

MA-3 Sound Middleware Release Note

Ver.1.3.15.5

April 22, 2003

Yamaha Corporation

[Notes]

This is the document of MA-3 Sound Middleware as sample source code.
This explains the release note of Sound Middleware, but doesn't guarantee operation of sample middleware.

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Revision

Version	Date	Description
0.8	June 1, 2001	Initial edition
0.9	June 18, 2001	2 Document was changed. 3 Files were added to source files 4 smaf_ma3 was added to test data. 5 Change history was added. 6 Known problematic points were changed.
1.0	June 29, 2001	2 Document was changed. 3 All source files were changed. 4 smaf_ma3 was added to test data. 5 Change history was added. 6 Known problematic points were changed.
1.0.1	July 5, 2001	2 Document was updated. 3. Files were added to source files.
1.1.0	July 11, 2001	2 Document was updated. 5 Changed history was changed. 6 Known problematic points were changed.
1.2.0	June 25, 2001	2 Document was updated. 5 Changed history was changed. 6 Known problematic points were changed.
1.2.1	August 9, 2001	2 Document was updated. 5 Changed history was changed. 6 Known problematic points were changed.
1.2.2	September 19, 2001	2 Document was updated. 5 Changed history was changed. 6 Known problematic points were changed.
1.2.2.4	September 20, 2001	2 MA Sound Player API regulation was added.
1.2.3.1	October 5, 2001	3 Document was updated. 6 Changed history was changed.
1.2.4.2	October 31, 2001	3 The mode which can be used by each format converter was added. 4 Document was updated. 7 Changed history was changed.
1.3.0.0	November 14, 2001	1 Introduction was updated. 2 Document was updated. 3 Modes available for each format converter were changed. 4 Note on format converter was added. 5 Document was updated. 6 Source file was updated. 8 Change history was changed. 9 Known problem was updated.
1.3.1.0	November 15, 2001	5 Document was updated. 8 Change history was changed. 9 Known problem was updated.

Version	Date	Description
1.3.2.6	November 26, 2001	2 Document was updated. 3 Note on format converter was changed. 5 Document was updated. 7 Change history was changed. 8 Known problem was updated.
1.3.2.8	November 30, 2001	4 Document was updated. 7 Change history was changed.
1.3.3.1	December 10, 2001	1.1 Correspondence contents dependence was added. 2 MA SoundPlayer API regulation was updated. 4 Document was updated. 7 Change history was changed.
1.3.4.2	December 20, 2001	4 Document was updated. 7 Change history was changed
1.3.5.5	January 30, 2002	4 Document was updated. MA-3 Sound Middleware Release Note was changed to Ver.1.3.5.5. MA-3 Sound Middleware Specification was changed to Ver.1.7.0. MA-3 Sound Middleware API Specification was changed to Ver.1.7.0. MA-3 Sound Format Specification, –SMAF/MA-1/MA-2 – was changed to Ver.1.5. SMAF/MA-3 Specification was changed to Version 1.03. MA-3 Sound Middleware API Specification for SMAF was changed to Ver.1.2.2. MA-3 Sound Middleware SMAF Test Data was changed to Ver.1.3.0. SMAF/Phrase L1 Specification was changed to Ver.1.5.2. MA-3 Sound Format Specification, –SMAF/Phrase L1 Expanded– was changed to Ver.1.4.0. MA-3 Sound Middleware SMAF/Phrase MA-2 Compatible API Specification was changed to Ver.1.5.2. MA-3 Sound Middleware SMAF/Phrase Test Data was changed to Ver.0.90. MA-3 Realtime MIDI Outline of Interpretation was changed to Ver.1.3.7. MA-3 Sound Middleware Realtime API Specification for MIDI was changed to Ver.1.1.5. MA-3 SMAF/Audio Outline of Interpretation was changed to Ver.1.2.1. MA-3 Sound Middleware API Specification for SMAF/Audio was changed to Ver.1.2.2. MA-3 SMF Outline of Interpretation was changed to Ver.1.6.3. MA-3 Sound Middleware API Specification for SMF was changed to Ver.1.1.6. 7 Change history was changed. 8 “About upgrade from ver.1.3.4” was added newly.

Version	Date	Description
1.3.6.5	February.27,2002	<p>The item of GET_LEDSTATUS, GET_VIBSTATYS, SET_EVENTNOTE, GET_CONVERTTIME was added to a table.</p> <p>4 Document was updated.</p> <p>MA-3 Sound Middleware Release Note was changed to Ver.1.3.6.5</p> <p>MA-3 Sound Middleware Sample Source Installation Guide was changed to Ver.1.3.6.5.</p> <p>MA-3 Sound Middleware Specification was changed to Ver.1.7.1.</p> <p>MA-3 Sound Middleware API Specification was changed to Ver.1.8.0.</p> <p>SMAF/MA-3 Specification was changed to Version 1.05.</p> <p>MA-3 Sound Middleware for SMAF API Specification was changed to Ver.1.2.3.</p> <p>MA-3 Sound Middleware SMAF Test data was changed to Ver.1.3.1.</p> <p>SMAF/Phrase L1 Specification was changed to Ver.1.5.3</p> <p>7 Change history was changed.</p> <p>9 “About Upgrade from ver.1.3.5” was newly added.</p>
1.3.7.5	Mar. 27, 2002	<p>1.2 LED / motor control was added.</p> <p>4 Document updated</p> <p>Changed to MA-3 Sound Middleware Release Note Ver.1.3.7.5</p> <p>Changed to MA-3 Sound Middleware Sample Source Installation Guide Ver.1.3.7.5</p> <p>Changed to MA-3 Sound Middleware Spec. No. 1.8.1</p> <p>Changed to MA-3 Sound Middleware API Spec. No. 1.8.2</p> <p>Changed to MA-3 Sound Middleware SMAF API Spec. No.2.4</p> <p>Changed to MA-3 Sound Middleware SMAF Test Data Ver.1.3.2</p> <p>Changed to MA-3 Sound Middleware SMAF/Phrase Test Data Ver.0.91</p> <p>MA-3 Sound MiddlewareSMAF/Audio Test Data Ver.0.8.0 was added.</p> <p>Changed to MA-3 Sound MiddlewareRealtime MIDI API Spec. No. 1.1.6</p> <p>Changed to MA-3 SMF Interpretation Guide No. 1.6.4</p> <p>Changed to MA-3 Sound Middleware SMF API Spec. No. 1.1.7</p> <p>6 SMAF/Audio Test Data was added to Test Data.</p> <p>7 Revision history was changed.</p> <p>10 "About upgrading of the version from 1.3.6" was newly added.</p>
1.3.8.1	May.29, 2002	<p>4. Document updated</p> <p>Changed to MA-3 Sound Middleware Release Note Ver1.3.8.1</p> <p>Changed to MA-3 Sound Middleware Sample Source Installation Guide Ver.1.3.8.1</p> <p>Changed to MA3 Sound Middleware Specification Ver.1.8.2</p> <p>Changed to MA-3 Sound Middleware API Specification Ver.1.8.3</p> <p>Changed to Specification for SMAF/MA-3 Version 1.06</p> <p>Changed to MA-3 Sound Format Specification -SMAF/MA-1/MA-2- Ver1.6</p> <p>Changed to MA-3 Sound Middleware Specification for SMAF API ver1.2.5</p> <p>Changed to MA-3 Sound Middleware SMAF Test Data Ver.1.3.3</p> <p>Changed to MA-3 SMF Outline of Interpretation Ver.1.6.5</p> <p>Changed to MA-3 Realtime MIDI Outline of Interpretation Ver.1.3.8</p> <p>7. Revision History was changed.</p> <p>11. “About upgrading of the version from 1.3.7” was added newly</p>

Version	Date	Description
1.3.9.0	June.26, 2002	<p>4 Document was updated.</p> <p>MA-3 Sound Middleware Release Note was changed to Ver.1.3.9.0</p> <p>MA-3 Sound Middleware API Specification was changed to Ver.1.8.4</p> <p>Specification for SMAF/MA-3 was changed to Version 1.07</p> <p>MA-3 Sound Middleware SMAF Test Data was changed to Ver.1.3.4</p> <p>MA-3 Sound Middleware SMAF/Audio Test Data was changed to Ver.1.0.0</p> <p>MA-3 Hardware File Format Specification was changed to Ver.0.91</p> <p>7 Change History was changed.</p> <p>8 “About Upgrade from ver.1.3.8” was newly added.</p> <p>9 “About Upgrade from ver.1.3.7” was moved to Chapter 9 from Chapter 11</p> <p>11 “About Upgrade from ver.1.3.5” was moved to Chapter 11 from Chapter 9</p> <p>12 “About Upgrade from ver.1.3.4” was moved to Chapter 12 from Chapter 8</p>
1.3.10.5	August.8, 2002	<p>4 Document was updated.</p> <p>MA-3 Sound Middleware Release Note was changed to Ver.1.3.10.5.</p> <p>MA-3 SMF Outline of Interpretation was changed to Ver.1.9.1.</p> <p>MA-3 Realtime MIDI Outline of Interpretation was changed to Ver.1.5.0.</p> <p>MA-3 Sound Middleware Realtime API Specification for MIDI was changed to Ver.1.1.7</p> <p>7. Change History was changed.</p> <p>8. “About Upgrade from ver.1.3.9” was newly added.</p> <p>9. The chapter after “About Upgrade from ver.1.3.8” was moved back.</p>
1.3.11.4	September 20, 2002	<p>4 Document was updated.</p> <p>MA-3 Sound Middleware Release Note was changed to Ver.1.3.11.4.</p> <p>Changed to MA-3 Sound Middleware Sample Source Installation Guide Ver.1.3.8.2</p> <p>Specification for SMAF/MA-3 was changed to Version 1.08.</p> <p>MA-3 Sound Middleware SMAF Test Data was changed to Ver.1.3.5.</p> <p>7 Change History was changed.</p> <p>8 “About Upgrade from ver.1.3.10” was newly added.</p> <p>9 The chapter after “About Upgrade from ver.1.3.9” was moved back.</p>
1.3.14.1	January 16, 2003	<p>2 MA Souond Player API regulation was changed.</p> <p>4 The following documents were updated.</p> <p>MA-3 Sound Middleware Release Note was changed to Ver.1.3.14.1.</p> <p>MA-3 Sound Middleware Sample Source Installation Guide was changed to Ver.1.3.14.1</p> <p>MA-3 Sound Middleware Specification was changed to Ver.1.9.0</p> <p>MA-3 Sound Middleware API Specification was changed to Ver.1.9.0</p> <p>MA-3 Sound Middleware API Specification for SMAF was changed to Ver.1.3.0</p> <p>MA-3 Sound Middleware SMAF/Phrase MA-2 Compatible API Specification was changed to Ver.1.6.0</p> <p>MA-3 Realtime MIDI Outline of Interpretation was changed to Ver.1.6.0</p> <p>MA-3 Sound Middleware API Specification for Realtime MIDI was changed to Ver.1.2.0</p> <p>MA-3 Sound Middleware API Specification for SMAF/Audio was changed to Ver.1.3.0</p> <p>MA-3 SMF Outline of Interpretation was changed to Ver.1.9.2</p> <p>MA-3 Sound Middleware API Specification for SMF was changed to Ver.1.2.0</p>

		<p>MA-3 Sound Middleware Specification for Wav format Ver.1.0.0 was added newly.</p> <p>MA-3 Sound Middleware Specification for Wav Reproduction API Ver.1.0.0 was added newly.</p> <p>5 masound2.h and masoundlib.h were added to source file.</p> <p>7 Change history was changed.</p> <p>8 “About upgrading of the version from 1.3.11” was added newly.</p> <p>9 “About upgrading of the version from 1.3.10” was moved to backward.</p>
1.3.15.5	April 22, 2003	<p>2 WAV was added to table</p> <p>4 Documents were changed.</p> <p>MA-3 Sound Middleware Release Note was changed to Ver.1.3.15.5</p> <p>MA-3 Sound Middleware Sample Source Installation Guide was changed to Ver.1.3.15.5.</p> <p>MA-3 Sound Middleware Specification was changed to Ver.1.10.0.</p> <p>MA-3 Sound Middleware API Specification was changed to Ver.1.10.0</p> <p>MA-3 Sound Middleware Specification for SMAF API was changed to Ver.1.4.1.</p> <p>MA-3 Sound Middleware API Specification for Realtime MIDI Ver.1.2.1</p> <p>MA-3 Sound Middleware Specification for SMAF/Audio API was changed to Ver.1.3.1.</p> <p>MA-3 SMF Outline of Interpretation was changed to Ver.1.10.3.</p> <p>MA-3 Sound Middleware Specification for SMF API was changed to Ver.1.2.1.</p> <p>MA-3 Sound Middleware Specification for Wav format was changed to Ver.1.1.0.</p> <p>MA-3 Sound Middleware Specification for Wav Playback API was changed to Ver.1.1.0.</p> <p>7 Changed history was changed.</p> <p>8 “About upgrading of the version from 1.3.14” was added newly.</p> <p>9 “About upgrading of the version from 1.3.11” was moved to backward.</p>

1 Introduction

This document presents the contents of release of MA-3 Sound Middleware sample source Ver.1.3.15.5.

From Ver. 1.3.0.0, configurations of converters SMAF/Phrase and SMAF/Audio are changed. The changes are as follows.

- API of SMAF/Phrase is unified into Phrase Wrapper API.
- Main body of these converters are unified into maphrcnv.c.

1.1 SMAF Correspondence contents dependence

Contents Class and Contents Type of corresponding SMAF is different by the carriers (operators) etc..

Please change the setup of Contents Class and Contents Type used as the conditions of SMAF playback propriety judging, if needed.

1.2 LED / Motor control

Since the default settings of the control sources for LED and the motor are off, determine the settings as necessary. When there is no synchronization setting in the sequence data even though the system has been set for the sequence synchronization, or when it is not supported by the converter or applicable sequence, the ON/OFF control of the LED and motor is not supported. Therefore, perform the setting properly according to the operating conditions as necessary from API in such case.

When setting the API, it is necessary to issue it under the power down state of the device. When changing the settings of the control source, there are some limitations for the API issue procedure. For the method of setting API, refer to "MA-3 Sound Middleware API Specification".

Example: Judging whether the LED operation is synchronized with the sequence data when reproducing SMAF.

- Issue `MaSound_DeviceControl (MASMW_LED_MASTER, 2, 0, 0)` and set the LED setting of control source for the sequence synchronization.
- Issue `MaSound_Control(MASMW_GET_LEDSTATUS)` after `MaSound_Open()` to obtain the LED synchronization status to check if synchronization information is set in the sequence data.
- If the synchronization information is not set in the sequence data, perform a selection of forcibly controlling LED as necessary before issuing `MaSound_Standby()`.

Note: Motor control can be performed likewise.

2 MA Sound Player API regulation

MA Sound Player API correspondence situation of this version is shown. The target function set is as follows. MaSound_Initialize() and MaSound_DeviceControl() are not described here because these are independent on each format converter.

Function Name	SMAF	SMAF/ Audio	SMF	Realtime MIDI	WAV
MaSound_Create	○	○	○	○	○
MaSound_Load	○	○	○	○	○
MaSound_Open	○ Only one	○ Only one	○ Only one	○ Only one	○ Only one
MaSound_Standby	○	○	○	○	○
MaSound_Seek	○	△ Only zero	○	△ No effect	△ Only PCM
MaSound_Start	○	○	○	○	○
MaSound_Pause	○	×	○	×	×
MaSound_Restart	○	×	○	×	×
MaSound_Stop	○	○	○	○	○
MaSound_Close	○	○	○	○	○
MaSound_Unload	○	○	○	○	○
MaSound_Delete	○	○	○	○	○
MaSound_Control					
MASMW_SET_VOLUME	○	○	○	○	○
MASMW_SET_SPEED	○	×	○	×	×
MASMW_SET_KEYCONTROL	○	×	○	×	×
MASMW_GET_TIMEERROR	○	×	○	×	×
MASMW_GET_POSITION	○	○	○	×	○
MASMW_GET_LENGTH	○	○	○	○	○
MASMW_GET_STATE	○	○	○	○	○
MASMW_SEND_MIDIMSG	×	×	×	○	×
MASMW_SEND_SYSEXMIDIMSG	×	×	×	○	×
MASMW_GET_CONTENTSDATA	○	○	○	×	○
MASMW_GET_PHRASELIST	○	×	×	×	×
MASMW_SET_STARTPOINT	○	×	○	×	×
MASMW_SET_ENDPOINT	○	×	○	×	×
MASMW_SET_PANPOT	×	○	×	×	○
MASMW_GET_LEDSTATUS	○	×	×	×	×
MASMW_GET_VIBSTATUS	○	×	×	×	×
MASMW_SET_EVENTNOTE	×	×	×	×	×
MASMW_GET_CONVERTTIME	×	×	×	×	×
MASMW_GET_LOADINFO	○	×	×	×	×
MASMW_SET_LOADINFO	○	×	×	×	×
MASMW_SET_REPEAT	○	○	○	×	○
MASMW_GET_CONTROL_VAL	×	×	×	○	×
MASMW_SET_CB_INTERVAL	×	×	×	○	×

* With no effect --- API can be specified normally. But there is no effect by the specification.

3 Notes on each format converter

3.1 SMAF/Phrase Stream Converter

When using SMAF/Phrase, it can be used only from Phrase Wrapper API.

3.2 SMAF/Audio Stream Converter

Access with MA Sound Player API.

Note: It is necessary to call Phrase Wrapper API and SMAF/Audio API in accordance with their procedure described in the individual specification without making them common.

4 Documents

The files to be added as follows.

File name	Content
MA-3_SMW_RelNote_e.pdf	MA-3 Sound Middleware Release Note, Ver.1.3.15.5 (This document)
MA-3_SMW_Guide_e.pdf	MA-3 Sound Middleware Sample Source Installation Guide, Ver.1.3.15.5
MA-3_SMW_Spec_e.pdf	MA-3 Sound Middleware Specification, Ver.1.10.0
MA-3_SMW_ApiSpec_e.pdf	MA-3 Sound Middleware API Specification, Ver.1.10.0
MA-3_SMW_SmafMa12_Spec_e.pdf	MA-3 Sound Format Specification, – SMAF/MA-1/MA-2 – Ver.1.6
MA-3_SMW_SmafMa3_Spec_e.pdf	Specification for SMAF/MA-3, Version 1.08
MA-3_SMW_Smaf_API_e.pdf	MA-3 Sound Middleware Specification for SMAF API, Ver.1.4.1
MA-3_SMW_SmafTestData_e.pdf	MA-3 Sound Middleware SMAF Test Data, Ver.1.3.5
SMAF_Phrase_e.pdf	SMAF/Phrase L1 Specification, Ver.1.5.3
MA-3_SMW_SmafPhrase_Ext_e.pdf	MA-3 Sound Format Specification, –SMAF/Phrase L1 Expanded–Ver.1.4.0
MA-3_SMW_SmafPhrase_Wrapper_e.pdf	MA-3 Sound Middleware Specification For SMAF/Phrase MA-2 Compatible API, Ver.1.6.0
MA-3_SMW_SphrTestData_e.pdf	MA-3 Sound Middleware SMAF/Phrase Test Data, Ver.0.91
MA-3_SMW_SmafAudioTestData_e.pdf	MA-3 Sound Middleware SMAF/Audio Test Data Ver.1.0.0
MA-3_SMW_RTmidi_Spec_e.pdf	MA-3 Realtime MIDI Outline of Interpretation, Ver.1.6.0
MA-3_SMW_RTmidi_API_e.pdf	MA-3 Sound Middleware API Specification for Realtime MIDI, Ver.1.2.1
MA-3_SMW_SmafAudio_Spec_e.pdf	MA-3 SMAF/Audio Outline of Interpretation, General Purpose Edition, Ver.1.2.1
MA-3_SMW_SmafAudio_API_e.pdf	MA-3 Sound Middleware Specification for SMAF/Audio API, Ver.1.3.1
MA-3_SMW_HwFormat_e.pdf	MA-3 Hardware file Format Specification, Ver.0.91
MA-3_SMW_SMF_Spec_e.pdf	MA-3 SMF Outline of Interpretation, Ver.1.10.3
MA-3_SMW_SMF_API_e.doc	MA-3 Sound Middleware Specification for SMF API, Ver.1.2.1
MA-3_SMW_WAV_Spec.doc	MA-3 Sound Middleware Specification for Wav format, Ver.1.1.0
MA-3_SMW_WAV_API.doc	MA-3 Sound Middleware Specification for Wav Playback API, Ver.1.1.0

5 Source files

File name	Content
masmwmain.c	The example of use of MA-3 Sound Player API and Phrase Wrapper API
mamachdep.h	Definition of system dependency
mamachdep.c	System dependent function group
masound.h	Definition of MA-3 Sound Player API
ma3sound.h	Definition of MA-3 Sound Player API
masound2.h	Definition of MA-3 Sound Player API (expanded definition)
masoundlib.h	Definition of service function for Music API
madefs.h	Definition of MA-3 related constants
madebug.h	Definition for debug message output control
madebug.c	MA-3 Hardware file Format type data output function group for debugging
matable.h	Definition of arrangement data
macnvprf.h	Definition of Stream Converter
malib.h	Definition of library function
malib.c	Body of library function
mamidcnv.h	Definition of MA-3 SMF Stream Converter
mamidcnv.c	Body of MA-3 SMF Stream Converter
mammfcnv.h	Definition of MA-3 SMAF Stream Converter
mammfcnv.c	Body of MA-3 SMAF Stream Converter
maphrwrp.h	Definition of MA-3 SMAF/Phrase Wrapper API
maphrcnv.h	Definition of MA-3 SMAF/Phrase, SMAF/Audio Stream Converter
maphrcnv.c	Body of MA-3 SMAF/Phrase, SMAF/Audio Stream Converter
marmdcnv.h	Definition of MA-3 RealtimeMIDI Stream Converter
marmdcnv.c	Body of MA-3 RealtimeMIDI Stream Converter
masndseq.h	Definition of MA-3 Sound Sequencer Module
masndseq.c	Body of MA-3 Sound Sequencer Module
masnddrv.c	Definition of MA-3 Sound Driver Module
masnddrv.h	Body of MA-3 Sound Driver Module
maresmgr.h	Definition of MA-3 Resource Manager Module
maresmgr.c	Body of MA-3 Resource Manager Module
mawavcnv.h	Definition of MA-3 Wav Converter Module
mawavcnv.c	Body of MA-3 Wav Converter module
madevdrv.c	Definition of MA-3 Device Driver Module
madevdrv.h	Body of MA-3 Device Driver Module

The above source files prepare the following 4 header files to disclose MA Sound Player API and Phrase Wrapper API. Refer to the upper application in accordance with the environment used MA-3 Sound Middleware.

Header file name	Content	Example of Reference upper application
masound.h	Definition of MA Sound Player API	Music API ver.1.x
maphrwrp.h	Definition of Phrase Wrapper API	Music API ver.1.x
masound2.h	Definition of MA Sound Player API Definition of Phrase Wrapper API	Music API ver.2.x
masoundlib.h	Definition of service function for Music API	Music API ver.2.x

6 Test Data

File name	Content
smaf	SMAF/MA-1/MA-2 Test Data
smaf_ma3	SMAF/MA-3 Test Data
smaf_phrase	SMAF/Phrase L1 Test Data
Smaf_audio	SMAF/Audio Test data

7 Change history

7.1 Sound Middleware

Version	Date	Description
0.8	June 1, 2001	Initial edition
1.1.0	July 11, 2001	Failure that short data were continuously reproduced was corrected.
1.2.0	June 25, 2001	Setting of volume was changed. Mono operation was corrected. Failure at transfer of 7-bit-encoded data to RAM was corrected. Failure that Duration may not be outputted at MaSndDrv_StreamOff () and MaSndDrv_MasterVolume was corrected.
1.2.1	August 9, 2001	Failure that StreamOff processing may not be performed at MaSndDrv_StreamOff () was corrected. Failure that delta_time of NoteOff that is performed at alternate assign was "0" was corrected. For macvprf.h, failure that setting DUMMY_FUNC at separation of RealtimeMIDI was not performed was corrected. Failure that acquisition of contents data after performing MaSound_Load () when mode=2 causes an error was corrected. Failure that present position at loop was an accumulated value was corrected. Interrupt control was changed. The design was corrected so that stream audio is also covered at MaSound_AllSoundOff () and MaSound_AllNoteOff (). Failure that real time system is not looped when loop is designated. Failure that reproduction of Audio system was not performed was corrected.
1.2.3.1	October 5, 2001	Improvement in the speed by the simplification of DVA form was executed. When becomes an excessive load, cancels a sequence time reversion function.
1.2.4.2	October 31, 2001	PhraseList acquisition was changed to after Loed() from after Open(). LED/VIB synchronous information acquisition API was added. The fault ended by the few loop count when the short sequence data is played loop playback was corrected.
1.2.5.1	Nov. 14, 2001	Failure that returns call back argument id=127 when play_mode of MaSound_Start is "0" was corrected. The program was changed so that the center is 0 dB when pan of MaSound_StreamPanpot() is "128". The specification to make NoteOff when velocity of MaSound_NoteOn() is "0".
1.3.1.0	Nov. 15, 2001	Failure that changes tone address at alternate assign was corrected.

Version	Date	Description
1.3.2.6	Nov. 26, 2001	<p>The program was changed so that MaSound_Control (GET_PHRASELIST) can be made even when mode=2/3.</p> <p>The program was changed so that the stop of converter is not called when MaSound_Stop() is called after MaSound_Pause().</p> <p>The program was changed so that the value at present position is reset by calling MaSndDrv_UpdatePos(0) when SoftInt#2 is REPEAT.</p> <p>The system is guarded so that Delete cannot be made when all the state transition of converter is not IDLE.</p> <p>Failure that MaSound_Control (SET_STARTPOINT, SET_ENDPOINT) was valid even at other than OPENED was corrected.</p> <p>Check function dedicated to FIFO Empty / Full flag was added.</p> <p>The program was changed so that the volume complement setting is cancelled temporarily at Seek.</p> <p>The program was changed so that stop processing of MaDevDrv_StreamHandler() is performed all the time including when state is not "0".</p> <p>machdep_Sleep() was added to stop processing.</p>
1.3.2.7	Nov. 30, 2001	The program was changed so that the processing of machdep_Sleep() of stop processing valid / invalid can be selected at implementation.
1.3.2.8	Dec. 3, 2001	The program was corrected so that designation of MaSndDrv_StreamSlave() is made invalid when only one stream is secured.
1.3.3.0	Dec. 7, 2001	<p>The fault that returns the state to PLAYING at the error in MaSound_Start() was corrected (should be to READY).</p> <p>MASMW_GET_LOADINFO and MASMW_SET_LOADINFO were added to MaSound_Control().</p>
1.3.4.2	Dec. 20, 2001	<p>The instantaneous system Empty Flag was changed into reading once from reading 8 times.</p> <p>The delayed system Empty Flag was changed to read twice continuously, and when 2 times of results were not the same, it might repeat.</p> <p>The fault which can set up a different loop count at the multiple-times loop playback was corrected.</p> <p>The position discrepancy in the multiple-times loop playback was corrected.</p> <p>End notification was not come out since UserEvent covered the end notification by the position where UserEvent is set up at the multiple-times loop playback. The fault was corrected.</p> <p>The definition of MA_MAX_ROM_WAVE was changed into 7 from 8.</p>

Version	Date	Description
1.3.5.5	January 30, 2002	<p>The failure that seek value was added to the value that prevents a value larger than the play_length of MaSound_Control (GET_POSITION) from being taken and the value was judged was removed.</p> <p>For MaSound_ReceiveMessage(), argument ext_args for calling the start of converter was fixed to NULL, but now the value at the designation of API is set for the argument.</p> <p>MaDevDrv_InitRegisters() and MaDevDrv_VerifyRegisters() were added.</p> <p>The return value of MaDevDrv_PowerManagement() and MaDevDrv_Initialize() were changed from void to SINT32.</p> <p>The program was changed so that mask processing of interrupt is performed during processing of MaDevDrv_StartSequencer().</p> <p>The failure that, when seek is performed by using a designated loop reproduction count, the loop reproduction cannot be performed by correct count was removed.</p> <p>The failure that, when acquiring reproduction position, a value exceeding the reproduction time may be returned was removed.</p> <p>The failure that, when Duration=0, tone generation of Stream Audio may be omitted was removed.</p> <p>The failure that panpot does not function with default tone of No. 115 was removed.</p> <p>Type of argument of MaDevDrv_GetStreamPos was changed.</p> <p>Type of argument of MaDevDrv_SendDirectRamData() was changed partly.</p> <p>Type of argument of MaDevDrv_SendDelayedPacket() was changed partly.</p>
1.3.6.5	February.27, 2002	<p>The check of return value of the Converter function in MaSound_ReceiveMessage() is changed into the check of negative number or not from the check of zero or not. Moreover the reproduction start position was reset by 0 is corrects so that it may reset with a Start Point value.</p> <p>The timing of internal state changed in MaSound_Open() is changed.</p> <p>It changes so that a seeking point may also be reflected at the time of the play start point setup in MaSound_Control().</p> <p>The timing of internal state changed in MaSound_Standby().</p> <p>It changed so that the value returned to a setup of a seeking point from a converter function may be added.</p> <p>It added the processing that the value returned to a setup of a seeking point of MaSound_Seek() from a converter function may be added</p> <p>The position of timer setup processing in MaSndDrv_ControlSequencer() was corrected.</p> <p>The guard processing that timer starting is performed only during sequencer operation in MaDevDrv_StreamHandler() was added.</p> <p>Mask processing of interruption in MaDevDrv_StartSequencer() was corrected.</p>

Version	Date	Description
1.3.7.5	March.27, 2002	<p>In MaSound_Standby(), MaSound_ReceiveMessage(), processing adding the value returned to a reproduction start position from a converter function at the time of seeking point acquisition is added.</p> <p>To MaSndDrv_Create(), the type setting function of a percussion sound set is added.</p> <p>In MaSndDrv_BendRange(), it extends that the setting ranges of a Vend range were 1-24 to the setting range of 0-24.</p> <p>MaSndDrv_SetVolume() is newly added and a volume setup is shifted to Sound Driver from each Stream Converter.</p> <p>The contents of a key setting value at the time of WT of MaSndDrv_SetVoice() are changed into a frequency value from a frequency ratio.</p> <p>Reset processing of the timer for a reproduction count is moved to MaSndDrv_UpdateSequence() from MaSndDrv_UpdatePos(), and the error at the time of a loop is reduced.</p> <p>The natural end conditions of StreamAudio in MaDevDrv_StreamUpdate() are changed.</p>
1.3.8.1	May.29, 2002	<p>The initialize processing of Callback function register is added to MaSound_Initialize().</p> <p>The clear processing of Note management information at the Mono mode is added to MaSndDrv_Note().</p> <p>The calculation processing of the end position of PCM data of MaDevDrv_StreamSetup() is corrected.</p> <p>The unnecessary address calculation processing of MaDevDrv_StreamUpdate() is deleted.</p> <p>The cast of MaDevDrv_VerifyRegisters() is changed from UNIT16 to UNIT32.</p>
1.3.9.0	June.26, 2002	<p>It was changed so that it may become an error if the argument prm->size of MaSound_Control(GET_CONTENTSDATA) is 0.</p> <p>The operation processing of Note control information at Stop and Seek in MaSndDrv_ControlSequencer() was changed.</p>
1.3.11.0	September 20, 2002	<p>The resource releasing code in case that instantaneous writing goes wrong in MaResMgr_AllocTimer() and MaResMgr_AllocSequencer() was added.</p> <p>With reference to key control information in GetFmBlockFnumMa2(), if ON, it changed so that the value of key control might be reflected in Fnum and Block.</p> <p>The definition of a function was changed in the measure for warning.</p>
1.3.14.1	January 16, 2003	<p>MIDP correspondence</p> <ul style="list-style-type: none"> - The reproduction time of MaSound_Control can be acquired after Loaded. - The reproduction number is designated to MaSound_Control. - The Wav reproduction was added. - The error check of each format can be executed always. <p>Made DVA algorithm at mono mode more efficient.</p> <p>Added the definition of SMF to masound.h.</p>

Version	Date	Description
1.3.15.5	April 22, 2003	<p>The correspondence for the change of WAV playback specification.</p> <ul style="list-style-type: none">- MaSndDrv_StreamSeek() was added newly.- The initialization of structure member added to MaResMgr_Initialize() was added.- The initialization of structure member added to MaResMgr_RegStream() was added.- MaResMgr_SetStreamSeekPos() was added newly.- The argument *seek_pos was added to MaResMgr_GetStreamInfo().- The processing which reflects seek_pos to MaDevDrv_SteramHandler() was added. <p>The change for correspondence in the case of overwriting data at the time of SMAF Audio data reproduction in MaDevDrv_StreamUpdate().</p> <p>The processing to guard the possibility to refer to the outside of sequence (however, it is a Read into its module) was added to GetVoiceInfo(), GetFmBlockFnum(), GetWtBlockFnum().</p>

7.2 SMAF/MA-1/MA-2/MA-3 Stream Converter

Version	Date	Description
0.8	June 1, 2001	Initial edition
0.9	June 18, 2001	Acquisition and addition of contents character information Error check (enabled / disabled) at loading was provided. Setting for synchronization was provided.
1.0	June 29, 2001	Uninstalled part of SMAF/MA-3 was added.
1.1.0	July 11, 2001	Initialization of SeekFlag was changed. Initialization of vail variables was changed. Value of Hold1 was changed. Failure that occurs when seek and EP are set simultaneously was corrected. Path that restores to Drum after ringing Stream was added. ERROR was for the case of no ScoreTrackChunk and when reproduction time is '0'. Load mode3 was added. Change between Mono/Poly during reproduction was prohibited. Provision was made for change of Duration of EOS.
1.1.1	July 18, 2001	Provision was made for ProgramChange before Seek. EOS related failures were corrected. Path that returns error of ContentsType and error of ScoreTrackChunk was added. Provision was made for Load in mode-2. The design was changed so that the value of MasterVolume is transmitted always at Standby. The design was changed so that streams with the same ID of which GateTime overlaps are collected to one. The design was changed so that start time and end time of PhaseList are returned. Provision was made for Stream tie of MA-2. Provision was made for tie of MA-3.
1.2.2	June 25, 2001	The design was changed so that contents information (Class,Type, etc.) can be acquired. Provision was made for failure in Load (value returned at abnormal SMAF) Provision was made for failure of MasterVolume. Provision was made for failure / change of SMAF/MA-1/MA-2 Modulation.
1.2.3	August 9, 2001	Provision was made for StreamPair. Provision was made for change of reproduction end point. MONO / POLY change condition was changed. Provision was made for change of specifications of Stream reserve. The point that data of only one channel was registered in Mono was corrected. The designed was changed so that the third bytes of Mono, Poly, AllNoteOff and AllSoundOff are verified. Failure at registration of WaveTable waveform was corrected. Failure at registration of FM basic waveform was corrected. The designed was changed so that the values of SetVolume, SetSpeed and SetKeyControl are verified. Failure at acquisition of ContentsInfo was corrected. The design was corrected so that LED_OFF or MOTOR_OFF is issued at AllSoundOff or AllNoteOff respectively.

Version	Date	Description
1.2.5.0	September 19, 2001	Copy Status Mask was canceled. Poor initialization of Stream Pair was repaired. Corresponded to Seek fault. Corresponded to change of the reading specification of OPDA.
1.2.5.1	September 20, 2001	The bug of MA-1 / 2 voice registration was repaired. Create Mode was improved. (Changed into the old simple mode.) The bug of Stream registration was repaired. (Wave ID limit enhancement : MA-3) The bug of ADPCM default volume was repaired. (MA-2)
1.2.6.0	October 5, 2001	Changed so that the contents information on Mode-3 could be taken after Unload. End processing was changed into the same processing as Initial processing. Corresponded to the fault of StreamData registration processing. (Prohibition on registration ID32) Transposes Note On of short Gate Time to NOP. (Processing-load abatement) When there is pronunciation of 65 or more sound simultaneously, transposes to NOP and do not pronounce. Corresponded to MA-2 Audio Volume fault. Corresponded to Stream registration fault. (Prohibition on 33 or more-ID registration) The event # mask of user event was added.
1.2.7.1	October 31, 2001	Changed so that CRC check might not be carried out by Load Mode. Changed so that Phrase List information acquisition could be performed by Loaded. Changed so that it might not set up when KeyControl information is '0x00' or '0x03'. Acquires contents information of Contents Type 0x30 or more from OPDA. LED/VIB synchronous information acquisition API was added. MA-1 / 2 voice registration fault was repaired.
1.2.8.1	Nov. 14, 2001	There was a path that does not return '0xFFFF' at the end of Seek for SMAF with not Score Track. This path was deleted. The program was changed so that NoteOn of which Gate Time is "0". Pan OFF was added to Stream PCM Pan
1.2.8.2	Nov. 15, 2001	The failure that cannot identify StreamReserve ExMsg at Stream_Reserve was corrected. Stream Fs of MAF/Audio is limited to PCM 12kHz, and ADPCM 24kHz. Resource mode is fixed to "0".
1.2.9.0	Nov. 26, 2001	The failure that processed the Note when gatetime of SMAF/MA-3 is "0" at it is was corrected. The failure that cannot output LED_ON/LED_OFF with NOTE event of EOS was corrected. The failure that cannot output StreamOn after issuing StreamSlave was corrected. The failure of processing of Exclusive for interrupt, NOP was corrected. Calculation of time of PhraseList was corrected. (Start time was added.) The failure that Modulation (short) was invalid was corrected. The failure of Seek processing after Stop Point was corrected. Description of comparison between Seek position and Stop Point was corrected. The failure that Duration of EOS was neglected was corrected. Gatetime guarantee at the end of reproduction was changed to be MA-2SMW compatible. BTrackNo of Stream Slave was corrected. Expression reduction to standard conversion table was changed. EVENT_MASTER_VOL was standardized to EVENT_MASTER_VOLUME. Get_Position is protected with total reproduction time. Start from play end point is protected.

Version	Date	Description
1.2.9.3	Nov. 30, 2001	The failure that a part of information of data that has already been loaded with Load (mode=0/1) is changed with Load (mode=2) was corrected. Misunderstanding of interpretation of '`' at acquisition of option data was corrected. Lack of check of File Chunk ID "MMMD" was corrected.
1.2.9.4	Dec. 3, 2001	The failure that tone of stream is not generated when Bank Select and Program Change were not designated for 9 ch (default, drum channel) was corrected.
1.3.0.1	Dec. 10, 2001	Load high speed API correspondence LED, VIB status return value was changed. Check at MASMW_GET_LOADINFO / MASMW_SET_LOADINFO processing, sum calculation method, Error-checking item were changed. Initialization of Wave_Info3 was added. Fault of initialization of Stream Pair was corrected.
1.3.1.0	Dec. 20, 2001	Specification was changed into the execute permission for Load (mode=1) after MaSound_Control (MASMW_SET_LOADINFO). When data with AllSoundOff/AllNoteOff event are played repeatedly, the fault which may lapse into an endless loop was corrected. The fault which may lapse into an endless loop at the error checking in the Load processing of SMAF with inaccurate sequence data (All sequence data are 0x80 or more) was corrected. The judgment omission of the return value of MTR_Check() was corrected. The problem, which unacquirable Phrase List information originally was acquired after Load (mode=3) execution, was corrected. The exception processing in case both the starting position and end position of Phrase List are before st, was added. In Load (mode=2), the problem, which does not become an error by the data having Audio Track Chunk without Awa chunk, was corrected. In SMAF/MA-1,2 data with Contents Info Chunk Option containing PDC character code, the problem which may be unable to acquire information correctly was corrected. The position of initialization of the variable for stream data was changed. Processing when the stop point of PhraseList points out except the head of Duration was added. GetPosition was changed. The loop count of initialization of wave data storing array was changed.
1.3.2.9	January 30, 2002	The failure of acquisition of Phrase List for data for which Start Point is not set was removed. The failure of unregistered exclusive message NOP replacement was removed. The failure of SMAF/MA-2 ADPCM registration was removed. The failure of tie processing of SMAF/MA-2 ADPCM was removed. The failure of setting of SMAF/MA-3 stream PCM wave panpot was removed. The failure of irregular control of LED/Motor at seek was removed. The failure of specification of reset all controller operation at seek was removed. The failure of LED/Motor synchronization control when MA-3 stream PCM pair is set was removed. The failure of error check at acquisition of PhraseList was improved. Corrective action was taken for possibility of generation of All Sound Off event with negative duration. Criteria for object of search for Optional Data Chunk was changed. The failure of error processing for abnormal Optional Data Chunk was removed. Processing for acquisition of contents information in Contents Info Chunk was corrected. The order of precedence of error check was so changed that CRC error check is given top priority.

Version	Date	Description
1.3.3.0	February.27,2002	<p>The Seek fault of data with Playing System Track from which playing time differs was corrected.</p> <p>The fault which skips data at the time of "0xFF(Binary) is specified to be contents code type was corrected.</p> <p>Reset all controller event execution fault at the time of Seek was corrected.</p> <p>The minimum reproduction time of music data at the time of Load was reconsidered.</p> <p>The Stop Point detection error which points out the last of Sequence data was reconsidered.</p>
1.3.4.0	March.27, 2002	<p>The standard type conversion table from an Expression shortening type is changed.</p> <p>Correction of the API setting Master Volume reflection fault between Seek-Start.</p> <p>The data size check at the time of variable length data acquisition is strengthened.</p> <p>Exception handling when an event list and a note-off list are lost is changed.</p> <p>The interpretation plan of L2 tag data is changed.</p> <p>Event interpretation plans other than Channel #0 in PCM Audio Track Chunk #0 are changed.</p> <p>The standard frequency ratio calculation plan at the time of WT tone registration is changed.</p>
1.3.5.0	May.29, 2002	The return value accuracy of MaSound_Control(Get_Position) is improved.
1.3.5.5	June.26, 2002	<p>Corresponded to LED/Motor injustice control at Seek.</p> <p>Deleted the exception processing when the value except '0' is set up to the argument open_mode at MaSound_Open.</p> <p>Corresponded to the argument error of MaSound_Control(SET_SPEED).</p> <p>Corresponded to the argument error of MaSound_Control(SET_KEYCONTROL).</p> <p>Changed the event interpretation policy except for Channel #0 in PCM Audio Track Chunk #0.</p>
1.3.6.2	September 20, 2002	Added the compile option which disregards KCS to SMAF/MA-1.
1.3.6.6	December 13, 2002	<p>Changed MaSound_Control (Acquisition of reproduction time) to allow execution after Load.</p> <p>Added the error check when the EOS event message protrudes from sequence data.</p>
1.3.7.5	April 8, 2003	<p>LED, VIB, KCS acquisition API was added.</p> <p>The specification of KCS disregard option was extended.</p>

7.3 SMAF / Phrase L1 Stream Converter

Version	Date	Description
0.8	June 1, 2001	Initial edition
0.9	June 18, 2001	Acquisition and addition of contents character information Error check (enabled / disabled) at loading was provided. Setting for synchronization was provided.
1.0	June 29, 2001	Change of API name Addition of Panpot API
1.1.0	July 11, 2001	Operation of mode = 3 was added to MaSound_Load (). Range of range of S-JIS / UNICODE. Failure of Close () was corrected.
1.1.1	July 18, 2001	Arrangement of Warning
1.2.1	June 23, 2001	Addition of C1 / C2 / C3 / C4 tags
1.2.2.1	August 3, 2001	Incorrect calculation of reproduction position was corrected. Failure of report was corrected.
1.3.0.3	September 18, 2001	The repeat control method was changed. Repeat operation at Bind was changed. The skip fault of ProgramChange at Seek() was corrected. Corresponded to change of OPDA reading specification.
1.3.0.4	October 5, 2001	Synchronous conditions were added.
1.3.0.5	October 29, 2001	The fault, which cannot operate the data of original Slave after Slave release, was corrected.
1.4.0.0	Nov. 14, 2001	SMAF/Audio and Phrase Wrapper were unified. Default value of master volume (set with SetVolume()) of each Prase of SMAF/Phrase was corrected. Parameter setting before reproduction start was moved to point after sequencer start.
1.4.0.1	Nov. 15, 2001	The fault that stop is ineffective for synchronization setting that CH0 becomes slave. Stream Fs of SMAF/Audio is limited to PCM 12kHz and ADPCM 24kHz. Resource mode was fixed to 16 for SMAF/Phrase, or to 1 for SMAF/Audio.
1.4.1.0	Nov. 26, 2001	machdep_Sleep() was added to Stop processing.
1.4.2.2	Nov. 30, 2001	The program was changed so that the processing of machdep_Sleep() of stop processing valid / invalid can be selected at implementation. The failure that a part of information of data that has already been loaded with Load (mode=0/1) is changed with Load (mode=2) was corrected. Misunderstanding of interpretation of ``\` at acquisition of option data was corrected. Lack of check of File Chunk ID "MMMD" at SMAF/Audio was corrected. Lack of check of Wave Data Chunk ID "Mwa*" at SMAF/Audio was corrected.
1.4.2.5	Dec. 10, 2001	The problem which becomes an error in GetDataInfo (mode=2) was corrected. Changed so that a sequencer might be stopped within Stop processing in the case of MA_STOPWAIT=0. The sequencer stop processing position at the playback terminated normally was changed. the problem that the data with no Stream at SMAF/Audio does not become as a Load error was corrected.

Version	Date	Description
1.4.2.7	Dec. 20, 2001	<p>When the data containing the non-supported event (cannot be created by authoring tool) are reproduced, the interpretation after the processing non-supported event became strange, and the play may not be terminated normally. This problem was corrected.</p> <p>By the size check fault at the reproducing inaccurate data, the play may not be terminated normally. The problem was corrected.</p> <p>In SMAF/MA-1,2 data with Contents Info Chunk Option containing PDC character code, the problem which may be unable to acquire information correctly was corrected.</p> <p>The error code, which is returned in the case of data only with ContentsInfoChunk, was corrected.</p> <p>Error checking at the mode=3 was corrected.</p> <p>The problem on which stop processing may not be correctly performed by the stop processing at MA_STOPWAIT (0) was corrected.</p>
1.4.4.16	January 30, 2002	<p>The failure that Program Change may not be issued when PitchBend is present before note message was removed.</p> <p>The failure that tone generation is performed when Gatetime of note message is zero was removed.</p> <p>The failure that panpot does not function with default tone of No. 115 was removed.</p> <p>Meaningless codes were deleted.</p> <p>Internal function argument check was corrected.</p> <p>The failure of stop processing was removed.</p> <p>Information of reproduction position that is acquired at READY was corrected.</p> <p>Calculation of data reproduction time was changed to rounding up of the fraction.</p> <p>Reproduction position information was changed so that the position does not exceed the data reproduction time.</p> <p>Sub-chunk size error processing was corrected.</p> <p>Error processing for abnormal Optional Data Chunk was corrected.</p> <p>The order of precedence of error check was so changed that CRC error check is given top priority.</p> <p>The program was changed so that error check is continued after Contents Type error is detected.</p> <p>Contents Type error check was improved.</p> <p>The program was corrected so that MASMW_ERROR_SHORT_LENGTH is returned correctly.</p> <p>Criteria for object of search for Optional Data Chunk was changed.</p> <p>Returned values of size zero of contents information in the Contents Info Chunk were standardized.</p> <p>Improper flag name was corrected.</p>
1.4.5.6	February.27, 2002	<p>It changed so that it may be set to default 0 without considering a setup of those other than FM tone of MA-2 and MA-3 within ExVoice Chunk as an error.</p> <p>It was changed so that it may become reproducible by skipping trash in DeVoice Chunk.</p> <p>It was changed so that it may become reproducible by skipping trash in ExVoice Chunk.</p> <p>It was changed so that it may become reproducible by skipping trash in Voice Chunk.</p> <p>The correspondence processing to an inaccurate user tone was added.</p> <p>The error check of RAM address was added.</p> <p>The reproduction end condition check was improved.</p>

Version	Date	Description
1.4.6.5	March.27, 2002	It skips at the time of Seek and is correction of the Panpot setting fault of a portion. Deletion of an unnecessary Sound Driver function call. Initial setting accompanying a Sound Driver function addition is added. Correction of the size error data correspondence fault of MTR chunk
1.6.0.2	December 4, 2002	The reproduction time acquisition API was added. MaSound_Control(change of playback count) was added to SMAF/Audio reproduction.

7.4 SMAF / Audio Stream Converter

Version	Date	Description
0.9	June 18, 2001	Initial edition
0.91	June 29, 2001	Change of API name MaSound_Control (MASMW_GET_POSITION) was not installed.
0.9.2	July 11, 2001	Operation of mode = 3 was added to MaSound_Load (). Bug of data check routine was corrected.
1.1.0	July 18, 2001	Arrangement of Warning
1.2.0	July 23, 2001	Addition of C1 / C2 / C3 / C4 tags
1.2.1	August 9, 2001	Wrong pointer and size of waveform data were corrected.
1.2.2.0	September 18, 2001	Changed so that a setup of those other than time 0 might be an error in Seek(). MaSound_Control (MASMW_GET_POSITION) was implemented. Corresponded to OPDA reading specification change.
1.3.0.0	October 5, 2001	Corresponded to GetLength fault. Corresponded to MA-2 Audio playback.
	November 14, 2001	Unified into SMAF/Phrase

7.5 RealtimeMIDI Stream Converter

Version	Date	Description
0.9	June 18, 2001	Initial edition
1.0	June 29, 2001	Change of API name Failure of tone setting was corrected. Preparation was made for change of applicable SMF expansion. Control functions that were not prepared were added.
1.1.0	July 11, 2001	Operation of mode = 3 was added to MaSound_Load ().
1.1.1	July 18, 2001	Arrangement of Warning Wrong tone registrations were corrected.
1.1.2	July 23, 2001	#BankMSB = 0x78 / 0x79 support was added.
1.3.1.3	September 20, 2001	The initial value of the maximum volume was changed into -9[dB].
1.3.1.8	Nov. 26, 2001	The program was changed so that an error is returned when 127 is exceeded with SetVolume.
1.3.1.9	December 17, 2001	MaSound_Control(MASMW_GET_LENGTH) support was added.
1.3.1.10	January 30, 2002	The program was changed so that 4-OP tone registration is prohibited when in 2-OP mode. Wrong bank number management was corrected. Wrong RPN number management was corrected.
1.3.1.11	February 20, 2002	A part of Bank processing was changed.
1.4.0.0	March.27, 2002	The remaining protection message of the sound at the time of a music end is changed into AllSoundOff from AllNoteOff. Correction of extension tone registration. It corresponds to change of volume specification of Sound Driver. It corresponds to change of waveform registration of Sound Driver.
1.4.1.0	May.29, 2002	The customize function of NoteOn Velocity curve was added. The Master Volume (Universal SysEx) message processing was added. The mute function at the tone generation mode change was added. The voice other than GM L1 specification form Default Drum map was removed.
1.5.0.0	August.8, 2002	The default value of Bank select was changed to GM2 conformity. It corresponds to GM2SystemON.
1.5.0.1	September 20, 2002	The fault of Expression-Master Volume was repaired.
1.5.1.0	December 27, 2002	The volume setting and acquisition API were added. The periodic callback API was added.
1.5.2.0	April 22, 2003	The warning at the time of compile was corresponded.

7.6 SMF Stream Converter

Version	Date	Description
0.9	June 29, 2001	Initial edition
1.1.0	July 11, 2001	Defective operation of MaSound_Control (MASMW_SET_VOLUME) was corrected. Operation of mode = 3 was added to MaSound_Load ().
1.1.2	July 23, 2001	#BankMSB = 0x78 / 0x79 support was added. LED / MOTOR synchronization function was added.
1.5.1.4	September 20, 2001	Issue of UserEvent for end recognition was added. End processing was arranged. Processing resolution was changed from 5ms to 10ms. The wrong time management at the non-supported instruction skip was corrected. The default of volume maximum was changed into -9dB.
1.6.0.1	October 5, 2001	Support of Format-1 was added. Poor Seek() was corrected. The error of time calculation was corrected. End processing was corrected.
1.6.0.3	October 19, 2001	The wrong playback time unit was corrected.
1.6.0.7	Nov. 26, 2001	The program was changed so that an error is returned when 127 is exceeded with SetVolume. Speed of processing was increased.
1.6.0.8	Dec. 6, 2001	The fault of a sequence scan of GetSetupInfo() was corrected. The bug of position gap when there is no message in Seek position at SeekSmfMessage() was corrected.
1.6.0.9	December 20, 2001	The system was modified to comply with improvement of accuracy of MaMidCnv_Control (MASMW_GET_POSITION). The program was changed so that data become irregular when sequence time is 20 ms or less.
1.6.0.10	January 30, 2002	Wrong decision of setup measure was corrected. The program was changed so that 4-OP tone registration is prohibited when in 2-OP mode. Wrong bank number management was corrected. Wrong RPN number management was corrected.
1.6.0.12	February 20, 2002	The effective range of end point setup was changed. A part of Bank processing was changed.
1.7.0.1	March.27, 2002	The remaining protection message of the sound at the time of a music end is changed into AllSoundOff from AllNoteOff. Correction of extension tone registration. It changes so that the case where there is no command byte may be considered as an error. It corresponds to change of volume specification of Sound Driver. It corresponds to change of waveform registration of Sound Driver. Light Emitting Diode/VIB synchronous operation is accelerated.

Version	Date	Description
1.7.1.0	May.29, 2002	<p>The customize function of NoteOn Velocity Curve was added.</p> <p>The Master Volume (Universal SysEx) message processing was added.</p> <p>The mute at the end was changed from AllNoteOff to AllSoundOff.</p> <p>The comment mistake of Pitch Bend range was corrected.</p> <p>The mute at the Tone generation mode (Mono/Poly) change was added.</p> <p>The discrepancy that the position which was acquired shifts after EndPoint setting was corrected.</p> <p>The tone other than GM L1 specification was removed from Default Drum map.</p>
1.9.1.2	August.8, 2002	<p>The default value of BankSelect was changed to GM2 conformity.</p> <p>Support of FM-4op voice. (Compile option)</p> <p>The error code was added if the length of reproduction time exceeds the limitation time.</p> <p>The deficiency of setup condition was improved.</p> <p>It corresponds to SP-MIDI.</p> <p>The deficiency of option synchronization message was added.</p> <p>The error code at the time of command byte omission was added.</p> <p>The deficiency of GM SystemOn was improved.</p>
1.9.2.0	September 20, 2002	The measure for warning.
1.10.1.1	December 27, 2002	<p>The reproduction time was changed to allow acquiring it after Load.</p> <p>The default of velocity interpretation was changed to 40log from 20log.</p> <p>The SP-MIDI message interpretation was optimized.</p>
1.10.2.2	April 22, 2003	<p>The mistake of Music title and Meta event number of Copyright was repaired.</p> <p>The warning at the time of Compile was corresponded.</p> <p>The reference of outside of domain by the shortage of the number of definitions is repaired.</p>

7.7 Wav Stream converter

Version	Date	Description
1.0.1.0	December 3, 2002	Initial edition.
1.0.1.1	April 9, 2003	All functions were changed in order to match with MA-5 SMW specification except for a part.

8 About upgrading of the version from 1.3.14

This chapter describes the details of changes due to the upgrading of the version from Ver.1.3.14 for individual formats.

The level of importance is as described below.

Importance Level	Meaning
A	Should be changed as far as possible.
B	It is recommended to change.
C	It is desirable to change.

8.1 SMAF reproduction

8.1.1 The correspondence of fault when Stream Audio is not executed correctly

In case that all the following conditions are applied, since the data replacement processing is not performed correctly and a part of next tone generation data is overwritten, the playback may not be performed correctly. However this phenomenon occurs only when the processing of the system to be installed is fast.

- Stream Audio playback is performed in the same resource (for example, at the time of Stream Reserve = 1).
- And the data replacement during playback and ON of next tone generation occur at a short interval.
- And both of the above is performed in the same interruption processing (MaDevDrv_IntHandler).
- And these execution speeds are fast.

Importance level	A	When not change	Stream Audio playback may not be executed correctly, when the processing of system is fast.
Changed file	madevdrv.c	Changed function	MaDevDrv_StreamUpdate()

8.1.2 Addition of LED, VIB, KCS acquisition API

The API to acquire whether LED and VIB synchronize with SMAF data and whether KCS is valid or invalid was added. By using this API, the above information can be acquired after Load.

* Refer to “MA-3 Sound Middleware SMAF API Specification” for the specification of API.

Importance Level	C	When not change	The above information cannot be acquired.
Changed file	mammfcnv.c	Changed function	GetLED (), GetVIB(), GetKCS() were added newly. GetContentsData()

8.1.3 Specification extension of a KCS disregard option

The KCS disregard of SMAF/MA-1 currently prepared as an option from ver.1.3.11 was extended to SMAF/MA-3. Thereby, SMAF/MA-1 is interpreted as Key Control ON and SMAF/MA-3 is interpreted as Key Control Nonspecific regardless of the value of KCS of SMAF, by setting this option as ON.

Importance level	C	When not changed	There is no problem.
Changed file	mammfcnv.c mamachdep.h	Changed function	Standby2() Standby3() The definition name of Option was changed. Old: MA1_KCS_IGNORE New: MA13_KCS_IGNORE

8.2 SMF reproduction

8.2.1 The mistake of Music title and Meta-event number was repaired.

The fault that the correct information cannot be acquired when the music title and copyright of SMF data of Format-1 were acquired by MaSound_Control() was corrected.

Importance level	C	When not change	The music title and copyright information may not be acquired correctly.
Changed file	mamidcnv.c	Changed function	GetSMFInfo()

8.2.2 Repair of reference of outside of domain through the insufficient of definition number of voice data

Although the number of definitions of voice data originally needed to be 32 bytes, it had become 31 bytes. Therefore, the outside of 1-byte arrangement was referred at the time of reference (however, it becomes read in the next sequence data of its module). This fault was corrected.

Importance level	C	When not change	There is no problem to generate tone.
Changed file	mamidcnv.c	Changed sequence	gbMuteVoice[]

8.3 Wav reproduction

8.3.1 Change to the specification which tailored to MA-5 SMW

Wav converter was replaced with things of MA-5 specification to correspond to MA-3/MA-5 mixed environment.

It becomes API function equivalent of MA-5, but it is not corresponded to MaSound_Pasuse/Restart.

Importance level	B	When not change	It will not be equivalent specification to MA-5 SMW.
Changed file	mawavcnv.c masnddrv.c maresmgr.c madevdrv.c	Changed function	All functions MaSndDrv_StreamSeek() was added newly. MaResMgr_SetStreamSeekPos() was added newly. MaResMgr_GetStreamInfo() MaResMgr_RegStream() MaResMgr_Initialize() MaDevDrv_StreamHandler()

8.4 Others

8.4.1 Warning correspondence

Code was changed to lessen the warning generated at the time of Compile. There is no influence on the actual operation, if this change is reflected.

Importance level	C	When not change	There is no change especially.
Changed file	marmdcnv.c maprhcnv.c mamidcnv.c	Changed function	SendNoteOn() SmafPhrChecker() RegVoice()

8.4.2 The measure against reference sequence outside at the time of inaccurate data reproduction

Since the bad data may be referred to the outside of sequence (it becomes a Read in its module), that guard processing was performed. Since it becomes Read of data at the time of reference of bad data, it does not affect playback etc..

Importance level	C	When not change	It is satisfactory at the time of normal data playback
Changed file	masnddrv.c	Changed function	GetFmBlockFnum(), GetWtBlockFnum(), GetVoiceInfo()

9 About upgrading of the version from 1.3.11

This chapter describes the details of changes due to the upgrading of the version from Ver.1.3.11 for individual formats.

The level of importance is as described below.

Importance Level	Meaning
A	Should be changed as far as possible.
B	It is recommended to change.
C	It is desirable to change.

9.1 SMAF reproduction

9.1.1 The addition of the error check when a part of EOS event message protrudes from sequence data

In traditional SMW, the error was not detected, even if the last 1Byte of EOS event message was protruded. There are no effects since the data was not output from authoring tool of YAMAHA. Therefore, corrected it to strengthen checking systems before reproduction.

Importance Level	C	When not change	There is especially no effect.
Changed file	mammfcnv.c	Changed function	SeqData_Check3

9.2 SMF reproduction

9.2.1 Optimization of SP-MIDI message interpretation

SP-MIDI message interpretation was optimized.

Importance Level	C	When not change	There is especially no problem.
Changed file	mamidcnv.c	Changed function	GetSMFInfo SendNoteOn SendProgram SendResetAllCtl SendGmOn SendSysEx SeekSmfMessage ConvertOneSmfMessage MaMidCnv_Control

9.3 Others

9.3.1 MIDP 2.0 correspondence

The configuration of the whole sound middleware was reconsidered to be covered in MIDP 2.0 framework. Specifically, the added and extended functions are as follows.

- The specification was extended to allow executing the acquisition of reproduction time after format check
- API changes repeat count (without MaSound_Close) was added.
- Wav reproduction was added.
- The default of velocity interpretation of SMF was changed to 40og.
- The volume acquisition API and the periodic callback setting API were added to RealTime MIDI reproduction.

Importance Level	B	When not change	A part of function required by MIDP 2.0 cannot be achieved.
Changed file	malib.c malib.h mawavcnv.c mawavcnv.h masound2.h masoundlib.h macnvprf.h mamachdep.h mamidcnv.c mammfcnv.c maphrcnv.c maphrcnv.h maphrwrp.h marmdcnv.c marmdcnv.h masndseq.c masndseq.h masound.h	Changed function	Newly added Newly added Newly added Newly added Newly added Newly added

9.3.2 Improvement of DVA algorithm at Mono mode

Treats as tie and slur when the one or more NoteOn whose gate times are different are issued for channel of Mono mode designation. At this time, many more slot than the tone generation number was consumed, since the priority of the unnecessary tone generation slot was changed. This problem has little or no effect to tone generation. However, the tone generation of Mono mode channel is muted (by DVA), quite infrequently.

Importance Level	B	When not change	The slot may be wasted at tone generation of tie and slur.
Changed file	masnddrv.c	Changed function	RemakeSlotListE() was added newly. MaSndDrv_NoteOn

9.3.3 The addition of the definition of error code for SMF to Masound.h

The definition of error code for SMF was added to Masound.h.

Importance Level	C	When not change	There is especially no problem.
Changed file	masound.h	Changed function	Added the following definition. MASMW_ERROR_LONG_LENGTH MASMW_ERROR_SMF_FORMAT MASMW_ERROR_SMF_TRACKNUM MASMW_ERROR_SMF_TIMEUNIT MASMW_ERROR_SMF_CMD

10 About upgrading of the version from 1.3.10

This chapter describes the details of changes due to the upgrading of the version from Ver.1.3.10 for individual formats.

The level of importance is as described below.

Importance Level	Meaning
A	Should be changed as far as possible.
B	It is recommended to change.
C	It is desirable to change.

10.1 SMAF reproduction

10.1.1 The specification change so that key control may be correctly reflected also to MA-2 Pitch Bend.

In consideration of operation compatibility with MA-2 SMW, key control was invalid to Pitch Bend (Exclusive message) of SMAF/MA-2 usually. However, if key control is operated to the data into which Pitch Bend of SMAF/MA-2 entered in the case of this specification, the phenomenon in which a melody line collapses will arise. For this reason, specification and implementation were changed.

Importance Level	B	When not change	Key control may collapse a melody line.
Changed file	masnddrv.c matable.h	Changed function	GetFmBlockFnumMa2 Added the array of ma_ma2ex_fnum[].

10.1.2 The setting change of KCS interpretation of SMAF/MA-1

As for the data of SMAF/MA-1, KCS (Key Control Status) is uniformly set as "0: off" (Karaoke contents did not exist at that time). For this reason, even if key control is operated to MA-1 data, it is not effective.

If this change is added, the compile option that disregards KCS in data and interprets as "1: on" uniformly can be added. By this compile option, it becomes possible to make key control effective also to SMAF/MA-1 data. However, since key control becomes effective also to drum tone generation, please fully inquire in implementing.

* When key control is operated to drum tone generation, tone generation may change extremely.

Importance Level	C	When not change	The compile option which disregards KCS of SMAF/MA-1 is added.
Changed file	mammfcnv.c mamachdep.h	Changed function	Standby2 Added the definition of "MA1_KCS_IGNORE".

10.2 Realtime MIDI Reproduction

10.2.1 Repair of setting fault of Expression, Master Volume

The fault which Expression and Master Volume is not set up correctly was repaired. Before repair, when Expression or Master Volume was received, it was interpreted by the reverse of the setting value (Volume becomes large when the setting value is made small, and volume becomes small when the value is enlarged.).

Importance Level	B	When not change	Expression and Master Volume cannot be interpreted correctly.
Changed file	marmdcnv.c	Changed function	SendExpression

10.3 SMF reproduction

10.3.1 The measure for warning

The code was changed in order to lessen warning produced at the compile. Even if this change is reflected, there is no reaction on real operation.

Importance Level	C	When not change	There is especially no change.
Changed file	mamidcnv.c	Changed function	

10.4 Others

10.4.1 The addition of resource releasing processing when the instantaneous writing goes wrong at the open.

The writing to the instantaneous FIFO was performed for securing the resource of MA-3 H/W at MaSound_Open. When this writing was failed by some causality, the resource information inside SMW was not initialized correctly. It was repaired.

Usually, the writing to the instantaneous FIFO is always successful. However, depending on the implementation form, the time-out etc. may be started at the FIFO Empty check before writing, and writing may go wrong.

Importance Level	C	When not change	When the writing to the instantaneous FIFO goes wrong at the resource securing, it will be necessary to perform H/W reset.
Changed file	maresmgr.c	Changed function	MaResMgr_AllocTimer MaResMgr_AllocSequencer

10.4.2 The repair of processing fault of the H/W format data creation at the debug mode

When stream data reproduction was in data at the H/W format creation of the debug mode, the chunk composition collapsed. The fault was repaired. When not using debug mode, it is not necessary to change.

Importance Level	C	When not change	H/W format data may be unable to be created correctly.
Changed file	madebug.c	Changed function	madebug_Close madebug_SendDelayedPacket madebug_SendDirectPacket madebug_SendDirectRamData madebug_SendDirectRamVal madebug_SetStream

10.4.3 The measure for warning

The code was changed in order to lessen warning produced at the compile. Even if this change is reflected, there is no reaction on real operation.

Importance Level	C	When not change	There is especially no change.
Changed file	madevdrv.c	Changed function	

11 About upgrading of the version from 1.3.9

This chapter describes the details of changes due to the upgrading of the version from Ver.1.3.9 for individual formats.

The level of importance is as described below.

Importance Level	Meaning
A	Should be changed as far as possible.
B	It is recommended to change.
C	It is desirable to change.

11.1 SMF reproduction

11.1.1 Change of the default value of BankSelect

The default value of BankSelect was changed to the value of GM2 conformity. It does not have the influence on the tone generation (bank select) by this improvement.

Importance Level	C	When not change	There is not much problem.
Changed file	mamidcnv.c	Changed function	SendGmOn

11.1.2 Support of 4op voice (Compile option)

The compile option which can select 4op voice was added at the FM16 tone mode. The mode which can be selected becomes 3 mode, 2op-32 tone mode, 2op-16 tone mode and 4op-16 tone mode by this.

Importance Level	C	When not change	The 2-OP voice which is always in ROM is used.
Changed file	mamidcnv.c mamachdep.h	Changed function	GetSMFInfo RegVoice GetSetupInfo MaMidCnv_Open

11.1.3 Add the error code if the length of reproduction time exceeds the limitation time

The error code was added if the length of reproduction time exceeds the limitation time (2097151msec). -23 is returned to the return value if the reproduction time of data exceeds the limitation.

Importance Level	C	When not change	The error, whose reproduction time exceeds, cannot judge from the return value of Load.
Changed file	mamidcnv.c	Changed function	GetSMFInfo CheckSMF

11.1.4 Correct the deficiency of setup condition

It has been changed so that the 1st measure might be interpreted as '0' time to make the conditions of setup more general if the Tempo specification message exists in the 1st measure.

Importance Level	C	When not change	The conditions of setup are severe and may not be interpreted correctly.
Changed file	mamidcnv.c	Changed function	GetSMFInfo

11.1.5 SP-MIDI correspondence

The following message interpretation routine was added and changed to interpret data created in accordance with the standard of SP-MIDI

- MIP message interpretation
- VIB control channel (Only channel mute)
- Add GM2 SystemON/GM SystemOFF

Importance Level	C	When not change	The extension event of SP-MIDI may not be interpreted correctly
Changed file	mamidcnv.c	Changed function	SendProgram SendNoteOn SendGmOn SendSysEx

11.1.6 Additional correspondence of an error code

The error code only for command byte omissions is added. The error code specification is changed from the definition only for SMF to general-purpose definition use.

Importance Level	C	When not change	There is not much problem.
Changed file	mamidcnv.c	Changed function	GetSMFInfo CheckSMF GetSetupInfo SendSysEx MaMidCnv_Initialize MaMidCnv_End MaMidCnv_Load MaMidCnv_Unload MaMidCnv_Open MaMidCnv_Close MaMidCnv_Standby MaMidCnv_Seek MaMidCnv_Start MaMidCnv_Stop GetContentsInfo MaMidCnv_Control

11.1.7 Synchronous Event (Option) Mistake Correspondence

The issue mistake of Synchronous Event (un-setting Option) is corrected.

Importance Level	C	When not change	The synchronous event does not operate but the synchronous setting code is not used by option treatment.
Changed file	mamidcnv.c	Changed function	SendNoteOff SendNoteOn

11.1.8 Excessive time delay correspondence at the time of GM SystemOn

The problem that the excessive delay arises at the time of GM SystemOn is corrected.

Importance Level	C	When not change	The duration time becomes 16 time if GM SystemOn is published
Changed file	mamidcnv.c	Changed function	endGmOn

11.2 Realtime MIDI reproduction

11.2.1 Change of default value of BankSelect

The default value of BankSelect was changed to the value of GM2 conformity. It does not have the influence on the tone generation (bank select) by this improvement.

Importance Level	C	When not change	There is not much problem.
Changed file	mamidcnv.c	Changed function	SendGmOn

11.2.2 GM2 SytemOn correspondence

Corresponds to GM2 SystemOn message.

Importance Level	C	When not change	GM2 SystemOn is ignored.
Changed file	mamidcnv.c	Changed function	MaRmdCnv_SetLongMsg

12 About upgrading of the version from 1.3.8

This chapter describes the details of changes due to the upgrading of the version from Ver.1.3.8 for individual formats. The level of importance is as described below.

Importance Level	Meaning
A	Should be changed as far as possible.
B	It is recommended to change.
C	It is desirable to change.

12.1 SMAF reproduction

12.1.1 Correspondence to LED/Motor injustice control at the time of Seek

The LED ON/OFF control is performed immediately after outputting the NoteOn middle format of synchronization channel. At this time, only NoteOn event is processed and the LED control may remain internally by the timing of FIFO stuffing. LED ON is published accidentally and LED will light up in the Control event publication processing in Seek if the play is interrupted for this state temporarily and Seek is published.

Importance level	B	When not change	LED/Motor synchronization control may not be performed correctly.
Changed file	mammfcnv.c	Changed function	SetPreEvent2

12.1.2 Change into error if the buffer size is '0' in MaSound_Control(GET_CONTENTSDATA)

In the stream converter other than SMAF Stream Converter, it became error if the value of size, which specify the data storing place buffer size of the argument prm of MaSound_Control(GET_CONTENTSDATA), is 0. However, SMAF Stream Converter had not considered as an error, so it was changed to become error (MASMW_ERROR_ARGUMENT) in SMAF Stream Converter also.

Importance level	B	When not change	If the buffer size is 0, it does not become error.
Changed file	masndseq.c	Changed function	MaSound_Control

12.1.3 A discrepancy that the sound with long tone generation time occurs if Start/Restart is performed after Stop/Pause during play.

If Stop/Pause is performed during play and Start/Restart is performed without Seek, and if there is sound in NoteOn of Mono mode at Stop/Pause, the tone generation time of that sound may be prolonged.

This discrepancy does not occur if the Seek is published before Start/Restart.

Importance level	B	When not change	The tone generation time of the sound in NoteOn of Mono mode may be prolonged when Start/Restart is performed without Seek.
Changed file	masnddrv.c	Changed function	MaSndDrv_ControlSequencer

12.1.4 Delete the exception processing when the value except '0' is set up to the argument open_mode at MaSound_Open

In the former specification, if the values except '0' were set up to the argument open_mode of MaSound_Open(), it could limit to use of some resource. At present, open_mode is ignored substantially since the resource for play is assigned fixed for every data format for reproduction. However, at resource judging of Stream PCM tone generation, the old code which corresponded to former specification remains and there was a discrepancy that Stream PCM tone generation was not performed if the value except '0' are set into open_mode. And the repair of this was performed.

This repair does not need if open_mode of the argument is called by '0' fixation at MaSound_Open.

Importance level	C	When not change	The tone generation of Stream PCM is not performed if the value except '0' is set to open_mode.
Changed file	mammfcnv.c	Changed function	MaMmfCnv_Open

12.1.5 Correspondence to the argument error of MaSound_Control(SET_SPEED)

The error check of the argument prm (reproduction speed) is performed in SMAF Stream Converter when it receives MaSound_Control(SET_SPEED) but this error check was not correct operation. Since error check is performed actually in the lower Sound Driver before it is processed, there is no problem in terms of operation.

Importance level	C	When not change	There is especially no problem
Changed file	mammfcnv.c	Changed function	MaMmfCnv_Control

12.1.6 Correspondence to the argument error of MaSound_Control(SET_KEYCONTROL)

It repaired also here since there were same problem as the above in MaSound_Control(SET_KEYCONTROL).

Since same error check as the above is performed actually in the lower Sound Driver before it is processed, there is no problem in terms of operation.

Importance level	C	When not change	There is especially no problem
Changed file	mammfcnv.c	Changed function	MaMmfCnv_Control

12.1.7 Changed the event interpretation policy except for Channel #0 in PCM Audio Track Chunk #0

The reconsideration of policy was performed at the time of interpreting sequence data of Audio system (ATR0).

Until now, the Channel number attached to the event message had been disregarded and interpreted, but all events for it except for Channel #0 were replaced to NOP to bring it close to the interpreting policy of MA-2 SMW. Although the same measure had been taken before but the measure for event which is interpreted at the time of Seek had been wanting, it was added this time.

The event to Channel except for Channel #0 is not output into ATR0 from the Authoring tool which is offered by YAMAHA, so it does not have influence to the operation

Importance level	C	When not change	The sound which is not outputted in MA-2 SMW may be outputted.
Changed file	mammfcnv.c	Changed function	NextEvent2_SeekA

12.2 SMF reproduction

12.2.1 Change into error if the buffer size is '0' in MaSound_Control(GET_CONTENTSDATA)

In the other Stream Converter, it became error if the value if size which specify the data storing place buffer size of the argument prm of MaSound_Control(GET_CONTENTSDATA) is 0. However, it had not considered as an error, so it was changed to become error (MASMW_ERROR_ARGUMENT) in SMAF Stream Converter.

Importance level	B	When not change	If the buffer size is 0, it does not become error.
Changed file	masndseq.c	Changed function	MaSound_Control

12.2.2 A discrepancy that the sound with long tone generation time occurs if the Start/Restart is performed after Stop/Pause during reproduction

If Start/Stop is performed during reproduction and Start/Restart is performed without performing Seek, and if there is sound in NoteOn of Mono mode at Stop/Pause, the tone generation time of that sound may be prolonged.

This discrepancy does not occur if the Seek is published before Start/Restart.

Importance level	B	When not change	The tone generation time of the sound in NoteOn of Mono mode may be prolonged when Start/Restart is performed without performing Seek.
Changed file	masnddrv.c	Changed function	MaSndDrv_ControlSequencer

13 About upgrading of the version from 1.3.7

This chapter describes the details of changes due to the upgrading of the version from Ver.1.3.7 for individual formats.

The level of importance is as described below.

Importance Level	Meaning
A	Should be changed as far as possible.
B	It is recommended to change.
C	It is desirable to change.

13.1 SMAF reproduction

13.1.1 The discrepancy the number of tone generation may decrease at the reproduction of data containing channel which is specified to be Mono mode

If the number of simultaneous tone generation in reproduction data exceeds the actual number of slot (tone generation) in MA-3 hardware, the newly used slot is decided by the slot assignment processing of the last note priority system. If this newly slot is used to the channel which was specified to be Mono mode, the release of a slot goes wrong and it becomes impossible to use some slots including this slot until close.

In the following cases, there are no problems:

- The data does not use Mono mode.
- The number of simultaneous tone generation does not exceed the number of slot.
- The newly slot is used to the channel specified as Poly mode even if the number of simultaneous tone generation exceeds the number of slots and slot assignment processing is executed.

Importance level	A	When not change	The number of tone generation may decrease at the play of the data whose tone generation number exceeds and which is specified as Mono mode.
Changed file	masnddrv.c	Changed function	MaSndDrv_NoteOn

13.1.2 The discrepancy of PCM data reproduction

When plays PCM data, noise may ride on the play sound every 20ms.

Because the data for one sample is written in doubly every 20ms by the discrepancy of address calculation processing at the registration of PCM data into the built-in RAM.

The generated noise is inconspicuous by the high sampling frequency and complicated waveform of PCM data. However, it is easy to hear by the monotonous waveform like a single tone.

Importance level	A	When not change	The noise may occur at the PCM data reproduction.
Changed file	madevdrv.c	Changed function	MaDevDrv_StreamSetup MaDevDrv_StreamUpdate

13.1.3 MaSound_Control(Get_Position) Return value accuracy improvement

The play start time given by Seek is reflected correctly to the return value of MaSound_Control(Get_Position). With a former version, since the part by which play start time was revalued by Time Base was not taken into consideration, there was an error for Time Base at the maximum.

Importance level	C	When not change	The retune value of MaSound_Control(Get_Position) may shift by Time Base.
Changed file	mammfcnv.c	Changed function	MaMmfCnv_Open MaMmfCnv_Seek MaMmfCnv_Start MaMmfCnv_Control Global variable " dwTimeError (UINT32)" was added.

13.2 SMAF/Audio reproduction

13.2.1 The discrepancy of PCM data reproduction

When plays PCM data, noise may ride on the play sound every 20ms.

Because the data for one sample is written in doubly every 20ms by the discrepancy of address calculation processing at the registration of PCM data into the built-in RAM.

The generated noise is inconspicuous by the high sampling frequency and complicated waveform of PCM data. However, it is easy to hear by the monotonous waveform like a single tone.

Importance level	A	When not change	The noise may occur at the PCM data reproduction.
Changed file	madevdrv.c	Changed function	MaDevDrv_StreamSetup MaDevDrv_StreamUpdate

13.3 SMF reproduction

13.3.1 The discrepancy the number of tone generation may decrease at the reproduction of data containing channel which is specified to be Mono mode

If the number of simultaneous tone generation in reproduction data exceeds the actual number of slot (tone generation) in MA-3 hardware, the newly used slot is decided by the slot assignment processing of the last note priority system. If this newly slot is used to the channel which was specified to be Mono mode, the release of a slot goes wrong and it becomes impossible to use some slots including this slot until close.

In the following cases, there are no problems:

- The data does not use Mono mode.
- The number of simultaneous tone generation does not exceed the number of slot.
- The newly slot is used to the channel specified as Poly mode even if the number of simultaneous tone generation exceeds the number of slots and slot assignment processing is executed.

Importance level	A	When not change	The number of tone generation may decrease at the play of the data whose tone generation number exceeds and which is specified as Mono mode.
Changed file	masnddrv.c	Changed function	MaSndDrv_NoteOn

13.3.2 The customize function of NoteOn Velocity curve

It is possible to choose 40Log() in addition to 20 Log() as default for NoteOn Velocity curve.

Importance level	C	When not change	Velocity curve becomes 20 Log().
Changed file	mamidcnv.c	Changed function	SendNoteOn

13.3.3 Add the Master Volume (Universal SysEx) message processing

Corresponds to Master Volume (Universal SysEx) message.

Importance level	C	When not change	Ignore the Master Volume (Universal SysEx) message.
Changed file	mamidcnv.c	Changed function	SendExpression SendResetAllCtl SendGmOn MaMidCnv_Initialize MaMidCnv_Open MaMidCnv_Seek

13.3.4 The mute at the end is changed from AllNoteOff to All SoundOff

Mute at the end, which only channel # 0 was set to AllNoteOff, was unified into AllSoundOff to

Importance level	C	When not change	The release tone of only Channel 0 may be heard.
Changed file	mamidcnv.c	Changed function	MaMidCnv_Control

13.3.5 The correction of comment mistake of Pitch bend

In the comment of SendPitchRange, the setting range which was set to 1..24 is changed into 0..24.

Importance level	C	When not change	It is not influential to the operation since it is the correction of comment.
Changed file	mamidcnv.c	Changed function	SendBendRange

13.3.6 The addition of mute at the tone generation mode change (Mono/Poly)

It was changed so that the AllNoteOff is published at the MonoOn/PolyOn

Importance level	C	When not change	It is not muted at the mode change.
Changed file	mamidcnv.c	Changed function	SendControl SendSysEx

13.3.7 The correction of the discrepancy that the acquired position after end is shifted at the EndPoint setting

It was changed so that the end position is returned correctly when it ends at EndPoint

Importance level	C	When not change	When it ends at EndPoint, if the position is acquired, it may shift somewhat.
Changed file	mamidcnv.c	Changed function	Se ConvertOneSmfMessage

13.3.8 Remove the voice other than GM L1 specification from Default Drum map

The drum map was fitted to GM L1.

Importance level	C	When not change	Map is extended from GM L1.
Changed file	mamidcnv.c	Changed function	MaMidCnv_Open

13.4 Realtime MIDI reproduction

13.4.1 The discrepancy the number of tone generation may decrease at the reproduction of data containing channel which is specified to be Mono mode

If the number of simultaneous tone generation in reproduction data exceeds the actual number of slot (tone generation) in MA-3 hardware, the newly used slot is decided by the slot assignment processing of the last note priority system. If this newly slot is used to the channel which was specified to be Mono mode, the release of a slot goes wrong and it becomes impossible to use some slots including this slot until close.

In the following cases, there are no problems:

- The data does not use Mono mode.
- The number of simultaneous tone generation does not exceed the number of slot.

The newly slot is used to the channel specified as Poly mode even if the number of simultaneous tone generation exceeds the number of slots and slot assignment processing is executed.

Importance level	A	When not change	The number of tone generation may decrease at the play of the data whose tone generation number exceeds and which is specified as Mono mode.
Changed file	masnddrv.c	Changed function	MaSndDrv_NoteOn

13.4.2 The addition of customize function of NoteOn Velocity curve

It is possible to choose 40Log() in addition to 20 Log() as default for NoteOn Velocity curve.

Importance level	C	When not change	Velocity curve becomes 20 Log()
Changed file	mamidcnv.c	Changed function	SendNoteOn

13.4.3 The addition of Master Volume (Universal SysEx) message processing

Corresponds to Master Volume (Universal SysEx) message.

Importance level	C	When not change	Ignore Master Volume (Universal SysEx) message.
Changed file	mamidcnv.c	Changed function	SendExpression SendResetAllCtl SendGmOn MaRmdCnv_Initialize MaRmdCnv_Open MaRmdCnv_SetLongMsg

13.4.4 The addition of mute at the tone generation mode change (Mono/Poly)

It was changed so that the AllNoteOff is published at MonoOn/PolyOn.

Importance level	C	When not change	It is not muted at the mode change.
Changed file	mamidcnv.c	Changed function	SendControl

13.4.5 Remove the voice other than GM L1 specification from Default Drum map

The drum map was fitted to GM L1.

Importance level	C	When not change	Map is extended from GM L1.
Changed file	mamidcnv.c	Changed function	MaRmdCnv_Open

13.5 Other

13.5.1 Change of cast value

The meaningless cast of UINT16 is changed to UINT32 from.

As the effective data value, it is settled in 16 bits, so even if it does not change, there is no operation-problem.

Importance level	C	When not change	Excessive codes, such as unnecessary mask processing, may be inserted, according to the compiler.
Changed file	madevdrv.c	Changed function	MaDevDrv_VerifyRegisters

13.5.2 The addition of initialization processing

The initialization of pointer to Callback function was added. If it lapses into illegal operation, it is for not performing the illegal address reference. However it has no problem, since it is referred surely after a setup of the pointer to the callback function, as long as an API call procedure is performed normally.

Importance level	C	When not change	When actually using it, there is no problem.
Change file	masndseq.c	Changed function	MaSound_Initialize

14 About upgrading of the version from 1.3.6

This chapter describes the details of changes due to the upgrading of the version from Ver.1.3.6 for individual formats. The level of importance is as described below.

Importance level	Meaning
A	Should be changed as far as possible.
B	It is recommended to change.
C	It is desirable to change.

14.1 SMAF reproduction

14.1.1 Changes in Expression-shortened-type-to-standard-type conversion table

When SMAF Type of the playing system is MA-1/2, the data values attached to the Expression-shortened-type message is converted to the data type of the standard type to create the intermediate format. The values contained in the conversion table that are used here were changed because they were different from the specification of the actual unit of MA-2. Though the effect of the change on the volume of tones generated is very small, it is recommended to make the change.

Importance level	B	When not changed	The volume when the shortened type is used is lowered a little.
Changed file	mammfcnv.c	Changed function	Global table _exp2[16]

14.1.2 Trouble in reflecting Master Volume on API setting between Seek and Start

When performing the setting of reproduction volume with MaSound_Control (Set_Volume) between MaSound_Seek and MaSound_Start, the setting was not reflected correctly on some data to be reproduced. The trouble was corrected. The data that cause this trouble are those of which events executed immediately after the start of reproduction are the Master Volume. Even though such data are used, the system operates normally when Seek is performed after setting the reproduction volume or the setting of the reproduction volume is performed after Start.

Importance level	B	When not changed	The settings of the reproduction volume between Seek and Start may be reflected incorrectly.
Changed file	mammfcnv.c masnddrv.c	Changed function	NextEvent3_Play, PushFlagEvent MaMmfCnv_Open, MaMmfCnv_Standby MaMmfCnv_Control MaSndDrv_SetVolume

14.1.3 Reinforcement of function that checks data size at acquisition of variable length data

Although the size of variable length data is limited to 4 bytes, there was a case that the data of 5 bytes may be successfully acquired. The function that checks data size at acquisition of variable length data was reinforced so that only data up to 4 bytes can be acquired. Such data are not outputted from Yamaha's authoring tool. There is no possibility of referencing out side of domain due to this failure.

Importance level	C	When not changed	Variable length data that does not meet the specification may be acquired.
Changed file	mammfcnv.c	Changed function	get_flex3

14.1.4 Change of exceptional processing at the case both event list and NoteOff list are gone

SMAF Converter has event list and NoteOff list in it, and outputs an intermediate format that depends on the contents of the lists. When both lists are gone, "no event" was returned. In this case, if taking into consideration that the worst comes to the worst, it is safer to perform the reproduction (conversion) ending processing after some Duration. Although the case that both event list and NoteOff are gone does not happen in usual occasion, the change was made as a result of taking safety into consideration.

Importance level	C	When not changed	Endless loop may occur.
Changed file	mammfcnv.c	Changed function	MaMmfCnv_Convert

14.1.5 Change of L2 tag data interpretation principle

When SMAF Type of the play system is SMAF/MA-1/2, LED synchronization information is stored as L2 tag information that is contained in Optional information. Since this interpretation principle is different between MA-2 SMW and MA-3 SMW, the interpretation principle of MA-3 SMW was changed so that it matches that of MA-2 SMW. Since the interpretation principle is different between MA-2 SMW and MA-3 SMW only when a value out of the range is included in L2 tag information, the actual operation is not affected by using the data that are outputted from Yamaha's authoring tool.

Importance level	C	When not changed	Data that are interpreted as LED synchronous on the units equipped with MA-2 may be interpreted as LED asynchronous on the units equipped with MA-3.
Changed file	mammfcnv.c	Changed function	Get_LM_Status1, Get_LM_Status2

14.1.6 Change of principle of interpretation of events other than Channel #0 on PCM Audio Track Chunk #0

The principle of interpretation of sequence data of Audio system (ATR0) was changed. Conventionally, the Channel No. attached to an event message was ignored when interpreting the data. The program was changed so that all events for other than Channel #0 are replaced with NOP to make the principle of interpretation nearer to that of MA-2 SMW. The operation is not affected because the events for Channels other than Channel #0 are not outputted in ATR0.

Importance level	C	When not changed	Sound that are not outputted by MA-2 SMW may be outputted.
Changed file	mammfcnv.c	Changed function	NextEvent2_PlayA

14.1.7 Change of principle of calculation of reference frequency ratio at registration of WT tones

When registering WT tones, the waveform sampling frequency is converted to a ratio with respect to the reference frequency, where some error may occur depending on the sampling frequency. The method of the calculation was changed to reduce the error.

Importance level	C	When not changed	Since the calculation of the ratio with respect to the reference frequency produces some error, there are ranges where tones are not generated with correct frequency.
Changed file	mammfcnv.c masnddrv.c	Changed function	Set_Voice3 MaSndDrv_SetVoice

14.2 SMAF/Phrase reproduction

14.2.1 Trouble in setting Panpot in the sections that are skipped over at Seek

This is the correction of a trouble that some API setting procedure does not give a desired value when Panpot event is present before a position that is set with Seek.

Importance level	B	When not changed	Some Seek and SetPanpot procedure may not set Panpot correctly.
Changed file	maphrcnv.c	Changed function	MaPhr_Convert Phrase_SetData Phrase_SetPanpot

14.2.2 Deletion of unnecessary MaSndDrv_ControlSequencer() call

There were cases that MaSndDrv_ControlSequencer() is called by the seek control or sequencer start control during the sequencer operation or it is called by the sequencer stop control during stoppage of the sequencer.

Although no problem occurs in the operation with the present state, the function was deleted because it is an unnecessary control, and by taking into consideration that Sound Driver may be changed in the future.

Importance level	C	When not changed	No problem occurs.
Changed file	maphrcnv.c	Changed function	MaPhr_Seek MaPhr_Start MaPhr_Restart MaPhr_Convert

14.2.3 Addition of initial value setting function associated with the change of Sound Driver

MaSndDrv_SetVolume() was added to Sound Driver. For SMAF/Phrase reproduction, a processing that sets the maximum value was added because it is a volume parameter that is not used.

Importance level	B	When not changed	Volume parameter is not initialized, and thus, expected volume may not be obtained.
Changed file	maphrcnv.c masnddrv.c	Changed function	Phrase_Initialize MaSndDrv_SetVolume

14.3 SMAF/Audio reproduction

14.3.1 Trouble that size error of MTR chunk cannot be detected

This is a correction of a trouble that an error cannot be detected when the size of Body section of MTR#5 is smaller than actual size by 1 through 20 bytes. Out of the data domain up to 18 bytes may be read.

The authoring tool provided by Yamaha does not create data of which size is erroneous.

Importance level	B	When not changed	There is a case that an error cannot be detected in the data with erroneous size, or other than data domain is accessed.
Changed file	maphrcnv.c	Changed function	GetDataInfo

14.3.2 Trouble in detecting ending of data reproduction

At loop reproduction, there was a case that silent section is produced in the period from the ending of data reproduction to the starting of the next data production due to a trouble in detecting the ending of the data reproduction. This trouble was corrected.

Importance level	B	When not changed	Silent section may occur at loop reproduction.
Changed file	madevrv.c	Changed function	MaDevDrv_StreamUpdate

14.3.3 Addition of initial setting associated with the change of Sound Driver

MaSndDrv_SetVolume() was added to Sound Driver. For SMAF/Audio reproduction, a processing that sets the maximum value was added because it is a volume parameter that is not used.

Importance level	B	When not changed	Volume parameter is not initialized, and thus, expected volume may not be obtained.
Changed file	maphrcnv.c masnddrv.c	Changed function	MaAudCnv_Open MaSndDrv_SetVolume

14.4 SMF Reproduction

14.4.1 Generation of expanded tones (optional)

When generating expanded tones that have been registered, the sequence and the bank in which the tones are registered are changed by one.

Importance level	A	When not changed	Expanded tones are not generated correctly. At present, the device does not process the expanded tones formally.
Changed file	mamidcnv.c	Changed function	SendProgram

14.4.2 Correction of the music end remaining tones protection message that were not corrected

AllSoundOff was designated for protection message, but AllNoteOff was designated only for ch#0.

Importance level	B	When not changed	When the release of tones at the end of ch#0 is very long, the remaining tone may be felt uneasy.
Changed file	mamidcnv.c	Changed function	MaMidCnv_Convert

14.4.3 Reproduction of data that have no command byte

The program was changed so that the data without command byte are processed as erroneous data.

Importance level	C	When not changed	Data with wrong running status is also reproduced.
Changed file	mamidcnv.c	Changed function	GetSMFInfo

14.4.4 Change of volume designation

Action was taken to deal with the change of volume designation of Sound Driver.

Importance level	C	When not changed	No special problem occurs.
Changed file	mamidcnv.c masnddrv.c	Changed function	MaMidCnv_Control MaSndDrv_SetVolume

14.4.5 Change of WaveTable waveform registration method (optional)

Action was taken to deal with the change of waveform designation of Sound Driver.

Importance level	C	When not changed	No special problem occurs.
Changed file	mamidcnv.c masnddrv.c	Changed function	GetSetupInfo MaSndDrv_SetVoice

14.4.6 Increase of operation of LED/VIB synchronization mechanism (optional)

Speed of of LED/VIB synchronization operation was increased.

Importance level	C	When not changed	No special problem occurs.
Changed file	mamidcnv.c	Changed function	SendLedOn/ SendLedOff SendMotorOn/ SendMotorOff

14.5 Realtime MIDI reproduction

14.5.1 Generation of expanded tones (optional)

When generating expanded tones that have been registered, the sequence and the bank in which the tones are registered are changed by one.

Importance level	A	When not changed	Expanded tones are not generated correctly. At present, the device does not process the expanded tones formally.
Changed file	marmdenv.c	Changed function	SendProgram

14.5.2 Correction of the music end remaining tones protection message that were not corrected

AllSoundOff was designated for protection message, but it was changed to AllNoteOff.

Importance level	B	When not changed	When the release of the last tones is very long, the remaining tone may be felt uneasy.
Changed file	marmdenv.c	Changed function	MaMidCnv_Convert

14.5.3 Change of volume designation

Action was taken to deal with the change of volume designation of Sound Driver.

Importance level	C	When not changed	No special problem occurs.
Changed file	marmdenv.c masnddrv.c	Changed function	MaRmdCnv_SetLongMsg MaRmdCnv_Open MaRmdCnv_Control MaSndDrv_SetVolume

14.5.4 Change of WaveTable waveform registration method (optional)

Action was taken to deal with the change of waveform designation of Sound Driver.

Importance level	C	When not changed	No special problem occurs.
Changed file	marmdenv.c masnddrv.c	Changed function	MaRmdCnv_SetLongMsg MaSndDrv_SetVoice

15 Upgrading of the version from ver.1.3.5

This chapter describes the changes by format due to upgrading of the version from Ver.1.3.5.

The meaning of the importance level is as described below.

Importance level	Meaning
A	Should be changed as far as possible.
B	It is recommended to change.
C	It is desirable to change.

15.1 SMAF reproduction

15.1.1 Fault that unnecessary interrupt occurs

This is the correction of fault that the control cannot transfer to another one depending of the mode of implementation because unnecessary interrupt can occur.

Importance level	A	When not changed	Faults such as the one that the control cannot be transferred to another one depending on the mode of implementation because unnecessary interrupt occurs.
Changed file	madevdrv.c	Changed function	MaDevDrv_StartSequencer

15.1.2 Seek fault of data that have play system tracks of which playing time is different

This is the correction of fault that the tones of tracks that primarily should not be reproduced are generated when the ending times of SMAF/MA-2 data differs among the play system tracks and the seek is performed for a period that exceeds the reproduction time of tracks with short play time

Yamaha's authoring tool does not output SMAF/MA-2 data that has play system tracks among which the reproduction time differs. Please apply the correction otherwise the fault causes not only the abnormality of reproduction but also reference to wrong domains.

Importance level	A	When not changed	Abnormal tone generation and wrong reference may be performed at the reproduction of some MA-2 contents.
Changed file	mammfcnv.c	Changed function	SetPreEvent2

15.1.3 The skip fault when "0xFF(binary)" is designated for the contents code type

This is the correction of the skip fault at acquisition of information from SMAF/MA-1 and SMAF/MA-2 formats is not performed correctly and thus wrong contents information may be returned when "0xFF(binary)" is designated as the code type at MaSound_Control (GET_CONTENTSDATA).

This fault does not cause wrong reference or endless loop.

Importance level	B	When not changed	Contents information may not be acquired from MA-1/2 contents correctly.
Changed file	mammfcnv.c	Changed function	GetContentsData2

15.1.4 Fault that reproduction position may be shifted at loop reproduction through designation of loop reproduction count

When the loop reproduction count is other than "1", a value that is shifted a little from actual reproduction position may be returned when the reproduction position is acquired at a point near the end of sequence data.

This fault does not occur when the loop reproduction count is "1" or the reproduction position is not acquired.

Importance level	B	When not changed	The value of acquisition of reproduction position may be shifted.
Changed file	masnddrv.c	Changed function	MaSndDrv_ControlSequencer

15.1.5 Fault that reproduction start point is reset at loop reproduction through designation of the loop reproduction.

This is the correction of fault that the reproduction start point designated with MaSound_Control (SET_STARTPOINT) is reset to "0" at loop reproduction when the loop reproduction counter is designated for other than "1".

This fault does not occur when the loop reproduction count is "1" or the reproduction start point setting is not used.

Importance level	B	When not changed	It is reset to "0" when the loop is set for reproduction start point.
Changed file	masndseq.c	Changed function	MaSndDrv_ReceiveMessage

15.1.6 Reset all controller event execution fault at the time of Seek

The reset-all-controller event is not performed correctly and the velocity of the channel is not initialized when reproduction start point is designated for SMAF/MA-3 data or when the shift is performed after the time of execution of the reset-all-controller event in the music when the seek is performed.

Importance level	C	When not changed	The setting velocity may be ineffective when the play start position is changed.
Changed file	mammfcnv.c	Changed function	NextEvent3_Seek

15.1.7 Change of minimum reproduction time of music data at loading

Data reproduction time is checked at loading, and the time of less than 20msec has been processed as an error. However, there was an inconsistency that the reproduction cannot be started even if the loading is successful because other module processes the time of 20msec or less as an error. The present change was made to standardize the criterion of the minimum reproduction time for 20msec or less so that the start is performed without fail when the loading is successful.

Importance level	C	When not changed	There are some data that cannot be reproduced even though the loading is successful.
Changed file	mammfcnv.c	Changed function	Stream3 Ma_Load

15.1.8 Change of the condition of occurrence of error at detection of stop point that indicates the end of sequence data

Detection of the stop point that indicates the end of sequence data in SMAF/MA-1 or SMAF/MA-2 data has been processed as an error. The interpretation of the specification was expanded so that the stop point indicating the end of the sequence data does not result in an error.

Yamaha's authoring tool does not output data that cause the above condition.

Importance level	C	When not changed	The reproduction cannot be performed when the stop point is set at the end of sequence data.
Changed file	mammfcnv.c	Changed function	SeqData_Check2

15.2 SMAF/Phrase reproduction

15.2.1 Setting of FM tones other than those of MA-2 and MA-3 in ExVoice Chunk does not cause an error

Setting of those other than FM voice of MA-2 and MA-3 in ExVoice Chunk has been treated as an error. For SMAF/Phrase L1, the program was so corrected that the setting does not cause an error and defaults to "0" because the tones that are not supported defaults to "0".

Importance level	B	When not changed	Setting of FM tones other than those of MA-2 and MA-3 in ExVoice Chunk results in an error by the error check.
Changed file	maphrcnv.c	Changed function	PhrChk_ExtendVoiceChunkBody

15.2.2 Skipping irrelevant data in DeVoice Chunk

The data of body section of DeVoice Chunk includes only one byte that designates the program number, and data equal to or larger than 2 bytes including irrelevant data resulted in an error. The program was changed so that the extra data is omitted when reading it, and thus, the reproduction can be made.

Yamaha's authoring tool does not create data for which the change applies.

Importance level	B	When not changed	Inclusion of irrelevant data in DeVoice Chunk results in an error by the error check.
Changed file	maphrcnv.c	Changed function	PhrChk_DefaultVoiceChunkBody

15.2.3 Skipping irrelevant data in ExVoice Chunk

The program was changed so that the reproduction can be made when extra data is included after System Exclusive for tone setting in the body section of ExVoice Chunk.

Yamaha's authoring tool does not create data for which the change applies.

Importance level	B	When not changed	Inclusion of irrelevant data in ExVoice Chunk results in an error by the error check.
Changed file	maphrcnv.c	Changed function	PhrChk_ExtendVoiceChunkBody

15.2.4 Skipping irrelevant data in Voice Chunk

When irrelevant data of 8 bytes or less exists at the end of the body section of Voice Chunk, the error check did not omit the data corrected, resulting in an error. The program was so changed that the data can be omitted correctly.

Yamaha's authoring tool does not create data for which the change applies.

Importance level	B	When not changed	Inclusion of irrelevant data in Voice Chunk results in an error by the error check.
Changed file	maphrcnv.c	Changed function	PhrChk_VoiceChunkCheck

15.2.5 Action against wrong user tones

For MA-3 FM tones that can be used for SMAF/Phrase, XOF bit is fixed to "0". The program was so changed that the tones of which XOF bit is not "0" is forced to be "0".

Importance level	B	When not changed	The tone generation may be adversely affected.
Changed file	maphrcnv.c	Changed function	MaPhr_Standby

15.2.6 Addition of RAM address error check

When reproducing data that use the user tones, RAM domain of MA-3 is used. The former program did not check clearly whether the address of RAM domain to be used is set correctly. The former program ends the processing as an error before accessing the RAM domain because, when the RAM domain cannot be secured, the resource for SMAF/Phrase reproduction cannot be secured. Therefore, the access to wrong domain does not occur even though this change is not applied. However, the correction has been made because the issue of memory access is critical.

Importance level	C	When not changed	No problem occurs in regular use.
Changed file	maphrcnv.c	Changed function	MaPhr_Standby InitApiInfo ResourceCreate

15.2.7 Check of condition for ending of reproduction has been tightened

There is a problem that the reproduction does not end because the conditions for ending of reproduction are not met when the sequence data do not end with an event, and wrong data including irrelevant data is reproduced. Since the data that cause a problem is processed as an error by the error check of `Phrase_CheckData()` and `Phrase_SetData()`, no problem occurs if the error data is not reproduced.

Yamaha's authoring tool does not create data that cause a problem.

Importance level	B	When not changed	The reproduction may not be ended normally when wrong data that causes an error at the error check is reproduced.
Changed file	maphrcnv.c	Changed function	MaPhr_Convert

15.2.8 Change of minimum reproduction time of music data at loading

Data reproduction time is checked at loading, and the time of less than 20msec had been processed as an error. However, there was an inconsistency that the reproduction cannot be started even if the loading is successful because other module processes the time of 20msec or less as an error. The present change was made to standardize the criterion of the minimum reproduction time for 20msec or less so that the start is performed without fail when the loading is successful.

Importance level	C	When not changed	There are some data that cannot be reproduced even though the loading is successful.
Changed file	maphrcnv.c	Changed function	PhrChk_SequenceChunkCheck MaPhr_Start

15.3 SMAF/Audio reproduction

15.3.1 The skip fault when "0xFF(binary)" is designated for the contents code type

This is the correction of the skip fault at acquisition of information from SMAF/MA-2 format is not performed correctly and thus wrong contents information may be returned when "0xFF(binary)" is designated as the code type at MaSound_Control (GET_CONTENTSDATA).

This fault does not cause wrong reference or endless loop.

Importance level	B	When not changed	Contents information may not be acquired from MA-2 contents.
Changed file	maphrcnv.c	Changed function	MaAudCnv_GetContentsInfo_2

15.3.2 Change of minimum reproduction time of music data at loading

Data reproduction time is checked at loading, and the time of less than 20msec had been processed as an error. However, there was an inconsistency that the reproduction cannot be started even if the loading is successful because other module processes the time of 20msec or less as an error. The present change was made to standardize the criterion of the minimum reproduction time for 20msec or less so that the start is performed without fail when the loading is successful.

Importance level	C	When not changed	There are some data that cannot be reproduced even though the loading is successful.
Changed file	maphrcnv.c	Changed function	GetWaveInfo_3 GetWaveInfo_2

16 About revision of version from ver.1.3.4

This section describes the changes due to revision of version from ver.1.3.4 for each format.

The meanings of importance levels are as described below.

Importance level	Meaning
A	Change as far as possible.
B	Change is recommended.
C	Change is desirable.

16.1 SMAF reproduction

16.1.1 Failure of acquisition of Phrase List for data for which Start Point is not set

This is the correction of the failure that correct Phrase List information cannot be acquired from the data for which Start Point is not set though an attempt is made to acquire the information.

Importance level	A	When not changed	Phrase List information may not be acquired correctly.
Changed file	mammfcnv.c	Changed function	SeqData_Check3

16.1.2 Failure of unregistered exclusive message NOP replacement

When unregistered exclusive message was detected, correct operation should protect Duration by replacing event with NOP. The event replacement may not be performed correctly due to a failure.

Although the above data error does not occur on Yamaha's authoring tool at present, abnormal tone generation may occur when the system is expanded in the future.

Importance level	A	When not changed	Abnormal tone generation may occur.
Changed file	mammfcnv.c	Changed function	NextEvent3_Play

16.1.3 Failure that, when seek is performed by using a designated loop reproduction count, the loop reproduction cannot be performed by correct count

This is the correction of the failure that, when loop reproduction of SMAF file with which short sequence data is generation is performed in accordance with designation of count such as three or four, first reproduction ends, and then, reproduction is performed after performing stop() and seek(0) immediately after the start of the second reproduction, the reproduction may end before the designated count is reached, or notification of ending may not be returned.

Importance level	A	When not changed	Notification of ending may not be returned.
Changed file	masndseq.c	Changed function	MaSound_Seek

16.1.4 Failure that panpot does not function with default tone of No. 115

This is the correction of the failure that panpot designation is not reflected with default tone of No. 115.

Importance level	A	When not changed	Panpot designation is not reflected with default tone of No. 115.
Changed file	masnddrv.c matable.h	Changed function	MaSndDrv_Create

16.1.5 Failure that, when Duration=0, tone generation of Stream Audio may be omitted

This is the correction of the failure that, when Duration=0, NoteOff and NoteOn of MA-3 stream PCM wave continue, and the same resource was assigned to slots, tone of MA-3 stream PCM wave may be omitted.

Importance level	B	When not changed	Tone of MA-3 stream PCM wave may be omitted.
Changed file	madedrv.c	Changed function	MaDevDrv_IntHandler MaDevDrv_SoftInt0 MaDevDrv_SoftInt1

16.1.6 Failure of SMAF/MA-2 ADPCM registration

Although the maximum number of registrations of ADPCM is 62 for SMAF/MA-2, it is only 32 for MA-3. This is the correction of the failure that, when 33 or more ADPCM are registered for SMAF/MA-2 and data that exceed the limit of registration is reproduced, the tone generation is performed by using Wave ID which is not initialized.

Importance level	B	When not changed	ADPCM reproduction may become unstable.
Changed file	mammfcnv.c	Changed function	Stream2

16.1.7 Failure of tie processing of SMAF/MA-2 ADPCM

For SMAF/MA-2, when data of which tone generation period of ADPCM overlaps is detected, tie processing is performed to change the tone generation ending time of ADPCM that arrives first to the tone generation ending time of ADPCM that arrives next. This is the correction of the failure that reproduction may end before completion because Wave ID at ending of ADPCM reproduction is changed to an improper value only when Wave ID of ADPCM that arrives next is No. 62.

However, for the authoring tool provided by Yamaha, no data that cause problem is not created.

Importance level	B	When not changed	Reproduction music data may end before completion.
Changed file	mammfcnv.c	Changed function	Stream_ON2

16.1.8 Failure of setting of SMAF/MA-3 stream PCM wave panpot

For SMAF/MA-3, setting of stream PCM wave panpot (hereafter referred to as "Wave Pan") is given higher priority over the channel panpot, and it is necessary to set stream PCM according to the setting of Wave Pan. This is the correction of the failure that, when this event is present at the position (before Start Point or within Seek time) where it is executed before reproduction, setting for a specific position (0x40 [center]) may be omitted.

Importance level	B	When not changed	Setting of Wave Pan may not be reflected correctly.
Changed file	mammfcnv.h	Changed defined value	MMF_Wave_Panpot

16.1.9 Failure of irregular control of LED/Motor at seek

This is the correction of the failure that, when the reproduction of data for which LED/Motor synchronization is set is stopped temporarily, and then the data are reproduced after Seek, LED/Motor may be turned on at wrong time depending on the time of the temporary stop of the LED/Motor synchronization.

Importance level	B	When not changed	LED/Motor synchronization control may not be performed incorrectly.
Changed file	mammfcnv.c	Changed function	SetPreEvent3

16.1.10 Failure of specification of reset all controller operation at seek

This is the correction of the failure that, when Seek is performed for the data in which reset all controller is included, initialization for the pitch bend value may not be performed.

Importance level	B	When not changed	Initialization for the pitch bend value may not be performed.
Changed file	mammfcnv.c	Changed function	NextEvent3_Seek

16.1.11 Failure of LED/Motor synchronization control when MA-3 stream PCM pair is set

This is the correction of the failure that, when there is a NoteOn event for which stream pair is designated in the LED/Motor synchronization channel, control of LED/Motor may not be performed normally.

Importance level	B	When not changed	Control of LED/Motor may not be performed normally.
Changed file	mammfcnv.c	Changed function	Set_Event

16.1.12 Failure of error processing for abnormal Optional Data Chunk

This is the correction of the failure that, when Dch or TAG with abnormal size is present in Optional Data Chunk, error processing may not be performed normally, and at this time, search of information may be made out of the objective domain, possibly resulting in endless loop if the worst comes to the worst.

The error data described above are not outputted from Yamaha's authoring tool.

Importance level	B	When not changed	Contents information acquisition processing may not end normally.
Changed file	mammfcnv.c	Changed function	GetContentsData3

16.1.13 Failure of error check at acquisition of Phrase List

This is the correction of the failure that, when an attempt is made to acquire information from data of which time relationship of Start Address and Stop Address of Phrase List is reversed where an error should be returned, the value can be acquired normally.

However, no data that cause a problem is not created by the authoring tool provided by Yamaha.

Importance level	C	When not changed	Phrase List information may be acquired with unexpected value.
Changed file	mammfcnv.c	Changed function	GetPhraseList

16.1.14 Corrective action for possibility of generation of All Sound Off event with negative duration

This is the correction of the failure that, when an attempt is made to change music reproduction end position during reproduction, All Sound Off event (automatically created when EOS is detected) with negative Duration may be issued.

Importance level	C	When not changed	No problem should occur because music reproduction end position cannot be changed during reproduction.
Changed file	mammfcnv.c	Changed function	Set_EventEOS

16.1.15 Change of criteria for object of search for Optional Data Chunk

This is the correction of the failure that, since the criterion for object of search of Optional Data Chunk (hereafter referred to as "OPDA") is that Chunk Size is to be equal to or more than 14, the information can not be acquired if only 1 byte information is stored in OPDA

However, Yamaha's authoring tool does not output data of which information of only 1 byte is stored in OPDA.

Importance level	C	When not changed	Contents information may not be acquired correctly.
Changed file	mammfcnv.c	Changed function	Ma_Load

16.1.16 Unification of Returned values of size zero of contents information in the Contents Info Chunk

The returned values for the case when data is empty though tag is present when acquiring contents information in Contents Info Chunk were standardized to be "Size 0 information existed".

However, for the authoring tool provided by Yamaha, no data that cause problem is not created.

Importance level	C	When not changed	The returned value at acquisition of contents information becomes unstable.
Changed file	mammfcnv.c	Changed function	GetContentsData2

16.1.17 Change of order of precedence of error check so that CRC error check is given top priority.

Since CRC error check has been performed at the end of the error check procedure, when other than CRC error occurs, other error than CRC error was reported. Since CRC error is the error with top priority, the program was changed so that CRC error check is performed first.

However, for the authoring tool provided by Yamaha, no data that cause problem is not created.

Importance level	C	When not changed	Returned value of error check may not be incorrect.
Changed file	mammfcnv.c	Changed function	Ma_Load

16.1.18 Failure that, when acquiring reproduction position, a value exceeding the reproduction time may be returned

This is the correction of the failure that, when reproduction position was acquired, the value exceeding reproduction time may be returned. Although the correction is applied, time shorter than reproduction time may be returned depending on the designated seek value when reproduction position was acquired.

Importance level	C	When not changed	when reproduction position was acquired, the value exceeding reproduction time may be returned.
Changed file	masnseq.c	Changed function	MaSound_Control

16.2 SMAF/Phrase

16.2.1 Failure that Program Change may not be issued for data with PitchBend

When Pitch Bend is performed for SMAF/Phrase data for MA-2, extended Note message may be used instead of Note message. This is the correction of the failure that, when tone generation with extended Note message is performed after Program Change, tone generation with correct tones may not be performed because Program Change message processing and Note message processing are performed together.

When tone generation with correct tones may not be performed, default grand piano tones are used.

Importance level	A	When not changed	Data that use PitchBend may not be generated with correct tones.
Changed file	maphrcnv.c	Changed function	CnvExclusiveMessage

16.2.2 Failure that tone generation is performed when Gatetime of note message is zero

This is the correction of the failure that, when GateTime of note message is zero, tone equivalent to 1 Tick is generated. However, the data created by using the authoring tool provided by Yamaha do not include note message with GateTime=0.

Importance level	A	When not changed	Tone of note with Gatetime=0 is generated.
Changed file	maphrcnv.c	Changed function	MaPhr_Convert

16.2.3 Failure that panpot does not function with default tone of No. 115

This is the correction of the failure that panpot designation is not reflected with default tone of No. 115.

Importance level	A	When not changed	Panpot designation is not reflected with default tone of No. 115.
Changed file	masnddrv.c matable.h maphrcnv.c	Changed function	MaSndDrv_Create InitApiInfo ResourceCreate ResourceFree PhrAudCnv_Initialize

16.2.4 Deletion of meaningless codes

Codes that are meaningless with regard to operation were deleted.

Importance level	C	When not changed	No problem occurs.
Changed file	maphrcnv.c	Changed function	PhrChk_PhraseBody

16.2.5 Incorrect internal function argument check

This is the correction of incorrect internal function argument check. No problem should occur because argument that cause problem is not set.

Importance level	C	When not changed	No problem occurs.
Changed file	maphrcnv.c	Changed function	SmafPhrChecker

16.3 SMAF/Audio reproduction

16.3.1 Failure of stop processing

This is the correction of the failure that, when MA_STOPWAIT (1) is used with mamachdep.h, STOP processing is not performed correctly.

Importance level	A	When not changed	STOP processing is not performed and following reproduction is not guaranteed.
Changed file	maphrcnv.c masnddrv.c masndseq.c	Changed function	Global variable gbAudEnding declaration was added. MaAudCnv_Initialize MaAudCnv_Seek MaAudCnv_Start MaAudCnv_Stop MaSndDrv_StreamOff MaSound_ReceiveMessage
Changed file	maphrcnv.h	Changed function	Code constant AUDIO_WAIT_TIMEOUT declaration was added.

16.3.2 Correction of information of reproduction position that is acquired at READY

This is the correction of the failure that, after Seek processing or Load processing, correct values cannot be acquired at acquisition of reproduction position in READY state.

Importance level	B	When not changed	Information of reproduction position that is acquired after Seek processing or Load processing may be incorrect.
Changed file	maphrcnv.c masnddrv.c madevdrv.c	Changed function	MaAudCnv_Seek MaSndDrv_GetPos MaSndDrv_ControlSequencer MaDevDrv_GetStreamPos

16.3.3 Change of calculation of data reproduction time to rounding up of the fraction

When calculating the reproduction time based on the waveform data size, fraction of less than "ms" has been discarded. Now, the fraction is rounded up.

Importance level	B	When not changed	Reported value may be shorter than actual value within the range of less than "ms".
Changed file	maphrcnv.c	Changed function	MaAudCnv_GetLength

16.3.4 Change of reproduction position information so that the position does not exceed the data reproduction time

This is the correction of problem that reproduction position information may exceed the reproduction time of data by approximately 20 ms.

Importance level	B	When not changed	Reproduction position information may become larger than actual value.
Changed file	maphrcnv.c	Changed function	MaAudCnv_GetPos

16.3.5 Correction of sub-chunk size error processing

The correction is the emphasizing of measures to be taken when the size of Sub Chunk other than Contents Info Chunk is wrong. However, for the authoring tool provided by Yamaha, no data that cause problem is not created.

Importance level	B	When not changed	When the size of Sub Chunk is wrong, address other than specified may be referenced.
Changed file	maphrcnv.c	Changed function	GetDataInfo

16.3.6 Failure of error processing for abnormal Optional Data Chunk

This is the correction of the failure that, when Dch or TAG with abnormal size is present in Optional Data Chunk, error processing may not be performed normally, and at this time, search of information may be made out of the objective domain, possibly resulting in endless loop if the worst comes to the worst.

The error data described above are not outputted from Yamaha's authoring tool.

Importance level	B	When not changed	Contents information acquisition processing may not end normally.
Changed file	maphrcnv.c	Changed function	MaAudCnv_GetContentsInfo_3 MaAudCnv_GetContentsInfo

16.3.7 Change of order of precedence of error check so that CRC error check is given top priority.

Since CRC error check has been performed at the end of the error check procedure, when other than CRC error occurs, other error than CRC error was reported. Since CRC error is the error with top priority, the program was changed so that CRC error check is performed first. However, for the authoring tool provided by Yamaha, no data that cause problem is not created.

Importance level	C	When not changed	Returned value of error check may not be incorrect.
Changed file	maphrcnv.c	Changed function	GetDataInfo

16.3.8 Change of the program so that error check is continued after Contents Type error is detected.

Error check was ended at the time Contents Type error is detected, and thus, when other error was present, it was reported as Contents Type error. The program was changed so that error check is continued after the detection of Contents Type error.

However, for the authoring tool provided by Yamaha, no data that cause problem is not created.

Importance level	C	When not changed	When Contents Type error is present, and other error is present, it is not reported.
Changed file	maphrcnv.c	Changed function	GetDataInfo

16.3.9 Improvement of Contents Type error check

In the Contents Type check, lower 4 bit check was added.

However, for the authoring tool provided by Yamaha, no data that cause problem is not created.

Importance level	C	When not changed	Data of Contents Type that is not supported may not cause an error.
Changed file	maphrcnv.c	Changed function	GetDataInfo

16.3.10 Correction of the program so that MASMW_ERROR_SHORT_LENGTH is returned correctly

When the waveform data reproduction time is too short or when there is not waveform data to be reproduced,

MASMW_ERROR_SHORT_LENGTH should be returned. This is the correction of the failure that

MASMW_ERROR_CHUNK is returned.

However, for the authoring tool provided by Yamaha, no data that cause problem is not created.

Importance level	C	When not changed	Reported error may be incorrect.
Changed file	maphrcnv.c	Changed function	GetWaveInfo_3 GetWaveInfo_2 GetDataInfo

16.3.11 Change of criteria for object of search for Optional Data Chunk

This is the correction of the failure that, since the criterion for object of search of Optional Data Chunk (hereafter referred to as "OPDA") is that Chunk Size is to be equal to or more than 14, the information can not be acquired if only 1 byte information is stored in OPDA

However, Yamaha's authoring tool does not output data of which information of only 1 byte is stored in OPDA.

Importance level	C	When not changed	No problem should occur.
Changed file	maphrcnv.c	Changed function	GetDataInfo

16.3.12 Unification of Returned values of size zero of contents information in the Contents Info Chunk

The returned values for the case when data is empty though tag is present when acquiring contents information in Contents Info Chunk were standardized to be "Size 0 information existed".

However, for the authoring tool provided by Yamaha, no data that cause problem is not created.

Importance level	C	When not changed	The returned value at acquisition of contents information becomes unstable.
Changed file	maphrcnv.c	Changed function	GetDataInfo MaAudCnv_GetContentsInfo_2 MaAudCnv_GetContentsInfo

16.3.13 Correction of improper flag name

The flag name that is used internally was changed because it was not suitable for the meaning to be used.

The failure does not affect the operation.

Importance level	C	When not changed	No problem should occur.
Changed file	maphrcnv.c	Changed function	Global variable MASK_AUDIO_STATUS_ declaration MaAudCnv_Start MaAudCnv_Stop MaAud_Convert

16.4 SMF reproduction

16.4.1 Failure that, when seek is performed by using a designated loop reproduction count, the loop reproduction cannot be performed by correct count.

This is the correction of the failure that, when loop reproduction of SMF file with which short sequence data is generation is performed in accordance with designation of count such as three or four, first reproduction ends, and then, reproduction is performed after performing stop() and seek(0) immediately after the start of the second reproduction, the reproduction may end before the designated count is reached, or notification of ending may not be returned.

Importance level	A	When not changed	Notification of ending may not be returned.
Changed file	masndseq.c	Changed function	MaSound_Seek

16.4.2 Failure that panpot does not function with default tone of No. 115

This is the correction of the failure that panpot designation is not reflected with default tone of No. 115.

Importance level	A	When not changed	Panpot designation is not reflected with default tone of No. 115.
Changed file	masnddrv.c matable.h	Changed function	MaSndDrv_Create

16.4.3 Correction of wrong setup measure time

This is the correction the failure that the setup measure times are compared by using wrong system of units.

Importance level	B	When not changed	Setup measure is not recognized correctly.
Changed file	mamidcnv.c	Changed function	GetSMFInfo

16.4.4 Correction of wrong bank number management

This is the correction the failure that 14 bit bank information was processed as 8 bit information.

Importance level	B	When not changed	BankMSB is not recognized correctly.
Changed file	mamidcnv.c	Changed function	SendControl SendProgram SendGmOn

16.4.5 Correction of wrong RPN number management

This is the correction the failure that 14 bit RPN information was processed as 8 bit information.

Importance level	B	When not changed	RPN MSB is not recognized correctly.
Changed file	mamidenv.c	Changed function	SendControl SendResetAllCtl SendGmOn

16.4.6 Change of the program so that 4-OP tone registration is rejected when in 2-OP mode.

The program was changed so that 4-OP tone registration is rejected when in 2-OP mode.

Importance level	C	When not changed	Tone generation may be made by using unexpected tones.
Changed file	mamidenv.c	Changed function	GetSetupInfo

16.5 Realtime MIDI reproduction

16.5.1 Failure that panpot does not function with default tone of No. 115

This is the correction of the failure that panpot designation is not reflected with default tone of No. 115.

Importance level	A	When not changed	Panpot designation is not reflected with default tone of No. 115.
Changed file	masnddrv.c matable.h	Changed function	MaSndDrv_Create

16.5.2 Correction of wrong bank number management

This is the correction the failure that 14 bit bank information was processed as 8 bit information.

Importance level	B	When not changed	Bank MSB is not recognized correctly.
Changed file	marmdcnv.c	Changed function	SendControl SendProgram SendGmOn

16.5.3 Correction of wrong RPN number management

This is the correction the failure that 14 bit RPN information was processed as 8 bit information.

Importance level	B	When not changed	RPN MSB is not recognized correctly.
Changed file	marmdcnv.c	Changed function	SendControl SendResetAllCtl SendGmOn

16.5.4 Change of the program so that 4-OP tone registration is rejected when in 2-OP mode.

The program was changed so that 4-OP tone registration is rejected when in 2-OP mode.

Importance level	C	When not changed	Tone generation may be made by using unexpected tones.
Changed file	marmdcnv.c	Changed function	MaRmdCnv_SetLongMsg