



:

---

(54)

---

, 가

,  
가

50

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,



가

3

가

가

가

가

3

가

가  
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 .

17 10 12 Memjet™

18 Memjet™

19 13 Memjet™

20 Memjet™

21 .

22 .

23 .

24	.	.
25	.	.
26	.	.
27	.	.
28	(static)	.
29	.	.
30	.	.
31	.	.
32	.	.
33	.	.
34	.	.
35	(checkbox)	.
36	.	.
37	.	.
38	.	.
38a	38	.
39	.	.
40	(resource description)	.
41	(favorites)	.
42	(history)	.
43	.	.
44	.	.
45	.	.
46	.	.
47	.	.

48  
49  
50  
51  
52  
53  
54  
55

: Memjet™ Silverbrook Research Pty Ltd.

(netpage)

(implementation)가

(map) , (mapped surface),

(local query)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)

cs) (biometri

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

1 (Netpage System Architecture)

(Unified Modeling Language: UML)

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

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

가  
1.1 (Netpage)

(記述) 가 ( )

가

가

(page description)  
(ID)가

ID

가

가 가

가

ID

가

가

가

가 4

1.2 (Netpage Tag)

1.2.1 (Tag Data Content)

가

(flag)

가

" " LED

(tiling)

가

ID

가 ID 가 ID 가  
 D ( 1)

[ 1]

	(bits)
ID	100
ID	16
	4
	120

가 1 ID 1024 64  
 , 16 가 (mapping) 100  
 ID  $2^{100}$  (  $\sim 10^{30}$  )

1.2.2 (Tag Data Encoding)

120 (15, 5) - (Reed - Solomon)  
 15 4 6 (codeword) 360 (15, 5)  
 5 33%  
 4 , 6 )가  
 가

1.2.3 (Physical Tag Structure)

5 (15, 16, 17) 가 (18)  
 가 3  
 4mm 가 256 × 256 16 " 1600 (quiet area)" 16  
 가  
 6 (15) 가 (16)  
 가 . 4 (17) 가 2  
 3



(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 ) - 가 ).

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 가

1.3 (Document and Page Descriptions)

가 (formatted). (835)

(830)

가 가 가

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

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

ID(50) 가

가 (832) ID(55)

27 (846) (847), (849), (851), (860) (843), (843) , 28 (855) (857) (853) (844), (844), (845) (854) (848), (856) (850), (852), (859)

858)

(833)

, (811) 가

1.4 (Netpage Network)

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

(11) , , , , (10)

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

(Distributed Name System: DNS)

ID(50) , .  
(13) (14)  
2

IBM, (Hewlett - Packard) (Sun) , ID  
가 . ,

1.5 (Netpage Printer)

(601) ,  
ID(62) 가 , ,  
" " 가  
(10) .  
(14) 2 , ,

가

가

(760) Memjet™ (rasterize) (350)

2 (RIP)

가

DSP(757) (dither)

(tag)

, IR

가 IR -

IR -

(globes)

(tiling) (811)

가

2

(11)

11

16

6

### 1.5.1 Memjet™™

(Memjet™™ Printheads)

(thermal inkjet),

가

가

Memjet™, Memjet™  
(MEMS: microelectromechanical systems)  
(drop - on - demand) 17 Memjet™  
(300) (wallprinter) 1600dpi  
168960 (300)

(300) 32 110 CMOS  
( ) (301)

(300) (302), (303: rim), (304), (305: sealing),  
(306), (307), (308), (309),  
(310), (311), (312: inlet)

(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) (308) 가 가 (308) (318) 가 가  
(309) 가 (320)  
(stress) 가 (301) 2  
(307) (304) 19  
(b) (304) 2 (302) (32  
1) 가 가 (316)가 (303) (3  
16)가 (304) 가

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

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

(331) (302) , 가 (guard) (330) (301)  
(332) 가 (321)가 가 (331) 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 " "

가 가 (193)

가 (手記)

(stroke)

ID가

ID(50)

가

(826)

가

(824)

가

가

(825)

가

가

" LED 가

" LED가

," LED가

가 , 10

가

가

가

8 10

6

1.7 (Netpage Interaction)

(601)

(1)

(101)

(4)

(3)

가

(830)

가

(10)

ID(50) DNS

가

가

가

(

)

가 , 가 ,  
 가 . 가 .  
 " " . " .  
 (sloopy)" , " OK" LED .  
 2 , 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(  
 55) ID  
 " (shopping cart)" .  
 (868) , (826) 가 " (submit delta)"  
 , .

(866) 31 (838) .  
 (844)가 . " "  
 " (blackboard)" , , " "

1.7.2 (Forms)

(867)  
(868)  
(870)

32

(838)

(871)

(845)

(839)

(872)

가 " " 가

가

(833)

(59)

가

(873)

(875: styled stroke)

(874)

(876)

33

가

(845)

34

(877),

(878),

(879),

(880)가

(58: field's zone)

35

( (tick),

(881: boolean value)

(fill zigzag) )

36

(882)

( , Tappert, C., C.Y. Suen and T. Wakahara, " The State of the Art in On - Line Handw riting Recognition" , IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol.12, No.8, Augu st 1990 ).

37

(883)

가

( , Plamondon, R. and G. Lorette, " Automatic Signature Verificatio



38  
 (5) (884), ID(50)가 (830) (885),  
 (886), 가 (58) (839) (887), 가  
 (888), (871) 가 (892),  
 (893), 가 (866) (894),  
 (895), 가  
 (889), (895),  
 (833) 가 (890),  
 (826) (891)

38a 38 893  
 가 (896) 가  
 (897), (898), 가  
 (899) (901), 가  
 (900), (903),  
 (902), (904), (905).

1.7.3 (Page Server Commands)

910), (907) 39 (908), (909), (  
 (911), (912), (913), (914),  
 (915), (916), (917)

ID 가  
 , 가  
 , 가 , , ,

가 ID ,

가 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

가

" 900" "

" "

가

" "

가

## 2 (Personalized Publication Model)

가

가

### 2.1 (Editorial Personalization)

가 2가

" 가

: , 가 , 가 , 가 , 가



가

2.2 (Advertising Localization and Targeting)

) 가 (

가 " ", 가 , 가

가 가 " (slot)"

가 가

가 가 가

가 가

2.3 (User Profiles)





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

가

가

(populated)

100 , , 400KB , , 64MB 1/4  
 400KB 3Mbit , , 1

가 , , 가 , , 100

가 , , 가 가 , , 가

가 , , 가

2.7 (On - demand Document)

가 (on - demand) , ,  
 가 , ,

- (non - netpage) 가 , ,

PDF(Adobe 's Portable Document Format) HTML(Hypertext Markup Language)  
 . HTML , ,

가

3 (Security)

3.1 (Cryptography)

2 , , 가 , , 2

2

2 , , 2

가 , ,

가

, 2

(hash)

가

" "

가

3

가

가

가

(session key)

가

가

3.2

(Netpage Printer Security)

ID(90)

ID(62)

가

가 50

(91, 92)

ID

가

(91)

(11)

ID

(74)

ID

ID

ID

(81)

(92)

가

가

(92)

가

가

가

/ (91) , (92) ID(90) ROM

3.2.1

가 가 , 가 (808) (836) ID(65) (803, 806)가 (805) (67) 가 (808) 가 ,

3.2.2 (Web Terminal Authorization)

가 가 51 가 (601) ID(412) , 1 : (413) 1 URI (75) URI ID가 (95, 96) (95) ID(68) , ID ID (96) (809) URI, ID (76) 가 52 (75) (601) ID(68) , URI (96) (418) (77) (11) (809) (95)

3.3 (Netpage Pen Security)

ID(61)

" (know)"

" " 가

(明文)

ID

ID

가

가 53

(101)

(601)

(11)

가

ID

ID(62)

(802)

(801)

(74)

(800)

가

가

(charging cup)

ID(61)

(93)

가 54

(101)

ID

(601)

(nonce; 423),

1

(11)

(424)

(74)

ID,

(94)

(425)

ID

(81)

ID

(83)

가

3.4

(Secure Document)

가

" (watermark)"

- - (back - to - back)

" " (dither)

가

1.9

가 , 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



4.5 (Resource Descriptions and Copyright)

가 40

(842)  
(Dublin Core)  
(W3C) (RDF)

(920)

가

5 (Communication Protocols)

가

가

가

가

5.1 (Subscription Delivery Protocol)

(pointcast)

가 43

( , )

ID (12)

ID(51)

ID

(836) ,

(10)

ID(64), 가

ID(65)

(402)

(401)

ID

ID

ID(60),  
)

ID(62)(  
(67)

(11)

가

(401)

ID

ID

가

(808)

ID ID(50) (5)

ID

가

(400, 404)  
가

가

5.2 (Hyperlink Activation Protocol)

가 45

1) 가 (406) 가 가 (60)  
1) ID(6)

DNS ID(50) (10a) 가  
62), ID ID,

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

ID(61) (11) ID(60)  
ID(52) (934) 가 44  
ID (862)

ID(53), ID ID  
, ID (12) ID(51)  
ID ID

(10b)  
2 ID ID 1 (10a) ID  
ID(62) 1

2 ID ID(50) ID  
, 가 , (5)

ID ID(55) 1

가 ID(61) , , " ID(64) " , 1 (10a) ID ID ID ID(65) . 1 ID

5.3 (Handwriting Recognition Protocol)

(stroke) , 가 46 (406) 가 가 ID(61), ID ID(62), ID(50) (10) (58) ID (5) 가 (878) , 가 ID (11) (408) 가 (822) (409) 가 ( )

5.4 (Signature Verification Protocol)

(880) , (10) (406)가 가 5.3 가 가 ID(61) (407) (1) ID(56) (818) ID(64) ID(60) ID(64), (410) ID(65)

5.5 (Form Submission Protocol)

가 48 가 5.2

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

5.6 (Commission Payment Protocol)

( , ) 가 49 (70b)( , ) , (70a)  
 (72) ID(52)가 (70b)

5.2 가 (10)  
 ID 가  
 ID (414)  
 ID ID(64), ID(53)  
 ID (11)  
 (827)

가 가 ID  
 (415) ID (814)

6. (Netpage Pen Description)

6.1 (Pen Mechanics)

8 9 (101) (104)  
 (103) (102) (105) (102) (  
 106) (107) (102) (108) (107)  
 가 (102) LED  
 (107) (102) (108) (109) (109)  
 (110) (102) (103) (111) (112)  
 (102) (110) (107) (113A) (113)  
 (115) (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))  
 가 가 , (135)  
 (134) (121 119) . (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 Okuseny, 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) - (pen - down event) (151) (13  
 4) (wake up) (150) .  
 가 900MHz , 가 2.4GHz ,  
 (ISM) , (hopping) .  
 (IrDA)  
 9 10 , (101) (101) 가 . 가 (190)  
 가 (101) , 가  
 ID  
 ( , ) ,  
 ID 가  
 x y 가 가 .  
 가 , 가  
 , 가 , 가

7 (Netpage Printer Description)

7.1 (Printer Mechanics)

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

602, 603) (604) (605) 가 , 가가 (618)

13 가 (627) , ,  
 (bladder) (639) (638) Memjet™ (350)

가 3000 (1500 ) (glue)

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

가 가

1 Memjet™ (602) " " ( ) (604)  
 2 Memjet™ (603)

12 12a , (604) (602, 603) (605)  
 가 가 / (670) (673)

(679) (673) (627) 가 (641)  
 (679) (679)

(682) 가  
 (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)

7) (19) LED(613 - 616), (101) RIP DSP(757), (61) (760) (750) (659) (760)

RIP DSP ( , 30 ) Memjet™ (350)

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

(658) (750) DSP(757) (657)

(750), DSP(757), ASIC(656) RF (753) (754)) RF (756)) RF (762) (625) (658) 2x256Mbit(64MB) DRAM(657) - (o ff - chip) (760) ASIC

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

z (753) 가 900MHz 가 2.4GH (ISM)

(IrDA) " (squirt)" IrDA

7.2.1 (Rasterization And Printing)

757) (750)가 RIP DSP(

DSP(757)

DSP 가 DSP가 DSP DSP

(contone - resolution bi - level)

ID (IR) 6 ID,

(750) (760) (760)

114MB CMYK+IR

7.2.2 (Print Engine Controller)

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

DRAM(769) (360) 가 DRAM(769) 가 (659)

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

770) (760)가 / (771) (760) (  
(770)

(350) (760) (675, 676) (772)가 (773)

8½" , 2 1600 dpi 8.8 kHz 가  
(11" 30 12" , 2 1  
0.2 kHz 가 (8½" 45  
30 kHz Memjet™

(Conclusion)

(57)

1.

가 , 가 ; 가

2.

1 ,

3.

2 ,

4.

3 ,

가 ,

5.

4 ,

6.

5 ,

가 ,

7.

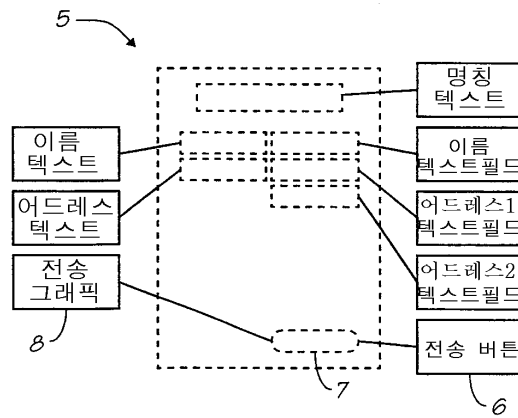
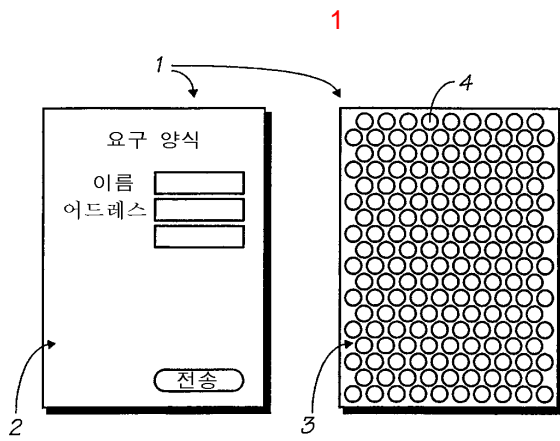
6 ,

, , 3

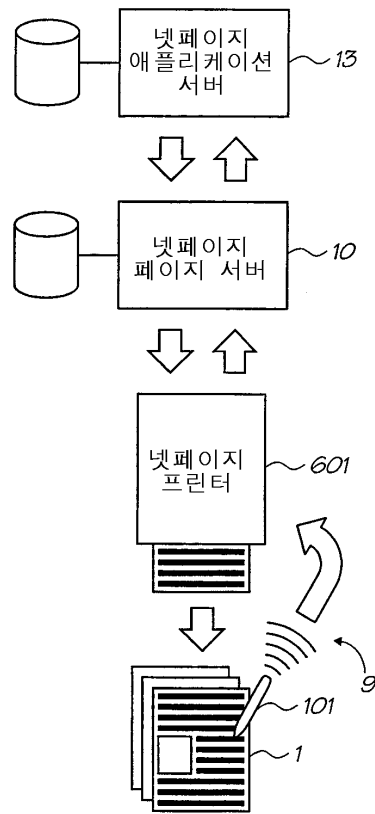
8.

가

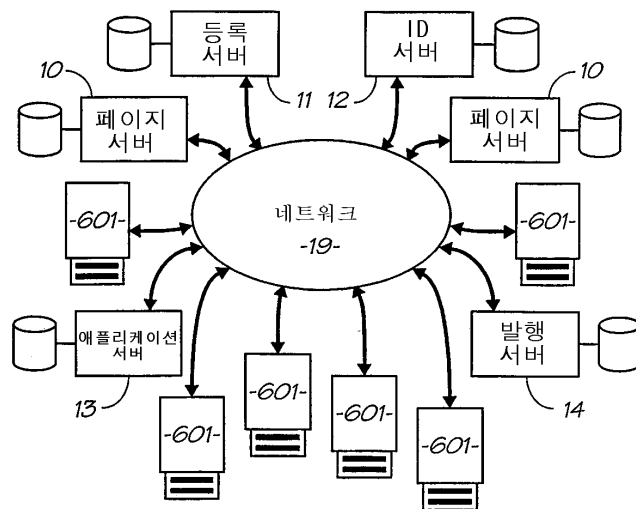
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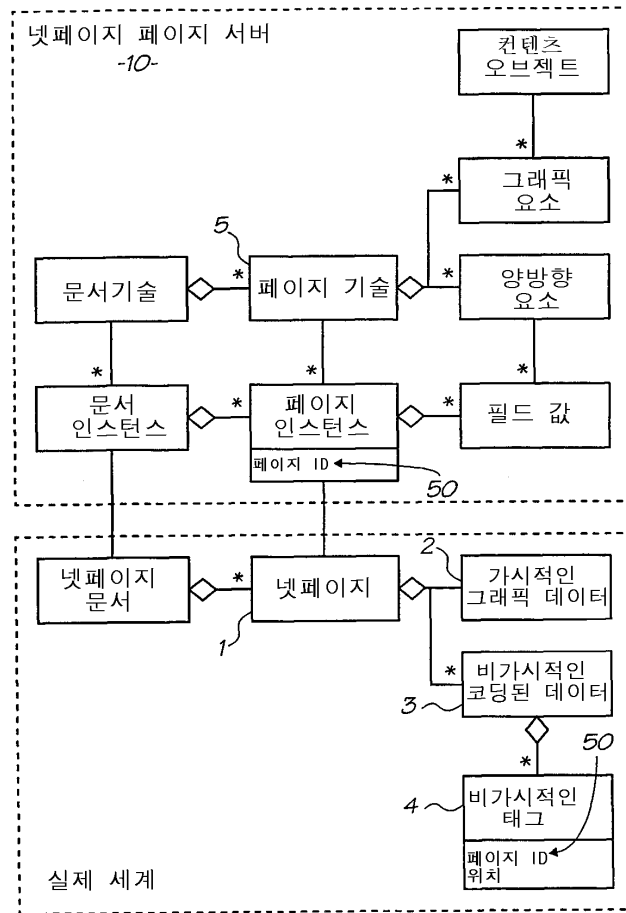
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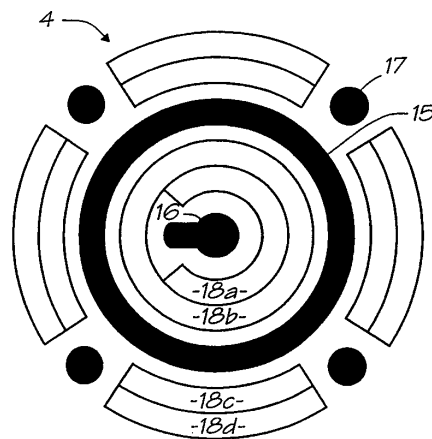
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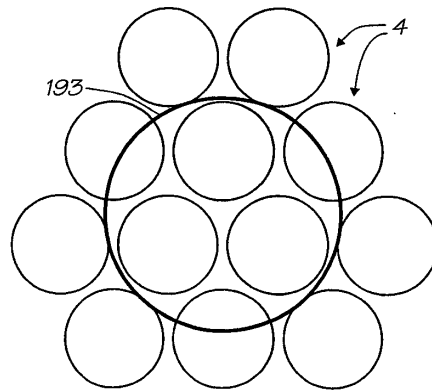
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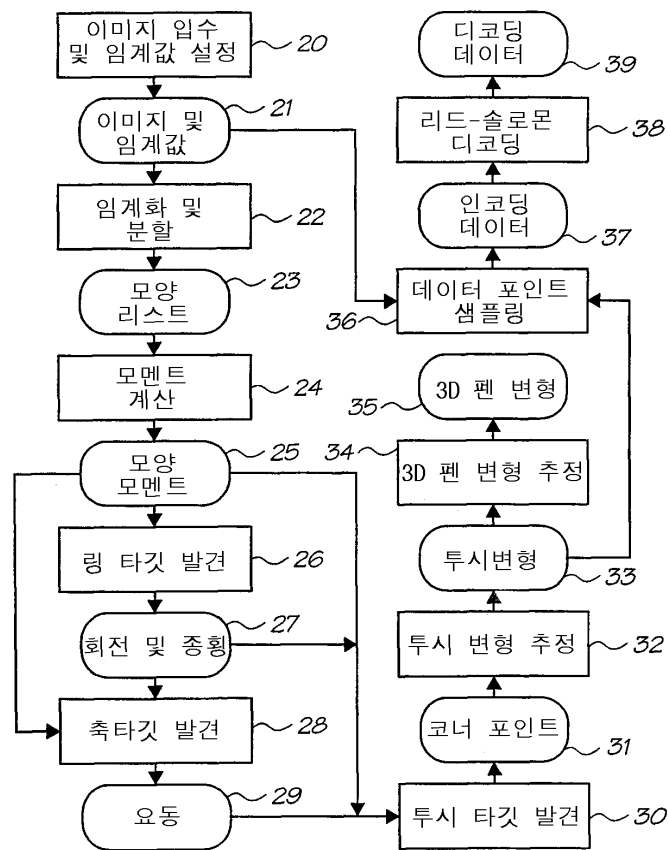
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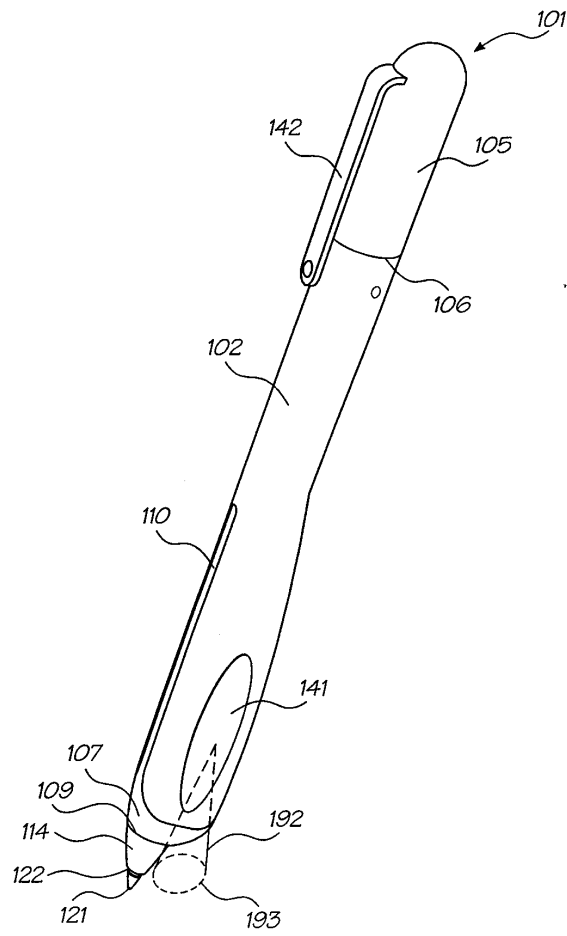
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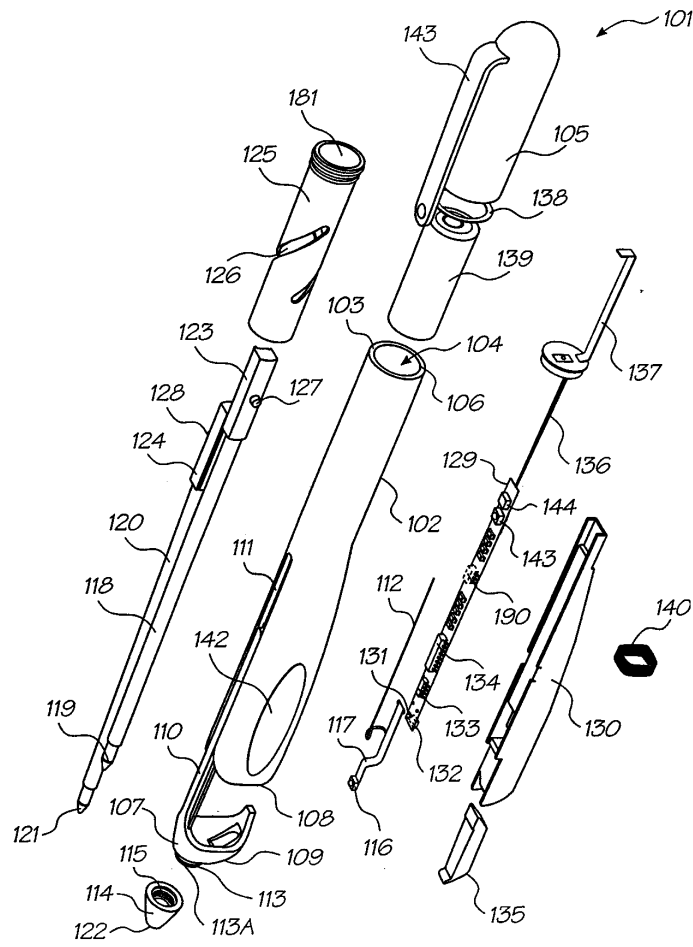
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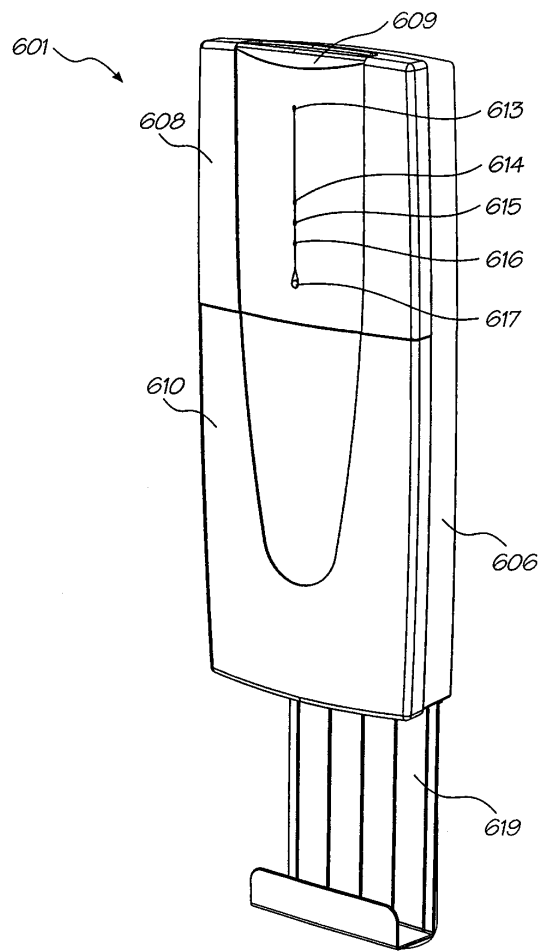


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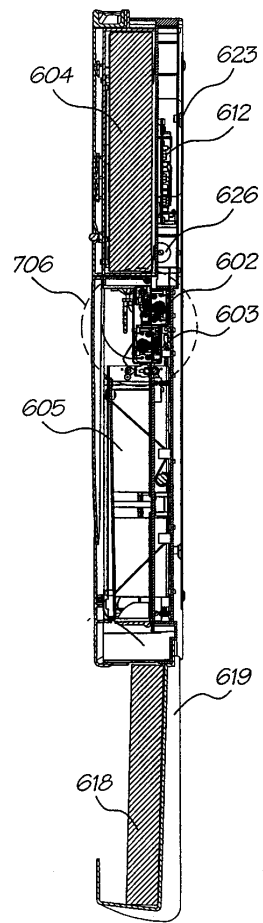




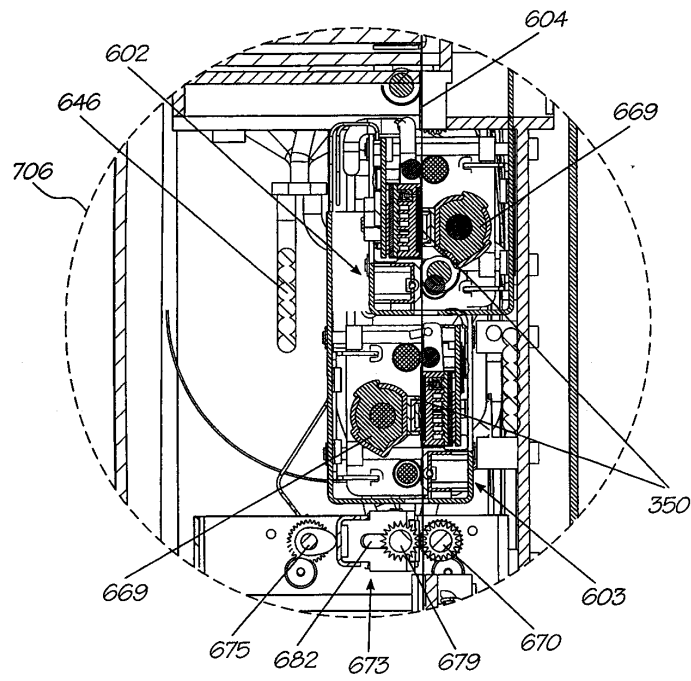
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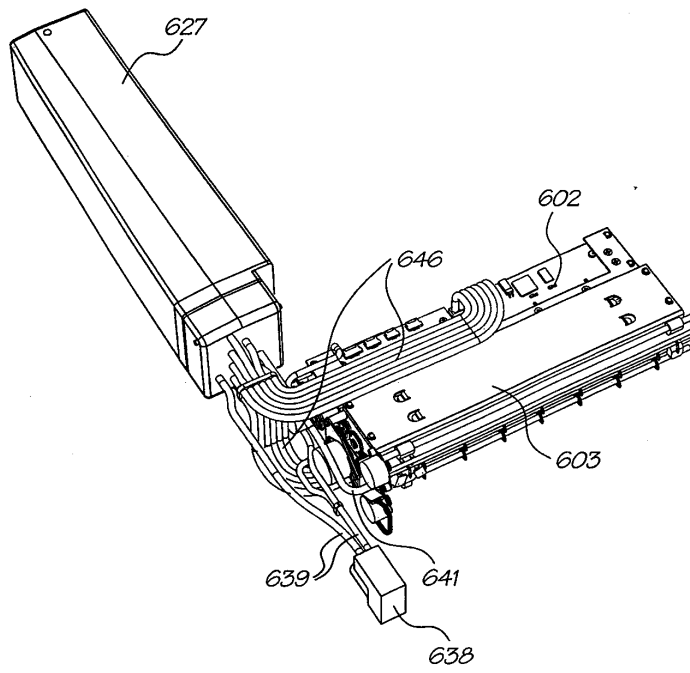
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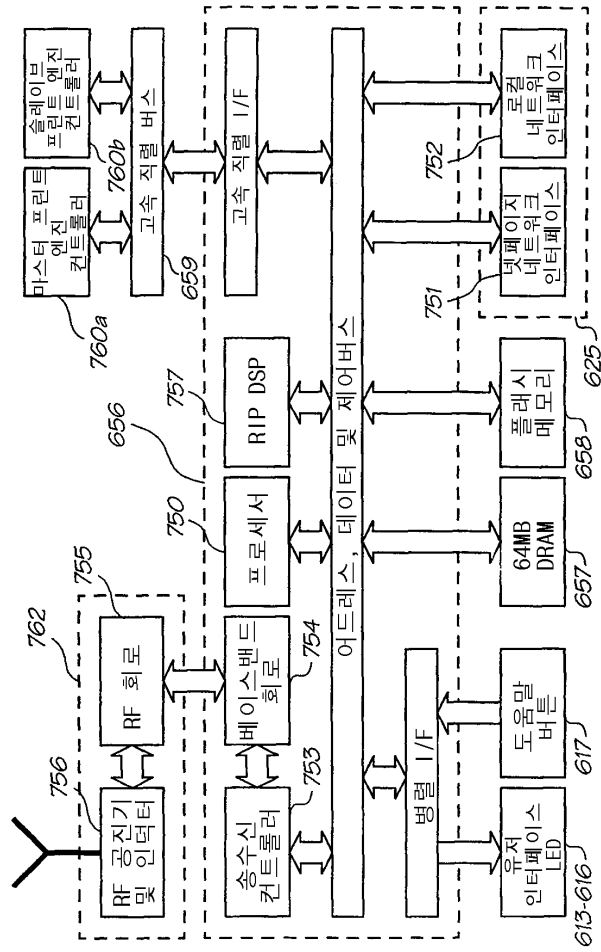


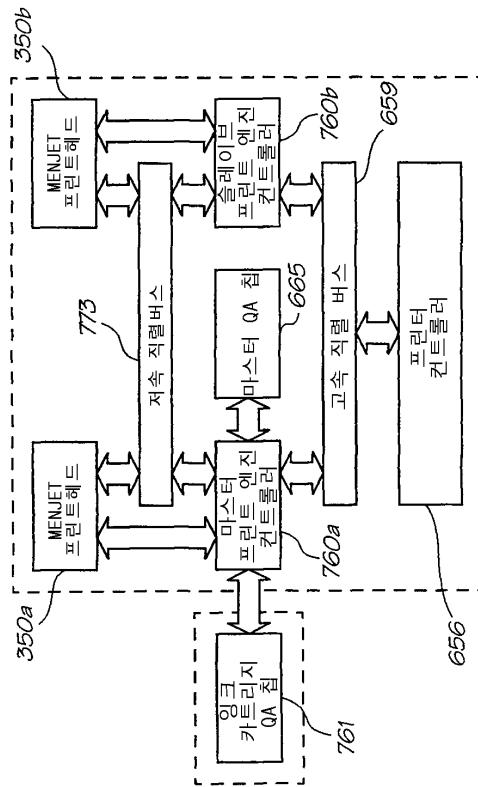
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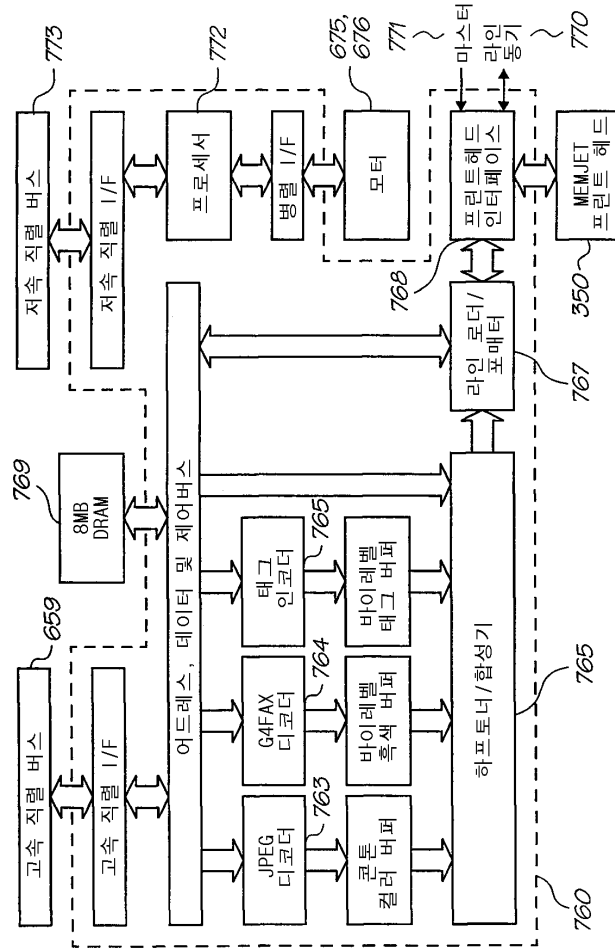
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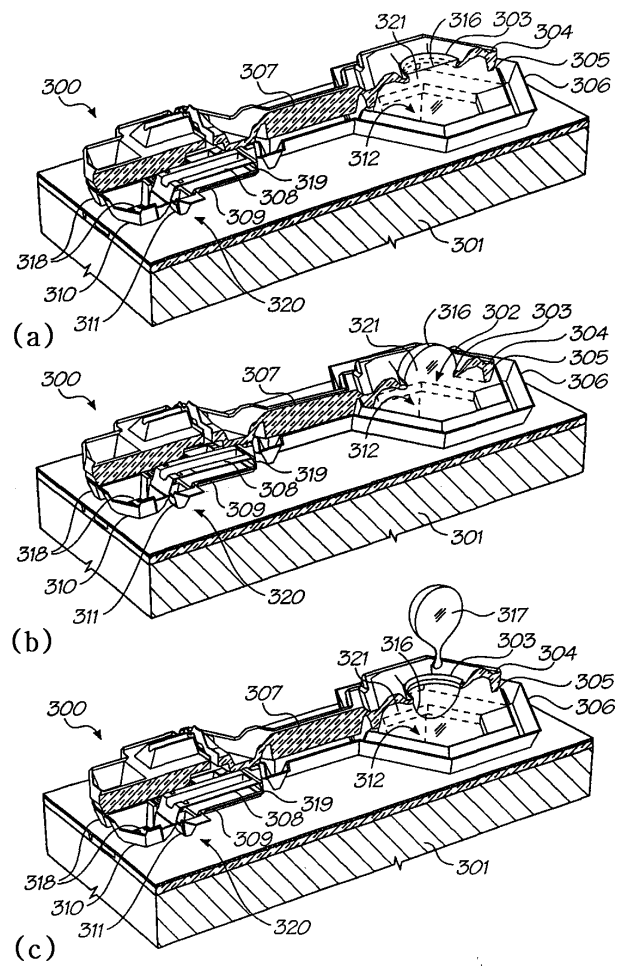


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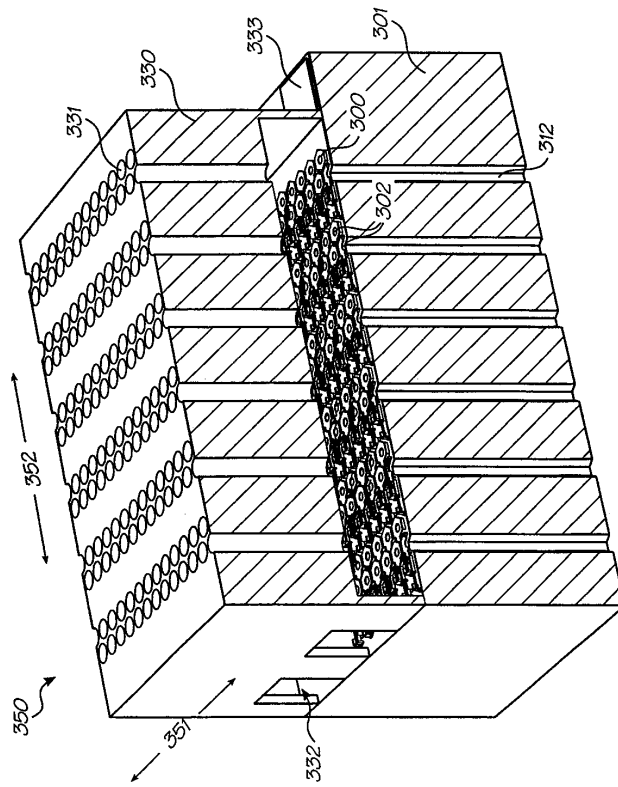




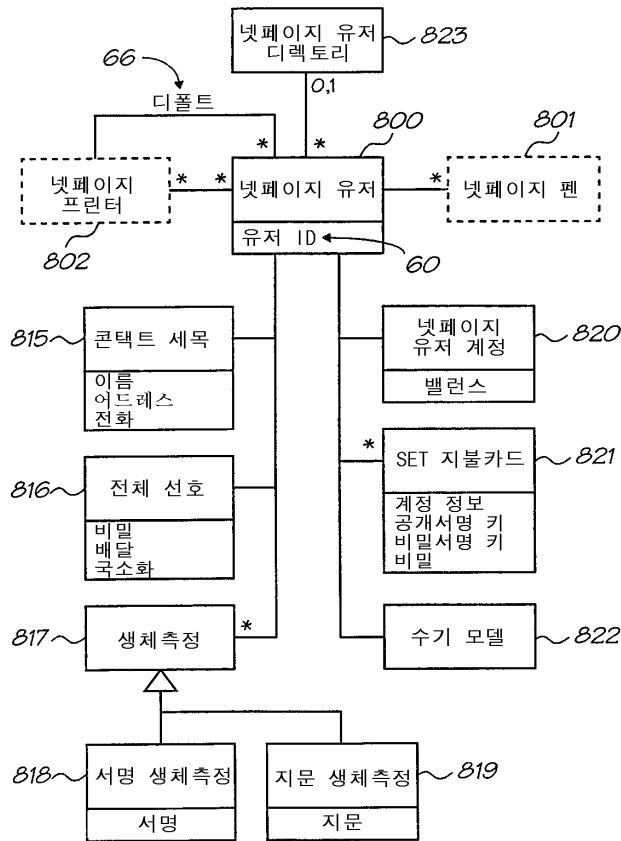
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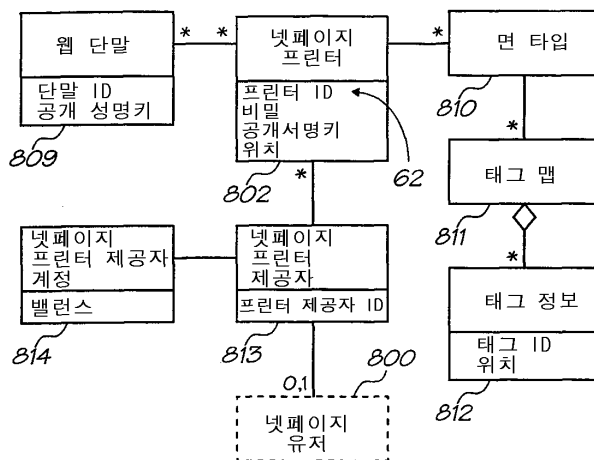
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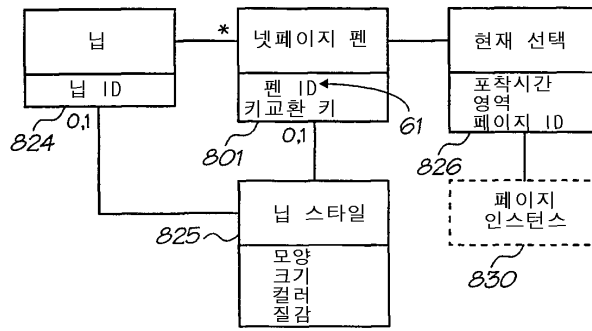
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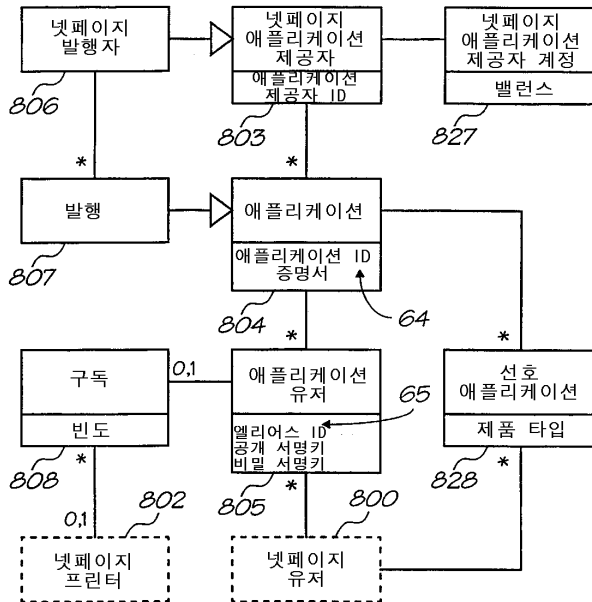
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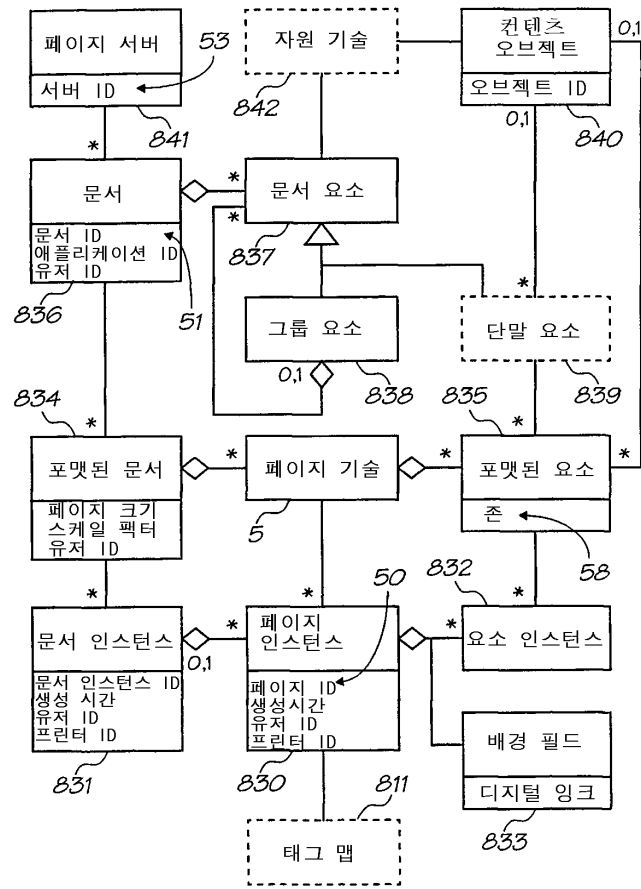
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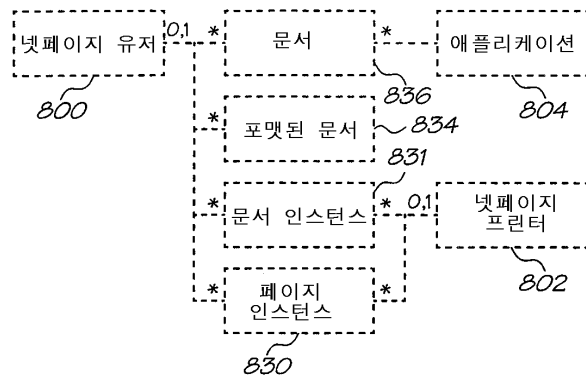
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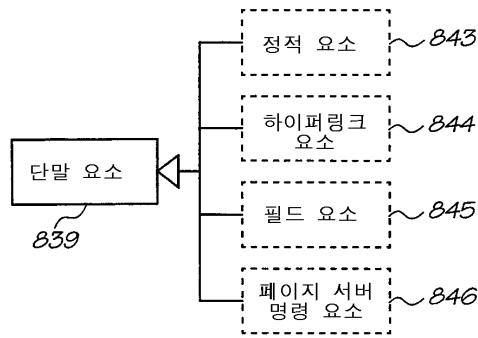
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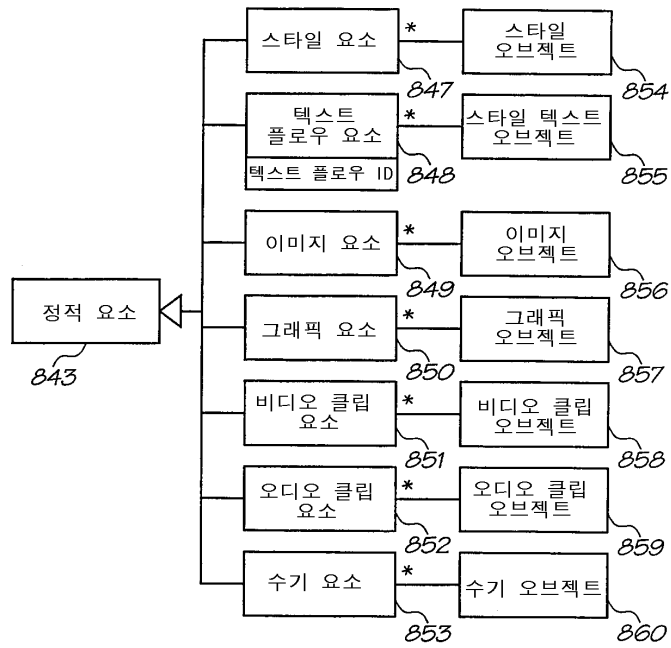
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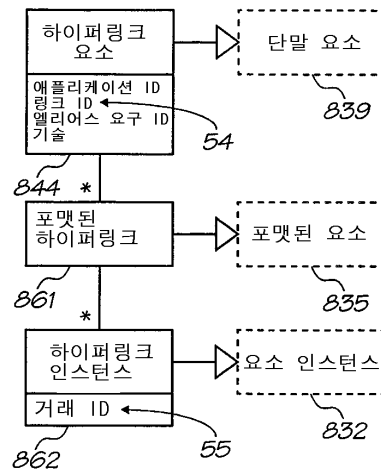
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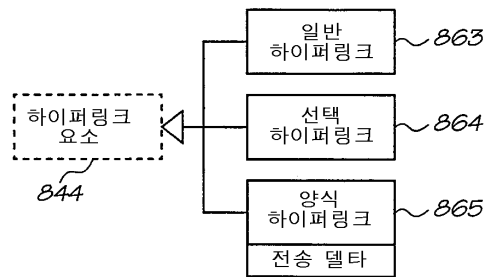
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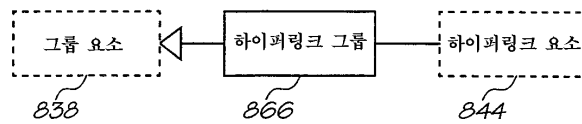
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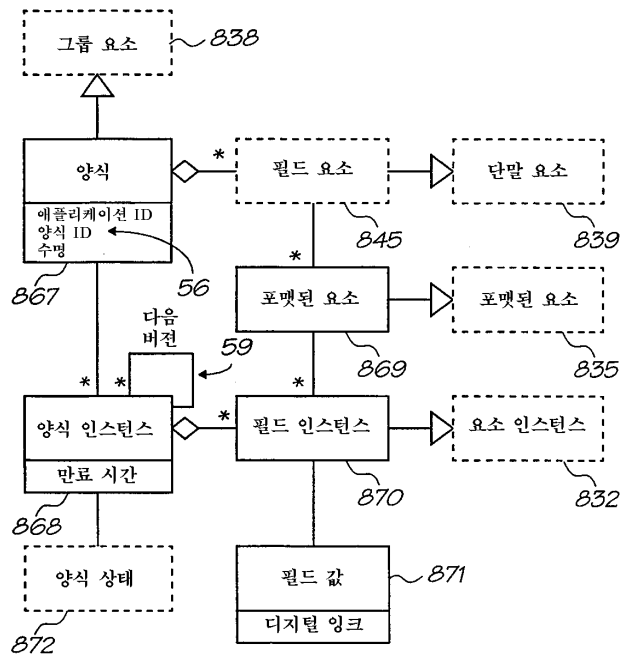
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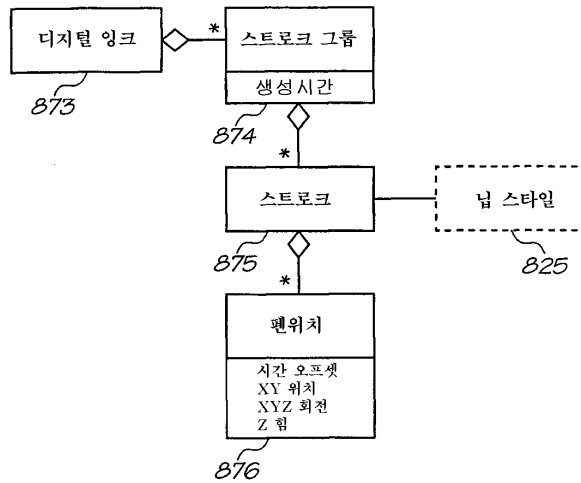
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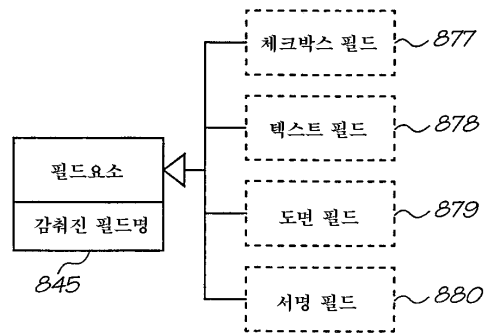
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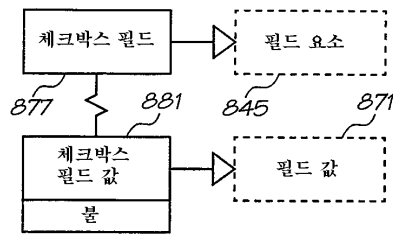
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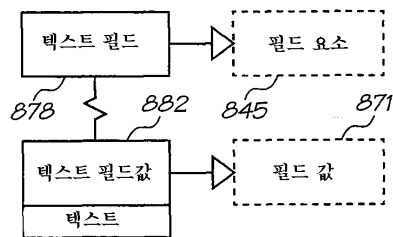
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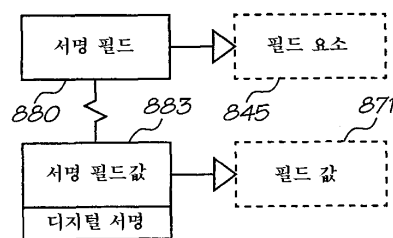
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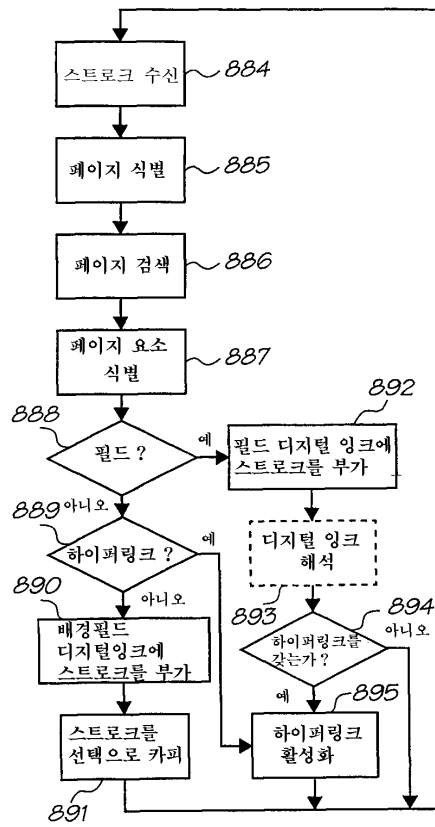


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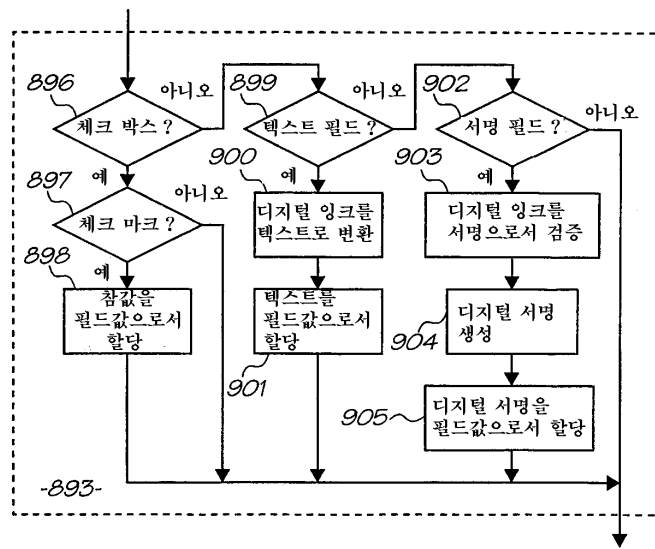


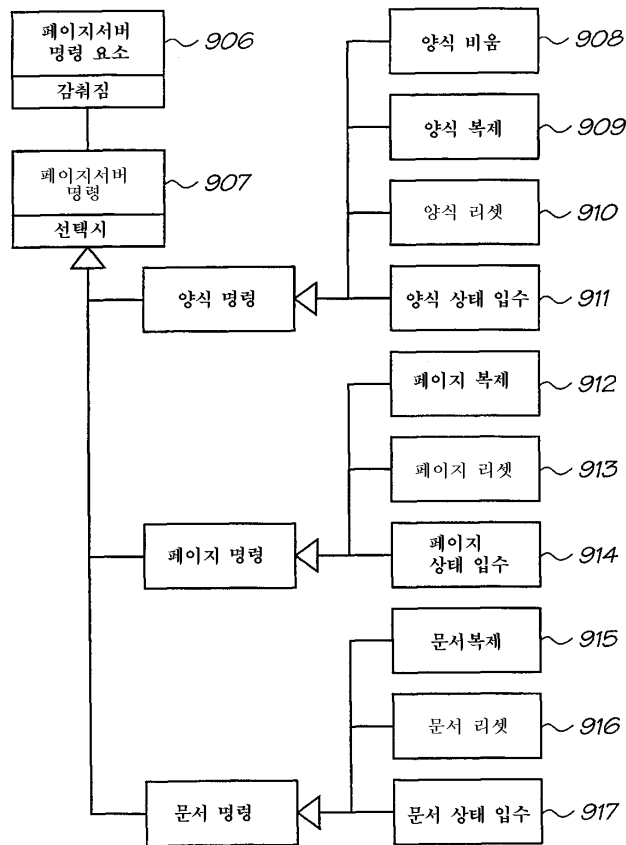
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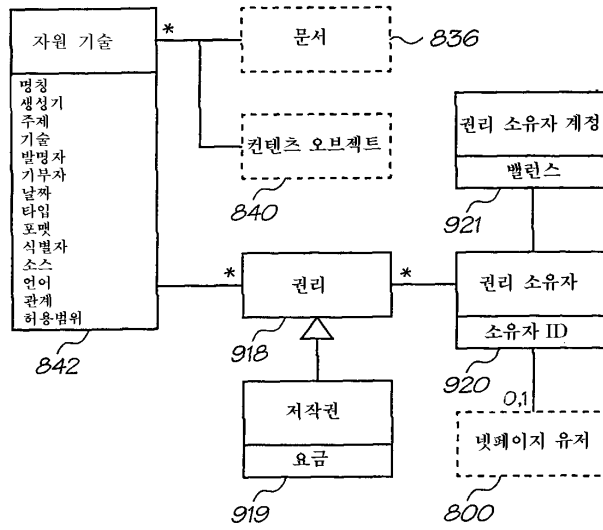


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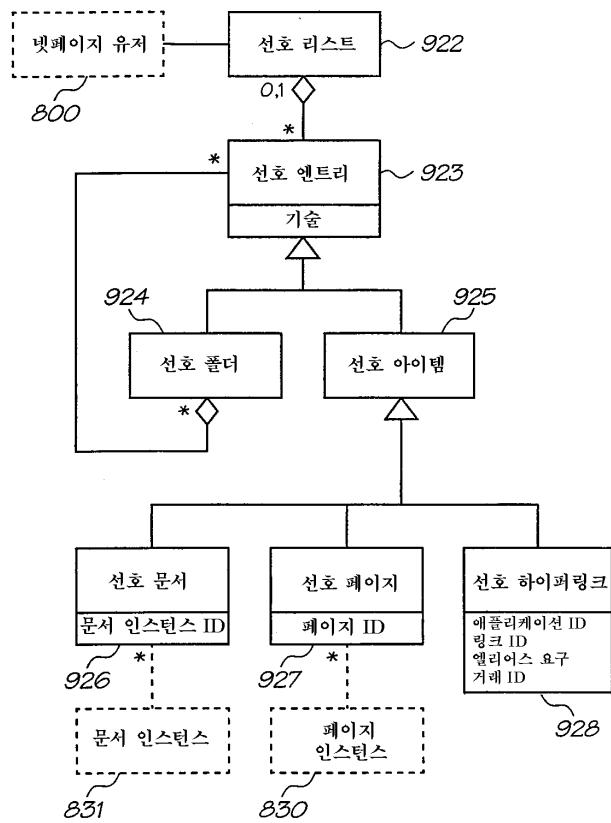




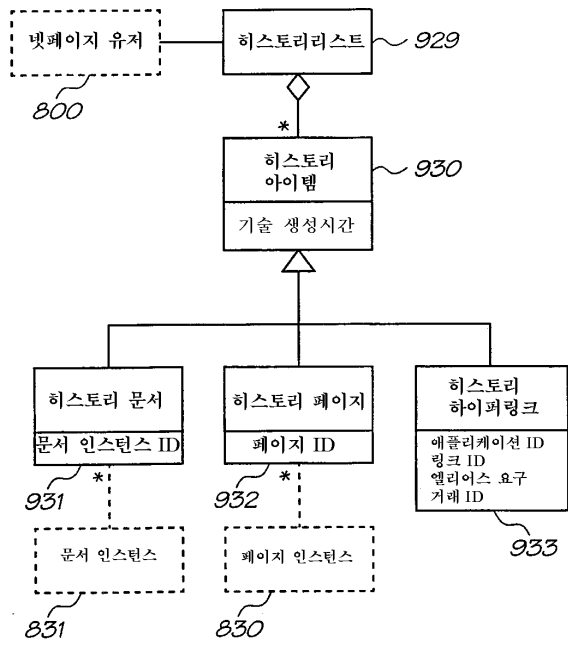
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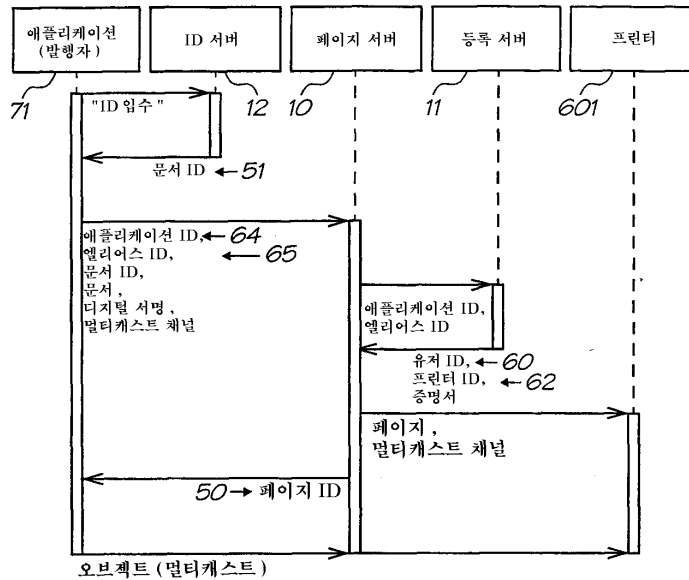
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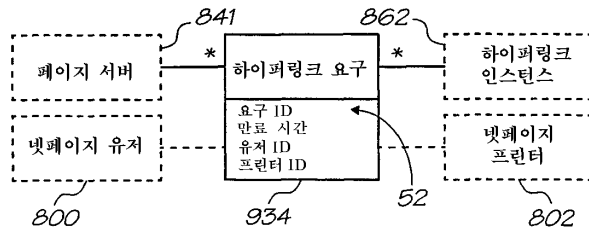
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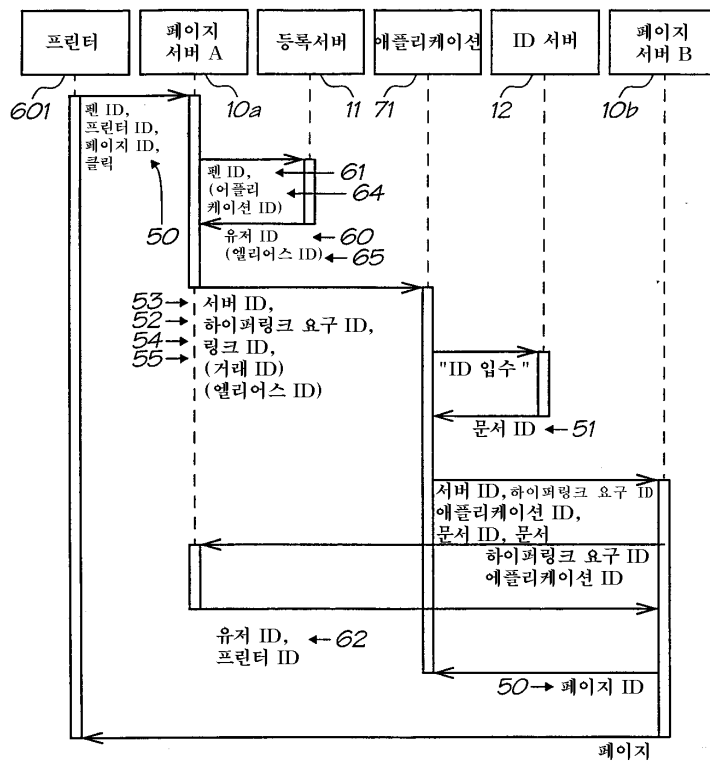
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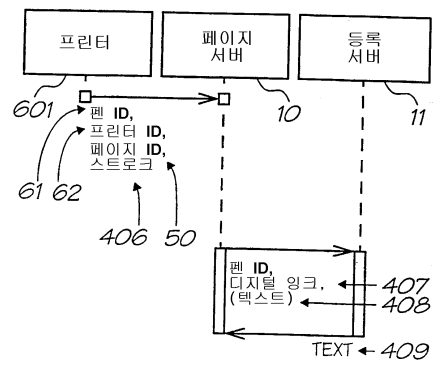
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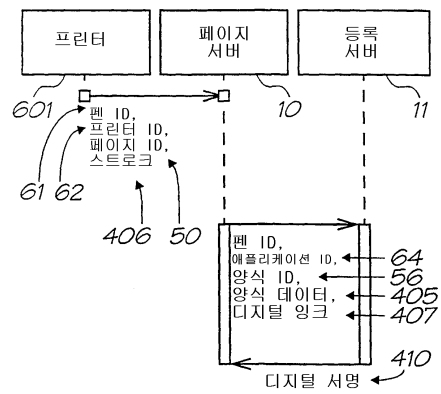
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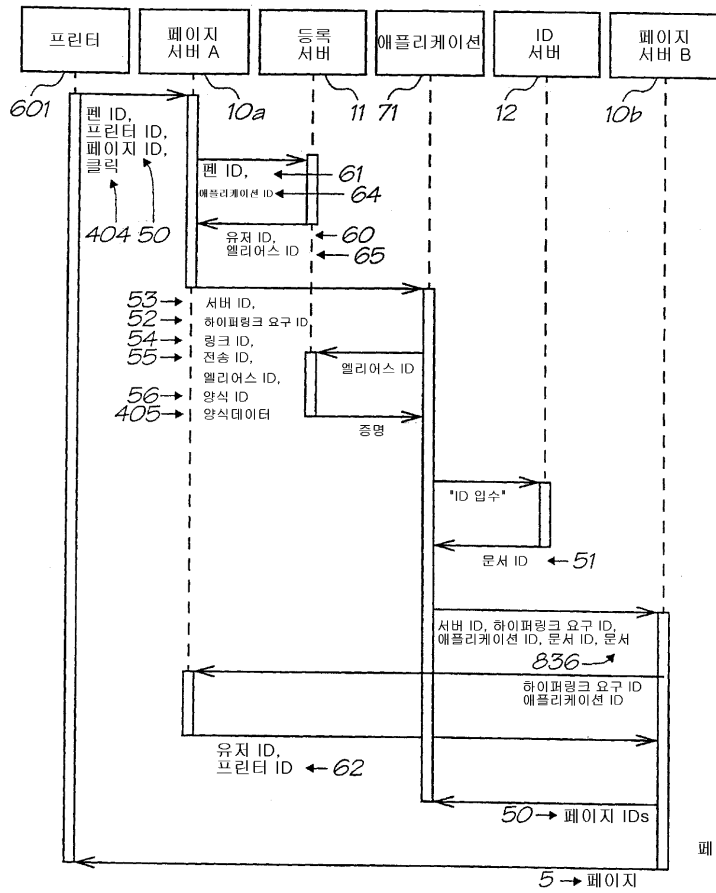


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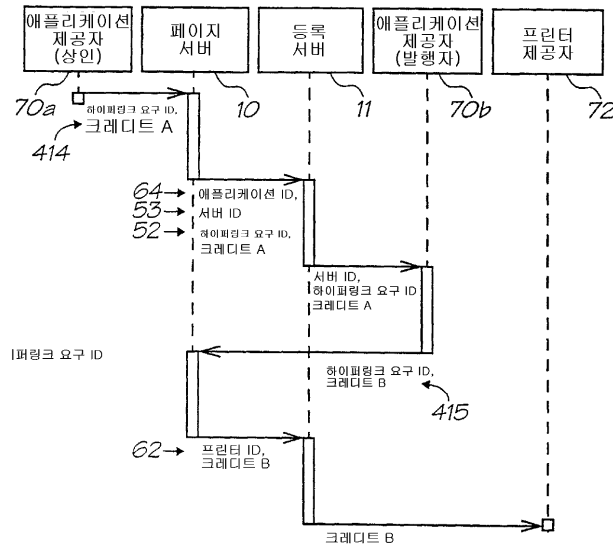


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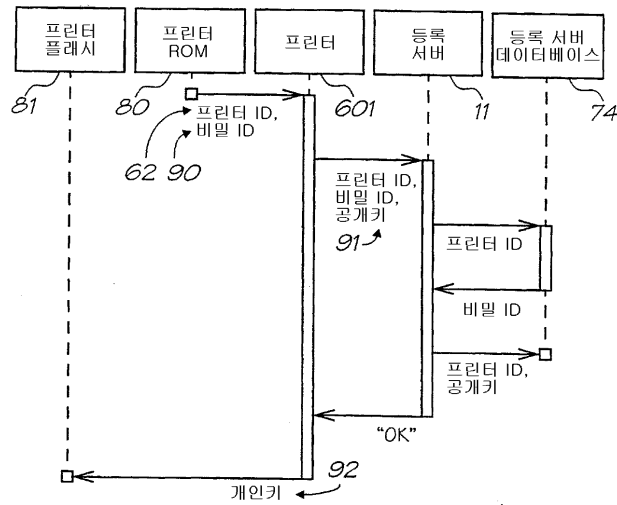




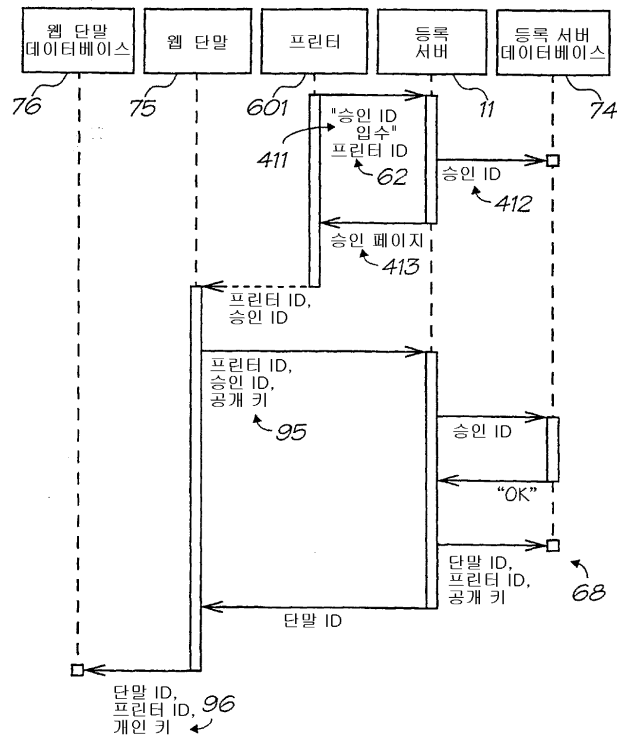
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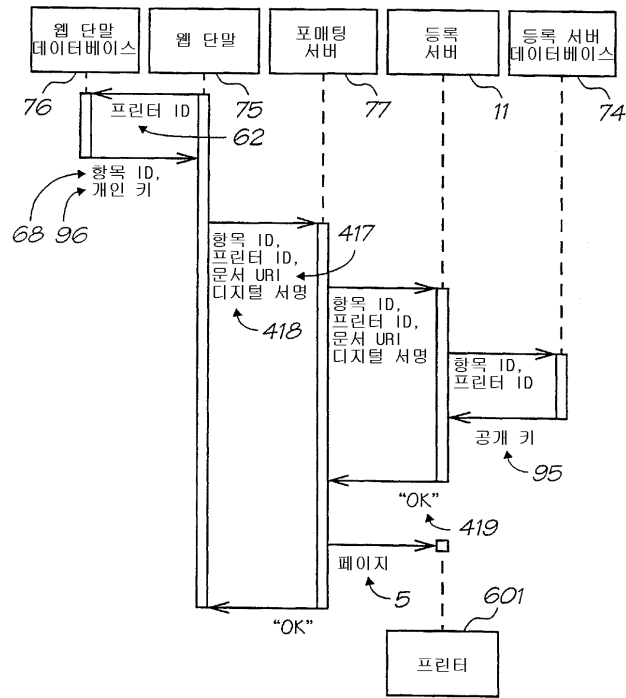
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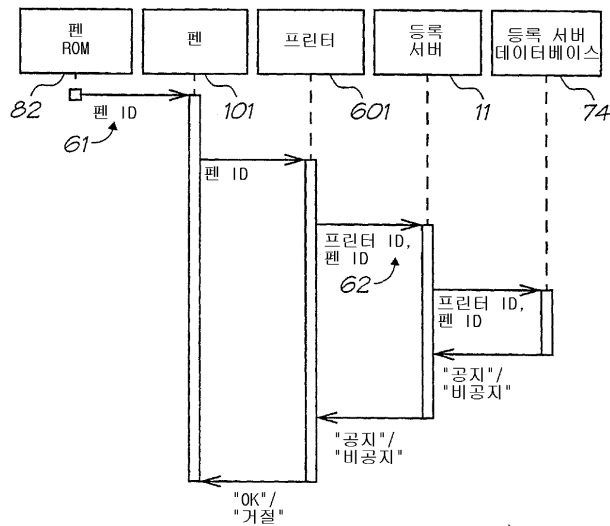
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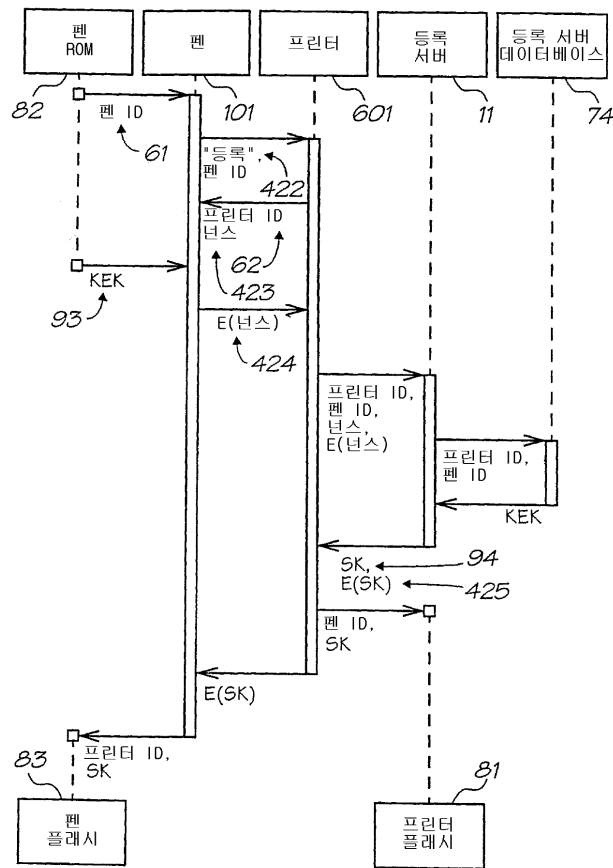
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