

(19) (KR)
(12) (B1)

(51) 。 Int. Cl.⁷
G06F 11/16

(45)
(11)
(24)

2003 12 06
10-0408493
2003 11 24

(21) 10-2001-0024619
(22) 2001 05 07

(65)
(43)

2002-0085222
2002 11 16

(73)

360-9

(72)

122-1302

109-1103

105-806

109-311

107-1503

103-1201

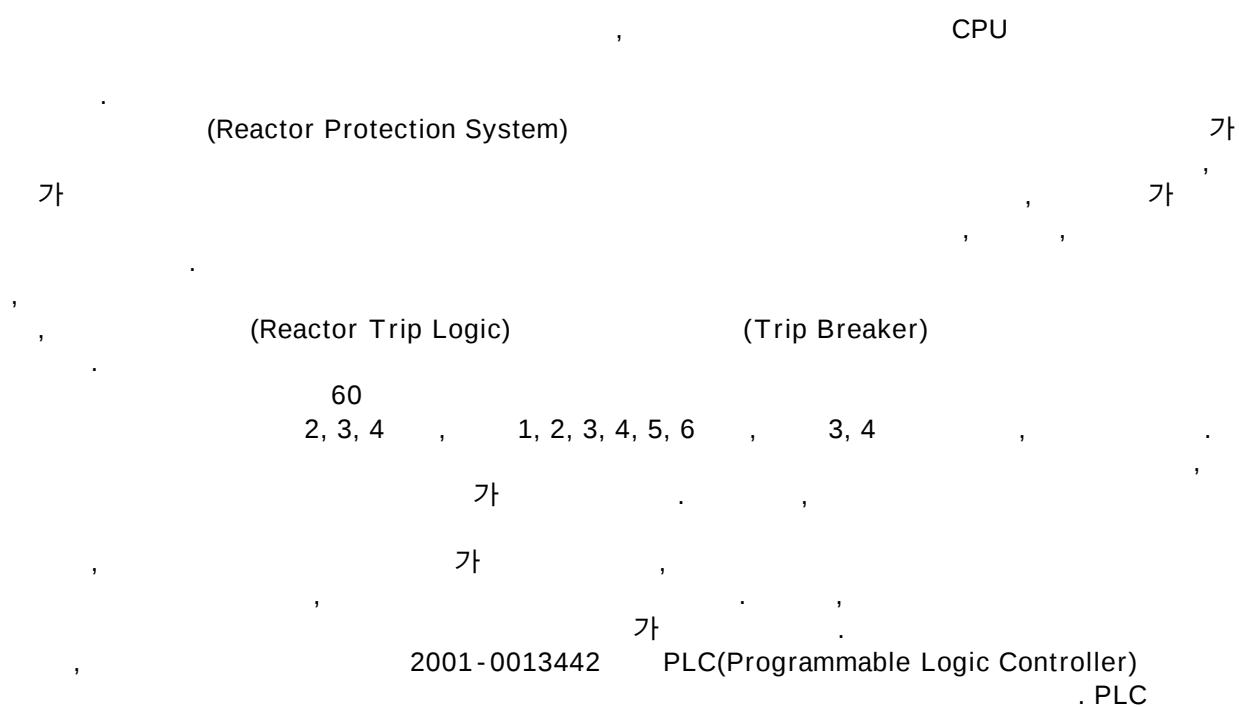
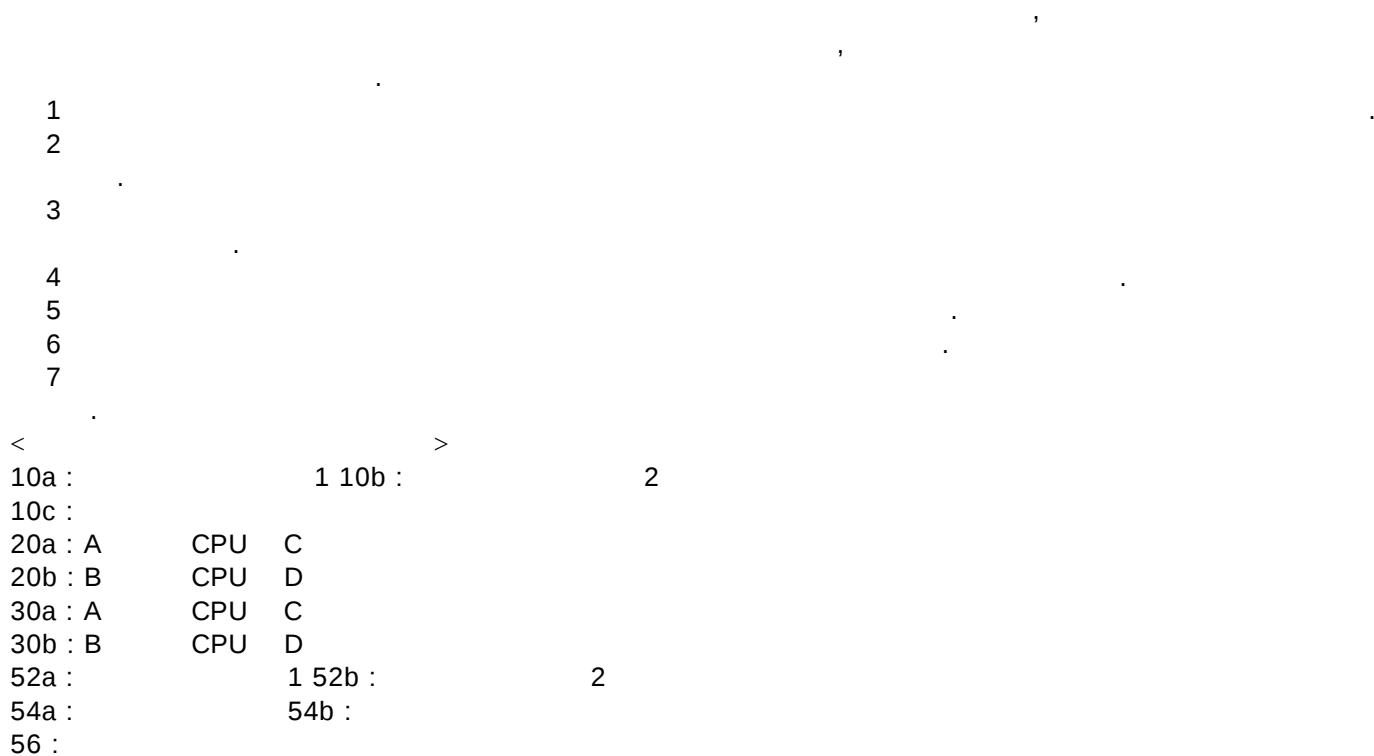
(74)

:

(54)

CPU

가



가 , 가 (gateway)
 . , PLC

(Common Mode Failures)

(Common mode failure) 가 , 가 , 가 .
가 , 가
가 , 가

(OS : Operating System)

가
가
2001-0013442
(Diverse Protection System)

[illegible]

CPU

CPU

	Intel	CPU	QNX
Motorola	CPU	VxWorks	

"OR"

VME bus

, (a)

; (b)

; (c)

; (d)

; (e)

(a)

(e)

가

가

1

(Digital Reactor Protection System)
 (Bistable Processor : BP)(20),
 (System Interface Processor : SIP)(40),
 (Maintenance and Test Panel : MTP)(80)
 (A, B, C, Local Coincidence Initiation L
 Logic Processor : LCL)(30),
 ogic)(50),
 (20)
 (10)
 (20)
 (30)
 (30)
 2/4 (Reactor Trip)(60), 4 2
 (50) (Engineer
 ed Safety Features : ESF)(70), 2/4
 2/3
 (50)
 (60)
 (70)
 (40)
 (80)
 (Operator Module : OM)(90)
 가
 (가)
 4
 2
 2 (Bistable Processor Modu
 le : BP PM1, BP PM2)(20a, 20b) 2
 LCL PM1, LCL PM2)(30a, 30b)
 (Local Coincidence Logic Processor Module :
 PM1(20a, 30a) A CPU(, Intel CPU)가
 , PM2(20b, 30b) B CPU(, Motorola CPU)가
 PM1(20a, 20b) C (, QNX)가, PM
 2(20a, 20b) D (, VxWorks)가 , A, B, C, D
 (Analogue Input : AI) (10a, 10b)
 1 가 (Core Protection Calculator System : CPC System)
 m) (20a, 20b) (Digital Input : DI) (10c)
 (10c) (10a, 10b)

[1]

	(Input Parameter)/ (Trip Parameter)	AI Module 1	AI Module 2	DI Module
1	Excore Neutron Flux Linear Power	x		
2	Excore Neutron Flux Log Power		x	
3	Pressurizer Pressure Narrow Range	x		
4	Pressurizer Pressure Wide Range		x	
5	Steam Gen. 1 Level Wide Range	x		
6	Steam Gen. 1 Level Narrow Range	x		
7	Steam Gen. 2 Level Wide Range		x	
8	Steam Gen. 2 Level Narrow Range		x	
9	Steam Gen. 1 Pressure	x		
10	Steam Gen. 2 Pressure		x	

11	Hi Containment Pressure Narrow Range	x		
12	Hi Hi containment Pressure Wide Range		x	
13	Steam Gen. 1 Delta P RCS Flow	x		
14	Steam Gen. 2 Delta P RCS Flow		x	
15	Refueling Water Tank Level		x	
16	Lo Departure from Nucleate Boiling Ratio(CPC)			x
17	Hi Local Power Density(CPC)			x

(10a, 10b) (10c)

2 (20a, 20b) 1(20a) 1 2(20b) (17

17) 4 2 가

(20a, 20b)가 (30a, 30b) 2(30

b) 1(30a)

, 4 A (, Intel) CPU

가

, A (, Intel) (30a) (Digital Output : DO)

1(52a) B (, Motorola) (30b) 2(52b) (30a, 30b)

(Hardwired Type) "OR"

가 (Under Voltage Trip Relay : UVT Relay)(54b)

(Shunt Trip Relay : ST Relay)(54a)

, 2 (30a, 30b)

(54a) (Trip Circuit Breaker : TCB)(56) (54b)

()

(platform) (Single Board Computer : SB

C)가

VME(Vesa Module European)

(rack)

3

(200), (300) (800)

(BP PM 1, BP PM 2, LCL PM 1, LCL PM 2) CPU, SDRAM Flash EPROM

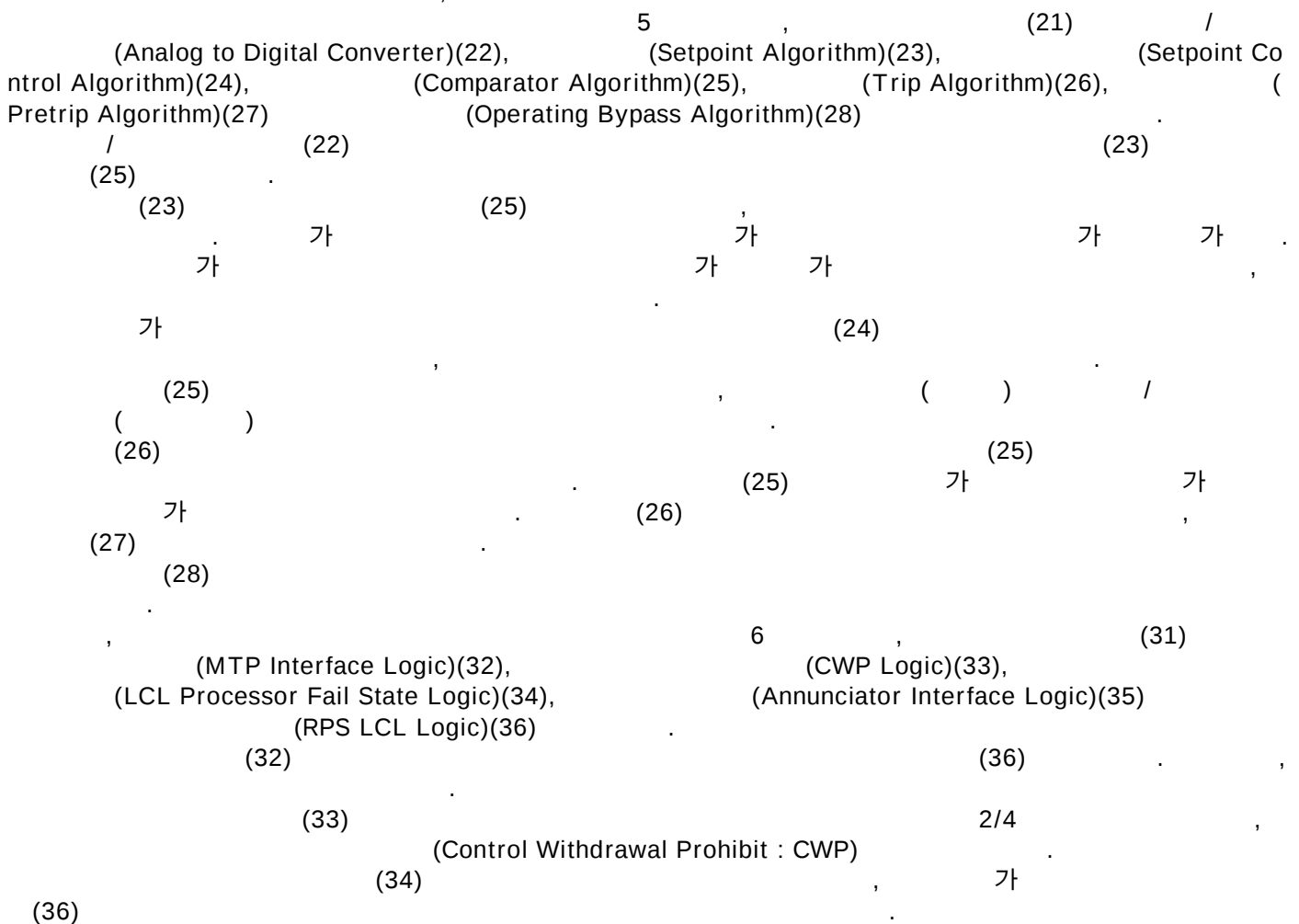
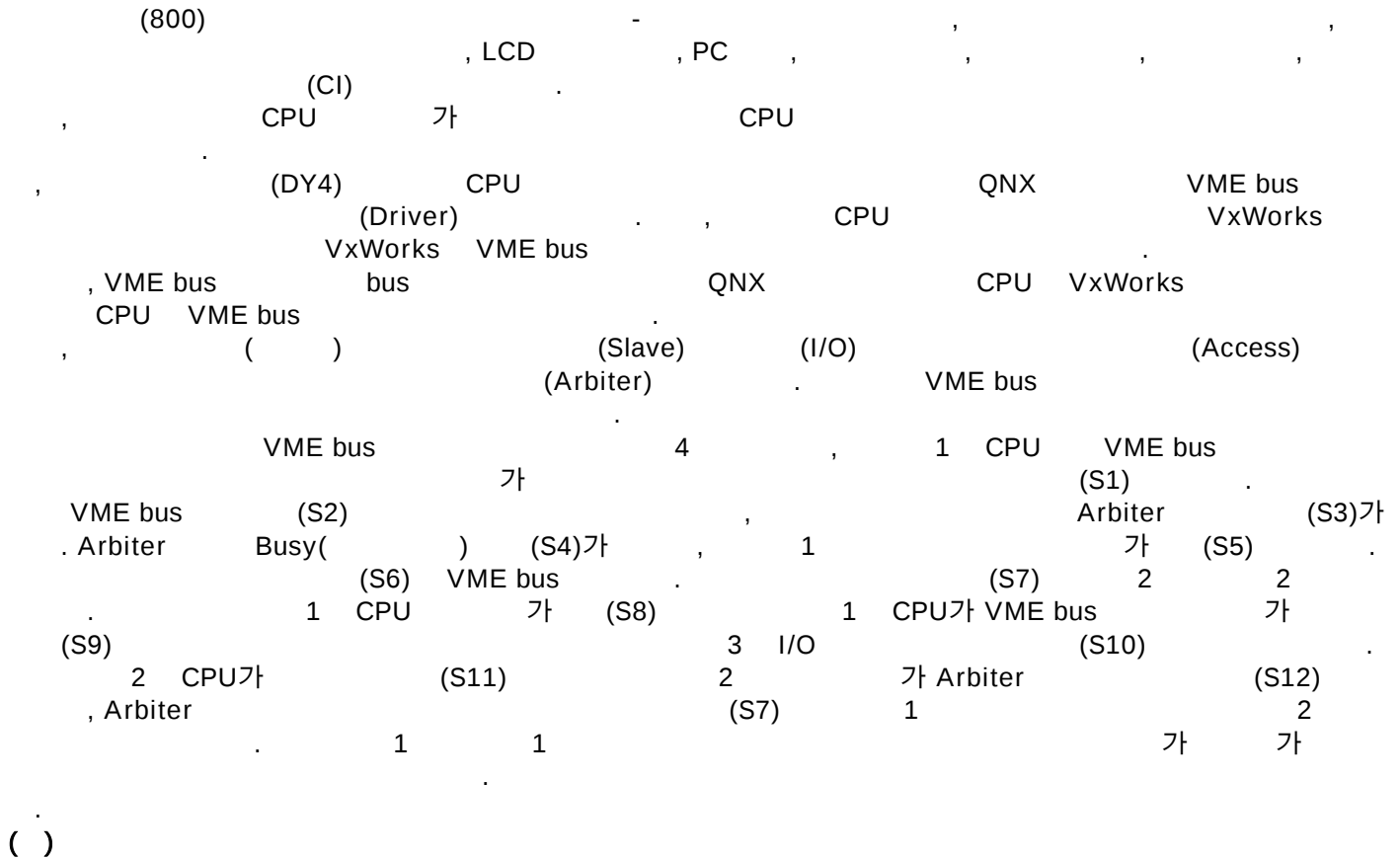
Flash EPROM

(CI) , 1.5Mbps Profibus

(serial) Token Bus Master RS485

(DI/O)

(AI) A/D



[illegible]

(57)

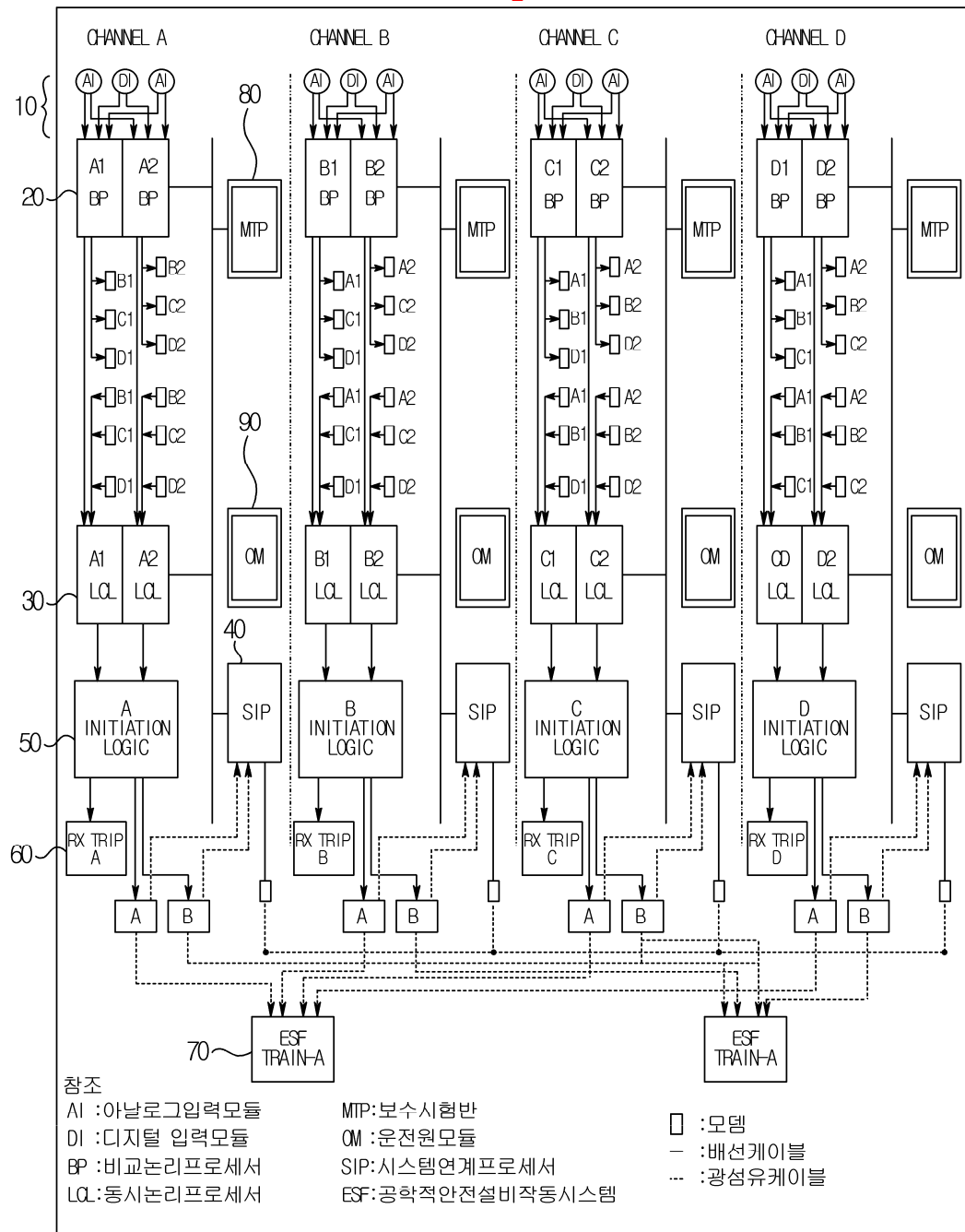
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2 ;

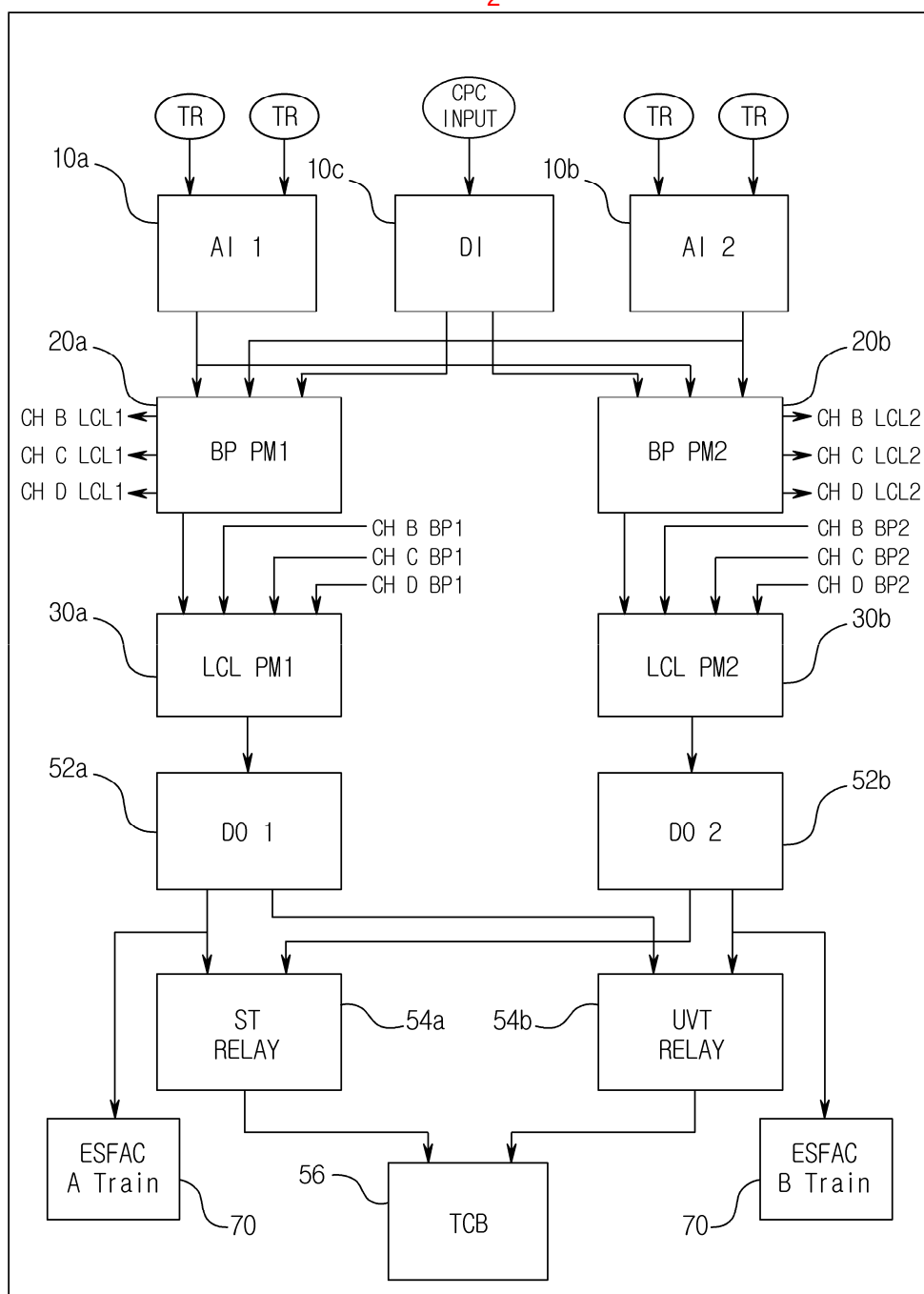
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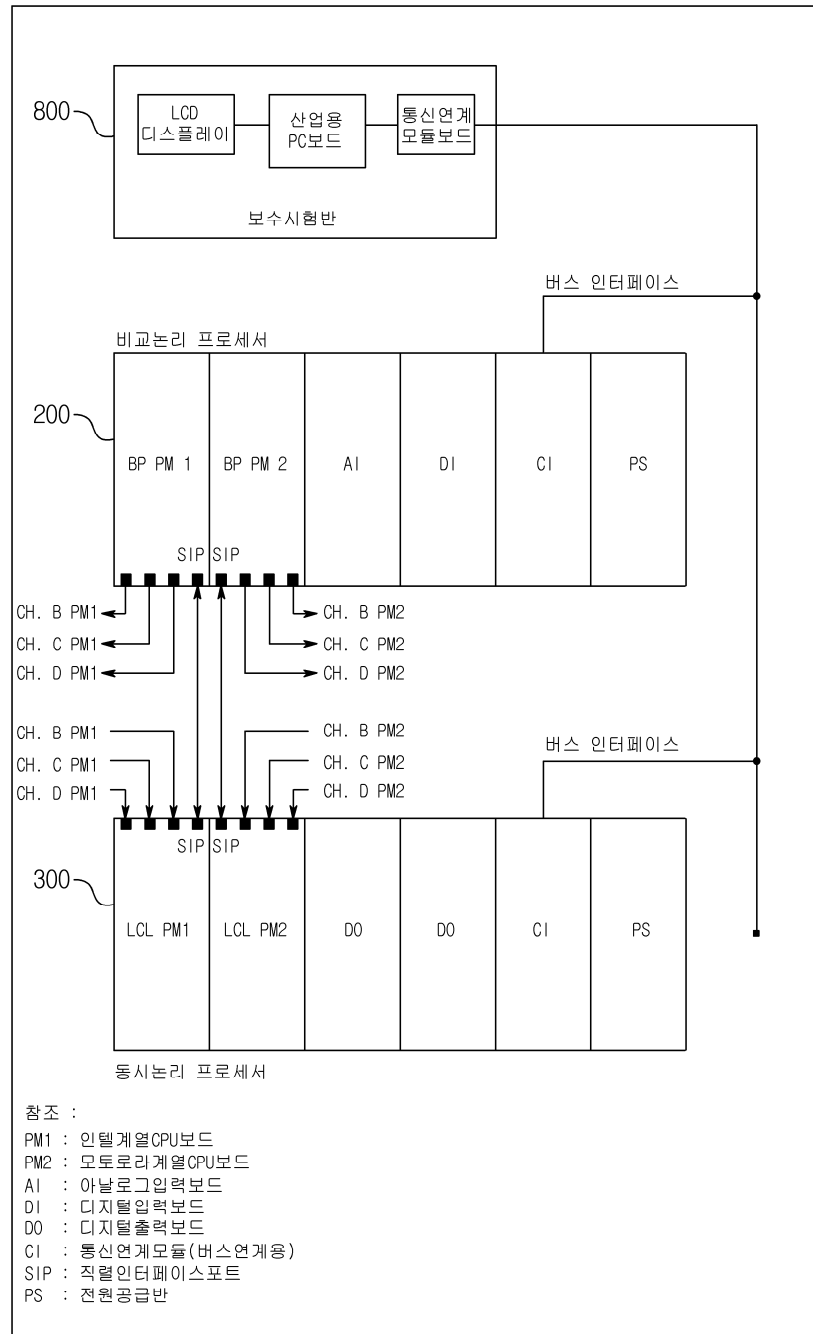
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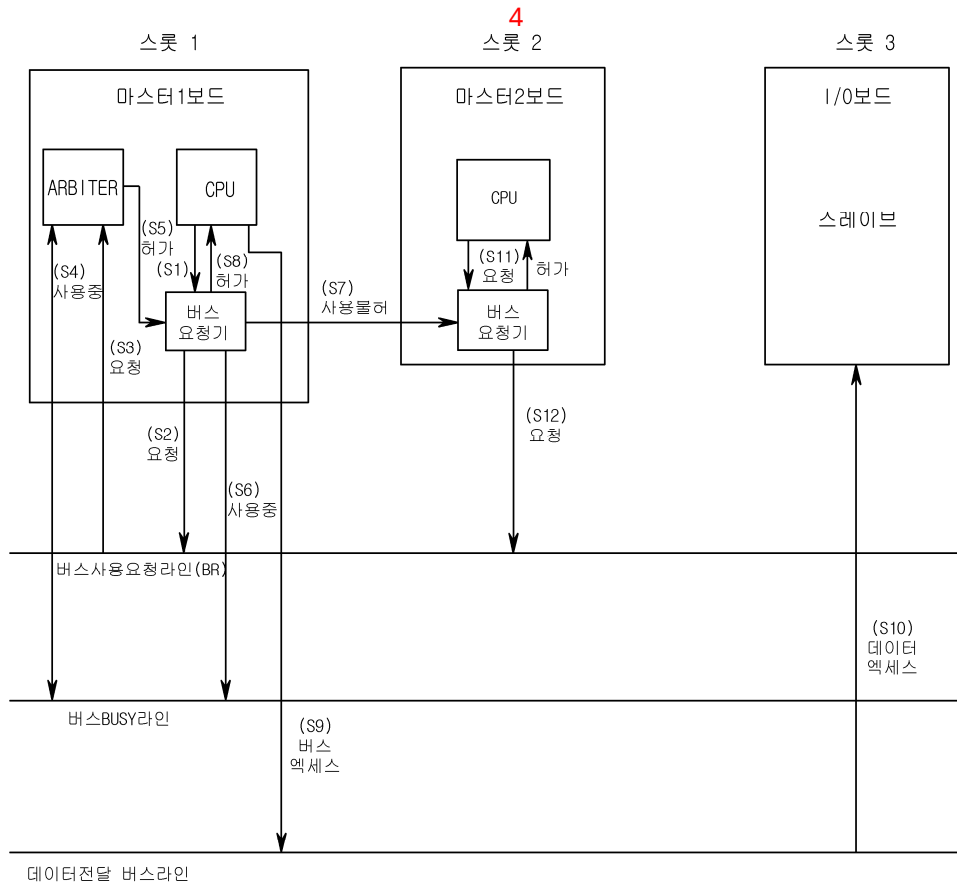
2. 1 , 1 1 2 ; 1 2 ; 3. 1 2 , 2 1 ; 2 2 ; 4. 3 1 , 2 OR 5. 1 , VME(Vesa Module European) 6. (a) ; (b) ; (c) ; (d) 2 ; (e) 가 ; (b) , (c) 7. 6 , (b) 1 1 2 ; (b1) 1 ; (b2) 2 ; 8. 6 7 , (c) 2 ; (c1) 2 ; (c2) 2 ;



2







5

