

MOST

Media Oriented Systems Transport

Multimedia and Control
Networking Technology

MOST FBlock Template GeneralPlayer

Rev 2.5.1

10/2007

MOSTCO CONFIDENTIAL

See page 3 for the terms of disclosure



Legal Notice

COPYRIGHT

© Copyright 1999 - 2007 MOST Cooperation. All rights reserved.

LICENSE DISCLAIMER

Nothing on any MOST Cooperation Web Site, or in any MOST Cooperation document, shall be construed as conferring any license under any of the MOST Cooperation or its members or any third party's intellectual property rights, whether by estoppel, implication, or otherwise.

CONTENT AND LIABILITY DISCLAIMER

MOST Cooperation or its members shall not be responsible for any errors or omissions contained at any MOST Cooperation Web Site, or in any MOST Cooperation document, and reserves the right to make changes without notice. Accordingly, all MOST Cooperation and third party information is provided "AS IS". In addition, MOST Cooperation or its members are not responsible for the content of any other Web Site linked to any MOST Cooperation Web Site. Links are provided as Internet navigation tools only.

MOST COOPERATION AND ITS MEMBERS DISCLAIM ALL WARRANTIES WITH REGARD TO THE INFORMATION (INCLUDING ANY SOFTWARE) PROVIDED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. Some jurisdictions do not allow the exclusion of implied warranties, so the above exclusion may not apply to you.

In no event shall MOST Cooperation or its members be liable for any damages whatsoever, and in particular MOST Cooperation or its members shall not be liable for special, indirect, consequential, or incidental damages, or damages for lost profits, loss of revenue, or loss of use, arising out of or related to any MOST Cooperation Web Site, any MOST Cooperation document, or the information contained in it, whether such damages arise in contract, negligence, tort, under statute, in equity, at law or otherwise.

FEEDBACK INFORMATION

Any information provided to MOST Cooperation in connection with any MOST Cooperation Web Site, or any MOST Cooperation document, shall be provided by the submitter and received by MOST Cooperation on a non-confidential basis. MOST Cooperation shall be free to use such information on an unrestricted basis.

TRADEMARKS

MOST Cooperation and its members prohibit the unauthorized use of any of their trademarks. MOST Cooperation specifically prohibits the use of the MOST Cooperation LOGO unless the use is approved by the Steering Committee of MOST Cooperation.

SUPPORT AND FURTHER INFORMATION

For more information on the MOST technology, please contact:

MOST Cooperation

Administration
Bannwaldallee 48
D-76185 Karlsruhe
Germany

Tel: (+49) (0) 721 966 50 00

Fax: (+49) (0) 721 966 50 01

E-mail: contact@mostcooperation.com

Web: www.mostcooperation.com



This Specification is Confidential Information of the MOST Cooperation. It may only be disclosed to member companies. Member companies wishing to discuss these Specifications with suppliers or other third parties must ensure that a commercially standard form of non-disclosure agreement has been previously executed by the party receiving such Specifications. Use of these Specifications may only be for purposes for which they are intended by the MOST Cooperation. Unauthorized use or disclosure is a violation of law.

© Copyright 1999 - 2007 MOST Cooperation
All rights reserved

MOST is a registered trademark

1	INTRODUCTION.....	9
2	FBLOCK DEFINITION.....	9
2.1.1	ScreenFormat (0x130)	11
2.1.2	VideoFrequency (0x131)	12
2.1.3	VideoNorm (0x132)	12
2.1.4	VideoSignalFormat (0x133).....	13
2.1.5	VideoFormat (0x135).....	14
2.1.6	AudioOutFormat (0x136).....	15
2.1.7	DeckStatus (0x200).....	16
2.1.8	TimePosition (0x201)	18
2.1.9	TrackPosition (0x202)	19
2.1.10	FramePosition (0x203).....	20
2.1.11	TitlePosition (0x205).....	21
2.1.12	ChapterPosition (0x206).....	22
2.1.13	VideoInteraction (0x251)	22
2.1.14	PlayerRegion (0x270).....	23
2.1.15	MagazineStatus (0x410)	24
2.1.16	ActiveMagazine (0x411).....	25
2.1.17	ActiveDisk (0x412).....	26
2.1.18	MediaInfo (0x413)	27
2.1.19	AudioDiskInfo (0x420)	29
2.1.20	VideoDiskInfo (0x421)	31
2.1.21	LongAudioDiskInfo (0x422).....	33
2.1.22	CopyManagementInfo (0x423).....	35
2.1.23	LongVideoDiskInfo (0x429).....	36
2.1.24	DeckEvent (0x430).....	38
2.1.25	MediaEvent (0x431)	39
2.1.26	BookTapeStatus (0x440).....	40
2.1.27	SkipBlank (0x441)	40
2.1.28	Dolby (0x442)	41
2.1.29	TapeType (0x443)	42
2.1.30	TitleStep (0x444)	42
2.1.31	Random (0x450).....	43
2.1.32	Scan (0x451)	44
2.1.33	Repeat (0x452).....	45
2.1.34	NextTrackToPlay (0x453).....	46
2.1.35	Deemphasis (0x454)	47
2.1.36	SlowFwSpeed (0x455)	47
2.1.37	SlowBwSpeed (0x456).....	48
2.1.38	FastFwSpeed (0x457)	49
2.1.39	FastBwSpeed (0x458).....	49
2.1.40	ABRepeatSetting (0x460).....	50
2.1.41	AvailableTitles (0x461)	51
2.1.42	AvailableChapters (0x462).....	51
2.1.43	AvailableAngles (0x463).....	52
2.1.44	AudioStreamNumber (0x500).....	52
2.1.45	AvailableAudioLanguages (0x501).....	53
2.1.46	SubtitleStreamNumber (0x502).....	54
2.1.47	AvailableSubtitlesLanguages (0x503).....	54
2.1.48	MenuLanguage (0x504)	55
2.1.49	AvailableMenuLanguages (0x505).....	56
2.1.50	VideoParentalLevel (0x509)	57
2.1.51	TemporaryParentalLevel (0x50A)	57
2.1.52	VideoParentalPwd (0x50B)	58
2.1.53	VideoDefaultSettings (0x530).....	59
2.1.54	VideoAngle (0x531).....	60
2.1.55	CountryCode (0x584)	61

2.1.56	KaraokePlayer (0x590).....	62
2.1.57	Karaoke (0x591).....	62
2.1.58	AvailableKaraokeStreams (0x592).....	63
2.1.59	KaraokeStream (0x593).....	65
2.1.60	KaraokeChannelMix (0x594).....	65
2.1.61	KaraokeModeReservation (0x595).....	67
2.1.62	KaraokeMode (0x596).....	68
2.1.63	KaraokeKeyControl (0x597).....	69
2.1.64	KaraokeEcho (0x598).....	70
2.1.65	SubpicturePalette (0x610).....	70
2.1.66	TimeInformation (0x613).....	71
2.1.67	AudioStreamProperties (0x614).....	73
2.1.68	ApplicationInformation (0x615).....	76
2.1.69	MultiChannel (0x616).....	79
2.1.70	VideoStreamProperties (0x617).....	80
2.1.71	SubpixStreamProperties (0x618).....	83
2.1.72	Shuffle (0x620).....	84

References

Number	Document
[1]	MOST Specification 2V5
[2]	MOST FBlock template GeneralFBlock Rev 2.5.1 – all speed grades

Bibliography MOST Library

This is a list of released FBlocks and FBlock templates at the release time of this specification. FBlocks which are released later are not reflected in this list.

FBlockID	FunctionBlock
-	GeneralFBlock
-	GeneralPlayer
0x01	NetBlock
0x02	NetworkMaster
0x03	ConnectionMaster
0x06	Diagnosis
0x0E	Tool
0x0F	Enhanced Testability
0x22	AudioAmplifier
0x24	AuxIn
0x26	MicrophoneInput
0x30	AudioTapePlayer
0x31	AudioDiskPlayer
0x34	DVDVideoPlayer
0x40	AmFmTuner
0x41	TMCTuner
0x42	TVTuner
0x43	DABTuner
0x44	SDARS
0x50	Telephone
0x51	GeneralPhoneBook
0x60	GraphicDisplay
-	Unique Functions

Document History

Changes MOST GeneralPlayerFBlock 2.5.0 to MOST GeneralPlayerFBlock 2.5.1

Change Ref.	FktID	Changes
2.5.1-001	General	- Updated definitions section.
2.5.1-002	General	- Fixed spelling of AudioDiskPlayer ("AudiDiskPlayer").
2.5.1-003	General	- Corrected date format to comply with ISO 8601 standard (YYYY-MM-DD).
2.5.1-004	0x000	- Removed function that is already contained in GeneralFBlock: FktIDs (0x000)
2.5.1-005	0x001	- Removed function that is already contained in GeneralFBlock: Notification (0x001)
2.5.1-006	0x002	- Removed function that is already contained in GeneralFBlock: NotificationCheck (0x002)
2.5.1-007	0x010	- Removed function that is already contained in GeneralFBlock: Version (0x010)
2.5.1-008	0x080	- Removed function that is already contained in GeneralFBlock: DynArrayIns (0x080)
2.5.1-009	0x081	- Removed function that is already contained in GeneralFBlock: DynArrayDel (0x081)
2.5.1-010	0x082	- Removed function that is already contained in GeneralFBlock: MapIns (0x082)
2.5.1-011	0x083	- Removed function that is already contained in GeneralFBlock: MapDel (0x083)
2.5.1-012	0x090	- Removed function that is already contained in GeneralFBlock: CreateArrayWindow (0x090)
2.5.1-013	0x091	- Removed function that is already contained in GeneralFBlock: DestroyArrayWindow (0x091)
2.5.1-014	0x092	- Removed function that is already contained in GeneralFBlock: MoveArrayWindow (0x092)
2.5.1-015	0x093	- Removed function that is already contained in GeneralFBlock: SearchArrayWindow (0x093)
2.5.1-016	0x094	- Removed function that is already contained in GeneralFBlock: LongArrayInfo (0x094)
2.5.1-017	0x09A	- Removed function that is already contained in GeneralFBlock: ArrayWindowIns (0x09A)
2.5.1-018	0x09B	- Removed function that is already contained in GeneralFBlock: ArrayWindowDel (0x09B)
2.5.1-019	0x100	- Removed function that is already contained in GeneralFBlock: SourceInfo (0x100)
2.5.1-020	0x101	- Removed function that is already contained in GeneralFBlock: Allocate (0x101)
2.5.1-021	0x102	- Removed function that is already contained in GeneralFBlock: DeAllocate (0x102)
2.5.1-022	0x103	- Removed function that is already contained in GeneralFBlock: SourceActivity (0x103)
2.5.1-023	0x104	- Removed function that is already contained in GeneralFBlock: SourceName (0x104)
2.5.1-019	0x105	- Removed function that is already contained in GeneralFBlock: SourceConnect (0x105)
2.5.1-020	0x106	- Removed function that is already contained in GeneralFBlock: SourceDisConnect (0x106)
2.5.1-021	0x107	- Removed function that is already contained in GeneralFBlock: SourceRouting (0x107)
2.5.1-022	0x116	- Removed function that is already contained in GeneralFBlock: SyncDataInfo (0x116)
2.5.1-023	0x130	- Removed Interface OPType
2.5.1-024	0x131	- Removed Interface OPType
2.5.1-025	0x132	- Fixed VideoNorm enumeration in function VideoNorm (0x132) - Removed Interface OPType
2.5.1-026	0x133	- Removed Interface OPType
2.5.1-027	0x429	- Changed unit for parameter VideoTime in LongVideoDiskInfo (0x429) from unit_none to unit_ms.

Changes MOST GeneralPlayerFBlock 2.4-02 to MOST GeneralPlayerFBlock 2.5.0

Change Ref.	FktID	Changes
2.5.0-001	General	<ul style="list-style-type: none"> - Removed FBlockID because GeneralPlayer is merely a template. - Many minor corrections in spelling and use of MOST terminology. - Added minimal descriptions for functions that had none. - Unified use of RxTxLog to match the MOST specification. - Removed references to NDR register in descriptions. - Amended XML storage format with new Function Classes, data types and units.
2.5.0-002	0x003	- Added function AsyncControlSwitch
2.5.0-003	0x010	- Added function Version.
2.5.0-004	0x082	- Added function MapIns.
2.5.0-005	0x083	- Added function MapDel.
2.5.0-006	0x092	- Changed StartResultAck OPType to StartAck for MoveArrayWindow.
2.5.0-007	0x093	- Added reference to MOST specification in description of SearchArrayWindow.
2.5.0-008	0x094	- Parameter FktIDAW of function LongArrayInfo changed to Unsigned Word.
2.5.0-009	0x100, 0x104	- Added note about multiple notifications to SourceInfo and SourceName.
2.5.0-010	0x130-0x136	- Changed from "Extension" to "Coordination" because these functions are in the Coordination FktID range.
2.5.0-011	0x131	- Removed superfluous parameter for Get OPType from VideoFrequency.
2.5.0-012	0x205	- Corrected description of TitlePosition parameter (description was a duplicate of NSteps).
2.5.0-013	0x270	<ul style="list-style-type: none"> - Corrected description of PlayerRegion function. It is not a method but a property. - Changed name of parameter "NumberOfLeftAttempts" to "NumberOfRemainingAttempts". - Added region code table to description of PlayerRegionCode parameter of function PlayerRegion
2.5.0-014	0x413	- Added "Media unreadable" to MediaType Enum of function MediaInfo.(0x413)
2.5.0-015	0x444	- Corrected description of Titles parameter for TitleStep function (description referred to Step).
2.5.0-016	0x454	- Added description for Deemphasis.
2.5.0-017	0x461, 0x462, 0x463	- Removed superfluous parameter for Get OPType.
2.5.0-018	0x50B	<ul style="list-style-type: none"> - Deleted unnecessary parameter VideParentalPwd in VideoParentalPwd function (duplication due to a spelling error). - Removed unspecific reference to default password.
2.5.0-018	0x594	- Rephrased description of MixL and MixR.

Changes MOST GeneralPlayerFBlock 2V4-01 to MOST GeneralPlayerFBlock 2V4-02

Change Ref.	FktID	Changes
2.4.2-001	0x093	- Parameter FktIDMotherArray changed to FktIDArrayWindow

Changes MOST GeneralPlayerFBlock 2V4-00 to MOST GeneralPlayerFBlock 2V4-01

Change Ref.	FktID	Changes
2.4.1-001	0x002	- Changed description of parameter FktIDList.
		-

1 Introduction

This document contains the specification of an FBlock template. MOST FBlocks are standardized and maintained by MOST workgroup Device Architecture (WG_DA). In order to speed up the process of making new FBlocks available, every FBlock will be updated individually as required.

2 FBlock Definition

This template is the top class for all Players. The Player that needs to be realized (MultiMediaPlayer, SingleCDPlayer, Tape, etc.) may be derived from this class. The FBlock will not be implemented in any device in this form. Only the derived players, such as MultiMediaPlayer or Tape will be implemented.

In addition to the functions contained in this document, the following functions are also part of the GeneralPlayer template. They exist in the GeneralFBlock template Rev. 2.5.1 and are included here by reference for all speed grades:

FktID	Function name
0x000	FktIDs
0x001	Notification
0x002	NotificationCheck
0x010	Version
0x080	DynArrayIns
0x081	DynArrayDel
0x082	MapIns
0x083	MapDel
0x090	CreateArrayWindow
0x091	DestroyArrayWindow
0x092	MoveArrayWindow
0x093	SearchArrayWindow
0x094	LongArrayInfo
0x09A	ArrayWindowIns
0x09B	ArrayWindowDel
0x100	SourceInfo
0x101	Allocate
0x102	DeAllocate
0x103	SourceActivity
0x104	SourceName
0x107	SourceRouting
0x116	SyncDataInfo

For speed grade MOST25--in addition to the functions listed above--the following functions are referenced from the GeneralFBlock template:

FktID	Function name
0x105	SourceConnect
0x106	SourceDisConnect

Function Overview		
FktID	Name	Section Type
0x130	ScreenFormat	Coordination
0x131	VideoFrequency	Coordination
0x132	VideoNorm	Coordination
0x133	VideoSignalFormat	Coordination
0x135	VideoFormat	Coordination
0x136	AudioOutFormat	Coordination
0x200	DeckStatus	Mandatory
0x201	TimePosition	Mandatory
0x202	TrackPosition	Mandatory
0x203	FramePosition	Mandatory
0x205	TitlePosition	Mandatory
0x206	ChapterPosition	Mandatory
0x251	VideoInteraction	Mandatory
0x270	PlayerRegion	Mandatory
0x410	MagazineStatus	Extension
0x411	ActiveMagazine	Extension
0x412	ActiveDisk	Extension
0x413	MediaInfo	Extension
0x420	AudioDiskInfo	Extension
0x421	VideoDiskInfo	Extension
0x422	LongAudioDiskInfo	Extension
0x423	CopyManagementInfo	Extension
0x429	LongVideoDiskInfo	Extension
0x430	DeckEvent	Extension
0x431	MediaEvent	Extension
0x440	BookTapeStatus	Extension
0x441	SkipBlank	Extension
0x442	Dolby	Extension
0x443	TapeType	Extension
0x444	TitleStep	Extension
0x450	Random	Extension
0x451	Scan	Extension
0x452	Repeat	Extension
0x453	NextTrackToPlay	Extension
0x454	Deemphasis	Extension
0x455	SlowFwSpeed	Extension
0x456	SlowBwSpeed	Extension
0x457	FastFwSpeed	Extension
0x458	FastBwSpeed	Extension
0x460	ABRepeatSetting	Extension
0x461	AvailableTitles	Extension
0x462	AvailableChapters	Extension
0x463	AvailableAngles	Extension
0x500	AudioStreamNumber	Extension
0x501	AvailableAudioLanguages	Extension
0x502	SubtitleStreamNumber	Extension
0x503	AvailableSubtitlesLanguages	Extension
0x504	MenuLanguage	Extension
0x505	AvailableMenuLanguages	Extension
0x509	VideoParentalLevel	Extension
0x50A	TemporaryParentalLevel	Extension
0x50B	VideoParentalPwd	Extension
0x530	VideoDefaultSettings	Extension
0x531	VideoAngle	Extension

Function Overview		
FktID	Name	Section Type
0x584	CountryCode	Extension
0x590	KaraokePlayer	Extension
0x591	Karaoke	Extension
0x592	AvailableKaraokeStreams	Extension
0x593	KaraokeStream	Extension
0x594	KaraokeChannelMix	Extension
0x595	KaraokeModeReservation	Extension
0x596	KaraokeMode	Extension
0x597	KaraokeKeyControl	Extension
0x598	KaraokeEcho	Extension
0x610	SubpicturePalette	Extension
0x613	TimeInformation	Extension
0x614	AudioStreamProperties	Extension
0x615	ApplicationInformation	Extension
0x616	MultiChannel	Extension
0x617	VideoStreamProperties	Extension
0x618	SubpixStreamProperties	Extension
0x620	Shuffle	Extension

2.1.1 ScreenFormat (0x130)

Section type: Coordination

Image format of the video screen.

2.1.1.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	ScreenFormat (0x130)	Get	ScreenFormat
		Status	ScreenFormat
		Error	ErrorCode, ErrorInfo

2.1.1.2 Parameter

ScreenFormat

Enumeration of available image formats.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x0F	0x00	Unknown
		0x01	4:3
		0x02	16:9
		0x03..0x0F	reserved

2.1.2 VideoFrequency (0x131)

Section type: Coordination

Determines the video frequency.

2.1.2.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	VideoFrequency (0x131)	Get	-
		Status	VideoFrequency
		Error	ErrorCode, ErrorInfo

2.1.2.2 Parameter

VideoFrequency

Enumeration of available frequencies.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x02	0x00	Unknown
		0x01	50 Hz
		0x02	60 Hz

2.1.3 VideoNorm (0x132)

Section type: Coordination

Determines the television system type.

2.1.3.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	VideoNorm (0x132)	Get	-
		Status	VideoNorm
		Error	ErrorCode, ErrorInfo

2.1.3.2 Parameter

VideoNorm

Enumeration of the available television systems.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x2A	0x00	unknown
		0x01	EIA
		0x02	CCIR
		0x09	NTSC
		0x0A	NTSC-EUROPE
		0x0B	NTSC-M
		0x0C	NTSC-JAPAN
		0x13	PAL
		0x14	PAL-BG
		0x15	PAL-I
		0x16	PAL-M
		0x17	PAL-N
		0x18	PAL-DK
		0x19	PAL-AUSTRALIA
		0x1A	PAL-ITALIA
		0x1B	PAL-MAROCCO
		0x1C	PAL-VRC
		0x1E	SECAM-BG
		0x1F	SECAM-DK
		0x20	SECAM-K1
		0x21	SECAM-L
		0x28	HDTV
		0x29	MUSE(JAPAN)
		0x2A	HDTV(USA)

2.1.4 VideoSignalFormat (0x133)

Section type: Coordination

Video signal format.

2.1.4.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	VideoSignalFormat (0x133)	Get	-
		Status	VideoSignalFormat
		Error	ErrorCode, ErrorInfo

2.1.4.2 Parameter

VideoSignalFormat

Enumeration of the available video signal formats.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x0C	0x00	Unknown
		0x01	BAS
		0x0A	FBAS (CVBS)
		0x0B	Y/C
		0x0C	RGB

2.1.5 VideoFormat (0x135)

Section type: Coordination

Determines the setting for the appearance of the video.

2.1.5.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	VideoFormat (0x135)	Set	VideoFormat
		Get	-
		SetGet	VideoFormat
		Status	VideoFormat
		Error	ErrorCode, ErrorInfo

2.1.5.2 Parameter

VideoFormat

Enumeration of the available video appearance settings.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x04	0x00	Unknown
		0x01	Standard
		0x02	Wide
		0x03	Letterbox
		0x04	Pan and scan

2.1.6 AudioOutFormat (0x136)

Section type: Coordination

Determines the output format of audio signals.

2.1.6.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	AudioOutFormat (0x136)	Set	AudioChannel, AudioType, PreferredLanguage, NChannels, OutputPort
		Get	-
		SetGet	AudioChannel, AudioType, PreferredLanguage, NChannels, OutputPort
		Status	AudioChannel, AudioType, PreferredLanguage, NChannels, OutputPort
		Error	ErrorCode, ErrorInfo

2.1.6.2 Parameter

AudioChannel

Number of active audio channels.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0	1..8	1	none

AudioType

Enumeration of the available sound formats.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x0F	0x00	Unknown
		0x01	Linear PCM, Sampling rate 48 kHz, Quantization 24 bits
		0x02	Linear PCM, Sampling rate 48 kHz, Quantization 24 bits
		0x03	Dolby AC-3
		0x04	MPEG 1
		0x05	MPEG 2
		0x06	DTS
		0x07	SDDS
		0x0F	Unknown

PreferredLanguage

ISO-639 "Names of Languages"
E.g., 0x6465 = "de" = Germany

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0	full range	1	none

NChannels

Number of channels available for the current audio format.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	full range	1	none

OutputPort

Enumeration of available output port types.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x02	0x00	Analog
		0x01	SPDIF
		0x02	MOST

2.1.7 DeckStatus (0x200)

Section type: Mandatory

This property controls and shows the state of the drive.

2.1.7.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	DeckStatus (0x200)	Set	DeckStatus
		Get	-
		SetGet	DeckStatus
		Status	DeckStatus
		Error	ErrorCode, ErrorInfo

2.1.7.2 Parameter

DeckStatus

0x00 ... 0x1F = general states
0x20 ... 0x2F = video specific states
0x30 ... 0x3F = tape specific states
0x40 ... 0x4F = file handling

Basis datatype	Range of values	Code	Description
Enum	0x00..0x41	0x00	Play
		0x01	Stop
		0x02	Pause
		0x03	Load
		0x04	Unload
		0x05	Search Forward (Audio -> Mickey Mouse effect, Video -> Scrolling)
		0x06	Search Backward (Audio -> Mickey Mouse effect, Video -> Scrolling)
		0x07	Fast Forward by Time (Audio -> Mute, Video -> freeze image or bluescreen)
		0x08	Fast Backward by Time (Audio -> Mute, Video -> freeze image or bluescreen)
		0x09	Empty
		0x0A	Retract
		0x20	Slow Motion Forward
		0x21	Slow Motion Backward
		0x22	StepbyStep
		0x23	PreStop (Bluescreen, but play resumes at old position)
		0x30	Rewind to Start of Tape
		0x31	Forward to End of Tape
		0x32	Search Startposition next title
		0x33	Search Startposition last Title
		0x40	Fileplay
		0x41	Filetransfer

2.1.8 TimePosition (0x201)

Section type: Mandatory

Display of current or setting of a new position in milliseconds.

Datatype: Record of {DiskTime, TrackTime, TitleTime}

Note: An event is triggered only every second.

2.1.8.1 Format of Function

Function classes: Record of { Number Number Number }

FBlock	Function	OPType	Parameter
GeneralPlayer	TimePosition (0x201)	Set	Pos, Data
		Get	Pos
		SetGet	Pos, Data
		Increment	Pos, NSteps
		Decrement	Pos, NSteps
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.8.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second Byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.

Valid range: x=0..3

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0	0..3	1	none

Data

The content of Data depends on parameter Pos={x,y}.

Basis datatype	Length	Description	
Record	-	Pos	Data
		{ x=0 }	DiskTime, TrackTime, TitleTime
		{ x=1 }	DiskTime
		{ x=2 }	TrackTime
		{ x=3 }	TitleTime

DiskTime

Time details in milliseconds related to start of disk.

Basis datatype	Exp.	Range of values	Step	Unit
Signed Long	0		1	ms

TrackTime

Time details in milliseconds related to start of current track.

Basis datatype	Exp.	Range of values	Step	Unit
Signed Long	0		1	ms

TitleTime

Time details in milliseconds related to the start of the current title.

Basis datatype	Exp.	Range of values	Step	Unit
Signed Long	0		1	ms

NSteps

Number of steps for adjustment.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	1..255	1	none

2.1.9 TrackPosition (0x202)

Section type: Mandatory

Used to query the current track or to play a different track.

Note:

- Track=0 for "no track", e.g., if there is no medium available.
- For a tape player, Track=1 corresponds to the first side of the tape and Track=2 corresponds to the second side.
- The currently valid range of values is dependent on the medium. When required, the actual range is queriable by the interface.

2.1.9.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	TrackPosition (0x202)	Set	Track
		Get	-
		SetGet	Track
		Increment	NSteps
		Decrement	NSteps
		Status	Track
		Error	ErrorCode, ErrorInfo

2.1.9.2 Parameter

Track

The current track.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

NSteps

Number of steps for adjustment.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	1..255	1	none

2.1.10 FramePosition (0x203)

Section type: Mandatory

Query the current playback position in frame units or continue playback from a different frame.

2.1.10.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	FramePosition (0x203)	Set	Frame
		Get	-
		SetGet	Frame
		Increment	NSteps
		Decrement	NSteps
		Status	Frame
		Error	ErrorCode, ErrorInfo

2.1.10.2 Parameter

Frame

The current frame.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Long	0		1	none

NSteps

Number of steps for adjustment.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	1..255	1	none

2.1.11 TitlePosition (0x205)

Section type: Mandatory

Used to query the current sequence or continue playback from a different sequence.

2.1.11.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	TitlePosition (0x205)	Set	TitlePosition
		Get	-
		SetGet	TitlePosition
		Increment	NSteps
		Decrement	NSteps
		Status	TitlePosition
		Error	ErrorCode, ErrorInfo

2.1.11.2 Parameter

TitlePosition

Title position.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

NSteps

Number of steps for adjustment.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	1..255	1	none

2.1.12 ChapterPosition (0x206)

Section type: Mandatory

Used to query the current chapter or continue playback from a different chapter.

2.1.12.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	ChapterPosition (0x206)	Set	ChapterPosition
		Get	-
		SetGet	ChapterPosition
		Increment	NSteps
		Decrement	NSteps
		Status	ChapterPosition
		Error	ErrorCode, ErrorInfo

2.1.12.2 Parameter

ChapterPosition

Number of steps for adjustment.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

NSteps

Number of steps for adjustment.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	1..255	1	none

2.1.13 VideoInteraction (0x251)

Section type: Mandatory

Operates the DVD menu.

2.1.13.1 Format of Function

Function classes: Unclassified Method

FBlock	Function	OPType	Parameter
GeneralPlayer	VideoInteraction (0x251)	Start	VideoInteraction
		StartResult	VideoInteraction
		Processing	-
		Result	-
		Error	ErrorCode, ErrorInfo

2.1.13.2 Parameter

VideoInteraction

Enumeration of the available commands for user interaction.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x0f	0x00	Title
		0x01	Root
		0x02	Enter
		0x03	Up
		0x04	Down
		0x05	Right
		0x06	Left
		0x07	Back
		0x08	Previous Chapter
		0x09	Next Chapter
		0x0a	Subtitle
		0x0b	Audio
		0x0c	Angle
		0x0d	PTT
		0x0e	Resume
		0x0f	KaraokeAudio

2.1.14 PlayerRegion (0x270)

Section type: Mandatory

This property can be used for setting the region code parameter of a DVD drive.

2.1.14.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	PlayerRegion (0x270)	Set	PlayerRegionCode
		Get	-
		SetGet	PlayerRegionCode
		Status	PlayerRegionCode, NumberOfRemainingAttempts
		Error	ErrorCode, ErrorInfo

2.1.14.2 Parameter

PlayerRegionCode

This paramter determines the region code for the DVD Player:

Code	Region
0	Playable in all regions.
1	Bermuda, Canada, United States and U.S. territories.
2	The Middle East, Western Europe, Central Europe, Egypt, French overseas territories,

Code	Region
	Greenland, Japan, Lesotho, South Africa and Swaziland.
3	Southeast Asia, Hong Kong, Macau, South Korea and Taiwan.
4	Central America, the Caribbean, Mexico, Oceania, South America.
5	The rest of Africa, Former Soviet Union, the Indian subcontinent, Mongolia, North Korea.
6	Mainland China.
7	Reserved for future use.
8	International venues such as aircraft, cruise ships, etc.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	1..6	1	none

NumberOfRemainingAttempts

This parameter specifies the number of remaining region code changes before it becomes permanent.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x05	0x00	Permanent
		0x01	Last Change
		0x02	Set 3 times
		0x03	Set 2 times
		0x04	Set 1 time
		0x05	Never set

2.1.15 MagazineStatus (0x410)

Section type: Extension

This property shows the state of the magazine.

2.1.15.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	MagazineStatus (0x410)	Get	-
		Status	MagazineStatus
		Error	ErrorCode, ErrorInfo

2.1.15.2 Parameter

MagazineStatus

State of the player.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	NoMagazine
		0x01	Magazine loaded
		0x02	DiskCheck
		0x03	DiskChange

2.1.16 ActiveMagazine (0x411)

Section type: Extension

This property is for administration of the player's automatic loading equipment for the magazine. By setting the number of the desired magazine, this particular one will be loaded.

2.1.16.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	ActiveMagazine (0x411)	Set	MagazineNo
		Get	-
		SetGet	MagazineNo
		Increment	NSteps
		Decrement	NSteps
		Status	MagazineNo
		Error	ErrorCode, ErrorInfo

2.1.16.2 Parameter

MagazineNo

Number of the magazine.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	none

NSteps

Number of steps for adjustment.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	0..255	1	none

2.1.17 ActiveDisk (0x412)

Section type: Extension

This property is for administration of the player's automatic loading equipment for the changer. By setting the number of the desired magazine pocket the particular disc will be loaded.

2.1.17.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	ActiveDisk (0x412)	Set	MagazinPos
		Get	-
		SetGet	MagazinPos
		Increment	NSteps
		Decrement	NSteps
		Status	MagazinPos
		Error	ErrorCode, ErrorInfo

2.1.17.2 Parameter

MagazinPos

Number of current Medium.
0 = no medium

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	none

NSteps

Number of steps for adjustment.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	0..255	1	none

2.1.18 MediaInfo (0x413)

Section type: Extension

Depending on the type of player (with magazine or without) there are one (NMax = 1) or more Media available. This property shows the name (MediaTitle), the type (MediaType), the file system (MediaFilesystem), the first Track (FirstTrack), the last track (LastTrack) and the running time (PlayTime) for every medium.

Datatype: Array [1..NMax] of Record of {MediaTitle, MediaType, MediaFilesystem, FirstTrack, LastTrack, PlayTime}

2.1.18.1 Format of Function

Function classes: Array of { Record of { String Enumeration Enumeration Number Number Number } }

FBlock	Function	OPType	Parameter
GeneralPlayer	MediaInfo (0x413)	Set	Pos, Data
		Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.18.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read.

Valid range: x=0..NMax, y=0

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameter Pos={x,y}.

Basis datatype	Length	Description	
		Pos	Data
Array	-	{ x=0, y=0 }	MediaTitle[1], MediaType[1], MediaFilesystem[1], FirstTrack[1], LastTrack[1], PlayTime[1], ..., MediaTitle[NMax], MediaType[NMax], MediaFilesystem[NMax], FirstTrack[NMax], LastTrack[NMax], PlayTime[NMax]
		{ x>0, y=0 }	MediaTitle[x], MediaType[x], MediaFilesystem[x], FirstTrack[x], LastTrack[x], PlayTime[x]
		{ x>0, y=1 }	MediaTitle[x]
		{ x>0, y=2 }	MediaType[x]
		{ x>0, y=3 }	MediaFilesystem[x]
		{ x>0, y=4 }	FirstTrack[x]
		{ x>0, y=5 }	LastTrack[x]
		{ x>0, y=6 }	PlayTime[x]

MediaTitle

Name of medium.

Note: If the name of the medium is not available, an empty string will be transferred.

Basis datatype	MaxSize
String	

MediaType

Type of stored information

Basis datatype	Range of values	Code	Description
Enum	0x00..0x05	0x00	No disc / Unknown
		0x01	Audio
		0x02	Video
		0x03	ROM
		0x04	Mixed
		0x05	Media unreadable

MediaFilesystem

File system note: For MixedMode media the file system of the data tracks will be shown because the audio tracks are always of type CDDA.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x0A	0x00	no disk / Unknown
		0x01	CDDA (CD Digital Audio)
		0x02	BridgeDisc (special type of CDROM/XA that contains a ISO9660-filesystem, typically e. g. a VideoCD)
		0x03	ISO9660 (Format of CDROM)
		0x04	Joliet (Format of CDROM)
		0x05	PhotoCD
		0x06	HFS
		0x07	CDi (CD Interactive, that is with application)
		0x08	CDEExtra
		0x09	CDXA (CD Extended Architecture, standard for multimedia-CDs that contain audio, video and computer data)
		0x0A	UDF

FirstTrack

Number of the first track.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

LastTrack

Number of the last track.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

PlayTime

Running time of the medium.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Long	0		1	none

2.1.19 AudioDiskInfo (0x420)

Section type: Extension

For all audio data of the current medium this property will get the name (AudioTitle) as well as the playing time (AudioTime). If an audio title is not available, an empty string will be transferred. Two additional parameters (TrackNo, AudioFilename) provide the necessary information for an access.

Audio data organized by tracks:

Filename is an empty string and TrackNo contains the number of the particular track.

Audio data organized by files:

Filename gets the necessary information for file access (e.g.: path + filename). TrackNo is not utilized.

Datatype: Array[1..NMax] of Record of {AudioTitle, AudioTime, TrackNo, AudioFilename}

2.1.19.1 Format of Function

Function classes: Array of { Record of { String Number Number String } }

FBlock	Function	OPType	Parameter
GeneralPlayer	AudioDiskInfo (0x420)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.19.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read.

Valid range: x=0..NMax, y=0..4

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameter Pos={x,y}.

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0, y=0 }	AudioTitle[1], AudioTime[1], TrackNo[1], AudioFilename[1], AudioTitle[2], AudioTime[2], TrackNo[2], AudioFilename[2], ...
		{ x>0, y=0 }	AudioTitle[x], AudioTime[x], TrackNo[x], AudioFilename[x]
		{ x>0, y=1 }	AudioTitle[x]
		{ x>0, y=2 }	AudioTime[x]
		{ x>0, y=3 }	TrackNo[x]
		{ x>0, y=4 }	AudioFilename[x]

AudioTitle

Name of the song.

Note: If Name is not available, an empty string will be transferred.

Basis datatype	MaxSize
String	

AudioTime

Playing time in milliseconds. If playing time is not available, AudioTime=0 will be transferred.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Long	0		1	ms

TrackNo

Number of the particular track. For audio data organized by file parameter, TrackNo=0 will be transferred but not be evaluated by the receiver.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

AudioFilename

Necessary information for a file access. For audio data organized by track, an empty string will be transferred.

Note: The setup of the access information is not yet defined.

Basis datatype	MaxSize
String	

2.1.20 VideoDiskInfo (0x421)

Section type: Extension

For all video data of the current medium this property shows the appropriate name (VideoTitle) as well as the running time (VideoTime). If a title is not available, an empty string will be transferred. Two additional parameters (VideoTrack, VideoFilename) provide the necessary information for access.

Video data organized by track:

Filename is an empty string and TrackNo contains the number of the respective track.

Video data organized by file:

Filename gets the necessary information for access (e.g., path and file name). TrackNo will not be utilized.

Datatype: Array [1..NMax] of Record of {VideoTitle, VideoTime, VideoTrack, VideoFilename}

2.1.20.1 Format of Function

Function classes: Array of { Record of { String Number Number String } }

FBlock	Function	OPType	Parameter
GeneralPlayer	VideoDiskInfo (0x421)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.20.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read.

Valid range: x=0..NMax, y=0..4

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameter Pos={x,y}.

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0, y=0 }	VideoTitle[1], VideoTime[1], VideoTrack[1], VideoFilename[1], VideoTitle[2], VideoTime[2], VideoTrack[2], VideoFilename[2], ...
		{ x>0, y=0 }	VideoTitle[x], VideoTime[x], VideoTrack[x], VideoFilename[x]
		{ x>0, y=1 }	VideoTitle[x]
		{ x>0, y=2 }	VideoTime[x]
		{ x>0, y=3 }	VideoTrack[x]
		{ x>0, y=4 }	VideoFilename[x]

VideoTitle

Name of the video item.

Note: If the name of the medium is not available, an empty string will be transferred.

Basis datatype	MaxSize
String	50

VideoTime

Running time in milliseconds. If running time is not available, VideoTime=0 will be transferred.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Long	0		1	ms

VideoTrack

Number of the particular track. For video data organized by file, Parameter VideoTrack=0 will be transferred but not be evaluated by the receiver.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

VideoFilename

Necessary information for file access. For video data organized by track, an empty string will be transferred.

Note: The setup of the access information is not yet defined.

Basis datatype	MaxSize
String	100

2.1.21 LongAudioDiskInfo (0x422)

Section type: Extension

For all audio data of the current medium this property will get the name (AudioTitle) as well as the running time (AudioTime). If an audiotitle is not available, an empty string will be transferred. Two additional parameters (TrackNo, AudioFilename) provide the necessary information for access.

Audio data organized by tracks:

Filename is an empty string and TrackNo contains the number of the particular track.

Audio data organized by files:

Filename gets the necessary information for file access (e.g., path and file name). TrackNo is not utilized.

Note: Available FktIDs for Instance are 0x423 to 0x425.

Datatype: LongArray [1..NMax] of Record of {Tag, AudioTitle, AudioTime, TrackNo, AudioFilename}

2.1.21.1 Format of Function

Function classes: LongArray of Record { Record of { Number String Number Number String } }

FBlock	Function	OPType	Parameter
GeneralPlayer	LongAudioDiskInfo (0x422)	Get	Tag, PosY
		Status	Tag, PosY, CurrentSize, AbsolutePosition, Data
		Error	ErrorCode, ErrorInfo

2.1.21.2 Parameter

Tag

Unique handle of a row of an array (0xFFFF = no valid value).

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

PosY

The parameter PosY={y} shows which parameter shall be set, queried or read.

Valid range: y=0, 2..5

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	0..255	1	none

CurrentSize

Current size of the MotherArray.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

AbsolutePosition

Absolute position within the MotherArray.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameters Tag and PosY.

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0, y=0 }	Tag[1], AudioTitle[Tag[1]], AudioTime[Tag[1]], TrackNo[Tag[1]], AudioFilename[Tag[1]], Tag[2], AudioTitle[Tag[2]], AudioTime[Tag[2]], TrackNo[Tag[2]], AudioFilename[Tag[2]], ...
		{ x>0, y=0 }	x, AudioTitle[x], AudioTime[x], TrackNo[x], AudioFilename[x]
		{ x>0, y=1 }	AudioTitle[x]
		{ x>0, y=2 }	AudioTime[x]
		{ x>0, y=3 }	TrackNo[x]
		{ x>0, y=4 }	AudioFilename[x]

Tag

Unique handle of a row of an array (0xFFFF = no valid value).

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

AudioTitle

Name of the audio item.

Note: If Name is not available, an empty string will be transferred.

Basis datatype	MaxSize
String	50

AudioTime

Running time in milliseconds. If running time is not available, AudioTime=0 will be transferred.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Long	0		1	ms

TrackNo

Number of the particular track. For audio data organized by file, parameter TrackNo=0 will be transferred but not be evaluated by the receiver.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

AudioFilename

Necessary information for file access. For audio data organized by track an empty string will be transferred.

Note: The setup of the access information is not yet defined.

Basis datatype	MaxSize
String	100

2.1.22 CopyManagementInfo (0x423)

Section type: Extension

For all audio data, this property provides the Copy Management State.

Datatype: Array [1..Nmax] of CopyInfo

2.1.22.1 Format of Function

Function classes: Array of { Enumeration }

FBlock	Function	OPType	Parameter
GeneralPlayer	CopyManagement Info (0x423)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.22.2 Parameter

Pos

The Parameter Pos={x,y} consist of two bytes, x and y, and shows which parameter shall be set, queried or read. y is unused and must be 0.

Valid range: x=0..Nmax, y=0

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0	full range	1	none

Data

The content of Data depends on parameter Pos={x,y}.

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0 }	{CopyInfo[1], CopyInfo[2] ... CopyInfo[Nmax]}
		{ x>0 }	{CopyInfo[x]}

CopyInfo

Determines whether copies are allowed.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x02	0x00	Copy permitted
		0x01	1. Generation copy permitted (Copy has to be copy state -> Copy asserted)
		0x02	Copy inhibited

2.1.23 LongVideoDiskInfo (0x429)

Section type: Extension

For all video data of the current medium this property shows the appropriate name (VideoTitle) as well as the running time (VideoTime). If a title is not available, an empty string will be transferred. Two additional parameters (VideoTrack, VideoFilename) provide the necessary information for access.

Video data organized by track:

Filename is an empty string and TrackNo contains the number of the respective track.

Video data organized by file:

VideoFilename gets the necessary information for access (e.g., path and file name). TrackNo will not be utilized.

Note: Available FktIDs, for instance, are 0x42A to 0x42C.

Datatype: LongArray [1..NMax] of Record of {Tag, VideoTitle, VideoTime, VideoTrack, VideoFilename}

2.1.23.1 Format of Function

Function classes: LongArray of Record { Record of { Number String Number Number String } }

FBlock	Function	OPType	Parameter
GeneralPlayer	LongVideoDiskInfo (0x429)	Get	PosY
		Status	PosY, CurrentSize, AbsolutePosition, Data
		Error	ErrorCode, ErrorInfo

2.1.23.2 Parameter

PosY

The parameter PosY={y} shows which parameter shall be set, queried or read.
Valid range: y=0, 2..5

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	0..255	1	none

CurrentSize

Current size of the MotherArray.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

AbsolutePosition

Absolute position within the MotherArray.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameter Pos={x,y}.

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0, y=0 }	Tag[1], VideoTitle[Tag[1]], VideoTime[Tag[1]], VideoTrack[Tag[1]], VideoFilename[Tag[1]], Tag[2], VideoTitle[Tag[2]], VideoTime[Tag[2]], VideoTrack[Tag[2]], VideoFilename[Tag[2]], ...
		{ x>0, y=0 }	x, VideoTitle[x], VideoTime[x], VideoTrack[x], VideoFilename[x]
		{ x>0, y=2 }	VideoTitle[x]
		{ x>0, y=3 }	VideoTime[x]
		{ x>0, y=4 }	VideoTrack[x]
		{ x>0, y=5 }	VideoFilename[x]

Tag

Unique handle of a row of an array (0xFFFF = no valid value)

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

VideoTitle

Video title name.

Note: If the name of the medium is not available, an empty string will be transferred.

Basis datatype	MaxSize
String	50

VideoTime

Running time in milliseconds. If running time is not available, VideoTime=0 will be transferred.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Long	0		1	ms

VideoTrack

Number of the particular track. For video data organized by file, Parameter VideoTrack=0 will be transferred, but not be evaluated by the receiver.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

VideoFilename

Necessary information for file access. For video data organized by track an empty string will be transferred.

Note: The setup of the access information is not yet defined.

Basis datatype	MaxSize
String	100

2.1.24 DeckEvent (0x430)

Section type: Extension

Events concerning the drive.

2.1.24.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	DeckEvent (0x430)	Get	-
		Status	DeckEvent
		Error	ErrorCode, ErrorInfo

2.1.24.2 Parameter

DeckEvent

Type of event.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x05	0x00	Normal Operation
		0x01	Deck Error
		0x02	over normal temp
		0x03	under normal temp
		0x04	under voltage
		0x05	over voltage

2.1.25 MediaEvent (0x431)

Section type: Extension

Events concerning the current medium.

2.1.25.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	MediaEvent (0x431)	Get	-
		Status	MediaEvent
		Error	ErrorCode, ErrorInfo

2.1.25.2 Parameter

MediaEvent

Type of event.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x07	0x00	Normal Operation
		0x01	Corrupted File or Track
		0x02	End of CD
		0x03	Corrupted ROM-Filesystem
		0x04	Startposition
		0x05	TOC Unreadable
		0x06	Disk not available
		0x07	End of File

2.1.26 BookTapeStatus (0x440)

Section type: Extension

This property is for setting and reading of the Book Tape State.

2.1.26.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	BookTapeStatus (0x440)	Set	BookTapeStatus
		Get	-
		SetGet	BookTapeStatus
		Status	BookTapeStatus
		Error	ErrorCode, ErrorInfo

2.1.26.2 Parameter

BookTapeStatus

Enumeration of Book Tape Status values.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x06	0x00	Book Tape off
		0x01	Track 1, Channel Left
		0x02	Track 1, Channel Right
		0x03	Track 1, Channel Both
		0x04	Track 2, Channel Left
		0x05	Track 2, Channel Right
		0x06	Track 2, Channel Both

2.1.27 SkipBlank (0x441)

Section type: Extension

This property is for setting and reading of the SkipBlank operation mode.

2.1.27.1 Format of Function

Function classes: Switch

FBlock	Function	OPType	Parameter
GeneralPlayer	SkipBlank (0x441)	Set	SkipBlankOnOff
		Get	-
		SetGet	SkipBlankOnOff
		Status	SkipBlankOnOff
		Error	ErrorCode, ErrorInfo

2.1.27.2 Parameter

SkipBlankOnOff

Determines whether SkipBlank is turned on or off.

Basis datatype	Bit #	Code	Description
Unsigned Byte	Bit 0	False	Off
		True	On
	Bit 1 ... 7	-	reserved

2.1.28 Dolby (0x442)

Section type: Extension

This property is for setting and reading of the Dolby operation mode.

2.1.28.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	Dolby (0x442)	Set	NoiseReduction
		Get	-
		SetGet	NoiseReduction
		Status	NoiseReduction
		Error	ErrorCode, ErrorInfo

2.1.28.2 Parameter

NoiseReduction

Enumeration of available types of noise reduction.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x02	0x00	Dolby Off
		0x01	Dolby B
		0x02	Dolby C

2.1.29 TapeType (0x443)

Section type: Extension

Type of tape.

2.1.29.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	TapeType (0x443)	Get	-
		Status	TapeType
		Error	ErrorCode, ErrorInfo

2.1.29.2 Parameter

TapeType

Enumeration of available magnetic materials for audio tapes.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	no tape
		0x01	Ferro
		0x02	Chrome
		0x03	Metal

2.1.30 TitleStep (0x444)

Section type: Extension

Through property TitleStep, the number of remaining title steps can be read or specified.

2.1.30.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	TitleStep (0x444)	Get	-
		Increment	NSteps
		Decrement	NSteps
		Status	Titles
		Error	ErrorCode, ErrorInfo

2.1.30.2 Parameter

NSteps

Number of steps.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	1..255	1	none

Titles

Titles specifies the number of remaining title steps.

Basis datatype	Exp.	Range of values	Step	Unit
Signed Byte	0		1	none

2.1.31 Random (0x450)

Section type: Extension

This property is for switching on and off the Random function.

Note:

Depending on the value of RandomState, different scopes are covered.

- Disk: Random selection within the current medium
- Magazine: Random selection within the current magazine
- All Magazines: Random selection within all magazines

2.1.31.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	Random (0x450)	Set	RandomState
		Get	-
		SetGet	RandomState
		Status	RandomState
		Error	ErrorCode, ErrorInfo

2.1.31.2 Parameter

RandomState

Depending on the player only a subset is available:

- AudioDiskPlayer (SinglePlayer): 0x00, 0x02
- AudioDiskPlayer(Changer): 0x00, 0x02, 0x03
- MultiMediaPlayer: 0x00, 0x02, 0x03

Basis datatype	Range of values	Code	Description
Enum	0x00..0x04	0x00	Off
		0x01	reserved
		0x02	Disk
		0x03	Magazine (only drive with magazine)
		0x04	All Magazines (only drive with several magazines)

2.1.32 Scan (0x451)

Section type: Extension

This property is for switching on and off the Scan function.

Note:

Depending on the value of ScanState, different scopes are covered.

- Disk: Seek within the current medium
- Magazine: Seek within the current magazine
- All Magazines: Seek within all magazines

2.1.32.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	Scan (0x451)	Set	ScanState
		Get	-
		SetGet	ScanState
		Status	ScanState
		Error	ErrorCode, ErrorInfo

2.1.32.2 Parameter

ScanState

Depending on the player only a subset is available:

- AudioDiskPlayer (SinglePlayer): 0x00, 0x02
- AudioDiskPlayer (Changer): 0x00, 0x02, 0x03
- MultiMediaPlayer: 0x00, 0x02, 0x03

Basis datatype	Range of values	Code	Description
Enum	0x00..0x04	0x00	Off
		0x01	reserved
		0x02	Disk
		0x03	Magazine (only drive with magazine)
		0x04	All Magazines (only drive with several magazines)

2.1.33 Repeat (0x452)

Section type: Extension

This property is for switching on and off the repeat function.

Note:

Depending on the value of RepeatState, different scopes are covered.

- Track: Automatic repeat of the current track
- Disk: Automatic repeat of the current medium
- Magazine: Automatic repeat of all media of the current magazine
- All Magazines: Automatic repeat of all magazines
- Chapter: Automatic repeat of the current chapter
- Title: Automatic repeat of the current title
- AB: Automatic repeat of the marked section

2.1.33.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	Repeat (0x452)	Set	RepeatState
		Get	-
		SetGet	RepeatState
		Status	RepeatState
		Error	ErrorCode, ErrorInfo

2.1.33.2 Parameter

RepeatState

Depending on the player only a subset is available:

- AudioDiskPlayer (SinglePlayer): 0x00, ..., 0x02
- AudioDiskPlayer (Changer): 0x00, ..., 0x03
- MultiMediaPlayer: 0x00, ..., 0x03 (only Audio) and 0x05, 0x06 (only Video)

Basis datatype	Range of values	Code	Description
Enum	0x00..0x07	0x00	Off
		0x01	Track
		0x02	Disk
		0x03	Magazine (only drives with magazine)
		0x04	All magazines (only drives with several magazines)
		0x05	Chapter (only DVD drive)
		0x06	Title (only DVD drive)
		0x07	AB (only DVD drive)

2.1.34 NextTrackToPlay (0x453)

Section type: Extension

Displays the current or sets a new position as track, which is to be played after the current track.
Datatype: Record of {Track, MagazinePos, MagazineNo}

2.1.34.1 Format of Function

Function classes: Record of { Number Number Number }

FBlock	Function	OPType	Parameter
GeneralPlayer	NextTrackToPlay (0x453)	Set	Pos, Data
		Get	Pos
		SetGet	Pos, Data
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.34.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.
Valid range: x=0..3

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameter Pos={x,y}.

Basis datatype	Length	Description	
Record	-	Pos	Data
		{ x=0 }	Track, MagazinePos, MagazineNo

Track

Track number.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

MagazinePos

Position within the magazine.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	none

MagazineNo

Number of the magazine.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	none

2.1.35 Deemphasis (0x454)

Section type: Extension

Switches the deemphasis filter for disc drives on or off.

2.1.35.1 Format of Function

Function classes: Switch

FBlock	Function	OPType	Parameter
GeneralPlayer	Deemphasis (0x454)	Get	-
		Status	OnOff
		Error	ErrorCode, ErrorInfo

2.1.35.2 Parameter

OnOff

Basis datatype	Bit #	Code	Description
Boolean	Bit 0	False	Off
		True	On
	Bit 1 ... 7	-	reserved

2.1.36 SlowFwSpeed (0x455)

Section type: Extension

Displays the current speed or sets the new speed for "slow motion forward".

2.1.36.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	SlowFwSpeed (0x455)	Set	SlowSpeed
		Get	-
		SetGet	SlowSpeed
		Status	SlowSpeed
		Error	ErrorCode, ErrorInfo

2.1.36.2 Parameter

SlowSpeed

Speed indicator as inverse value (e.g., SlowSpeed=4: Slow motion with 1/4 of normal speed).

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	2..16	1	none

2.1.37 SlowBwSpeed (0x456)

Section type: Extension

Displays the current speed or sets the new speed for "slow motion backward".

2.1.37.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	SlowBwSpeed (0x456)	Set	SlowSpeed
		Get	-
		SetGet	SlowSpeed
		Status	SlowSpeed
		Error	ErrorCode, ErrorInfo

2.1.37.2 Parameter

SlowSpeed

Speed indicator as inverse value (e.g., SlowSpeed=4: Slow motion with 1/4 of normal speed).

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	2..16	1	none

2.1.38 FastFwSpeed (0x457)

Section type: Extension

Displays the current speed or sets the new speed for "fast motion forward".

2.1.38.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	FastFwSpeed (0x457)	Set	FastSpeed
		Get	-
		SetGet	FastSpeed
		Status	FastSpeed
		Error	ErrorCode, ErrorInfo

2.1.38.2 Parameter

FastSpeed

Speed value (e.g., FastSpeed=4: Fast motion with 4 * normal speed).

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	2..32	1	none

2.1.39 FastBwSpeed (0x458)

Section type: Extension

Displays the current speed or sets the new speed for "fast motion backward".

2.1.39.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	FastBwSpeed (0x458)	Set	FastSpeed
		Get	-
		SetGet	FastSpeed
		Status	FastSpeed
		Error	ErrorCode, ErrorInfo

2.1.39.2 Parameter

FastSpeed

Speed value (e.g., FastSpeed=4: Fast motion with 4 * normal speed).

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	2..32	1	none

2.1.40 ABRepeatSetting (0x460)

Section type: Extension

Setting the start and end positions or erasing both positions

2.1.40.1 Format of Function

Function classes: Unclassified Method

FBlock	Function	OPType	Parameter
GeneralPlayer	ABRepeatSetting (0x460)	Start	ABRepeatCtrl
		StartResult	ABRepeatCtrl
		Processing	-
		Result	-
		Error	ErrorCode, ErrorInfo

2.1.40.2 Parameter

ABRepeatCtrl

Determine whether to clear or set repeat control.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x02	0x00	Clear AB
		0x01	Set A
		0x02	Set B

2.1.41 AvailableTitles (0x461)

Section type: Extension

Number of available titles.

2.1.41.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	AvailableTitles (0x461)	Get	-
		Status	NumberOfTitles
		Error	ErrorCode, ErrorInfo

2.1.41.2 Parameter

NumberOfTitles

Number of available titles.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0	0..99	1	none

2.1.42 AvailableChapters (0x462)

Section type: Extension

Number of available chapters for the current title.

2.1.42.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	AvailableChapters (0x462)	Get	-
		Status	NumberOfChapters
		Error	ErrorCode, ErrorInfo

2.1.42.2 Parameter

NumberOfChapters

Number of available chapters.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0	0..99	1	none

2.1.43 AvailableAngles (0x463)

Section type: Extension

Number of available angles for the current title.

2.1.43.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	AvailableAngles (0x463)	Get	-
		Status	NumberOfAngles
		Error	ErrorCode, ErrorInfo

2.1.43.2 Parameter

NumberOfAngles

Number of available angles.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0	0..99	1	none

2.1.44 AudioStreamNumber (0x500)

Section type: Extension

Configuration of the language for audio.

2.1.44.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	AudioStream Number (0x500)	Set	AudioStreamNumber
		Get	-
		SetGet	AudioStreamNumber
		Status	AudioStreamNumber
		Error	ErrorCode, ErrorInfo

2.1.44.2 Parameter

AudioStreamNumber

Number of the audio stream.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0	1..8	1	none

2.1.45 AvailableAudioLanguages (0x501)

Section type: Extension

List of the available languages for audio.
Datatype: Array [1..8] of {LanguageCode}

2.1.45.1 Format of Function

Function classes: Array of { Number }

FBlock	Function	OPType	Parameter
GeneralPlayer	AvailableAudio Languages (0x501)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.45.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second Byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.
Valid range: x=0, y=0

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameter Pos={x,y}.

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0 }	LanguageCode[1], LanguageCode[2], ...
		{ x>0 }	LanguageCode[x]

LanguageCode

ISO-639 "Names of Languages" (e.g., 0x6465 = "de" = Germany).

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

2.1.46 SubtitleStreamNumber (0x502)

Section type: Extension

Configuration of the language for subtitles.

Note:

- SubtitleStreamNumber=0: "Subtitle off"

2.1.46.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	SubtitleStream Number (0x502)	Set	SubtitleStreamNumber
		Get	-
		SetGet	SubtitleStreamNumber
		Status	SubtitleStreamNumber
		Error	ErrorCode, ErrorInfo

2.1.46.2 Parameter

SubtitleStreamNumber

Number of the subtitle stream.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0	0..32	1	none

2.1.47 AvailableSubtitlesLanguages (0x503)

Section type: Extension

List of the available languages for the subtitles.

Datatype: Array [1..32] of {LanguageCode}

2.1.47.1 Format of Function

Function classes: Array of { Number }

FBlock	Function	OPType	Parameter
GeneralPlayer	AvailableSubtitles Languages (0x503)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.47.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second Byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.
Valid range: x=0, y=0

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameter Pos={x}.

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0 }	LanguageCode[1], LanguageCode[2], ...
		{ x>0 }	LanguageCode[x]

LanguageCode

ISO-639 "Names of Languages" (e.g., 0x6465 = "de" = Germany).

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

2.1.48 MenuLanguage (0x504)

Section type: Extension

Configuration of the language for the menus.

Note: LanguageCode=0x0000: not used

2.1.48.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	MenuLanguage (0x504)	Set	LanguageCode
		Get	-
		SetGet	LanguageCode
		Status	LanguageCode
		Error	ErrorCode, ErrorInfo

2.1.48.2 Parameter

LanguageCode

ISO-639 "Names of Languages" (e.g., 0x6465 = "de" = Germany).

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

2.1.49 AvailableMenuLanguages (0x505)

Section type: Extension

List of the available languages for the menus.

Datatype: Array [1..32] of {LanguageCode}

2.1.49.1 Format of Function

Function classes: Array of { Number }

FBlock	Function	OPType	Parameter
GeneralPlayer	AvailableMenu Languages (0x505)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.49.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second Byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.

Valid range: x=0, y=0

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameter Pos={x,y}.

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0 }	LanguageCode[1], LanguageCode[2], ...
		{ x>0 }	LanguageCode[x]

LanguageCode

ISO-639 "Names of Languages" (e.g., 0x6465 = "de" = Germany).

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

2.1.50 VideoParentalLevel (0x509)

Section type: Extension

Handles the Parental Management Level of the DVD player to secure the usage for children.

2.1.50.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	VideoParental Level (0x509)	Set	VideoParentLevel
		Get	-
		SetGet	VideoParentLevel
		Status	VideoParentLevel
		Error	ErrorCode, ErrorInfo

2.1.50.2 Parameter

VideoParentLevel

Value of the Parental Management Level.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	0..8	1	none

2.1.51 TemporaryParentalLevel (0x50A)

Section type: Extension

A title may have more than one Parental Management Level. This function corresponds to the temporary PML.

2.1.51.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	Temporary ParentalLevel (0x50A)	Set	TemporaryParentalLevel
		Get	-
		SetGet	TemporaryParentalLevel
		Status	TemporaryParentalLevel
		Error	ErrorCode, ErrorInfo

2.1.51.2 Parameter

TemporaryParentalLevel

Value of the temporary Parental Management Level.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x08	0x00	No temporary change of Parental Level
		0x01	Temporary change of Parental Level
		0x02	Temporary change of Parental Level
		0x03	Temporary change of Parental Level
		0x04	Temporary change of Parental Level
		0x05	Temporary change of Parental Level
		0x06	Temporary change of Parental Level
		0x07	Temporary change of Parental Level
		0x08	Temporary change of Parental Level

2.1.52 VideoParentalPwd (0x50B)

Section type: Extension

Handles passwords stored in a player.

The password consists of 4 digits in the range {0..9}. The password can be changed.

2.1.52.1 Format of Function

Function classes: Text

FBlock	Function	OPType	Parameter
GeneralPlayer	VideoParentalPwd (0x50B)	Set	VideoParentalPwd
		Get	-
		SetGet	VideoParentalPwd
		Status	VideoParentalPwd
		Error	ErrorCode, ErrorInfo

2.1.52.2 Parameter

VideoParentalPwd

Basis datatype	MaxSize
String	256

2.1.53 VideoDefaultSettings (0x530)

Section type: Extension

Show the default settings of a DVD player.

Datatype: Record of {AudioLanguage, SubtitleLanguage, MenuLanguage, VideoAngle, VideoFormat}

2.1.53.1 Format of Function

Function classes: Record of { Number Number Number Enumeration Enumeration }

FBlock	Function	OPType	Parameter
GeneralPlayer	VideoDefault Settings (0x530)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.53.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second Byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.

Valid range: x=0, y=0

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameter Pos={x,y}.

Basis datatype	Length	Description	
Record	-	Pos	Data
		{ x=0 }	AudioLanguage, SubtitleLanguage, MenuLanguage, VideoAngle, VideoFormat

AudioLanguage

ISO-639 "Names of Languages" (e.g., 0x6465 = "de" = Germany)

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

SubtitleLanguage

ISO-639 "Names of Languages" (e.g., 0x6465 = "de" = Germany)

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

MenuLanguage

ISO-639 "Names of Languages" (e.g., 0x6465 = "de" = Germany)

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

VideoAngle

Angle.

Basis datatype	Range of values	Code	Description
Enum	0x01..0x09	0x01	Angle 1
		0x02	Angle 2
		0x03	Angle 3
		0x04	Angle 4
		0x05	Angle 5
		0x06	Angle 6
		0x07	Angle 7
		0x08	Angle 8
		0x09	Angle 9

VideoFormat

Enumeration of the available video appearance settings.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x04	0x00	Unknown
		0x01	Standard
		0x02	Wide
		0x03	Letterbox
		0x04	Pan and scan

2.1.54 VideoAngle (0x531)

Section type: Extension

Angle for video.

2.1.54.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	VideoAngle (0x531)	Set	VideoAngle
		Get	-
		SetGet	VideoAngle
		Status	VideoAngle
		Error	ErrorCode, ErrorInfo

2.1.54.2 Parameter

VideoAngle

Angle.

Basis datatype	Range of values	Code	Description
Enum	0x01..0x09	0x01	Angle 1
		0x02	Angle 2
		0x03	Angle 3
		0x04	Angle 4
		0x05	Angle 5
		0x06	Angle 6
		0x07	Angle 7
		0x08	Angle 8
		0x09	Angle 9

2.1.55 CountryCode (0x584)

Section type: Extension

Country code for video player. It is used in combination with the Parental Management Level setting.

2.1.55.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	CountryCode (0x584)	Set	CountryCode
		Get	-
		SetGet	CountryCode
		Status	CountryCode
		Error	ErrorCode, ErrorInfo

2.1.55.2 Parameter

CountryCode

The country code consists of 4 digits.

Calculation formula for the country code = $1070 + 30a + b$

a = Alpha code with [A=1, B=2, C=3, ..., Z=26]

b = Alpha code with [A=1, B=2, C=3, ..., Z=26]

For example, German, Alpha2 code = DE

With a=4 (as D=4) and b=5 (as E=5) country code = $1070 + 30 \times 4 + 5 = 1195$

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	full range	1	none

2.1.56 KaraokePlayer (0x590)

Section type: Extension

Informs of the player compliance to the "Recommendation for DVD-Video Karaoke Version 1.0"

2.1.56.1 Format of Function

Function classes: Switch

FBlock	Function	OPType	Parameter
GeneralPlayer	KaraokePlayer (0x590)	Get	-
		Status	Capability
		Error	ErrorCode, ErrorInfo

2.1.56.2 Parameter

Capability

Compliance to DVD Video Karaoke v1.0.

Basis datatype	Bit #	Code	Description
BitField	Bit 0	False	Non-compliant
		True	Compliant
	Bit 1 ... 7	-	reserved

2.1.57 Karaoke (0x591)

Section type: Extension

Toggles Karaoke mode (on/off) in DVD-Video Karaoke player.

2.1.57.1 Format of Function

Function classes: Switch

FBlock	Function	OPType	Parameter
GeneralPlayer	Karaoke (0x591)	Set	KaraokeOnOff
		Get	-
		SetGet	KaraokeOnOff
		Status	KaraokeOnOff
		Error	ErrorCode, ErrorInfo

2.1.57.2 Parameter

KaraokeOnOff

On/Off switch.

Basis datatype	Bit #	Code	Description
BitField	Bit 0	False	Karaoke mode off
		True	Karaoke mode on
	Bit 1 ... 7	-	reserved

2.1.58 AvailableKaraokeStreams (0x592)

Section type: Extension

Reports the player's capabilities to select and route auxiliary channels in a Karaoke audio stream.

2.1.58.1 Format of Function

Function classes: Array of { Record of { Enumeration BitField BitField Enumeration Enumeration } }

FBlock	Function	OPType	Parameter
GeneralPlayer	AvailableKaraoke Streams (0x592)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.58.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read.

Valid range: x = 0..NMax, y = 0..5.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameter Pos={x,y}.

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0, y=0 }	{Version[1], Duet[1], MasterOfCeremonies[1], StreamType[1], StreamContent[1], Version[2], Duet[2], MasterOfCeremonies[2], StreamType[2], StreamContent[2], ..., Version[NMax], Duet[NMax], MasterOfCeremonies[NMax], StreamType[NMax], StreamContent[NMax]}
		{ x>0, y=0 }	{Version[x], Duet[x], MasterOfCeremonies[x], StreamType[x], StreamContent[x]}
		{ x>0, y=1 }	{Version[x]}
		{ x>0, y=2 }	{Duet[x]}
		{ x>0, y=3 }	{MasterOfCeremonies[x]}
		{ x>0, y=4 }	{StreamType[x]}
		{ x>0, y=5 }	{StreamContent[x]}

Version

Version of the audio stream.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	Version Number 0
		0x01	Version Number 1
		0x02	Version Number 2
		0x03	Version Number 3

Duet

Song is duet/solo.

Basis datatype	Bit #	Code	Description
BitField	Bit 0	False	Solo
		True	Duet
	Bit 1 ... 7	-	reserved

MasterOfCeremonies

Existence of introduction by a "Master of Ceremonies".

Basis datatype	Bit #	Code	Description
BitField	Bit 0	False	Does not exist in the audio channel with GV1
		True	Exists in the audio channel with GV1
	Bit 0 ... 7	-	reserved

StreamType

Type of Karaoke audio stream.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x02	0x00	Other
		0x01	ChannelMixingType
		0x02	StreamChangingType

StreamContent

Content of the Karaoke audio stream.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x06	0x00	M
		0x01	V1
		0x02	M_V1
		0x03	V1_V2
		0x04	M_V1_V2
		0x05	NoGuideVocalPremixed
		0x06	GuideVocalPremixed

2.1.59 KaraokeStream (0x593)

Section type: Extension

Selection of the Karaoke stream.

2.1.59.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	KaraokeStream (0x593)	Set	KaraokeStream
		Get	-
		SetGet	KaraokeStream
		Status	KaraokeStream
		Error	ErrorCode, ErrorInfo

2.1.59.2 Parameter

KaraokeStream

Karaoke stream number.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0	1..8	1	none

2.1.60 KaraokeChannelMix (0x594)

Section type: Extension

Configure selected channel-mixing output stream.

Note:

- NMax should not be >3 since there are up to three auxiliary channels implementing Karaoke functionality:
Guide melody, Guide vocal 1, and Guide vocal 2.
- If the player cannot set L and R independently it may only accept MixL and MixR fields with the same ON/OFF value.
- If audio stream is streaming-changing type, the function will be ignored by player.

2.1.60.1 Format of Function

Function classes: Array of { Record of { Enumeration Number Number } }

FBlock	Function	OPType	Parameter
GeneralPlayer	KaraokeChannel Mix (0x594)	Set	Pos, Data
		Get	Pos
		SetGet	Pos, Data
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.60.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read.

Valid range: x = 0..NMax, y = 0..3.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0, y=0 }	{AuxChannel[1], MixL[1], MixR[1], AuxChannel[2], MixL[2], MixR[2] ...}
		{ x>0, y=0 }	{AuxChannel[x], MixL[x], MixR[x]}
		{ x>0, y=1 }	{AuxChannel[x]}
		{ x>0, y=2 }	{MixL[x]}
		{ x>0, y=3 }	{MixR[x]}

AuxChannel

Indicates the auxiliary channel to which mixing function variables (MixL and MixR) in same record apply.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x02	0x00	GuideMelody
		0x01	GuideVocal 1
		0x02	GuideVocal 2

MixL

Mixing Function for channel L.

Note: The currently valid range is dependent on the player. If the player does not support linear and free mixture of the auxiliary channel with the L channel, the valid range is either 0 or 1, where:

- 0 = channel OFF
- 1 = channel ON

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	none

MixR

Mixing Function for channel R.

Note: The currently valid range is dependent on the player. If the player does not support linear and free mixture of the auxiliary channel with the R channel, the valid range is either 0 or 1, where:

- 0 = channel OFF
- 1 = channel ON

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	none

2.1.61 KaraokeModeReservation (0x595)

Section type: Extension

Reservation of playback order according to user's preferences.

2.1.61.1 Format of Function

Function classes: Array of { Number }

FBlock	Function	OPType	Parameter
GeneralPlayer	KaraokeModeReservation (0x595)	Set	Pos, Data
		Get	Pos
		SetGet	Pos, Data
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.61.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.

Valid range: x = 0 ... NMax.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0, y= }	{Song[1], Song[2], ..., Song[NMax]}
		{ x>0, y= }	{Song[x]}

Song

Number of the song to be played.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	none

2.1.62 KaraokeMode (0x596)

Section type: Extension

Selects between playback of Karaoke titles in numerical or user defined order.

2.1.62.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	KaraokeMode (0x596)	Set	KaraokeMode
		Get	-
		SetGet	KaraokeMode
		Status	KaraokeMode
		Error	ErrorCode, ErrorInfo

2.1.62.2 Parameter

KaraokeMode

Playback order.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x01	0x00	Reservation. User order
		0x01	NumericalOrder

2.1.63 KaraokeKeyControl (0x597)

Section type: Extension

Digital key control. (Function not present in the recommendation).

2.1.63.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	KaraokeKey Control (0x597)	Set	Key
		Get	-
		SetGet	Key
		Increment	NSteps
		Decrement	NSteps
		Status	Key
		Error	ErrorCode, ErrorInfo

2.1.63.2 Parameter

Key

Key value.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	none

NSteps

Number of steps for adjustment.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	none

2.1.64 KaraokeEcho (0x598)

Section type: Extension

Echo control. (Function not present in the recommendation).

2.1.64.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
GeneralPlayer	KaraokeEcho (0x598)	Set	Echo
		Get	-
		SetGet	Echo
		Increment	NSteps
		Decrement	NSteps
		Status	Echo
		Error	ErrorCode, ErrorInfo

2.1.64.2 Parameter

Echo

Echo value.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	none

NSteps

Number of steps for adjustment.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	none

2.1.65 SubpicturePalette (0x610)

Section type: Extension

Requesting the current subpicture palette as an array [0...15] of Unsigned Long.

2.1.65.1 Format of Function

Function classes: Array of { Number }

FBlock	Function	OPType	Parameter
GeneralPlayer	SubpicturePalette (0x610)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.65.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.
Valid range: x = 0..15.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x>=0, y= }	{PaletteEntry[x]}

PaletteEntry

Palette Entry (PGC_SP_PLT), reference DVD Specifications for Read-Only Disc, Part 3 Video Specifications; Version 1.1 December 1997 (Blue Book).

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Long	0		1	none

2.1.66 TimeInformation (0x613)

Section type: Extension

Requesting the time information of the current title and chapter.

2.1.66.1 Format of Function

Function classes: Array of { Record of { Number Number Number Number } }

FBlock	Function	OPType	Parameter
GeneralPlayer	TimeInformation (0x613)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.66.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.
Valid range: x = 0 ... 4.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0, y= }	{TitleElapsed, TitleTotal , ChapterElapsed, ChapterTotal }
		{ x=1, y= }	{TitleElapsed}
		{ x=2, y= }	{TitleTotal}
		{ x=3, y= }	{ChapterElapsed}
		{ x=4, y= }	{ChapterTotal}

TitleElapsed

Time elapsed in the current title.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Long	0		1	ms

TitleTotal

Total time in the current title.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Long	0		1	ms

ChapterElapsed

Time elapsed in the current chapter.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Long	0		1	ms

ChapterTotal

Total time in the current chapter.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Long	0		1	ms

2.1.67 AudioStreamProperties (0x614)

Section type: Extension

This property reports the audio stream properties of the currently selected audio stream.

2.1.67.1 Format of Function

Function classes: Array of { Record of { Enumeration BitField Enumeration Enumeration Enumeration Enumeration Enumeration Number Enumeration } }

FBlock	Function	OPType	Parameter
GeneralPlayer	AudioStream Properties (0x614)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.67.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.
Valid range: x = 0..9

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

No Description

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0, y= }	{AudioCodingMode, MultichannelExtension, AudioType, AudioApplicationMode, Quantization, fs, NumberAudioChannels, LanguageCode, LanguageCodeExtension}
		{ x=1, y= }	{ AudioCodingMode }
		{ x=2, y= }	{ MultichannelExtension }
		{ x=3, y= }	{ AudioType }
		{ x=4, y= }	{ AudioApplicationMode }
		{ x=5, y= }	{ Quantization }
		{ x=6, y= }	{ fs }
		{ x=7, y= }	{ NumberAudioChannels }
		{ x=8, y= }	{ LanguageCode }
		{ x=9, y= }	{ LanguageCodeExtension }

AudioCodingMode

Enumeration of the available sound formats.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x07	0x00	Dolby AC-3
		0x01	reserved
		0x02	MPEG-1 or MPEG-2 without extension bitstream
		0x03	MPEG-2 with extension bitstream
		0x04	Linear PCM
		0x05	reserved
		0x06	DTS
		0x07	SDDS

MultichannelExtension

Determines whether a multichannel extension is available.

Basis datatype	Bit #	Code	Description
BitField	Bit 0	False	Relevant VTS_MU_AST_ATR is not effective (no multichannel)
		True	Linked to the relevant VTS_MU_AST_ATR (multichannel)
	Bit 1... 7	-	reserved

AudioType

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	Not specified
		0x01	Language include
		0x02	reserved
		0x03	reserved

AudioApplicationMode

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	Not specified
		0x01	KaraokeMode
		0x02	SurroundMode
		0x03	reserved

Quantization

If AudioCodingMode= {Dolby AC-3, DTS or SDDS} then enter 0x03 (reserved) If AudioCodingMode= {MPEG-1 (0x02), MPEG-2 (0x03) or {PCM (0x04)} then following description applies:

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	MPEG-1,-2: dynamic range control data does not exist in MPEG audio stream. PCM: 16 bits
		0x01	MPEG-1,-2: dynamic range control data exists in MPEG audio stream. PCM: 20 bits
		0x02	MPEG-1,-2: reserved. PCM: 24 bits
		0x03	MPEG-1,-2: reserved. PCM: reserved

fs

Sampling frequency.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	48 kHz
		0x01	96 kHz
		0x02	reserved
		0x03	reserved

NumberAudioChannels

The "0.1 ch" is defined as "1 ch" (in case of 5.1, enter 0x05)

Basis datatype	Range of values	Code	Description
Enum	0x00..0x07	0x00	1 ch (mono)
		0x01	2 ch (mono)
		0x02	3 ch (multichannel)
		0x03	4 ch (multichannel)
		0x04	5 ch (multichannel)
		0x05	6 ch (multichannel)
		0x06	7 ch (multichannel)
		0x07	8 ch (multichannel)

LanguageCode

ISO-639 "Names of Languages" (e.g., 0x6465 = "de" = Germany).

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

LanguageCodeExtension

Basis datatype	Range of values	Code	Description
Enum	0x00... 0xff	0x00	Not specified
		0x01	Normal caption
		0x02	Audio for visually impaired
		0x03	Director's comments 1
		0x04	Director's comments 2
		0x05 ... 0x7f	reserved
		0x80 ... 0xff	Provider defined

2.1.68 ApplicationInformation (0x615)

Section type: Extension

This function reports the ApplicationInformation property of the currently selected audio stream. If Audio Application Mode (see AudioApplicationMode in Fkt AudioStreamProperties) is "not specified", this property does not apply.

Please refer to the DVD specification Part 3, Video Title Set Information, Annex C.

2.1.68.1 Format of Function

Function classes: Array of { Record of { Enumeration Enumeration Enumeration Enumeration Enumeration } }

FBlock	Function	OPType	Parameter
GeneralPlayer	Application Information (0x615)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.68.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.

Valid range: x = 0 ... 5.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

This function reports the ApplicationInformation property of the currently selected audio stream. If Audio Application Mode (see AudioApplicationMode in Fkt AudioStreamProperties) is "not specified" this property does not apply. Please refer to DVD specification Part 3, Video Title Set Information, annex C.

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0, y= }	{ ChannelAssignmentMode, VersionNumber, MC_intro, SoloDuet, SurroundType }
		{ x=1, y= }	{ ChannelAssignmentMode }
		{ x=2, y= }	{ VersionNumber }
		{ x=3, y= }	{ MC_intro }
		{ x=4, y= }	{ SoloDuet }
		{ x=5, y= }	

ChannelAssignmentMode

Describes the number of audio signals and its assignment to each channel number.

Please refer to the DVD specification Part 3 for a detailed description of the code:

For Audio Application Mode = Karaoke and

- Audio Coding Mode = Dolby AC-3, see Annex C.1
- Audio Coding Mode = MPEG-1 or MPEG-2 without extension bitstream, see Annex C.2
- Audio Coding Mode = MPEG-2, see Annex C.2
- Audio Coding Mode = Linear PCM, see Annex C.3
- Audio Coding Mode = DTS (option), Not applied
- Audio Coding Mode = SDDS (option) AC-3, see Annex I
- Audio Coding Mode = Dolby AC-3, see Annex C.1

For Audio Application Mode = Surround Mode and

- Audio Coding Mode = Dolby AC-3, MPEG-1 or MPEG-2 without extension bitstream, MPEG-2, DTS (option), SDDS (option), Not applied
- Audio Coding Mode = Linear PCM, see Annex C.4 (for Surround Mode only PCM applies)

Basis datatype	Range of values	Code	Description
Enum	0x00..0x07	0x00	
		0x01	
		0x02	
		0x03	
		0x04	
		0x05	
		0x06	
		0x07	

VersionNumber

Applicable if Audio Application Mode = Karaoke Mode. Describes the accompanying version number in the audio stream.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x04	0x00	Version Number is equal to 0
		0x01	Version Number is equal to 1
		0x02	Version Number is equal to 2
		0x03	Version Number is equal to 3
		0x04	Not a karaoke stream

MC_intro

Applicable if Audio Application Mode = Karaoke Mode. Describes the existence of a Master of Ceremonies.

Please refer to annex E.1.1. in the DVD spec Part 3 for "GV1".

Basis datatype	Range of values	Code	Description
Enum	0x00..0x02	0x00	Does not exist in the audio channel of which "GV1" is set to "1b"
		0x01	Exists in the audio channel of which "GV1" is set to "1b"
		0x02	Not a karaoke stream

SoloDuet

Applicable if Audio Application Mode = Karaoke Mode.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x02	0x00	Solo
		0x01	Duet
		0x02	Not a karaoke stream

SurroundType

Applicable if Audio Application Mode = Surround Mode. Describes the analog surround type of this audio stream.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x04	0x00	stream not suitable for subsequent Dolby Surround decoding
		0x01	reserved
		0x02	stream containing a two-channel signal or two-channel downmix which is suitable for subsequent Dolby Surround decoding
		0x03	reserved
		0x04	

2.1.69 MultiChannel (0x616)

Section type: Extension

This function describes each Audio Attribute for multichannel use of the currently selected stream. The content of these properties is coded in 24 Bytes.

Please refer to the DVD specification Part 3, Video Title Set Information, annex D and annex E.

2.1.69.1 Format of Function

Function classes: Array of { Number }

FBlock	Function	OPType	Parameter
GeneralPlayer	MultiChannel (0x616)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.69.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second Byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.
Valid range: x = 0...24.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameter Pos={x}.

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0, y= }	{Byte[1], Byte[2], ..., Byte[24]}
		{ x>0, y= }	[Byte[x]]

Byte

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	none

2.1.70 VideoStreamProperties (0x617)

Section type: Extension

This function reports the video stream properties.

Please refer to the DVD specification Part 3, Video Title Set Information.

2.1.70.1 Format of Function

Function classes: Array of { Record of { Enumeration Enumeration Enumeration Enumeration BitField BitField Enumeration BitField BitField } }

FBlock	Function	OPType	Parameter
GeneralPlayer	VideoStream Properties (0x617)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.70.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.
Valid range: x = 0...9.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameter Pos={x}.

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0, y= }	{ VideoCompressionMode, TVSystem, AspectRatio, DisplayMode, line21s1, line21s2, SourcePixRes, SourcePixLetterBoxed, FilmCameraMode }
		{ x=1, y= }	{ VideoCompressionMode }
		{ x=2, y= }	{ TVSystem }
		{ x=3, y= }	{ AspectRatio }
		{ x=4, y= }	{ DisplayMode }
		{ x=5, y= }	{ line21s1 }
		{ x=6, y= }	{ line21s2 }
		{ x=7, y= }	{ SourcePixRes }
		{ x=8, y= }	{ SourcePixLetterBoxed }
		{ x=9, y= }	{ FilmCameraMode }

VideoCompressionMode

Video compression mode.

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	complies with MPEG-1
		0x01	complies with MPEG-2
		0x02	reserved
		0x03	reserved

TVSystem

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	525/60
		0x01	625/50
		0x02	reserved
		0x03	reserved

AspectRatio

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	4:3
		0x01	reserved
		0x02	reserved
		0x03	16:9

DisplayMode

Describes the permitted display mode on 4:3 monitor. If AspectRatio = 4:3, the DisplayMode = 0x03 (reserved)

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	Both Pan and scan and Letterbox
		0x01	Only Pan and scan
		0x02	Only Letterbox
		0x03	reserved (only if AspectRatio = 4:3)

line21s1

Basis datatype	Bit #	Code	Description
BitField	Bit 0	False	user_data() for line 21 data for Field 1 is not recorded in GOP layer of Video stream
		True	user_data() for line 21 data for Field 1 is recorded in GOP layer of Video stream
	Bit 1 ... 7	-	reserved

line21s2

Basis datatype	Bit #	Code	Description
BitField	Bit 0	False	user_data() for line 21 data for Field 2 is not recorded in GOP layer of Video stream
		True	user_data() for line 21 data for Field 2 is recorded in GOP layer of Video stream
	Bit 1 ... 7	-	reserved

SourcePixRes

Source Picture Resolution

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	720x480 (in a 525/60 system), 720x576 (in a 625/50 system)
		0x01	704x480 (in a 525/60 system), 704x576 (in a 625/50 system)
		0x02	352x480 (in a 525/60 system), 352x576 (in a 625/50 system)
		0x03	352x240 (in a 525/60 system), 352x288 (in a 625/50 system)

SourcePixLetterBoxed

Basis datatype	Bit #	Code	Description
BitField	Bit 0	False	Not letterboxed
		True	letterboxed
	Bit 1 ... 7	-	reserved

FilmCameraMode

If TVSystem = 525/60, the FilmCameraMode = Camera Mode

Basis datatype	Bit #	Code	Description
BitField	Bit 0	False	Camera Mode
		True	Film Mode
	Bit 1 ... 7	-	reserved

2.1.71 SubpixmapProperties (0x618)

Section type: Extension

This function reports the subpicture stream properties of the currently selected subpicture stream.

Please refer to the DVD specification Part 3, Video Title Set Information, annex C.

2.1.71.1 Format of Function

Function classes: Array of { Record of { Enumeration Enumeration Number Enumeration } }

FBlock	Function	OPType	Parameter
GeneralPlayer	SubpixmapStream Properties (0x618)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.71.2 Parameter

Pos

The parameter Pos={x,y} consists of two bytes, x and y, and shows which parameter shall be set, queried or read. Since this is a unidimensional construction, the second byte y is unused (y=0=const) and the simplified notation Pos={x} is valid.

Valid range: x = 0...9.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

Data

The content of Data depends on parameter Pos={x}.

Basis datatype	Length	Description	
Array	-	Pos	Data
		{ x=0, y= }	{ SubpixmapCodingMode, SubpixmapType, LanguageCode, LanguageCodeExtension }
		{ x=1, y= }	{ SubpixmapCodingMode }
		{ x=2, y= }	{ SubpixmapType }
		{ x=3, y= }	{ LanguageCode }
		{ x=4, y= }	{ LanguageCodeExtension }

SubpixmapCodingMode

Basis datatype	Range of values	Code	Description
Enum	0x00... 0x07	0x00	Run-length
		0x01	reserved (for extended subpicture)
		0x02 ...	reserved
		0x07	

SubpixType

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	Not specified
		0x01	Language
		0x02	reserved
		0x03	reserved

LanguageCode

ISO-639 "Names of Languages" (e.g., 0x6465 = "de" = Germany).

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Word	0		1	none

LanguageCodeExtension

Basis datatype	Range of values	Code	Description
Enum	0x00... 0xff	0x00	Not specified
		0x01	Normal caption
		0x02	Audio for visually impaired
		0x03	Director's comments 1
		0x04	Director's comments 2
		0x05 ... 0x7f	reserved
		0x80 ... 0xff	Provider defined

2.1.72 Shuffle (0x620)

Section type: Extension

This property is for switching on and off the shuffle function. It is similar to the Random function except that shuffle assures that no title is repeated until all titles have been played.

Note:

- Disk: Random selection within the current medium
- Magazine: Random selection within the current magazine
- All Magazines: Random selection within all magazines

This function should return an error if the Random function is selected and vice versa.

2.1.72.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
GeneralPlayer	Shuffle (0x620)	Set	ShuffleState
		Get	-
		SetGet	ShuffleState
		Status	ShuffleState
		Error	ErrorCode, ErrorInfo

2.1.72.2 Parameter

ShuffleState

Depending on the player only a subset is available:

- AudioDiskPlayer (SinglePlayer): 0x00, 0x02
- AudioDiskPlayer (Changer): 0x00, 0x02, 0x03
- MultiMediaPlayer: 0x00, 0x02, 0x03

Basis datatype	Range of values	Code	Description
Enum	0x00..0x04	0x00	Off
		0x01	reserved
		0x02	Disk
		0x03	Magazine (only drive with magazine)
		0x04	All Magazines (only drive with several magazines)