



Recommendations for Producing XF Song Data

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YAMAHA CORPORATION

Introduction

These recommendations have been provided for you to keep in mind when producing song data that complies with the “Yamaha Corporation XF Format Specifications.”

For details of the format, please refer to the “XF Format Specifications.” For input procedures, refer to the manual for the software tools you are using. Here we will assume that you are using XF-Format Tool for input.

We will be giving various examples of input. In these example, “|” indicates the division between events.

Models which support the “XF Specifications”

Karaku

XGworks

CVP-92,94,96,98

PSR-630,730,8000

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1 About the format

XF allows XF Information and Karaoke Message data to be in the same chunk of the SMF, separate chunks, or in separate files.

In general when producing XF data, XF Information and Karaoke Message data should be in separate chunks.

When using XF Tool, select Separate Chunks when saving.

Note: If XF Information and Karaoke Message data are saved as separate chunks, other sequencers will not be able to open these portions. Refer to the manual for your sequencer.

2 XF Information

XF Information contains various song data.

2.1 Song name (Sequence/Track name)

Use ASCII characters.

2.2 Meter (Time Signature)

Input the time signature.

2.3 Tempo (Set Tempo)

Input the tempo.

2.4 XF Version ID

Depending on the type of data to be input, set the version as follows.

When inputting XF Information and Karaoke Message data "XF01"

When inputting XF Information, Karaoke Message, and Style Message data "XF02"

2.5 Key Signature

Input the key of the song.

2.6 Guide Track Flag

If when producing the MIDI data you divide the keyboard instrument performance into right hand and left hand channels, you can input this Guide Track Flag so that the right and left hand parts can be turned on/off, and the guide indicators above the keyboard can be made to blink.

For example if the MIDI data you created contains the right-hand melody part in channel 1 and the left-hand accompaniment part in channel 2, you would input this Guide Track Flag s right hand CH1 and left-hand CH2.

Models that support this include the CVP-92/94/96/98.

2.7 Copyright

Input the copyright.

Example: YAMAHA 1999

2.8 Data Number

Input a data management number.

2.9 Common Header

For items in the Common Header, please use only ASCII codes.

2.9.1 Date

Input the date on which the reference song was published.
Use a slash “/” to separate the year, month, and day in Western reckoning.
If the month and day are not known, input as shown below.

Example: 1994/09/28

Example: 1994// (If only the year is known)

Example: 1994/09/ (If only the year and month is known)

2.9.2 Country

Input the country in which the reference song was produced.
This is a two-character abbreviation as given in “Appendix B. Abbreviations for country of production”

2.9.3 Category

Input the musical genre of the reference song or the song data (if it is an arrangement).

If you input two or more categories, list them in order of priority.

On-line Karaku supports this Category. On-line Karaku will display image data (still image or motion video) suitable for the Category that was input first.

2.9.4 Beat

Input the beat of the reference song or the song data (if it is an arrangement).
This is English text that indicates the rhythm of the original song or the song data.

Choose from the following.

2 Beat, 2 Beat(March),
3 Beat, Waltz, Waltz(Swing), Other 3/4,
4 Beat, 4 Beat(Swing), Other 4/4,
6 Beat, 12/8(6/8),
8 Beat,
12 Beat,
16 Beat,
24 Beat,
Shuffle(Bounce), Other(Even), Other(NonEven),
Others

- Since for some songs a clear indication of the beat is necessary in order to change the method of practicing, the current beat types have been maintained, and the “Other...” items have been added.
- Use this item when the current beat types are insufficient.

Additional explanation for XF Specification [Rhythm Beat]

Specifying the Beat of the rhythm

There may be some confusion about specifying the Beat of the rhythm, since this does overlap with the Time Signature meta-event. A supplementary explanation is given below.

[Relationship with the Time Signature meta-event]

The Time Signature meta-event (FF 58 04 nn dd xx yy) defined by SMF allows the following four items to be expressed.

- ① Numerator of the time signature (nn)
- ② Denominator of the time signature (dd)
- ③ Metronome click unit (xx)
- ④ Scale ratio for musical staff display (yy)

However since musical interpretation is applied to the numerically defined “time signature,” this does not always indicate the most significant element. For example if a 6/8 time signature is played slowly, six beats can be counted, but if it is played rapidly, three beats are normally taken as one unit, and treated as duple meter.

The above item ③ Metronome Click Unit supplements this.

For a 6/8 time signature that you count as six beats, use xx=0cH (eighth notes), and for a rapid 6/8 time signature that you count as two beats, use xx=24H (dotted quarter notes). This will accurately indicate the musical result.

However, cases are possible in which even this is not enough.

For example, a song with a rapidly played 6/8 time signature may be written (input) as a 2/4 time signature using triplets. Using the 2/4 time signature, the song will sound and be played just like the original, but will feel like an entirely different genre of music.

The “Beat” item addresses this need.

If we continue using the above example, setting the Beat item to “2 Beat” will allow us to see that both songs (the song written in 2/4 and the song written in 6/8) are essentially the same.

This will be important when classifying and searching XF data from various angles.

In other words, the “Beat” item is used to indicate musical commonality that cannot be sufficiently expressed by the Time Signature meta-event.

[Structure of each item]

The nineteen Beat categories defined by XF do not all stand in the same relation. Some of them are inclusive or contradictory.

These categories can be broadly divided into the following three groups.

- (a) Categories that simply indicate the number of beats
2 Beat, 3 Beat, ... 24 Beat
- (b) Categories that imply the style or character of the rhythm
Waltz, Waltz(Swing), ... Shuffle(Bounce)
- (c) Categories that imply a subset
Other 3/4, Other 4/4, ... Others

[Selecting a category]

Use the following procedure to determine which category should be chosen for a particular piece of musical data.

- ① Does the song consist of a fixed beat pattern that is repeated?
 - Yes: Proceed to ② below
 - No: Select Others
- * By the “absence of a fixed beat pattern that is repeated,” we mean cases in which there is no time signature (such a recitative in an opera or oratorio), or cases where the time signature changes irregularly and cannot be specified.
- ② Is there a number of beats that corresponds to an item in group (a) above?
 - Yes: Proceed to ③ below.
 - No: Proceed to ④ below
- ③ Does the number of beats match an item in group (b) or (c)?
 - Yes: Select the matching item
 - No: Select the item from group (a) that was determined in step ②
- * There are no items in groups (b) or (c) for 8 Beat, 12 Beat, 16 Beat, or 24 Beat. Therefore if one of these four types was selected in step ②, that choice is final.
- ④ Follow the explanation below to select either Other(Even) or Other(NonEven). “Even” and “NonEven” are used in the common sense to indicate whether there is “bounce” or “swing.”
 - “Even” means that the beats are proportioned evenly and therefore do not “swing,” while “NonEven” means that the beats are proportioned unevenly and therefore “swing.”
- * For example, suppose you have a piece in a five-beat meter. A piece with swing such as “Take Five” would be Other (NonEven). For a piece that does not swing, you would select Other(Even).
- * Depending on the application, this choice may be reflected in the musical score.
 - In other words if “NonEven” is specified, the “swinging” eighth notes might be expressed as normal eighth notes instead of as eighth note triplets.

Note: In “4 Beat(Swing),” the term (Swing) should not be taken as the name of a specific style.

Rather, it should be understood as simply meaning “jazzy.” If a song is 4-beat jazz, its category should be “4 Beat(Swing)” even though the song may be in a modern style.

Thus, the category “4 Beat” should be used for songs in quadruple meter which are neither jazz nor “Other 4/4.”

Concretely, this will include (classical) compositions that are written in 4/8 or 4/16 time.

Since the term “4 Beat” is commonly used to indicate a jazz style, there may be resistance to categorizing such compositions as “4 Beat.” However, the XF item “rhythm beat” is not the place to specify the style of the music; rather, it is intended as “supplementary information to the Time Signature meta-event.” Please keep this in mind.

2.9.5 Instrument on Melody part

Input the sound number (GM sound) 1-128 that is used by the melody part of the song data. If the sound changes during the song, select the principle sound.

2.9.6 Vocal Type

Input the gender and number of the person(s) playing or singing the reference song.

2.9.7 Composer

Use ASCII characters to input the name of the composer of the reference song. List this in the order of Given name and Family name. Separate the Given name and Family name by a space “ ”. You may input a Middle name. If inputting two or more names, separate them by a slash “/”.

Example: Jake Ryan

2.9.8 Lyricist

If the reference song includes lyrics, input the name of the lyricist using ASCII characters. The format is the same as for the Composer.

2.9.9 Arranger

Input the name of the person who arranged the reference song or the music data (if it is an arrangement). The format is the same as for the Composer.

2.9.10 Performer

Input the name of the person or group who performed or sang the reference song. The format is the same as for the Composer.

2.9.11 Programmer

Input the name of the person who produced the musical data. The format is the same as for the Composer.

2.10 Language header

If you are using a character set other than ASCII code, specify this in the Language Header.

2.10.1 Language

Specify the character code set that is used in the Language Header. This is not the character code set that is used for lyrics within the song. Nor does it indicate the country in which the song was produced. Be aware that the supported languages will differ depending on the XF-compatible product. The following table shows the XF symbols, character codes, and languages that are supported by each product.

Product	Symbol	Character code	Supported languages
Karaku	JP,L1	S-JIS,ASCII(7bit)	Japanese, English
On-line Karaku	JP,L1	S-JIS,ASCII(7bit)	Japanese, English
XG Works with AutoPlay Plug-in	JP,L1	S-JIS,ASCII(7bit)	Japanese, English
CVP-96,98	JP,L1	S-JIS,ASCII(7bit) + ISO8859-1	Japanese, English, French, Spanish
PSR-630,730 (export only)	L1	ASCII(7bit)	English
PSR-8000 (export only)	L1	ASCII(7bit) + ISO8859-1	English, French, Spanish

2.10.2 Song Name

Input the name of the song. If you wish to display the song name over several lines, input a slash “/” where you wish to begin a new line. Each line must be no more than 20 characters.

Example: Everybody hopes/Everlasting peace

2.10.3 Composer

Input the name of the person who composed the reference song or the song data.
 Divide the given name and family name by a space “ ”.
 When inputting two or more names, separate them with a slash “/”.
 This must be no more than 20 characters (including any slash characters).

2.10.4 Lyricist

Input the name of the person who wrote the lyrics of the reference song or song data.
 When inputting two or more names, separate them with a slash “/”.
 This must be no more than 20 characters (including any slash characters).

Example: Josh Drayer

2.10.5 Arranger

Input the name of the person who arranged the reference song or song data (if an arrangement).
 Divide the given name and family name by a space “ ”.
 When inputting two or more names, separate them with a slash “/”.

2.10.6 Performer

Input the name of the person who performed or sang the reference song.
 Divide the given name and family name by a space “ ”.
 When inputting two or more names, separate them with a slash “/”.
 This must be no more than 24 characters (including the slash characters).

2.10.7 Programmer

Input the name of the person who produced the song data.
 Divide the given name and family name by a space “ ”.
 When inputting two or more names, separate them with a slash “/”.

2.11 Inputting the Common Header and Language Header

You must input the Song Name (Sequence/Track name). ASCII is the only character code that can be used here.

Common Header and Language Header have several identical items, and you may not know which to enter. Since the character codes that can be used in each header are different, the input methods are summarized in the following table.

Header	Item	English	Other
Common Header	Composer	○	
	Lyricist	○	
	Arranger	○	
	Performer	○	
	Programmer	○	
Language Header	Language		L1, KR, HZ, B5, CY, VN
	Song Name		○
	Composer		○
	Lyricist		○
	Arranger		○
	Performer		○
	Programmer		○

It is not possible to use multiple languages in each header.

3 Karaoke Message

3.1 Lyric Header

Input the Lyric header at the beginning of the song (1:1:000). It is not possible to input this in the middle of the song.

Use “:” to separate items within the Lyric header.

\$Lyric:(Melody Channel):(Wipe Offset):(specified language)

(Melody Channel): Input the melody channel. If the melody is divided between two or more channels, as in a duet, separate each by a comma “,”.

(Wipe Offset): Specify the amount of offset used when “wiping” the lyrics. This is in time-base units, and will depend on the tempo. Input a value appropriate for the musical style and the tempo. If the tempo changes during the song, take appropriate care.

In the case of karaoke, the singer watches the wipe before beginning to sing, so start the wipe approximately 0.3 – 0.5 seconds before the melody.

(Specified language): Input the character code set that is used for lyrics in the song.

Example: \$Lyric:1,2:240:JP Melody channel are channels 1 and 2, the Offset is 240 ticks, and Japanese is used.

Note: Unless each letter and word is input correctly, the wipe may not occur correctly.

3.2 Vocal Part Cue

Use these as appropriate for the parts and type of the lyrics.

These must be input before the lyric events to which they correspond.

If the page turns at the text that follows a Vocal Part Cue, display will begin at the timing of the Vocal Part Cue.

Note: Unless each letter and word is input correctly, the lyrics may not be displayed correctly.

Attribute	Vocal Part Cue	Wipe	Use	Notes when inputting lyrics
Solo	&s	○	Use for any solo, whether male or female	Input lyrics for each syllable
Male voice	&m	○	For the male part or male chorus in a mixed choir, use as the second part	Input lyrics for each syllable
Female voice	&f	○	For the female part or female chorus in a mixed choir, use as the second part	Input lyrics for each syllable
Mixed voice	&p	○	Use when both sing simultaneously in a song for male/female mixed vocal	Input lyrics for each syllable
Chorus	&c	○	Use for other chorus parts	Input lyrics for each syllable
Spoken lines	&w	×	Use for spoken lines	Input by line
Non-lyric	&x	×	Use for displaying intro, interlude, or ending etc.	Input by line

3.3 Lyrics

The timing of lyric events is used as the timing at which the lyrics will wipe. For this reason, lyrics must be input at the same timing as the corresponding notes of the melody. Input the lyrics that correspond to that syllable.

Except for control characters, lyrics will be displayed “as is,” so you will need to input spaces appropriately.

Example: 10:1:000 <This >
 10:1:240 <is >
 10:2:000 <a >
 11:2:120 <sample >
 11:4:000 <lyric.>

When spaces are input, they must be placed after the word; not at the beginning of the event.

Example: | This | is | ×
 | This | is | ○
 (<|> is the division between events)

<Carriage Return Event>

This indicates line return, as does XF control character “/”.

<Line Feed Event>

This indicates line return, as does the XF control character “<”.

3.4 Control characters

The following characters function as control characters.

Do not use these as characters for display. If you absolutely must display one of these characters, refer to section 3.4.8.

3.4.1 “^” space

Although it is possible to use “ ” as a space between characters, you should generally use “^”.

When inputting a space, place it at the end of the word; not at the beginning of the event.

Example: | This|^is | ×
 | This^|is^| ○

3.4.2 “/” End of line

This indicates the end of a line. By using “/” as an independent event, you can indicate the timing at which a wipe will end.

Example: | here|I | am|/|

3.4.3 “%” Auxiliary line return

This indicates a unit of meaning within a line of text.

As a provision for products with a limited number of characters per line, this should be input no less often than 24 characters.

However since current XF-compatible products treat Auxiliary Line Return in the same way as End Of Line, this is not used.

3.4.4 “<” New page

Input this before a line that must be displayed as the first line. It must be input at the timing at which you wish to turn the page.

Example: |<Shall|I |compare |thee |

3.4.5 “>” Tab

Tab can be used to adjust the location at which a line begins.

It may be used only at the beginning of a line.

The actual space produced by a Tab will depend on the display system, so this is not supported on products with a limited number of characters in each line. (PSR-630, PSR-730, PSR-8000)

3.4.6 “\” Backslash

When you wish to display one of the XF control characters, prefix it by a backslash.

It is not possible to display a “\” backslash itself.

Data example: |\
(Get^back\)|

Displayed example: (Get back)

3.5 Guidelines for when inputting lyrics

- The Vocal Part Cue at the beginning of the song should be input at the timing at which the performance begins.
- You must add a line return to each line.

Example: &x|<Intro|&s|<Please |say |yes |/| ×
&x|<Intro |/|&s|<Please |say |yes |/| ○

You must also remember to add a line return to the last line. The line return following the ending should be placed at the timing where the performance ends and the sound stops. (If you forget to input this or if it is placed too early, the song will still be playing but all display will have disappeared.) It is not a problem for this to be located beyond the MIDI End of Track.

- You must observe the order of Line Return, Vocal Part Cue, and New Page events. Do not input them at the same timing.

Example: |Yeah!!!|&s|/|<I^|love^|you| ×
|Yeah!!!|/|&s|<I^|love^|you| ○
|Yeah!!!|/|<|&s|I^|love^|you| ×

- When inserting a New Page, it should generally be the same event as the following lyric.

(They may not be separate events at the same timing.)

Example: |&s|<|In |the |evening | ×
|&s|<|In |the |evening | ○

4 Style Message

If you input the following Style messages, set the XF Version ID to "XF02".

4.1 Chord Name

Input chords as the song progresses.

Chords are classified into chord root, chord type, on-bass note, and bass chord. Select from these. To specify no chord, input Ccc.

4.2 Phrase Mark

Phrase Marks are used to input points that allow phrases to be practiced repeatedly.

Phrases can be grouped by level, and Level 1 -- Level 8 are available.

At present, use Level8 and Channel ALL for input.

The CVP-96 and 98 support this.

Notes for input

1. When inputting a phrase mark, you must first determine the measure and beat that you wish to input.
2. First input it at the beginning of the song, at a timing of 1.1.000.
3. Find the note immediately before the timing you wish to enter next.
(Input the phrase mark slightly after the immediately previous note.)

Guidelines for the phrase mark level

Level 1 (guide phrase level)

1. This level defines the shortest unit that will be played when practicing a composition.
2. The number of notes in each phrase will generally range from several notes to about a dozen, and at most must be 32 notes or fewer.
3. This is generally used for motifs of one or two measures, but you are free to use it for even shorter practice phrases.
4. One of these phrase marks must be placed earlier than the first key-on of the track in which this phrase mark is to be used; if possible, at a timing of 0.
5. Subsequently, insert this phrase mark at each short practicing unit, and also insert one after the last key-on of the track.
6. Level 1 must be included within level 8.

Level 2 (motif divisions)

1. These are used when it is necessary to divide a composition into the smallest units as performance figures.
2. These are close to the phrase slurs used in piano music etc.
3. They are intended to allow elements of performance technique to be isolated accurately.
4. They may be used as channel divisions.
5. They may not cross level 3 divisions.

Levels 3 – 7 (practice marks)

1. These divisions are used to indicate sections for practicing.
2. The length of a section is left up to you. (Normally level 3 will be about four measures, and level 4 will be about eight measures.)
3. These may be used as channel divisions.
4. These may not cross upper-level divisions.
5. Use these starting with lower levels; you are not required to set all levels.

Level 8 (DOC phrase level)

1. These shall be compatible with DOC phrase marks.
2. Use these to divide at musical paragraphs where an unnatural impression will not be produced when all tracks are played back.
3. For simple forms such as popular songs, these coincide with divisions of the “A” melody and “B” melody, etc.
4. These are all-channel divisions.
5. These divisions may not cross level 9 divisions.

Level 9 (chorus divisions)

1. These create large divisions such as between the intro, first chorus, second chorus, and ending etc.
2. If the composition is not structured by verses, these correspond to divisions such as “theme” and “development” etc.
3. Insert this division at the first note that follows the setup data or other silent portion at the beginning of the data.
4. These are all-channel divisions.

Note: Inclusion of level divisions

For divisions of any level whose channel specifiers match, upper levels shall surround lower levels. (Thus, level 9 divisions must always surround level 8 divisions.)

4.3 Max Phrase Mark

Input a number one less than the number of Phrase Mark Level 8 that you input.

If you input any phrase marks, you must input this.

If Max Phrase Mark is not input, or if the value was not input correctly, playback may not repeat correctly.

This is supported by the CVP-96 and 98.

4.4 Guide Track Flag

When producing the MIDI data, you can divide the keyboard instrument into left-hand and right-hand channels, and input this Guide Track Flag to switch the right and left hands on/off, and to make the guide lamps blink above the keyboard.

For example if you have created MIDI data that contains the right-hand melody part in channel 1 and the left-hand accompaniment in channel 2, you would input this Guide Track Flag as right-hand channel 1 and left-hand channel 2.

Models that support this include the CVP-96 and CVP-98.

5 Song production for individual models

When producing song data that is targeted at specific models, refer to the following information as you input each type of event.

XF item	Contents	purpose	Karaku On-line Karaku AutoPlay	CVP- 92	CVP- 94	CVP- 96	CVP- 98	PSR- 630	PSR- 730	PSR- 8000
Lyrics		Displayed on LCD	○			○	○	○	○	○
Chord name		Displayed on LCD				○	○			
Phrase mark		Repeat play		○	○	○	○			
Guide track flag (Part assignment)	Right hand, left hand	Assign guide- lamp part (right hand and left hand)		○	○	○	○			
XF Information Header	Artist, lyricist, composer	Displayed on LCD	○			○	○	○	○	○
Song title	Displayed on LCD	Displayed on LCD	○	○	○	○	○	○	○	○
Copyright		Displayed on LCD				○	○	○	○	○
XF version ID		Identify XF version		○	○	○	○	○	○	○