

2

, , TOD, LAN

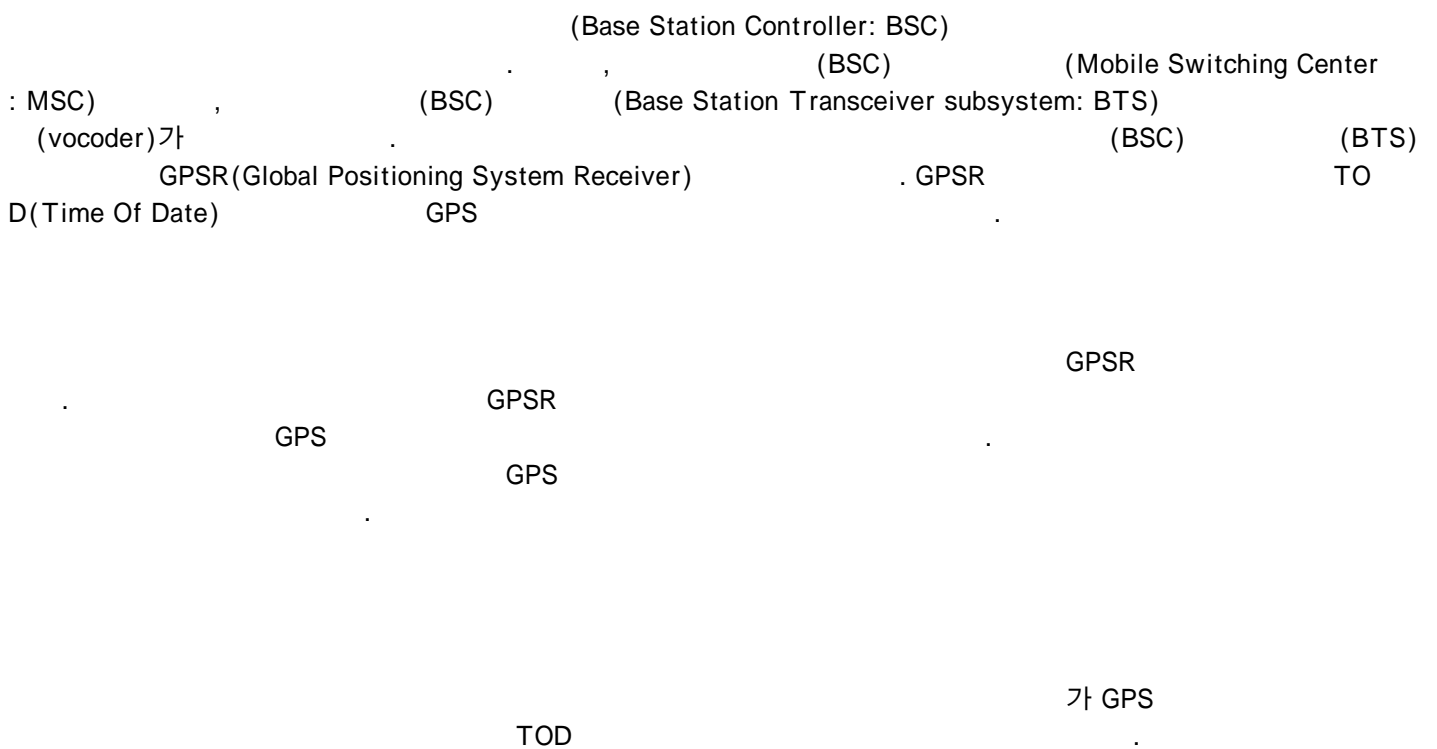
1

2

3 pBSC IP - pBTS

4 cBTS cBTS

5



TOD

가

가

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(14) 가

(12)

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(14)

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(area)

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(14)

가

(14)

(14)

(private BTS: 8 - k)

(BTS)

, 1

BTS (6 - 1,,,6 - k, 8 - 1)

/

(14)

(8 - k)

(8 - k) " pBTS(private BTS)

. pBTS(8 - k)

/

(14)

MS(24)

(1

2)

BSC

,

BSC(4 - m)

.

/

(12)

BSC(4 - m), PSTN/ISDN(16), IP (Internet Protocol Network)(18)

(12)

가

(14) MS

, 1 MS(24)

MS(24)가

/

(12)

MS(

24)

MS(24)

/

(12)

MS(24)

/

(12) PSTN/ISDN(16) IP (18)

PLMN(Public Land Mobile Network)

1 (MSC: Mobile Switching Center) (2 - 1,...,2 - n),
 (BSC: Base Station Controller) (4 - 1,...,4 - m), (BTS: Base station Transceiver Subsystem) (6 - 1,...,6 - k, 8 - 1,...,8 - k), (MS: Mobile Station) (20,22), HLR/VLR(Home Location Register / Visitor Location Register) (10)
 BSC (4 - 1,...,4 - m) BSC (4 - 1,...,4 - m) BTS (6 - 1,...,6 - k, 8 - 1,...,8 - k) pBTS(8 - k) BSC(4 - m)
 BTS (8 - 1,...,8 - k) MSC (2 - 1,...,2 - n)
 BSC (4 - 1,...,4 - m) PSTN/ISDN(Public Switch Telephone Network / Integrated Services Digital Network) MSC BSC (4 - 1,...,4 - m)
 BTS (6 - 1,...,6 - k, 8 - 1,...,8 - k)
 MS(20,22,24)
 HLR/VLR(10) HLR 가 가
 VLR MSC (2 - 1,...,2 - n) MSC가 MS
 MS가 MSC가 VLR
 (6 - 1,...,6 - k, 8 - 1,...,8 - k) (14) BTS
 BTS (6 - 1,...,6 - k, 8 - 1,...,8 - k) BTS(8 - 1) (15)
 (14) /

1 / (12) pBTS(8 - k) (30) E1 가 , pBTS 가 E1 가

LAN E1 LAN

2 , IP - BTS(Internet Protocol - Base Transceiver Subsystem) (44 - 1,...,44 - 5) cBTS(collective Base Transceiver Subsystem) (46 - 1,...,46 - 5) IP - pBTS (Internet Protocol - private Base Transceiver Subsystem) (48 - 1,...,48 - 6) LAN (64)

2 , IP - PBX(Internet Protocol - Private Branched eXchange) (32) VoIP(Voice over Internet Protocol) IP - PBX(32) PSTN/ISDN(16) 가 (34)
 (36) IP - PBX(32) VoIP VoIP
 pBSC(38) () pBSC(38) P - PBX(32) IP - PBX(32) pBSC(38) E1
 , VoIP LAN(Local Area Network) 가

pBSC(38) IP - BTS (44 - 1,...,44 - 5)
 / (14) MS IP - PBX(32)
 BSC(4 - m) (by - pass) pBSC(38) (50), ATM
 pBSC (52), BSC IP - BTS (54), IP - PBX (56) 4

(50) GPSR MCDA(Master Clock Distribution board Assembly)
 TOD(Time Of Date) GPS

TOD (50) IP - BTS (44 - 1,...,44 - 5)
 가 LAN (64) 가
 8KHz 8KHz (Even Second) Even_Sec가

ATM pBSC (52) ATM , ATM A
 TM 가
 pBSC(38) (call manager)(40)
 PLMN(1 BSC 4 - m) (40) BSC IP - BTS (54)
 PCM(Pulse Code Modulation) E1 IP - PBX (56) MS
 ATM IP - PBX(32) . pBSC(38)
 ATM

IP (42) IP (18) (40) pBSC
 pBSC(38) IP - BTS(44 - 1,...,44 - 5) GUI(Graphic
 User Interface) pBSC(38) pB
 SC pBSC(38) IP - BTS(44 - 1,...,44 - 5) pBSC(38) IP - BTS(44 - 1,...,44 -
 5)

IP - BTS (44 - 1,...,44 - 5) RF(Radio Frequency) /
 (1 34) MS IP - BTS (44 - 1,...,44 - 5) pBSC(3
 8) BSC IP - BTS (54) RF
 , MS RF pBSC(38) . IP - BTS
 (44 - 1,...,44 - 5) , IP - BTS (44 - 1,...,44 - 5) cBTS 1 6
 IP - pBTS , pBSC(38) IP - BTS (44 - 1,...,44 - 5) cBTS 1 6 IP -
 pBTS BTS

IP - BTS (44 - 1,...,44 - 5) IP - BTS(44 - 1) , IP - BTS(44 - 1) cBTS(46 - 1) 6 IP
 - pBTS (48 - 1,...,48 - 6) . pBSC(52) cBTS(46 - 1) BSC BTS ,
 ATM - E1 (62) , cBTS(46 - 1) cBTS(46 - 1) 6 IP - pBTS (48 - 1,...,48 -
 6) LAN (64) . cBTS(46 - 1) 6 IP - pBTS (48 - 1,...,48 - 6) 가 LAN
 (64) cBTS(46 - 1) 6 IP - pBTS (48 - 1,...,48 - 6) TCP(Transmission Control P
 rotocol) UDP(User Datagram Protocol) . LAN (64)
 , LAN (64) IP - pBTS 가

IP - pBTS LAN (64) IP - BTS(44 - 1)
 cBTS(46 - 1) , IP - pBTS (48 - 1,...,48 - 6) pBSC(38) IP - pBTS (48 - 1,...,48 - 6)
 (base station controller) , pBSC(38) (base station) . cB
 TS(46 - 1) pBSC(38) IP - BTS (44 - 1) 6 IP - pBTS (48 - 1,...,48 - 6)
 BTS . cBTS(46 - 1)

- , , , ,
- IP - pBTS (48 - 1,...,48 - 6) pBSC(38)
- IP - to - ATM(Asynchronous Transfer Mode)
- ATM/IPC(Inter - Processor Communication) (AAL(ATM Adaptation Layer)0/2/5)
- IP - pBTS RTP(Real - time Transport Protocol)
- cBTS(46 - 1) IP - pBTS (48 - 1,...,48 - 6) (hand off) (ATM

- IP - pBTS(cBTS) ID(Identifier) . IP - pBTS (48 - 1,...,48 - 6) ID cBTS(46 - 1) ID .

cBTS(46 - 1) LAN (64) IP - pBTS (48 - 1,...,48 - 6) . IP -
 pBTS (48 - 1,...,48 - 6) , RF(Radio Frequency)/IF(Intermediate Frequency) ,
 IP , () , 가 32 가 (144kbps) 4
 IP IP - pBTS
 1 - 8 0 - 9dbm IP - pBTS (48 - 1,...,48 - 6) cBTS(46 - 1) RTP .

IP - BTS(44 - 1) IP - BTS(44 - 2,44 - 3,...,44 - 5)
 IP - BTS(44 - 1)

3 pBSC(38) cBTS (46 - 1,...,46 - 5) IP - pBTS (48 - 1,...,48 - 6)
 46 - 2) cBTS(46 - 1,46 - 2) 3 5 cBTS (46 - 1,...,46 - 5) 2 cBTS (46 - 1,
 46 - 2) 6 IP - pBTS(48 - 1,...,48 - 6) .

pBSC(38) cBTS(46 - 1,46 - 2,...,46 - 5) (shelf) , pBSC(38)
 (50) (62) cBTS (46 - 1,46 -
 2,...,46 - 5) , 3 , 8KHz 8K
 Hz (Even Second) Even_Sec가 , TOD , - 48V , 8KHz
 8KHz (Even Second) Even_Sec 5 5 ,
 Even_Sec 4.096MHz 1 가 , 8KHz 8KHz 4.096MHz 2
 . 1.544MHz Even_Sec .

3 , TOD cBTS(46 - 1) 가 , cBTS(46 - 2) 가
 , cBTS(46 - 3) 가 cBTS (46 - 1,46 - 2,...,46 - 5) 가 . pBSC(38)
 BSC IP - BTS (54) cBTS (46 - 1,46 - 2,...,46 - 5) ATM - E1 (60) ,
 ATM - E1 (60) ATM E1 가 . cBTS (46 - 1,46 - 2,...,46 - 5)
 IP - pBTS(48 - 1,...,48 - 6) LAN (64) . LAN (64) E1 4
 4 , 200 .

pBSC(38) IP - pBTS (48 - 1,...,48 - 6) cBTS (46 - 1,...,46 - 5) pBSC(38) ATM -
 E1 , IP - pBTS (48 - 1,...,48 - 6) (ethernet) IP . cBTS (46 - 1,...,
 46 - 5) pBSC(38) ATM - E1 IP IP - pBTS (48 - 1,...,48 - 6)
 . cBTS (46 - 1,...,46 - 5) IP - pBTS (48 - 1,...,48 - 6) Ev
 en_Sec, 8KHz 8KHz , TOD IP - pBTS (48 - 1,...,48 - 6) . IP - pBTS (4
 8 - 1,...,48 - 6) , 10MHz, 29.4912MHz, 4.096MHz, 1.544MHz,
 Even_Sec , 가 (MHz) (200m)
 , Even_Sec 8KHz 8KHz , IP - pBTS(48 - 1,...,48 - 6)
 PLL(Phase Locked Loop) , PLL
 (, 10MHz, 29.4912MHz, 4.096MHz, 1.544MHz) .

cBTS 6 IP - pBTS 2 5
 cBTS가 가 cBTS가 6 IP - pBTS , pBSC(38)
 30 IP - pBTS가 . pBSC(38) 30 IP - pBTS (48 - 1,...,48 - 6)
 가 . E1 (30) , pBSC(38)
 6 - 5) pBSC(38) pBSC(38) IP - pBTS (48 - 1,...,48 - 6) cBTS (46 - 1,...,4
 cBTS (46 - 1,...,46 - 5) .

4 5 cBTS (46 - 1,...,46 - 5) cBTS (100)
 . cBTS (100) , cBTS (46 - 1,...,46 - 5)

4 , ATM - E1 (60) pBSC(38) ATM E1 4 (70)
 , IP - pBTS (78) . IP - pBTS (78) cBTS(46 - 1,...,
 46 - 6) cBTS (84 - 1,...,84 - 5) (cBTS) (cBTS)
 . (62) pBSC(38) 8KHz 8KHz Ev
 en_Sec (62) (72) , IP - pBTS (80)
 . IP - pBTS (80) cBTS(46 - 1,...,46 - 6) cBTS (84 - 1,...,84 - 5)
 (cBTS) (cBTS) . (62) pBSC(38)
 TOD (74) (76) . TOD (76)
 , IP - pBTS (80) . pBSC(38) (50) TOD
 , cBTS TOD 5 가
 (76)가 . (76) IP - pBTS (80) TOD
 (82) pBSC(38) (40) TOD .

(cBTS) (cBTS) cBTS (84 - 1,...,84 - 6)
 , 4 , ATM E1 4 (ATM E1) , 6 (8KHz+/- , Even_Sec
 +/- , TOD TX+/TOD TX -) . cBTS (84 - 1,...,84 - 5) IP - pBTS (48 - 1,...,48 - 6)
 6 (86 - 1,...,88 - 6)(88 - 1,...,88 - 6) .
 LAN (64) E1 cBTS 6 IP - pBTS
 (48 - 1,...,48 - 6) .
 PRS BTS BTS GPSR BTS G
 S . IP - pBTS PLL 30 IP - pBT
 GPSR LAN LAN
 8 (8 wires) LAN . LAN E1 ,
 TOD LAN
 /Rx -) 8 (8 wires) LAN 4 E1 (Tx+/Tx - , Rx+
 4 (8KHz, Even_Sec) . 8KHz ,
 Even_Sec(0.5Hz) Even_Sec(0.5Hz) LAN IP - pBTS
 8KHz , , TOD (50)가
 pBSC(38) ATM pBSC (52) pBSC IP - BTS
 IP - pBTS (48 - 1,...,48 - 6) GPSR (50)
 IP - BTS (48 - 1,...,48 - 6) TOD 가 . TOD
 (50) cBTS IP - BTS .
 , cBTS (46 - 1,...,46 - 5) IP - pBTS (48 - 1,...,48 - 6) LAN (64)
 UTP(Unshielded Twisted Pair) .
 , 가

LAN BSC pBTS GPSR 가
 . pBTS
 cBTS

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가 가

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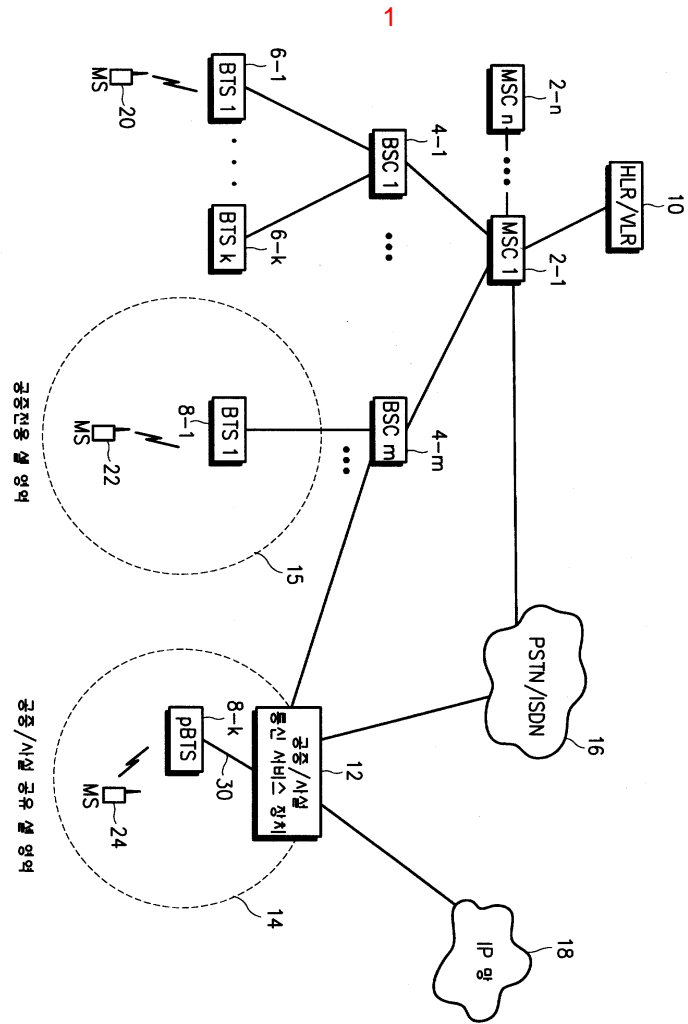
3.

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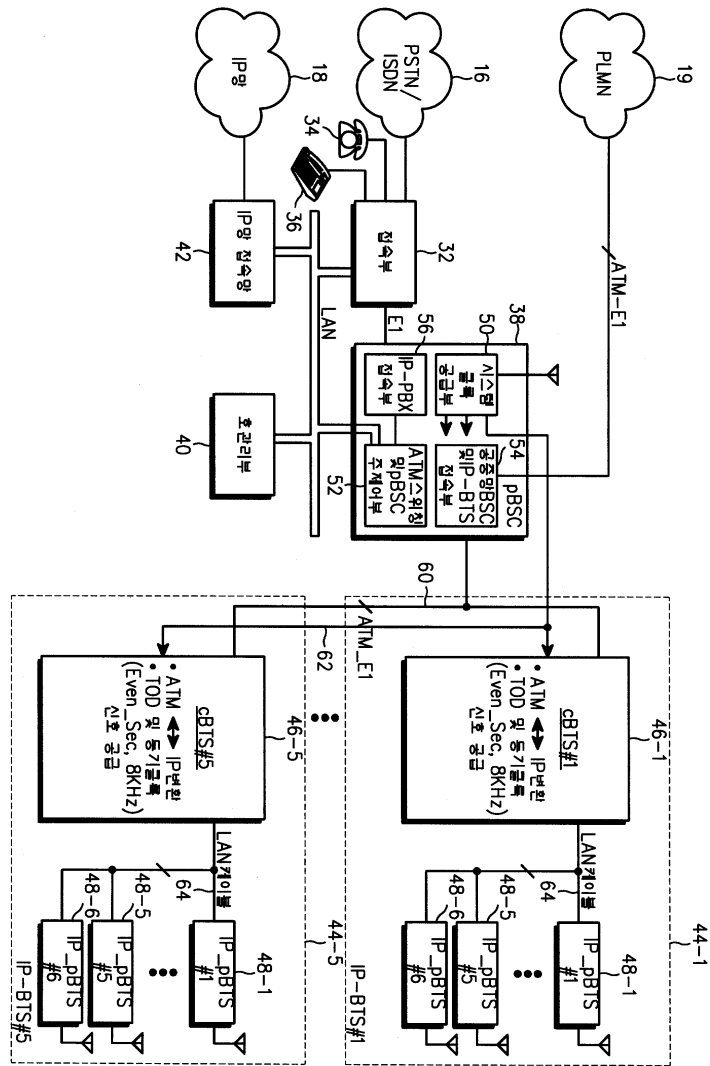
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8KHz

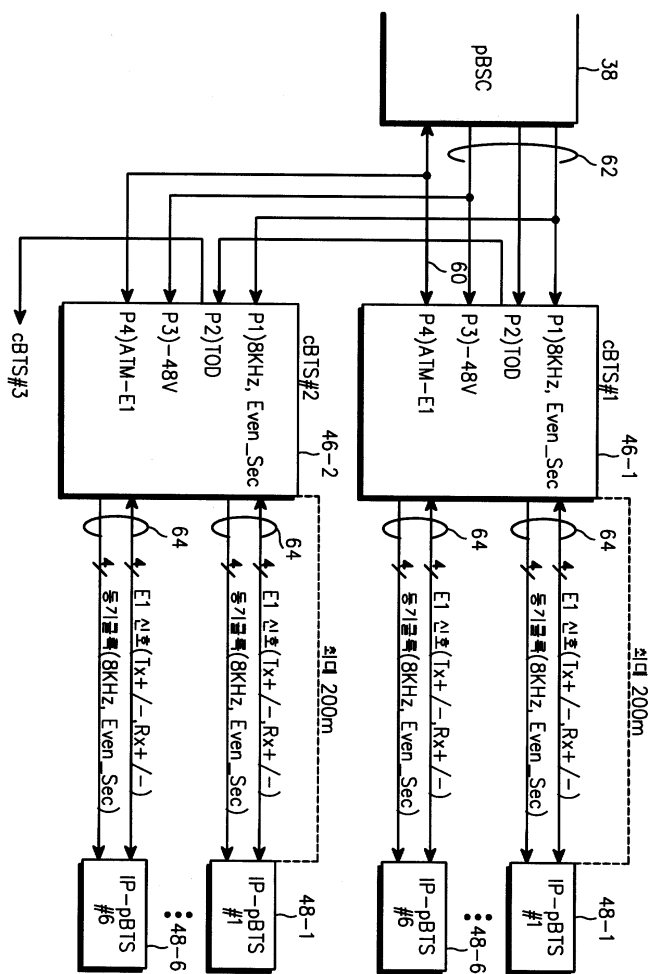
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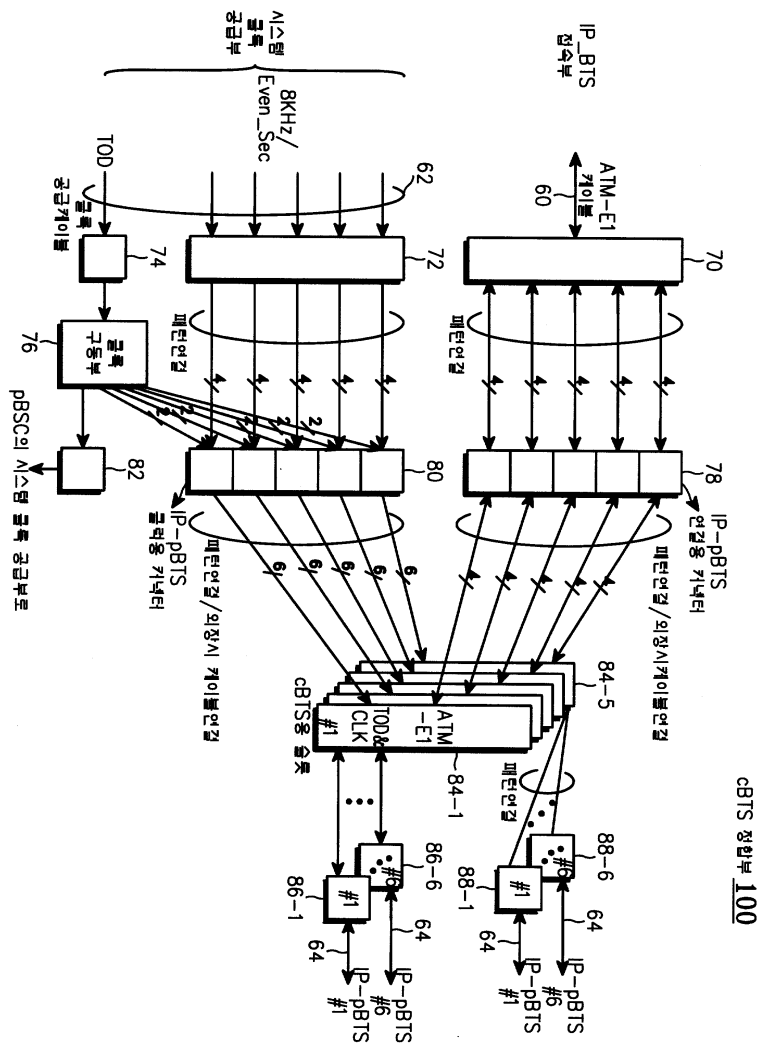


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cBTS 정속부 100

5

