MA-3 Sound Middleware
SMAF/Audio Test Data

Version 1.0.0
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Contents

Revision

Ver.	Date	Description	
0.80	March 25, 2002	Initial edition	
1.0.0	June.26, 2002	1	The correspondence table of the error contents and the return value was added.
		2.3	The acquirable Option information list from test data was added.
		2.4	The description of the error contents of error data was changed
		3.3	The acquirable Option information list from test data was added.
		3.4	The description of the error contents of error data was changed.

1   Introduction

This document describes SMAF/Audio data for testing installation of Sound Middleware for the mobile audio LSI "MA-3" (hereafter referred to as MA-3).

Since SMAF/Audio is given a structure that corresponds to SMAF/MA-2 or SMAF/MA-3, chunks other than those essential for SMAF/Audio can also be reproduced even if they are present. Therefore, this test data include data in which chunks other than those essential ones are present in addition to the data that include essential chunks.

Moreover, the error data which performs the reproduction check and confirms also whether the error check is performed correctly is contained in the test data. The contents of data (error data) are described in the chapter of "Abnormal data" for every format but the correspondence of description of error and the return value at the time of Load is described here. Please confirm whether the error check is performed correctly by return value of Load, since the reproduction cannot be performed, if the data corresponds to the following item.

Table 1 The correspondence of error contents and Load return value

Description of error	Load return value
File abnormal	-16
Chunk Size abnormal	-19
Track Chunk abnormal	-20
Reproduction time abnormal	-22

This test data should not be used for other than testing MA-3 Sound Middleware

2   SMAF/Audio MA-2 data

2.1   Waveform type

These are data for testing Waveform type that can be used with SMAF/Audio MA-2. Check that the data are reproduced normally.

File name (.mmf)	Description
4k-adpcm-1	ADPCM (4 kHz) (1 type)
8k-adpcm-1	ADPCM (8 kHz) (1 type)

2.2   Chunk configuration

These are data for testing various chunk configurations. Check if the stream data are reproduced normally.

File name (.mmf)	Description
Type1_2op_a	MTR1 + ATR0
Type2_2op_a	MTR1-2 + ATR0
Type3_2op_a	MTR1-3 + ATR0
Type4_2op_a	MTR1-4 + ATR0
Ma-1+2	MTR0-4 + ATR0
Min	Necessary minimum configuration

2.3   Optional information acquisition

These are data for testing acquisition of optional information. Check if optional information can be obtained.

File name (.mmf)	Description
option	Checking acquisition of contents information

The following information can be acquired from the above data. (Code type'0': Shift-JIS)

TAG	Information	TAG	Information
C0	0x00(Binary data)	WW	Yamaha Hanako
C1	0x01(Binary data)	SW	Toyooka Jiro
C2	0x00(Binary data)	AW	Toyooka Momoko
C3	0x00(Binary data)	CR	Copyright(c) 2002 YAMAHA CORPORATION
VN	YAMAHA	GR	ABCD
CN	Japan	MI	EFGH
CA	SMW Test Data	CD	2001.7.15
ST	option	UD	2002.3.23
AN	Yamaha Taro		

2.4   Abnormality data

These are abnormality data for checking error processing. Check if they are coincident with the description of errors that are shown in the following table.

2.4.1   Chunk ID

These are test data for checking chunk ID error.

File name (.mmf)	Description	Description of error
chunk00	Normal data	Normal
chunk01	MTR abnormal (MTR ID abnormal)	Normal
chunk02	MTR abnormal (MTR Sub Chunk ID abnormal)	Normal
chunk03	ATR abnormal (ATR number abnormal)	Reproduction time abnormal
chunk04	ATR abnormal (ATR Chunk ID abnormal)	Reproduction time abnormal
chunk05	ATR abnormal (AspI Chunk ID abnormal)	Normal
chunk06	ATR abnormal (Astu Chunk ID abnormal)	Normal
chunk07	ATR abnormal (Atsq Chunk ID abnormal)	Normal
chunk08	ATR abnormal (Awa Chunk ID abnormal)	Reproduction time abnormal

2.4.2   Chunk Size

These are test data for checking the chunk size error.

File name (.mmf)	Description	Description of error
size00	Normal data	Normal
size01	ATR Size abnormal (over MMMD Size)	File abnormal
size02	AspI Size abnormal (over ATR Size)	Track Chunk abnormal
size03	Atsu Size abnormal (over ATR Size)	Track Chunk abnormal
size04	Atsq Size abnormal (over ATR Size)	Track Chunk abnormal
size05	Awa Size abnormal (less than minimum size)	Reproduction time abnormal
size06	Awa Size abnormal (over Atsp Size)	Track Chunk abnormal

2.4.3   Waveform type error

These are test data for checking Waveform type error.

File name (.mmf)	Description	Description of error
err-stereo	Channel is 0x01 (Stereo).	Track Chunk abnormal
err-signedpcm	Format is 0x0 (Signed PCM).	Track Chunk abnormal
err-sf11k	Sampling Freq. is 0x2 (11 kHz).	Track Chunk abnormal
err-basebit8	Base Bit is 0x1 (8 bits)	Track Chunk abnormal

3   SMAF/Audio MA-3 data

3.1   Waveform type

These are data for testing Waveform type that can be used with SMAF/Audio MA-3. Check that the data are reproduced normally.

File name(.mmf)	Description
4bit_adpcm	4 bit ADPCM(YAMAHA) waveform reproduction
8bit_2scomp	8 bit 2's Complement PCM waveform reproduction
8bit_offbin	8 bit Offset Binary PCM waveform reproduction
xxxxxHz	ADPCM sampling frequency (xxxxx represents the frequency.)

3.2   Chunk configuration

These are data for testing necessary minimum chunk configuration. Check if the data are reproduced normally.

File name (.mmf)	Description
Min	Necessary minimum configuration

3.3   Optional information acquisition

These are data for testing acquisition of optional information. Check if optional information can be obtained.

File name (.mmf)	Description
option	Checking acquisition of contents information

The following information can be acquired from the above data. (Code type'0': Shift-JIS)

TAG	Information	TAG	Information
C0	0x00(Binary data)	C3	0x00(Binary data)
C1	0x32(Binary data)	CR	Copyright(c) 2002 YAMAHA CORPORATION
C2	0xFC(Binary data)	CA	SMW Test Data

3.4   Abnormality data

These are abnormality data for checking error processing. Check if they are coincident with the description of errors that are shown in the following table.

3.4.1   CRC

These are test data for checking CRC error.

File name (.mmf)	Description	Description of error
CRC00	Normal data	Normal
CRC01	CRC missing	File abnormal
CRC02	CRC abnormal value	File abnormal

3.4.2   Chunk ID

These are test data for checking chunk ID error.

File name (.mmf)	Description	Description of error
chunk00	Normal data	Normal
chunk01	ATR abnormal (ATR Sub Chunk ID abnormal)	Normal
chunk02	GTR abnormal (GTR Sub Chunk ID abnormal)	Normal
chunk03	MSTR abnormal (MSTR Chunk ID abnormal)	Normal
chunk04	OPDA abnormal (OPDA Chunk ID abnormal)	Normal
chunk05	OPDA abnormal (Dch Chunk ID abnormal)	Normal
chunk06	MTR abnormal (MTR No. abnormal)	Reproduction time abnormal
chunk07	MTR abnormal (MTR Chunk ID abnormal)	Reproduction time abnormal
chunk08	MTR abnormal (MspI Chunk ID abnormal)	Normal
chunk09	MTR abnormal (Mtsu Chunk ID abnormal)	Normal
chunk10	MTR abnormal (Mtsq Chunk ID abnormal)	Normal
chunk11	MTR abnormal (Mtsp Chunk ID abnormal)	Reproduction time abnormal
chunk12	MTR abnormal (Mwa Chunk ID abnormal)	Reproduction time abnormal

3.4.3   Chunk Size

These are test data for checking chunk size error.

File name (.mmf)	Description	Description of error
size00	Normal data	Normal
size01	MMMD Size abnormal (over File Size)	File abnormal
size02	MMMD Size abnormal (less than minimum size requirement)	File (argument) abnormal
size03	CNTI Size abnormal (less than minimum size requirement)	Chunk Size abnormal
size04	CNTI Size abnormal (over MMMD Size)	File abnormal
size05	CNTI Size abnormal (long meaninglessly)	Normal
size06	OPDA Size abnormal (less than minimum size requirement)	Normal
size07	OPDA Size abnormal (over MMMD Size)	File abnormal
size08	Dch Size abnormal (short)	Normal
size09	Dch Size abnormal (over OPDA size)	Normal
size10	MTR Size abnormal (less than minimum size requirement)	Track Chunk abnormal
size11	MTR Size abnormal (over MMMD Size)	File abnormal
size12	MspI Size abnormal (less than minimum size requirement)	Normal
size13	MspI Size abnormal (over MTR Size)	Track Chunk abnormal
size14	Mtsu Size abnormal (less than minimum size requirement)	Normal
size15	Mtsu Size abnormal (over MTR Size)	Track Chunk abnormal
size16	Mtsq Size abnormal (less than minimum size requirement)	Normal
size17	Mtsq Size abnormal (over MTR Size)	Track Chunk abnormal
size18	Mtsp Size abnormal (less than minimum size requirement)	Reproduction time abnormal
size19	Mtsp Size abnormal (over MTR Size)	Track Chunk abnormal
size20	Mwa Size abnormal (less than minimum size requirement)	Track Chunk abnormal
size21	Mwa Size abnormal (over Mtsp Size)	Track Chunk abnormal
size22	ATR Size abnormal (less than minimum size requirement)	Normal
size23	ATR Size abnormal (over MMMD Size)	File abnormal
size24	GTR Size abnormal (less than minimum size requirement)	Normal
size25	GTR Size abnormal (over MMMD Size)	File abnormal

3.4.4   Chunk overlap

There are erroneous data that include chunk overlap.

File name (.mmf)	Description	Description of error
multi00	Normal data	Normal
multi01	MMMD overlap (front one is normal, and rear one is normal.)	Normal
multi02	MMMD overlap (front one is abnormal, and rear one is normal.)	Chunk Size abnormal
multi03	CNTI overlap (both are normal.)	File abnormal
multi04	OPDA overlap	Normal
multi05	MTR overlap (front one is abnormal, and rear one is normal.)	Track Chunk abnormal
multi06	MTR overlap (front one is normal, and rear one is normal.)	Normal
multi07	Mtsp overlap (front one is abnormal, and rear one is normal.)	Track Chunk abnormal
multi08	Mtsp overlap (front one is normal, and rear one is normal.)	Normal
multi09	Mwa overlap (front one is abnormal, and rear one is normal.)	Reproduction time abnormal
multi10	Mwa overlap (front one is normal, and rear one is normal.)	Normal

3.4.5   Waveform type error

These are test data for checking Waveform type error.

File name (.mmf)	Description	Description of error
err-stereo	Channel is 0x01 (Stereo).	Track Chunk abnormal
err-4bit-2scomp	2's complement PCM 4 bits	Track Chunk abnormal
err-4bit-offbin	Offset Binary PCM 4 bits	Track Chunk abnormal
err-8bit-adpcm	ADPCM 8 bits	Track Chunk abnormal

3.4.6   Option

These are test for checking Optional Data Chunk error.

File name (.mmf)	Description	Description of error
info00	Normal data	Normal
info01	OPDA none (*1)	Normal
info02	Empty OPDA	Normal
info03	Dch with undefined TAG (*2)	Normal
info04	Dch with size abnormal TAG (*3)	Normal

Note[*1]) Since OPDA is Option information, even if it does not exist, there is no problem. However, Option information cannot be acquired.

Note[*2]) "FN" which is Un-definition TAG as contents information is put in. The information can be acquired correctly including this.

Note[*3]) The information cannot be acquired from the Dch in which Size abnormal TAG exists.