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(B1)

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G06F 3/06

(45)  
(11)  
(24)

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2004 05 10

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(22)	1996 08 05	(43)	1997 03 29

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(30) 95-200120 1995 08 04 (JP)

(73) 가 가 가 가 6 7 35

(72) 가 가 가 6-7-35 가 가

가 가 6-7-35 가 가

(74)

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(54) , ,

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, TOC , ( CD  
CD ) , .

24

1  
2 (descriptors)

3 TOC TOC  
4 TOC  
5 TOC

6		TOC	
7		TOC	
8		TOC	
9		TOC	TOC
10		TOC	
11		TOC	
12		TOC	
13		TOC	
14		TOC	
15		TOC	TOC
16	TOC		
17	TOC		
18	TOC		
19	TOC		
20	TOC		
21	TOC		
22			
23			
24			
25			
26			
27			
28	가		
29	CD	CD	

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1, 2, 52 :	10 :	(DSM)
13 :	23 :	
24, 26 :	25 :	
27, 64B :	28 :	가
30, 67 :	31 :	
32 :	33 :	가
35 :	50, 51 :	가
53 :	54 :	
56 : TOC	60 :	
61 : 62 :		
63 : ECC	64 :	
64A :	65, 66 :	
68 : TOC	69 :	
70 :	E2, E3 :	

가 CD-ROM 27 28  
 (leading end), (TOC ; table-of-co  
 CD 가

가 , CD CD , 가  
 가 , CD CD CD 가 ,  
 , CD PC가 ) 가 , 가 ( ,  
 , 가 , 가 , TOC  
 , 가 , 가 ,  
 , 가 , 가  
 , 가 , 가  
 , TOC , 가 ,  
 , 가 , 가  
 , TOC , 가 ,  
 , 가 , 가  
 , 1 , (PVD),  
 (DIOC), (PTOC1, PTOC2, PTOC3,...,PTOCN)  
 ( 1 (PRG1, PRG2, PRG3,..., PRGN) (PVD) , 2  
 ISO966 (primary volume descriptor) )  
 TOC (DIOC) , (Disc TOC)가 ,  
 TOC (DIOC) TOC( ) [syntax Disc TOC( )]가 3 ,  
 O646 TOC (DIOC) TOC (Disk TOC) , IS  
 , ISO646 8 'dvd\_signature' . 'dvd\_version'  
 , 'toc\_type' TOC 4 , 'Length' TOC (DIOC)  
 '1' 가 . 'Album( )' , 4 가 가  
 . 'Catalogue( )'  
 number of program(NOP)' , 'program\_linkage\_offset' DIOC  
 'program\_linkage' , 'disc\_track\_offset' DT  
 OC 'disc\_track' , 'program\_toc\_pointer' offse  
 t' DIOC 'program\_toc\_pointer'  
 c\_play\_time\_offset' DIOC 'disc\_play\_time'  
 , 'disc\_name\_offset' DIOC 'disc\_name'

```

, 'disc_date_offset' DTOC 'disc_date'
, 'disc_copyright_offset' DTOC 'disc_copyright'
, 'disc_publisher_offset' DTOC 'disc_publisher'
TOC (Disc_toc( )) 'Album' 4 가 , 'id_string'
, ISO646 16 , 'discs_in_album' , "disc
_number'
TOC 'Catalogue( )' 5 가 , , 'catalogue_string'
ISO646 16
'program linkage' , 6 가
, 'first_track_number' P , 'last_track_n
umber' P , 'first_track_lsa' P
, 'last_track_lsa' P
, 'last_es_lsa' P , 'I
ast_program_lsa' P , 'program_start_tc'
P
,
, 1
, 'program_linkage' , 'program link
age( )' , 'program linkage( )' 'Program_linkage_offset'
, 'path'
TOC 'disc_track( )'
, 7 가 . 'number_of_tracks'
, 'program_number' , 'track_numb
er' , 'start_lsa' , 'last_lsa'
, 'last_es_lsa'
'track_playing_time'
, TOC 8
,
,
(Hours) = 'tc_hours_1' 10 + 'tc_hours_2'
(Minutes) = 'tc_minutes_1' 10 + 'tc_minutes_2'
(Seconds) = 'tc_seconds_1' 10 + 'tc_seconds_2'
'Program_toc pointers( )' TOC (TOC)
TOC (DTOC) , 9 . 'program_toc_lsa'
TOC (PTOC)
TOC (DTOC) 'Disc_play_time'
10 가 . 'Disc_playing_time( )'
TOC (DTOC) 'Disc_name' , 11 가
'Number_of_languages' , 'original_language_number'
가 , 'language_code' ISO 639-2 3 , 'character_set
_code' . 'character_set_code' 12
11 'disc_name_string_offset' 'disc_name' 'disc_name_string( )'
, 'Disc_name_string( )'
TOC (DTOC) 'Disc_date' 가 , 13
가 . 'Disc_recording_date( )' 14 가 'date( )'
'Disc_copyright( )' 'disc_publisher'가 DTOC
,
1 TOC (PTOC1, PTOC2, PTOC3, ... PTOCN)
TOC ( TOC 1, TOC 2, TOC 3, ... TOC N)
(PRG1, PRG2, PRG3, ... PRGN) , 15 가 'program_to
c( )' TOC
15 , 'dvd_signature' , ISO646 8
, 'Dvd_version' , ISO646 4
Length' TOC (PTOC) , 'toc_type' TOC
, TOC( , PTOC) '2' 가 . 'Number_of_tracks'

```

, 'program\_start\_lsa' , 'program\_track\_of  
fset' 'Program\_toc()' i 'program\_tracks()' .  
'Elementary stream\_info\_offset' 'Program\_toc()' 'elementary\_stream\_info()' .  
, 'program\_play\_times\_offset' 'Program\_play\_times()' .  
, 'program\_name\_offset' 'Program\_toc()' 'Program\_name()' .  
, 'track\_name\_offset' 'Program\_toc()' 'track\_names()' .  
, 'track\_date\_offset' 'Program\_toc()' 'track\_dates()' .  
, 'program\_copyright\_offset' 'Program\_toc()' 'program\_copyright()' .  
, 'program\_publisher\_offset' 'Program\_toc()' 'program  
\_publisher()' .  
TOC '(i=0; i<8; i++)' 15 , , .  
, 16 , 가 .  
, 'number\_of\_path\_tracks' i , 'start\_rsa' .  
, 'last\_rsa' , 'last\_es\_rsa' .  
, 'track\_playing\_time()' .  
0 , 'track\_playing  
\_time()' 8 'time()' .  
15 .  
'entry\_points()' 4 가 .  
'Program\_play\_times' , 17 가 .  
'Program\_name()' 18 가 , 'number\_of\_language'  
, 'original\_language\_number' , 'language\_code'  
'ISO639-2' 3 , 'character\_set\_code'  
, 'program\_name\_string()' .  
15 'program\_TOC()' , 'track\_name' 19 .  
'track\_name' 'number\_of\_language' ,  
'original\_language\_number' , 'language\_code' ISO-639-2 3 .  
, 'character\_set\_code' , 'track\_name\_string\_  
\_offset' 'track\_names()' 'track\_name\_string()' .  
TOC 20 , 'program\_recording\_date()' .  
'program\_date' .  
TOC 21 , 'track\_recording\_date()' .  
'track\_dates' .  
'track\_name()' 'track\_dates()' ( )가 , .  
가 , 가 'track\_names()' 'track\_dates()' .  
TOC (PTOC) , .  
'program\_copyright()' 'program\_publisher()' .  
3 (PGM1, PGM2, PGM3) , 22 , (PG  
M1, PGM2, PGM3) 가 .  
가 .  
6 'program\_linkage' , (A  
) 'first\_track\_lsa' , (B) 'last\_track\_lsa'  
, (C) 'last\_es\_lsa' ,  
'last\_program\_lsa' .  
(D) 22 .  
(A 0) TOC (D) TOC .  
(PGM1, PGM2, PGM3) (A) (D),  
(A, C) , 가 (PGM1, PGM2, PG  
M3) (A, D) (PGM1) (A)  
, 22 , (PGM1) (D) , (PG  
(PGM2) (PGM1) (A) (D) , (PG  
M2) (D) , .  
(PGM3) (A) , (PGM3)  
, (PGM1, PGM2, PGM3) (PGM1, PGM2, PG  
M3) (A, C) .

(PGM3) (C) (PGM2) (PGM3)

(A) (PGM2) (A)

(C) (PGM2) (PGM2) (A) (PGM3, PGM2,

(PGM1) (C) (A)

PGM1) (PGM1) (PGM2) (A)

(PGM1) 가 (PGM3) (A)

(A) (PGM2) 가

(PGM1, PGM2, PGM3) (PGM2)

(PGM3) 가 (B) (PGM1)

가 (B) (PGM2)

(PGM1, PGM2, PGM3) (PGM1)

( ) 가 23

(PGM1, PGM2) (A,B,C) 3

(1, 2) (B) (P

GM1, PGM2, PGM3)

MPEG (GOP : group of pictures)

MPEG GOP ( I- ) ( P- B- )

MPEG GOP I- , I- , GOP 가 , G

OP I- , GOP 가 가

.3 , I- , I- , n , I-

가 I- , MPEG (ISO3818-1) 가 (PSD)

(PSM) , PSD PSM ( )가

24 (60) (54)

(1) 가 (2) (2) (DSM)(1

0) DSM(10) (13) (TOC) 가 (50) TOC 가

가 .TOC 가 (51) 가 (53) EC

C ) (52) (54) .TOC 가 (50) TOC (56) TOC 가 (60

, TOC , 25 , (13) TOC 가 (35)

- (23) (13) (25)

가 (26) (24) (E2)

(26) (E2) 가 (DSM

(27) 가 (28) (F) 가 (DSM

)(10) .DSM (31) (27)

(30)가 (E1,E2) , (24,26) (27)

가 (28) (28) MPEG

(32) (30) , (27) (E3)

(24) 가 가 (28) 가 (26)

(1) I- (32)

(23)

PSD PSM (30) 가 PSD PSM (27)

(28) PSD PSM (E3) (F)

PSD PSM (24, 26) offsets prev\_directory 3 offset next\_directory (35)

DSM 가 (35) (30)

(rating addition circuit)(33) DSM(10)

PSM 가 (33)

(1) (2) 가 DSM(10)

3 (30) (35) TOC DSM(10)

3 TOC TOC 가 (50)(24) DSM

TOC (10) (56) TOC TOC 가 (50) (51) 가 (51)

TOC DSM(10) TOC 가 (50) 가 (51)

2048 가 2048 16 가 2048 16

가 가 ( ) 가 (60) 가 (51) (53)

ECC-TOC 가 가 , TOC ,

GM , PGM 가 , PVD , PVD DTOC , PTOC , PTOC PGM , P

. DTOC, PTOC PGM

26 (67) (69) (60) (69)

(70) (61) (61) (60) (62) E

CC (63) (64A) (64B)

(64) (67) TOC (64A) , TOC 가 TOC

(67) (68) (67) ( ) (69)

(67) (69)

가 (67) (60) (70)

(61) (65)

(66) (64A) , ECC , PSD PSM (64B)

(67) (65) (66)

(G) (H1, H2) 가 (64) 가

(67) (71) (69)

```

(G) (64A) 'stream_id' (64B) (H1, H2)
(65) (66)
(64) 가 (64A) 'Program_stream_map' (67)
Program_stream_map'
), (FF), (FR), (67) TOC (68)
'Disc_toc( )' 22 , 'program_linkage( )'
(69)
(FF), (FR),
가 (FF, FR)
PGM , PVD, DTOC, PTOC PGM 가 PVD, DTOC, PTOC
, 26
가
PVD, DTOC, PTOC PGM ( )가 PGM
, PVD, DTOC PTOC , 'program_linkage( )'
, 'Program_toc( )' 가 'Disc_toc( )'
'Program_toc( )' , 'Disc_toc( )'
, 'Program_toc( )'
가
, program_toc Disc toc( ) program_start_lsa
가 , Program_toc
Disc_toc( ) program_linkage( ) disc_tracks( )

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(57)

1.

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:
가 ;
, ;
, 1
(self-co
mplete manner)

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가

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가

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20.

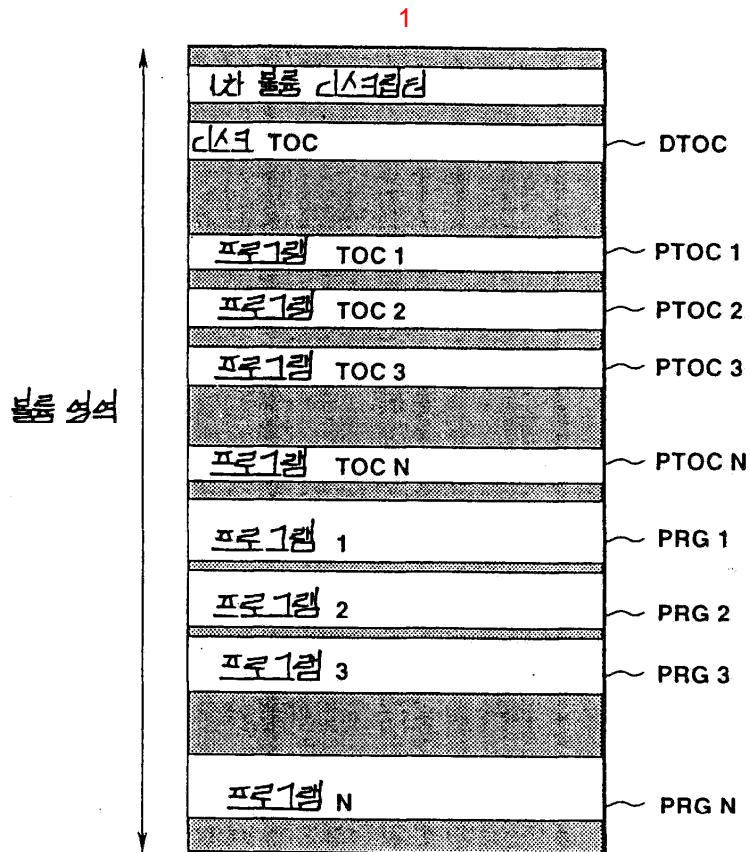
9

21.

12

22.

16



2

BP	필드명	내용
1	Volume Descriptor Type	numerical value
2 to 6	Standard Identifier	CD001
7	Volume Descriptor Version	numerical value
8	Unused Field	(00) byte
9 to 40	System Identifier	a-characters
41 to 72	Volume Identifier	d-characters
73 to 80	Unused Field	(00) bytes
81 to 88	Volume Space Size	numerical value
89 to 120	Unused Field	(00) bytes
121 to 124	Volume Set Size	numerical value
125 to 128	Volume Sequence Number	numerical value
129 to 132	Logical Block Size	numerical value
133 to 140	Path Table Size	numerical value
141 to 144	Location of Occurrence of Type L Path Table	numerical value
145 to 148	Location of Optional Occurrence of Type L Path Table	numerical value
149 to 152	Location of Occurrence of Type M Path Table	numerical value
153 to 156	Location of Optional Occurrence of Type M Path Table	numerical value
157 to 190	Directory Record for Root Directory	34 bytes
191 to 318	Volume Set Identifier	d-characters
319 to 446	Publisher Identifier	a-characters
447 to 574	Data Preparer Identifier	a-characters
575 to 702	Application Identifier	a-characters
703 to 739	Copyright File Identifier	d-characters, SEPARATOR 1, SEPARATOR 2
740 to 776	Abstract File Identifier	d-characters, SEPARATOR 1, SEPARATOR 2
777 to 813	Bibliographic File Identifier	d-characters, SEPARATOR 1, SEPARATOR 2
814 to 830	Volume Creation Date and Time	Digit(s), numerical value
831 to 847	Volume Modification Date and Time	Digit(s), numerical value
848 to 864	Volume Expiration Date and Time	Digit(s), numerical value
865 to 881	Volume Effective Date and Time	Digit(s), numerical value
882	File Structure Version	numerical value
883	(Reserved for future standardization)	(00) byte
884 to 1 395	Application Use	not specified
1 396 to 2 048	(Reserved for future standardization)	(00) bytes

3

신택스	비트수	타입
disc_toc () {		
dvd_signature	64	bslbf
dvd_version	32	bslbf
length	16	uimsbf
toc_type	8	bslbf
reserved	8	bslbf
album()		
catalogue()		
reserved	16	uimsbf
number_of_programs (NOP)	16	bslbf
program_linkage_offset	32	uimsbf
disc_track_offset	32	uimsbf
program_toc_pointers_offset	32	uimsbf
disc_play_time_offset	32	uimsbf
disc_name_offset	32	uimsbf
disc_date_offset	32	uimsbf
disc_copyright_offset	32	uimsbf
disc_publisher_offset	32	uimsbf
reserved	288	bslbf
program_linkage()		
disc_tracks()		
program_toc_pointers()		
disc_play_time()		
disc_name()		
disc_date()		
disc_copyright()		
disc_publisher()		
}		

4

신택스	비트수	타입
album() {		
id_string	128	bslbf
discs_in_album	16	uimsbf
disc_number	16	uimsbf
}		

5

신택스	비트수	타입
catalogue() {		
catalogue_string()	128	bslbf
}		

6

신택스	비트수	단위
<pre> program_linkage(){     for(p=0;p&lt;NOP;p++){         first_track_number         last_track_number         first_track_lsa         last_track_lsa         last_es_lsa         last_program_lsa         program_start_tc     } }                     </pre>	<p>32 uimsbf 32 uimsbf 32 uimsbf 32 uimsbf 32 uimsbf 32 uimsbf</p>	

7

신택스	비트수	단위
<pre> disc_tracks(){     for(i=0;i&lt;8;i++){         number_of_tracks(NOT)         reserved         for(t=0;t&lt;NOT;T++){             program_number             track_number             start_lsa             last_lsa             last_es_lsa             track_playing_time()         }     } }                     </pre>	<p>16 uimsbf 16 bslbf 16 uimsbf 16 uimsbf 32 uimsbf 32 uimsbf 32 uimsbf</p>	

8

신택스	비트수	신택스
<pre> time(){     tc_hours_1     tc_hours_2     tc_minutes_1     tc_minutes_2     tc_seconds_1     tc_seconds_2     reserved }                     </pre>	<p>4 bcd 4 bcd 4 bcd 4 bcd 4 bcd 4 bcd 8 bslbf</p>	

9

신택스	비트수	단위
<pre> program_toc_pointer(){     for(p=0;p&lt;NOP;p++){         program_toc_lsa     } }                     </pre>	<p>32 uimsbf</p>	

10

선택스	비트수   단위
<pre> disc_play_times(){     for(i=0;i&lt;8;i++){         disc_playing_time()     } }                 </pre>	

11

선택스	비트수   단위
<pre> disc_name(){     number_of_languages(NOL)     original_language_number     for(l=0;l&lt;NOL;l++){         language_code         character_set_code         disc_name_string_offset     }     for(n=0;n&lt;NOL;n++){         disc_name_string()     }     stuffing_byte }                 </pre>	
	16 uimsbf 16 bsbf 24 bsbf 8 bsbf 32 uimsbf  0-24 bsbf

12

값	원자 설명
0	reserved
1	ISO 646
2-255	reserved(TBD)

13

선택스	비트수   단위
<pre> disc_date(){     disc_recording_date() }                 </pre>	

14

선택스	비트수   단위
<pre> date(){     year     month     day     time() }                 </pre>	
	16 bcd 8 bcd 8 bcd

신택스	비트수	리모트
program_toc(){		
dvd_signature	64	bslbf
dvd_version	32	bslbf
length	16	uimsbf
toc_type	8	bslbf
reserved	8	bslbf
number_of_tracks (NOT)	16	uimsbf
reserved	16	bslbf
program_start_lsa	32	uimsbf
path_rating_assignment_offset	32	uimsbf
for (i=0; i<8; i++){		
program_tracks_offset_i	32	uimsbf
}		
elementary_stream_info_offset	32	uimsbf
program_play_times_offset	32	uimsbf
program_name_offset	32	uimsbf
track_names_offset	32	uimsbf
program_date_offset	32	uimsbf
track_dates_offset	32	uimsbf
program_copyright_offset	32	uimsbf
program_publisher_offset	32	uimsbf
reserved	288	bslbf
path_rating_assignments()		
for (i=0; i<8; i++){		
if (program_chapters_offset_i>0){		
program_tracks()		
entry_points()		
path_table()		
}		
}		
elementary_stream_info()		
program_play_times()		
program_name()		
track_names()		
program_date()		
track_dates()		
program_copyright()		
program_publisher()		

신택스	비트수	리모트
program_tracks(){		
number_of_path_tracks(NOPT)	16	uimsbf
reserved	16	bslbf
for(t=0;t<NOPT;t++){		
reserved	16	bslbf
track_number	16	uimsbf
start_rsa	32	uimsbf
last_rsa	32	uimsbf
last_es_rsa	32	uimsbf
track_playing_time()	32	uimsbf
}		
}		



17

선택스	비트스 길이
<pre> program_play_times(){     for(i=0;i&lt;8;i++){         program_playing_time()     } }                     </pre>	

18

선택스	비트스 길이
<pre> program_name(){     number_of_languages(NOL)     original_language_number     for(l=0;l&lt;NOL;l++){         language_code         character_set_code         program_name_string_offset     }     for(n=0;n&lt;NOL;n++){         program_name_string()     }     stuffing_bytes }                     </pre>	<p>16 uimbsf</p> <p>16 bslbf</p> <p>24 bslbf</p> <p>8 bslbf</p> <p>32 uimbsf</p> <p>0-24 bslbf</p>

19

선택스	비트스 길이
<pre> track_names(){     number_of_languages(NOL)     original_language_number     for(l=0;l&lt;NOL;l++){         language_code         character_set_code         for(t=0;t&lt;NOT;t++){             track_name_string_offset         }     }     for(n=0;n&lt;NOL*NOT;n++){         track_name_string()     }     stuffing_bytes }                     </pre>	<p>16 uimbsf</p> <p>16 bslbf</p> <p>24 bslbf</p> <p>8 bslbf</p> <p>32 uimbsf</p> <p>0-24 bslbf</p>

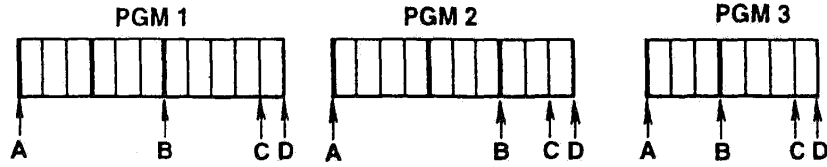
20

선택스	비트스 길이
<pre> program_dates(){     program_recording_date() }                     </pre>	

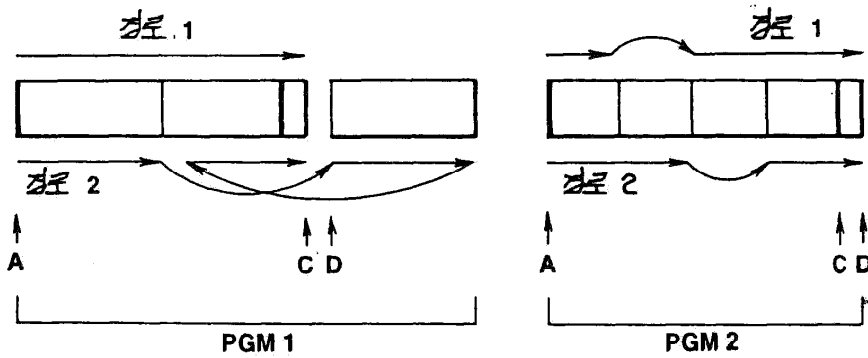
21

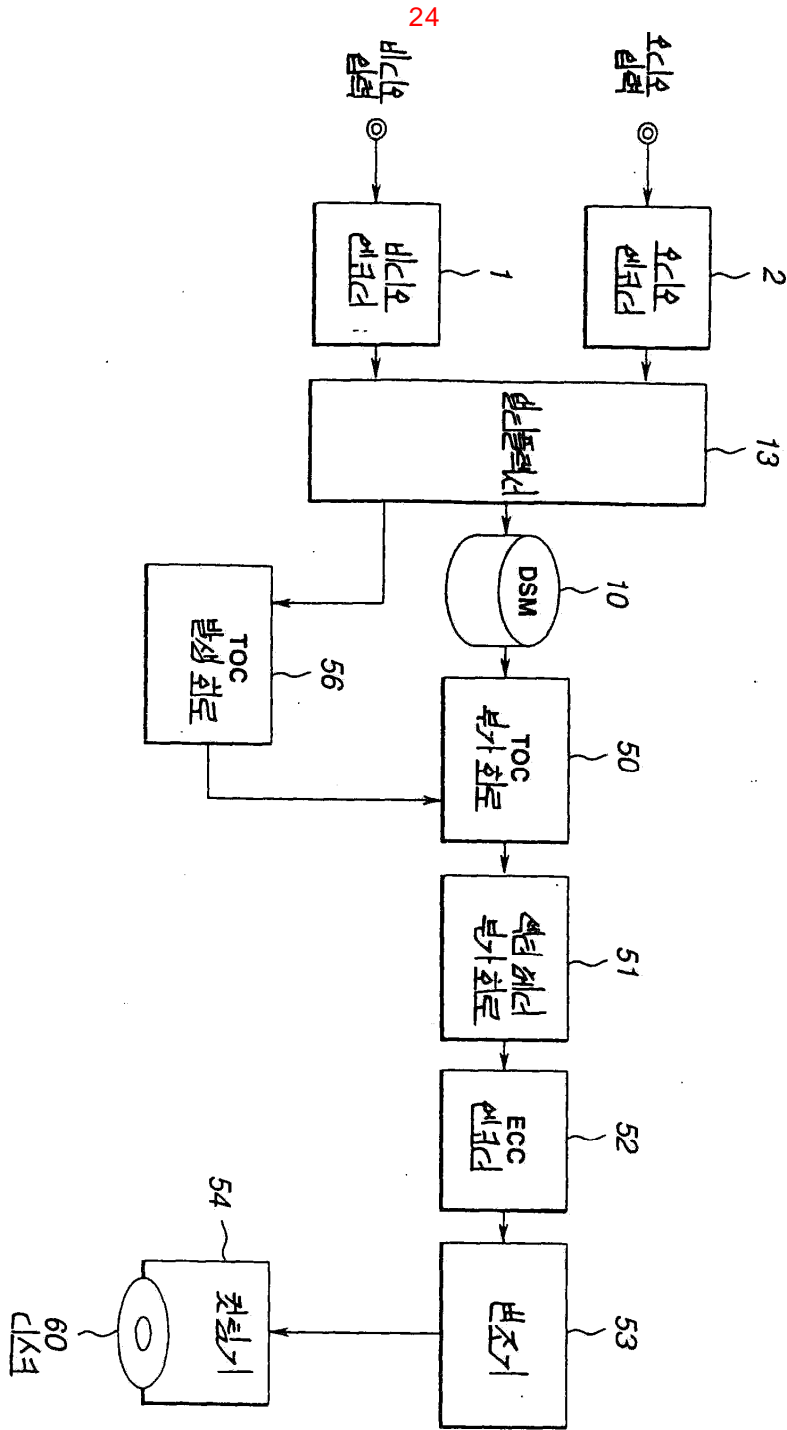
인덱스	비트수 메모리
<pre> track_dates(){     for(t=0;t&lt;NOT;t++){         track_recording_date()     } }                 </pre>	

22

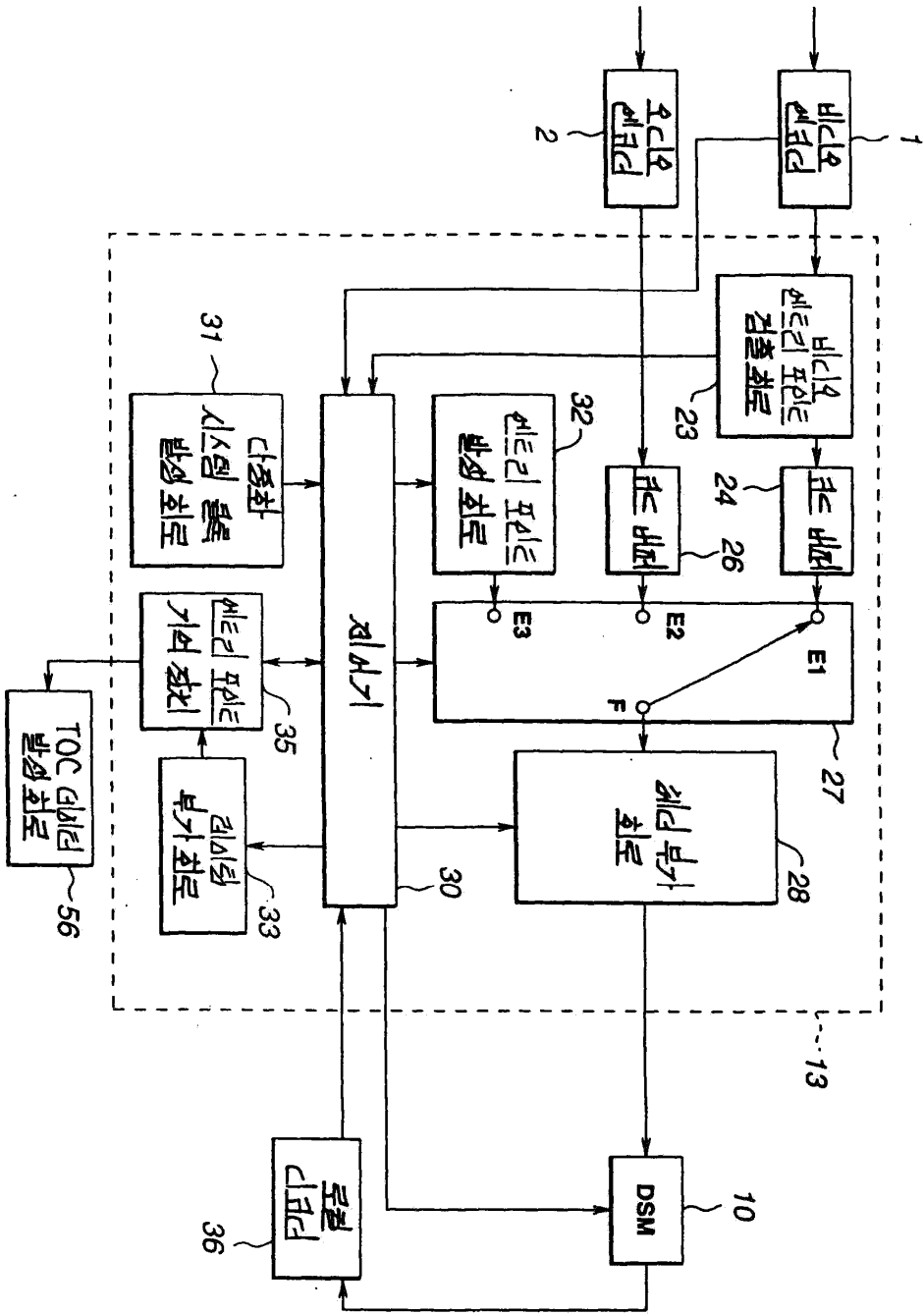


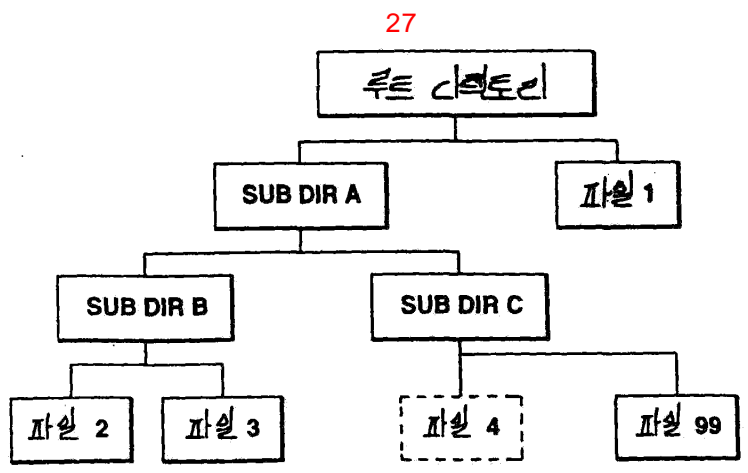
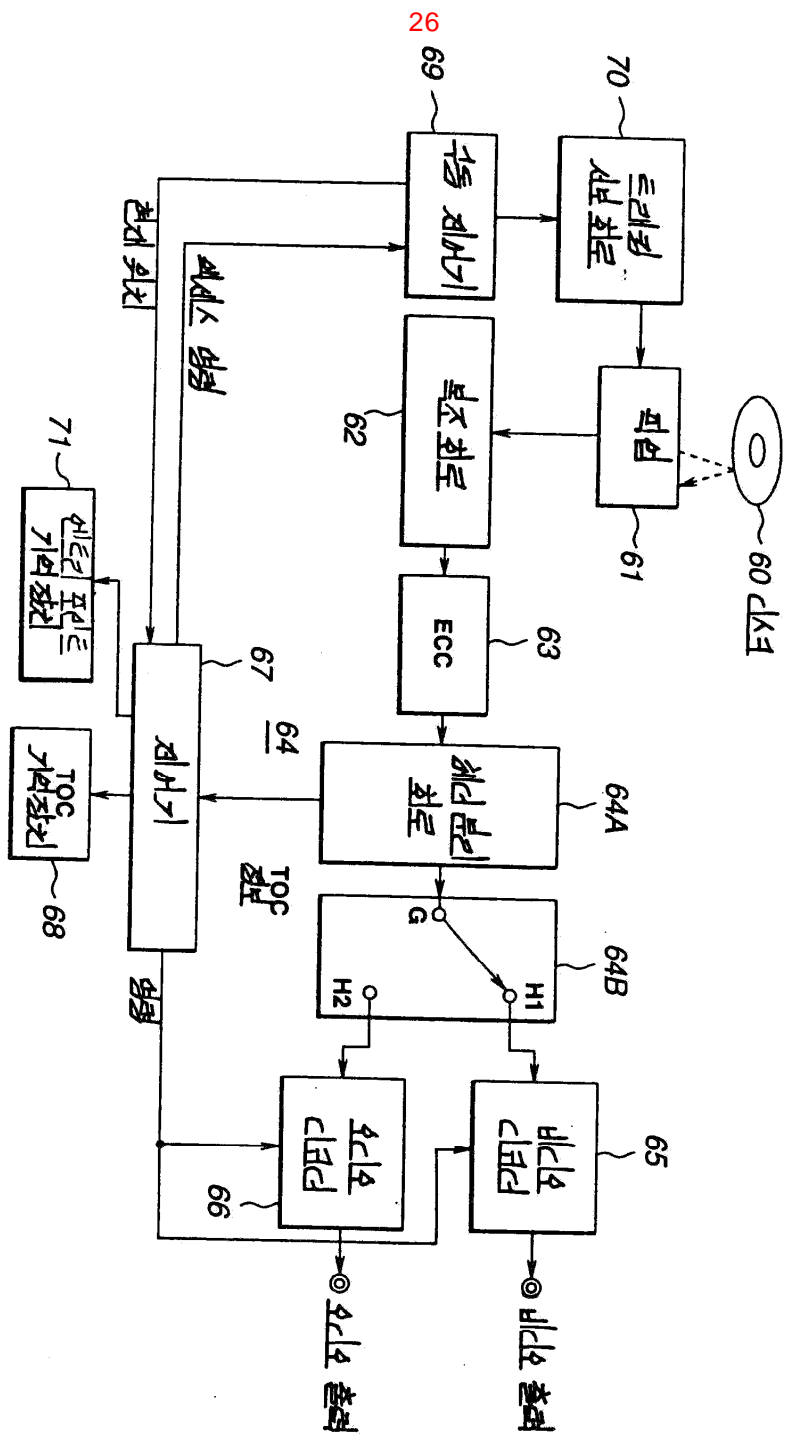
23



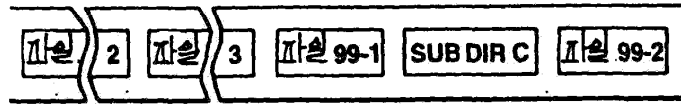
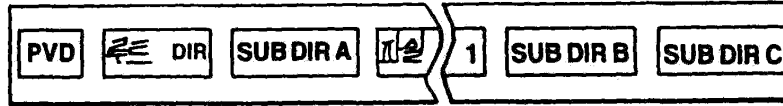


24





28



29

