MOST

Media **O**riented **S**ystems **T**ransport

Multimedia and Control
Networking Technology

MOST FunctionBlock DVDVideoPlayer
Rev 2.4.1
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Bibliography MOST Function Catalog

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

FBlockID	FunctionBlock
0x00	GeneralFBlock
0x00	GeneralPlayer
0x01	NetBlock
0x02	NetworkMaster
0x03	ConnectionMaster
0x06	Diagnosis
0x0F	Enhanced Testability
0x22	AudioAmplifier
0x26	MicrophoneInput
0x30	AudioTapePlayer
0x31	AudioDiskPlayer
0x34	DVDVideoPlayer
0x40	AmFmTuner
0x41	TMCTuner
0x42	TVTuner
0x50	Telephone
0x51	GeneralPhoneBook
0x60	GraphicDisplay
0xFF	UniqueFunctions

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Document History

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

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

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1 Introduction

A MOST Function Catalog is a collection of MOST FunctionBlocks.

This document contains the specification of a FunctionBlock. MOST FunctionBlocks are standardized and maintained by MOST workgroup Device Architecture (WG_DA). In order to speed up the process of making new Function Blocks available, every Function Block will be updated individually as required.

2 FunctionBlock Definition

2.1 DVDVideoPlayer (FBlockID=0x34)

This function block is a true subset of the GeneralPlayer and shall be used for DVD video players.

2.1.1 FktIDs (0x000)

With the property FktIDs the functions of a function block may be inquired.

2.1.1.1 Format of Function

Function classes: Unclassified Property

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	FktIDs (0x000)	Get	-
		Status	BitField
		Error	ErrorCode, ErrorInfo

2.1.1.2 Parameter

BitField

RLE-coded bitfield of available functions Remark: FktIDs are 12 Bit encoded !

Basis datatype	Length	Description
Stream		FktID1, FktID2, ...

2.1.2 Notification (0x001)

This property administrates the Notification Matrix of a function block.

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2.1.2.1 Format of Function

Function classes: Unclassified Property

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	Notification (0x001)	Set	Control, DeviceID, FktIDList
		Get	FktID
		Status	FktID, DeviceIDList
		Error	ErrorCode, ErrorInfo

2.1.2.2 Parameter

Control

The parameter Control determines, where the entry has to be done, or the deletion respectively. SetAll = Entry of DeviceID in all properties that support Notification SetFunction = Entry of DeviceID for the specified functions in the Notification-Matrix ClearAll = Deletion of DeviceID at all functions of the Notification-Matrix ClearFunction = Deletion of DeviceID for the specified functions in the Notification-Matrix

Basis datatype	Range of values	Code	Description
Enum	0x00..0x03	0x00	SetAll
		0x01	SetFunction
		0x02	ClearAll
		0x03	ClearFunction

DeviceID

Rx/TxLog of a device or group address

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

FktID

Function

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

DeviceIDList

List of Devices

Basis datatype	Length	Description
Stream		DeviceIDList::=<DeviceID>{, <DeviceID>}

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FktIDList

List of functions with a maximum of 4.

Basis datatype	Length	Description
Stream	8	FktIDList::=<FktID>{, <FktID>}

2.1.3 NotificationCheck (0x002)

Under certain system conditions it can be helpfull if a device can check whether its entries are still existent in the notification matrix or not. In case of error, a device is able to renew its entries.

2.1.3.1 Format of Function

Function classes: Unclassified Property

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	NotificationCheck (0x002)	Get	DeviceID
		Status	DeviceID, FktIDList
		Error	ErrorCode, ErrorInfo

2.1.3.2 Parameter

FktIDList

List of functions.

Basis datatype	Length	Description
Stream	-	FktIDList::=<FktID>{, <FktID>}

FktID

Function

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

DeviceID

Rx/TxLog of a device or groupaddress

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

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2.1.4 SourceInfo (0x100)

This property gives particulars about the type of synchronous source data.

2.1.4.1 Format of Function

Function classes: Unclassified Property

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	SourceInfo (0x100)	Get	SourceNr
		Status	SourceNr, DataType, DataDescription
		Error	ErrorCode, ErrorInfo

2.1.4.2 Parameter

DataType

Type of synchronous data stream.

Basis datatype	Range of values	Code	Description
Enum	0x00..0xFF	0x00	PCM
		0x01	CDROM
		0x02	SPDIF
		0x20	MPEG1 System Stream
		0x21	MPEG2 Program Stream
		0x22	MPEG2 Transport Stream
		0x40	MPEG1 DTCP System Stream
		0x41	MPEG2 DTCP Program Stream
		0x42	MPEG2 DTCP Transport Stream
		0xFF	Unknown

DataDescription

Depending on DataType, additional information will be transported in DataDescription.

Basis datatype	Length	Descripton	
Stream	-	DataType	DataDescription
		0x00	{Resolution, AudioChannels, SrcDelay, ChannelList}
		0x01	{Blockwidth, ChannelList}
		0x02	{ChannelList}
		0x20	{Blockwidth, ChannelList}
		0x21	{Blockwidth, ChannelList}
		0x22	{Blockwidth, ChannelList}

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		0x40	{Blockwidth, ChannelList}
		0x41	{Blockwidth, ChannelList}
		0x42	{Blockwidth, ChannelList}

Resolution

Resolution of the AudioSamples in byte.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	not_defined

AudioChannels

Number of audio channels.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	not_defined

SrcDelay

Delay of synchronous Ddata related to the Timing Master. Remark: The parameter SrcDelay represents the register NDR.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	not_defined

ChannelList

List of particular channels.

Basis datatype	Length	Description
Stream	60	ChannelList::=<Channel>{, <Channel>}

Channel

Number of a channel

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	0..59	1	not_defined

BlockWidth

Number of transferred byte per MOST frame.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	not_defined

SourceNr

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Number of data source.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	not_defined

2.1.5 Allocate (0x101)

With this method Allocate the source will be caused to occupy synchronous channels.

2.1.5.1 Format of Function

Function classes: Unclassified Method

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	Allocate (0x101)	Processing	-
		Result	SourceNr, SrcDelay, ChannelList
		StartResult	SourceNr
		Error	ErrorCode, ErrorInfo

2.1.5.2 Parameter

SourceNr

Number of data source (within one function block there can be more than one), e.g. 0x01 for the first source.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	not_defined

SrcDelay

Delay of synchronous data related to the Timing Master. Remark: The parameter SrcDelay represents the register NDR.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	not_defined

ChannelList

List of particular Channels.

Basis datatype	Length	Description
Stream	60	ChannelList::=<Channel>{, <Channel>}

Channel

Number of a channel

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Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	0..59	1	not_defined

2.1.6 DeAllocate (0x102)

The method DeAllocate causes the source to free occupied synchronous channels.

2.1.6.1 Format of Function

Function classes: Unclassified Method

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	DeAllocate (0x102)	Processing	-
		Result	SourceNr
		StartResult	SourceNr
		Error	ErrorCode, ErrorInfo

2.1.6.2 Parameter

SourceNr

Number of the data source (there can be several sources in one function block), e.g. 0x01 for the first source

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	not_defined

2.1.7 SourceActivity (0x103)

This methode controlls the activity of an audio source.

2.1.7.1 Format of Function

Function classes: Unclassified Method

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	SourceActivity (0x103)	Processing	-
		Result	SourceNr, Activity
		StartResult	SourceNr, Activity
		Error	ErrorCode, ErrorInfo

2.1.7.2 Parameter

Activity

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Basis datatype	Range of values	Code	Description
Enum	0x00..0x02	0x00	Off
		0x01	Pause
		0x02	On

SourceNr

Number of data source.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	not_defined

2.1.8 SourceName (0x104)

By property SourceName, an identifier of the synchronous source data can be rquested.

2.1.8.1 Format of Function

Function classes: Unclassified Property

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	SourceName (0x104)	Get	SourceNr
		Status	SourceNr, SourceName
		Error	ErrorCode, ErrorInfo

2.1.8.2 Parameter

SourceName

Basis datatype	MaxSize
String	11

SourceNr

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	not_defined

2.1.9 SourceConnect (0x105)

By use of the method SourceConnect a source will connect their data to the given synchronous MOST channels. NOTE: In systems without a connection master, the methods Allocate/Deallocate must be used to route synchronous data to the MOST bus! In systems with a connection master, it is up to such master to decide whether allocation or source routing is used throughout the system.

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2.1.9.1 Format of Function

Function classes: Unclassified Method

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	SourceConnect (0x105)	Processing	-
		Result	SourceNr, SrcDelay
		StartResult	SourceNr, ChannelList
		Error	ErrorCode, ErrorInfo

2.1.9.2 Parameter

SourceNr

Number of data source (within one function block there can be more than one), e.g. 0x01 for the first source.

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

SrcDelay

Delay of synchronous data related to the Timing Master. Remark: The parameter SrcDelay represents the register NDR.

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	not_defined

ChannelList

List of particular Channels.

Basis datatype	Length	Description
Stream	60	ChannelList::=<Channel>{, <Channel>}

Channel

Number of a channel

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0	0..59	1	none

2.1.10 SourceDisConnect (0x106)

By use of the method SourceDisConnect the synchronous channels of a source will be disconnected. This is for use with the method SourceConnect only.

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2.1.10.1 Format of Function

Function classes: Unclassified Method

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	SourceDisConnect (0x106)	Processing	-
		Result	SourceNr
		StartResult	SourceNr
		Error	ErrorCode, ErrorInfo

2.1.10.2 Parameter

SourceNr

Number of data source (within one function block there can be more than one), e.g. 0x01 for the first source.

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

2.1.11 SourceRouting (0x107)

This property describes the relation between the source numbers of the function block and the physically existing synchronous data sources. Use this property to determine which source numbers are mutually exclusive.

2.1.11.1 Format of Function

Function classes: Array of { Number }

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	SourceRouting (0x107)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.11.2 Parameter

Pos

The parameter Pos={x,y} consists of two byte x and y and shows which parameter shall be set, inquired or read. Since this property has only one dimension, y is unused. Valid range: x=1..number of sources (like given in SyncDataInfo), y=0

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

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Data

The content depends on the parameter pos.

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

PhysicalSource

Number to identify the physical source this logical source number is related to. The physical source numbers are tested on equality by the connection master.

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

2.1.12 SyncDataInfo (0x116)

This property SyncDataInfo can be used to query the function block on how many connections it may serve as sink or source.

2.1.12.1 Format of Function

Function classes: Unclassified Property

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	SyncDataInfo (0x116)	Get	-
		Status	SourceCount, SinkCount
		Error	ErrorCode, ErrorInfo

2.1.12.2 Parameter

SinkCount

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	not_defined

SourceCount

Basis datatype	Exp.	Range of values	Step	Unit
Unsigned Byte	0		1	not_defined

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2.1.13 ScreenFormat (0x130)

Image format of the video screen

2.1.13.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	ScreenFormat (0x130)	Get	ScreenFormat
		Status	ScreenFormat
		Interface	Flags, Class, OPTypes, Name, Size, AvailField, Code1, Name1, Code2, Name2, ...
		Error	ErrorCode, ErrorInfo

2.1.13.2 Parameter

ScreenFormat

List of the registered users.

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

2.1.14 VideoFrequency (0x131)

Video frequency

2.1.14.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	VideoFrequency (0x131)	Get	VideoFrequency
		Status	VideoFrequency
		Interface	Flags, Class, OPTypes, Name, Size, AvailField, Code1, Name1, Code2, Name2, ...
		Error	ErrorCode, ErrorInfo

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2.1.14.2 Parameter

VideoFrequency

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

2.1.15 VideoNorm (0x132)

2.1.15.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	VideoNorm (0x132)	Get	VideoNorm
		Status	VideoNorm
		Interface	Flags, Class, OPTypes, Name, Size, AvailField, Code1, Name1, Code2, Name2, ...
		Error	ErrorCode, ErrorInfo

2.1.15.2 Parameter

VideoNorm

No Description

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

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		0x19	PAL-AUSTRALIA
		0x0A	PAL-ITALIA
		0x0B	PAL-MAROCCO
		0x0C	PAL-VRC
		0x0E	SECAM-BG
		0x0F	SECAM-DK
		0x20	SECAM-K1
		0x21	SECAM-L
		0x28	HDTV
		0x29	MUSE(JAPAN)
		0x2A	HDTV(USA)

2.1.16 VideoSignalFormat (0x133)

2.1.16.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	VideoSignalFormat (0x133)	Get	-
		Status	VideoSignalFormat
		Interface	Flags, Class, OPTypes, Name, Size, AvailField, Code1, Name1, Code2, Name2, ...
		Error	ErrorCode, ErrorInfo

2.1.16.2 Parameter

VideoSignalFormat

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

2.1.17 VideoFormat (0x135)

This function block is the topclass for all Players. The Player that needs to be realized (MultiMediaPlayer, SingleCDPlayer, Tape, ...) may be derived from this class. The funktion block will not be implemented in any device this form. Only the derived players like MultiMediaPlayer or Tape will be implemented.

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2.1.17.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	VideoFormat (0x135)	Set	VideoFormat
		Get	-
		SetGet	VideoFormat
		Status	VideoFormat
		Error	ErrorCode, ErrorInfo

2.1.17.2 Parameter

VideoFormat

Basis datatype	Range of values	Code	Description
Enum	0x00..0x04	0x00	unknown
		0x01	standard
		0x02	wide
		0x03	Letter box
		0x04	Pan SCAN

2.1.18 AudioOutFormat (0x136)

2.1.18.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	AudioOutFormat (0x136)	Set	AudioChannel, AudioType, PreferredLanguage, NChannels, OutputPort
		Get	-
		SetGet	AudioChannel, AudioType, PreferredLanguage, NChannels, OutputPort
		Status	AudioChannel, AudioType, PreferredLanguage, NChannels, OutputPort
		Error	ErrorCode, ErrorInfo

2.1.18.2 Parameter

OutputPort

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Number of channels available for the current AudioFormat.

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

NChannels

Number of channels available for the current AudioFormat.

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

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

AudioType

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

AudioChannel

Number of active audio channels

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

2.1.19 DeckStatus (0x200)

This property controls and shows the state of the drive.

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2.1.19.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	DeckStatus (0x200)	Set	DeckStatus
		Get	-
		SetGet	DeckStatus
		Status	DeckStatus
		Error	ErrorCode, ErrorInfo

2.1.19.2 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 -> Micky Mouse, Video -> Scrolling)
		0x06	Search Backward (Audio -> Micky Mouse, 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 Begin of Tape
		0x31	Forward to End of Tape
		0x32	Search Startposition next title
		0x33	Seacrh Startposition last Title
		0x40	Fileplay
		0x41	Filetransfer

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2.1.20 TimePosition (0x201)

Display of current or setting of a new position in milliseconds. Datatype: Record of {DiskTime,TrackTime, TitleTime} Remark: * an event is triggered only every second

2.1.20.1 Format of Function

Function classes: Record of { Number Number Number }

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	TimePosition (0x201)	Set	Pos, Data
		Get	Pos
		SetGet	Pos, Data
		Increment	Pos, NSteps
		Decrement	Pos, NSteps
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.20.2 Parameter

Pos

The parameter Pos={x,y} consists of two byte x and y and shows which parameter shall be set, inquired or read. Since this is an 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	
Stream	-	Pos	Data
		{ x=0 }	DiskTime, TrackTime, TitleTime
		{ x=1 }	DiskTime
		{ x=2 }	TrackTime
		{ x=3 }	TitleTime

DiskTime

Time details in milliseconds related to begin of disk.

Basis datatype	Exp.	Range of values	Step	Unit

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Signed Long	0		1	ms

TrackTime

Time details in milliseconds related to begin 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

2.1.21 FramePosition (0x203)

Display of current or setting of a new position as frame.

2.1.21.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	FramePosition (0x203)	Set	Frame
		Get	-
		SetGet	Frame
		Increment	NSteps
		Decrement	NSteps
		Status	Frame
		Error	ErrorCode, ErrorInfo

2.1.21.2 Parameter

NSteps

Number of steps for adjustment.

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

Frame

The current frame.

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

2.1.22 TitlePosition (0x205)

Display of current or setting of a new sequence.

2.1.22.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	TitlePosition (0x205)	Set	TitlePosition
		Get	-
		SetGet	TitlePosition
		Increment	NSteps
		Decrement	NSteps
		Status	TitlePosition
		Error	ErrorCode, ErrorInfo

2.1.22.2 Parameter

NSteps

Number of steps for adjustment.

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

TitlePosition

Number of steps for adjustment.

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

2.1.23 ChapterPosition (0x206)

Displays the current or sets a new position as chapter.

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2.1.23.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	ChapterPosition (0x206)	Set	ChapterPosition
		Get	-
		SetGet	ChapterPosition
		Increment	NSteps
		Decrement	NSteps
		Status	ChapterPosition
		Error	ErrorCode, ErrorInfo

2.1.23.2 Parameter

NSteps

Number of steps for adjustment.

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

ChapterPosition

Number of steps for adjustment.

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

2.1.24 VideoInteraction (0x251)

Operates the DVD menu

2.1.24.1 Format of Function

Function classes: Unclassified Method

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	VideoInteraction (0x251)	Processing	-
		Result	-
		Start	VideoInteraction
		StartResult	VideoInteraction
		Error	ErrorCode, ErrorInfo

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2.1.24.2 Parameter

VideoInteraction

No

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

2.1.25 PlayerRegion (0x270)

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

2.1.25.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	PlayerRegion (0x270)	Set	PlayerRegionCode
		Get	-
		SetGet	PlayerRegionCode
		Status	PlayerRegionCode, NumberOfLeftAttemts
		Error	ErrorCode, ErrorInfo

2.1.25.2 Parameter

NumberOfLeftAttemts

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This parameter specifies the number of left attempts to set the RegionCode property.

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 times
		0x05	Never set

PlayerRegionCode

This paramter specifies the RegionCode for the DVD Player as specified in [7]

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

2.1.26 MagazineStatus (0x410)

This property shows the state of the magazine.

2.1.26.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	MagazineStatus (0x410)	Get	-
		Status	MagazineStatus
		Error	ErrorCode, ErrorInfo

2.1.26.2 Parameter

MagazineStatus

State of Player.

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

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2.1.27 ActiveMagazine (0x411)

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

2.1.27.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	ActiveMagazine (0x411)	Set	MagazineNo
		Get	-
		SetGet	MagazineNo
		Increment	NSteps
		Decrement	NSteps
		Status	MagazineNo
		Error	ErrorCode, ErrorInfo

2.1.27.2 Parameter

NSteps

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

MagazineNo

Number of magazine.

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

2.1.28 ActiveDisk (0x412)

This property is for administration of the players automatic loading equipment for the changer. By setting the number of the desired magazin pocket the particular CD will be loaded.

2.1.28.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	ActiveDisk (0x412)	Set	MagazinPos
		Get	-

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		SetGet	MagazinPos
		Increment	NSteps
		Decrement	NSteps
		Status	MagazinPos
		Error	ErrorCode, ErrorInfo

2.1.28.2 Parameter

NSteps

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

MagazinPos

Number of current Medium. 0 = no medium

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

2.1.29 MediaInfo (0x413)

Dependent 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 duration (PlayTime) for every medium. Datatype: Array [1..NMax] of Record of {MediaTitle, MediaType, MediaFilesystem, FirstTrack, LastTrack, PlayTime}

2.1.29.1 Format of Function

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

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	MediaInfo (0x413)	Set	Pos, Data
		Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.29.2 Parameter

Pos

The parameter Pos={x,y} consists of two byte x and y and shows which parameter shall be set, inquired or read. Valid range: x=0..NMax, y=0

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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	
Stream	-	Pos	Data
		{ 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 Hint: 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..0x04	0x00	no disc / unknown
		0x01	Audio
		0x02	Video
		0x03	ROM
		0x04	Mixed

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MediaFilesystem

Filesystem Hint: For MixedMode-Media the filesystem 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	CDExtra
		0x09	CDXA (CD Extended Architecture, standard for multimedia-CDs that contain audio, video and computer data
		0x0A	UDF

FirstTrack

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

LastTrack

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

PlayTime

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

2.1.30 CopyManagementInfo (0x423)

For all Audio Data this property will gives Copy Management State. Datatype: Array [1..Nmax] of CopyInfo

2.1.30.1 Format of Function

Function classes: Array of { Enumeration }

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FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	CopyManagementInfo (0x423)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.30.2 Parameter

Pos

The Parameter Pos={x,y} consist of two bytes x and y and shows which parameter shall be set, inquired 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	
Stream	-	Pos	Data
		{ x=0 }	{CopyInfo[1], CopyInfo[2] ... CopyInfo[Nmax]}
		{ x>0 }	{CopyInfo[x]}

CopyInfo

No description.

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

2.1.31 DeckEvent (0x430)

Events concerning the drive.

2.1.31.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	DeckEvent (0x430)	Get	-
		Status	DeckEvent

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		Error	ErrorCode, ErrorInfo

2.1.31.2 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

2.1.32 MediaEvent (0x431)

Events concerning the current medium.

2.1.32.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	MediaEvent (0x431)	Get	-
		Status	MediaEvent
		Error	ErrorCode, ErrorInfo

2.1.32.2 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

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		0x07	End of File

2.1.33 Random (0x450)

This property is for switching on and off the Random function. Hint: Disk => random selection within the current medium Magazine => random selection within the current magazine All Magazine => random selection within all magazines

2.1.33.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	Random (0x450)	Set	RandomState
		Get	-
		SetGet	RandomState
		Status	RandomState
		Error	ErrorCode, ErrorInfo

2.1.33.2 Parameter

RandomState

Depending on the player only a subset is available: * AudiDiskPlayer (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 Magazins (only drive with several magazines)

2.1.34 Scan (0x451)

This property is for switching on and off the Scan function. Hint: Disk => Seek within the current medium Magazine => Seek within the current magazine All Magazine => Seek within all magazines

2.1.34.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlaver	Scan (0x451)	Set	ScanState

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(0x34)		Get	-
		SetGet	ScanState
		Status	ScanState
		Error	ErrorCode, ErrorInfo

2.1.34.2 Parameter

ScanState

Depending on the player only a subset is available: * AudiDiskPlayer (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 Magazins (only drive with several magazines)

2.1.35 Repeat (0x452)

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

2.1.35.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	Repeat (0x452)	Set	RepeatState
		Get	-
		SetGet	RepeatState
		Status	RepeatState
		Error	ErrorCode, ErrorInfo

2.1.35.2 Parameter

RepeatState

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Depending on the player only a subset is available: * AudiDiskPlayer (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 drive with several magazines)
		0x05	Chapter (only DVD-drive)
		0x06	Title (nly DVD-drive)
		0x07	AB (only DVD-drive)

2.1.36 SlowFwSpeed (0x455)

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

2.1.36.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	SlowFwSpeed (0x455)	Set	SlowSpeed
		Get	-
		SetGet	SlowSpeed
		Status	SlowSpeed
		Error	ErrorCode, ErrorInfo

2.1.36.2 Parameter

SlowSpeed

---

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)

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

2.1.37.1 Format of Function

Function classes: Number

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FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	SlowBwSpeed (0x456)	Set	SlowSpeed
		Get	-
		SetGet	SlowSpeed
		Status	SlowSpeed
		Error	ErrorCode, ErrorInfo

2.1.37.2 Parameter

SlowSpeed

---

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)

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

2.1.38.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	FastFwSpeed (0x457)	Set	FastSpeed
		Get	-
		SetGet	FastSpeed
		Status	FastSpeed
		Error	ErrorCode, ErrorInfo

2.1.38.2 Parameter

FastSpeed

---

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)

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

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2.1.39.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	FastBwSpeed (0x458)	Set	FastSpeed
		Get	-
		SetGet	FastSpeed
		Status	FastSpeed
		Error	ErrorCode, ErrorInfo

2.1.39.2 Parameter

FastSpeed

---

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)

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
DVDVideoPlayer (0x34)	ABRepeatSetting (0x460)	Processing	-
		Result	-
		Start	ABRepeatCtrl
		StartResult	ABRepeatCtrl
		Error	-

2.1.40.2 Parameter

ABRepeatCtrl

No Description

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

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2.1.41 AvailableTitles (0x461)

Number of available Titles.

2.1.41.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	AvailableTitles (0x461)	Get	NumberOfTitles
		Status	NumberOfTitles
		Error	ErrorCode, ErrorInfo

2.1.41.2 Parameter

NumberOfTitles

No Description

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

2.1.42 AvailableChapters (0x462)

Number of available chapters.

2.1.42.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	AvailableChapters (0x462)	Get	NumberOfChapters
		Status	NumberOfChapters
		Error	ErrorCode, ErrorInfo

2.1.42.2 Parameter

NumberOfChapters

No Description

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

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2.1.43 AvailableAngles (0x463)

Number of available angles of current title.

2.1.43.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	AvailableAngles (0x463)	Get	NumberOfAngles
		Status	NumberOfAngles
		Error	ErrorCode, ErrorInfo

2.1.43.2 Parameter

NumberOfAngles

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

2.1.44 AudioStreamNumber (0x500)

Configuration of the language for audio.

2.1.44.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	AudioStreamNumber (0x500)	Set	AudioStreamNumber
		Get	-
		SetGet	AudioStreamNumber
		Status	AudioStreamNumber
		Error	ErrorCode, ErrorInfo

2.1.44.2 Parameter

AudioStreamNumber

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

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2.1.45 AvailableAudioLanguages (0x501)

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
DVDVideoPlayer (0x34)	AvailableAudioLanguages (0x501)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.45.2 Parameter

Pos

The parameter Pos={x,y} consists of two byte x and y and shows which parameter shall be set, inquired or read. Since this is an 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	
Stream	-	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)

Configuration of the language for the subtitles. Remark: * SubtitleStreamNumber=0: "Subtitle off"

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2.1.46.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	SubtitleStreamNumber (0x502)	Set	SubtitleStreamNumber
		Get	-
		SetGet	SubtitleStreamNumber
		Status	SubtitleStreamNumber
		Error	ErrorCode, ErrorInfo

2.1.46.2 Parameter

SubtitleStreamNumber

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

2.1.47 AvailableSubtitlesLanguages (0x503)

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
DVDVideoPlayer (0x34)	AvailableSubtitlesLanguages (0x503)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.47.2 Parameter

Pos

The parameter Pos={x,y} consists of two byte x and y and shows which parameter shall be set, inquired or read. Since this is an 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}.

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Basis datatype	Length	Description	
Stream	-	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)

Configuration of the language for the menus. Remark: * LanguageCode=x0000: not used

2.1.48.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	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)

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

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DVDVideoPlayer (0x34)	AvailableMenuLanguages (0x505)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.49.2 Parameter

Pos

The parameter Pos={x,y} consists of two byte x and y and shows which parameter shall be set, inquired or read. Since this is an 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	
Stream	-	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)

Handle the parental 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
DVDVideoPlayer (0x34)	VideoParentalLevel (0x509)	Set	VideoParentLevel
		Get	-
		SetGet	VideoParentLevel
		Status	VideoParentLevel
		Error	ErrorCode, ErrorInfo

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2.1.50.2 Parameter

VideoParentLevel

No Description

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

2.1.51 TemporaryParentalLevel (0x50A)

NoDescription

2.1.51.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	TemporaryParentalLevel (0x50A)	Set	TemporaryParentalLevel
		Get	-
		SetGet	TemporaryParentalLevel
		Status	TemporaryParentalLevel
		Error	ErrorCode, ErrorInfo

2.1.51.2 Parameter

TemporaryParentalLevel

No Description

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

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2.1.52 VideoParentalPwd (0x50B)

Handle password stored in player.Get a password made of 4 digit in {0, ...,9}. Can change the password, If no password has been set, then use default (w,x,y,z).

2.1.52.1 Format of Function

Function classes: Text

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	VideoParentalPwd (0x50B)	Set	VideoParentalPwd
		Get	-
		SetGet	VideoParentalPwd
		Status	VideParentalPwd
		Error	ErrorCode, ErrorInfo

2.1.52.2 Parameter

VideParentalPwd

VideoParentalPwd

Basis datatype	MaxSize
String	256

2.1.53 VideoDefaultSettings (0x530)

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
DVDVideoPlayer (0x34)	VideoDefaultSettings (0x530)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.53.2 Parameter

Pos

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The parameter Pos={x,y} consists of two byte x and y and shows which parameter shall be set, inquired or read. Since this is an 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
Stream	-	AudioLanguage, SubtitleLanguage, MenueLanguage, 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

MenueLanguage

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

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		0x07	Angle 7
		0x08	Angle 8
		0x09	Angle 9

VideoFormat

Basis datatype	Range of values	Code	Description
Enum	0x00..0x04	0x00	unknown
		0x01	Standard
		0x02	Wide
		0x03	Letter Box
		0x04	Pan Scan

2.1.54 VideoAngle (0x531)

Angle for Video

2.1.54.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	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

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		0x09	Angle 9

2.1.55 CountryCode (0x584)

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

2.1.55.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	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] e.g. German, Alpha2 code = DE => With a=4 (as D=4) and b=5 (as E=5) country code =1070 + 30 x 4 + 5 = 1195

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

2.1.56 KaraokePlayer (0x590)

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
DVDVideoPlayer (0x34)	KaraokePlayer (0x590)	Get	-
		Status	Capability
		Error	ErrorCode, ErrorInfo

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2.1.56.2 Parameter

Capability

Compliance to DVD Video Karaoke v1.0

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

2.1.57 Karaoke (0x591)

Toggles karaoke mode on/off in DVD Video Karaoke player.

2.1.57.1 Format of Function

Function classes: Switch

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	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
Boolean	Bit 0	False	Karaoke mode off
		True	Karaoke mode on
	Bit 1 ... 7	-	Reserved

2.1.58 AvailableKaraokeStreams (0x592)

Informs the player capabilities to select and route auxiliary channels in a karaoke audio stream.

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2.1.58.1 Format of Function

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

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	AvailableKaraokeStreams (0x592)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.58.2 Parameter

Data

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

Basis datatype	Length	Description	
Stream	-	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

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		0x02	Version Number 2
		0x03	Version Number 3

Duet

Song is duet/solo.

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

MasterOfCeremonies

Existence of introduction by a "Master of Ceremonies".

Basis datatype	Bit #	Code	Description
Boolean	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

Pos

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The parameter Pos={x,y} consists of two bytes x and y and shows which parameter shall be set, inquired or read. x = 0..NMax, y = 0..5.

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

2.1.59 KaraokeStream (0x593)

Selection of the karaoke stream.

2.1.59.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	KaraokeStream (0x593)	Set	KaraokeStream
		Get	-
		SetGet	KaraokeStream
		Status	KaraokeStream
		Error	ErrorCode, ErrorInfo

2.1.59.2 Parameter

KaraokeStream

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

2.1.60 KaraokeChannelMix (0x594)

Configure selected channel-mixing output stream. Remarks: * 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 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
DVDVideoPlayer (0x34)	KaraokeChannelMix (0x594)	Set	Pos, Data
		Get	Pos
		SetGet	Pos, Data
		Status	Pos, Data

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		Error	ErrorCode, ErrorInfo

2.1.60.2 Parameter

Data

Basis datatype	Length	Description	
Stream	-	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. Remark: * The currently valid range is dependent on the player. If the player is not able to mix linear and freely the auxiliary channel with L channel, valid range is just (0,1), 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. Remark: * The currently valid range is dependent on the player. If the player is not able to mix linear and freely the auxiliary channel with R channel, valid range is just (0,1), where: 0 = channel OFF 1 = channel ON

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

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Pos

The parameter Pos={x,y} consists of two bytes x and y and shows which parameter shall be set, inquired or read. x = 0..NMax, y = 0..3.

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

2.1.61 KaraokeModeReservation (0x595)

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
DVDVideoPlayer (0x34)	KaraokeModeReservation (0x595)	Set	Pos, Data
		Get	Pos
		SetGet	Pos, Data
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.61.2 Parameter

Data

Basis datatype	Length	Description	
Stream	-	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

Pos

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

Basis datatype	Exp.	Range of values	Step	Unit

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Unsigned Word	0		1	none

2.1.62 KaraokeMode (0x596)

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
DVDVideoPlayer (0x34)	KaraokeMode (0x596)	Set	KaraokeMode
		Get	-
		SetGet	KaraokeMode
		Status	KaraokeMode
		Error	ErrorCode, ErrorInfo

2.1.62.2 Parameter

KaraokeMode

-

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

2.1.63 KaraokeKeyControl (0x597)

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

2.1.63.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	KaraokeKeyControl (0x597)	Set	Key
		Get	-
		SetGet	Key
		Increment	NSteps
		Decrement	NSteps
		Status	Key
		Error	ErrorCode, ErrorInfo

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2.1.63.2 Parameter

NSteps

Number of steps for adjustment.

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

Key

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

2.1.64 KaraokeEcho (0x598)

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

2.1.64.1 Format of Function

Function classes: Number

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	KaraokeEcho (0x598)	Set	Echo
		Get	-
		SetGet	Echo
		Increment	NSteps
		Decrement	NSteps
		Status	Echo
		Error	ErrorCode, ErrorInfo

2.1.64.2 Parameter

Echo

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

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2.1.65 SubpicturePalette (0x610)

Requesting the actual Subpicturepalette as an array [0...15] of unsigned long.

2.1.65.1 Format of Function

Function classes: Array of { Number }

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	SubpicturePalette (0x610)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.65.2 Parameter

Data

Basis datatype	Length	Description
Stream	-	{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

Pos

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

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

2.1.66 TimeInformation (0x613)

Requesting the time information of the actual title and chapter.

2.1.66.1 Format of Function

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

FBlock	Function	OPType	Parameter

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DVDVideoPlayer (0x34)	TimeInformation (0x613)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.66.2 Parameter

Data

Basis datatype	Length	Description	
Stream	-	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

Pos

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

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

2.1.67 AudioStreamProperties (0x614)

This property reports the audio stream properties of a the current 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
DVDVideoPlayer (0x34)	AudioStreamProperties (0x614)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.67.2 Parameter

Data

No Description

Basis datatype	Length	Description	
Stream	-	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 }

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		{ x=8, y= }	{ LanguageCode }
		{ x=9, y= }	{ LanguageCodeExtension }

AudioCodingMode

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

Basis datatype	Bit #	Code	Description
Boolean	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:

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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

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	DirectorÂ´s comments 1

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		0x04	DirectorÂ´s comments 2
		0x05 ... 0x7f	Reserved
		0x80 ... 0xff	Provider defined

Pos

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

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

2.1.68 ApplicationInformation (0x615)

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

2.1.68.1 Format of Function

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

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	ApplicationInformation (0x615)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.68.2 Parameter

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, Anex C.

Basis datatype	Length	Description	
Stream	-	Pos	Data
		{ x=0, y= }	{ChannelAssignmentMode, VersionNumber, MC_intro, SoloDuet, SurroundType}
		{ x=1, y= }	{ ChannelAssignmentMode }

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		{ 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 detailed description of the code: - For Audio Application Mode = Karaoke and: - Audio Coding Mode = Dolby AC-3, see Anex C.1 - Audio Coding Mode = MPEG-1 or MPEG-2 without extension bitstream, see Anex C.2 - Audio Coding Mode = MPEG-2, see Anex C.2 - Audio Coding Mode = Linear PCM, see Anex C.3 - Audio Coding Mode = DTS (option), Not applied - Audio Coding Mode = SDDS (option) AC-3, see Anex I - Audio Coding Mode = Dolby AC-3, see Anex 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 Anex 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

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Applicable if Audio Application Mode = Karaoke Mode. Describes the existence of a Master of Ceremonies. Please refer to Anex 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 analogue 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	

Pos

The parameter Pos={x,y} consists of two byte x and y and shows which parameter shall be set, inquired or read. Since this is an unidimensional construction, the second Byte y is unused (y=0=const) and the simplified notation Pos={x} is valid. x = 0 ... 5.

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

2.1.69 MultiChannel (0x616)

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 DVD specification Part 3, Video Title Set Information, Anex D and Anex E.

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2.1.69.1 Format of Function

Function classes: Array of { Number }

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	MultiChannel (0x616)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.69.2 Parameter

Data

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

Basis datatype	Length	Description	
Stream	-	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

Pos

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

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

2.1.70 VideoStreamProperties (0x617)

This function reports the video stream properties. Please refer to 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
DVDVideoPlayer	VideoStreamProperties	Get	Pos

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(0x34)	(0x617)	Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.70.2 Parameter

Data

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

Basis datatype	Length	Description	
Stream	-	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

No

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

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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-scan and Letterbox
		0x01	Only Pan-scan
		0x02	Only Letterbox
		0x03	reserved (only if AspectRatio = 4:3)

line21s1

Basis datatype	Bit #	Code	Description
Boolean	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
Boolean	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

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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
Boolean	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
Boolean	Bit 0	False	Camera Mode
		True	Film Mode
	Bit 1 ... 7	-	reserved

Pos

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

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

2.1.71 SubpixStreamProperties (0x618)

This function reports the subpicture stream properties of the currently selected subpicture stream. Please refer to DVD specification Part 3, Video Title Set Information, Anex C.

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2.1.71.1 Format of Function

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

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	SubpixStreamProperties (0x618)	Get	Pos
		Status	Pos, Data
		Error	ErrorCode, ErrorInfo

2.1.71.2 Parameter

Data

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

Basis datatype	Length	Description	
Stream	-	Pos	Data
		{ x=0, y= }	{ SubpixCodingMode, SubpixType, LanguageCode, LanguageCodeExtension }
		{ x=1, y= }	{ SubpixCodingMode }
		{ x=2, y= }	{ SubpixType }
		{ x=3, y= }	{ LanguageCode }
		{ x=4, y= }	{ LanguageCodeExtension }

SubpixCodingMode

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

SubpixType

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

LanguageCode

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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	DirectorÂ´s comments 1
		0x04	DirectorÂ´s comments 2
		0x05 ... 0x7f	Reserved
		0x80 ... 0xff	Provider defined

Pos

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

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

2.1.72 Shuffle (0x620)

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. Hint: Disk => Random selection with the current disc. Magazine => Random selection with the current magazine. All Magazine => Random selection with all magazines. This function should return an error if Random function is selected and vice versa.

2.1.72.1 Format of Function

Function classes: Enumeration

FBlock	Function	OPType	Parameter
DVDVideoPlayer (0x34)	Shuffle (0x620)	Set	ShuffleState
		Get	-
		SetGet	ShuffleState
		Status	ShuffleState
		Error	ErrorCode, ErrorInfo

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2.1.72.2 Parameter

ShuffleState

Depending on the player only a subset is available: * AudiDiskPlayer (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 Magazins (only drive with several magazines)

3 FunctionBlock Dynamic Specification

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