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## **1. Introduction**

### **1.1. Overview**

Conforming to this specification for the recording and playback on Memory Stick will ensure compatibility among Appliances.

### **1.2. Scope**

This document stipulates the specifications for the Memory Stick Voice System, a system for using Memory Stick as medium for record/playback of vocal data. The recording method and requirements to appliances for record/playback of data are defined here.

### **1.3. Reference**

- Memory Stick Standard Format Specifications ver.1.2
- Memory Stick Standard Audio File Format Specifications ver.1.0
- ITU-T Recommendation G.726

#### 1.4. Notation and Definitions

- Unless otherwise described, numeric values are in big endian method.
- Unless otherwise described, numeric values are in binary notation, and 0x is in hexadecimal number notation.
- “1 byte” is a recording area consisted of 8 bits.
- The codes to show the day of week are as follows:
  - 0x00 : Sunday
  - 0x01 : Monday
  - 0x02 : Tuesday
  - 0x03 : Wednesday
  - 0x04 : Thursday
  - 0x05 : Friday
  - 0x06 : Saturday
- Normally, null(0x00) shall be written in “Reserved” area, but if anything is written, it shall be ignored (may be used by other versions). Also, writing to this area is prohibited.
- The “Option” area shall be handled the same way as “Reserved”, when the area is not used.
- “MCode” stands for maker code, which is a code used to identify the manufacturer and model of the recording appliance. The value consists of higher order 10 bits (manufacturer code) and lower order 6 bits (model code). The higher order contains a code set by the licensor and lower order is freely set by the manufacturer.
- “C-CODE” stands for character code, and the character code and language code are represented by one byte each. The values are shown in table 6.1 of section 6.
- “MS” stands for Memory Stick.
- In this document, “shall”, “will” or “must” denotes a mandatory provision of this specification. “Should” denotes that a provision is recommended but not mandatory. “May” denotes a feature which is at the option of the implementor.
- “Appliance” denotes an appliance using the Memory Stick.

## 1.5. Features

- Voice data of one message corresponds to one file on FAT.
- The minimum information required for playback is recorded on file header to provide portability.
- Appliances designed according to this specification is capable of supporting Divide/Combine etc.
- As using the methods described in this specification, it does not need to move mass data when operating Divide/Combine etc.
- As a general rule, playback and file operations via personal computers shall be done on applications exclusively designed for Memory Stick.

## 2. Directory Structure

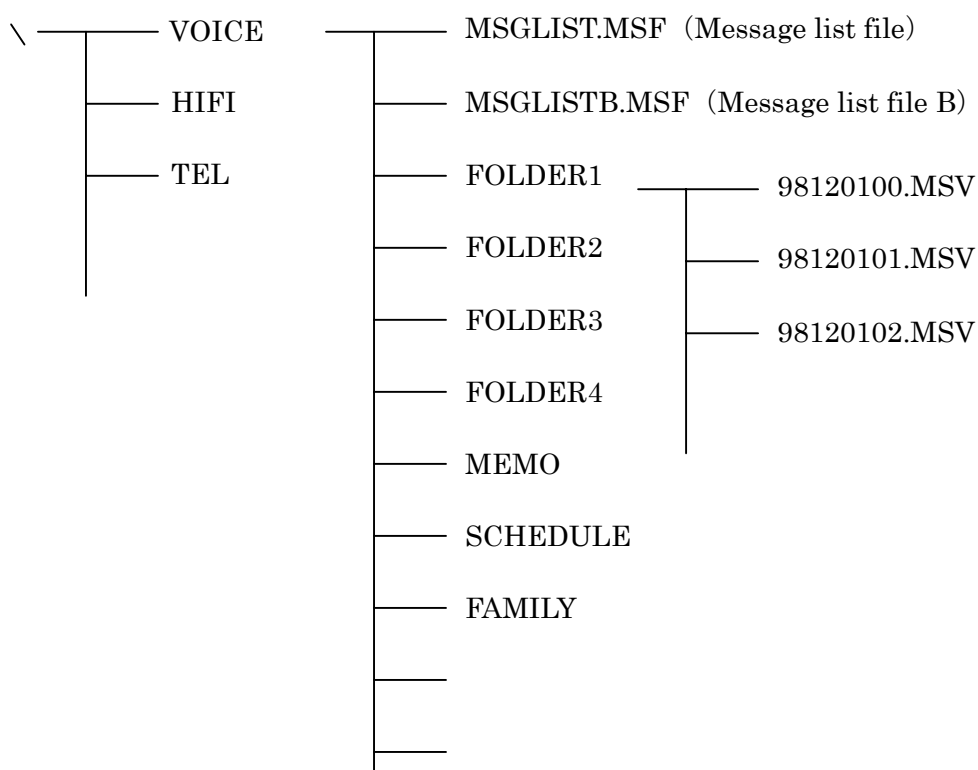


Fig. 2.1 Directory Structure

- Subdirectory (FOLDER 1 etc.in Fig. 2.1) under VOICE directory and every voice data (98120100.MSV etc. in Fig.2.1) stored in it, shall be recognized by Appliances. (However, if exceeds the prescribed maximum number of files, they do not have to be recognized.)
- Voice data file in a subdirectory under subdirectory (e.g. FOLDER 1 in Fig.2.1) does not have to be recognized.
- Registration to message list file shall be made every time when creating a directory.
- The directory may be named freely by the Appliance any time.
- A back-up copy of message list file shall be always retained on Memory Stick to prevent accidental erasures.



3. Data Structure of Management File

3.1. Message List File (MSGLIST.MSF)

3.1.1. Overall Structure

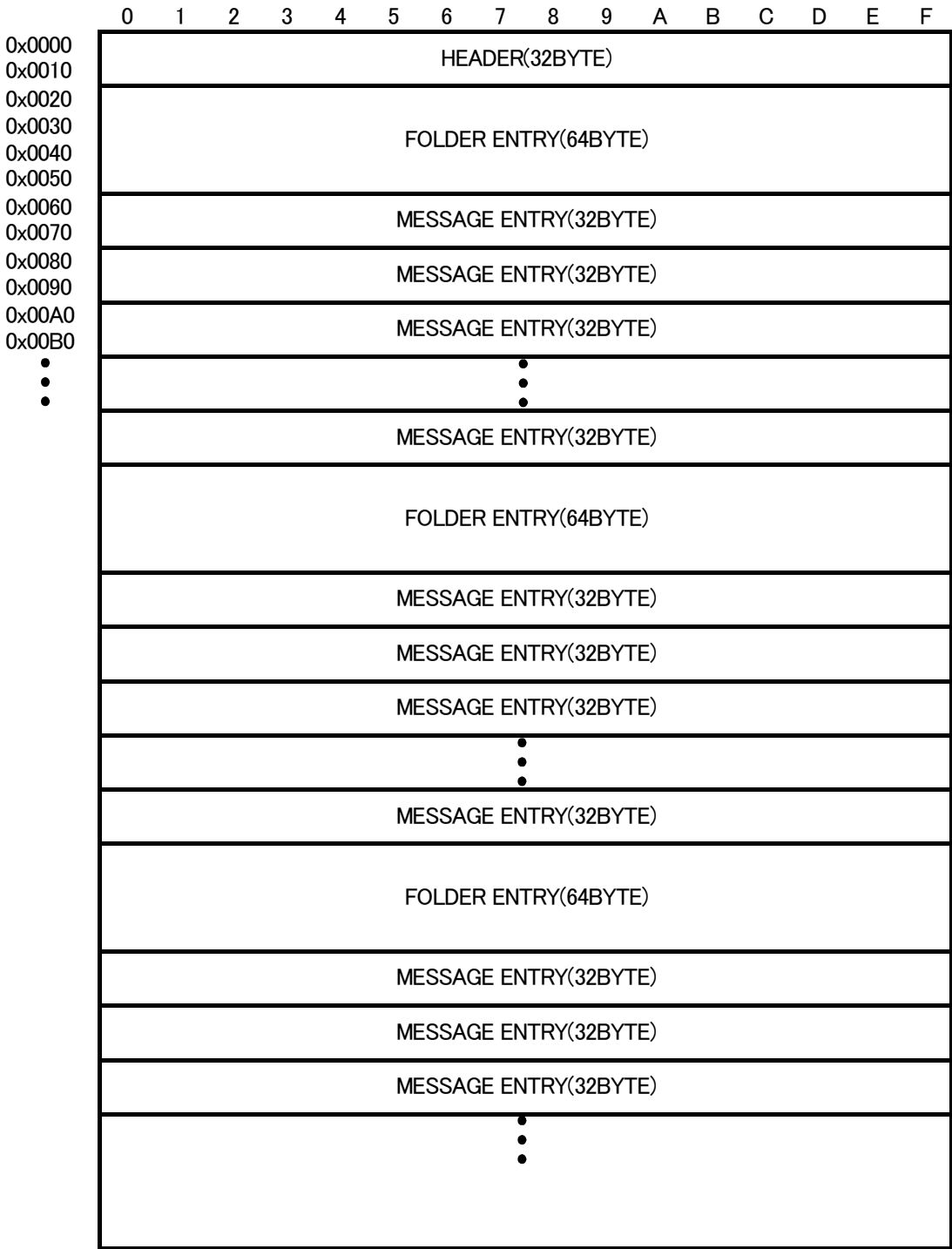


Fig. 3.1 Data structure of MSGLIST



- The sequence of the folders in Message List File indicates the orders in which folders are switched and displayed.
- Likewise, the sequence of Message data indicates the orders in which Message data are switched, displayed and played back.

## 3.1.2. Header

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x0000	MSG-ID			FMT-VER		MCode		YMDHMSW								
0x0010	FILE-NO			FSIZE		MSIZE		OFFSET		CCODE		REV		(R)		

Fig. 3.2 Data structure of HEADER

MSG-ID	Meaning : MSGLIST FILE ID Function : Value to identify Message List File Value : 0x4D53474C (= "MSGL") Fixed value
FMT-VER	Meaning : Memory Stick Standard Voice File Format Specifications VERSION NUMBER Function : To identify the used version number. Value : 0x0100 (in Ver.1.0) Higher order : Major number, Lower order : Minor number
MCode	Meaning : MAKER CODE Function : Code to identify manufacturer and model of the Appliance which edit Message List File at last. Value : See section 1.4.
YMDHMSW	Meaning : Year, month, day, hour, minute, second and the day of week when the last edit of Message List File took place Function : Value to identify the last editing date and time. Value : Binary (Year... 2 bytes, others ... 1 byte, 8 bytes in total)
FILE-NO (option)	Meaning : File name number of Message to be generated next Function : Serial No. used for generating a file name for Message. The value of the next Message is included, and incremented every time a file is created. Value is reset to 0 every day.
FSIZE	Meaning : FOLDER ENTRY SIZE Function : Size (BYTE) of Folder Entry Value : 64 in MSGLIST.MSF

MSIZE	Meaning : MESSAGE ENTRY SIZE Function : Size (BYTE) of Message Entry Value : 32 in MSGLIST.MSF
OFFSET	Meaning : FOLDER ENTRY OFFSET Function : The start position of the first Folder Entry is indicated by offset from the beginning of file. Value : 32 in MSGLIST.MSF
CCODE	Meaning : CHARACTER CODE Function : Character code used in this file. Character code of Folder Entry is prioritized, when CCODE does not match that of Folder Entry. Value : See section 1.4.
REV	Meaning : REVISION NUMBER Function : Shows file update status. The value is incremented at every updat of file. If the Revision Number of MSGLIST.MSF differs from those of MSGLISTB.MSF, the older file shall be effective. Value : 0 when MSGLIST.MSF is created. The value is incremented at every update.
Note)	(R) : RESERVED When Message List File is generated newly, Reserved area is to be filled with 0x00. Modification is not allowed.

**3.1.3. Folder Entry**

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F												
0x0000	FLD-ID		MCode		FLD-NAME																							
0x0010	C-CODE		(R)		DISP-NAME																							
0x0020																												
0x0030																												

Fig.3.3 Data structure of FOLDER ENTRY

- FLD-ID**      Meaning : FOLDER ID  
Function : Value to identify the starting point of folder entry data  
Value : 0x4644 (= "FD") Fixed value
- MCode**      Meaning : MAKER CODE  
Function : Code to identify manufacturer and model of the Appliances which create this folder.  
Value : See section 1.4.
- FLD-NAME**    Meaning : FOLDER NAME  
Function : Folder name on FAT is recorded.  
Value : Directory name is recorded left-justified in uppercase letters. Terminator is 0x00. Terminator is not necessary if there is no space.
- C-CODE**      Meaning : CHARACTER CODE  
Function : Character code describing DISP-NAME is identified.  
Value : See section 1.4.
- DISP-NAME**    Meaning : Folder name displayed on Appliance  
Function : Character string of folder name displayed on Appliance is recorded.  
Value : Character code designated by C-CODE is recorded.  
Terminator 0x00 is recorded by one byte or more at the end of character string.  
When Appliance generates DISP-NAME automatically, folder name (FLD-NAME) on FAT is recorded.  
Terminator is not necessary if there is no space.
- Note)      (R) : RESERVED When Message List File is generated newly, Reserved area is to be filled with 0x00.  
Modification is not allowed.

**3.1.4. Message Entry**

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x0000	MID	PRI	AL-M	AL-DATE						(R)						
0x0010	FILE-NAME								REC-DATE						(R)	

Fig. 3.4 Data structure of MESSAGE

MID	Meaning	: MESSAGE ID
	Function	: Value to identify the starting point of file entry data
	Value	: 0x4D (= "M") Fixed value
PRI	Meaning	: PRIORITY
(option)	Function	: Priority of Message is shown.
	Value	: 4 levels from 0x00 to 0x03 Larger value has higher priority. 0x00, when not used.

(continued on next page)

AL-M	Meaning	: ALARM MODE
(option)	Function	: Alarm mode is set.
	Value	: bit1,bit0...Date and time setting
		bit1=0,bit0=0 : Activate at the designated time.
		bit1=0,bit0=1 : Activate on the designated day of week.
		bit1=1,bit0=0 : Activate at the designated time , day and month.
		bit1=1,bit0=1 : Activate at the designated time, day, month and year.
		bit2...Reserved (0 fixed)
		bit3...Residual flag
		0 : After alarm, bit 7 is cleared (0).
		1 : After alarm, bit 7 is not cleared.
		bit4...Reserved (0 fixed)
		bit5...Voice playback flag
		0 : Message is not played back at alarm set time.
		1 : Message is played back at alarm set time.
		bit6...Alarm sound flag
		0 : Alarm will not go off at alram set time.
		1 : Alarm will go off at alarm set time.
		bit7...Alarm setting flag
		0 : Alarm is not set.
		1 : Alarm is set.

- Note) • 0x00, when alarm function is not used.
- When both bit5 and bit6 are set to 1, the operation will be in order of alarm sound and voice playback.

AL-DATE Meaning : Date and time to activate alarm  
 (option) Function : Records the date and time to activate the alarm.  
 Value : The date and time is recorded in order of year, month, day, hour, minute, and the day of week, in binary.  
 1 byte for each item. The unused part shall be filled with 0xFF. To express the year in one byte, the offset value from the year 1980 is used. "0 to 127" represent 1980 to 2107 (same as FAT). When year is not to be set, enter 0xFF. Values other than 0~127 or 0xFF are prohibited.

## FILE NAME

Meaning : File name on FAT  
 Function : File name of Message on FAT is recorded.  
 Value : File name excluding extension is recorded left-justified in uppercase letters.  
 Terminator is 0x00.  
 Terminator is not needed, when there is no space.

## REC DATE

Meaning : Date and time of Message recording  
 Function : Records the date and time Message was recorded.  
 Value : The date and time is recorded in order of year, month, day, hour, minute, second (binary).  
 1byte each. 0x00, when not used.  
 To represent the year in one byte, the offset value from the year 1980 is used. "0 to 127" represents 1980 to 2107. (The same as FAT.) If the year is not set, it is expressed as 0xFF. Values other than 0 to 127 or 0xFF are prohibited.  
 Date and time data shall be the same as that of DATE-TIME included in Format Frame of Voice Data File(extension is MSV).

Note) (R) : RESERVED When Message List File is generated newly,  
 Reserved area is to be filled with 0x00.  
 Modification is not allowed.

### 3.1.5. Rules for Generating Message List File

- Name the file as MSGLIST.MSF, and place it directly below the VOICE directory.
- Place the copy of MSGLIST.MSF as MSGLISTB.MSF directly below the VOICE directory.
- When the Revision Number of MSGLIST.MSF differs from those of MSGLISTB.MSF, the older file shall be effective. The newer file shall be rewritten.
- Message List File shall be shared among Appliances.
- Follow the procedures shown below, when Appliance recognizes Memory Stick for the first time (when Appliance is reset, or when Memory Stick is inserted).
  1. Check whether the contents of an entry in a subdirectory under VOICE directory and contents in the Message List File are consistent.
  2. Add the newly created subdirectory to the Message List File.
  3. Delete the deleted subdirectory from the Message List File.  
(These procedures are necessary as subdirectory add and delete is possible without editing the Message List File on PC.)
  4. Check whether the contents of a file in a subdirectory under VOICE directory and  
contents in the Message List File are consistent.
  5. Add the newly created file to the Message List File.
  6. Delete the deleted file from the Message List File.  
(These procedures are necessary as file add and delete is possible without editing the Message List File on PC.)
  7. When a directory to be used on the Appliance does not exist, create a new one.
- Size of Message List File is 32768bytes(fixed value).
- 32bytes area immediately after the last Message Entry shall be filled with 0x00.
- Maximum number of messages (files on FAT) which can be entered is 1020 for one subdirectory of VOICE directory.
- In Message List File, a folder entry (subdirectory) requires area worth two message entry, thus whenever a folder entry is increased, the number of message that can be entered decreases by two.





## **4. Data Structure of Voice Data File**

### **4.1. File Name of Voice Data File**

Extension of voice data file shall be MSV. Arbitrary file name is generated by Appliance after the registration is made in Message List File.

## 4.2. Overall Structure of Voice Data File

FORMAT FRAME	CODEC type (mandatory)
TOC FRAME	Frame arrangement (mandatory)
TITLE FRAME	Title
MAKER	Information on the Appliance creating the file
AUTHOR FRAME	Information on copyright holder
INFORMATION FRAME	Other information
SPACE FRAME	Unused area (playback is not allowed). Space allotted for future increase of TOC data due to edits (mandatory).
DATA FRAME	Voice data (mandatory)

Note 1) Optional frames shall be arranged by their frame ID in ascending order.

Note 2) All frame data size shall be a multiple of 16 bytes.

Note 3) All frame data size shall be of variable length.

Fig. 4.1 Example of frame arrangement

### 4.3. Data Structure of Format Frame

A frame in which describes such as the active CODEC . It is requisite and shall come first in the file. When using EXTRA DATA AREA, it shall be used in units of 16 bytes and frame size shall be a multiple of 16 bytes.

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x0000	FILE-ID								SIZE-FMT				FMT-VER		(R)	
0x0010	C-NAME															
0x0020	S-NAME															
0x0030	SET-VER		(R)		DATE-TIME								FMT-ID		CHAN	
0x0040	SAMP				BYTE				ALIGN		BIT		EXT		(R)	

Fig. 4.2 Data structure of Format Frame

FILE-ID	FILE ID	: 8 bytes	
SIZE-FMT	SIZE OF FORMAT FRAME	: 4 bytes	
FMT-VER	Memory Stick Standard Voice File Format Specifications VERSION NUMBER	: 2 bytes	
(R)	RESERVED	: 2 bytes	(0x0000 fixed)
C-NAME	COMPANY NAME	: 16 bytes	
S-NAME	SET NAME	: 16 bytes	
SET-VER	SET F/W Ver No.	: 2 bytes	
(R)	RESERVED	: 2 bytes	(0x0000 fixed)
DATE-TIME	REC DATE & TIME	: 8 bytes	
FMT-ID	FORMAT ID	: 2 bytes	
CHAN	NUMBER OF CHANNELS	: 2 bytes	
SAMP	SAMPLES PER SEC	: 4 bytes	
BYTE	AVERAGE BYTES PER SEC	: 4 bytes	
ALIGN	BLOCK ALIGNMENT	: 2 bytes	
BIT	BITS PER SAMPLE	: 2 bytes	
EXT	SIZE OF EXTRA AREA	: 2 bytes	
(R)	RESERVED (EXTRA DATA AREA)	: 2 bytes	(0x0000 fixed)

All character codes used in Format Frame shall be in ASCII .

**FILE ID**

Indicates MS Voice Format file .

“MS\_VOICE” (Fixed value)

**SIZE OF FORMAT FRAME**

Indicates the format frame size in units of byte. Used for accessing to TOC frame.

**Memory Stick Standard Voice File Format Specifications VERSION NUMBER**

Indicates the Version of Memory Stick Standard Voice File Format Specifications. Higher order 1 byte describes the major version, and lower order 1 byte describes the minor version.

0x0100 (Ver 1.0)

0x0203 (Ver 2.3)

**COMPANY NAME**

Indicates the manufacturer's name of the Appliance creating the file. 0x00 is entered for a terminator. Terminator is not necessary if there is no area for it.

“SONY”

**SET NAME**

Indicates the name of the Appliance which creates the file. 0x00 is entered for a terminator. Terminator is not necessary if there is no area for it.

“ICD-MS”

**SET F/W Ver No.**

Indicates the firmware version of the Appliance. Higher order 1 byte describes the major version, and lower order 1 byte describes the minor version.

0x0100 (Ver 1.0)

0x0203 (Ver 2.3)

## REC DATE &amp; TIME

Binary. Year is represented in AD, by 2 bytes. Month, day, hour, minute, second and the day of week are represented by 1 byte each.

0x07CE	: Year (1998)
0x0C	: Month (December)
0x15	: Day (21st)
0x0F	: Hour (15 o'clock)
0x05	: Minute (5 minutes)
0x00	: Second (0 seconds)
0x00	: Day of week (Sunday)

## FORMAT ID

Indicates CODEC to be used.

0x0002	: G726 ADPCM 22kHz / 3bit	(HQ)
0x0005	: G726 ADPCM 11kHz / 3bit	(SP)
0x0007	: G726 ADPCM 8kHz / 4bit	(AL)
0x0009	: G726 ADPCM 8kHz / 2bit	(LP)

## NUMBER OF CHANNELS

Indicates the number of channels.

0x0001	: mono
0x0002	: stereo

## SAMPLES PER SEC

Indicates the sampling frequency.

0x00001F40	: 8kHz
0x00002B11	: 11.025kHz

## AVERAGE BYTES PER SEC

Indicates the data per second by the number of bytes. It is used to calculate the playback time from the data size.

## BLOCK ALIGNMENT

A group of data which can not be separated is shown in units of byte. It is used for cueing.

0x0030	: G726 ADPCM 22kHz / 3bit (HQ)
	: G726 ADPCM 11kHz / 3bit (SP)
0x0010	: G726 ADPCM 8kHz / 4bit (AL)
	: G726 ADPCM 8kHz / 2bit (LP)

## BITS PER SAMPLE

Indicates the number of bits per sampling.

0x0004	: 4bit
0x0003	: 3bit
0x0002	: 2bit

## SIZE OF EXTRA AREA

The size of an area to describe the unique information of CODEC is shown in units of byte. EXTRA DATA AREA shall be created in units of 16 bytes. When this area is not necessary, 0x0000 shall be written in.

## EXTRA DATA AREA

The area, where describes the unique information of CODEC. It shall be created in units of 16 bytes. When SIZE OF EXTRA AREA is filled with 0x0000, this area does not exist.

If EXTRA DATE exists, it shall be written in units of 16 bytes from the first 0x50 of Format Frame.

#### 4.4. Data Structure of TOC Frame

TOC FRAME is a requisite frame and which shows the arrangement of each frame in file. It shall be placed immediately after the Format Frame. Eight bytes are used per frame. The size of TOC is a multiple of 16 bytes, which is the minimum to enter “8 bytes x total number of frames”. When the total number of frames is odd, the unused area at the end (8 bytes) shall be filled with 0x00.

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x0000	ID		(R)					SIZE		ID		(R)				SIZE
0x0010	ID		(R)					SIZE		ID		(R)				SIZE
0x0020	ID		(R)					SIZE		ALL 0x00						

Fig. 4.3 Data structure of TOC Frame

ID	Frame ID	: 1 Byte
(R)	Reserved	: 3 Byte
SIZE	Size of frame	: 4 Byte

##### FRAME ID

Indicates the frame type.

Format Frame	: 0x01
TOC Frame	: 0x02
Space Frame	: 0x03
Data Frame	: 0x04
Title Frame	: 0x05
Maker Frame	: 0x06
Author Frame	: 0x07
Information Frame	: 0x08

##### SIZE OF FRAME

Size of data specified by frame ID is shown in units of byte.



#### 4.5. Data Structure of Title Frame

An optional frame for storing a title. The first 2 bytes show the character code type. The terminator of character string is 0x00, or the end of frame. The size is a multiple of 16 bytes.

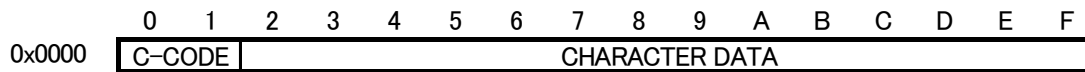


Fig. 4.4 Data structure of Title Frame

C-CODE      See section 1.4.

4.6. Data Structure of Maker Frame

An optional frame for storing company name, model name, and firmware version number of the Appliance which generated the file. The first 2 bytes show the character code type. The terminator of character string is 0x00, or the end of frame. The size is a multiple of 16 bytes.

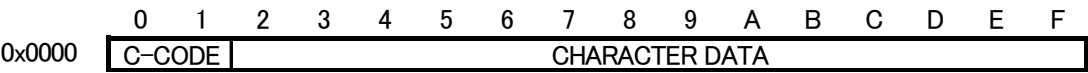


Fig. 4.5 Data structure of Maker Frame

C-CODE                      See section1.4.

#### 4.7. Data Structure of Author Frame

An optional frame for storing information such as name of copyright holder. The first 2 bytes shows the character code type. The terminator of character string is 0x00, or the end of frame. The size is a multiple of 16 bytes.

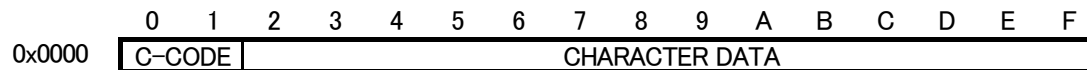


Fig. 4.6 Data structure of Author Frame

C-CODE      See section1.4.

#### **4.8. Data Structure of Space Frame**

A requisite frame for storing area where playback is prohibited. This shall be skipped upon playback. The frame is used when playback prohibited area is generated within one cluster, such as when Divide/Combine is done. The data in the frame is arbitrary. The size is a multiple of 16 bytes.

#### 4.9. Data Structure of Data Frame

A requisite frame for storing voice data. The units and form of data storage are as shown below. (The storage unit must be a multiple of 16 bytes.) When dividing voice data, this storage unit is the unit of data to be divided into. Data shall fill up a storage unit. When a data is not big enough to fill up the unit, that data shall be discarded. Frame size is a multiple of the storage unit (namely a multiple of 16 bytes).

##### 4.9.1. Data Storage Unit and Data Storage Form : 3bit/sampling (22kHz/3bit, 11kHz/3bit)

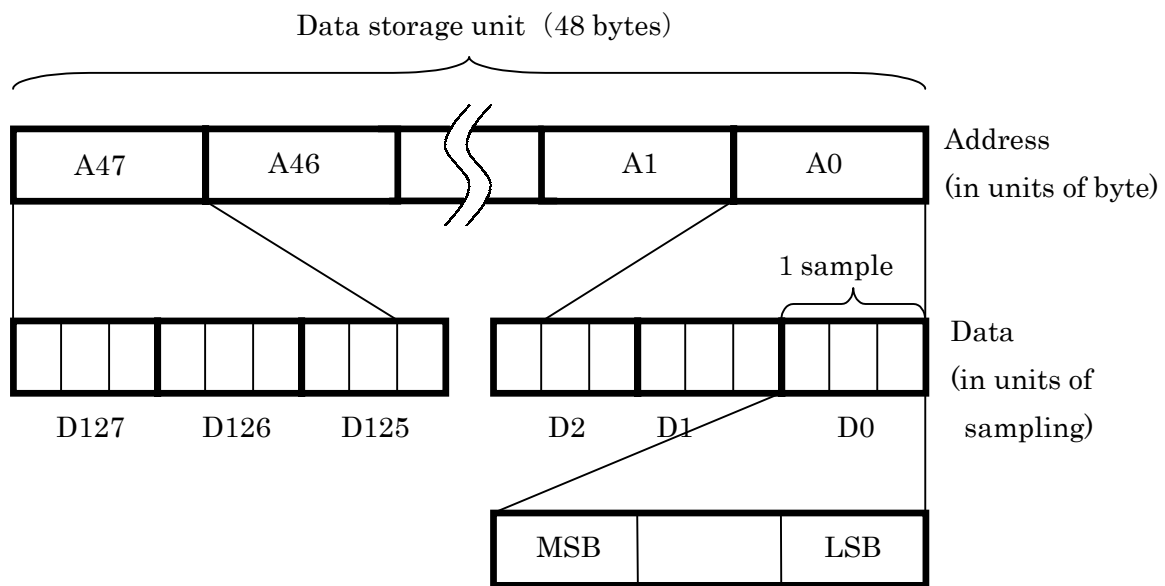


Fig. 4.7 Data structure of 3bit/sampling

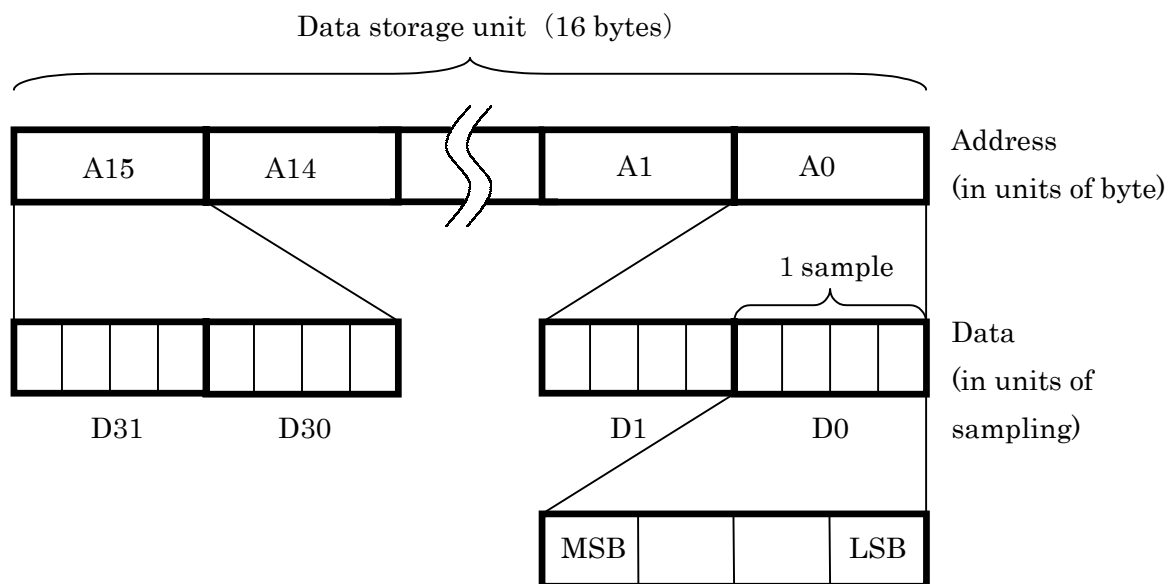
**4.9.2. Data Storage Unit and Data Storage Form : 4bit/sampling (8kHz/4bit)**

Fig. 4.8 Data structure of 4bit/sampling

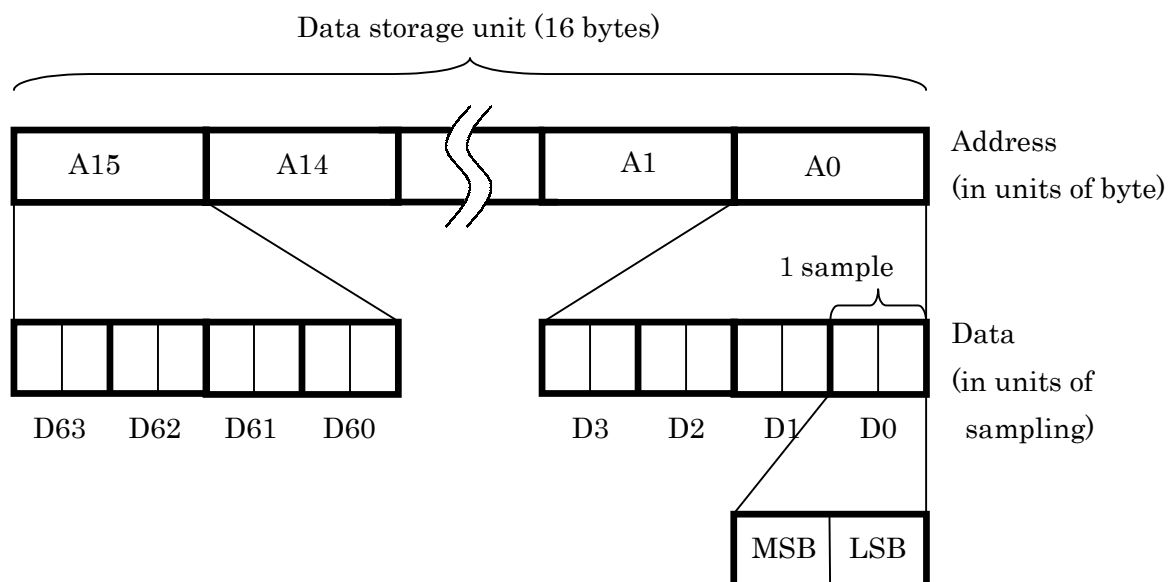
**4.9.3. Data Storage Unit and Data Storage Form : 2bit/sampling (8kHz/2bit)**

Fig. 4.9 Data structure of 2bit/sampling

#### 4.10. Data Structure of Information Frame

An optional frame for recording Attribute information. The type of Attribute information is shown in section 6.2. The first byte describes the classification of Attribute information. The frame size is a multiple of 16 bytes. The unused area shall be filled with 0x00. The starting point of data is the ninth byte from the top of frame.

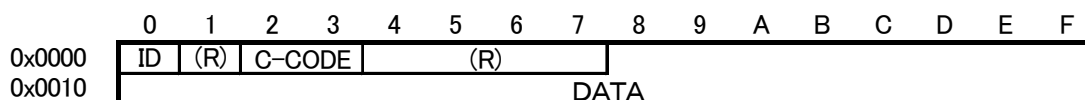


Fig. 4.10 Data structure of Information Frame

ID                      Information ID                      : 1Byte

INFORMATION ID

Attribute Data Key Code is shown. See table 6.2.

C-CODE

See section1.4.

#### **4.11. Frame Operation Rules**

- More than one Data Frame and Space Frame may exist in a file.
- The number of frames other than Data Frame or Space Frame shall be no more than one in a file.
- Format Frame shall be placed at the top of file.
- TOC Frame shall be placed immediately after the Format Frame.
- Frames which are not mandatory (frames other than Format, TOC, Space and Data) shall be placed together after the TOC frame. These shall be placed in order of the frame ID in ascending order.
- Frames not mandatory shall always be followed by a Space Frame.



## 4.12. Frame Structure of Normal Recording (example)

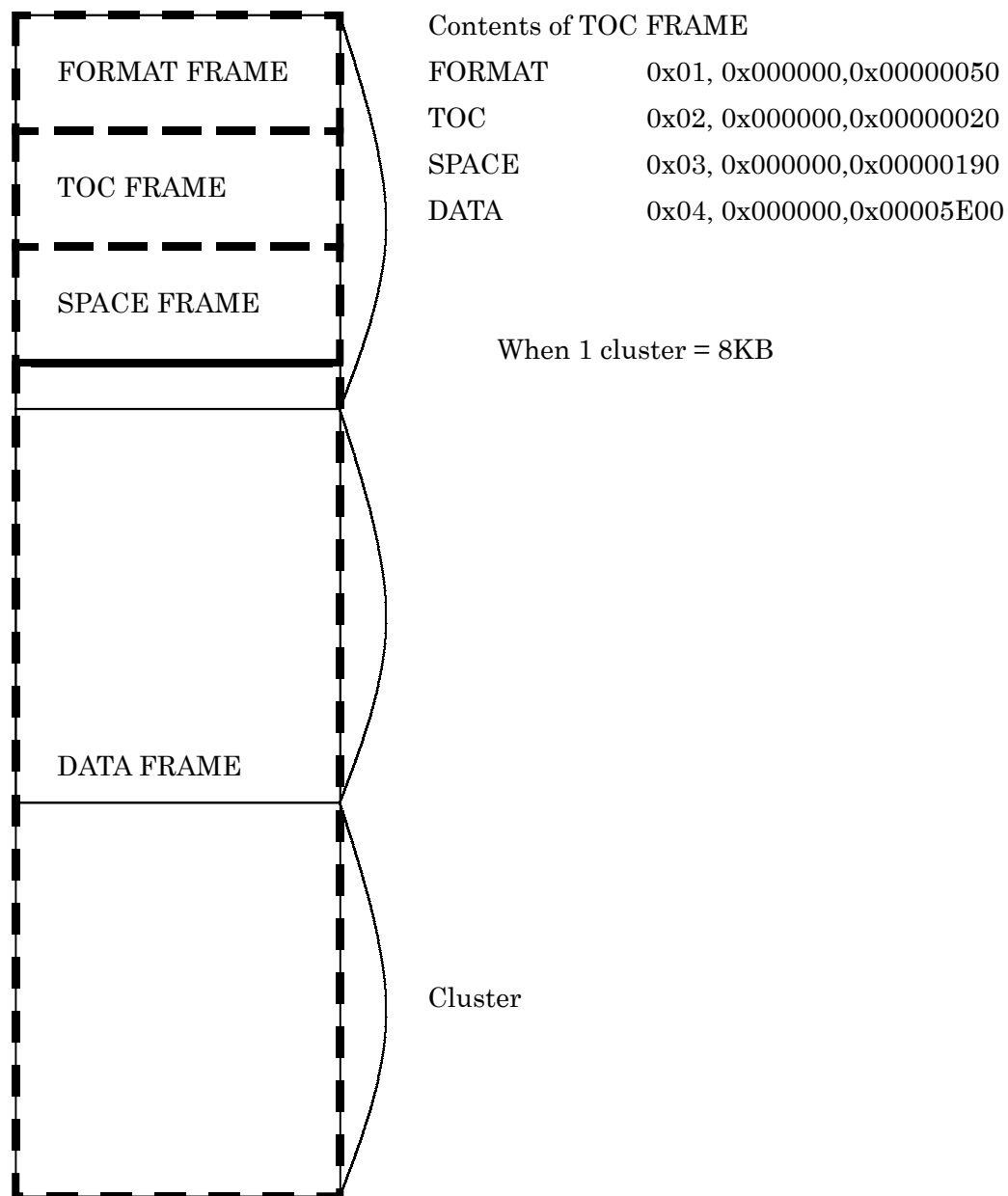


Fig. 4.3 Frame structure of normal recording (example)

## 5. Operation Rules

### 5.1. Naming of File

- File name shall be within eight characters.
- File name shall be descriptive of contents.
- File name shall be unique.

On account of above requirements, the format shown below is recommended.

YYMMDDNN. MSV

YY : Year

MM : Month

DD : Day

NN : Serial number (00~99, A0~A9, ...)

Serial number is reset to 00 every day.

When serial number exceeds 99, a value is set according to Appliance's design specification to avoid duplication. (e.g. A0~A9, B0~B9, ...)

If month and day are not set, the name shall be a serial number from Z0000001 to Z9999999.

The serial number shall be recorded in TOC file.

When a file name is identical with another file, procedure according to Appliance's design specification shall be taken.

**5.2. Standard CODEC**

It is strongly recommended that Appliances have playback compatibility of 11kHz · 3bit.

**5.3. Number of Subdirectories in VOICE Directory**

It is recommended that the number of subdirectories does not exceed 10 (in consideration to folder display function of Appliance).

**5.4. Number of Files in Subdirectory**

It is recommended that the number of files in a subdirectory does not exceed 99 (in consideration to file number display function of Appliance).

## 5.5. Handling of Space Frame

### 5.5.1. Generate New Voice File

A Space Frame from 128 bytes to 640bytes (=128+512) shall be located. Space Frame Size shall be set so that the start position of data frame is on the boundary of a sector.

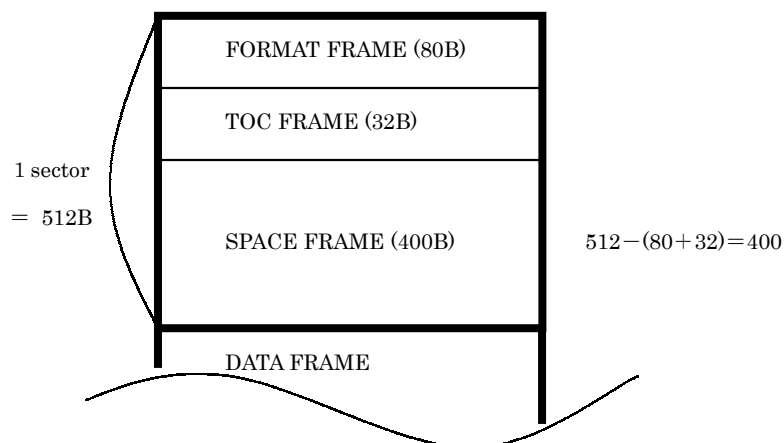


Fig. 5.1 Example of new file

### 5.5.2. Divide Voice File

In a cluster containing a dividing point, the playback-prohibit area shall be Space Frame.

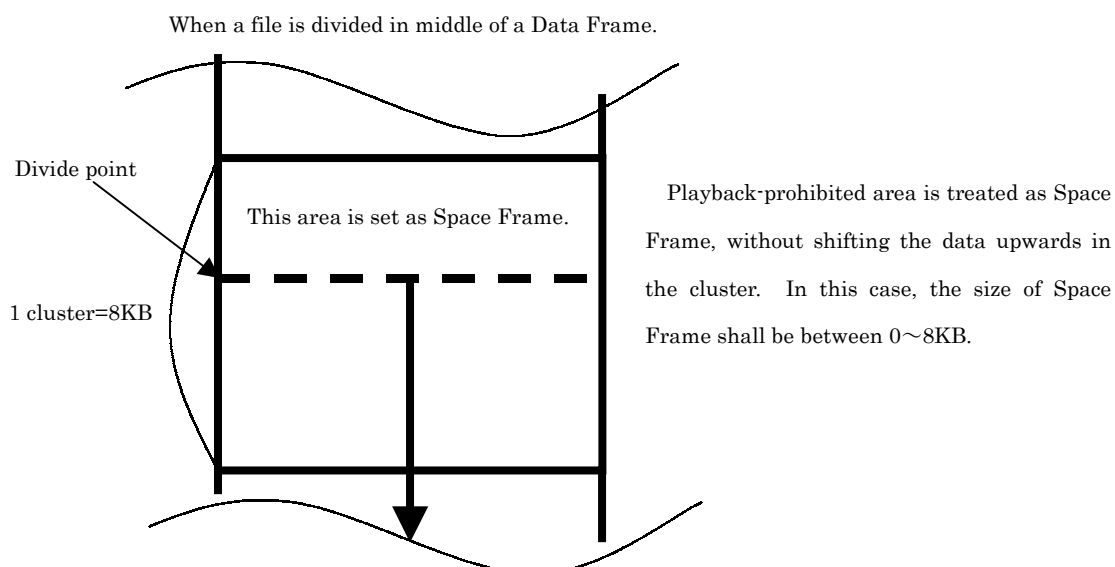


Fig. 5.2 Example of dividing a file

**5.5.3. Adjacent Space Frames**

When 2 Space Frames become adjacent to each other after divide/combine of a voice file, they shall be put together into one Space Frame.

## **5.6. Set Write- Inhibit Attribute for File on FAT**

Below settings are recommended.

Use write-inhibit attribute on FAT as file protection set by user. It can be set by using functions of special PC application or file utilities. Setting on the Appliance is not mandatory.

When a voice file is set to write-inhibit setting prior to its erase, move, divide or combine operation, notify users that it is in write-inhibit state. When user approves the operation, erase, move, divide or combine shall be allowed.

Always set write-inhibit attribute for Message List File. Write-inhibit attribute is not default set for voice file.

To edit Message List File, clear write-inhibit attribute. After editing the file, set write-inhibit attribute again.

**5.7. Set Other Attribute for File on FAT**

Below settings are recommended.

No hidden file attribute for any files.

No system file attribute for any files.

Set archive attribute for all files.

## 6. Supplementary Reference

### 6.1. Character Code

High order 1 byte (Character code)

Value	Character code
0x00	None (simple binary data)
0x01	ASCII
0x02	ASCII + KANA
0x03	modified8859-1
0x81	MS-JIS
0x82	KS C 5601-1989
0x83	GB2312-80
0x90	shift-JIS

Low order 1 byte (Language code)

In accordance with EBU Tech 3258. (Excerpton is shown below.)

Value	Language code
0x00	No setting
0x08	German
0x09	English
0x0A	Spanish
0x0F	French
0x15	Italian
0x1D	Dutch
0x65	Korean
0x69	Japanese
0x75	Chinese

**Table 6.1 Character Code**



## 6.2. Attribute Data Key Code

ID	Music (Character)	Size	ID	URL(Web related)	Size
0	Reserved		32	Reserved	
1	Album	Variable	33	Album	Variable
2	Subtitle	Variable	34	Subtitle	Variable
3	Artist	Variable	35	Artist	Variable
4	Conductor	Variable	36	Conductor	Variable
5	Orchestra	Variable	37	Orchestra	Variable
6	Producer	Variable	38	Producer	Variable
7	Publisher	Variable	39	Publisher	Variable
8	Composer	Variable	40	Composer	Variable
9	Songwriter	Variable	41	Songwriter	Variable
10	Arranger	Variable	42	Arranger	Variable
11	Sponsor	Variable	43	Sponsor	Variable
12	CM	Variable	44	CM	Variable
13	Explanation	Variable	45	Explanation	Variable
14	Original music title	Variable	46	Original music title	Variable
15	Album title of original music	Variable	47	Album title of original music	Variable
16	Composer of original music	Variable	48	Composer of original music	Variable
17	Songwriter of original music	Variable	49	Songwriter of original music	Variable
18	Arranger of original music	Variable	50	Arranger of original music	Variable
19	Player of original music	Variable	51	Player of original music	Variable
20	Message	Variable	52		
21	Comment	Variable	53		
22	Warning	Variable	54		
23	Genre	Variable	55		
24	Writings	Variable	56		
25			57		
26			58		
27			59		
28			60		
29			61		
30			62		
31			63		

**Table 6.2 Attribute Data Key Code**

(continued on next page)

ID	Path / Others	Size	ID	Control / Numerical value · Data	Size
64	Reserved		96	Reserved	
65	Path to image data	Variable	97	ISRC	8
66	Path to song data	Variable	98	TOC-ID	8
67	Path to MIDI data	Variable	99	UPC / JAN	7
68	Path to explanation data	Variable	100	Recording date (YMDhms)	4
69	Path to comment data	Variable	101	Release date (YMDhms)	4
70	Path to CM data	Variable	102	Release date of original music (YMDhms)	4
71	Path to FAX data	Variable	103	Recording date and time (YMDhms)	4
72	Path to communication data 1	Variable	104	Subtrack	4
73	Path to communication data 2	Variable	105	Average sound volume	1
74	Path to control data	Variable	106	Resume	4
75			107	Playback log (YMDhms)	4
76			108	Number of playback times (for study)	1
77			109	PASSWORD 1	16
78			110	APPLlevel	16
79			111	Genre code	2
80			112	MIDI data	Variable
81	Parts Attribute Data	Variable	113	Thumbnail picture data	Variable
82			114	Teletext data	Variable
83			115	Total number of music	2
84			116	Set number	1
85			117	Total number of sets	1
86			118	REC location information _GPS	Variable
87			119	PB location information _GPS	Variable
88			120	REC location information _PHS	Variable
89			121	PB location information _PHS	Variable
90	Disc-TOC	Variable	122	Connected telephone number 1	Variable
91			123	Connected telephone number 2	Variable
92			124	Input value	Variable
93			125	Output value	Variable
94			126	PB control data	Variable
95			127	REC control dat	Variable

Table 6.2 Attribute Data Key Code (T.B.D.)

(continued on next page)

ID	Synchronized playback	Size
128	Reserved	
129	Synchronized playback 1	Variable
130	Synchronized playback 2	Variable
131	Synchronized playback 3	Variable
132	Synchronized playback 4	Variable
133	Synchronized playback 5	Variable
134	Synchronized playback 6	Variable
135	Synchronized playback 7	Variable
136		
137		
138	EMD relation 1	Variable
139	EMD relation 2	Variable
140		
141		
142		
143		
144		
145		
146		
147		
148		
149		
150		
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152		
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159		

**Table 6.2    Attribute   Data   Key   Code**  
(T.B.D.)

The contents of ID = 64~159 are provisional.

The ID values after 160 are all handled as reserved.

They shall not be used without permission of licenser.