

:

(54)

3

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.

. 2 가

:

가 2 . 2

, 가 , 가

가 (hash)

, 가 " "

가

가

3

가

가

가

가

가

가

가

가

가

가

가

가

가

가

가

가

가

2

가

1

가

1

가

2

2

1

2

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
12a
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34

11

(duplexed)

(glue wheel)

12

11 12

11 12

14

Memjet™

14 15

10 12

Memjet™

Memjet™

13

Memjet™

Memjet™

(static)

- 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) (local query)가 (mapped surface), 가 가

가

가

1

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

2 01) ,가 , 8 9 (601) (1) (9)

11 13 (brochure) (601)

가

2 (101) (1) (601) (9) (13)

jet™) (MicroElectroMechanical System: MEMS) (Mem

가 95%가 20% (enable) 가 가

(14)

가 가 가

(11)

cs) (biometri

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

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

1.2 (Netpage Tag)

1.2.1 (Tag Data Content)

가

(flag)

가

" " LED

(tiling)

가

ID

가
ID

가

ID

가

가

I

D

(1)

[1]

	(bits)
ID	100
ID	16
	4
	120

1

120

64

가 , 16

ID 1024

(mapping)

. 100

ID 2^{100} ($\sim 10^{30}$)

1.2.2 (Tag Data Encoding)

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

. (15, 5)

4 , 6)가
가

1.2.3 (Physical Tag Structure)

5 (15, 16, 17) 가 (18)
가 3

4mm 가 256 x 256 , 16 " 1600 (quiet area)" , 16
가

6 (15) 가 (16)
가 .4 3 (17) 가 2

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

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
3 가 가
(29)

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

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 (193)가 ,

(33) ID , (35)
(nib) (35)가 (34).

1.2.5 (Tag Map)

ID, ID 가 ID 가 ID

22

(tiling)

ID 가 ID, ID 가 , ID가 , 가 ,

1.2.6 (Tagging Scheme)

가 " - "

ID 가

가 , -

ID

가 가 2 ,

가 가 가

ID

1.3 (Document and Page Descriptions)

가 (formatted). (835)

(830)

가 가

가

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

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

ID(50)
가

(832)
가 ID(55)

27 (843), (844), (845)
(846) (843) , 28 (854)
(847), (855) (848), (856)
(849), (857) (850), (852),
858) (851), (859) (852),
(860) (853)

(833)
(811) 가

1.4 (Netpage Network)

(10), (11), ID (12), (19) (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)
가

ID

1.5

(Netpage Printer)

(601)

ID(62) 가

(10)

가

(14)

2

가

가

(rasterize)

(760) Memjet™

(350)

2

(RIP)

DSP(757)

가

(dither)

(tag)

, IR

가 IR -

IR -

(globes)

(tiling)

(811)

가

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

(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 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)

(手記) 가 ,

(stroke)

ID가 ID(50) ,

가 (826)

가

(824) 가

가 가 (825)

가

가

" " LED 가

" " LED가 , " " LED가

가 , 10 가
 , 가
 , 8 10 6

1.7 (Netpage Interaction)

(601) (1) (101)
 (4) (3)
 가 가
 (830) 가 (10) 가 ID(50) DNS
 가 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 .

55) (862) 가 ID(
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 .

가 " (872) " 가 .
가 ,

(833) .

가 (59) .

(876) (873) (874)
(875: styled stroke) 33 가

(845) 34 (877), (878), (879), (880)가
(58: field's zone)

35 (881: boolean value)
((tick), (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
n and Writer Identification - The State of the Art" , Pattern Recognition, Vol.22, No.2, 1989
).

" " 가

- (strike - through) " "

" " (,) " " (,)

가 가 가

2

(2)

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

ID 가
, 가
가 , , ,

가 ID ,

가 가
, 가 , 가
, , 가 가

가 , , ,

가 , 가
가 , , 가

" " , 가
가 ,

2 (Personalized Publication Model)

가

2.1 (Editorial Personalization)

가 2가
: , 가 , " 가
가 , 가
International" , " Option" , " Business" , " Arts/Living" , " Technology" " Sports" 가 " Page One Plus" , " National" ,
(" ") , (" " " ")
) , (,) (,)
(,)
(,)
(, " ")
가 , 가

가 가 ,

가 가 가

가 가

2.3 (User Profiles)

2.3.1 (Information Filtering)

- .
- .
- .
- .

가 가 가 2가 가 : ;

, ZIP , , 가,

가

ZIP ZIP+4

21, 22, 23 24

(800)

(802)

(66)

가

가

ID

ID

가 (807)

(808),

(806)(,

(803))

(801) 가

가

ID

DNS

(809)

가 가 가

가

가

()

(820);

(815);

(816)

(818), (819)

(817);

(819);

SET

(821)

2.3.2

(Favorites List)

" "

(922)

(924)

41

2.3.3

(History List)

(929)

42

2.4 (Intelligent Page Layout)

- - , , 가 , 가 가 , 가

2.5 (Document Format)

, 가 , . XSL(Extensible Stylesheet Language) XML(Extensible Markup Language) . XSL 가 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)

가 (populated)

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

3

가

가 가

(session key)

가

가

3.2 (Netpage Printer Security)

ID(90) ID(62) 가

ID (11) 가 50 (91, 92) ID (74) ID (91) ID (81) (92)

가 가 (92)

가 가 가

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

3.2.1

가 가 , 가 (808) ID(65) (836) (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

(11) 가 53 , (101) (601)
 가 ID ID(62)
 (802) (801) (74) (800) 가
 가 (charging cup)

ID(61) (93) 가 54 (101) ID
 (601) (nonce; 423), 1
 (424) ID,
 (11) (74) (94)
 ID (81) (425)
 ID (83)

가

3.4 (Secure Document)

가

" (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 가 1

가

가

. SET

가

가

가

SET

가 ,
 , ID , SET ID ,

4.3 - (Micro - payments)

가
가
가 ,
 ,

4.4 (Transactions)

가 , ID(55) ID(55)

가 , 가 " " ID(60)

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

ID

(UPC) " "
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)(
(11) ,) (67)
가 (808) 가 (401) ID ID
ID ID(50) (5)
ID

가

(400, 404)
가

가

5.2 (Hyperlink Activation Protocol)

가 45

1) 가 (406) 가 가 (60 ID(6)
1)

DNS ID(50) (10a) ID, 가 ID(
62), 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) ID(65) ID (10a)
, " (11) ID ID

ID ID , 1

5.3 (Handwriting Recognition Protocol)

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

5.4 (Signature Verification Protocol)

가 47 5.3 가
 (880) , (10) (406)가 가
 가
 1) ID(56) , 가 ID(61) (407) (1
 (form) ID(64),
 (818) (405) ,
 ID(64) ID(60) (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)
 ID 5.2 가 (10)
 ID 가 (414)
 ID ID(64), ID(53)
 ID (11)
 (827)
 가 가 ID
 (415) ID 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)

(126) (105) (123, 124) (125) (181)
 119) (125) (123 124) (127, 128) (126)
 (121) (114) (122) ()
 (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) RF RF (101) 2 가 PCB(129) (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)

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) (149)
 (147) 512 KB DRAM(148) . -
 (144) .

12) (152) (132) . RF (155) RF (1
 (156) RF (133) (153)
 (154)가 .

(145) (132) , (153)
 (144) , LED(116, 131, 143) ,
 (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 Okusanya, 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) . , (13
 (144) - (pen - down event) (151)
 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) 12 Letter/A4 12a

602, 603) (604) (605) 가 가 가 (618)

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

가 3000 (1500) (glue)

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

가 (626) 1 가 (602) (604) 가

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

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

(679) (673) (627) 가 (641)
(679)

(682) 가
(673) (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) (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)

(IrDA) " (squirt)" IrDA

7.2.1 (Rasterization And Printing)

757) (750)가 DSP(RIP

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)

(764), 1 JPEG CMYK (763), 4 - (766)
(765). 2 CMYK 1.2 (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)

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

(Conclusion)

(57)

1.

2.

1

1

3.

2

1

4.

3

1

5.

4

1

가

6.

5 ,

1 .

7.

6 ,

1 가 . 가

8.

5 ,

9.

8 ,

가 1 , 가 .

10.

9 ,

1 .

11.

9 ,

1 , 가 .

12.

5 ,

1 .

13.

12 ,

가 , 가 .

14.

13 ,

15.

13 ,

가

16.

15 ,

가

17.

16 ,

18.

17 ,

가

19.

18 ,

가

20.

19 ,

가

21.

5 ,
2 ,
2 , 2

22.

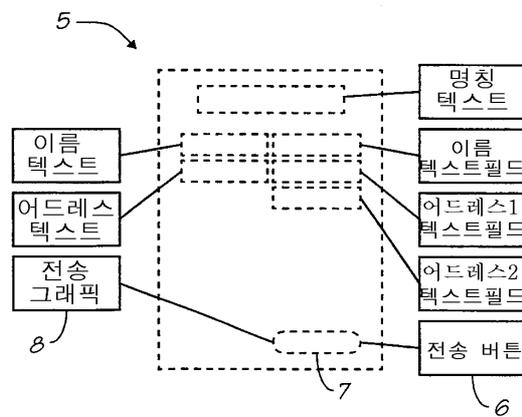
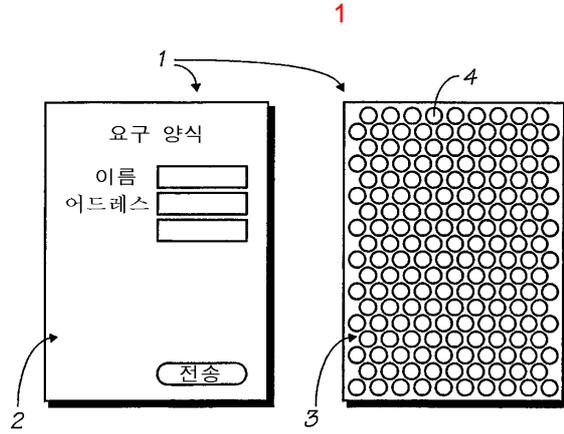
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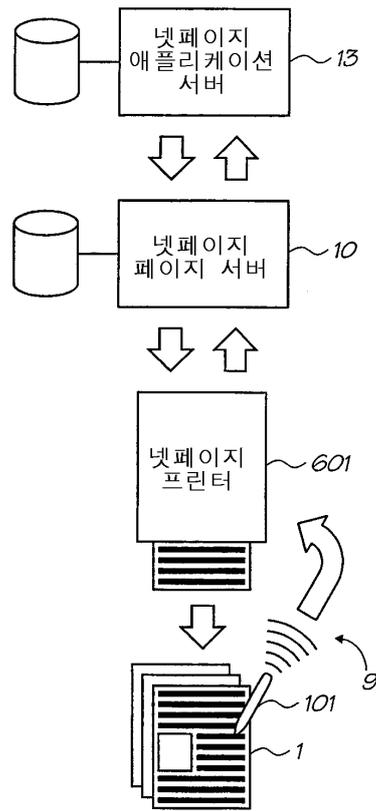
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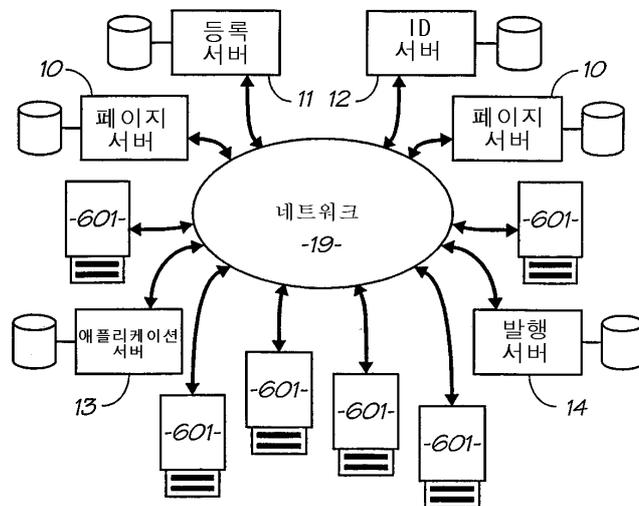
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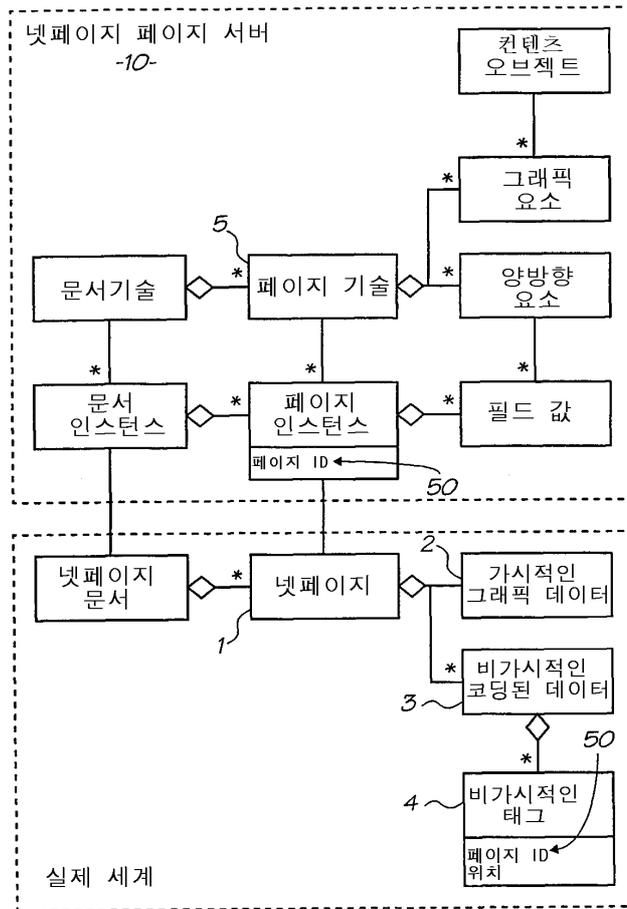
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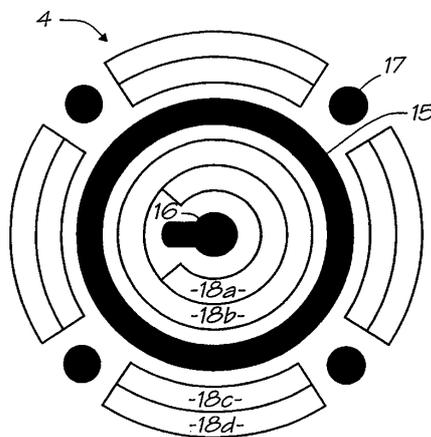
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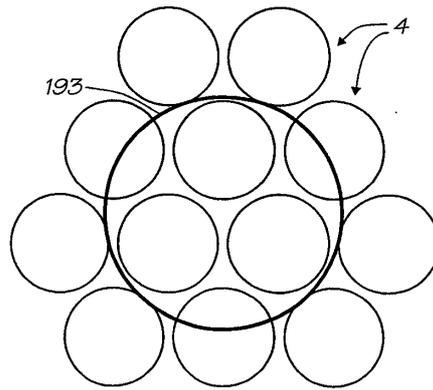
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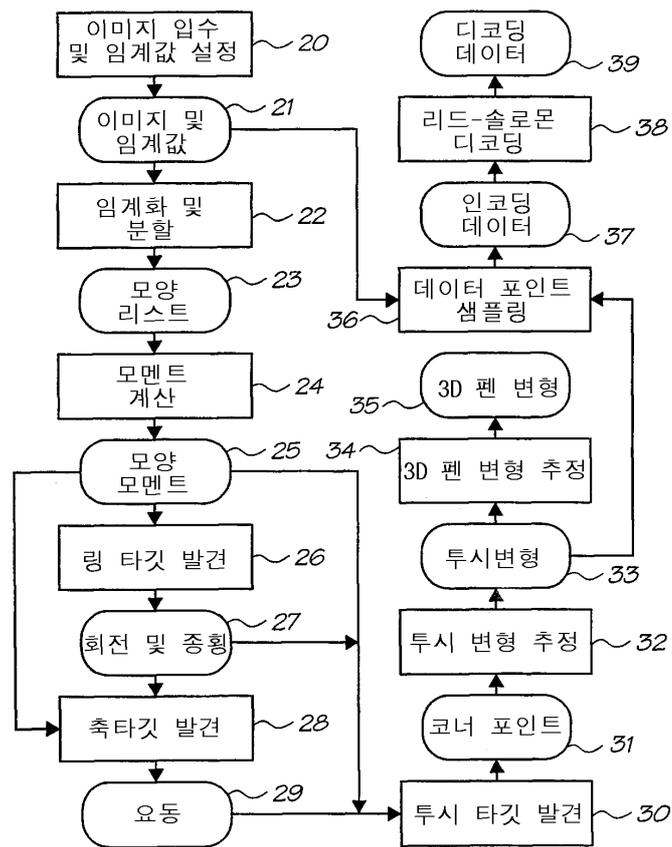
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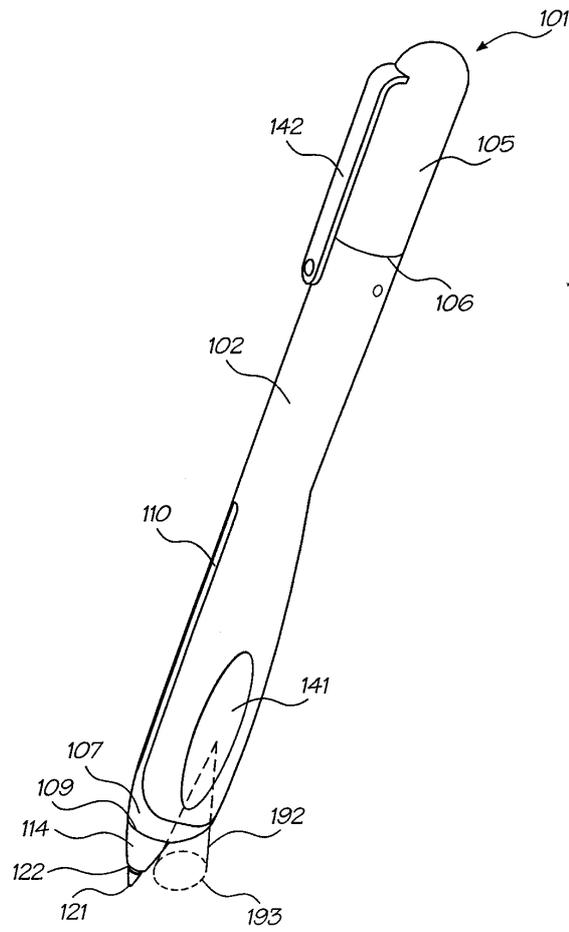
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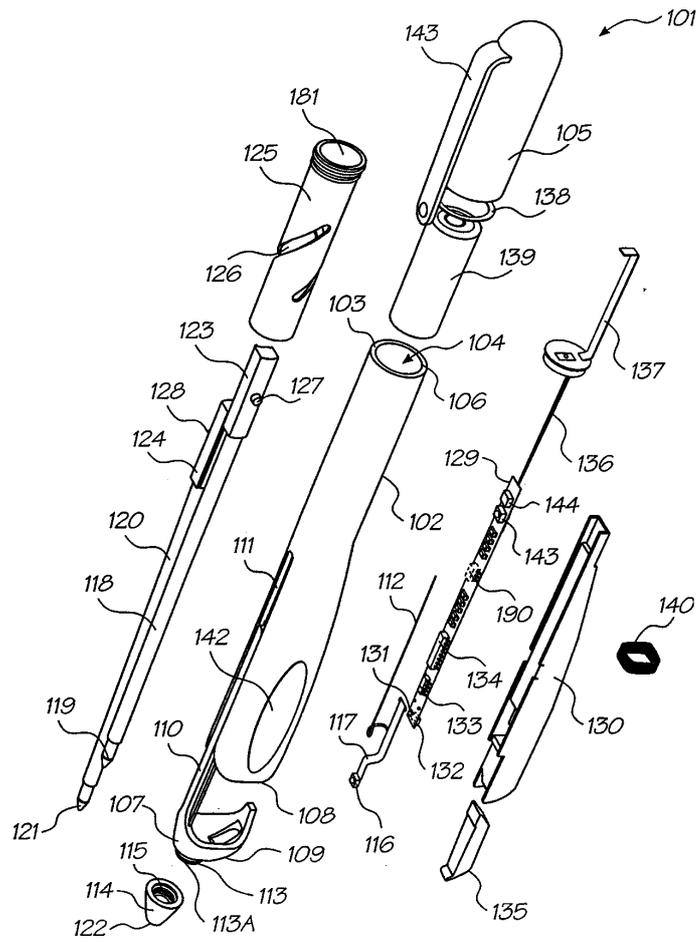
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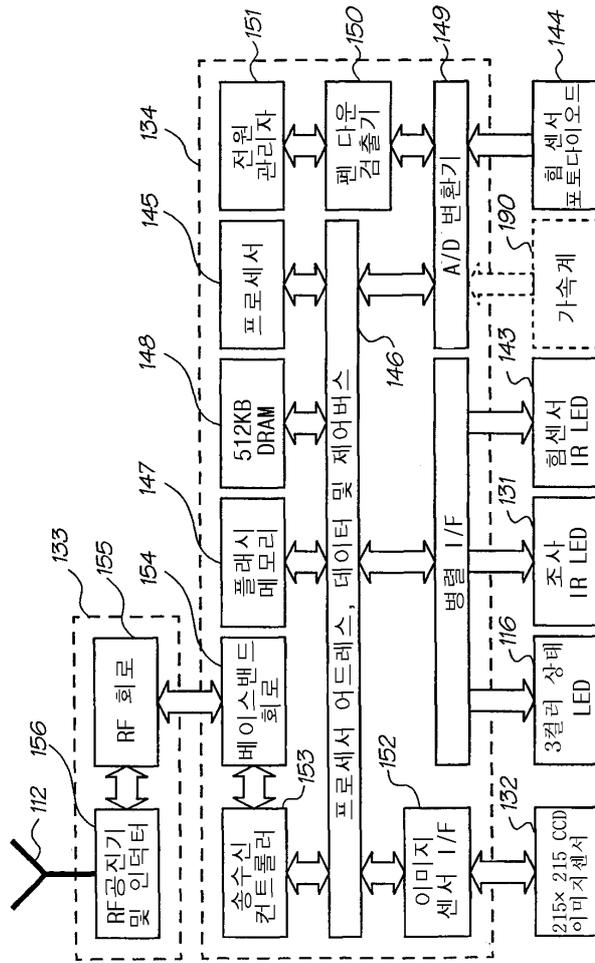
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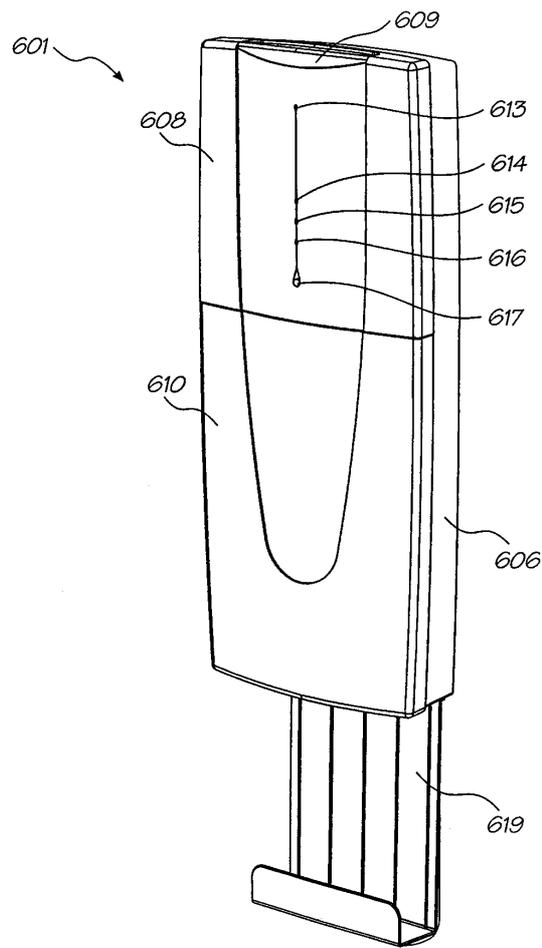
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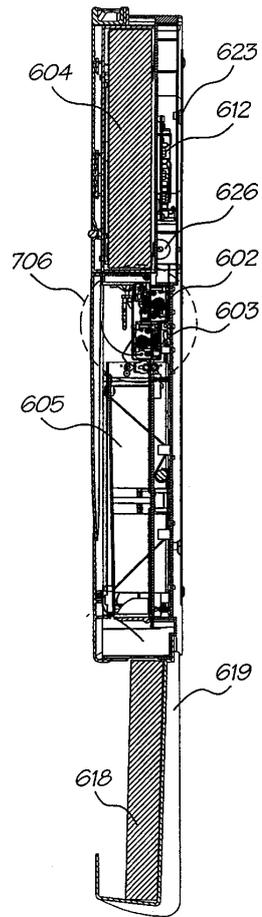
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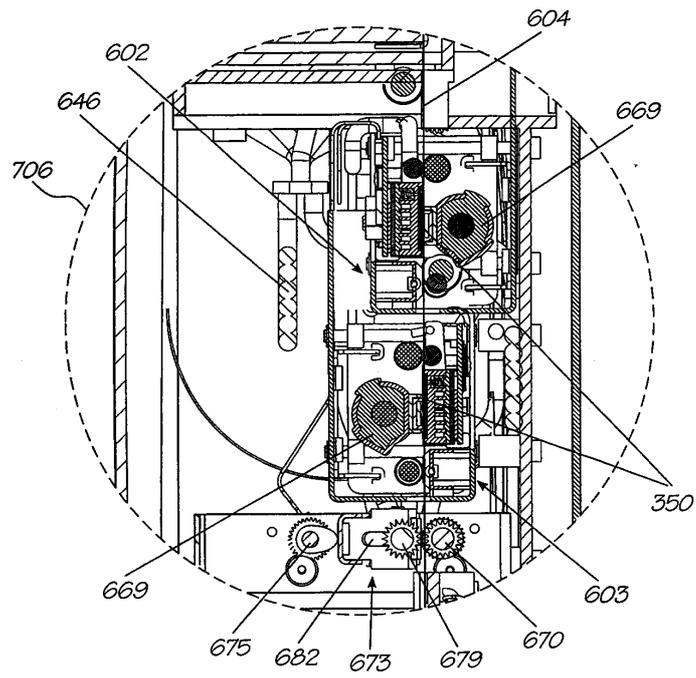
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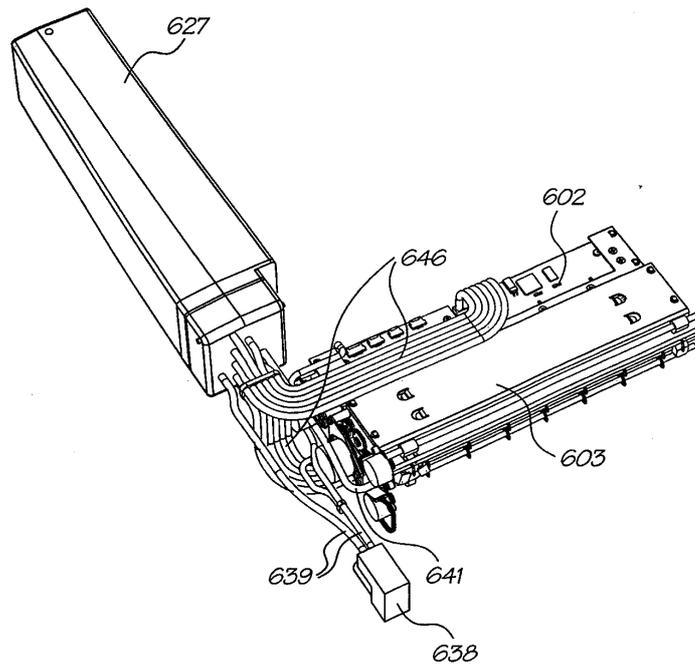
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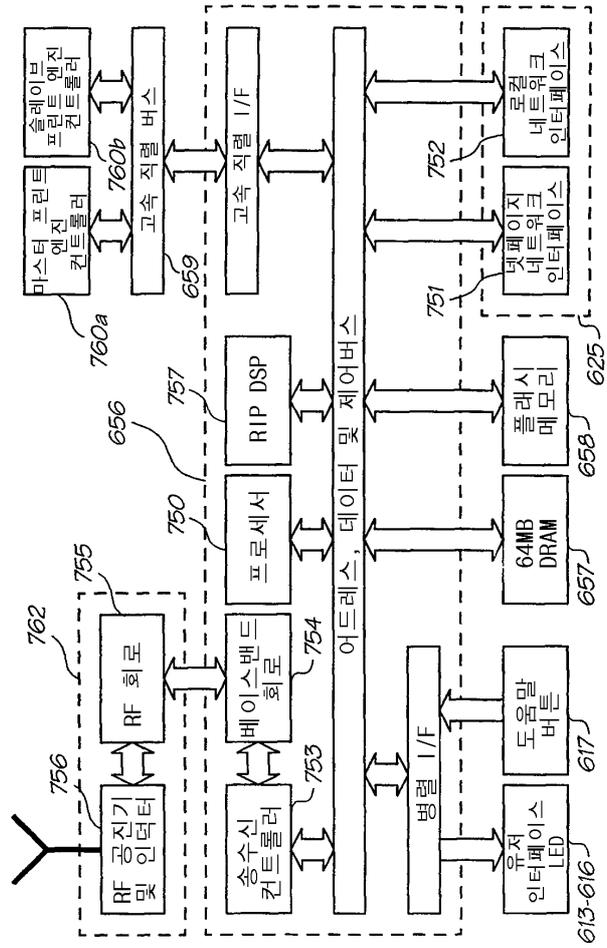


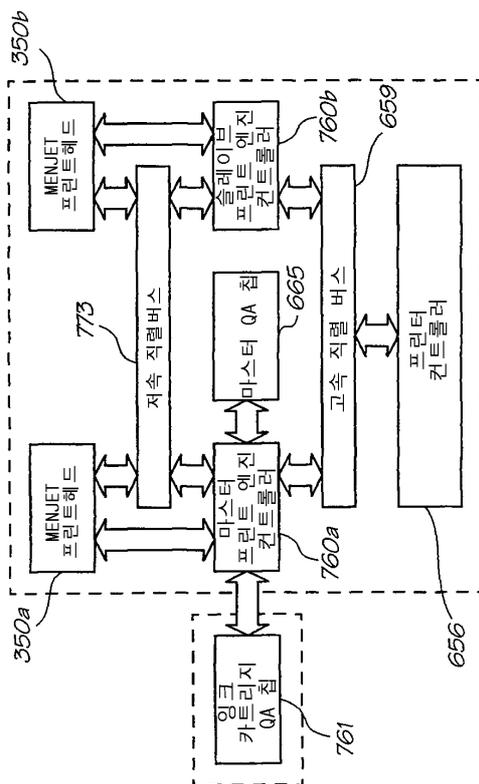
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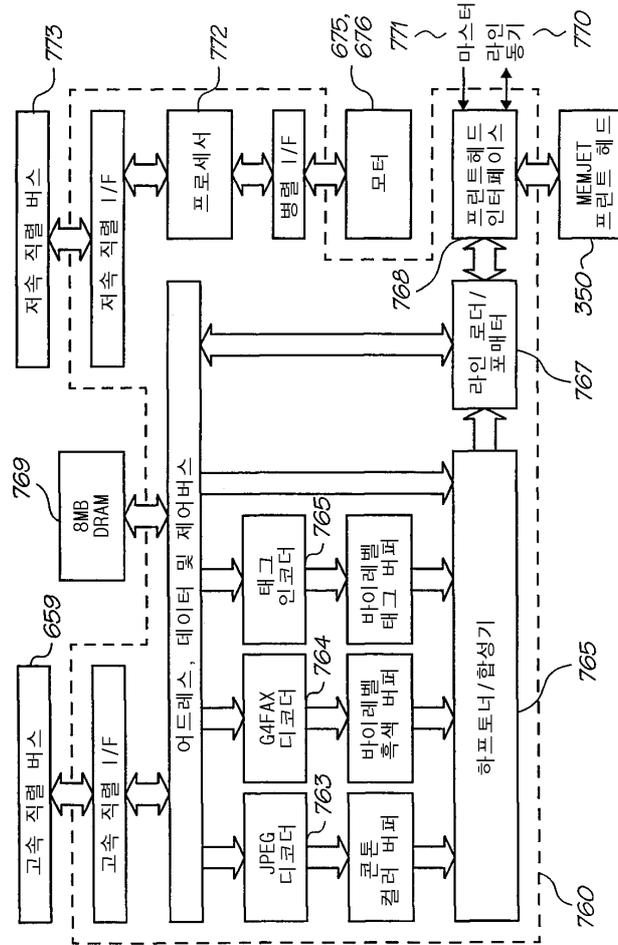
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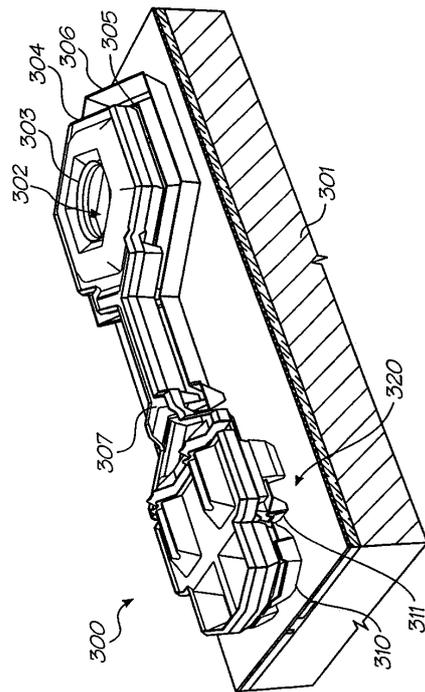




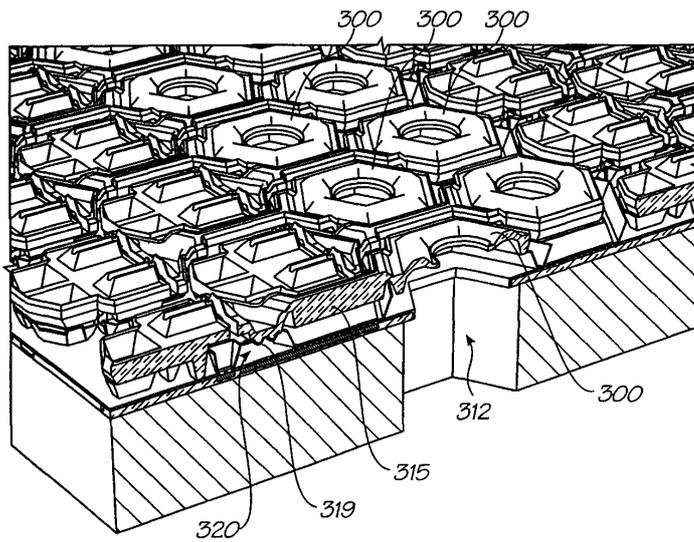
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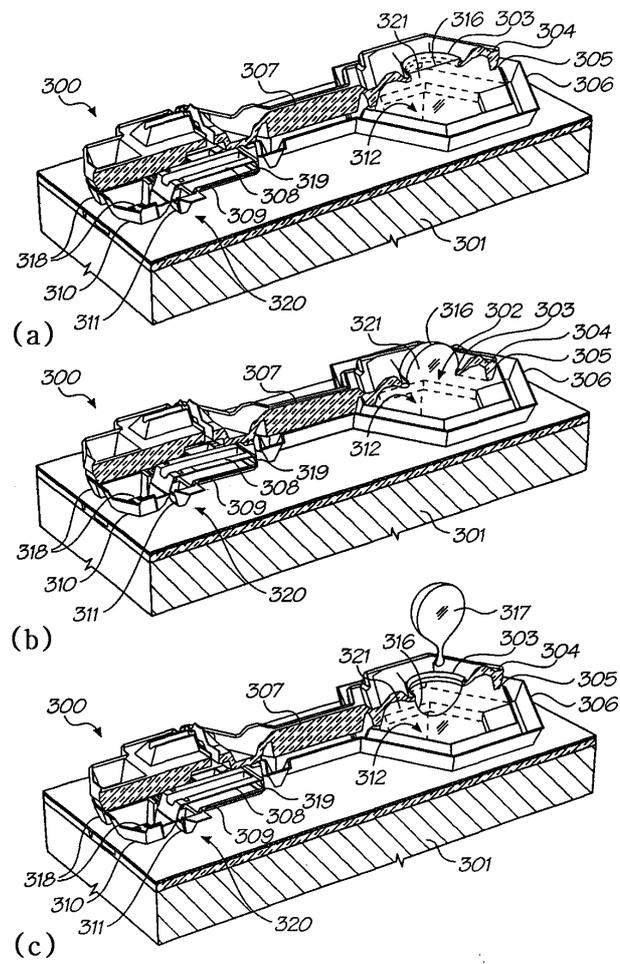
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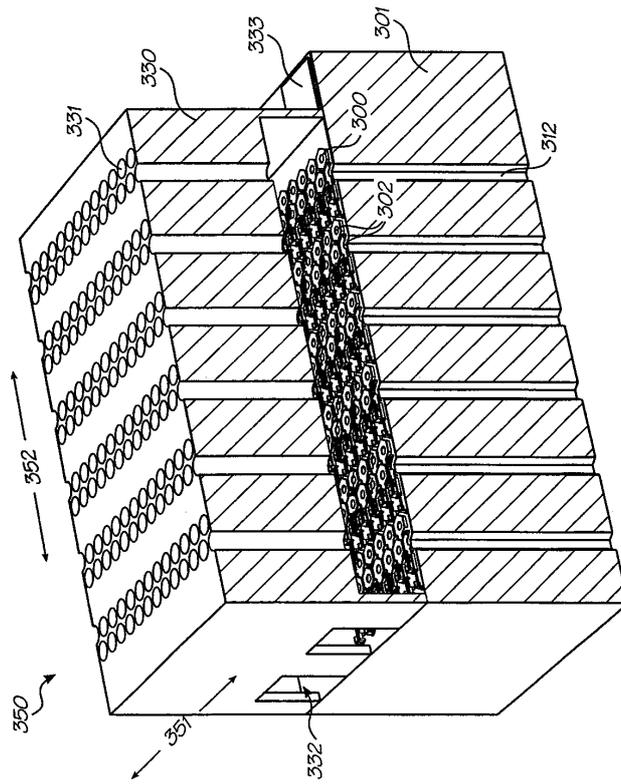
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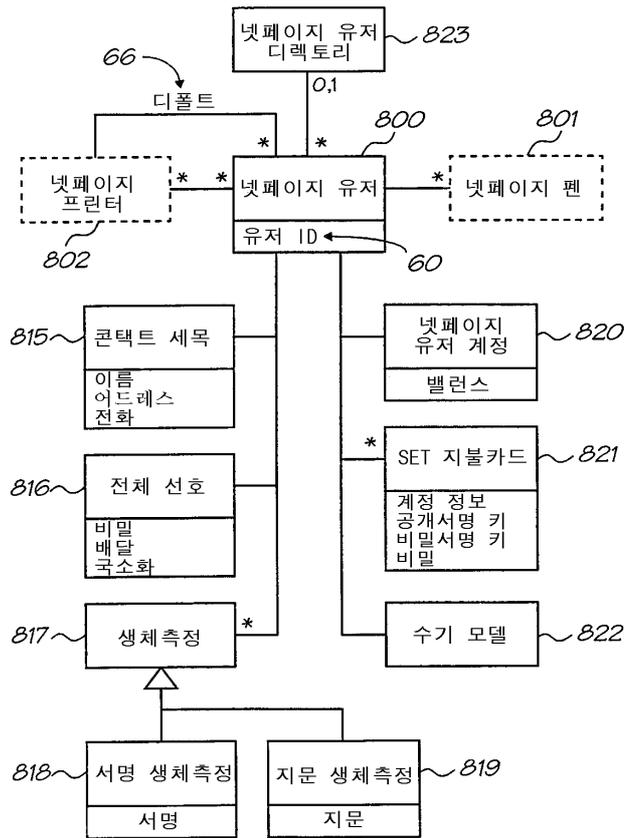
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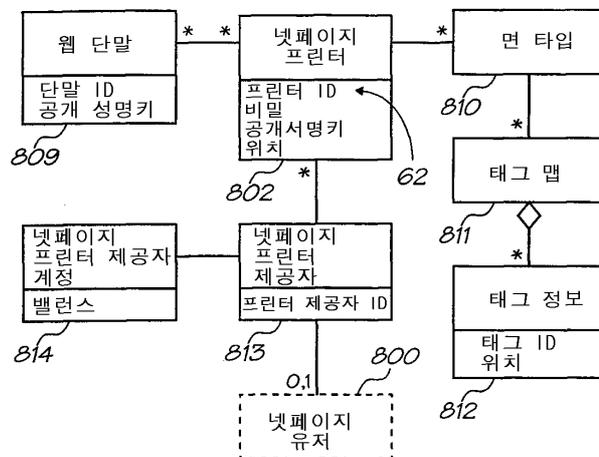
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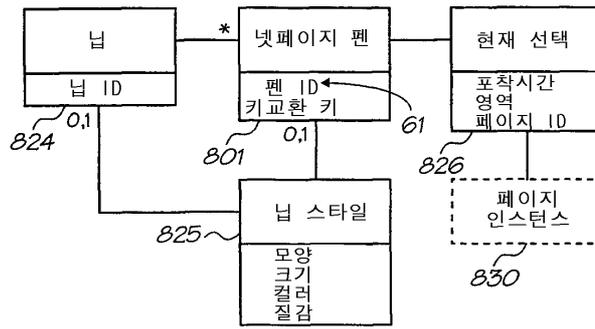
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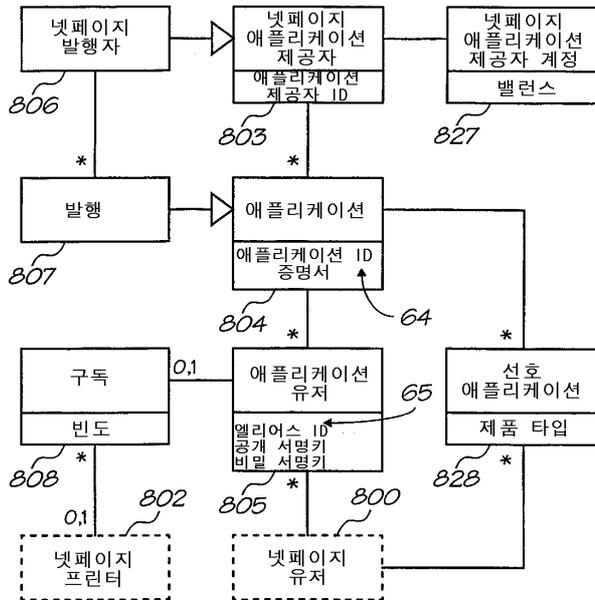
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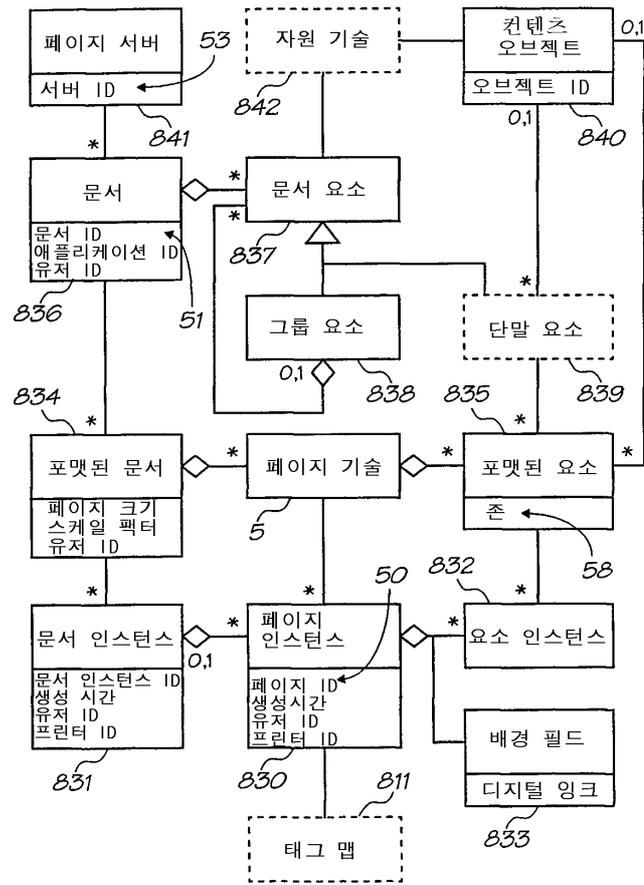
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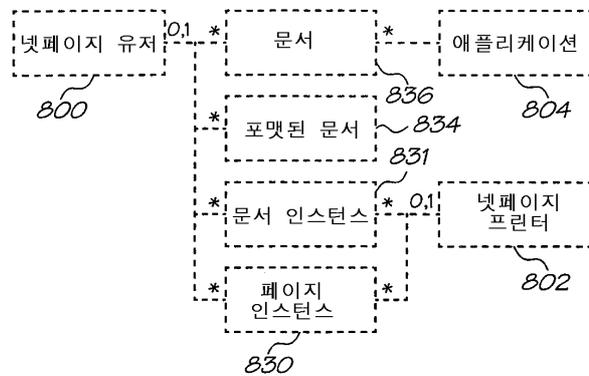
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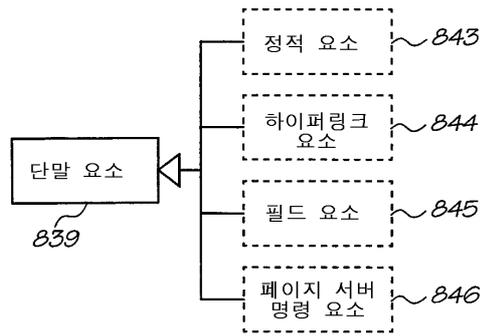
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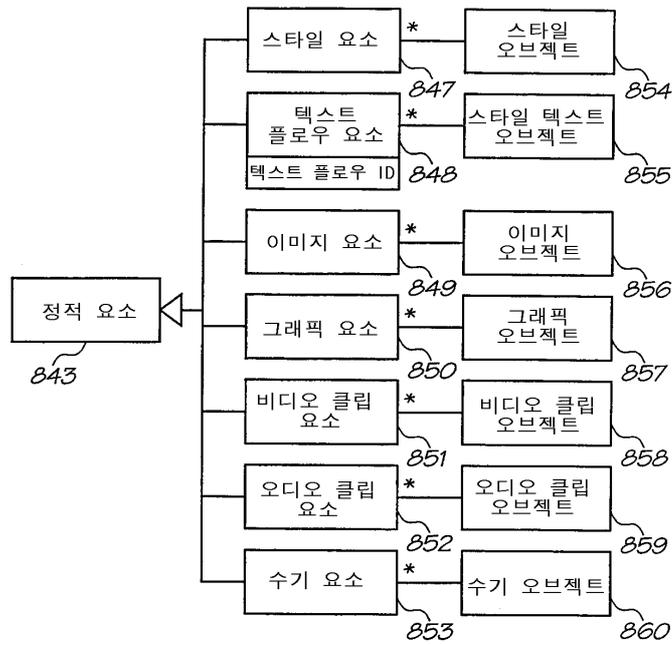
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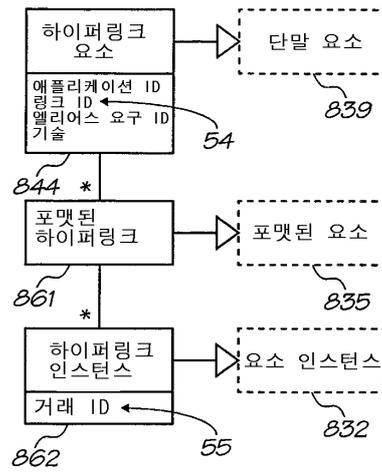
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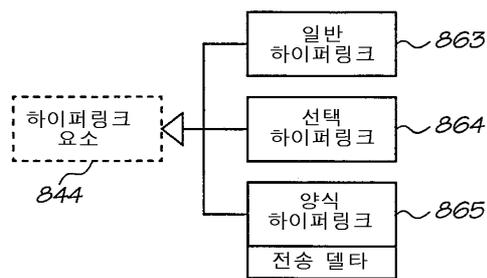
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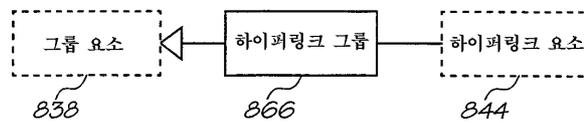
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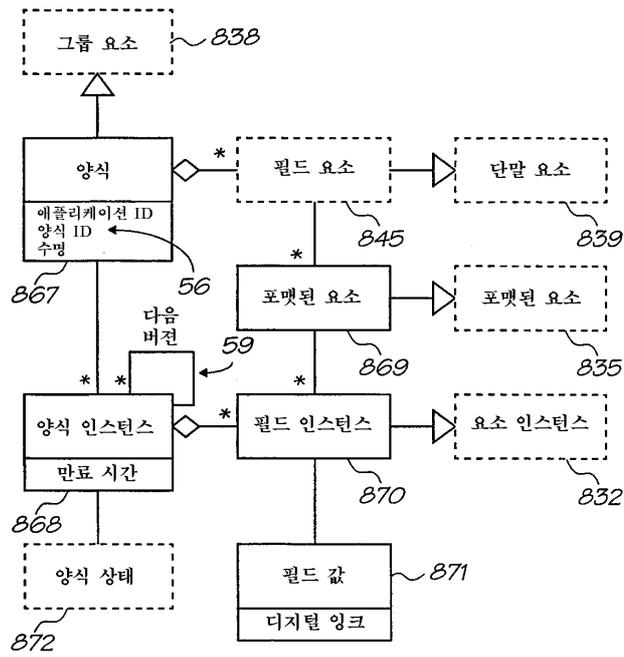
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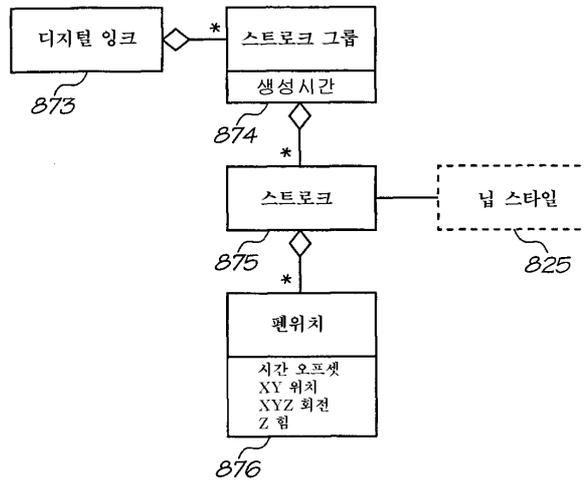
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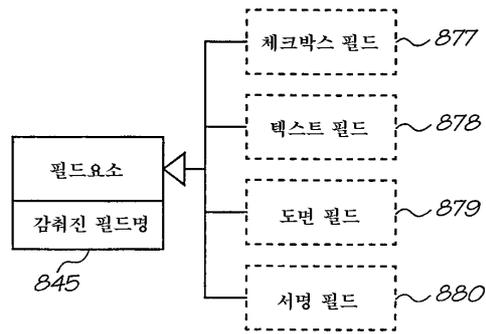
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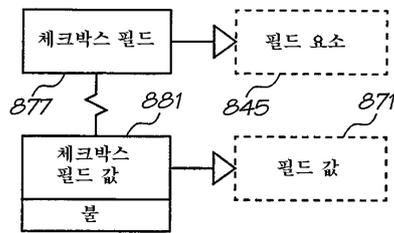
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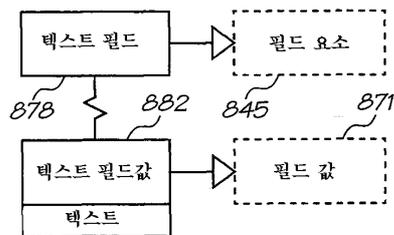
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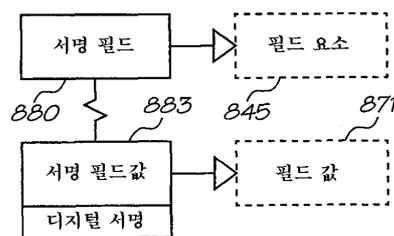
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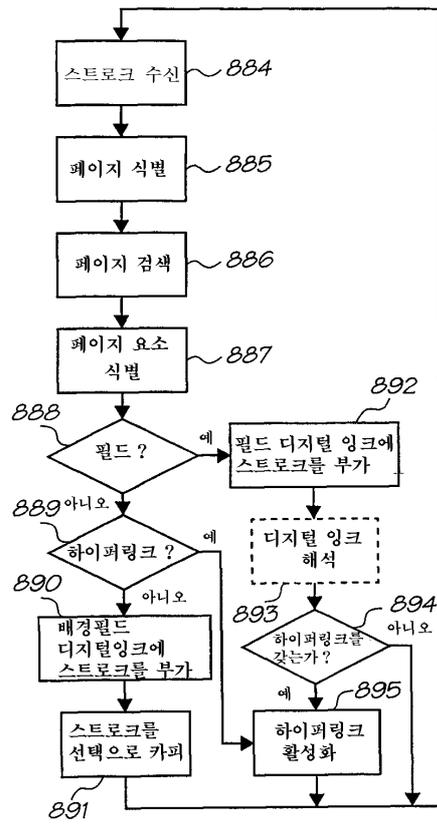


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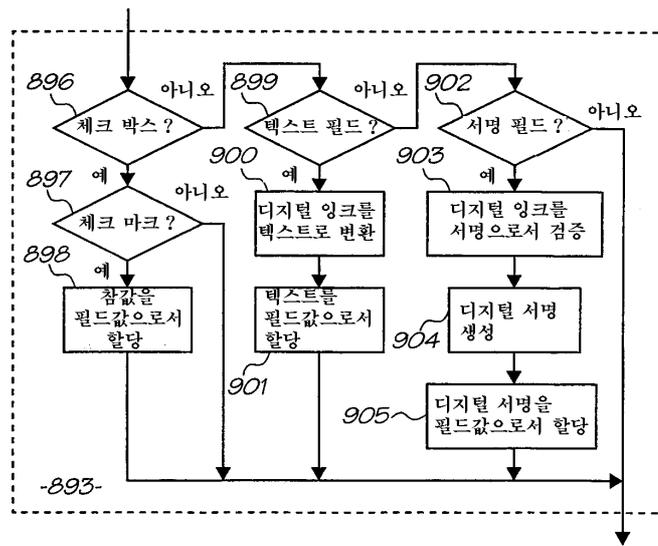


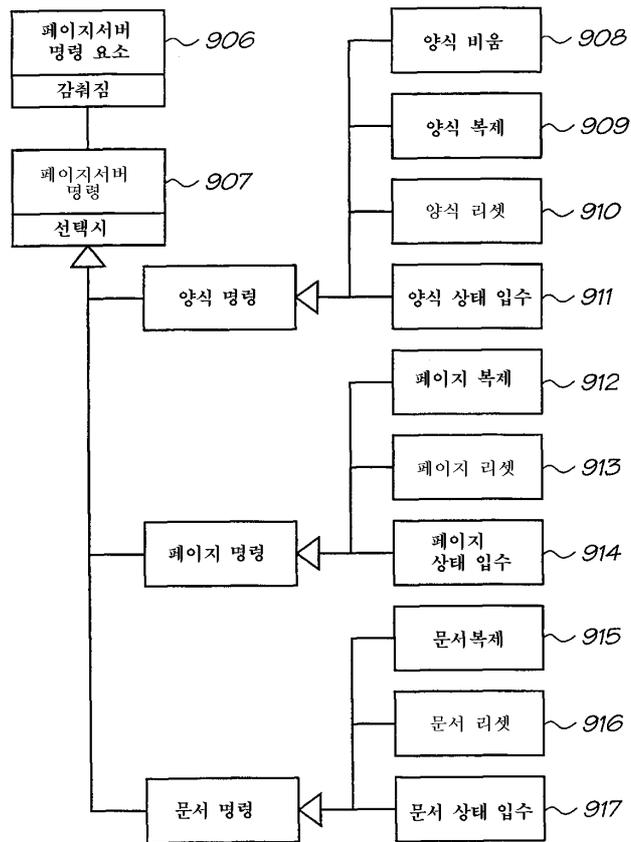
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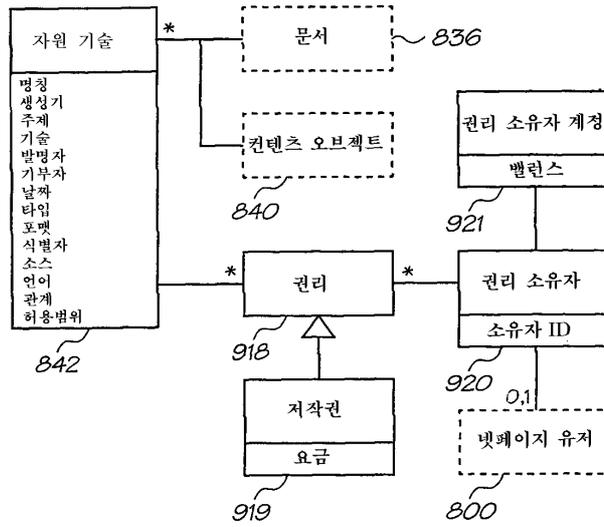


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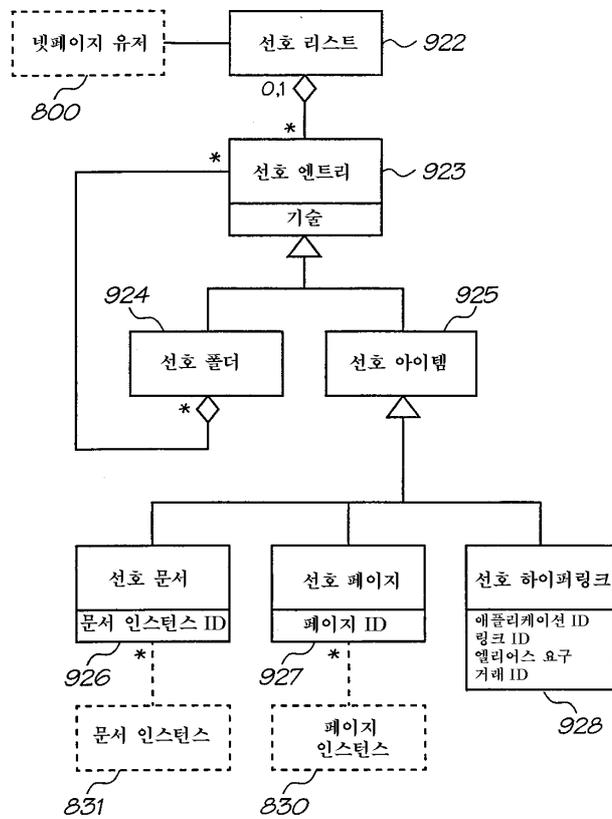




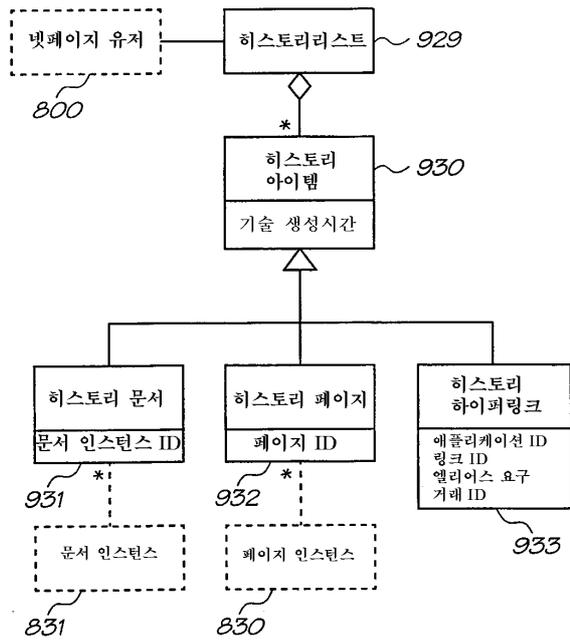
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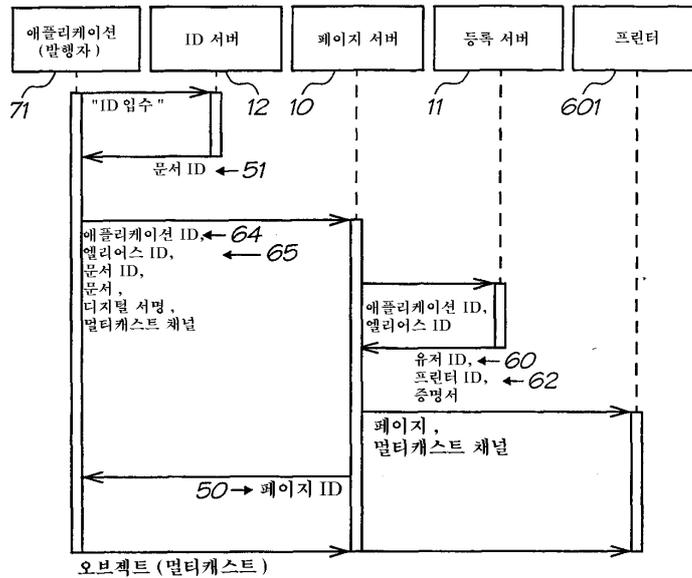
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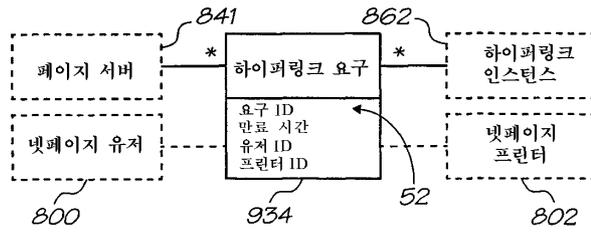
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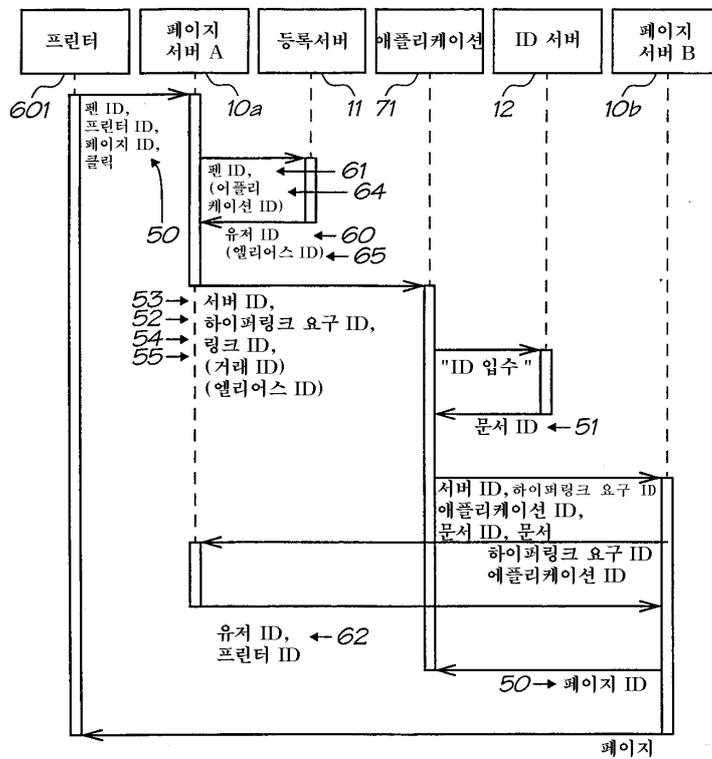
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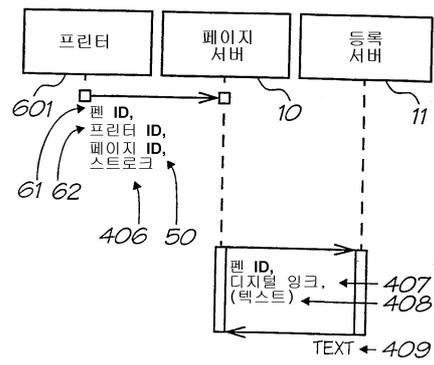
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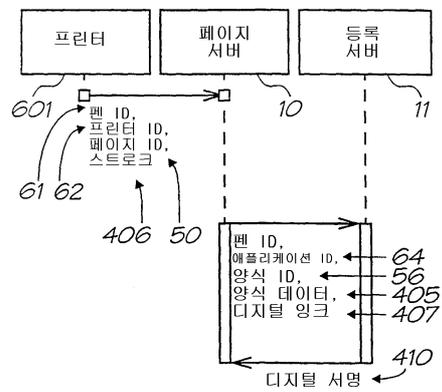
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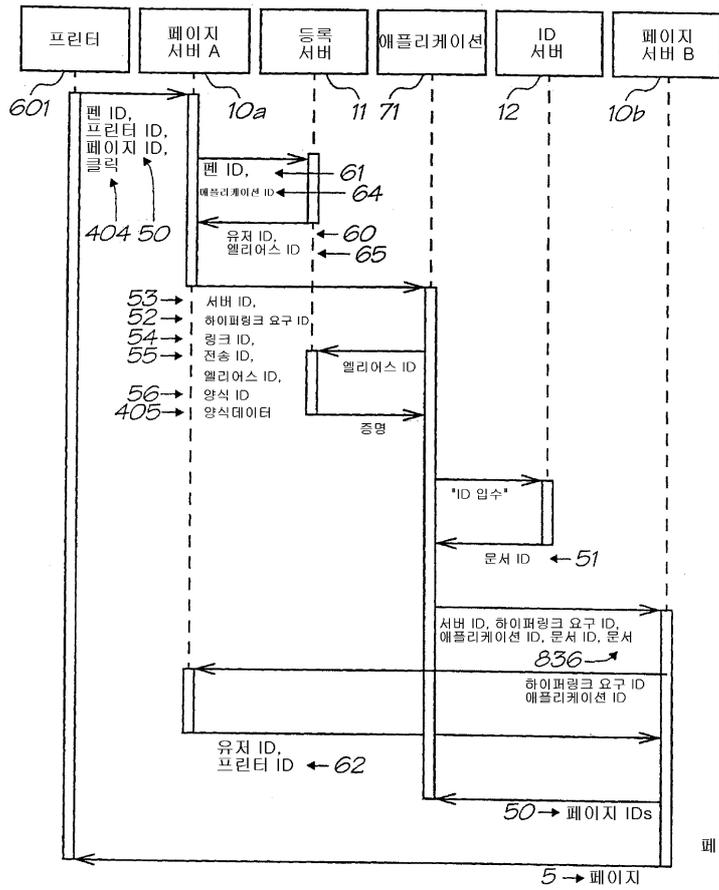


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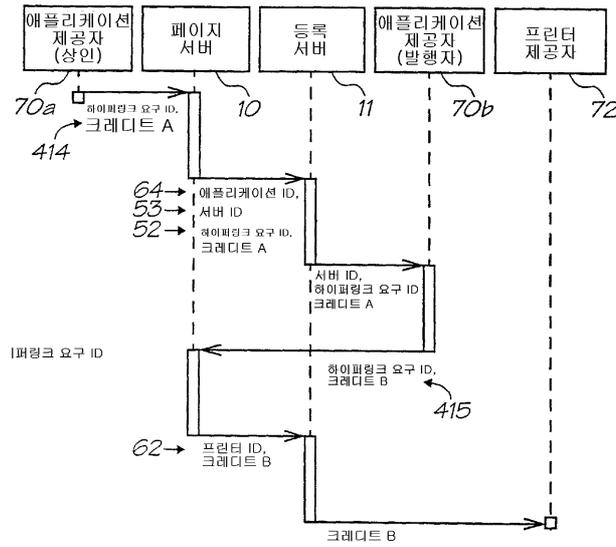


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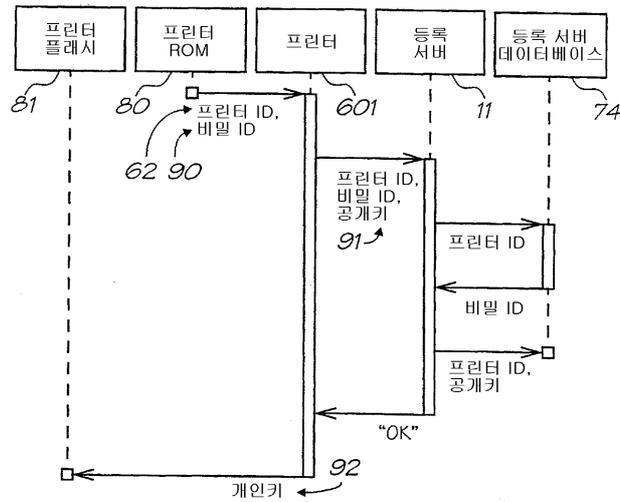




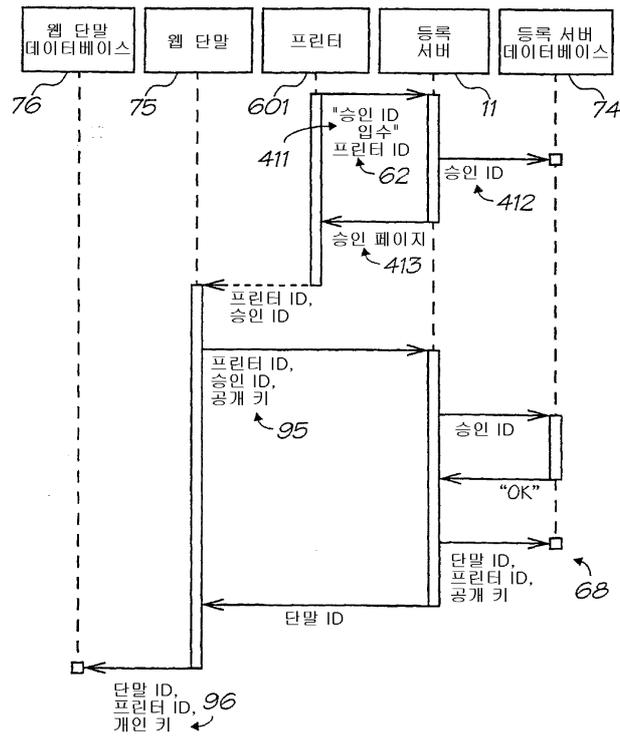
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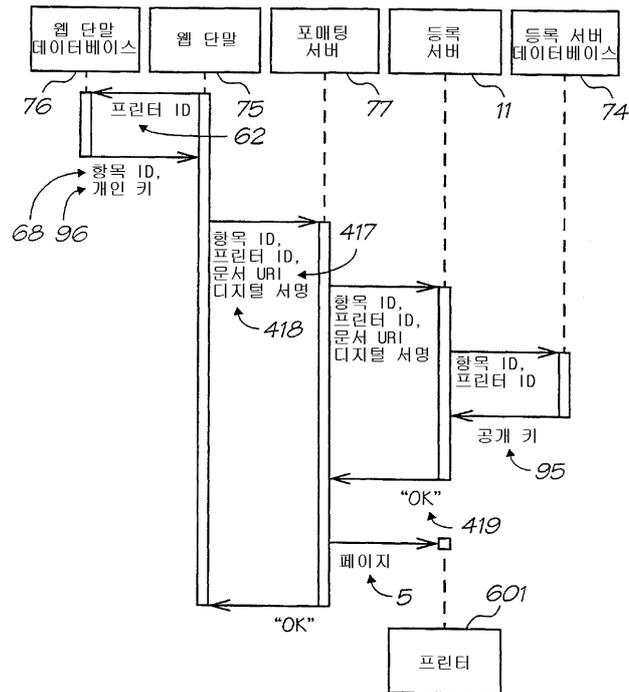
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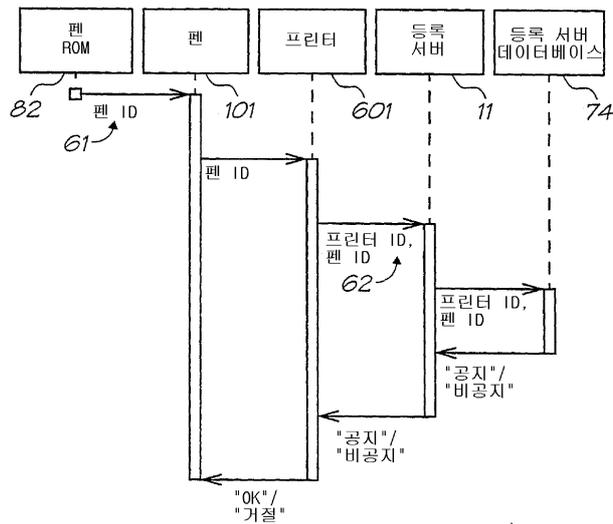
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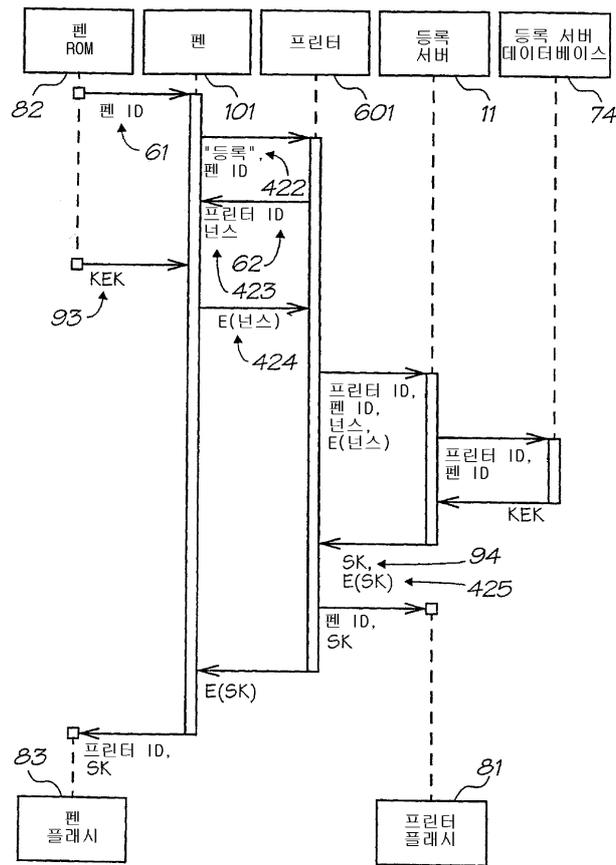
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