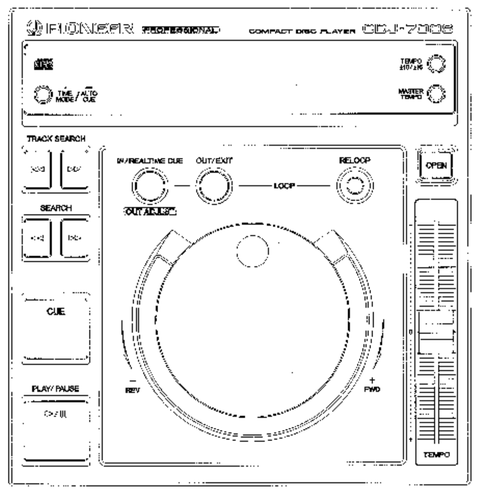
Service Manual

PIONEER®

The Art of Entertainment



ORDER NO.
RRV1846

COMPACT DISC PLAYER

CDJ-700S
CDJ-500S

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	The voltage can be converted by the following method.
	CDJ - 700S	CDJ - 500S		
KUC	O	–	AC120V	———
HY	–	O	AC220 – 230V/240V	With the voltage selector
SL	–	O	AC110V/120V/220 – 230V/240V	With the voltage selector

CONTENTS

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE, INC. P.O.Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 501 Orchard Road, #10-00 Lane Crawford Place, Singapore 0923

T-FZY AUG 1997 Printed in Belgium

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

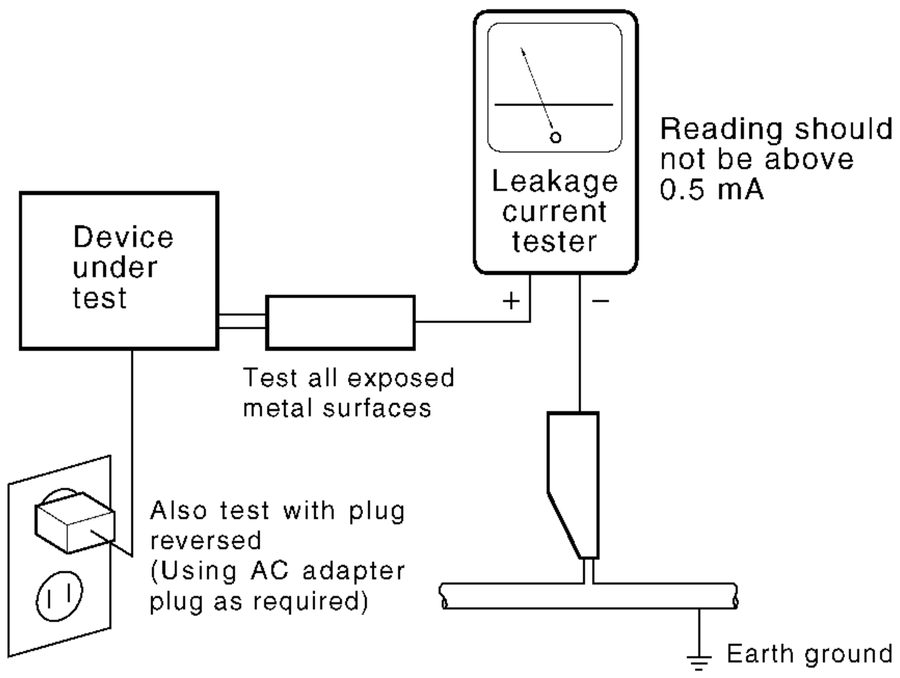
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

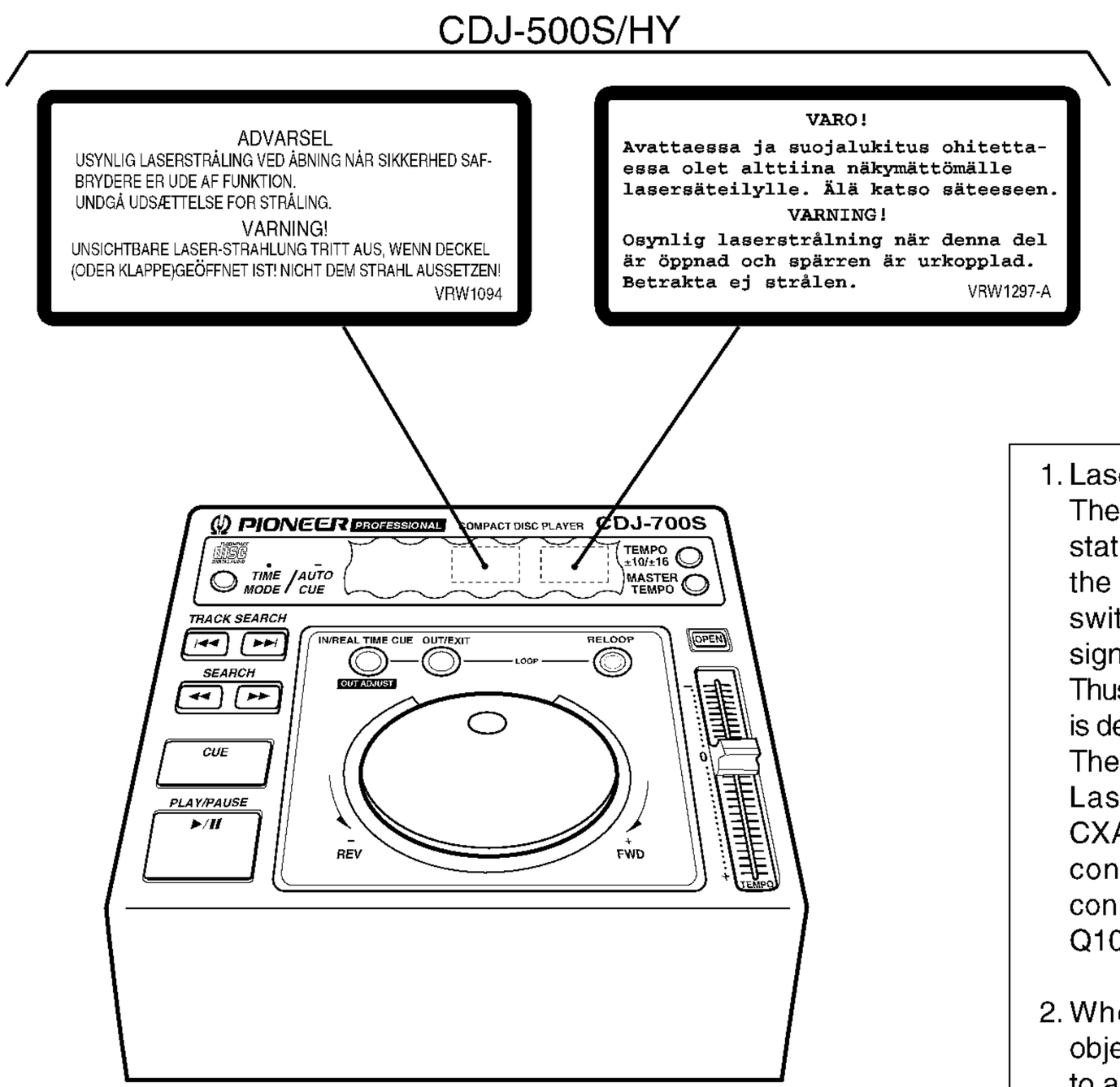
2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage , etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

LABEL CHECK (for CDJ - 500S /HY and CDJ - 500S /SL)



Additional Laser Caution

1. Laser Interlock Mechanism
   The position of the switch (S651) for detecting loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S651) is not on $\overline{\text{CLMP}}$ terminal side ($\overline{\text{CLMP}}$ signal is OFF or high level).
   Thus, the interlock will no longer function if the switch (S651) is deliberatery set to $\overline{\text{CLMP}}$ terminal side. (low level)
   The interlock also does not function in the test mode ⁎.
   Laser diode oscillation will continue, if pin 33 of CXA1782CQ (IC101) on the MAIN BOARD ASSY is connected to GND, or pin 23 of IC701 ($\overline{\text{LDON}}$) is connected to low level (ON), or else the terminals of Q101 are shorted to each other (fault condition).

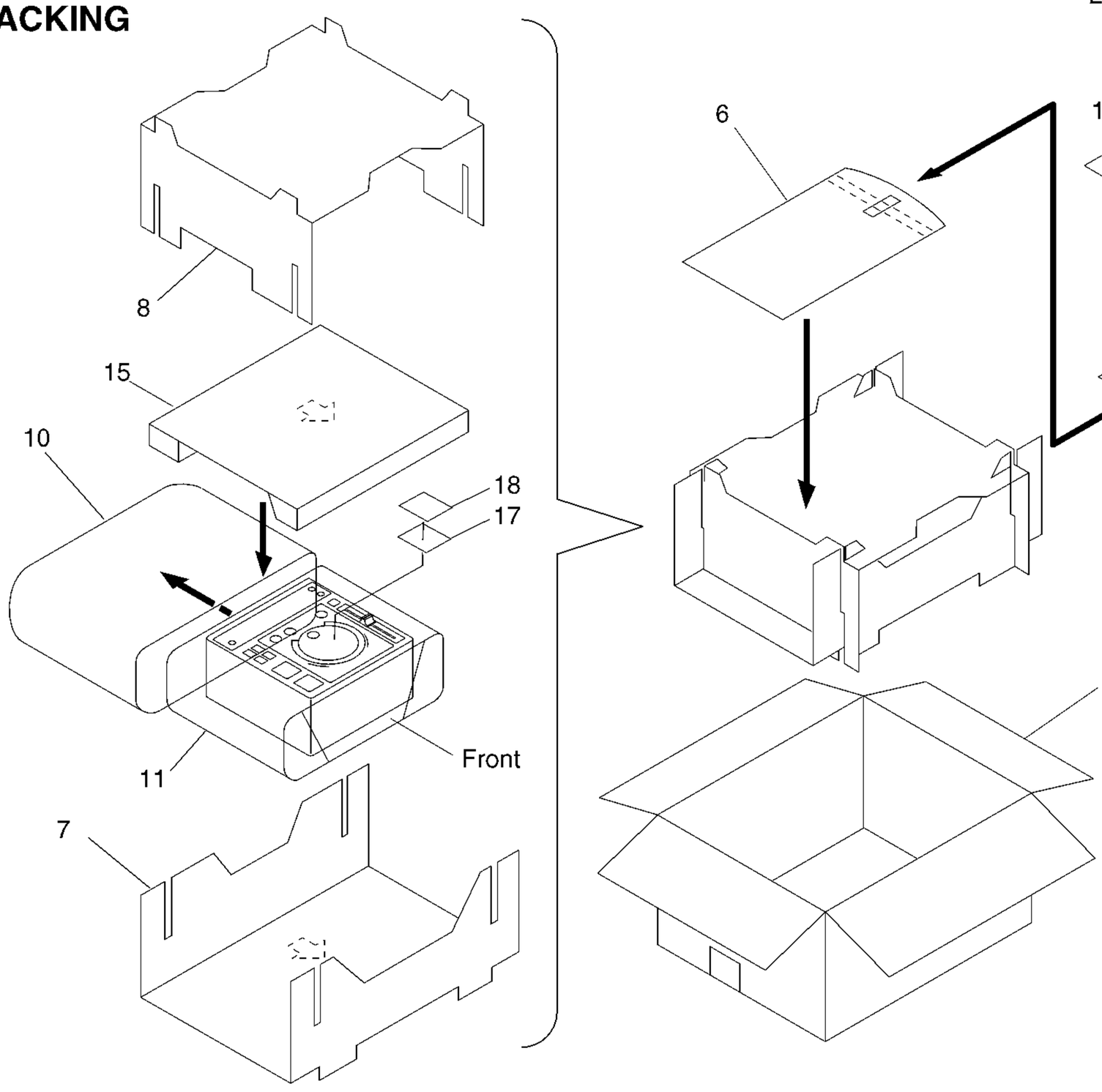
2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

⁎ : Refer to page 44.

2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING



(1) PARTS LIST

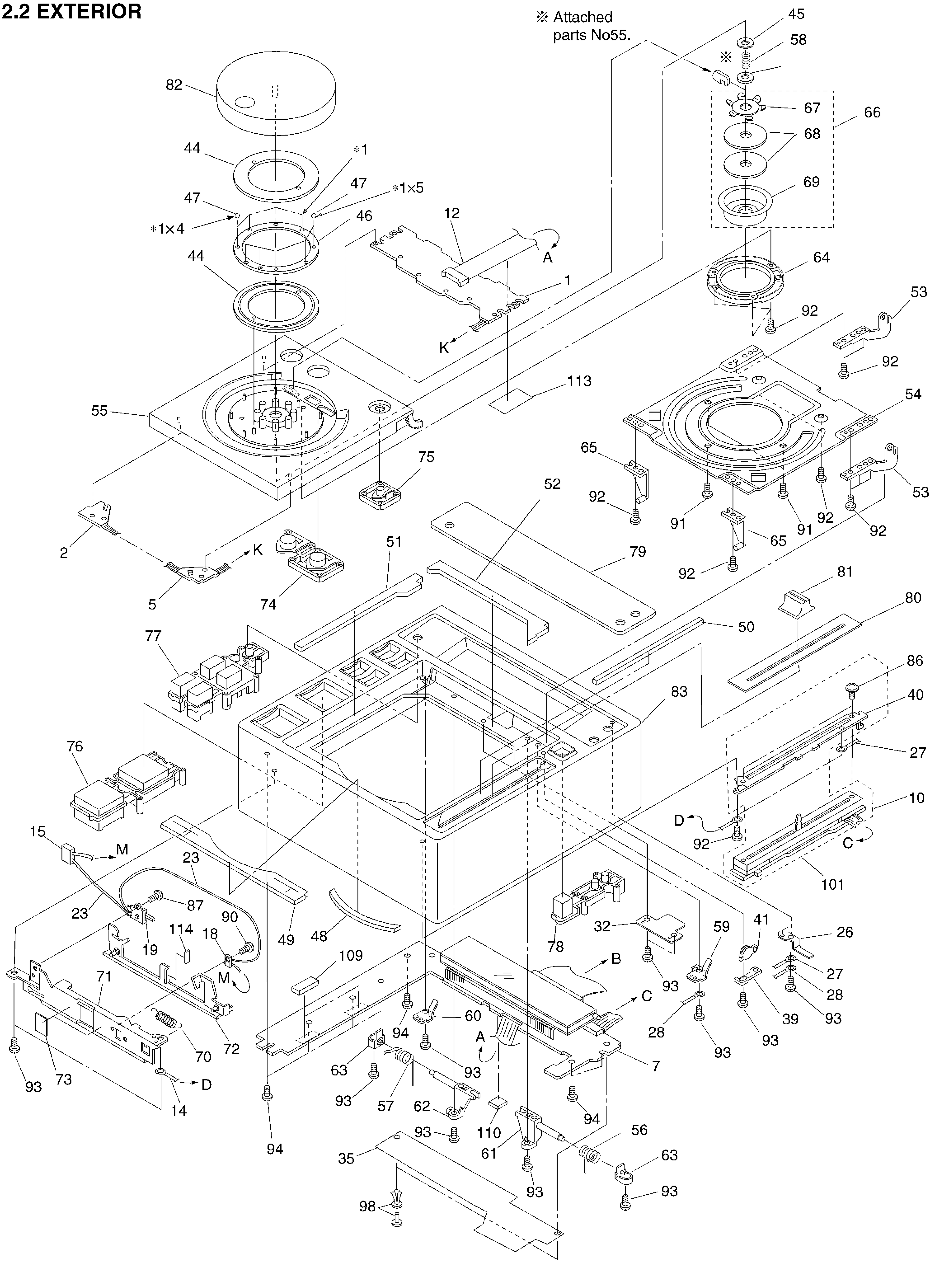
Mark	No.	Description	Parts No.
	1	Control Cable	PDE1247
	2	Audio Cable	VDE1033
	3	Spacers for Rack Mounting	DLA1837
	4	Operating Instructions	See Contrast table (2)
	5	.....	
	6	Polyethylene Bag (0.03×230×340)	Z21 – 038
	7	Pad (A)	DHA1390
	8	Pad (B)	DHA1391
	9	Packing Case	See Contrast table (2)
	10	Polyethylene Bag	DHL1106
	11	Seat (550×550×0.5)	Z23 – 026
	12	.....	
	13	.....	
NSP	14	Polyethylene Bag (50×70×0.03)	Z21 – 002
	15	Screw for Rack Mounting	IBZ30P100FCC
	16	Pad (C)	DHA1400
	17	Silicagel	AEN7001
	18	Caution SG	DRM1199

(2) CONTRAST TABLE

CDJ-500S/HY, SL and CDJ-700S/KUC are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			CDJ-700S/KUC	CDJ-500S/HY	CDJ-500S/SL	
	4	Operating Instructions (English)	DRB1215	Not used	Not used	
	4	Operating Instructions (English/French/German/Italian/Dutch/Spanish)	Not used	DRB1214	Not used	
	4	Operating Instructions (English/Spanish/Chinese)	Not used	Not used	DRB1220	
	9	Packing Case	DHG1783	DHG1785	DHG1784	

2.2 EXTERIOR


※ Attached
parts No55.
45
58
※
67
66
68
69
64
53
92
92
54
82
44
*1
47
*1×5
47
*1×4
46
12
A
44
1
K
113
55
75
65
52
92
91
91
92
53
92
65
2
K
51
79
5
74
92
81
80
77
50
86
83
40
27
76
10
D
92
C
101
15
M
23
23
87
90
49
48
19
114
18
109
78
32
59
41
26
B
93
27
28
71
M
60
C
94
28
93
39
93
70
72
A
93
93
7
73
63
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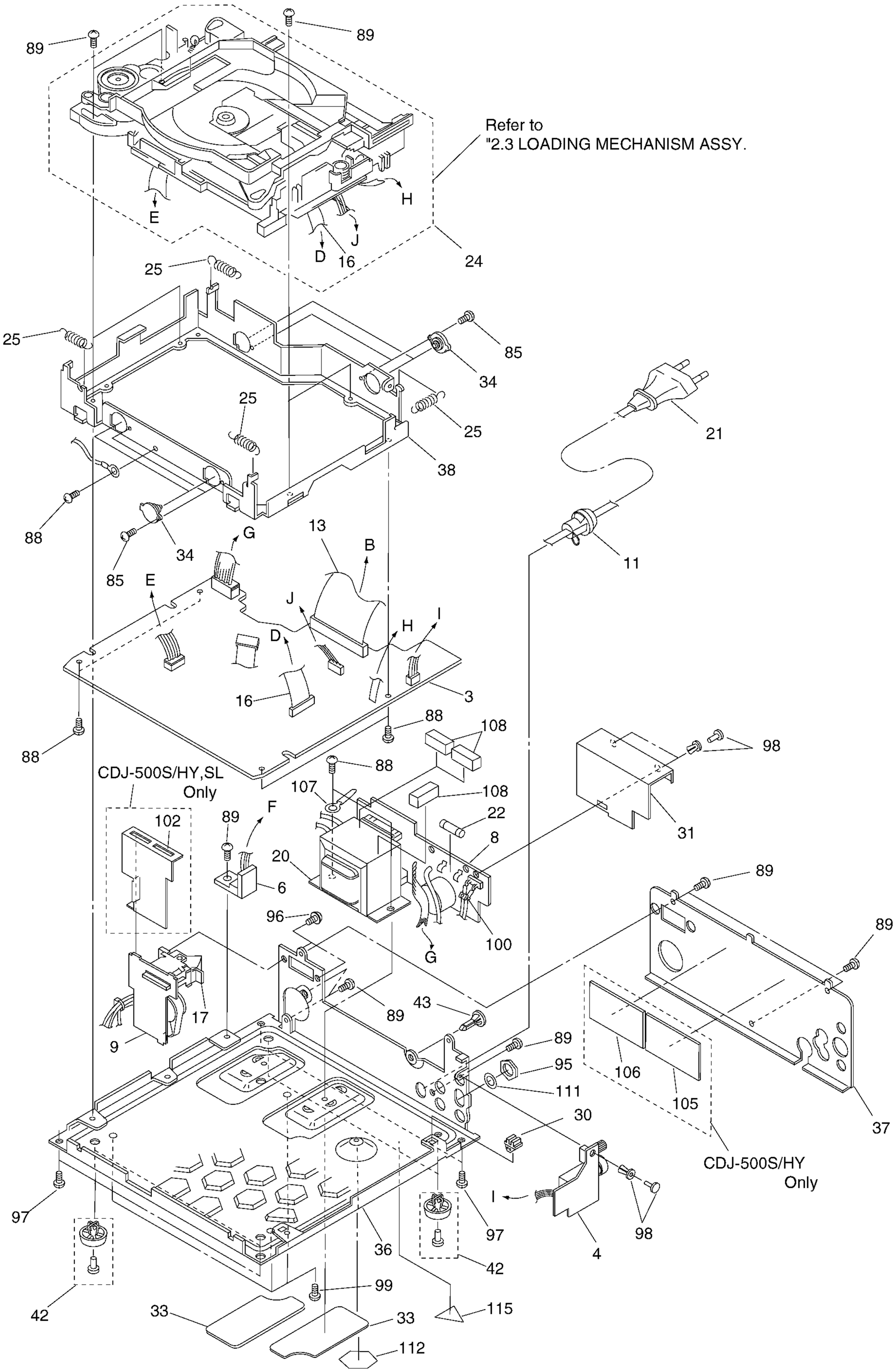
CDJ-700S,CDJ-500S



(1) EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Parts No.
NSP	1	DOOR BOARD ASSY	DWS1289
NSP	2	LED B BOARD ASSY	DWX1819
	3	MAIN BOARD ASSY	DWX1821
	4	H.P BOARD ASSY	DWX1822
NSP	5	LED A BOARD ASSY	DWX1824
NSP	6	REGULATOR BOARD ASSY	DWX1825
	7	FUNCTION BOARD ASSY	DWG1497
NSP	8	TRANS BOARD ASSY	See Contrast table (2)
NSP	9	POWER SW BOARD ASSY	See Contrast table (2)
NSP	10	SLIDER BOARD ASSY	DWX1823
	11	Cord Stopper	See Contrast table (2)
	12	12P F.F.C/60V	DDD1118
	13	38P F.F.C/60V	DDD1119
NSP	14	Cord With Plug	DE005VF0
	15	Connector Assembly	DKP3368
	16	S Flexible L	DNP1811
⚠	17	S1 Switch	DSA1024
	18	Push Switch	DSG1012
	19	Lever Switch	DSK1003
⚠	20	Power Transformer	See Contrast table (2)
⚠	21	AC Power Cord	See Contrast table (2)
⚠	22	FU1 Fuse	See Contrast table (2)
NSP	23	UL1571, AWG28	ZWNP1571G – 28 – 4 – 14A
NSP	24	Loading Mechanism Assy	DXA1830
	25	Float Spring	DBH1382
	26	VR Spring	DBK1088
	27	Earth Lead Unit	DDF1010
	28	Earth Lead Unit	DDF1011
	29	.....	
	30	Assy Table	DEC1231
	31	AC Cover	DEC2131
	32	Flexible Cover	DEC2133
	33	Bottom Cover	DEC2134
	34	Damper	DEC2136
	35	Connector Cover	DEC2138
NSP	36	Chassis	DNA1220
NSP	37	Rear Panel	See Contrast table (2)
	38	Mechanism Base	DNF1572
	39	Damper Plate	DNF1574
	40	VR Plate	DNF1575
	41	Gear Damper	DXB1648
	42	Foot	REC – 434
	43	Locking Card Spacer	VEC1596
	44	Thrust Stay	DNH2288
	45	Smoother	DNK2933
	46	Retainer	DNK3430
	47	Ball	VNX1006
	48	Guide Cushion	DEC2161
	49	Air Seal A	See Contrast table (2)
	50	Air Seal B	See Contrast table (2)
	51	Air Seal C	See Contrast table (2)
	52	Air Seal D	See Contrast table (2)
	53	Door Arm	DNF1573
	54	Door Cover	DNH2287
	55	Door	DNK3435

Mark	No.	Description	Parts No.
	56	Door Spring A	DBH1379
	57	Door Spring B	DBH1396
	58	J Spring	DBH1385
	59	Door Stopper A	DNF1576
	60	Door Stopper B	DNF1577
	61	Door Shaft Holder A	DNK3431
	62	Door Shaft Holder B	DNK3432
	63	Door Shaft Holder C	DNK3436
	64	Clamper Cover	DNK3442
	65	Roller Holder Assy	DXB1645
	66	Clamper Assy	DXB1655
NSP	67	Clamper Plate	DNE1289
NSP	68	Weight	DNH2300
NSP	69	Clamper	DNK3439
	70	Lock Hook Spring	DBH1383
	71	Lock Hook Plate	DNH2286
	72	Lock Hook Assy	DXB1647
	73	Damp Sheet	VEX1021
	74	Loop Knob	DAC1878
	75	Reloop Knob	DAC1879
	76	Knob A	DAC1880
	77	Knob B	DAC1881
	78	Knob C	DAC1882
	79	Display Plate	DAH1854
	80	Slide Sheet	DAH1855
	81	Slide Knob	DNK2936
	82	Jog Dial	DNK3438
	83	Control Panel	See Contrast table (2)
	84	65 Label	See Contrast table (2)
	85	Screw	AMZ20P040FMC
	86	Screw	AMZ30P040FMC
	87	Screw	BBZ26P060FMC
	88	Screw	BBZ30P060FMC
	89	Screw	BBZ30P080FZK
	90	Screw	BMZ20P060FMC
	91	Screw	BPZ26P060FNI
	92	Screw	BPZ26P080FZK
	93	Screw	BPZ30P060FZK
	94	Screw	BPZ30P080FMC
	95	Nut	NKX2FUC
	96	Screw	PMH30P060FMC
	97	Screw	PPZ30P080FZK
	98	Rivet	RBM – 003
	99	Screw	BBZ30P040FCC
	100	Binder	ZCA – SKB90BK
	101	Slider Assy-s	DXX2396
	102	Switch Cover	See Contrast table (2)
	103	.....	
	104	.....	
	105	Caution Label (HE)	See Contrast table (2)
	106	Caution Label	See Contrast table (2)
NSP	107	Binder	ZCB – 4772B
	108	Stop Cushion B	DEC2199
	109	Knob Cushion	DEC2180
	110	Stop Cushion A	DEC2184

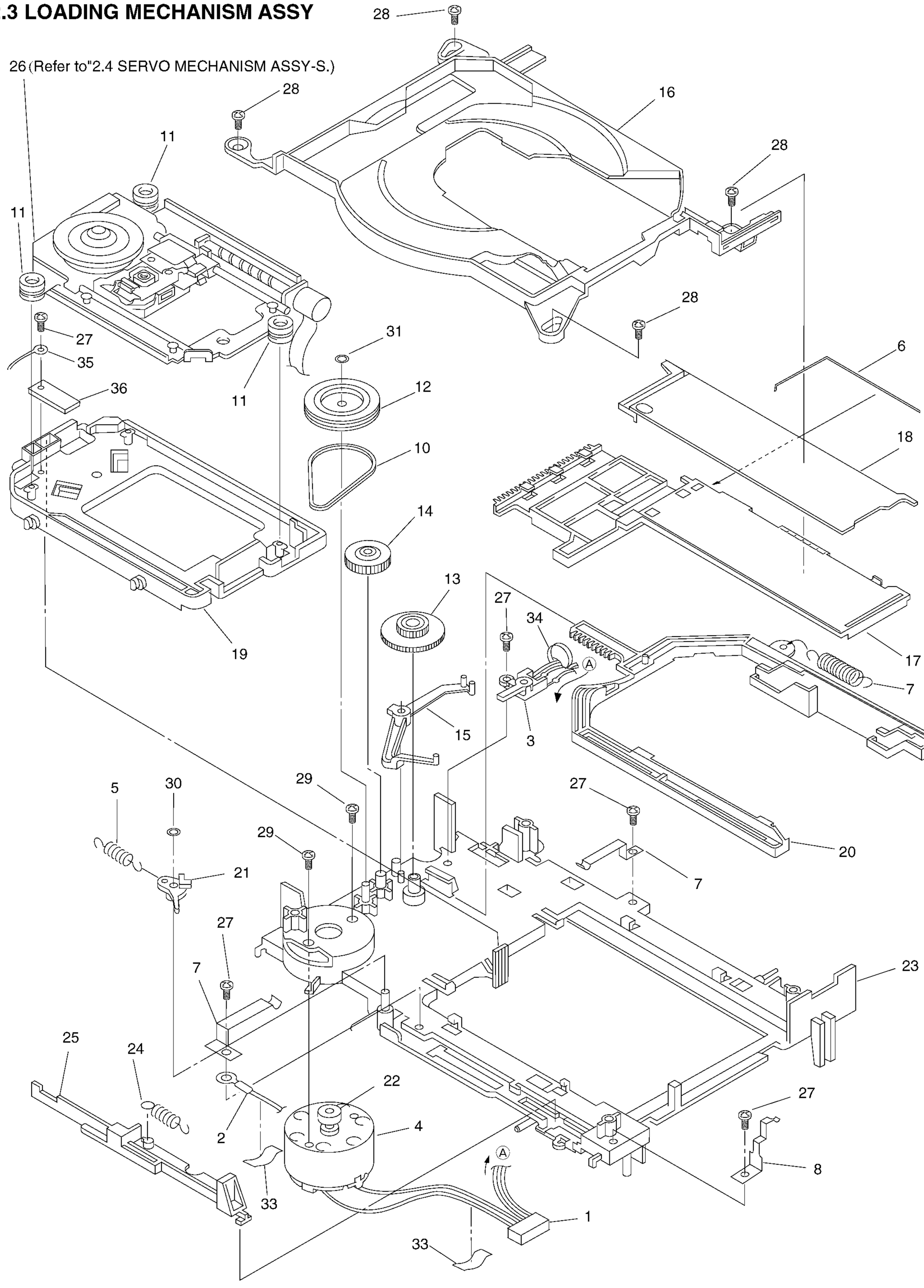
Mark	No.	Description	Parts No.
	111	Washer	DBE1010
	112	Bottom Cover B	DEC2192
	113	TAPE (BLACK)	DEH1016
	114	Hook Stopper	DEB1376
	115	IBM Label	DRW1566

(2) EXTERIOR SECTION CONTRAST TABLE

CDJ-500S/HY, SL and CDJ-700S/KUC are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			CDJ-700S/KUC	CDJ-500S/HY	CDJ-500S/SL	
NSP	8	TRANS BOARD ASSY	DWR1284	DWR1286	DWR1286	
NSP	9	POWER SW BOARD ASSY	DWS1290	DWS1287	DWS1286	
⚠	11	Cord Stopper	CM – 22C	CM – 22B	CM – 22B	
⚠	20	Power Transformer (AC120V)	DTT1144	Not used	Not used	
⚠	20	Power Transformer (AC220 – 230V/240V)	Not used	DTT1146	Not used	
⚠	20	Power Transformer (AC110V/120V/220 – 230V/240V)	Not used	Not used	DTT1143	
⚠	21	AC Power Cord	PDG1015	PDG1003	PDG1003	
⚠	22	FU1 Fuse (500mA)	VEK1009	Not used	Not used	
⚠	22	FU1 Fuse (T250mA)	Not used	AEK1048	AEK1048	
	37	Rear Panel	DNC1458	DNC1460	DNC1459	
	49	Air Seal A	DEC2197	Not used	Not used	
	49	Air Seal E	Not used	DEC2198	DEC2198	
	50	Air Seal B	DEC2193	Not used	Not used	
	50	Air Seal F	Not used	DEC2195	DEC2195	
	51	Air Seal C	DEC2194	Not used	Not used	
	51	Air Seal G	Not used	DEC2196	DEC2196	
	52	Air Seal D	DEC2175	Not used	Not used	
	52	Air Seal H	Not used	DEC2179	DEC2179	
	83	Control Panel	DNK3471	DNK3437	DNK3437	
	84	65 Label	ORW1069	Not used	Not used	
	102	Switch Cover	Not used	DEC2137	DEC2137	
	105	Caution Label (HE)	Not used	VRW1297	Not used	
	106	Caution Label	Not used	VRW1094	Not used	

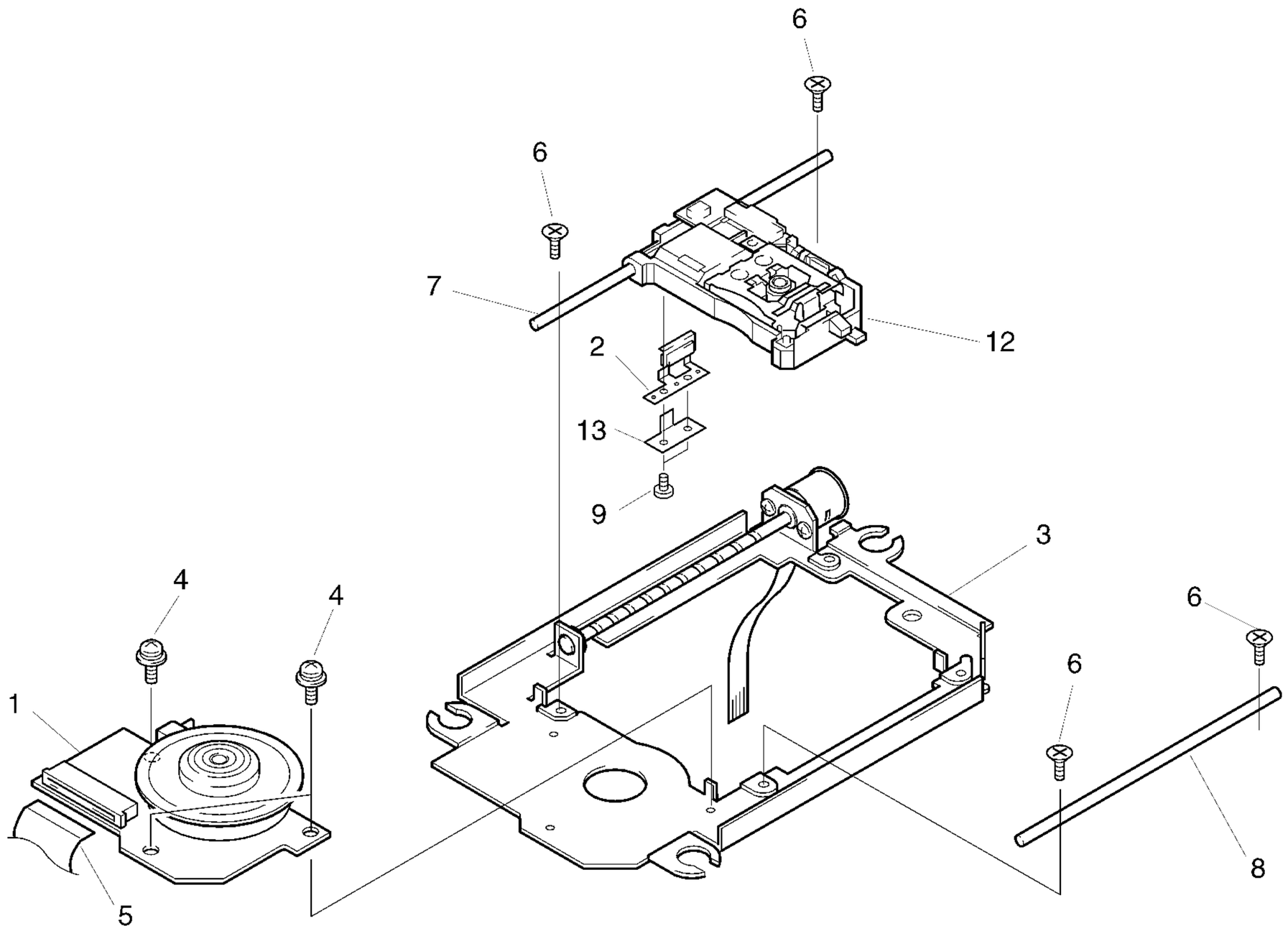
2.3 LOADING MECHANISM ASSY



● LOADING MECHANISM ASSY SECTION PARTS LIST

Mark	No.	Description	Parts No.
NSP	1	Connector Assembly	DDE1111
	2	Cord With Plug	DDF1010
	3	Lever Switch	DSK1003
	4	DC Motor/0.75W	PXM1010
	5	Cancel Lever Spring	DBH1386
	6	Spring	DBH1388
	7	Mechanism Stopper Spring A	DBK1135
	8	Mechanism Stopper Spring B	DBK1136
	9	.....	
	10	Belt	DEB1316
	11	Mount Bush	DEB1328
	12	Gear Pulley	DNK3099
	13	Drive Gear	DNK3100
	14	Loading Gear	DNK3101
	15	SW Lever	DNK3425
	16	Tray	DNK3426
	17	Shatter A	DNK3427
	18	Shatter B	DNK3428
	19	Servo Mechanism Base	DNK3429
	20	Drive Cam	DNK3433
	21	Cancel Lever	DNK3440
	22	Pulley	DNK3444
	23	Loading Base Assy	DXB1646
	24	Drive Lever Spring	DBH1384
	25	Hook Drive Lever	DNK3434
	26	Servo Mechanism Assy – S	DXX2409
	27	Screw	BPZ26P060FZK
	28	Screw	BPZ30P080FMC
	29	Screw	PMZ26P040FMC
	30	Washer	WT16D032D025
	31	Washer	WT21D050D050
	32	Screw	IBZ30P060FMC
	33	Tape	DEC1204
	34	Binder	ZCA – SKB90BK
	35	Earth Lead Unit	DDF1010
	36	Schlegel S	DEC2181
	37	Came Spring	DBH1395

2.4 SERVO MECHANISM ASSY-S



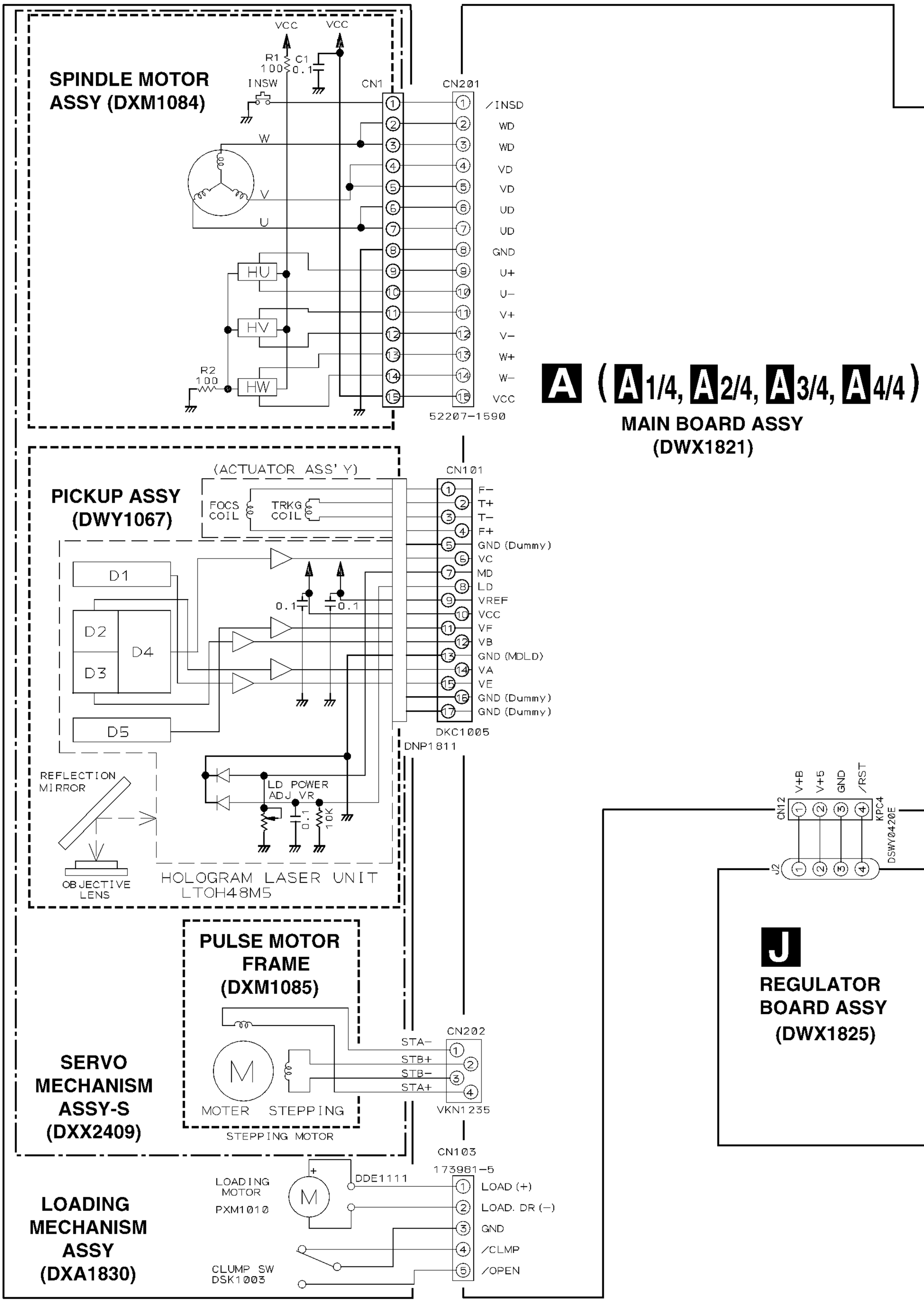
● PARTS LIST

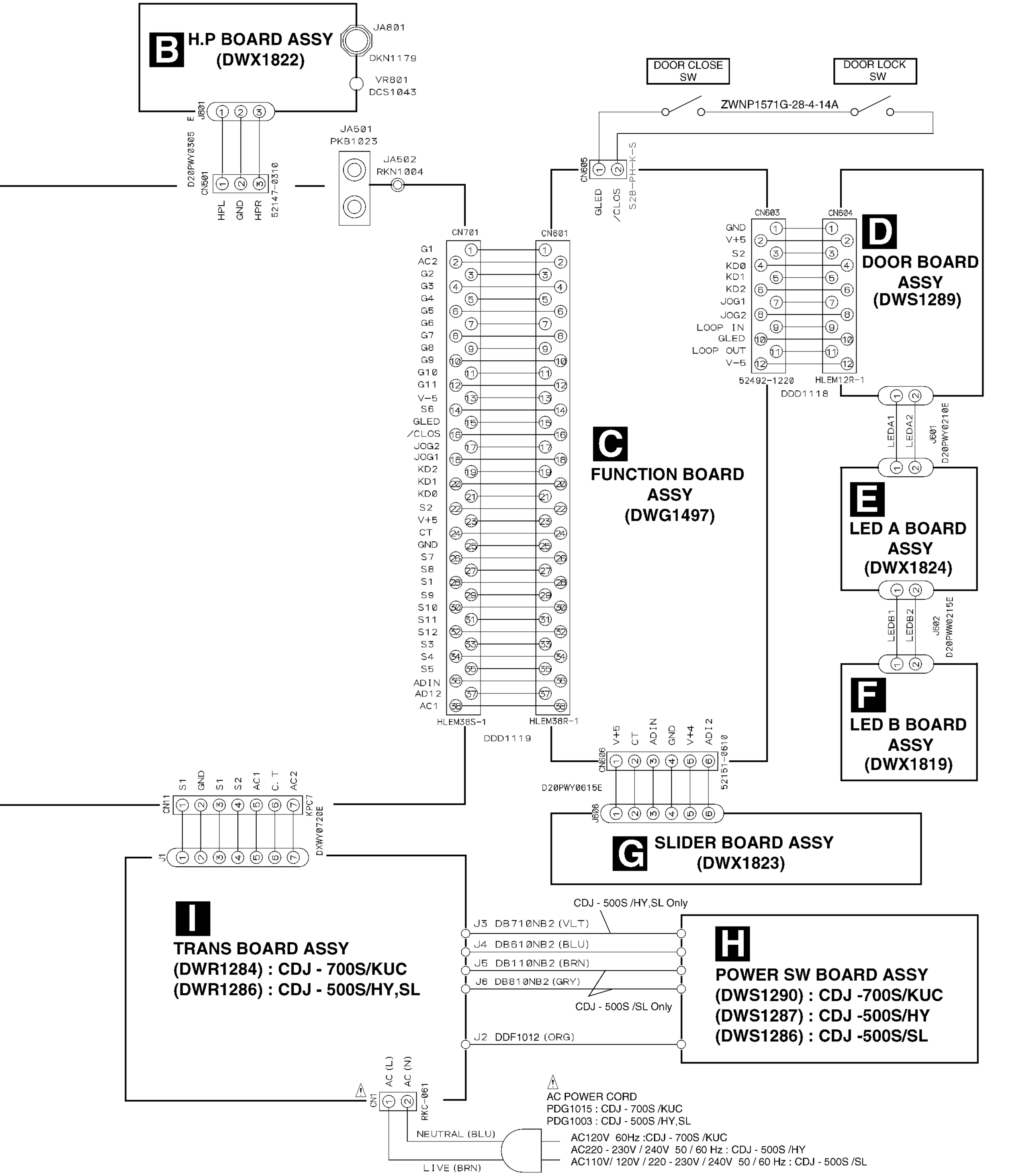
Mark	No.	Description	Parts No.
	1	Spindle motor assy	DXM1084
	2	Screw guide	DNK3238
	3	Pulsemotor frame	DXM1085
	4	Screw	PMH20P040FMC
	5	SPD Card	DDX1165
	6	Screw	CMZ20P060FMC
	7	Guide shaft	DLA1731
	8	Sub guide shaft	DLA1372
	9	Screw	ABA7022
	10	.....	
	11	.....	
NSP	12	Pickup assy	DWY1067
	13	Guide spring	DBK1122

3. SCHEMATIC DIAGRAM

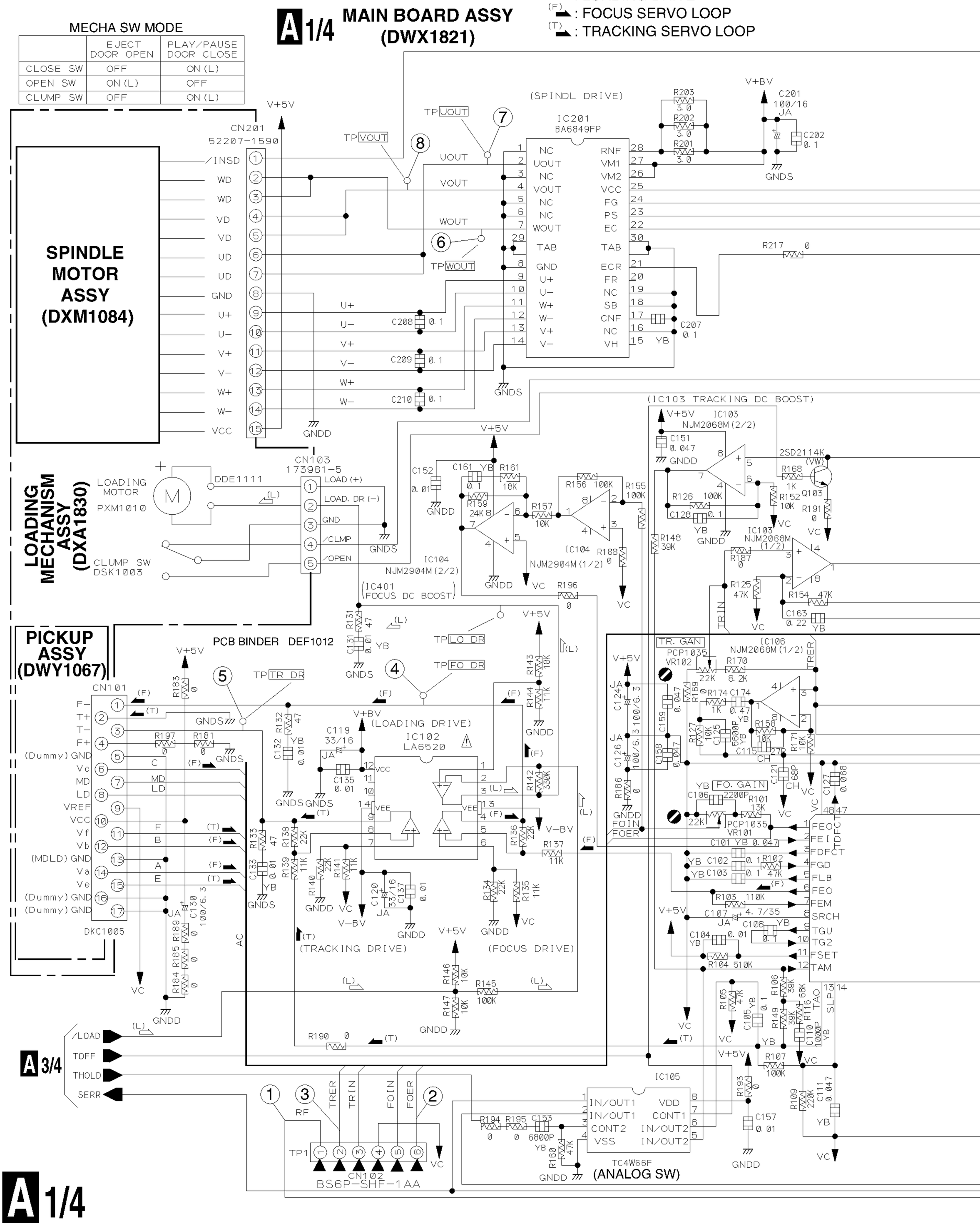
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST"

3.1 OVERALL CONNECTION DIAGRAM




B
H.P BOARD ASSY
(DWX1822)
JA801
DKN1179
VR801
DCS1043
J801
E
D20PWY0305
CN501
HPL
GND
HPR
52147-0310
JA501
PKB1023
JA502
RKN1004
CN701
CN601
G1
AC2
G2
G3
G4
G5
G6
G7
G8
G9
G10
G11
V-5
S6
GLED
/CLOS
JOG2
JOG1
KD2
KD1
KD0
S2
V+5
CT
GND
S7
S8
S1
S9
S10
S11
S12
S3
S4
S5
ADIN
AD12
AC1
HLEM38S-1
HLEM38R-1
DDD1119
DOOR CLOSE SW
DOOR LOCK SW
ZWNP1571G-28-4-14A
CN605
GLED
/CLOS
S2B-PH-K-S
CN603
CN604
GND
V+5
S2
KD0
KD1
KD2
JOG1
JOG2
LOOP IN
GLED
LOOP OUT
V-5
52492-1220
HLEM12R-1
DDD1118
D
DOOR BOARD
ASSY
(DWS1289)
LEDA1
LEDA2
J601
D20PWY0210E
E
LED A BOARD
ASSY
(DWX1824)
LEDB1
LEDB2
J602
D20PWW0215E
F
LED B BOARD
ASSY
(DWX1819)
C
FUNCTION BOARD
ASSY
(DWG1497)
CN606
V+5
CT
ADIN
GND
V+4
ADI2
52151-0610
D20PWY0615E
J606
G
SLIDER BOARD ASSY
(DWX1823)
CN11
S1
GND
S1
S2
AC1
C. T
AC2
KPC7
DXWY0720E
J1
I
TRANS BOARD ASSY
(DWR1284) : CDJ - 700S/KUC
(DWR1286) : CDJ - 500S/HY,SL
CDJ - 500S /HY,SL Only
J3 DB710NB2 (VLT)
J4 DB610NB2 (BLU)
J5 DB110NB2 (BRN)
J6 DB810NB2 (GRY)
CDJ - 500S /SL Only
J2 DDF1012 (ORG)
H
POWER SW BOARD ASSY
(DWS1290) : CDJ -700S/KUC
(DWS1287) : CDJ -500S/HY
(DWS1286) : CDJ -500S/SL
CN1
AC (L)
AC (N)
RKC-061
NEUTRAL (BLU)
LIVE (BRN)
AC POWER CORD
PDG1015 : CDJ - 700S /KUC
PDG1003 : CDJ - 500S /HY,SL
AC120V 60Hz :CDJ - 700S /KUC
AC220 - 230V / 240V 50 / 60 Hz : CDJ - 500S /HY
AC110V/ 120V / 220 - 230V / 240V 50 / 60 Hz : CDJ - 500S /SL

3.2 MAIN BOARD ASSY(1/4)



Note :Chip

RESISTOR
No mark :Carbon film resistor (Ω)
No mark :1/10W

COIL
No mark :LAU (H)
LC :LCTA (H)

CAPACITOR
No mark electrolytic :CEAS (μF)
JA :CEJA (F)
No mark ceramic :CKSQYF (μF)
YB :CKSQYB (μF)
TL :CFTLA (μF)
CH :CCSQCH (F)

A 3/4 /INSD FG AA LDON FOK DATA

A 2/4 EMPH C16M BCLK DAT1 LRCK

IC301
CXD2500BQ
(DECODER)

IC101
CXA1782CQ
(SERVO CONTROL)

IC302
BA7042
(VCO)

[IC303
TC7SU04F
(INVERTER)

IC107
TC4W53F
(ANALOG SW)

[IC106
NJM2068M
(IC106 TZC AMP)

Q102
DTA124EK
(LD ON)

VSS1084
16.9344MHz

A 3/4 ATB2

A 3/4 S1TJ

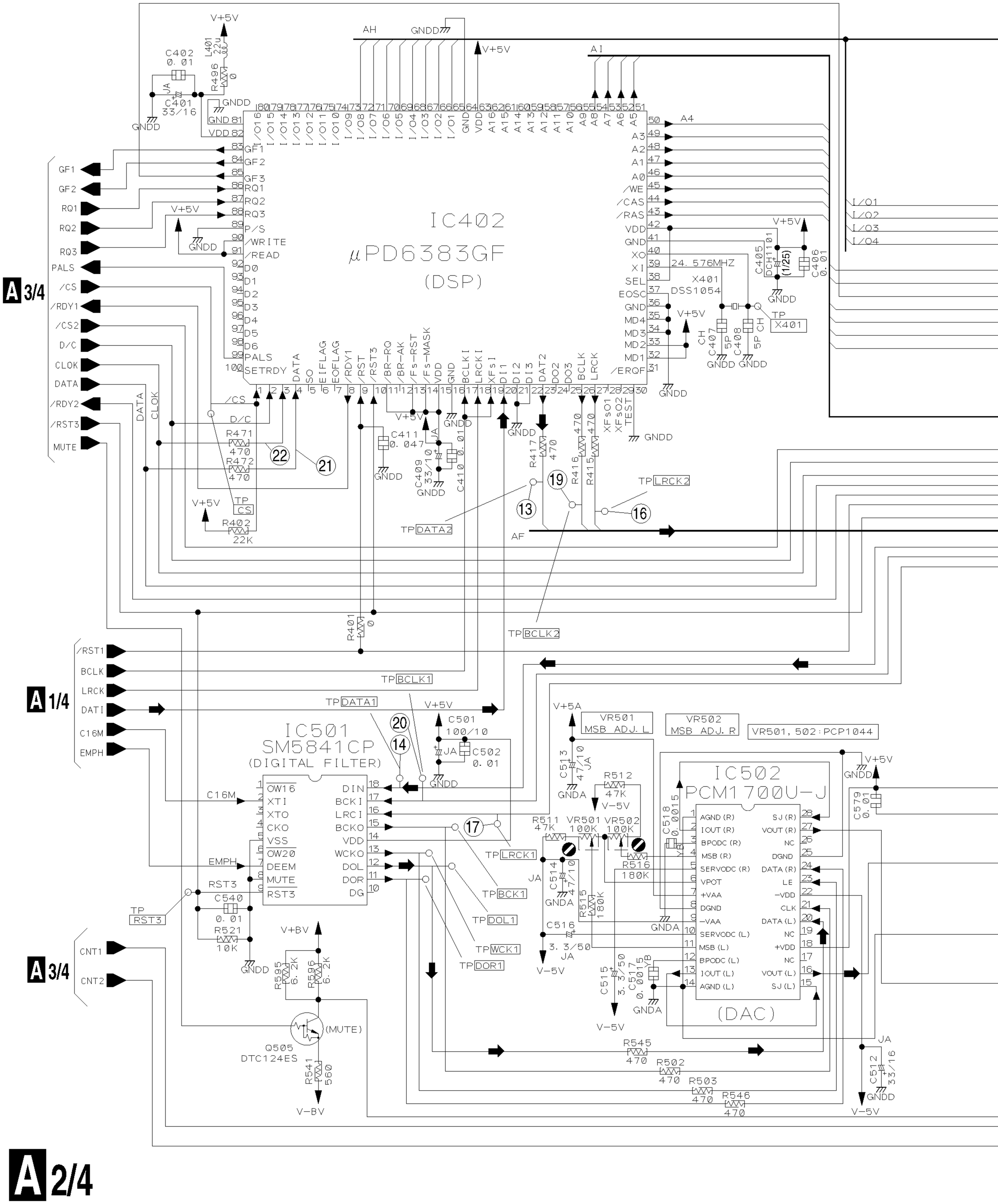
A 4/4 /RST

A 2/4 /RST1

3.3 MAIN BOARD ASSY(2/4) AND H.P BOARD ASSY

A 2/4 MAIN BOARD ASSY (DWX1821)

SIGNAL ROUTE
➡: RF & AUDIO SIGNAL



Note ⊏⊐ ⌈⌉ :Chip

RESISTOR
No mark :Carbon film resistor (Ω)
No mark :1/4W
:1/10W
VM :RD1/4VM (Ω)
COIL
No mark :LAU (H)

CAPACITOR
No mark electrolytic :CEAS (μF)
JA :CEJA (μF)
No mark ceramic :CKSQYF (μF)
YB :CKSQYB (μF)
CH :CCSQCH (F)
M :CQMA (μF)

IC403
μPD6383GF
(DSP)

IC404
HM514800CJ-7
(DRAM)

IC409
LH52256AN-70LL
(SRAM)

IC505 (1/2) NJM4558MD
IC505 (2/2) NJM4558MD
(IC505 LPF)

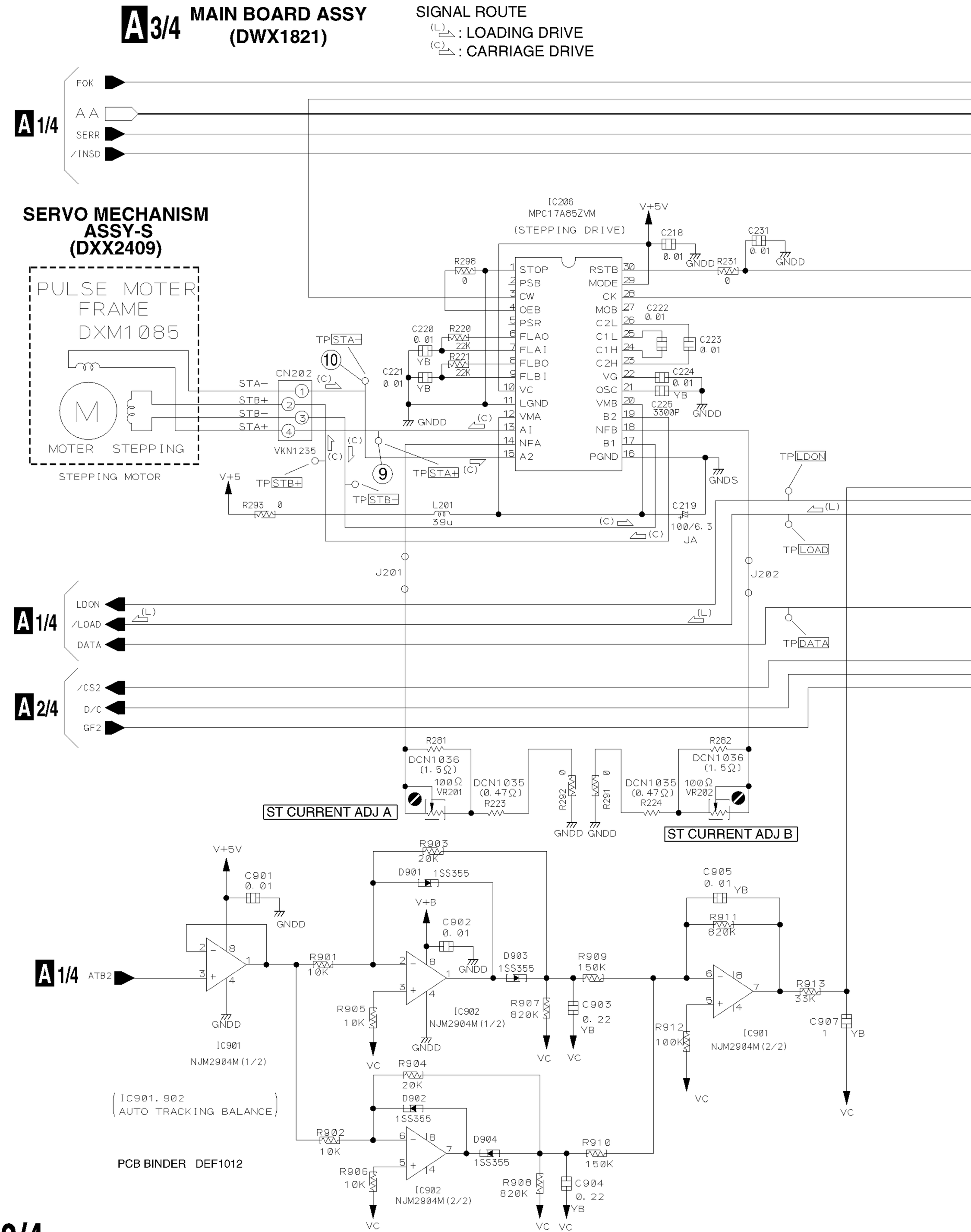
IC801 (1/2) NJM4556AM
IC801 (2/2) NJM4556AM
(HP AMP)

Q501 2SD2144S (UV)
Q502 2SD2144S (UV)
Q503 2SD2144S (UV)
Q504 2SD2144S (UV)

CN501 52147-0310
J801 D20PWY0305E

B
H.P BOARD ASSY
(DWX1822)

3.4 MAIN BOARD ASSY(3/4)



Note

□□ [ ] : Chip

RESISTOR

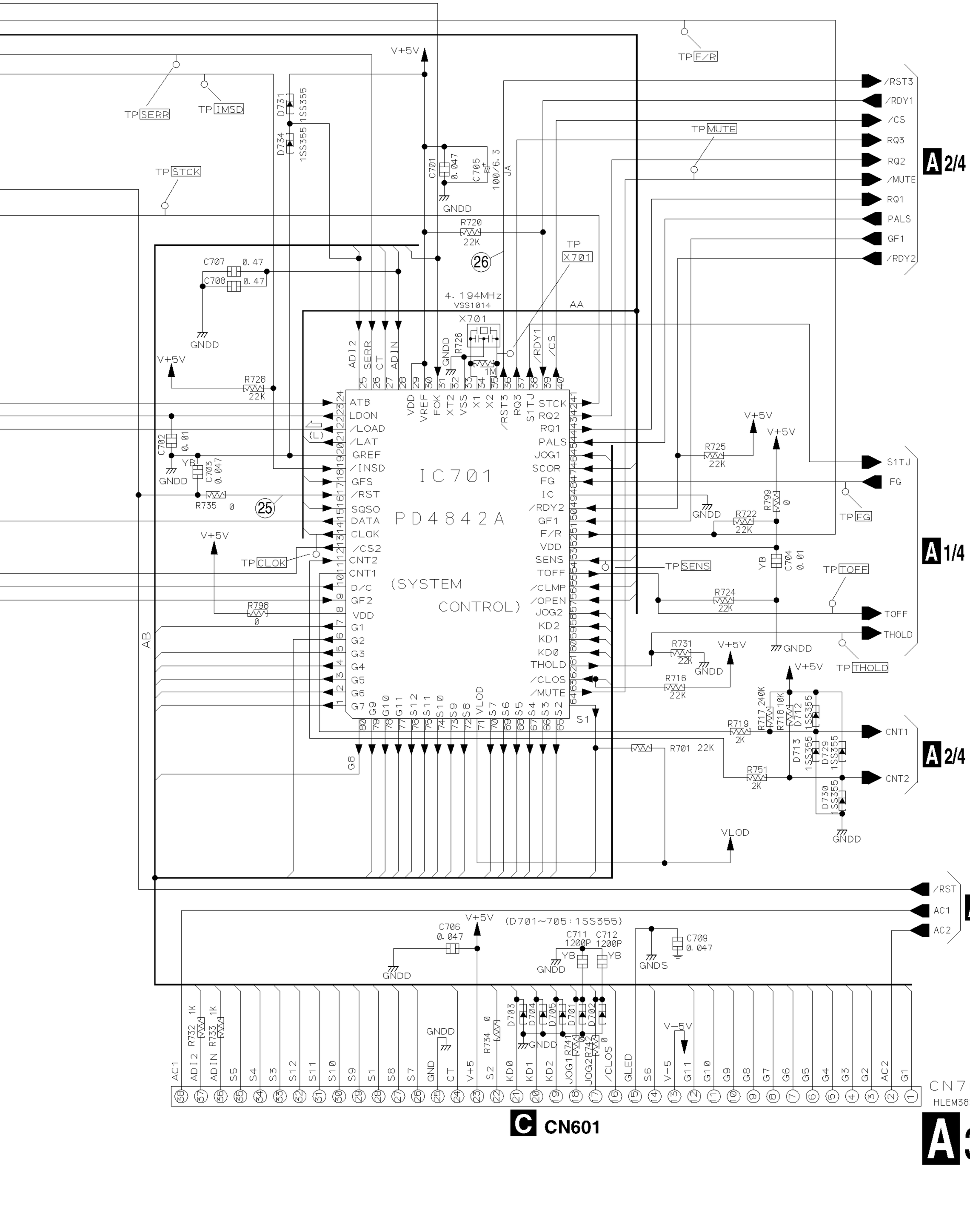
No mark : Carbon film resistor (Ω)
No mark : 1/4W
: 1/10W

COIL

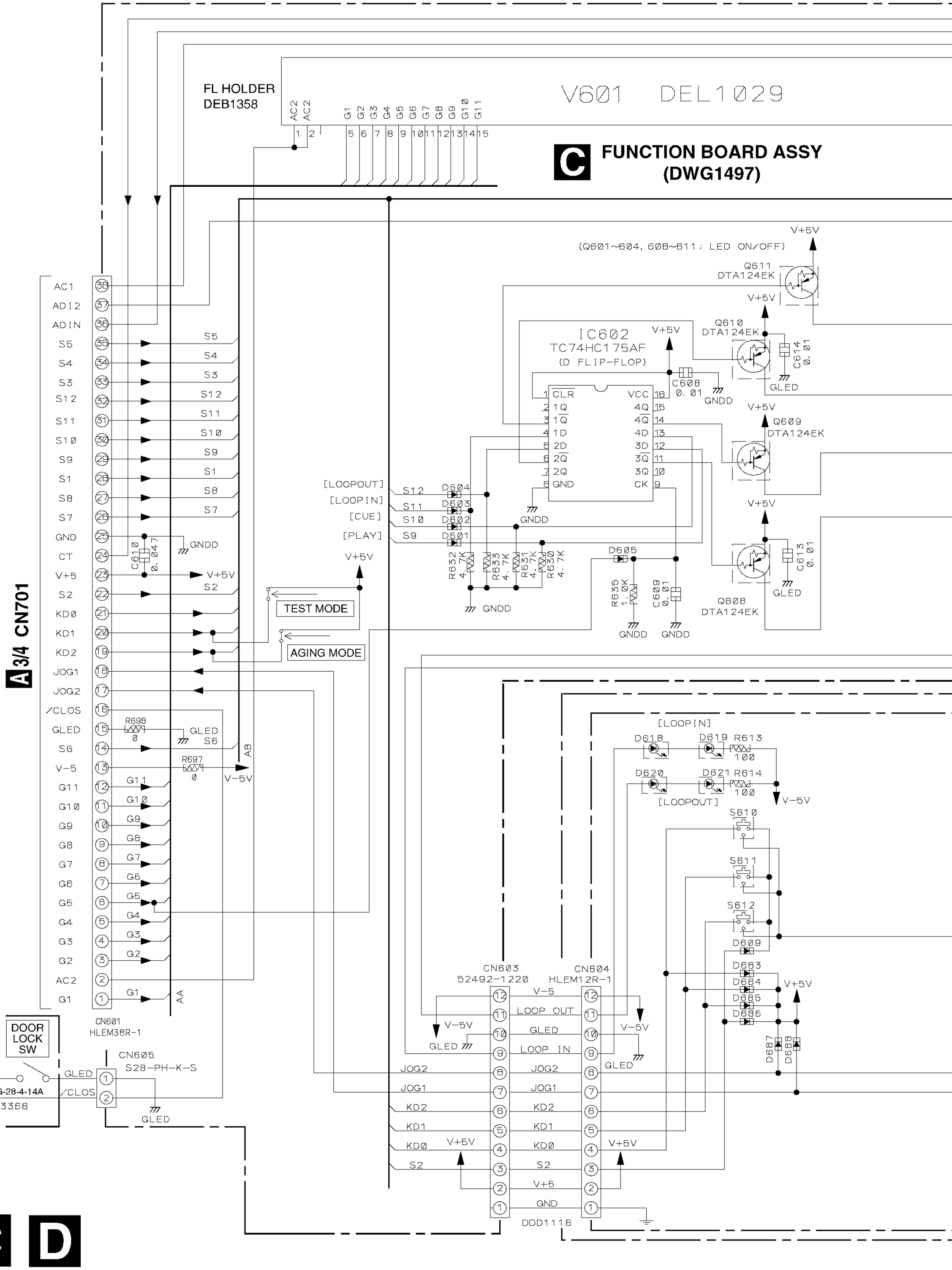
No mark : LAU (H)

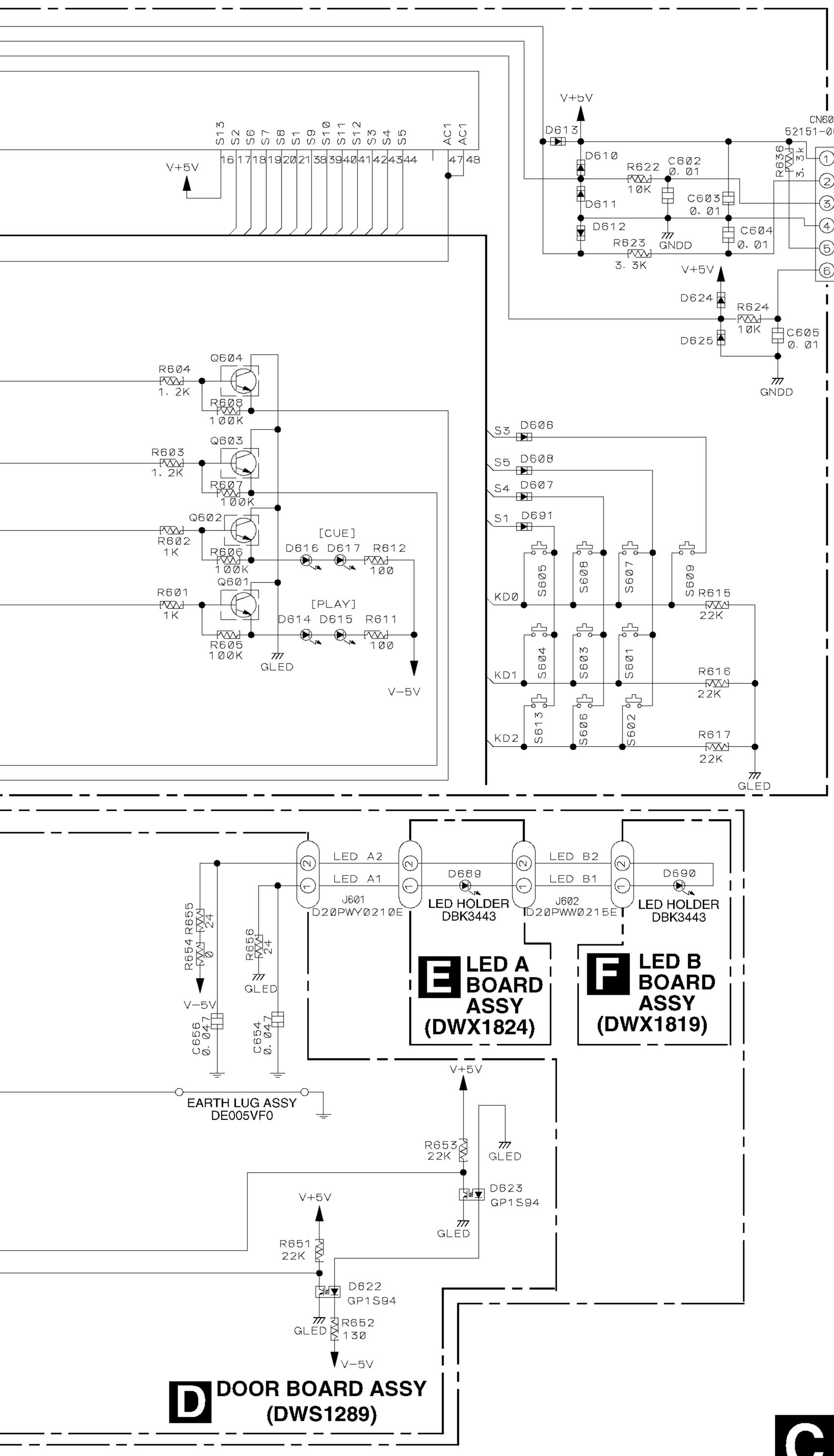
CAPACITOR

No mark electrolytic : CEJA (μF)
No mark ceramic : CKSQYF (μF)
YB : CKSQYB (μF)



3.5 FUNCTION BOARD ASSY, DOOR BOARD ASSY, LED A BOARD ASSY, LED B BOARD ASSY AND SLIDER BOARD ASSY





Note

SWITCH

S601 S602 S604 S605		RSG1030
S603	S606	DSG1056
S607 S609	S608 S613	PSG1006
S610 S611	S612	DSG1061

DIODE

D614, D615	GL5EG8
D616, D617	GL5HY8
D618~D621	LT1H40A
D689, D690	MPY4361F
No Mark	1SS355

TRANSISTOR

Q601~Q604	2SC2412K (R/S)
Q608~Q611	DTA124EK

CAPACITOR No mark : μF

No mark ceramic	CKSQYF

RESISTOR Ω

No mark	Carbon film resistor
No mark	1/10W

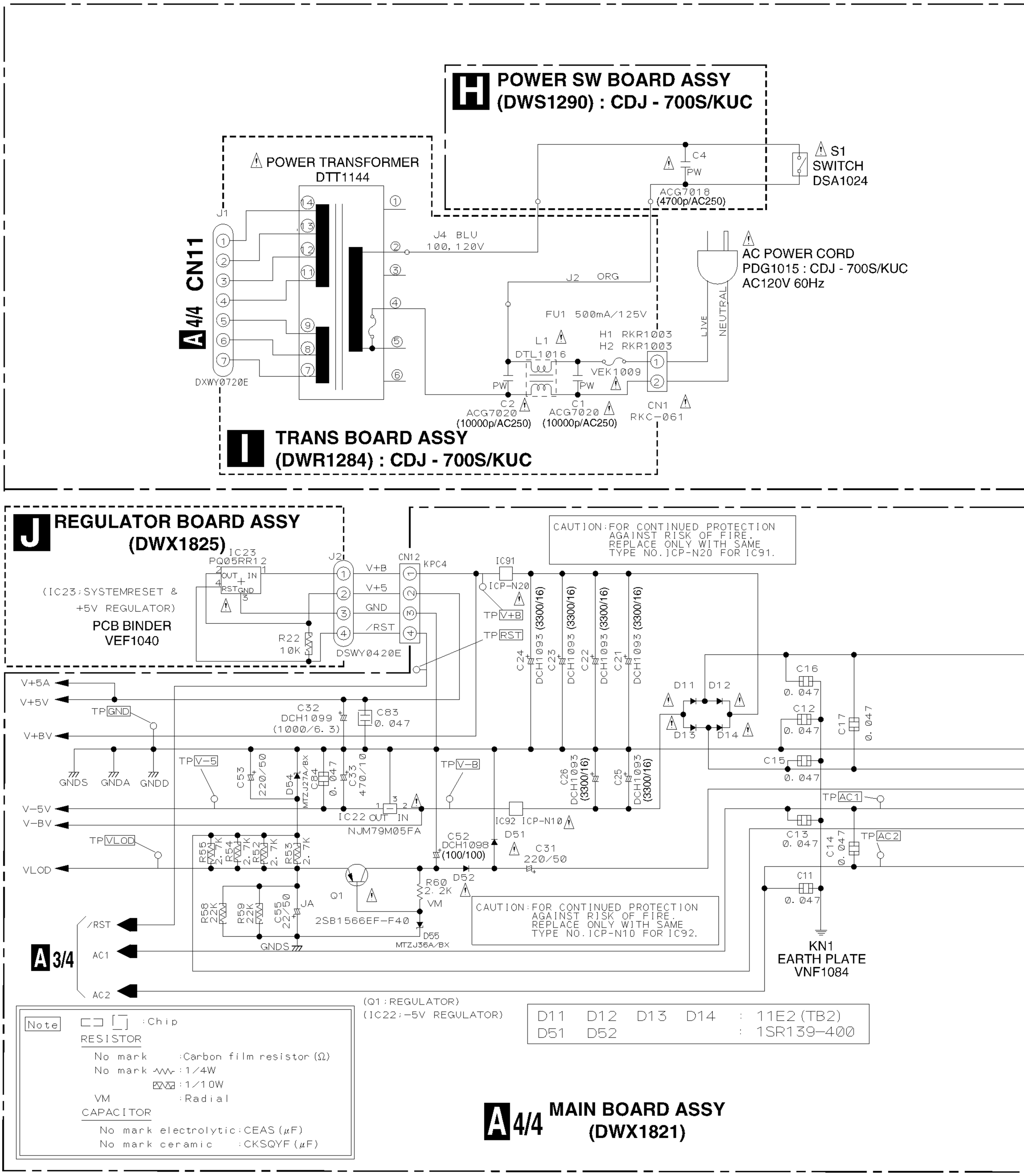
COIL

No mark	LCTA (H)

FUNCTION BOARD ASSY
S601 : TRKB
S602 : SCNB
S603 : PLAY
S604 : TRKF
S605 : SCNF
S606 : CUE
S607 : TEMPO
S608 : MASTER T.
S609 : EJECT
S613 : TIME

DOOR BOARD ASSY
S610 : LOOPIN
S611 : LOOPOUT
S612 : RELOOP

3.6 MAIN BOARD ASSY(4/4), POWER SW BOARD ASSY, TRANS BOARD ASSY AND REGULATOR BOARD ASSY



● NOTE FOR FUSE REPLACEMENT

CAUTION — FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATINGS ONLY.

VOLTAGES (V) OF MAIN BOARD ASSY SECTION

Note : Voltages are in the PLAY mode.

IC101 (CXA1782CQ)

1	+2.4
2	+2.5
3	+2.4
4	+2.5
5	+2.4
6	+2.4
7	+2.5
8	+2.7
9	+2.4
10	+2.5
11	+0.8
12	+2.5
13	+2.5
14	+2.4
15	+2.5
16	+2.5
17	+1.2
18	+4.9
19	+4.8
20	+4.9
21	0
22	0
23	+0.1
24	+1.3
25	+4.9
26	+1.4
27	+1.5
28	+2.3
29	+2.0
30	+2.4
31	+3.1
32	+2.5
33	+3.0
34	0
35	+2.5
36	+2.5
37	+2.5
38	+2.5
39	+2.5
40	+2.2
41	0
42	+2.5
43	+2.5
44	+2.4
45	+2.5
46	0
47	+2.4
48	+2.5

IC102 (LA6520)

1	+1.9
2	+1.9
3	0
4	+0.1
5	+1.6
6	+1.6
7	+1.6
8	+1.6
9	0
10	0
11	0
12	+7.2
13	-8.2
14	-8.2

IC103 (NJM2068M)

1	+2.5
2	+2.5
3	+2.5
4	0
5	+2.5
6	+2.5
7	+2.5
8	+4.9

IC104 (NJM2904M)

1	+2.5
2	+2.5
3	+2.5
4	0
5	+2.5
6	+2.5
7	+2.5
8	+4.9

IC105 (TC4W66F)

1	+2.6
2	+2.5
3	0
4	0
5	+2.5
6	+2.5
7	0
8	+4.9

IC106 (NJM2068M)

1	+2.4
2	+2.4
3	+2.4
4	0
5	+2.5
6	+2.5
7	+2.5
8	+4.9

IC107 (TC4W53F)

1	+2.5
2	0
3	0
4	0
5	0
6	0
7	0
8	+4.9

IC201 (BA6849FP)

1	0
2	+5.9
3	0
4	+5.9
5	0
6	0
7	+5.9
8	0
9	+2.5
10	+2.5
11	+2.4
12	+2.5
13	+2.5
14	+2.5
15	+0.5
16	0
17	+0.6
18	0
19	0
20	0
21	+2.6
22	+2.5
23	+4.9
24	+2.4
25	+4.9
26	+7.2
27	+7.2
28	+7.2
29	0
30	0

IC206 (MPC17A85ZVM)

1	0
2	+4.5
3	+4.9
4	0
5	+1.5
6	+0.5
7	+0.5
8	+0.1
9	+0.4
10	+4.9
11	0
12	+4.7
13	+0.6
14	0
15	+1.1
16	0
17	+3.1
18	+0.1
19	+0.5
20	+4.7
21	+1.4
22	+14.1
23	+11.9
24	+7.2
25	+2.4
26	+2.4
27	+4.9
28	0
29	+4.9
30	+5.0

IC301 (CXD2500BQ)

1	+4.9	41	+2.3
2	+0.1	42	+4.9
3	+4.9	43	+2.5
4	+2.7	44	0
5	0	45	+4.9
6	+4.9	46	+4.4
7	0	47	0
8	+4.9	48	0
9	0	49	0
10	0	50	+1.2
11	0	51	+1.2
12	0	52	0
13	0	53	+2.5
14	0	54	+2.5
15	0	55	0
16	+2.6	56	+2.8
17	+2.5	57	+2.3
18	0	58	+1.4
19	+2.6	59	0
20	+2.6	60	0
21	0	61	0
22	+2.5	62	+2.5
23	+4.9	63	0
24	+2.5	64	0
25	+0.9	65	0
26	+2.5	66	+4.1
27	+2.5	67	+4.8
28	+4.9	68	0
29	0	69	+0.6
30	0	70	+5.0
31	+2.5	71	+0.1
32	+2.5	72	+4.9
33	0	73	+4.9
34	+2.5	74	+4.8
35	+2.4	75	+1.3
36	+2.5	76	+0.1
37	+2.4	77	+0.1
38	+2.5	78	+4.9
39	0	79	+4.8
40	+4.9	80	+0.1

IC302 (BA7042)

1	+2.6
2	+2.1
3	+2.1
4	0
5	+3.9
6	+5.0
7	+2.6
8	+2.6

IC303 (TC7SU04F)

1	0
2	+2.6
3	0
4	+2.6
5	+4.9

IC402 (µPD6383GF)

1	+4.9	51	0
2	+4.9	52	0
3	+4.9	53	0
4	+0.1	54	0
5	+0.8	55	0
6	+0.1	56	0
7	+4.7	57	0
8	+4.9	58	0
9	+5.0	59	0
10	+5.0	60	0
11	+4.7	61	0
12	+4.7	62	+4.7
13	+4.7	63	+4.7
14	+4.7	64	0
15	+4.7	65	+0.4
16	0	66	+0.4
17	+2.4	67	+0.4
18	+2.5	68	+0.4
19	+2.4	69	+0.4
20	+2.5	70	+0.4
21	0	71	+0.4
22	0	72	+0.4
23	+2.4	73	0
24	+3.0	74	0
25	+2.9	75	0
26	+2.4	76	0
27	+2.4	77	0
28	0	78	0
29	0	79	0
30	0	80	0
31	+4.72	81	0
32	+4.72	82	+4.7
33	+4.72	83	+4.7
34	0	84	0
35	0	85	+4.7
36	0	86	0
37	0	87	0
38	+4.72	88	+4.9
39	+2.5	89	0
40	+2.5	90	+4.7
41	0	91	+4.7
42	+4.7	92	0
43	+4.7	93	+4.7
44	+4.7	94	0
45	+4.7	95	+4.7
46	+4.7	96	+4.7
47	0	97	+4.7
48	0	98	0
49	0	99	+4.7
50	0	100	+4.6

IC403 (µPD6383GF)

1	+4.8	51	+4.7
2	+4.8	52	+4.7
3	+4.8	53	0
4	0	54	0
5	0	55	0
6	0	56	+4.7
7	+4.7	57	+4.7
8	+4.7	58	0
9	+5.0	59	0
10	+4.9	60	0
11	+4.7	61	0
12	+4.7	62	0
13	+4.7	63	+4.7
14	+4.7	64	0
15	+4.7	65	0
16	0	66	0
17	+2.3	67	0
18	+2.3	68	0
19	+2.3	69	0
20	+2.3	70	+0.3
21	0	71	+0.3
22	0	72	+0.3
23	+2.3	73	0
24	+2.9	74	+4.7
25	+2.1	75	0
26	+2.3	76	+4.7
27	0	77	+4.7
28	0	78	0
29	0	79	+4.7
30	0	80	0
31	+4.7	81	0
32	0	82	+4.7
33	0	83	+4.7
34	0	84	+4.7
35	0	85	0
36	0	86	0
37	0	87	0
38	+4.7	88	0
39	+2.5	89	0
40	+2.5	90	+4.7
41	0	91	+4.7
42	+4.7	92	0
43	+4.7	93	0
44	+4.7	94	0
45	0	95	+4.7
46	0	96	+4.7
47	0	97	0
48	+4.7	98	+4.7
49	+4.7	99	0
50	+4.7	100	+4.6

IC404 (HM514800CJ)

1	+4.7
2	+2.4
3	+2.4
4	+2.3
5	+2.3
6	0
7	+4.6
8	+2.3
9	+4.6
10	+2.1
11	+2.5
12	+2.4
13	+2.4
14	+4.7
15	0
16	+2.4
17	+2.4
18	+2.4
19	+2.2 – +2.4
20	+2.2 – +2.4
21	0
22	0
23	+4.5
24	+2.2
25	+2.2
26	+2.2
27	+2.2
28	0

IC409 (LH52256AN-70LL)

1	+0.2
2	+2.4
3	+2.4
4	+2.4
5	+2.4
6	+2.4
7	+2.4
8	+2.4
9	+2.4
10	+3.8
11	+0.3
12	+3.4
13	+0.3
14	0
15	+3.5
16	+3.0
17	+0.2
18	+0.2
19	+3.6
20	+4.3
21	+2.4
22	0
23	+2.5
24	+2.4
25	+2.4
26	+2.4
27	+4.6
28	+4.7

IC502 (PCM1700U)

1	0
2	0
3	+3.1
4	-4.5
5	-1.7
6	-4.2
7	+4.9
8	0
9	-5.0
10	-1.7
11	-4.5
12	+3.2
13	0
14	0
15	0
16	0
17	0
18	+4.7
19	0
20	+1.7
21	+1.7
22	-5.0
23	+3.5
24	+1.7
25	0
26	0
27	0
28	0

IC501 (SM5841CP)

1	+4.6
2	+2.4
3	+2.0
4	+2.4
5	0
6	+4.6
7	0
8	0
9	+4.9
10	+2.9
11	+1.7
12	+1.7
13	+3.5
14	+4.7
15	+1.5
16	+2.3
17	+2.3
18	+2.3

IC505 (NJM4558MD)

1	0
2	0
3	0
4	-8.4
5	0
6	0
7	0
8	+7.4

VOLTAGES (V) OF FUNCTION BOARD ASSY SECTION

Note : Voltages are in the PLAY mode.

IC701 (PD4842A)

1	-30.1	41	+4.9
2	-30.1	42	0
3	-30.1	43	0
4	-30.0	44	0
5	-30.0	45	+0.1
6	-30.1	46	+0.1
7	-30.1	47	+2.5
8	+4.9	48	0
9	0	49	+4.7
10	+4.9	50	0
11	+4.8	51	+4.9
12	+4.9	52	+4.9
13	+4.8	53	+0.6
14	+4.8	54	0
15	+0.1	55	0
16	+4.1	56	+4.9
17	+5.0	57	+4.9
18	+4.9	58	0
19	+4.9	59	0
20	0	60	0
21	+4.9	61	0
22	+2.4	62	0
23	+4.9	63	+4.7
24	+2.2	64	-10 – 0
25	0	65	-10 – 0
26	+2.5	66	-10 – 0
27	+2.5	67	-10 – 0
28	+2.4	68	-10 – 0
29	+4.9	69	-10 – 0
30	+4.9	70	-25 – -20
31	+4.9	71	-33.1
32	0	72	-26.1
33	0	73	0
34	+2.3	74	-26.1
35	+2.4	75	-22.7
36	+4.9	76	-23.4
37	+4.9	77	-30.1
38	0	78	-30.1
39	+4.9	79	-30.1
40	+4.8	80	-30.0

IC801 (NJM4556AM)

1	0
2	0
3	0
4	-8.4
5	0
6	0
7	0
8	+7.4

IC901 (NJM2904M)

1	+2.5
2	+2.5
3	+2.5
4	0
5	+2.4
6	+2.5
7	+2.2
8	+4.9

IC902 (NJM2904M)

1	+2.2
2	+2.5
3	+2.4
4	0
5	+2.5
6	+2.5
7	+2.6
8	+7.4

IC602 (TC74HC175AF)

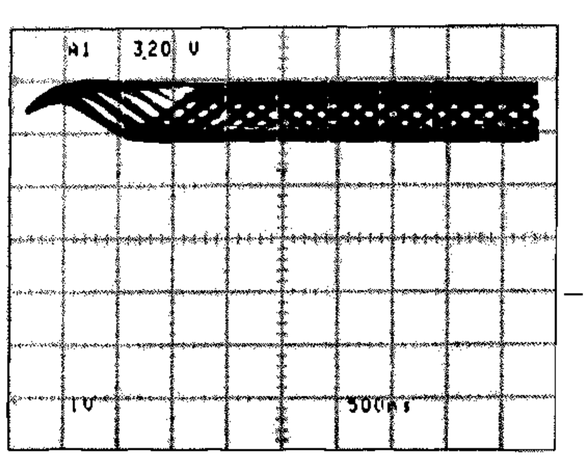
1	+4.9
2	0 – +5.0
3	0 – +5.0
4	+1.8
5	+1.3
6	+4.9
7	+4.9
8	0
9	+0.3
10	0
11	0
12	+0.7 – +1.1
13	+1.4
14	0
15	+4.9
16	+4.9

Waveforms

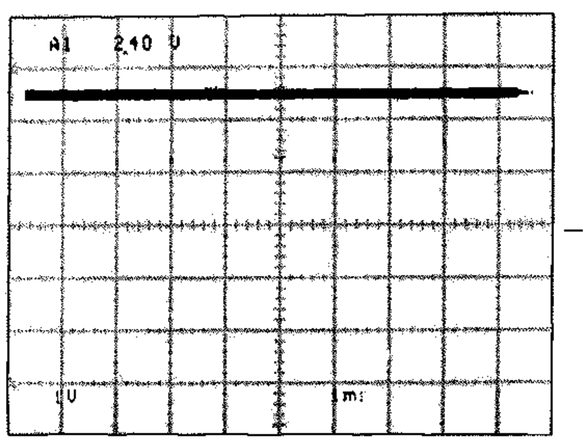
Note : The encircled numbers denote measuring points in the schematic diagram.

∗1 14T-JUMP : After switching to the pause mode, Press the manual search key.

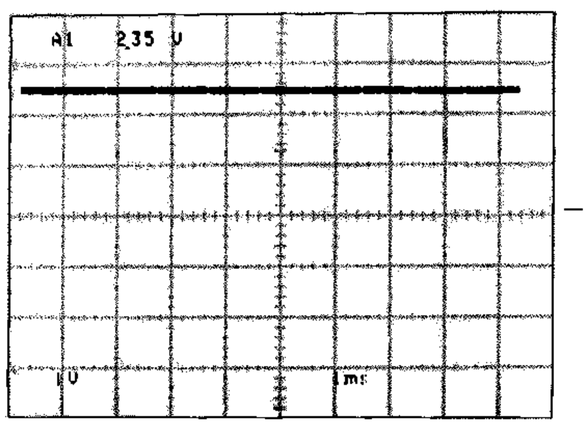
① TP1-Pin 1 : PLAY MODE (RF)
1V/div, 500ns/div



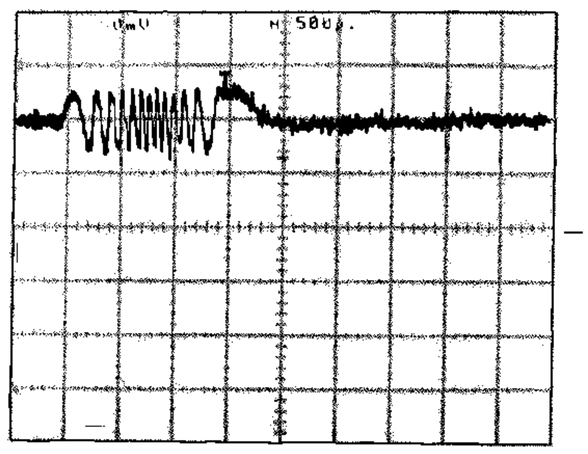
② TP1-Pin 6 : PLAY MODE (FOER)
1V/div, 1ms/div



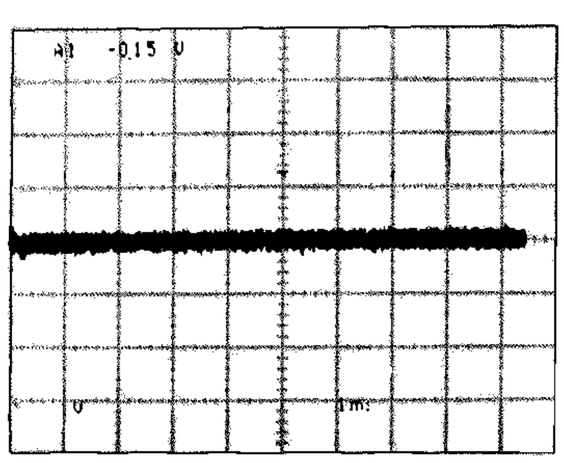
③ TP1-Pin 2 : PLAY MODE (TRER)
1V/div, 1ms/div



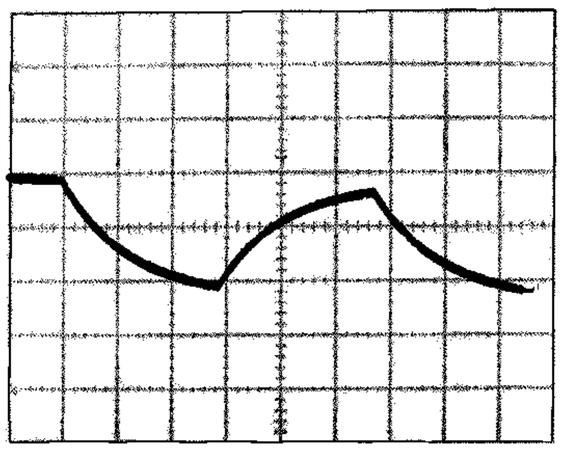
③ TP1-Pin 2 : 14T-JUMP (∗1) MODE (TRER)
1V/div, 2ms/div



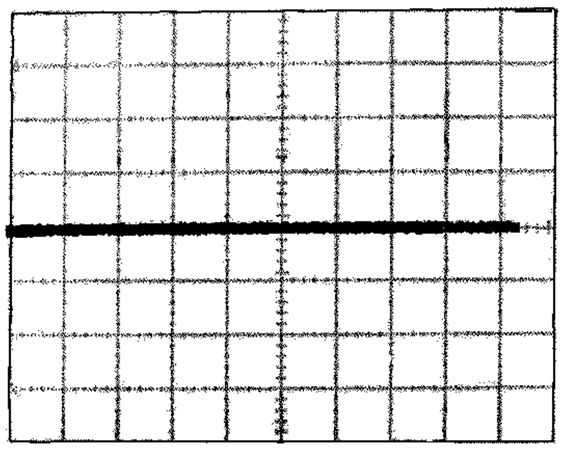
④ TP-FODR : PLAY MODE
1V/div, 1ms/div



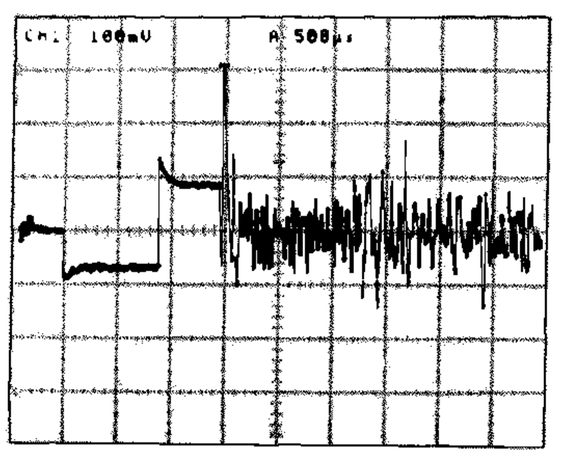
④ TP-FODR : TEST MODE (FOCUS IN)
5V/div, 200ms/div



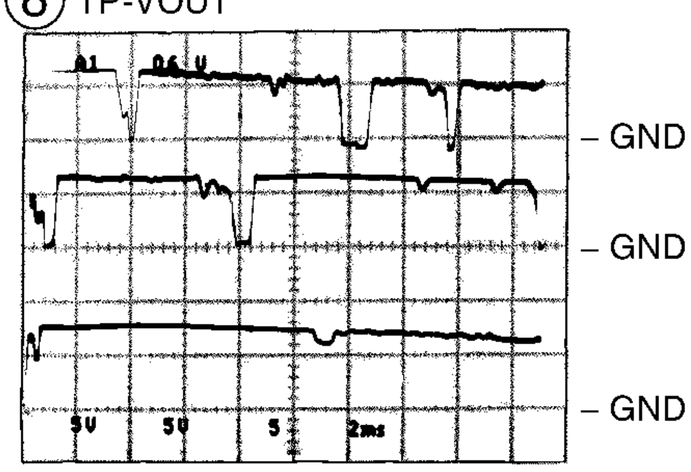
⑤ TP-TRDR : PLAY MODE
1V/div, 1ms/div



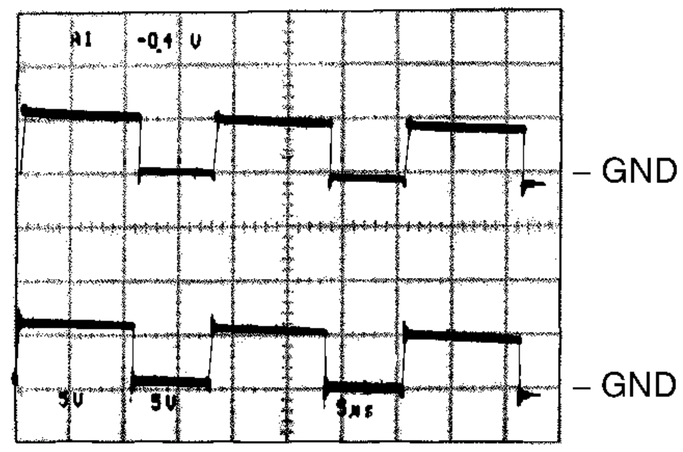
⑤ TP-TRDR : 14T-JUMP (∗1) MODE
1V/div, 200µs/div



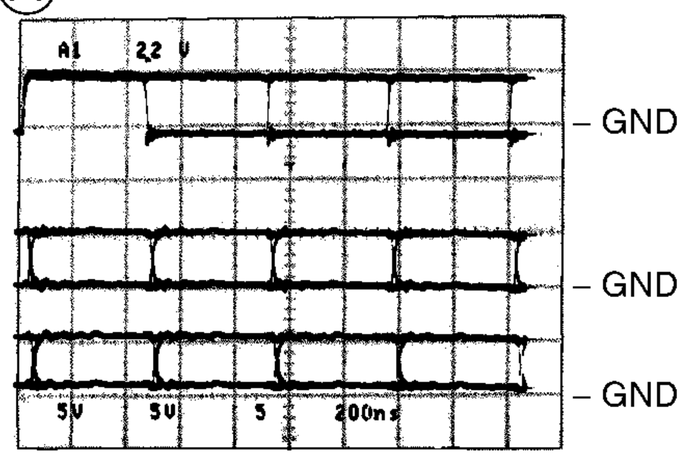
⑥ TP-WOUT
⑦ TP-UOUT
⑧ TP-VOUT
PLAY MODE
5V/div, 2ms/div



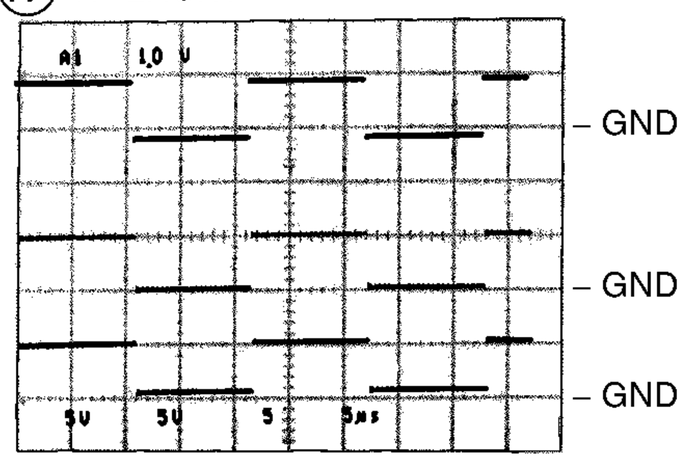
⑨ TP-STA+
⑩ TP-STA-
PLAY MODE
5V/div, 5µs/div



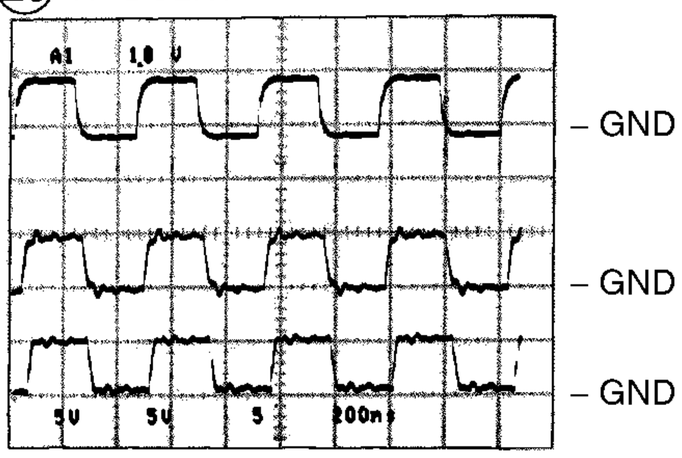
⑫ TP-DATA3
⑬ TP-DATA2
⑭ TP-DATA1
PLAY MODE
5V/div, 200ns/div



⑮ TP-LRCK3
⑯ TP-LRCK2
⑰ TP-LRCK1
PLAY MODE
5V/div, 5µs/div

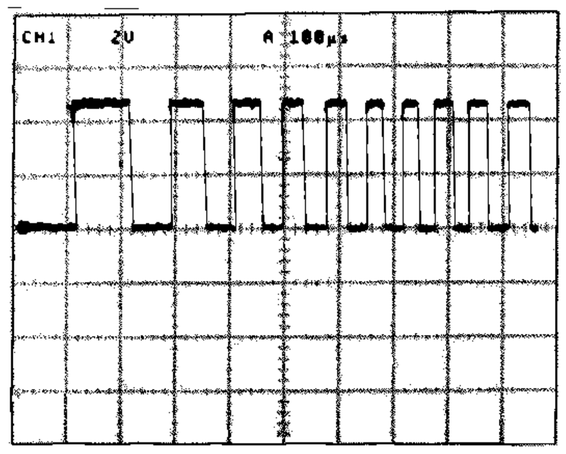


⑱ TP-BCLK3
⑲ TP-BCLK2
⑳ TP-BCLK1
PLAY MODE
5V/div, 200ns/div



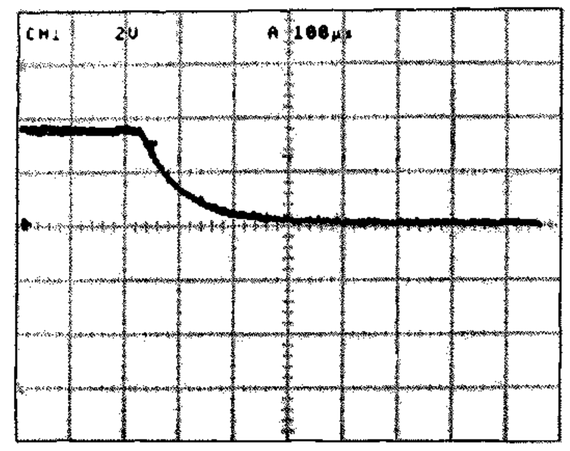
– GND
– GND
– GND

㉔ IC301-Pin80(MIRR) : 14T-JUMP (∗1) MODE
2V/div, 100µs/div



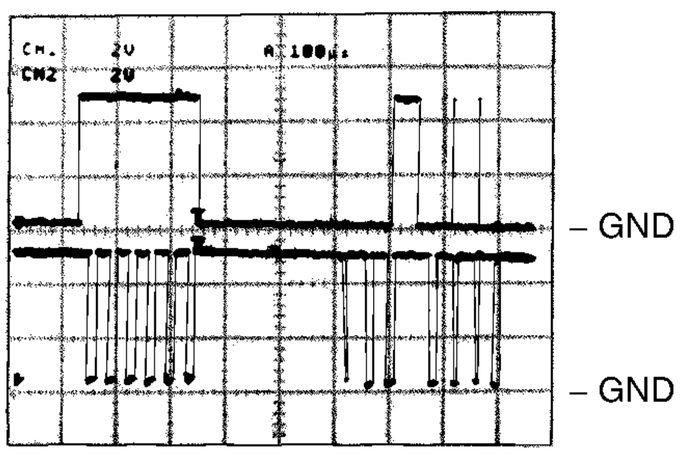
– GND

㉖ IC701-Pin36(/RST3) : POWER OFF MODE
2V/div, 100µs/div



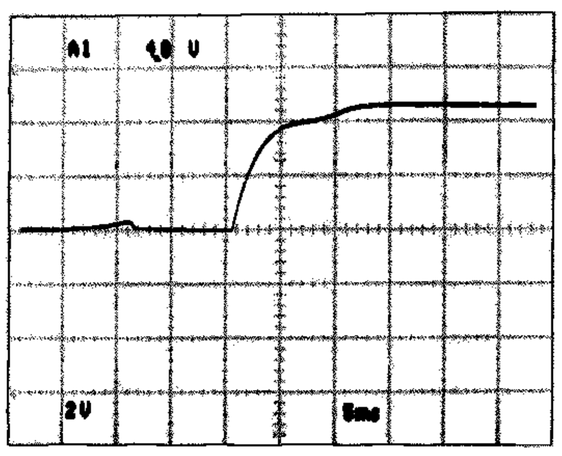
– GND

㉑ IC402-Pin4(DATA)
㉒ IC402-Pin3(CLOK)
PLAY MODE
2V/div, 100µs/div



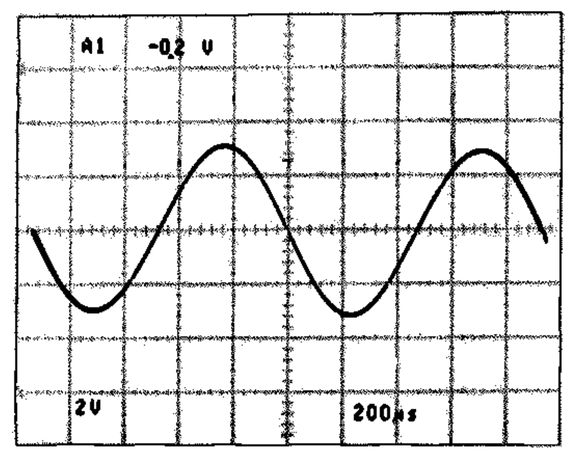
– GND
– GND

㉕ IC701-Pin17(RST) : POWER ON MODE
2V/div, 5ms/div



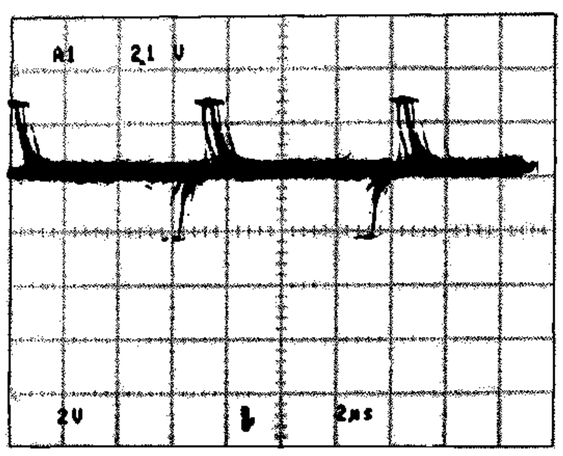
– GND

㉗ TP-AL1 : PLAY MODE (1kHz)
2V/div, 200µs/div



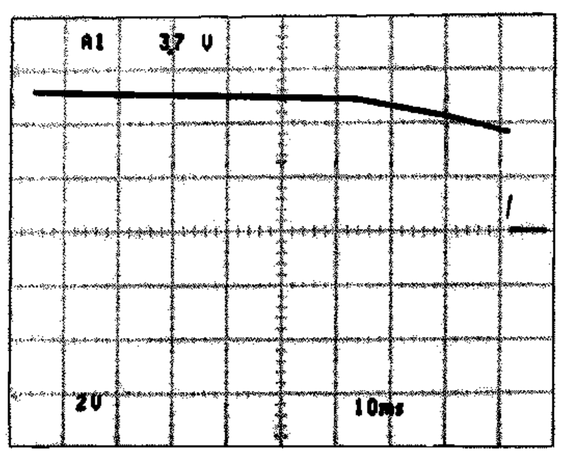
– GND

㉓ TP-MDP : PLAY MODE
2V/div, 2µs/div



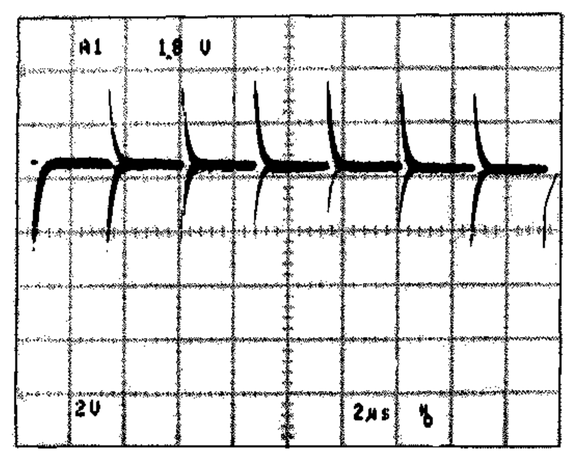
– GND

㉕ IC701-Pin17(RST) : POWER OFF MODE
2V/div, 10ms/div



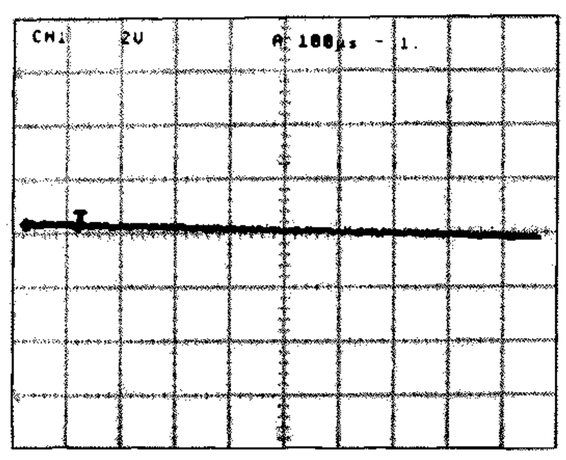
– GND

㉘ IC301-Pin20(PCO) : PLAY MODE
2V/div, 2µs/div



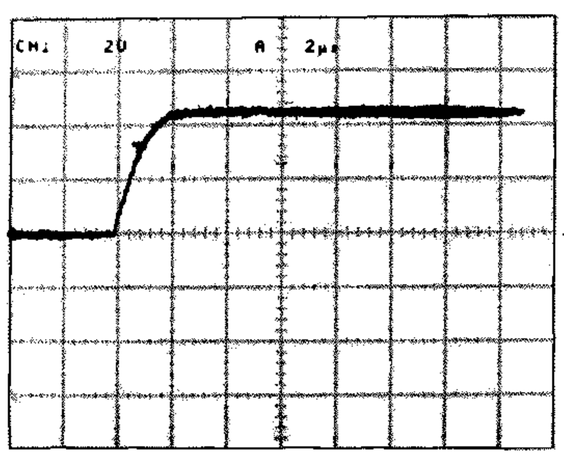
– GND

㉔ IC301-Pin80(MIRR) : PLAY MODE
2V/div, 100µs/div



– GND

㉖ IC701-Pin36(RST3) : POWER ON MODE
2V/div, 2µs/div



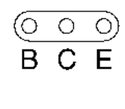
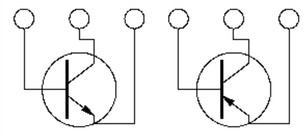
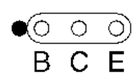
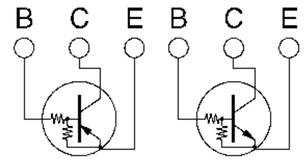
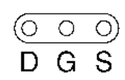
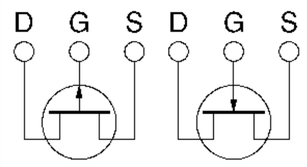
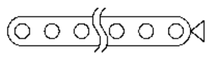
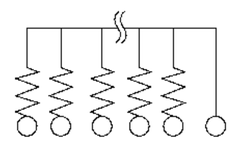
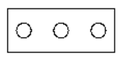
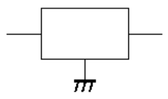
– GND

4. PCB CONNECTION DIAGRAM

4.1 MAIN BOARD ASSY

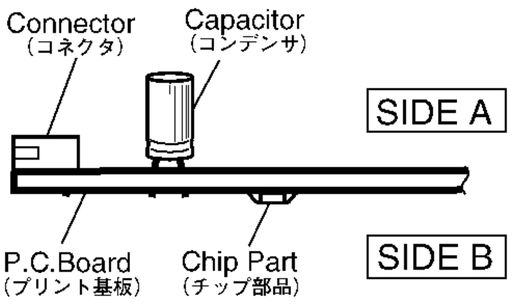
NOTE FOR PCB DIAGRAMS

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

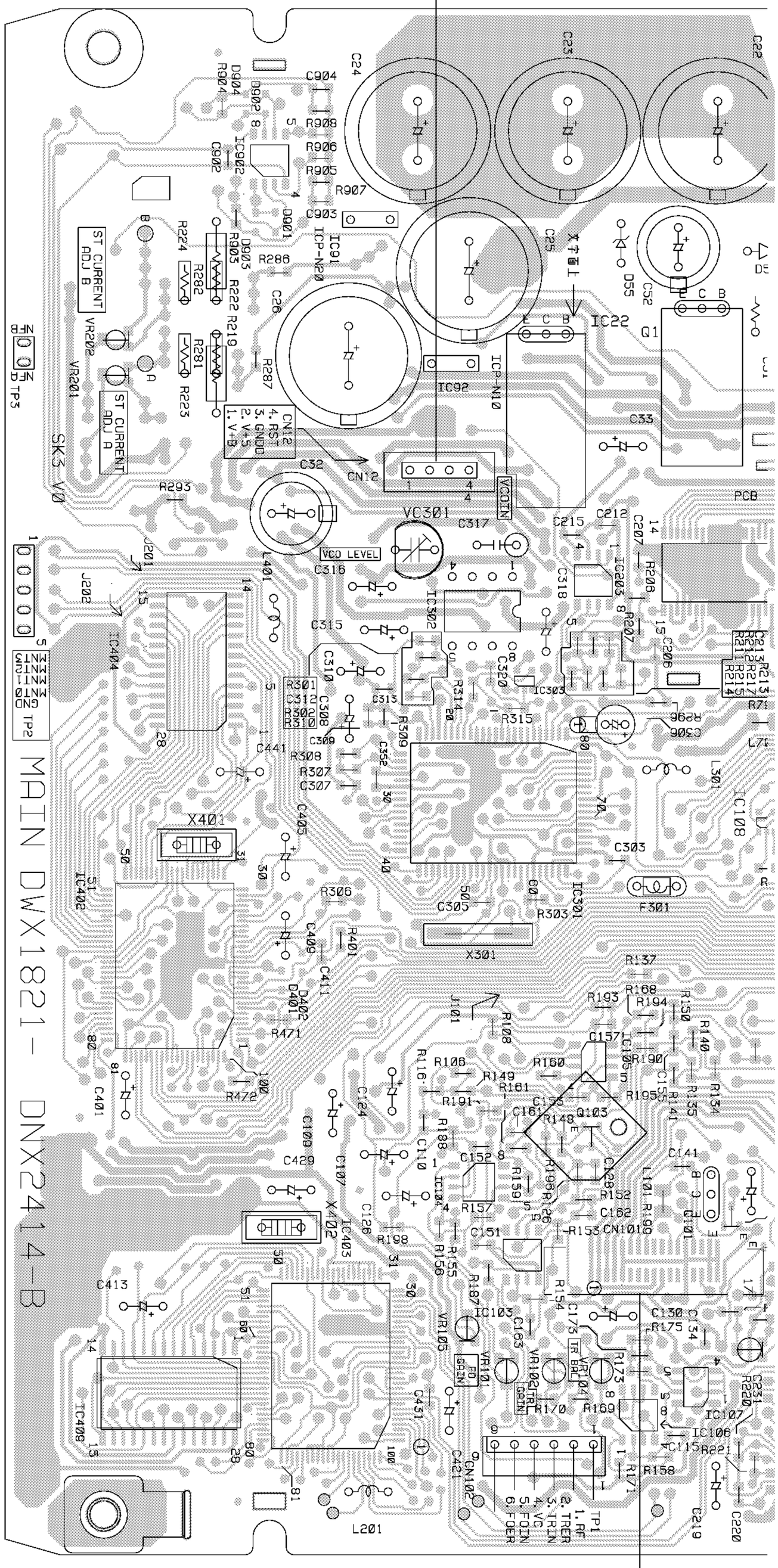
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respecitve destinations, be sure to check with the schematic diagram.

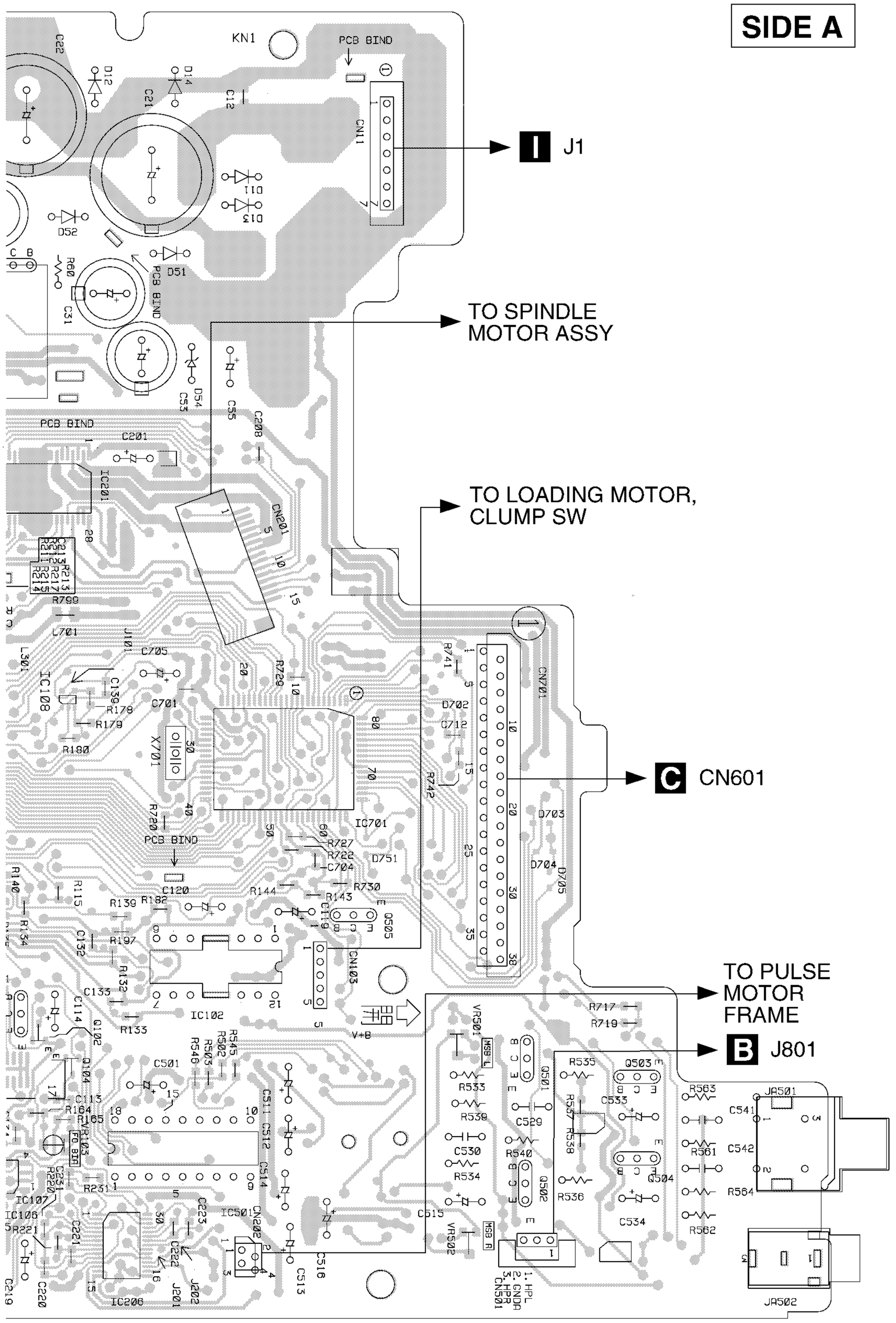
4. Viewpoint of PCB diagrams



A MAIN BOARD ASSY

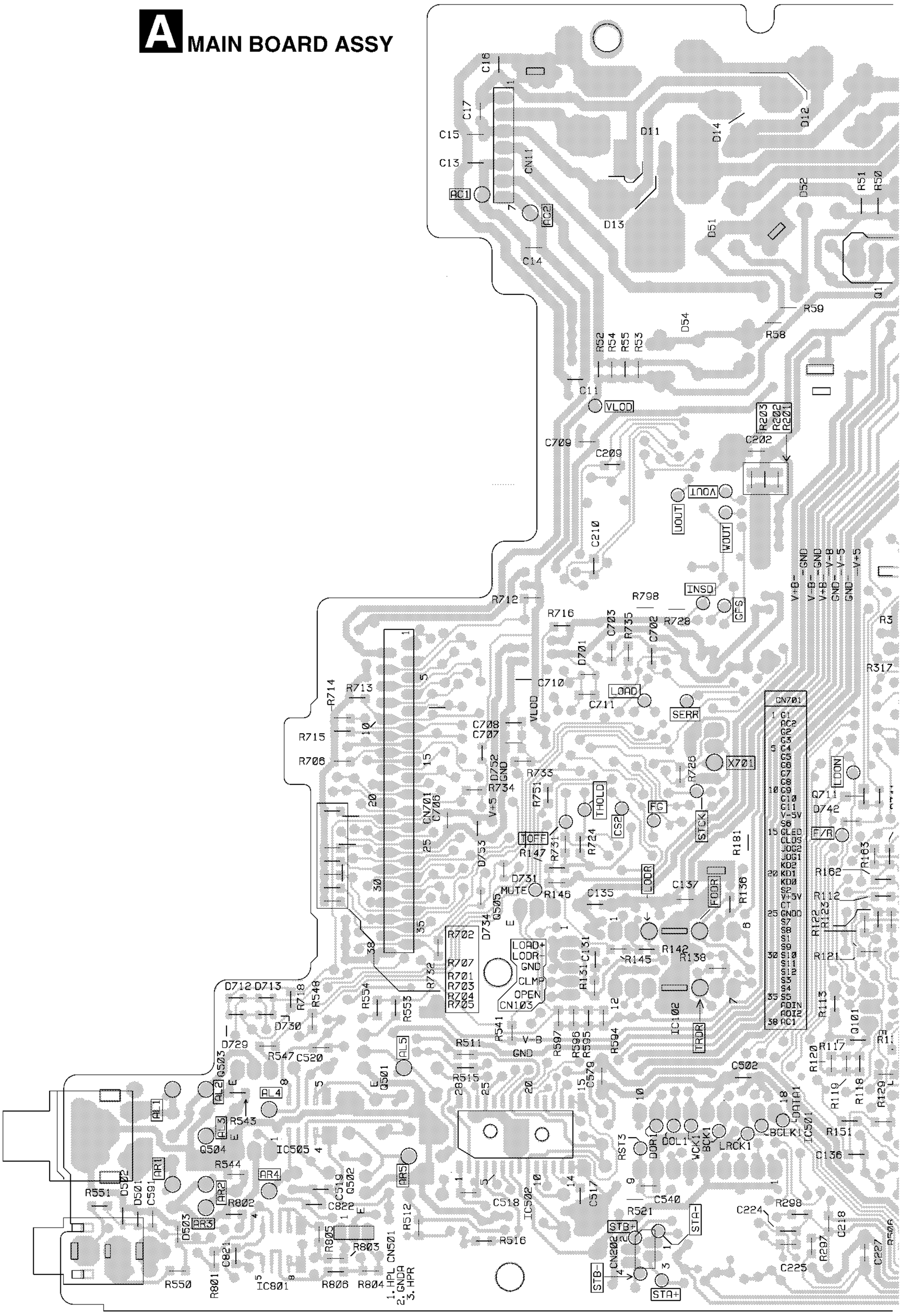


SIDE A

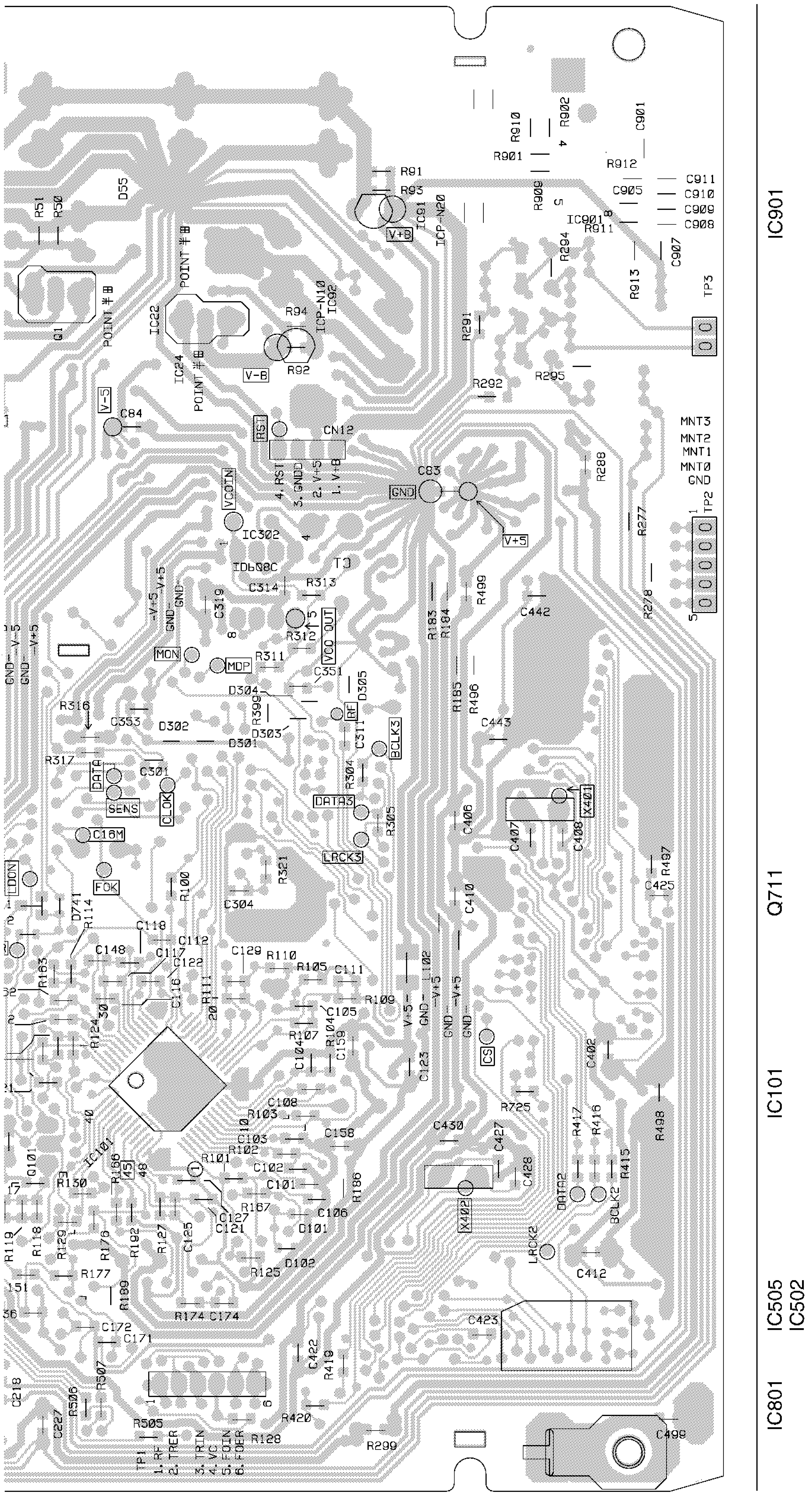


DNP1834-B

A MAIN BOARD ASSY



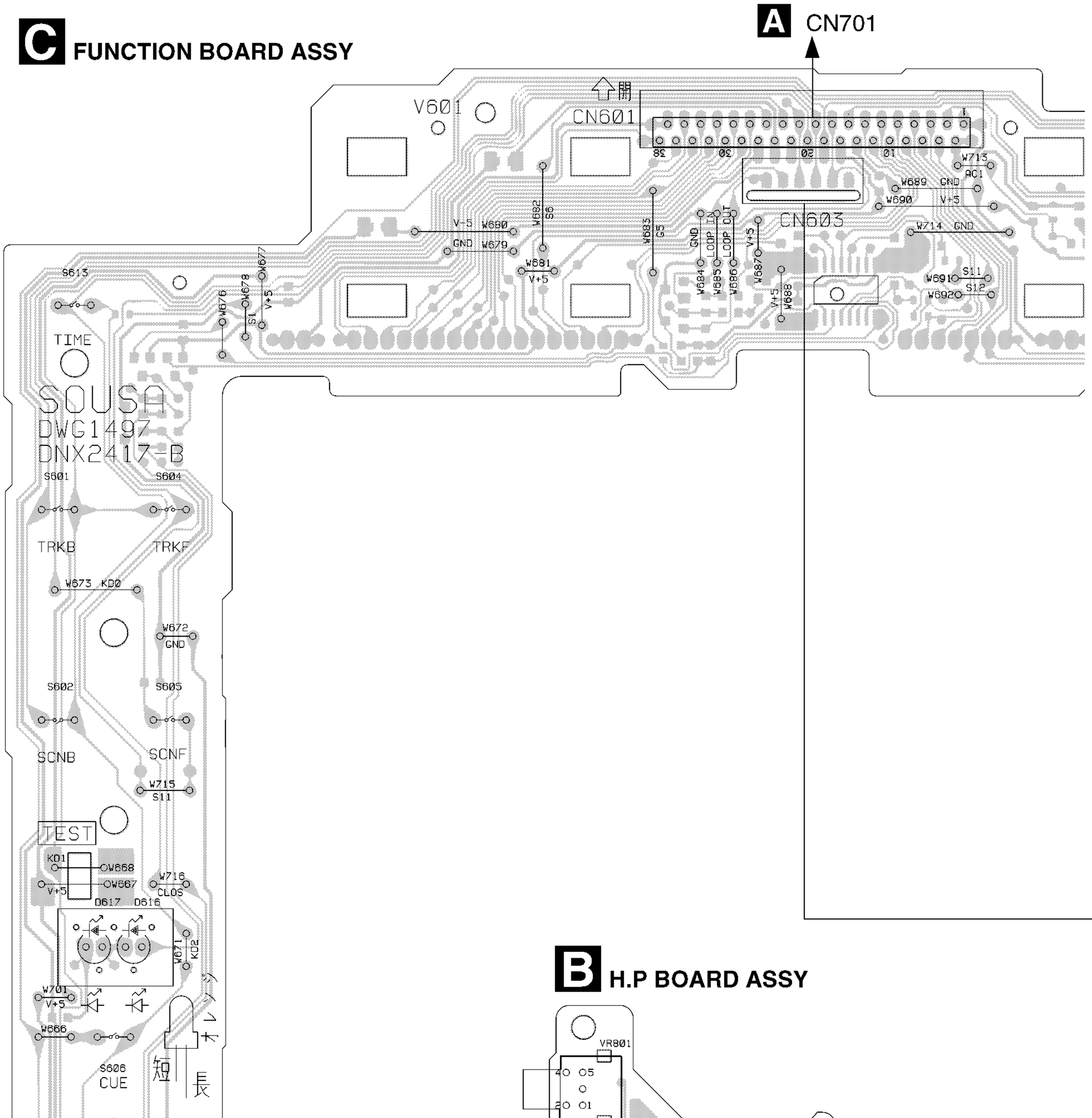
SIDE B



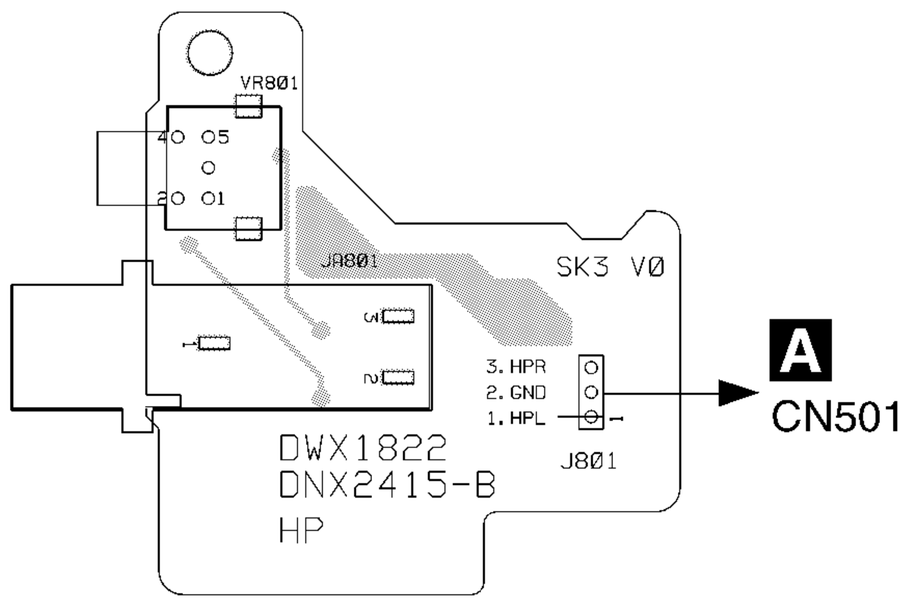
DNP1834-B

4.2 H.P BOARD ASSY, FUNCTION BOARD ASSY, DOOR BOARD ASSY, LED A BOARD ASSY, LED B BOARD ASSY AND SLIDER BOARD ASSY

C FUNCTION BOARD ASSY



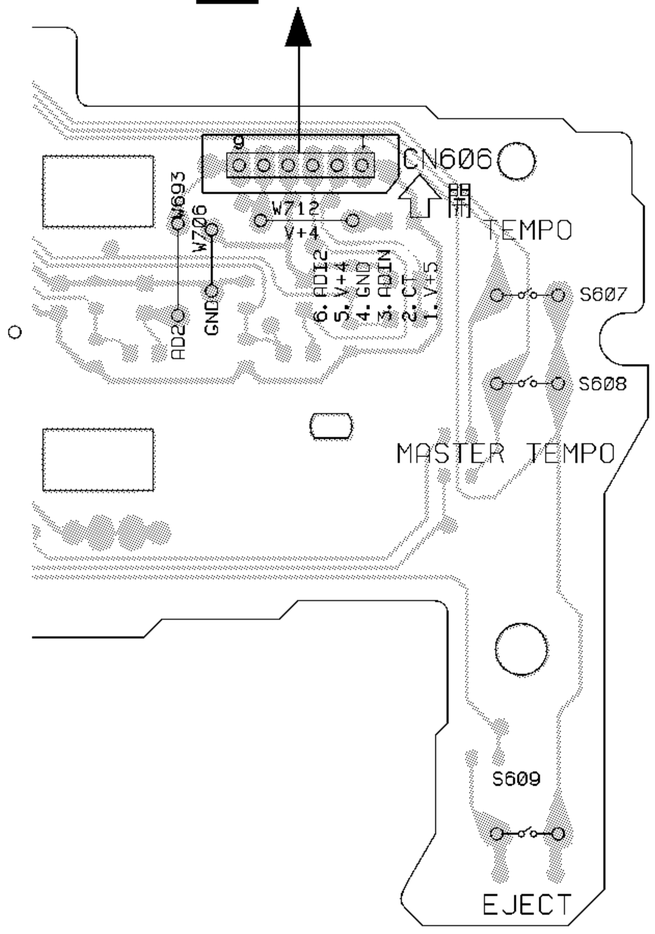
B H.P BOARD ASSY



DNP1834-B

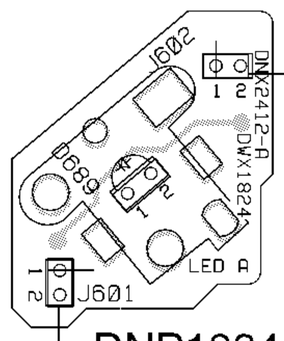
SIDE A

G J606



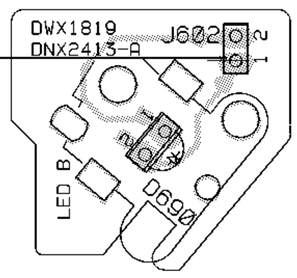
DNP1835-B

E LED A BOARD ASSY



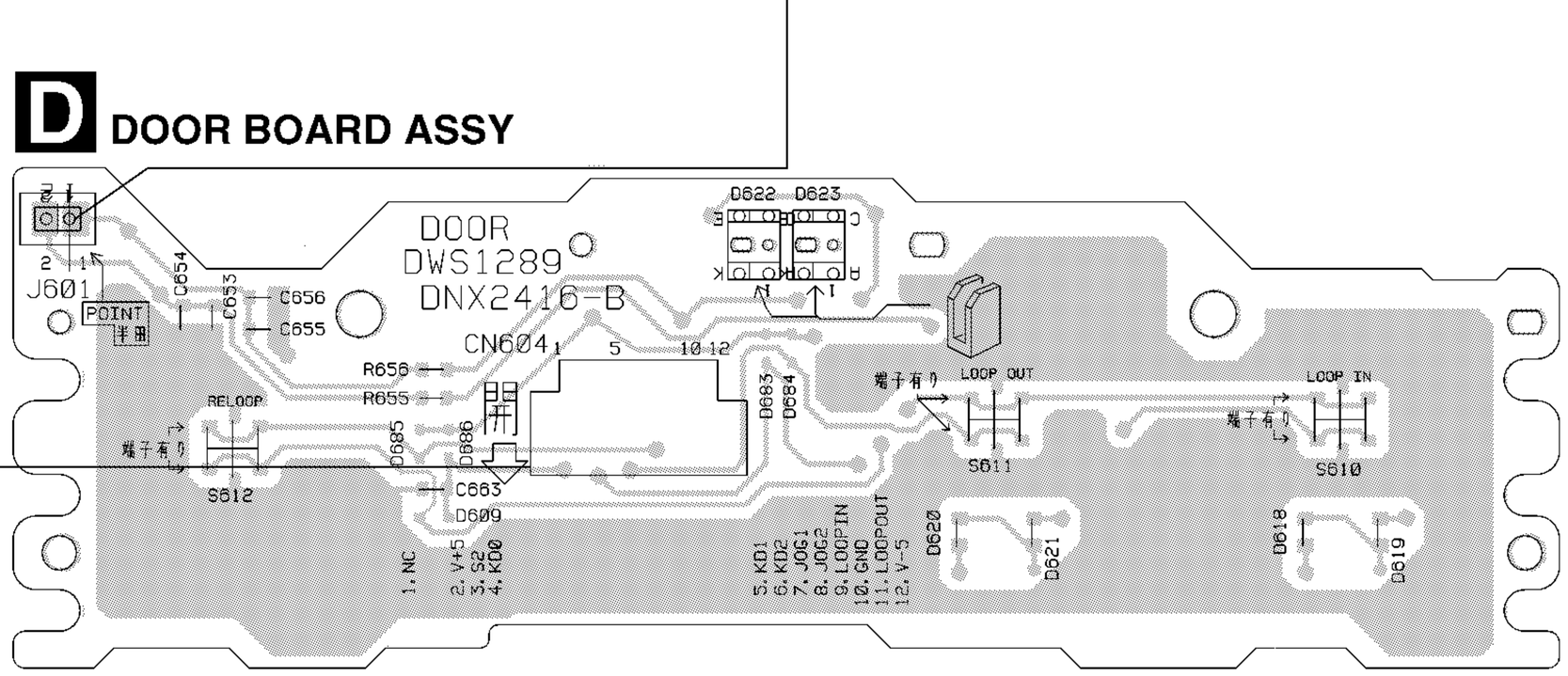
DNP1834-B

F LED B BOARD ASSY



DNP1834-B

D DOOR BOARD ASSY



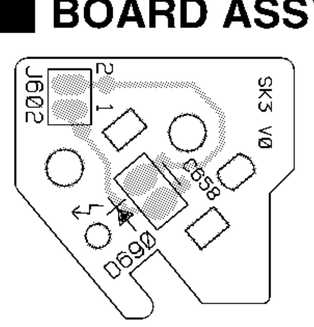
DNP1834-B

G SLIDER BOARD ASSY

C CN606

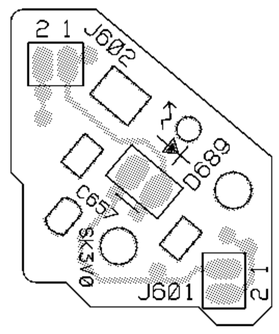
DNP1835-B

F LED B BOARD ASSY



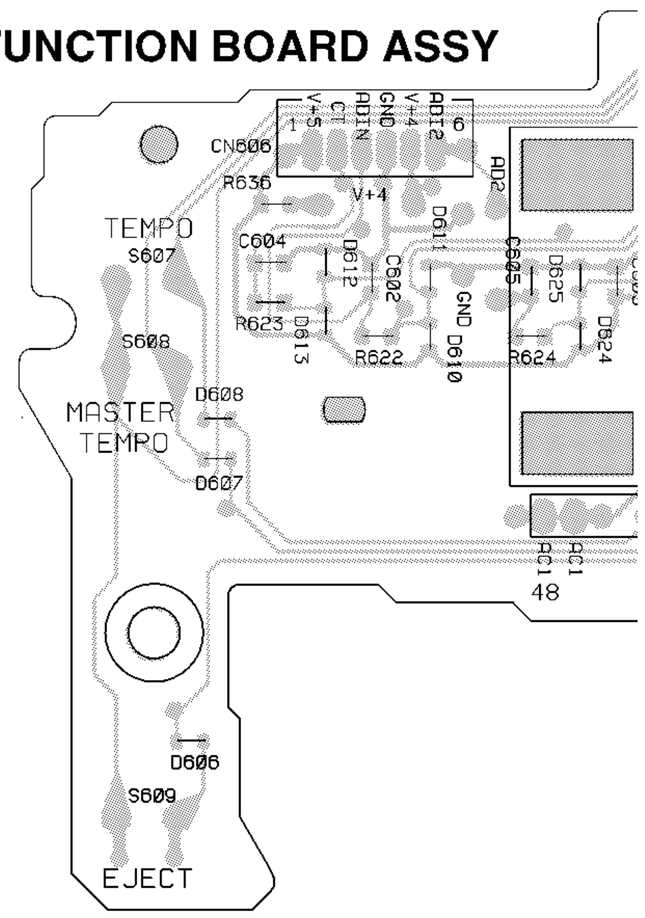
DNP1834-B

E LED A BOARD ASSY

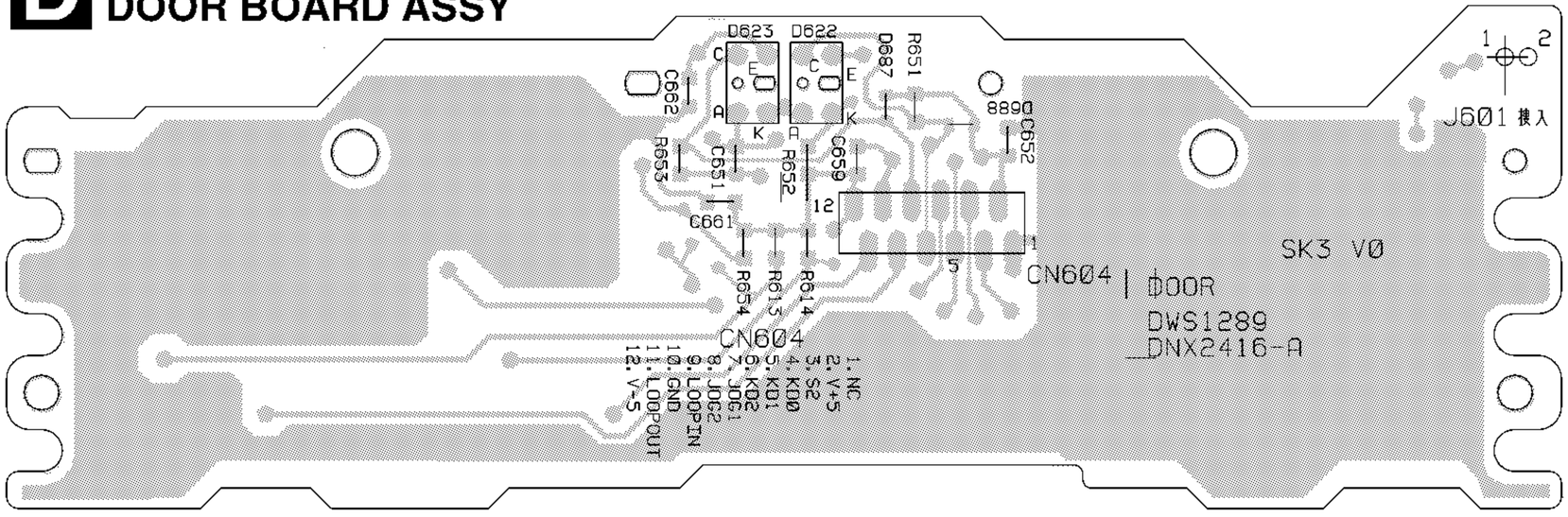


DNP1834-B

C FUNCTION BOARD ASSY

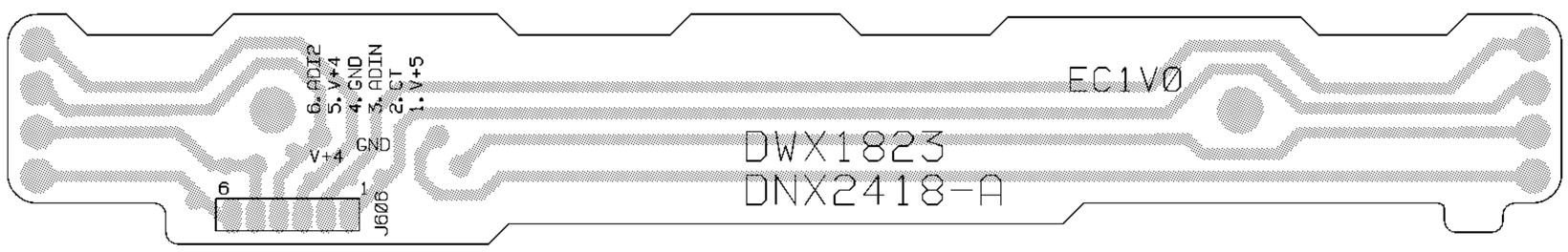


D DOOR BOARD ASSY



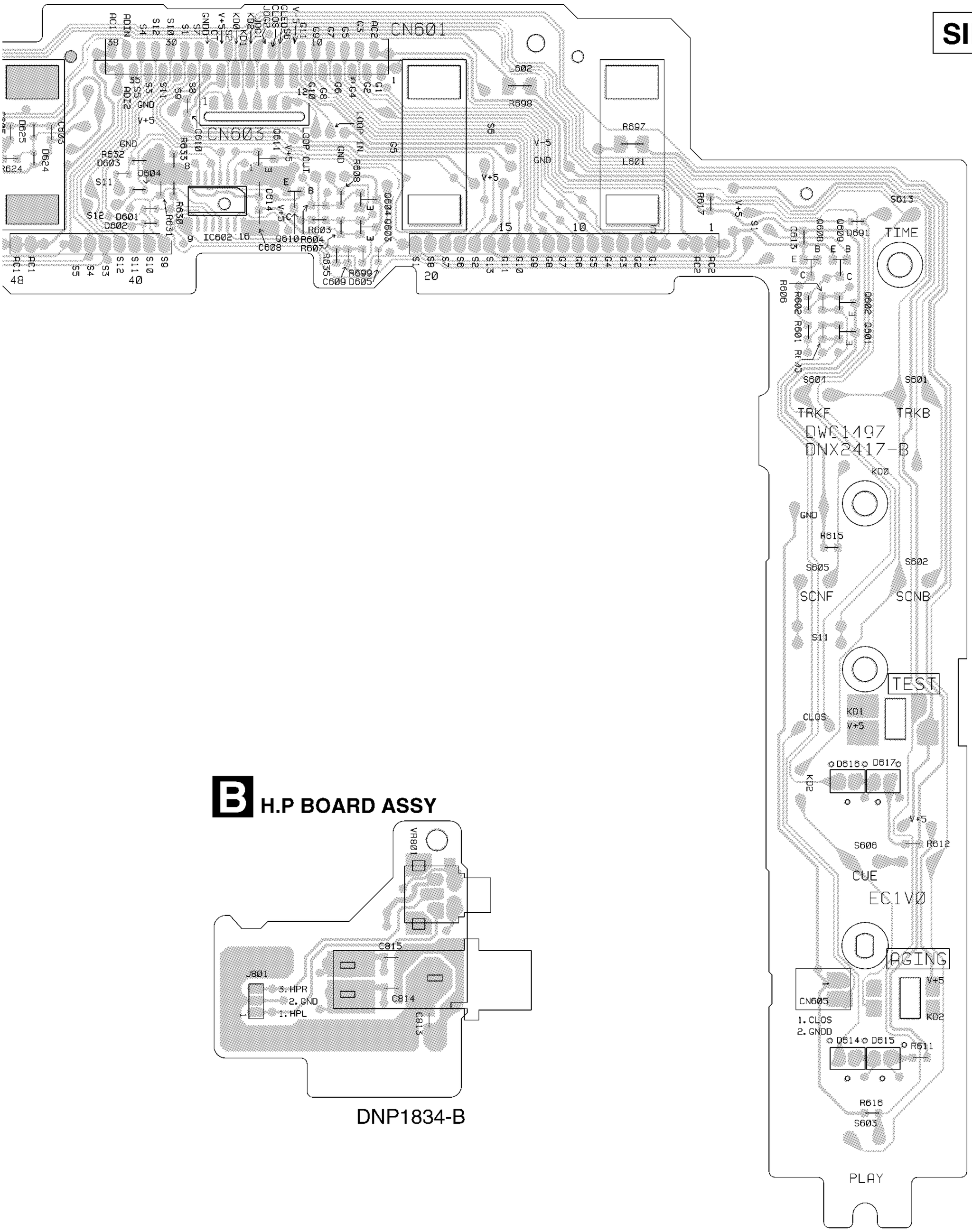
DNP1834-B

G SLIDER BOARD ASSY



DNP1835-B

SIDE B



Q611
IC602
Q610
Q604
Q603
Q608
Q609
Q602
Q601

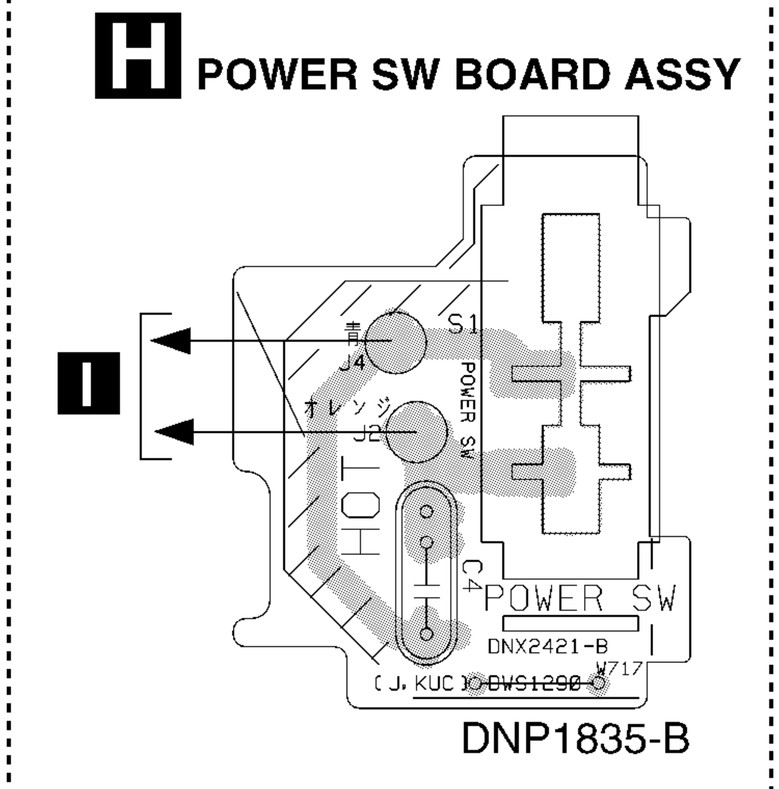
B H.P BOARD ASSY

DNP1834-B

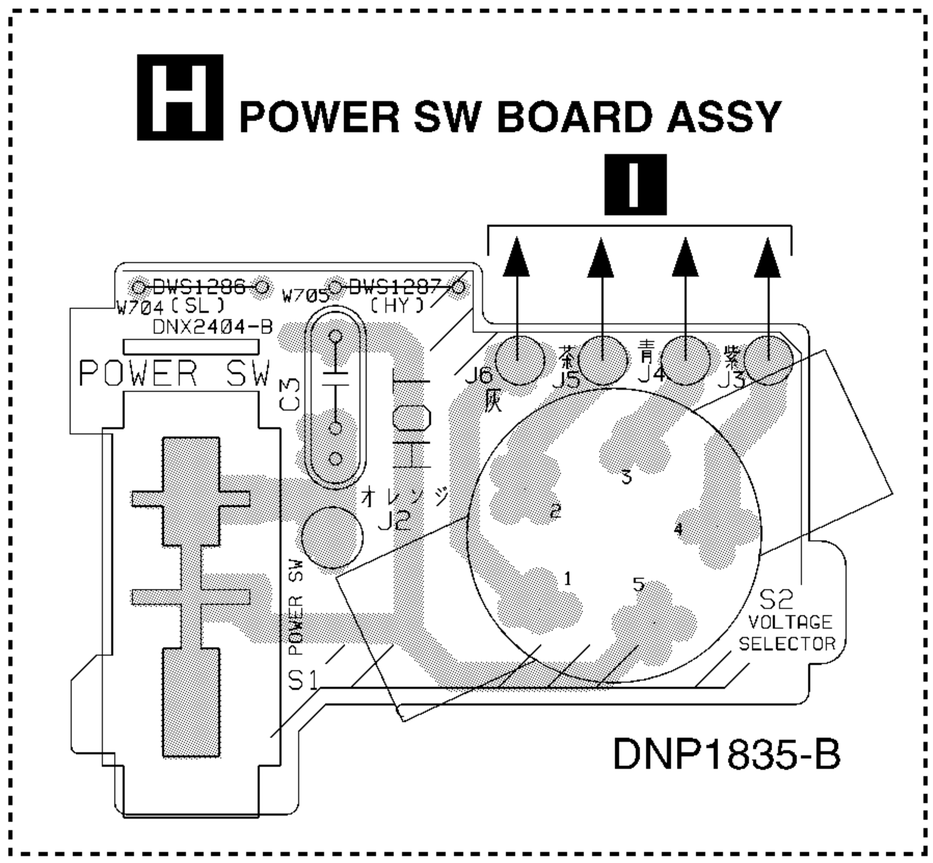
DNP1835-B

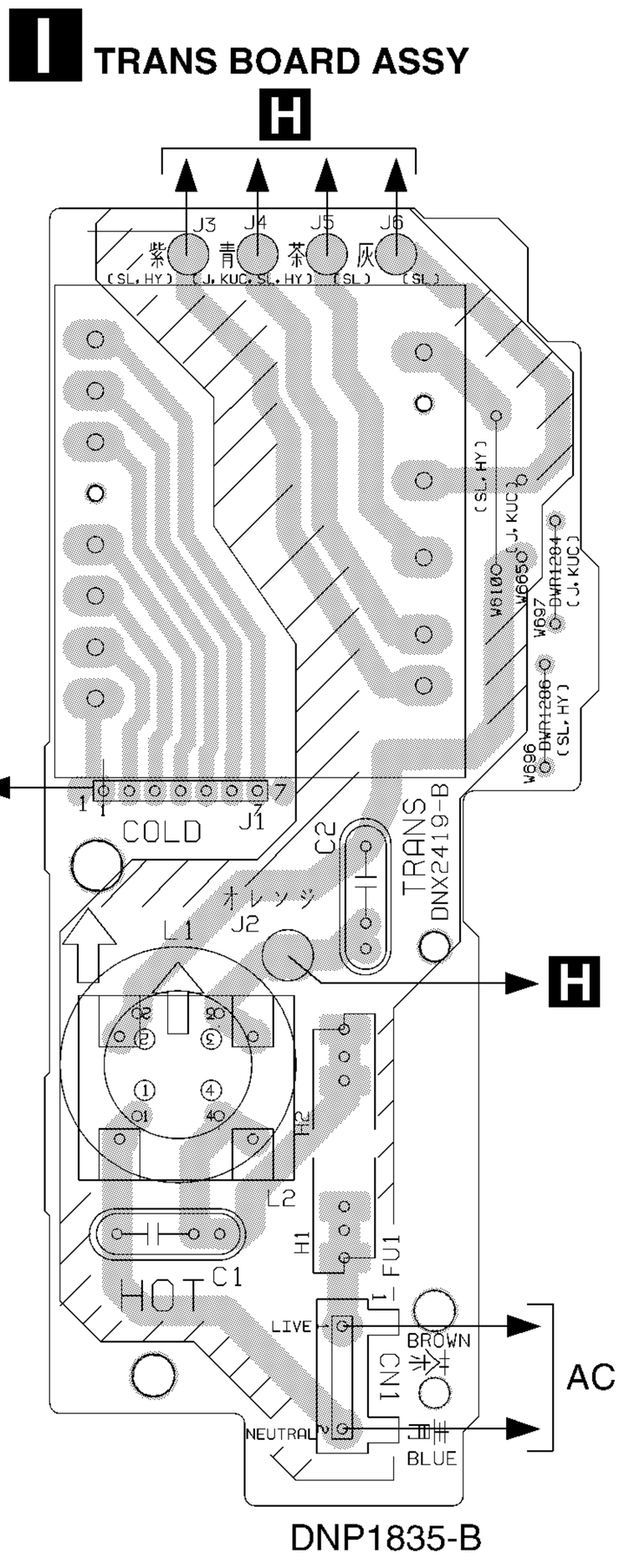
4.3 POWER SW BOARD ASSY, TRANS BOARD ASSY AND REGULATOR BORD ASSY

CDJ-700S/KUC

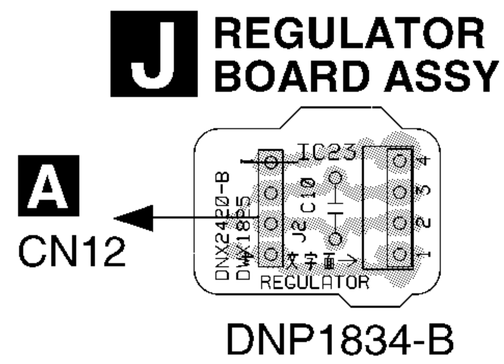


CDJ-500S/HY,SL



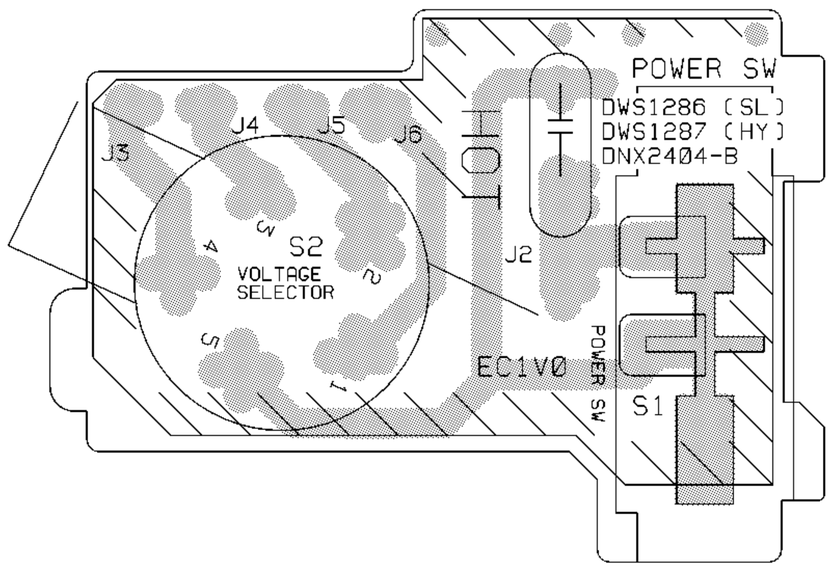


SIDE A



CDJ-500S/HY,SL

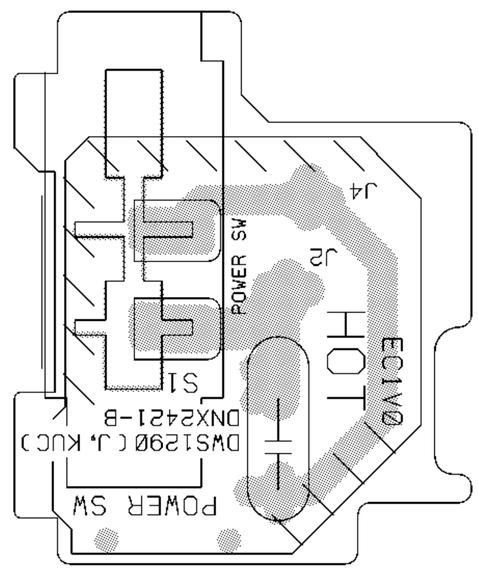
H POWER SW BOARD ASSY



DNP1835-B

CDJ-700S/KUC

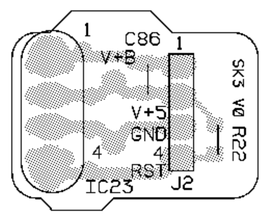
H POWER SW BOARD ASSY



DNP1835-B

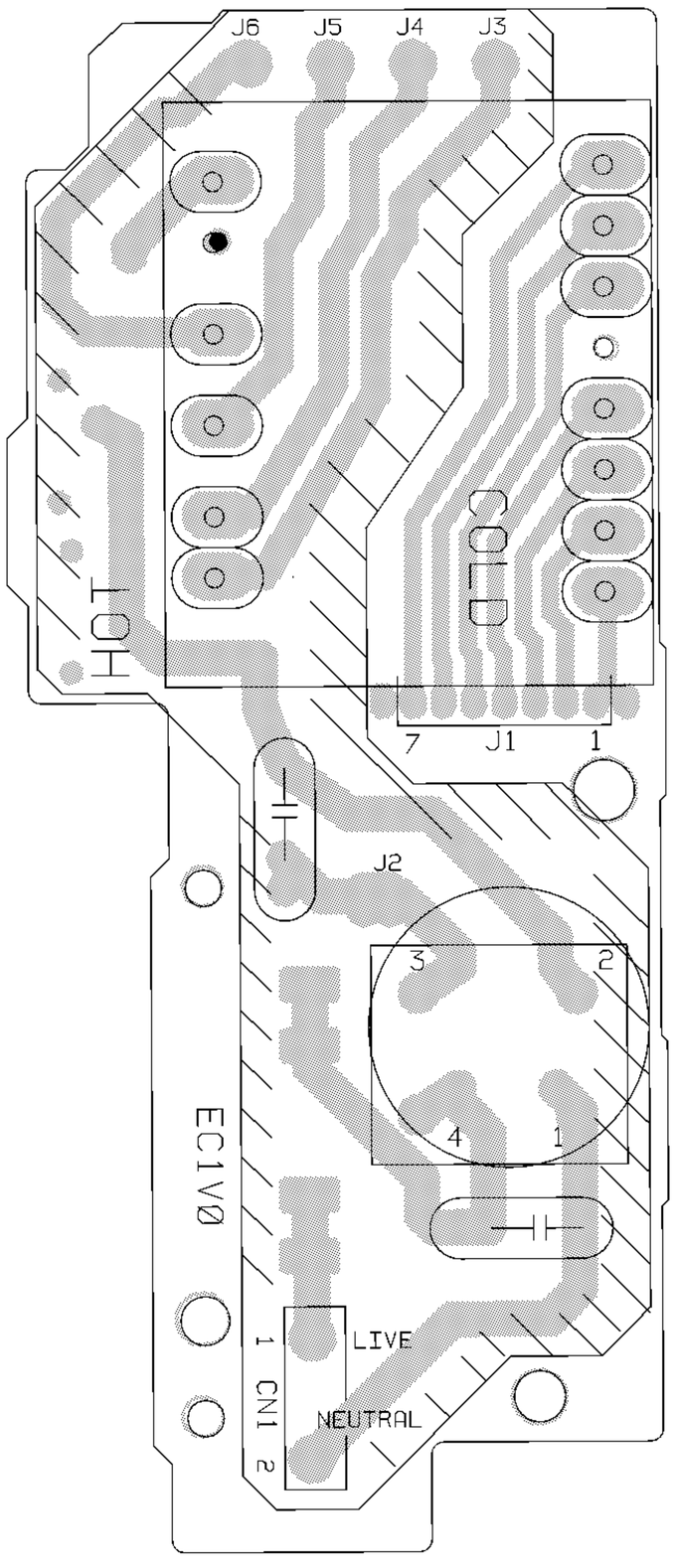
SIDE B

J REGULATOR BOARD ASSY



DNP1834-B

I TRANS BOARD ASSY



DNP1835-B

5. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	→	*56 × 10¹*	→	*561*	*RD1/4PU 5 6 1 J*
47kΩ	→	*47 × 10³*	→	*473*	*RD1/4PU 4 7 3 J*
0.5Ω	→	*R50*			*RN2H R 5 0 K*
1Ω	→	*1R0*			*RS1P 1 R 0 K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	→	*562 × 10¹*	→	*5621*	*RN1/4PC 5 6 2 1 F*

■ LIST OF WHOLE PCB ASSEMBLIES

CDJ-500S/HY, SL and CDJ-700S/KUC are constructed the same except for the following:

Mark	Symbol and Description	Part No.			Remarks
		CDJ-700S/KUC	CDJ-500S/HY	CDJ-500S/SL	
	MOTHER BOARD ASSY	DWM2068	DWM2068	DWM2068	
NSP	├ DOOR BOARD ASSY	DWS1289	DWS1289	DWS1289	
NSP	├ LED B BOARD ASSY	DWX1819	DWX1819	DWX1819	
	├ MAIN BOARD ASSY	DWX1821	DWX1821	DWX1821	
	├ H.P BOARD ASSY	DWX1822	DWX1822	DWX1822	
NSP	├ LED A BOARD ASSY	DWX1824	DWX1824	DWX1824	
NSP	└ REGULATOR BOARD ASSY	DWX1825	DWX1825	DWX1825	
	SUB BOARD ASSY	DWX1820	DWX1812	DWX1811	
	├ FUNCTION BOARD ASSY	DWG1497	DWG1497	DWG1497	
NSP	├ TRANS BOARD ASSY	DWR1284	DWR1286	DWR1286	*
NSP	├ POWER SW BOARD ASSY	DWS1290	DWS1287	DWS1286	
NSP	└ SLIDER BOARD ASSY	DWX1823	DWX1823	DWX1823	

Note * : Although DWR1284 and DWR1286 are different in part number, they consist of the same components.

■ CONTRAST OF PCB ASSEMBLIES

POWER SW BOARD ASSY

DWS1287, DWS1286 and DWS1290 are constructed the same except for the following:

Mark	Symbol and Description	Part No.			Remarks
		DWS1290	DWS1287	DWS1286	
⚠	C3 (4700pF/AC250V)	Not used	ACG7018	ACG7018	
	C4 (4700pF/AC250V)	ACG7018	Not used	Not used	
	S2	Not used	DSB1011	DSB1014	

■ PARTS LIST FOR CDJ-700S/KUC

Mark	No.	Description	Parts No.

D DOOR BOARD ASSY

SEMICONDUCTORS

	D609, D683 – D688	1SS355
	D622, D623	GP1S94
	D618 – D621	LT1H40A

SWITCHES AND RELAYS

	S610 – S612	DSG1061

CAPACITORS

	C654, C656	CKSQYF473Z50

RESISTORS

	All Resistors	RS1/10S□□□J

OTHERS

CN604	CONNECTOR 12P	HLEM12R – 1

F LED B BOARD ASSY

SEMICONDUCTORS

	D690	MPY4361F

A MAIN BOARD ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC201		BA6849FP
	IC302		BA7042
	IC101		CXA1782CQ
	IC301		CXD2500BQ
	IC404		HM514800CJ – 7
⚠	IC92		ICP – N10
⚠	IC91		ICP – N20
⚠	IC102		LA6520
	IC409		LH52256AN – 70LL
	IC206		MPC17A85ZVM
	IC103, IC106		NJM2068M
	IC104, IC901, IC902		NJM2904M
	IC801		NJM4556AM
	IC505		NJM4558MD
⚠	IC22		NJM79M05FA
	IC502		PCM1700U – J
	IC701		PD4842A
	IC501		SM5841CP
	IC107		TC4W53F
	IC105		TC4W66F
	IC303		TC7SU04F
	IC402, IC403		UPD6383GF
	Q101		2SA854S
⚠	Q1		2SB1566
	Q103		2SD2114K
	Q501 – Q504		2SD2144S
	Q102		DTA124EK
	Q505		DTC124ES
⚠	D11 – D14		11E2
⚠	D51, D52		1SR139 – 400
	D301 – D304, D501, D701 – D705		1SS355
	D712, D713, D729 – D731, D734		1SS355
	D901 – D904		1SS355
	D54		MTZJ27A/BX
	D55		MTZJ36A/BX
	D502, D503		UDZ10B

COILS AND FILTERS

Mark	No.	Description	Parts No.
	L101		LCTA100J3225
	L102		LCTA1R0J3225
	L201		LFA390J
	L401		LFA220K
	F301	(NOISE FILTER)	VTH1016

CAPACITORS

Mark	No.	Description	Parts No.
	C304, C305		CCSQCH180J50
	C309		CCSQCH221J50
	C115, C148		CCSQCH270J50
	C407, C408, C427, C428		CCSQCH5R0C50
	C121		CCSQCH680J50
	C533, C534		CEAS220M25
	C31, C53		CEAS221M50
	C515		CEAS3R3M50
	C33		CEAS471M10
	C306		CEAS471M6R3
	C109, C501		CEJA101M10
	C201		CEJA101M16
	C124, C126, C130, C219, C318		CEJA101M6R3
	C705		CEJA101M6R3
	C55		CEJA220M50
	C409, C511		CEJA330M10
	C119, C120, C401, C413, C421		CEJA330M16
	C429, C441, C512		CEJA330M16
	C316, C516		CEJA3R3M50
	C114, C513, C514		CEJA470M10
	C315		CEJA470M16
	C107		CEJA4R7M35
	C308		CEJAR47M50
	C317		CFTLA474J50
	C110, C116, C320		CKSQYB102K50
	C118, C131 – C133, C213, C104, C141		CKSQYB103K50
	C220, C221, C307, C704, C905		CKSQYB103K50
	C102, C103, C105, C108, C113		CKSQYB104K25
	C128, C161, C162, C207		CKSQYB104K25
	C907		CKSQYB105K10
	C711, C712		CKSQYB122K50
	C313, C517, C518		CKSQYB152K50
	C106, C173, C311		CKSQYB222K50
	C163, C903, C904		CKSQYB224K16
	C225		CKSQYB332K50
	C122		CKSQYB333K50
	C111		CKSQYB473K25
	C101, C312, C703		CKSQYB473K50
	C129, C174		CKSQYB474K16
	C125		CKSQYB562K50
	C117, C153		CKSQYB682K50
	C127		CKSQYB683K25
	C112, C135, C137		CKSQYF103Z50
	C152, C157, C171, C172		CKSQYF103Z50
	C218, C222 – C224, C231, C301		CKSQYF103Z50
	C303, C314, C319, C351 – C353		CKSQYF103Z50
	C402, C406, C410, C412		CKSQYF103Z50
	C422, C423, C430, C442, C502		CKSQYF103Z50
	C519, C520, C540, C579, C591		CKSQYF103Z50
	C702, C821, C822, C901, C902		CKSQYF103Z50
	C202, C206, C208 – C210		CKSQYF104Z25
	C11, C12, C123, C13 – C15		CKSQYF473Z50
	C151, C158, C159, C16, C17		CKSQYF473Z50
	C411, C431, C701, C706, C709		CKSQYF473Z50
	C83, C84		CKSQYF473Z50
	C707, C708		CKSQYF474Z16
	C529, C530, C541, C542		CQMA152J50
	C21 – C26	(3300µF/16V)	DCH1093
	C52	(100µF/10V)	DCH1098
	C32	(1000µF/6.3V)	DCH1099
	C405	(1µF/25V)	DCH1101
	C310	(10µF/6.3V)	VCH1155
	VC301		VCM1002

Mark	No.	Description	Parts No.
RESISTORS			
	R402, R403		RD1/4PU223J
	R535, R536		RD1/4VM102J
	R60		RD1/4VM222J
	R539, R540, R561 – R564		RD1/4VM471J
	R533, R534		RD1/4VM511J
	R223, R224	(0.47Ω, 1/4W)	DCN1035
	R281, R282	(1.5Ω, 1/4W)	DCN1036
	R206, R207		RS1/10S1002F
	R108		RS1/10S2403F
	VR101 – VR104	(22kΩ)	PCP1035
	VR501, VR502	(100kΩ)	PCP1044
	VR201, VR202	(100Ω)	PCP1038
		Other Resistors	RS1/10S□□□J
OTHERS			
	CN103	MT 5P CONNECTOR	173981 – 5
	CN501	3P JUMPER CONNECTOR	52147 – 0310
	CN201	CONNECTOR	52207 – 1590
		PCB BINDER	DEF1012
	CN101	CONNECTOR (17P)	DKC1005
	X401, X402	CERAMIC RESONATOR (24.576MHz)	DSS1054
	CN701	CONNECTOR	HLEM38S – 1
	CN12	CONNECTOR(4P)	KPC4
	CN11	CONNECTOR(7P)	KPC7
	JA501	JACK	PKB1023
	JA502	JACK	RKN1004
		PCB BINDER	VEF1040
	CN202	4P CONNECTOR	VKN1235
	KN1	EARTH METAL FITTING	VNF1084
	X701	CERAMIC RESONATOR (4.19MHz)	VSS1014
	X301	CRYSTAL RESONATOR (16.9344MHz)	VSS1084

B H.P BOARD ASSY

CAPACITORS			
	C813 – C815		CKSQYF103Z50
RESISTORS			
	VR801	(5kΩ – B)	DCS1043
OTHERS			
	JA801	JACK	DKN1179

E LED A BOARD ASSY

SEMICONDUCTORS		
	D689	MPY4361F

J REGULATOR BOARD ASSY

SEMICONDUCTORS		
⚠	IC23	PQ05RR12

Mark	No.	Description	Parts No.
RESISTORS			
		All Resistors	RS1/10S□□□J

C FUNCTION BOARD ASSY

SEMICONDUCTORS			
	IC602		TC74HC175AF
	Q601 – Q604		2SC2412K
	Q608 – Q611		DTA124EK
	D601 – D608, D610 – D613		1SS355
	D624, D625, D691		1SS355
	D614, D615		GL5EG8
	D616, D617		GL5HY8
SWITCHES AND RELAYS			
	S603, S606		DSG1056
	S607 – S609, S613		PSG1006
	S601, S602, S604, S605		RSG1030
CAPACITORS			
	C602 – C605, C608, C609		CKSQYF103Z50
	C613, C614		CKSQYF103Z50
	C610		CKSQYF473Z50
RESISTORS			
		All Resistors	RS1/10S□□□J
OTHERS			
	CN606	6PJUMPER CONNECTOR	52151 – 0610
	CN603	CONNECTOR 12P	52492 – 1220
		FL HOLDER	DEB1358
	V601	FL INDICATOR TUBE	DEL1029
	CN601	CONNECTOR	HLEM38R – 1
	CN605	KR CONNECTOR	S2B – PH – K – S

I TRANS BOARD ASSY

COILS AND FILTERS			
⚠	L1	LINE FILTER (L=800μH)	DTL1016
CAPACITORS			
⚠	C1, C2	(10000pF/AC250V)	ACG7020
OTHERS			
	J1	PARALLEL CORD	DXWY0720E
⚠		TERMINAL	RKC – 061
	H1, H2	HOLDER	RKR1003

H POWER SW BOARD ASSY

CAPACITORS			
⚠	C4	(4700pF/AC250V)	ACG7018
OTHERS			
⚠	J2		DDF1012

G SLIDER BOARD ASSY

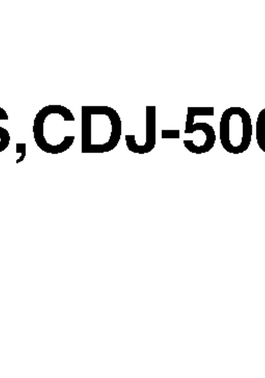
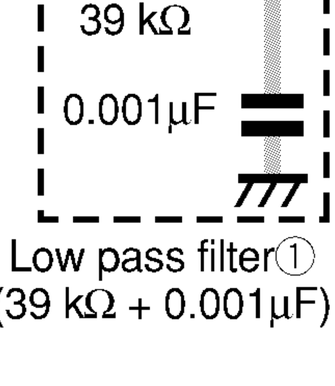
RESISTORS			
	VR601	(50kΩ – B×2)	DCV1007
OTHERS			
	J606	PARALLEL WIRE	D20PWY0615E

6. ADJUSTMENT

6.1 ELECTRIC ADJUSTMENTS

6.1.1 PREPARATIONS

1.1 Jigs and Measuring Instruments

8-cm DISC (With at least about 20 minutes recording)	CD TEST DISC (YEDS-7)	⊖ Precise screwdriver	 ⊖ screwdriver (small)	 ⊕ screwdriver (medium)
	 ⊕ screwdriver (large)	Low-frequency oscillator	Dual-trace oscilloscope (10 : 1 probe)	Low pass filter① (39 kΩ + 0.001µF)
				 Low pass filter② (39 kΩ + 0.0018µF)
				 Resistor (100 kΩ)

1.2 Necessary Adjustment Points

When	Adjustment points
Exchange MAIN BOARD ASSY	1.2.3.4.5.6.7 → Page 45～47
Exchange SERVO MECA ASSY	1.3.4.5.6.8 → Page 45～48

6.1.2 ADJUSTMENT

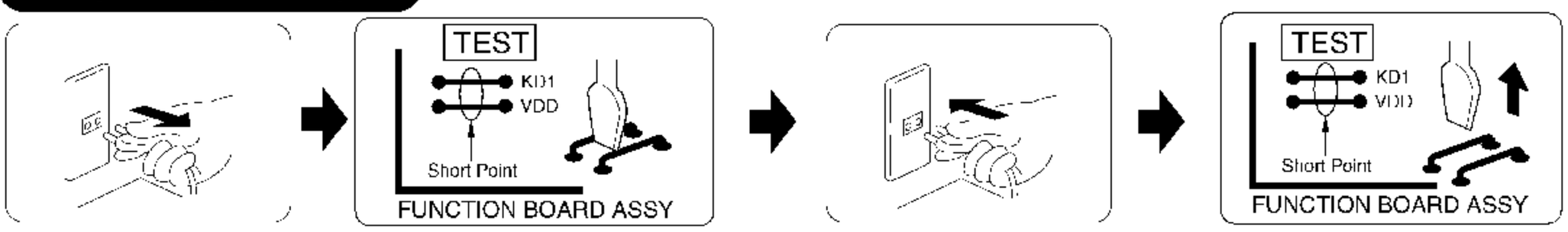
Precautions for Test Mode

(1) If a soiled or damaged disc is played back and a GFS error is generated, the system may not perform a STOP operation and may run out of control, although muting ON/OFF will be performed. If the system does run out of control, press the CUE key to switch the power OFF.
(2) Do NOT press any key while an OPEN/CLAMP, SPINDLE KICK, or FOCUS SEARCH operation is in progress. Be sure to wait until the operation is completed before calling the next operation.
(3) Key operation can be done only when the servo mechanism is in the Clamped position (door closed).

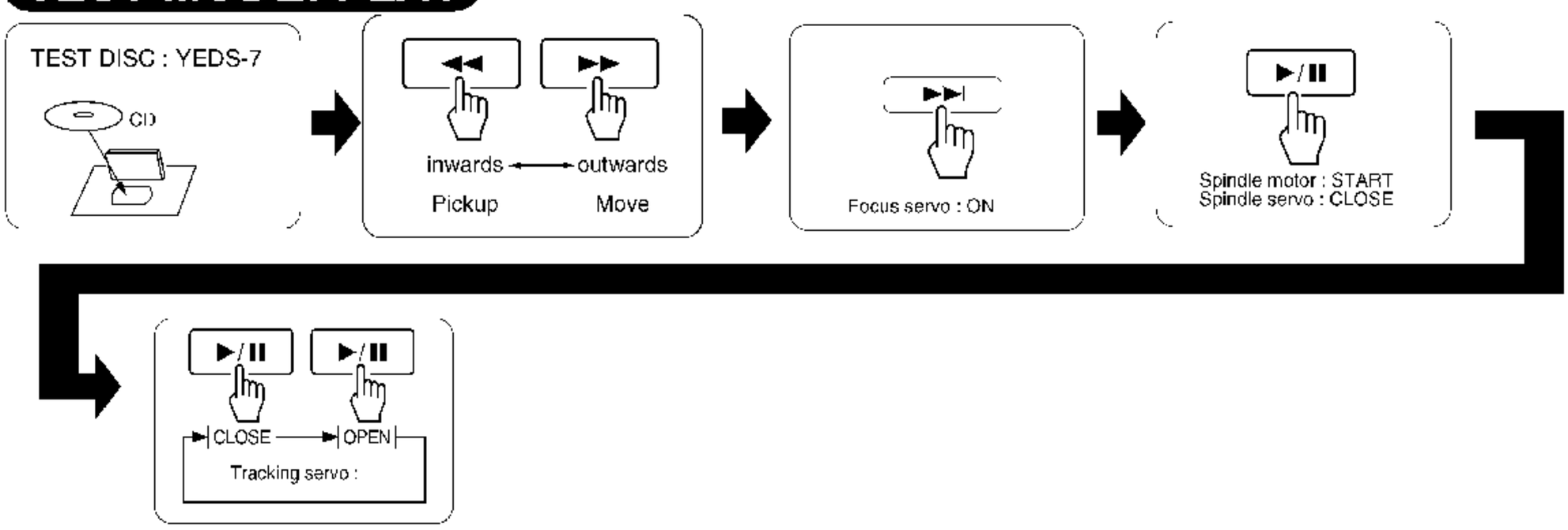
---

1. How to Start/Cancel Test Mode

TEST MODE: ON

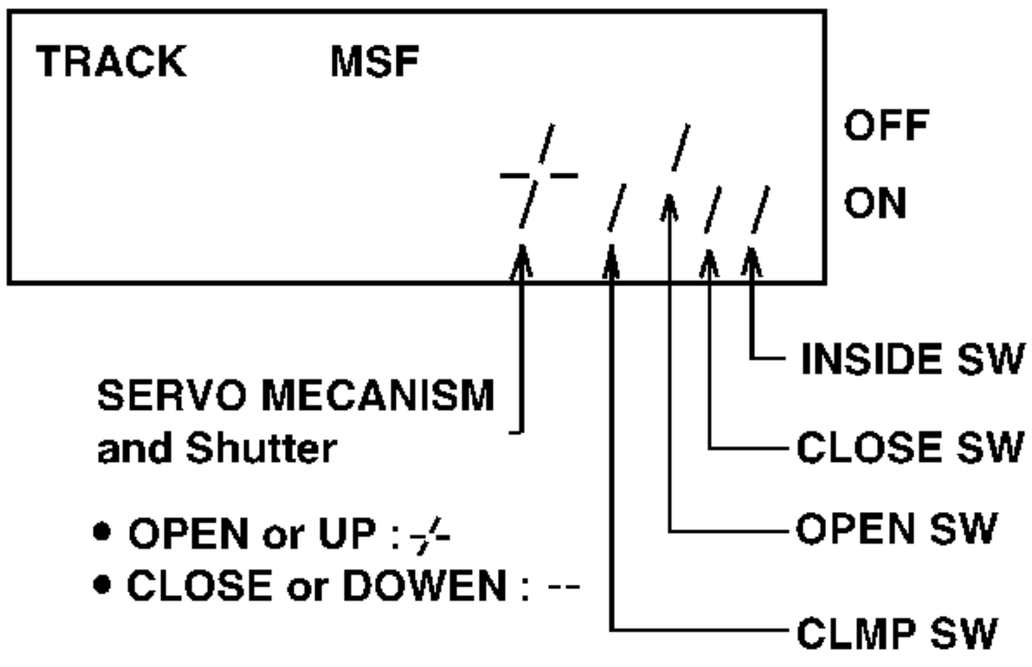


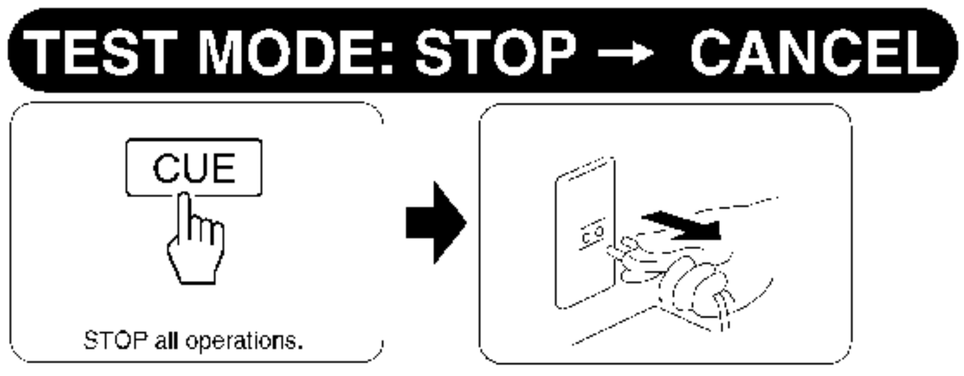
TEST MODE: PLAY



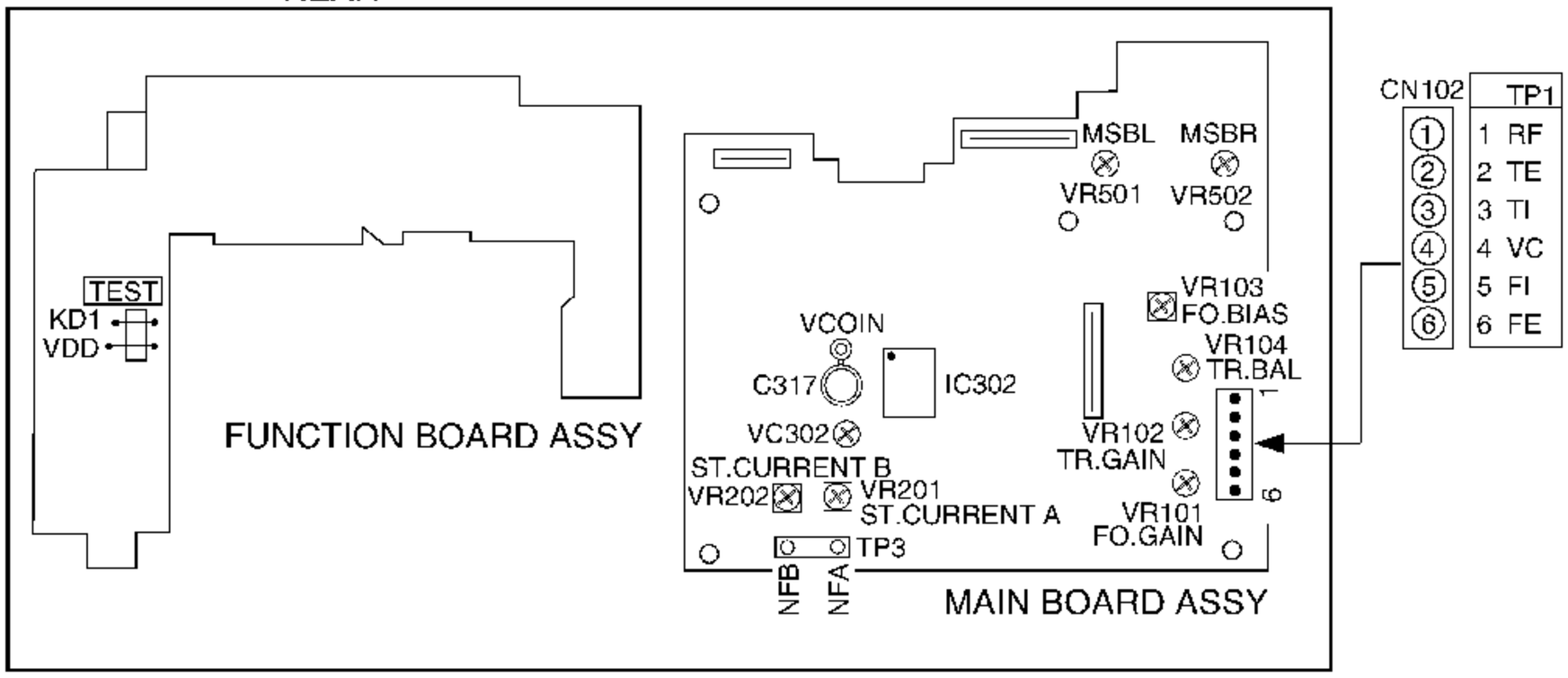
TEST MODE: DISPLAY

Switch status display



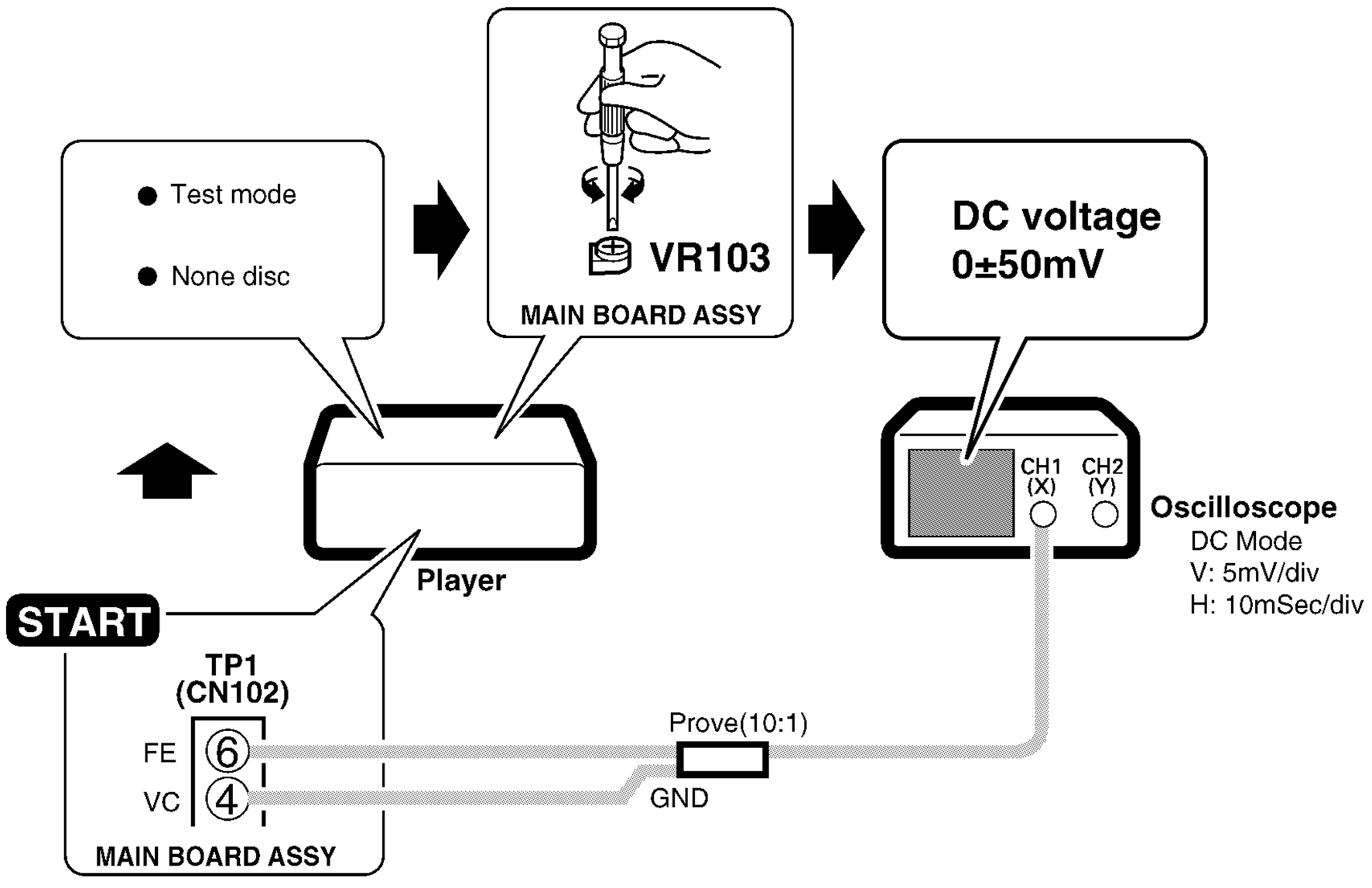


2. Adjustment Locations



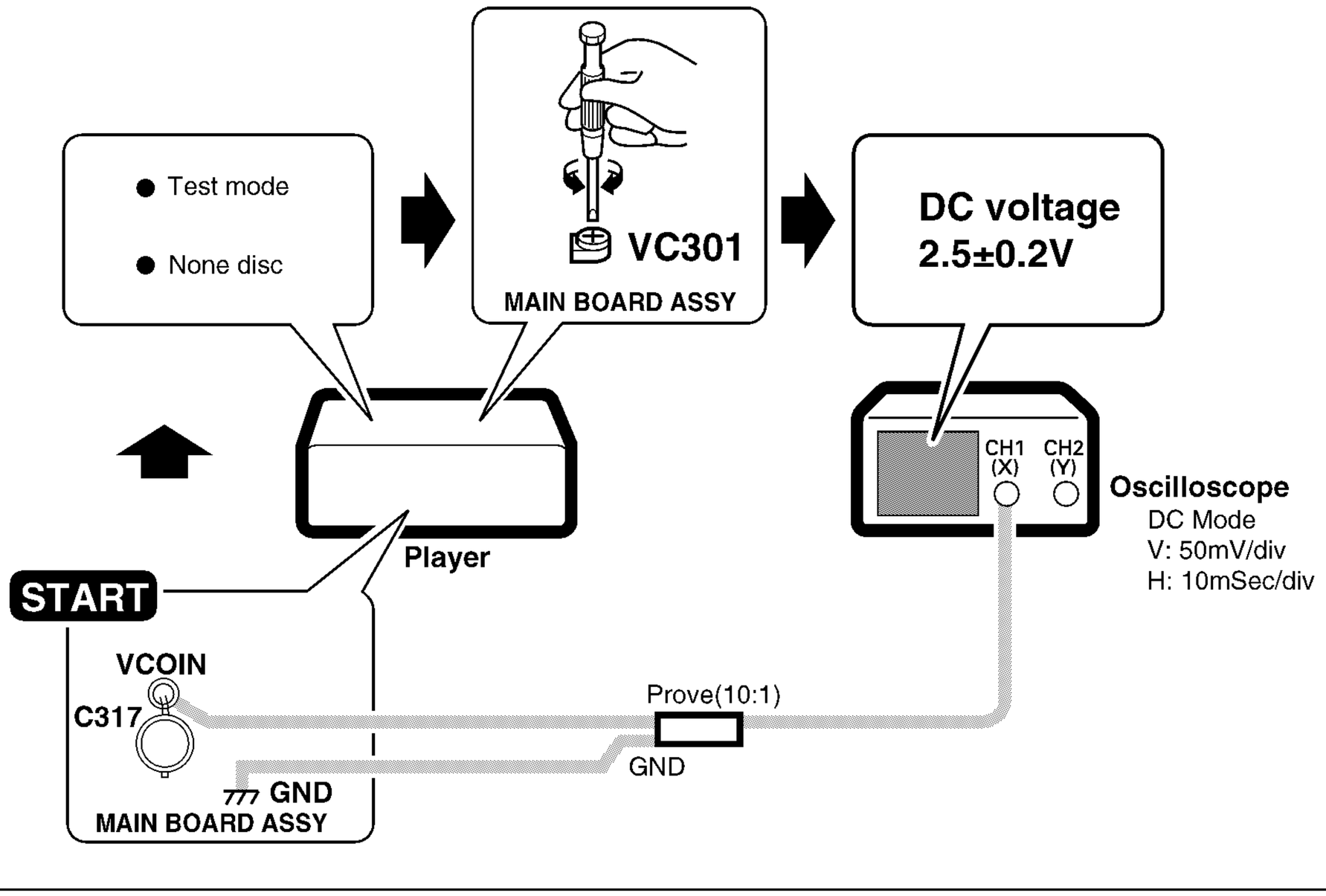
6.2 CHECK AND ADJUSTMENTS

1. Focus BIAS Adjustment

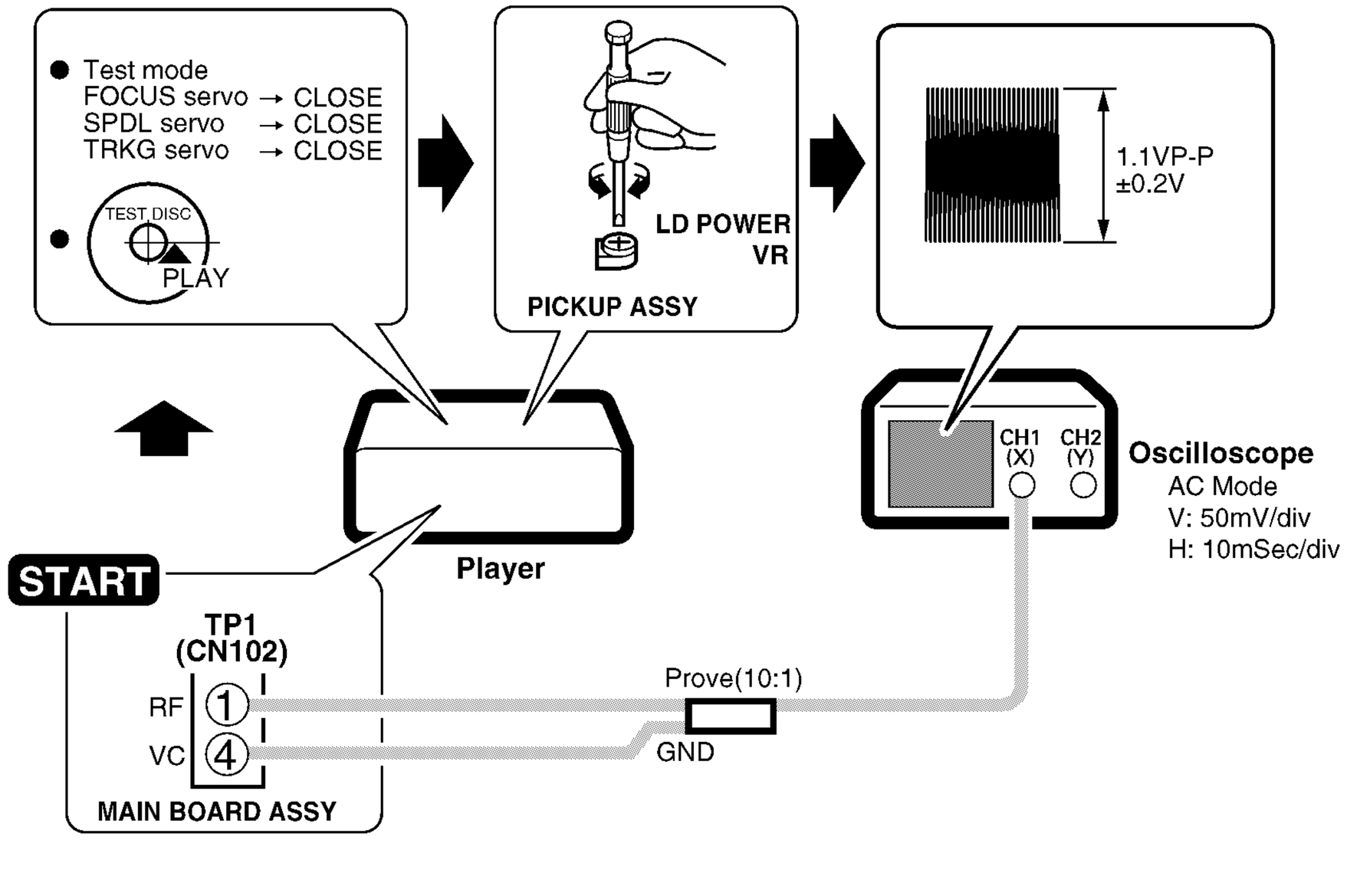


2. Vco Adjustment

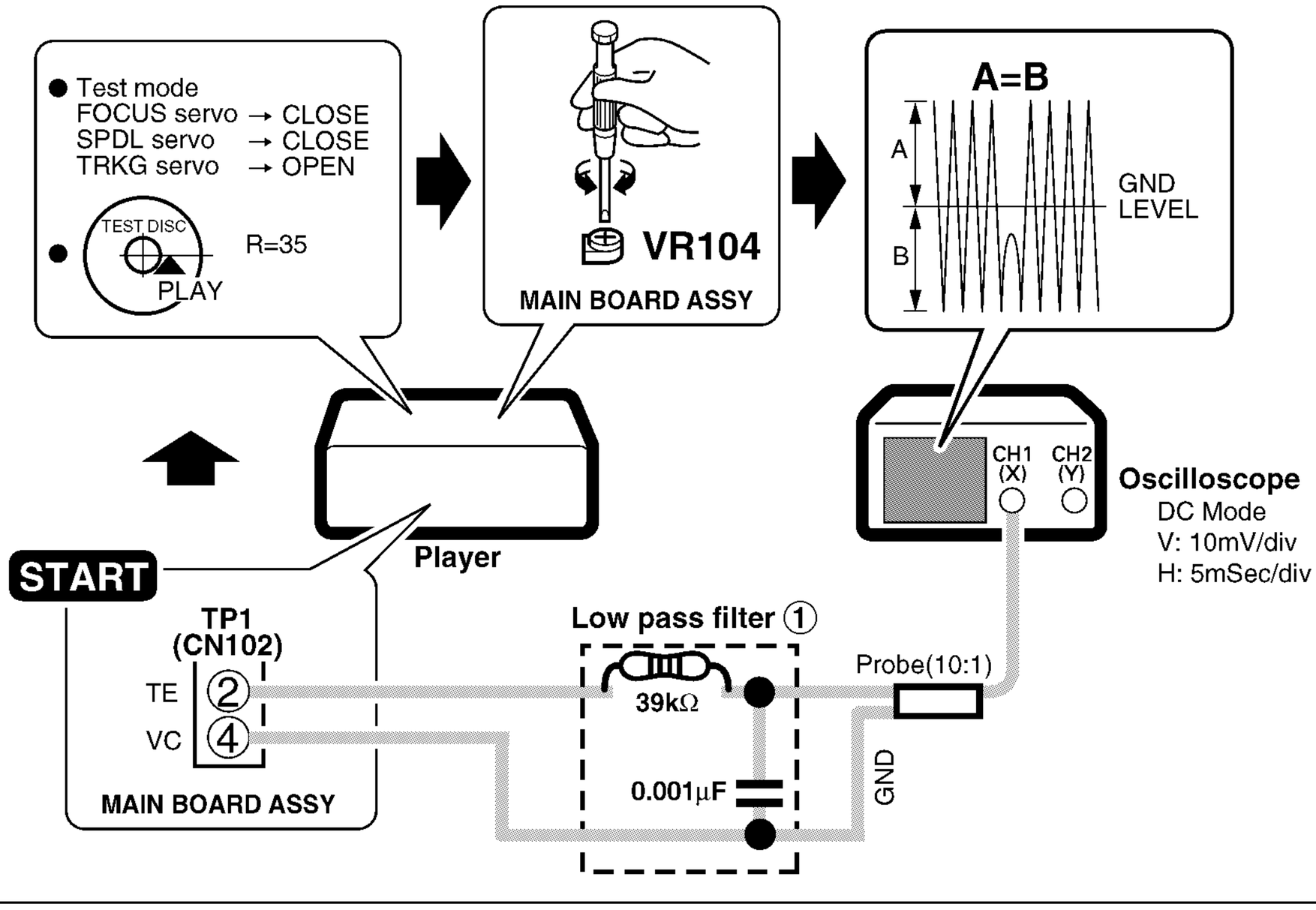
Note : Adjustment of VC301 may not be made if the LOADING MECHANISM ASSY is installed. Before adjustment, remove the LOADING MECHANISM ASSY.



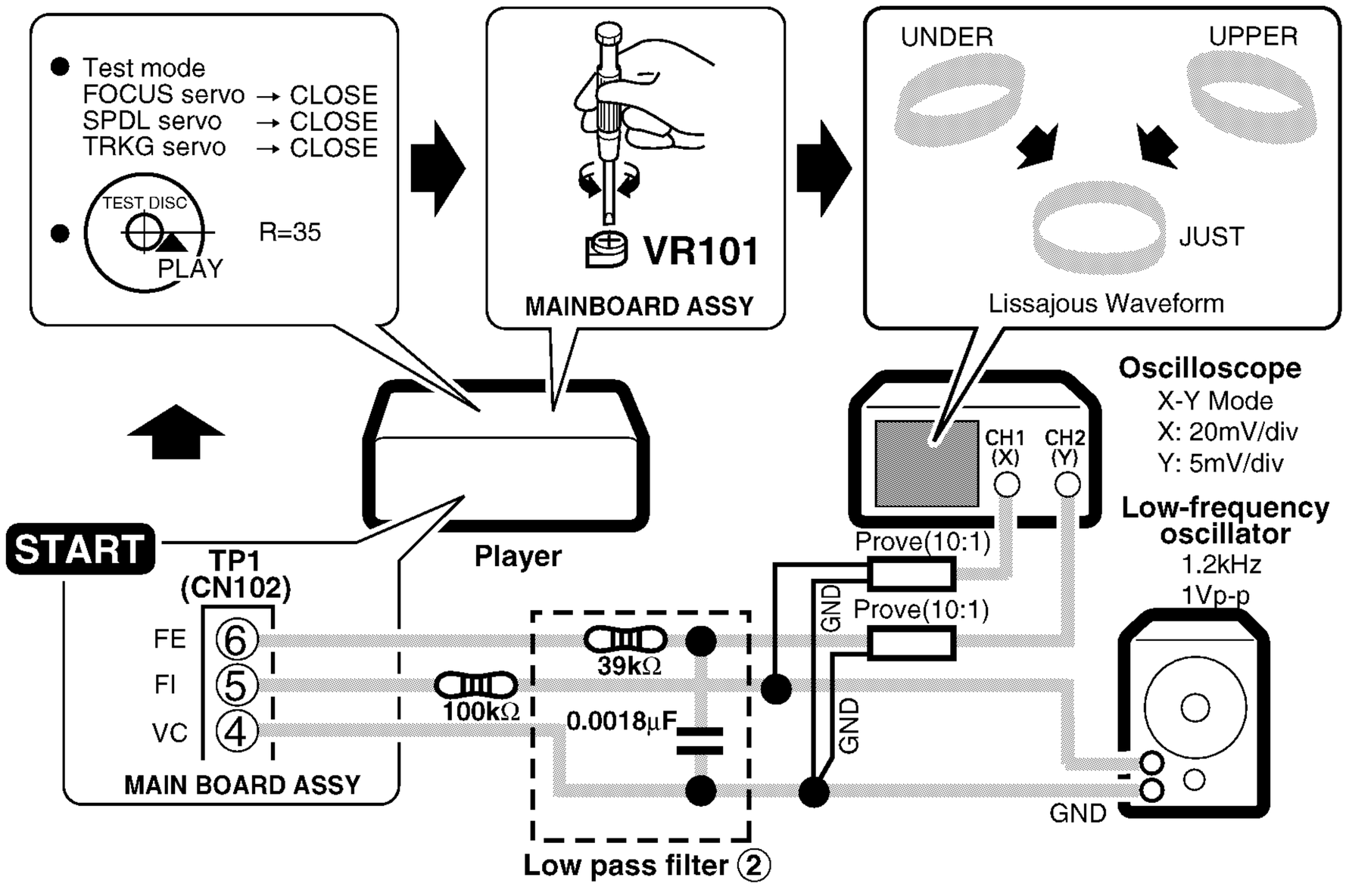
3. RF LEVEL ADJUSTMENT



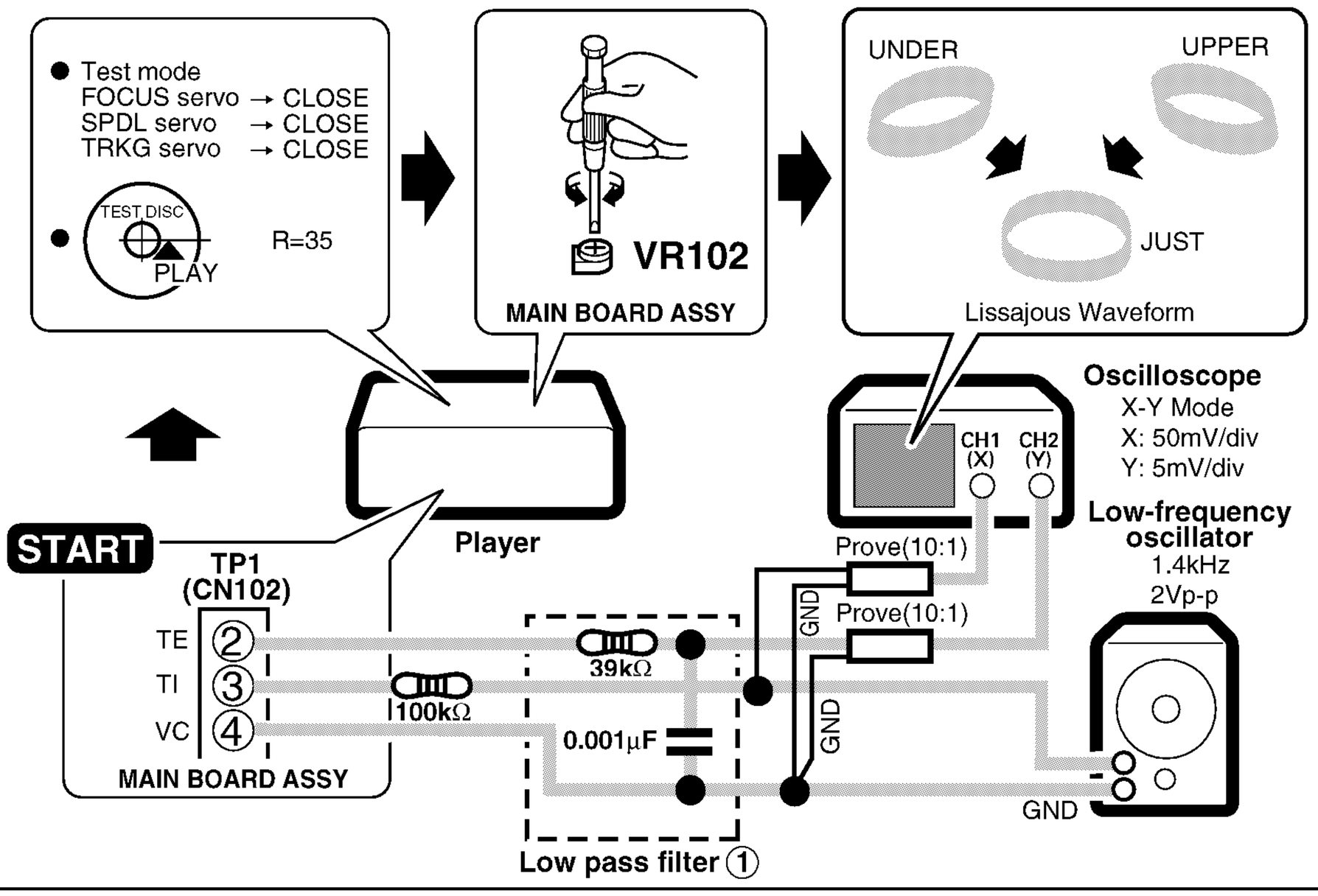
4. Tracking Error Barance Adjustment



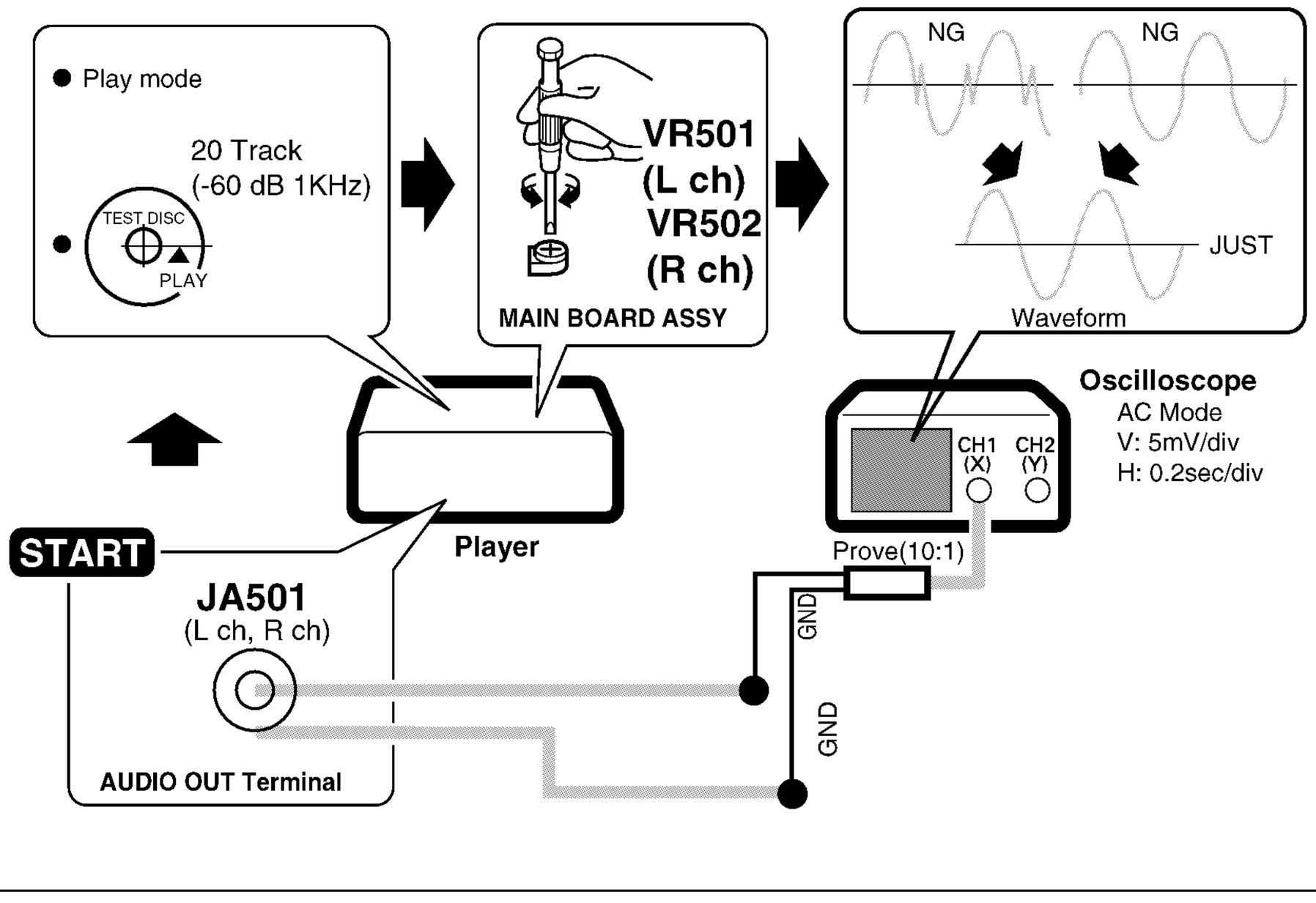
5. Focus Servo Loop Gain Adjustment



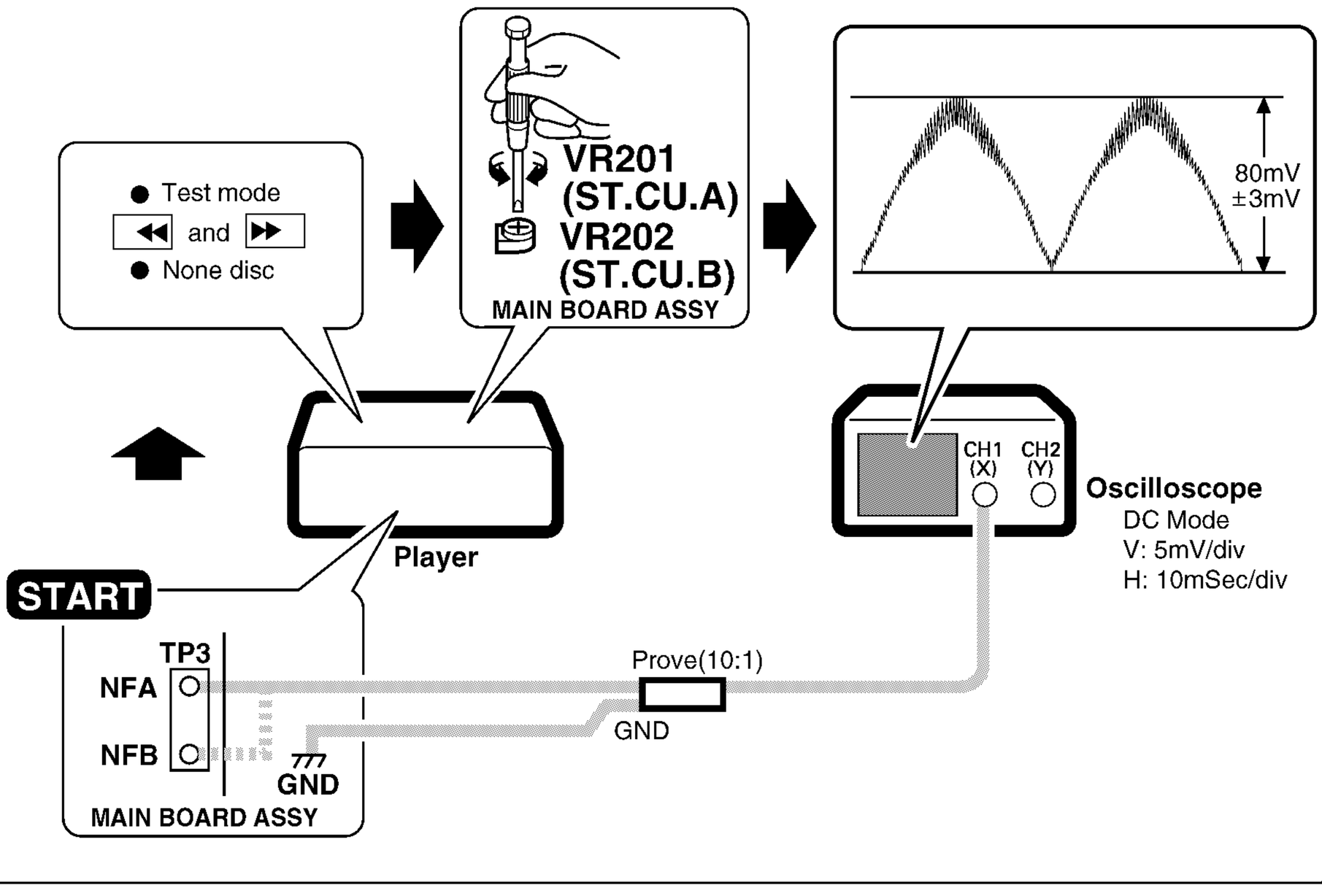
6. Tracking Servo Loop Gain Adjustment



7. MSB Adjustment



8. Stepper Current Adjustment



7. GENERAL INFORMATION

7.1 PARTS

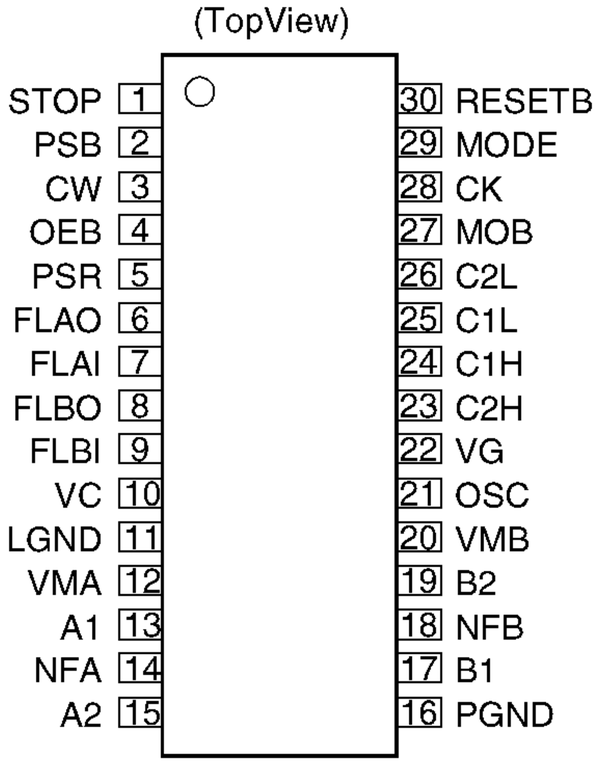
7.1.1 IC

■ MPC17A85ZVM (IC206:MAIN BOARD ASSY)

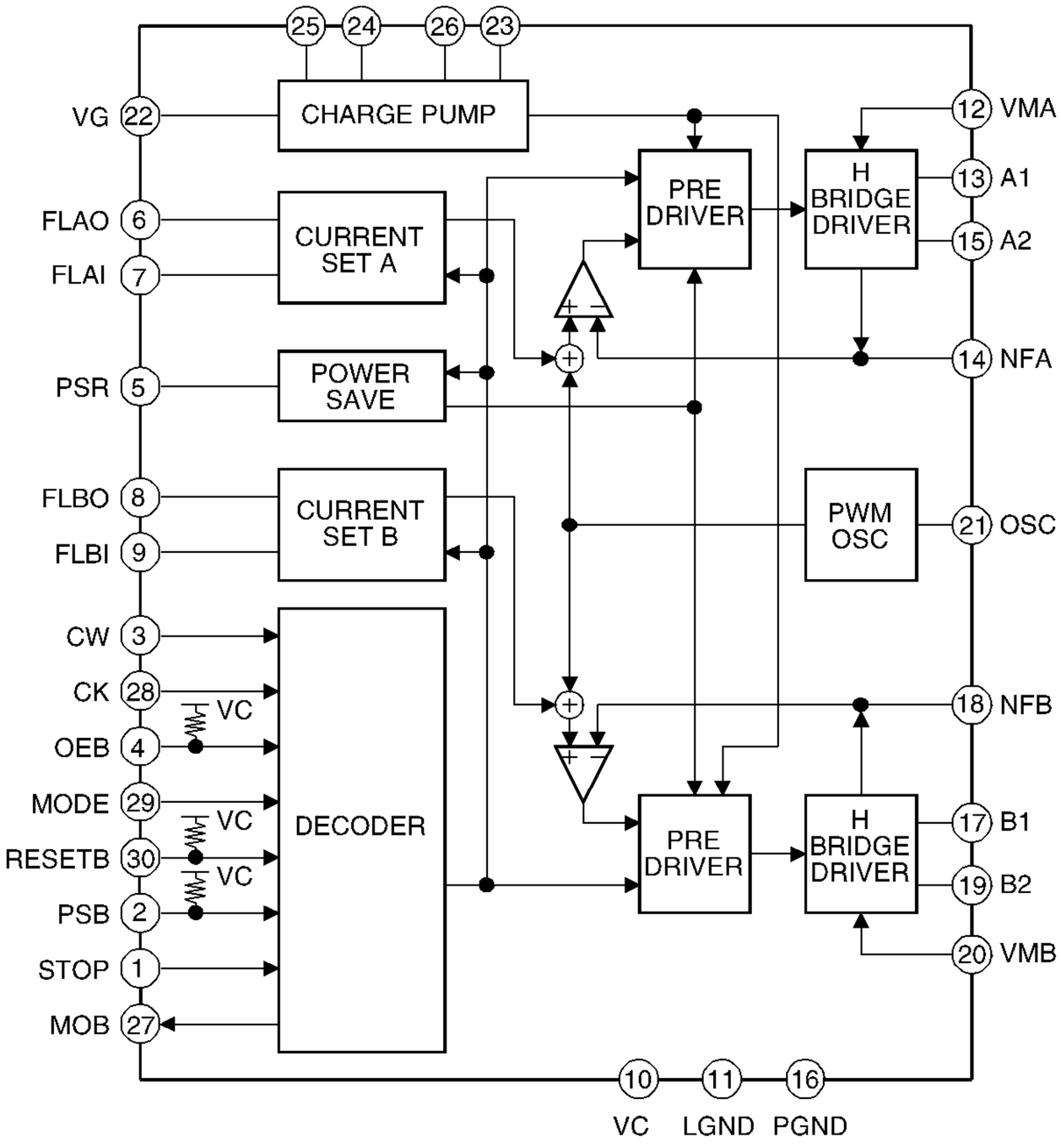
● STEPPING DRIVER IC

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

● Pin Assignment (Top View)



● Block Diagram



● Pin Function

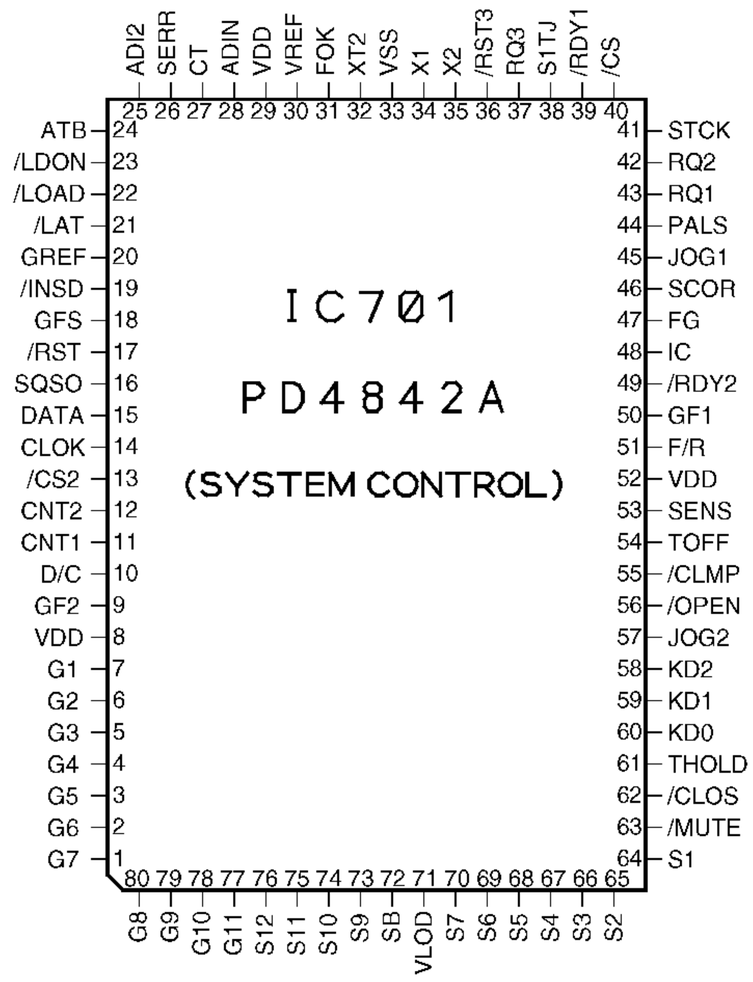
No.	Pin Name	Function
1	STOP	STOP pin. When H, STOP state remains in force until MOB is L.
2	PSB	Power Save mode pin. When L, Power Save mode remains in force until MOB is L.
3	CW	Forward/reverse toggle pin.
4	OEB	Output enable pin.
5	PSR	Power Save current-setting pin.
6	FLAO	Filter-connection pin.
7	FLAI	
8	FLBO	
9	FLBI	
10	VC	Power pin for the control section.
11	LGND	Control section ground.
12	VMA	Power pin for the power section. (channel A)
13	A1	A-phase output pin.
14	NFA	A-phase feedback resistance connection pin.
15	A2	A-phase output pin.

No.	Pin Name	Function
16	PGND	Power section ground.
17	B1	B-phase output pin.
18	NFB	B-phase feedback resistance connection pin.
19	B2	B-phase output pin.
20	VMB	Power pin for the power section. (channel B)
21	OSC	Capacitor connection pin.
22	VG	Capacitor connection pin for the charge pump. VG voltage input pin.
23	C2H	Step-up capacitor connection pin.
24	C1H	
25	C1L	
26	C2L	
27	MOB	Phase-detection monitor pin.
28	CK	Clock input pin.
29	MODE	Mode-toggle pin. (32/64 steps) H : 64, L : 32
30	RESETB	Reset pin. L : reset

■ PD4842A (IC701 : MAIN BOARD ASSY)

● SYSTEM CONTROL μ COM

● Pin Assignment(Top View)



● Pin Function

No.	Port	Pin Name	I/O	Function
1	FIP6	GRID 7	OUT	FL grid output 7.
2	FIP5	GRID 6	OUT	FL grid output 6.
3	FIP4	GRID 5	OUT	FL grid output 5.
4	FIP3	GRID 4	OUT	FL grid output 4.
5	FIP2	GRID 3	OUT	FL grid output 3.
6	FIP1	GRID 2	OUT	FL grid output 2.
7	FIP0	GRID 1	OUT	FL grid output 1.
8	VDD	VDD	-	Connect to VDD.
9	P27	GF2 (SAMP)	IN-	DSP memory sampling.
10	P26	C/D	OUT	DSP command/data selection. (L : command)
11	P25	CNT1	IN	External control I/O.
12	P24	CNT2	IN	External control input.
13	P23	CS2	OUT	DSP chip select 2. (L : select)
14	SCK1	CLOK	OUT	Serial clock. (for CXD2500 & DSP)
15	SO1	DATA	OUT	Serial data output. (for CXD2500 & DSP)
16	SI1	SQSO	IN	Sub-code Q serial data input.
17	RESET	RST	IN	CPU reset. (L : reset)
18	P74	GFS	IN	Frame sync lock input. (H : OK, L : NG)
19	P73	INSD	IN	Slider inside switch input. (L : inside)
20	AVSS	GND ref	-	Ground potential for the A/D converter.
21	P17	XLAT	OUT	LSI control data latch pulse.
22	P16	LOAD	IN	Shutter motor output. (IN : STOP)
23	P15	LDON	OUT	Laser diode output. (L : OFF, H : ON)
24	P14	ATB	IN	A/D input for ATB. (above 0.5 V : ATB, below : no ATB)
25	P13	ADI2	IN	Slider voltage input.
26	P12	SERR	IN	A/D input to control the stepping motor.
27	P11	CT	IN	Slider center tap voltage input.
28	P10	ADIN	IN	Slider voltage input.
29	AVDD	VDD	-	Analog power for the A/D converter.

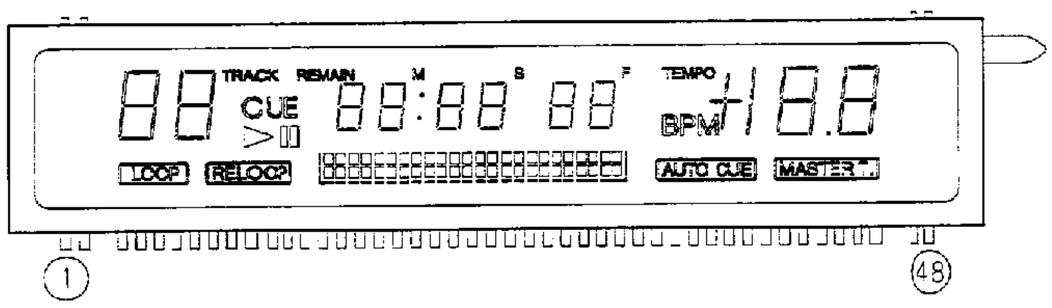
No.	Port	Pin Name	I/O	Function
30	AVREF	VDD ref	-	Standard voltage input for the A/D converter.
31	P04	FCOK	IN	Focus OK input. (H : OK, L : NG)
32	XT2	XT2	-	Not used.
33	VSS	GND	-	Connect to ground.
34	X1	X1	-	Oscillator pulses for the main system. (4.194304 MHz)
35	X2	X2	-	Oscillator pulses for the main system. (4.194304 MHz)
36	P37	RST3	OUT	Reset output for peripheral ICs. (for digital filter and DSP [L : reset])
37	P36	RQ3 (PLAY)	OUT	DSP memory play.
38	P35	S1TJ	OUT	Servo control output.
39	P34	RDY	IN	DSP READY input. (L : READY)
40	P33	CS	OUT	DSP chip select. (L : select)
41	P32	STCK	OUT	Stepping motor control output.
42	P31	RQ2 (WRIT)	OUT	DSP memory write (H : write).
43	P30	RQ1 (READ)	OUT	DSP memory read (H : read).
44	INTP3	PALS	IN	Interrupt input for RAM-internal display pulses.
45	INTP2	JOG1	IN	Interrupt input for jog dial pulses.
46	INTP1	SCOR	IN	Interrupt input for sub-code sync.
47	INTP0	FG	IN	FG pulse input.
48	IC	IC	-	Connect to ground.
49	P72	RDY2	IN	DSP READY 2 input. (L : READY)
50	P71	GF1 (CMP)	IN	DSP data compare input. (H : comparing)
51	P70	F/R	OUT	Stepping motor forward/reverse output.
52	VDD	VDD	-	Connect to VDD.
53	P127	SENS	IN	LSI operation status input.
54	P126	TOFF	OUT	Analog switch output. (H/L for tracking ON/OFF, H : track counter search)
55	P125	CLMP	IN	Clamping completed switch input.
56	P124	OPEN	IN	Switch input for servo mechanism down completed.
57	P123	JOG2	IN	Jog dial pulse input.
58	P122	KD2	IN	Key-scan data input.
59	P121	KD1	IN	
60	P120	KD0	IN	
61	P117	THOLD	OUT	Analog switch output. (1, 14, 30Tr JUMP : L)
62	P116	CLOS	IN	Switch input for door close completed.
63	P115	MUTE	OUT	Muting output. (L : on, H : off)
64	FIP22	SEG 1	OUT	FL segment output 1.
65	FIP21	SEG 2	OUT	FL segment output 2.
66	FIP20	SEG 3	OUT	FL segment output 3.
67	FIP19	SEG 4	OUT	FL segment output 4.
68	FIP18	SEG 5	OUT	FL segment output 5.
69	FIP17	SEG 6	OUT	FL segment output 6.
70	FIP16	SEG 7	OUT	FL segment output 7.
71	VLOAD	VLOAD	-	Connected to FIP controller/driver pull-down resistance. (-31V)
72	FIP15	SEG 8	OUT	FL segment output 8.
73	FIP14	SEG 9	OUT	FL segment output 9.
74	FIP13	SEG 10	OUT	FL segment output 10.
75	FIP12	SEG 11	OUT	FL segment output 11.
76	FIP11	SEG 12	OUT	FL segment output 12.
77	FIP10	GRID 11	OUT	FL grid output 11.
78	FIP9	GRID 10	OUT	FL grid output 10.
79	FIP8	GRID 9	OUT	FL grid output 9.
80	FIP7	GRID 8	OUT	FL grid output 8.

7.1.2 DISPLAY

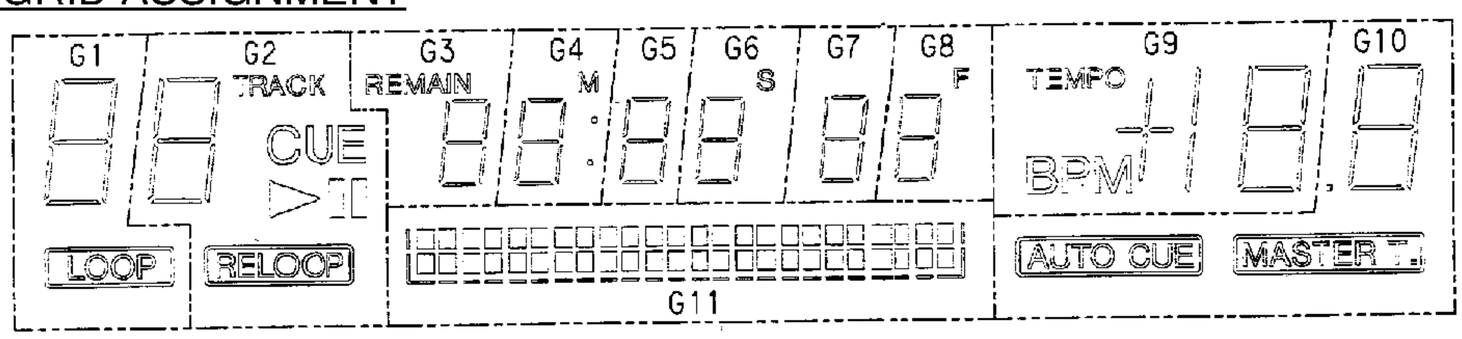
■ DEL1029(V601:FUNCTION BOARD ASSY)

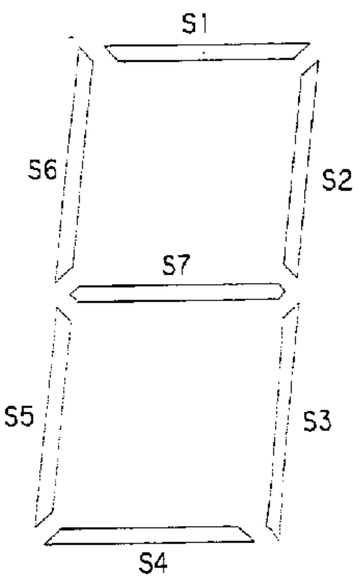
● FL TUBE

PIN ASSIGNMENT

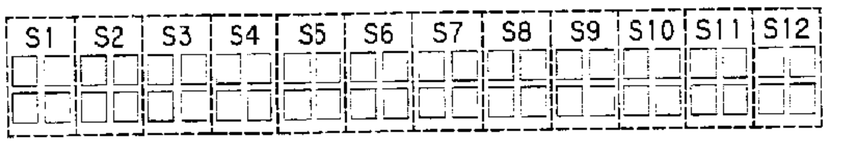


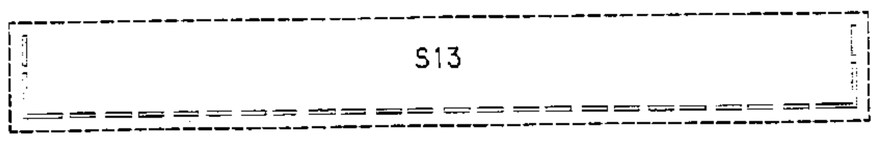
ANODE GRID ASSIGNMENT





G1~G10





G11

	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11
S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	
S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	
S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	
S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	
S5	S5	S5	S5	S5	S5	S5	S5	S5	S5	S5	
S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	
S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	
S8		>		° °		S			+	MASTER T.	
S9		CUE		M					+		
S10	LOOP	▯[	REMAIN						/	AUTO CUE	
S11		RELOOP						F	BPM	▫	
S12		TRACK							TEMPO		
S13											

PIN CONNECTION

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Assignment	F1	F1	NP	NL	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	S13	S2

Pin No.	18	19	20	21	22 ~ 37	38	39	40	41	42	43	44	45	46	47	48
Assignment	S6	S7	S8	S1	NL	S9	S10	S11	S12	S3	S4	S5	NL	NP	F2	F2

F:Filament G1~G11:Grid S1~S13:Anode NP:No pin NL:No Lead

7.2 DIAGNOSIS

7.2.1 ERROR CORD DISPLAY

■ Error display

When the player detects an error during operation, if will immediately stop and display an error code in the display window.

Displayed error code number	Type of error	Error contents	Possible Cause → Remedy
E-72 01	TOC READ ERROR	TOC date cannot be read after 20 seconds	The disc is soiled.
E-72 02	FG PULSE ERROR	Disc is rotating, but rotation cannot be ascertained.	Either IC201 (spindle driver IC) or Pin 47 of IC701 (control microprocessor) is damaged.
E-83 01	PLAYER ERROR	Disc loaded cannot be played properly (GFS NG:2sx3).	The disc is soiled. The disc is scarred.
E-83 02	PLAYER ERROR	Disc loaded cannot be played properly (FOCUS NG:0.1sx3)	The disc is soiled. The disc is scarred.
E-91 01	MECHANICAL TIME OUT	Mechanical operation did not end in allotted time (CLAMP:4s)	The loading mechanism is defective.
E-91 02	MECHANICAL TIME OUT	Mechanical operation did not end in allotted time (OPEN: 4s)	The door opening/closing mechanism is defective. An object is placed on the door.
E-91 03	MECHANICAL TIME OUT	Mechanical operation did not end in allotted time (INSIDE: 5s)	The servo mechanism is defective.

7.2.2 DISASSEMBLY

■ REMOVING THE CONTROL PANEL (Fig 1)

1. Switch the power ON, then press the EJECT button to open the door. (CAUTION 1)
2. Disconnect the power cable from the AC outlet.
3. Remove the 4 screws ① securing the control panel.
4. Put the control panel back the chassis. Be careful to injure.

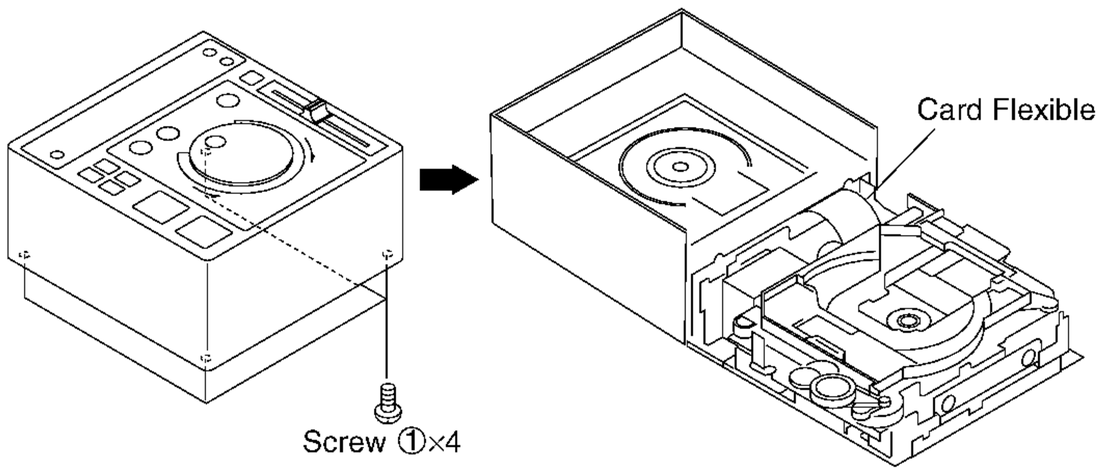


Fig 1

<< PRECAUTIONS >>

Be sure to disconnect the power cable from the AC outlet whenever removing the card flexible cable from the connector for maintenance, etc. Hold the both sides of the card flexible cable with both hands to disconnect the cable straight. (Even if the power has been switched OFF, previously charged voltage may remain in the capacitor, etc. If the electrodes of the card flexible cable and those of the connector come in contact by accident, a malfunction may occur.)

■ (CAUTION 1) IMPORTANT HOW TO OPEN THE DOOR DURING AN EMERGENCY (Fig 2)

If the door does not open for some reasons when the EJECT button is pressed, use the following steps to open the door manually.

1. Disconnect the power cable from the AC outlet.
2. Make a key by using a paper clip or similar material. (A metal stick 1mm in diameter and 50mm in length may be used.)
3. Insert the key perpendicularly into the hole as shown in the illustration above, then push down the key toward the right. The lock hook assy can now be shifted to open the door.

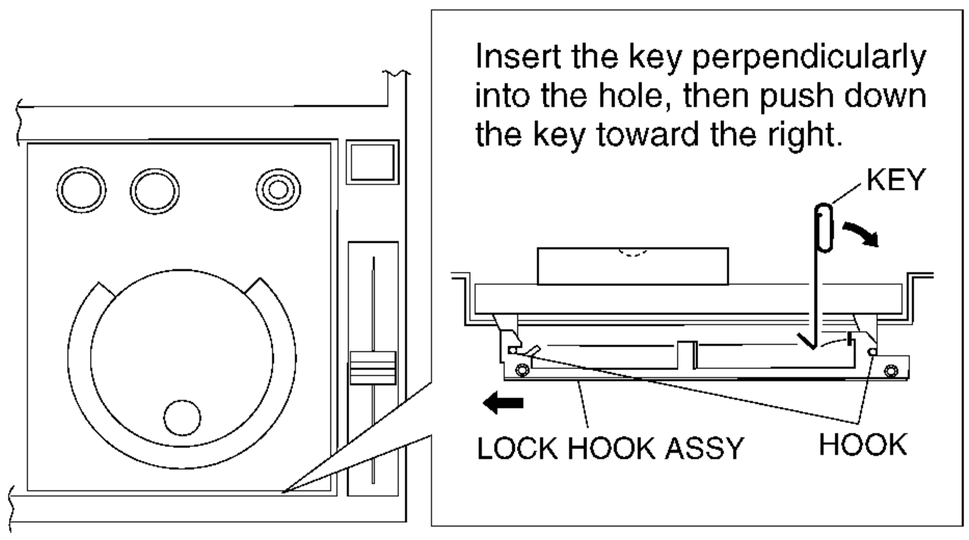


Fig 2

■ REMOVING THE TRAY ASSY (Fig 3)

1. Remove the 4 screws ① that secure the tray.
2. Remove the tray assy from the loading mechanism assy.②

■ REMOVING THE LOADING MECANISM ASSY (Fig 3)

1. Remove the tray assy. ①, ②
2. Remove the earth lead screw ③.
3. Remove the springs on the other side ④ in 4 places.
4. Remove the bushing dampers in 2 places ⑥, ⑦ by turning them counterclockwise.
5. Remove the S flexible L ⑧.
6. Remove the flexible ⑨ of the pulse motor frame.

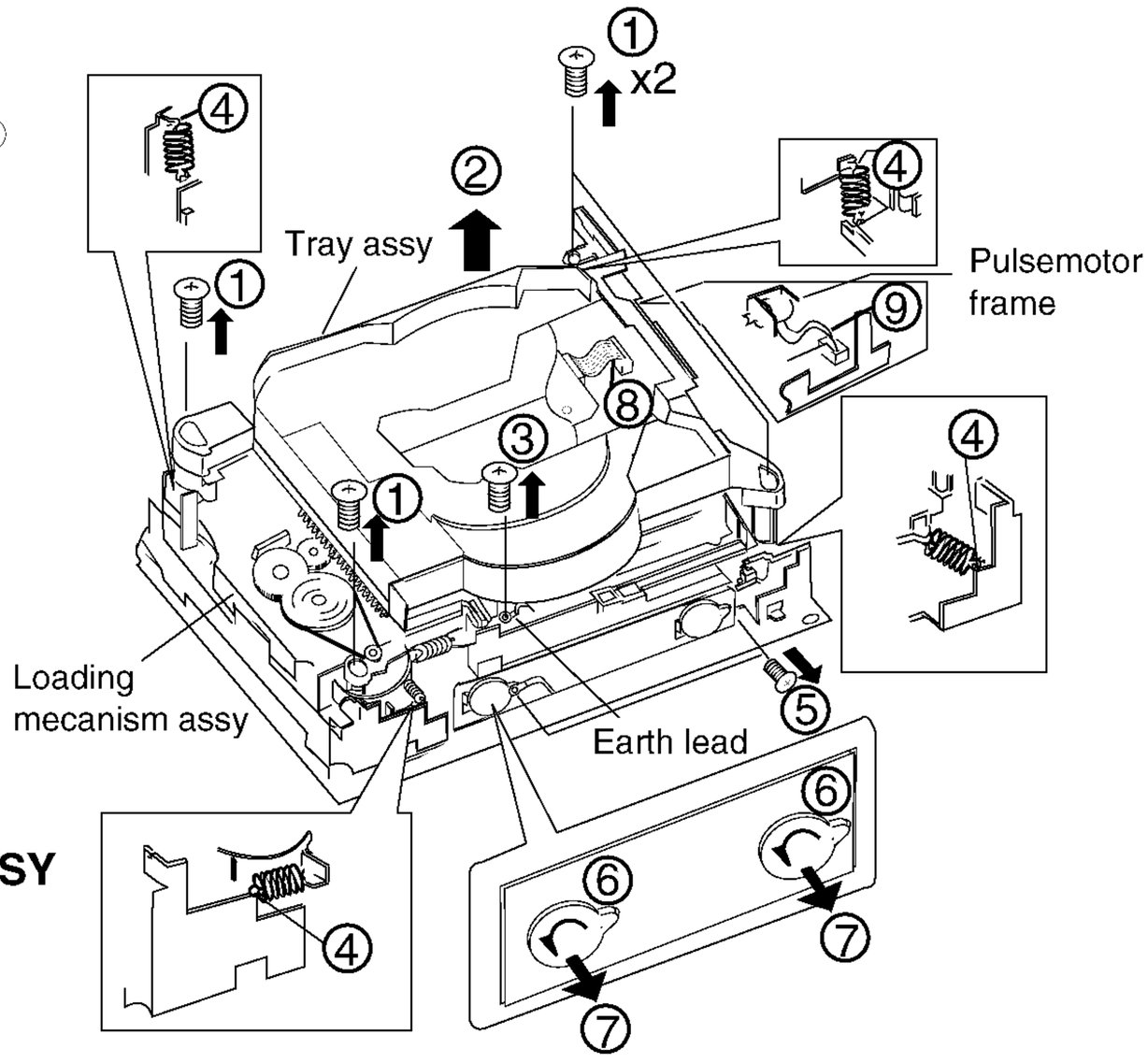


Fig 3

■ REMOVING THE CLAMPER ASSY (Fig 4)

1. Remove the 3 screws ① that secure the clamper cover.
2. Remove the clamper cover ②.
3. Remove the clamper assy.

■ REMOVING THE JOGDIAL (Fig 4)

1. Remove the clamper assy. ①, ②
2. Depressing the thrust stays ③, pull out ④.
3. Remove the jog dial ⑤.

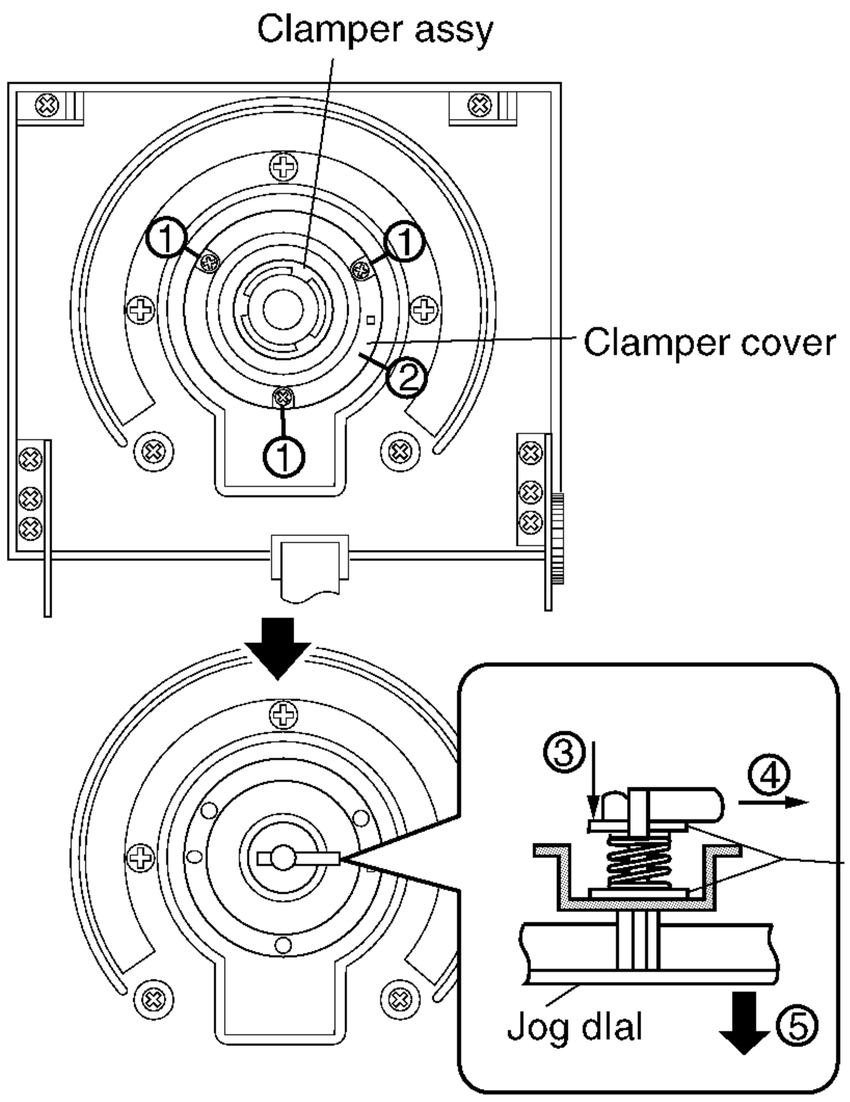
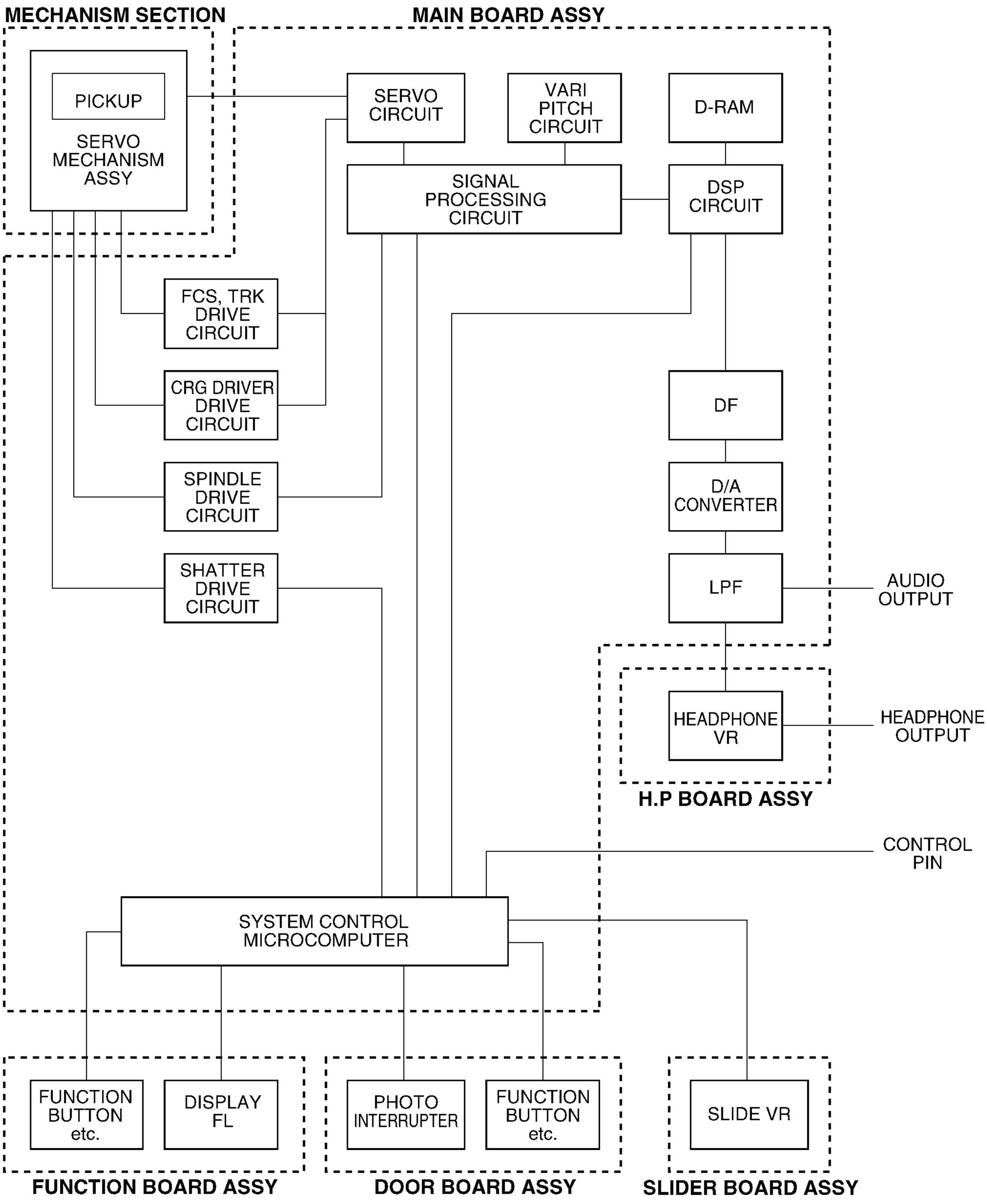


Fig 4

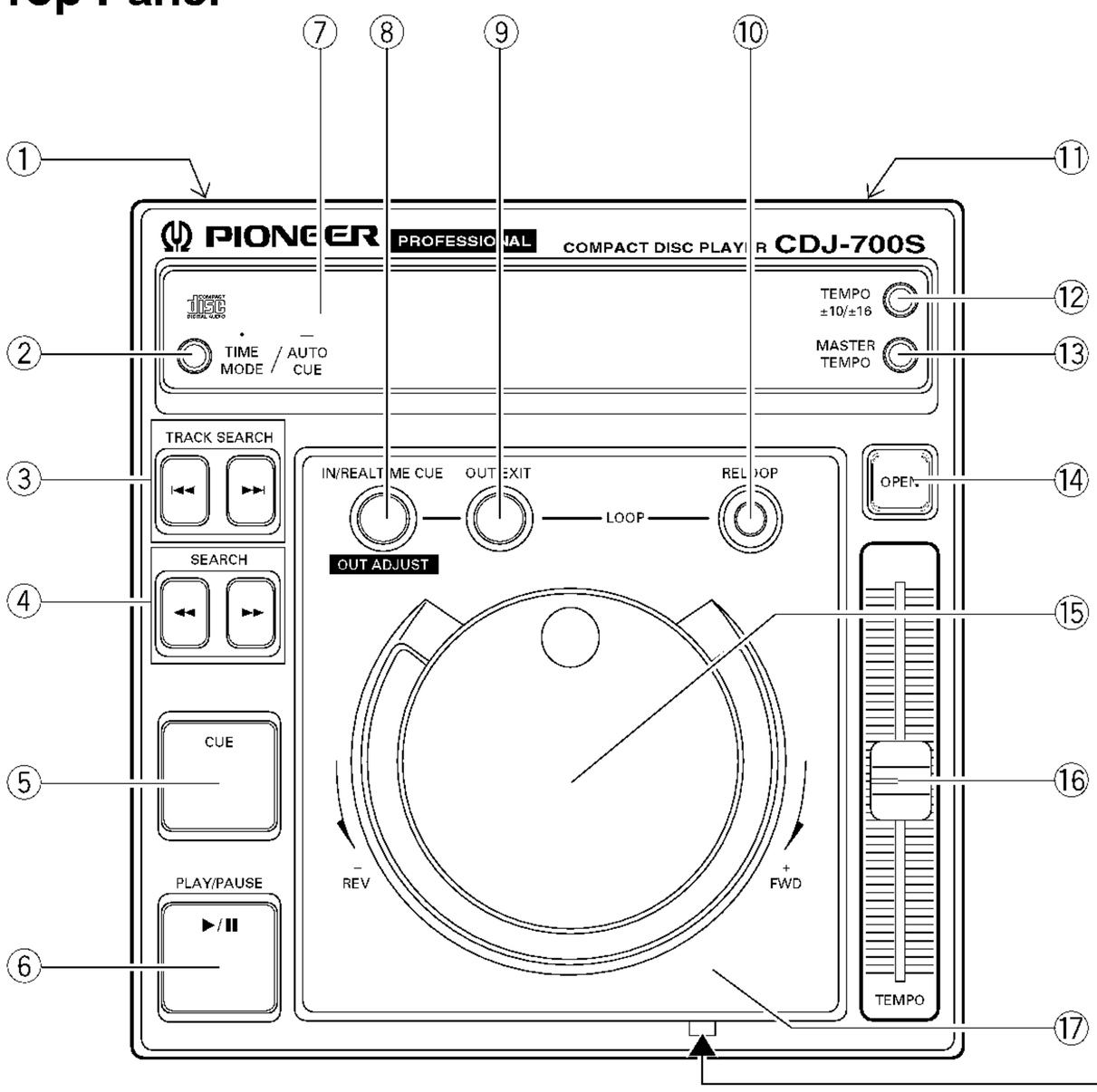
7.3 BLOCK DIAGRAM



8. PANEL FACILITIES AND SPECIFICATIONS

■ FRONT PANEL

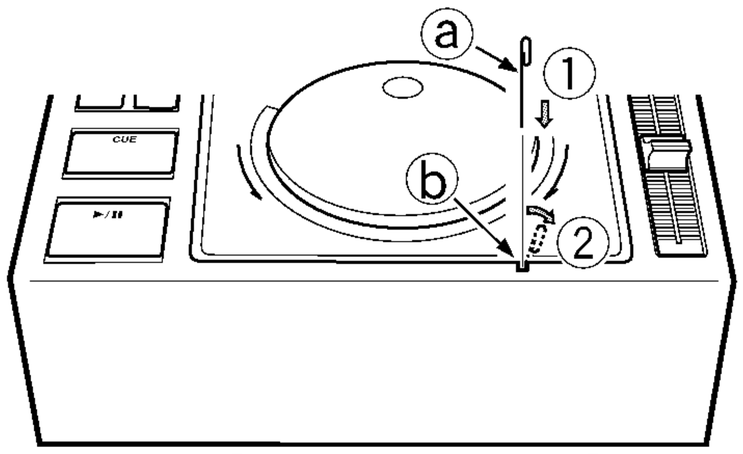
Top Panel



Force ejection hole

In case the door cannot be opened by pressing the EJECT button due to a certain reason, this unit is provided with a mechanism for opening the door manually.

1. Unplug the power cord from the power outlet.
2. Fabricate a key ⓐ uing a clip (or any metallic wire with a diameter of about 1 mm and length of about 50 mm).



3. Insert key ⓐ straight into hole ⓑ shown in the illustration ①.
4. Turn key ⓐ to the right ②.

① **POWER switch**
(Located on rear panel)
Provides electrical power to the player.

② **TIME MODE/AUTO CUE button**
Two functions are available.

[Time display]
Each time this button is pressed, the time display changes between the elapsed playback time of the track (TIME) and the remaining playback time of the track (REMAIN).
- The REMAIN display appears when power is turned ON.

[Auto Cue function]
When a disc is initially loaded or when performing track search, this function automatically stores the cue point (the point immediately preceding actual sound output) in memory.
- The Auto Cue function defaults to OFF when power is first turned on.

③ **TRACK SEARCH buttons (|◄◄, ►►|)**

④ **SEARCH buttons (◄◄, ►►)**

⑤ **CUE button/indicator**
Three functions are available.

[Cue Point Memory]

[Back Cue]

[Cue Point Sampler]

⑥ **PLAY/PAUSE button/indicator (►/II)**

⑦ **Display window**

⑧ **LOOP IN/REAL TIME CUE/OUT ADJUST button**

⑨ **LOOP OUT/EXIT button**

⑩ **RELOOP button**

⑪ **Headphones jack, Level control (HEADPHONE, HEADPHONE VOLUME)**
Located on rear panel.
- The headphone jack is provided only to allow confirmation of the disc sound; as a result, the volume provided by the headphone output may seem insufficient when listening within a disco or other environment characterized by high sound volume.

⑫ **TEMPO control range button (TEMPO±10/±16)**
Each time this button is pressed, the tempo adjustment range produced by the TEMPO control slider toggles between the two range ±10% and ±16%. When the range is switched, the newly selected range (10.0 or 16.0) flashes on the display for about two seconds.
- The adjustment range defaults to ±10% when power is first turned ON.

⑬ **MASTER TEMPO button**

⑭ **OPEN button (⏏)**
Press this button to open the disc compartment door.
- When pressed during playback, disc rotation stops before the door opens.

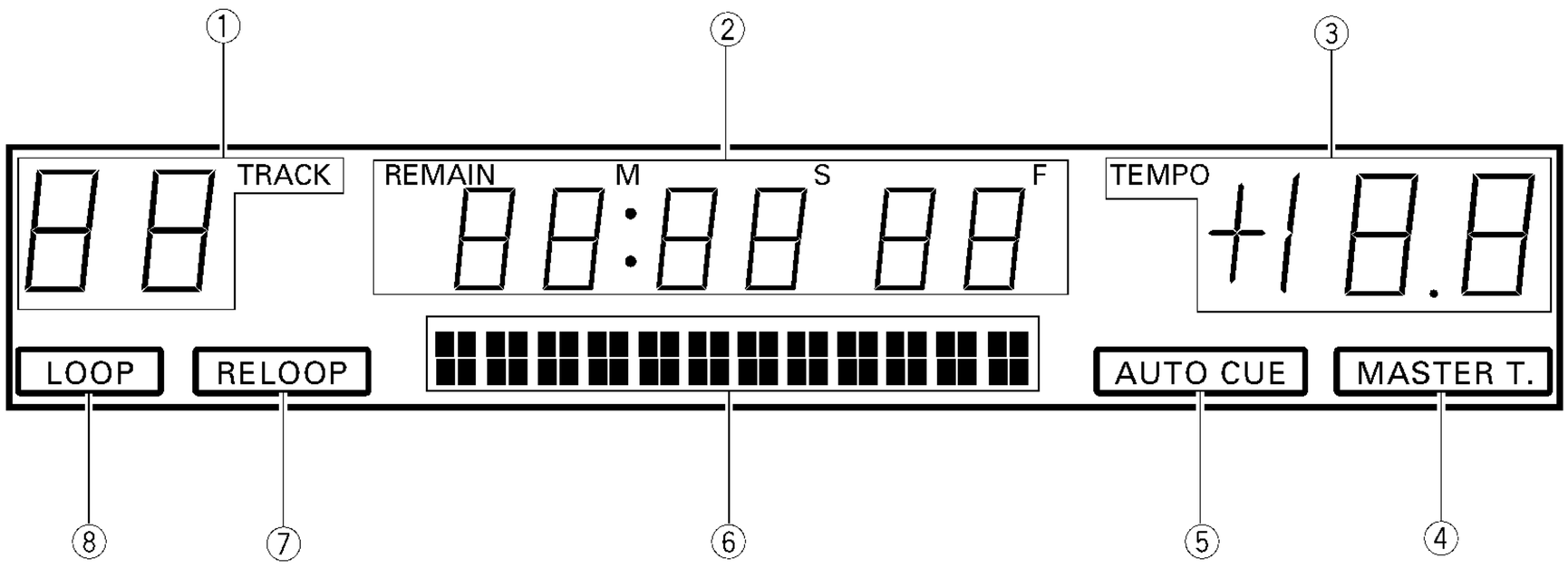
⑮ **Jog dial (+ FWD/ - REV)**

⑯ **TEMPO control knob**
The playback tempo can be changed with this knob. The center clicked position is for normal playback tempo. If you slide the knob (down) towards you (+ side), the music tempo quickens. If the knob is away from you (– side), the music tempo slows.

⑰ **Disc compartment door**
Press the EJECT button to open the door. To close the door, push gently on the front of the door.

■ DISPLAY

Display Window



① **TRACK number display**
Displays the current number of the track playing.

② **Time display (REMAIN)**
The elapsed playback time of the track being played or the remaining playback time of the track being played (REMAIN) is displayed in minutes (M) and seconds (S), or frames (F).

③ **Playback tempo (TEMPO) display**
The playback tempo adjusted with the TEMPO control knob is displayed (up to ±10% or ±16%) in steps of 0.1%.

④ **MASTER T. indicator**
Lights when the MASTER TEMPO function is used.

⑤ **AUTO CUE indicator**
Lights when the AUTO CUE function is used.

⑥ **Playback address display**
The elapsed playback time or remaining playback time of the track playing is roughly indicated with the full-scaled bar graph.
- When no disc is in the disc compartment ..... off
- When displaying elapsed playback time ..... lights up from the left side
- When displaying remaining playback time ..... turns off from the left side
- When remaining playback time is less than 30 seconds ..... blinks

⑦ **RELOOP indicator**
Lights when loop playback is possible. The loop-in point (start point) and loop-out point (end point) are stored in memory.

⑧ **LOOP indicator**
Lights during loop playback.

■ SPECIFICATONS

1. General

System	Compact disc digital audio system
Power requirements	AC 120 V, 60 Hz
Power consumption	19 W
Operating temperature	+5˚C – +35˚C (+41°F – +95°F)
Operating humidity	5% – 85%
(There should be no condensation of moisture.)	
Weight	2.6 kg (5 lbs 12 oz)
Dimensions	217 (W) × 227.7 (D) × 98 (H) mm
	8-1/2 (W) × 8-15/16 (D) × 3-7/8 (H) in.

2. Audio section

Frequency response	20 Hz – 20 kHz (EIAJ)
Signal-to-noise ratio	106 dB or more (EIAJ)
Dynamic range	96 dB or more (EIAJ)
Channel separation	98 dB or more (EIAJ)
Total harmonic distortion	0.004% or less (EIAJ)
Output level	2.0 V
Channels	2-channel (stereo)

3. Accessories

• Operating instructions	1
• Audio cable	1
• Control cable	1
• Screws for rack mounting	3
• Spacers for rack mounting	3
• Limited warranty	1

NOTE:

Specifications and design are subject to possible modification without notice.