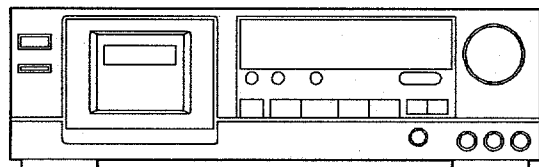


# aiwa

## AD-F850



STEREO CASSETTE DECK

• BASIC TAPE MECHANISM :  $\alpha$ -12 R4N

• TYPE. HE,E,K

### 改定版 [REVISION PUBLISHING]

#### SPECIFICATIONS

<b>Type</b>	Stereo cassette deck
<b>Track format</b>	4 tracks, 2 channels
<b>Power supply</b>	AD-F850 E AC 230V, 50Hz AD-F850 K AC 230-240V, 50Hz AD-F850 HE AC 120/220/240V switchable, 50/60Hz
<b>Power consumption</b>	AD-F850 HE 18W AD-F850 E, K 25W
<b>Frequency response</b>	Metal tape : 15-20,000Hz CrO <sub>2</sub> tape : 15-19,000Hz Normal tape : 15-18,000Hz
<b>Signal-to noise ratio</b>	80dB (METAL tape DOLBY C NR ON above 5kHz)
<b>Wow and flutter</b>	0.035% (WRMS) 1.0% (DIN 45500)
<b>Tape speed</b>	4.75cm/sec.(1 7/8 ips)
<b>Recording system</b>	AC bias (frequency 105kHz)
<b>Erase system</b>	AC erase
<b>Motor</b>	DC servomotor $\times$ 1 DC motor $\times$ 1
<b>Heads</b>	Playback head $\times$ 1 (PC-OOC coil super DX head) Recording head $\times$ 1 (PC-OOC coil super DX head) Erase head $\times$ 1 (Double-gap sendust head)

<b>Inputs</b>	REC/LINE IN: 100mV (MAX input sensitivity, 47k $\Omega$ )
<b>Outputs</b>	PLAY/LINE OUT: 530mV (0dB) Suitable load impedance over 47k $\Omega$ PHONES: 1.1mV (0dB) Suitable load impedance 32 $\Omega$
<b>Dimensions</b>	430 (W) $\times$ 140 (H) $\times$ 318 (D) mm (17 $\times$ 5 5/8 $\times$ 12 5/8 inches)
<b>Weight</b>	4.5kg 9.9lbs

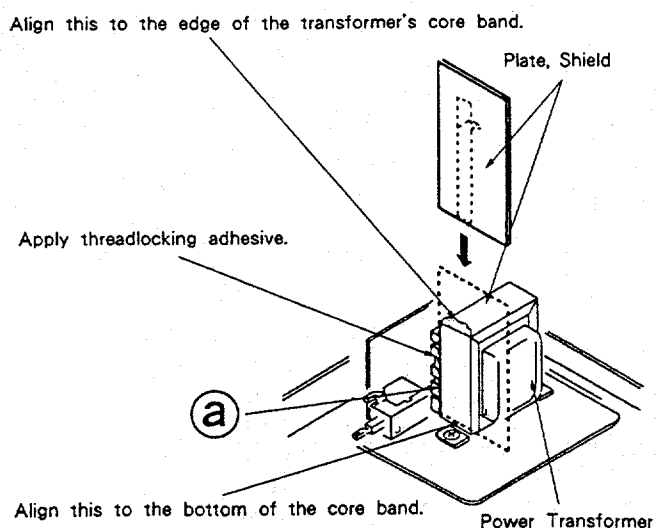
- Design and specifications are subject to change without notice.
  - Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.
- "DOLBY", the double-D symbol  $\square\square$  and "HX PRO" are trademarks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

## DISASSEMBLY INSTRUCTIONS

### 1. Notes on replacing the "Power Transformer".

When replacing the "Power Transformer", attach a "Plate, Shield" to the specified position to conform to the safety standard (spacing).

- 1) Attach the shield plate with adhesive tape while aligning it to portion ①. At this time, apply a threadlocking adhesive to it.



## ■ 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.	カリ NO.	DESCRIPTION
1	83-DS2-901-019		IB, EX(S)
2	87-009-725-019		PLUG, ADPTR IR40 (HE)
3	87-034-786-019		CORD PIN 189-0760

# 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.	カナ NO.	DESCRIPTION	REF. NO	PART NO.	カナ NO.	DESCRIPTION
<b>IC</b>							
	87-020-758-019		IC, NJM 2068 SD	C240	87-010-381-089		CAP, E 330-16 SME
	87-017-465-019		IC, GD4066B	C241	87-018-134-089		CAP, TC-U 0.01-16 Y
	87-002-565-010		IC, HA12142NT-01	C242	87-018-134-089		CAP, TC-U 0.01-16 Y
	87-002-727-019		IC, NJM4558L	C243	87-018-134-089		CAP, TC-U 0.01-16 Y
	87-027-827-019		IC, TC4069UBP	C244	87-018-134-089		CAP, TC-U 0.01-16 Y
	81-DS2-613-010		IC, LC6554H-4694	C245	87-010-405-089		CAP, E 10-50 SME
	87-002-394-019		IC, LB1641	C246	87-010-405-089		CAP, E 10-50 SME
	87-017-373-019		IC, NJH32H380A	C251	87-018-202-089		CAP, TC-U 6800P-16 X
				C252	87-018-202-089		CAP, TC-U 6800P-16 X
<b>TRANSISTOR</b>							
	89-318-156-089		TR, 2SC1815BL	C253	87-010-404-089		CAP, E 4.7-50 SME
	87-026-462-089		TR, 2SC1740S (RS)	C261	87-010-381-089		CAP, E 330-16 SME
	89-320-011-089		TR, 2SC2001K	C262	87-010-381-089		CAP, E 330-16 SME
	89-318-155-089		TR, 2SC1815GR	C263	87-010-265-089		CAP, E 33-16 SME
	89-109-521-089		TR, 2SA952K	C264	87-010-265-089		CAP, E 33-16 SME
	87-026-218-089		TR, DTC144ES	C301	87-018-123-089		CAP, TC-U 220P-50 B
	89-213-702-019		TR, 2SB1370E	C302	87-018-123-089		CAP, TC-U 220P-50 B
	89-213-542-389		TR, 2SB 1354EF	C305	87-018-128-089		CAP, TC-U 560P-50 B
	89-213-302-089		TR, 2SB1330Q	C306	87-018-128-089		CAP, TC-U 560P-50 B
	87-026-219-089		TR, DTA144ES	C307	87-018-131-089		CAP, TC-U 1000P-50 B
	87-026-514-089		TR, DTC 123YS	C308	87-018-131-089		CAP, TC-U 1000P-50 B
	87-026-217-089		TR, DTC124ES	C311	87-018-134-089		CAP, TC-U 0.01-16 Y
	89-112-965-089		TR, 2SA1296GR	C312	87-018-134-089		CAP, TC-U 0.01-16 Y
				C317	87-010-370-089		CAP, E 330-6.3 SME
				C318	87-010-101-089		CAP, E 220-16 SME
<b>DIODE</b>							
	87-001-914-089		ZENER, UTZJ6.2B	C319	87-014-077-889		CAP, PP6800P-100J
	87-017-437-089		DIODE, 1N4148M	C324	87-010-382-089		CAP, E 22-25 SME
	87-027-416-089		ZENER, HZ3C2	C325	87-010-401-089		CAP, E 1-50 SME
	87-001-783-089		DIODE, 1N4002-T	C326	87-010-401-089		CAP, E 1-50 SME
	87-001-916-089		ZENER, UTZJ10B	C327	87-014-073-889		CAP, PP4700P-100J
	87-001-917-089		ZENER, UTZJ 12C	C328	87-014-073-889		CAP, PP4700P-100J
	87-001-918-089		ZENER, UTZJ22B	C329	87-010-405-089		CAP, E 10-50 SME
	87-027-301-089		ZENER, HZ3A1	C401	87-010-389-099		CAP, ELECT 2200-25V SME
	87-020-123-089		DIODE, DS446-AT (TA)	C402	87-010-389-099		CAP, ELECT 2200-25V SME
	87-027-286-089		ZENER, HZ5C1	C403	87-010-247-089		CAP, E 100-50 SME
	87-001-911-089		ZENER, UTZJ4.7A (TAPG)	C404	87-010-382-089		CAP, E 22-25 SME
				C405	87-010-263-089		CAP, E 100-10 SME 5X11
				C406	87-010-235-089		CAP, E 470-16 SME
				C407	87-010-235-089		CAP, E 470-16 SME
				C408	87-018-134-089		CAP, TC-U 0.01-16 Y
				C410	87-010-405-089		CAP, E 10-50 SME
				C501	87-018-134-089		CAP, TC-U 0.01-16 Y
				C502	87-018-132-089		CAP, TC-U 2200P-16 X
				C503	87-018-100-089		CAP, TC-U 4.7P-50 SL
				C504	87-018-119-089		CAP, TC-U 100P-50 B
				C505	87-010-401-089		CAP, E 1-50 SME
				C506	87-010-382-089		CAP, E 22-25 SME
				C601	87-010-263-089		CAP, E 100-10 SME 5X11
				C602	87-010-382-089		CAP, E 22-25 SME
				C603	87-010-404-089		CAP, E 4.7-50 SME
				C604	87-010-404-089		CAP, E 4.7-50 SME
				C605	87-010-546-089		CAP, E 0.33-50 SME
				C606	87-010-546-089		CAP, E 0.33-50 SME
				C701	87-010-404-089		CAP, E 4.7-50 SME
				C702	87-010-404-089		CAP, E 4.7-50 SME
				C801	87-010-546-089		CAP, E 0.33-50 SME
				C802	87-010-546-089		CAP, E 0.33-50 SME
				C803	87-010-263-089		CAP, E 100-10 SME 5X11
				C804	87-010-263-089		CAP, E 100-10 SME 5X11
				C805	87-010-384-089		CAP, E 100-25 SME
				C806	87-010-263-089		CAP, E 100-10 SME 5X11
				C807	87-018-134-089		CAP, TC-U 0.01-16 Y
				C809	87-018-131-089		CAP, TC-U 1000P-50 B
				C810	87-018-131-089		CAP, TC-U 1000P-50 B
				J701	87-009-394-019		JACK PIN 4P EARTH
				J801	87-099-523-019		JACK, 6.3HP 12.5-11.5
				L101	82-231-622-089		COIL, 22MH-J
				L102	82-231-622-089		COIL, 22MH-J
				L201	82-231-622-089		COIL, 22MH-J
				L202	82-231-622-089		COIL, 22MH-J
<b>MAIN C. B</b>							
C101	87-018-125-089		CAP, TC-U 330P-50 B				
C102	87-018-125-089		CAP, TC-U 330P-50 B				
C109	87-018-134-089		CAP, TC-U 0.01-16 Y				
C110	87-018-134-089		CAP, TC-U 0.01-16 Y				
C111	87-018-134-089		CAP, TC-U 0.01-16 Y				
C113	87-018-119-089		CAP, TC-U 100P-50 B				
C114	87-018-119-089		CAP, TC-U 100P-50 B				
C115	87-018-197-089		CAP, TC-U 1800P-16 X				
C116	87-018-197-089		CAP, TC-U 1800P-16 X				
C127	87-010-979-089		CAP, E2.2-50BP ES				
C128	87-010-979-089		CAP, E2.2-50BP ES				
C129	87-010-401-089		CAP, E 1-50 SME				
C201	87-018-119-089		CAP, TC-U 100P-50 B				
C202	87-018-119-089		CAP, TC-U 100P-50 B				
C203	87-018-132-089		CAP, TC-U 2200P-16 X				
C204	87-018-132-089		CAP, TC-U 2200P-16 X				
C207	87-010-677-089		CAP, E 0.15-50 7L				
C208	87-010-677-089		CAP, E 0.15-50 7L				
C209	87-018-132-089		CAP, TC-U 2200P-16 X				
C210	87-018-132-089		CAP, TC-U 2200P-16 X				
C231	87-010-404-089		CAP, E 4.7-50 SME				
C232	87-010-404-089		CAP, E 4.7-50 SME				
C233	87-010-401-089		CAP, E 1-50 SME				
C234	87-010-381-089		CAP, E 330-16 SME				
C237	87-015-951-089		CAP, E 1-50 LL				
C238	87-015-951-089		CAP, E 1-50 LL				
C239	87-018-134-089		CAP, TC-U 0.01-16 Y				

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
L203	87-003-131-089		COIL, 10MH J
L204	87-003-131-089		COIL, 10MH J
L205	83-DS2-610-019		FLTR, MPX 105K-DIA7
L206	83-DS2-610-019		FLTR, MPX 105K-DIA7
L301	81-DS2-630-010		COIL, HX 108K
L302	81-DS2-630-010		COIL, HX 108K
L303	81-DS2-629-010		COIL, BIAS 108K
SFR101	87-024-168-089		SFR, 1K DIA6 V
SFR102	87-024-168-089		SFR, 1K DIA6 V
SFR201	87-024-172-089		SFR, 10K DIA6 V
SFR202	87-024-172-089		SFR, 10K DIA6 V
SFR301	87-024-176-089		SFR, 100K DIA6 V
SFR302	87-024-176-089		SFR, 100K DIA6 V
VR201	81-DS2-615-019		VR, 5KBX2RK14K12
VR301	81-DS2-616-019		VR, 10KB RK11K11
VR701	81-DS2-614-019		VR, 150KW RK11K11

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
M1	87-045-323-019		MMN-6FILB8K
M2	87-045-360-019		MOT, SHE 2L 00
PH1	87-001-365-019		P-SNSR, SP1315-05-C
PH2	87-001-365-019		P-SNSR, SP1315-05-C
S1	81-505-607-010		LEAF SW BSW-187-2AU
S2	81-505-607-010		LEAF SW BSW-187-2AU
S3	81-505-607-010		LEAF SW BSW-187-2AU
S4	81-505-607-010		LEAF SW BSW-187-2AU
S5	81-505-601-010		LEAF SWITCH GEAR
S6	81-505-601-010		LEAF SWITCH GEAR
SOL1	81-507-237-010		SOL, 9ME-C
SOL2	81-507-237-010		SOL, 9ME-C

FRONT C. B

C901	87-010-405-089		CAP, E 10-50 SME
C902	87-010-370-049		CAP, E 330-6.3 SME
C903	87-018-134-089		CAP, TC-U 0.01-16 Y
C904	87-010-402-049		CAP, E2.2-50 SME
C905	87-010-382-089		CAP, E 22-25 SME
C906	87-018-134-089		CAP, TC-U 0.01-16 Y
C907	87-018-134-089		CAP, TC-U 0.01-16 Y
C908	87-018-134-089		CAP, TC-U 0.01-16 Y
C909	87-010-403-089		CAP, E 3.3-50 SME
C910	87-010-405-089		CAP, E 10-50 SME
C911	87-018-131-089		CAP, TC-U 1000P-50 B
CF901	87-030-167-089		VIB, CER CST4.0MHZ
FL901	83-DS2-612-010		FL, CM1265D
R914	87-025-471-089		RES NF 4.7-1/4WJ<HE, E>
R914	87-025-472-089		RES NF 6.8-1/4WJ<K>
S901	87-036-215-089		SW, TACT EVQ21404M
S902	87-036-215-089		SW, TACT EVQ21404M
S903	87-036-215-089		SW, TACT EVQ21404M
S904	87-036-215-089		SW, TACT EVQ21404M
S905	87-036-215-089		SW, TACT EVQ21404M
S906	87-036-215-089		SW, TACT EVQ21404M
S907	87-036-215-089		SW, TACT EVQ21404M
S908	87-036-215-089		SW, TACT EVQ21404M
S909	87-036-215-089		SW, TACT EVQ21404M
S910	87-036-215-089		SW, TACT EVQ21404M
S912	81-DS2-619-019		SW, SLIDE 2-3
S914	87-036-215-089		SW, TACT EVQ21404M
S915	87-036-215-089		SW, TACT EVQ21404M

REC VR C. B

VR901	83-DS2-611-019		VR, 20KAX2 RK14K12D
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PT-P C. B

△C412	82-304-743-019		TERMINAL, 1P
△PT401	87-019-113-019		CAP, SG 0.0022E
△PT401	83-DS2-621-019		PT, E<E>
△PT401	83-DS2-622-019		PT, K<K>
△PT401	83-DS2-623-019		PT, H<HE>
△S401	87-036-015-019		AC SW SDDLDI

PT-S C. B

H-SW C. B

△S402	87-036-202-019		SW RTRY 1-1-3 H<HE>
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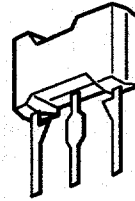
MECHA C. B

TRANSISTOR ILLUSTRATION



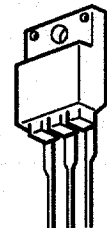
ECB

2SA952  
2SA1296  
2SC1815  
2SC2001



ECB

2SB1330  
DTC123



BCE

2SB1354



BCE

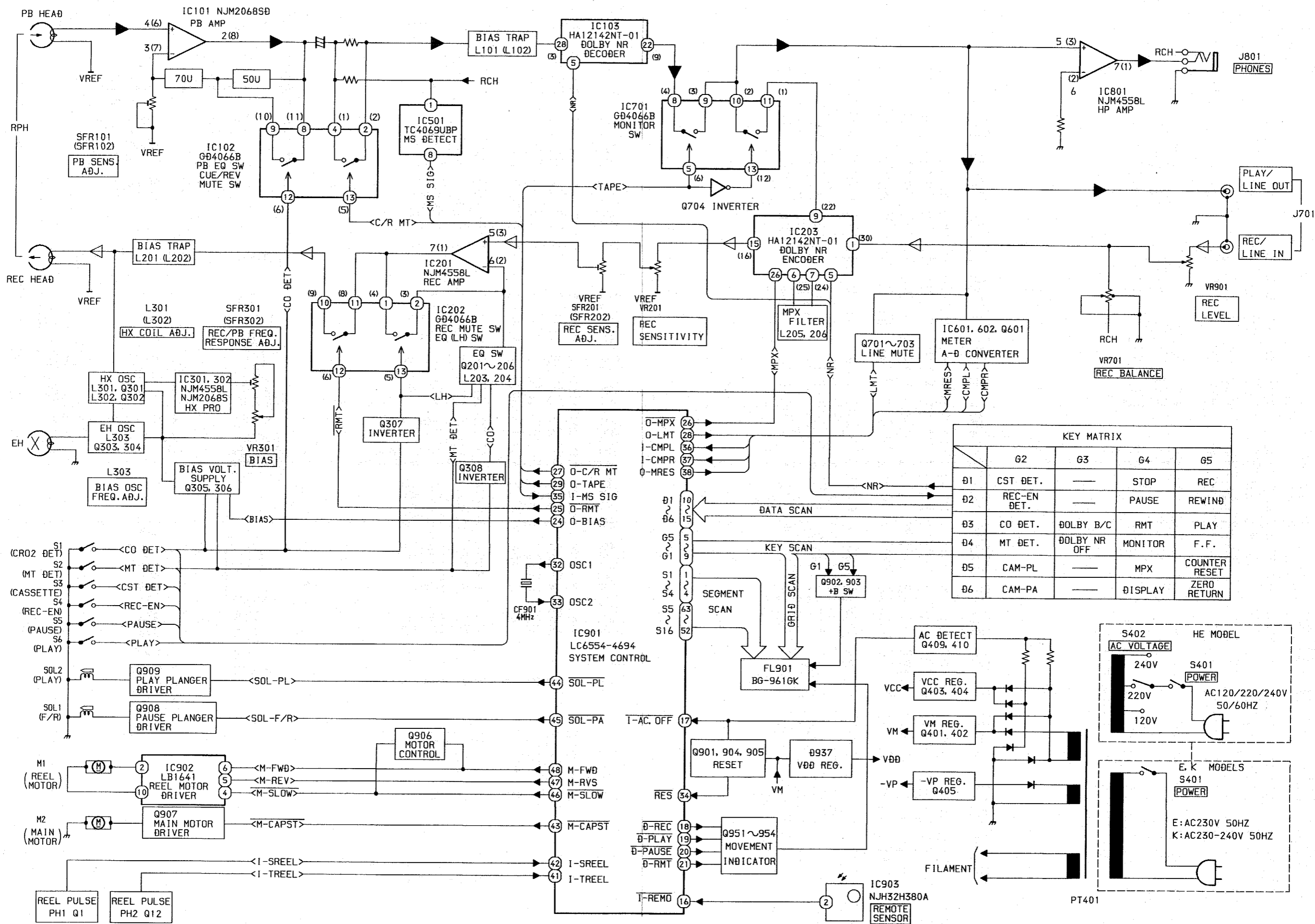
2SB1370



ECB

2SC1740S  
DTA144  
DTC124  
DTC144

BLOCK DIAGRAM



# IC DESCRIPTION

## IC,LC6554H - 4694

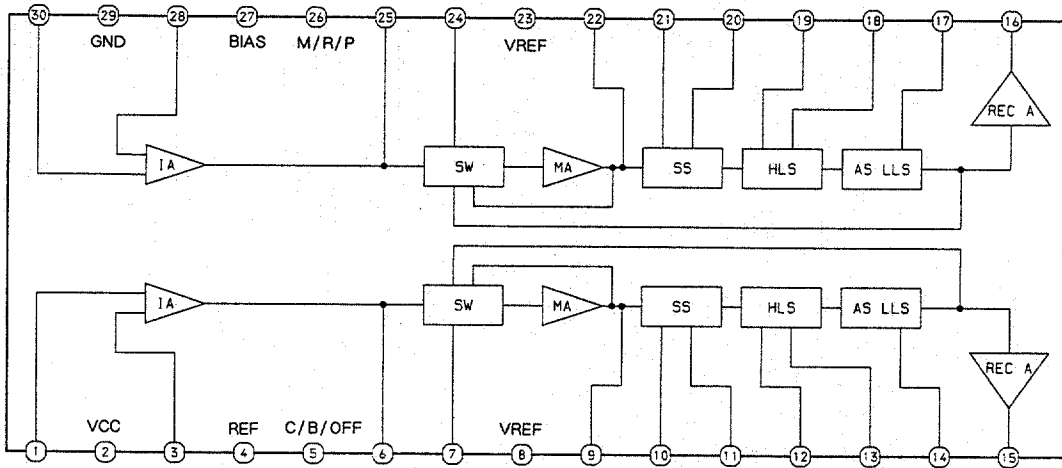
Pin No.	Pin Name	I/O	Description
1	S4	O	FL lighting segment output.
4	S1		
5	G5	O	FL lighting grid output and KEY SCAN output.
9	G1		
10	D1	I	KEY SCAN input.
15	D6		
16	$\overline{I-REMO}$	I	Remote control input.
17	$\overline{I-AC OFF}$	I	AC OFF detection.
18	$\overline{D-REC}$	O	REC LED output. "L" when REC mode.
19	$\overline{D-PLAY}$	O	PLAY-LED output. "L" when PLAY mode.
20	$\overline{D-PAUSE}$	O	PAUSE LED output. "L" when PAUSE.
21	$\overline{D-RMT}$	O	REC MUTE LED output. "L" when REC MUTE.
22	$O-CAL$	O	Connected to GND.
23	$O-HX$		
24	$O-BIAS$	O	BIAS OSC control output. "H" when REC mode.
25	$\overline{O-RMT}$	O	REC MUTE control output. "H" when REC-PLAY.
26	$\overline{O-MPX}$	O	DOLBY IC MPX control output. "L" when MPX ON.
27	$\overline{O-C/R MT}$	O	CUE/REVIEW MUTE control output. "H" when PLAY.
28	$O-LMT$	O	LINE MUTE control output. LINE MUTE when "H".
29	$O-TAPE$	O	TAPE/SOURCE control output of MONITOR. "H" when TAPE MONITOR.
30	TEST	—	Terminal for the system test. Connect to GND.
31	VSS	—	Connect to GND.
32	OSC1	O	Microcomputer clock output. (4 MHz)
33	OSC2	I	Microcomputer clock input. (4 MHz)
34	$\overline{RES}$	I	System reset terminal.
35	$I-MS. SIG$	I	MS control input.
36	$I-CMPL$	I	METER Lch control input.
37	$I-CMPR$	I	METER Rch control input.
38	$O-MRES$	O	METER AD converter control output.
39	$O-DIRECT$	O	Connected to GND.
40	$I-1DS2$	O	Control input for switching programs. Not used.
41	$I-TREEL$	I	TAKE UP REEL PULSE input and automatic stop detection input for the linear counter.
42	$I-SREEL$	I	SUPPLY REEL PULSE input for the linear counter.
43	$\overline{M-CAPST}$	O	Capstan motor control output.
44	$\overline{SOL-PL}$	O	PLAY plunger control output.
45	$\overline{SOL-PA}$	O	PAUSE plunger control output.

Pin No.	Pin Name	I/O	Description
46	M-SLOW	O	Reel motor voltage control output.
47	M-RVS	O	Reel motor control output.
48	M-FWD	O	
49	M-REEL	O	Connected.
50	O-SCALE	O	
51	VP	—	Load power supply for the pull down resistor. Connect to -VP. (-20 V)
52	S16	O	FL lighting segment output.
63	S5		
64	VDD	—	System power supply terminal. Connect to +5 V.

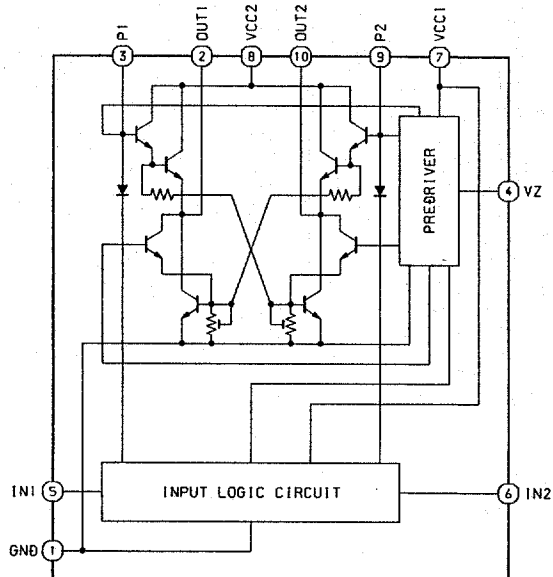
PU indicates that the pull up resistor is built in, and PD indicates that the pull down resistor is built in.  
 PIN No. 22-25 output "L" when the system is initialized.

### IC BLOCK DIAGRAM

IC, HA12142NT - 01



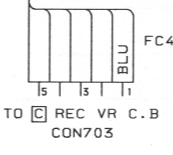
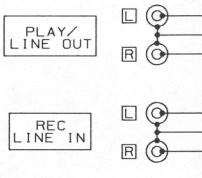
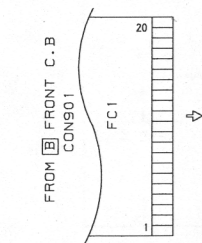
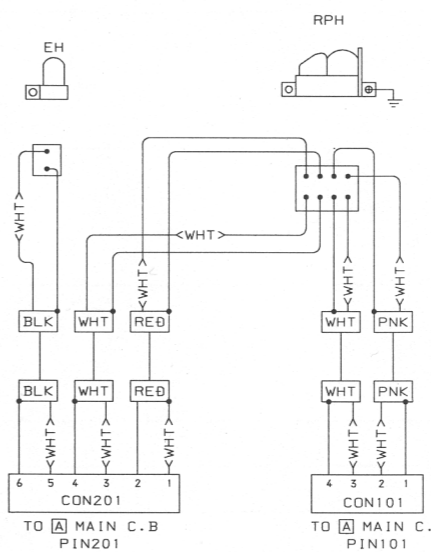
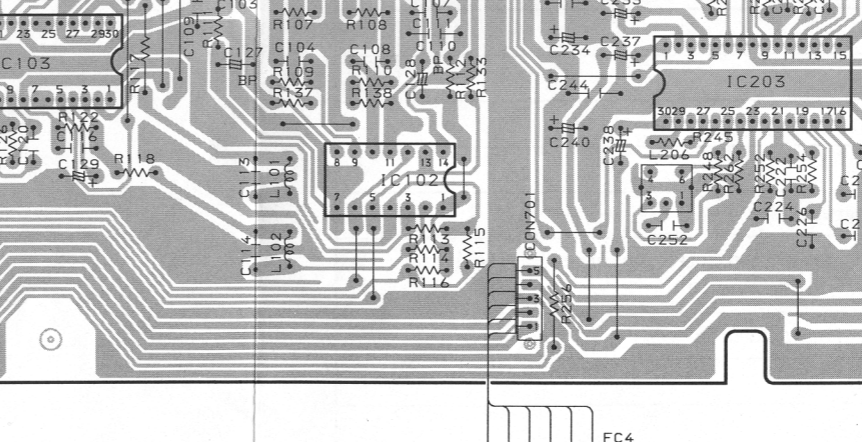
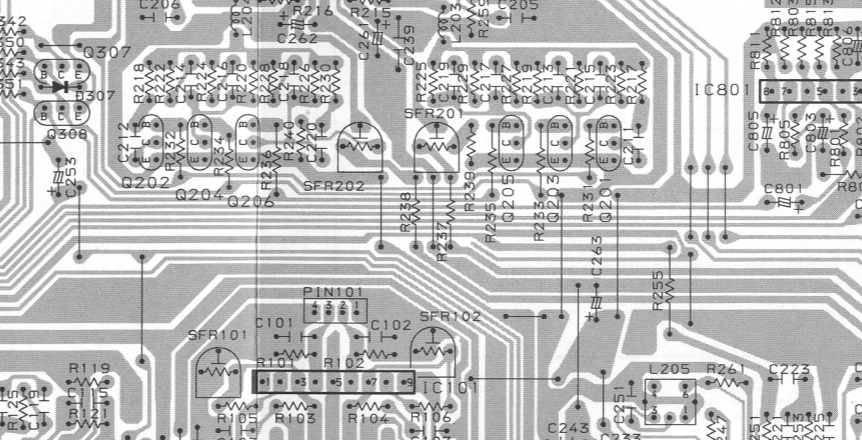
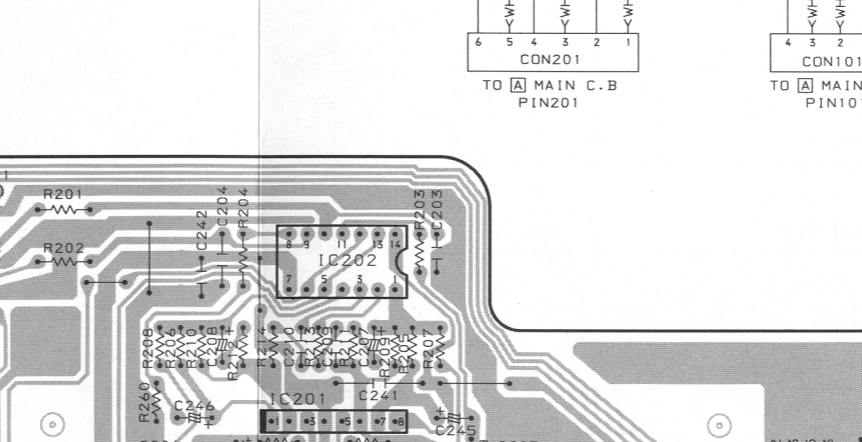
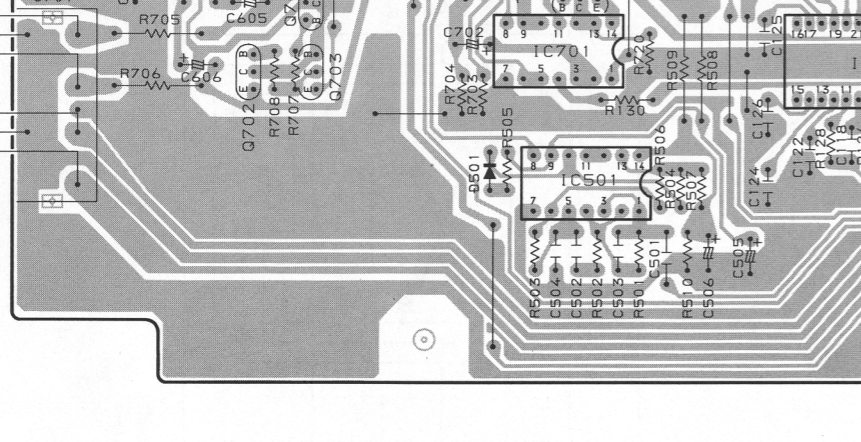
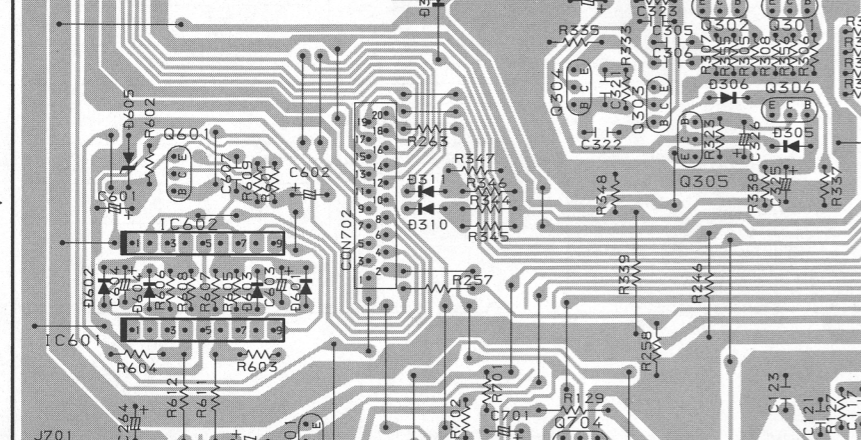
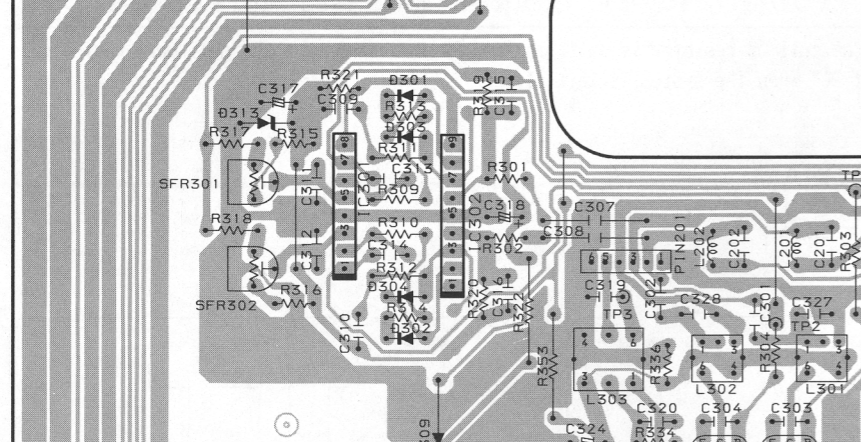
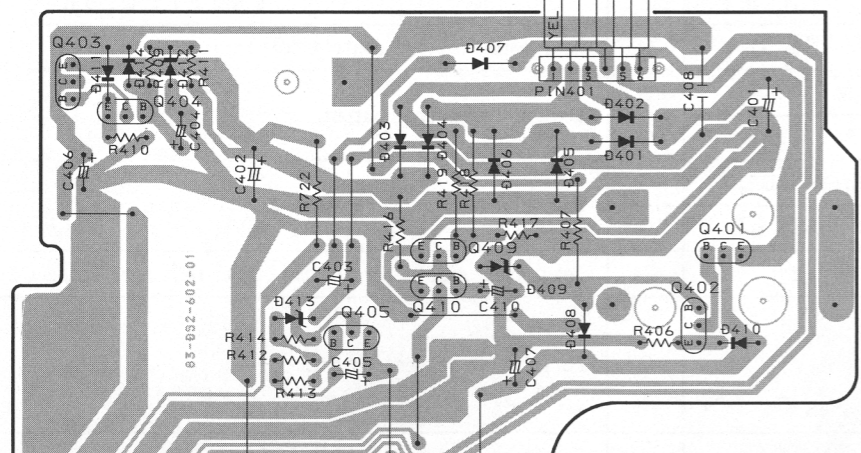
IC, LB1641



A MAIN C.B

TO PT-S C.B  
CON401

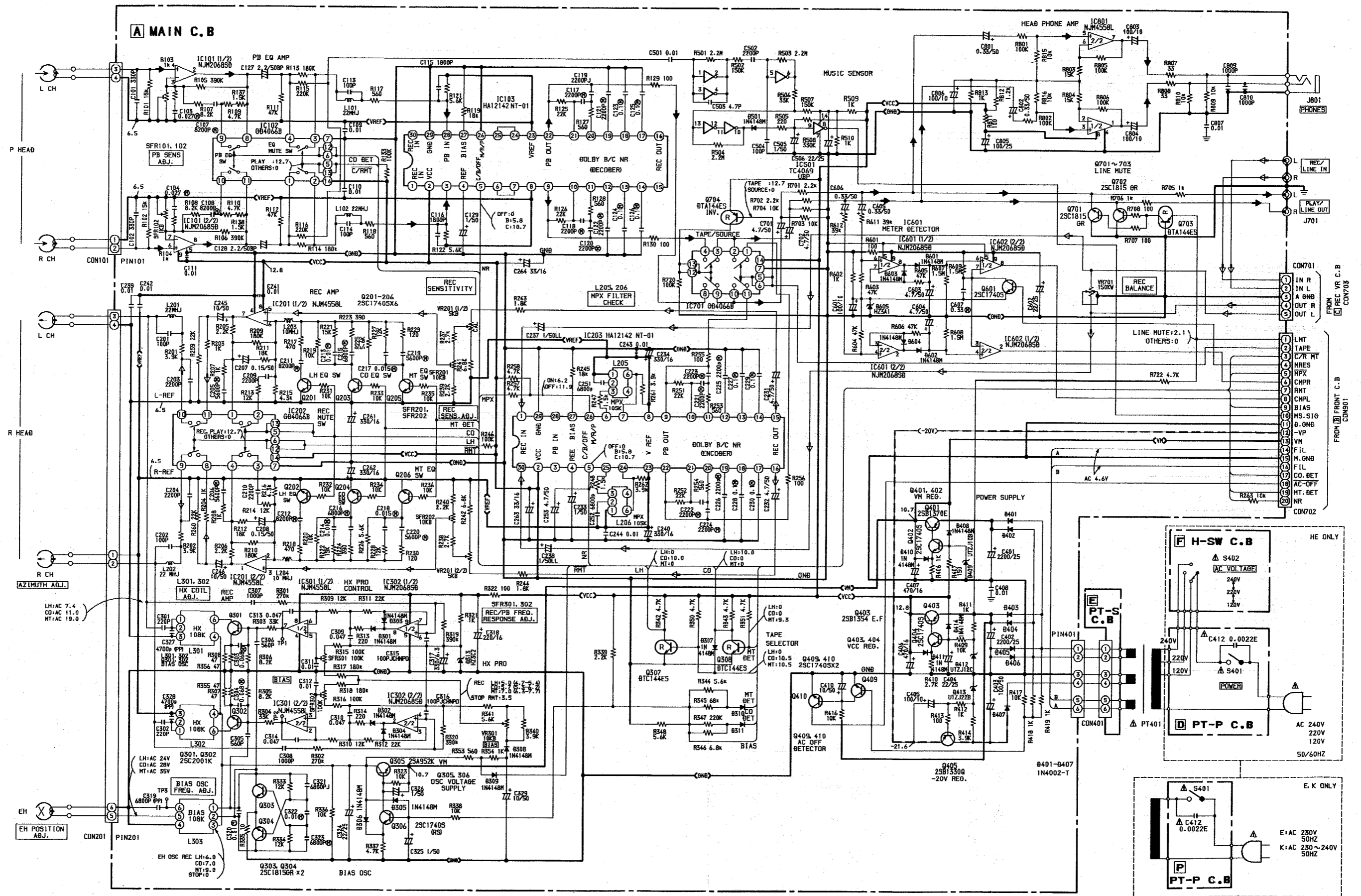
FC3



- J801 PHONES
- VR301 BIAS
- VR201 REC SENSITIVITY
- VR701 REC BALANCE



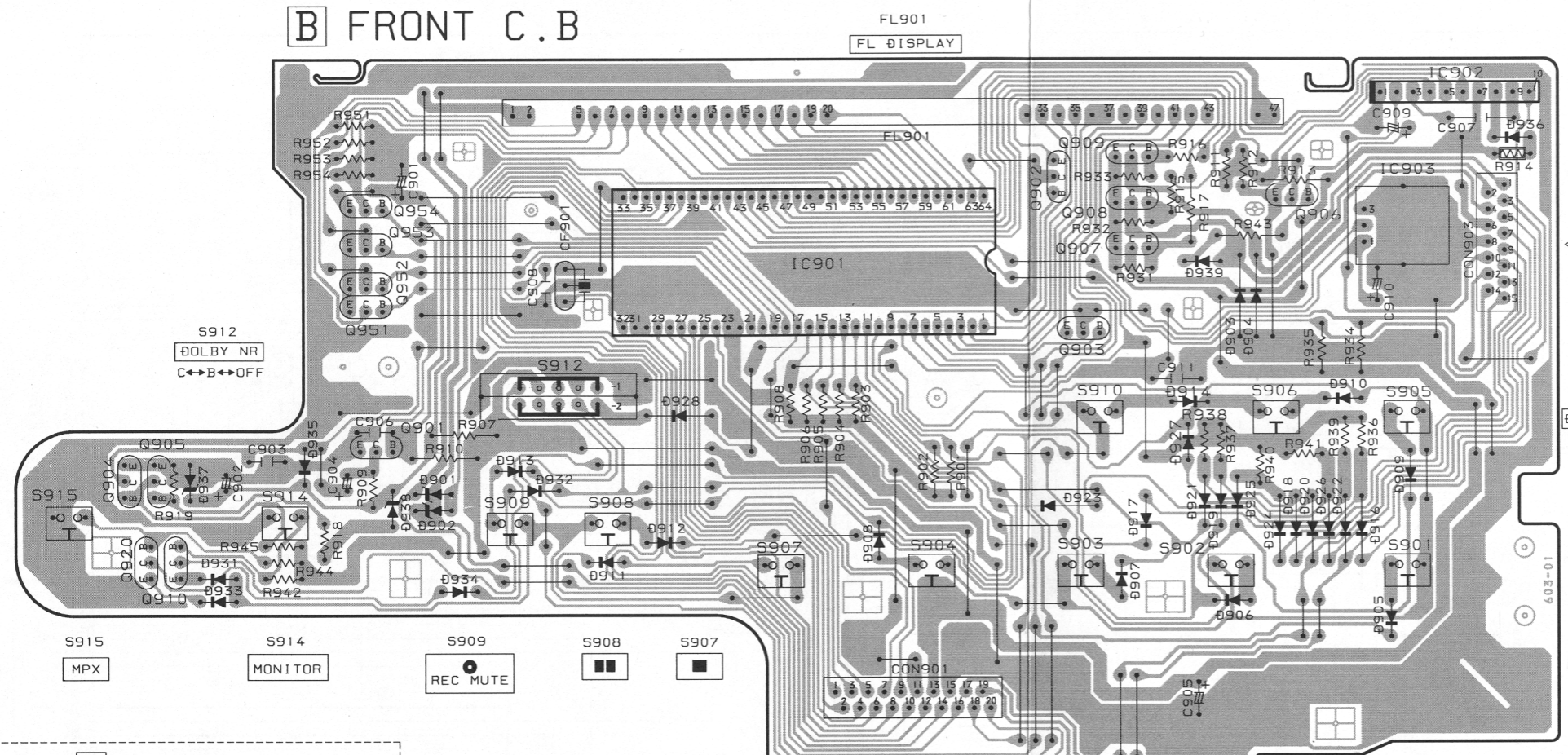
SCHEMATIC DIAGRAM - 1



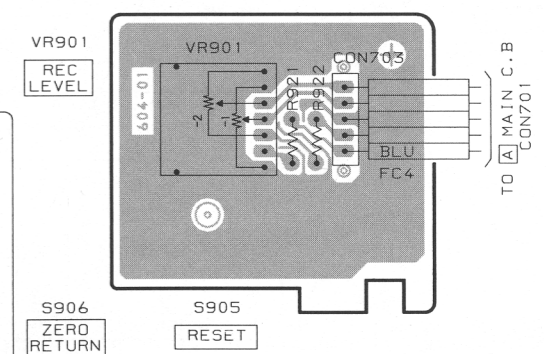
1 2 3 4 5 6 7 8 9 10 11 12 13 14

A B C D E F G H I J K

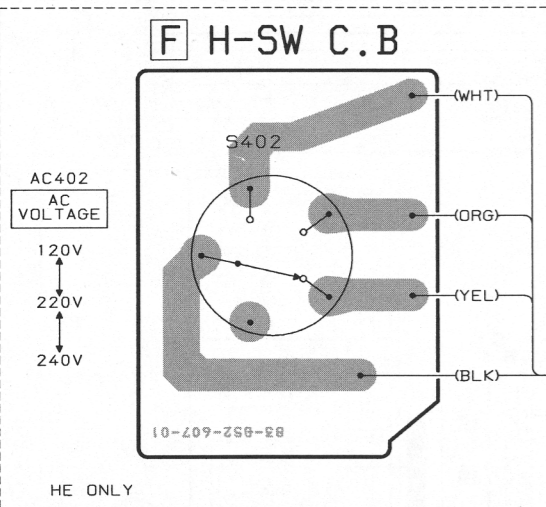
B FRONT C.B



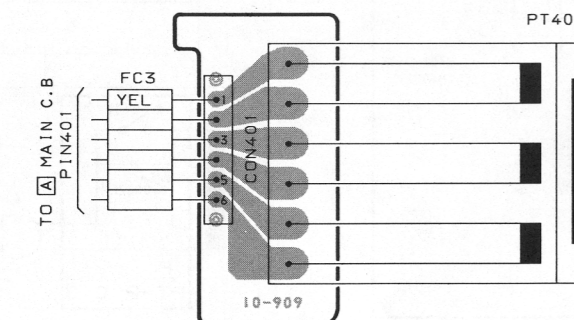
C REC VR C.B



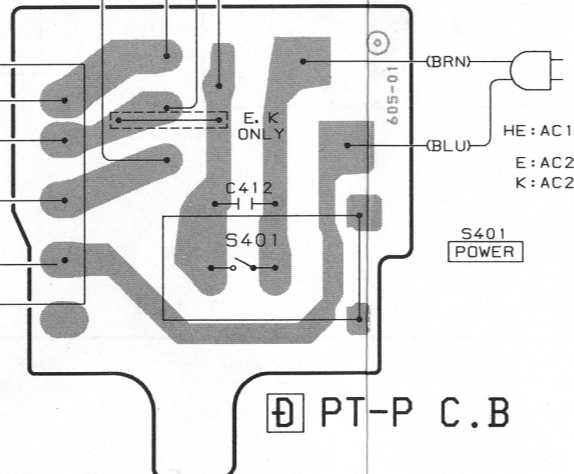
F H-SW C.B



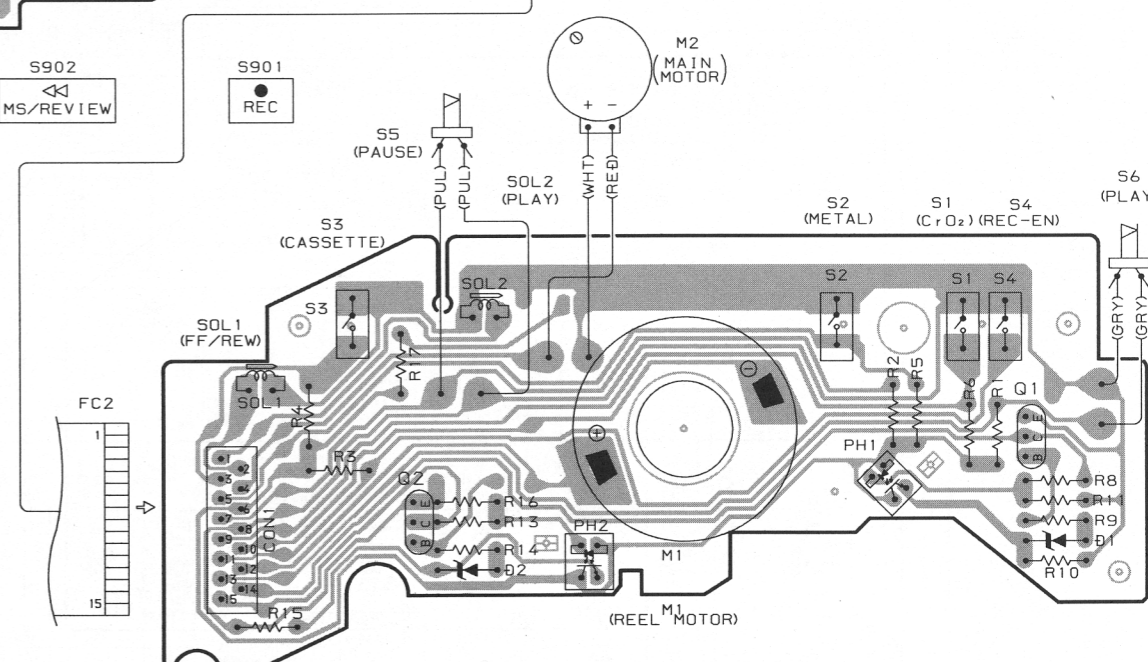
E PT-S C.B

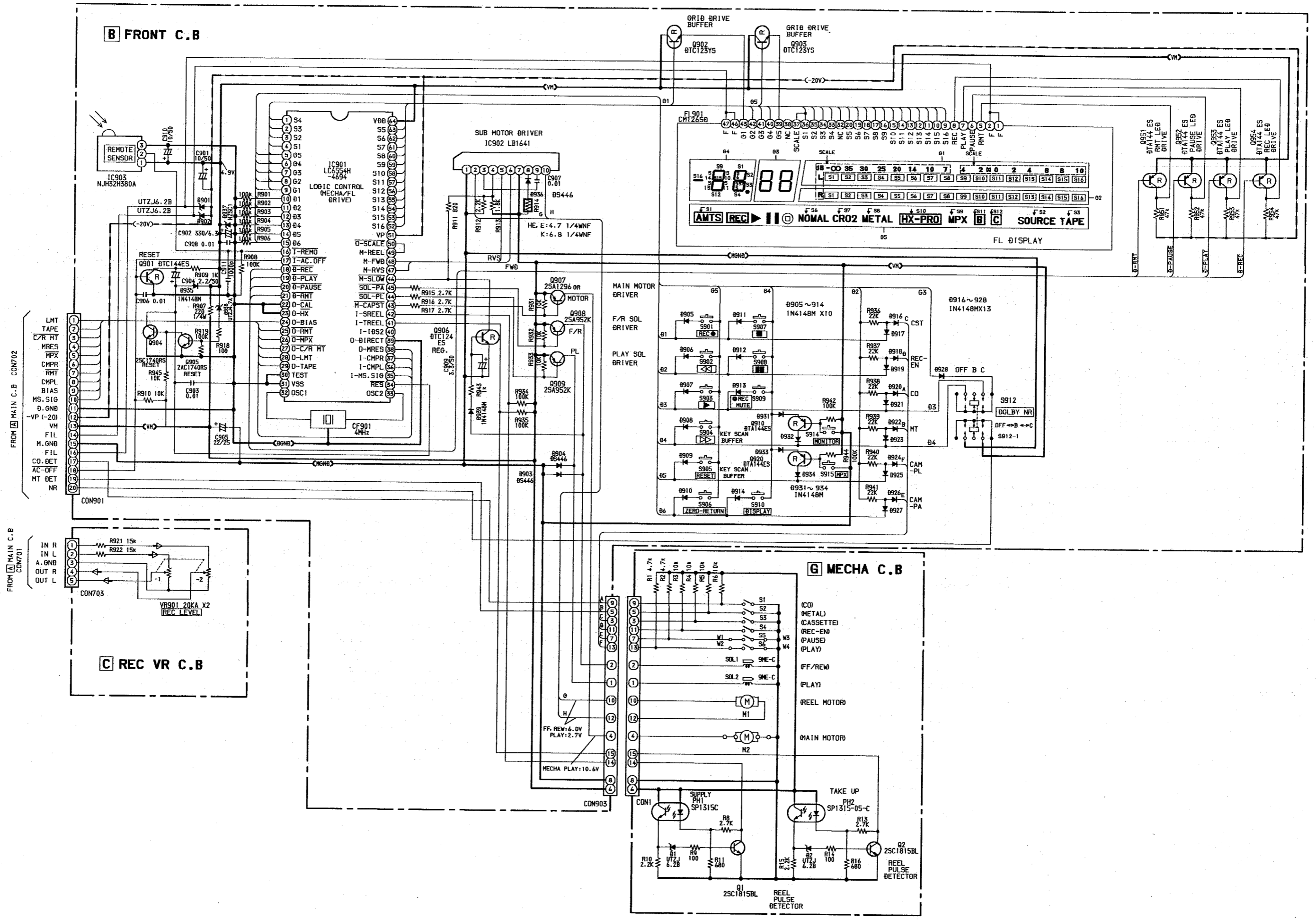


D PT-P C.B

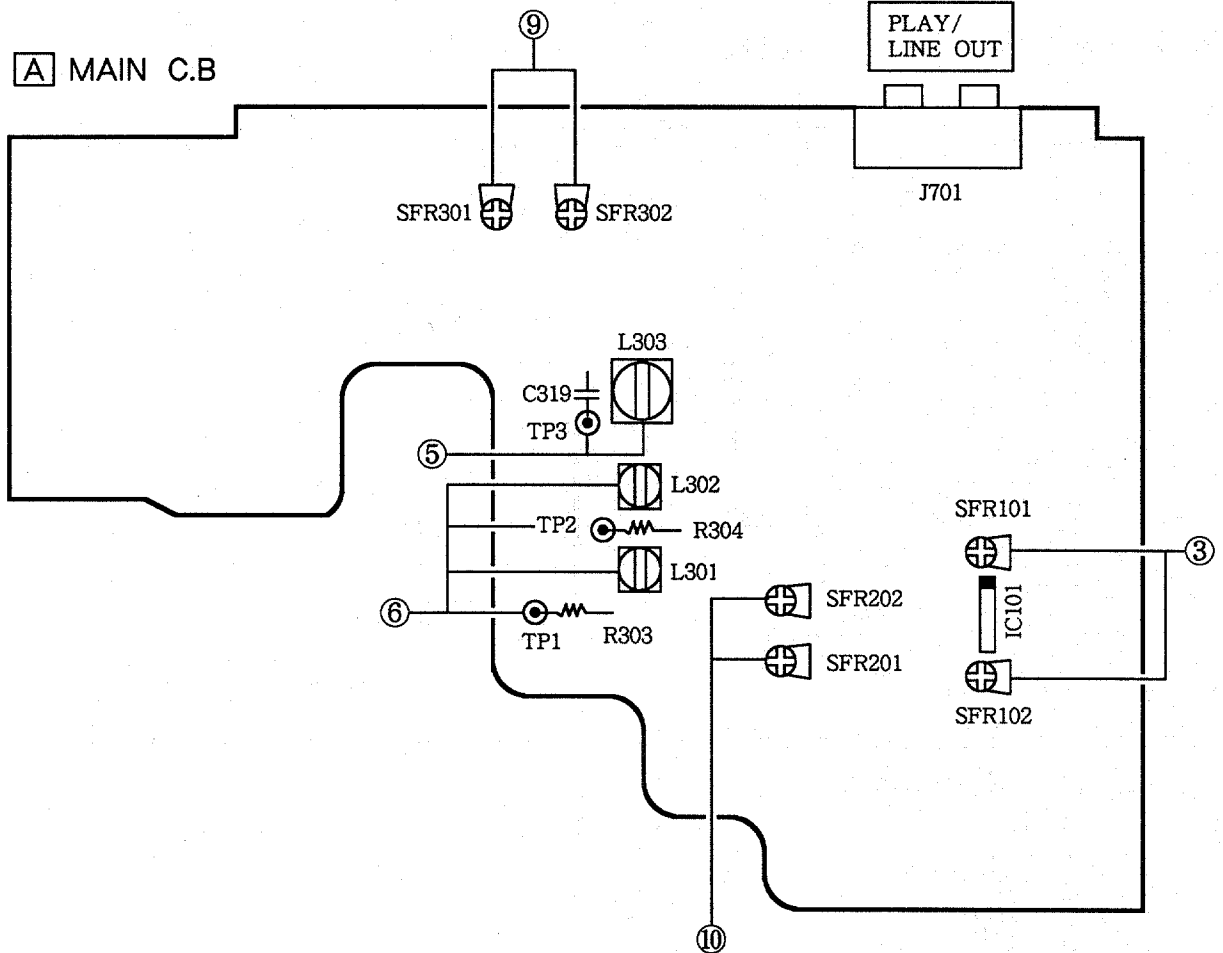
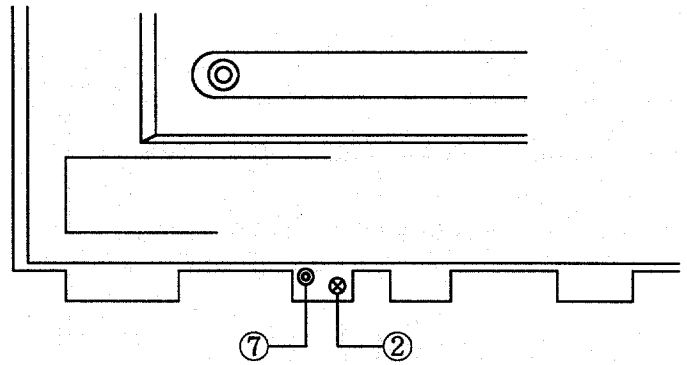
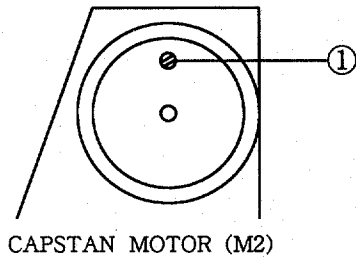


G MECHA C.B





# ADJUSTMENT



## Initial Settings

1. REC BALANCE : Mechanical center
2. BIAS FINE : Center click position
3. REC SENS : Center click position
4. MPX FILTER SW : THRU (OFF)
5. DOLBY NR SW : OFF

## 1. Tape Speed Adjustment

- Settings : • Test tape : TTA-100 (TTA-111S)  
 • Test point : LINE OUT jack (47k  $\Omega$  LOAD)  
 • Adjustment location : SFR (M2)

Method : Play back the test tape and adjust SFR so that the frequency counter reads 2995Hz  $\pm$  7Hz.

## 2. Azimuth Adjustment

- Settings : • Test tape : TTA-310 (TTA-317E, SCC-1429)  
 • Test point : LINE OUT jack (47k  $\Omega$  LOAD)  
 • Adjustment location : Azimuth adjustment screw

Method : Play the 10kHz signal of the test tape and adjust screw so that the output is maximum and the waveforms in the Lissajous figure are in phase.

## 3. Playback Sensitivity Adjustment

- Settings : • Test tape : TTA-200 (TTA-161, TCC-130)  
 • Test point : LINE OUT jack (47k  $\Omega$  LOAD)  
 • LEVEL meter : DOLBY NR mark  
 • Adjustment locations : SFR101 (L ch)  
 SFR102 (R ch)

Method : Play back the test tape and adjust SFRs so that the output level is 520mV  $\pm$  10mV.

#### 4. Playback Frequency Response Check

Settings : • Test tape : TTA-310 (TTA-317E, SCC-1429)  
• Test point : LINE OUT jack (47k  $\Omega$  LOAD)

Method : Play back the 1kHz and 10kHz signals of the test tape and check that the output of the 10kHz signal is  $0\text{dB} \pm 2\text{dB}$  with respect to that of the 1kHz signal.

#### 5. Bias OSC Frequency Adjustment

Settings : • Test tape : TTA-630 (TTA-119MP)  
• Test points : TP3  
• Adjustment location : L303

Method : Set to the record mode and adjust L303 so that frequency counter reads  $105\text{kHz} \pm 0.5\text{kHz}$ .

#### 6. HX Coil Adjustment

Settings : • Test tape : TTA-630 (TTA-119MP)  
• Test point : TP1, TP2  
• Adjustment locations : L301 (L ch)  
L302 (R ch)

Method : Adjust L301, L302 so that the DC voltage at the test points becomes minimum in the REC STANDBY mode.

#### 7. Erase Head Position Adjustment

Settings : • Test tape : TTA-630 (TTA-119MP)  
TTA-600 (TTA-119K)  
• Test point : LINE OUT jack (47k  $\Omega$  LOAD)  
• Adjustment location : Hexagonal nut of erase head  
• 0VU : 510mV

Method : Record a 125Hz +10VU signal on a test tape TTA-630 (TTA-119MP) using this unit. Rewind the recorded section and erase. Turn the hexagonal nut clockwise gradually until the Rch play back output decreases approx. 10dB. Then stop erasing and turn the hexagonal nut three fourths turn (270-300 degrees) counterclockwise. Rewind the erased section and play back the erased section. Check that the Rch play back output decreases more than 60dB.

[Over-erase check]

Record a 10kHz -10VU signal on a test tape TTA-600 (TTA-119K) using this unit and let the Rch output be the reference output. Turn over the tape without rewinding, and erase (same time as recorded time). Turn over the tape without rewinding again, play back the recorded section. Check that the difference between the Rch play back output and reference output is within  $-0.8\text{dB}$ .

\* The test tapes used for checking should be erased. After checking, fast forward the test tapes.

#### 8. MPX Filter Check

Settings : • Test point : LINE OUT jack (47k  $\Omega$  LOAD)  
• Input signal : 19kHz signal (0VU) at input  
• MPX SW : ON

Method : Set to the record mode and check that the output DOLBY NR SW ON becomes up to  $-30\text{dB}$  for the output at DOLBY NR SW OFF.

#### 9. Recording/Playback Frequency Response Adjustment

Settings : • Test tape : NORM. • TTA-600 (TTA-119K)  
CrO<sub>2</sub> • TTA-610 (TTA-119H)  
METAL • TTA-630  
(TTA-119MP)

• Test point : LINE OUT jack (47k  $\Omega$  LOAD)  
• Input signal : 1kHz/10kHz (LINE IN)  
• Adjustment locations : SFR301 (L ch)  
SFR302 (R ch)

Method : Apply a 1kHz signal and adjust the attenuator so that the output level at the LINE OUT jack is 38mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signal is  $0 \pm 0.3\text{dB}$  (NORM.),  $0 \pm 1\text{dB}$  (CrO<sub>2</sub>, METAL) with respect to that of the 1kHz signal.

#### 10. Recording Sensitivity Adjustment

Settings : • Test tape : NORM. • TTA-600 (TTA-119K)  
CrO<sub>2</sub> • TTA-610 (TTA-119H)  
METAL • TTA-630  
(TTA-119MP)

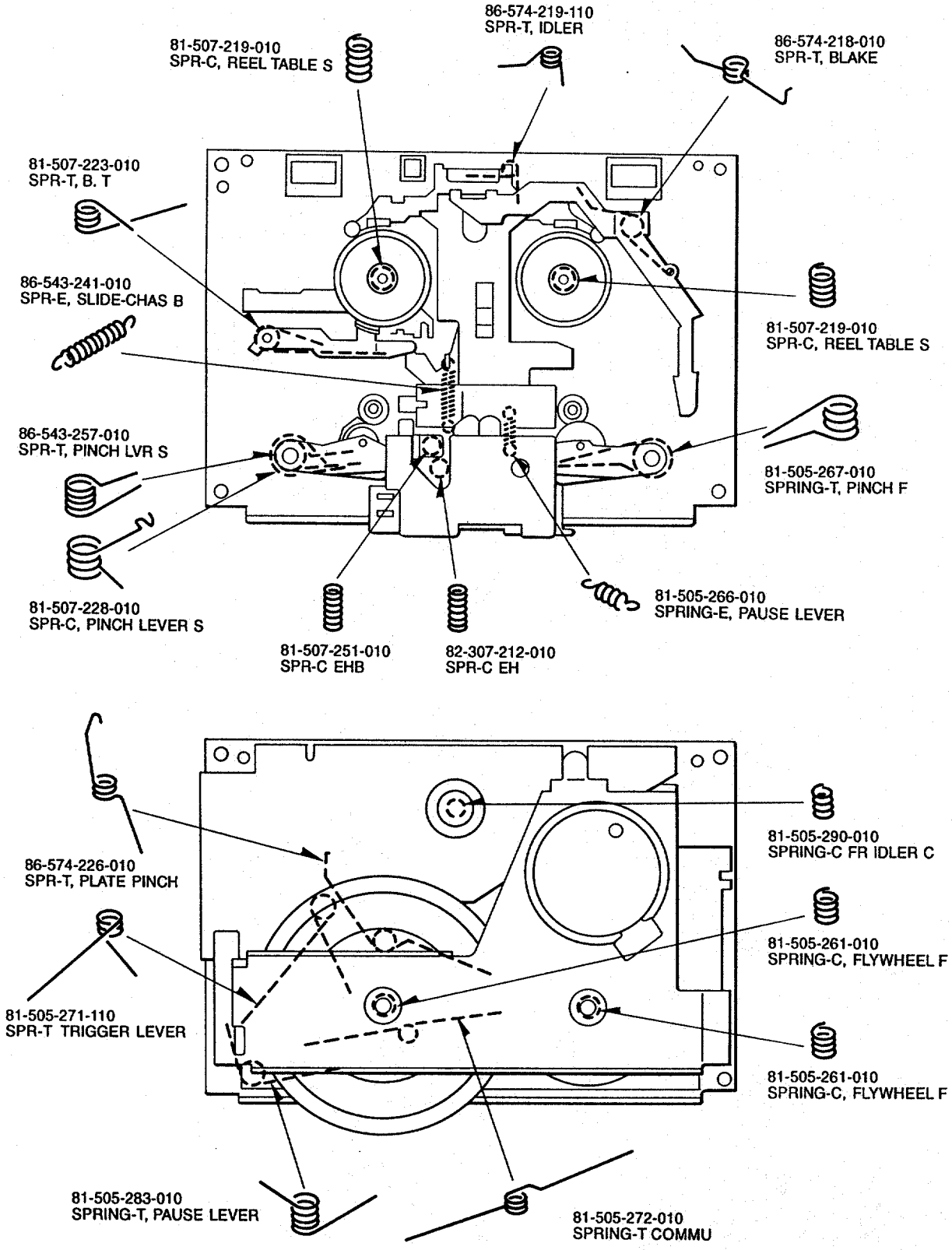
• Input signal : 1kHz (LINE IN)  
• Test point : LINE OUT jack (47k  $\Omega$  LOAD)  
• Adjustment locations : SFR201 (L ch)  
SFR202 (R ch)

Method : Apply a 1kHz signal and adjust the attenuator so that the output level at the LINE OUT jack is 38mV. Record and playback the 1kHz signal and adjust SFRs so that the output is  $0 \pm 0.2\text{dB}$  (NORM.),  $0 \pm 1\text{dB}$  (CrO<sub>2</sub>, METAL).

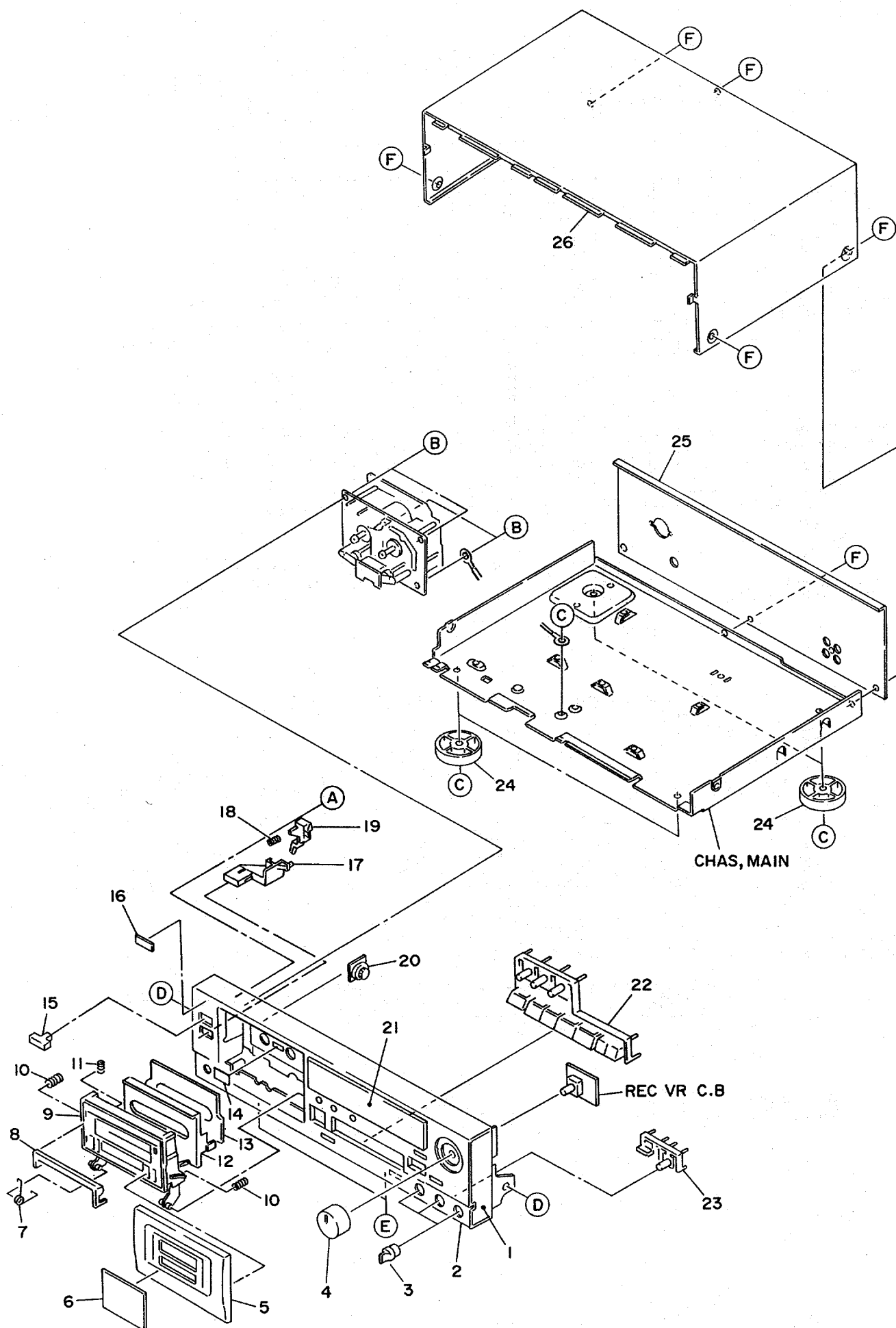
## PRACTICAL SERVICE FIGURE

Playback output :	520mV $\pm$ 1dB (LINE OUT)
REC/PB output :	380mV $\pm$ 1dB (LINE OUT)
REC/PB distortion :	Less than 2.0% (MT, CrO <sub>2</sub> )
(0VU 380mV)	Less than 1.5% (NORM)
Noise level (PB) :	
LINEAR	Less than 2.0mV/1.2mV (MT, CrO <sub>2</sub> DOLBY OFF/C) Less than 3.2mV/1.5mV (NORM DOLBY OFF/C)
Noise level (REC/PB) :	
LINEAR	Less than 2.5mV/1.5mV (MT, CrO <sub>2</sub> DOLBY OFF/C) Less than 3.5mV/2.0mV (NORM DOLBY OFF/C)
Crosstalk :	More than 60dB (1kHz, 0VU)
Erasing ratio :	More than 60dB (125Hz)
Channel separation :	More than 35dB (1kHz, 0VU)
REC bias frequency :	105kHz
Tape speed :	3000Hz $\pm$ 1.5%
Wow & flutter :	Less than 0.05% (W.R.M.S)
Take-up torque :	27~58g-cm
F.F torque :	90~190g-cm
Rew torque :	90~190g-cm
Back tension :	4~10g-cm
Test tape :	NORMAL TTA - 601/600 CrO <sub>2</sub> TTA - 610 METAL TTA - 630

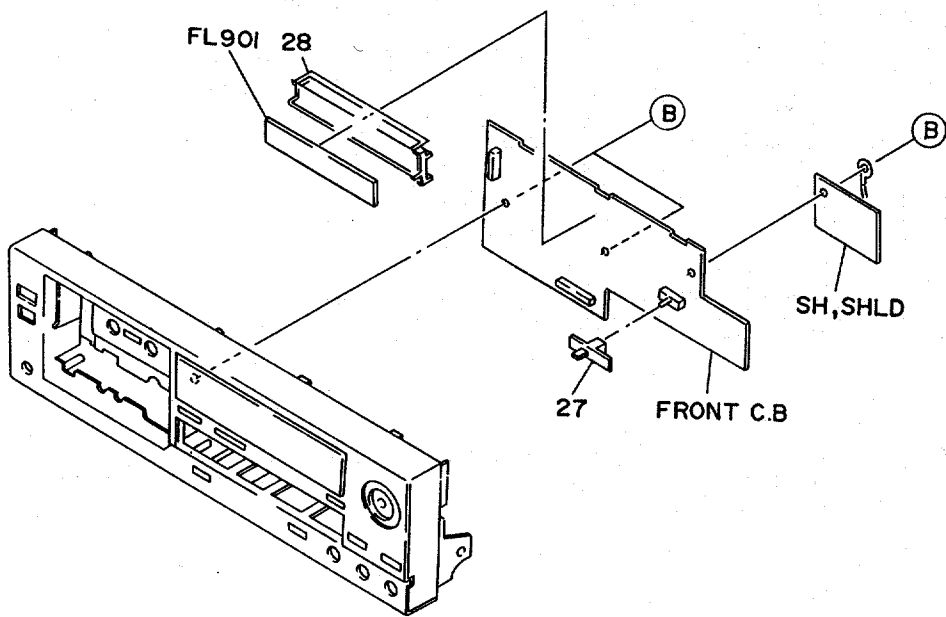
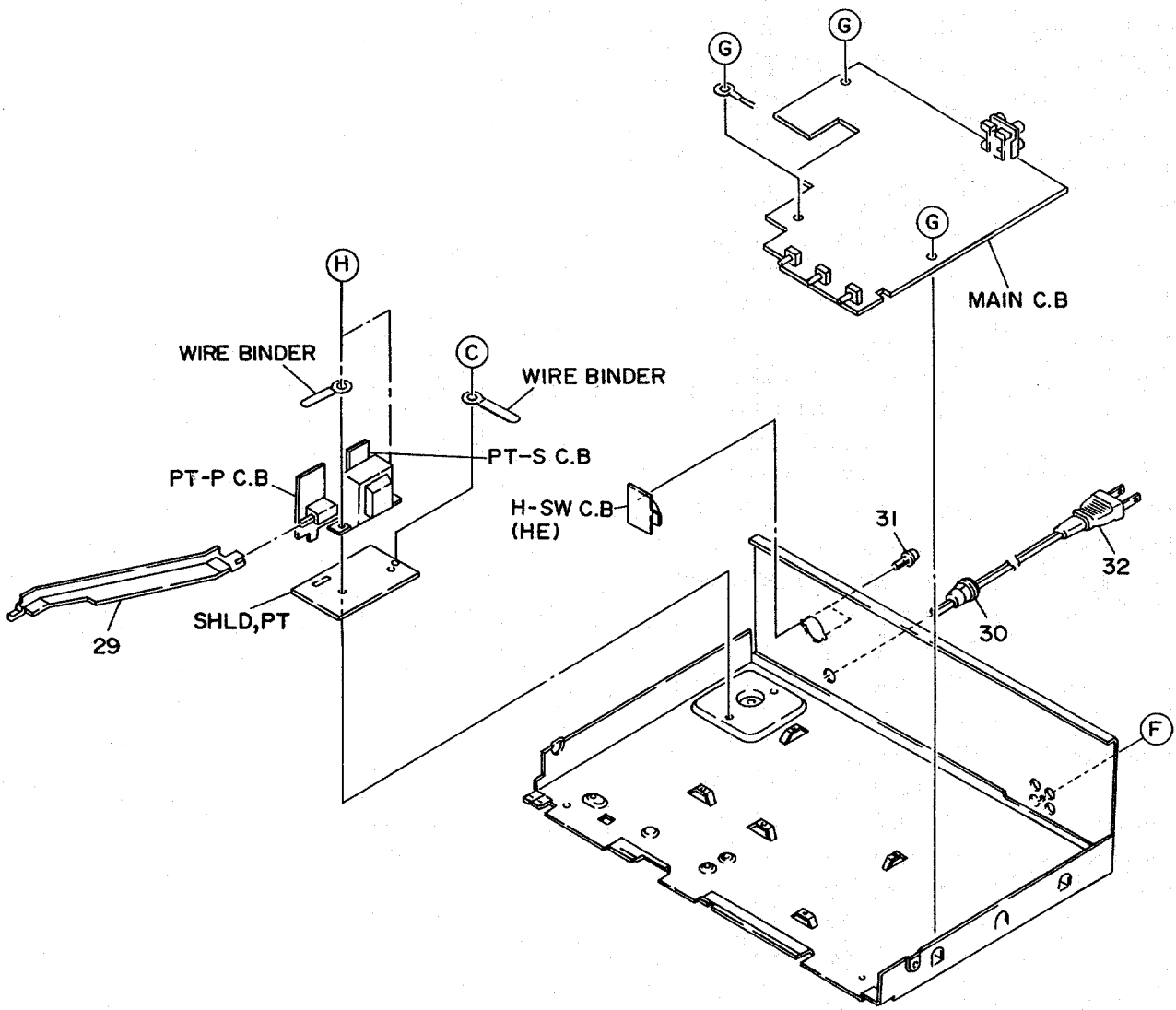
# SPRING APPLICATION POSITION



MECHANICAL 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.	カマ NO.	DESCRIPTION	REF. NO	PART NO.	カマ NO.	DESCRIPTION
1	83-DS2-001-019		CAB, FR	25	83-DS2-017-019		PANEL, REAR EBN(E)
2	83-DS2-002-010		PANEL, FR	25	83-DS2-018-019		PANEL, REAR KBN(K)
3	83-DS3-006-019		KNOB, BIAS	26	84-793-026-219		CAB, STEEL
4	83-DS3-004-019		KNOB, REC	27	80-DW1-012-019		KNOB, SLIDE
5	83-DS2-003-019		PANEL, CASS	28	81-DS2-204-219		GUIDE, FL
6	83-DS2-012-019		WINDOW, BOX	29	83-DS2-201-019		ROD, POWER
7	83-DS2-202-019		SPR-T, EJECT	30	87-085-185-019		BUSHING, AC CORD E
8	84-790-204-019		HOOK, EJECT	31	87-084-099-019		RIVET, NYLON 3-5.5 SP<HE>
9	81-DS1-007-119		BOX, CASS	△ 32	87-050-032-019		AC CORD ASSY K 3P S<K>
10	82-238-205-019		SPR-C, AMTS	△ 32	87-050-034-019		AC CORD ASSY, E<HE, E>
11	84-790-205-019		SPR-C, HOOK	A	87-761-096-419		VFT2 +3-10
12	84-790-032-319		PANEL, AMTS	B	87-067-703-019		BVT2+3-10 (W/O SLOT)
13	84-790-202-019		RUBBER, AMTS	C	87-067-688-019		BVTT +3-6
14	81-532-080-019		LBL, CASS-COMPT	D	87-591-094-419		QIT +3-6 GOLD
15	82-AA1-016-019		BTN, POWER	E	87-067-777-019		BVTT+3-6W CONVEX BLK
16	81-DS1-011-019		BADGE, AIWA N	F	87-067-660-019		BVT2+3-8W/O SLOT BLK
17	83-DS2-004-019		BTN, EJECT	G	87-078-084-019		BVTT+3-6 W, CONVEX
18	80-DS3-209-019		SPR-C, EJECT	H	87-067-566-019		VFTT +3-6
19	80-DS3-203-019		LVR, EJECT				
20	87-063-165-019		OIL-DMPR 150				
21	83-DS2-011-019		WINDOW, FL				
22	83-DS2-005-019		KEY, PLAY				
23	83-DS2-007-019		KEY, MONITOR				
24	82-AA1-029-119		FOOT(SG)				
25	83-DS2-016-019		PANEL, REAR HEJBN<HE>				

# REFERENCE NAME LIST

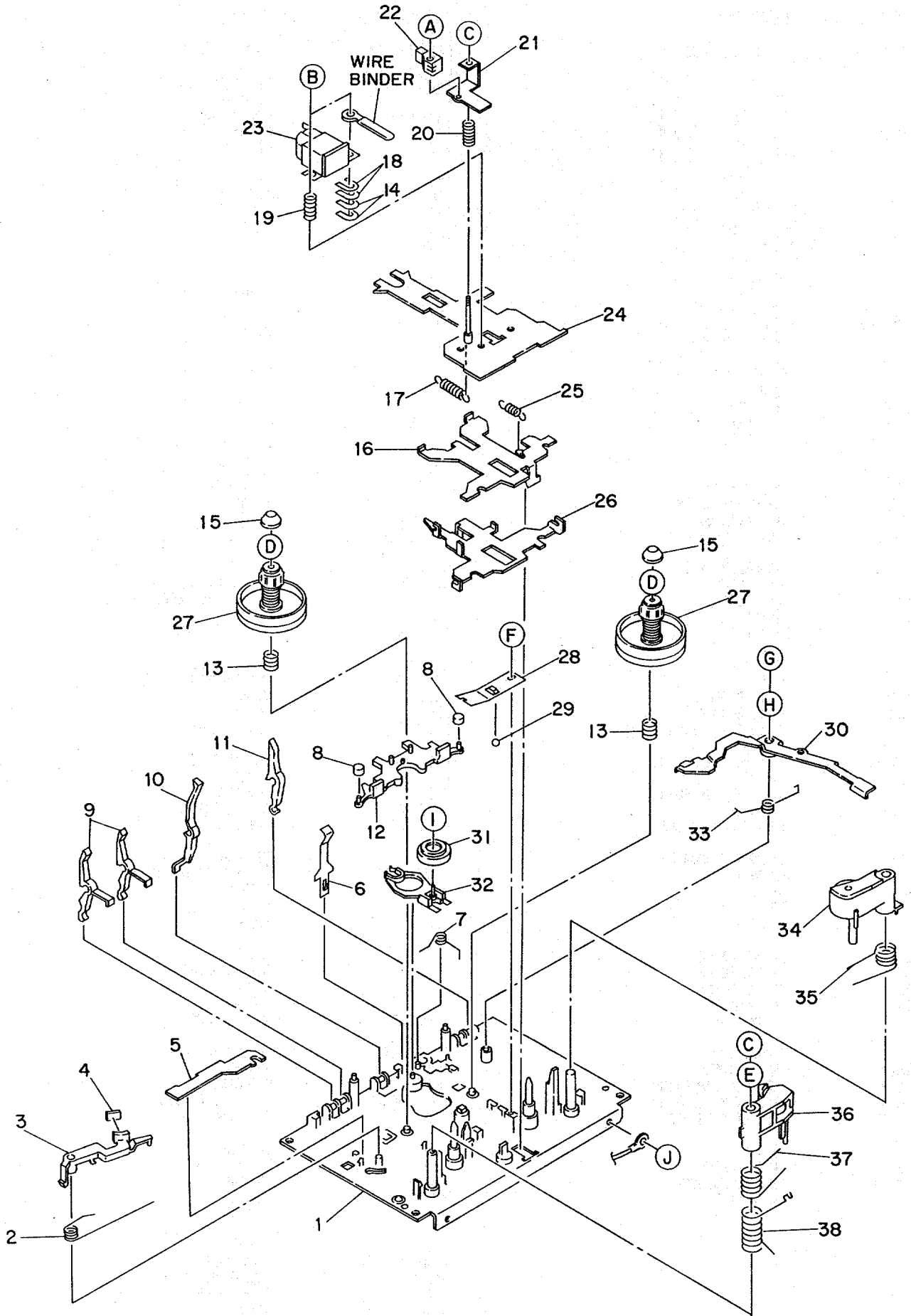
## ELECTRICAL SECTION

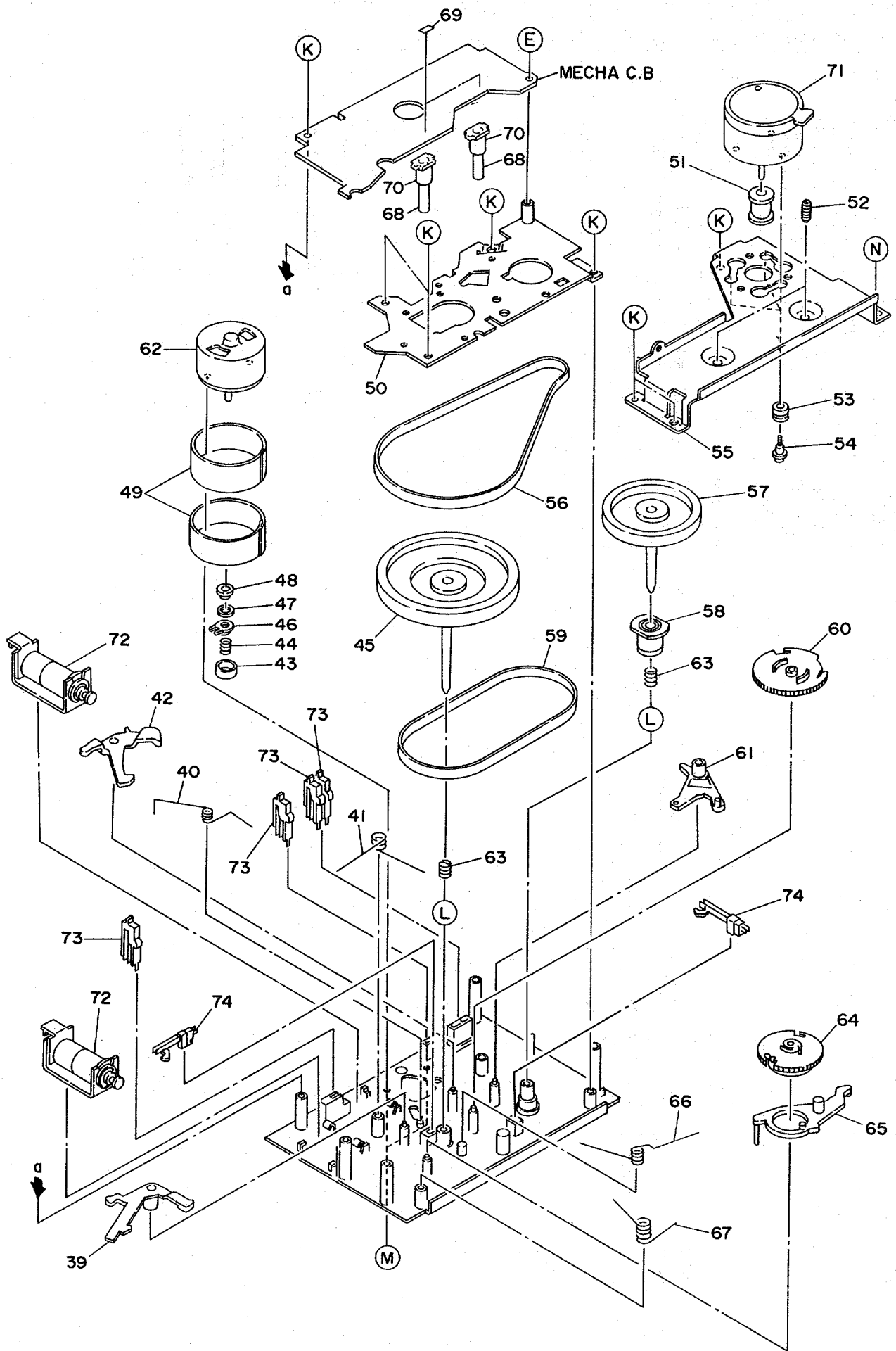
DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	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, CERA-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

## 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, LOADING 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	S-SCRW
ピンジ	HINGE
ピンジス	S-SCRW
ビスネー	SCRW, SERRART

TAPE MECHANISM EXPLODED VIEW 1/1





# TAPE MECHANISM PARTS LIST 1/1

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REF. NO	PART NO.	カンリ NO.	DESCRIPTION	REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	86-574-201-51K		OUT-SERT ASSY	46	86-574-207-01K		LVR, CLUTCH
2	81-507-223-010		SPR-T, B, T	47	86-574-211-019		FELT, 3.8-7.6-0.8
3	81-507-222-11K		LEVER, BACK TENSION	48	86-574-206-01K		STOPPER, SP
4	86-574-225-019		FELT, 2.5-6-1	49	82-110-647-01K		SHLD PLATE, M
5	81-505-238-01K		PLATE EJECT BUTTON	50	80-ZM5-222-01K		CHAS ASSY, B M5
6	86-574-216-010		SPR-P, CASSETTE	51	86-575-329-01K		PULLY MAIN K
7	86-574-219-110		SPR-T, IDLER	52	82-565-373-01K		SCREW, THRUST
8	81-507-229-010		BRAKE G	53	87-087-029-010		CUSHION, RBR
9	81-505-241-21K		LEVER, CR02 REC BLOCKING	54	87-067-441-019		SCREW, MOTOR
10	81-505-242-21K		LVR, METAL	55	81-507-221-11K		HLDR, MOTOR
11	81-505-240-21K		LEVER CASS SENSOR	56	86-574-221-010		BELT A
12	81-505-236-31K		LVR, SLIDE BRAKE	57	86-574-214-01K		FLY-WHL ASSY, T
13	81-507-219-010		SPR-C, REEL TABLE S	58	81-505-225-11K		GEAR, FLY-WHL
14	86-543-258-010		SPACER, HEAD, 0.2	59	81-507-247-110		BELT, B RBR
15	82-303-398-01K		CAP, REEL TABLE	60	81-505-234-21K		GEAR, PLAY CAM
16	81-505-207-11K		PLATE PAUSE	61	81-505-230-01K		LEVER, PLAY
17	86-543-241-010		SPR-E, SLIDE-CHAS B	62	87-045-323-019		MMN-6FILBKK
18	81-507-227-010		SPACER	63	81-505-261-010		SPRING-C, FLYWHEEL F
19	82-307-212-010		SPR-C EH	64	81-505-235-21K		GEAR, PAUSE
20	81-507-251-010		SPR-C EHB	65	81-505-308-01K		LVR, PUSE B
21	81-507-250-01K		HOLDER EH, C	66	81-505-272-010		SPRING-T COMMU
22	87-046-359-010		HEAD, EH H3311	67	81-505-283-010		SPRING-T, PAUSE LEVER
23	87-046-361-010		HEAD, RPH H2381	68	86-574-223-01K		LVR, SENSOR
24	86-574-243-11K		CHAS ASSY, SL2	69	86-574-229-010		CUSH-G, 2.3-3-0.45
25	81-505-266-010		SPRING-E, PAUSE LEVER	70	86-574-230-010		SH, SENSOR
26	81-507-220-01K		PLATE, PINCH LEVER	71	87-045-360-019		MOT, SHE 2L 00
27	80-ZM5-226-01K		REEL TABLE ASSY, S M5	72	81-507-237-010		SOL, 9ME-C
28	81-507-224-010		SPRING-P WORKING CHASSIS	73	81-505-607-010		BSW-187-2AU, LEAF SW
29	87-073-005-019		STEEL BALL DIA 2MM	74	81-505-601-010		LEAF SWITCH GEAR
30	81-505-307-41K		LVR, BRAKE	A	87-261-036-219		SCREW V + 2 - 8
31	81-505-251-210		FR IDLER, SUB ASSY	B	87-253-035-110		U+2-6
32	86-574-208-11K		LVR, FRP ASSY	C	87-391-105-019		NUT 2-4-1.6
33	86-574-218-010		SPR-T, BLAKE	D	87-081-489-019		PW, 1.7-3.5-0.25 SLT
34	81-505-210-210		PINCH LEVER ASSY F	E	87-067-006-019		WASHER, W2-5-0.2
35	81-505-267-010		SPRING-T, PINCH F	F	87-341-035-219		SCREW UT1 + 2 - 6
36	81-507-207-310		PINCH LEVER ASSY, S	G	87-341-038-219		SCREW UT1 +2-12
37	86-543-257-010		SPR-T, PINCH LVR S	H	87-081-414-019		W2-6-0.4
38	81-507-228-010		SPR-C, PINCH LEVER S	I	87-081-944-019		PW, 1.5-3.5-0.5
39	81-505-233-01K		TRIGGER LEVER, PAUSE	J	87-081-481-219		SCREW, VTT+3-5
40	86-574-226-010		SPR-T, PLATE PINCH	K	87-342-074-019		UT2+2.6-8 W/O SLT
41	81-505-271-110		SPR-T TRIGGER LEVER	L	87-067-718-019		PW 3-8-0.5
42	81-505-231-01K		TRIGGER LEVER, PLAY	M	86-574-231-019		SCREW V+2.6-5.2
43	86-574-205-11K		POLLERY, REEL MOTOR	N	81-505-341-019		SCREW VFT + 2.6 - 31.5
44	81-505-290-010		SPRING-C FR IDLER C	O	87-255-071-210		U+2.6-4
45	86-574-241-01K		FLY-WHL ASSY, S2				

サービス技術ニュース	
番号	連絡内容
G- -	
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**アイワ株式会社**  
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