DDP 2.00 CD Text Addendum

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CONFIDENTIAL NOTICE:

Abstract

This document describes the method of specifying CD Text in DDP.

Overview

There may be two forms of CD Text on a CD. The first form is often referred to as Philips CD Text. This form occurs in the RW sub channel through out the Program Area on the CD disc. The second form is often referred to as the Sony CD Text. This form occurs in the RW sub channel in the Lead-in on the CD disc.

Philips CD Text

Philips CD Text occurs in the RW sub channel of the Program Area on a CD. This CD Text uses the exact same structure as normal RW sub channel. Therefore Philips CD Text can be described as normal RW sub channel in DDP. That is, the Philips CD Text will be stored in a file with the RW sub channel pack format. There will be a DDPMS entry that points to the file. The format of the DDPMS entry is shown below.

Byte	Length	Symbol	Name	Contents
0-3	4	MPV	Map packet valid	VVVM
4-5	2	DST	Data stream type	S0
6-13	8	DSP	Data stream pointer	(20h)
14-21	8	DSL	Data stream length	Number of bytes in the RW file.
22-29	8	DSS	Data stream start	Physical sector number on CD that the RW Data (CD Text) is to start
30-37	8	SUB	Subcode descriptor	PQ DESCR (50h 51h 20h 44h 45h 53h 43h 52h) RW24XX (52h 57h 32h 43h 58h 58h 20h 20h) RW24XI (52h 57h 32h 34h 58h 49h 20h 20h) RW24PI (52h 57h 32h 34h 50h 49h 20h 20h) RW24PX (52h 57h 32h 34h 50h 58h 20h 20h) RW18XX (52h 57h 31h 38h 58h 58h 20h 20h) WR24XX (57h 52h 32h 34h 58h 58h 20h 20h) WR24XI (57h 52h 32h 34h 58h 49h 20h 20h) WR24PI (57h 52h 32h 34h 50h 49h 20h 20h) WR24PX (57h 52h 32h 34h 50h 58h 20h 20h) WR18XX (57h 52h 31h 38h 58h 58h 20h 20h)
38-39	2	CDM	CD mode	(20h 20h)
40	1	SSM	Source storage mode	(20h)
41	1	SCR	Source materials scrambled	(20h)
42-45	4	PRE1	Pregap 1 in data stream	(20h)
46-49	4	PRE2	Pregap 2 or pause in data stream	(20h)
50-53	4	PST	Postgap in data stream	(20h)
54	1	MED	Number for multiple input media	(20h)
55-56	2	TRK	Track number	(20h)
57-58	2	IDX	Index number	(20h)
59-70	12	ISRC	ISRC code	(20h)
71-73	3	SIZ	Size of data stream identifier	017
74-90	17	DSI	Data stream identifier	Name of RW file
91	1	NEW	Reserved	(20h)
92-95	4	PRE1NXT	Pregap 1 of next track in data stream	(20h)
96-103	8	PAUSEADD	Number of blocks of pause to add	(20h)
104-112	9	OFS	Starting file offset	(20h)
113-127	15	PAD	Pad characters	(20h)

Sony CD Text

Sony CD Text occurs only in the RW sub channel of Lead-in. It does not have the same pack structure as normal RW sub channel. Normal RW sub channel structure defines an RW pack as containing 24 RW symbols of 6 bits each. There are 4 RW packs in one A-time. Sony CD Text does not use packs of 24 - 6 bit symbols as outlined in the Red Book. It uses packs of 18 - 8 bit symbols.

The Sony CD Text binary file will be in a packed format. That is the RW data will be in 18 byte packs. The signal encoder will unpack the 18 bytes into 24 - 6 bit symbols. These 24 - 6 bit symbols will be inserted in the RW stream as one RW pack. The Sony CD Text binary file will be converted to RW packs as outlined below.

Binary Input	byte 0 msb lsb 7 6 5 4 3 2 1 0	byte 1 msb lsb 7 6 5 4 3 2 1 0	byte 2 msb lsb 7 6 5 4 3 2 1 0
RW Data	R S T U V W	R S T U V W	R S T U V W
	pack 0	pack 1	pack 2	pack 3

DDP will include a Sub channel entry for an RW file. This entry will have the TNO field set to 00 (indicating that the RW data shall be placed in track 0). The Data Stream Start field shall be blank. The DCA system will read the binary file, convert it to RW sub channel, and output it in the RW sub channel stream for the entire Lead-in. When Program Area starts, then the MIS system shall cease inserting the CD-Text RW data.

The Sony CD Text file is repeated throughout Lead-in. The Sony CD Text information was cut off at the beginning of Program Area. Therefore the Sony CD Text in Lead-in may very well be cut off in the middle of the binary file.

For example, assume that the Sony CD Text binary file is 4320 bytes (240 Sony CD Text packets of 18 bytes each). This translates to 240 RW packs of 24 symbols of 6 bits each. This covers 60 A-time frames. If the last Sony CD Text packet in Lead-in happens to be the 35th Sony CD Text packet in the binary file, then the signal encoder stops placing Sony CD Text information in the RW sub-channel but starts placing normal Red Book RW information.

The Sony CD Text file is a binary file that is pointed to by a DDPMS packet. The format of the DDPMS entry for Sony CD Text is shown below.

Byte	Length	Symbol	Name	Contents
0-3	4	MPV	Map packet valid	VVVM
4-5	2	DST	Data stream type	S0
6-13	8	DSP	Data stream pointer	(20h)
14-21	8	DSL	Data stream length	Number of bytes in the CD Text binary file.
22-29	8	DSS	Data stream start	(20h)
30-37	8	SUB	Subcode descriptor	CDTEXT (43h 44h 20h 45h 45h 53h 20h 20h)
38-39	2	CDM	CD mode	(20h 20h)

40	1	SSM	Source storage mode	(20h)
41	1	SCR	Source materials scrambled	(20h)
42-45	4	PRE1	Pregap 1 in data stream	(20h)
46-49	4	PRE2	Pregap 2 or pause in data stream	(20h)
50-53	4	PST	Postgap in data stream	(20h)
54	1	MED	Number for multiple input media	(20h)
55-56	2	TRK	Track number	30h 30h
57-58	2	IDX	Index number	(20h)
59-70	12	ISRC	ISRC code	(20h)
71-73	3	SIZ	Size of data stream identifier	017
74-90	17	DSI	Data stream identifier	Name of CD text file
91	1	NEW	Reserved	(20h)
92-95	4	PRE1NXT	Pregap 1 of next track in data stream	(20h)
96-103	8	PAUSEADD	Number of blocks of pause to add	(20h)
104-112	9	OFS	Starting file offset	(20h)
113-127	15	PAD	Pad characters	(20h)

MPV – The MPV field contains the value “VVVM”.

DST – The DST field contains “S0” indicating that the file being pointed to is a sub channel file.

DSP – The DSP field is left blank.

DSL – The DSL field contains the number of bytes in the Sony CD Text binary file.

DSS – The DSS field is left blank.

SUB – The SUB field contains the value “CDTEXT” left justified. This indicates that the file being pointed to is a Sony CD Text binary file.

CDM – The CDM field is left blank.

SSM – The SSM field is left blank.

SCR – The SSR field is left blank.

PRE1 – The PRE1 field is left blank.

PRE2 – PRE2 DSP field is left blank.

PST – The PST field is left blank.

MED – The MED field is left blank.

TRK – The TRK field contains “00” (30h 30h) indicating that the file being pointed to will be placed in Lead-in.

IDX – The IDX field is left blank.

ISRC – The ISRC field is left blank.

SIZ – The SIZ field contains “017” (30h 31h 37h).

DSI – The DSI field contains the name of the file being pointed to.

NEW – The NEW field is left blank.

PRE1NXT – The PRE1NXT field is left blank.

PAUSEADD – The PAUSEADD field is left blank.

OFS – The OFS field is left blank.

PAD – The PAD field is left blank.