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2004 06 14
20-0353181
2004 06 02

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(22) 2004 03 30
(62) 10-2004-0021536
: 2004 03 30

2004 03 30

(73) 2 475-22

(72) 32-8 가 3 E-101

(74)
:

(54) 가 ,

가
, 가 , 가 (meter gateway) .
가 , 가 , 가 ,
, 가 , 가 , ,

1 가 .

2 1 가 가 .

3 1 .

4 1 가 .

5a 5e 4 가 .

6 2 .

7 6 .

8 2 .

9 .

10 9 .

11a 11b .

12a 12b .

< >

10 : 20 :

30 : 40 :

50 : 60 :

70 : 80 :

90 : H1 Hm : 가

M1 Mm : D1 Dm :

T1 Tn : 622 :

632 : 530, 624, 634, 730, 830, 130 :

551, 771 : 554, 774 :

610 : 611 :

6111 : / 6112 :

6113 : 6114 :

635a, 790, 840 : LED 610a :

6230a : 6331a :

6331b : 614 :

615 : 616 : DC
 901, 902 : 6231a :
 150 : 160 :
 161 : 162 :
 161a : 162a :
 170 : 628 :
 780 : 750a : 가
 780a : 630 :
 626 : 617 :
 619 : 611a, 6232a, 618 :
 620 :
 636 : /
 550, 770 :
 540, 612, 623, 633, 760, 110, 850 :
 541, 6121, 6231, 6331, 761, 111, 851 :
 544, 6124, 6234, 6334, 764, 114, 854 :
 625, 635, 740, 140 :
 627 : DC
 637 : DC
 510, 710, 810 :
 621 : 가
 631 :
 511, 6211, 6312, 711, 811 :
 514, 714, 814 :
 6214 : 가
 6315 :
 520, 720, 120 :
 515, 545, 556, 6125, 6215, 6234, 6316, 6335, 715, 765, 775, 816, 855, 115 :
 516, 545, 555, 6126, 6216, 6235, 6317, 6336, 716, 766, 776, 817, 856, 116 :

(80) (513), (514), (510) (515) (coupler; 511), (512),
(511) (80) (M1 Mm) (516) (512),
(511) (80) (516) (80) (512),
, 2 (512) (516) (511) 1 (80) (80),
(noise) (512) (516) () () ,
(512) (513) (512) (512) (512) (filtering)
(511) (513) (513) (514) (515) (515)
(513) (516) (515) (515) (5)
16) (516) (515) (511) (514) (chip) ,
OFDM(Orthogonal Frequency Division Multiplexing), CDMA(Code Division Multiple Access)
(514) (513) (520) (520)
(515) (515) ,
가 / (550) (40) (10),
(10) 가 / (550) (40)
(520) (550) (510) (80) (520) (554),
(556) (550) (551), (552), (553), (554),
(551) (40) (40) (552) (555)
(40) (552) (40)
(552) (553) (552) (552)
(551) (553) (554) (554)
(556) (555) (556)
(554) (555) (556)
(555) (555) (551) (556)
(554) (553) (520) (520)
(520) (556)
(540) (530) (remote control) 가
PDA(Personal Digital Assistant), (note book computer) , PDA,
(K0) (530) , PDA,
가 (100) 9 10 (K0) (530)
(540) (K0)

1), (K0) (542), (543), (544), (545) (540) (546) (54)

(542) (541) () , (546) (K0) (K0) 가

PDA, (541) (K0) (K0)

(542) (543) , (542) (541) (543)

(K0) (542) (543) (543)

(544) (542) (544)

(545) (546) , (545) (544) (544)

(K0) (545) (546) (545)

(541) (544) (543) (520) (520) (545)

(530) (520) , (K0) (540) (530) (K0) (K0) (50)

(540) (520) 가 (K0) (K0)

(K0) , 가 가 가 가 (520) 가

(520) (510) (530) (530)

(550) (550) (550) (40) (530)

(520) (550) (510) (530)

y), (530) (Random Access Memory; RAM), (Read Only Memory; ROM), (flash memor (520)

가 가 (H1 Hm), (K0)가 , (K0) (K0) (530)

(520) 가 (530) (550) (530)

[]

가 (M1 Mm) 가 가(H1 Hm)

(M1 Mm) (80) (50)

(M1 Mm) (90) 가(H1 Hm)

(D1 Dm) (T1 Tn)

(M1 Mm) (50) (80) 가

(634) (4 '634') (90) (T1 Tn)

(M1 Mm) (T1 Tn)

(M1 Mm) 가(H1 Hm) (80) (D1 Dm)

가 / (50) (80) (M1 Mm) (50)

(M1 Mm) (T1 Tn) 가 /

(M1 Mm) (K0) (K1 Km)

가 (50) (K0)

(D1 Dm) (T1 Tn) (K1 K

, 'K0' 'Km'

m)

(M1 Mm) 4 (610),

(620) (630)

(610) 가(H1 Hm) (61) (611)

3) (620) (610) (610) (611)

5a '6131') (612) (610) () (

(612) ()

가 (610)

(K0) / (K1 Km)

(624)

(611) / (6111), (6112), (6113) (

6114) (6111) (80) 가 ()

/ (6112) / (6111) /

(612) (6113) (6112) (6114) (6113)

(620)

(612) (620) (612) (620) (6113)

(6124), (6125) (6121), (6122), (6123),

(6126) (6121)

(623) (6231)

(6122) (6121)

(6123) (6124)

(6113) (6113) (6124)

1) (6124), (6125), (6126) (612

(623) (6231)

(80) (620) (10) (610) (620) 가

(623) (610) (612) (620)

가 (621) (80) (10)

(620) 가 (621) (621) (10)

(621), 가 / (622), (623), (620) 가 (90) (624), (625) (626)

가 (621) (80) (90) 가 / (80) (6211), (6212), (6213), 가 (6214), (6215) (6216) (6212), (6211) (80) (6212) (6211) (6212) 가 (62) (6214) (6214) (622) (622) (6215) (6216) (6215) (621) (621) (6216) (6216) (8) (622) 가 (62) (625)

1) 가 / (621) (623) (622) 가 (624) (625)

(612) (623) (610) (6231), (6232), (6233), (6234), (6235) (6236)

(626) RTC(Real Timer Clock) (timer) (620)가 (626) (620) (620)가 가 (630) (620) 가 가 (M1 Mm) (M1 Mm) (620)

(626) (620) 가 (620) (621) (622) (626) (622) 'wake-up' (626) 'wake-up' (622)가 (623) (610) (626) 가 (61) (622) (download) (50) (621)

) (630) (T1 Tn) (50) (80) (630) (M1 Mm) (80) (90) (90) (Cur) rent Transformer; CT, 617) (630) (630)

(633) (K0) (K1 Km) (50), (K0) (K1 Km) (D1 Dm) (T1 Tn) 가 (620) (630) (K0) (K1 Km) (D1 Dm) (T1 Tn) (631), (632), (633),

(634), (635) / (636) .
 (631) (80) (90) , (631) ,
 (90) (80) ,
 (631) (6311), (6312), (6313), (6314),
 (6315), (6316) (6317) .
 (6311) (6311) (relay) ,
 (622) (622) (6311) (6311) (6311) ,
 (622) (630) (630) ,가
 (630) (630) ,
 가 .
 (6311)가 (631) ,
 (6312) (80) (90) ,
 (6313) (6313) (6312) ,
 (6314) (6313) (6315) (632) (,
 6315) (631) (6316) (6315) (6316)
 (632) (6315) (6317) (631) (631)
 6) (6312) (6312) (6317) (6317)
 (80) (90) .
 (633) (50) (540) 가 ,
 (K0) (K0) (K1 Km) ,
 (633) (6331), (6332), (6333), (6334),
 (6335) (6336) .
 (632) (633) (K0) ,
 (K1 Km) (634) (634) (K0) (K0) ,
 '100') (K1 Km) (6331) (634) (631) (9
 (632) (634) (634) (635)
 / (636) /
 가 , ,
 (stream)
 가
 가 , ,
 가 , ,
 (event) , 가 () .
 가 가 , ,
 (IP)가 가

(M1 Mm) (D1 Dm) (634) 가 (50) 가

(50) 가 (K0) 가 ,가 가

가 가 가 가 (D1 Dm)

(Mbyte)가 가

가 / /가

(D1 Dm) ,가 가 (M

1 Mm) (D1 Dm) ,가 가 (가) (50)

(634) (30) (M1 Mm) 가 (30) (50) (M1 Mm) (634) (M1 Mm) ,가 M

가 (D1 Dm) (M1 Mm)

) (30) (636) (634) (634) (M1 Mm) / (636)

5a 5e 4 (M1 Mm) 5a

5a 5e 가 (M1 Mm)

(610), (620) (630)

(620) (610) (casing; 610a) (board) (6230a) (610a, 6230a)

(6230a) (610a) (619)가

(6230a) (6230a) (610a) (6233a)

(6230a) (6231a) (6232a) (6232a, 611a)

(6232a) (610a) (90

1) (610a) (901) (611a) (6232a, 611a) (90

(610a) (902) (618)가

(901, 902)

5a (6230a) 4 (635), (

6331) (6331a, 6331b) LED(Light Emitting Diode) (635a)가 가

(6311) (637) 가 (635) (637)가 가 가

() . (6331a) ()
 K0) (K1 Km) , 가) . (6331b) ()
 K0) (K1 Km) , LED (635a) 가 가 . LED (635a) / (ON/OFF)
 , LED가 가 가 / , LED가
 가 (6311) (80) (637) (630)
 (Alternating Current, AC)
 , 5b (80) (610a) (614)
 (Direct Current, DC) (616) (627)
 (80) (616)
 (610) (627)
 (617) (620) (614) (80) (617)
 (615) (90) (637)
 (637) (630)
 , 5c 5d (610) (6121)
 (620) (6231) 가
 (6121, 6231) (610a) (6230a)
 (6121, 6231) (610) (620)
 가 ,
 []
 (D1 Dm) 가(H1 Hm) (90)
 (M1 Mm) . 가 가 ,
 MMI(Man - Machine - Interface) , 6 (750)
 (D1 Dm) (M1 Mm) (T1 Tn) (90)
 (D1) (M1) (T1 Tn) (K1)
 (730), (D1 Dm) 6 (710), (720),
 (740), (750), (760), (770)
 (780)
 (710) (90)
 (90) (621) (711), (712),
 (713), (714), (715) (716)
 (760) (K1)
 Km) 가 PDA, (100) (760)
 (761), (762), (763), (764), (765) (766)
 (760)
 (T1 Tn)
 P (770) (T1 Tn) , VoIP , I
 (770) (771)(, RJ45, USB), (772), (773),
 (774), (775) (776) (90) (T
 1 Tn) 가 (770)
 (720) (760) (K1 Km)

(730) (M1 Mm) (720) (710) (740) (730) (T1 Tn) (720) (730) (710) (T1 Tn) (730) 가 / (720) (730) (710) (T1 Tn) (730) 가 / (730) 가

a) (750) 가 가 (D1 Dm) (D1 Dm) (interface) . 가 7 가 가 (750) (780) (D1 Dm) (D1 Dm) (780a) (D1 Dm) (761) (D1 Dm) (K1 Km) (D1 Dm) (D1 Dm) (K1 Km) (100) (740) 가 가 ()

7 / LED (ON/OFF) (790) , LED가 (740) 가 가

[] (T1 Tn) (90) (D1 Dm) (M1 Mm) (actuator), 가 () , , VoIP , IP (T1 Tn) (D1 Dm) (M1 Mm) (M1 Mm) (T1 Tn) (D1 Dm) 가 (M1 Mm)

(830), LED (T1 Tn) (840) 8 (850) (T1 Tn) (810), 8 (820), (T1 Tn)

(810) (90) (810) (811), (812), (813), (90) (814), (815) (816) ()

(850) (K1) 가 PDA, (100) (851), (852), (853), (854), (855) (856) , 가 (T1 Tn) 가 가 (820) (830) (840) (830) (K1 Km)

(M1 Mm) (T1 Tn) (830)
 (820) , VoIP , IP (810) (820) 가 /
 가 / (830) . 가 /
 (830) (820) 가 / (830) 가
 가 (830) (820) ,
 LED (840) 가 가 / LED가 / LED가 가
 , 9 10 (100) , 10 9 (100) . 9
 9 (150), (100) (160) (170) (110), (120), (130),
 (150) 가 (100) (150)
 (110) 3 (50)
 (540) 4 (M1 Mm) (633) 8
 (T1 Tn) (810)
 (110) (111), (112), (113), (114),
 (115) (116)
 (120) (160) (130)
 (K0) / (K1 Km) (K1 Km) (110)
 (110) (K0) / (K1 Km) (130)
 (Read; R) (120) (K0) / (120) (Write; W)
 (140)
 (130) (100) (K0) /
 (K1 Km)가 (M1) (K0) (K1)
 (K1)가 , 가 (100) (130) (K0)
 (130) (K0)가 (50) (K0) (100)
 (K1 Km) (150) 10 LED (K0) /
 1) (160) (161) (162) (16
 110) (120) (K0) / (K1 Km) (D1 Dm)
 (T1 Tn) (M1 Mm), (50), (162) (120) (K1 Km)
 (110) (M1 Mm) (K0) / (K1 Km)
 (100) 10 (161a) (162a)
 , 가 (100) (111) (M1 Mm)
 (6231) (624) (630) (634) (K0)
 / Km) (K1 Km) (download) (K0) / (K1
 (130) LED(150)

(100) (50) (K0)

(M1 Mm) (624, 634) (K0)가 (624

(100) (100) (M1 Mm) (M1

(K0) (6231) (6231a) (111) (624, 634)

(Mm) (K0) (K0) (130) (130)

(100) (50) (531) (100) (130)

(K0) (50) (50) (K0)

(530)

(M1 Mm) (K0)

(50) (530)

(K0) (K0)

(50) 가 가 (100)

(111) (50) (541) (5

(K0) (K0) (100) (130)

(100) (M1 Mm) (6331a)

(Mm) (K0) (M1 Mm) (M1 Mm) (M1

(K0) (624, 634)

(D1 Dm) (T1 Tn) (K1 Km)

(Mm) (100) (D1 Dm) (T1 Tn) (K1 Km) (M1

(730, 830)

11a 11b, 12a 12b

(50) (50) (K1) (Hello)

(80) (E_{k0} (Hello)) (M1) (M1) (E_{k0} (Hello)) (50)

(K0) (Hello)

11b (M1) (M1) (M1) (K0) (Hell

(50) (Hello) (80) (50) (E_{k0} (Hello)) (50)

(E_{k0} (Hello)) (Hello) (K0) (E_{k0} (Hello))

12a 12b (M1) (D1)

(K1) 가 (M1) (D1)

가 가

가 (meter gateway)
가 .

가 가

가 .

가

가 .

가 ,

가 ,

가

가,

가 ,

(57)

1.

가

가

,

/

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/

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가

;

가

/

,

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/

가

2.

1

,

RTC(Real Timer Clock)

가

3.

1

,

가

DC(Direct Current)

가

1 4.

,

가

DC

가

.

1 5.

,

(board)

가

가

,

가

.

5 6.

,

가

가

.

1 7.

가

,

가
가

;

1 , 가

가

;

1

가

,

2

가

2

,

가

.

7 8.

,

가

가

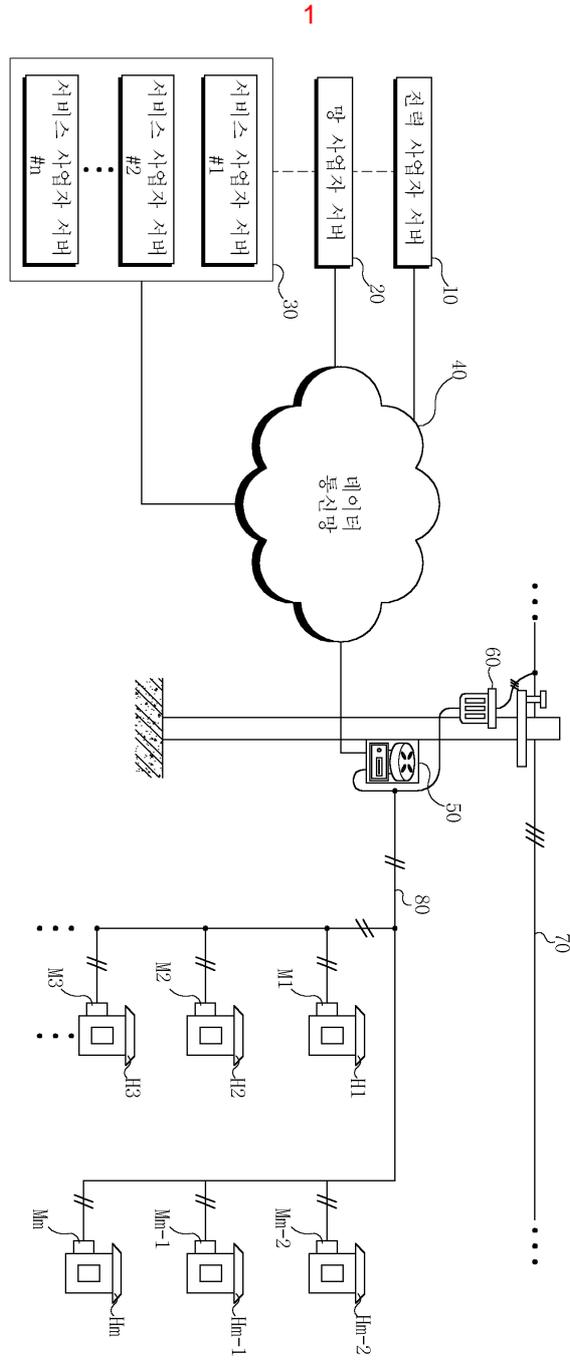
가

.

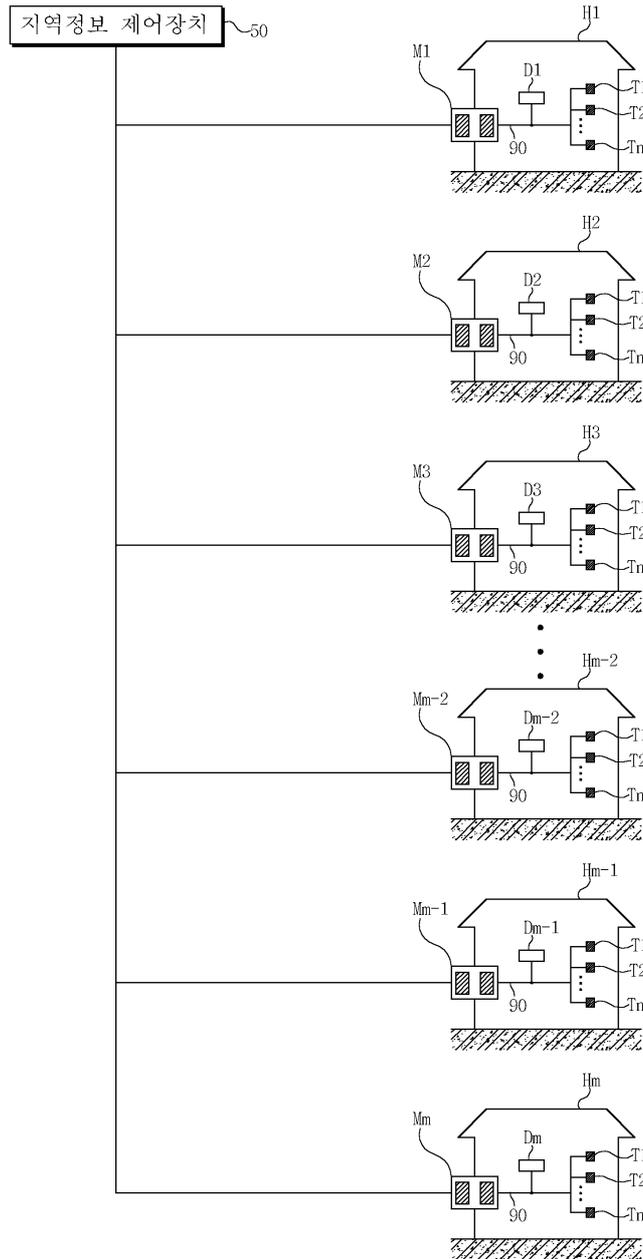
1 9.

가

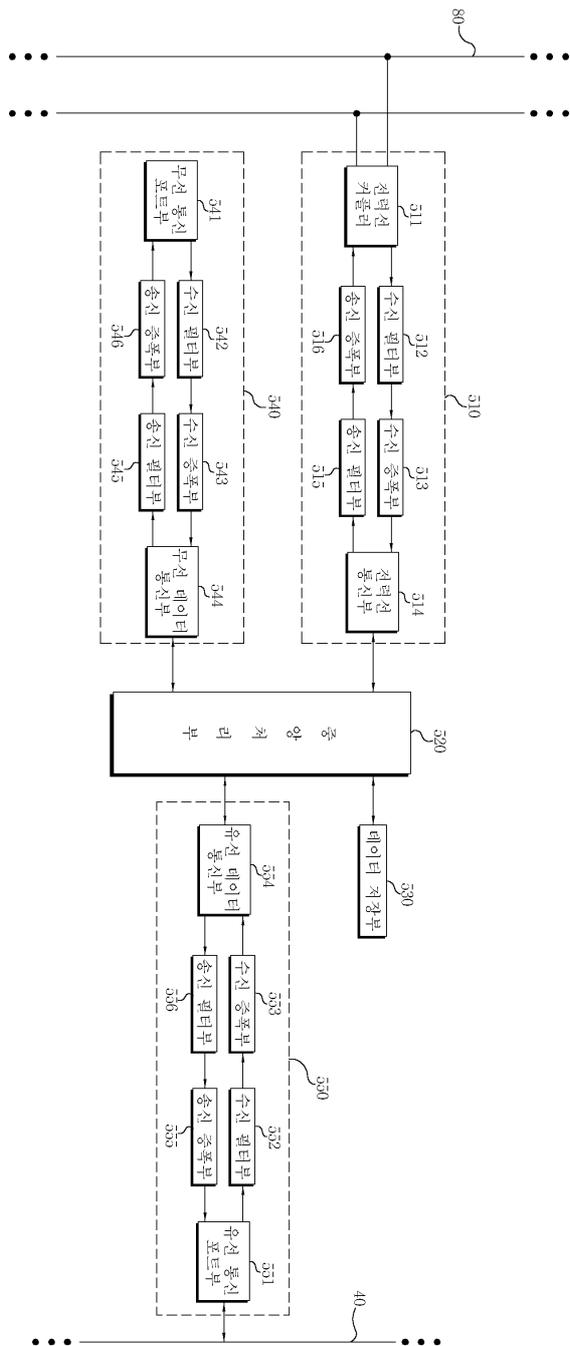
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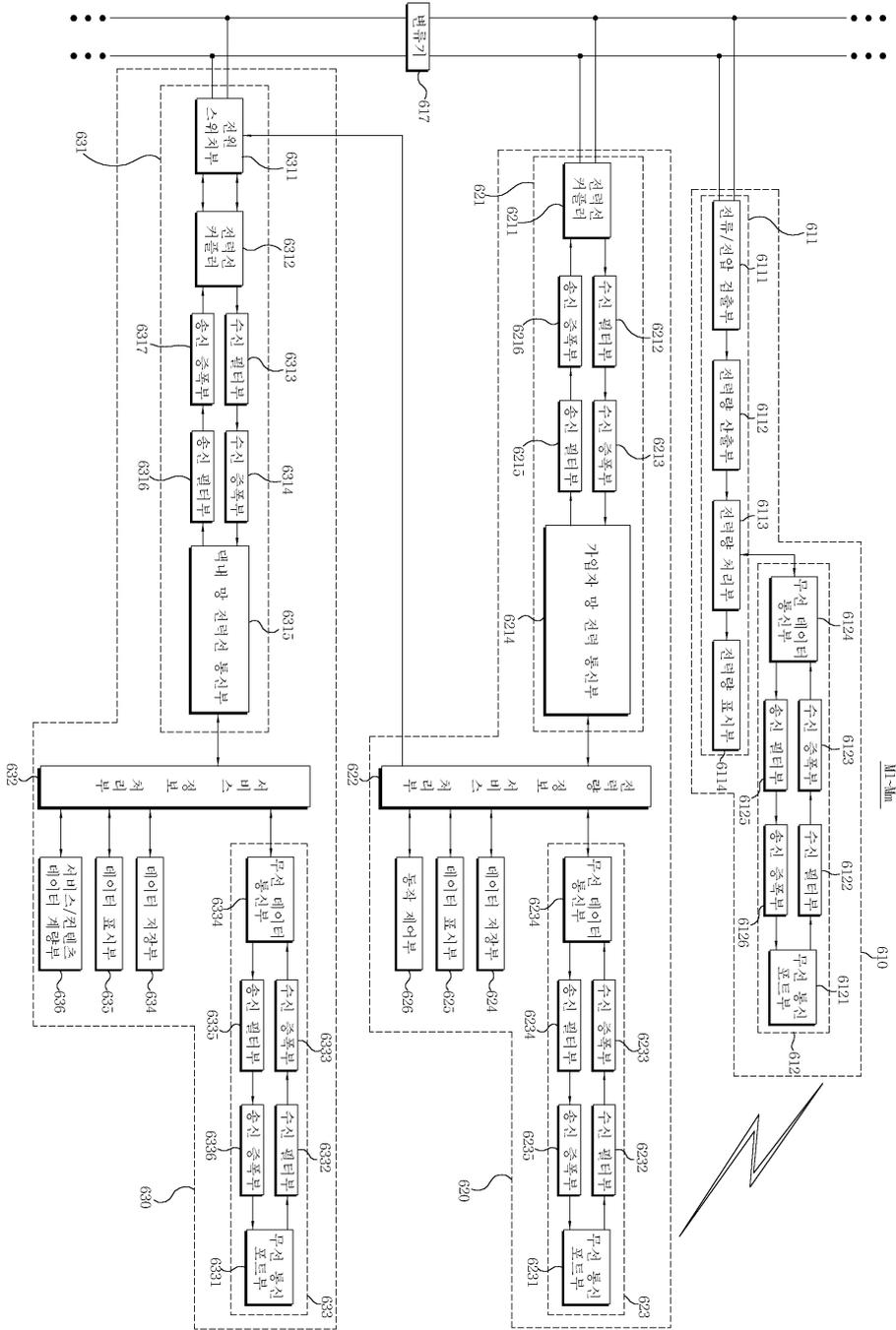
2



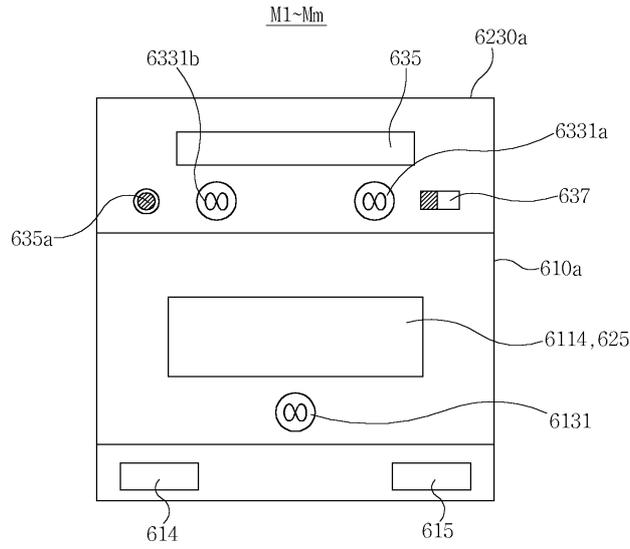
3



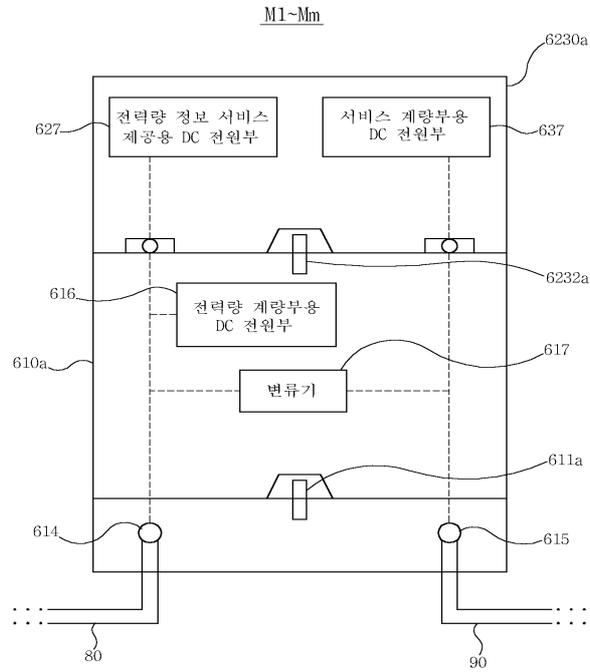
4



5a

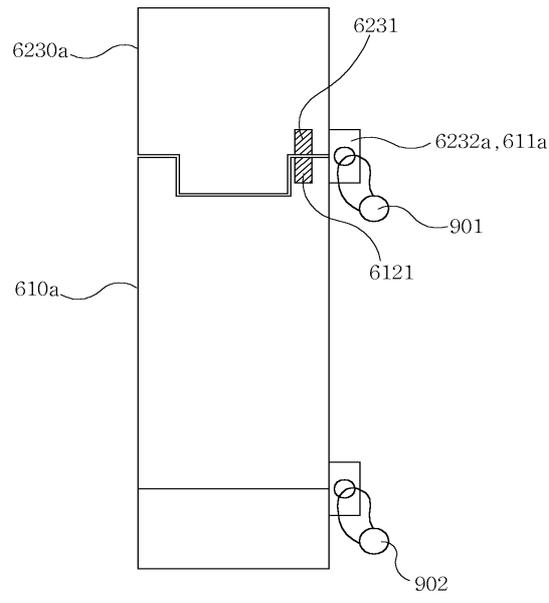


5b

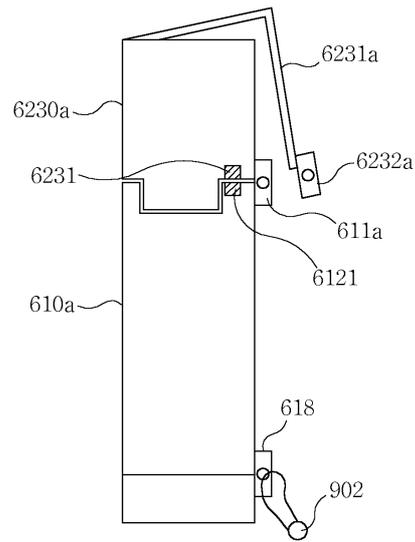


5c

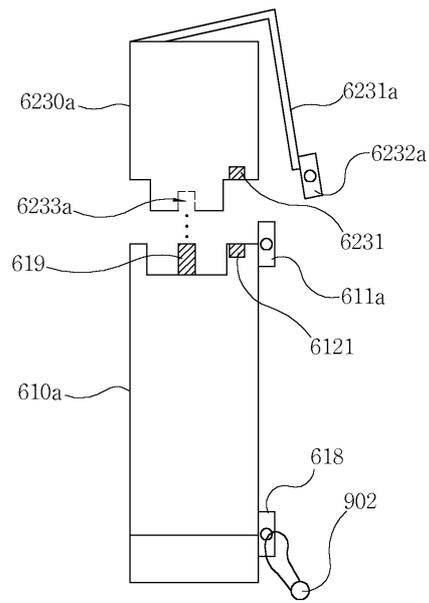
M1~Mm



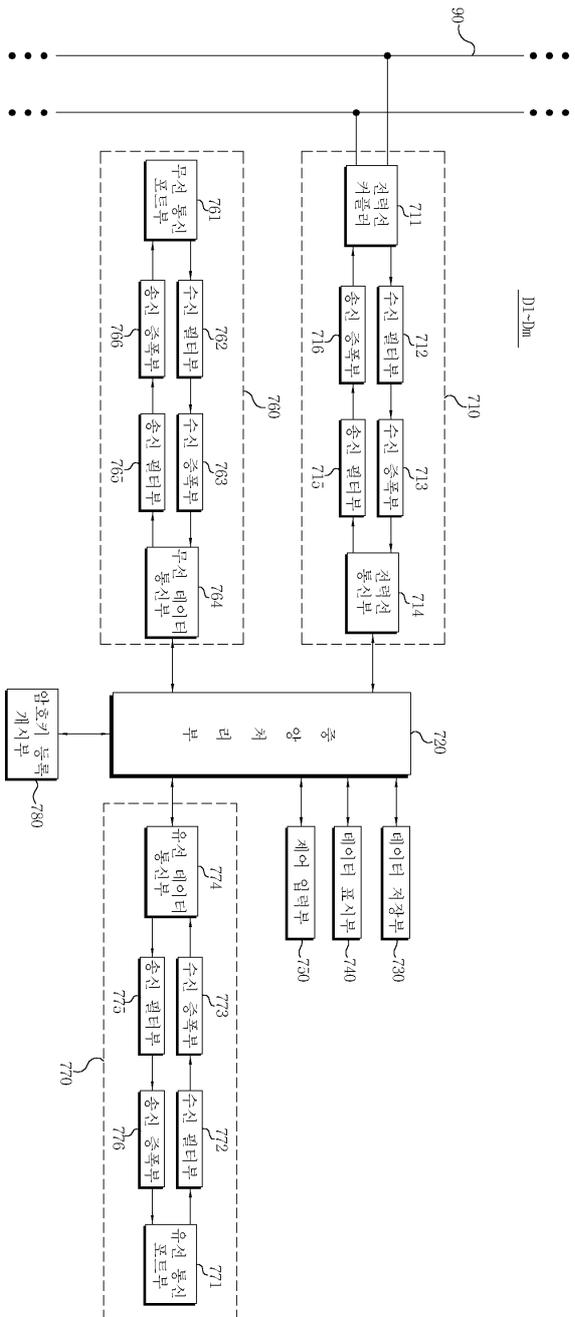
5d



5e

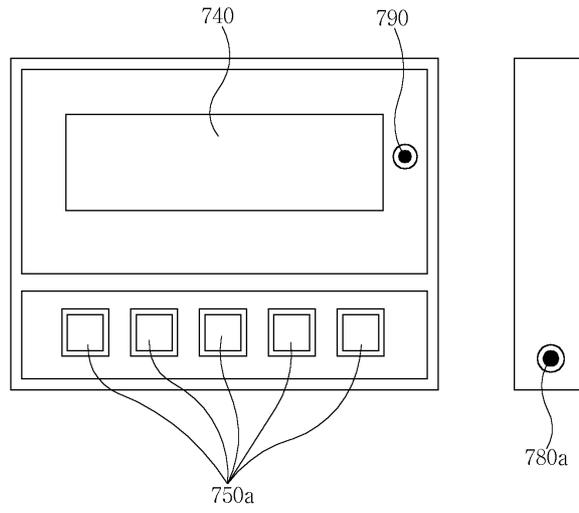


6

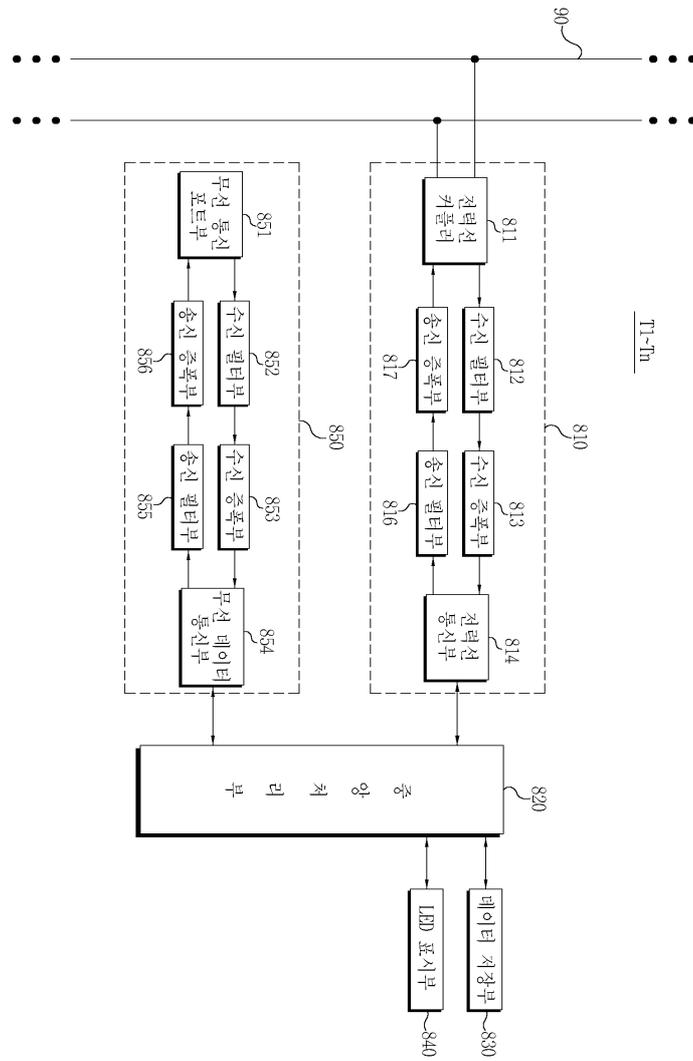


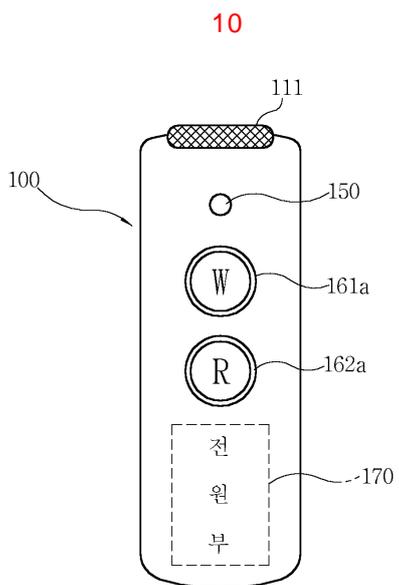
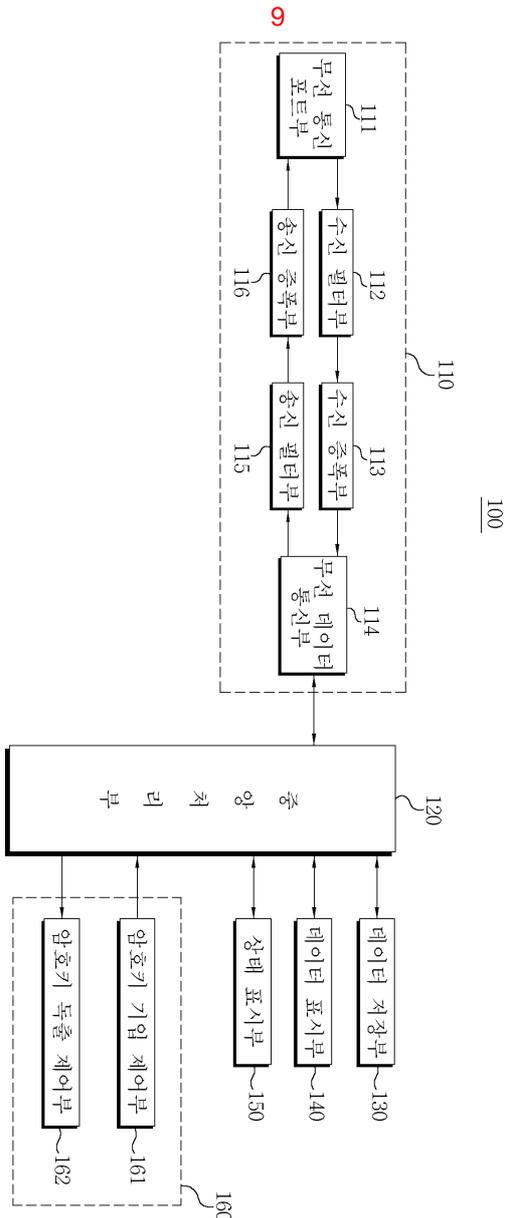
7

D1~Dm

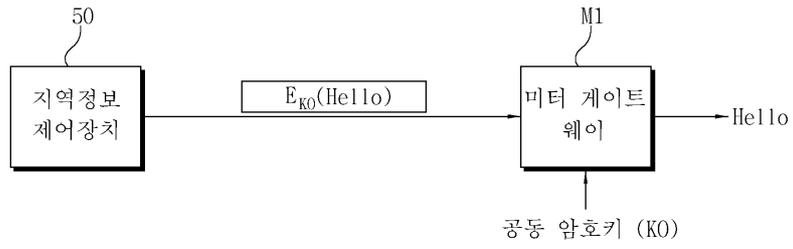


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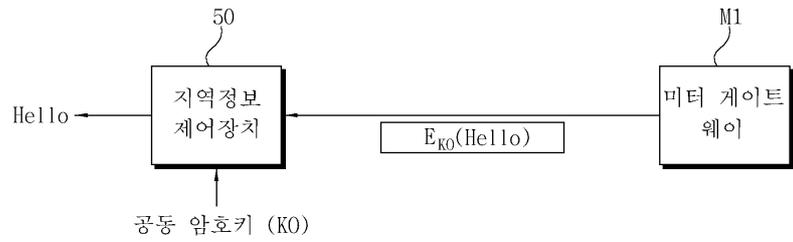




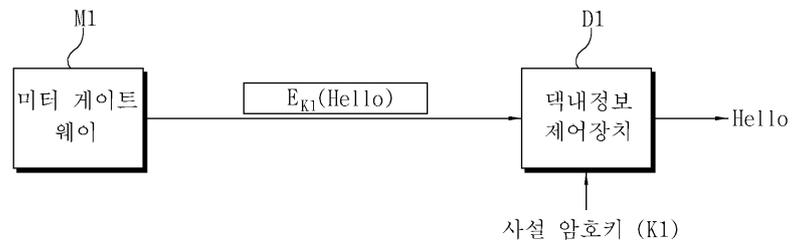
11a



11b



12a



12b

