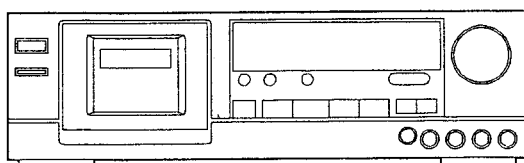


aiwa



AD-S950



STEREO CASSETTE DECK

• BASIC TAPE MECHANISM: α 12 R5N

• TYPE: HE, U, E, K

改 定 版

REVISION PUBLISHING

SPECIFICATIONS

Type	Stereo cassette deck
Track format	4 tracks, 2 channels
Power supply	AD-S950 U AC 120 V, 60 Hz AD-S950 E AC 230 V, 50 Hz AD-S950 K AC 230-240 V, 50 Hz AD-S950 HE AC 120/220/240 V switchable, 50/60 Hz
Power consumption	25 W
Frequency response	Metal tape: 15-21,000 Hz CrO ₂ tape: 15-18,000 Hz Normal tape: 15-18,000 Hz
Signal-to-noise-ratio	84 dB (DOLBY S NR ON, METAL tape Peak Level)
Wow and flutter	0.035% (WRMS) 0.1% (DIN 45500)
Tape speed	4.75 cm/sec. (1 7/8 ips)
Recording system	AC bias (frequency 105 kHz)
Erase system	AC erase
Motor	DC servomotor $\times$ 1 DC motor $\times$ 1

Heads	Playback head $\times$ 1 (PC-OCC coil super DX head) Recording head $\times$ 1 (PC-OCC coil super DX head) Erase head $\times$ 1 (Double-gap sendust head)
Inputs	REC/LINE IN: 100 mV (MAX input sensitivity, 47 k Ω)
Outputs	PLAY/LINE OUT: 350 mV (0 dB) Suitable load impedance over 47 k Ω PHONES: 1.1 mW (0 dB) Suitable load impedance 32 Ω 430 (W) $\times$ 140 (H) $\times$ 318 (D) mm (17 $\times$ 5 5/8 $\times$ 12 5/8 inches)
Dimensions	
Weight	5 kg (11 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. Laboratories Licensing Corporation.

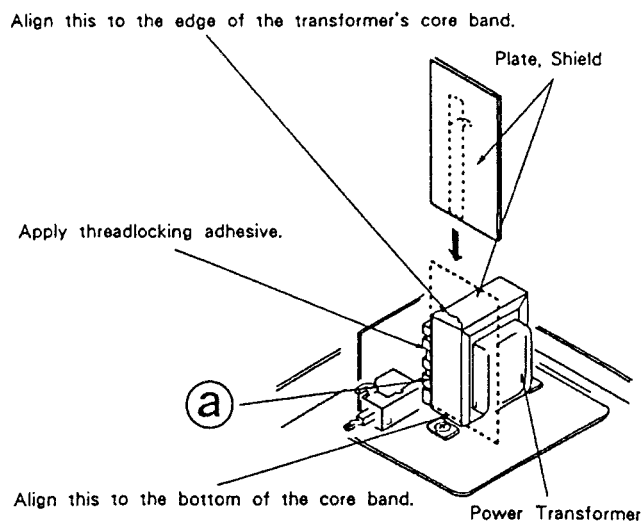
MANUAL SERVICE

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 ③. 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".

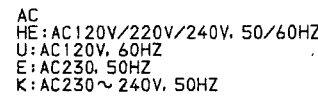
REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	83-DS1-901-019		IB, EGFS1C(S) (EXCEPT U)
2	83-DS1-902-019		IB, ESF(S) (U)
3	83-DS2-631-019		RC, RC-S106
4	87-009-725-019		PLUG, ADPTR IR40 (HE)
5	87-034-786-019		CORD PIN 189-0760

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.	カリ NO.	DESCRIPTION	REF. NO.	PART NO.	カリ NO.	DESCRIPTION
IC				C152	87-018-100-089		CAP, TC-U 4.7P-50 SL
	87-002-393-010		IC, NJM78M08FA	C153	87-018-132-089		CAP, TC-U 2200P-16 X
	87-002-392-010		IC, NJM79M08FA	C154	87-018-119-089		CAP, TC-U 100P-50 B
	80-DS1-608-010		IC, CXA1417S	C155	87-010-401-089		CAP, E 1-50 SME
	87-001-422-010		IC, NJM2068DD	C156	87-010-382-089		CAP, E 22-25 SME
	87-017-465-019		IC, GD4066B				
	87-027-827-019		IC, TC4069UBP	C201	87-010-263-089		CAP, E 100-10 SME 5X11
	83-DS1-627-010		IC, CXA1563S	C202	87-010-263-089		CAP, E 100-10 SME 5X11
	87-002-727-019		IC, NJM4558L	C203	87-010-404-089		CAP, E 4.7-50 SME
	87-020-758-019		IC, NJM2068SD	C204	87-010-404-089		CAP, E 4.7-50 SME
	81-DS2-613-010		IC, LC6554-4694	C209	87-018-197-089		CAP, TC-U 1800P-16 X
	87-017-373-019		IC, NJH32H380A				
	87-002-394-019		IC, LB1641	C210	87-018-197-089		CAP, TC-U 1800P-16 X
				C221	87-010-248-089		CAP, E 220-10 SME
				C222	87-010-248-089		CAP, E 220-10 SME
				C327	87-018-132-089		CAP, TC-U 2200P-16 X
				C328	87-018-132-089		CAP, TC-U 2200P-16 X
TRANSISTOR				C329	87-010-405-089		CAP, E 10-50 SME
	89-213-702-019		TR, 2SB1370E	C330	87-010-405-089		CAP, E 10-50 SME
	89-318-156-089		TR, 2SC1815BL	C331	87-018-032-089		CAP, TC-S 100P-50 SL
	87-026-462-089		TR, 2SC1740S (RS)	C332	87-018-032-089		CAP, TC-S 100P-50 SL
	89-213-293-089		TR, 2SB1329R (T105)	C401	87-010-263-089		CAP, E 100-10 SME 5X11
	89-320-011-089		TR, 2SC2001K				
	87-026-214-089		TR, DTA114YS	C402	87-010-263-089		CAP, E 100-10 SME 5X11
	89-109-521-089		TR, 2SA952K	C403	87-018-209-089		CAP, TC-U 0.1-50 F
	89-318-155-089		TR, 2SC1815GR	C404	87-018-209-089		CAP, TC-U 0.1-50 F
	89-420-052-089		TR, 2SD2005Q	C405	87-018-121-089		CAP, TC-U 150P-50 B
	87-026-217-089		TR, DTC124ES	C406	87-018-121-089		CAP, TC-U 150P-50 B
	87-026-292-089		TR, DTA144WS				
	87-026-216-089		TR, DTA124ES	C407	87-015-951-089		CAP, E 1-50 LL
	87-026-219-089		TR, DTA144ES	C408	87-015-951-089		CAP, E 1-50 LL
	87-026-287-089		TR, DTC143ES	C409	87-010-404-089		CAP, E 4.7-50 SME
	89-112-965-089		TR, 2SA1296GR	C410	87-010-404-089		CAP, E 4.7-50 SME
				C415	87-010-404-089		CAP, E 4.7-50 SME
DIODE				C416	87-010-404-089		CAP, E 4.7-50 SME
	87-001-783-089		DIODE, 1N4002-T	C417	87-010-401-089		CAP, E 1-50 SME
	87-001-914-089		ZENER, UTZJ 6.2B	C421	87-018-202-089		CAP, TC-U 6800P-16 X
	87-017-437-089		DIODE, 1N4148M	C422	87-018-202-089		CAP, TC-U 6800P-16 X
	87-001-918-089		ZENER, UTZJ22B	C423	87-010-248-089		CAP, E 220-10 SME
	87-027-286-089		ZENER, HZ5C1				
	87-020-123-089		DIODE, DS446-AT (TA)	C424	87-010-248-089		CAP, E 220-10 SME
	87-001-912-089		ZENER, UTZJ 5.1B	C432	87-010-402-089		CAP, E 2.2-50 SME
	87-020-465-089		DIODE, 1SS131	C433	87-010-401-089		CAP, E 1-50 SME
				C501	87-010-260-089		CAP, E 47-25 SME
				C502	87-010-405-089		CAP, E 10-50 SME
				C507	87-014-081-089		CAP, PP 0.01 J
				C508	87-010-248-089		CAP, E 220-10 SME
				C551	87-010-263-089		CAP, E 100-10 SME 5X11
				C552	87-010-263-089		CAP, E 100-10 SME 5X11
				C559	87-018-131-089		CAP, TC-U 1000P-50 B
MAIN C.B				C560	87-018-131-089		CAP, TC-U 1000P-50 B
C1	87-010-453-099		CAP, ELECT 4700-25V SME	C563	87-018-124-089		CAP, TC-U 270P-50 B
C2	87-010-389-099		CAP, ELECT 2200-25V SME	C564	87-018-124-089		CAP, TC-U 270P-50 B
C3	87-010-389-099		CAP, ELECT 2200-25V SME	C567	87-010-263-089		CAP, E 100-10 SME 5X11
C4	87-010-247-089		CAP, E 100-50 SME	C569	87-014-057-889		CAP, PP 1000P-100 J
C5	87-010-931-019		CAP, E 330-16 AWF				
C6	87-010-931-019		CAP, E 330-16 AWF	C570	87-014-057-889		CAP, PP 1000P-100 J
C7	87-010-237-089		CAP, E 1000-16	C571	87-018-123-089		CAP, TC-U 220P-50 B
C8	87-010-370-089		CAP, E 330-6.3 SME	C572	87-018-123-089		CAP, TC-U 220P-50 B
C9	87-010-405-089		CAP, E 10-50 SME	C601	87-010-405-089		CAP, E 10-50 SME
C10	87-010-405-089		CAP, E 10-50 SME	C604	87-010-401-089		CAP, E 1-50 SME
C101	87-010-248-089		CAP, E 220-10 SME				
C102	87-010-248-089		CAP, E 220-10 SME	C610	87-010-401-089		CAP, E 1-50 SME
C113	87-018-032-089		CAP, TC-S 100P-50 SL	C611	87-018-127-089		CAP, TC-U 470P-50 B
C114	87-018-032-089		CAP, TC-S 100P-50 SL	C612	87-018-195-089		CAP, TC-U 1200P-16 X
C123	87-018-125-089		CAP, TC-U 330P-50 B	C614	87-010-405-089		CAP, E 10-50 SME
				C643	87-010-677-089		CAP, E 0.15-50 7L
C124	87-018-125-089		CAP, TC-U 330P-50 B				
C127	87-010-404-089		CAP, E 4.7-50 SME	C703	87-010-263-089		CAP, E 100-10 SME 5X11
C128	87-010-404-089		CAP, E 4.7-50 SME	C704	87-010-263-089		CAP, E 100-10 SME 5X11
C129	87-010-404-089		CAP, E 4.7-50 SME	C705	87-010-405-089		CAP, E 10-50 SME
C130	87-010-404-089		CAP, E 4.7-50 SME	C706	87-010-405-089		CAP, E 10-50 SME
				C707	87-010-263-089		CAP, E 100-10 SME 5X11
C151	87-018-134-089		CAP, TC-U 0.01-16 Y	C708	87-010-263-089		CAP, E 100-10 SME 5X11

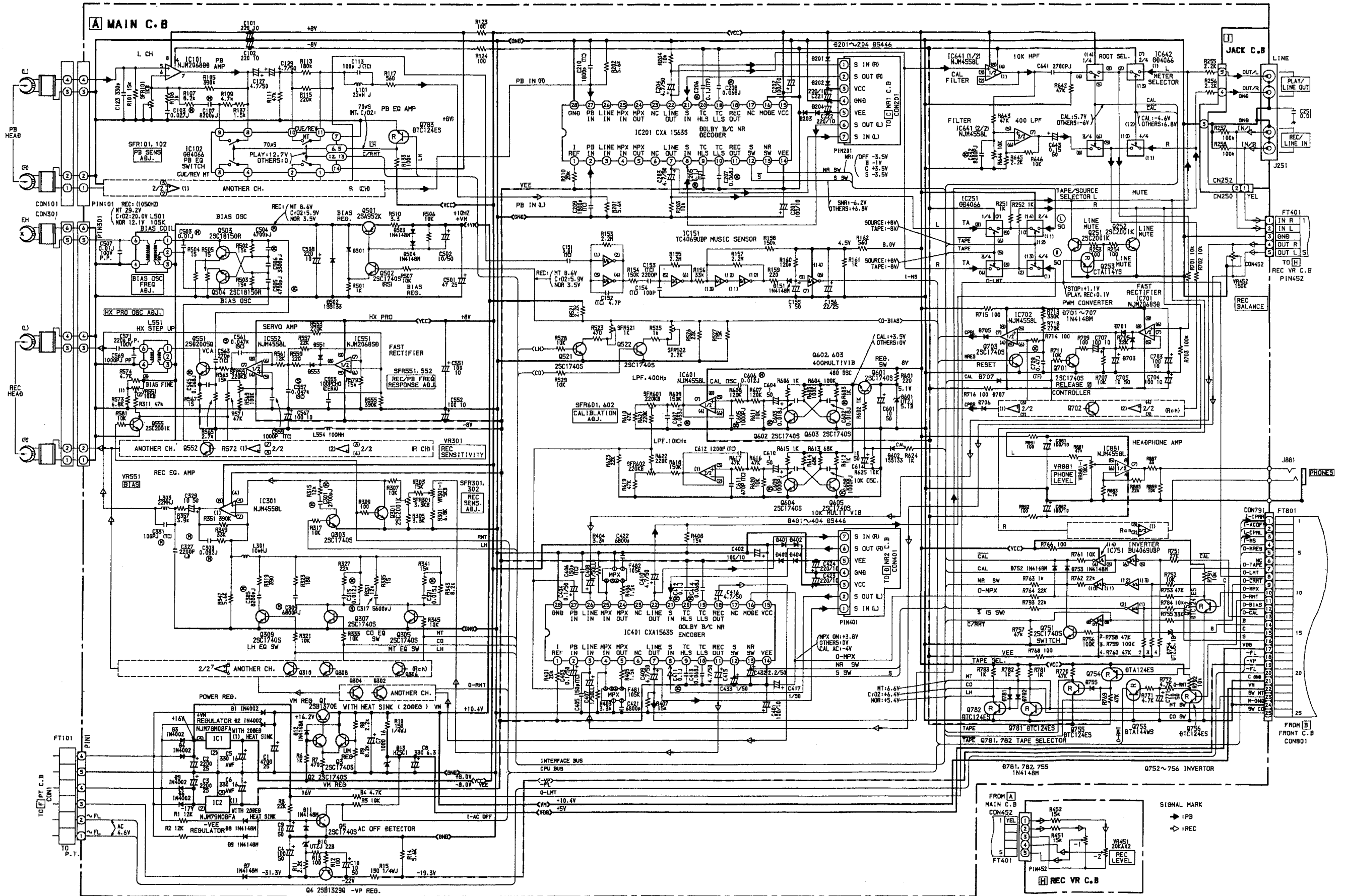
REF. NO.	PART NO.	カリ NO.	DESCRIPTION	REF. NO.	PART NO.	カリ NO.	DESCRIPTION
C771	87-010-405-089		CAP, E 10-50 SME	C108	87-010-545-089		CAP, E 0.22-50 SME
C881	87-010-263-089		CAP, E 100-10 SME 5X11	C115	87-010-545-089		CAP, E 0.22-50 SME
C882	87-010-263-089		CAP, E 100-10 SME 5X11	C116	87-010-545-089		CAP, E 0.22-50 SME
F481	83-DS2-610-019		FLTR, MPX 105K-DIA7	C117	87-016-033-089		CAP, E 1-50 K LL
F482	83-DS2-610-019		FLTR, MPX 105K-DIA7	C118	87-016-033-089		CAP, E 1-50 K LL
FT101	83-DS1-629-019		F-CABLE, 6P-2.5-POW	C135	87-010-544-089		CAP, E 0.1-50
FT401	83-DS1-628-019		F-CABLE, 5P-2.0-SIG	C136	87-010-544-089		CAP, E 0.1-50
FT801	83-DS1-625-019		F-CABLE, 25P-1.25-150	C137	87-016-032-089		CAP, E 0.47-50 K LL
J881	87-099-523-019		JACK, 6.3HP 12.5-11.5	C138	87-016-032-089		CAP, E 0.47-50 K LL
L101	82-231-622-089		COIL, 22MH-J	C139	87-010-545-089		CAP, E 0.22-50 SME
L102	82-231-622-089		COIL, 22MH-J	C140	87-010-545-089		CAP, E 0.22-50 SME
L301	87-003-131-089		COIL, 10MH J	C141	87-010-544-089		CAP, E 0.1-50
L302	87-003-131-089		COIL, 10MH J	C142	87-010-544-089		CAP, E 0.1-50
L303	82-231-622-089		COIL, 22MH-J	C143	87-010-374-089		CAP, E 47-10
L304	82-231-622-089		COIL, 22MH-J	C144	87-010-374-089		CAP, E 47-10
L501	83-DS1-623-019		COIL, EH 105K OSC	C145	87-010-374-089		CAP, E 47-10
L551	83-DS1-624-019		COIL, HX 105K OSC	C146	87-010-374-089		CAP, E 47-10
L552	83-DS1-624-019		COIL, HX 105K OSC	C151	87-016-032-089		CAP, E 0.47-50 K LL
L554	87-003-136-089		COIL, 100UH	C152	87-016-032-089		CAP, E 0.47-50 K LL
SFR101	87-024-168-089		SFR, 1K DIA6 V	C153	87-010-544-089		CAP, E 0.1-50
SFR102	87-024-168-089		SFR, 1K DIA6 V	C154	87-010-544-089		CAP, E 0.1-50
SFR301	87-024-170-089		SFR, 3.3K DIA6 V	C155	87-016-031-089		CAP, E 0.22-50 K LL
SFR302	87-024-170-089		SFR, 3.3K DIA6 V	C156	87-016-031-089		CAP, E 0.22-50 K LL
SFR521	87-024-168-089		SFR, 1K DIA6 V	C181	87-010-400-089		CAP, E 0.47-50 SME
SFR522	87-024-169-089		SFR, 2.2K DIA6 V	C182	87-010-400-089		CAP, E 0.47-50 SME
SFR551	87-024-177-089		SFR, 220K DIA.6 V	C303	87-010-401-089		CAP, E 1-50 SME
SFR552	87-024-177-089		SFR, 220K DIA.6 V	C304	87-010-401-089		CAP, E 1-50 SME
SFR601	87-024-177-089		SFR, 220K DIA.6 V				
SFR602	87-024-177-089		SFR, 220K DIA.6 V				
VR301	81-DS2-615-019		VR, 5K BX2RK14K12	NR2 C. B			
VR452	81-DS2-614-019		VR, 150KW RK11K11	C201	87-010-382-089		CAP, E 22-25 SME
VR551	81-DS2-616-019		VR, 10KB RK11K11	C202	87-010-382-089		CAP, E 22-25 SME
VR881	83-DS1-622-019		VR, 10KAX2 RK14K12	C205	87-010-405-089		CAP, E 10-50 SME
				C206	87-010-405-089		CAP, E 10-50 SME
				C207	87-010-545-089		CAP, E 0.22-50 SME
FRONT C. B				C208	87-010-545-089		CAP, E 0.22-50 SME
C801	87-010-247-089		CAP, E 100-50 SME	C215	87-010-545-089		CAP, E 0.22-50 SME
C802	87-010-405-089		CAP, E 10-50 SME	C216	87-010-545-089		CAP, E 0.22-50 SME
C803	87-010-263-089		CAP, E 100-10 SME 5X11	C217	87-016-033-089		CAP, E 1-50 K LL
C804	87-010-263-089		CAP, E 100-10 SME 5X11	C218	87-016-033-089		CAP, E 1-50 K LL
C806	87-010-405-089		CAP, E 10-50 SME	C235	87-010-544-089		CAP, E 0.1-50
C807	87-018-134-089		CAP, TC-U 0.01-16 Y	C236	87-010-544-089		CAP, E 0.1-50
C851	87-010-402-089		CAP, E 2.2-50 SME	C237	87-016-032-089		CAP, E 0.47-50 K LL
C901	87-018-134-089		CAP, TC-U 0.01-16 Y	C238	87-016-032-089		CAP, E 0.47-50 K LL
FL801	83-DS2-612-010		FL, CM1265D	C239	87-010-545-089		CAP, E 0.22-50 SME
FT802	81-VP1-643-019		F-CABLE, 15P-1.25-140	C240	87-010-545-089		CAP, E 0.22-50 SME
R914	87-025-471-089		RES, NF 4.7-1/4WJ	C241	87-010-544-089		CAP, E 0.1-50
SW802	87-036-215-089		SW, TACT EVQ21404M	C242	87-010-544-089		CAP, E 0.1-50
SW807	87-036-215-089		SW, TACT EVQ21404M	C243	87-010-374-089		CAP, E 47-10
SW808	87-036-215-089		SW, TACT EVQ21404M	C244	87-010-374-089		CAP, E 47-10
SW809	87-036-215-089		SW, TACT EVQ21404M	C245	87-010-374-089		CAP, E 47-10
SW810	87-036-215-089		SW, TACT EVQ21404M	C246	87-010-374-089		CAP, E 47-10
SW811	87-036-215-089		SW, TACT EVQ21404M	C251	87-016-032-089		CAP, E 0.47-50 K LL
SW813	87-036-215-089		SW, TACT EVQ21404M	C252	87-016-032-089		CAP, E 0.47-50 K LL
SW814	87-036-215-089		SW, TACT EVQ21404M	C253	87-010-544-089		CAP, E 0.1-50
SW815	87-036-215-089		SW, TACT EVQ21404M	C254	87-010-544-089		CAP, E 0.1-50
SW816	87-036-215-089		SW, TACT EVQ21404M	C255	87-016-031-089		CAP, E 0.22-50 K LL
SW817	87-036-215-089		SW, TACT EVQ21404M	C256	87-016-031-089		CAP, E 0.22-50 K LL
SW818	87-036-215-089		SW, TACT EVQ21404M	C281	87-010-400-089		CAP, E 0.47-50 SME
SW819	83-DS1-621-019		SW, SSSU 2-4	C282	87-010-400-089		CAP, E 0.47-50 SME
SW820	87-036-149-019		SW, SL SSU1-3	C401	87-010-401-089		CAP, E 1-50 SME
X801	87-030-167-089		VIB, CER CST4.0MHZ	C402	87-010-401-089		CAP, E 1-50 SME
				C403	87-010-401-089		CAP, E 1-50 SME
				C404	87-010-401-089		CAP, E 1-50 SME
NR1 C. B				REMOTE C. B<K>			
C101	87-010-382-089		CAP, E 22-25 SME	C981	87-018-134-089		CAP, TC-U 0.01-16 Y<K>
C102	87-010-382-089		CAP, E 22-25 SME	C982	87-010-405-089		CAP, E 10-50 SME<K>
C105	87-010-405-089		CAP, E 10-50 SME	C983	87-018-134-089		CAP, TC-U 0.01-16 Y<K>
C106	87-010-405-089		CAP, E 10-50 SME				
C107	87-010-545-089		CAP, E 0.22-50 SME				

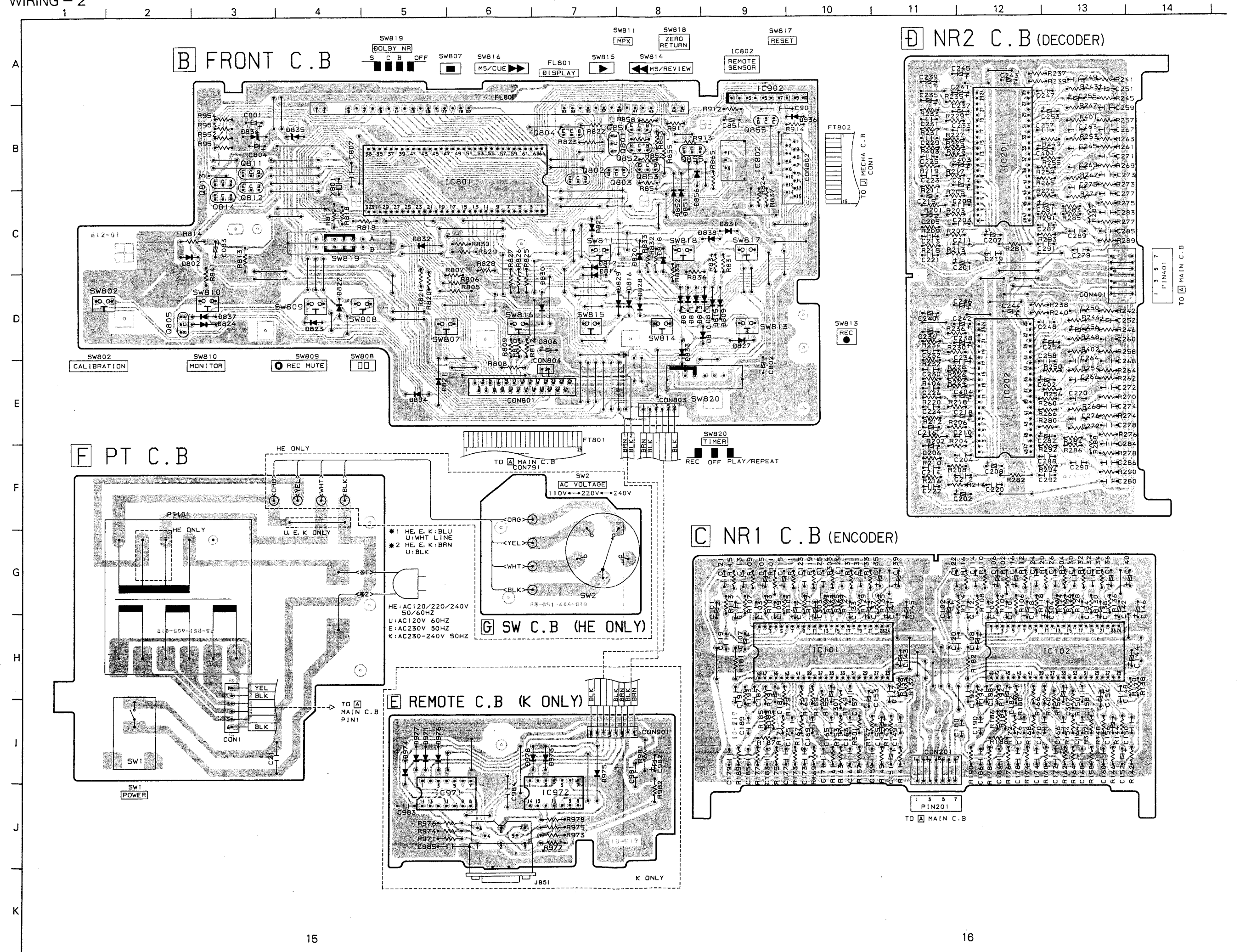


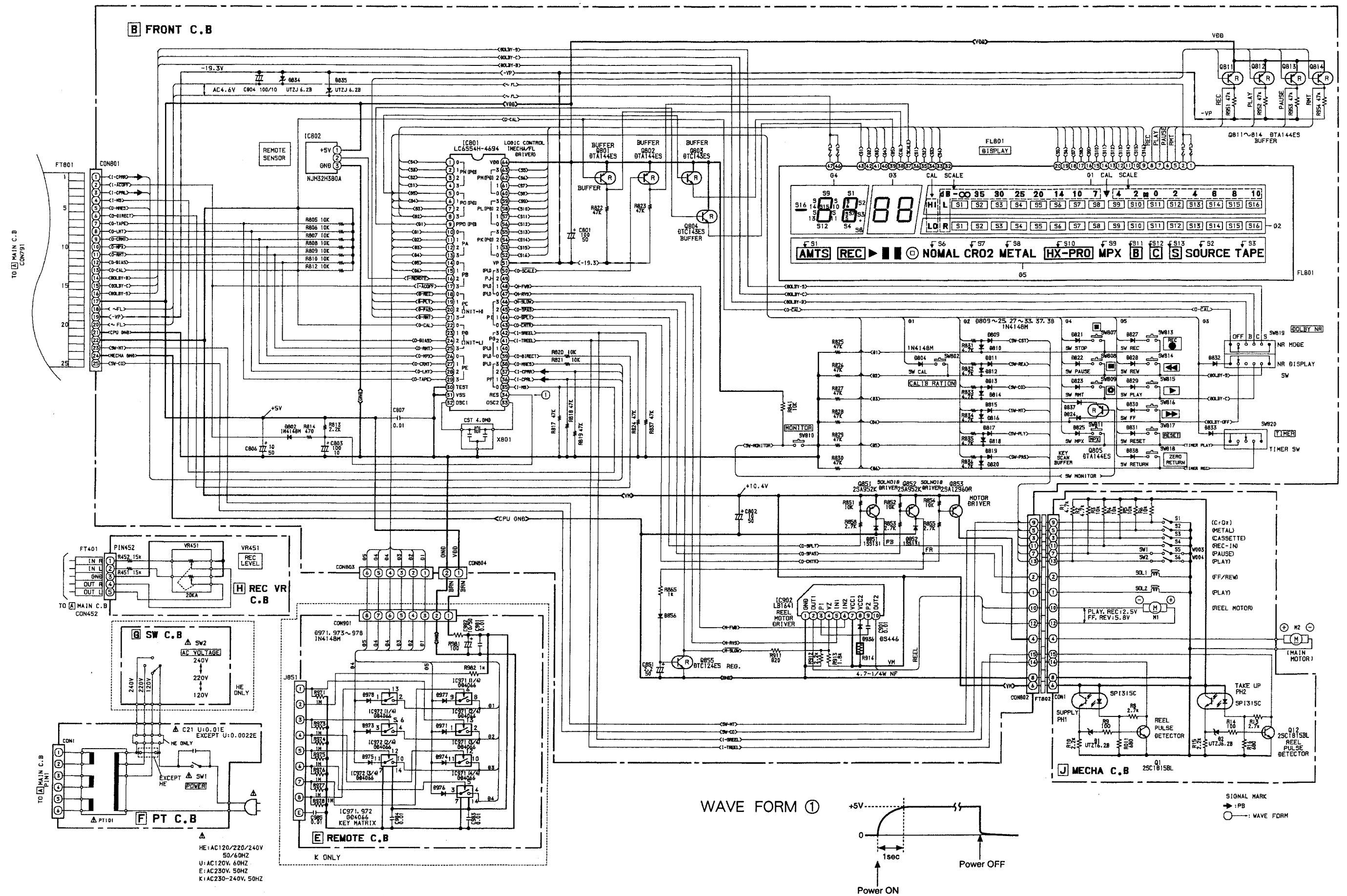
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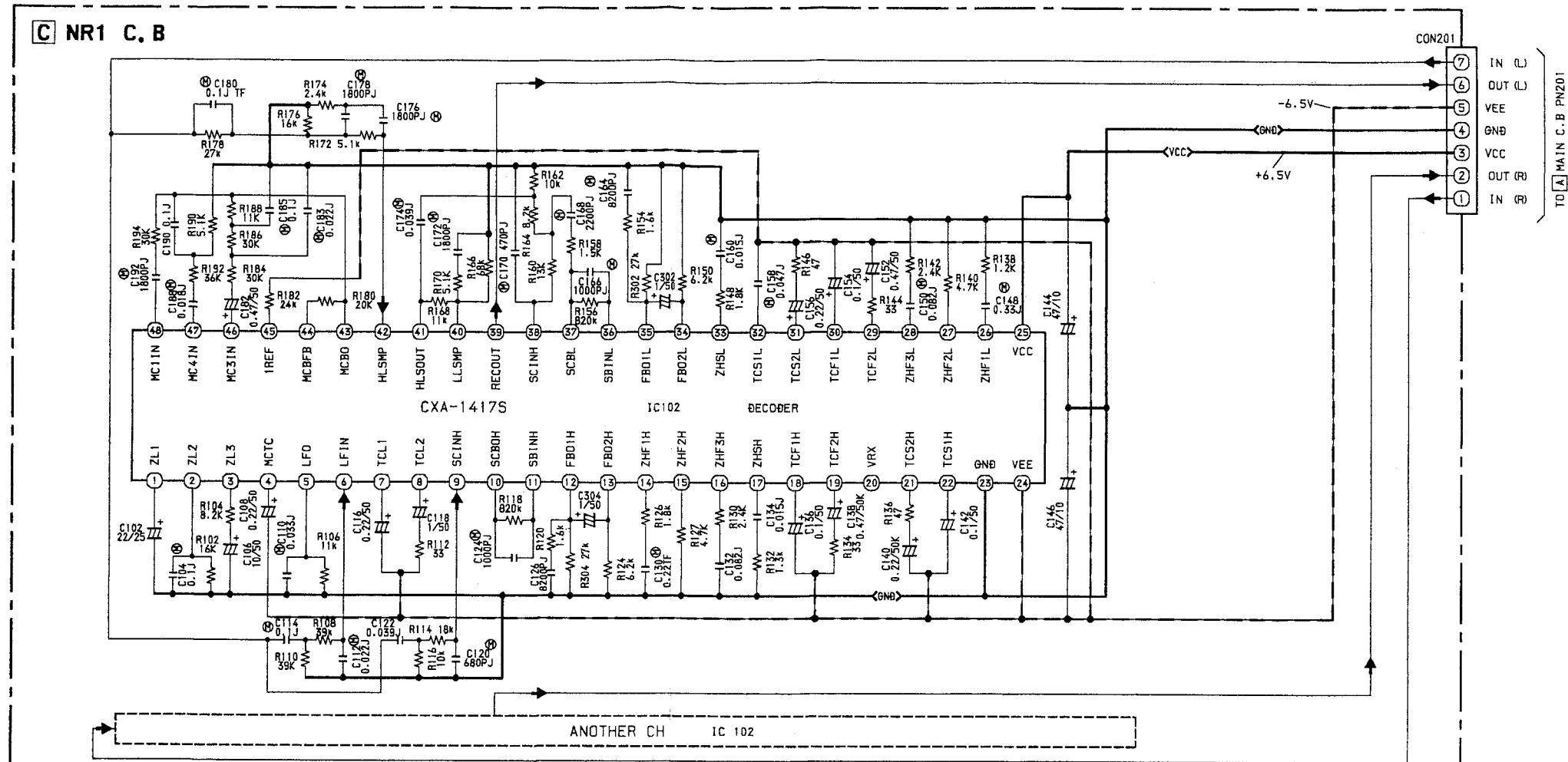


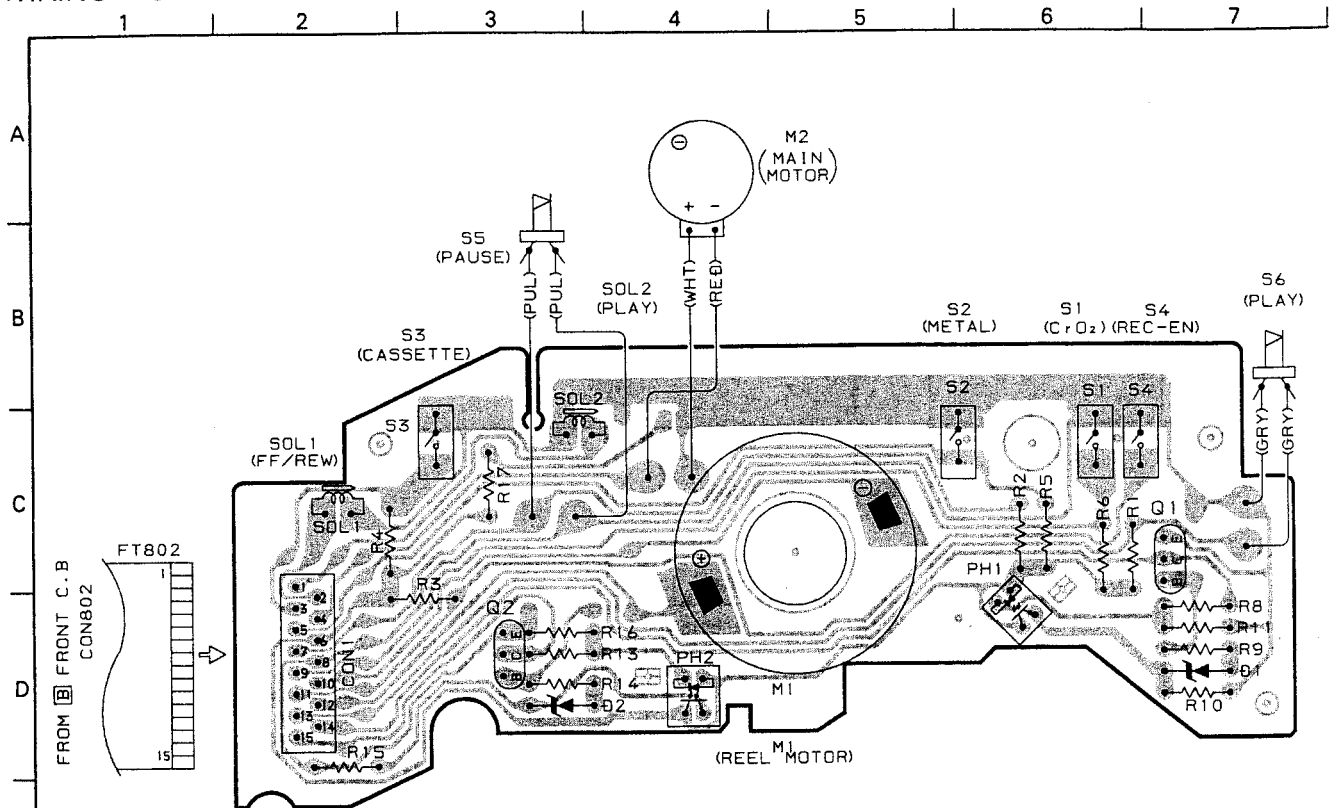




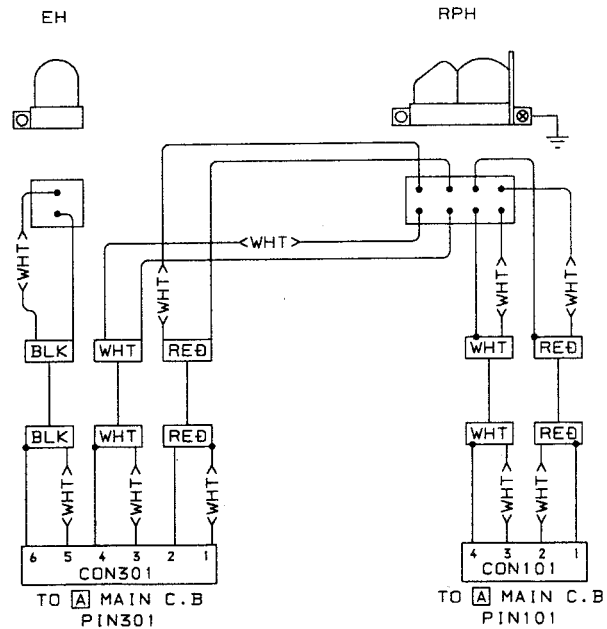




C NR1 C. B



J MECHA C.B



IC DESCRIPTION

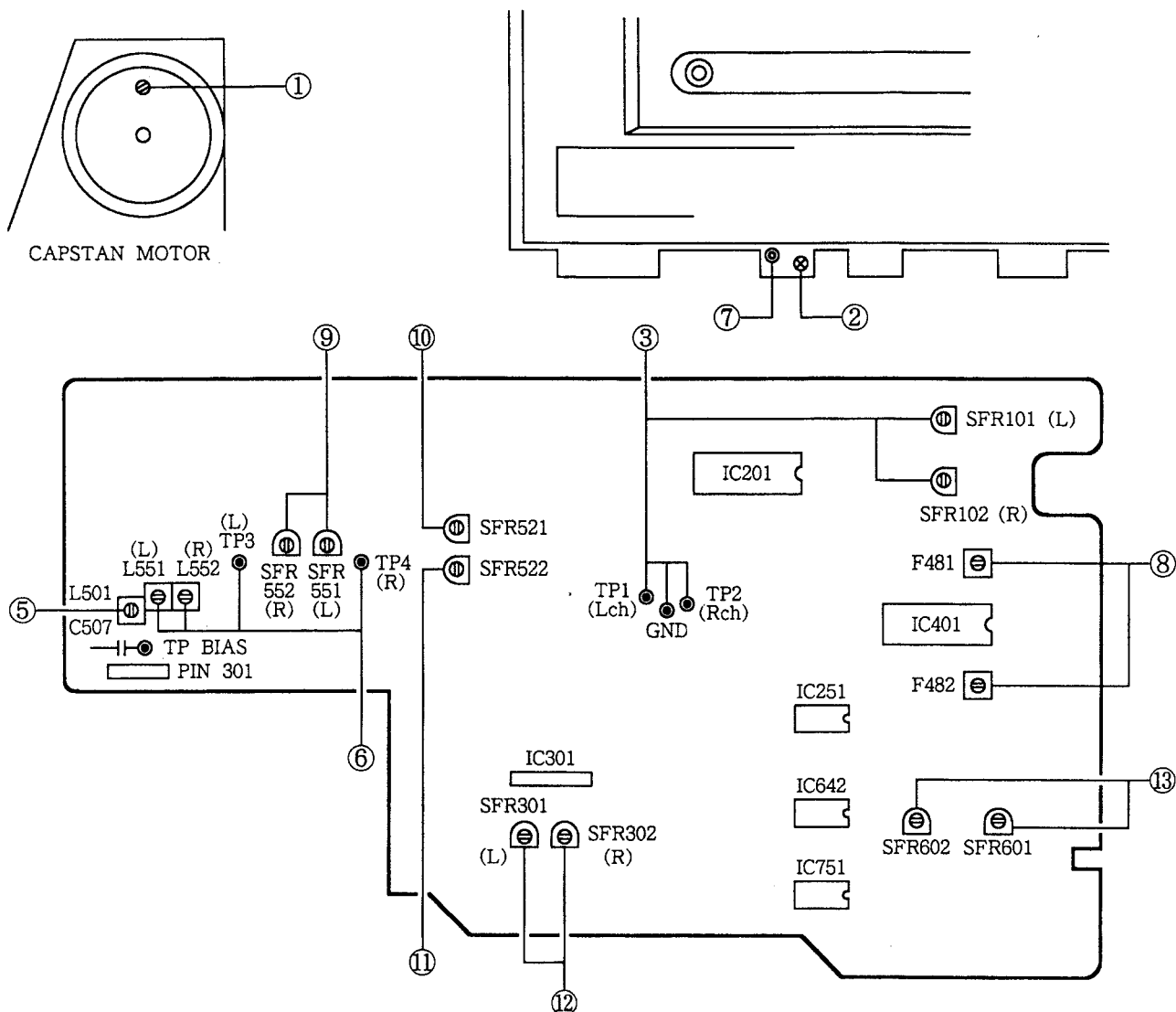
IC,LC6554H - 4694

Pin No.	Pin Name	I/O	Description
1	S 4	O	FL lighting segment output.
3	3		
4	S 1		
5	G 5	O	FL lighting grid output and KEY SCAN output.
7	7		
9	G 1		
10	D 1	I	KEY SCAN input.
11	11		
15	D 6		
16	I-REMOTE	I	Remote control input.
17	I-AC OFF	I	AC OFF detection.
18	D-REC	O	REC LED output. "L" when REC mode.
19	D-PLAY	O	PLAY-LED output. "L" when PLAY mode.
20	D-PAUSE	O	PAUSE LED output. "L" when PAUSE.
21	D-RMT	O	REC MUTE LED output. "L" when REC MUTE.
22	O-CAL	O	Connected to GND.
23	O-HX	O	Not used.
24	O-BIAS	O	BIAS OSC control output. "H" when REC mode.
25	O-RMT	O	REC MUTE control output. "H" when REC-PLAY.
26	O-MPX	O	DOLBY IC MPX control output. "L" when MPX ON.
27	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	OSC 1	O	Microcomputer clock output. (4 MHz)
33	OSC 2	I	Microcomputer clock input. (4 MHz)
34	RES	I	System reset terminal.
35	I-MS	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	Not used.
40	I-1DS 2	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	O-CMTR	O	Capstan motor control output.
44	O-SPLY	O	PLAY plunger control output.
45	O-SPAS	O	PAUSE plunger control output.

P i n N o .	P i n N a m e	I / O	D e s c r i p t i o n
4 6	$\overline{M-SLOW}$	O	Reel motor voltage control output.
4 7	M-RVS	O	Reel motor control output.
4 8	M-FWD	O	
4 9	M-REEL	O	Not used.
5 0	$\overline{O-SCALE}$	O	SCALE lighting control.
5 1	VP	—	Load power supply for the pull down resistor. Connect to -VP. (-20 V)
5 2	S 1 6	O	FL lighting segment output.
5 3	5		
6 3	S 5		
6 4	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.

ADJUSTMENT



Initial Settings

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

1. Tape Speed Adjustment

- Settings :
- Test tape : TTA-100 (TTA-111S)
 - Test point : LINE OUT jack
 - Adjustment location : SFR in motor

Method : Play back the test tape and adjust SFR so that the frequency counter reads $3000\text{Hz} \pm 7\text{Hz}$.

2. Azimuth Adjustment

- Settings :
- Test tape : TTA-301
 - Test point : LINE OUT jack
 - Adjustment location : Azimuth adjustment screw

Method : Play back the 14kHz 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 : TP1 (L ch), TP2 (R ch)
 - LEVEL meter : DOLBY NR mark
 - Adjustment location : SFR101 (L ch)
SFR102 (R ch)

Method : Play back the test tape and adjust SFRs so that the output level is $388\text{mV} \pm 0.2\text{dB}$

4. Playback Frequency Response Check

- Settings :
- Test tape : TTA-301
 - Test point : LINE OUT jack

Method : Play back the 14kHz and 1kHz signals of the test tape and check that the output of the 14kHz 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-720 (TTA-119MP)
 - Test points : TP BIAS (C507)
 - Adjustment location : L501

Method : Set to the record mode and adjust L501 so that frequency counter reads $105\text{kHz} \pm 1\text{kHz}$.

6. HX Coil Adjustment

- Settings : • Test tape : TTA-720 (TTA-119MP)
• Test point : TP3 (L ch), TP4 (R ch)
• Adjustment Location : L551 (L ch)
L552 (R ch)

Method : Adjust L551, L552 so that the DC voltage at the test points is minimized in the REC STANDBY mode.

7. Erase Head Position Adjustment

- Settings : • Test tape : TTA-720 (TTA-119MP)
TTA-602
• Test point : LINE OUT jack
• Adjustment Location : Hexagonal nut of erase head

Method : Record a 125kHz + 10VU (775mV) signal on a test tape TTA-720 (TTA-119MP) for 25 seconds using this unit. Rewind the recorded section and erase. Turn the hexagonal nut clockwise gradually until the Rch erasing ratio grows worse 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 erasing ratio is more than 60dB.
[Over-erase check]

Record a 10kHz -10VU signal on a test tape TTA-602 (TTA-119K) for 6 seconds using this unit and let the Rch output be the reference output. Turn over the tape without rewinding, and erase for 6 seconds (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 -0.8dB.

* After the adjustment, fast forward the test tape portion used for checking. During adjustment, use the erased portion of the test tape.

8. MPX Filter Check

- Settings : • Test point : LINE OUT jack
• Input signal : 19kHz signal (0VU) at input
• MPX SW : ON

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

9. Recording/Play back Frequency Response Adjustment

- Settings : • Test tape : TTA-720 (METAL)
• Test point : LINE OUT jack
• Input signal : 1kHz/10kHz (LINE IN)
• Adjustment locations : SFR551 (L ch)
SFR552 (R ch)

Method : Apply a 1kHz signal and adjust the attenuator so that the output level at the LINE OUT jack is 24.5mV. Record and play back the 1kHz and 10kHz signals and adjust that the output of the 10kHz signal is $0 \pm 0.2\text{dB}$ with respect to that of the 1kHz signal.

10. LH Recording/Play back Frequency Response Adjustment

- Settings : • Test tape : TTA-602
• Test point : LINE OUT jack
• Input signal : 1kHz/10kHz (LINE IN)
• Adjustment locations : SFR521

Method : Apply a 1kHz signal and adjust the attenuator so that the output level at the LINE OUT jack is 24.5mV. Record and play back the 1kHz and 10kHz signals and adjust that the output of the 10kHz signal is $0 \pm 0.2\text{dB}$ with respect to that of the 1kHz signal.

11. CrO₂ Recording/Play back Frequency Response Adjustment

- Settings : • Test tape : TTA-610
• Test point : LINE OUT jack
• Input signal : 1kHz/10kHz (LINE IN)
• Adjustment locations : SFR522

Method : Apply a 1kHz signal and adjust the attenuator so that the output level at the LINE OUT jack is 24.5mV. Record and play back the 1kHz and 10kHz signals and adjust that the output of the 10kHz signal is $0 \pm 0.2\text{dB}$ with respect to that of the 1kHz signal.

12. Recording Sensitivity Adjustment

- Settings : • Test tape : LH • TTA-602 (TTA-119K)
• Test point : LINE OUT jack
• Input signal : 1kHz (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 245mV.
Record and play back the 1kHz signal and adjust so that the output is $245\text{mV} \pm 0.2\text{dB}$.

13. Calibration adjustment

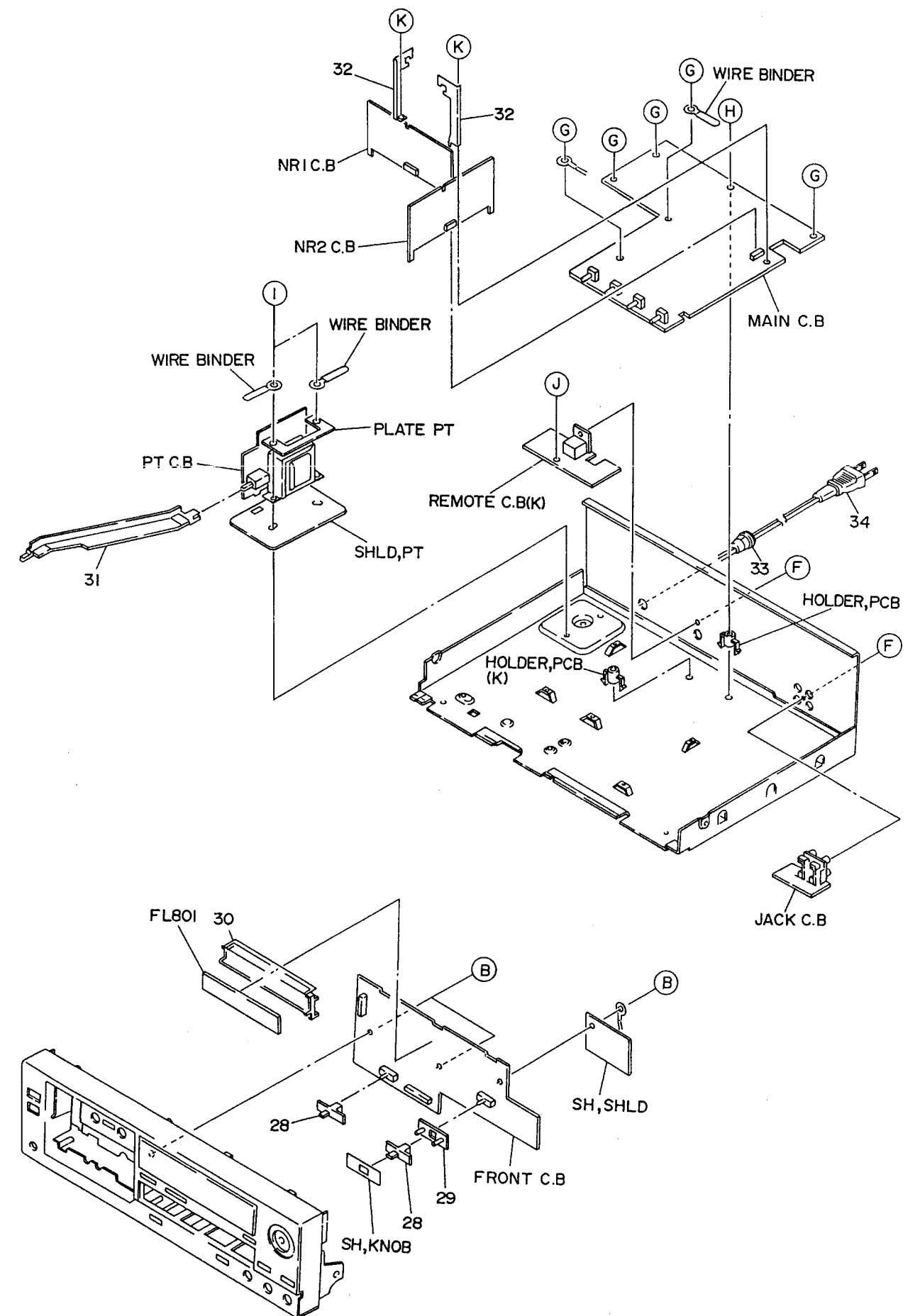
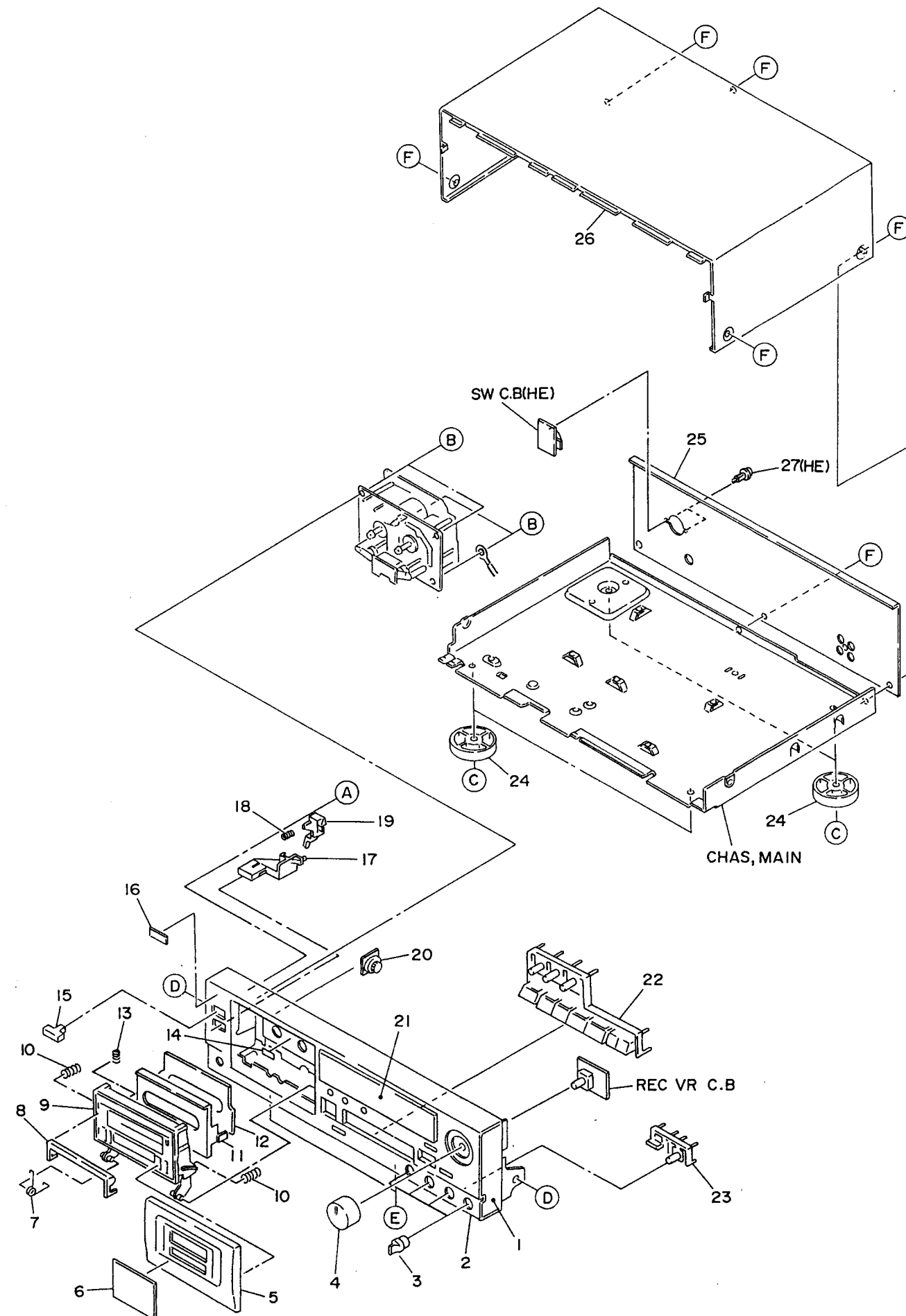
- Settings : • Test tape : TTA-602 (TTA-119K)
• Test point : SFR601 (400Hz)
SFR602 (10kHz)
• Calibration SW : ON

Method : Set to the record mode, adjust the 400Hz signal with SFR601, and set the level to the LCD ▼ mark. Adjust the 10kHz signal with SFR602 in the same manner.

PRACTICAL SERVICE FIGURE

Playback output :	360 $\pm$ 0.5dB (LINE OUT)
REC/PB output :	260mV $\pm$ 1dB (LINE OUT)
REC/PB distortion :	Less than 1.2% (MT, CrO ₂)
(0VU 380mV)	Less than 1.0% (NORM)
Noise level (PB) :	Less than 1.2mV/0.8mV/0.1mV (MT, CrO ₂ DOLBY OFF/B, C/S) Less than 1.8mV/1.0mV/0.1mV (NORM DOLBY OFF/B, C/S)
Noise level (REC/PB) :	Less than 1.5mV/1.1mV/0.1mV (MT, CrO ₂ DOLBY OFF/B, C/S) Less than 2.0mV/1.1mV/0.14mV (NORM DOLBY OFF/B, C/S)
Crosstalk :	More than 60dB (1kHz, 0VU)
Erase ratio :	More than 60dB (125Hz)
Channel separation :	More than 35dB (1kHz, 0VU)
REC bias frequency :	105kHz
Tape speed	3,000Hz $\pm$ 1.5%
Wow & flutter :	Less than 0.053% (W.R.M.S)
Take-up torque :	27~58g-cm
Fast forward torque :	90~190g-cm
Rewind torque :	90~190g-cm
Back-tension :	4~10g-cm
Test tape :	NORMAL TTA-601/600 CrO ₂ TTA-610 METAL TTA-630

MECHANICAL EXPLODED VIEW 1/1

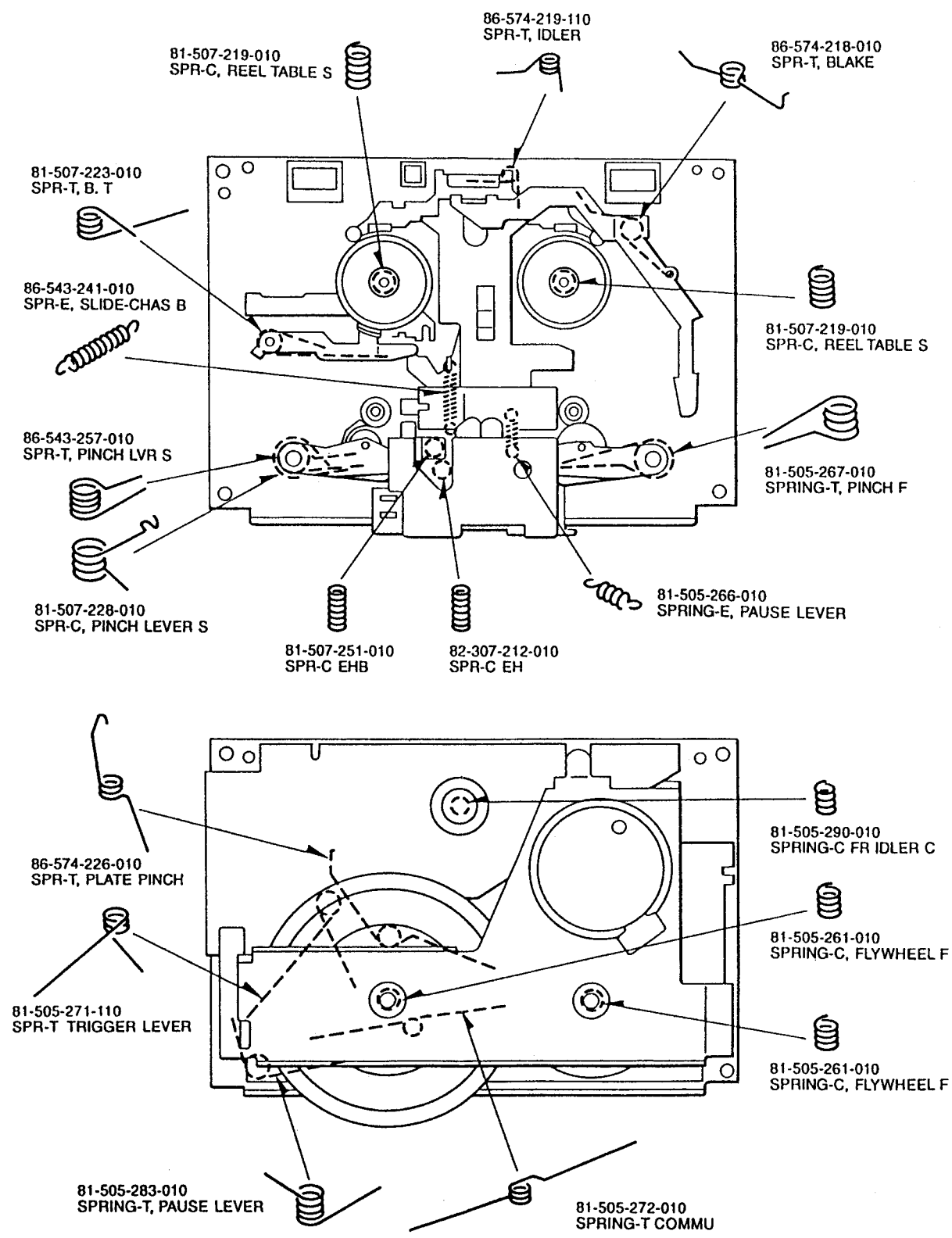


MECHANICAL PARTS LIST 1/1

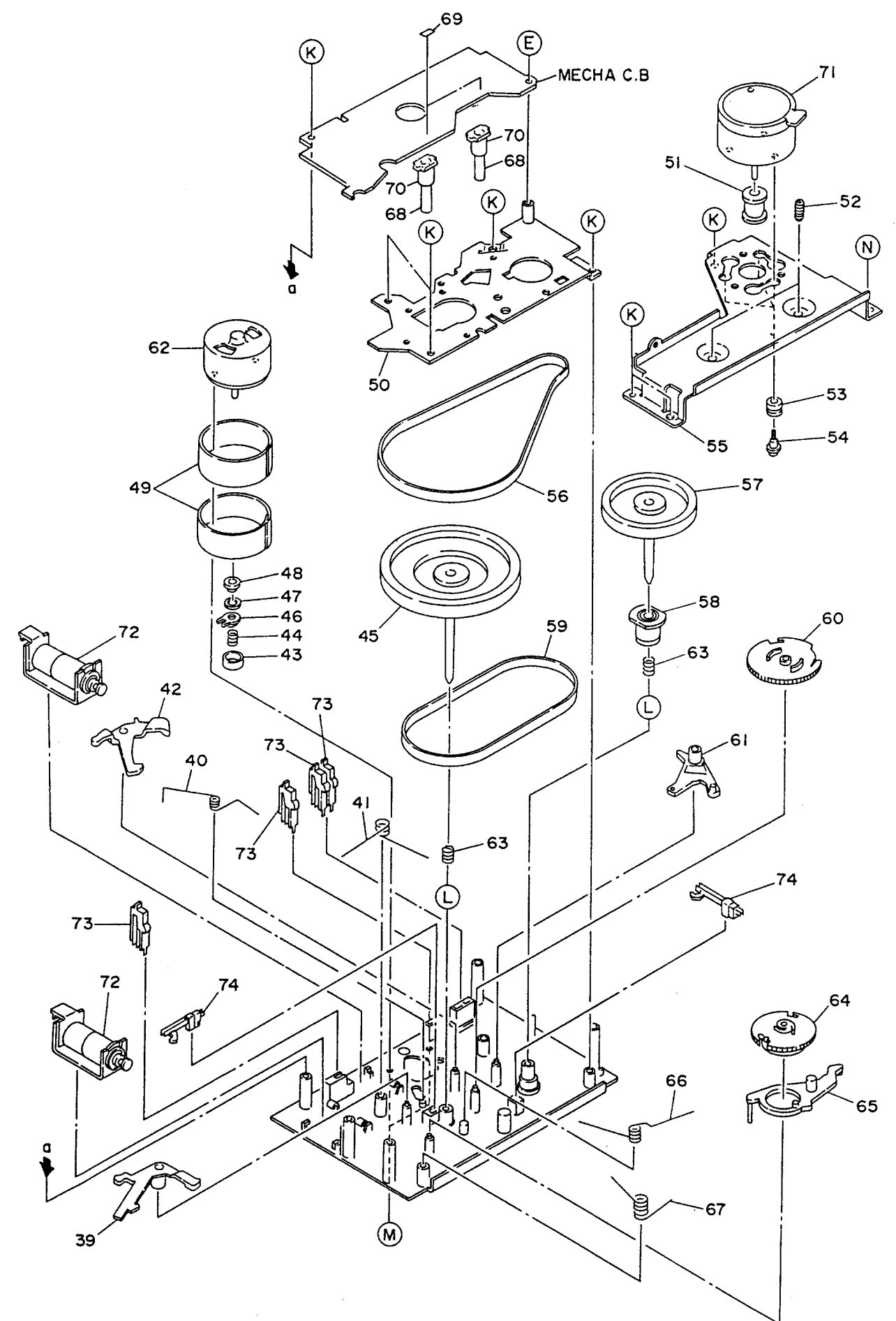
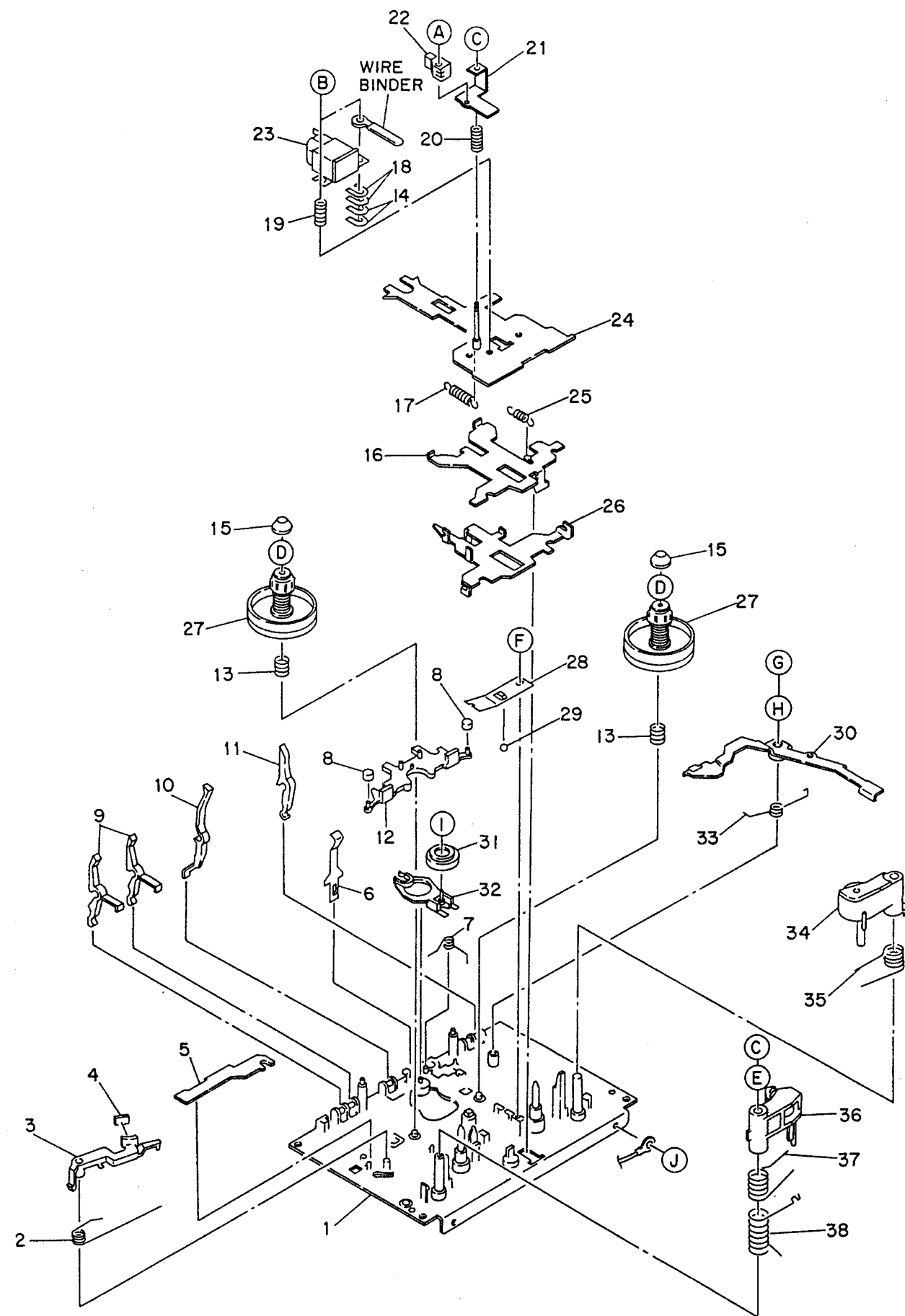
DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO	PART NO.	カンリ NO.	DESCRIPTION	REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	83-DS1-001-019		CAB, FR (EXCEPT U)	26	84-793-026-219		CAB, STEEL
1	83-DS1-004-019		CAB, FR U (U)	27	87-084-099-019		RIVET, NYLON 3-5.5 SP (HE)
2	83-DS1-005-010		PANEL, FR 2	28	80-DW1-012-019		KNOB, SLIDE
3	83-DS3-006-019		KNOB, BIAS	29	83-DS1-203-019		HLD, KNOB
4	83-DS3-004-019		KNOB, REC	30	81-DS2-204-019		FL GUIDE
5	83-DS2-003-019		PANEL, CASS	31	83-DS2-201-019		ROD, POWER
6	83-DS2-012-019		WINDOW, BOX	32	83-DS1-201-019		HLD, DB-S
7	83-DS2-202-119		SPR-T, EJECT	33	87-085-185-019		BUSHING, AC CORD E (EXCEPT U)
8	84-790-204-019		HOOK, EJECT	33	87-085-189-019		BUSHING, CORD U (U)
9	81-DS1-007-119		BOX, CASS	△ 34	87-050-034-019		AC CORD ASSY, E (HE, E)
10	82-238-205-019		SPR-C, AMTS	△ 34	87-050-032-019		AC CORD ASSY, K 3P S (K)
11	84-790-032-319		PANEL, AMTS	△ 34	87-050-053-019		AC CORD ASSY, U-2 (U)
12	84-790-202-019		RUBBER, AMTS (EXCEPT U)	A	87-761-096-419		VFT2 +3-10
12	84-790-217-019		RUBBER, AMTS U (U)	B	87-067-703-019		BVT 2+3-10 W/O SLOT
13	84-790-205-019		SPR-C, HOOK	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		BVT 2+3-8 W/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	87-067-581-019		BVT 2+3-15 W/O SLOT
19	80-DS3-203-019		LVR, EJECT	I	87-067-586-019		BVTT +4-8
20	87-063-165-019		OIL-DMPR 150	J	87-067-698-019		BVT 2+3-18 W/O SLOT (K)
21	83-DS2-011-019		WINDOW, FL	K	87-067-689-019		BVTT +3-8
22	83-DS2-005-119		KEY, PLAY				
23	83-DS2-007-019		KEY, MONITOR				
24	82-AA1-029-119		FOOT (SG)				
25	83-DS1-007-119		PANEL, REAR EBN (E)				
25	83-DS1-006-019		PANEL, REAR HEJBN (HE)				
25	83-DS1-008-019		PANEL, REAR KBN (K)				
25	83-DS1-009-019		PANEL, REAR UBN (U)				

SPRING APPLICATION POSITION



TAPE MECHANISM EXPLODED VIEW 1/1



TAPE MECHANISM PARTS LIST 1/1

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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
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		HLD, 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-6FILB8K
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				

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, 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-SCREW
ヒンジ	HINGE
ヒンジビス	S-SCREW
ビスセレート	SCREW, SERRART

サービス技術ニュース	
番号	連絡内容
G - -	
G - -	
G - -	

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