



(74)

:

---

(54)

---

가

44

(on - demand)

< >

PCT/AU00/00763, PCT/AU00/00761, PCT/AU00/00760, PCT/AU00/00759,  
PCT/AU00/00758, PCT/AU00/00764, PCT/AU00/00765, PCT/AU00/00766,  
PCT/AU00/00767, PCT/AU00/00768, PCT/AU00/00773, PCT/AU00/00774,  
PCT/AU00/00775, PCT/AU00/00776, PCT/AU00/00777, PCT/AU00/00770,

PCT/AU00/00769, PCT/AU00/00771, PCT/AU00/00772, PCT/AU00/00754,  
PCT/AU00/00755, PCT/AU00/00756, PCT/AU00/00757

2000 5 24

:

PCT/AU00/00518, PCT/AU00/00519, PCT/AU00/00520, PCT/AU00/00521,  
PCT/AU00/00523, PCT/AU00/00524, PCT/AU00/00525, PCT/AU00/00526,  
PCT/AU00/00527, PCT/AU00/00528, PCT/AU00/00529, PCT/AU00/00530,  
PCT/AU00/00531, PCT/AU00/00532, PCT/AU00/00533, PCT/AU00/00534,  
PCT/AU00/00535, PCT/AU00/00536, PCT/AU00/00537, PCT/AU00/00538,  
PCT/AU00/00539, PCT/AU00/00540, PCT/AU00/00541, PCT/AU00/00542,  
PCT/AU00/00543, PCT/AU00/00544, PCT/AU00/00545, PCT/AU00/00547,  
PCT/AU00/00546, PCT/AU00/00554, PCT/AU00/00556, PCT/AU00/00557,  
PCT/AU00/00558, PCT/AU00/00559, PCT/AU00/00560, PCT/AU00/00561,  
PCT/AU00/00562, PCT/AU00/00563, PCT/AU00/00564, PCT/AU00/00566,  
PCT/AU00/00567, PCT/AU00/00568, PCT/AU00/00569, PCT/AU00/00570,  
PCT/AU00/00571, PCT/AU00/00572, PCT/AU00/00573, PCT/AU00/00574,  
PCT/AU00/00575, PCT/AU00/00576, PCT/AU00/00577, PCT/AU00/00578,  
PCT/AU00/00579, PCT/AU00/00581, PCT/AU00/00580, PCT/AU00/00582,  
PCT/AU00/00587, PCT/AU00/00588, PCT/AU00/00589, PCT/AU00/00583,  
PCT/AU00/00593, PCT/AU00/00590, PCT/AU00/00591, PCT/AU00/00592,  
PCT/AU00/00594, PCT/AU00/00595, PCT/AU00/00596, PCT/AU00/00597,  
PCT/AU00/00598, PCT/AU00/00516, PCT/AU00/00517.

(infotainment)

가

1

가

(playback)

(broadcast)

(caption)

2  
가

3 가

1 (netpage) (記述)

2

3

4 (high - level)

5 (tag)

6 5 (field of view)

7

8 (field - of - view cone)

9 8

10 8 9

11

12 11

12a (duplexed) (glue wheel) 12

13 11 12

14 11 12

15 14 Memjet™

16 14 15



41  
42  
43  
44  
45  
46  
47  
48

: Memjet™ Silverbrook Research Pty Ltd.

(netpage)

(implementation)가

(map) , (mapped surface),

(local query)가

,가 가

가

가

1 , (1) ,

" " (Request)" 가 (3)  
(2) 가 (4) (記述)(5)  
( , ) ( ) ,  
(7) (6) (8)

2 8 9 (1)  
01) , 가 , (601)  
(9)

11 13 (601)  
, , (brochure) ,  
가 , ,

2 (101) , (1)  
(9) (601)  
(10) , 가 (13)

jet™ ) , (MicroElectroMechanical System: MEMS) (Mem

가 95%가  
, 20% ,  
가 (enable) ,  
가

(14)

가 가 가

(11)

etrics) (biom

ail) (source) (mailer) 가 (junk m (e - mail)

1 (Netpage System Architecture)

(Unified Modeling Language: UML)

sociation) (generalization)가 (as (instanc e) 가 A가 B , B A : . UML 2

(default) 1 (\*) " " , 0 (" is - p art - of" ) (" is - a" ) ( ) 가

1.1 (Netpage)

가

(記述) 가 ( )

가

가

(page description)  
(ID)가

ID

가

가 가

가

ID

가

가

가

가 4

(45)

1.2 (Netpage Tag)

1.2.1 (Tag Data Content)

가

(flag)

가

" " LED

(tiling)

가

ID



(packing)  
가  
dge) , , , , 1600dpi 8 가 , ( )가 (we  
. 4 2 x 2

6 15 4 4 (18a, 18b)

(interleaving) 가 가

가 , 6 가

### 1.2.4 (Tag Image Processing and Decoding)

2 가 (20). 7 가 (21)  
( , (23)) (22).

2 (25)가 (24),

(15)가 (26). (matching) 2 가  
(27)

(16)가 (28). 2 가 가 가  
3 가 가 가  
(29)

4 (17)가 (30).  
가  
(match) 2 가 , 가 가 가  
4

(31)가 ,  
8 (33) (Heckbert, P., Fundamentals of Texture Mapping and Image Warping, Masters Thesis, Dept. of EECS, U. of California at Berkeley, Technical Report No. UCB/CSD 89/516 (1989 6 ) - ).

4 2 가 (36)  
(37) (21)

360 (37)가 , 6 60 - (Reed - Solomon)  
(38) 20 (39) 120

(15) 가,  
가 가 (193)가 ,  
(33) ID , (35)  
(nib) (35)가 (34).

1.2.5 (Tag Map)

ID, ID 가 ID 가 ID  
22 가 ID

(tiling)

ID 가 , ID, ID ,  
ID가 , ID가 가

1.2.6 (Tagging Scheme)

가 " - "

ID , - 가  
가 , -

ID

가 가 2 가

가 가 가

1.3 (Document and Page Descriptions)

가 25 26

.가 , (836) (839)가  
, (840)  
, 가 , (scale factor)  
, 가 (formatted). (835)

(830)

가 가

가

(834) (835) (58) (5)

(831) (834) (830) (5) (1)

(830) ID(50)

가

(832)

가

ID(55)

27 (846) (847), (849), (843), (843) , 28 (844), (845) (854)  
(847), (849), (855) (848), (856)  
(857) (850), (

858) (860) (851), (853) (859) (852),

(833) , (811) 가

1.4 (Netpage Network)

, 3 (19) (10), (11), ID (12), (13), (14) (601)가

(11) , , , , (10)

alancing) ID (12) ID(51) , ID (b)

(Distributed Name System: DNS)

ID(50) (13) 2 (14)

IBM, (Hewlett - Packard) (Sun) 가 , ID

1.5 (Netpage Printer)

(601) ID(62) 가 , 가

(10)

(14)

2

가

가

(760) Memjet™

(rasterize)  
(350)

2  
(RIP)

가

DSP(757)

(dither)

(tage)

, IR

가 IR -

IR -

(globes)

(tiling)

(811)

가

2

(11)

11

16

6

### 1.5.1 Memjet™™

(Memjet™™ Printheads)

(thermal inkjet),

가

가

Memjet™ (MEMS: microelectromechanical systems) (drop - on - demand) (wallprinter) 1600dpi 17 Memjet™

168960 (300) (300)

(300) 32 110 CMOS (301)

(306), (307), (311), (302), (312: inlet), (303: rim), (308), (304), (309), (305: sealing), (310),

(308) (319: join) (309)

(310, 311) (308, 309, 310, 311, 319)

(320: cantilevered electrothermal bend actuator)

18 (300) (315) (300)

(315) (301) 가 (312) 가

19 (a), 19 (b), 19 (c) Memjet™ (300)

19 (a) (316: meniscus)

(304) (306) (305) (316)

가

CMOS

(308) 가 가 (308) (318) 가 가  
 (308) (308) 가 가 (309) 가 , (301) ( (308)  
 2 (stress) 가 . (307) (304) .  
 320) (304) 2 . (302)  
 19 (b) (321) 가 (316)가 (303)  
 (316)가 (304) 가 .

(308 309) 가 (320) 19 (c)  
 (321) (317) 가 .  
 (316)

20 (350) (351)  
 ( 210mm). 0.4 mm ( 0.2%).  
 352 (312) 6  
 6 (interdigitated) (300) .

, 가 (gaurd) (330) (301)  
 (302) , 가 (331) 가 가  
 (331) (321)가 , 가 가  
 (332) 가 . (321)가 , 가 가

1.6 (Netpage Pen)

(101) , (134)  
 가 IR 가 , (nib)  
 ( , 200 dpi 100Hz ) . 가 ( )  
 , ( )

- (尖筆)  
 (browsing system)

ID(61) . 23 (11)

" " " " .  
 가 " " . ,

(193)

가 가

가

(手記)

(stroke)

ID가

ID(50)

가

(826)

가

(824)

가

가

(825)

가

가

" LED 가

" LED가

" " LED가

, 10

가

가

가

가

8 10

6

1.7

(Netpage Interaction)

(601)

(1)

(101)

(4)

(3)

(830) 가 (10) 가 ID(50) DNS  
 가 가 가 ( )  
 가 가 가 가  
 " " " " LED  
 (sloopy) " " LED  
 2 가 가  
 가 가  
 1.7.1 (Hyperlinks)  
 (844) (71),  
 ID(54), (alias) ID(65)  
 " " 가 가  
 (description) 29  
 가 가  
 ID(64) ID DNS  
 30 3 (836), (865)  
 (864)가  
 가 가  
 (862) 가 ID(5  
 5) ID  
 " (shopping cart)"  
 (868) (826) 가 " (submit delta)"  
 ,  
 .

(866) 31

(838)

(844)가

"  
(blackboard)"

1.7.2 (Forms)

(867)

(838)

(839)

(868)

(845)

(870)

(871)

32

(872)

가

가  
가

(833)

(59)

가

(873)

(874)

(875: styled stroke)

(876)

33

가

(845)

34

(877),

(878),

(879),

(880)가

(58: field's zone)

35

(881: boolean value)

( (tick),

(fill zigzag) )

36

(882)





가 ID ,

가

가

가

가

가

가

가

가

가

" "

가

가

" "

가

가

가

1.8

(Standard Features of Netpage)

가

가

1.9

(User Help System)



가 , 가 .가

International" , " Option" , " Business" , " Arts/Living" , " Technology" 가 " Page One Plus" , " National" , " Sports" 가 가

(" ") , (" " " ")

) , ( , , ( , , , ( , , ) )

( , ) .

( , " " ) .

가 ,가

가

( , " " " " )

가 가

( , )

가

가

(

)





가 , ID 가 , ID (69)  
(84) 가 가

가 (807) (808), (806)( , (803))  
(801) , 가

ID DNS  
(809) 가 가 가

가 , 가 ,  
(818), (819) (815); (820);  
(819); SET (817); (816);  
(821) 가 (936)

(823) , ( )

2.4 (Intelligent Page Layout)

가

가

, 가

2.5 (Document Format)

, 가 ,

XSL(Extensible Stylesheet Language)  
. XSL 가

XML(Extensible Markup Language)  
가  
(hyphenation)

JPEG 2000 (wavelet) -  
SVG(Scalable Vector Graphics) 2D

가 가

3

( 3)

[ 3]

		-
	ID	JPEG 2000
		-
	ID	SVG
	ID	-
		-
	ID	XML/XSL
		-
		-
	ID	-
		-
		-
		-
		-

2.6 (Document Distribution)

, ,

가 , ID (12)

ID



2 가 2

2

2 2

가

2 가

(hash)

가

가

가

가

가

가

### 3.2 (Netpage Printer Security)

2 ID 1 ID(62) 가

가

ID

ID

ID

ID

ID

가

가

가

가

가

3.3 (Netpage Pen Security)

ID(61)

" (know)"

" " 가

ID

ID

가

가

가

가

가

ID

ID

ID

ID

ID

가

3.4 (Secure Document)

" (watermark)" " " (dither)  
- - (back - to - back)

가

1.9

2

가

ID 가

ID

3.5 가(Non - repudiation)

가

4

가

4 (Electronic Commerce Model)

4.1 (Secure Electronic Transaction: SET)

SET (Secure Electronic Transaction)  
SET

SET

SET , 가

4.2 SET (SET Payments)

, SET ( , )

SET

가

SET 1

가

가

. SET

가

가

가

SET

가 ,  
ID

ID

SET

4.3 - (Micro - payments)

가

가

가

4.4 (Transactions)

가

ID(55)

ID(55)

가 "

ID(60)

가

가

ID , 가 " 24 ID(65) ID(61) ID(64) ID(65) ,

ID

(UPC) " 가 "

5 (Communication Protocols)

가 , 가 , 가 가

5.1 (Subscription Delivery Protocol)

가 40

(pointcast)

( , ) ID (12)

ID(51)

ID

ID(64), 가

ID(65)

(10)

ID , ID ID(60), ID(62)(  
) ,  
(808) 가 ID ID가

ID ID(50)

ID

가

가

, 가

5.2 (Hyperlink Activation Protocol)

가 42

가

가 가

(601)  
ID(61)

DNS ID(50) (10a) ID, 가 ID(  
62), ID

(58) ID 가 (5) ID(64)  
ID(54) , DNS (844) ,  
(71)

ID(61)  
ID(52)

(11)  
(934)  
ID

ID(60)

가 44  
(862)

ID(53),

ID

ID

, ID (12)  
ID

ID(51)  
ID

(10b)

2  
D(62) 1

ID

ID 1  
가

ID I

2 ID(50) ID ,

가

ID(55) , 1  
ID .

ID(61) 가 , , " " , 1 ID ID  
ID(64) (11) ID ID  
ID ID ID(65) . 1

5.3 (Handwriting Recognition Protocol)

가 (stroke) , 가 가  
ID(61), ID(62), ID(50) (10)

(58) ID 가 (5) , 가  
가 (878) ,  
ID (11)  
(822)  
가

5.4 (Signature Verification Protocol)

가 가 (880) , (10)  
가

6) ID(61) (11)  
가 (form) ID(64), ID(5)  
(818)  
ID(64) ID(60)

ID(65)

5.5 (Form Submission Protocol)

가 43

가 5.2

ID(56) (10) (71)  
ID(65) (11)

6. (Netpage Pen Description)

6.1 (Pen Mechanics)

8 9 101 (104)  
(103) (102) (105) (102) (10)  
6) (107) (102) (108) (107)  
, 가 (102) LED (10)  
7) (102) (108) (109) (109) (  
110) (102) (103) (111) (112) (10  
2) (110) (107) (113A) (113) (11  
5) (114) (114)

가 PCB(117) 3 LED(116)가 (107) (112) 가 PCB(11  
7) LED(116) 가 (101)

(non - marking) (119)  
(118) (121) (120) (102) (119)  
(121) (105) (114) (122)  
(123, 124) (118) (120) 가 (125)  
(105) (125) (181)  
(126) (123, 124) (127, 128) (126)  
(125) (123 124) (114) (122) (  
119) (121) (101) 3가  
(105) 90 ° , 3가 :

- (120) (121) ;
- (118) (119) ;
- (118) (119) (120) (121)

2 가 PCB(129) (102) (130) 2 가 PCB(129)  
LED(131) (132)  
(133) 2 가 PCB(129) 2 가 PCB(129)  
, RF RF , (101) (134)  
(135)( ) (107)  
(132) (136) 2 가 PCB(129) (125)  
(137) (138) (137) (125) . 3

가 (139) (125) (140)  
 2 가 PCB(129) (139) 2 가 PCB(  
 129) , (119) (121) 가 (120)  
 (118) 가 (125) LED(143)  
 ) (144) IR (144) (123, 124) (  
 IR LED(143)  
 (rubber grip pad; 141, 142) (102) (108) (101)  
 , (105) (101) (142)  
 6.2 (Pen Controller)  
 (101) , ( (121) (119))  
 (134) 가 가 (121 119) (135)  
 (134) (134)  
 RF (133) (112) (101) (  
 )  
 , (101)  
 , (101)( (101) 12  
 )  
 (134) (101) 2 가 PCB(129) 10 (134)  
 IR LED(143), 10 RF (133), (132), 3 LED(116), IR LED(131),  
 (144)  
 가 (134) (145) (146) (134)  
 (147) 512 KB DRAM(148) (149)  
 (144)  
 12) (152) (132) RF (155) RF (1  
 (154)가 (156) RF (133) (153)  
 (145) (132)  
 (144) , LED(116, 131, 143) (153)  
 ( 40MHz) RISC  
 (145), ( (153) (154)),  
 (152), (147) 512KB DRAM(148) ASIC RF (R  
 F (155) RF (156)) RF

IR 215x215 CCD( Matsushita Electronic Corporation  
 , Itakura, K., T Nobusada, N Okusenya, R Nagayoshi, M Ozaki, " A 1mm 50k - Pixel IT CCD Image S  
 ensor for Miniature Camera System" , IEEE Transactions on Electronic Devices, Vol.47, number 1, 2000  
 1 )

ASIC(134) (101) ,  
 (144) (wake up) (150) (pen - down event) (151) (134)  
 (ISM) , 가 900MHz (hopping) , 가 2.4GHz ,  
 (IrDA)

9 10 , (101) (101) 가 . 가 (190)  
 가 (101) , 가  
 ID ( , ) ,  
 ID 가 가 .  
 x y 가 가 .  
 가 , 가 , 가 가

7 (Netpage Printer Description)

7.1 (Printer Mechanics)

(601)가 11 12 12a  
 8½" Memjet™ (602, 603) Letter/A4  
 602, 603) (604) .  
 (605) 가 , 가 가 (618)

13 가 (627) , ,  
 (639) (638) Memjet™ (350)  
 가 3000 (1500 ) (glue) 가

12 , (626) 1 (602)  
 Memjet™ . 2 Memjet™  
 (602, 603) (604)

(626) 가 . 1 가 (602) . (604) 가

1 Memjet™ (602) " " ( ) (604)

2 Memjet™ (603)

12 12a , (604) (602, 603) (605)

가 (670) 가 / (670) (673)

(673) (627) (641) (6

79) (679)

(682)

(673) 가

(682)

(604)가 (673) , 가 (605)

( 1 ) 가

7.2 (Printer Controller Architecture)

14 , (750),

(625), ( (753), (754), RF (755), RF

(756)), (RIP) DSP(757), (760a, 760b),

(658), 64MB DRAM(657)

(19) (101) (61

7) , LED(613 - 616) , RIP DSP(757) (760) (760)

(659) (760)

RIP DSP ( , 30 ) Memjet™ (350)

(760a) QA (665) QA (761)

(658) (750) DSP(757)

(657)

(750), DSP(757), (753) (754)

ASIC(656) . RF (RF (755) RF (756)) RF

(762) .  
 (625) . (658) 2x256Mbit(64MB) DRAM(657) - (o  
 ff - chip) . (760) ASIC .

(625) , (751)  
 (752) . POTS , - (  
 Hybrid Fiber - Coax; HFC) , ISDN , DSL , ,  
 , (wireless local loop; WLL) IEEE 1284( ) ,  
 10Base - T 100Base - T , USB USB 2.0, IEEE 1394(Firewire),  
 가 ,

(753) 가 900MHz 가 2.4GH  
 z , (ISM) ,

" (squirt)"  
 (IrDA)  
 IrDA .

7.2.1 (Rasterization And Printing)

(750)가 DSP(  
 757) RIP .

DSP(757)  
 . DSP 가 DSP가 DSP  
 . DSP DSP

- (contone - resolution bi - level)

ID (IR) 6 ID,

(750) (760)  
 (760) .  
 114MB CMYK+IR

7.2.2 (Print Engine Controler)

(760) IEEE 1394 (659), JP  
 EG (763), 4 Fax (764), / (765), (766),  
 / (767), Memjet™ (350) (768) .

DRAM(769) (360) , 가 DRAM(769) (659) 가

(764), 1 JPEG CMYK (763), 4 - (766)  
1.2 CMYK (765) CMYK Memjet™  
(350) (765). CMYK+IR (767). DRAM  
(768) Memjet™ (350) 6

(760)가 / (771) (760) (770) (770)

(350) (760) (675, 676) (772)가 (773)

8½" , 2 1600 dpi 8.8 kHz 가  
(11" 30 (8½" 45 , 2 1  
0.2 kHz 가 30 kHz Memjet™

8 가 " " " , " " " , / 가

ersal Resource Identifier) , ID, 가 ID UR1(Univ  
가 DNS

UR1 (closed caption)

VBI(vertical blanking interval)

2

VBI -

가

8.1

8.1.1

VBI

1 21

VBI

21

21 1 2  
21 2 2

(CC1 CC2) 2  
2

(TEXT - 1 TEXT - 2)  
(XDS)

XDS

XDS

( , V - )

EIA - 608(

1999 12  
. XDS

EIA - 608 - A "  
EIA - 766(

21

1998

9  
(PSIP)

EIA - 766 " U.S.

(RRT)

ATSC A/65

" )

EIA - 746(  
T - 2)

1998 9

EIA - 746 - A " Text - 2(

URL

URL(Uniform Resource Locator

" )

Text - 2

URL

TV

2

UR1 Text -

가 XDS

UR1

XDS

8.1.2

(XDS

). EIA - 708(

1999 12

(DTV)

" )

ID

(PSIP)  
(PSIP)

- , ATSC(Avanced Television System Committee))

ATSC A/65

UR1 Text - 2

TV  
XDS -

8.1.3

ID

, DVD

8.2

TV

(Zilog) " NTSC 21

8.2.1

I<sup>2</sup>C (500) 가 (656) 46 (656)

(601) (501) " " (500)

TV

가

(504) ( 47 ). 가 (504)

가

(506) (507) ( 48 ).

(601)

8.2.2TV

(501)( , ) TV - ( , - )  
(500) TV

가 , TV , TV (short - ra  
nge) (508) (601) RF (762) " "  
(10) ,

(Conclusion)

(57)

1.

가

2.

1

3.

1

4.

1

(playback)

5.

4 ,

6.

1 ,

7.

6 ,

(broadcast)

8.

1 7 ,

9.

1 7 ,

10.

1 ,

11.

1 ,

12.

11 ,

(caption)

13.

1 ,

,

,

.

14.

1 ,

.

15.

가

,

-

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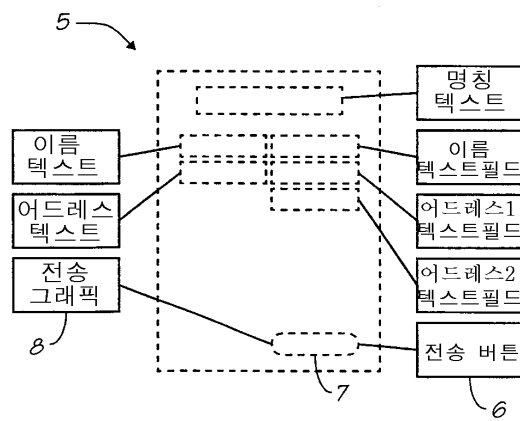
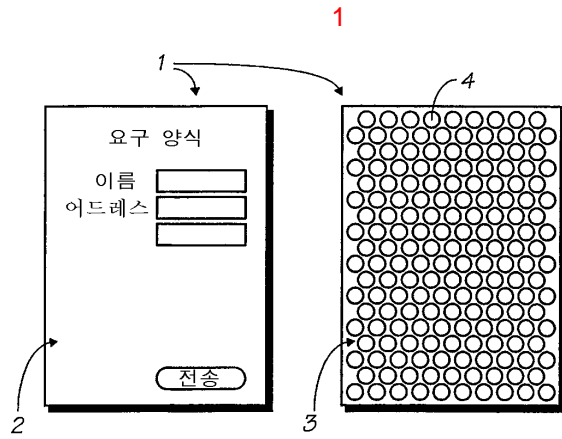
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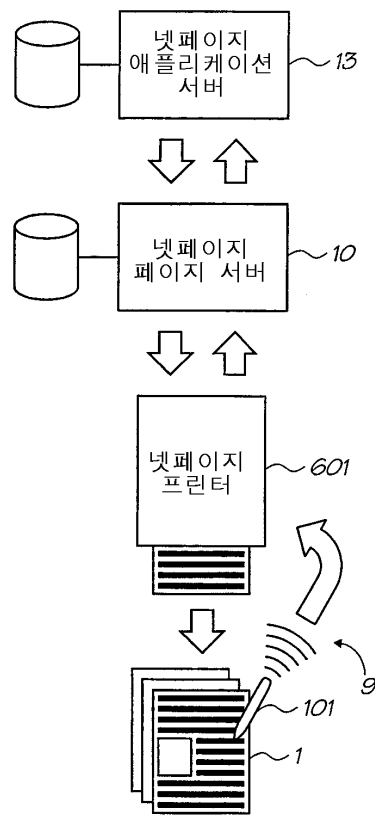
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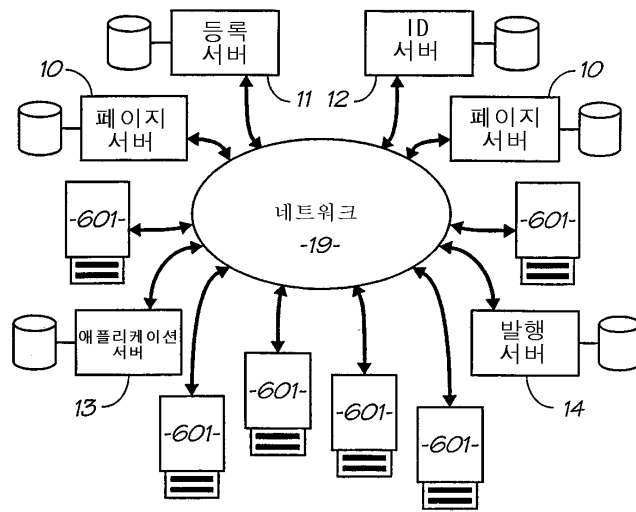
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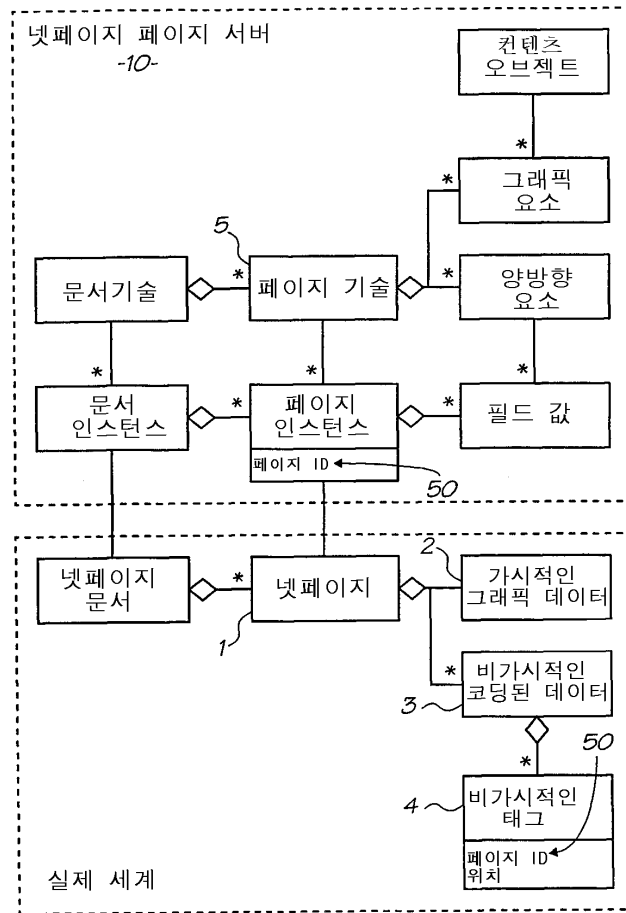


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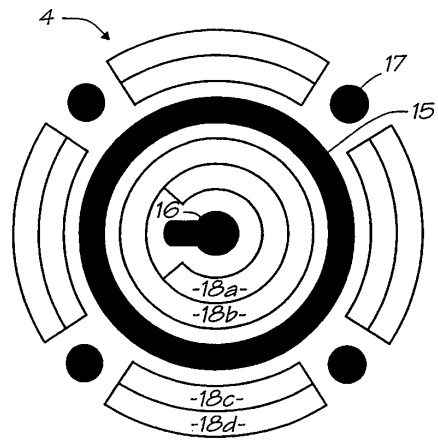


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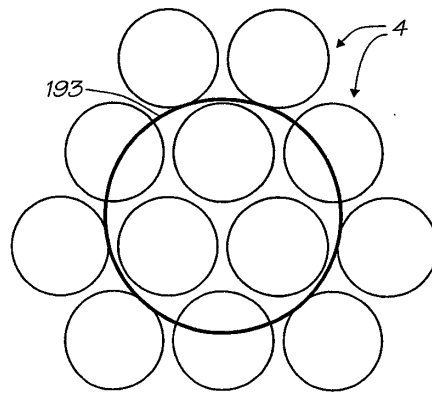




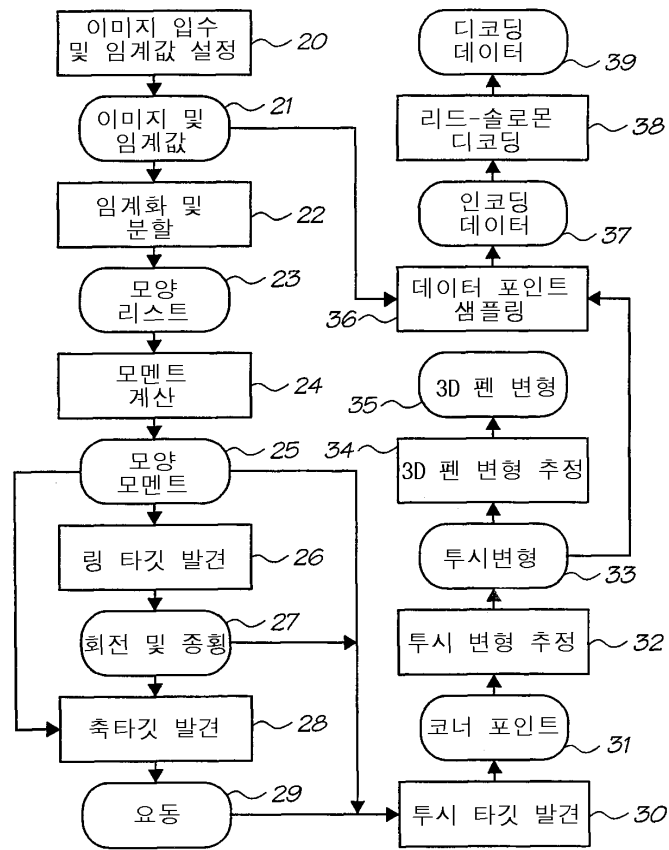
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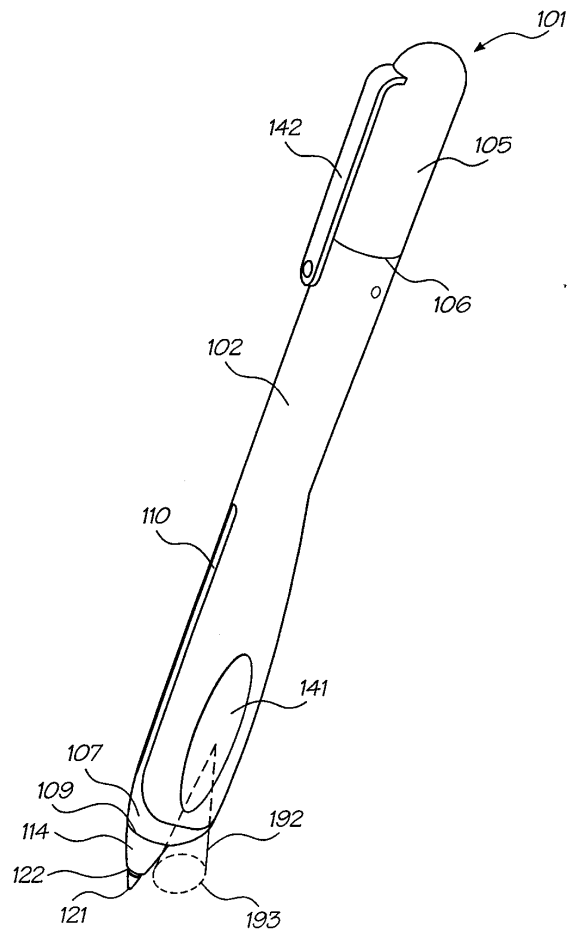
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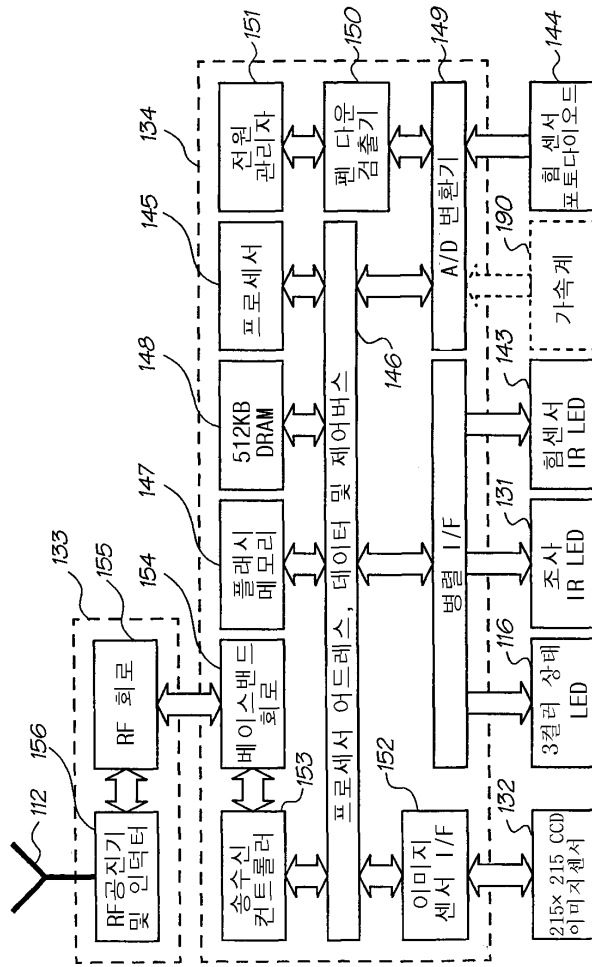


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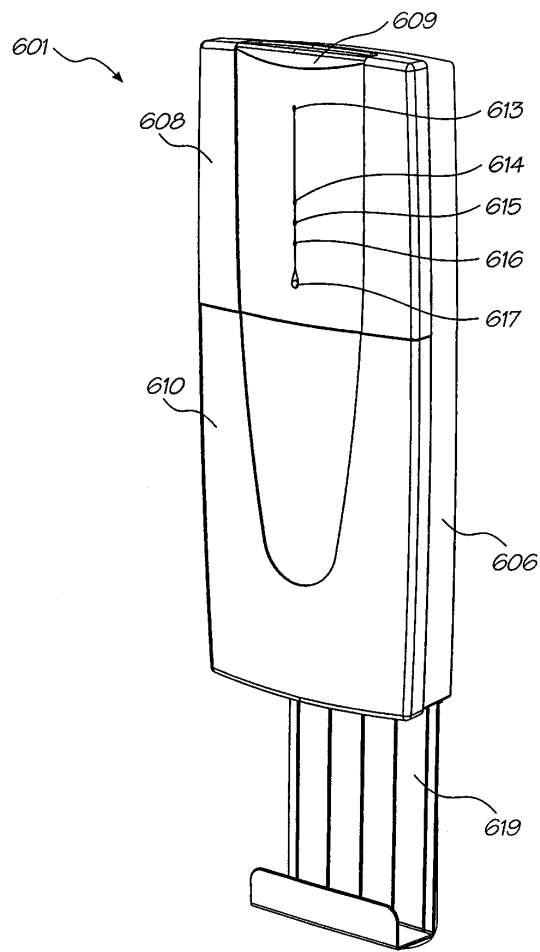




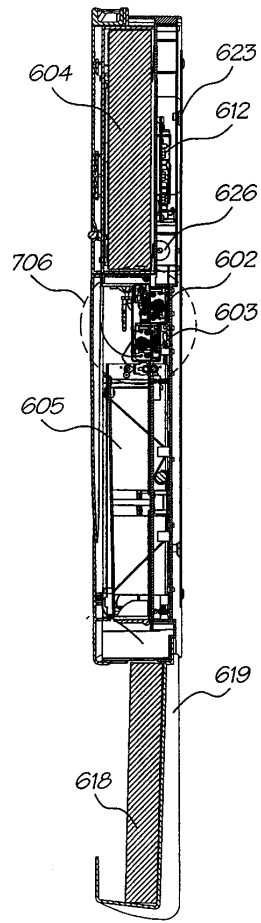
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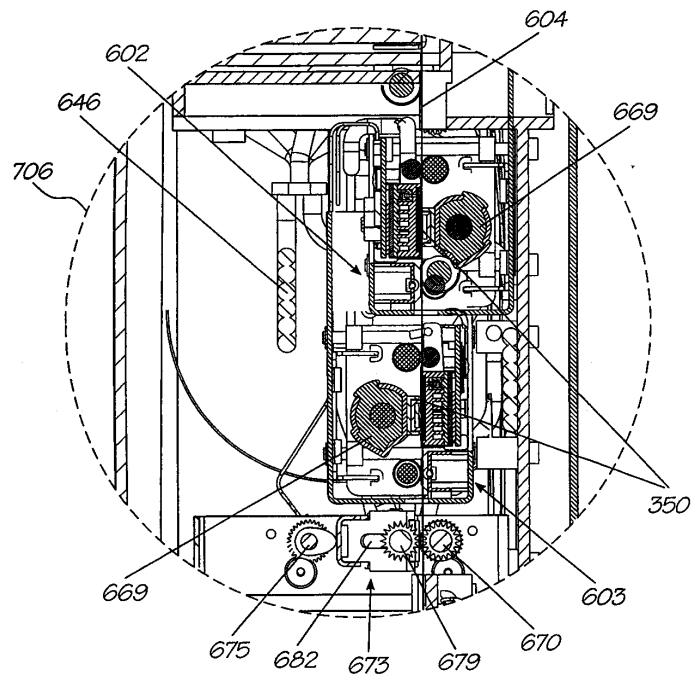
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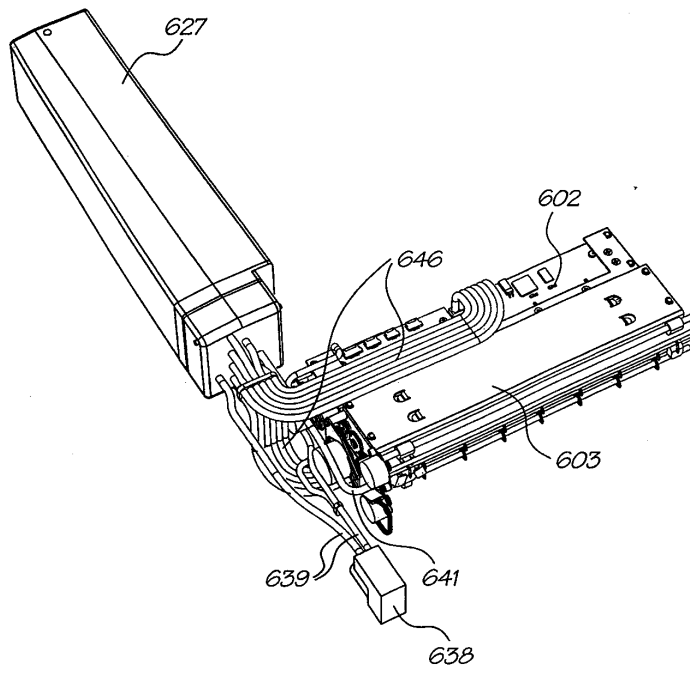
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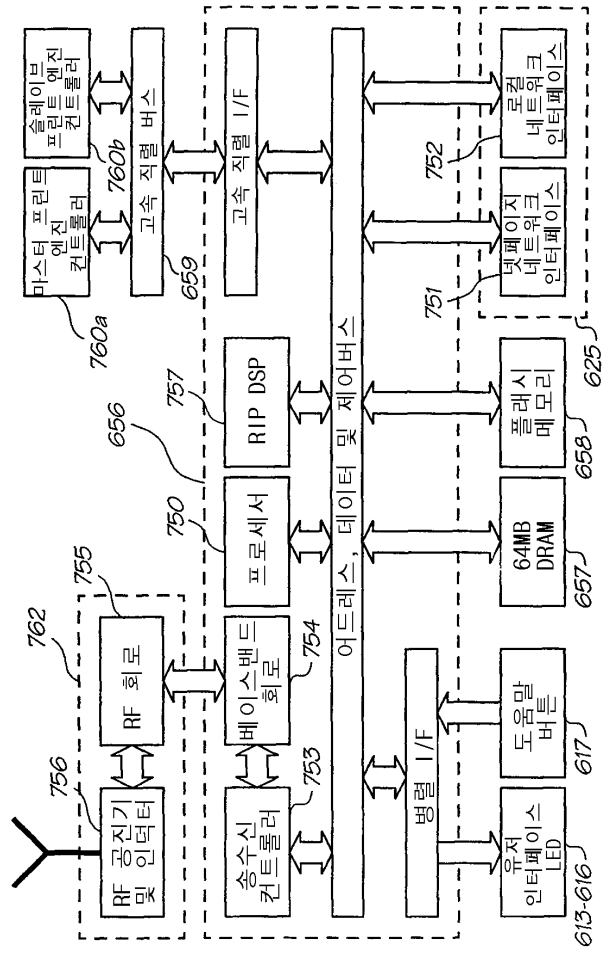


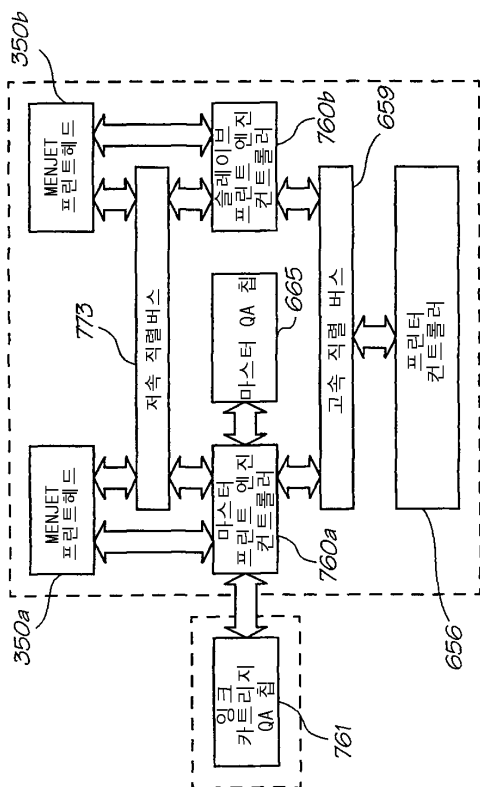
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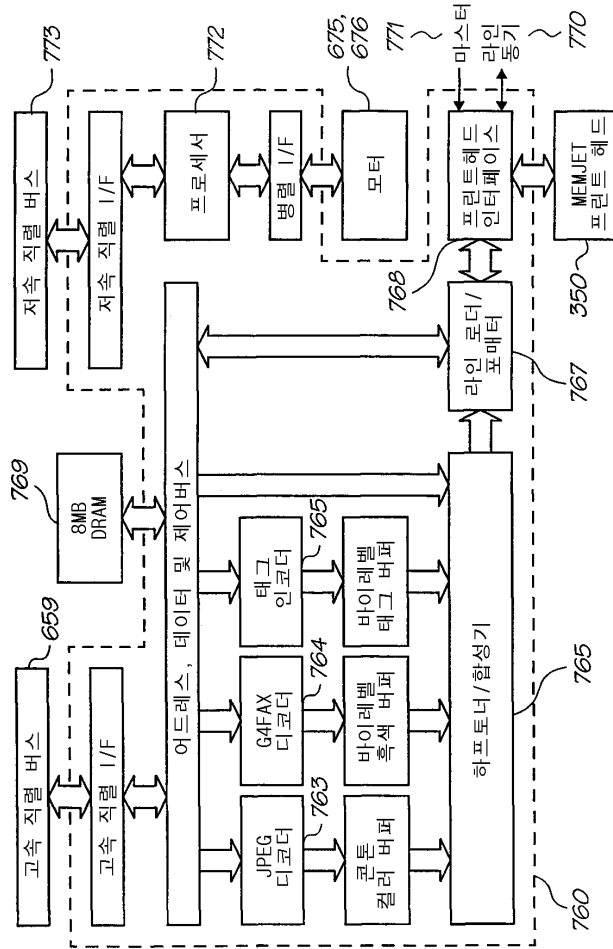
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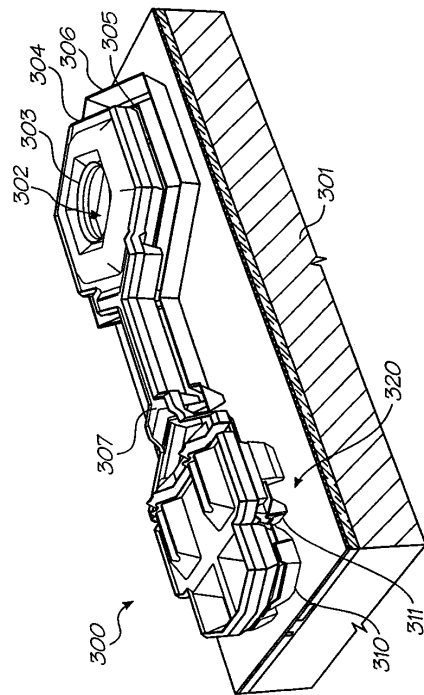




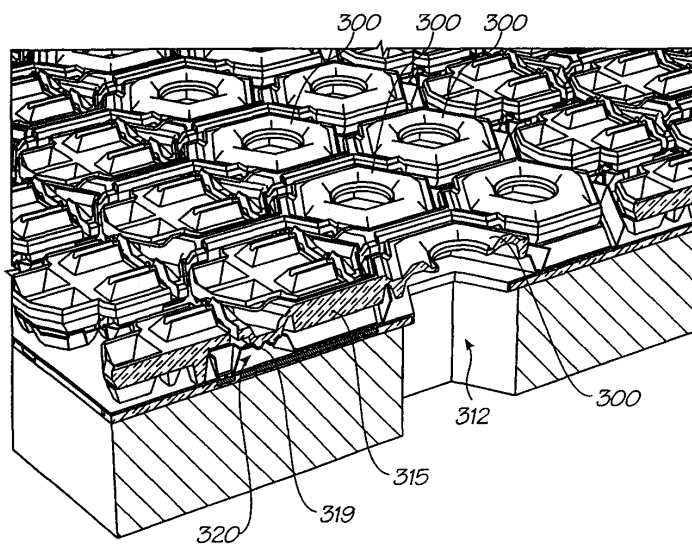
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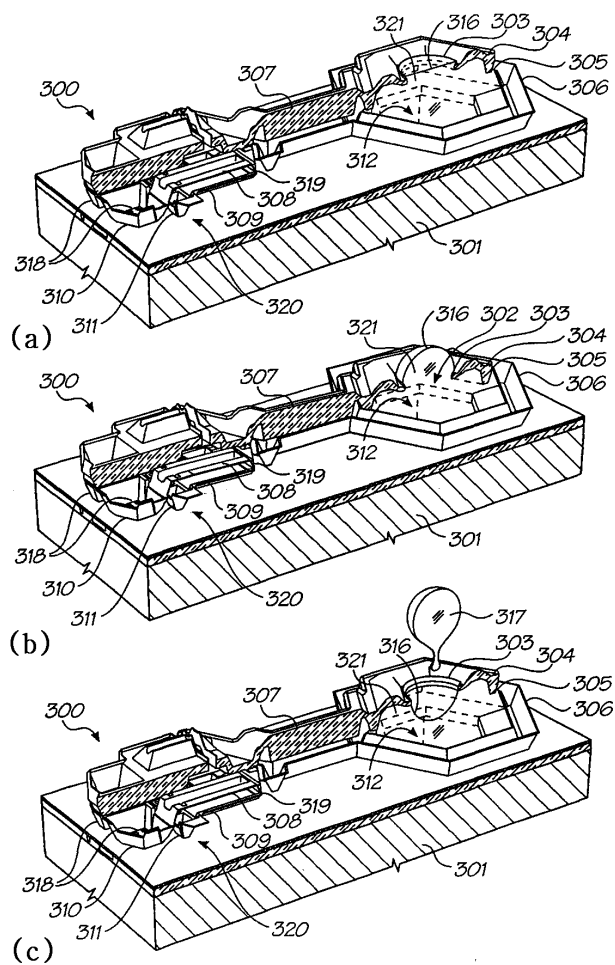
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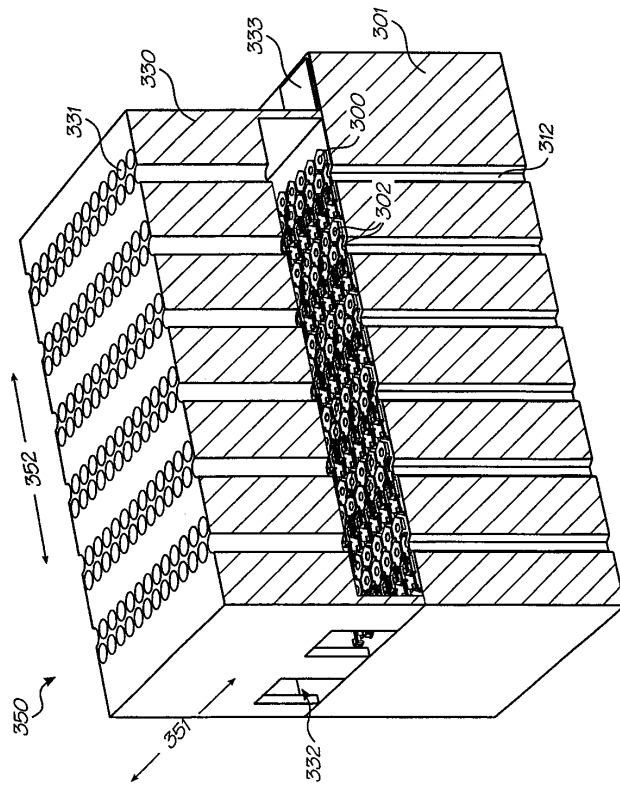
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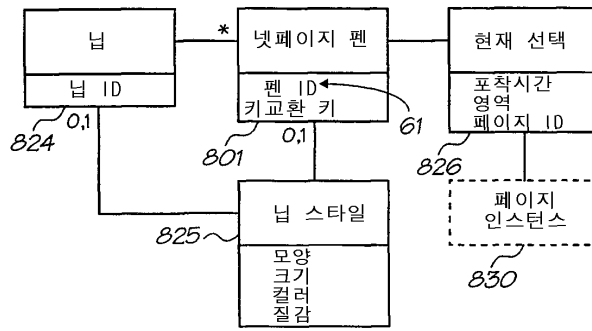


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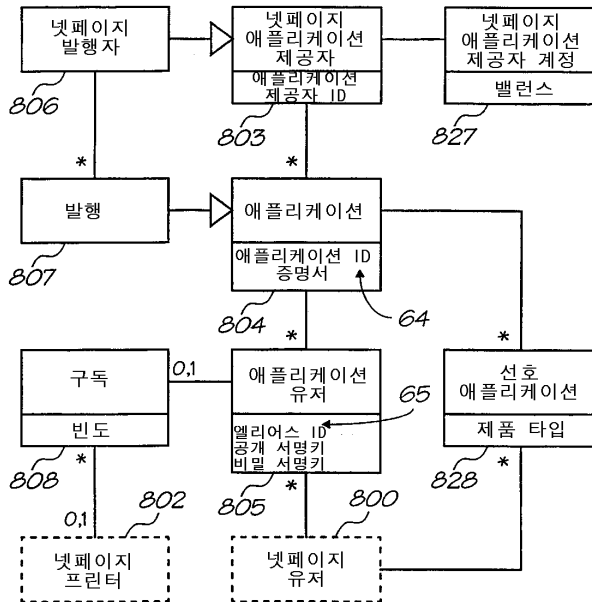




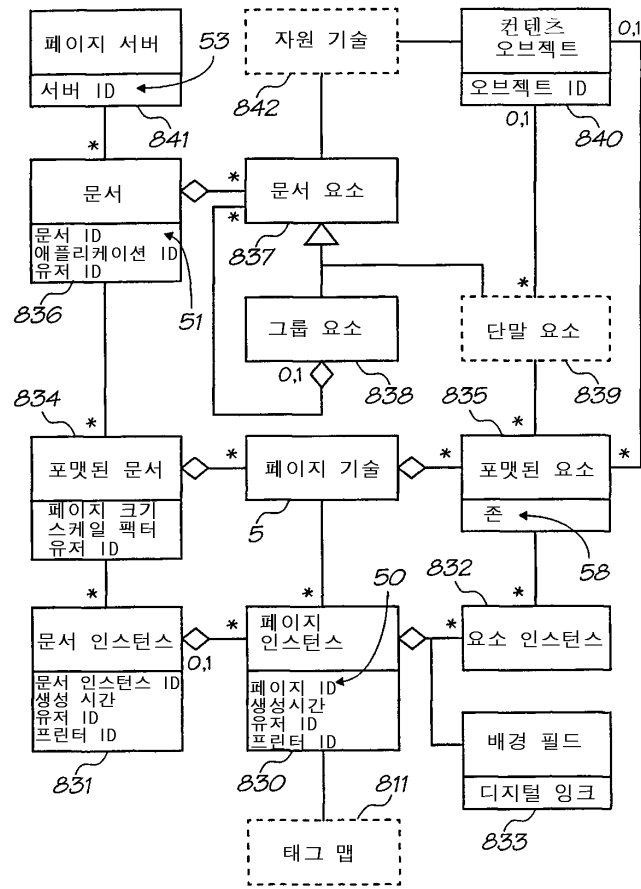
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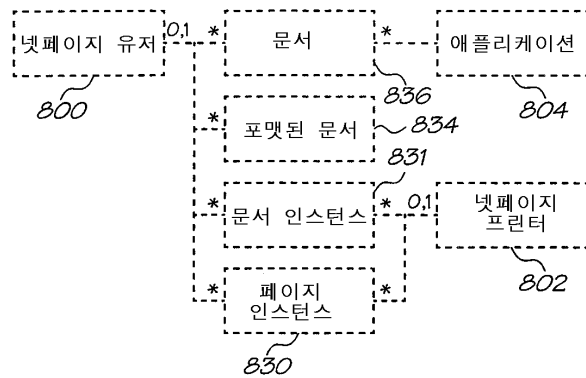
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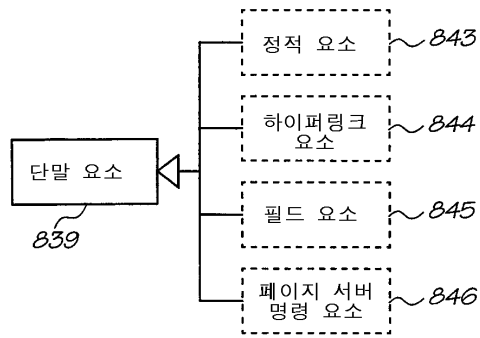
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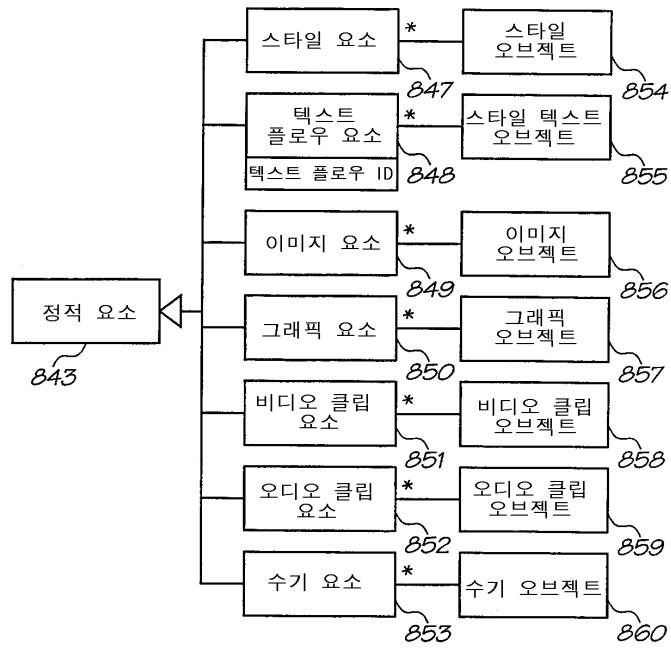
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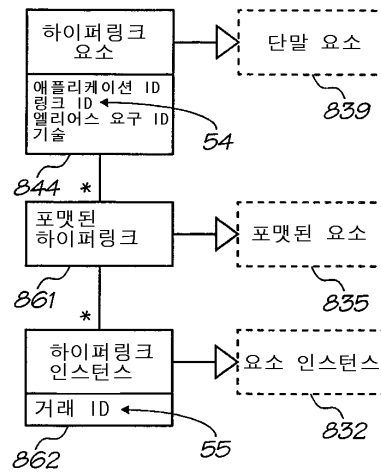
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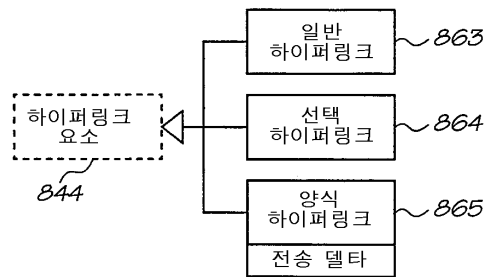
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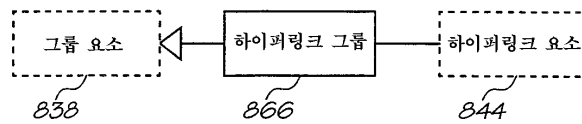
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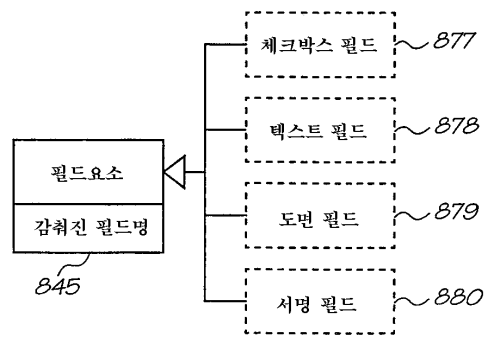


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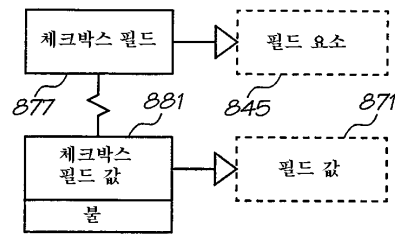




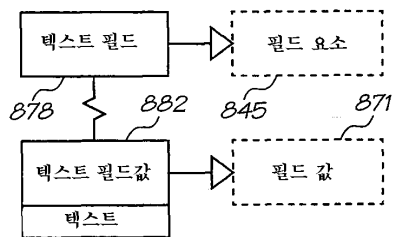
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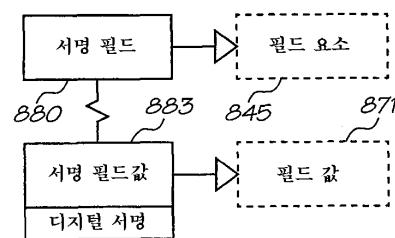
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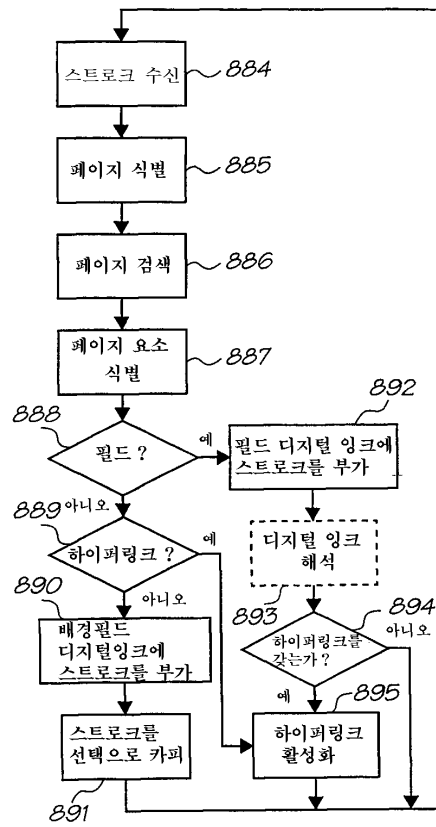


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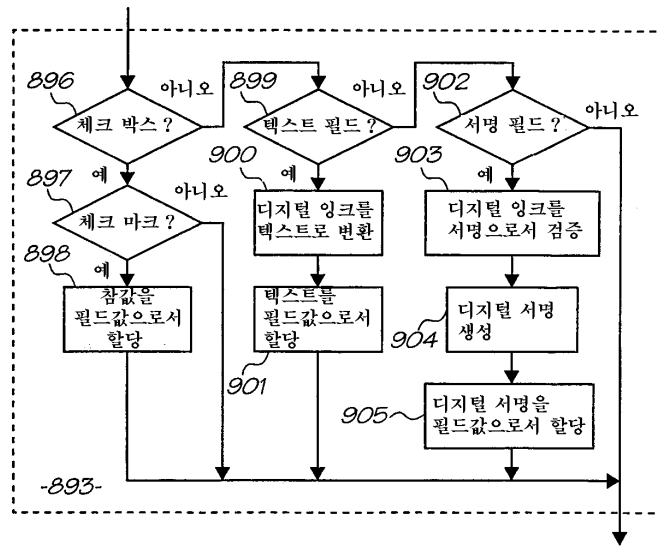


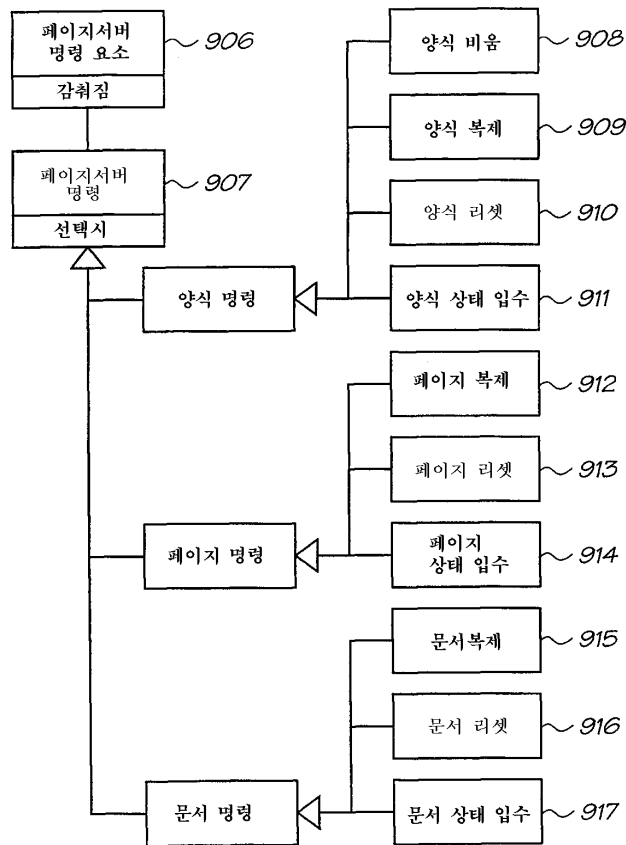
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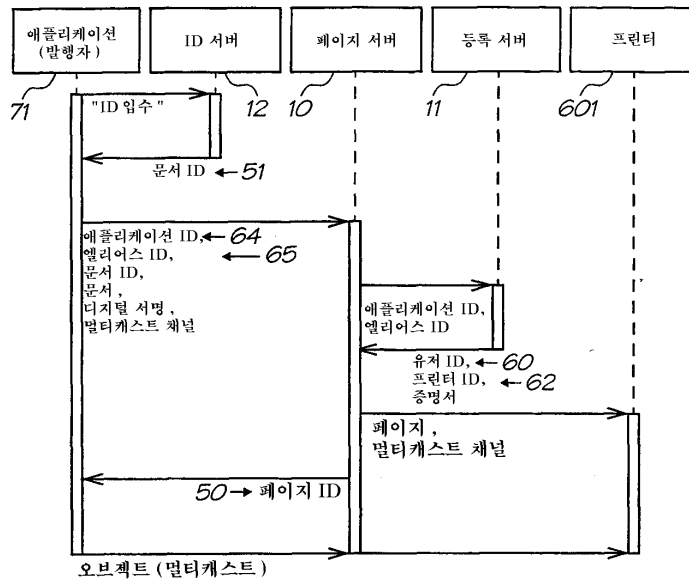


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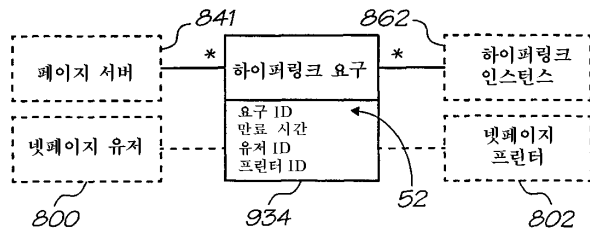


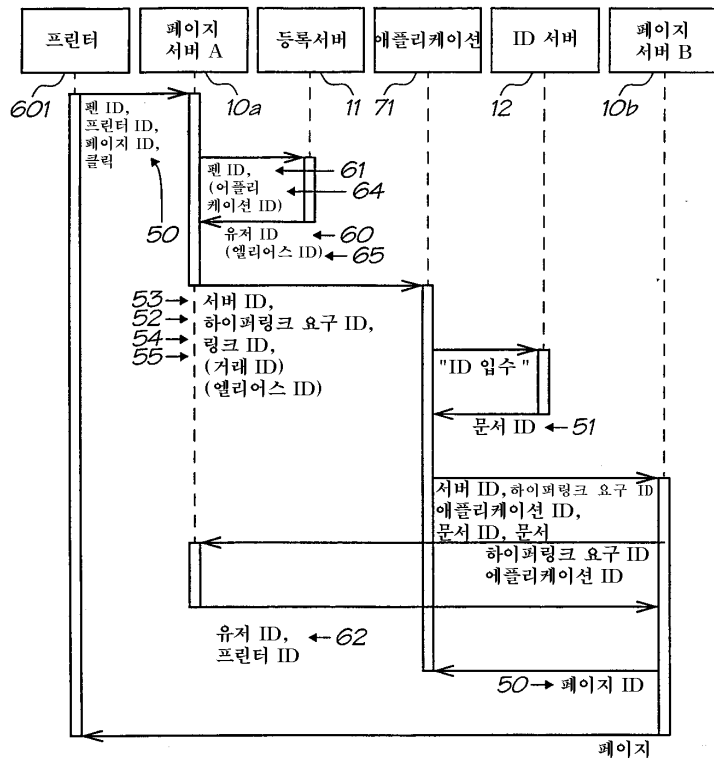


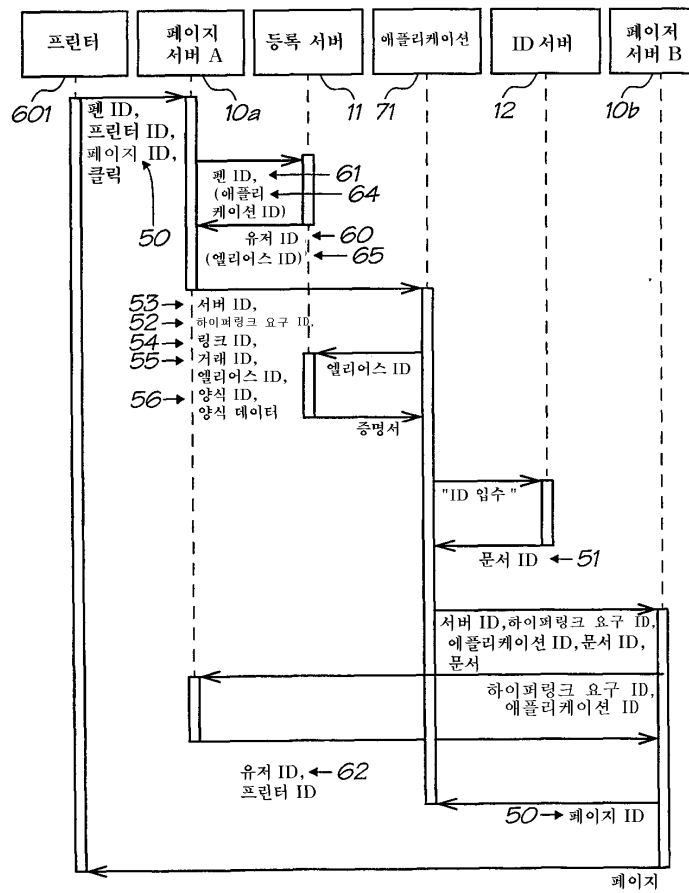
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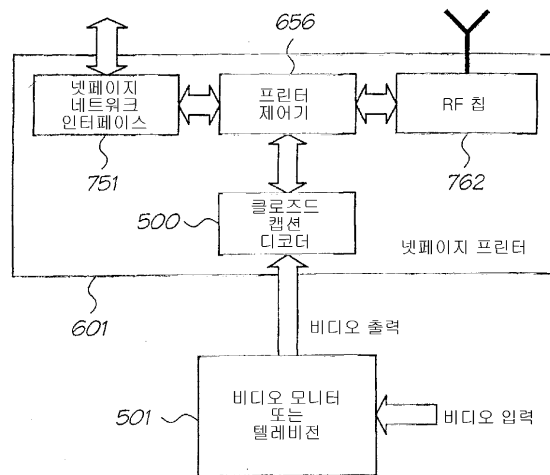
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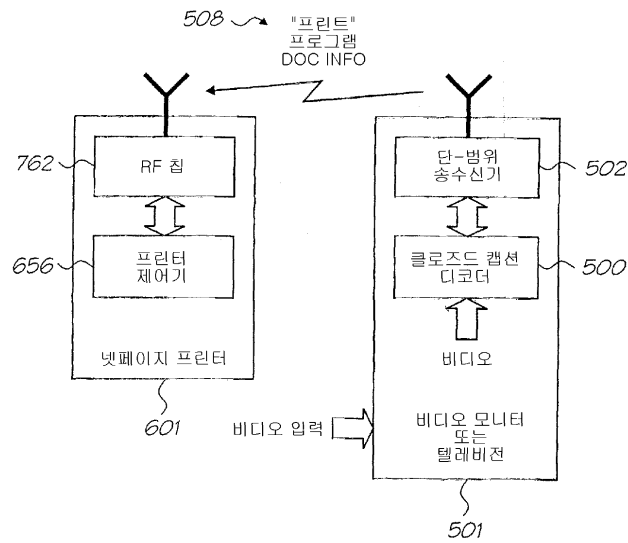




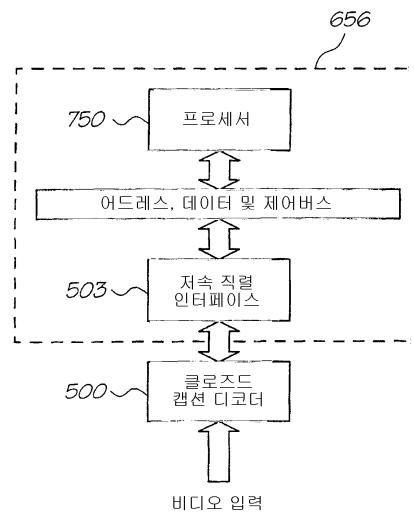
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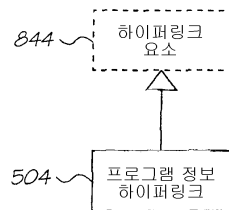
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