

GD

GD/J

Technical specification for emergency broadcasting of digital terrestrial television

.....	11
1	1
2	1
3	1
3.1	1
3.2	2
3.3	3
4	3
5	4
5.1	4
5.2	4
6	4
6.1	5
6.2	5
6.3	9
7	12
8	14
8.1	14
8.2	16
9	20
9.1	20
9.2	20
9.3	20
9.4	20
10	20
10.1	20
10.2	21
10.3	21
A	22
B CRC_32	24
C	25
.....	27

GB/T 1.1 2009

m

m

mm

m

m m

m

m

m

m

PID

m

PID

bslbf	bit string, left bit first
ES	Elementary Stream
PCR	Program Clock Reference
PID	Packet Identifier
rpchof	remainder polynomial coefficients, highest order
first	
ui nsbf	unsigned integer most significant bit first

<
=

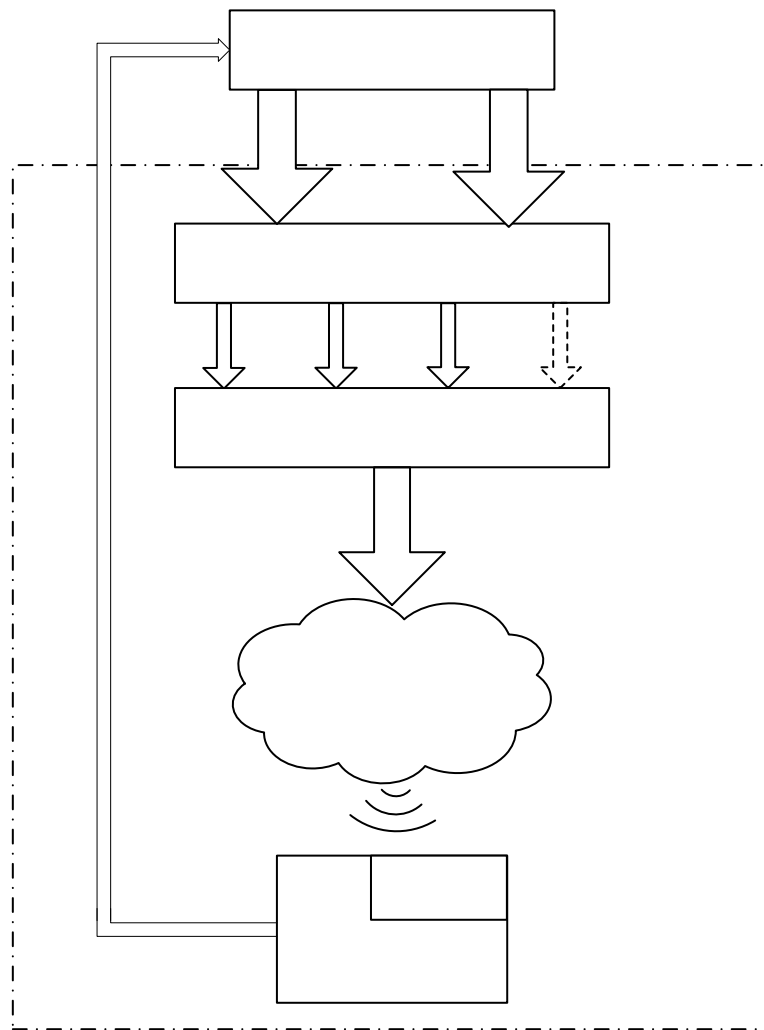
++ 1

=

reserved 1

1

GD/J 079 2018 GD/J 083 2018



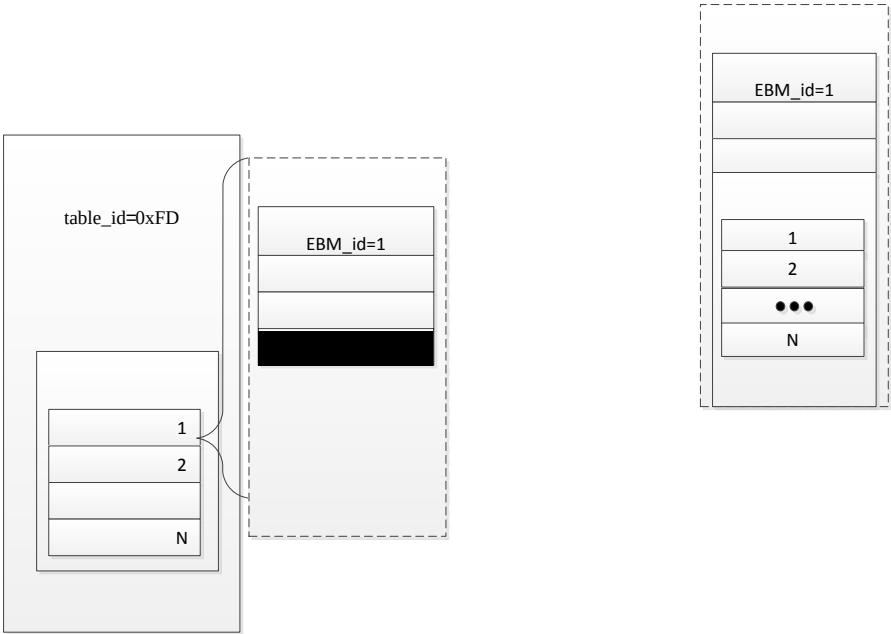
FD

6.2

6.3

GDJ

081 2018



PID 0x21

EB_index_section { table_id section_syntax_index_cat_or 1 reserved section_length table_id_extension reserved version_number current_next_index_cat_or	8 1 1 2 12 16 2 5 1	ui nsbf bsl bf bsl bf bsl bf ui nsbf ui nsbf bsl bf ui nsbf bsl bf

sect i on_number	8	ui nsbf
l ast_sect i on_number	8	ui nsbf
EBM_number	8	ui nsbf
for (i =0; i <EBM_number; i++){		
EBM_lengt h	16	ui nsbf
r eser ved	4	bsl bf
EBM_i d	140	ui nsbf
EBM_ori gi nal _net wor k_i d	16	ui nsbf
EBM_st art _t i ne	40	bsl bf
EBM_end_t i ne	40	ui nsbf
EBM_t ype	40	bsl bf
EBM_cl ass	4	bsl bf
EBM_l evel	4	ui nsbf
EB_ resour ce_number	8	ui nsbf
for (j =0; j <EB_ resour ce_number; j++){		
r eser ved	4	bsl bf
EB_ resour ce_code	92	bsl bf
}		
r eser ved	7	bsl bf
det ai l s_channel _i ndi cat e	1	bsl bf
if det ai l s_channel _i ndi cat e==1		
{		
det ai l s_channel _net wor k_i d	16	ui nsbf
det ai l s_channel _t ransport _st ream_i d	16	ui nsbf
det ai l s_channel _pr ogr am_number	16	ui nsbf
r eser ved	3	bsl bf
det ai l s_channel _PCR_Pi D	13	ui nsbf
r eser ved	4	bsl bf
det ai l s_channel _pr ogr am_i nf o_lengt h	12	ui nsbf
Descr pi t or 1()		
st ream_i nf o_lengt h	16	ui nsbf
for (j =0; j <n; j++){		
st ream_t ype	8	ui nsbf
r eser ved	3	bsl bf
el ement ary_Pi D	13	ui nsbf
r eser ved	4	bsl bf
ES_i nf o_lengt h	12	ui nsbf
for (k=0; k<p; k++){		

40 16 MID 24
 4 BCD 6 A
EBM_end_t i ne
 40 16 MID 24
 4 BCD 6 , A
 0xFFFFFFFF, 0xFFFFFFFF
EBM_t ype
 40
 GJ J 082 2018 A
EBM_cl ass
 4 2

0000	
0001	
0010	
0011	
0100	
0101 1111	

EBM_l evel
 4 3

0	
1	1
2	2
3	3
4	4
5 15	

EB_r esour ce_number
 8
EB_r esour ce_code
 92 BCD 4 1 23
 GJ J 080 2018

		det ai l s_channel _i ndi cat e							
1	0			1					
		det ai l s_channel _net wor k_i d							
16									
		det ai l s_channel _t ransport _st ream_i d							
16									
		det ai l s_channel _pr ogr am_number							
16									
	PCR	det ai l s_channel _PCR_Pi D							
13					PCR		Pi D		
					PCR		0x1FFF		Pi D
	GB/ T 17975. 1	2010	2. 4. 4. 1	PCR					
				det ai l s_channel _pr ogr am_i nf o_ l engt h					
12		00	10				1	2	
				0					
	descr i pt or								
1	descr i pt or								
	descr i pt or								
		GB/ T 28161	2011	6. 2. 10. 3					
	GB/ T 17975. 1	2010	2. 6				descr i pt or		
		descr i pt or							
	st ream_i nf o_ l engt h								
16									
0									
	st ream_t ype								
8						Pi D	Pi D el ement ary_Pi D		
		GB/ T 17975. 1	2010	37					
	5								
	Pi D el ement ary_Pi D								
13					Pi D				
ES	ES_i nf o_ l engt h								
12		00	10						
	si gnat ure_ l engt h								
16									
	si gnat ure_ dat a()								
	si gnat ure_ l engt h								
	GB/ J 081	2018	6. 3. 2						
	CRC_32	CRC_32							
32		CRC	B	CRC			CRC		

EB_content_section {		
table_id	8	ui nsbf
section_syntax_indicator	1	bsl bf
1	1	bsl bf
reserved	2	bsl bf
section_length	12	ui nsbf
table_id_extension	16	ui nsbf
reserved	2	bsl bf
version_number	5	ui nsbf
current_next_indicator	1	bsl bf
section_number	8	ui nsbf
last_section_number	8	ui nsbf
reserved	4	bsl bf
EBM_id	140	ui nsbf
reserved	4	bsl bf
multilingual_content_number	4	ui nsbf
for (i=0; i<multilingual_content_number; i++){		
multilingual_content_length	32	ui nsbf
language_code	24	bsl bf
reserved	5	bsl bf
code_character_set	3	bsl bf
message_text_length	16	ui nsbf
for (j=0; j<message_text_length; j++){		
message_text	8	ui nsbf
}		
agency_name_length	8	ui nsbf
for (j=0; j<agency_name_length; j++){		
agency_name	8	ui nsbf
}		
reserved	4	ui nsbf
auxiliary_data_number	4	
for j=0; j<auxiliary_data_number; j++ {		
auxiliary_data_type	8	bsl bf
auxiliary_data_length	24	ui nsbf
for (k=0; k<auxiliary_data_length; k++){		
auxiliary_data	8	ui nsbf
}		
}		
}		
}		

signature_length	16	unsigned
for (l=0; l<q; l++){		
signature_data()	8	unsigned
}		
CRC_32	32	rpchof
}		

```

table_id
8      0xFE
section_syntax_indicator
1      1
section_length
12
CRC_32
4093  0xFFFD
EBM_id
16
version_number
5
EBM_id
version_number
1      32
current_next_indicator
1      1
section_number
8
section_number  0x00
last_section_number
8
section_number
EBM_id
140
,
4      1
(23      )+      8      35
+
4      YYYYMMDD  YYYY  MM  DD
GB/T 15773-2018
multilingual_content_number
4
1  5
multilingual_content_length
32
language_code
24
GB/T 15773.1-1994  8
GB/T 4880.2-2000  3

```

11113zho0111 1010 0110 1000 0110

code_char act er _set

35

0	GB/ T 2312 1980
1	GB/ T 18030 2005
2	GB/ T 13000 2010
3	GB/ T 21669 2008
4	GB 16959 1997
5 7	

message_text _lengt h

16

message_text

8

coded_char act er _set

agency_name _lengt h

8

agency_name

8

coded_char act er _set

auxiliary_data_number

40 2

auxiliary_data_type

8

auxiliary_data _lengt h

32

auxiliary_data

signature _lengt h

16

signature_data()

table_id 0xFC

6

EB_CertAuth_section {		
table_id	8	ui nsbf
section_syntax_indicator	1	bsl bf
1	1	bsl bf
reserved	2	bsl bf
section_length	12	ui nsbf
table_id_extension	16	ui nsbf
reserved	2	bsl bf
version_number	5	ui nsbf
current_next_indicator	1	bsl bf
section_number	8	ui nsbf
last_section_number	8	ui nsbf
CertAuth_number	8	ui nsbf
for (i=0; i < CertAuth_number; i++){		
CertAuth_length	16	ui nsbf
CertAuth_data		ui nsbf
}		
cert_number	8	ui nsbf
for (j=0; j < cert_number; j++){		
cert_length	8	ui nsbf
cert_data		ui nsbf
}		
signature_length	16	ui nsbf
for (l=0; l < q; l++){		
signature_data()		
}		
CRC_32	32	rpchof
}		

table_id
8 0xFC
section_syntax_indicator
1 1
section_length
12
table_id_extension

CRC_32

4093 0x0FFD

16	version_number		
5	1	32	
	current_next_indicator		
1	1		0
	section_number		
8			section_number 0x00
		1	
	last_section_number		
8			section_number
	CertAuth_number		
8			
	CertAuth_length		
16			
	CertAuth_data		
	cert_number		
8			
	CertAuth_length		
8			
	Cert_data		
	signature_length		
16			
	signature_data()		

GB/T 18818-2018 6.2.2

table_id 0xFB

7

/
PID 0x0021

EB_configure_section {		
table_id	8	ui nsbf
section_syntax_indicator	1	bsl bf
1	1	bsl bf
reserved	2	bsl bf
section_length	12	ui nsbf
table_id_extension	16	ui nsbf
reserved	2	bsl bf
version_number	5	ui nsbf
current_next_indicator	1	bsl bf
section_number	8	ui nsbf
last_section_number	8	ui nsbf
configure_cmd_number	8	ui nsbf
for (i=0; i < configure_cmd_number; i++){		
configure_cmd_tag	8	ui nsbf
configure_cmd_length	16	ui nsbf
for (j=0; j < configure_cmd_length; j++){		
configure_cmd_char	8	
}		
}		
signature_length	16	ui nsbf
for (l=0; l < q; l++){		
signature_data()		
}		
CRC_32	32	rpchbf
}		

```

      table_id
8      0xFB
      section_syntax_indicator
1      1
      section_length
12
CRC_32
4093 0x0FFD
      table_id_extension
16
      version_number
5
32
      current_next_indicator

```


configure_cmd_tag 0x02
configure_cmd_length 13+n
10

		bit		
1	terminal_address_length	8	uint 8	
2	terminal_address	n 8	uint 8	n=terminal_address_length
3	reserved	4	bsl bf	1
4	resource_code	92	bsl bf	BCD 4 1 23 GB/T 10000 2018

configure_cmd_tag 0x03
configure_cmd_length 10+n 12
11

		bit		
1	freq	32	uint 32	kHz
2	symbol rate	32	uint 32	(kBPS)
3	constellation_mapping	8	uint 8	0x00 0x01 QAM16 0x02 QAM8; 0x03 QAM64; 0x04 QAM128; 0x05 QAM256; 0x06 0xFF
4	terminal_number	8	uint 8	
5	reserved	4	bsl bf	1
6	resource_address	92	bsl bf	BCD 4 1 23 GB/T 10000 2018

configure_cmd_tag 0x04
configure_cmd_length
12

		bit		
1	reback_type	8	uint 8	1 11 2 IP 3 4 9
2	reback_address_length	8	uint 8	
3	reback_address	n 8	uint 8	reback_type=1 11 ASCII reback_type=2 4 IP +2 reback_type=3 ASCII www.chinaeb-lab.org 8080
4	terminal_number	8	uint 8	
5	reserved	4	bsl bf	1
6	resource_code	92	bsl bf	BCD 4 1 23 GJ 080 2018

configure_cmd_tag 0x05
configure_cmd_length 5+n 12
13

		bit		
1	reback_period	32	uint 32	1 =86400 86400
2	terminal_number	8	uint 8	

		bit		
3	reserved	4	bsl bf	1
4	resource_code	92	bsl bf	BCD 4 1 23 GB J 080 2018

configure_cmd_tag 0x06
configure_cmd_length 2+n 12
14

		bit		
1	volume	8	uint 8	0x00 0x01 0x64 1% 100%
2	terminal_number	8	uint 8	
3	reserved	4	bsl bf	1
4	resource_code	92	bsl bf	BCD 4 1 23 GB J 080 2018

configure_cmd_tag 0x07
configure_cmd_length
15

		bit		
1	parameter_number	8	uint 8	
2	parameter_tag	n 8	uint 8	GB J 089 2018 D 8

		bi t		
3	t er m i n a l _ n u m b e r	8	u i n t 8	
4	r e s e r v e d	4	b s l b f	1
5	r e s o u r c e _ c o d e	92	b s l b f	BCD 4 1 23 GB/T 17975.1 2010

C

6

GB/T 17975.1 2010

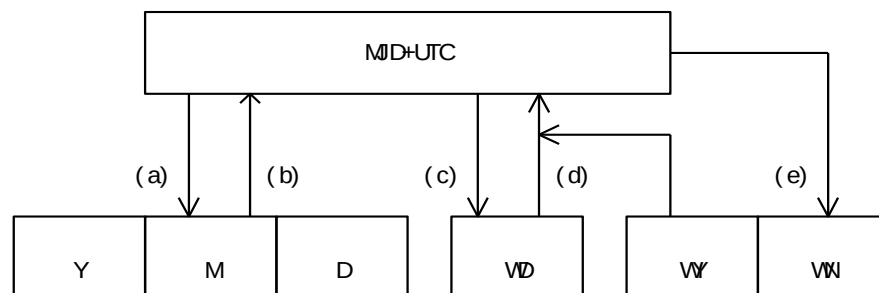
500

PID 0x21

C

GB/T 2312 1980

A 1



MJD
UTC
Y 1900 2003 Y=103
M 1 12
D 1 31
WY 1900
VW ISO 8601
VD 7
K L M W Y

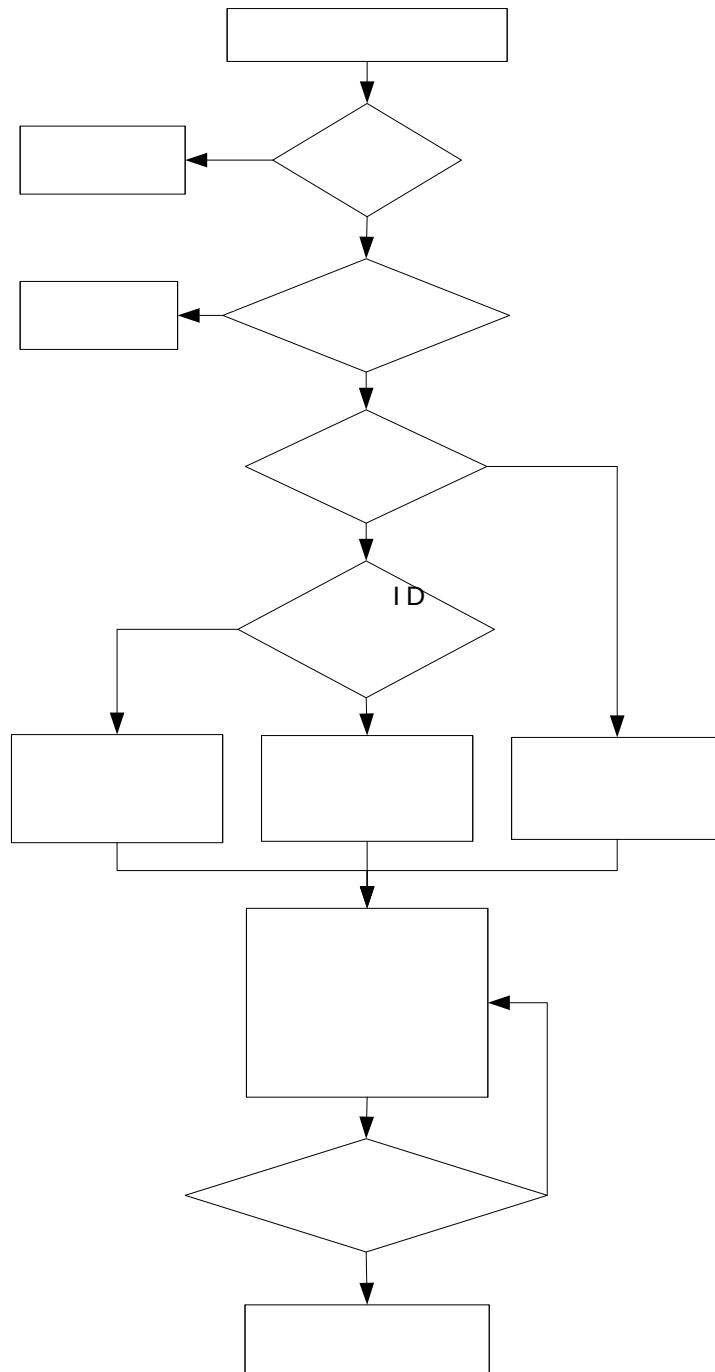
int
Mod 7 7 7 0 6
a MJD Y M D A 1 A 5
Y = int [MJD-15078.2 / 365.25] (A 1)
M = int {[MJD-14956.1-int Y 365.25] / 30.6001} (A 2)
D = MJD-14956-int Y 365.25 -int M 30.6001 (A 3)

M = 14 M = 15 K = 1 K = 0
Y = Y+K (A 4)
M = M-1-K 12 (A 5)
b Y M D MJD A 6
M = 1 M = 2 L = 1 L = 0

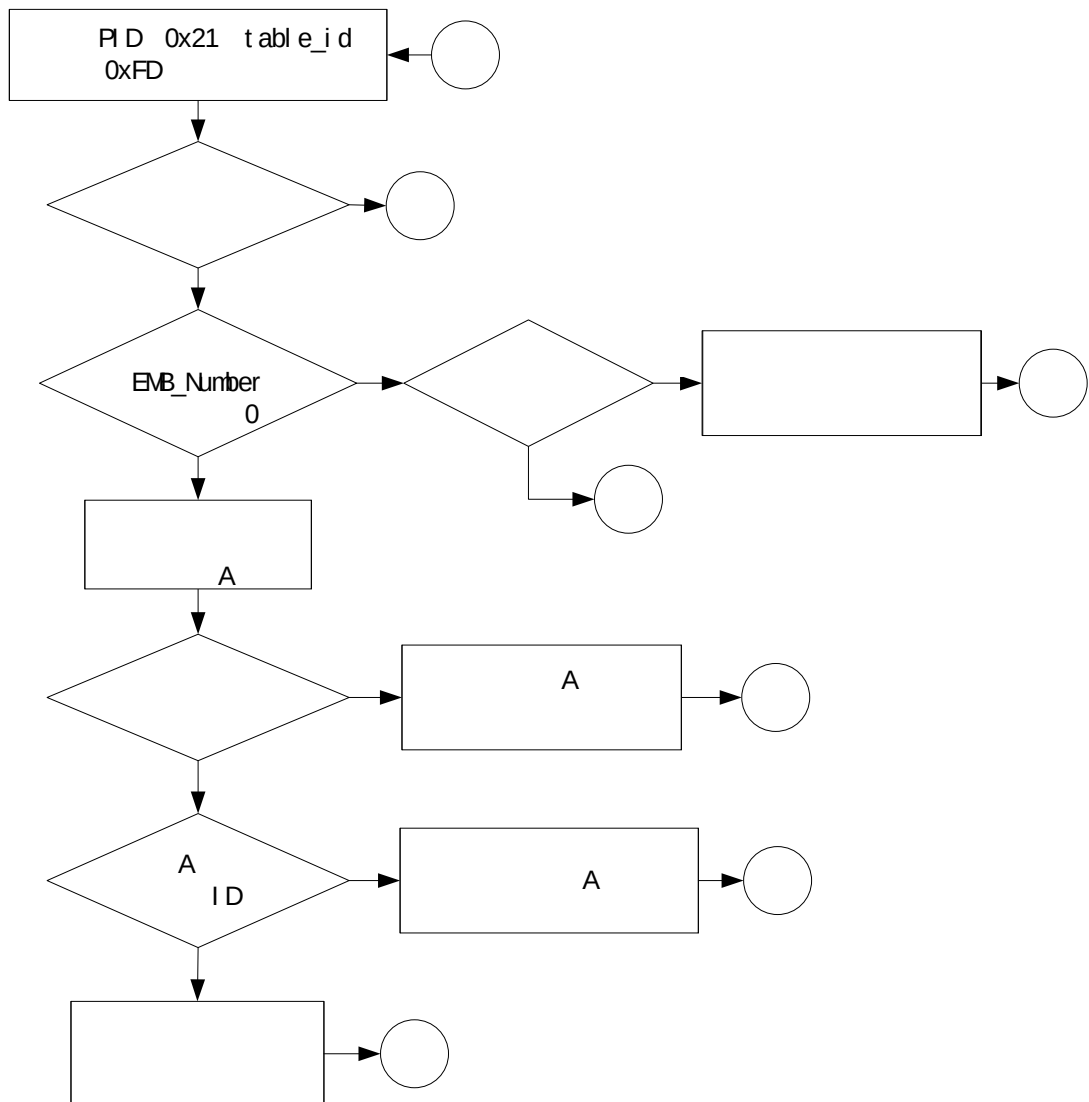
$$\begin{aligned}
 & MD = 14956 + D \cdot \text{int} \left[\frac{Y-L}{365.25} \right] + \text{int} \left[\frac{M - \frac{12}{367} \left(\frac{367}{5} \left(\frac{M+1}{2} \right) + 1 \right)}{1} \right] \dots (A 6) \\
 \text{c} \quad & MD \quad VD \quad A 7 \\
 & VD = [MD+2 \text{ Mod } 7] + 1 \dots (A 7) \\
 \text{d} \quad & WY \quad VW \quad VD \quad MD \quad A 8 \\
 & MD = 15012 + VD + 7 \cdot \left\{ \text{int} \left[\frac{WY}{1461/28} + 0.41 \right] \right\} \dots (A 8) \\
 \text{e} \quad & MD \quad WY \quad VW \quad A 9 \quad (A 11) \\
 & W = \text{int} \left[\frac{MD}{7} - 2144.64 \right] \dots (A 9) \\
 & WY = \text{int} \left[\frac{W}{28/1461} - 0.0079 \right] \dots
 \end{aligned}$$



C 1



C 2



[1]

[2]
