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(11)  
(24)

2001 07 12  
10 - 0290999  
2001 03 07

(21) 10 - 1997 - 0024032  
(22) 1997 06 11

(65) 1999 - 0000900  
(43) 1999 01 15

(73)

3 416

(72)

2 119 1404

(74)

:

(54) 가 가

가,

가

가

가

4

1  
 2 1  
 3 0 - -  
 4  
 5 4 /  
 6 4 5  
 7 4 5 /  
 8 4  
 9 4 가  
 10

가 가

(Asynchronous Transfer Mode: ATM )

, ATM . ATM  
 ATM , ATM  
 , 가 ATM 가 .  
 ATM

(Public Switched Telephone Network: PSTN ) 가  
 PSTN ATM . PSTN  
 ATM ( )

1 NTT(Nippon Telephone & Telegraph) (Multimedia Handling Node: MHN ) .[H. Ohnishi, S. Suzuki, H. Nakaya, H. Tanaka, T. Takahashi, and H. Ishikawa, " All Band Switching Node Architecture for Flexible and Cost - Effective Evolution Toward B - ISDN" ISS`95 B1.2]

MHN ATM , 1

STM(Synchronous Transfer Mode) ATM B - ISDN  
 (Broad band Integrated Service Digital Network) (business) 가 가 ,  
 STM ATM STM ATM  
 , MHN MHN (flatfo  
 rm) STM ATM , STM , ATM STM/ATM 가

MHN 2 CLAD(Cell Assembly Disassembly)  
 (Subscriber Module) , ASM ATM/STM (ATM/STM handling module) , SBM 가  
 (Distribution Module) , SIM (System Interface Module) , DSM

MHN

MHN STM ATM  
 MHN STM ATM

MHN STM ATM / (CLAD: Cell Assemb  
 ly Disassembly) MHN STM ATM , STM ATM (traffic)  
 / 가 , STM ATM

MHN 2 STM/ATM  
 / , ATM/STM

MHN MHN  
 SO(64Kb/s) ) ATM 가 125 μ sec ( D  
 6ms(5.875ms) ,  
 cancellor)가 (echo c

DSO MHN MHN  
 가 ,

AT& T Ron Spanke T - C - T(Time Cell Time switch) 가 3  
 .[R. Spanke and J. Adrian, " ATM Composite Cell Switching for DS0 Digital Switches" , ISS `9  
 5 P. b3]

3 CCA (Composite Cell Assembly node) , DS0 (Digital Sig  
 nal level 0 (64Kbps)) 3 PSTN ATM  
 T - C - T 3 T - C - T

STM ATM

STM ATM , STM ATM

가

1

가

가

가

I Network)

ATM

ATM

ATM

PSTN 가  
ATM

가 ,

PSTN N - ISDN(Narrowband - Integrated Services Digita

, PSTN 가 가

가

PSTN

ATM

DS0

(2.0248Mbps sub - highways)

ATM

,  
ATM

ATM

PSTN

4

4 , ATM 50 ,  
 PSTN 가 10, PSTN 20, ATM 가 30 ATM ,  
 40 , PSTN 가 60, PSTN 70, ATM 가 80 A  
 TM 90 PSTN 가 10 PSTN 가 60, PSTN  
 20 PSTN 70, ATM 가 30 ATM 가 80, ATM  
 40 ATM 90 가 ,  
 PSTN 10 20 PSTN 60 70  
 /

PSTN 가 ( PSTN Subscriber Interface Module: PSIM )11 PSTN 가  
 , PSTN 가 PSTN 가 10 . P  
 STN (PSTN Trunk Interface Module: PTIM )21 PSTN (trunk line)  
 , PSTN PSTN 20

(time switch module)15, 25 PSTN 11 21  
 , 65 75 PSTN 가 61 PSTN  
 71 15, 25, 65 75  
 (speech memory) 12, 22, 62, 72 , 100 T  
 SI (Time Slot Interchange controller)110 (control address)  
 12, 22, 62 72 (control memory)13, 23, 63 73  
 . 15, 25, 65 75  
 15, 25, 65 75 12, 22, 62 72  
 (sequential write), 13, 23, 63 73  
 (random read).

PSTN 10 / (Cell Assembly Disassembly: CLAD )14 24  
 15 25 ATM , ATM ATM  
 14 24 15 25 50 PSTN 10 20 CLAD  
 ATM (routing tag) 32 (header) 가  
 , 60 70 CLAD64 74 ATM 50 ATM PSTN  
 CLAD14 24 65 75

ATM 가 (ATM Subscriber Interface Module: ASIM )30 ATM UNI AT  
 M 가 ATM . ATM (ATM Trunk Interface Module: ATIM  
 )40 ATM NNI ATM ATM ATM 30 40  
 ATM CLAD ATM 50  
 ATM 50 ATM 50 PSTN 10 20  
 CLAD14 24 ATM 30 40 , ATM PSTN 60 7  
 0 ATM 80 90 .

4 ATM 50 CLAD64 74 , ATM 80 90 CLAD1  
 24 ATM 30 40 가 ,  
 15 25 PSTN 11 21 PSTN 61 71  
 가 ,

90 100 15, 25, 65 75 CLAD14, 24, 64 74 , ATM 30, 40, 80  
 ATM ATM  
 controller)120 100 TSI 110 (call

4 , PSTN 가 10 PSTN 가 ATM  
 TN 가 ATM 50 , ATM 50 PSTN 가 10 ATM PS  
 60, PSTN 70, ATM 가 80 ATM 90  
 M 50 , ATM 20 PSTN ATM AT  
 60, PSTN 70, ATM 가 80 ATM 90 PSTN 가

ATM 가 30 ATM 가 ATM ATM 50  
 , ATM 50 ATM 가 30 ATM PSTN 가 60, PSTN  
 70, ATM 가 80 ATM 90 ATM  
 30 ATM ATM ATM 50 , ATM 50  
 ATM ATM 40 ATM PSTN 가 60, PSTN 70, ATM 가  
 80 ATM 90

가 가 , (source)가 PSTN 가 (destination)가 PSTN

PSTN 가 PSTN 가 11 15 CLAD14  
 가 , CLAD15 ATM 50 ATM 50 ,  
 CLAD64 ATM 50 ATM 65 PSTN 가

5 4 15( 25, 65, 75) CLAD14( 24, 64, 74)

5 , 15 DSO 65  
 15 13 , 13  
 highway stream) CLAD14 ATM , 15 - (sub -  
 50 5 ATM 15 - ATM

65

6 4 5 15( 25) 65( 75) , , 64K  
 15( 25) 65( 75) , , TS  
 bps PCM(Pulse Code Modulation) 가 100 15 DSO  
 I( ) 13 63 DSO 12 62가

15( 25, 65, 75) TSI

15

DSO(64Kbps)

32 DSO

2.048Mb/s

15

DSO

DSO

65

(sorting)

65

가

가

5

65 #1, #7, #8

65

가

( 5 m )

7 8

가

65

가

m

5

1

m

m

65

DSO

DSO

CLAD14

7

4

5

CLAD14( 24, 64, 74)

CLAD14

15

64Kbps

ATM

CLAD64

ATM

50

65

CLAD14

,DSO

(payload)

210 ,

LAD64

210

220

C

7

(Routing Control)210

a.b.c....

211

, 1,2,3,..

212

가 (a 1, b 2, c 3, ...) . 100 , 가  
 211 212 . b  
 210 220 .  
 8 7 210 .  
 8 , 15 DSO , C  
 LAD14 DSO ATM  
 (mapping) 6  
 , 65 , 가 5가  
 , 4 5 ,  
 64Kbps n 65 가 , n ATM , n-1 가  
 50 210 가 100 가 211 ATM  
 212 가 가 6 가  
 50 가 가 .  
 , CLAD64 8  
 (Trailer attacher)313 4 - 7  
 ATM  
 31 , <  
 1> .

[ 1 ]

(5 )				
(47 )				

< 1> (call type) - , - .  
 7 220 .  
 220 210 . < 1  
 > DSO  
 가 , ( + + ) \* 8



가 . 220 ATM 50 . A  
TM 50 ATM

9 4 - 8 가

9 , DSO CLAD  
ATM CLAD 9

9 15 ( ) 65  
CLAD14 가 ATM , AT  
M 50 CLAD64 65  
TSI PSTN (가 / )100 65  
Interchange) TSI (Time Slot  
ATM 50 ATM 9

ATM 9

9

PSTN, ATM

PSTN PSTN 가 가 PSTN PSTN (PSTN to  
local call)가 , ~ (PSTN to trunk call (incoming, outgoing, transit call))

PSTN ATM 가 가 PSTN ATM PSTN ATM 가  
(PSTN to ATM local call)가 , ~ PSTN ATM  
(PSTN to ATM trunk call (incoming, outgoing, transit call))가 , ATM  
PSTN 가 (ATM to PSTN local call)가 , ~ ATM  
PSTN (ATM to PSTN trunk call (incoming, outgoing, transit call))가

ATM ATM 가 가 ATM ATM ATM (A  
TM to local call)가 , ~ ATM (ATM to ATM trunk call (incoming, outgoing  
, transit call))가

(echo)가

2가 (CLAD)가 , STM ATM (STM, ATM)가 가 , STM ATM ( ) TSI

(57)

1.

가 가 ,

가 ,

가 가 .

2.

1 , 가,

가,

,

3.

1      2      ,      ,

4.

,

,

,

,

,

,

5.

4      ,      ,

,

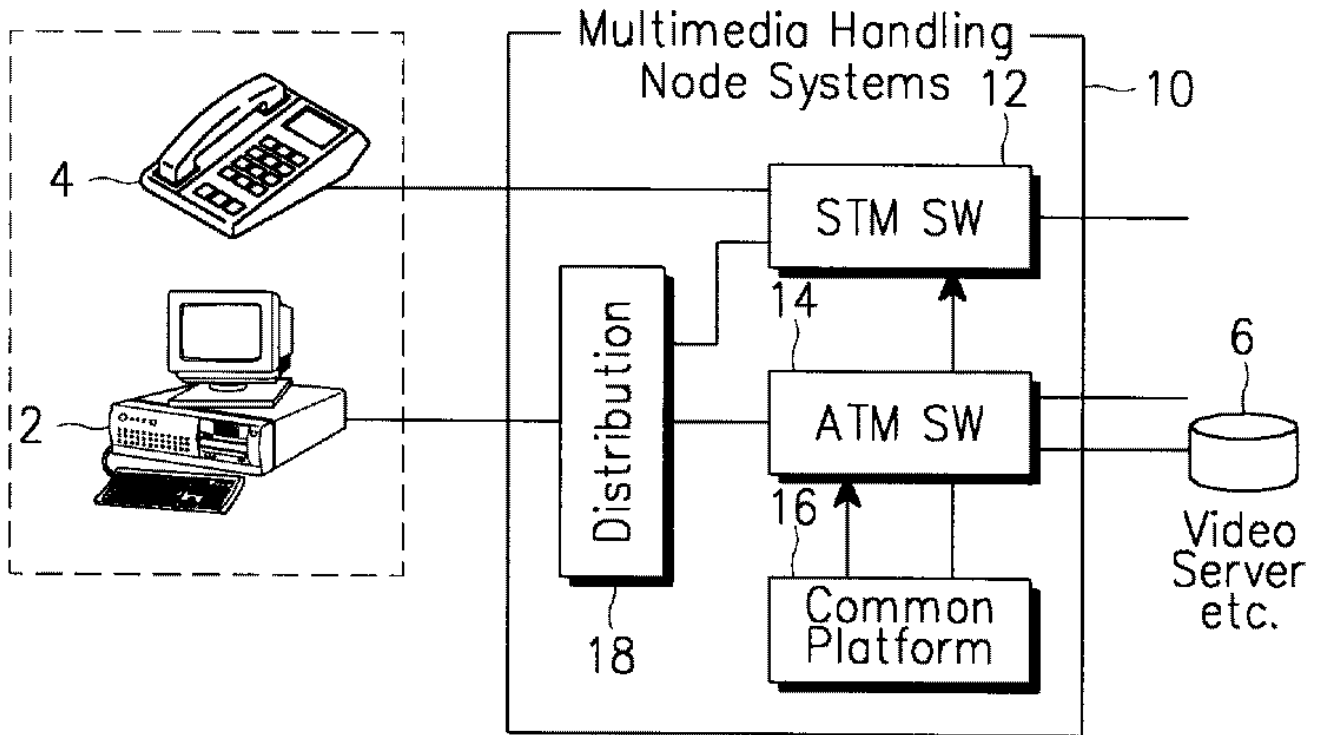
,

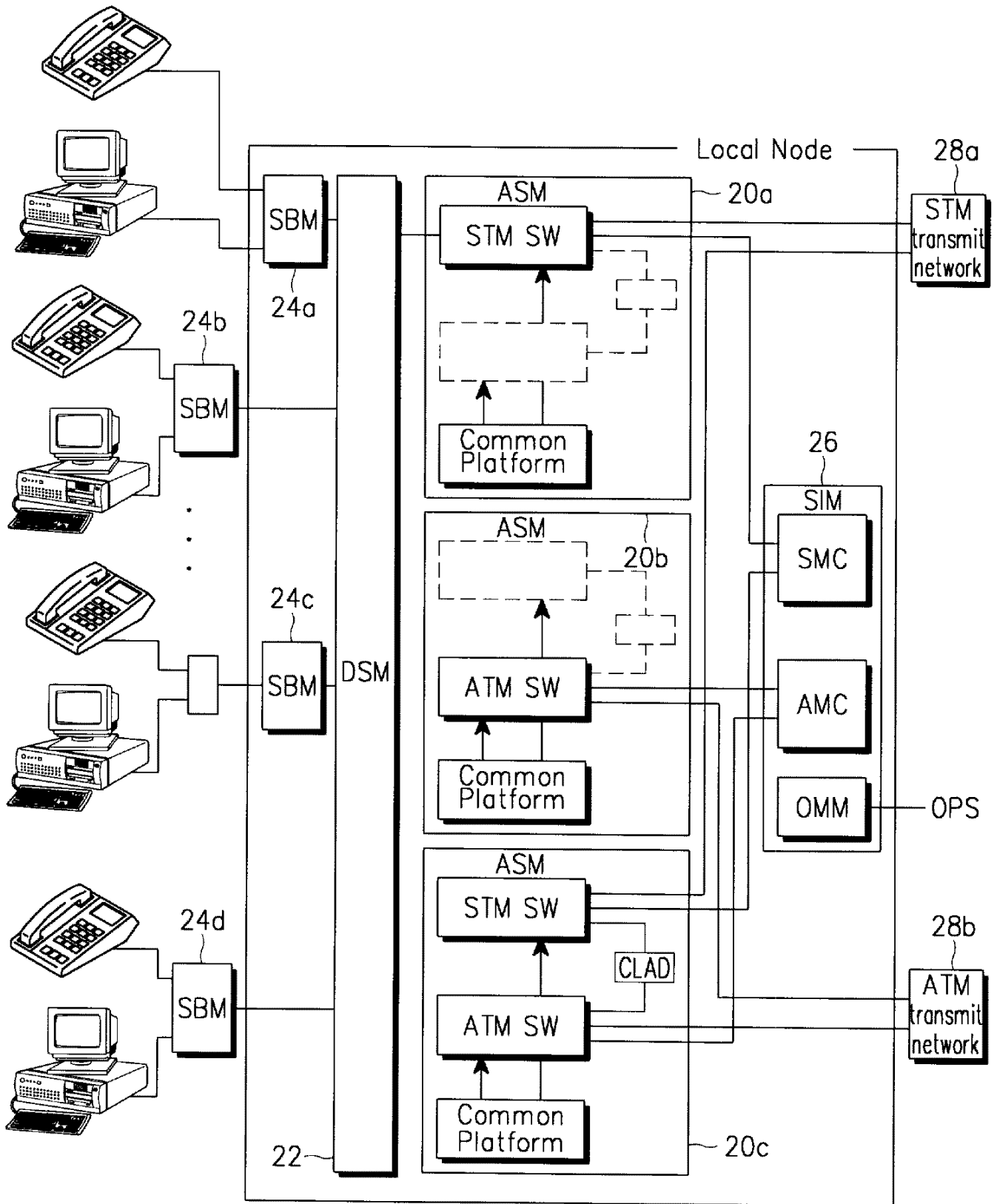
6.

5      ,      ,

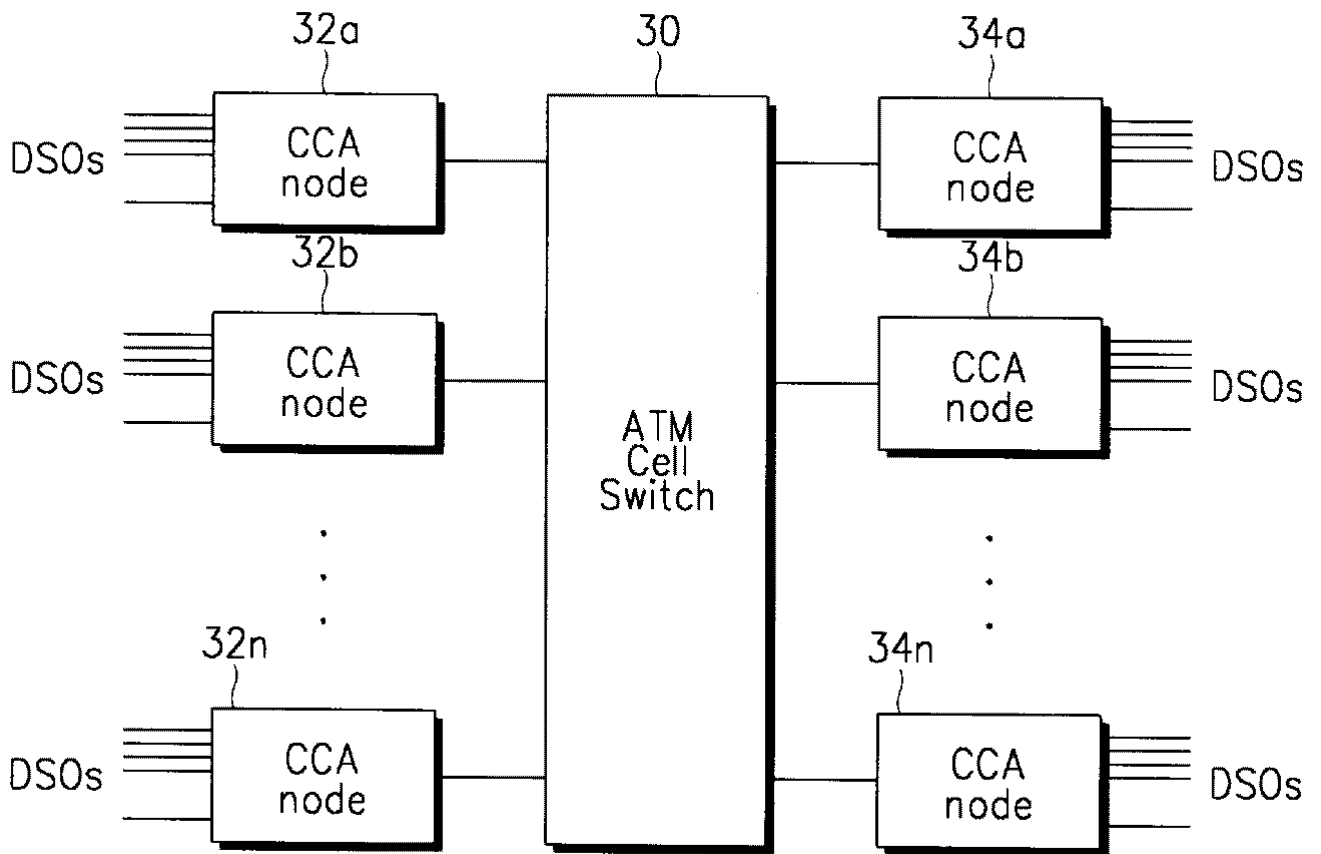
,

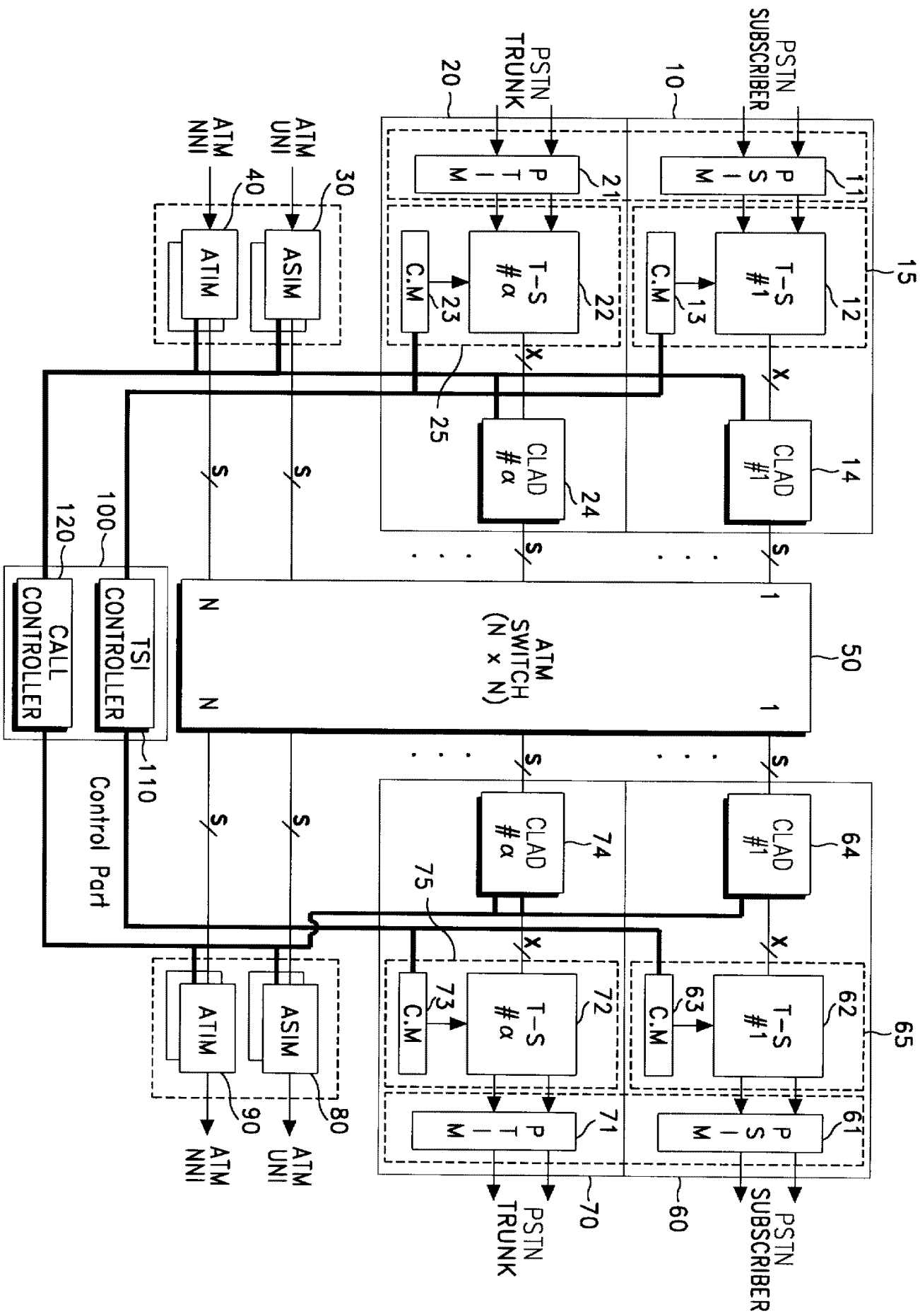
1



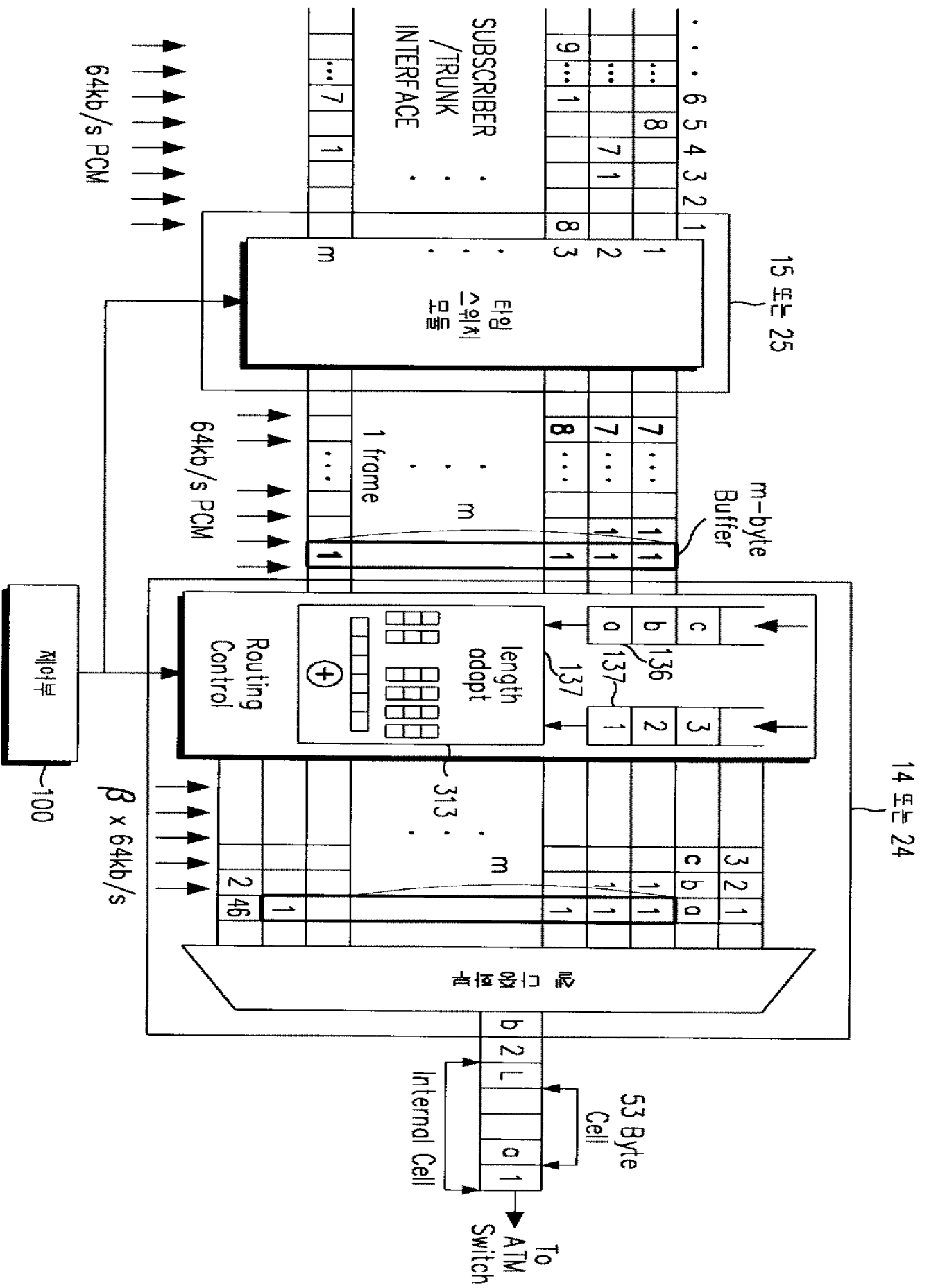


3

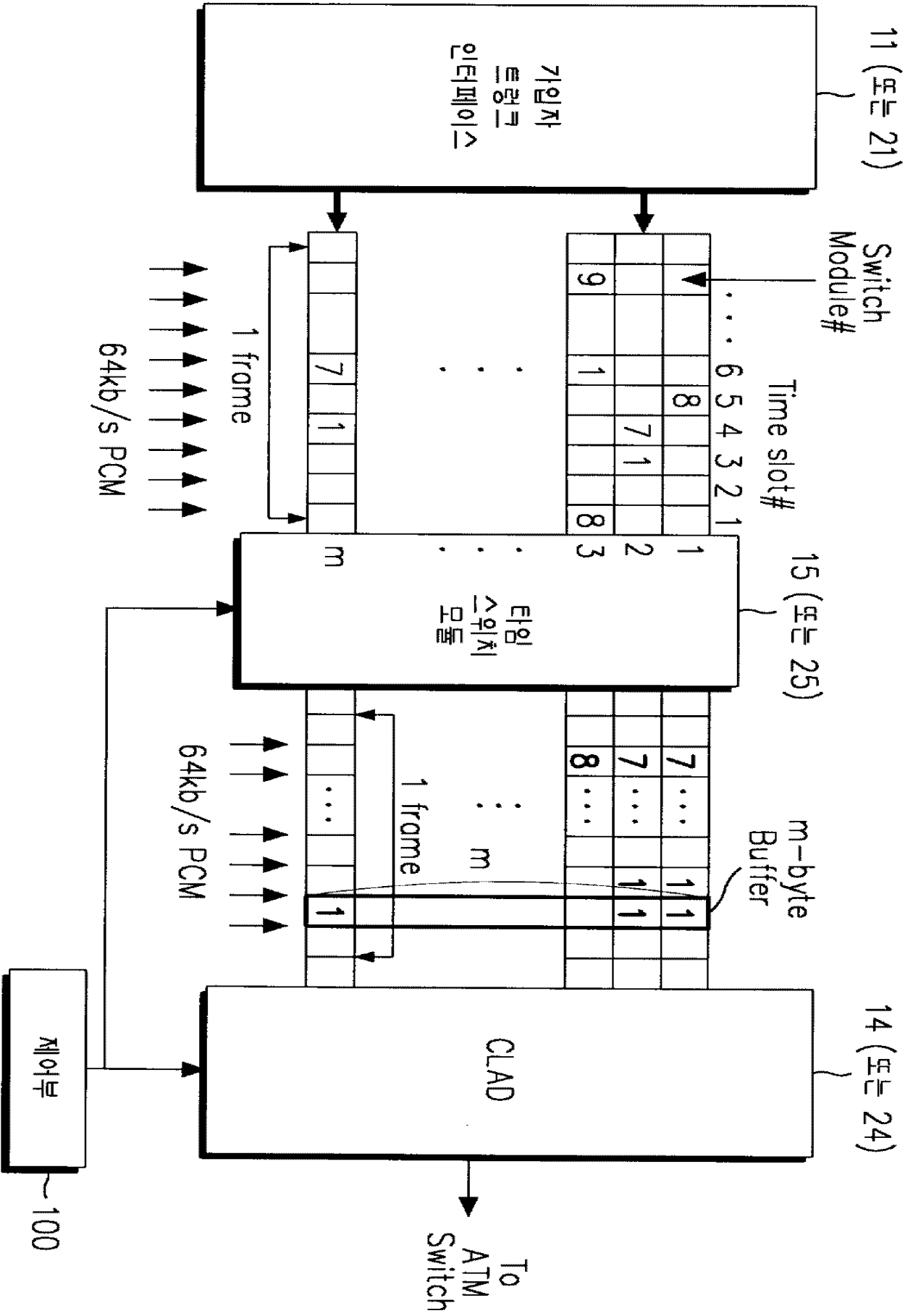


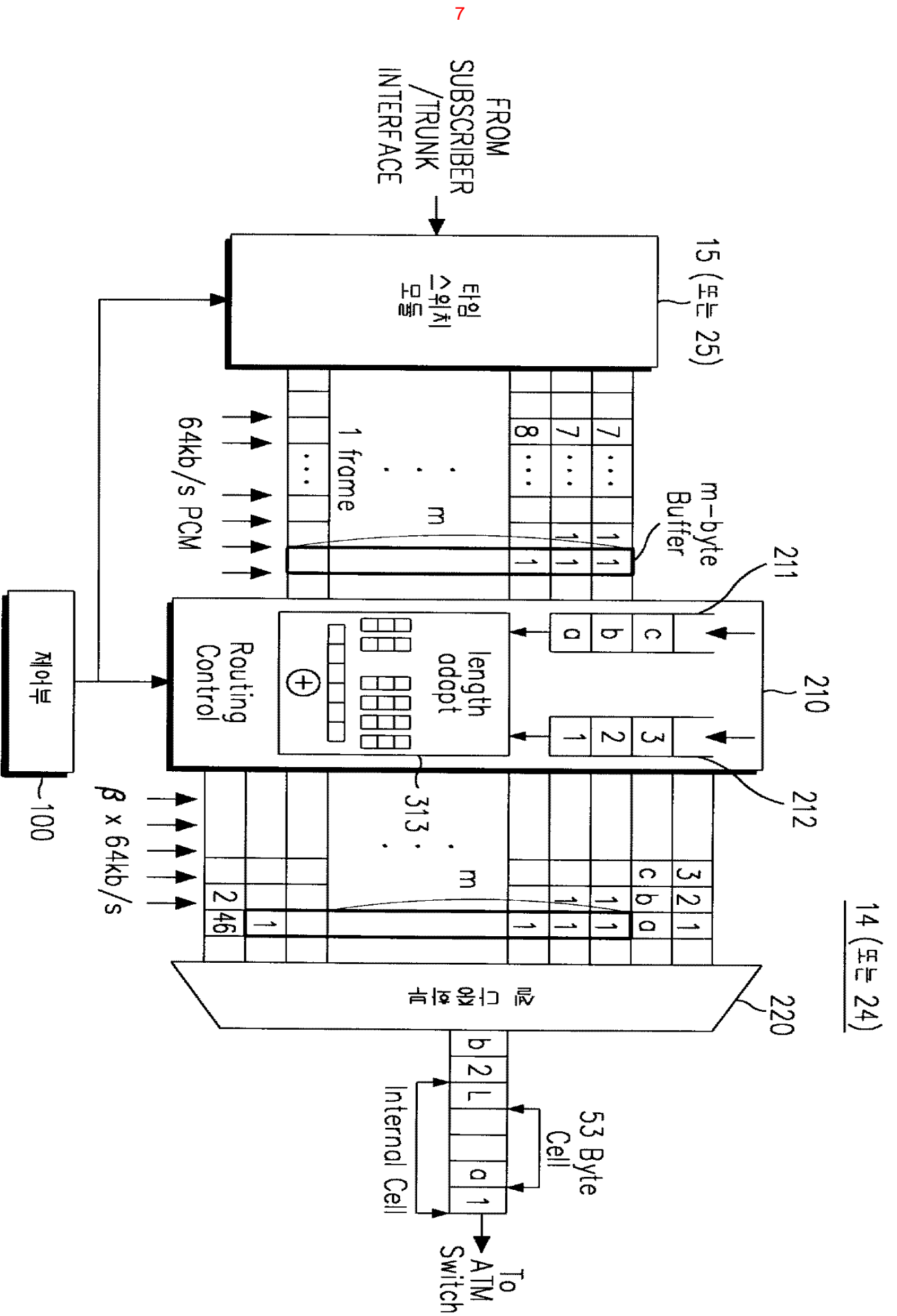


5

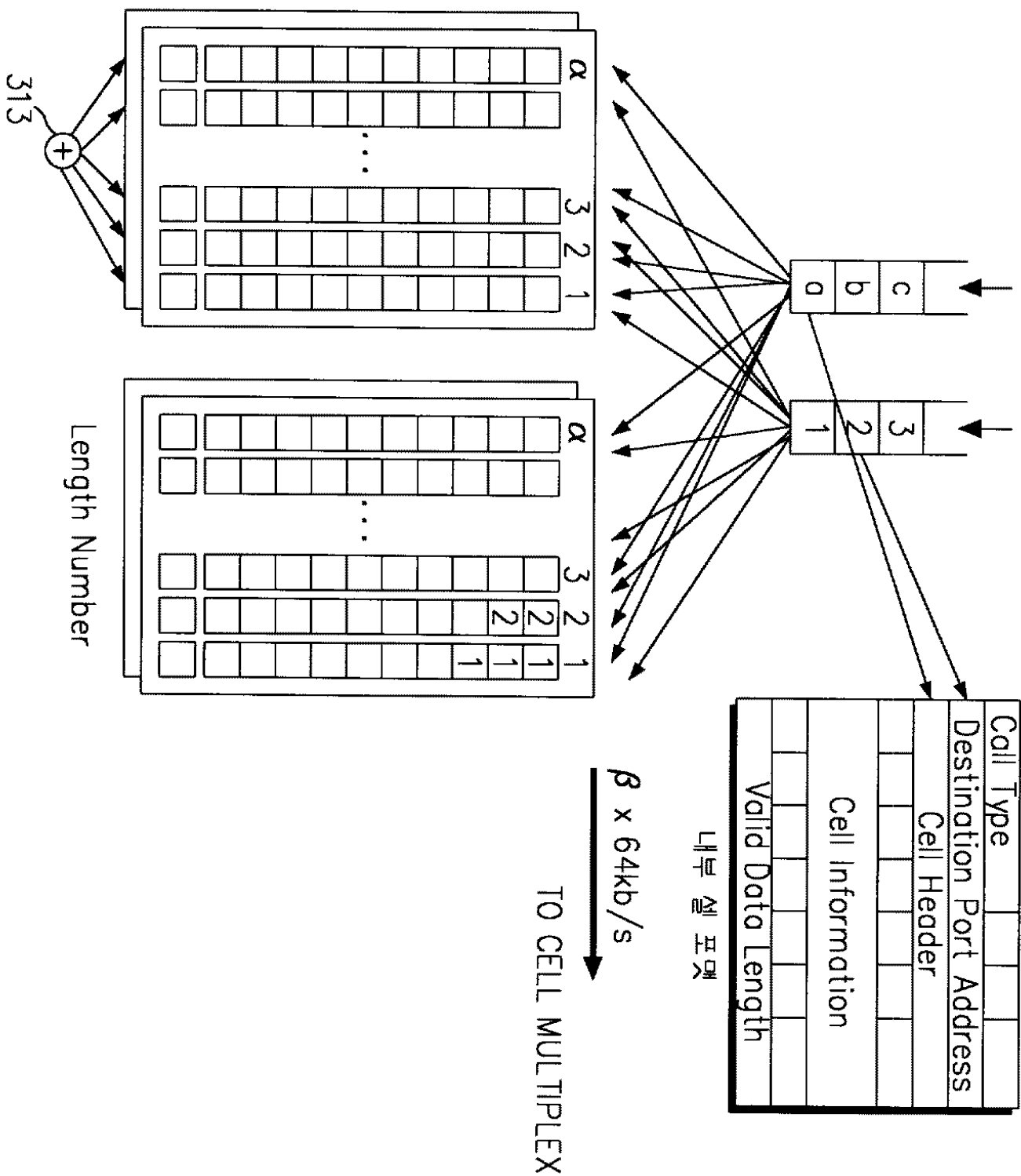




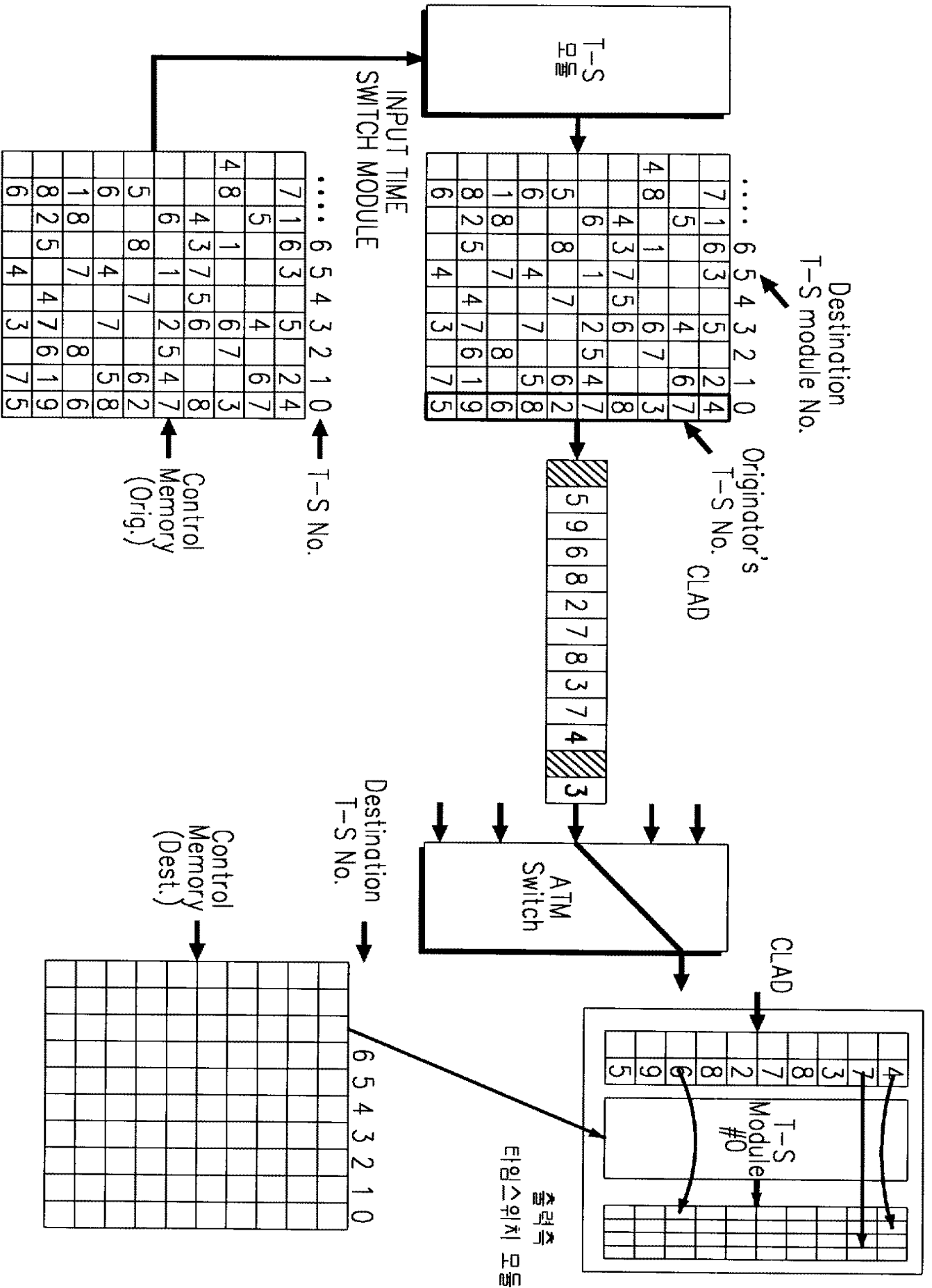




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6



10

