigned to accompaniment channels "Chord 1" and "Chord 2" for style parts where only major/minor chords are played, e.g. Intros and Endings.  
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.
- **Harmonic minor 5th Var:** (only available if the "Cntt" structure in the style file is supported)
- **Natural minor:** (only available if the "Cntt" structure in the style file is supported)
- **Natural minor 5th Var:** (only available if the "Cntt" structure in the style file is supported)
- **Dorian minor:** (only available if the "Cntt" structure in the style file is supported)
- **Dorian minor 5th Var:** (only available if the "Cntt" structure in the style file is supported)

### 5.2.7 Note Limits

The values 00H .. 7FH represent the midi note numbers 0 .. 127.

"Note Low Limit" and "Note High Limit" specify the low and high note limits for all notes played in the specified part. If a transposed note is outside this range, then the note is transposed to the nearest octave within the range. The range must be at least one octave.

This can be used to ensure that only notes are played that are in the range of the respective instrument.

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

### 5.2.8 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 (Note Transposition Rule) is set to "Root Trans".

This is used to keep bass lines to a bass range.

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

### 5.2.9 Retrigger Rule (RTR)

Specifies how notes behave through chord changes.

- **Stop:**  
The note is stopped.

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- 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.  
  
Note generator:  
This setting will only be available if programmed in the original style. A designated note is produced with designated pitch, length, and velocity matching the new chord.

### 5.2.10 Special Features

At the end of the Ctab structure special features can be defined for a midi source channel. Currently there is only one special feature ("extra break drum voice") used by a very small number of styles.

An extra break drum voice (e.g. a Crash Cymbal) can be added when playing the 3- or 4-finger break. The extra break drum voice will sound at time 0 within the break measure.

For this purpose there must be created a MIDI channel in the MIDI part of the style file with only the Drum Set definition (Program Change, MSB and LSB); and NO notes. This (almost empty) channel must be redirected to a Keyboard Drum Channel (Rhythm Sub or Rhythm Main). Furthermore the extra drum voice and its volume can be defined.

For this MIDI channel a "normal" Ctab structure with the following exceptions must be created:

Byte Index	Description	Value
9	Destination channel	08H = Sub Rhythm or 09H = Rhythm
11	Note Mute (Part 1)	0FH
12	Note Mute (Part 2)	FFH
13	Chord Mute (Part 1)	04H
14	Chord Mute (Part 2)	00H
15	Chord Mute (Part 3)	00H
16	Chord Mute (Part 4)	00H
17	Chord Mute (Part 5)	00H
18	Source Chord	00H
19	Source Chord Type	00H
20	Note Transposition Rule (NTR)	01H
21	Note Transposition Table	00H
22	High Key	00H
23	Note Low Limit	00H
24	Note High Limit	7FH
25	Retrigger Rule (RTR)	03H
26	Special feature id	01H = "extra break drum voice"
27	Meaning unknown	00H
28	Meaning unknown	18H
29	Instrument	Typical instruments are:

---

		31H = Crash Cymbal 1 32H = Crash Cymbal 2
30	Volume	00H .. 7FH (0 .. 127)

**Table 31**

## 6 Credits

The authors of this document wish to express their gratitude to all the members of the PSR community who have shared their knowledge and experience on style making and style files, and especially to some of the early pioneers in style file programming: Jørgen Sørensen, Dan Phalen, Heiko Plate and Evgeny Osenenko.

## 7 Links

### 7.1 Software

This chapter provides links to free software. The list may not be complete.

#### 7.1.1 General Style Software

Midi and Style Player (by Jørgen Sørensen)

(Note: A standard midi player will not produce an acceptable result for styles.)

<http://www.jososoftware.dk/yamaha/software.htm>

MidiPlayer (by Michael P. Bedesem)

Supports playing midi, style, voice, multipad, wav and mp3 files on a PC. Views all internals of a style file in detail..

(Note: A standard midi player will not produce an acceptable result for styles.)

<http://psrtutorial.com/MB/midiplayer.html>

StyleDump (by Michael P. Bedesem)

Views all internals of a style file in detail. (Unlike MidiPlayer, StylePlayer does not convert or modify the file in any way.)

<http://psrtutorial.com/MB/styledump.html>

StylePlayer (by Michael P. Bedesem)

Supports playing style files on a PC. Similar to MidiPlayer but more focused on style playing.

(Note: A standard midi player will not produce an acceptable result for styles.)

<http://psrtutorial.com/MB/styleplayer.html>

#### 7.1.2 Style Adaptation Software

This section lists software which may be used if a style should only be adapted to a different keyboard model.

MidiPlayer (by Michael P. Bedesem)

Supports various functions to convert styles for the different PSR instruments.

<http://psrtutorial.com/MB/midiplayer.html>

Style Old Format Converter (by Jørgen Sørensen)

Converts styles for use on older/smaller keyboards.

<http://www.jososoftware.dk/yamaha/software.htm>

Style Revoicer (by Jørgen Sørensen)  
Change voices and parameters, transpose etc. in style files.  
<http://www.jososoftware.dk/yamaha/software.htm>

### 7.1.3 Style Modification Software

This section lists software which may be used to modify a style in various ways.

Style Creator (in the PSR/Tyros)

CasmEdit (by Evgeny Osenenko)  
Manipulate style files and create and modify CASM sections.  
[http://www.mnppsatur.ru/osenenko/Main\\_eng.htm](http://www.mnppsatur.ru/osenenko/Main_eng.htm)

CASM Editor  
Displays and edits the CASM section.  
<http://www.jososoftware.dk/yamaha/software.htm>

MDB Editor (by Jørgen Sørensen)  
Add, edit or delete records in the MDB section in style files.  
<http://www.jososoftware.dk/yamaha/software.htm>

MidiPlayer (by Michael P. Bedesem)  
Edit channel transpose, OTS and individual (vs measure) voice, volume, pan, tempo, and effect events. Converts styles (voices, volumes, OTS) from one instrument to another (including MegaVoice to standard voice) .  
<http://psrtutorial.com/MB/midiplayer.html>

OTS Editor (by Jørgen Sørensen)  
Edit all parameters in OTS sections.  
<http://www.jososoftware.dk/yamaha/software.htm>

PsrStyleDatabase (by Peter Wierzba)  
Can also add, edit or delete records in the MDB section in style files.  
<http://www.wierzba.homepage.t-online.de/>

StyleAdjust (by Michael P. Bedesem)  
This program permits unlimited experimentation with the Tempo and note duration of a style  
<http://psrtutorial.com/MB/bedesem.html> (available by email request to mpb@sover.net)

StyleEdit (by Michael P. Bedesem)  
Edit internal stylename, tempo, copyright info and main section order for a PSR style.  
<http://psrtutorial.com/MB/bedesem.html> (available by email request to mpb@sover.net)

StyleFix (by Michael P. Bedesem)  
Convert internal names from numbers to names, replace bass voices for older instruments, exchange CD for AB sections, add a Break, remove OTS/MF Database sections.  
<http://psrtutorial.com/MB/bedesem.html> (available by email request to mpb@sover.net)

Style Half Bar Fill Creator (by Jørgen Sørensen)  
Create fill in's and breaks of half the normal bar length, e.g. a 2/4 fill in a 4/4 style file.  
<http://www.jososoftware.dk/yamaha/software.htm>

StyleMaker (by Michael P. Bedesem)  
This program supports editing an existing style file in a sequencer, or creating a PSR style from a midi song file, or midi/style templates (including Band In The Box styles).  
<http://psrtutorial.com/MB/stylemaker.html>

Style ReMixer (by Jørgen Sørensen)

Remix style parts in styles.

<http://www.jososoftware.dk/yamaha/software.htm>

Style Revoicer (by Jørgen Sørensen)

Change voices and parameters, transpose etc. in style files.

<http://www.jososoftware.dk/yamaha/software.htm>

Style Split and Splice (by Jørgen Sørensen)

Split and splice style files for editing the midi part of the style file with sequencer software.

<http://www.jososoftware.dk/yamaha/software.htm>

Style Tempo Editor (by Jørgen Sørensen)

Set individual tempo in style parts.

<http://www.jososoftware.dk/yamaha/software.htm>

Style Time and Tempo in Name (by Jørgen Sørensen)

Add time signature and tempo values in the style file name.

<http://www.jososoftware.dk/yamaha/software.htm>

Style Time Editor (by Jørgen Sørensen)

Set individual time signatures in style parts.

<http://www.jososoftware.dk/yamaha/software.htm>

StyleUpdater (by Michael P. Bedesem)

Updates any style by allowing replication of missing sections, revoicing of individual parts, octave shifting, velocity shifts and part muting.

<http://psrtutorial.com/MB/bedesem.html> (available by email request to mpb@sover.net)

Visual Styler (by MojoFlux)

Copy style parts from more style files to one single style file.

<http://www.crestonhall.com/music.htm>

### 7.1.4 Style Making Software

This section lists software which may be used to create styles from scratch or from midi files.

Style Creator (in the PSR/Tyros)

Midi2style (by Jørgen Sørensen)

For creating style files from midi files.

<http://www.jososoftware.dk/yamaha/software.htm>

StyleMaker (by Michael P. Bedesem)

<http://psrtutorial.com/MB/stylemaker.html>

## 7.2 *Midi Specification and Tutorials*

This chapter provides links to documents explaining the MIDI system.

<http://home.roadrunner.com/~jgglatt/tech/midispec.htm>

<http://home.roadrunner.com/~jgglatt/tech/midifile.htm>

<http://www.ibiblio.org/emusic-l/info-docs-FAQs/MIDI-doc/index.html>

<http://www.jososoftware.dk/yamaha/articles.htm>

<http://www.midi.org/about-midi/smf/rp017.shtml>

### 7.3 *Style Creation Tutorials*

This chapter provides links to information covering also the musical aspects of style making.

Style Creation Course (by Jørgen Sørensen)

<http://www.jososoftware.dk/yamaha/articles.htm>

How to make style on a keyboard (Simon Williams)

<http://psrtutorial.com/lessons/faq/PSRFAQ.htm> (see topic B. 18.)

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## 9 Open Issues and Questions

Following is a list of various questions. If anybody can contribute any answers or hints, please contact the authors to help making this document more complete.

1. Are there differences concerning the contents of the style file types (.sty, .bcs, .prs,...) ? None have been noticed so far.
2. How to work with chord and scale tone rules: While we are generally familiar with the chord and scale rules, we really do not understand them and how they interact with the CASM settings. There are some styles where a D in a CMaj7 pattern works just fine and others where it does not. And what to do when you really want an F in the pattern?
3. CASM Settings: How do the various transposition settings change the reproduction?
4. Session Styles: How to make them?
5. Is the "Note Mute" in the Ctab practically used? What possibilities are provided by the "Note Mute" functionality?
6. Meaning (and naming) of Bit 2 and Bit 3 in "Chord Mute (Part 1)" in the Ctab.
7. Full meaning of Cntt structures and how they compete with NTT.  
(Maybe the Cntt section has been introduced for compatibility reasons? I. e. older PSRs may be programmed in such a manner that they did not allow to increase the set of NTT values in the Ctab section? If so, then one would expect that on the newer instruments the Cntt value would always override the value in the Ctab section, which seems to be the case.)
8. How many Cntt structures are commonly used compared to the number of Ctab structures?
9. Some more details about the note transposition table described in 5.2.6. would be interesting.
10. What NTT settings are practically used?
11. Intros can be setup so that they follow the chord changes of the left hand, and so that they autonomously change the chords. How is this programmed in the style? With NTT = Bypass?
12. If Intro and Ending sections autonomously play all chord changes, then are there any notes allowed in these parts? Not only the restricted set (transposed to the current played chord) listed in Table 28?
13. How to prepare a style so that it can be used in XGWorks?

**A. Decimal-Hexadecimal Conversion Table**

Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex
0	00	32	20	64	40	96	60	128	80	160	A0	192	C0	224	E0
1	01	33	21	65	41	97	61	129	81	161	A1	193	C1	225	E1
2	02	34	22	66	42	98	62	130	82	162	A2	194	C2	226	E2
3	03	35	23	67	43	99	63	131	83	163	A3	195	C3	227	E3
4	04	36	24	68	44	100	64	132	84	164	A4	196	C4	228	E4
5	05	37	25	69	45	101	65	133	85	165	A5	197	C5	229	E5
6	06	38	26	70	46	102	66	134	86	166	A6	198	C6	230	E6
7	07	39	27	71	47	103	67	135	87	167	A7	199	C7	231	E7
8	08	40	28	72	48	104	68	136	88	168	A8	200	C8	232	E8
9	09	41	29	73	49	105	69	137	89	169	A9	201	C9	233	E9
10	0A	42	2A	74	4A	106	6A	138	8A	170	AA	202	CA	234	EA
11	0B	43	2B	75	4B	107	6B	139	8B	171	AB	203	CB	235	EB
12	0C	44	2C	76	4C	108	6C	140	8C	172	AC	204	CC	236	EC
13	0D	45	2D	77	4D	109	6D	141	8D	173	AD	205	CD	237	ED
14	0E	46	2E	78	4E	110	6E	142	8E	174	AE	206	CE	238	EE
15	0F	47	2F	79	4F	111	6F	143	8F	175	AF	207	CF	239	EF
16	10	48	30	80	50	112	70	144	90	176	B0	208	D0	240	F0
17	11	49	31	81	51	113	71	145	91	177	B1	209	D1	241	F1
18	12	50	32	82	52	114	72	146	92	178	B2	210	D2	242	F2
19	13	51	33	83	53	115	73	147	93	179	B3	211	D3	243	F3
20	14	52	34	84	54	116	74	148	94	180	B4	212	D4	244	F4
21	15	53	35	85	55	117	75	149	95	181	B5	213	D5	245	F5
22	16	54	36	86	56	118	76	150	96	182	B6	214	D6	246	F6
23	17	55	37	87	57	119	77	151	97	183	B7	215	D7	247	F7
24	18	56	38	88	58	120	78	152	98	184	B8	216	D8	248	F8
25	19	57	39	89	59	121	79	153	99	185	B9	217	D9	249	F9
26	1A	58	3A	90	5A	122	7A	154	9A	186	BA	218	DA	250	FA
27	1B	59	3B	91	5B	123	7B	155	9B	187	BB	219	DB	251	FB
28	1C	60	3C	92	5C	124	7C	156	9C	188	BC	220	DC	252	FC
29	1D	61	3D	93	5D	125	7D	157	9D	189	BD	221	DD	253	FD
30	1E	62	3E	94	5E	126	7E	158	9E	190	BE	222	DE	254	FE
31	1F	63	3F	95	5F	127	7F	159	9F	191	BF	223	DF	255	FF

## B. Icon List for Voices and Styles

The icons are determined by the .SXYZ or .TXYZ in the file name.

Icons sorted by voice / style type

S001	S001NLGrandPno1.bmp	S060	S06060s_Organ.bmp	S098	S098VintageMute.bmp
S002	S002NLGrandPno2.bmp	S043	S043Rotor_Organ.bmp	S120	S120MutedGuitar.bmp
S003	S003Live_Grand.bmp	S049	S049Jazz_Organ1.bmp	S082	S082Aloha_Gtr.bmp
S004	S004Grand_Piano.bmp	S051	S051RotaryDrive.bmp	S099	S099SlideGuitar.bmp
S005	S005BrightPiano.bmp	S058	S058Jazz_Organ2.bmp	S109	S109HawaiianGtr.bmp
S012	S012Oct_Piano_1.bmp	S061	S061Jazz_Organ3.bmp	S089	S089PedalSteel.bmp
S013	S013Oct_Piano_2.bmp	S388	S388Jazz_Draw.bmp	S118	S118Mandolin.bmp
S399	S411PianoStr.bmp	S389	S389BluesOrgan.bmp	S123	S123NL_Wood_Bass.bmp
S936	S950_Piano_Choir.bmp	S390	S390SixteenOne.bmp	S126	S126UprightBass.bmp
S017	S017Midi_Grand.bmp	S391	S391SixteenTwo.bmp	S136	S136AcoBass.bmp
S010	S010Honky_Tonk.bmp	S392	S392SixteenFour.bmp	S138	S138Bass_Cymbal.bmp
S006	S006NLHarpsi8.bmp	S393	S393Even_Bars.bmp	S124	S124NL_ElecBass.bmp
S007	S007NLHc8_4.bmp	S394	S394Pop_Organ.bmp	S125	S125Finger_Bass.bmp
S008	S008Harpsichord.bmp	S395	S395RockingOrg.bmp	S127	S127Pick_Bass.bmp
S009	S009GrandHarpsi.bmp	S396	S396Percussive.bmp	S129	S129Slap_Bass.bmp
S937	S951_Harpsi_Str.bmp	S397	S397GospelOrg.bmp	S135	S135Funk_Bass.bmp
S950	S953_CVP209.bmp	S398	S398Pad_Organ.bmp	S408	S554VeloSlap.bmp
S011	S011Rock_Piano.bmp	S068	S068Reed_Organ.bmp	S128	S128Jaco_Bass.bmp
S016	S016NL_CP80.bmp	S069	S069Musette.bmp	S137	S137Fretless.bmp
S018	S018CP_80.bmp	S070	S070Tutti_Accrd.bmp	S144	S144Click_Bass.bmp
S014	S014NL_EP1.bmp	S071	S071Small_Accrd.bmp	S130	S130Analog_Bass.bmp
S023	S023Hyper_Tines.bmp	S072	S072Accordion.bmp	S131	S131DX_FunkBass.bmp
S024	S024Cool_EP.bmp	S074	S074Steirisch.bmp	S132	S132DrySynBass.bmp
S026	S026New_Tines.bmp	S076	S076Soft_Accrd.bmp	S133	S133Touch_Bass.bmp
S028	S028DX_Modern.bmp	S073	S073Tango_Accrd.bmp	S134	S134Hi_Q_Bass.bmp
S030	S030Modern_EP.bmp	S075	S075Bandoneon.bmp	S139	S139Fusion_Bass.bmp
S032	S032Super_DX.bmp	S077	S077Modern_Harp.bmp	S140	S140Rave_Bass.bmp
S301	S301DX_Pad.bmp	S078	S078Blues_Harp.bmp	S141	S141Dance_Bass.bmp
S015	S015NL_EP2.bmp	S079	S079Harmonica.bmp	S142	S142Synth_Bass.bmp
S019	S019Galaxy_EP.bmp	S080	S080NLFolkGtr.bmp	S143	S143Snap_Bass.bmp
S020	S020Stage_EP.bmp	S096	S096Folk_Guitar.bmp	S145	S145Live_Strs.bmp
S021	S021Polaris_EP.bmp	S106	S106CampfireGtr.bmp	S146	S146Live_Algro.bmp
S022	S022Jazz_Chorus.bmp	S103	S103Spanish_Gtr.bmp	S147	S147Live_Orch.bmp
S025	S025Phase_EP.bmp	S081	S081Live_Nylon.bmp	S156	S156Strings.bmp
S027	S027Funk_EP.bmp	S093	S093Live_Class.bmp	S157	S157OrchStrings.bmp
S029	S029Vintage_EP.bmp	S107	S107SmoothNylon.bmp	S163	S163SlowStrings.bmp
S031	S031Tremolo_EP.bmp	S113	S113Classic_Gtr.bmp	S165	S165MarcatoStrs.bmp
S035	S035Suitcase_EP.bmp	S407	S507Ukulele.bmp	S148	S148SymphonStr.bmp
S036	S036Venus_EP.bmp	S086	S08612StrGuitar.bmp	S149	S149ChamberStrs.bmp
S033	S033NL_Clavi.bmp	S084	S084Cool_JGtr.bmp	S150	S150OberStrings.bmp
S034	S034Clavi.bmp	S088	S088Vintage_Amp.bmp	S158	S158StrQuartet.bmp
S037	S037Wah_Clavi.bmp	S094	S094Cool_JSolo.bmp	S159	S159ConcertoStr.bmp
S038	S038NLPipeOrgnP.bmp	S104	S104Octave_Gtr.bmp	S160	S160Analog_Strs.bmp
S039	S039NLPipeOrgF1.bmp	S121	S121Jazz_Guitar.bmp	S162	S162Bow_Strings.bmp
S040	S040NLPipeOrgF2_.bmp	S087	S087SolidGuitar.bmp	S166	S166Syn_Strings.bmp
S041	S041NLPipeOrgnT.bmp	S091	S091Funk_Guitar.bmp	S152	S152Orch_Brass.bmp
S062	S062ChapelOrgn1.bmp	S092	S09260s_Clean.bmp	S153	S153Orch_Flute.bmp
S063	S063ChapelOrgn2.bmp	S095	S095VintageOpen.bmp	S154	S154Orch_FIBr.bmp
S064	S064ChapelOrgn3.bmp	S097	S097Solid_Chord.bmp	S155	S155Orch_Oboe.bmp
S065	S065TheatreOrg1.bmp	S100	S100Lead_Guitar.bmp	S151	S151Solo_Violin.bmp
S066	S066TheatreOrg2.bmp	S102	S102VintageTrem.bmp	S161	S161Soft_Violin.bmp
S067	S067Pipe_Organ.bmp	S108	S108Tremolo_Gtr.bmp	S168	S168Viola.bmp
S042	S042Cool_Organ.bmp	S111	S111BrightClean.bmp	S173	E_S173Fiddle.bmp
S044	S044Rock_Organ1.bmp	S112	S112Wah_Guitar.bmp	S169	S169Cello.bmp
S047	S047Cool_Jazz.bmp	S119	S119CleanGuitar.bmp	S170	S170Contrabass.bmp
S054	S054DrawbarOrg.bmp	S116	S116Elec12Str.bmp	S164	S164TremoloStrs.bmp
S055	S055Click_Organ.bmp	S090	S090Crunch_Gtr.bmp	S167	S167PizzStrings.bmp
S056	S056Stadium_Org.bmp	S110	S110Heavy_Stack.bmp	S178	S178OrchHit.bmp
S045	S045Dance_Organ.bmp	S117	S117FeedbackGtr.bmp	S410	S617OrchHit.bmp
S046	S046Gospel_Org.bmp	S083	S083Carlos_Gtr.bmp	S171	S171Harp.bmp
S048	S048Purple_Org.bmp	S101	S101Chorus_Gtr.bmp	S179	S179Sweet_Trump.bmp
S050	S050Rock_Organ2.bmp	S105	S105Deep_Chorus.bmp	S183	S183SoftTrumpet.bmp
S052	S052Full_Rocker.bmp	S115	S115Distortion.bmp	S186	S186SoloTrumpet.bmp
S053	S053ElecOrgan.bmp	S122	S122Overdrive.bmp	S181	S181SweetMuteTp.bmp
S057	S057Mellow_Draw.bmp	S114	S114DX_JazzGtr.bmp	S184	S184JazzTrumpet.bmp
S059	S059Bright_Draw.bmp	S085	S085Cool_EGtr.bmp	S185	S185Muted_Trump.bmp

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S187	S187Air_Trumpet.bmp	S260	S260Bagpipe.bmp	S340	S340Under_Heim.bmp
S182	S182SweetFlugel.bmp	S257	S257Whistle.bmp	S342	S342Hi_Bias.bmp
S188	S188Flugel_Horn.bmp	S264	S264Pro_Heaven.bmp	S343	S343Vinylead.bmp
S180	S180Sweet_Tromb.bmp	S265	S265Sunbeam.bmp	S331	S331Synchronize.bmp
S189	S189Trombone.bmp	S276	S276Bell_Heaven.bmp	S345	S345Clockwork.bmp
S191	S191Solo_Tromb.bmp	S288	S288Vox_Humana.bmp	S341	S341Rhythmic.bmp
S192	S192Soft_Tromb.bmp	S261	S261LiveGospel.bmp	S302	S302Symbiont.bmp
S216	S216SmoothTromb.bmp	S262	S262Live_Humm.bmp	S303	S303Stargate.bmp
S193	S193MellowTromb.bmp	S263	S263Hah_Chair.bmp	S304	S304Area_51.bmp
S194	S194French_Horn.bmp	S283	S283Choir.bmp	S305	S305Dark_Moon.bmp
S190	S190BaritonHorn.bmp	S285	S285Vocal_Ensb1.bmp	S308	S308Solaris.bmp
S195	S195Bariton_Hit.bmp	S290	S290Uuh_Chair.bmp	S333	S333Stardust.bmp
S197	S197Tuba.bmp	S270	S270Live_Doo.bmp	S309	S309Time_Travel.bmp
S196	S196Alp_Bass.bmp	S271	S271Live_Bah.bmp	S310	S310Millenium.bmp
S198	S198Live_OctBr.bmp	S272	S272Live_Dao.bmp	S293	S293Atmosphere.bmp
S199	S199Live_Brass.bmp	S273	S273Live_Mmh.bmp	S339	S339Sun_Bell.bmp
S200	S200Live_HyBrs.bmp	S274	S274Gothic_Vox.bmp	S346	S346NL_Vibe.bmp
S201	S201BrasSection.bmp	S275	S275Huh_Chair.bmp	S351	S351Jazz_Vibes.bmp
S204	S204Pop_Brass.bmp	S268	S268Live_Vocal.bmp	S350	S350Vibraphone.bmp
S211	S211Step_Brass.bmp	S269	S269Bah_Chair.bmp	S347	S347NL_Marimba.bmp
S212	S212BrightBrass.bmp	S278	S278DooBa_Scats.bmp	S352	S352Marimba.bmp
S213	S213Soft_Brass.bmp	S279	S279Daa_Chair.bmp	S353	S353Xylophone.bmp
S214	S214Full_Horns.bmp	S280	S280Doo_Chair.bmp	S356	S356Glocken.bmp
S205	S205Sforzando.bmp	S281	S281Doom_Chair.bmp	S348	S348NL_Celesta.bmp
S209	S209Jump_Brass.bmp	S282	S282Live_Doom.bmp	S355	S355Celesta.bmp
S210	S210Big_Brass.bmp	S266	S266SweetHeaven.bmp	S349	S349NL_Stee_Drum.bmp
S217	S217High_Brass.bmp	S267	S267DreamHeaven.bmp	S354	S354Steel_Drums.bmp
S221	S221Brass_Hit.bmp	S277	S277Pan_Heaven.bmp	S357	S357Music_Box.bmp
S220	S220MellowHorns.bmp	S300	S300Fantasia.bmp	S358	S358TubularBell.bmp
S218	S218Ober_Brass.bmp	S417	S753ChorBell.bmp	S359	S359Kalimba.bmp
S222	S222Analog_Brs.bmp	S418	S757XmasBell.bmp	S360	S360Dulcimer.bmp
S226	S226Soft_Analog.bmp	S419	S758VibeBell.bmp	S361	S361Timpani.bmp
S227	S227FunkyAnalog.bmp	S420	S760AirBells.bmp	S362	S362LiveStdKit.bmp
S228	S228TechnoBrass.bmp	S421	S761BellHarp.bmp	S368	S368StdKit1.bmp
S229	S229Synth_Brass.bmp	S284	S284Air_Chair.bmp	S369	S369StdKit2.bmp
S219	S219Trumpet_Ens.bmp	S289	S289Voices.bmp	S384	S384StyleLvStd.bmp
S224	S224TrbSection.bmp	S294	S294Xenon_Pad.bmp	S376	S376Jazz_Kit.bmp
S206	S206MoonLight.bmp	S295	S295Skydiver.bmp	S364	S364LiveBrush.bmp
S208	S208Saxy_Mood.bmp	S298	S298Equinox.bmp	S367	S367LiveBrsh_P.bmp
S215	S215Brass_Combo.bmp	S286	S286Insomnia.bmp	S377	S377Brush_Kit.bmp
S225	S225Small_Brass.bmp	S296	S296Far_East.bmp	S365	S365LiveStd_P.bmp
S202	S202BigBandBrs.bmp	S312	S312Dunes.bmp	S386	S386StyLvStd_P.bmp
S203	S203MellowBrass.bmp	S287	S287Cyber_Pad.bmp	S387	S387StyLvFunk_P.bmp
S207	S207MillerNight.bmp	S292	S292Neo_WarmPad.bmp	S366	S366LiveFunk_P.bmp
S223	S223BallroomBrs.bmp	S306	S306lonosphere.bmp	S363	S363LiveFunkKt.bmp
S230	S230Sweet_Tenor.bmp	S291	S291Wave_2001.bmp	S370	S370Hit_Kit.bmp
S242	S242Tenor_Sax.bmp	S307	S307Golden_Age.bmp	S385	S385StyleLvFunk.bmp
S234	S234Growl_Sax.bmp	S297	S297Template.bmp	S371	S371Room_Kit.bmp
S231	S231Sweet_Alto.bmp	S311	S311Transform.bmp	S372	S372Rock_Kit.bmp
S241	S241Alto_Sax.bmp	S299	S299Glass_Pad.bmp	S373	S373Electro_Kit.bmp
S235	S235BreathTenor.bmp	S318	S318Square_Lead.bmp	S374	S374Analog_Kit.bmp
S236	S236BreathyAlto.bmp	S319	S319SawLead.bmp	S375	S375Dance_Kit.bmp
S243	S243BaritoneSax.bmp	S344	S344Skyline.bmp	S378	S378SymphonyKit.bmp
S244	S244Rock_Bari.bmp	S411	S680SineLead.bmp	S379	S379Arabic_Kit.bmp
S232	S232Sweet_Sprno.bmp	S313	S313Oxygen.bmp	S380	S380LiveCuban.bmp
S237	S237Soprano_Sax.bmp	S314	S314Matrix.bmp	S381	S381LivePopLtn.bmp
S239	S239Sax_Section.bmp	S315	S315Wire_Lead.bmp	S382	S382SFX_Kit1.bmp
S240	S240WoodwindEns.bmp	S316	S316Hip_Lead.bmp	S383	S383SFX_Kit2.bmp
S233	S233Sweet_Clari.bmp	S317	S317Hop_Lead.bmp	S400	S436DXKotoEP.bmp
S238	S238MelClarinet.bmp	S320	S320Fire_Wire.bmp	S401	S457Balafon2.bmp
S248	S248Clarinet.bmp	S321	S321Analogon.bmp	S402	E_S458Log_Drum.bmp
S245	S245Oboe.bmp	S322	S322Funky_Lead.bmp	S403	S461ChrchBel.bmp
S246	S246EnglishHorn.bmp	S323	S323Paraglide.bmp	S404	S462Carillon.bmp
S247	S247Bassoon.bmp	S324	S324Robolead.bmp	S406	S466Santur.bmp
S249	S249Sweet_Flute.bmp	S325	S325Fargo.bmp	S405	S465Cimbalom.bmp
S251	S251ClassFlute.bmp	S326	S326Portatone.bmp	S409	S584YangChin.bmp
S253	S253Flute.bmp	S327	S327Blaster.bmp	S172	S172Hackbrett.bmp
S336	S336Synth_Flute.bmp	S328	S328Big_Lead.bmp	S174	S174Banjo.bmp
S254	S254Piccolo.bmp	S329	S329Warp.bmp	S175	S175Sitar.bmp
S250	S250Sweet_Pan.bmp	S330	S330Adrenaline.bmp	S176	S176Koto.bmp
S252	S252Pan_Flute.bmp	S332	S332Tiny_Lead.bmp	S177	S177Shamisen.bmp
S255	S255EthnicFlute.bmp	S334	S334Aero_Lead.bmp	S424	S797Tambra.bmp
S256	S256Shakuhachi.bmp	S335	S335Mini_Lead.bmp	S425	S798Tamboura.bmp
S258	S258Recorder.bmp	S337	S337Sub_Aqua.bmp	S426	S801Rabab.bmp
S259	S259Ocarina.bmp	S338	S338Impact.bmp	S427	S802Gopichnt.bmp

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S428	S803Oud.bmp	S497	S877Coaster.bmp	S572	va065XN.bmp
S429	S806T_Koto.bmp	S498	S878SbMarine.bmp	S573	va066XN.bmp
S430	S807Kanoon.bmp	S499	S879Laughing.bmp	S574	va067XN.bmp
S431	S811Shanai.bmp	S500	S880Scream.bmp	S575	va068XN.bmp
S432	S812Shanai2.bmp	S501	S881Punch.bmp	S576	va069XN.bmp
S433	S813Pungi.bmp	S502	S882Heart.bmp	S577	va070XN.bmp
S434	S814Hichriki.bmp	S503	S883FootStep.bmp	S578	va071XN.bmp
S435	S815TnklBell.bmp	S504	S884MchinGun.bmp	S579	va072XN.bmp
S436	E_S816Bonang.bmp	S505	S885LaserGun.bmp	S580	va073XN.bmp
S437	S817Gender.bmp	S506	S886Xplosion.bmp	S581	va074XN.bmp
S438	S818Gamelan_Gong.bmp	S507	S887FireWork.bmp	S582	va075XN.bmp
S439	S819St_Gamelan.bmp	S508	va001XN.bmp	S583	va076XN.bmp
S422	S762Gamelmba.bmp	S509	va002XN.bmp	S584	va077XN.bmp
S440	S820Rama_Cym.bmp	S510	va003XN.bmp	S585	va078XN.bmp
S441	S821AsianBel.bmp	S511	va004XN.bmp	S586	va079XN.bmp
S445	S825ThaiBell.bmp	S512	va005XN.bmp	S587	va080XN.bmp
S442	S822Agogo.bmp	S513	va006XN.bmp	S588	va081XN.bmp
S444	S824GlasPerc.bmp	S514	va007XN.bmp	S589	va082XN.bmp
S446	S826WoodBlok.bmp	S515	va008XN.bmp	S590	va083XN.bmp
S447	S827Castanet.bmp	S516	va009XN.bmp	S591	va084XN.bmp
S448	S828TaikoDrm.bmp	S517	va010XN.bmp	S592	va085XN.bmp
S449	S829GrCassa.bmp	S518	va011XN.bmp	S593	va086XN.bmp
S450	S830MelodTom.bmp	S519	va012XN.bmp	S594	va087XN.bmp
S451	S831Mel_Tom2.bmp	S520	va013XN.bmp	S595	va088XN.bmp
S452	S832Real_Tom.bmp	S521	va014XN.bmp	S596	va089XN.bmp
S453	S833Rock_Tom.bmp	S522	va015XN.bmp	S597	va090XN.bmp
S455	S835Ana_Tom.bmp	S523	va016XN.bmp	S598	va091XN.bmp
S454	S834SynDrum.bmp	S524	va017XN.bmp	S599	va092XN.bmp
S456	S836ElecPerc.bmp	S525	va018XN.bmp	S600	va093XN.bmp
S457	S837RevCymbI.bmp	S526	va019XN.bmp	S601	va094XN.bmp
S458	S838FretNoiz.bmp	S527	va020XN.bmp	S602	va095XN.bmp
S466	S846CuttnGnz.bmp	S528	va021XN.bmp	S603	va096XN.bmp
S467	S847CttngNz2.bmp	S529	va022XN.bmp	S604	va097XN.bmp
S468	S848Str_Slap.bmp	S530	va023XN.bmp	S605	va098XN.bmp
S459	S839BrthNoiz.bmp	S531	va024XN.bmp	S606	va099XN.bmp
S469	S849FIKCliek.bmp	S532	va025XN.bmp	S607	va100XN.bmp
S412	S741AfrcnWnd.bmp	S533	va026XN.bmp	S608	va101XN.bmp
S413	S742Caribbean.bmp	S534	va027XN.bmp	S609	va102XN.bmp
S414	S744Prologue.bmp	S535	va028XN.bmp	S610	va103XN.bmp
S415	S745AncestrI.bmp	S536	va029XN.bmp	S611	va104XN.bmp
S416	S748Popcorn.bmp	S537	va030XN.bmp	S612	va105XN.bmp
S423	S780Night.bmp	S538	va031XN.bmp	S613	va106XN.bmp
S460	S840Seashore.bmp	S539	va032XN.bmp	S614	va107XN.bmp
S461	S841Tweet.bmp	S540	va033XN.bmp	S615	va108XN.bmp
S462	S842Telephone.bmp	S541	va034XN.bmp	S616	va109XN.bmp
S463	S843Helicptr.bmp	S542	va035XN.bmp	S617	va110XN.bmp
S464	S844Applause.bmp	S543	va036XN.bmp	S618	va111XN.bmp
S465	S845Gunshot.bmp	S544	va037XN.bmp	S619	va112XN.bmp
S470	S850Rain.bmp	S545	va038XN.bmp	S620	va113XN.bmp
S471	S851Thunder.bmp	S546	va039XN.bmp	S621	va114XN.bmp
S472	S852Wind.bmp	S547	va040XN.bmp	S622	va115XN.bmp
S473	S853Stream.bmp	S548	va041XN.bmp	S623	va116XN.bmp
S474	S854Bubble.bmp	S549	va042XN.bmp	S624	va117XN.bmp
S475	S855Feed.bmp	S550	va043XN.bmp	S625	va118XN.bmp
S476	S856Dog.bmp	S551	va044XN.bmp	S626	va119XN.bmp
S477	S857Horse.bmp	S552	va045XN.bmp	S627	va120XN.bmp
S478	S858Bird_2.bmp	S553	va046XN.bmp	S628	va121XN.bmp
S479	S859Ghost.bmp	S554	va047XN.bmp	S629	va122XN.bmp
S480	E_S860Maou.bmp	S555	va048XN.bmp	S630	va123XN.bmp
S481	S861TelDial.bmp	S556	va049XN.bmp	S631	va124XN.bmp
S487	S867Telphon2.bmp	S557	va050XN.bmp	S632	va125XN.bmp
S482	S862DoorSqek.bmp	S558	va051XN.bmp	S633	va126XN.bmp
S483	S863Door_Slam.bmp	S559	va052XN.bmp	S634	va127XN.bmp
S484	S864Scratch.bmp	S560	va053XN.bmp	S635	va128XN.bmp
S485	S865Scratch_2.bmp	S561	va054XN.bmp	S636	va129XN.bmp
S486	S866WindChm.bmp	S562	va055XN.bmp	S637	va130XN.bmp
S488	S868CarEngin.bmp	S563	va056XN.bmp	S638	va131XN.bmp
S489	S869Car_Stop.bmp	S564	va057XN.bmp	S639	va132XN.bmp
S490	S870Car_Pass.bmp	S565	va058XN.bmp	S640	va133XN.bmp
S491	S871CarCrash.bmp	S566	va059XN.bmp	S641	va134XN.bmp
S492	S872Siren.bmp	S567	va060XN.bmp	S642	va135XN.bmp
S493	S873Train.bmp	S568	va061XN.bmp	S643	va136XN.bmp
S494	S874Jetplane.bmp	S569	va062XN.bmp	S644	va137XN.bmp
S495	S875Starship.bmp	S570	va063XN.bmp	S645	va138XN.bmp
S496	S876Burst.bmp	S571	va064XN.bmp	S646	va139XN.bmp

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S647	va140XN.bmp	S722	ST003Disco1.bmp	S764	ST049Note8L.bmp
S648	va141XN.bmp	S723	ST003Disco2.bmp	S765	ST050Note8S.bmp
S649	va142XN.bmp	S724	ST004Club.bmp	S914	ST052S_.bmp
S650	va143XN.bmp	S725	ST005PlayPiano.bmp	S766	st053Note82L_1.bmp
S651	va144XN.bmp	S726	ST006PlayEGuitar.bmp	S767	ST053Note82L_2.bmp
S652	va145XN.bmp	S727	ST007PlayAGuitar.bmp	S768	ST054Note82S.bmp
S653	va146XN.bmp	S728	ST008PlayBanjo.bmp	S769	ST059Note16L.bmp
S654	va147XN.bmp	S729	ST009PlayAccord.bmp	S770	ST060Note16S.bmp
S655	va148XN.bmp	S730	ST010PlayBass.bmp	S912	ta063SongCreator.bmp
S656	va149XN.bmp	S731	ST011PrayTrumpet.bmp	S793	TA009Score1.bmp
S657	va150XN.bmp	S732	ST012PlaySax.bmp	S794	ta010Score2.bmp
S658	va151XN.bmp	S733	ST013PianoTrio.bmp	S932	ta060ScoreDemo.bmp
S659	va152XN.bmp	S734	ST014Metronome.bmp	S817	ta033SongSetting.bmp
S660	va153XN.bmp	S735	ST015Grass1.bmp	S931	ta061LylicDemo.bmp
S661	va154XN.bmp	S736	ST017Grass2.bmp	S792	TA008Keyboard.bmp
S662	va155XN.bmp	S737	ST018Grass3.bmp	S947	ta055MezzoForte.bmp
S663	va156XN.bmp	S738	st019Grass4.bmp	S948	ta056Forte.bmp
S664	va157XN.bmp	S739	ST019Grass5.bmp	S949	ta057Fortissimo.bmp
S665	va158XN.bmp	S740	ST021Bottle1.bmp	S837	taD02PanelStyle.bmp
S666	va159XN.bmp	S741	ST022Bottle2.bmp	S929	taD03StyleCreator.bmp
S667	va160XN.bmp	S742	ST023RecPlayer1.bmp	S928	ta062SoundCreator.bmp
S668	SN001Mozart.bmp	S743	ST024RecPlayer2.bmp	S910	taD08Mpad.bmp
S669	SN002Bach.bmp	S744	ST025Record.bmp	S911	taD07MpadCreator.bmp
S670	SN003Beethoven.bmp	S901	KD2SoundBoard1Icon.bmp	S941	ta051_MIDI.bmp
S671	SN004Chopin.bmp	S902	KD3SoundBoard2Icon.bmp	S832	ta045LogoGM.bmp
S672	SN005Schubert.bmp	S859	KD1LightIcon.bmp	S829	ta042LogoXG.bmp
S673	SN006Mendelssohn.bmp	S850	K01SkyIcon.bmp	S833	ta046LogoSFF.bmp
S674	SN007Schumann.bmp	S851	K02FlowerGardenIcon.bmp	S831	ta044LogoXF.bmp
S675	SN008Rubinstein.bmp	S852	K03EarthIcon.bmp	S830	ta043LogoVH.bmp
S676	SN009Liszt.bmp	S853	K04RedRoselcon.bmp	S945	ta052CueTimeLogo.bmp
S677	SN010Haydn.bmp	S854	K05JapanIcon.bmp	S834	ta047LogoDOC.bmp
S678	sn012Debussy.bmp	S900	K11Japan2Icon.bmp	S835	ta048PanelMF.bmp
S679	sn013Dvorak.bmp	S855	K06USAIcon.bmp	S836	ta049PanelOTS.bmp
S680	sn014Albeniz.bmp	S856	K07GermanyIcon.bmp	S913	ta052_Effect_s.bmp
S681	sn015Tchaikovsky.bmp	S899	K10Germany2Icon.bmp	S946	ta054Onsa.bmp
S682	sn016Joplin.bmp	S858	K09GBRIcon.bmp	S944	ta053FollowLightLogo.bmp
S683	sn017Weber.bmp	S857	K08FranceIcon.bmp	S807	TA022RotarySp1.bmp
S684	i01Sunset.bmp	S745	ST026FlagUSA.bmp	S808	ta022RotarySp2.bmp
S685	i02Grass.bmp	S746	ST027FlagJapan.bmp	S791	TA007CVPPanel.bmp
S686	i03Rose_Yellow.bmp	S747	ST028FlagGBR.bmp	S823	ta038Utility.bmp
S687	i04Rose_Red.bmp	S942	st082SFlagIreLand.bmp	S816	TA032Tune.bmp
S688	i05Tulip.bmp	S943	st083SFlagScotLand.bmp	S819	TA035Contoroller1.bmp
S689	i06Swllowtail.bmp	S748	ST029FlagGerman.bmp	S825	taD04MIDI.bmp
S690	i07Butterfly.bmp	S749	ST030FlagItalia.bmp	S826	TA040Video_Out1.bmp
S691	i08Leaf_Green.bmp	S750	ST031FlagFrance.bmp	S827	ta040Video_Out2.bmp
S692	i09Maple_Green.bmp	S751	ST032FlagSpain.bmp	S784	TA001FloppyDisk.bmp
S693	i10Leaf_Red.bmp	S752	ST033FlagBrazil.bmp	S785	TA002CD_ROM.bmp
S694	i11Apple.bmp	S753	ST034FlagArgen.bmp	S786	TA003CD.bmp
S695	i12Cherry.bmp	S754	ST035MapNAmerica.bmp	S787	taD01Folder.bmp
S696	i13Banana.bmp	S755	ST036MapSAmerica.bmp	S788	ta004Folder2.bmp
S697	i14Orange.bmp	S756	ST037MapJapan.bmp	S795	TA011Conductor.bmp
S698	i15Snowfield.bmp	S757	ST038MapGBR.bmp	S818	ta034StyleSetting.bmp
S699	i16Sunflower.bmp	S758	ST039MarGerman.bmp	S822	taD06RegistContent.bmp
S700	i17Saturn.bmp	S759	ST040MapItalia.bmp	S917	taD05Regist.bmp
S701	i18Beer.bmp	S760	ST041MapFrance.bmp	S796	TA012LSI1.bmp
S702	i19Woods.bmp	S761	ST042MapSpain.bmp	S797	ta012LSI2.bmp
S703	i20SnowMountain.bmp	S789	TA005MapWorld.bmp	S805	TA018Setup1.bmp
S704	i21CherryBlossom.bmp	S790	TA006Earth.bmp	S806	ta018Setup2.bmp
S705	i22Beach.bmp	S828	TA041TalkSetting.bmp	S811	TA025BackUp1.bmp
S706	i23CoconutTree.bmp	S815	ta027Mic.bmp	S812	ta025BackUp2.bmp
S707	i24XmaTree.bmp	S771	ta053_VH_Duet.bmp	S813	TA026Preset1.bmp
S708	i25Cat.bmp	S772	ta054_VH_Trio.bmp	S814	ta026Preset2.bmp
S709	i26Dog.bmp	S773	ta055_VH_Male.bmp	S798	TA013Wrench.bmp
S710	i27Coconut_BlueSky.bmp	S774	ta056_VH_Female.bmp	S799	TA014Driver1.bmp
S711	i28Coconut_Sunset.bmp	S775	ta057_VH_Chodal1.bmp	S800	TA015Driver2.bmp
S712	i29Pleiades.bmp	S776	ta058_VH_Chodal2.bmp	S903	KD4Wavelet1Icon.bmp
S713	i30Penguin.bmp	S777	ta059_VH_Chodal3.bmp	S904	KD5Wavelet2Icon.bmp
S714	i031TreeOnGrass.bmp	S778	st076_16Beat_1.bmp	S905	KD6Wavelet3Icon.bmp
S715	i032lowerGraden.bmp	S779	st077_16Beat_2.bmp	S906	KD7Wavelet4Icon.bmp
S716	i33FallingSun.bmp	S780	st078_16Beat_3.bmp	S907	KD8Wavelet5Icon.bmp
S717	i34DeadLeaf.bmp	S781	st079_8Beat_1.bmp	S908	KD9Wavelet6Icon.bmp
S718	i35Lighting.bmp	S782	st080_8Beat_2.bmp	S909	KD10Wavelet7Icon.bmp
S719	i36Candle.bmp	S783	st081_8Beat_3.bmp	S887	WP_28Icon.bmp
S720	ST001SocialDanc1.bmp	S762	ST043Note4L.bmp	S888	WP_29Icon.bmp
S721	ST002SocialDanc2.bmp	S763	ST044Note4S.bmp	S889	WP_30Icon.bmp

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S890 WP\_31Icon.bmp  
S896 WP\_37XIcon.bmp  
S860 WP\_01Icon.bmp  
S861 WP\_02Icon.bmp  
S862 WP\_03Icon.bmp  
S863 WP\_04Icon.bmp  
S864 WP\_05Icon.bmp  
S865 WP\_06Icon.bmp  
S866 WP\_07Icon.bmp  
S867 WP\_08Icon.bmp  
S868 WP\_09Icon.bmp  
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S870 WP\_11Icon.bmp  
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S849 bkc\_12Icon.bmp  
S990 S990\_SteelMega.bmp  
S991 S991\_HiStringMega\_2.bmp  
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S993 S993\_OverdriveMega.bmp  
S994 S994\_DistortionMega.bmp  
S995 S995\_FingerBassMega1.bmp  
S996 S996\_PickBassMega.bmp  
S997 S997\_FretlessMega.bmp  
S998 S998\_AcoBassMega.bmp  
S999 S955\_CustomNormal.bmp  
S000 S956\_CustomDrum.bmp  
T001 Security\_VGA\_Lock.bmp  
T002 Security\_VGA\_Edit.bmp  
T003 Sxx\_12StrGuitarMega.bmp  
T004 vgaC\_OS\_Org\_FaRa.bmp  
T005 vgaC\_OS\_Ed\_FaRa.bmp  
T006 CCVGAS.bmp  
T007 HPVGAS.bmp  
T008 SLVGAS.bmp  
T010 i39Wave\_CV\_Normal.bmp  
T009 i40Wave\_CV\_Drum.bmp  
T069 S955\_LcutCustomNormal.bmp  
T070 S956\_LcutCustomDrum.bmp  
T071 i39\_LcutWave\_CV\_Normal.bmp  
T072 i40\_LcutWave\_CV\_Drum.bmp  
T013 i42Audio.bmp  
T014 i41WaveAiff.bmp  
T015 i38LibraryInfo.bmp  
T016 i37TextFile.bmp  
T068 SX100\_FRET.bmp  
T011 WP\_45Icon.bmp  
T012 WP\_46Icon.bmp  
T065 WP\_47Icon.bmp  
T066 WP\_48Icon.bmp  
T017 Sx01SA\_Harpsi.bmp  
T018 Sx02SA\_Organ.bmp  
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T045 Sx29SA\_Nylon2.bmp  
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T047 Sx31SA\_Steel2.bmp  
T048 Sx32SA\_Clean1.bmp  
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T050 Sx34SA\_Clean3.bmp  
T051 Sx35SA\_Clean4.bmp  
T052 Sx36SA\_Clean5.bmp  
T053 Sx37SA\_Dist1.bmp  
T054 Sx38SA\_Dist2.bmp  
T055 Sx39SA\_Dist3.bmp  
T056 Sx40SA\_Pedal.bmp  
T067 SX41SA\_SYNTH.bmp  
T057 Sxx1Mega\_Nylon.bmp  
T058 Sxx2Mega\_Clean.bmp  
T059 Sxx3Mega\_Clean2.bmp  
T060 Sxx4Mega\_Strs.bmp  
T061 Sxx5Mega\_Strs2.bmp  
T062 Sxx6Mega\_Brass.bmp  
T063 Sxx7Mega\_Tmp.bmp  
T064 Sxx8Mega\_Tenor.bmp