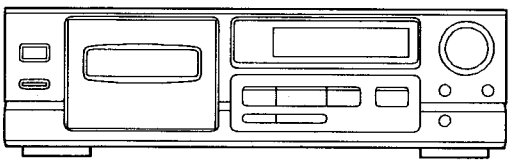
aiwa

aiwa SERVICE

AD-F550

SERVICE MANUAL



STEREO CASSETTE DECK

• BASIC TAPE MECHANISM: ALP-14 S5N

• TYPE: HE.EE.E

S/M Code No. 09-946-065-00K

SPECIFICATIONS

Type Stereo cassette deck
Track format
4 tracks, 2 channels
Power supply
AD-F550 E
AC 230V, 50 Hz
AD-F550 HE
AC 110–120V/220–240V switchable, 50/60 Hz
Power consumption
14 W
Frequency response
Metal tape: 20–19,000 Hz
CrO_2 tape: 20–18,000 Hz
Normal tape: 20–17,000 Hz
Signal-to-noise ratio
78 dB (METAL tape DOLBY C NR ON above 5 kHz)
Wow and flutter
0.065 % (WRMS)
0.18 % (DIN 45500)
Tape speed
4.75 cm/sec. ($1^7/_8$ ips)
Recording system
AC bias (frequency 85 kHz)
Erase system AC erase
Motor DC servomotor × 1
Heads Recording/playback head × 1 (PC-OCC coil super DX head)
Erase head × 1 (Double-gap sendust head)
Inputs REC/LINE IN: 100 mV (MAX input sensitivity, 47 kΩ)
Outputs
PLAY/LINE OUT: 580 mV (0 dB)
Suitable load impedance over 47 kΩ
PHONES: 0.35 mV (0 dB)
Suitable load impedance 32 Ω
Dimensions
430 (W) × 133 (H) × 266 (D) mm
(17 × $5^1/_4$ × $10^1/_2$ inches)
Weight AD-F550: 3.7 kg (8.1 lbs)

- Design and specifications are subject to change without notice.
- Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen. "DOLBY", the double-D symbol ⧫⧫ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

ACCESSORIES / PACKAGE LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
1	87-034-786-019		CORD PIN 189-0760
2	83-DS3-901-019		IB, EX
3	87-009-725-019		PLUG, ADPTR IR40 (HE)

ELECTRICAL MAIN PARTS LIST

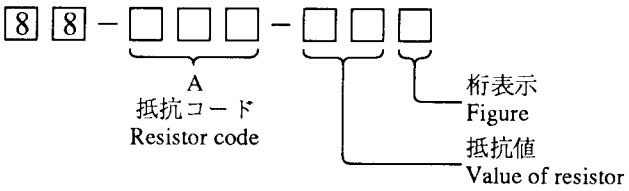
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
IC			
	87-001-334-019		IC, LB9051A
	87-017-738-019		IC, NJM2068LD
	87-017-465-019		IC, GD4066B
	87-002-727-019		IC, NJM4558L
	87-001-985-010		IC, HA12142NT
	87-027-827-019		IC, TC4069UBP
	80-DS3-619-010		IC, LC6554H-4444
	87-017-373-019		IC, NJH32H380A
TRANSISTOR			
	87-026-462-089		TR, 2SC1740S(RS)
	89-503-735-089		TR, FET 2SK373-GR (TPE2)
	89-109-521-089		TR, 2SA952K
	89-320-011-089		TR, 2SC2001K
	87-026-484-089		TR, DTC123JS
	87-026-219-089		TR, DTA144ES
	87-026-218-089		TR, DTC144ES
	89-318-156-089		TR, 2SC1815BL
	89-213-292-089		TR, 2SB1329, Q
	89-213-702-019		TR, 2SB1370E
	89-318-155-089		TR, 2SC1815GR
	89-213-302-089		TR, 2SB1330Q
	89-112-965-089		TR, 2SA1296GR
	87-026-214-089		TR, DTA114YS
	87-026-216-089		TR, DTA124ES
	87-026-514-089		TR, DTC123YS
DIODE			
	87-020-465-089		DIODE, 1SS133
	87-027-301-089		ZENER, HZ3A1
	87-020-123-089		DIODE DS446-AT (TA)
	87-001-408-080		DIODE GP 15B
	87-002-219-089		ZENER, UTZJ 11B
	87-001-913-089		ZENER UTZJ5.6B
	87-001-918-089		ZENER, UTZJ22B
	87-001-559-089		DIODE ISS 131 (T-72)
	87-027-514-089		ZENER, HZ6B2
MAIN C.B			
C101	87-018-122-089		CAP, TC-U 180P-50 B
C102	87-018-122-089		CAP, TC-U 180P-50 B
C111	87-010-404-089		CAP, E 4.7-50 SME
C112	87-010-404-089		CAP, E 4.7-50 SME
C113	87-010-404-089		CAP, E 4.7-50 SME
C114	87-010-404-089		CAP, E 4.7-50 SME
C119	87-018-134-089		CAP, TC-U 0.01-16 Y
C201	87-018-121-089		CAP, TC-U 150P-50 B
C202	87-018-121-089		CAP, TC-U 150P-50 B
C203	87-018-132-089		CAP, TC-U 2200P-16 X
C204	87-018-132-089		CAP, TC-U 2200P-16 X
C205	87-010-404-089		CAP, E 4.7-50 SME
C206	87-010-404-089		CAP, E 4.7-50 SME
C209	87-010-544-089		CAP, E 0.1-50
C210	87-010-544-089		CAP, E 0.1-50
C211	87-018-201-089		CAP, TC-U 5600P-16 X
C212	87-018-201-089		CAP, TC-U 5600P-16 X
C301	87-018-121-089		CAP, TC-U 150P-50 B
C302	87-018-121-089		CAP, TC-U 150P-50 B
C303	87-018-123-089		CAP, TC-U 220P-50 B
C304	87-018-123-089		CAP, TC-U 220P-50 B
C307	87-018-126-089		CAP, TC-U 390P-50 B
C308	87-018-126-089		CAP, TC-U 390P-50 B
C315	87-018-131-089		CAP, TC-U 1000P-50 B
C316	87-018-131-089		CAP, TC-U 1000P-50 B
C317	87-010-401-089		CAP, E 1-50 SME
C318	87-010-263-089		CAP, E 100-10
C319	87-010-382-089		CAP, E 22-25 SME
C320	87-018-131-089		CAP, TC-U 1000P-50 B
C321	87-014-212-089		CAP, PP 0.015J
C324	87-018-201-089		CAP, TC-U 5600P-16 X
C326	87-010-382-089		CAP, E 22-25 SME
C327	87-010-403-089		CAP, E 3.3-50 SME
C328	87-010-382-089		CAP, E 22-25 SME
C401	87-018-133-089		CAP, TC-U 4700P-16 X
C402	87-018-133-089		CAP, TC-U 4700P-16 X
C411	87-010-544-089		CAP, E 0.1-50
C412	87-010-544-089		CAP, E 0.1-50
C413	87-010-544-089		CAP, E 0.1-50
C414	87-010-544-089		CAP, E 0.1-50
C415	87-010-404-089		CAP, E 4.7-50 SME
C416	87-010-404-089		CAP, E 4.7-50 SME
C419	87-010-404-089		CAP, E 4.7-50 SME
C420	87-010-404-089		CAP, E 4.7-50 SME
C421	87-010-401-089		CAP, E 1-50 SME
C423	87-010-371-089		CAP, E 470-6.3
C424	87-010-235-089		CAP, E 470-16 SME
C425	87-018-133-089		CAP, TC-U 4700P-16 X
C426	87-018-133-089		CAP, TC-U 4700P-16 X
C427	87-010-371-089		CAP, E 470-6.3
C501	87-010-401-089		CAP, E 1-50 SME
C502	87-010-401-089		CAP, E 1-50 SME
C503	87-010-263-089		CAP, E 100-10
C504	87-010-263-089		CAP, E 100-10
C505	87-010-263-089		CAP, E 100-10
C517	87-010-546-089		CAP, E 0.33-50 SME
C518	87-010-546-089		CAP, E 0.33-50 SME
C530	87-018-134-089		CAP, TC-U 0.01-16 Y
C551	87-010-401-089		CAP, E 1-50 SME
C552	87-010-401-089		CAP, E 1-50 SME
C701	87-010-388-089		CAP, E 1000-25V SME
C702	87-010-389-099		CAP, E 2200-25V SME
C703	87-010-382-089		CAP, E 22-25 SME
C704	87-010-381-089		CAP, E 330-16 SME
C707	87-010-382-089		CAP, E 22-25 SME
C708	87-010-546-089		CAP, E 0.33-50 SME
C709	87-010-404-089		CAP, E 4.7-50 SME
C710	87-018-134-089		CAP, TC-U 0.01-16 Y
C711	87-018-100-089		CAP, TC-U 4.7P-50 SL
C712	87-018-131-089		CAP, TC-U 1000P-50 B
C714	87-018-119-089		CAP, TC-U 100P-50 B
C715	87-010-401-089		CAP, E 1-50 SME
C716	87-010-382-089		CAP, E 22-25 SME
C719	87-010-404-089		CAP, E 4.7-50 SME
C720	87-010-404-089		CAP, E 4.7-50 SME
C721	87-010-263-089		CAP, E 100-10
C722	87-010-382-089		CAP, E 22-25 SME
C725	87-018-123-089		CAP, TC-U 220P
C726	87-018-123-089		CAP, TC-U 220P
C751	87-010-247-089		CAP, E 100-50 SME
C752	87-010-263-089		CAP, E 100-10
J501	87-049-868-019		JACK, PIN 4P
J502	87-099-460-019		JACK, 6.3HP AU12.5-11
L201	82-231-622-089		COIL, 22MH-J
L202	82-231-622-089		COIL, 22MH-J
L203	87-003-131-089		COIL, 10MH J
L204	87-003-131-089		COIL, 10MH J
L301	80-DS6-618-019		COIL, HX 85K-6
L302	80-DS6-618-019		COIL, HX 85K-6
L303	80-DS6-617-010		COIL, OSC 85K-6
L401	83-DS3-614-019		FLTR, MPX 85K
L402	83-DS3-614-019		FLTR, MPX 85K
SFR101	87-024-349-089		SFR, 1K DIA6 H
SFR102	87-024-349-089		SFR, 1K DIA6 H
SFR201	87-024-353-089		SFR, 10K DIA6 H
SFR202	87-024-353-089		SFR, 10K DIA6 H

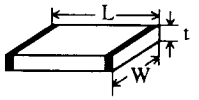
REF. NO	PART NO.	カンリ NO.	DESCRIPTION
SFR301	87-024-177-089		SFR 220K DIA. 6 V
SFR302	87-024-177-089		SFR 220K DIA. 6 V
FRONT C. B			
C801	87-010-235-089		CAP, E 470-16 SME
C802	87-018-205-089		CAP, TC-U 0. 022-25 F
C803	87-010-235-089		CAP, E 470-16 SME
C804	87-018-205-089		CAP, TC-U 0. 022-25 F
C807	87-010-382-089		CAP, E 22-25 SME
C808	87-018-131-089		CAP, TC-U 1000P-50 B
C811	87-018-131-089		CAP, TC-U 1000P-50 B
C812	87-010-405-089		CAP, E 10-50 SME
C813	87-018-209-089		CAP, TC-U 0. 1-50 F
C814	87-018-134-089		CAP, TC-U 0. 01-16 Y
C821	87-010-405-089		CAP, E 10-50 SME
C822	87-010-405-089		CAP, E 10-50 SME
C823	87-010-401-089		CAP, E 1-50 SME
C824	87-010-405-089		CAP, E 10-50 SME
C831	87-010-405-089		CAP, E 10-50 SME
C832	87-010-405-089		CAP, E 10-50 SME
FL801	83-DS4-620-019		FL, BJ283GK
L801	87-003-147-089		COIL, 22UH
LED822	87-001-124-089		LED, SLZ 381C-02-T1
LED823	87-001-123-089		LED, SLZ 981C-02TI
LED824	87-002-885-089		LED, SLZ481C-02 ABY
R877	87-025-468-089		RES, NF1. 5-1/4W J
S801	87-036-215-089		SW, TACT EVQ21404M
S802	87-036-215-089		SW, TACT EVQ21404M
S803	87-036-215-089		SW, TACT EVQ21404M
S804	87-036-215-089		SW, TACT EVQ21404M
S805	87-036-215-089		SW, TACT EVQ21404M
S806	87-036-215-089		SW, TACT EVQ21404M
S807	87-036-215-089		SW, TACT EVQ21404M
S810	87-036-135-019		SW, SLIDE AXC 2-2-3 S
VR801	83-DS3-624-019		VR, 20KAX2 RK14K12D
VR802	83-DS3-608-119		VR, 200KW RK11K1130
VR803	83-DS3-607-019		VR, 10KB RK11K1130
X801	87-030-167-089		VIB, CER CST4. 0MHZ
POWER C. B			
⚠PT901	83-DS4-612-019		PT, E〈EE, E〉
⚠PT901	83-DS4-611-019		PT, H〈HE〉
⚠S901	87-031-780-019		SW, SLIDE 1-1-2〈HE〉
W901	82-DW2-616-019		F-CABLE, 6P-2. 5
POWER SW C. B			
⚠C901	87-019-113-019		CAP, SG 0. 0022E
⚠S902	87-036-184-019		SW, PUSH SDDLD3. 2
DECK SW C. B			
SOL1	87-535-611-310		SOL, X-3 PL
SOL2	87-535-612-310		SOL, X-3 FR
SW1	87-036-109-019		SW, SPPB 61
SW2	87-036-110-019		SW, SPPB 62
SW3	87-036-110-019		SW, SPPB 62
SW5	87-036-109-019		SW, SPPB 61

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

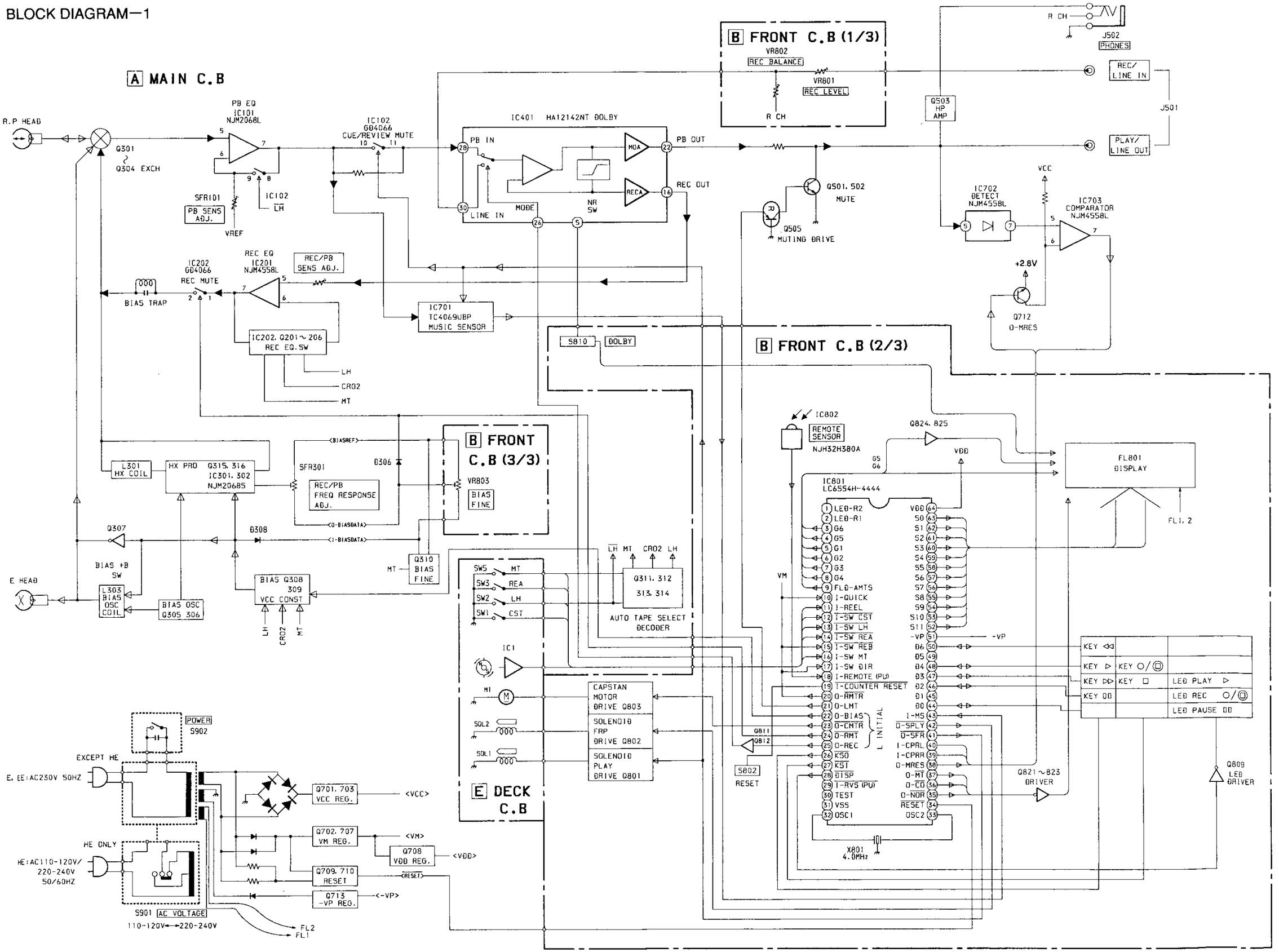
チップ抵抗部品コードの成り立ち
Chip resistor part coding



チップ抵抗
Chip resistor

Wattage 容量	Type 種類	Tolerance 許容誤差	Symbol 記号	Dimensions／寸法 (mm) Form/外形	L	W	t	Resistor code : A 抵抗コード : A
1/32W	1608	±5%	CJ		1.6	0.8	0.35	108
1/10W	2125	±5%	CJ		2	1.25	1.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.5 ～0.7	128

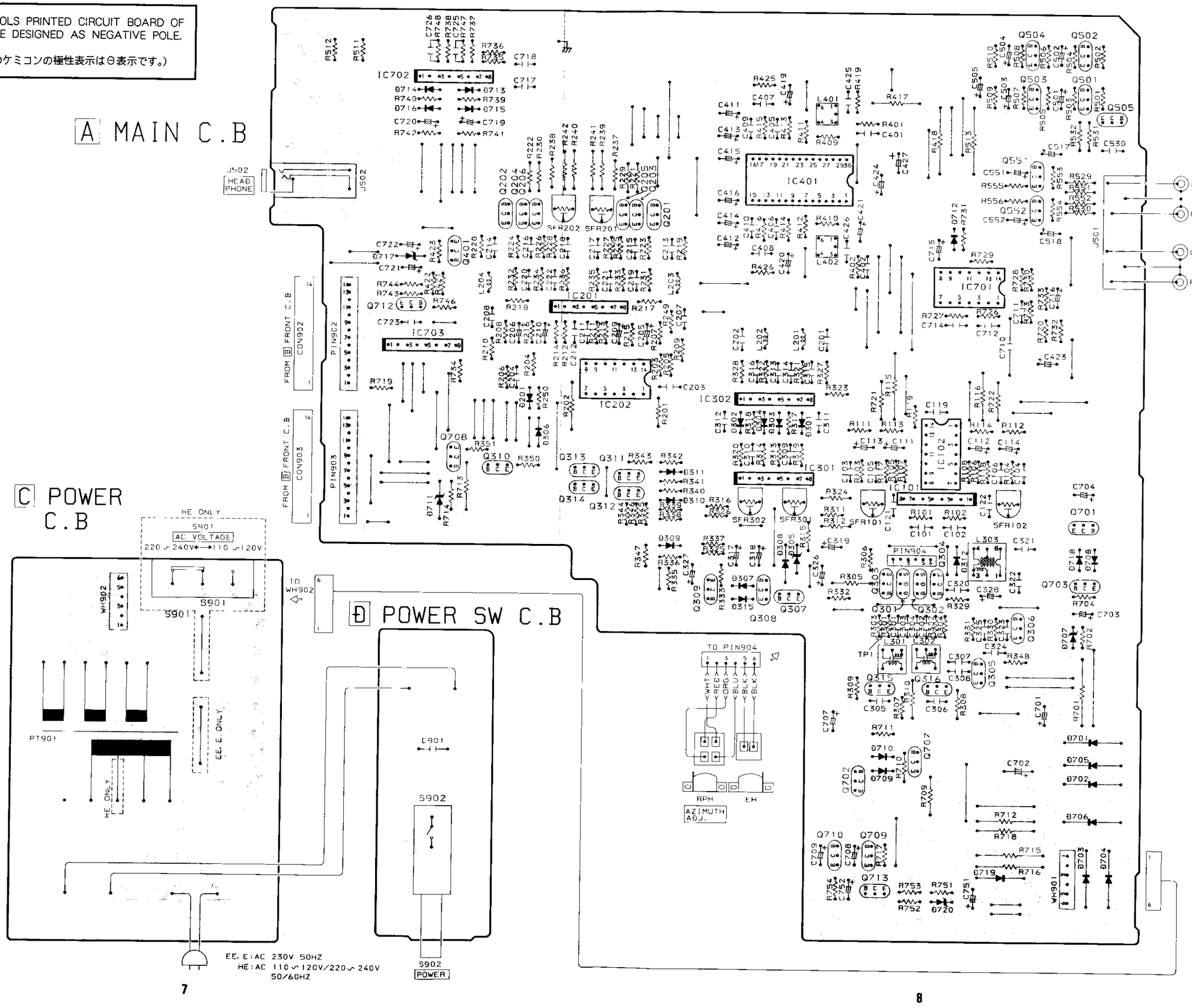
BLOCK DIAGRAM—1



GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

(プリント基板内のケミコンの極性表示は⊖表示です。)

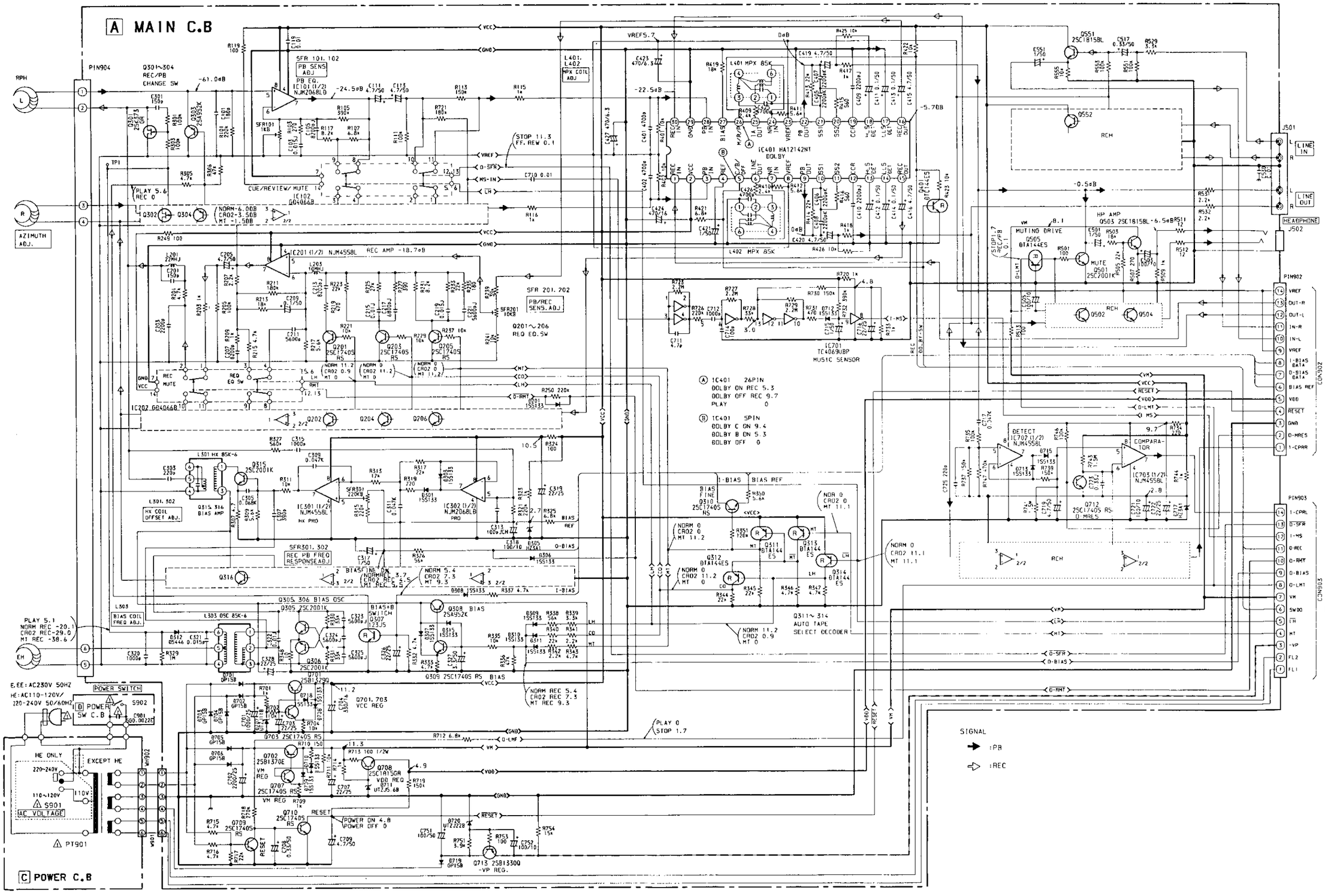
A MAIN C.B



C POWER C.B

Đ POWER SW C.B

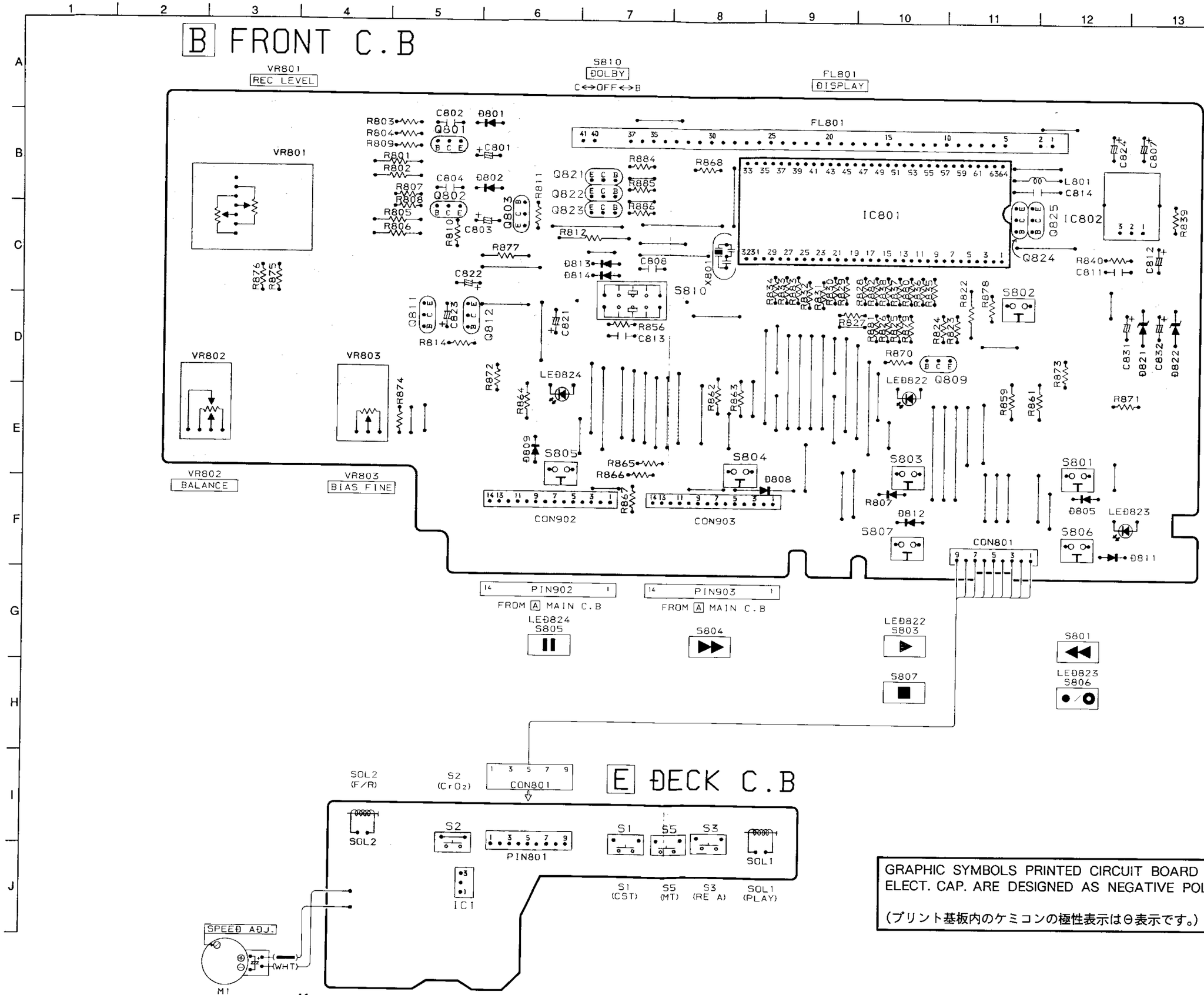
SCHEMATIC DIAGRAM—1



(A) IC401 26PIN
DOLBY ON REC 5.3
DOLBY OFF REC 9.7
PLAY 0

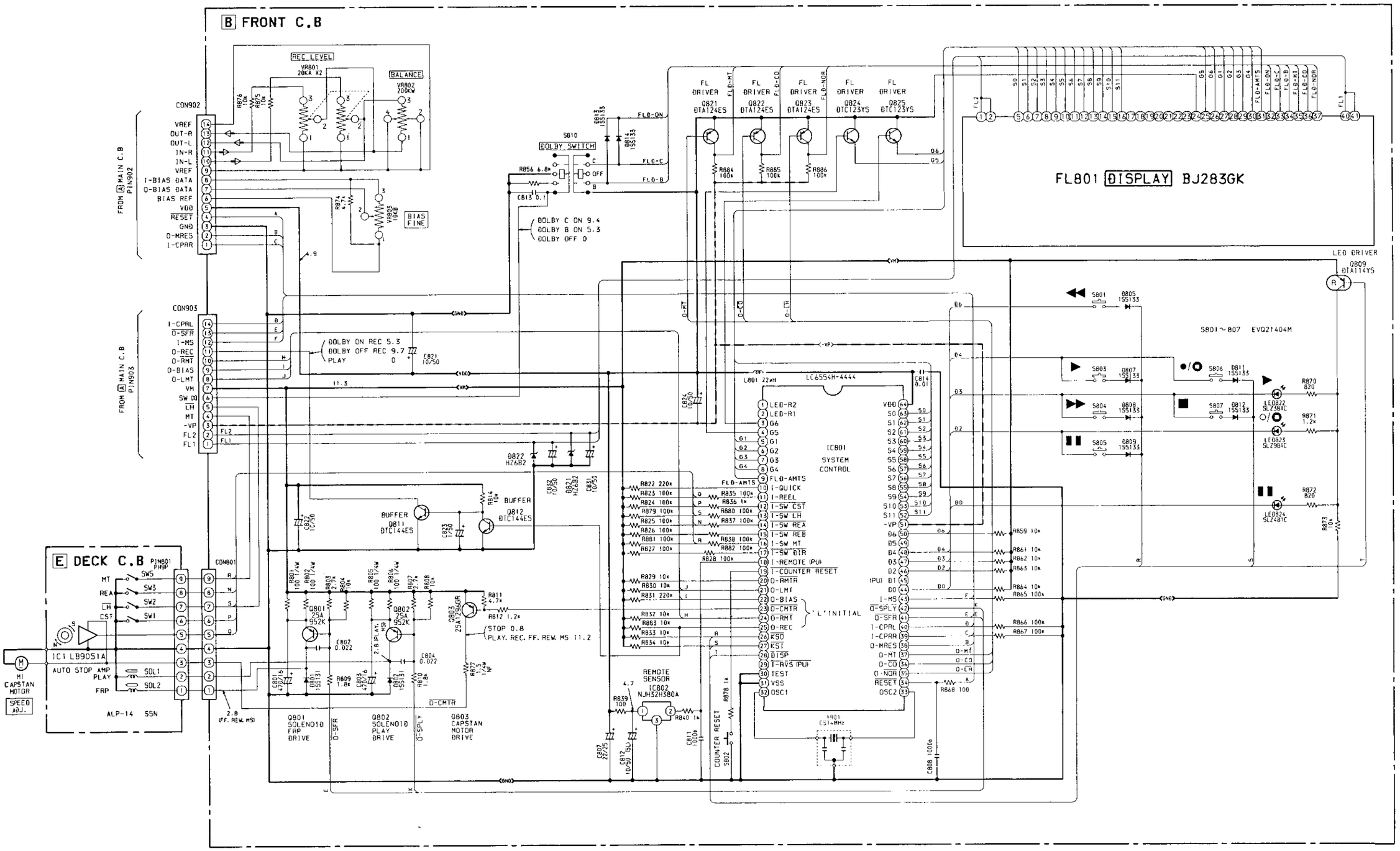
(B) IC401 5PIN
DOLBY C ON 9.4
DOLBY B ON 5.3
DOLBY OFF 0

B FRONT C.B



GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

(プリント基板内のケミコンの極性表示はΘ表示です。)


B FRONT C.B
REC LEVEL
VR801 20KA X2
BALANCE
VR802 200KW
CON902
VREF
OUT-R
OUT-L
IN-R
IN-L
VREF
I-BIAS DATA
O-BIAS DATA
BIAS REF
VDD
RESET
GND
O-MRES
I-CPRR
FROM A MAIN C.B PIN902
VR803 10KB
BIAS FINE
S810
DOLBY SWITCH
OFF
R856 6.8k
C813 0.1
DOLBY C ON 9.4
DOLBY B ON 5.3
DOLBY OFF 0
FLD-ON
FLD-C
FLD-B
FL DRIVER
Q821 DTA124ES
Q822 DTA124ES
Q823 DTA124ES
Q824 DTC123YS
Q825 DTC123YS
FL801 DISPLAY BJ283GK
LED DRIVER
Q809 DTA114YS
S801~807 EVQ21404M
CON903
I-CPRL
O-SFR
I-MS
O-REC
O-RMT
O-BIAS
O-LMT
VM
SW DD
LH
MT
-VP
FL2
FL1
FROM A MAIN C.B PIN903
DOLBY ON REC 5.3
DOLBY OFF REC 9.7
PLAY 0
C821 10/50
11.3
L801 22mH
LC6554H-4444
IC801
SYSTEM CONTROL
LED-R2
LED-R1
G6
G5
G1
G2
G3
G4
FLD-AMTS
I-QUICK
I-REEL
I-SW CST
I-SW LH
I-SW REA
I-SW REB
I-SW MT
I-SW DTR
I-REMOTE (PU)
I-COUNTER RESET
O-AMTR
O-LMT
O-BIAS
O-CMTR
O-RMT
O-REC
KSO
KST
DISP
I-AVS (PU)
TEST
VSS
OSC1
OSC2
L INITIAL
R822 220k
R823 100k
R824 100k
R879 100k
R825 100k
R826 100k
R881 100k
R627 100k
R828 100k
R879 10k
R830 10k
R831 220k
R832 10k
R863 10k
R833 10k
R834 10k
R835 100k
R836 1k
R880 100k
R837 100k
R838 100k
R882 100k
R859 10k
R861 10k
R862 10k
R863 10k
R864 10k
R865 100k
R866 100k
R867 100k
R868 100
R869 1k
X901 CSTANMHz
C808 1000p
C809 1000p
C811 1000p
C812 10/50V
C807 22/25
C814 0.01
C824 10/50
C822 10/50
C831 10/50
C832 10/50
D822 HZ6B2
D821 HZ6B2
BUFFER
Q811 DTC144ES
Q812 DTC144ES
R814 10k
C823 1/50
C822 10/50
E DECK C.B PIN801 PIN8P
CON801
MT
REA
LH
CST
SW5
SW3
SW2
SW1
IC1 LB9051A
AUTO STOP AMP
PLAY
FRP
SOL1
SOL2
MI CAPSTAN MOTOR
SPEED ADJ.
ALP-14 55N
R801 100 1/4W
R802 100 1/4W
R803 2.7k
R804 10k
R805 100 1/4W
R806 100 1/4W
R807 2.7k
R808 10k
Q801 2SA 952K
Q802 2SA 952K
C802 0.022
C804 0.022
2.8 (PLAY, MS)
2.8 (FF. REW. MS)
D801 1SS131
D802 1SS131
C803 470/16
C801 470/16
R809 1.8k
R810 1.8k
R811 4.7k
R812 1.2k
STOP 0.8
PLAY. REC. FF. REW. MS 11.2
Q803 2SA1296GR
R827 1.5 1/4W
D-CMTR
Q801 SOLENOID FRP DRIVE
Q802 SOLENOID PLAY DRIVE
Q803 CAPSTAN MOTOR DRIVE
D-SFR
D-SPLY
REMOTE SENSOR
IC802 NJH32H380A
4.7
R839 100
R840 1k
C811 1000p
C807 22/25
C812 10/50V
COUNTER RESET
S802
R878 1k
LED822 SLZ381C
LED823 SLZ981C
LED824 SLZ481C
R870 820
R871 1.2k
R872 820
R873 10k
GND
VDD
VM
VP

IC DESCRIPTION

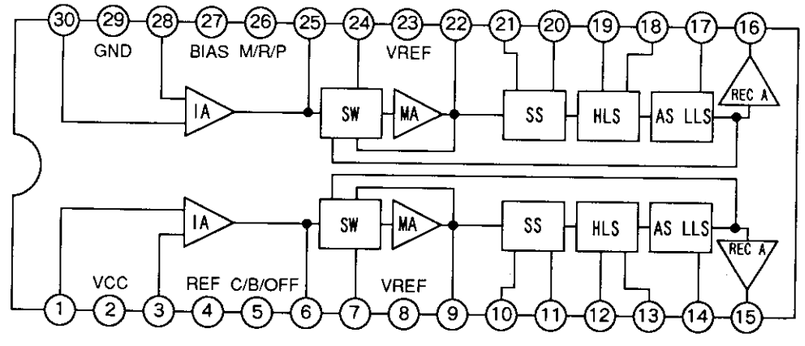
IC, LC6554H-4444

Pin No.	Pin Name	I/O	Description
1	LED-R2	O	Level meter LED display output (Rch -5 dB). active "H" (Not used)
2	LED-R1	O	Level meter LED display output (Rch -10 dB). active "H" (Not used)
3	G6	O	Digit output for FL display.
4	G5	O	Digit output for FL display.
5	G1	O	Digit output for FL display.
6~8	G2~G4	O	Digit output for FL display.
9	FLD-AMTS	O	FL display AMTS.
10	I-QUICK	I	QUICK reverse detection input. "H" input during quick reverse.
11	I-REEL	I	Reel pulse detection input.
12	$\overline{\text{I-SW CST}}$	I	Cassette detection switch. "L" when a cassette is loaded.
13	$\overline{\text{I-SW LH}}$	I	CrO_2 hole detection switch. "H" when cassette uses CrO_2 tape.
14	$\overline{\text{I-SW REA}}$	I	Erasure prevention detection switch for side A. "L" when side A is recordable.
15	$\overline{\text{I-SW REB}}$	I	Erasure prevention detection switch for side B. "L" when side B is recordable.
16	I-SW MT	I	Metal hole detection switch. "H" when cassette used metal tape. (Connected to GND)
17	$\overline{\text{I-SW DIR}}$	I	Direction detection switch. "L" for side A.
18	I-REMOTE	I	Remote control input.
19	$\overline{\text{I-COUNTER}}$	I	Counter reset.
20	O-$\overline{\text{RMTR}}$	O	Reel motor control output. "L" when reel motor is rotating.
21	O-LMT	O	Line mute output. "H" during muting. "L" in REV mode during recording.
22	O-BIAS	O	Bias oscillator control output. "L" in REC mode.
23	$\overline{\text{O-CMTR}}$	O	Capstan motor control output. "L" when capstan motor is rotating and the power is on for AUTO SENSOR/QUICK SENSOR.
24	$\overline{\text{O-RMT}}$	O	REC mute control output. "L" during muting. All "L" in other than REC PLAY mode.
25	O-REC	O	DOLBY IC record switch. "H" when recording.
26	$\overline{\text{KS0}}$	O	DATA0 - DATA6 KEY SCAN Output.
27	$\overline{\text{KS1}}$	O	
28	$\overline{\text{DISP}}$	O	DATA0 - DATA6 LED scan output.
29	$\overline{\text{I-RVS}}$	I	REVERSE mode input. "L" during REVERSE mode. (Not used)
30	TEST	–	CPU test terminal. Connected to GND.
31	VSS	–	Connected to GND.
32	OSC1	–	4 MHz clock oscillator terminal.
33	OSC2	–	
34	$\overline{\text{RESET}}$	–	CPU reset terminal.
35	O-$\overline{\text{NOR}}$	O	Output for display indicating normal tapes.
36	O-$\overline{\text{CO}}$	O	Output for display indicating CrO_2 tapes.

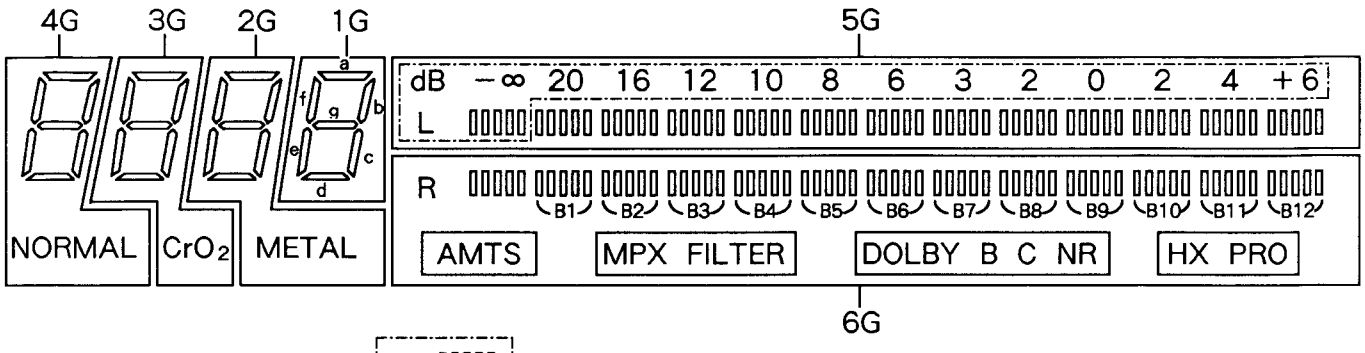
Pin No.	Pin Name	I/O	Description
37	O-$\overline{\text{MT}}$	O	Output for display indicating metal tapes.
38	O-MRES	O	Output for 8-point peak meter.
39	I-CPRR	I	Right channel peak meter input.
40	I-CPRL	I	Left channel peak meter input.
41	O-$\overline{\text{SFR}}$	O	F/R solenoid control output. "L" when solenoid bar is drawn into coil.
42	O-$\overline{\text{SPLY}}$	O	PLAY solenoid control output. "L" when solenoid bar is drawn into coil.
43	I-MS	I	Music sensor detect input. "L" when music sensor is on.
44	D0	O	$\overline{\text{KS0}}$: —— $\overline{\text{KS1}}$: ⇄ SW $\overline{\text{DISP}}$: LED PAUSE
45	D1	O	$\overline{\text{KS0}}$: —— $\overline{\text{KS1}}$: —— $\overline{\text{DISP}}$: ——
46	D2	O	KEY PAUSE / ⟲ SW / LED REC/RMT
47	D3	O	KEY ▷▷ / KEY STOP / LED PLAY-FWD
48	D4	O	KEY ▷ / KEY REC/RMT / LED PLAY-REV
49	D5	O	KEY ◁ / SW TIMER REC / LED
50	D6	O	KEY ◁◁ / SW TIMER PLAY / LED
51	-VP	–	Makes plate voltage connection for flourescent .
52~63	S11~S0	O	SEGMENT output FL display.
64	VDD	–	CPU power supply terminal. (+5 V)

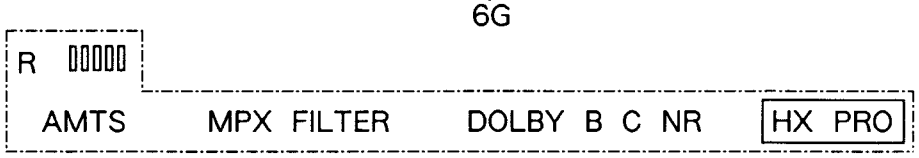
IC BLOCK DIAGRAM

IC, HA12142NT



FL DIAGRAM BJ283GK



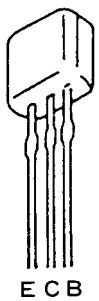


[6G]

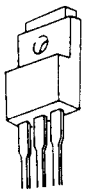
	6G	5G	4G	3G	2G	1G		6G	5G	4G	3G	2G	1G
S0	B1	B1	d	d	d	d	S10	B11	B11	–	–	–	–
S1	B2	B2	c	c	c	c	S11	B12	B12	–	–	–	–
S2	B3	B3	e	e	e	e	FLD – NOR	–	–	NORMAL	–	–	–
S3	B4	B4	g	g	g	g	FLD – CO	–	–	–	CrO2	–	–
S4	B5	B5	f	f	f	f	FLD – MT	–	–	–	–	METAL	–
S5	B6	B6	b	b	b	b	FLD – C	C	–	–	–	–	–
S6	B7	B7	a	a	a	a	FLD – B	B	–	–	–	–	–
S7	B8	B8	–	–	–	–	FLD – ON	(MPX FILTER) (DOLBY B C NR)	–	–	–	–	–
S8	B9	B9	–	–	–	–	FLD – AMTS	(AMTS)	–	–	–	–	–
S9	B10	B10	–	–	–	–		S1	S1	–	–	–	–

TRANSISTOR ILLUSTRATION

2SA952
2SA1296
2SC1815
2SC2001

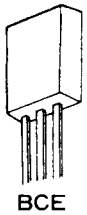


2SC1740
DTA114YS
DTA124ES
DTA144ES
DTC123
DTC144ES

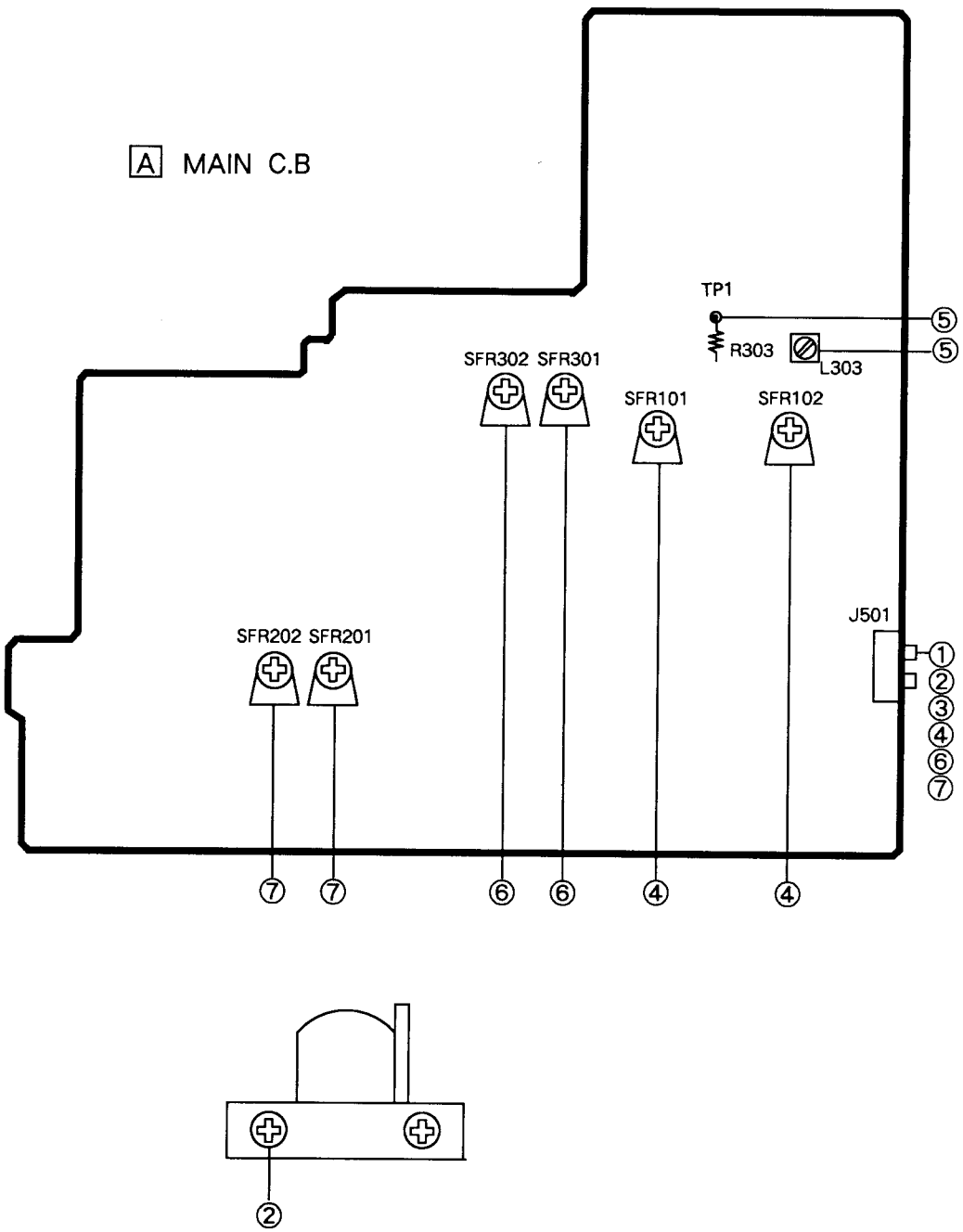


2SB1370

2SK373



2SB1329
2SB1330



1. Tape Speed Adjustment

   Settings : • Test tape : TTA-100
   • Test point : J501 (LINE OUT)
   • Adjustment location : SFR in MECHA MOTOR.

   Method : Play back the test tape and adjust SFR so that the frequency counter reads 2990 ± 10Hz.

2. Head Azimuth Adjustment

   Settings : • Test tape : TTA-310
   • Test point : J501 (LINE OUT)
   • Adjustment location : Head azimuth adjustment screw

   Method : Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum.

3. PB Frequency Response Check

   Settings : • Test tape : TTA-310
   • Test point : J501 (LINE OUT)

   Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal is with respect to that of the 315Hz signal is ± 2.5dB.

4. PB Sensitivity Adjustment

Settings : • Test tape : TTA-200
• Test point : J501 (LINE OUT)
LOAD 47kΩ
• Adjustment location : SFR101 (Lch)
SFR102 (Rch)

Method : Play back the test tape and adjust SFRs so that the output level of the test point becomes 520 ± 20mV.

5. Bias OSC. Frequency Adjustment

Settings : • Test tape : TTA-630
• Test point : TP1 (R303)
• Adjustment location : L303

Method : Set to the REC mode and adjust L303 so that the frequency counter of the test point reads 85kHz ± 0.2kHz.

6. REC/PB Frequency Response Adjustment

Settings : • Test tape : TTA-601
• Test point : J501 (LINE OUT)
• Input signal : 1kHz/15kHz
(LINE IN)
• BIAS VR : Center
• DOLBY NR : OFF
• Adjustment location : SFR301 (Lch)
SFR302 (Rch)

Method : Apply a 1kHz signal and adjust REC LEVEL VR attenuator so that the output level at the LINE OUT jack is 37mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signal is 0dB ± 0.5dB with respect to that of the 1kHz signal.

7. REC/PB Sensitivity Adjustment

Settings : • Test tape : TTA-601
(TTA – 600)
• Test point : J501 (LINE OUT)
• Input signal : 1kHz
(LINE IN)
• REC SENS. VR : CENTER
• Adjustment location : SFR201 (Lch)
SFR202 (Rch)

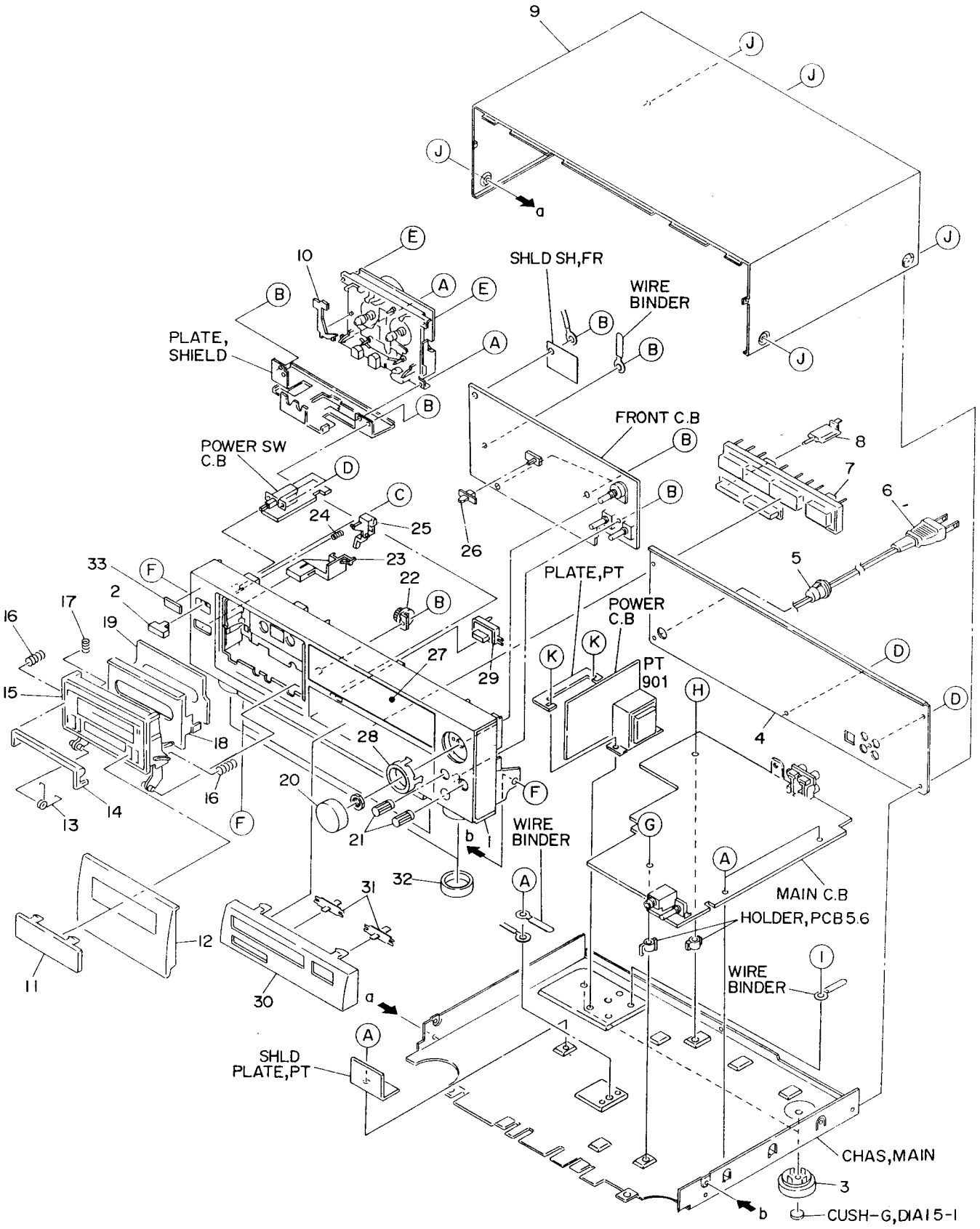
Method : Apply a 1kHz signal and adjust REC LEVEL VR so that the output level at the J501 (LINE OUT) is 37mV.
Record and play back the 1kHz signal and adjust SFRs so that the output is 0 ± 0.5dB.

PRACTICAL SERVICE FIGURE

DECK SECTION

Tape speed :	3000Hz ± 1.5%
Wow & flutter :	Less than 0.08% (W.RMS)
Take-up torque :	25~65g-cm (FWD, REV)
F.F torque :	80~160g-cm
Rew torque :	80~160g-cm
Back tension :	2~6g-cm
PB Output level :	520 ± 50mV (Line OUT)
REC/PB Output level :	370mV ± 1dB (0VU)
Distortion (REC/PB) :	Less than 2% (NORM, CrO_2)
Noise level (PB) :	Less than 2.2mV/3.3mV (DOLBY B NR ON/OFF CrO_2, EMPTY TAPE, LINEAR)
	Less than 2.4mV/4.4mV (DOLBY B NR ON/OFF NORM, EMPTY TAPE, LINEAR)
Noise level (REC/PB) :	Less than 2.3mV/4.7mV (DOLBY B NR ON/OFF NORM, WTD)
	Less than 1.9mV/3.7mV (DOLBY B NR ON/OFF CrO_2, WTD)
Crosstalk :	More than 60dB (1kHz, 0VU)
Erasing ratio :	More than 60dB (125Hz)
Channel separation :	More than 32dB (1kHz, 0VU)
REC bias frequency :	85kHz
Test tape :	NORMAL TTA – 601/600
	CrO_2 TTA – 610
	METAL TTA – 630
	PB TTA – 200

MECHANISM EXPLODED VIEW—1/1

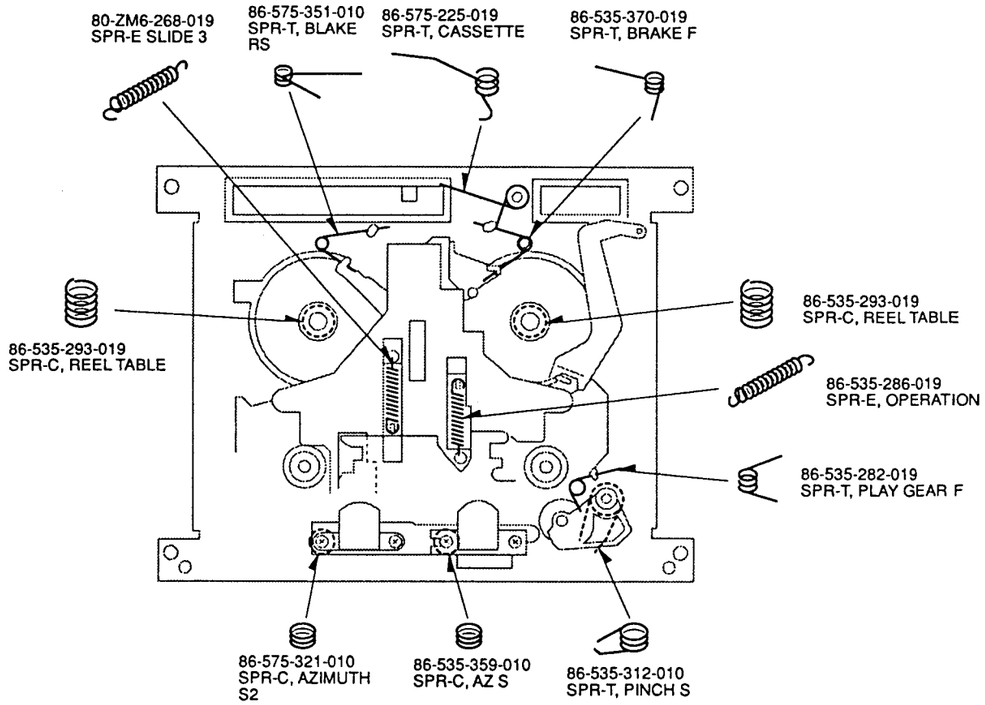


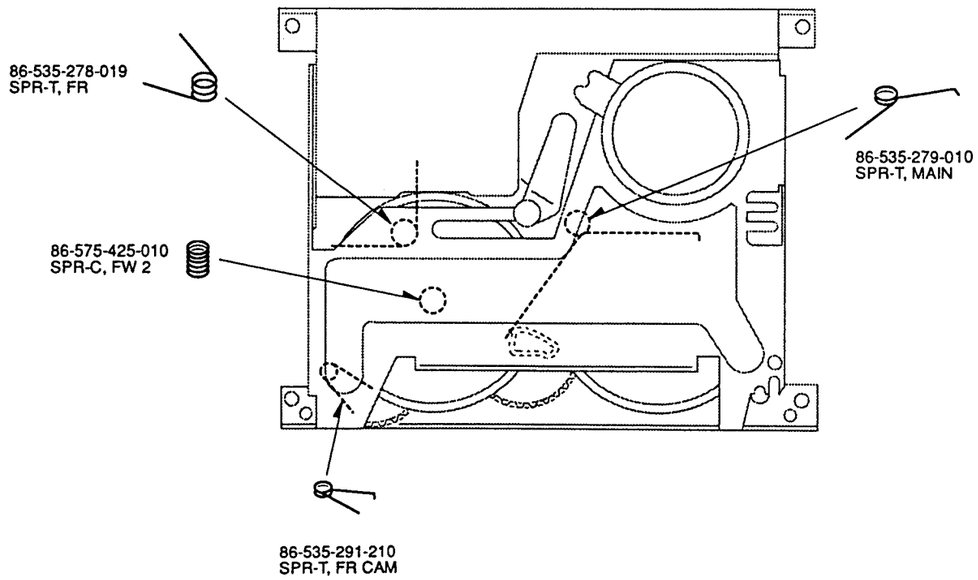
MECHANICAL PARTS LIST—1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

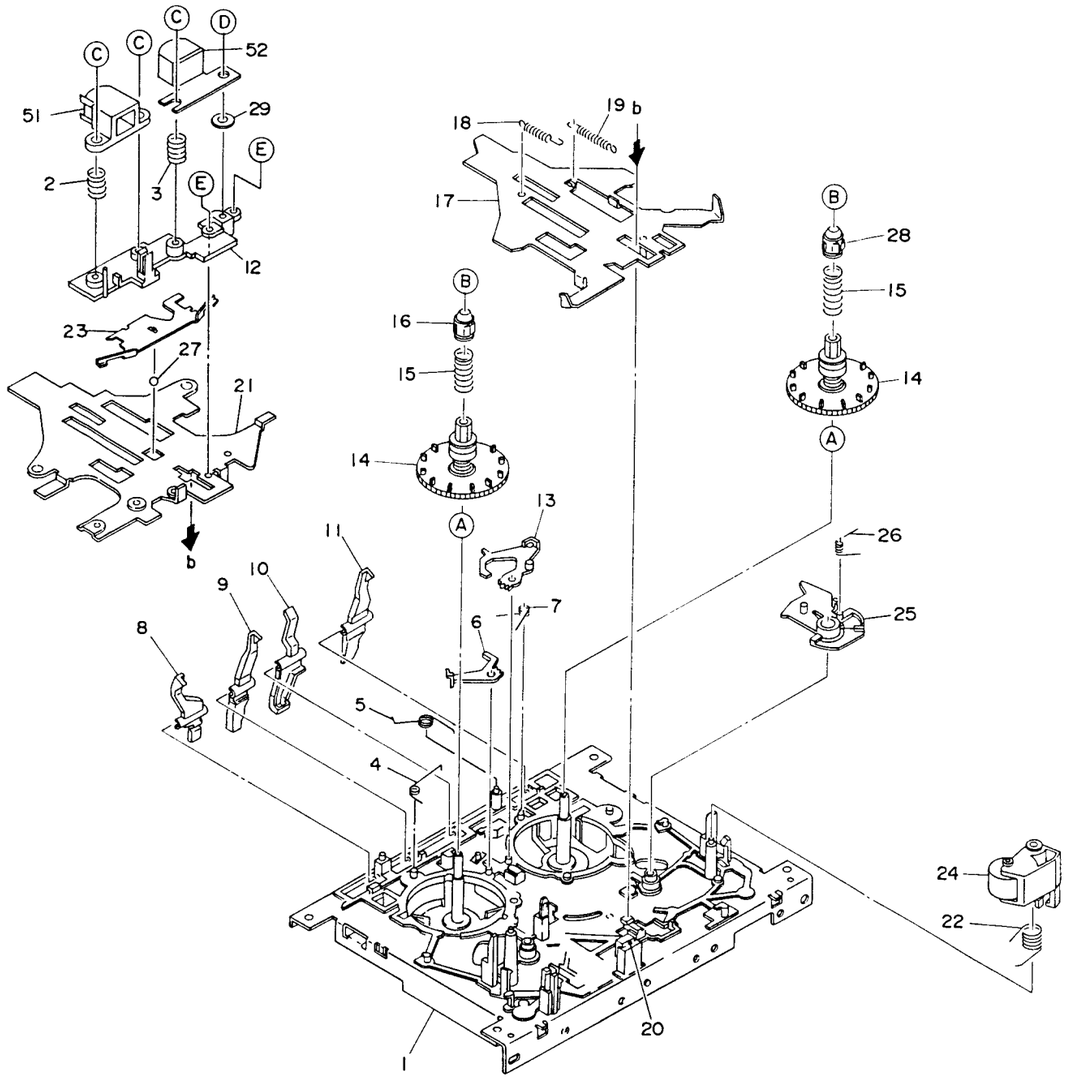
REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
1	83-DS4-001-019		CAB, FR 4
2	82-AA1-016-019		BTN, POWER
3	81-669-018-019		FOOT, REAR
4	83-DS4-006-019		PANEL, REAR EBN(EE, E)
4	83-DS4-005-019		PANEL, REAR HEJBN(HE)
5	87-085-185-010		BUSHING, AC CORD E
⚠ 6	87-050-034-019		AC CORD ASSY, E
7	83-DS3-007-019		KEY, PLAY
8	83-DS3-009-019		INDI, REC
9	80-DS3-002-019		CAB, STEEL
10	82-235-204-010		LEVER, PROTECT
11	83-DS3-010-119		WINDOW, CASS
12	83-DS3-002-019		PANEL, CASS
13	80-DS3-202-019		SPR-T, EJECT 1
14	84-790-204-019		HOOK, EJECT
15	84-790-013-119		BOX, CASS
16	82-238-205-019		SPR-C, AMTS
17	84-790-205-019		SPR-C, HOOK
18	84-790-032-319		PANEL, AMTS
19	84-790-202-019		RUBBER, AMTS
20	83-DS3-004-019		KNOB, REC
21	83-DS3-006-019		KNOB, BIAS
22	87-063-143-010		OIL-DMPR 75
23	83-DS3-013-019		BTN, EJECT
24	80-DS3-209-019		SPR-C, EJECT
25	80-DS3-203-019		LVR, EJECT
26	80-DW1-012-019		KNOB, SLIDE
27	83-DS4-003-019		WINDOW, DISP
28	83-DS3-005-019		RING, VOL
29	83-DS4-004-019		KEY, RESET
30	83-DS4-002-019		DUMMY, FR
31	83-DS3-008-019		INDI, PLAY
32	83-DS3-014-019		RING, FOOT
33	81-DS1-011-019		BADGE, AIWA N
A	87-067-688-019		BVTT +3-6
B	87-067-703-019		BVT2+3-10 (W/O SLOT)
C	87-661-096-419		VFT1+3-10
D	87-067-660-019		BVT2+3-8W/O SLOT BLK
E	81-653-215-019		SPECIAL SCREW VT2
F	87-591-094-419		QIT + 3 - 6 GOLD
G	87-067-758-019		BVT2+3-12(W/O SLOT)
H	87-067-776-019		BVT2+3-12W, CONVEX
I	87-067-585-019		BVTT +4-6
J	87-067-641-019		UTT2+3-8 W/O SLOT BLK
K	87-078-083-019		BVTT, SEMS+4-8SW

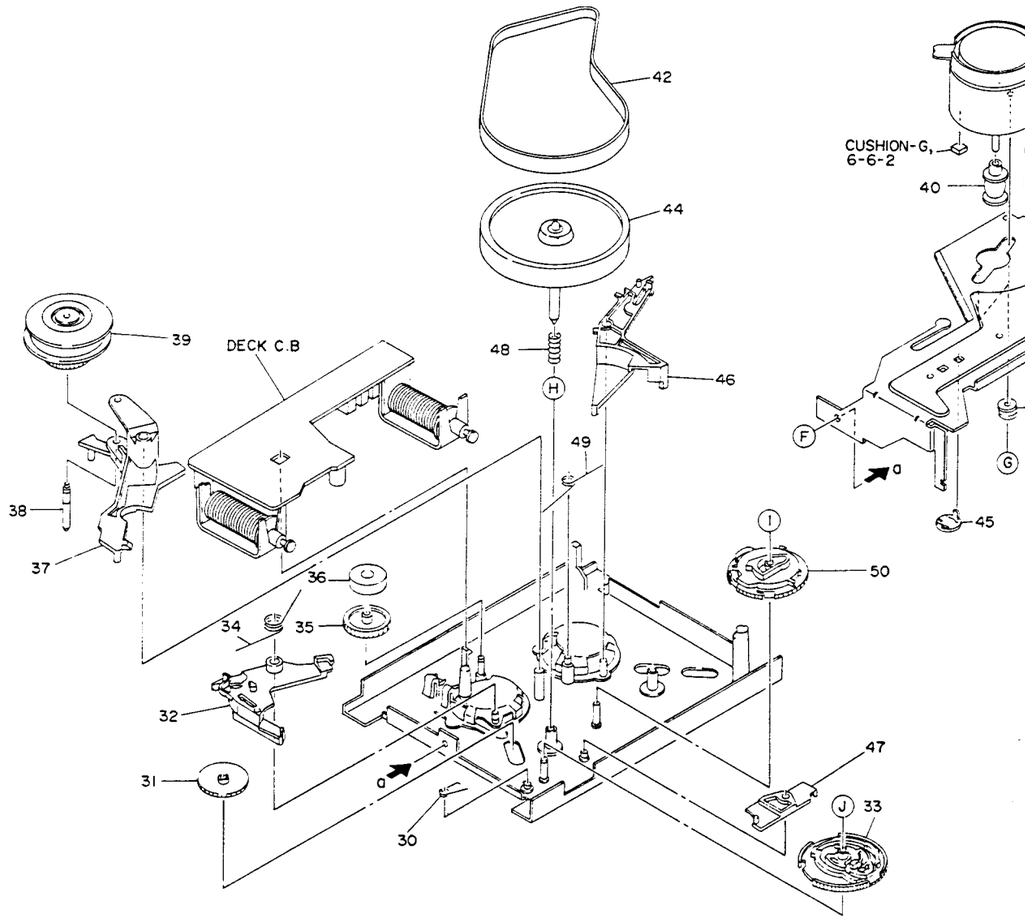
SPRING APPLICATION POSITION





MECHANISM EXPLODED VIEW—1/1





MECHANISM PARTS LIST－1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
1	86-575-239-61K		CHAS ASSY, MECH S
2	86-575-321-010		SPR-C, A21MUTH S2
3	86-535-359-010		SPR-C, AZ S
4	86-575-351-010		SPR-T, BLAKE RS
5	86-575-225-019		SP-T CASSETTE
6	86-535-252-210		LVR, BRAKE R
7	86-535-370-019		SPR-T, BRAKE F(3H)
8	86-535-247-210		LVR, REC GUARD A
9	86-535-250-210		LVR, METAL
10	86-535-249-210		LVR, CASS-SENSOR
11	86-535-254-110		LVR, CR
12	86-535-314-210		BASE, HEAD
13	86-535-251-110		LVR, BRAKE F
14	86-535-240-71K		REEL TABLE ASSY, R
15	86-535-293-019		SPR-C, REEL TABLE
16	86-524-218-319		STOPPER, REEL TABLE S
17	86-535-385-310		PLATE ASSY, SLIDE S
18	80-ZM6-268-019		SPR-E SLIDE 3
19	86-535-286-010		SPR-E, OPERATION
20	86-535-353-019		FECT SQ 5-4-2
21	86-535-311-410		HEAD CHASSIS S
22	86-535-312-010		SPR-T, PINCH S
23	86-535-289-310		PSP HEAD CHASSIS
24	86-535-226-310		PINCH LEVER ASSY F
25	86-535-283-019		SPR-T, PLAY GEAR R
26	86-535-282-019		SPR-T, PLAY GEAR F
27	87-073-018-019		STEEL BALL 1.588
28	86-524-233-219		STOPPER, REEL TABLE T
29	86-535-387-010		MYLAR W2.3-5-0.188
29	86-535-363-019		SH MYLAR 2.3-5-0.1
30	86-535-291-210		SPR-T, FR CAM
31	86-575-221-310		GEAR PLAY
32	86-575-377-01K		LVR, TRGGER FR
33	86-535-261-410		CAM, FRP
34	86-535-278-019		SPR-T, FR
35	86-575-220-01K		GEAR IDLE
36	86-535-614-010		RING, MAGNET 4P
37	86-535-233-210		LVR, FR
38	86-535-235-110		SHAFT, FR
39	86-575-314-110		SLIP ASSY DISK
40	86-535-389-110		PULLEY, MOTOR C
41	86-575-261-110		CUSH-G-5.5-1.5
42	86-575-238-010		BELT, 3
43	82-ZM1-308-019		CUSH-G DIA3.7-9-3.2
44	86-535-395-01K		FLY WHEEL FD ASSY
45	86-535-255-010		RETAINER, FLY-WHL
46	86-575-378-01K		LVR, TRIGGER PLAY
47	86-535-223-310		LVR, PAUSE
48	86-575-425-010		SPR-C FW 2
49	86-535-279-010		SPR-T, MAIN
50	86-535-260-410		CAM, MAIN
51	87-046-196-019		HEAD, EH
52	87-046-343-019		HEAD, RPF 14PCOCC
53	87-045-360-019		MOT, SHE 2L 00
A	87-067-470-010		PW, 4.1-6.9-0.13
B	86-524-418-019		SCREW VFT2+1.4-5
C	87-067-362-019		SCREWV+ 2 - 6.6
D	87-353-034-210		VT2+2-5
E	87-267-033-019		SCREW V + 2-4 BLACK NI
F	87-081-501-019		SCREW VTT + 2.6 - 4
G	86-575-243-019		S-SCREW MOTOR
H	87-067-332-019		PW, 2.8-4.7-0.13
I	87-081-489-019		PW, 1.7-3.5-0.25 SLT
J	87-067-380-019		PW, 1.7-7-0.5

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, SERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER
サージサプレッサ	SERGESUPPRESSOR
セラコン	CAP,CERA

サービス技術ニュース	
番 号	連絡内容
G ― ―	
G ― ―	
G ― ―	

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL
ジグアーム	ARM,SHAFT
ジグガイド	GUIDE,SHAFT
ストラップ	STRAP
トクナベ	S-SCRW
ヒンジ	HINGE
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