

Release notes

ISDB-Tmm is standardized by ARIB. There are several STDs and TRs (Technical Reports) concerning ISDB-Tmm.

ARIB STD-B38 was developed for the “Coding, Transmission, and Storage Specification for Broadcasting Systems Based on Home Servers” and is composed of the following:

- Chapter 1: General Matters
- Chapter 2: Coding, Transmission, and Storage Specification for Content
- Chapter 3: Coding, Transmission, and Storage Specification for Metadata
- Chapter 4: Identification Information for Content and Metadata
- Chapter 5: Related Other Methods/Specifications
- Annex A: Metadata Dictionary
- Annex B: Schema
- Annex C: Stipulations per Service
- Attachment 1: Operational Guidelines for the Use of ECG Metadata in Advanced Wide-band Digital Satellite Broadcasting Download Services
- Attachment 2: Operational Guidelines for the Use of EPG/ECG Metadata in Terrestrial Mobile Multimedia Broadcasting Services Based on Connected Segment Transmission
- Appendix : Explanation on Server-type Broadcasting

This document is an English translation of the Attachment 2 of ARIB STD-B38 Version 2.3 by DiBEG.

The original document of ARIB STD-B38 is written in Japanese, and this document is positioned only as a reference. Additionally, the original document may have been further revised. Therefore, users are encouraged to check the latest version of the original document from the following URL:

<http://www.arib.or.jp/english/html/overview/index.html>

Attachment 2: Operational Guidelines for the Use of EPG/ECG Metadata in Terrestrial Mobile Multimedia Broadcasting Services Based on Connected Segment Transmission

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Attachment 2: Operational Guidelines for the Use of EPG/ECG Metadata in Terrestrial Mobile Multimedia Broadcasting Services Based on Connected Segment Transmission

Chapter 1: General Matters

1.1 Objective

The operational guidelines in this document are intended to present operation examples for the use of EPG/ECG metadata required for implementing assumed download services in terrestrial mobile multimedia broadcasting based on connected segment transmission, which is stipulated as the standard system in Japan.

1.2 Scope

These operational guidelines are applied to EPG/ECG metadata-based contents navigation services on receivers of download services that are provided through terrestrial mobile multimedia broadcasting based on connected segment transmission.

For the specifications of the EPG/ECG metadata used in these services, refer to Appendix C.2 “EPG/ECG Metadata for Terrestrial Mobile Multimedia Broadcasting Services Based on Connected Segment Transmission.”

In view of compatibility with external systems, not the character codes shown in Table 7-19, “Code Values for Added Symbols Set” in Part 2 “Monomedia Coding,” Volume 1, ARIB STD-B24, but those specified in ISO/IEC 10646:2003 are used for the following characters.

Code	Character	B24	ISO/IEC 10646:2003
Row 85 Column 1	(崑)	E080	3402
Row 85 Column 10	(勢)	E082	351F
Row 85 Column 14	(詹)	E083	8A79
Row 85 Column 32	(崎)	E085	FA11
Row 85 Column 33	(寄)	E086	37E2
Row 85 Column 84	(珊)	E08F	3EDA
Row 85 Column 88	(規)	E090	4093
Row 86 Column 6	(藪)	E094	4264

In addition, for differentiation from the characters in JIS X 0208, not the character codes shown in Table 7-19, “Code Values for Added Symbols Set” in Part 2 “Monomedia Coding,” Volume 1, ARIB STD-B24, but those specified in ISO/IEC 10646:2003 are used for the following characters.

Code	Character	B24	ISO/IEC 10646:2003	Variant in JIS X 0208
Row 85 Column 26	(塚)	585A	FA10	塚(585A)
Row 85 Column 59	(海)	6D77	FA45	海(6D77)
Row 85 Column 63	(渚)	6E1A	FA46	渚(6E1A)
Row 85 Column 78	(琢)	7422	FA4A	琢(7422)

With respect to the following characters out of the Basic Multilingual Plane, the character codes specified in the following list are assigned according not to the character codes in ISO/IEC 10646:2003 but to those in Table 7-11, “Additional Kanji Characters” and Table 7-19, “Code Values for Added Symbols Set” in Part 2 “Monomedia Coding,” Volume 1, ARIB STD-B24.

Code	Character	B24	ISO/IEC 10646:2003
Row 85 Column 2	(亭)	E081	20158
Row 85 Column 15	(吉)	E084	20BB7
Row 85 Column 53	(杷)	E08A	233CC
Row 85 Column 54	(棧)	E08B	233FE
Row 85 Column 55	(橈)	E08C	235C4
Row 85 Column 68	(熙)	E08E	242EE

2.2 Pictogram code element

It is possible to use images (e.g., animated GIFs) as pictographs to describe a document that includes IMG tags, referring to such images in the CDATA section. However, as the operations of such elements will depend on the service, the compatibility with them will be left for the product planning of receivers.

2.3 Tab, Line Feed, Carriage Return, and Space

Among the blank characters of Tab (CHARACTER TABULATION: U+0009), Line Feed (LINE FEED (LF): U+000A), Carriage Return (CARRIAGE RETURN (CR): U+000D), and Space (SPACE (SP): U+0020), Tab must not be used. The processing method for this character existing in the character string data will depend on the receiver. With regard to the other three characters, whether use is allowed or not is explicitly described in the specification of the respective elements in this chapter. Receivers must treat Line Feed, Carriage Return, and Line Feed + Carriage Return as line feed code and Space as space code. Line feed codes must be treated properly in conformance with XML 1.0. Note that this chapter, as a whole, is written based on the premise that byte strings expressing characters are encoded in UTF-8, so that Line Feed, Carriage Return, and Space are all counted as one character with the size of one byte. Similarly, each end of the line in the character string data existing in metadata must be a character string consisting of contiguous two characters of Line Feed and Carriage Return in this order, which is counted as two characters with the size of two bytes.

Chapter 3: Metadata

The XML declaration of metadata documents must be described as follows:

```
<?xml version="1.0" encoding="UTF-8"?>.
```

Among the elements and attributes specified in 3.2.10.1 “Information table” in the main part, the elements and attributes shown in Table 3-1 are included in metadata description. The metadata structure can include the table elements as follows:

ClassificationSchemeTable, ProgramInformationTable, GroupInformationTable, ProgramLocationTable, ServiceInformationTable, ProgramReviewTable, PurchaseInformationTable, LicenseInformationTable, and CouponDescriptionTable.

The numbers of appearances (operation) indicate the conditional numbers of appearances in which the parent element of the concerned element or attribute appears.

Table 3-1: Metadata structure

Name of element/attribute	Definition	Number of appearances	Remarks
TVAMain			See Note 1.
@xml:lang	0..1	1	
@publisher	0..1	1	See Note 2.
CopyrightNotice	0..1	0..1	See Note 3.
ClassificationSchemeTable	0..1	0..1	
ClassificationScheme	1	1	See Table 4-1.
ProgramDescription	0..1	1	
ProgramInformationTable	0..1	0..1	
ProgramInformation	0-∞	1	See Table 4-2.
GroupInformationTable	0..1	0..1	
GroupInformation	0-∞	1	See Table 4-24.
ProgramLocationTable	0..1	0..1	
BroadcastEvent	0-∞	0..1	See Table 5-1.
OnDemandProgram	0-∞	0..1	See Table 5-3.
OnDemandService	0-∞	0..1	See Table 5-5.
ServiceInformationTable	0..1	0..1	See Table 5-6.
ServiceInformation	0-∞	1	
ProgramReviewTable	0-∞	0..1	
Review	0-∞	1..10	See Table 4-26.
SegmentInformationTable	0..1	0..1	
SegmentList	0..1	0..1	
SegmentInformation	0-∞	1..100	See Table 7-1.
SegmentGroupList	0..1	0..1	
SegmentGroupInformation	0-∞	1..100	See Table 7-4.
PurchaseInformationTable	0..1	0..1	
PurchaseInformation	0-∞	1	See Table 4-27.
LicenseInformationTable	0..1	0..1	

		LicenseInformation	1-∞	1	See Table 6-2.
		CouponDescriptionTable	0..1	0..1	
		CouponDescription	1-∞	1..N	See Table 8-1.

Note 1: Each fragment of metadata descriptions must have only any one of the following pairs: “the pair of ClassificationTable and ClassificationScheme,” “the pair of ProgramInformationTable and ProgramInformation,” “the pair of GroupInformationTable and GroupInformation,” “the pair of ProgramLocationTable and BroadcastEvent,” “the pair of ProgramLocationTable and OnDemandProgram,” “the pair of ProgramLocationTable and OnDemandService,” “the pair of ServiceInformationTable and ServiceInformation,” “the pair of ProgramReviewTable and Review,” “the pair of SegmentInformationTable and SegmentList/SegmentInformation,” “the pair of SegmentInformationTable and SegmentGroupList/SegmentGroupInformation,” “the pair of PurchaseInformationTable and PurchaseInformation,” “the pair of LicenseInformationTable and LicenseInformation,” or “the pair of CouponDescriptionTable and CouponDescription.” Major elements in metadata structure (for each CRID) that contain all the fragments for a program indicated with a specific CRID must exist in the following combinations:

- One element of ProgramInformation
 - + One element either of BroadcastEvent, OnDemandProgram, or OnDemandService
 - + 0 elements or more of ServiceInformation
 - + 0 elements or more of PurchaseInformation
 - + 1 element or more of LicenseInformation
 - + 0 elements or more of SegmentList/SegmentInformation
 - + 0 elements or more of SegmentGroupList/SegmentGroupInformation
 - + 0 elements or more of Review
 - + 0 elements or more of CouponDescription
- One element of GroupInformation
 - + 0 elements or more of PurchaseInformation
 - + 0 elements or more of tmm: CouponDescription

Note 2: In operations, publisher and <authority> are considered the same.

Note 3: Copyright notice of the metadata itself; not used in receivers

Figure 3-1 shows the reference relations between each fragment of the metadata descriptions.

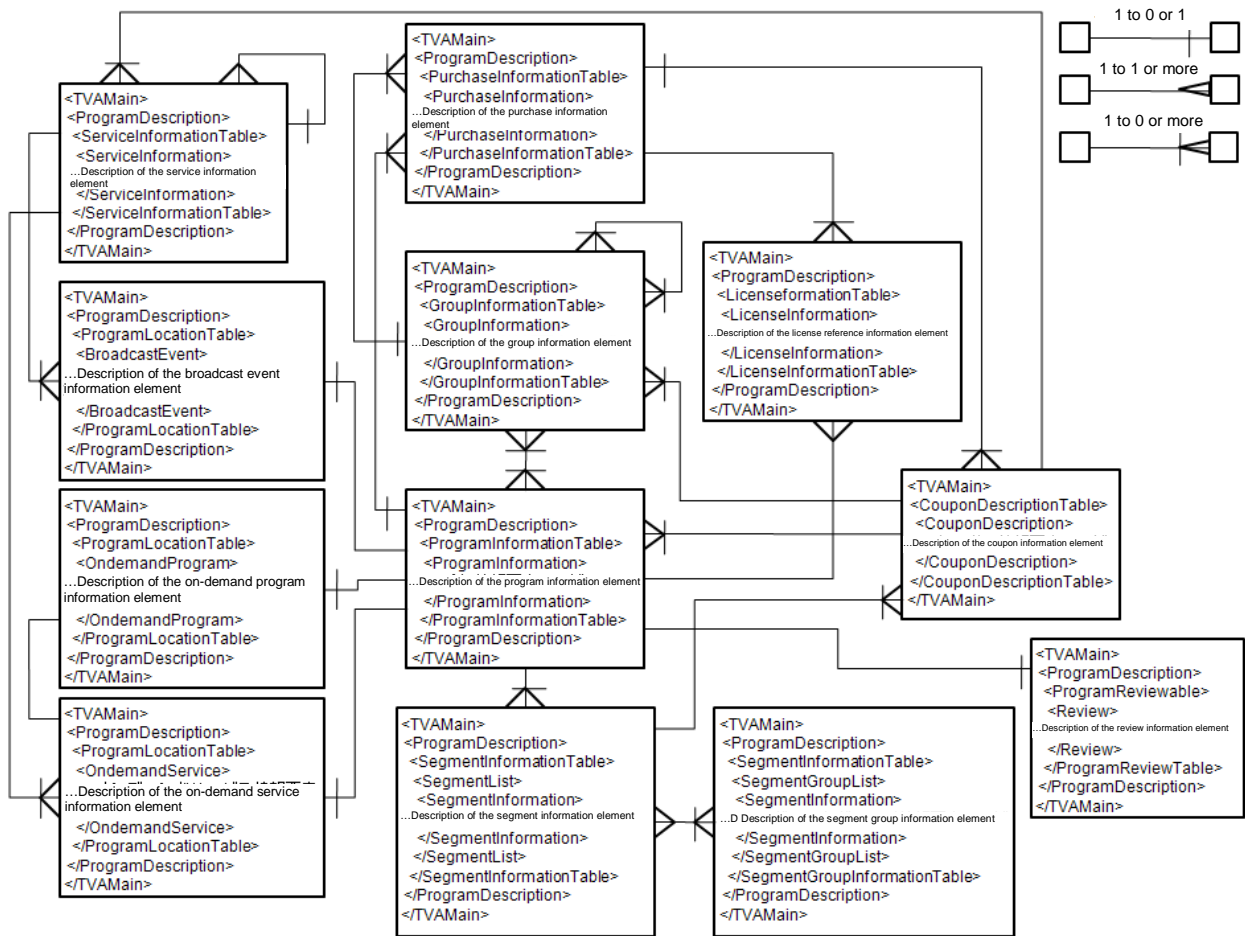


Fig. 3-1: Reference relation between each fragment of the metadata descriptions

Chapter 4: Content Description Metadata

This chapter specifies the operations of the classification scheme element (ClassificationScheme), program information element (ProgramInformation), the group information element (GroupInformation), review information element (Review), and purchase information element (PurchaseInformation) among the content description metadata specified in 3.2.3 “Content description metadata” in the main part.

4.1 Classification scheme

Among the specifications in 3.2.3.1 in the main part, the elements and attributes shown in Table 4-1 are used.

Table 4-1: ClassificationScheme

Name of element/attribute	Definition	Number of appearances	Remarks
ClassificationScheme			
@fragmentId	0..1	1	See Note 1.
@fragmentVersion	0..1	1	See Note 1.
@fragmentExpirationDate	0..1	0..1	
@uri	1	1	
@domain	0..1	0..1	
mpeg7:Term	0-∞	1-1024	
@termID	1	1	
mpeg7:Name	0-∞	0..3	
@xml:lang	0..1	0..1	See Note 2.
mpeg7:Definition	0-∞	0..3	
@xml:lang	0..1	0..1	See Note 2.

Note 1: There is no ClassificationScheme that has the same URI and a different fragmentId. The URI will not change even if the fragmentVersion is updated under the same fragmentId.

Note 2: Chosen from “ja” (Japanese), “en” (English), “de” (German), “fr” (French), “it” (Italian), “ru” (Russian), “zh” (Chinese), “ko” (Korean), “es” (Spanish), and “xx” (foreign languages other than the above, multi-languages, or an unknown language)

4.2 Program information

Among the specifications in 3.2.3.6 “Program information” in the main part, the elements and attributes shown in Table 4-2 are used.

Table 4-2: ProgramInformation

Name of element/attribute		Definition	Number of appearances	Remarks
ProgramInformation				
	@programId	1	1	See Note 1.
	@fragmentId	0..1	1	See Note 1.
	@fragmentVersion	0..1	1	See Note 1.
	@fragmentExpirationDate	0..1	0..1	
	BasicDescription	1	1	See Table 4-3.
	OtherIdentifier	0-∞	0..1	See Table 4-22.
	AVAttributes	0..1	0..1	See Table 4-23.
	MemberOf	0-∞	0-20	
	@crId	1	1	
	@index	0..1	0..1	
	@xsi:type	1	1	
	Period	0-∞	1..3	
	@type	0..1	1	
	Start	1	1	
	End	0..1	0..1	

Note 1: There is no ProgramInformation that has the same programId and a different fragmentId. The programId will not change even if the fragmentVersion is updated under the same fragmentId.

Table 4-3: ProgramInformation/BasicDescription

Name of element/attribute		Definition	Number of appearances	Remarks
BasicDescription				
	Title	0-∞	2..7	See Table 4-4.
	MediaTitle	0-∞	0..1	
	TitleImage	0..1	0..1	See Table 4-5.
	TitleVideo	0..1	0..1	See Table 4-6.
	Synopsis	0-∞	0..18	See Table 4-7.
	PromotionalInformation	0-∞	0..1	See Table 4-8.
	Keyword	0-∞	0..50	See Table 4-9.
	Genre	0-∞	0..50	See Table 4-10.
	ParentalGuidance	0..1	1	See Table 4-11.
	Language	0-∞	0..4	See Table 4-12.
	CaptionLanguage	0-∞	0..2	See Table 4-13.
	SignLanguage	0-∞	0..1	See Table 4-14.
	CreditsList	0..1	0..1	See Table 4-15.
	RelatedMaterial	0-∞	0..50	See Table 4-16.
	ProductionDate	0..1	0..1	See Table 4-17.
	ReleaseInformation	0-∞	0..1	See Table 4-18.
	Duration	0..1	0..1	Specified in the PThhHmMssS format.
	PurchaseList	0..1	0..1	See Table 4-19.
	ContentProperties	0..1	0..1	See Table 4-20.

Table 4-4: Title

Name of element/attribute		Definition	Number of appearances	Remarks
Title				
	@type	0..1	1	Chosen from “main,” “secondary,” “alternative,” “popular,” “seriesTitle,” and “episodeTitle”

Table 4-5: TitleImage

Name of element/attribute		Definition	Number of appearances	Remarks
TitleImage				Specifies the still picture used for thumbnail display and other purposes
	mpeg7:MediaUri	0..1	1	
	CopyrightNotice	0-∞	0..1	

Table 4-6: TitleVideo

Name of element/attribute		Definition	Number of appearances	Remarks
TitleVideo				Specifies the content used for preview display and other purposes
	mpeg7:MediaUri	0..1	1	
	CopyrightNotice	0-∞	0..1	

Table 4-7: Synopsis

Name of element/attribute		Definition	Number of appearances	Remarks
Synopsis				
	@length	0..1	0..1	Chosen from “short,” “medium,” and “long”

Table 4-8: PromotionalInformation

Name of element/attribute		Definition	Number of appearances	Remarks
PromotionalInformation				
	@href	0..1	0..1	Chosen from ARIBPromotionalTypeCS

Table 4-9: Keyword

Name of element/attribute		Definition	Number of appearances	Remarks
Keyword				
	@type	0..1	0..1	Chosen from “main,” “secondary,” and “other (supplement)”; only one “main” is allowed.

Table 4-10: Genre

Name of element/attribute		Definition	Number of appearances	Remarks
Genre				
	@href	1	1	
	@type	0..1	0..1	Chosen from “main,” “secondary,” and “other”; only one “main” is allowed.

Table 4-11: ParentalGuidance

Name of element/attribute		Definition	Number of appearances	Remarks
ParentalGuidance				
	mpeg7:ParentalRating	1	1	
	@href	1	1	Chosen from ARIBParentalRatingCS

Table 4-12: Language

Name of element/attribute		Definition	Number of appearances	Remarks
Language				Chosen from “ja” (Japanese), “en” (English), “de” (German), “fr” (French), “it” (Italian), “ru” (Russian), “zh” (Chinese), “ko” (Korean), “es” (Spanish), and “xx” (foreign languages other than the above, multi-languages, or an unknown language)

Table 4-13: CaptionLanguage

Name of element/attribute		Definition	Number of appearances	Remarks
CaptionLanguage				Chosen from “ja” (Japanese), “en” (English), “de” (German), “fr” (French), “it” (Italian), “ru” (Russian), “zh” (Chinese), “ko” (Korean), “es” (Spanish), and “xx” (foreign languages other than the above, multi-languages, or an unknown language)
	@closed	0..1	1	
	@description	0..1	0..1	

Table 4-14: SignLanguage

Name of element/attribute		Definition	Number of appearances	Remarks
SignLanguage				Chosen from “ja” (Japanese), “en” (English), “de” (German), “fr” (French), “it” (Italian), “ru” (Russian), “zh” (Chinese), “ko” (Korean), “es” (Spanish), and “xx” (foreign languages other than the above, multi-languages, or an unknown language); the sign language is provided.
	@primary	0..1	0..1	
	@translation	0..1	0..1	

Table 4-15: CreditsList

Name of element/attribute		Definition	Number of appearances	Remarks
CreditsList				
	CreditsItem	0-∞	1..20	
	@role	1	1	
	PersonName	0-∞	1..5	
	@type	0..1	1	Chosen from “main,” “variant,” and “former”; only one “main” is allowed.
	mpeg7:GivenName	1-∞	1	Specifies the full name
	@abbrev	0..1	0..1	
	Character	0-∞	0..1	
	mpeg7:GivenName	1-∞	1	Specifies the full name
	@abbrev	0..1	0..1	

Table 4-16: RelatedMaterial

Name of element/attribute		Definition	Number of appearances	Remarks
RelatedMaterial				
	HowRelated	0..1	1	
	@href	1	1	
	Name	0..1	0..1	
	Format	0..1	0..1	
	@href	1	1	
	MediaLocator	1	1	
	mpeg7:MediaUri	1	1	
	PromotionalText	0-∞	0..1	
	PromotionalMedia	0-∞	0..1	
	TitleImage	0..1	1	See Table 4-5.

Table 4-17: ProductionDate

Name of element/attribute		Definition	Number of appearances	Remarks
ProductionDate				
	TimePoint	1	1	Given in the YYYY-MM-DD or YYYY format
	YearRange	0..1	0..1	Given in the YYYY-YY or YYYY-YYYY format

Table 4-18: ReleaseInformation

Name of element/attribute		Definition	Number of appearances	Remarks
ReleaseInformation				
	ReleaseDate	0..1	0..1	
	Chosen from 1 and 2.	1	1	
	1. DayAndYear	1	1	Given in the YYYY-MM-DD format
	2. Year	1	1	Given in the YYYY format
	ReleaseLocation	0..1	0..1	Given in the two-letter country code specified in ISO 3166-2

Table 4-19: PurchaseList

Name of element/attribute		Definition	Number of appearances	Remarks
PurchaseList				
	PurchaseIdRef	0-∞	0..10	Specifies the Purchase ID

Table 4-20: ContentProperties

Name of element/attribute		Definition	Number of appearances	Remarks
ContentProperties				
	ContentType	0..1	0..1	
	@href	1	1	Type of content
	FileProperties	0..1	0..1	
	FileFormat	0..1	0..1	
	@href	1	1	Format of the file
	FileSize	0..1	0..1	File size of the content in bytes
	ContentAttributes	0-∞	0..10	Content attribute according to the content type

Table 4-21: ContentAttributes

Name of element/attribute		Definition	Number of appearances	Remarks
ContentAttributes				
	@xsi:type	1	1	"StillImageContentAttributesType"
	Width	0..1	0..1	Given in pixels
	Height	0..1	0..1	Given in pixels
	Orientation	0..1	0..1	The orientation component of the original image is expressed in clockwise degrees.

Table 4-22: OtherIdentifier

Name of element/attribute		Definition	Number of appearances	Remarks
OtherIdentifier				
	@type	0..1	1	

Table 4-23: AVAttributes

Name of element/attribute		Definition	Number of appearances	Remarks
AVAttributes				
	FileFormat	0..1	0..1	
	@href	1	1	
	FileSize	0..1	0..1	Given in bytes
	BitRate	0..1	0..1	
AudioAttributes		0-∞	0..2	
	Coding	0..1	0..1	
	@href	1	1	Chosen from ARIBAudioCodingFormatCS
	NumOfChannels	0..1	0..1	
	MixType	0..1	0..1	
	@href	1	1	Option from ARIBAudioComponentCS
	AudioLanguage	0-∞	0..2	Chosen from “ja” (Japanese), “en” (English), “de” (German), “fr” (French), “it” (Italian), “ru” (Russian), “zh” (Chinese), “ko” (Korean), “es” (Spanish), and “xx” (foreign languages other than the above, multi-languages, or an unknown language)
	@type	0..1	0..1	Chosen from “original,” “dubbed,” and “background”; when not specified, “original” is assumed.
	@channel	0..1	0..1	Chosen from “main” and “sub”; for dual mono or dual stereo, Primary Audio (main) and Secondary Audio (sub) should be specified. When not specified, “main” is assumed.
	@description	0..1	0..1	
	StreamDescription	0..1	0..1	Presentation content, such as

					“Main Audio,” “Sub Audio,” and “Sound Multiplex,” for the ES is provided.
		@type	0..1	0..1	Chosen from “main” and “sub”; used for the specification of ES stream; when not specified, “main” is assumed.
		@id	0..1	1	
		BitRate	0..1	0..1	
		SamplingRate	0..1	0..1	
		VideoAttributes	0..1	0..1	
		Coding	0..1	0..1	
		@href	1	1	Chosen from ARIBVisualCodingFormatCS
		Scan	0..1	0..1	Chosen from “interlaced” and “progressive”
		HorizontalSize	0..1	0..1	
		VerticalSize	0..1	0..1	
		AspectRatio	0..2	0..1	Chosen from “4:3” and “16:9”
		Color	0..1	0..1	
		@type	1	1	Chosen from “color” and “blackAndWhite”
		StreamDescription	0..1	0..1	The video type name, such as “Video” for the ES, is provided.
		@type	0..1	0..1	Chosen from “main” and “sub”; used for the specification of ES stream; when not specified, “main” is assumed.
		@id	0..1	1	
		StereoVideoFormat	0..1	0..1	Given when 3D video is used
		@href	1	1	

4.3 Group information

Among the specifications in 3.2.3.7 “Group information” in the main part, the elements and attributes shown in Table 4-24 are used.

Table 4-24: GroupInformation

Name of element/attribute		Definition	Number of appearances	Remarks
GroupInformation				
	@groupId	1	1	See Note 1.
	@ordered	0..1	0..1	Chosen from “true” and “false”
	@numOfItems	0..1	0..1	
	@fragmentId	0..1	1	See Note 1.
	@fragmentVersion	0..1	1	See Note 1.
	@fragmentExpirationDate	0..1	0..1	Specified in the YYYY-MM-DDThh:mm:ss+09:00 format
	GroupType	1	1	
	@xsi:type	1	1	
	@value	1	1	Chosen from “series,” “show,”

				“otherCollection,” “package,” “programConcept,” “programCompilation,” and “otherChoice” See Note 2.
	BasicDescription	1	1	See Table 4-25.
	MemberOf	0-∞	0-20	
	@crid	1	1	
	@index	0..1	0..1	
	@xsi:type	1	1	
	OtherIdentifier	0-∞	0..1	See Table 4-22.
	Period	0-∞	0..3	
	@type	0..1	1	
	Start	1	1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format; see Note 4.
	End	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format; see Note 4.

Note 1: There is no GroupInformation that has the same programId and a different fragmentId. The groupId will not change even if the fragmentVersion is updated under the same fragmentId.

Note 2: Receivers will interpret “series,” “show,” “programConcept,” “programCompilation,” “otherCollection,” and “otherChoice” as expressing a grouping different than “package.”

Note 3: Chosen from “display” (display period), “availability” (available period), and “new_arrival” (new arrival period)

Note 4: YYYY: Four digits of decimal notation in the Christian era, MM: month in two digits of decimal notation, DD: day in two digits of decimal notation, hh: hour in two digits of decimal notation, mm: minute in two digits of decimal notation, and ss: second in two digits of decimal notation

Table 4-25: GroupInformation/BasicDescription

Name of element/attribute		Definition	Number of appearances	Remarks
BasicDescription				
	Title	0-∞	2..7	See Table 4-4.
	MediaTitle	0-∞	0..1	
	TitleImage	0..1	0..1	See Table 4-5.
	TitleVideo	0..1	0..1	See Table 4-6.
	Synopsis	0-∞	0..3	See Table 4-7.
	PromotionalInformation	0-∞	0..1	See Table 4-8.
	Keyword	0-∞	0..50	See Table 4-9.
	Genre	0-∞	0..50	See Table 4-10.
	ParentalGuidance	0..1	1	See Table 4-11.
	Language	0-∞	0..4	See Table 4-12.
	CaptionLanguage	0-∞	0..2	See Table 4-13.
	SignLanguage	0-∞	0..1	See Table 4-14.
	CreditsList	0..1	0..1	See Table 4-15.
	RelatedMaterial	0-∞	0..65535	See Table 4-16.
	ProductionDate	0..1	0..1	See Table 4-17.
	ReleaseInformation	0-∞	0..1	See Table 4-18.
	PurchaseList	0..1	0..1	See Table 4-19.

ContentProperties	0..1	0..1	See Table 4-20.
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4.4 Media review

Among the specifications in 3.2.3.5 “Media review description scheme” in the main part, the elements and attributes shown in Table 4-26 are used.

Table 4-26: Review

Name of element/attribute		Definition	Number of appearances	Remarks
Review				
	@programId	1	1	See Note 1.
	@fragmentId	0..1	1	See Note 1.
	@fragmentVersion	0..1	1	See Note 1.
	@fragmentExpirationDate	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format
Rating				
	mpeg7:RatingValue	1	1	
	mpeg7:RatingScheme	1	1	
	@style	1	1	Chosen from “higherBetter” and “lowerBetter”
FreeTextReview				
Reviewer				
	Chosen from 1 and 2	1	1	
	1. PersonName	1	1	
	@type	0..1	1	Chosen from “main,” “variant,” and “former”; only one “main” is allowed.
	mpeg7:GivenName	1-∞	1	Specifies the full name
	@abbrev	0..1	0..1	
	2. OrganizationName	1	1	
	Publication	0..1	0..1	
ReviewReference				
		0..1	0..1	See Note 2.

Note 1: The programId will not change even if the fragmentVersion is updated under the same fragmentId.

Note 2: Specify the URI of the material from which the review is extracted or cited.

4.5 Purchase information

Purchase information elements are used for describing the reference information of the price, selling pattern, and corresponding license of a chargeable package. The details of the usage conditions of the individual contents after purchase included in the package will be given in the license reference information as prescribed in Chapter 6 “License reference information.”

- (1) When the PurchaseType of the purchase information is “single,” the purchase information should be associated with the program information. The reference from the purchase information to the program information should be given in the CRIDRef of the purchase

information. The reference from the program information to the purchase information should be given in the PurchaseIdRef of the program information. The reference from the license reference information to the program information should be given in the ProgramCRID of the license reference information. The reference from the license reference information to the purchase information should be given in the PurchaseIdRef of the license reference information.

Independently from the reference relations among the purchase information, license reference information, and program information, the program information and group information describing the series have a reference relation between them. In addition, a group information describing the series has a reference relation with another group information. The reference from the program information to the group information describing the series should be given in the CRID attribute of the MemberOf of the program information. The reference from a group information describing a lower series to a group information describing an upper series should be given in the CRID attribute of the MemberOf of the group information describing the lower series.

- (2) When the PurchaseType of the purchase information is “pack,” the purchase information should be associated with the program information via the group information describing the package. The reference from the purchase information to the group information describing the package should be given in the CRIDRef of the purchase information. The reference from the group information describing the package to the purchase information should be given in the PurchaseIdRef of the group information describing the package. In addition, the reference from the license reference information to the purchase information should be given in the PurchaseIdRef of the license reference information. Further, the reference from the license reference information to the program information should be given in the ProgramCRID of the license reference information .

The reference from the program information to the group information describing the package should be given in the CRID attribute of the MemberOf of the program information. In addition, the reference from the group information describing the package to the program information should be given in the RelatedMaterial of the group information describing the package.

When the group information describing the package is associated with the group information describing the series, those elements are cross-referenced with the RelatedMaterial. The reference from the group information describing the package to the group information describing the series should be given in the RelatedMaterial of the group information describing the package. In addition, the reference from the group information describing the series to the group information describing the package should be given in the RelatedMaterial of the group information describing the series.

- (3) When the PurchaseType of the purchase information is “subscription,” the purchase information should be associated with the program information via the group information

describing the package. The reference relation between the purchase information and the group information describing the package should be the same as that of Item (2) above. The reference from the license reference information to the purchase information should be given in the PurchaseIdRef of the license reference information. In addition, the reference from the license reference information to the program information should be given in the ProgramCRID of the license reference information.

Further, the reference from the program information to the group information describing the package should be given in the CRID attribute of the MemberOf of the program information. Also, the reference from the group information describing the package to the program information should be given in the RelatedMaterial of the group information describing the package.

When the group information describing the package is associated with the group information describing the series, the reference relation between them should be the same as that of Item (2) above.

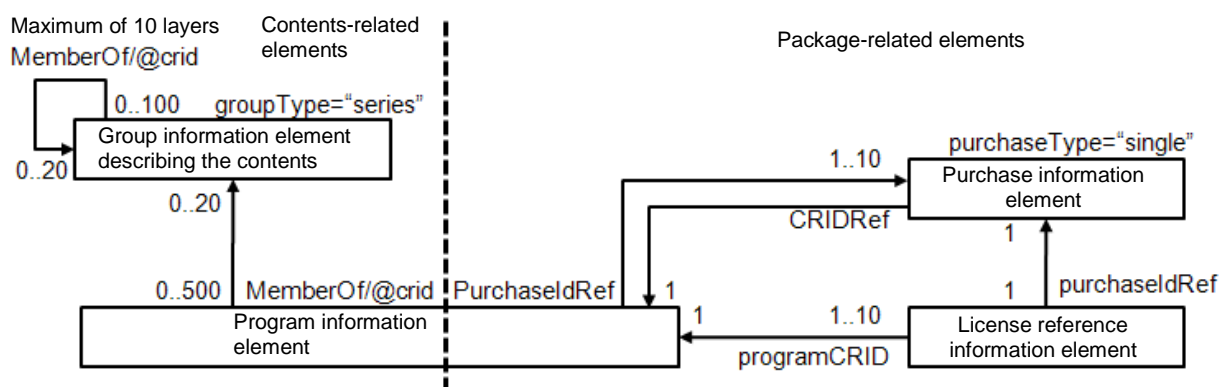


Fig. 4-1: Relation among the purchase information, program information, and license reference information (in the case of "single")

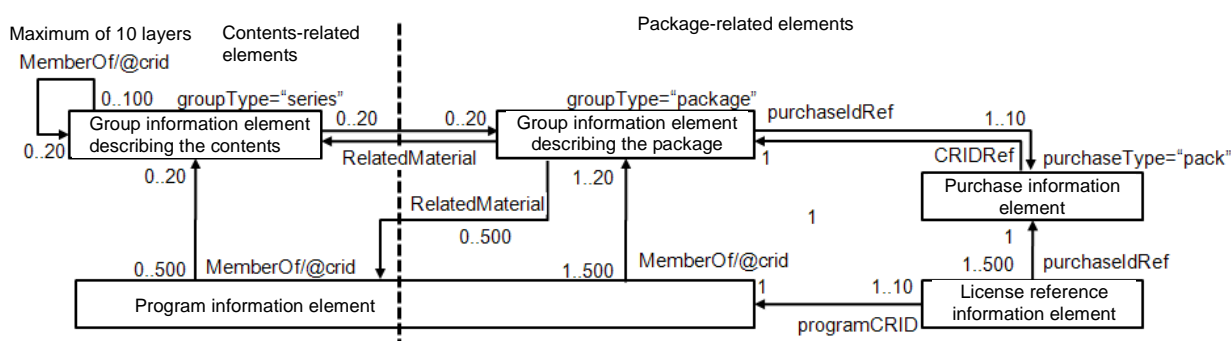


Fig. 4-2: Relation among the purchase information, program information, and license reference information (in the case of "pack")

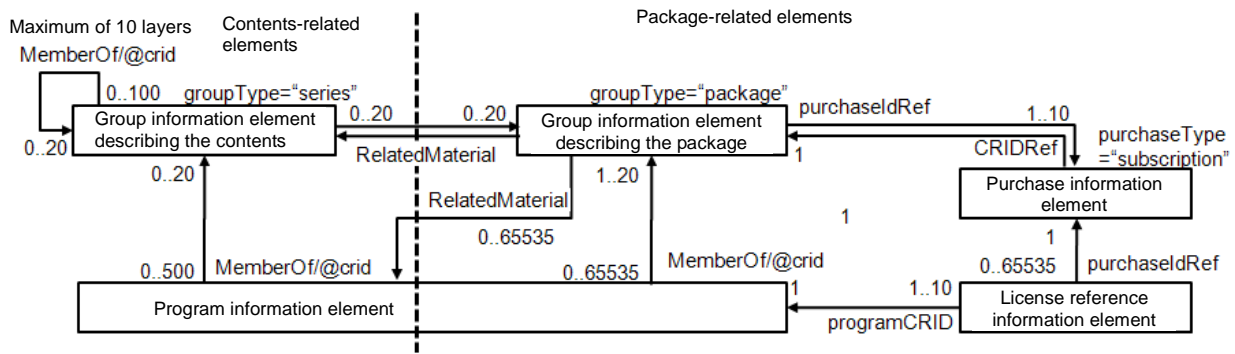


Fig. 4-3: Relation among the purchase information, program information, and license reference information (in the case of “subscription”)

Among the specifications in 3.2.7 “Purchase information” in the main part, the elements and attributes shown in Table 4-27 are used.

Table 4-27: PurchaseInformation

Name of element/attribute	Definition	Number of appearances	Remarks
PurchaseInformation			
@start	0..1	0..1	Start date when the chargeable package becomes available; given in the YYYY-MM-DDThh:mm:ss+09:00 format
@end	0..1	0..1	End date when the chargeable package becomes unavailable; given in the YYYY-MM-DDThh:mm:ss+09:00 format
@purchaseId	1	1	See Note 1. Purchase ID
@fragmentId	0..1	1	See Note 1.
@fragmentVersion	0..1	1	See Note 1.
@fragmentExpirationDate	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format
Price	1..∞	1	Purchase price of the chargeable package in yen
@currency	1	1	Monetary unit for the purchase price of the chargeable package
Purchase	0..∞	1	
PurchaseType	0..1	1	
@href	1	1	Chosen from “single,” “pack,” and “subscription” as defined in ARIBPurchaseTypeCS See Note 2.
Name	0..1	0..1	See Note 3.
QuantityUnit	0..1	0..1	See Note 4.
@href	1	1	Chosen from “minute,” “hour,” “day,” “day of the week,” “month,” and “year” as defined in

				ARIBUnitTypeCS	
		QuantityRange	0..1	0..1	See Note 4.
		@max	0..1	1	
		Description	0..∞	0..1	
		PricingServerURL	0..∞	0..1	See Note 5.
		NameTag	0..1	0..1	
		PurchaseOption	0..1	0..1	
		ParentPurchase	0..1	0..1	
		RequiredCoupon	0-∞	0..10	
		@couponId	0..1	1	Specifies the coupon ID
		@authorityName	0..1	0..1	Specifies the provider name of the coupon
		@requiredNumber	0..1	0..1	Indicates the number of coupons that a client has to prepare to use them The default value is 1.
		RewardCoupon	0-∞	0..1	
		@userConfirmationRequired	0..1	0..1	Chosen from “true” and “false”
		@number	0..1	0..1	Specifies the number of rewarded coupons The default value is 1.
		CouponRef	1	1	
		CouponIdRef	1	1	
		AuthorityName	0..1	0..1	Specifies the provider name of the coupon
		CRIDRef	1	1	
		@crid	1	1	ProgramInformation/programId of the ProgramInformation or the GroupInformation/groupId of the GroupInformation that refers to the concerned PurchaseInformation/@purchaseId is provided.

Note 1: The purchaseId will not change even if the fragmentVersion is updated under the same fragmentId.

Note 2: The value can also be chosen from an original PurchaseTypeCS of the provider. In that case, the operations will be dependent on the service provider.

Note 3: This value should be chosen from “free” (free product), “basic” (basic contract product), or “premium” (premium contract product) as the product type.

Note 4: Since various types of use conditions, such as absolute period, relative period, and number of times, are offered for multimedia broadcast services, the available unit and period of a product may be different from the use conditions granted by the license (e.g., contents in a pack may have a different license type for each content). Therefore, QuantityUnit and QuantityRange in the product information are allowed to have a value of 0 (zero).

Note 5: The operations of PricingServerURL will be dependent on the service provider. For example, when this element is used for describing a billing site ID of a service provider, its format and other conditions can be dependent on the service provider as long as the URI form is used.

Chapter 5: Instance Description Metadata

This chapter specifies the operations of the broadcast event information (BroadcastEvent), on-demand program information (OnDemandProgram), and on-demand service information (OnDemandService) among the instance description metadata specified in 3.2.4 “Instance description metadata” in the main part.

5.1 Broadcast event

Among the specifications for broadcast event information (BroadcastEvent) in 3.2.4.2 “Program location” in the main part, the elements and attributes shown in Table 5-1 are used.

Table 5-1: BroadcastEvent

Name of element/attribute	Definition	Number of appearances	Remarks
BroadcastEvent			
@serviceIDRef	0..1	1	Specifies the service ID for identifying the service in which this event is broadcast
@fragmentId	0..1	1	See Note 1.
@fragmentVersion	0..1	1	See Note 1.
@fragmentExpirationDate	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format
Program	1	1	
@crid	1	1	See Note 1.
ProgramURL	0..1	0..1	
InstanceMetadataId	0..1	1	See Note 1.
InstanceDescription	0..1	0..1	See Table 5-2.
PublishedStartTime	0..1	1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format
PublishedEndTime	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format
PublishedDuration	0..1	0..1	Given in the PThhHmMssS format See Note 2.
Live	0..1	0..1	
@value	1	1	Chosen from “true” and “false”
Repeat	0..1	0..1	See Note 3.
@value	1	1	Chosen from “true” and “false”
FirstShowing	0..1	0..1	
@value	1	1	Chosen from “true” and “false”
LastShowing	0..1	0..1	
@value	1	1	Chosen from “true” and “false”
Free	0..1	0..1	
@value	1	1	Chosen from “true” and “false”
RepeatLabel	0..1	0..1	See Note 3.

Note 1: There is no BroadcastEvent that has the same combination of Program/@crid and

InstanceMetadataId and a different fragmentId. The combination of Program/@crid and InstanceMetadataId will not change even if the fragmentVersion is updated under the same fragmentId.

Note 2: P: character representing “passage,” T: delimiter between the date and time, hhH: elapsed hours in two digits of decimal notation, mmM: elapsed minutes in two digits of decimal notation, and ssS: elapsed seconds in two digits of decimal notation

Note 3: “RepeatLabel” should be used, as a matter of principle. From a compatibility perspective, however, the recommend setting is that Repeat/@value=“false” when “RepeatLabel“ is not given and that Repeat/@value=“true” when “RepeatLabel” is 1 or greater.

Table 5-2: BroadCastEvent/InstanceDescription

Name of element/attribute		Definition	Number of appearances	Remarks
InstanceDescription				See Note 1.
	Title	0..1	0..1	See Table 4-4.
	Synopsis	0..1	0..1	See Table 4-7.
	Genre	0–∞	0..40	See Table 4-10.
	AVAttributes	0..1	0..1	See Table 4-23.
	OutputRestriction	0–∞	0..20	
	Port	1	1	
	@href	1	1	Chosen from ARIBOutputPortCS
	Mode	1	1	
	@href	1	1	Chosen from ARIBCopyControlMethodCS

Note 1: When the same information as that in ProgramInformation is given in InstanceDescription, the information in InstanceDescription should have priority.

5.2 On-demand program

Among the specifications for on-demand program information (OnDemandProgram) in 3.2.4.2 “Program location” in the main part, the elements and attributes shown in Table 5-3 are used.

Table 5-3: OnDemandProgram

Name of element/attribute		Definition	Number of appearances	Remarks
OnDemandProgram				
	@fragmentId	0..1	1	See Note 1.
	@fragmentVersion	0..1	1	See Note 1.
	@fragmentExpirationDate	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format
	Program	1	1	
	@crid	1	1	See Note 1.
	ProgramURL	0..1	0..1	
	InstanceMetadataId	0..1	1	See Note 1.
	InstanceDescription	0..1	0..1	See Table 5-4.
	PublishedDuration	0..1	0..1	Given in the PThhHmmMssS format See Note 2.
	StartOfAvailability	0..1	1	Given in the

			YYYY-MM-DDThh:mm:ss+09:00 format
EndOfAvailability	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format

Note 1: There is no OnDemandProgram that has the same combination of Program/@crid and InstanceMetadataId and a different fragmentId. The combination of Program/@crid and InstanceMetadataId will not change even if the fragmentVersion is updated under the same fragmentId.

Note 2: P: character representing “passage,” T: delimiter between the date and time, hhH: elapsed hours in two digits of decimal notation, mmM: elapsed minutes in two digits of decimal notation, and ssS: elapsed seconds in two digits of decimal notation

Table 5-4: OnDemandProgram/InstanceDescription

Name of element/attribute	Definition	Number of appearances	Remarks
InstanceDescription			
Title	0..1	0..1	See Table 4-4.
Synopsis	0..1	0..1	See Table 4-7.
Genre	0-∞	0..40	See Table 4-10.
AVAttributes	0..1	0..1	See Table 4-23.

Note: When the same information as that in ProgramInformation is given in InstanceDescription, the information in InstanceDescription should have priority.

5.3 On-demand service

Among the specifications for on-demand service information (OnDemandService) in 3.2.4.2 “Program location” in the main part, the elements and attributes shown in Table 5-3 are used.

Table 5-5: OnDemandService

Name of element/attribute	Definition	Number of appearances	Remarks
OnDemandService			
@serviceIDRef	1	1	Identifier for identifying the on-demand service information element related to the on-demand program list
@fragmentId	0..1	1	
@fragmentVersion	0..1	1	
@fragmentExpirationDate	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format
OnDemandProgram	1-∞	1	See Table 5-3.

5.4 Reference relation between the program information and the instance description metadata

Figure 5-1 shows the reference relation among the program information, broadcast event information, and on-demand program information.

- A program information can be associated with 0 or 1 broadcast event information. A broadcast event information must be associated with a program information without fail. The reference from a broadcast event information to a program information should be given in the Program/@crid attribute of the broadcast event information.
- A program information can be associated with a 0 or 1 on-demand program information. An on-demand program information must be associated with a program information without fail. The reference from an on-demand program information to a program information should be given in the Program/@crid attribute of the on-demand program information.

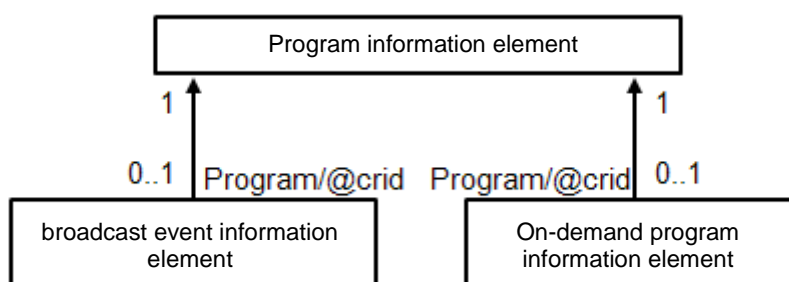


Fig. 5-1: Relation between the program information and instance description metadata

5.5 Service information

Among the specifications in 3.2.4.3 “Service information” in the main part, the elements and attributes shown in Table 5-6 are used.

Table 5-6: ServiceInformation

Name of element/attribute		Definition	Number of appearances	Remarks
ServiceInformation				
	@serviceId	1	1	Identifier for identifying the service See Note 1.
	@fragmentId	0..1	1	See Note 1.
	@fragmentVersion	0..1	1	See Note 1.
	@fragmentExpirationDate	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format
	Name	1-∞	1	
	@length	0..1	0..1	Chosen from “short,” “medium,” and “long”
	Owner	0..1	0..1	
	ServiceURL	0..1	0..1	Optional URL for the service
	Logo	0-∞	0..3	
	mpeg7:MediaUri	0..1	1	A referenced URI is provided.
	mpeg7:StreamID	0..1	0..1	
	ServiceDescription	0-∞	0..1	
	@length	0..1	0..1	Chosen from “short,” “medium,”

				and “long”
	ServiceGenre	0–∞	0..20	Genre characterizing the programming of the service
	@href	1	1	
	@type	0..1	0..1	Chosen from “main,” “secondary,” and “other”; only one “main” is allowed. See Note 2.
	ServiceLanguage	0–∞	0..1	Chosen from “ja” (Japanese), “en” (English), “de” (German), “fr” (French), “it” (Italian), “ru” (Russian), “zh” (Chinese), “ko” (Korean), “es” (Spanish), and “xx” (foreign languages other than the above, multi-languages, or an unknown language)
	ParentService	0–∞	0..1	
	@serviceIDRef	1	1	Specifies the ServiceId of the referenced service (parent service)
	ValidPeriod	0–∞	0..1	
	ValidFrom	0..1	1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format start time and date when the viewing of the service becomes available
	ValidTo	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format. Last time and date when the viewing of the service is available (including the time and date)
	CRIDRef	0..1	0..1	
	@crid	1	1	See Note 3.

Note 1: There is no ServiceInformation that has the same serviceId and a different fragmentId. The serviceId will not change even if the fragmentVersion is updated under the same fragmentId.

Note 2: When only one genre is presented and used in, for example, a listing presentation based on ECG or EPG, a genre to which “main” is assigned should be given a high priority for use. Although the description of @type can be omitted when there is only one Genre element, it is mandatory when there are multiple Genre elements.

Note 3: Specify the ProgramInformation/programId of the channel whose serviceId is in PLT/BroadcastEvent/@serviceIDRef (CRID given in PLT/BroadcastEvent/CRIDRef).

Chapter 6: License Reference Information

6.1 License reference information

The metadata structure in which license-related information is stored is referred to as the license reference information. The license reference information is introduced for the purpose of referring to the license type, summary of use conditions after purchasing the contents such as Rights Management and Protection Information (RMPI), and reference relation between the license and the contents. The details of the use conditions for individual contents included in the package are given in the license reference information. When subscribers choose contents on an EPG/ECG, they can refer to the details of a package through its purchase information and can then refer to the use conditions for the individual contents included in the package through its license reference information.

The license reference information itself does not require a DRM protection (e.g., encryption), thus that it can be handled at the same security level as other metadata. The license reference information is universal information on the license, not holding any information on the conditions or status of use for individual CAS/DRM clients. For instance, when a subscriber starts viewing using a license in which the viewing period in the use conditions is specified as seven nights (eight days), the actual expiration date will be set to a date seven nights after the purchase or selection by the subscriber. Thus, the license reference information is used for referring to the use conditions of individual contents before obtaining the license. Once the license has been obtained, the subscriber can obtain the conditions and status of use of the license through the retained license information stored in the receiver.

Table 6-1 shows the major information elements included in the license reference information.

Table 6-1: Major information elements in the license reference information

Information	Required / Optional	Content
License ID	Required	Identifier of the license to which the license reference information element applies (LicenseID) The License ID of the storage-based broadcasting service license is applicable for one-layer licenses, whereas the Program ID of the ECM is applicable for two-layer licenses.
Main license ID	Required only for two-layer licenses	Identifier of the main license corresponding to the sub-license to which the license reference information element applies (MainLicenseID) The tier bit of the real-time-based broadcasting service license is applicable.
License type	Required	Layered operation type of the license; "Simple" for one-layer licenses and "Layered" for two-layer licenses
Content identifier	Required	Identifier of the content to which the license applies (CRID)
Purchase identifier	Required	Identifier of the package in which the license is included (PurchaseIdRef)
RMPI description	Required	Summary description of the use conditions of the license (RMPIDescription) - Maximum number of viewing times

		<ul style="list-style-type: none"> - Viewing start/end date - Viewing period after the start of viewing - Presence or absence of copy protection for external playback output * With two-layer licenses, the summary of the use conditions of the sub-license (ECM) is provided.
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The elements and attributes of license information shown in Table 6-2 are used in metadata including license reference information.

Table 6-2: LicenseInformation

Name of element/attribute		Definition	Number of appearances	Remarks
LicenseInformation				
	@fragmentId	0..1	1	See Note 1.
	@fragmentVersion	0..1	1	See Note 1.
	@fragmentExpirationDate	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format
	LicenseID	1	1	See Note 1 and 2.
	MainLicenseID	0..1	0..1	See Note 1.
	LicenseType	1	1	Chosen from “Simple” and “Layered”
	AcquisitionTiming	0..1	0..1	Chosen from “immediately” and “atuse”
	ProgramCRID	1	1	
	@crid	1	1	
	PurchaseIdRef	1	1	Specifies the Purchase ID
	RMPIDescription	1	1	
	TextualDescription	0–∞	0..1	An RMPI summary text to be presented on receivers is provided. See Notes 3 and 4.
	PlayCountsLimit	0..1	0..1	See Note 4. Maximum number of viewing times This element and attribute should be omitted when the setting in the RMPI is 00..00h (this value indicates that the maximum number of viewing times has not been set).
	PlayCountsThreshold	0..1	0..1	Threshold for incrementing the maximum number of viewing times (in seconds) See Note 4.
	ValidityIntervalStart	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format Viewing start date; see Note 4. This element and attribute should be omitted when the setting in the RMPI is FF.FFh (this value indicates that the viewing start date has not been set).

		ValidityIntervalEnd	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format Viewing end date; see Note 4. This element and attribute should be omitted when the setting in the RMPI is FF.FFh (this value indicates that the viewing start date has not been set).
		ValidityIntervalAfterFirstUse	0..1	0..1	Given in the PThhHmmMssS format; see Note 5. Viewing period after the start of viewing; see Note 4. This element and attribute should be omitted when the setting in the RMPI is 00.00h (this value indicates that the viewing period after the start of viewing has not been set).
		TrickPlayEnabled	0..1	0..1	Chosen from “true” and “false” Indicates whether trick play is allowed or forbidden
		TrickPlayDetail	0..1	0..1	Indicates whether the fast forward and rewinding of the content is allowed or forbidden
		PreviewDescription	0..1	0..1	
		CountsLimit	0..1	0..1	Maximum number of previewing times
		TotalTime	0..1	0..1	Given in the PThhHmmMssS format See Note 5. Maximum total previewing time * With the ECM, this value is specified in seconds.
		IntervalEnd	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format Preview end time
		OutputRestriction	0–∞	0..20	
		Port	1	1	
		@href	1	1	
		Mode	1	1	
		@href	1	1	
		ImageConstraintToken	0..1	0..1	Chosen from “true” and “false” Resolution control bit
		IssueOption	0..1	0..1	Optional information for licensing * Mapped from the license for storage-based broadcasting services
		IssueStartTime	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format Licensing start time and date
		IssueEndTime	0..1	0..1	Given in the

					YYYY-MM-DDThh:mm:ss+09:00 format Licensing end time and date	
			IssueCountsLimit	0..1	0..1	Limitation on the number of licensees
			IssueAbroadEnabled	0..1	0..1	Chosen from “true” and “false” Indicates whether acquiring the license abroad is permitted or forbidden When not specified, “false” (acquisition is forbidden) is assumed.

Note 1: There is no LicenseInformation that has the same LicenseID (or a combination of LicenseID and MainLicenseID) and a different fragmentId. The LicenseID (or a combination of LicenseID and MainLicenseID) will not change even if the fragmentVersion is updated under the same fragmentId.

Note 2: The LicenseID should be specified with a 16-digit hexadecimal integer. Special characters such as “0x” for indicating the use of hexadecimal notation at the beginning should be omitted. When the value requires less than 16 digits, the remaining high-order digits should be padded with “0” for 16 digits.

Note 3: The viewing period is specified. A sample description is: “Two nights (three days).”

Note 4: One of the ValidityIntervalEnd elements, the PlayCountsLimit element, the ValidityIntervalAfterFirstUse element, and the TextualDescription element must be given without fail. When the ValidityIntervalEnd element is given, the ValidityIntervalStart element may also be given together.

Note 5: P: character representing “passage,” T: delimiter between the date and time, hhH: elapsed hours in two digits of decimal notation, mmM: elapsed minutes in two digits of decimal notation, and ssS: elapsed seconds in two digits of decimal notation

Chapter 7: Segmentation Metadata

7.1 Segment information element

Among the specifications for segment information (SegmentInformation) in 3.2.5.5 “Segment information” in the main part, the elements and attributes shown in Table 7-1 are used.

Table 7-1: SegmentInformation

Name of element/attribute	Definition	Number of appearances	Remarks
SegmentInformation			
@segmentId	1	1	See Note 1.
@fragmentId	0..1	1	See Note 1.
@fragmentVersion	0..1	1	See Note 1.
@fragmentExpirationDate	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format
ProgramRef	0..1	1	Specifies the program to which the segment belongs
@crid	1	1	
Description	0..1	0..1	See Table 7-2.
SegmentLocator	1	1	See Table 7-3.

Note 1: There is no SegmentInformation that has the same SegmentId and a different fragmentId. The SegmentId will not change even if the fragmentVersion is updated under the same fragmentId.

Table 7-2: SegmentInformation/Description

Name of element/attribute	Definition	Number of appearances	Remarks
Description			
Title	0-∞	2..6	See Table 4-4.
Synopsis	0-∞	0..3	See Table 4-7.
Genre	0-∞	0..30	See Table 4-10.
Keyword	0-∞	0..20	See Table 4-9.
RelatedMaterial	0-∞	0..20	See Table 4-16.
CreditsList	0..1	0..1	See Table 4-15.
RewardCoupon	0-∞	0..1	See Table 8-1.
@userConfirmationRequired	0..1	0..1	Chosen from “true” and “false”
@number	0..1	0..1	Specifies the number of rewarded coupons
CouponRef	1	1	
CouponIdRef	1	1	
AuthorityName	0..1	0..1	Specifies the provider name of the coupon

Table 7-3: SegmentLocator

Name of element/attribute		Definition	Number of appearances	Remarks
SegmentLocator				
	MediaRelTimePoint	1	1	See Note 1.
	MediaDuration	0..1	1	See Note 1.

Note 1: The MediaRelTimePoint and MediaDuration should be given in the PThhHmmMssSnnnN1000F format in milliseconds.

7.2 Segment group information

Among the specifications for segment group information (SegmentGroupInformation) in 3.2.5.6 “Segment group information” in the main part, the elements and attributes shown in Table 7-4 are used.

Table 7-4: SegmentGroupInformation

Name of element/attribute		Definition	Number of appearances	Remarks
SegmentGroupInformation				
	@groupId	1	1	See Note 1.
	@ordered	0..1	0..1	
	@numberOfSegments	0..1	0..1	See Note 2.
	@duration	0..1	0..1	Given in the PThhHmmMssS format; see Note 3. Total playback time of the segments specified by Segments/@refList (in seconds)
	@fragmentId	0..1	1	See Note 1.
	@fragmentVersion	0..1	1	See Note 1.
	@fragmentExpirationDate	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format
	ProgramRef	1	1	
	@crid	1	1	Specifies the program to which the segment group belongs; see Note 2.
	GroupType	1-∞	1	
	@xsi:type	1	1	
	@value	1	1	See Note 4.
	Description	0..1	0..1	See Table 7-5.
	Segments	0..1	1	
	@refList	1	1	See Note 5.

Note 1: There is no SegmentGroupInformation that has the same groupId and a different fragmentId. The groupId will not change even if the fragmentVersion is updated under the same fragmentId.

Note 2: When the segment group is not linked to any program or linked to multiple programs, “crid://.x/x” should be given.

Note 3: P: character representing “passage,” T: delimiter between the date and time, hhH: elapsed hours in two digits of decimal notation, mmM: elapsed minutes in two digits of decimal notation, and ssS: elapsed seconds in two digits of decimal notation

Note 4: Choose from “highlights,” “highlights/objects,” “highlights/events,” “bookmarks,” “bookmarks/objects,” “bookmarks/events,” “themeGroup,” “preview,” “preview/title,” “preview/slideshow,” “tableOfContents,” “synopsis,” “shots,” “insertionPoints,” “alternativeGroups,” and “other.” For the details of each type, refer to 3.2.5.6, “Segment group information” in the main part.

Note 5: The *@numberOfSegments* pieces (100 pieces max.) of segmentIds are given in a row. Space is used as the delimiter.

Table 7-5: SegmentGroupInformation/Description

Name of element/attribute	Definition	Number of appearances	Remarks
Description			
Title	0–∞	2..6	See Table 4-4.
Synopsis	0–∞	0..3	See Table 4-7.
Genre	0–∞	0..30	See Table 4-10.
Keyword	0–∞	0..20	See Table 4-9.
CreditsList	0..1	0..1	See Table 4-15.

7.3 Reference relation between the program information and the segmentation metadata

Figure 7-1 shows the reference relations among the program information, segment information, and segment group information.

- A program information can be associated with 0 to 100 segment information. A segment information must be associated with a program information without fail. The reference from a segment information to a program information should be given in the ProgramRef/@crid attribute of the segment information.
- A segment information can be associated with 0 to 10 segment group information. A segment group information must be associated with 1 to 100 segment information without fail. The reference from a segment group information to a segment information should be given in the Segments/@refList attribute of the segment group information.

Note: A segment group information must have a reference to a program information (ProgramRef/@crid attribute) without fail (see Table 7-4). However, when the segment group is not linked to any program or linked to multiple programs, “crid://.x/x” should be given.

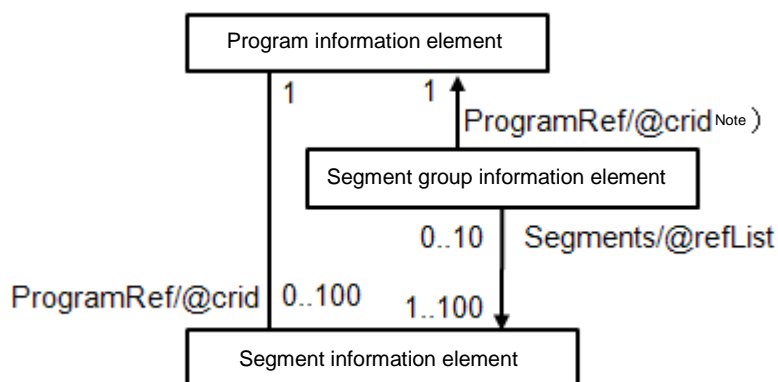


Fig. 7-1: Relation among the program information, segment information, and segment group information

Chapter 8: Coupon Description

8.1 Coupon description

The coupon description is used for describing the universal information of coupons. The status of rewarded coupons for individual users will be controlled separately. The granting of coupons to users and coupon discount processing are executed by customer management servers and billing servers. Therefore, the coupon description is used on receivers for referring to the information of coupons linked to each content and product or to the information of coupons that can be used for the purchase of products or the view/use of contents.

Among the specifications for coupon description (CouponDescription) in 3.2.9 “Coupon description” in the main part, the elements and attributes shown in Table 8-1 are employed.

Table 8-1: CouponDescription

Name of element/attribute	Definition	Number of appearances	Remarks
CouponDescription			
@couponId	1	1	See Note 1.
@fragmentId	0..1	1	See Note 1.
@fragmentVersion	0..1	1	See Note 1.
@fragmentExpirationDate	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format
@authorityName	0..1	0..1	Specifies the name of the authority responsible for the coupon (same as Authority in CRID)
@start	0..1	1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format Validity period start time and date of the coupon
@end	0..1	0..1	Given in the YYYY-MM-DDThh:mm:ss+09:00 format Validity period end time and date of the coupon
@acquisitionMode	0..1	0..1	Chosen from “immediate” and “linkedToContent” Acquisition method of the coupon When not specified, “linkedToContent” (on purchase/use/view) is assumed.
Choose from 1, 2, and 3.	0..1	0..1	
1. NonTVACouponRef	1	1	Specifies the reference URI of a coupon distributed by a product or service other than TV-Anytime
@couponAuthority	1	1	Specifies the provider name of the coupon

	2. CouponValue	1	1	
	@purchaseIdRef	0..1	1	Specifies the purchaseId to which the coupon applies.
	Choose from 4, 5, and 6.	1	1	
	4. ReductionAmount	0-∞	1	Specifies the discount amount
	@currency	1	1	
	5. NewPrice	0-∞	1	Specifies the new price
	@currency	1	1	
	6. ReductionPercentage	0..1	1	Specifies the discount rate in a figure
	3. ContentTarget	0-∞	0..1	Specifies the attribute information of the contents to which the coupon can apply
	Genre	0-∞	0..40	
	@href	1	1	
	@type	0..1	0..1	Chosen from “main,” “secondary,” and “other”; see Note 3.
	Program	0-∞	0..100	
	@crId	1	1	
	ServiceIdRef	0-∞	0..1	See Note 4.
	CouponURL	0..1	0..1	URL used for obtaining the information about the coupon and updating the status of the coupon stored in receivers
	CouponText	0-∞	0..1	
	CRIDRef	0..1	0..1	
	@crId	1	1	See Note 5.
	CouponName	0..1	0..1	Specifies the coupon name
	CouponImage	0..1	0..1	See Note 6.
	mpeg7:MediaUri	1	1	
	CopyrightNotice	0-∞	0..1	
	CouponThumbnail	0..1	0..1	See Note 6.
	mpeg7:MediaUri	1	1	
	CopyrightNotice	0-∞	0..1	

Note 1: There is no CouponDescription that has the same couponId and a different fragmentId. The couponId will not change even if the fragmentVersion is updated under the same fragmentId.

Note 2: The requiredNumber used here is the one in PuI/tmm:Requiredcoupon/@requiredNumber.

Note 3: Unlike descriptions in contents, “main” and “secondary” can be given multiple times. When @type is omitted, “main” is assumed to be specified.

Note 4: The serviceIds are given in a row. Space is used as the delimiter.

8.2 Reference relations among the program information, product information, segment information, and coupon description

Figure 8-1 shows the reference relations among the program information and group information, product information, segment information, and coupon description.

- A product information (RewardCoupon) can be associated with 0 or 1 coupon description. The reference from a product information (RewardCoupon) to a coupon description should be given in the CouponRef/CouponIdRef of the product information (RewardCoupon).
- A product information (RequiredCoupon) can be associated with 0 or 1 coupon description. The reference from a product information (RequiredCoupon) to a coupon description should be given in the @couponId of the product information (RequiredCoupon).
- A segment information can be associated with 0 or 1 coupon description. The reference from a segment information to a coupon description should be given in the RewardCoupon/CouponRef/CouponIdRef of the segment information.
- A coupon description can be associated with 0 or 1 product information. The reference from a coupon description to a product information should be given in the CouponValue/@purchaseIdRef of the coupon description.

A coupon description can be associated with 0 to X program information, group information, and service information. The reference from a coupon information to program information, group information, and service information should be given in the ContentTarget/Genre/@href, ContentTarget/Program/@crid, and ContentTarget/ServiceIdRef of the coupon description, respectively.

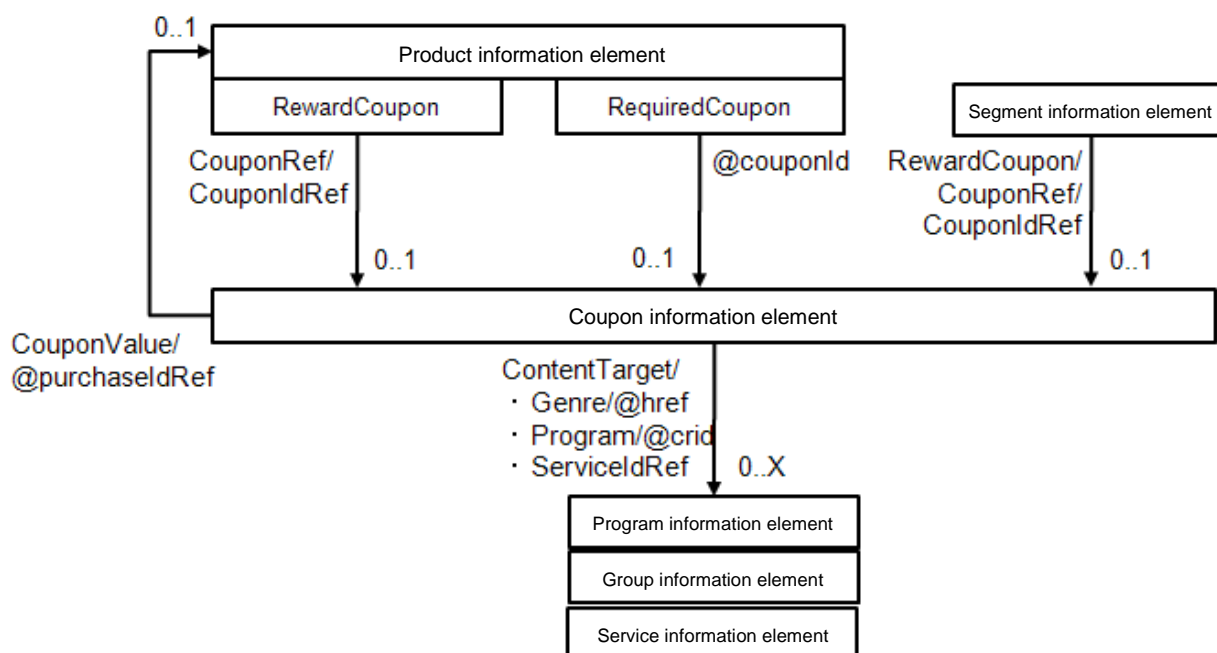


Fig. 8-1: Relation among the program information, product information, segment information, and coupon description

Chapter 9: CRID and Other Identification Information

9.1 CRID

This is pursuant to 4.1.1 in the main part.

9.1.1 Authority (<authority>)

<authority> is used for uniquely identifying the provider that issued the content.

This is pursuant to 4.1.1.1 in the main part.

9.1.2 Data (<data>)

The part of <data> should be a unique character string in the <authority>.

This is pursuant to 4.1.1.2 in the main part.

However, the content reference identifier is used as a logical directory in receivers, and “#” is used as a delimiter, such that it cannot be used in identifiers of contents per use (programId).

9.2 Locator

This is pursuant to 4.1.2 in the main part.

9.3 Instance metadata ID

This is pursuant to 4.1.4 in the main part.

Chapter 10: Metadata Transmission Method

This is pursuant to 3.4.3 in the main part.

10.1 Metadata fragment

fragmentIds and fragmentVersions are used for the identification and update control of individual metadata fragments.

10.1.1 FragmentId

In the range of “0” to “2 to the 40th power minus 1,” fragmentIds should be uniquely employed in the <authority> assigned to transmission lines for metadata. fragmentIds in metadata documents should be specified with a 10-digit hexadecimal integer. Special characters such as “0x” for indicating the use of hexadecimal notation at the beginning should be omitted. When the value requires less than 10 digits, the remaining high-order digits should be padded with “0” for 10 digits. The authority and publisher should be the same.

Fragments to which the same fragmentId is assigned cannot be specified to different description objects in the <authority>. Additionally, multiple fragments to which different fragmentIds are assigned cannot be specified to the same description object in the <authority>. In this paragraph, the same description object stands for one of the following:

- ProgramInformation fragment that has the same programId
- GroupInformation fragment that has the same groupId
- ProgramLocation fragment that has the same Program (CRID) and ProgramURL
- LicenseInformation fragment that has the same LicenseId
- PurchaseInformation fragment that has the same purchaseId
- SegmentInformation fragment that has the same segmentId
- SegmentGroupInformation fragment that has the same groupId
- CouponDescription fragment that has the same couponId

10.1.2 FragmentVersion

The time and date when the concerned fragment was updated should be given in fragmentVersions. fragmentVersions in metadata documents should be specified with a 14-digit decimal integer (in the YYYYMMDDhhmmss format).

10.1.3 FragmentExpirationDate

With regard to the validity period of metadata, the end time and date of the period (in Japan Standard Time) should be given in the FragmentExpirationDate attribute in the dateTime format (the YYYY-MM-DDThh:mm:ss+09:00 format). The time zone in Japan is fixed at +09:00. When the FragmentExpirationDate attribute is not specified, the usage of the validity period

can be dependent on the receiver.

10.2 Application ranges of various dictionaries

The application ranges of various metadata dictionaries to be referred are defined in “Table 10-1: Application ranges of various dictionaries.”

Table 10-1: Application ranges of various dictionaries

URI of the classification scheme	Remarks
http://www.arib.or.jp/cs/2006/03/ARIBGenreCS	The application range covers 4.1, “GENERAL AUDIENCE” and 4.2, “AGE GROUPS” in 4, “TARGET GROUP” and 3, “Genre.”
http://www.arib.or.jp/cs/2010/04/ARIBGenreCS2	All the items are applied.
http://www.arib.or.jp/cs/2006/03/ARIBParentalRatingCS	The application range and the details of application for each item are specified in the operation.
http://www.arib.or.jp/cs/2010/04/ARIBHowRelatedCS	The application range and the details of application for each item are specified in the operation.
http://www.arib.or.jp/cs/2010/04/ARIBPromotionalTypeCS	All the items are applied.
http://www.arib.or.jp/cs/2010/04/ARIBPurchaseTypeCS	The application range covers 1, “Single sales,” 2, “Pack sales,” and 4, “Subscription sales,” excluding 3, 3.1, 3.2, “Select sales.”
http://www.arib.or.jp/cs/2010/04/ARIBUnitTypeCS	The application range is other than “counts times.”
http://www.arib.or.jp/cs/2011/03/ARIBRoleCS	All the items are applied.
http://www.arib.or.jp/cs/2010/04/ARIBAudioComponetCS	All the items are applied.
http://www.arib.or.jp/cs/2011/03/ARIBAudioCodingFormatCS	All the items are applied.
http://www.arib.or.jp/cs/2011/03/ARIBVisualCodingFormatCS	All the items are applied.
http://www.arib.or.jp/cs/2011/03/ARIBFileFormatCS	All the items are applied.
http://www.arib.or.jp/cs/2013/07/ARIBOutputPortCS	All the items are applied.
http://www.arib.or.jp/cs/2013/07/ARIBCopyControlMedhodCS	All the items are applied.

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