



AV/C Disc Media Type Specification – MD audio

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Abstract: This specification defines the specification for MD-audio structures which are used by AV/C Disc Subunit Model and Command set.

Keywords: Audio, Video, 1394, Digital, Interface, MD

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1. Normative References

1.1 Related Specifications

- [1]IEEE Std 1394-1995, Standard for a High Performance Serial Bus
- [2]ISO/IEC 13123:1994, Control and Status Register (CSR) Architecture for Microcomputer Buses
- [3]IEC-61883, Digital Interface for Consumer Electronic Audio/Video Equipment
- [4]AV/C Digital Interface Command Set General Specification, version 3.0 and Enhancement to the AV/C General Specification 3.0, version 1.0.
- [5]AV/C Disc Subunit Model and Command Set, version 1.0
- [6]MD control application specification version 1.0, Sony Corporation

1.2 Contact Information

1.2.1 1394 Trade Association (1394TA)

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2. Change History

There are no change notes for version 1.0 of the document.

3. Definitions and abbreviations

3.1 Conformance glossary

Several keywords are used to differentiate between different levels of requirements and optionality, as follows:

- expected:** A keyword used to describe the behavior of the hardware or software in the design models assumed by this specification. Other hardware and software design models may also be implemented.
- may:** A keyword that indicates flexibility of choice with no implied preference.
- shall:** A keyword indicating a mandatory requirement. Designers are required to implement all such mandatory requirements to ensure interoperability with other products conforming to this specification.
- should:** A keyword indicating flexibility of choice with a strongly preferred alternative. Equivalent to the phrase "is recommended."

3.2 Technical glossary

- Frame:** Frames per second = 86 for MD audio.
- MD:** Mini Disc.
- MD-audio:** Mini Disc audio format.
- MD-clip:** MD-clip is an extended specification of MD-audio. It contains the MD-audio specification with additional digital still image and text information.
- DSI:** Digital Still Image.

4. Abstract

This document defines the MD-audio system specification for AV/C Disc subunit. This document is used in conjunction with the *AV/C Disc Subunit Model and Command Set version 1.0*.

5. Disc Subunit Identifier Descriptor

5.1 Size of list ID, object ID and object position

The size value of list ID, object ID, and object position shall be as follows.

field name	value
size of list ID	02 ₁₆
size of object ID	00 ₁₆
size of object position	02 ₁₆

Table 5-1 The size value of list ID, object ID, and object position

5.2 Type dependent information

The *type_dependent_information* field contains information that is specific to each type of medium supported by the subunit.

Address Offset	msb						lsb
MD-Audio type-dependent information							
00 ₁₆	MD-audio_version						
01 ₁₆	supports_MD-clip	reserved					

Table 5-2 MD-Audio type-dependent information

The *MD-audio_version* field indicates the version number of MD-audio specification that this disc subunit conforms to. The upper 4bits shows major version number, and lower 4bits shows minor version number.

MD-audio_version	meaning
10 ₁₆	Version 1.0 of the MD-audio specification
all others	Reserved for future specification

Table 5-3 MD-audio_version

The *supports_MD-clip* bit specifies whether this subunit has the ability to access MD-clip data with such specially formatted MD media. If the bit is set to 1, then the subunit has this ability.

6. Disc Subunit Status Descriptor

6.1 Number of bytes for operation mode

The primary_fields of operating mode shall be 3 bytes. FF₁₆ pad bytes if necessary.

7. Object Entry

7.1 Object and List

The object name and its list is shown. The x indicates that the Subunit may contain this object. For example, a subunit without MD-clip access ability does not contain Digital Still Image object. Refer to the profile section for object and list implementation.

Object Name	List which contains the Object	without MD-clip	with MD-clip
Audio Track Object	Contents List	x	x
Digital Still Image Object	Contents List		x
Textual Object	Contents List		x
Child Directory Object	All Lists	x	x
Performance Object	Performance List	x	x
Synchronized Performance Object	Synchronized Performance List		x
Text Database Object	Text Database List	x	x

Table 7-1 object name and its list

7.2 Audio Track Object entry_specific_information

The structure of the entry_specific_information in Audio Track Object is shown.

Audio Track Object entry_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_object_attributes
:	
:	audio_recording_parameters_info_block
:	
:	size_indicator_info_block
:	
:	name_info_block(UTO1)
:	
:	name_info_block(UTO4)
:	
:	other info blocks
:	
:	

Table 7-2 Audio Track Object entry_specific_information

The audio_recording_parameters_info_block, the size_indicator_info_block, and the name_info_block are mandatory and shall be described in this order.

The value of each field on the audio_recording_parameters_info_block is shown:

Parameter	value
audio_recording_sample_rate	01 ₁₆ (44.1kHz)
audio_recording_sample_size	10 ₁₆ (16 bit)
audio_compression_mode	90 ₁₆ (ATRAC)
audio_recording_channel_mode	00 ₁₆ (stereo) or 01 ₁₆ (mono)

Table 7-3 audio_recording_parameters_info_block

The value of the size_indicator in the size_indicator_info_block shall be 00₁₆ (HH_M_S_F).

The name_data_reference_type in the name_info_block shall be 01₁₆(Referenced) and descriptor type shall be 20₁₆ (object specify by object position). The actual name_data is stored in Text Database Object.

7.3 Digital Still Image Objectentry_specific_information

The structure of the entry_specific_information in Digital Still Image (DSI) object is shown.

Digital Still Image Object entry_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_object_attributes
:	image_format_info_block
:	
:	
:	
:	size_indicator_info_block (raw_byte_count format)
:	
:	name_info_block
:	
:	other info blocks
:	
:	

Table 7-4 Digital Still Image Object entry_specific_information

The image_format_info_block, the size_indicator_info_block, and the name_info_block are mandatory, and shall be described in this order.

The value of each field on the image_format_info_block is shown.

Parameter	value
image_format	80 ₁₆ (MD1)
image_format_specific	00 ₁₆ (reserved)

Table 7-5 image_format_info_block

The value of the size_indicator in the size_indicator_info_block shall be 01₁₆ (raw_byte_count).

The name_data_reference_type in the name_info_block shall be 01₁₆(Referenced) and descriptor type shall be 20₁₆ (object by object position). The actual name_data is stored in Text Database Object.

Refer to the reference [6] for the image format in detail.

7.4 Textual Object entry_specific_information

The structure of the entry_specific_information in Textual Object is shown.

Textual Object entry_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_object_attributes
:	
:	size_indicator_info_block
:	
:	character_code_info_block
:	
:	file_format_info_block
:	
:	text_content_type_info_block
:	
:	other info blocks
:	
:	
:	

Table 7-6 Textual Object entry_specific_information

The size_indicator_info_block, the character_code_info_block, the file_format_info_block, and the text_content_type_info_block shall be described in this order.

The value of the size_indicator in the size_indicator_info_block shall be 01₁₆ (raw_byte_count).

The character_code_type is defined in reference [6].

The value of the file_format field in the file_format_info_block shall be 80₁₆ (MD1) or, 81₁₆ (MD2).

The value of the text_content_type field in the text_content_type_info_block shall be 00₁₆ (lyrics), 03₁₆ (song information) or FF₁₆ (unspecified).

Refer to the reference [6] for the character code, file format and text content type in detail.

7.5 Child Directory Object entry_specific_information

The structure of the entry_specific_information in Child Directory Object is shown.

Child Directory Object entry_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_object_attributes

Table 7-7 Child Directory Object entry_specific_information

7.6 Performance Object entry_specific_information

The structure of the entry_specific_information in Performance Object is shown.

Performance Object entry_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_object_attributes
00 03 ₁₆	
:	descriptor_reference_info_block
:	
:	presentation_start_time_info_block
:	
:	presentation_end_time_info_block
:	
:	content_entry_point_info_block
:	
:	content_exit_point_info_block
:	
:	other info blocks
:	

Table 7-8 Performance Object entry_specific_information

The descriptor_reference_info_block is mandatory and the descriptor type shall be 20₁₆ (object by object position).

For the default performance list, the presentation_start_time, the presentation_end_time info block are mandatory, the content_entry_point and the content_exit_point are optional. The indicator type value of these info blocks shall be 02₁₆ (absolute_HMSF_count).

The order of the information blocks shall be as above.

7.7 Synchronized Performance Object entry_specific_information

The structure of the entry_specific_information in Synchronized Performance Object is shown.

Synchronized Performance Object entry_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_object_attributes
00 03 ₁₆	
00 04 ₁₆	performance specifier
00 05 ₁₆	
:	other info blocks
:	

Table 7-9 Synchronized Performance Object entry_specific_information

The performance specifier contains the number that specifies the position of a performance object in a list.

7.8 Text Database Object entry_specific_information

The structure of the entry_specific_information in Text Database Object is shown.

Text Database Object entry_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_object_attributes
:	text_database_content_attributes_info_block
:	
:	
:	
:	character_code_info_block
:	
:	
:	raw_text_info_block
:	
:	
:	other info blocks
:	
:	

Table 7-10 Text Database Object entry_specific_information

The text_database_content_attributes_info_block, the character_code_info_block, and the raw_text_info_block are mandatory, and shall be described in this order.

The character_code_type is defined in reference [6].

Refer to the reference [6] for the character code in detail.

8. Object List

8.1 List ID assignment

The list ID allocation for each list is shown. The x indicates that the Subunit may contain this object. For example, the subunit without MD-clip access ability does not contain Digital Still Image contents list. Refer to the profile section for object and list implementation.

list type		contents	list ID	without MD-clip	with MD-clip	
Contents list	Root		1000 ₁₆	x	x	
	Child	Audio	1001 ₁₆	x	x	
		DSI	1002 ₁₆		x	
		Disc textual object	1003 ₁₆		x	
		Disc DSI	1004 ₁₆		x	
		Textual object	1100 ₁₆ - 11FF ₁₆		x	
		reserved	1005 ₁₆ - 10FF ₁₆			
Temporary Contents list	Root		1200 ₁₆	x	x	
	Child	Audio	1201 ₁₆	x	x	
		DSI	1202 ₁₆		x	
		Disc textual object	1203 ₁₆		x	
		Disc DSI	1204 ₁₆		x	
		Textual object	1300 ₁₆ - 13FF ₁₆		x	
Performance list	Root		1400 ₁₆	x	x	
	main	Default performance for Audio	1401 ₁₆		x	
		Default performance for DSI	1402 ₁₆		x	
		Default performance for text	1403 ₁₆		x	
		User defined main performance list	1404 ₁₆ - 14FF ₁₆	x	x	
	child	Default performance for DSI	1500 ₁₆ - 15FF ₁₆		x	
		Default performance for text	1600 ₁₆ - 16FF ₁₆		x	
		User defined child performance list	1900 ₁₆ - 1FFF ₁₆		x	
	Synchro performance list	Root		1700 ₁₆		x
		child	Default synchro performance list	1701 ₁₆		x
User defined child synchro performance list			1702 ₁₆ - 17FF ₁₆		x	

Table 8-1 List ID assignment

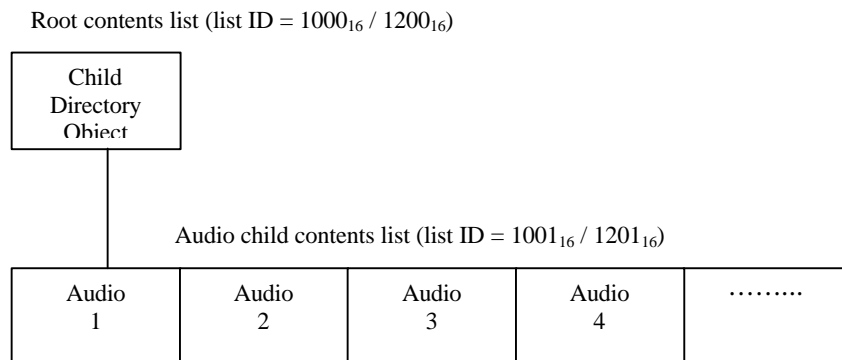
list type	contents		list ID	without MD-clip	with MD-clip
Text Database list	Root		1800 ₁₆	x	x
	Child	Disc Title (UTOC1,UTOC4,DSI)	1801 ₁₆	x	x
		Audio Entry Title UTOC1	1802 ₁₆	x	x
		Audio Entry Title UTOC4	1803 ₁₆	x	x
		DSI Entry Title	1804 ₁₆		x
		other text database list	1805 ₁₆ -18FF ₁₆	x	x
reserved			2000 ₁₆ -3FFF ₁₆		

8.2 MD-audio without MD-clip

8.2.1 Contents List

8.2.1.1 List Structure

The whole structure of the Contents List is shown:



“MD-audio track number” = “position number of the Audio child contents list” + 1
 MD-audio track starts from 1.

Figure 8-1 The whole structure of the Contents List

8.2.1.2 Root Contents List list_specific_information

The structure of the list_specific_information in Root Contents List is shown.

Root Contents List list_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_list_attributes
00 03 ₁₆	media_type
00 04 ₁₆	
00 05 ₁₆	disc_recordable_information
00 06 ₁₆	
:	time_stamp_info_block
:	(descriptor_modification_date_and_time)
:	
:	default_play_list_info_block
:	
:	AV_object_type_specific_capacity_info_block
:	(Audio)
:	
:	name_info_block
:	(UTOC1)
:	
:	name_info_block
:	(UTOC4)
:	
:	other info blocks
:	

Table 8-2 Root Contents List list_specific_information

The time_stamp_info_block, the default_play_list_info_block, the AV_object_type_specific_capacity_info_block and the name_info_block(UTOC1,UTOC4), are mandatory, and shall be described in this order.

The media_type is defined in reference [6].

The value of the capacity_format_indicator field in the disc_capacity_info_block shall be 00₁₆ (time).

The name_data_reference_type in the name_info_block shall be 01₁₆(Referenced) and the descriptor type shall be 20₁₆ (object by object position). The actual name data is contained in Text Database Object.

8.2.2 Performance List

8.2.2.1 Total Structure

The whole structure of Performance List is shown.

Root Performance List (list ID = 1400₁₆)

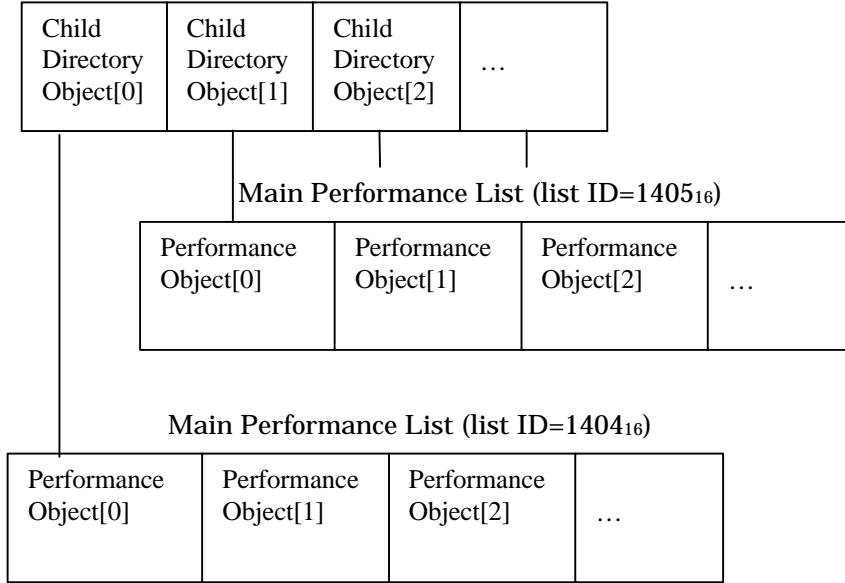


Figure 8-2 The whole structure of Performance List

The list ID of Root Performance List shall be 1400₁₆. Root Performance List contains only Child Directory Object as an object entry. That is, even if there is just one Main Performance List, Root Performance List will contains Child Directory Object.

The value of the list ID of Main Performance List which referred to by the object entry (n) of Root Performance List shall be 1404₁₆ + n₁₆.

8.2.2.2 Root Performance List list_specific_information

The structure of the list_specific_information in Root Performance List is shown.

Root Performance List list_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_list_attributes
00 03 ₁₆	AV_object_type
00 04 ₁₆	time_stamp_info_block
:	
:	
:	number_of_items_info_block
:	
:	
:	other info blocks
:	
:	

Table 8-3 Root Performance List list_specific_information

The time_stamp_info_block and the number_of_items_info_block are mandatory and shall be described in this order.

AV_object_type is child directory object.

The number_of_items field in the number_of_items_info_block indicates the number of object of Root Performance List; that is the number of child performance list.

8.2.2.3 Main Performance List list_specific_information

The structure of the list_specific_information in Main Performance List is shown.

Main Performance List list_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_list_attributes
00 03 ₁₆	AV_object_type
00 04 ₁₆	
:	time_stamp_info_block
:	
:	
:	size_indicator_info_block
:	
:	
:	number_of_items_info_block
:	
:	
:	other info blocks
:	
:	

Table 8-4 Main Performance List list_specific_information

The time_stamp_info_block, the size_indicator_info_block, and the number_of_items_info_block are mandatory, and shall be described in this order.

AV_object_type shall be Audio Track Object.

The size_indicator_info_block indicates the total time of all the Performance described in this list.

The number_of_items field of the number_of_items_info_block indicates the number of the object included in this main performance list.

8.2.3 Text Database List

8.2.3.1 Total Structure

The whole structure of Text Database List is shown.

Root Text Database List list_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_list_attributes
00 03 ₁₆	time_stamp_info_block
:	
:	
:	other info blocks
:	
:	

Table 8-5 Root Text Database List list_specific_information

The time_stamp_info_block is mandatory.

8.2.3.3 Child Text Database List list_specific_information

The list_specific_information in Child Text Database List is shown.

Child Text Database List list_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_list_attributes
00 03 ₁₆	time_stamp_info_block
:	
:	
:	other info blocks
:	
:	

Table 8-6 Child Text Database List list_specific_information

The time_stamp_info_block is mandatory.

8.3 MD-Audio with MD-clip

8.3.1 Contents List

8.3.1.1 Total Structure

The whole structure of Contents List is shown.

Root contents list (list ID = 1000 / 1200₁₆)

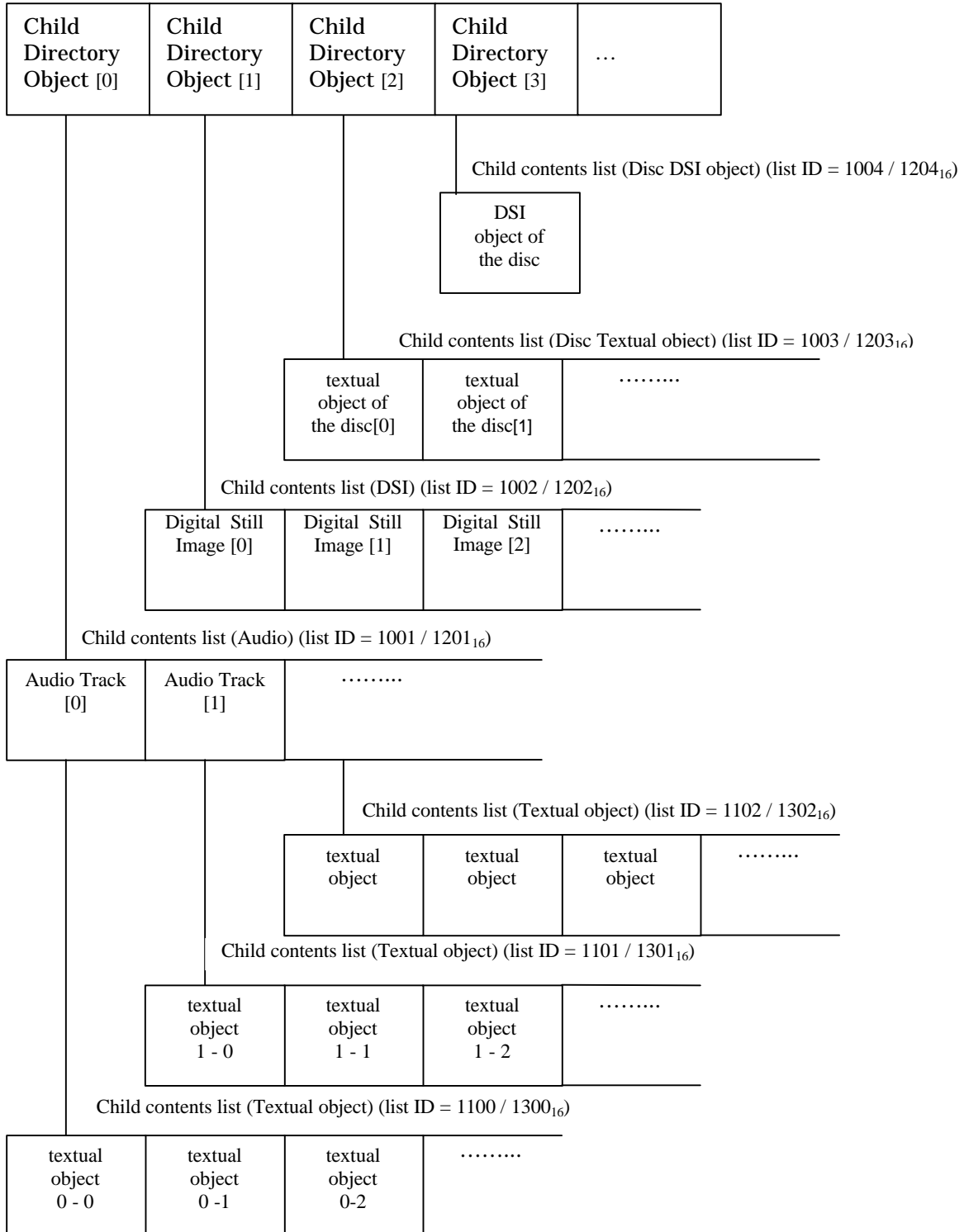


Figure 8-4 The whole structure of Contents List

“MD-audio track number” = “position number of the Audio child contents list” + 1
 MD-audio track starts from 1.

Child Contents List of the list ID = 1001 / 1201₁₆ contains only Audio Track Object as an object entry.

Child Contents List of the list ID = 1002 / 1202₁₆ contains only Digital Still Image Object as an object entry.

Child Contents List of the list ID = 1003 / 1203₁₆ contains only Textual Object for Disc as an object entry. (Disc Title)

Child Contents List of the list ID = 1004 / 1204₁₆ contains only Digital Still Image Object for Disc as an object entry. (Disc Cover picture)

Child Contents List of the list ID = 1100₁₆ - 11FF₁₆ / 1300₁₆ - 13FF₁₆ contains Textual Object as an object entry. The list ID of Child Contents List (textual object) which referred to by the object entry [n] of Audio Contents List shall be 1100₁₆ + n₁₆ / 1300₁₆ + n₁₆.

8.3.1.2 Root Contents List list_specific_information

The structure of the entry_specific_information in Root Contents List is shown.

Root Contents List list_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_list_attributes
00 03 ₁₆	media_type
00 04 ₁₆	
00 05 ₁₆	disc_recordable_information
00 06 ₁₆	
:	time_stamp_info_block
:	
:	
:	default_play_list_info_block
:	
:	
:	AV_object_type_specific_capacity_info_block(Audio)
:	
:	
:	AV_object_type_specific_capacity_info_block(DSI)
:	
:	
:	AV_object_type_specific_capacity_info_block (Textual Object)
:	
:	
:	name_info_block (UTOC1)
:	
:	
:	name_info_block (UTOC4)
:	
:	
:	
:	other info blocks
:	

Table 8-7 Root Contents List list_specific_information

The time_stamp_info_block, the default_play_list_info_block, the AV_object_type_specific_capacity_info_block and the name_info_block are mandatory, and shall be described in this order.

The media_type shall be 0301₁₆ (MD-Audio).

The value of capacity_format_indicator field of the AV_object_type_specific_capacity_info_block (Audio) shall be 00₁₆ (time).

The value of capacity_format_indicator field of the AV_object_type_specific_capacity_info_block (DSI) shall be 01₁₆ (raw byte count).

The value of capacity_format_indicator field of the AV_object_type_specific_capacity_info_block (textual object) shall be 01₁₆ (raw byte count).

The name_data_reference_type in the name_info_block shall be 01₁₆(Referenced) and descriptor type shall be 20₁₆ (object specified by position). The actual name_data is stored in Text Database Object.

8.3.1.3 Child Contents List list_specific_information

The structure of the entry_specific_information in Child Contents List is shown.

Child Contents List list_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_list_attributes
:	
:	time_stamp_info_block
:	
:	number_of_items_info_block
:	
:	other info blocks
:	
:	

Table 8-8 Child Contents List list_specific_information

The time_stamp_info_block and the number_of_items_info_block are mandatory, and shall be described in this order.

8.3.2 Performance List

8.3.2.1 Total Structure

The whole structure of Performance List on MD-clip is shown.

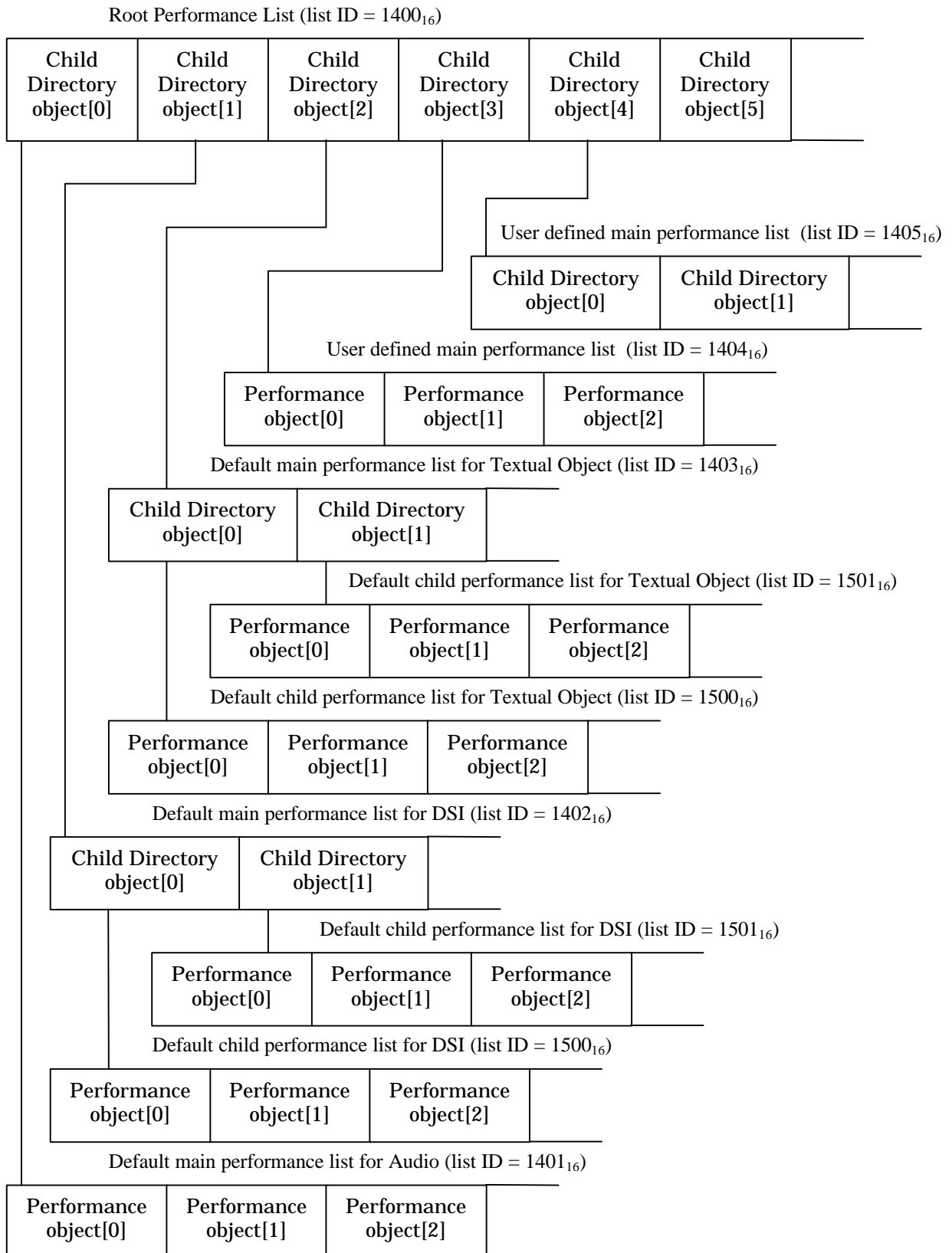


Figure 8-5 The whole structure of Performance List on MD-clip

8.3.2.2 Root Performance List list_specific_information

The structure of the list_specific_information in Root Performance List is shown.

Root Performance List list_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_list_attributes
00 03 ₁₆	AV_object_type
00 04 ₁₆	
:	time_stamp_info_block
:	
:	number_of_items_info_block
:	
:	other info blocks
:	
:	

Table 8-9 Root Performance List list_specific_information

The time_stamp_info_block and the number_of_items_info_block are mandatory, and shall be described in this order.

AV_object_type is Child directory object.

The number_of_items field of the number_of_items_info_block indicates the number of object in Root Performance List.

8.3.2.3 Main and Child Performance List list_specific_information

The following table specifies the structure of the list_specific_information in Main and Child Performance List.

Main and Child Performance List list_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_list_attributes
00 03 ₁₆	AV_object_type
00 04 ₁₆	
:	time_stamp_info_block
:	
:	size_indicator_info_block
:	
:	number_of_items_info_block
:	
:	other info blocks
:	
:	

Table 8-10 Main and Child Performance List list_specific_information

The time_stamp_info_block, the size_indicator_info_block, and the number_of_items_info_block are mandatory, and shall be described in this order.

AV_object_type is child directory object or performance object.

The size_indicator_info_block indicates the total time of all the Performance described in this list.

The number_of_items field in the number_of_items_info_block indicates the number of object of each child Performance List.

8.3.3 Synchronized Performance List

8.3.3.1 Total Structure

The whole structure of the Synchronized Performance List on MD-clip is shown.

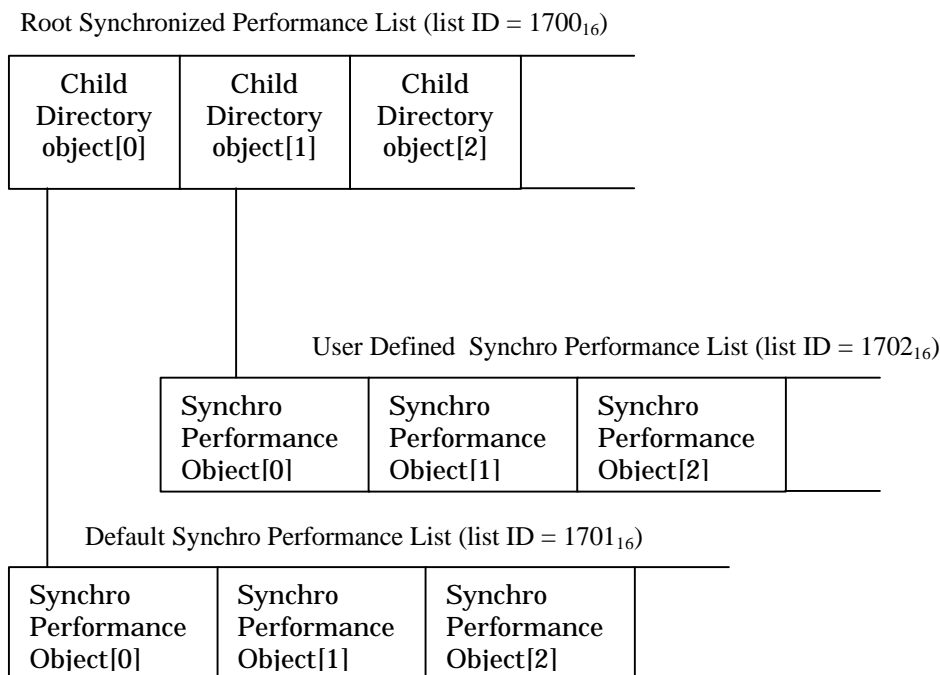


Figure 8-6 The whole structure of the Synchronized Performance List on MD-clip

8.3.3.2 Root and child Synchronized Performance List list_specific_information

The structure of the list_specific_information in Root and Child Synchronized Performance List is shown.

Root and Child Synchronized Performance List list_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_list_attributes
00 03 ₁₆	synchro_performance_list_and_plug_pair_info_block
:	
:	
:	time_stamp_info_block (descriptor modification time)
:	
:	
:	number_of_items_info_block
:	
:	
:	other info blocks
:	
:	

Table 8-11 Root and Child Synchronized Performance List list_specific_information

The synchro_performance_list_and_plug_pair_info_block, time_stamp_info_block, and the number_of_items_info_block are mandatory, and shall be described in this order.

8.3.4 Text Database List

8.3.4.1 Total Structure

The whole structure of Text Database List on MD-clip is shown.

Root Text Database List (list ID = 1800₁₆)

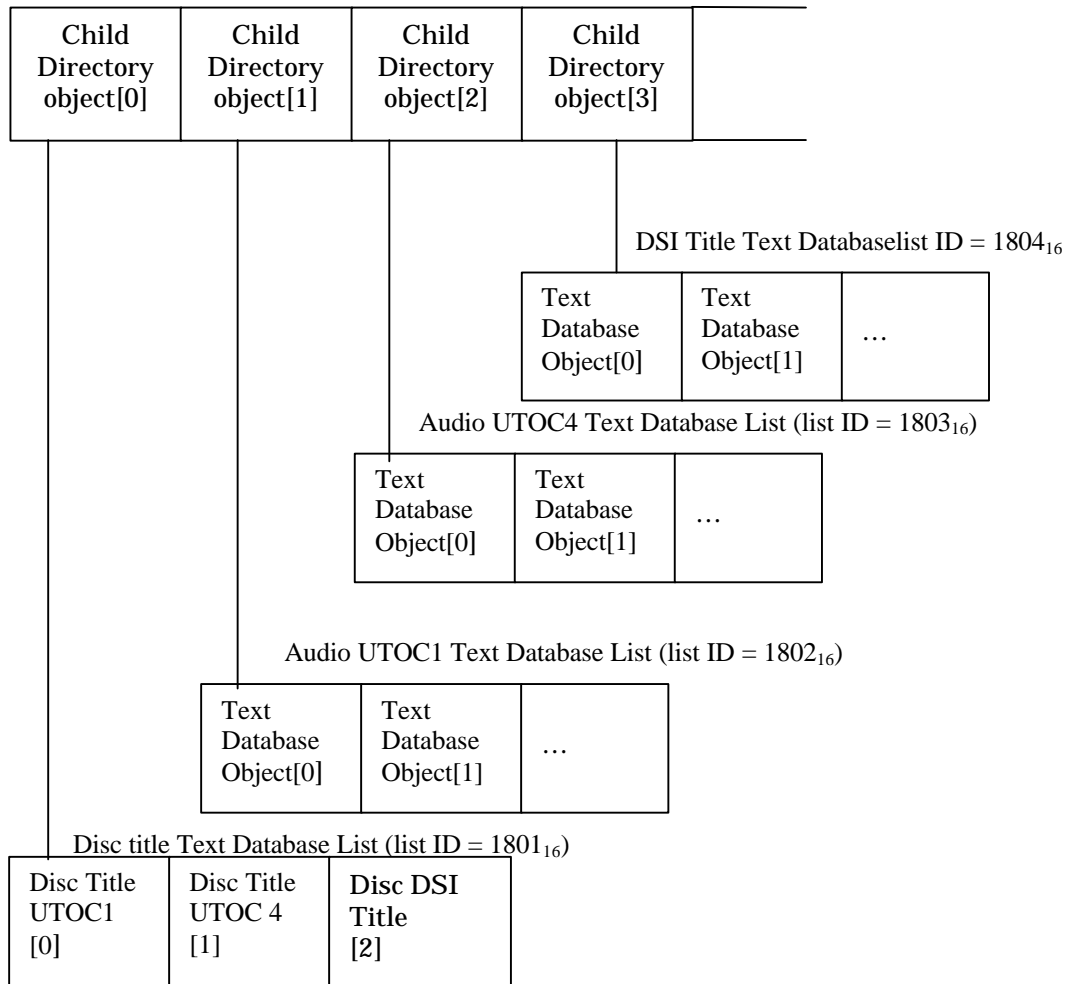


Figure 8-7 The whole structure of Text Database List on MD-clip

The value of the list ID in Root Text Database List shall be 1800₁₆. In addition, Root Text Database List contains Child Directory Object as an object entry. There are two levels in hierarchy. Root Text Database List and Child Text Database List.

The list ID of Child Text Database List referred to by object entry [n] of Root Text Database List shall be only three as 1801₁₆ + n₁₆.

Text Database Object[0] of Child Text Database List of the list ID = 1801₁₆ contains the UTOC1 title of the Disc in the Root Contents list. (list ID = 1000₁₆)

Text Database Object[1] of Child Text Database List of the list ID = 1801₁₆ contains the UTOC4 title of the Disc in the Root Contents list. (list ID = 1000₁₆)

Text Database Object[2] of Child Text Database List of the list ID = 1801₁₆ contains the title of the Disc DSI (cover picture) in the Disc DSI list (list ID = 1004/1204₁₆)

Text Database Object[n] in the Child Text Database List of the list ID = 1802₁₆ contains the UTOC1 title of Audio Track Object[n] of the Audio contents list (list ID = 1001/1201₁₆).

Text Database Object[n] in the Child Text Database List of the list ID = 1803₁₆ contains the UTOC4 title of Audio Track Object[n] of the Audio contents list (list ID = 1001/1201₁₆).

Text Database Object[n] in the Child Text Database List of the list ID = 1804₁₆ contains the title of DSI Object[n] of the DSI contents list(list ID = 1002/1202₁₆)

8.3.4.2 Root Text Database List list_specific_information

The structure of the list_specific_information in Root Text Database List is shown.

Root Text Database List list_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_list_attributes
00 03 ₁₆	time_stamp_info_block
:	
:	
:	other info blocks
:	
:	

Table 8-12 Root Text Database List list_specific_information

The time_stamp_info_block is mandatory.

8.3.4.3 Child Text Database List list_specific_information

The structure of the list_specific_information in Child Text Database List is shown.

Child Text Database List list_specific_information	
Address Offset	Contents
00 00 ₁₆	non_info_block_fields_length
00 01 ₁₆	
00 02 ₁₆	disc_subunit_list_attributes
00 03 ₁₆	time_stamp_info_block
:	
:	
:	other info blocks
:	
:	

Table 8-13 Child Text Database List list_specific_information

The time_stamp_info_block is mandatory.

9. Profile

implementation_ profile_ID	meaning
20 ₁₆	Network MD - it implements at least the follows: 1) Subunit identifier descriptor 2) Disc subunit status descriptor operating_mode_info_block, position_info_block, plug_configuration_info_block 3) Contents list 4) Command support PLAY(forward, forward pause), STOP, SEARCH(relative unit, unit=track) If it is Recorder: RECORD(new)),ERASE
50 ₁₆	Program play MD - it implements at least the follows: 1) Subunit identifier descriptor 2) Disc subunit status descriptor operating_mode_info_block, position_info_block, plug_configuration_info_block 3) Contents list 4) Performance list 5) Command support PLAY(forward, forward pause), STOP, SEARCH(relative unit, unit=track) CONFIGURE If it is Recorder: RECORD(new)), ERASE
70 ₁₆	Editing MD - it implements at least the follows: 1) Subunit identifier descriptor 2) subunit status descriptor operating_mode_info_block, position_info_block plug_configuration_info_block, 3) Contents list 4) Text database list 5) Performance list If it has MD-clip ability : Default Synchro Performance list 6) command support PLAY(forward, forward pause) STOP SEARCH(relative unit, unit=track) CONFIGURE COMBINE, DIVIDE, MOVE, REHEASAL If it is Recorder: RECORD(new)), ERASE If it has MD-clip ability : OBJECT NUMBER SELECT If it is Recorder and has MD-clip ability : RECORD OBJECT
all others	

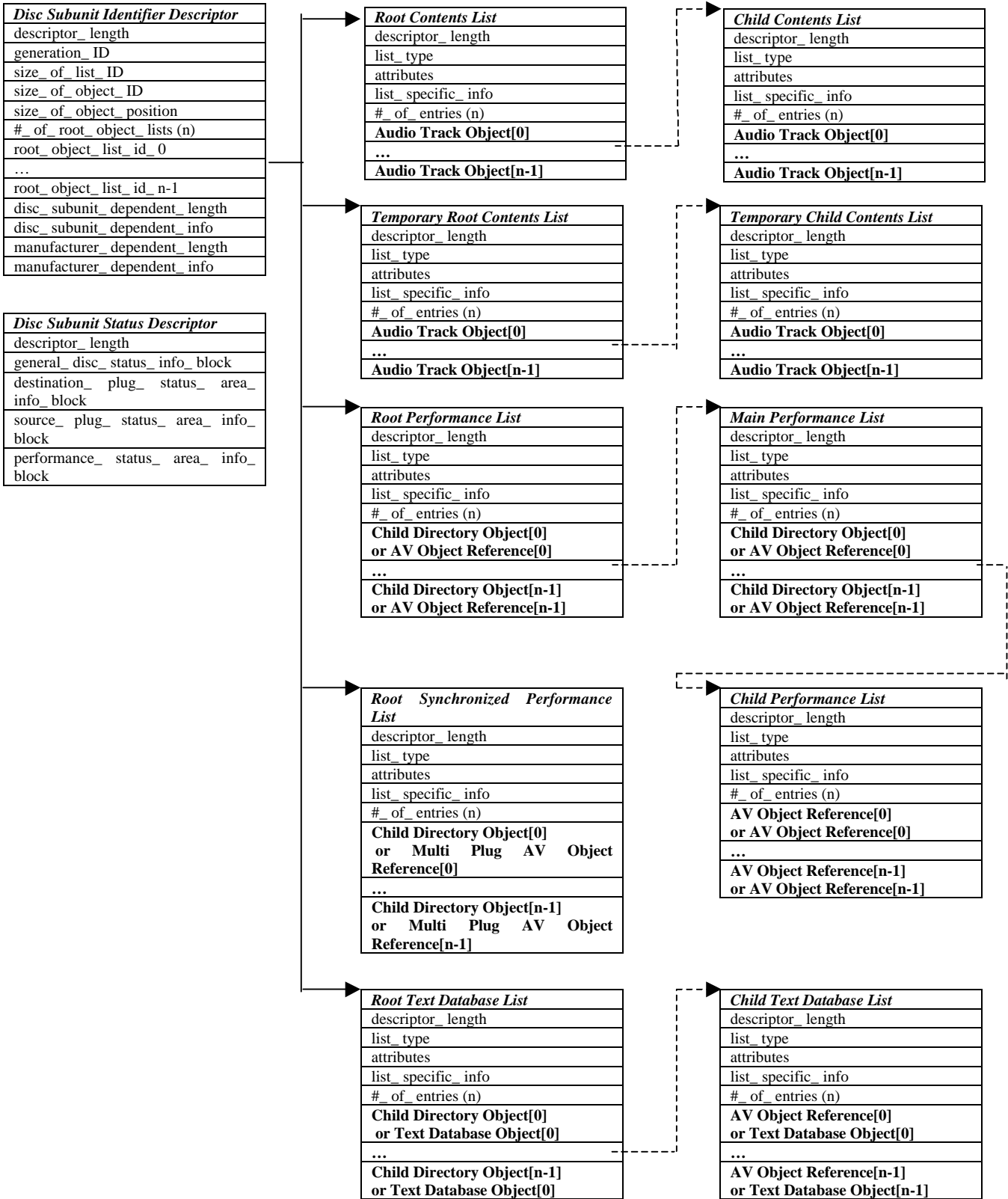
Table 9-1 implementation_profile_ID

A. APPENDIX Structure of the Descriptors Defined in the Disc Model (INFORMATIVE)

This is written to help the reader to understand the Disc specification.
This does not restrict any implementation.

This shows one example of the structure of the descriptors which are defined in the AV/C Disc Subunit Model and Command Set.

A.1. Whole structure



A.2. Disc Subunit Identifier Descriptor

descriptor_length	2			
generation_ID	1			
size_of_list_ID	1			
size_of_object_id	1			
size_of_object_position	1			
#_of_root_object_lists(n)	2			
root_object_list_id_0	x			
...				
root_object_list_id_n-1	x			
disc_subunit_dependent_length	2			
disc_subunit_dependent_info	disc_subunit_dependent_info_fields_length	2		
	attributes	1	<i>has_more_attributes</i> <i>/supports_copyright</i>	
	disc_subunit_version	1		
	#_of_supported_media_types(n)	1		
	supported_media_type_specification[0]	supported_media_type	2	<i>CD / MD</i>
		implementation_profile_ID	1	
		media_type_attributes	1	<i>has_more_attributes</i> <i>/can_record</i> <i>/supports_hierarchical_storage</i> <i>/supports_two_sided_media</i>
		type_dependent_length	2	
		type_dependent_info	x	<i>supported_media_type = CD-DA</i> CD-DA_version / 1 supports_CD_text / 1 reserved <i>supported_media_type = MD-Audio</i> MD-audio_version / 1 supports_MD_clip / 1 reserved
	
	supported_media_type_specification[n-1]		...	
	optional info blocks for future expansion			
	manufacturer_dependent_length	2		
	manufacturer_dependent_info	x		

A.3. Disc Subunit Status Descriptor

descriptor_length	2				
general_disc_subunit_status_area_info_block	compound_length	2			
	info_block_type	2			
	primary_fields_length	2			
	media_and_edit_status_info_block	compound_length	2		
		info_block_type	2		
		primary_fields_length	2		
		disc_in_drive / error_condition / reserved	1		
		undo_status	1		
		difference / auto_update / reserved	1		
	destination_plug_status_area_info_block	compound_length	2		
info_block_type		2			
primary_fields_length		2			
#_of_destination_plugs		2			
plug_status_info_block (destination_plug[0])		compound_length	2		
		info_block_type	2		
		primary_fields_length	2		
		plug_number	1		
		operating_mode_info_block	compound_length	2	
			info_block_type	2	
			primary_fields_length	2	
			operating_mode	1	STOP / RECORD / OBJECT RECORD / SUSPENDED
			operation_mode_specific_info	x	
		current_position_info_block	compound_length	2	
info_block_type			2		
primary_fields_length			2		
list_descriptor_reference			x		
nested_position_indicator_info_blocks			compound_length	2	
			info_block_type	2	
			primary_fields_length	2	
		indicator_type	1		
		indicator_type_specific	x		
...					
plug_configuration_info_block		compound_length	2		
		info_block_type	2		
		primary_fields_length	2		
		AV_object_type	1		
	object_and_plug_type_specific_info	AV_object_type = Audio Object			
		audio_synchro_rec / increment_position_number / level_sync_on_off / reserved	1		
		audio_recording_sample_rate	1		
		audio_recording_sample_size	1		
		audio_compression_mode	1		
		audio_recording_channel_mode	1		
audio_recording_volume		2			
AV_object_type = Digital Still Image					
(No Information)		0			
AV_object_type = Textual Object					
(No Information)		0			
...					

source_plug_status_area_info_block	compound_length	2			
	info_block_type	2			
	primary_fields_length	2			
	#_of_source_plugs	2			
	plug_status_info_block (source_plug[0])	compound_length	2		
		info_block_type	2		
		primary_fields_length	2		
		plug_number	1		
		operating_mode_info_block	compound_length	2	
			info_block_type	2	
			primary_fields_length	2	
		operating_mode	1	STOP / PLAY / OBJECT NUMBER SELECT / REHEASAL / SEARCH / SUSPENDED	
		operation_mode_specific_info	x		
		current_position_info_block	compound_length	2	
	info_block_type		2		
	primary_fields_length		2		
	list_descriptor_reference		x		
	nested_position_indicator_info_blocks		compound_length	2	
		info_block_type	2		
		primary_fields_length	2		
		indicator_type	1		
		indicator_type_specific	x		
	plug_configuration_info_block	compound_length	2		
		info_block_type	2		
		primary_fields_length	2		
		AV_object_type	1		
		object_and_plug_type_specific_info	AV_object_type = Audio Object		
			audio_mute / internal_mute_off / reserved	1	
			variable_pitch_value	1	
			reserved / variable_speed_value	2	
AV_object_type = Digital Still Image					
AV_object_type = Textual Object					
mute / reserved		1			
mute / reserved		1			
playback_order_configuration_info_block	compound_length	2			
	info_block_type	2			
	primary_fields_length	2			
	playback_order	1			
	repeat_mode / reserved	1			
	track_boundary_operation / reserved	1			
	audio_level_meter_status_info_block	compound_length	2		
info_block_type	2				
primary_fields_length	2				
measurement / reserved	1				
#_of_channels (n)	1				
audio_level[0]	4				
...					
audio_level[n-1]	4				
monitor_status_info_block	compound_length	2			
	info_block_type	2			
	primary_fields_length	2			
	monitor / reserved	1			
	destination_plug_number	1			
...					
synchro_plug_group_status_area_info_block	compound_length	2			

info_block_type	2			
primary_fields_length	2			
#_of_synchro_plug_groups	2			
plug_status_info_block (synchro_plug_group(0))	compound_length	2		
	info_block_type	2		
	primary_fields_length	2		
	plug_number	1		
	operating_mode_info_block	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		operating_mode	1	STOP / REHEARSAL / SEARCH / SUSPENDED
	operation_mode_specific_info	operation_mode	x	
		compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		list_descriptor_reference	x	
	nested_position_indicator_info_blocks	nested_position_indicator_info_blocks		
		compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		all_mute_reserved	1	
	synchro_plug_group_configuration_info_block	reserved_variable_speed_value	2	
		compound_length	2	
info_block_type		2		
primary_fields_length		2		
playback_order_configuration_info_block	playback_order	1		
	repeat_mode_reserved	1		
	compound_length	2		
	info_block_type	2		
	primary_fields_length	2		
	track_boundary_operation_reserved	1		
...				

A.4. Audio Track Object

descriptor_length	2														
entry_type	1	<i>Audio Track Object</i>													
attributes	1	<i>has_more_attributes / skip / has_child_ID / has_object_ID / up_to_date</i>													
child_list_ID	x														
object_ID	x														
size_of_entry_specific_info	2														
entry_specific_info	non_info_block_fields_length	2													
	disc_subunit_object_attributes	1	<i>has_more_attributes / contents_locked / descriptor_locked</i>												
	audio_recording_parameters_info_block	compound_length	2												
		info_block_type	2												
		primary_fields_length	2												
		audio_recording_sampling_frequency	1												
		audio_recording_bit_width	1												
		audio_compression_mode	1												
		audio_recording_channel_mode	1												
	optional_info_blocks	time_stamp_info_block (content creation time)	compound_length	2											
			info_block_type	2											
			primary_fields_length	2											
			time_stamp_type	1											
			time_stamp_data	x											
		time_stamp_info_block (content modification time)	compound_length	2											
			info_block_type	2											
			primary_fields_length	2											
			time_stamp_type	1											
			time_stamp_data	x											
		size_indicator_info_block	compound_length	2											
			info_block_type	2											
	primary_fields_length		2												
	size_indicator_type		1												
	size_indicator_type_specific		x												
	name_info_block	compound_length	2												
		info_block_type	2												
		primary_fields_length	2												
		name_data_reference_type	1												
name_data		<table border="1"> <tr> <td colspan="2"><i>name_data_reference_type = Referenced</i></td> </tr> <tr> <td>descriptor_identifier</td> <td>x</td> </tr> <tr> <td colspan="2"><i>name_data_reference_type = Immediate</i></td> </tr> <tr> <td>name_data_attributes</td> <td>1</td> </tr> <tr> <td>maximum_number_of_characters</td> <td>2</td> </tr> </table>					<i>name_data_reference_type = Referenced</i>		descriptor_identifier	x	<i>name_data_reference_type = Immediate</i>		name_data_attributes	1	maximum_number_of_characters
<i>name_data_reference_type = Referenced</i>															
descriptor_identifier	x														
<i>name_data_reference_type = Immediate</i>															
name_data_attributes	1														
maximum_number_of_characters	2														
character_code_info_block	compound_length	2													
	info_block_type	2													
	primary_fields_length	2													
	character_code_type	1													
	character_code_type_specific	x													
language_code_info_block	compound_length	2													
	info_block_type	2													
	primary_fields_length	2													
	language_code_type	1													
	language_code_type_specific	x													



			raw_text_info_block		compound_length	2	
					info_block_type	2	
					primary_fields_length	2	
					raw_text_data	x	
		artist_info_block	compound_length		2		
			info_block_type		2		
			primary_fields_length		2		
			name_info_block				
			description_info_block				
		genre_info_block	image_info_block				
			<i>same format as name_info_block except compound_length field</i>				
		image_info_block	compound_length		2		
			info_block_type		2		
			primary_fields_length		2		
			image_reference		x		
...							

A.5. Digital Still Image Object

descriptor_length	2			
entry_type	1	<i>Digital Still Image Object</i>		
attributes	1	<i>has_more_attributes / skip / has_child_ID / has_object_ID / up_to_date</i>		
child_list_ID	x			
object_ID	x			
size_of_entry_specific_info	2			
entry_specific_info	non_info_block_fields_length	2		
	disc_subunit_object_attributes	1	<i>has_more_attributes / contents_locked / descriptor_locked</i>	
	image_format_info_block	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		image_format_specifier	1	
		image_format	1	
		image_format_specific	x	
	size_indicator_info_block (raw_byte_count format)	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		size_indicator_type	1	
		size_indicator_type_specific	x	
	optional info blocks	time_stamp_info_block (content creation time)		
		time_stamp_info_block (content modification time)		
		name_info_block		
		image_info_block		
...				

A.6. Textual Object

descriptor_length	2		
entry_type	1	<i>Textual Object</i>	
attributes	1	<i>has_more_attributes / skip / has_child_ID / has_object_ID / up_to_date</i>	
child_list_ID	x		
object_ID	x		
size_of_entry_specific_info	2		
entry_specific_info	non_info_block_fields_length	2	
	disc_subunit_object_attributes	1	<i>has_more_attributes / contents_locked / descriptor_locked</i>
	size_indicator_info_block	compound_length	2
		info_block_type	2
		primary_fields_length	2
		size_indicator_type	1
		size_indicator_type_specific	x
	character_code_info_block	compound_length	2
		info_block_type	2
		primary_fields_length	2
		character_code_type	1
		character_code_type_specific	x
	language_code_info_block	compound_length	2
		info_block_type	2
		primary_fields_length	2
		language_code_type	1
		language_code_type_specific	x
	file_format_info_block	compound_length	2
		info_block_type	2
		primary_fields_length	2
		image_format_specifier	1
		image_format_specific	x
	text_content_type_info_block	compound_length	2
info_block_type		2	
primary_fields_length		2	
text_content_type		1	
optional info blocks			

A.7. Child Directory Object

descriptor_length	2					
entry_type	1	<i>Child Directory Object</i>				
attributes	1	<i>has_more_attributes / skip / has_child_ID / has_object_ID / up_to_date</i>				
child_list_ID	x					
object_ID	x					
size_of_entry_specific_info	2					
entry_specific_info	non_info_block_fields_length	2				
	disc_subunit_object_attributes	1	<i>has_more_attributes / contents_locked / descriptor_locked</i>			
	optional info blocks	time_stamp_info_block (descriptor creation time)	compound_length	2		
			info_block_type	2		
			primary_fields_length	2		
		time_stamp_type	1			
		time_stamp_data	x			
		time_stamp_info_block (descriptor modification time)	compound_length	2		
	info_block_type		2			
	primary_fields_length		2			
	time_stamp_type		1			
	time_stamp_data		x			
	...					

A.8. Performance Object

descriptor_length	2			
entry_type	1	<i>Performance Object</i>		
attributes	1	<i>has_more_attributes / skip / has_child_ID / has_object_ID / up_to_date</i>		
child_list_ID	x			
object_ID	x			
size_of_entry_specific_info	2			
entry_specific_info	non_info_block_fields_length	2		
	disc_subunit_object_attributes	1	<i>has_more_attributes / contents_locked / descriptor_locked</i>	
	descriptor_reference_info_block (AV content object reference)	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		AV_content_object_reference	x	
	output_start_time_info_block -OR- presentation_start_time_info_block	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		indicator_type	1	
		indicator_type_specific	x	
	presentation_end_time_info_block	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		indicator_type	1	
		indicator_type_specific	x	
	content_entry_point_info_block	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		indicator_type	1	
	indicator_type_specific	x		
content_exit_point_info_block	compound_length	2		
	info_block_type	2		
	primary_fields_length	2		
	indicator_type	1		
	indicator_type_specific	x		
optional info blocks				

A.9. Synchronized Performance Object

descriptor_length	2		
entry_type	1	<i>Synchronized Performance Object</i>	
attributes	1	<i>has_more_attributes / skip / has_child_ID / has_object_ID / up_to_date</i>	
child_list_ID	x		
object_ID	x		
size_of_entry_specific_info	2		
entry_specific_info	non_info_block_fields_length	2	
	disc_subunit_object_attributes	1	<i>has_more_attributes / contents_locked / descriptor_locked</i>
	performance_specifier	x	
	optional info blocks		

A.10. Text Database Object

descriptor_length	2				
entry_type	1	<i>Text Database Object</i>			
attributes	1	<i>has_more_attributes / skip / has_child_ID / has_object_ID / up_to_date</i>			
child_list_ID	x				
object_ID	x				
size_of_entry_specific_info	2				
entry_specific_info	primary_fields_length	2			
	disc_subunit_object_attributes	1	<i>has_more_attributes / contents_locked / descriptor_locked</i>		
	text_database_content_attributes_info_block	text_database_object_attributes	1	<i>user_modifiable / stored_on_media</i>	
		maximum_number_of_characters	2		
	character_code_info_block	compound_length	2		
		info_block_type	2		
		primary_fields_length	2		
		character_code_type	1		
		character_code_type_specific	x		
	language_code_info_block	compound_length	2		
		info_block_type	2		
		primary_fields_length	2		
		language_code_type	1		
		language_code_type_specific	x		
	raw_text_info_block	compound_length	2		
		info_block_type	2		
		primary_fields_length	2		
raw_text_data		x			
optional info blocks					

A.11. Root Contents List, Root Temporary Contents List

descriptor_length	2			
list_type	1	<i>Root Contents List / Root Temporary Contents List</i>		
attributes	1	<i>has_more_attributes / skip / has_child_ID / has_object_ID / up_to_date</i>		
size_of_list_specific_info	2			
list_specific_info	non_info_block_fields_length	2		
	disc_subunit_list_attributes	1	<i>content_locked / descriptor_locked</i>	
	media_type	2		
	disc_recordable_information	protected / recordable / reserved	1	
	time_stamp_info_block (descriptor modification time)	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		time_stamp_type	1	
		time_stamp_data	x	
	default_play_list_info_block	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		default_play_list_ID	x	
	optional info blocks	disc_capacity_info_block	compound_length	2
			info_block_type	2
			primary_fields_length	2
			capacity_format_indicator	1
			disc_total_playback_capacity_length	2
			disc_total_playback_capacity	x
			disc_maximum_recording_capacity_length	2
			disc_maximum_recording_capacity	x
			disc_remaining_recording_capacity_length	2
			disc_remaining_recording_capacity	x
		AV_object_type_specific_capacity_info_block	compound_length	2
			info_block_type	2
			primary_fields_length	2
			object_type	1
			capacity_format_indicator	1
			object_type_specific_total_playback_capacity_length	2
	object_type_specific_total_playback_capacity		x	
	object_type_specific_maximum_recording_capacity_length		2	
	object_type_specific_maximum_recording_capacity		x	
	object_type_specific_remaining_recording_capacity_length		2	
object_type_specific_remaining_recording_capacity	x			
time_stamp_info_block (content creation)	compound_length	2		
	info_block_type	2		
	primary_fields_length	2		

		time_stamp_type	1															
		time_stamp_data	x															
	time_stamp_info_block (content modification)																	
	time_stamp_info_block (descriptor creation)																	
	disc_catalog_code_info_block	compound_length	2															
		info_block_type	2															
		primary_fields_length	2															
		disc_catalog_code_length	2															
		disc_catalog_code	x															
	name_info_block	compound_length	2															
		info_block_type	2															
		primary_fields_length	2															
		name_data_reference_type	1															
		name_data	<table border="1"> <tr> <td><i>name_data_reference_type = Immediate</i></td> <td></td> </tr> <tr> <td>name_data</td> <td>x</td> </tr> <tr> <td><i>name_data_reference_type = Referenced</i></td> <td></td> </tr> <tr> <td>name_data_attributes</td> <td>1</td> </tr> <tr> <td>maximum_number_of_characters</td> <td>2</td> </tr> <tr> <td>character_code_info_block</td> <td></td> </tr> <tr> <td>language_code_info_block</td> <td></td> </tr> <tr> <td>raw_text_info_block</td> <td></td> </tr> </table>	<i>name_data_reference_type = Immediate</i>		name_data	x	<i>name_data_reference_type = Referenced</i>		name_data_attributes	1	maximum_number_of_characters	2	character_code_info_block		language_code_info_block		raw_text_info_block
<i>name_data_reference_type = Immediate</i>																		
name_data	x																	
<i>name_data_reference_type = Referenced</i>																		
name_data_attributes	1																	
maximum_number_of_characters	2																	
character_code_info_block																		
language_code_info_block																		
raw_text_info_block																		
	artist_info_block																	
	genre_info_block																	
	image_info_block																	
	...																	
#_of_entries	2																	
object_entry[0]		<i>Disc Subunit Object</i>																
...		...																
object_entry[n-1]		...																

A.12. Child Contents List, Child Temporary Contents List

descriptor_length	2			
list_type	1	<i>Child Contents List / Child Temporary Contents List</i>		
attributes	1	<i>has_more_attributes / skip / has_child_ID / has_object_ID / up_to_date</i>		
size_of_list_specific_info	2			
list_specific_info	non_info_block_fields_length	2		
	disc_subunit_list_attributes	1	<i>content_locked / descriptor_locked</i>	
	time_stamp_info_block (descriptor modification time)	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		time_stamp_type	1	
	optional info blocks	time_stamp_info_block (content creation)	compound_length	2
			info_block_type	2
			primary_fields_length	2
			time_stamp_type	1
	optional info blocks	time_stamp_info_block (content modification)	compound_length	2
			info_block_type	2
			primary_fields_length	2
			time_stamp_type	1
	optional info blocks	time_stamp_info_block (descriptor creation)	compound_length	2
			info_block_type	2
			primary_fields_length	2
			time_stamp_type	1
	optional info blocks	disc_catalog_code_info_block	compound_length	2
			info_block_type	2
			primary_fields_length	2
			disc_catalog_code_length	2
			disc_catalog_code	x
optional info blocks	name_info_block	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		name_data_reference_type	1	
		name_data	<i>name_data_reference_type = Immediate</i>	
			name_data	x
			<i>name_data_reference_type = Referenced</i>	
optional info blocks	name_data	name_data_attributes	1	
		maximum_number_of_characters	2	
		character_code_info_block		
optional info blocks	name_data	language_code_info_block		
		raw_text_info_block		
artist_info_block				
genre_info_block				
image_info_block				
...				
#_of_entries	2			
object_entry[0]		<i>Disc Subunit Object</i>		
...		...		
object_entry[n-1]		...		

A.13. Performance List

descriptor_length	2
-------------------	---

list_type	1	<i>Performance List</i>		
attributes	1	<i>has_more_attributes / skip / has_child_ID / has_object_ID / up_to_date</i>		
size_of_list_specific_info	2			
list_specific_info	non_info_block_fields_length	2		
	disc_subunit_list_attributes	1	<i>content_locked / descriptor_locked</i>	
	AV_object_type	1		
	time_stamp_info_block (descriptor modification)	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		time_stamp_type	1	
		time_stamp_data	x	
	size_indicator_info_block (total duration of all performances in list)	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		size_indicator_type	1	
		size_indicator_type_specific	x	
	optional info blocks			
#_of_entries	2			
object_entry[0]		<i>Performance Object</i>		
...		...		
object_entry[n-1]		...		

A.14. Synchronized Performance List

descriptor_length	2		
list_type	1	<i>Synchronized Performance List</i>	
attributes	1	<i>has_more_attributes / skip / has_child_ID / has_object_ID / up_to_date</i>	
size_of_list_specific_info	2		
list_specific_info	non_info_block_fields_length	2	
	disc_subunit_list_attributes	1	<i>content_locked / descriptor_locked</i>
	synchrono_performance_list_and_plug_pairs_info_block	compound_length	2
		info_block_type	2
		primary_fields_length	2
		#_of_performance_list_plug_pairs (n)	1
		performance_list_ID[0]	x
		source_plug[0]	1
		...	
		performance_list_ID[n-1]	x
		source_plug[n-1]	1
		time_stamp_info_block (descriptor modification)	compound_length
		info_block_type	2
		primary_fields_length	2
		time_stamp_type	1
		time_stamp_data	x
	size_indicator_type_specific	x	
optional info blocks			
#_of_entries	2		
object_entry[0]		<i>Synchronized Performance Object</i>	
...		...	
object_entry[n-1]		...	

A.15. Text Database List

descriptor_length	2			
list_type	1	<i>Text Database List</i>		
attributes	1	<i>has_more_attributes / skip / has_child_ID / has_object_ID / up_to_date</i>		
size_of_list_specific_info	2			
list_specific_info	non_info_block_fields_length	2		
	disc_subunit_list_attributes	1	<i>content_locked / descriptor_locked</i>	
	time_stamp_info_block (descriptor modification)	compound_length	2	
		info_block_type	2	
		primary_fields_length	2	
		time_stamp_type	1	
		time_stamp_data	x	
	size_indicator_type_specific	x		
optional info blocks				
#_of_entries	2			
object_entry[0]		<i>Text Database Object</i>		
...		...		
object_entry[n-1]		...		

B. APPENDIX Application Note (INFORMATIVE)

This is written to help the reader to understand the Disc specification.
This does not restrict any implementation.

In this appendix, an MD-Audio (without MD-clip) control example with AV/C Disc Model is introduced.

B.1. Hardware Configuration and Initial Setting

In the following MD-Audio (without MD-clip) control example, a model shown in Fig. B-1 is used. The MD has one destination plug and one source plug. These plugs are connected to the input plug and output plug of the unit respectively. In this example, it is assumed that the MD has one main performance list, while a device may have actually more than one main performance list.

The controller is also assumed to have read the descriptor in the MD in advance and obtained information on the contents of the disc presently inserted in the MD by reading the descriptor.

The controller must still perform the other tasks such as CONNECT, setting PCR's, bandwidth allocation, etc. In the example of recording from CD to MD described in B.3., it is assumed that the same treatment as above-mentioned MD has been conducted.

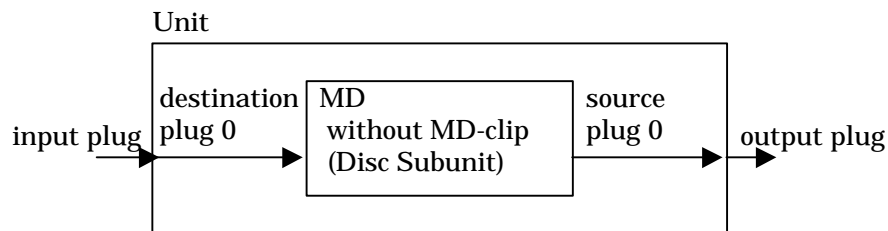


Fig. B-1

B.2. Playback

B.2.1. Normal Playback

Scenario: The controller wants to cause a disc subunit to playback an audio-track (for example Track 2) on the disc subunit.

- 1) Configures the source plug 0.

Configure object_ and_ plug_ type_ specific_ information.

contents		parameter	byte
common command header part	opcode	0xD1 (CONFIGURE)	1
	result	0xFF	1
	subfunction	0x01 (configuration_state = set a specified configuration)	1
	reserved	0x00	1
plug_ identifier_ part	config_ plug	plug_ type	0x00 (source plug)
		plug_ id	0x00 (plug 0)
original	info_ block_ type		0x8807 (plug configuration info block)
	configuration_ information	AV_ object_ type	0x01 (Audio Track)
		audio_ mute	0b0 (external audio muting is not in effect)
		internal_ mute_ off	0b0 (internal muting is on)
		variable_ pitch_ value	0x00 (0 cent)
		variable_ speed_ value	0x0000 (0%)

Configure playback order.

contents		parameter	byte
common command header part	opcode	0xD1 (CONFIGURE)	1
	result	0xFF	1
	subfunction1	0x01 (configuration_state = set a specified configuration)	1
	reserved	0x00	1
plug_ identifier_ part	config_ plug	plug_ type	0x00 (source plug)
		plug_ id	0x00 (plug 0)
original	info_ block_ type		0x8808 (playback order configuration info block)
	configuration_ information	playback order	0x00 (in order)
		repeat mode	0b00 (play the list specified in the configuration then stop)
		track boundary operation	0b00 (no special operation at the track boundary)

Associates Audio child contents list to source plug 0.

contents		parameter	byte	
common command header part	opcode	0xD3 (ASSOCIATE LIST WITH PLUG)	1	
	result	0xFF	1	
	subfunction1	0x01 (association_state = set a specified list/plug association)	1	
	reserved	0x00	1	
plug_identifier_part	associated_plug	plug_type	0x00 (source plug)	1
		plug_id	0x00 (plug 0)	1
descriptor_identifier_part	associated_list_id	descriptor_type	0x10 (object list descriptor - specified by list ID)	1
		list_ID	0x1001 (list ID = Audio child contents list)	2

2) Searches desired object_position. A track on the MD (without MD-clip) is specified.

contents		parameter	byte	
common command header part	opcode	0x50 (SEARCH)	1	
	result	0xFF	1	
	subfunction1	0x01 (search_type = absolute_unit)	1	
	reserved	0x00	1	
plug_identifier_part	source_plug	plug_type	0x00 (source plug)	1
		plug_id	0x00 (plug 0)	1
control_position_indicator_part /original	measurement_unit	0x00 (track)	1	
	count	0x0001 (example; search for track 2)	2	

3) Playbacks specified source plug.

contents		parameter	byte	
common command header part	opcode	0xC3 (PLAY)	1	
	result	0xFF	1	
	subfunction1	0x75 (FORWARD: Playback at normal speed)	1	
	reserved	0x00	1	
plug_identifier_part	source_plug	plug_type	0x00 (source plug)	1
		plug_id	0x00 (plug 0)	1

B.2.2. Special Playbacks Using Configuration (Shuffle Playback and Random Playback)

Scenario: The controller wants to cause a disc subunit to playback the audio-track on the disc subunit with the special playback mode.

- 1) Configures the source plug in the same manner as described in B.2.1. Sets a playback_order in accordance with the special playback mode.

Configure playback order.

contents		parameter	byte	
common command header part	opcode	0xD1 (CONFIGURE)	1	
	result	0xFF	1	
	subfunction1	0x01 (configuration_state = set a specified configurations)	1	
	reserved	0x00	1	
plug_ identifier _ part	config_ plug	plug_ type	0x00 (source plug)	1
		plug_ id	0x00 (plug 0)	1
original	info_ block_ type		0x8808 (playback order configuration info block)	2
	configuration _ information	playback order	0x01 (shuffle) or 0x02 (Random)	1
		repeat mode	0b00 (play the list specified in the configuration then stop)	1
		track boundary operation	0b00 (no special operation at the track boundary)	1

- 2) Playbacks the specified source plug in the same manner as described in B.2.1.

B.2.3. Program Playback Using Performance list

Scenario: The controller wants to cause a disc subunit to playback the audio-track on the disc subunit according to the main performance list.

- 1) Disc subunit (MD) already has a root performance list and main performance lists, which are child lists of root performance list. The number of main performance lists depends on implementation.
At first, a main performance list has no performance object. The controller creates some performance objects into the main performance list using CREATE DESCRIPTOR command. The structure of the performance object depends on the subunit. For example, some subunits have performance objects only with descriptor_ reference_ info_ block, but others have performance objects with descriptor_ reference_ info_ block and content_ entry_ point_ info_ block.

Open the main performance list for write access.

contents		parameter	byte
opcode		0x08 (OPEN DESCRIPTOR)	1
descriptor_ identifier	descriptor_ type	0x10 (object list descriptor - specified by list ID)	1

	list_ID	0x1404 (ID of main performance list)	2
sub function		0x03 (WRITE OPEN)	1
reserved		0x00	1

Create a performance object.

contents		parameter	byte	
common command header part	opcode	0x0C (CREATE DESCRIPTOR)	1	
	result	0xFF	1	
	subfunction1	0x00 (create new descriptor)	1	
	reserved	0x00	1	
descriptor_ identifier_ where	descriptor_ identifier	descriptor_ type	0x20 (object entry descriptor - specified by object position)	1
		list_ID	0x1404 (ID of main performance list)	2
		object_ position	0x0000	2
descriptor_ identifier_ what	descriptor_ identifier	descriptor_ type	0x22 (object - specified by object type)	1
		object_ type	0xB1 (performance object)	1

Write performance_list AV_content_object_reference

contents		parameter	byte
opcode		0x07 (WRITE INFO BLOCK)	1
info_ block_ reference_ path	number_ of_ levels	0x02	1
	descriptor_ type	0x20 (object list descriptor - specified by list ID)	1
	list_ID	0x1404 (main performance list)	2
	object_ position	0x0000 (object_entry[0])	2
	descriptor_ type	0x30 (info block - specified by type and instance position)	1
	info_ block_ type	0x000F (descriptor_ reference_ info_ block)	2
	instance_ count	0x00	1
subfunction "partial replace"		0x50 (partial_ replace)	1
group_ tag		0x00 (immediate)	1
replacement_data_ length		0x05	1
address		0x00	1
original_data_ length		0x05	1
replacement_info_block_data (AV content object reference)	descriptor_ type	0x20 (object entry descriptor - specified by object position)	1
	list_ID	0x1001 (Audio child contents list)	2
	object_ position	0x0002 (ex; track 3)	2

Write performance_list presentation start time (H:M:S:x10ms = 0:00:00:00)

contents		parameter	byte
opcode		0x07 (WRITE INFO BLOCK)	1
info_ block_ reference_ path	number_ of_ levels	0x02	1
	descriptor_ type	0x20 (object list descriptor - specified by list ID)	1

	list_ID		0x1404 (main performance list)	2	
	object_position		0x0000 (object_entry[0])	2	
	descriptor_identifier		0x30 (info block - specified by type and instance position)	1	
	info_block_type		0x800E (presentation_start_time_info_block)	2	
	instance_count		0x00	1	
subfunction "partial replace"			0x50 (partial_replace)	1	
group_tag			0x00 (immediate)	1	
replacement_data_length			0x06	1	
address			0x00	1	
original_data_length			0x06	1	
replacement_info_block_data (presentation_start_time_info_block)	indicator_type		0x09 (absolute_clock_time)	1	
		absolute clock time position specification	hours	0x0000	2
			minutes	0x00	1
			seconds	0x00	1
			x10ms	0x00	1

Write performance_list presentation end time (all FF means that the presentation_end_time is the same as the performance end time)

contents		parameter	byte		
opcode		0x07 (WRITE INFO BLOCK)	1		
info_block_reference_path	number_of_levels	0x02	1		
	descriptor_type	0x20 (object list descriptor - specified by list ID)	1		
	list_ID	0x1404 (main performance list)	2		
	object_position	0x0000 (object_entry[0])	2		
	descriptor_identifier	0x30 (info block - specified by type and instance position)	1		
	info_block_type	0x800F (presentation_end_time_info_block)	2		
	instance_count	0x00	1		
subfunction "partial replace"			0x50 (partial_replace)	1	
group_tag			0x00 (immediate)	1	
replacement_data_length			0x06	1	
address			0x00	1	
original_data_length			0x06	1	
replacement_info_block_data (presentation_end_time_info_block)	indicator_type		0x09 (absolute_clock_time)	1	
		absolute clock time position specification	hours	0xFFFF	2
			minutes	0xFF	1
			seconds	0xFF	1
			x10ms	0xFF	1

Write performance_list content entry point (H:M:S:x10ms = 0:00:00:00)

contents		parameter	byte
opcode		0x07 (WRITE INFO BLOCK)	1
info_block_reference_	number_of_levels	0x02	1

descriptor_type		0x20 (object list descriptor - specified by list ID)	1	
list_ID		0x1404 (main performance list)	2	
object_position		0x0000 (object_entry[0])	2	
descriptor_identifier		0x30 (info block - specified by type and instance position)	1	
info_block_type		0x8010 (content_entry_point_info_block)	2	
instance_count		0x01	1	
subfunction "partial replace"		0x50 (partial_replace)	1	
group_tag		0x00 (immediate)	1	
replacement_data_length		0x06	1	
address		0x00	1	
original_data_length		0x06	1	
replacement_info_block_data (content entry point)	indicator_type	0x09 (absolute_clock_time)	1	
	absolute clock time position specification	hours	0x0000	2
		minutes	0x00	1
		seconds	0x00	1
		x10ms	0x00	1

Write performance_list content exit point (H:M:S:x10ms = FFFF:FF:FF:FF = at the end)

contents		parameter	byte	
opcode		0x07 (WRITE INFO BLOCK)	1	
info_block_reference_path	number_of_levels	0x02	1	
	descriptor_type	0x20 (object list descriptor - specified by list ID)	1	
	list_ID	0x1404 (main performance list)	2	
	object_position	0x0000 (object_entry[0])	2	
	descriptor_identifier	0x30 (info block - specified by type and instance position)	1	
	info_block_type	0x8011 (content_exit_point_info_block)	2	
	instance_count	0x02	1	
subfunction "partial replace"		0x50 (partial_replace)	1	
group_tag		0x00 (immediate)	1	
replacement_data_length		0x06	1	
address		0x00	1	
original_data_length		0x06	1	
info_block_data (content exit point)	indicator_type	0x09 (absolute_clock_time)	1	
	absolute clock time position specification	hours	0xFFFF	2
		minutes	0xFF	1
		seconds	0xFF	1
		x10ms	0xFF	1

Above-mentioned operations, once CREATE DESCRIPTOR and four times WRITE INFO BLOCK, makes one performance object. Controller repeats the operations according to the necessity.

CLOSE (Relinquish use of the descriptor)

contents		parameter	byte
opcode		0x08 (OPEN DESCRIPTOR)	1
descriptor_ identifier	descriptor_ type	0x10 (object list descriptor - specified by list ID)	1
	list_ ID	0x1404 (ID of main performance list)	2
sub function		0x00 (CLOSE)	1
reserved		0x00	1

- 2) Configures the source plug and playback order in the same manner as described in B.2.1.
- 3) Associate the main performance list with plug 0.

contents		parameter	byte
common command header part	opcode	0xD3 (ASSOCIATE LIST WITH PLUG)	1
	result	0xFF	1
	subfunction1	0x01 (association_ state = set specified list/plug association)	1
	reserved	0x00	1
plug_ identifier_ part	associated_ plug	plug_ type	0x00 (source plug)
		plug_ id	0x00 (plug 0)
descripto r_ identifier_ part	associated_ list_ id	descriptor_ type	0x10 (object list descriptor - specified by list ID)
		list_ ID	0x1404 (ID of main performance list)

- 4) Playbacks specified source plug.

contents		parameter	byte
common command header part	opcode	0xC3 (PLAY)	1
	result	0xFF	1
	subfunction1	0x75 (FORWARD: Playback at normal speed)	1
	reserved	0x00	1
plug_ identifier_ part	source_ plug	plug_ type	0x00 (source plug)
		plug_ id	0x00 (plug 0)

B.3. Record

B.3.1. New Record

Scenario: The controller copies a track from CD to MD (without MD-clip).

- 1) Executes CONFIGURE source plug and SEARCH to the source (CD) in the same manner as described in B.2.1.
- 2) Executes CONFIGURE destination plug the Destination (MD), such as setting of monaural /stereo.

Configure destination plug 0.

contents		parameter	byte		
common command header part	opcode		0xD1 (CONFIGURE)	1	
	result		0xFF	1	
	subfunction		0x01 (configuration_ state = set a specified configurations)	1	
	reserved		0x00	1	
plug_ identifier _part	config_ plug	plug_ type	0x01 (destination plug)	1	
		plug_ id	0x00 (plug 0)	1	
original	info_ block_ type		0x8807 (plug configuration info block)	2	
	configuration _ information	AV_ object_ type		0x80 (Audio Track)	1
		object_ and_ plug_ type_ specific_ info	audio_ synchro_ rec	0b0 (Not configured for audio_ synchro_ rec feature.)	1
			increment position number	0b0 (increment position number)	
			level_ sync_ on_ off	0b0	
		audio_ recording_ sampling_ frequency		0x01 (44.1kHz)	1
		audio_ recording_ sample_ size		0x10 (16bit)	1
		audio_ compression_ mode		0x90 (ATRAC)	1
		audio_ recording_ channel_ mode		0x00 (stereo)	1
	audio_ recording_ volume		0x0400 (gain:+0dB)	2	

- 3) Issues a RECORD command to the destination

contents		parameter	byte
common command header	opcode	0xC2 (RECORD)	1

	result	0xFF	1	
	subfunction1	0x75 (rec_state = Forward)	1	
	subfunction2	0x00 (rec_mode = New)	1	
plug_ identifier _part	destination_ plug	plug_type	0x01 (destination plug)	1
		plug_id	0x00 (plug 0)	1
original	new_object_position_number	0xFFFF	2	

4) Issues a PLAY command to the source (CD) , as described B.2.1

B.3.2. Overwrite Record

Scenario: The controller overwrites a specific track of CD in a specific place of MD (without MD-clip).

- 1) CONFIGURE and SEARCH are executed to source equipment (CD) in the same manner as described in B.2.1.
- 2) CONFIGURE is executed to MD in the same manner as described in B.3.1.
- 3) The recording place is confirmed by using PLAY, SEARCH, and REHEARSAL, etc. with MD, if it is necessary.
- 4) RECORD (overwrite) is executed.

contents		parameter	byte	
common command header part	opcode	0xC2 (RECORD)	1	
	result	0xFF	1	
	subfunction1	0x75 (rec_state = Forward)	1	
	subfunction2	0x01 (rec_mode = Overwrite)	1	
plug_ identifier _part	destination_ plug	plug_type	0x01 (destination plug)	1
		plug_id	0x00 (plug 0)	1
original	new_object_position_number	0xFFFF	2	
control_ position_ indicator _part	indicator_type	0x00 (relative_HMSF_count)	1	
	indicator_ type_ specification	object_position_number	0x0002 (ex; Track 3)	2
		+/-	0b0 (plus)	1
		hours	0b000 0000 (0)	
		minutes	0x00 (0)	1
		seconds	0x00 (0)	1
		frames	0x00 (0)	1

5) PLAY is executed to source equipment (CD) in the same manner as described in B.2.1.

B.4. Write Track Title Using Descriptor

Scenario: Soon after recording, the controller accesses text_database_list and write track title.

Subunit already has text database list structures, but no title data. The text database list has the same number of empty text database objects as the number of audio tracks on MD. In the case of

MD-Audio, text database list id for UTOC1 is 0x1802, for UTOC4 is 0x1803. The character code of the character_ code_ info_ block of text database objects is defined in reference [6].

- 1) Open the text database list of MD.

contents		parameter	byte
opcode		0x08 (OPEN DESCRIPTOR)	1
descriptor_ identifier	descriptor_ type	0x10 (object list descriptor - specified by list ID)	1
	list_ ID	0x1803 (ID of text database list)	2
sub function		0x03 (WRITE OPEN)	1
reserved		0x00	1

- 2) Write title into the text database list.

contents		parameter	byte
opcode		0x07 (WRITE INFO BLOCK)	1
info_ block_ reference_ path	number_ of_ levels	0x02	1
	descriptor_ type	0x20 (object list descriptor - specified by list ID)	1
	list_ ID	0x1803 (ID of text database list)	2
	object_ position	0x0000 (object_ entry[0])	2
	descriptor_ identifier	0x30 (info block - specified by type and instance position)	1
	info_ block_ type	0x000A (raw_ text info_ block)	2
instance_ count		0x00	1
subfunction "partial replace"		0x50 (partial_ replace)	1
group_ tag		0x00 (immediate)	1
replacement_ data_ length		0xn	1
address		0x00	1
original_ data_ length		0x00	1
replacement_ info_ block_ data (raw_ text data)		(Track 0 title in MD-specific character code)	n

- 3) Close the text database list.

contents		parameter	byte
opcode		0x08 (OPEN DESCRIPTOR)	1
descriptor_ identifier	descriptor_ type	0x10 (object list descriptor - specified by list ID)	1
	list_ ID	0x1803 (ID of text database list)	2
sub function		0x00 (CLOSE)	1
reserved		0x00	1

B.5. Edit MD (without MD-clip)

B.5.1. Combine

Scenario: The controller replays two tracks of MD (without MD-clip) continuously with REHEARSAL command, then connects the two tracks into one with COMBINE command.

- 1) Executes CONFIGURE in the same manner as described in B.2.1.
- 2) Replays two tracks continuously with REHEARSAL command and confirms the result of combination.

contents			parameter	byte		
common command header part	opcode		0xC7 (REHEARSAL)	1		
	result		0xFF	1		
	subfunction1	reserved	0b00000	1		
		number of parts	0b01 (2parts)			
		repeat	1 (in repetition)			
reserved		0x00	1			
plug_ identifier _ part	source_ plug	plug_ type	0x00 (source plug)	1		
		plug_ id	0x00 (plug 0)	1		
control_ range_ indicator _ part (part_ 1_ info)	position_ indicator_ part (in- point)	indicator_ type		0x00 (relative_ HMSF_ count)	1	
		indicator_ type_ specification	object_ position_ number	0x0001 (ex; Track 2)	2	
			+/-	0b0 (plus)		1
			hours	0b000 0000 (0)		1
			minutes	0x00 (0)		
			seconds	0x00 (0)		
			frames	0x00 (0)		
	position_ indicator_ part (out- point)	indicator_ type		0x00 (relative_ HMSF_ count)	1	
		indicator_ type_ specification	object_ position_ number	0x0001 (ex; Track 2)	2	
			+/-	0b0 (plus)		1
			hours	0b111 1111		1
			minutes	0xFF		
			seconds	0xFF		
			frames	0xFF		
control_ range_ indicator _ part (part_ 2_ info)	position_ indicator_ part (in- point)	indicator_ type		0x00 (relative_ HMSF_ count)	1	
		indicator_ type_ specification	object_ position_ number	0x0002 (ex; Track 3)	2	
			+/-	0b0 (plus)		1
			hours	0b000 0000 (0)		1
			minutes	0x00 (0)		
			seconds	0x00 (0)		
			frames	0x00 (0)		
	position_ indicator_ part (out-	indicator_ type		0x00 (relative_ HMSF_ count)	1	

	indicator_ type_ specification	object_ position_ number	0x0002 (ex; Track 3)	2
		+/-	0b0 (plus)	1
		hours	0b111 1111	
		minutes	0xFF	1
		seconds	0xFF	1
		frames	0xFF	1

3) Connects two tracks into one with a COMBINE command.

contents		parameter	byte	
common command header part	opcode		0x41 (COMBINE)	1
	result		0xFF	1
	reserved		0x00	1
	reserved		0x00	1
descriptor_ identifier_ part	anchor_ object	descriptor_ type	0x20 (object entry descriptor - specified by object position)	1
		list_ ID	0x1001 (Audio child contents list)	2
		object_ position	0x0001 (ex; Track 2)	2
descriptor_ identifier_ part	relocated_ object	descriptor_ type	0x20 (object entry descriptor - specified by object position)	1
		list_ ID	0x1001 (Audio child contents list)	2
		object_ position	0x0002 (ex; Track 3)	2

B.5.2. Divide

Scenario: The controller plays back one track on the MD (without MD-clip) with a REHEARSAL command before or after the dividing point, then divide the track into two tracks at the dividing point with a DIVIDE command.

- 1) Executes CONFIGURE in the same manner as described in B.2.1.
- 2) Replays the track before or after the dividing point and confirms the result.
- 3) Divides one track into two with a DIVIDE command.

B.5.3. Erase (partial)

Scenario: The controller replays the track continuously before and after the dividing point and erases a part of the track with an ERASE command.

- 1) Executes CONFIGURE in the same manner as described in B.2.1.
- 2) Replays the track continuously before and after the erasing point and confirms the result of Partial Erase.
- 3) Executes an ERASE command.

B.5.4. Undo

Scenario: After confirming undo status in the status descriptor of MD (without MD-clip), the controller executes undo.

contents		parameter	byte
opcode		0x08 (OPEN DESCRIPTOR)	1
descriptor_ identifier	descriptor_ type	0x11 (object list descriptor - specified by list type)	1
	list_ type	0x80 (disc subunit status descriptor)	1
sub function		0x03 (WRITE OPEN)	1
reserved		0x00	1

Read status descriptor undo status

contents		parameter	byte
opcode		0x06 (READ INFO BLOCK)	1
info_ block_ reference_ path	number_ of_ levels	0x02	1
	descriptor_ type	0x11 (object list descriptor - specified by list type)	1
	list_ type	0x80 (disc subunit status descriptor)	1
	descriptor_ identifier	0x30 (info block - specified by type and instance position)	1
	info_ block_ type	0x8800 (general_ disc_ subunit_ status_ area_ info_ block)	2
	instance_ count	0x00	1
	descriptor_ identifier	0x30 (info block - specified by type and instance position)	1
	info_ block_ type	0x8804 (media_ and_ edit_ status_ info_ block)	2
instance_ count		0x00	1
read_ result_ status		0xFF	1
reserved		0x00	1
data_ length		0x01	1
offset (offset form the beginning of the info block header)		0x07	1

CLOSE (Relinquish use of the INFO BLOCK)

contents		parameter	byte
opcode		0x08 (OPEN DESCRIPTOR)	1
descriptor_ identifier	descriptor_ type	0x11 (object list descriptor - specified by list type)	1
	list_ type	0x80 (disc subunit status descriptor)	1
sub function		0x00 (CLOSE)	1
reserved		0x00	1

contents		parameter	byte
common command header part	opcode	0x44 (UNDO)	1
	result	0xFF	1
	reserved	0x00	1
	reserved	0x00	1

B.6. Get Subunit Status

Scenario: The controller normally playbacks the MD (without MD-clip) and requests an ending message when the playback finishes to proceed to the next control.

contents		parameter	byte
common command header part	opcode	0xD0 (DISC STATUS)	1
	result	0xFF	1
	subfunction 1	0x01 (status type : specified info block)	1
	reserved	0x00	1
info_ block_ reference _ path	number_of_levels	0x04	1
	descriptor_type	0x11 (object list descriptor - specified by list type)	1
	list_type	0x80 (disc subunit status descriptor)	1
	descriptor_identifier	0x30 (info block - specified by type and instance position)	1
	info_block_type	0x8802 (source_ plug_ status_ area_ info_ block)	2
	instance_count	0x00	1
	descriptor_identifier	0x30 (info block - specified by type and instance position)	1
	info_block_type	0x8805 (plug_ status_ info_ block)	2
	instance_count	0x00	1
	descriptor_identifier	0x30 (info block - specified by type and instance position)	1
	info_block_type	0x8806 (operating_ mode_ info_ block)	2
	instance_count	0x00	1

B.7. Other Commands

B.7.1. Increment Track Count

Scenario: increment a track count during recording operation.

- 1) The controller makes the MD record in the procedures shown in B.3.1.
- 2) Increments the track count by a INCREMENT OBJECT POSITION NUMBER command.

contents	parameter	byte
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common command header part	opcode		0x51 (INCREMENT OBJECT POSITION NUMBER)	1
	result		0xFF	1
	reserved		0x00	1
	reserved		0x00	1
plug_ identifier _part	destination_ plug	plug_type	0x01 (destination plug)	1
		plug_id	0x00 (plug 0)	1