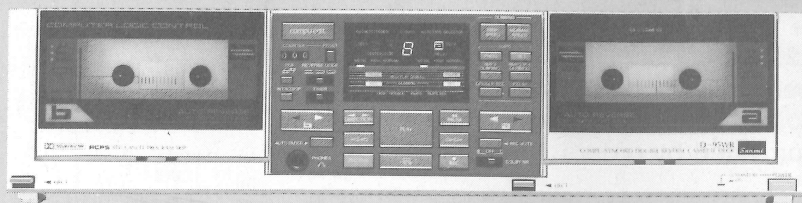


SERVICE MANUAL

COMPU-SYNCHRO
DOUBLE REVERSE CASSETTE DECK

SANSUI D-95WR (Silver & Black Model)



CAUTION

1. Parts identified by the Δ symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

•SPECIFICATIONS

Track format	4-track/2-channel system
Tape speed.....	4.8 cm/sec., 9.5 cm/sec.
Heads	
Rec/play head.....	HIGH-Bs hard permalloy × 2
Erase head.....	Double-gap HIGH-Bs ferrite × 2
Motor	Electronically controlled DC motor × 2
	Reels: DC Motor × 2
Wow/flutter	0.06% max (WRMS)
Fast forwarding (rewinding) time	
.....	Approx. 90 sec. (for C-60 tape)
Frequency response (—20 VU recording/playback)	
Normal tape (LH)	20 to 15,000 Hz (30 to 14,000 Hz ± 3 dB)
Chrome Tape	20 to 16,000 Hz (30 to 15,000 Hz ± 3 dB)
Metal Tape	20 to 17,000 Hz (30 to 16,000 Hz ± 3 dB)
Erase rate (metal tape) ...	70 dB min (1 kHz)
Recording bias frequency	
.....	85 kHz
Input sensitivity/impedance	
LINE IN (REC).....	150 mV/47 kohms
Signal to noise ratio (Record/Playback)	
Metal Tape (without Dolby Noise Reduction)	
.....	better than 54 dB
(With Dolby Noise Reduction Effect)	
DOLBY "B" NR	better than 64 dB (above 5 kHz)
DOLBY "C" NR	better than 74 dB (above 1 kHz)
Power requirements	
Power voltage.....	120/220/240V (50/60 Hz) For U.S.A. and Canada
.....	120V (60 Hz)
Power consumption....	35 watts
Dimensions	430 mm (16-15/16") W 112 mm (4-7/16") H 241 mm (9-1/2") D
Weight	5.4 kg (11.9 lbs.) net 6.2 kg (13.7 lbs) packed

* Design and specifications subject to changes without notice for improvements.

* Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double D symbol are trade marks of Dolby Laboratories Licensing Corporation.

Sansui

SANSUI ELECTRIC CO., LTD.

CAUTION

1. The symbols, UL, CSA, SA, BS, UK, EU, AS, XX <EXPORT> and XX-V <EXPORT(V)> on the parts list and the schematic diagram mean followings respectively.
 - UL..... Manufactured for U.S.A market.
(Underwriters Laboratories approved model.)
 - CSA Manufactured for Canadian market.
 - SA..... Manufactured for South African market.
 - BS, UK..... Manufactured for United Kingdom market.
 - EU Manufactured for European market.
 - AS..... Manufactured for Australian market.
 - XX <EXPORT> Standard Version with Inner Voltage Selector.
 - XX-V <EXPORT(V)> Standard Version with Outer Voltage Selector.
 - NON MARK Common Parts.

2. Some printed circuit boards are not supplied as the assembled. To separate these in this service manual, the stock No's are not indicated at the ends of the board names. However, the individual parts on the circuit boards are provided by orders.

3. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors, which was issued on February 1983.

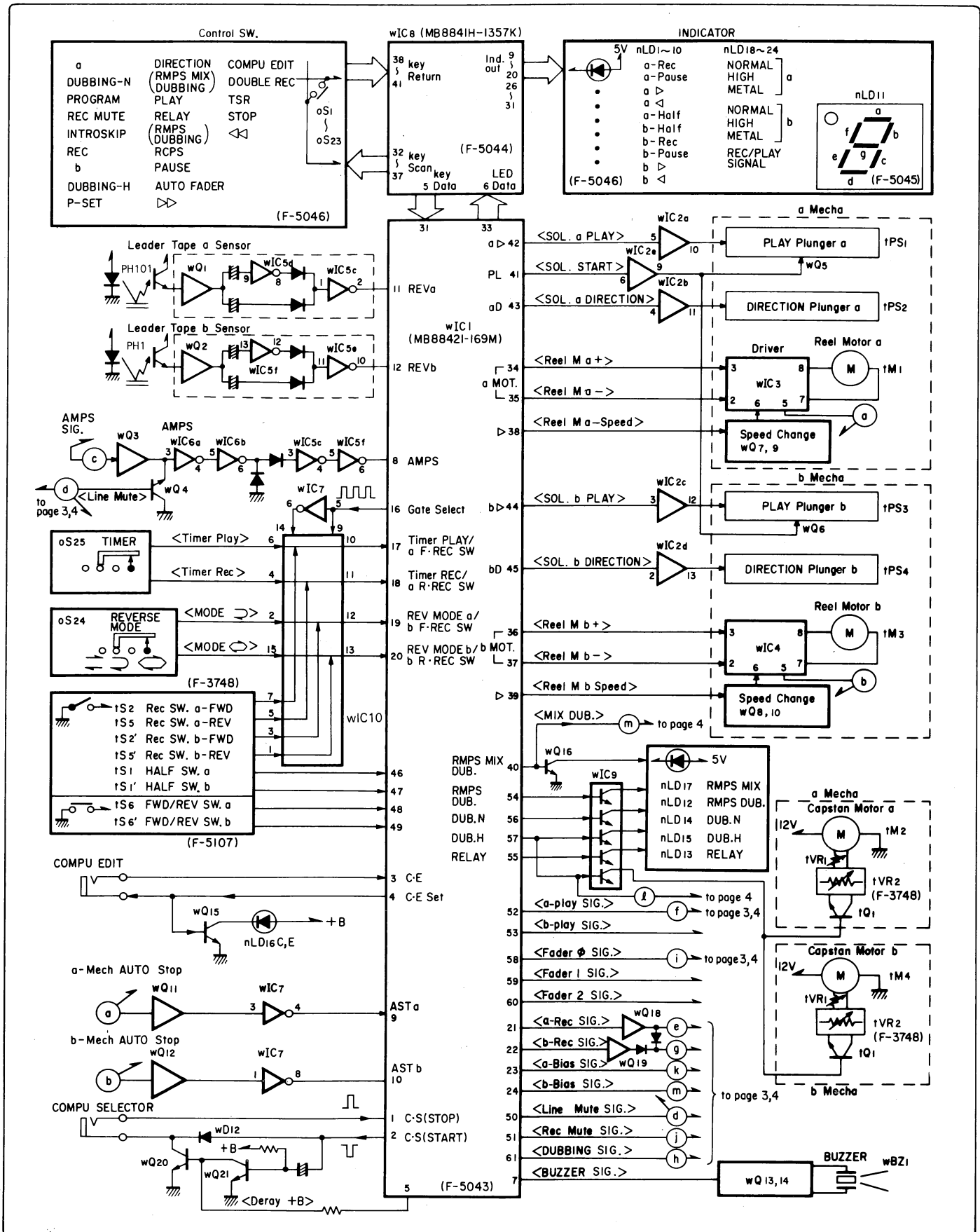
4. Abbreviations in this service manual are as follows.

•Abbreviations List

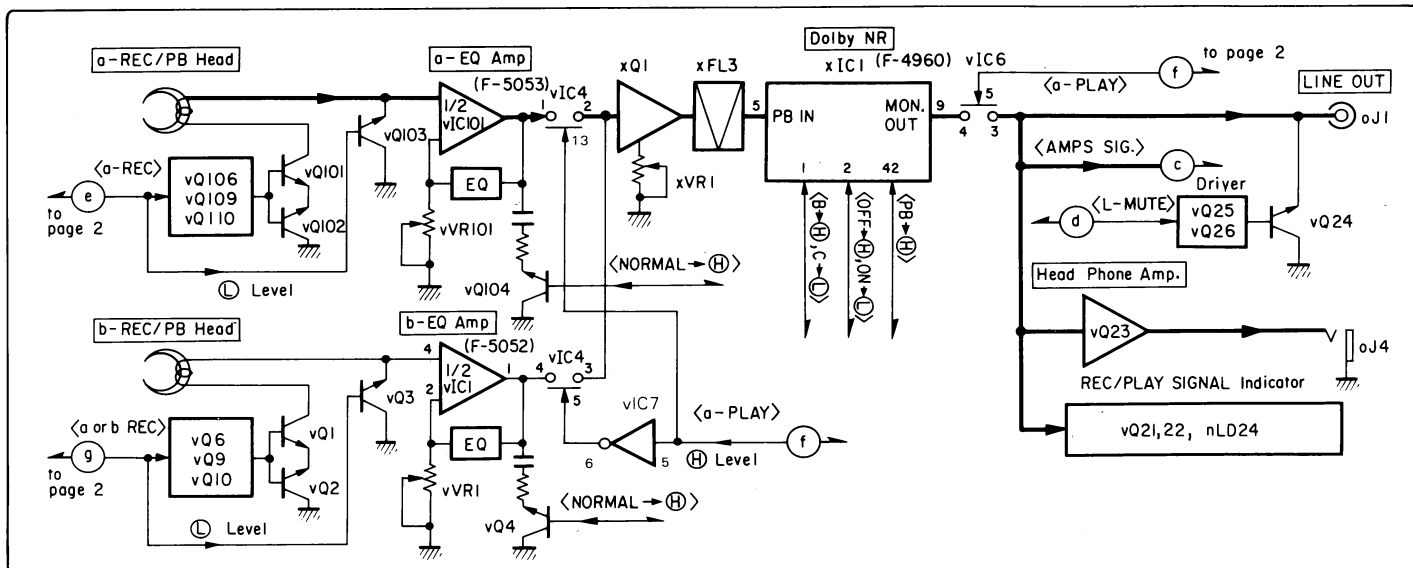
C.R. : Carbon Resistor	E.B.L. : Low Leak Bi-Polar
S.R. : Solid Resistor	Electrolytic Capacitor
Ce.R. : Cement Resistor	Ta.C. : Tantalum Capacitor
M.R. : Metal Film Resistor	F.C. : Film Capacitor
F.R. : Fusing Resistor	M.P. : Metalized Paper Capacitor
N.I.R. : Non-Inflammable Resistor	P.C. : Polystyrene Capacitor
A.R. : Array Resistor	G.C. : Gimmic Capacitor
C.C. : Ceramic Capacitor	A.C. : Array Capacitor
C.T. : Ceramic Capacitor,	V.R. : Variable Resistor
Temperature Compensation	S.V.R. : Semi Variable Resistor
E.C. : Electrolytic Capacitor	SW. : Switch
E.L. : Low Leak Electrolytic	Chip R. : Chip Resistor
Capacitor	Chip C. : Chip Capacitor
E.B. : Bi-Polar Electrolytic	
Capacitor	

1. BLOCK DIAGRAM

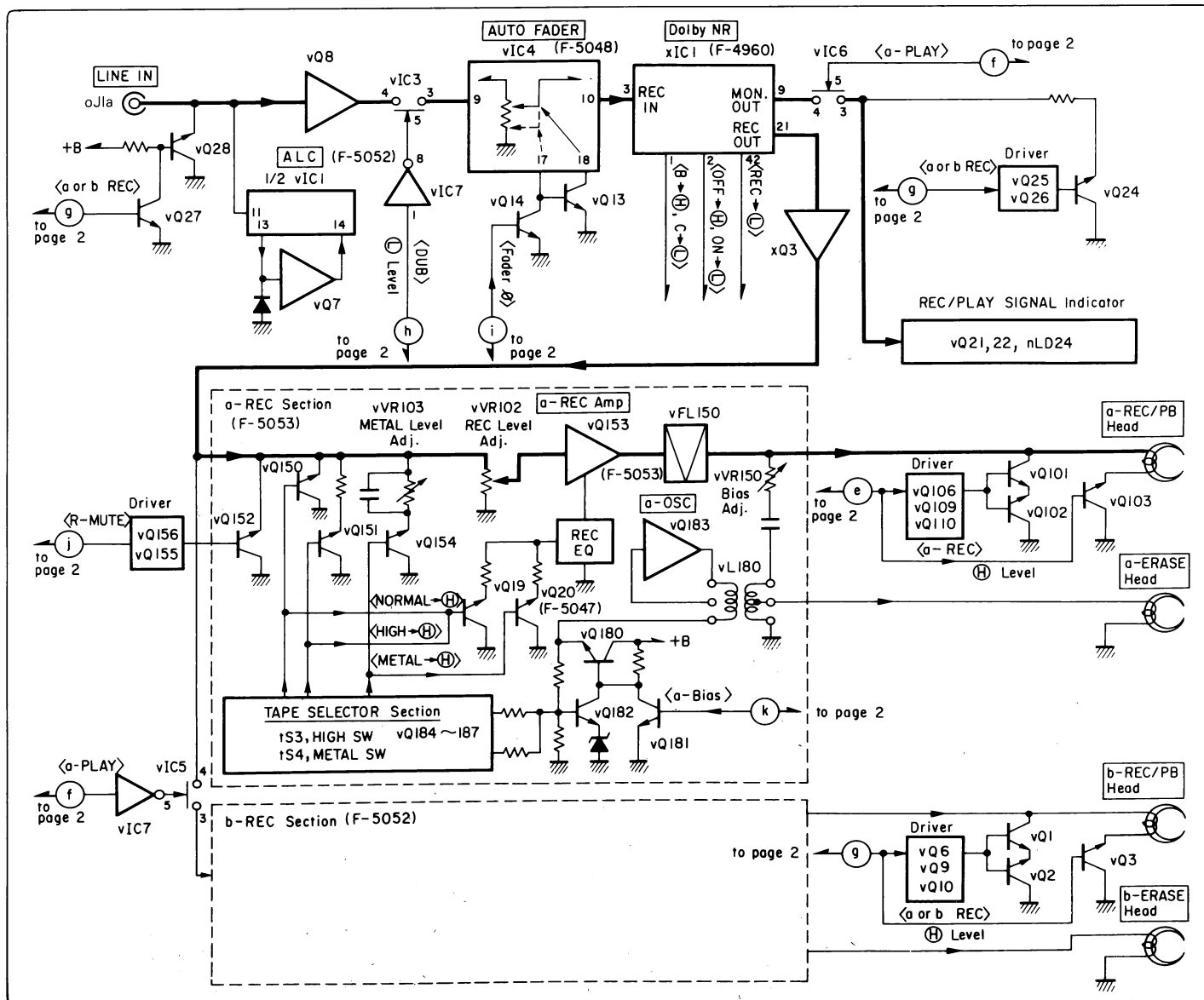
1-1. Logic Control Section



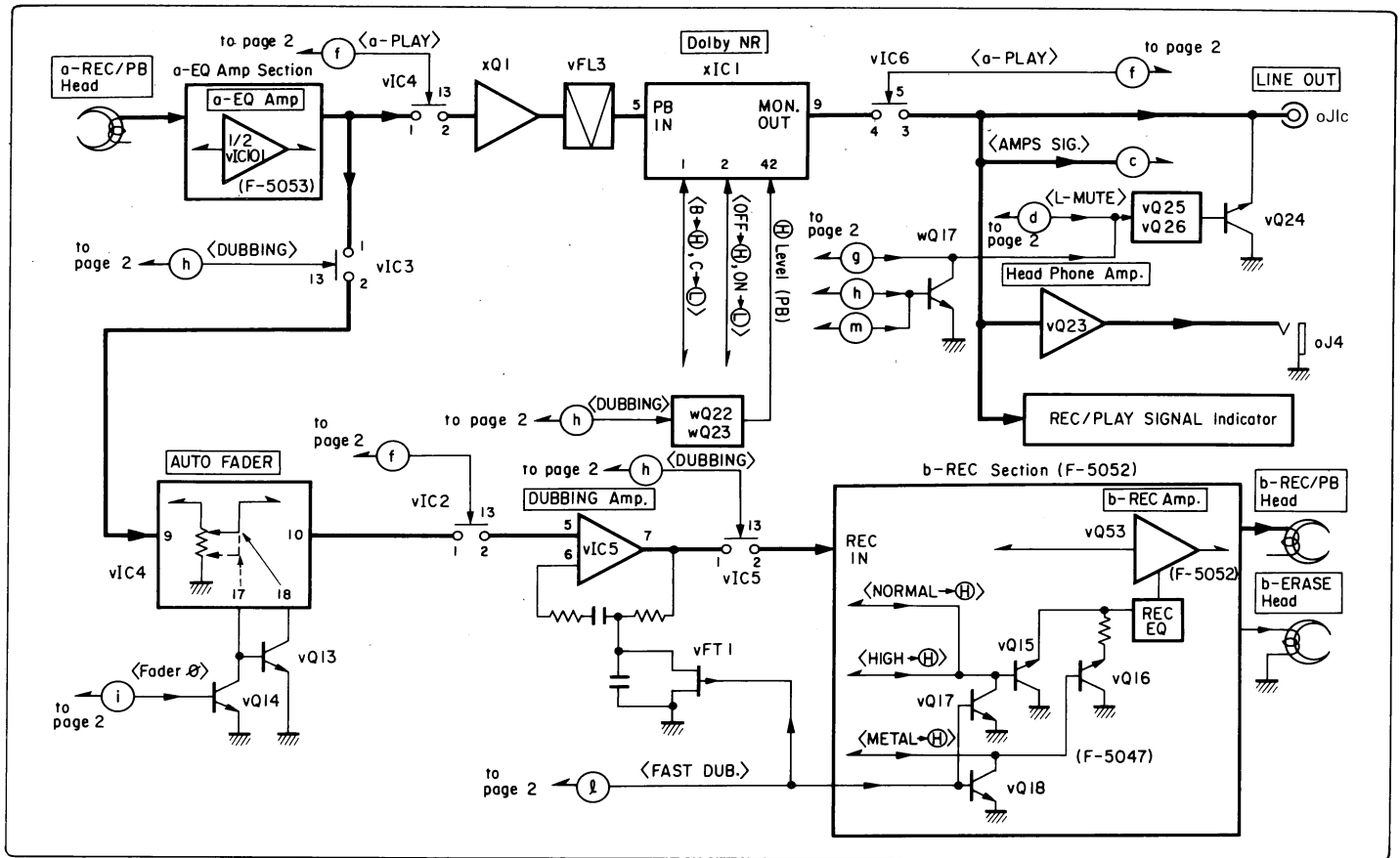
1-2. Playback Section <L-ch•a-Mecha.>



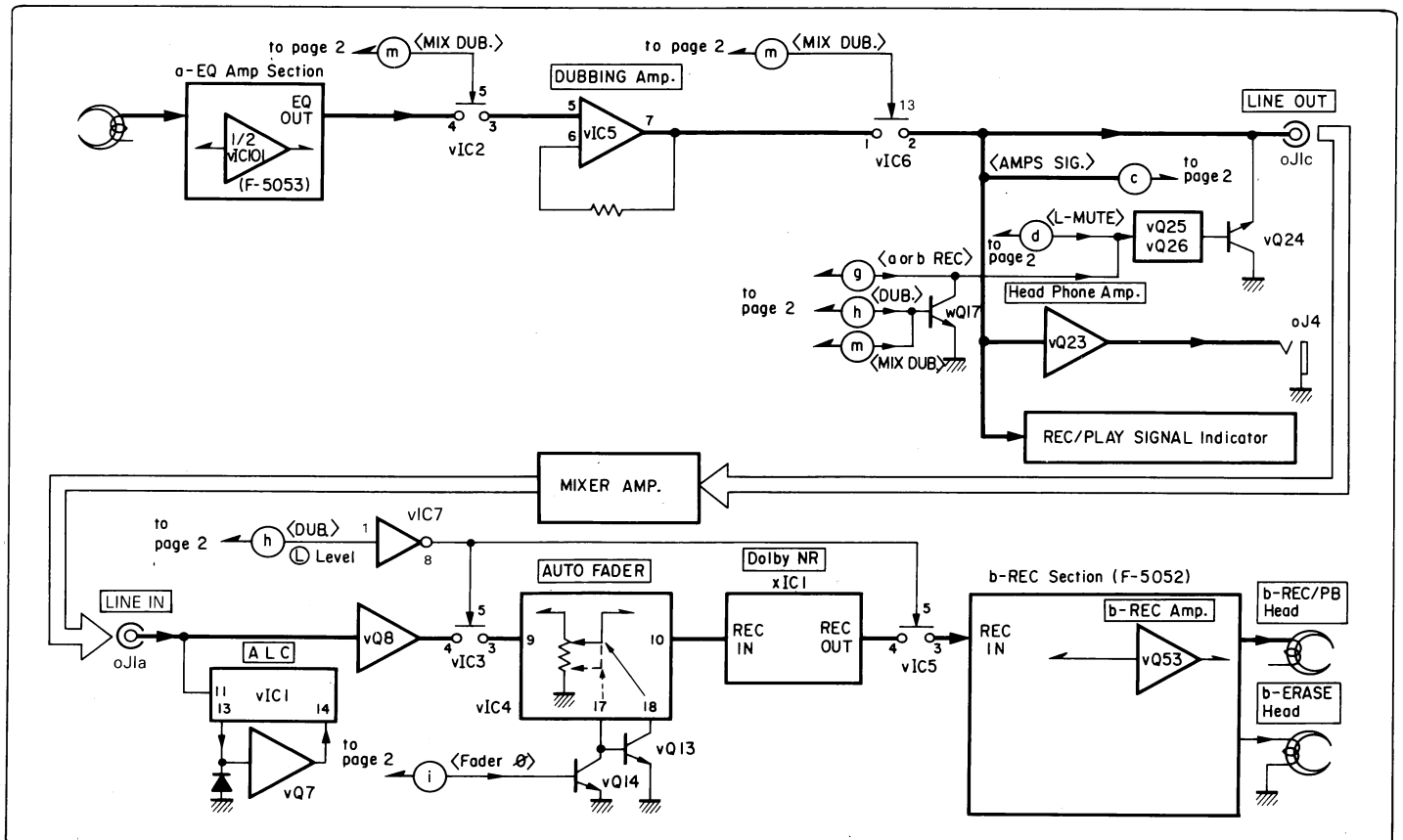
1-3. Recording Section <L-ch•a-Mecha.>



1-4. Dubbing Section < L-ch•a-Mecha. Play→b-Mecha. REC >

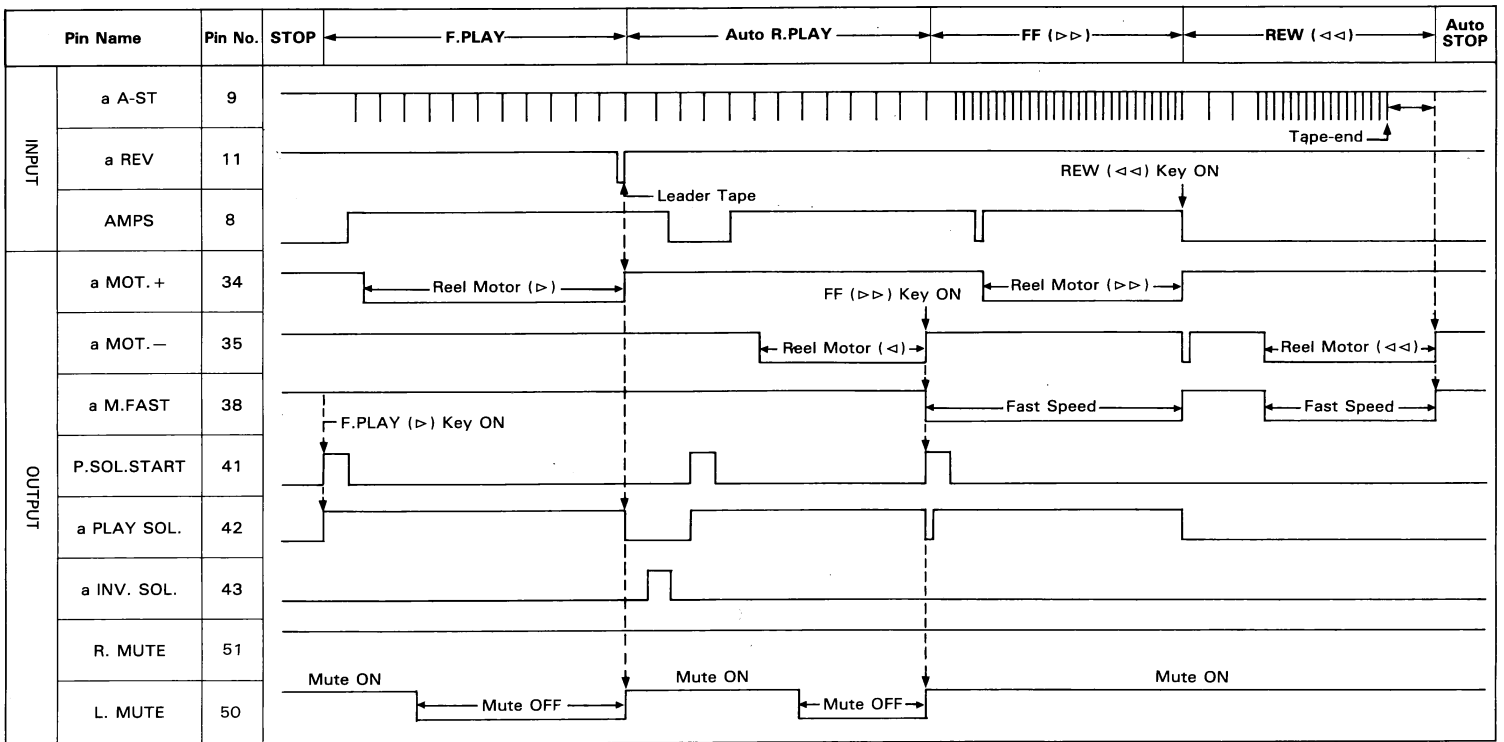


1-5. MIX Dubbing < L-ch•a-Mecha. Play→ MIXER AMP. →b-Mecha. REC >

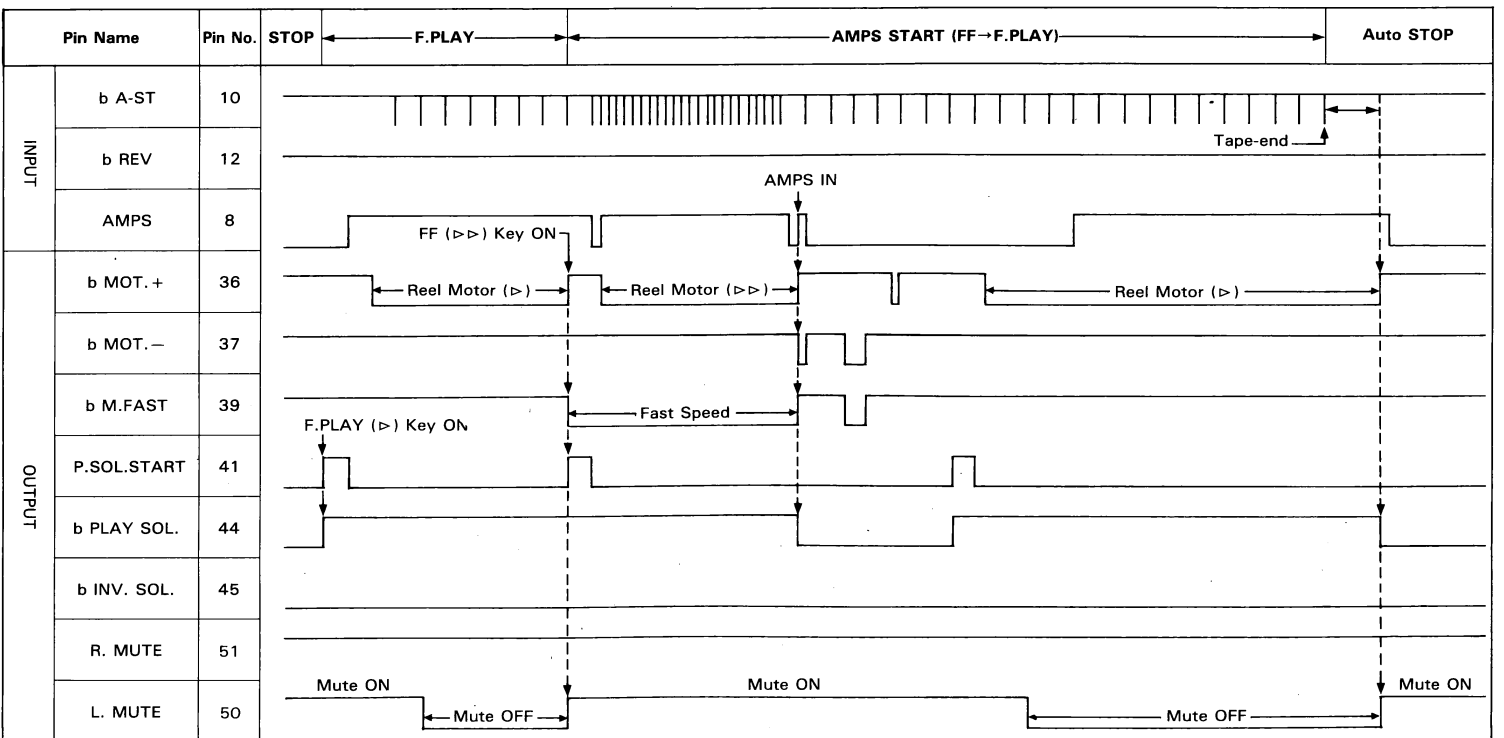


2. TIMING CHART OF IC, MB88421-169M

•a-Mecha. FWD. PLAY→Auto REV. PLAY→FF→REW→Auto STOP



•b-Mecha. FWD. PLAY→AMPS START(FF→FWD. PLAY)→Auto STOP



3. DESCRIPTION OF IC MB88421-169M, MB8841, LC7530

•MB88421 (Logic Control IC)

Pin No.	I/O	Function
21	O	a Mechanism recording output terminal ("L" active)
22	O	b Mechanism recording & DUBBING output terminal ("L" active)
23	O	a Mechanism bias output terminal ("L" active)
24	O	b Mechanism bias & DUBBING output terminal ("L" active)
40	O	RMPS MIX indicator output terminal
54	O	RMPS indicator output terminal ("H" active)
55	O	RELAY indicator output terminal ("H" active)
56	O	DUBBING indicator output terminal ("H" active)
57	O	FAST DUBBING indicator output terminal ("H" active)
50	O	Line muting signal output terminal ("H" active)
51	O	REC muting signal output terminal ("H" active)
61	O	DUBBING output terminal ("H" active)
52	O	a Mechanism play output terminal ("H" active)
53	O	b Mechanism play output terminal ("H" active)
7	O	Buzzer output terminal ("H" active)
8	I	AMPS signal input terminal
9	I	a Mechanism auto-stop signal input terminal
10	I	b Mechanism auto-stop signal input terminal
11	I	a Mechanism auto-reverse signal input terminal
12	I	b Mechanism auto-reverse signal input terminal
13	O	LED data send output terminal
14	O	Busy/ready output terminal
15	I	Busy/ready input terminal
34	O	a Mechanism reel motor + output terminal ("H" active)
35	O	a Mechanism reel motor - output terminal ("H" active)
36	O	b Mechanism reel motor + output terminal ("H" active)
37	O	b Mechanism reel motor - output terminal ("H" active)
38	O	a Mechanism reel motor fast output terminal ("L" active)
39	O	b Mechanism reel motor fast output terminal ("L" active)
41	O	PLAY solenoid start output terminal
42	O	a Mechanism PLAY solenoid output terminal ("H" active)
43	O	a Mechanism DIRECTION solenoid output terminal ("H" active)
44	O	b Mechanism PLAY solenoid output terminal ("H" active)
45	O	b Mechanism DIRECTION solenoid output terminal ("H" active)
46	I	a Mechanism half SW. terminal ("L" active)
47	I	b Mechanism half SW. terminal ("L" active)
48	I	a Mechanism FWD. play sensor terminal
49	I	b Mechanism FWD. play sensor terminal
58	O	Fader up/down signal output terminal
59	O	Fader up/down speed 1 output terminal
60	O	Fader up/down speed 2 output terminal
16	O	Switching signal output terminal
17	I	Timer play & a Mechanism FWD. rec SW. terminal
18	I	Timer rec & a Mechanism REV. rec SW. terminal
19	I	Reverse mode 1 & b Mechanism FWD. rec SW. terminal
20	I	Reverse mode 2 & b Mechanism REV. rec SW. terminal
28	I	Key data send input terminal
30	O	Shift clock output terminal
31	I	Key data signal input terminal
33	O	LED data signal output terminal
2	O	COMPU SELECTOR (START) output terminal
1	I	COMPU SELECTOR (STOP) input terminal
3	I	COMPU EDIT input terminal
4	O	COMPU EDIT indicator output terminal
5	O	+5V output terminal for COMPU EDIT operation

•MB8841 (Key Input/Indicator Output Control IC)

Pin No.	I/O	Function
9	O	b Mechanism REC indicator output terminal ("L" active)
10	O	b Mechanism PAUSE indicator output terminal ("L" active)
11	O	b Mechanism FWD. play indicator output terminal ("L" active)
12	O	b Mechanism REV. play indicator output terminal ("L" active)
13	O	a Segment output terminal ("L" active)
14	O	b Segment output terminal ("L" active)
15	O	g Segment output terminal ("L" active)
16	O	c Segment output terminal ("L" active)
17	O	o indicator output terminal ("L" active)
18	O	f Segment output terminal ("L" active)
19	O	e Segment output terminal ("L" active)
20	O	d Segment output terminal ("L" active)
22	O	Key data send output terminal
23	O	Busy/ready output terminal
24	I	Busy/ready input terminal
25	I	Clock input terminal
26	O	a Mechanism REC indicator output terminal ("L" active)
27	O	a Mechanism PAUSE indicator output terminal ("L" active)
28	O	a Mechanism FWD. play indicator output terminal ("L" active)
29	O	a Mechanism REV. play indicator output terminal ("L" active)
30	O	a Mechanism half indicator output terminal ("L" active)
31	O	b Mechanism half indicator output terminal ("L" active)
32	O	Key scan 0 output terminal
33	O	Key scan 1 output terminal
34	O	Key scan 2 output terminal
35	O	Key scan 3 output terminal
36	O	Key scan 4 output terminal
37	O	Key scan 5 output terminal
38	I	Key return 0 input terminal
39	I	Key return 1 input terminal
40	I	Key return 2 input terminal
41	I	Key return 3 input terminal
4	I	LED data send input terminal
5	O	Key data signal output terminal
6	I	LED data signal input terminal
7	I	Shift clock input terminal

•LC7530 (Auto Fader IC)

Pin No.	Pin Name	Function
9	SIG 1	L-ch signal input terminal
14	SIG 2	R-ch signal input terminal
10	COM 1	L-ch signal output terminal
13	COM 2	R-ch signal output terminal
11	V _M	Bias terminal
12	V _{SS}	GND terminal
17	DN	Volume level down control terminal ("L" active)
18	UP	Volume level up control terminal ("L" active)
19	CR	Down/up step speed control terminal
20	V _{DD}	Power supply terminal

4. ADJUSTMENTS

4-1. Tape Speed Adjustment

- Adjust the tape speed of b-side as fast as a-side.
- Note:** 1. Use Sansui Test Tape, SCT-S3K. (3 kHz signals are recorded on the tape).
2. Connections are shown in Fig. 4-1.

Fig. 4-1

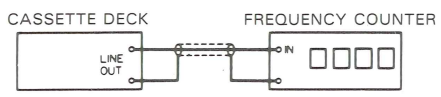
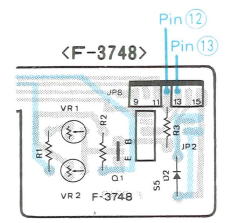


Fig. 4-2



1) Tape Speed Adjustment (NORMAL SPEED)

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	A Side Mecha. (NORMAL)	LINE OUT Frequency counter	Playback the TEST TAPE SCT-S3K. A Side Mecha.	Turn semi-variable resistor (tVR1) of A Side Mecha. as Fig. 4-2.	3000Hz ± 30Hz	Use small screw driver.
2.	B Side Mecha. (NORMAL)		Playback the TEST TAPE SCT-S3K. B Side Mecha.	Turn semi-variable resistor (tVR1) of B Side Mecha. as Fig. 4-2.	3000Hz ± 30Hz	

2) Tape Speed Adjustment (HIGH SPEED)

- Note:** 1. Before this adjustment, regulate "4-1. Tape Speed Adjustment (NORMAL SPEED)".
2. Short between Pin No. 12 (R3) & Pin No. 13 (GND) on F-3748. (See Fig. 4-2)

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	A Side Mecha. (HIGH)	LINE OUT Frequency counter	Playback the TEST TAPE SCT-S3K. A Side Mecha.	Turn semi-variable resistor (tVR2) of A Side Mecha. as Fig. 4-2.	6000Hz ± 60Hz	Use small screw driver.
2.	B Side Mecha. (HIGH)		Playback the TEST TAPE SCT-S3K. B Side Mecha.	Turn semi-variable resistor (tVR2) of B Side Mecha. as Fig. 4-2.	6000Hz ± 60Hz	

4-2. Playback Adjustment

- Note:** 1. Before this adjustment, clean REC/P.B. head surface.
2. For this adjustment, use Sansui Test Tape, SCT-F10K, and SCT-L400.
3. Set the Dolby NR switch to be OFF.
4. Connections are shown in Fig. 4-3.

Fig. 4-3

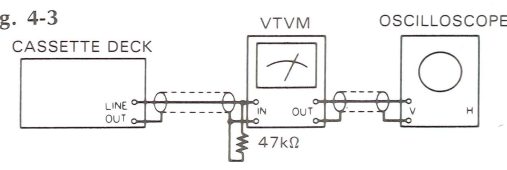
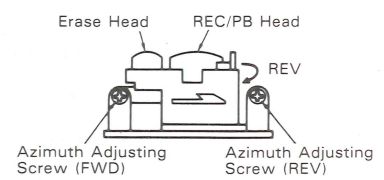


Fig. 4-4



1) a-Side Mecha. Adjustment

Note: Push a-button.

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	REC/P.B. Head Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE SCT-F10K	Adjust the azimuth adjusting screw in Fig. 4-4.	MAX. Output both channels on FWD and REV PLAY	Refer to removal of Lide Ass'y on Page 22. After this adjustment, lock the screw with paint.
2.	Playback Level Pre Adj.	Between Point(A) (vC107L) and GND/Point(B) (vC107R) and GND VTVM and Scope	Playback the TEST TAPE SCT-L400	Adjust each vVR101 (L-CH and R-CH, F-5053)	10mV ± 2dB	See Top View on Page 20.
3.	Playback Level Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE SCT-L400	Adjust each xVR1 (L-CH and R-ch, F-4960)	320mV ± 2dB	See Top View on Page 20.

2) b-Side Mecha. Adjustment

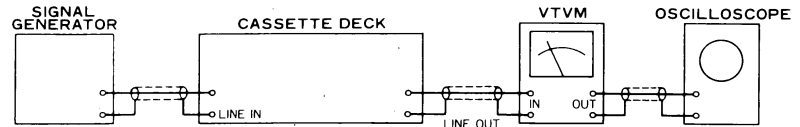
Note: Push b-button.

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	REC/P.B. Head Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE SCT-F10K	Adjust the azimuth adjusting screw in Fig. 4-4.	MAX. Output both channels on FWD and REV PLAY	Refer to removal of Lide Ass'y on Page 22. After this adjustment, lock the screw with paint.
2.	Playback Level Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE SCT-L400	Adjust each vVR1 (L-CH and R-CH, F-5052)	320mV ± 2dB	See Top View on Page 20.

4-3. REC Level & Frequency Response Adjustment

- Note:** 1. Connections are shown in Fig. 4-5.
2. Set the Dolby NR switch to be OFF.
3. Short between Point (TP) & GND (TP). (See Top View on Page 20)

Fig. 4-5



1) a-Side Mecha. Adjustment

Note: Push a-button.

STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1.	REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN.	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-SA. 1.Push REC button. 2.Playback the 1kHz signal.	Adjust vVR102 (L-CH and R-CH, F-5053) until playback level of the A side Mecha. and output signal level on recording operation will be equal.	See Top View on Page 20.
2.	Frequency Response Adj.	Feed 1kHz 15mV and 10kHz 15mV from S.G. into LINE IN	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-SA. 1.Record the 1kHz and 10kHz signals from S.G. 2.Playback the 1kHz and 10kHz signals, then confirm 10kHz signal level in less than 1kHz signal level ± 2 dB on VTVM.	1.If not, adjust vVR150 (L-CH and R-CH, F-5053) slightly until the 10kHz signal level in less than 1kHz signal level ± 2 dB on VTVM.	See Top View on Page 20.
3.	Metal REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-MA. 1.Push REC button. 2.Playback the 1kHz signal.	Adjust vVR103 (L-CH and R-CH, F-5053) until playback level of the A side Mecha. and output signal level on recording operation will be equal.	See Top View on Page 20.

2) b-Side Mecha. Adjustment

Note: Push b-button.

STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1.	REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN.	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-SA. 1.Push REC button. 2.Playback the 1kHz signal.	Adjust vVR2 (L-CH and R-CH, F-5052) until playback level of the B side Mecha. and output signal level on recording operation will be equal.	See Top View on Page 20.
2.	Frequency Response Adj.	Feed 1kHz 15mV and 10kHz 15mV from S.G. into LINE IN	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-SA. 1.Record the 1kHz and 10kHz signals from S.G. 2.Playback the 1kHz and 10kHz signals, then confirm 10kHz signal level in less than 1kHz signal level ± 2 dB on VTVM.	1.If not, adjust vVR50 (L-CH and R-CH, F-5052) slightly until the 10kHz signal level in less than 1kHz signal level ± 2 dB on VTVM.	See Top View on Page 20.
3.	Metal REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-MA. 1.Push REC button. 2.Playback the 1kHz signal.	Adjust vVR3 (L-CH and R-CH, F-5052) until playback level of the B side Mecha. and output signal level on recording operation will be equal.	See Top View on Page 20.

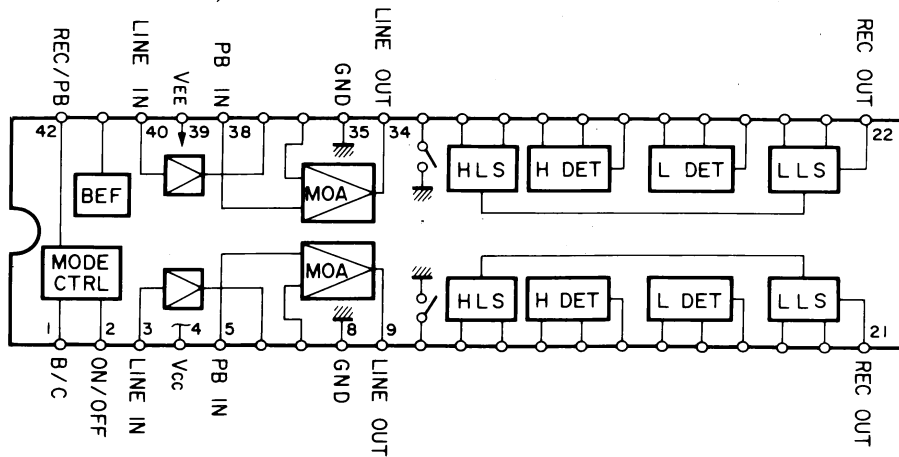
◆ List of Sansui Test Tape

Name of TEST TAPE	Recorded Frequency	Description	Equivalent To
SCT-F40	40 Hz	Playback Frequency Response Check	—
SCT-F1K	1 kHz	High Frequency Equalization Check	—
SCT-F10K	10 kHz	REC/PB Head Adjustment	—
SCT-L400N	400 Hz	Playback Level and Indicator Level Adjustment	—
SCT-S3K	3 kHz	Speed Check and Wow & Flutter Check	—
*SCT-AD (NORMAL)	—	Recording Bias Adjustment	TDK AD
*SCT-SA (HIGH)	—	REC/PB Level Adjustment	TDK SA
*SCT-MA (METAL)	—	Frequency Response Check	TDK MA

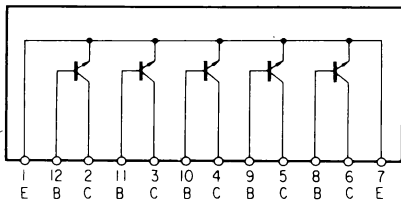
- Note:** Some reference tapes marked * are not supplied.
As these are equivalent to ones indicated above, please obtain these blank tapes on your side as possible.

5. INTERIOR BLOCK DIAGRAM OF IC

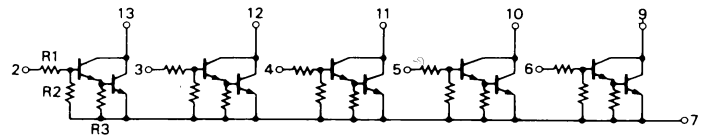
•CX-20187 (Dolby Noise Reduction IC)



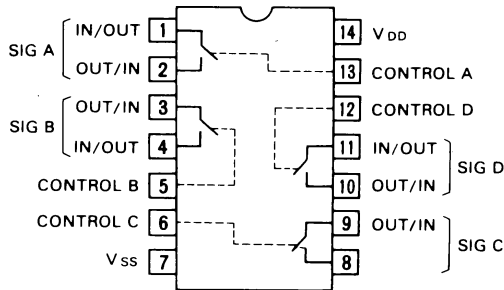
•TA78 (5 Array Transistor)



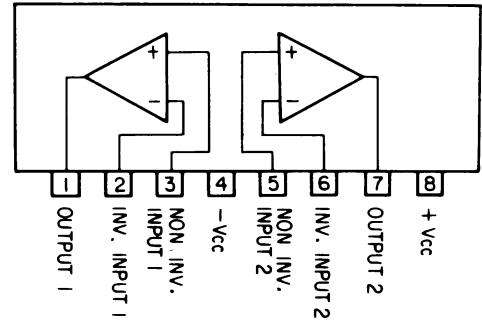
•BA612 (Drive IC)



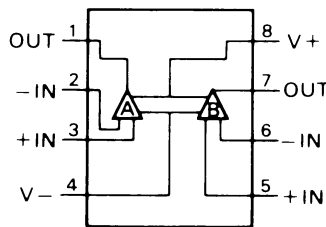
•BU4066B/ μ PD4066BC (Quad Analog SW. IC)



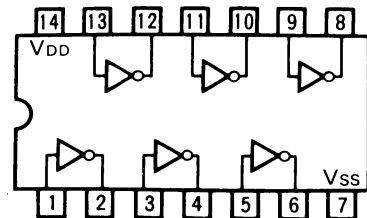
•M5218L (OP Amp. IC)



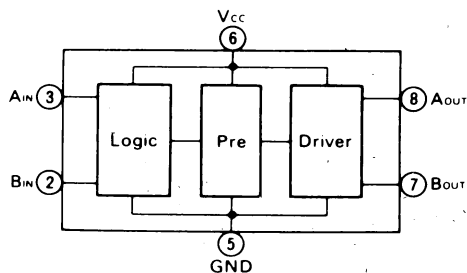
•M5218P (OP Amp. IC)



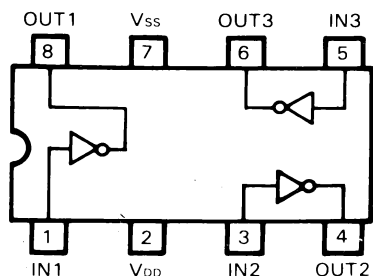
•BU40669UB/ μ PD4069UBC (Inverter IC)



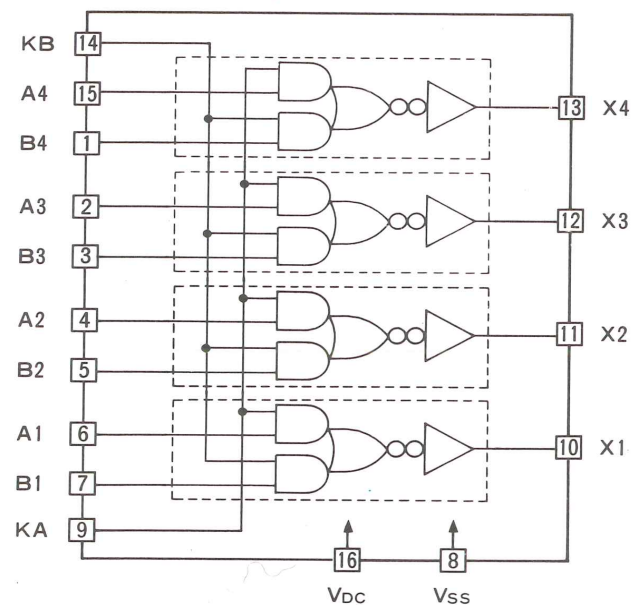
•BA6208 (Motor Drive IC)



•LC4969 (Inverter IC)



•LC4019B/MSM4019RS (Quad AND-OR Select Gate IC)



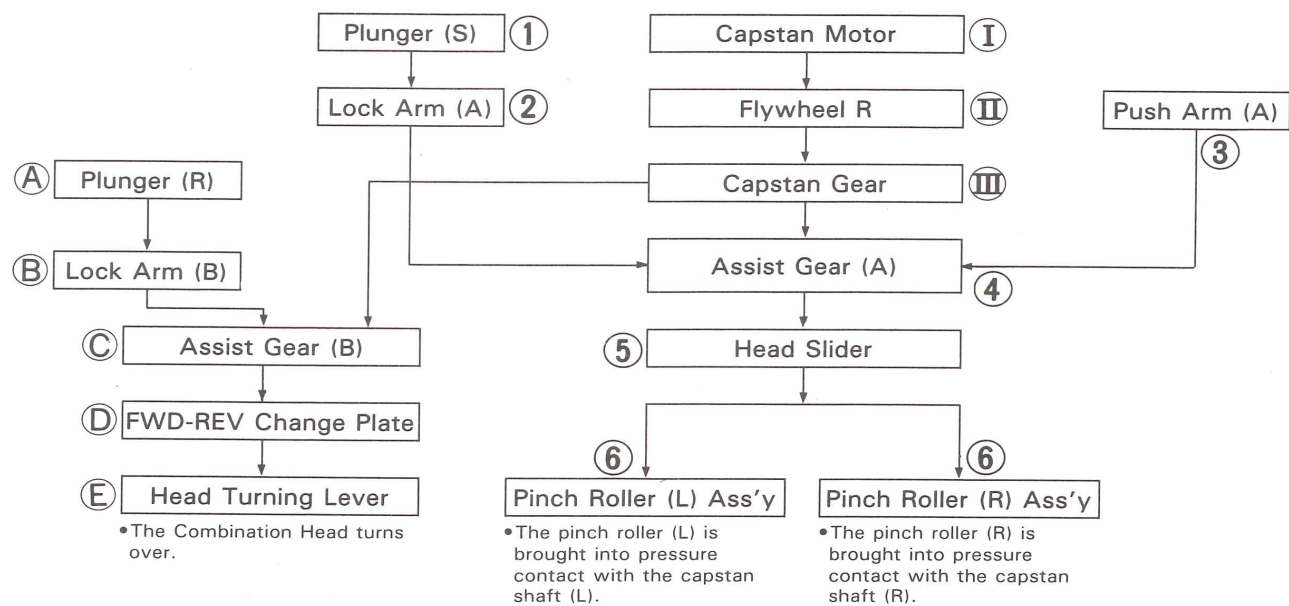
•Truth Table

An	Bn	KA	KB	Xn
0	0	1	0	0
1	0	1	0	1
0	1	1	0	0
1	1	1	0	1
0	0	0	1	0
1	0	0	1	0
0	1	0	1	1
1	1	0	1	1
0	0	1	1	0
1	0	1	1	1
0	1	1	1	1
1	1	1	1	1
*	*	0	0	0

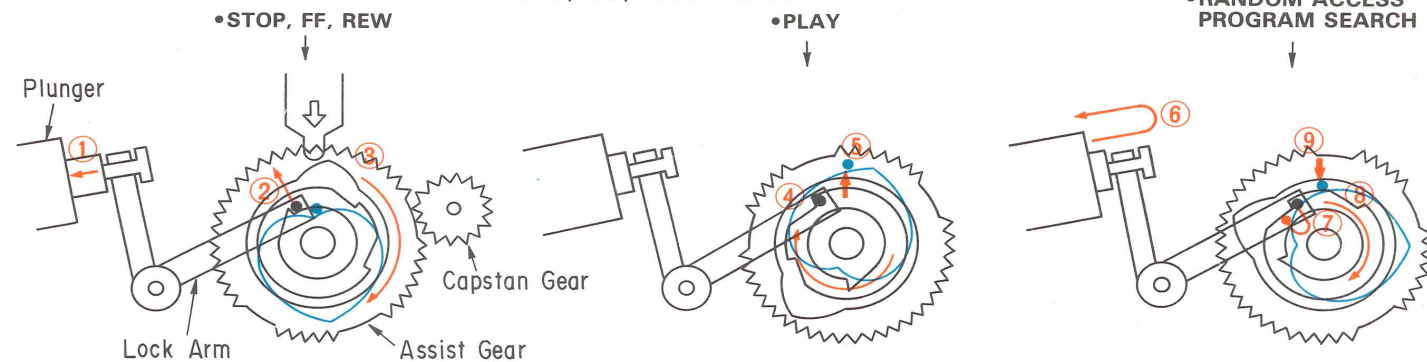
1 : "Hi"
0 : "Lo"
* : don't care
n=1~4

6. OPERATIONS OF PINCH ROLLER & COMBINATION HEAD

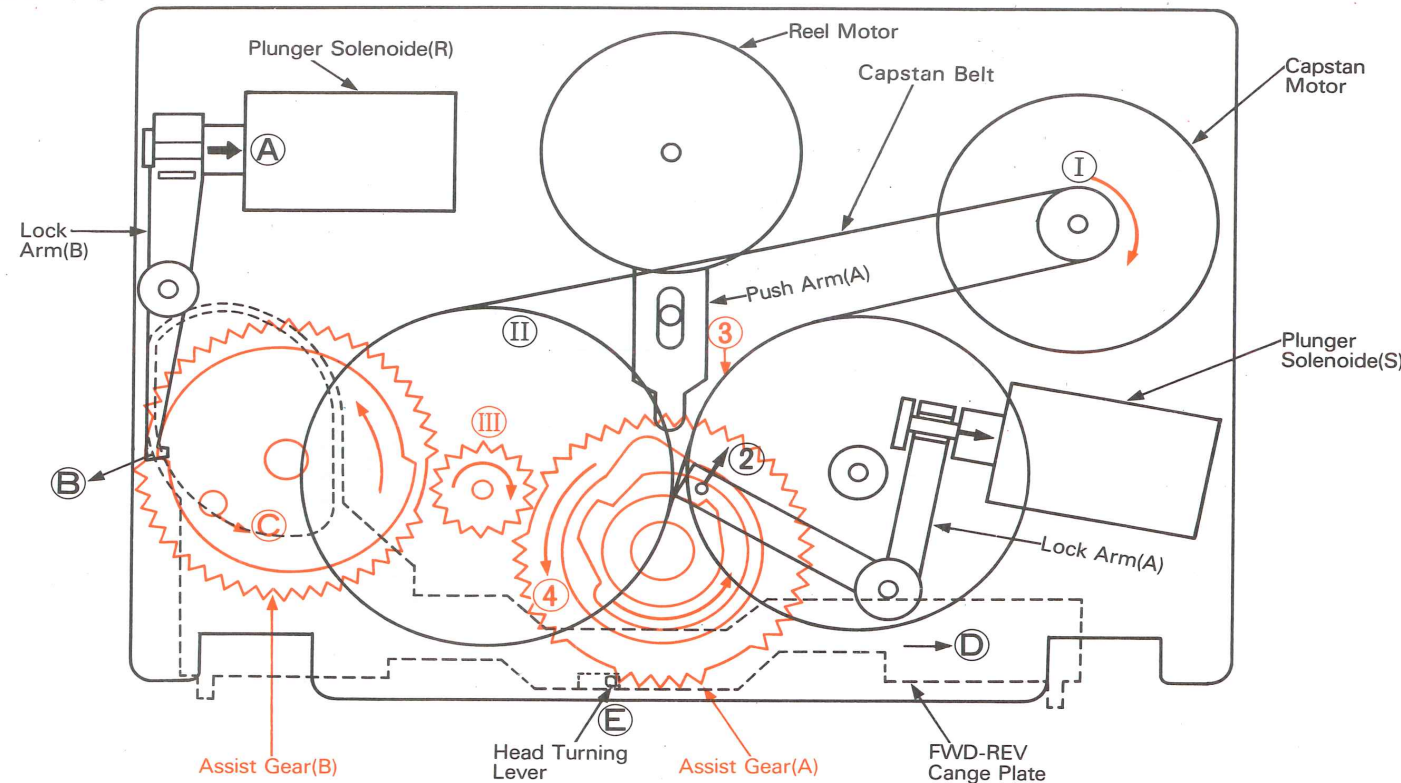
6-1. Torque Transportation Flowchart



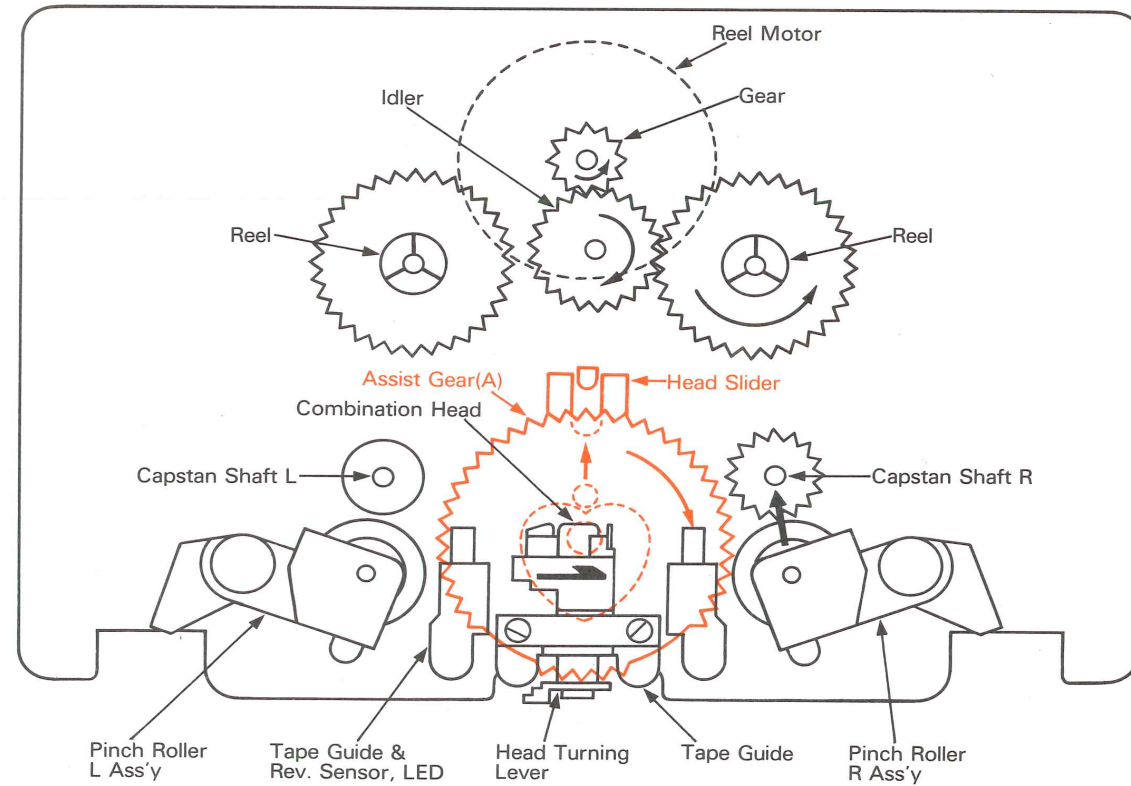
6-2. Cam Position in the Modes of PLAY, FF, REW & STOP



6-3. Rear View of Mechanism Chassis



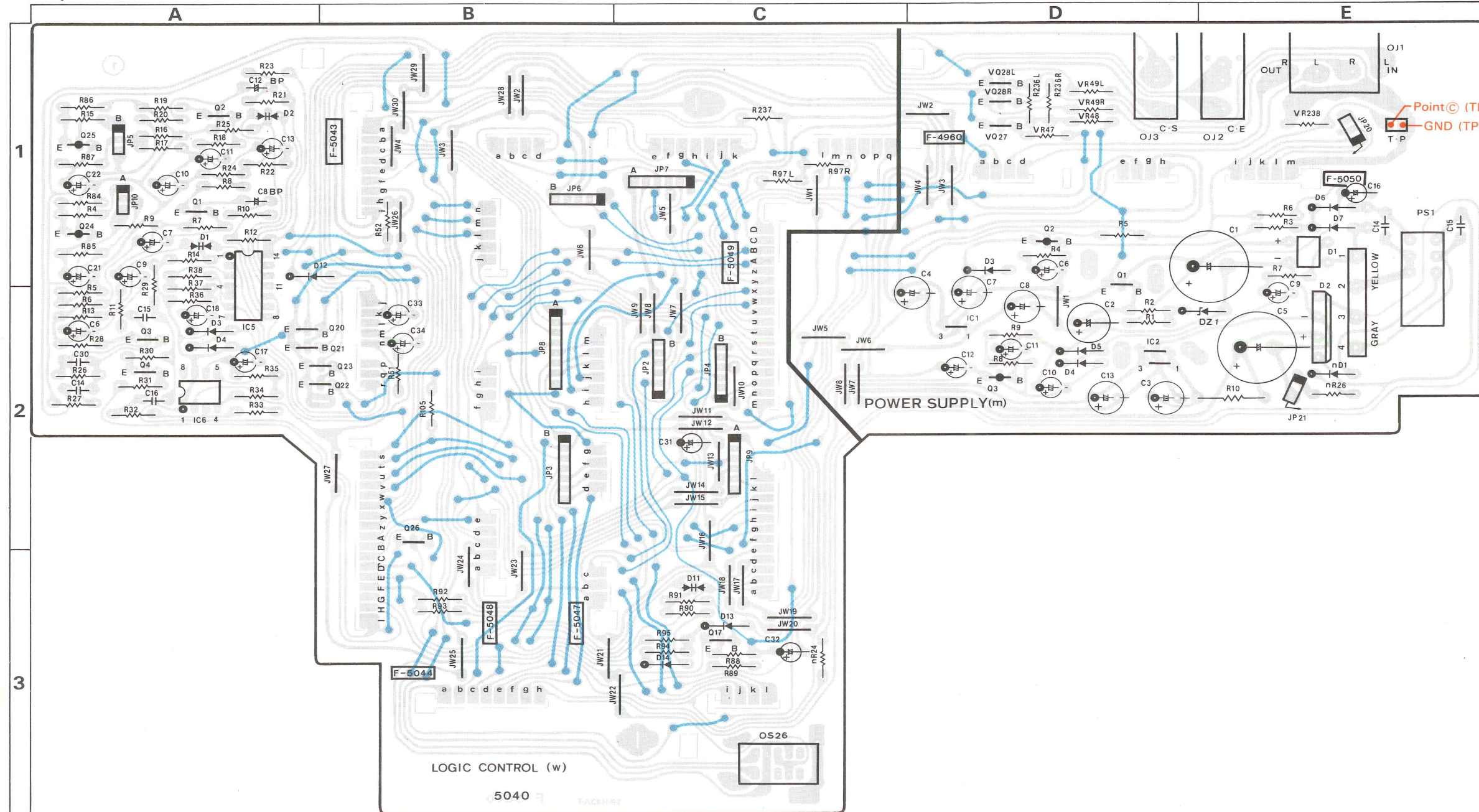
6-4. Front View of Mechanism Chassis



7. PARTS LOCATION & PARTS LIST

7-1. F-5040 Main Board (Stock No. 00905401)

Component Side



Parts List

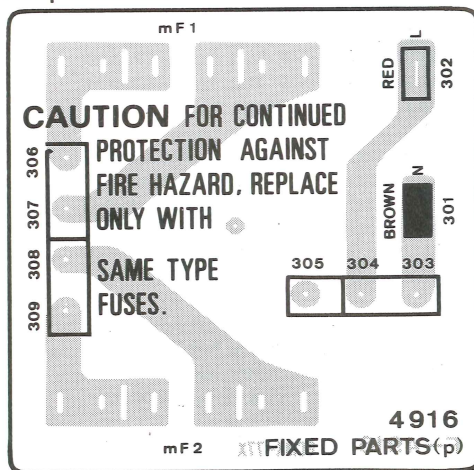
Parts No.	Stock No.	Description
• Transistor		
△mQ1	03086101	2SD357
mQ2	46367001	2SA1115
	or 48058601	2SA933S
mQ3	46367001	2SA1115
	or 48058601	2SA933S
• IC		
△mIC1	46144500	NJM78M09A
	or 46499800	L78N09
△mIC2	46144200	NJM78M05A
	or 46359400	L78N05
• Diode		
△mD1	46273600	DBB10-B
	or 46273700	DBB10-C
	or 48192000	DBB10E
	or 48192100	DBB10G
△mD2	03117000	RB152-LFF
mD3	03117600	1S2473T77
	or 46086000	1S1588TP-3
mD4	03117600	1S2473T77
	or 46086000	1S1588TP-3
mD5	03117600	1S2473T77
	or 46086000	1S1588TP-3
mD6	03117600	1S2473T77
	or 46086000	1S1588TP-3
mD7	03117600	1S2473T77
	or 46086000	1S1588TP-3
• Zener Diode		
mDZ1	46114200	05Z13-Y
	or 46114300	05Z13-Z
△mR10	00179000	10Ω 1W N.I.R.
△mR11	46247700	4.7Ω 1W N.I.R.
△mR12	46250200	5.6Ω 1W N.I.R.
• Diode		
nD1	03117600	1S2473T77
	or 46086000	1S1588TP-3
△nR24	46227600	6.8Ω 1/2W N.I.R.
oS26	48126800	Slide SW., DOLBY NR
oJ2	46547200	Jack, COMPU EDIT
oJ3	46547200	Jack, COMPU SELECTOR
oJ1	46371500	4P Terminal, LINE IN/LINE OUT
pS1	48172700	Push SW., POWER
• Transistor		
vQ27	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ28	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
wQ1	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
wQ2	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
wQ3	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
wQ4	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
wQ17	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
wQ20	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
wQ21	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S

Parts List <F-5040>

Parts No.	Stock No.	Description
wQ22	46719900	DTC124
wQ23	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
wQ24	46367001	2SA1115
	or 48058601	2SA933S
wQ25	46367001	2SA1115
	or 48058601	2SA933S
wQ26	46719900	DTC124ES
wQ27	46134200	2SD1111
•IC		
wIC5	46427000	μPD4069UBC
	or 48050700	MSM4069UBRS
	or 48156500	HD14069UBP
wIC6	46671300	LC4969
•Diode		
wD1	46464000	MC921
wD2	46464000	MC921
wD3	03117600	1S2473T77
	or 46086000	1S1588TP-3
wD4	03117600	1S2473T77
	or 46086000	1S1588TP-3
wD11	46464000	MC921
wD12	03117600	1S2473T77
	or 46086000	1S1588TP-3
wD13	03111800	1S1588
	or 07176400	1S2473HS
wD14	03111800	1S1588
	or 07176400	1S2473HS
wD16	03117600	1S2473T77
	or 46086000	1S1588
wD17	03117600	1S2473D
	or 46086000	1S1588
wC7	08451000	10μF 16V E.B.
wC8	08450800	3.3μF 16V E.B.
wC11	08451000	10μF 16V E.B.
wC12	08450800	3.3μF 16V E.B.

7-2. F-4916 Wiring Board (XX-V, UL, CSA, EU)

Component Side

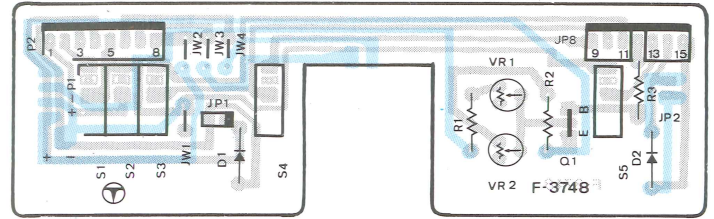


Parts List

Parts No.	Stock No.	Description
△mF1	07184600	Fuse 800mA (EU)
△mF2	07184900	Fuse 1.6A (EU)

7-3. F-3748 Sensor SW. Board

Component Side

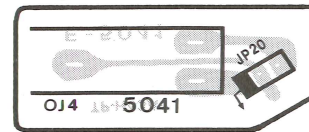


Parts List

Parts No.	Stock No.	Description
•Transistor		
tQ1	07206901	2SC2001
•Diode		
tD1	03111600	1S2473D
tD2	03111600	1S2473D
tTH1	48264900	Thermistor
tVR1	46839400	2.2kΩ S.V.R., Normal Speed Adj.
tVR2	46839500	4.7kΩ S.V.R., High Speed Adj.
tS1	47292710	Leaf SW., half sensor
tS2	47292710	Leaf SW., prevention tab sensor (for A-side)
tS3	47292710	Leaf SW., tape sel. HIGH
tS4	47292710	Leaf SW., tape sel. METAL
tS5	47292710	Leaf SW., prevention tab sensor (for B-side)

7-4. F-5041 PHONES Jack Board

Component Side

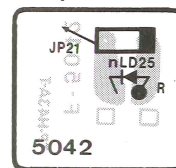


Parts List

Parts No.	Stock No.	Description
oJ4	46265700	Jack, PHONES

7-5. F-5042 STAND-BY Indicator Board

Component Side

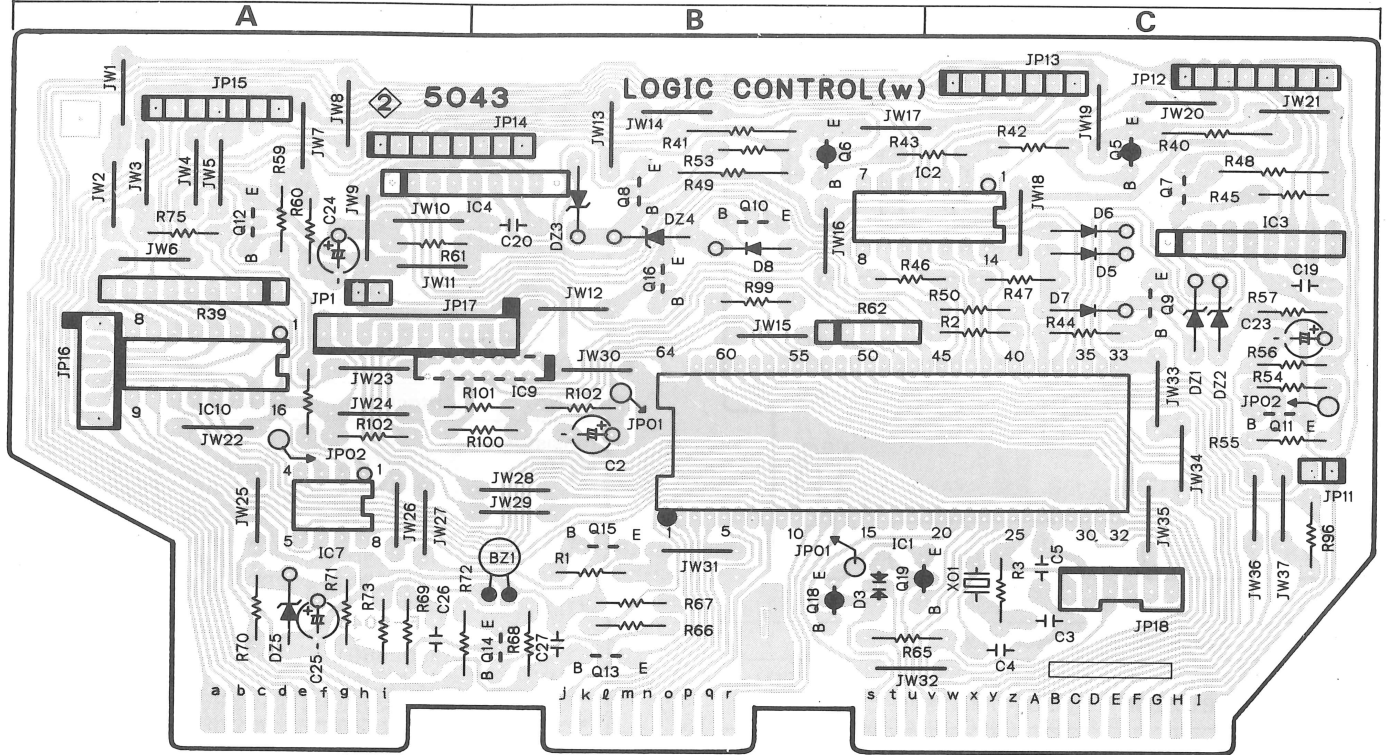


Parts List

Parts No.	Stock No.	Description
•LED		
nLD25	46176900	TLS-123
	or 46470200	SEL2210S
	or 48189000	GL-3HD7

7-7. F-5043 Logic Control Board (Stock No. 00905701)

Component Side

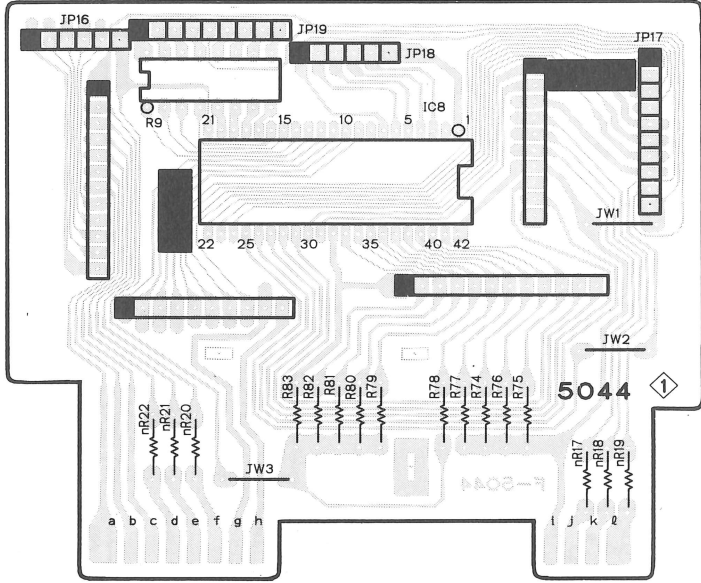


Parts List

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
• Transistor			wIC3	46149600	BA6208
wQ5	46359701	2SA952	wIC4	46149600	BA6208
	or 46614001	2SA1283	wIC7	46671300	LC4969
	or 48000801	2SA934	wIC9	46502800	TA78 NPN
wQ6	46359701	2SA952	wIC10	46209500	MSM4019RS
	or 46614001	2SA1283		or 48075200	LC4019B
	or 48000801	2SA934	wXO1	46505500	Ceramic Element KBR-3.58M
wQ7	46614101	2SC3243	• Diode		
wQ8	46614101	2SC3243	wD5	03117600	1S2473T77
wQ9	46367101	2SC2603		or 46086000	1S1588TP-3
	or 46391901	2SC2785	wD6	03117600	1S2473T77
	or 48058801	2SC1740S		or 46086000	1S1588TP-3
wQ10	46367101	2SC2603	wD7	03117600	1S2473T77
	or 46391901	2SC2785		or 46086000	1S1588TP-3
	or 48058801	2SC1740S	wD8	03117600	1S2473T77
wQ11	46367101	2SC2603		or 46086000	1S1588TP-3
	or 46391901	2SC2785	wD9	46464000	MC921
	or 48058801	2SC1740S	wD15	46464000	MC921
wQ12	46367101	2SC2603	• Zener Diode		
	or 46391901	2SC2785	wDZ1	46110800	05Z4.7-X
	or 48058801	2SC1740S		or 46110900	05Z4.7-Y
wQ13	46367101	2SC2603	wDZ2	46111900	05Z6.2-Z
	or 46391901	2SC2785		or 46112000	05Z6.8-X
	or 48058801	2SC1740S	wDZ3	46111900	05Z6.2-Z
wQ14	46367101	2SC2603		or 46112000	05Z6.8-X
	or 46391901	2SC2785	wDZ4	46110800	05Z4.7-X
	or 48058801	2SC1740S		or 46110900	05Z4.7-Y
wQ15	46367101	2SC2603	wDZ5	46113000	05Z9.1-Y
	or 46391901	2SC2785		or 46113100	05Z9.1-Z
	or 48058801	2SC1740S	wR39	46349300	10kΩX8 1/8W A.R.
wQ16	46367101	2SC2603	wR40	46624000	56Ω 2W N.I.R.
	or 46391901	2SC2785	wR41	46624000	56Ω 2W N.I.R.
	or 48058801	2SC1740S	wR62	46341500	4.7kΩX4 1/8W A.R.
wQ18	46719800	DTA124ES	wBZ1	07244900	Buzzer PKM12-4A2
wQ19	46719800	DTA124ES			
• IC					
wIC1	48198800	MB88421-169M			
wIC2	46397500	BA612CA			

7-8. F-5044 Key Input/Indicator Output Control Board (Stock No. 00905801)

Component Side

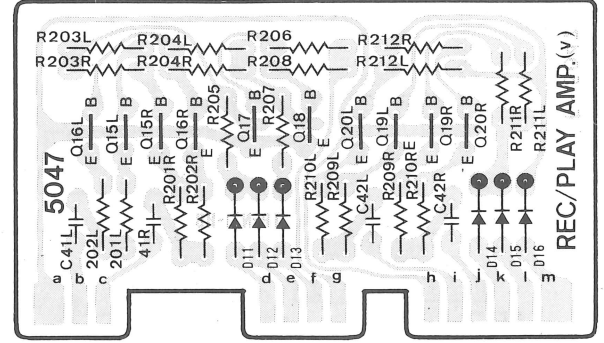


Parts List

Parts No.	Stock No.	Description
•IC		
wIC8	48109300	MB8841H-1357K

7-9. F-5047 REC Equalizer Board (Stock No. 00906101)

Component Side

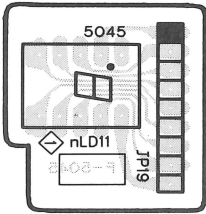


Parts List

Parts No.	Stock No.	Description
•Transistor		
vQ15	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ16	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ17	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ18	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ19	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ20	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
•Diode		
vD11	03117600	1S2473T77
	or 46086000	1S1588TP-3
vD12	03117600	1S2473T77
	or 46086000	1S1588TP-3
vD13	03117600	1S2473T77
	or 46086000	1S1588TP-3
vD14	03117600	1S2473T77
	or 46086000	1S1588TP-3
vD16	03117600	1S2473T77
	or 46086000	1S1588TP-3
vD17	03117600	1S2473T77
	or 46086000	1S1588TP-3

7-10. F-5045 15 RMPS Indicator Board

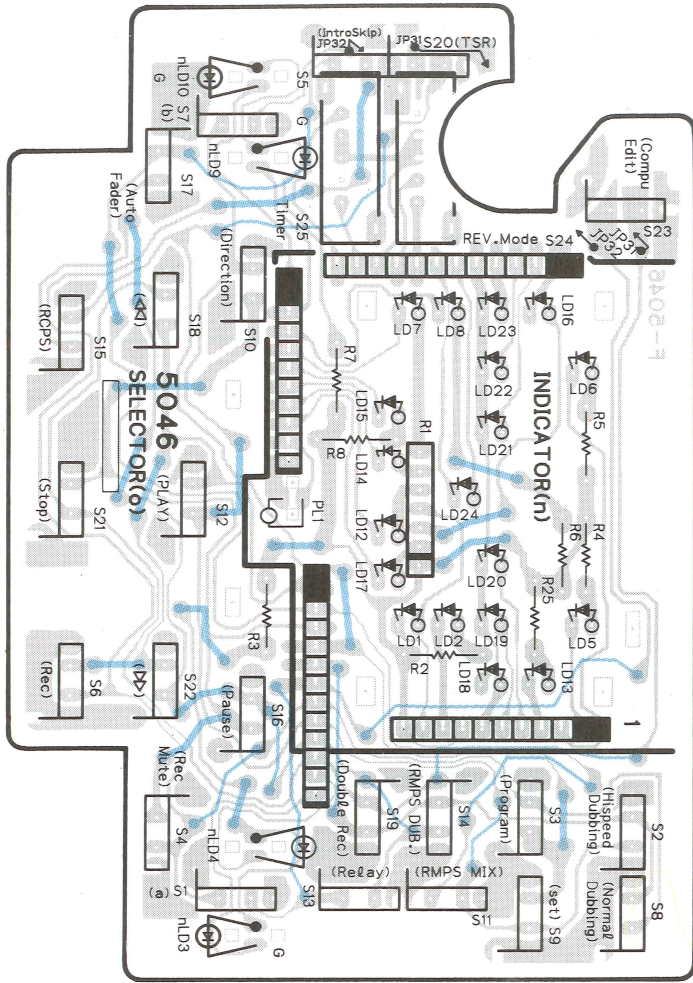
Component Side



Parts List

Parts No.	Stock No.	Description
•LED		
nLD11	48069000	GL-9P03D

7-11. F-5046 Control SW. Board
Component Side

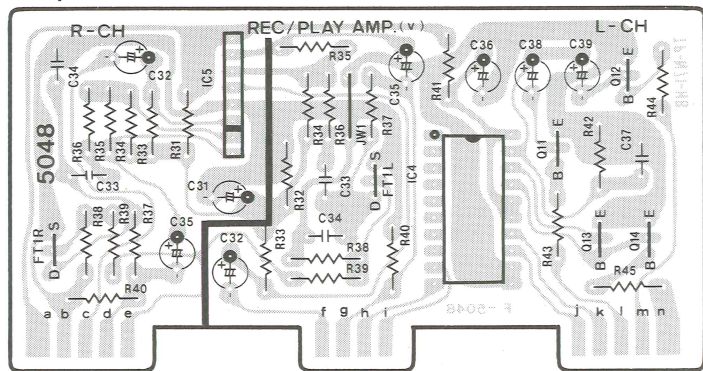


Parts List

Parts No.	Stock No.	Description
•LED		
nLD1	46176900 or 46470200 or 48189000	TLS-123 SEL2210S GL-3HD7
nLD2	07251000 or 46470400 or 48189100	TLY-123 SEL2910A GL3HY57
nLD3	07250900 or 46470300 or 48189200	TLG-123A SEL2410E GL-3EG7
nLD4	07250900 or 46470300 or 48189200	TLG-123A SEL2410E GL-3EG7
nLD5	07250900 or 46470300 or 48189200	TLG-123A SEL2410E GL-3EG7
nLD6	07250900 or 46470300 or 48189200	TLG-123A SEL2410E GL-3EG7
nLD7	46176900 or 46470200 or 48189000	TLS-123 SEL2210S GL-3HD7
nLD8	07251000 or 46470400 or 48189100	TLY-123 SEL2910A GL3HY57
nLD9	07250900 or 46470300 or 48189200	TLG-123A SEL2410E GL-3EG7
nLD10	07250900 or 46470300 or 48189200	TLG-123A SEL2410E GL-3EG7

Parts No.	Stock No.	Description
nLD12	46176900 or 46470200 or 48189000	TLS-123 SEL2210S GL-3HD7
nLD13	07251000 or 46470400 or 48189100	TLY-123 SEL2910A GL3HY57
nLD14	46176900 or 46470200 or 48189000	TLS-123 SEL2210S GL-3HD7
nLD15	46176900 or 46470200 or 48189000	TLS-123 SEL2210S GL-3HD7
nLD16	46176900 or 46470200 or 48189000	TLS-123 SEL2210S GL-3HD7
nLD17	46176900 or 46470200 or 48189000	TLS-123 SEL2210S GL-3HD7
nLD18	46176900 or 46470200 or 48189000	TLS-123 SEL2210S GL-3HD7
nLD19	07251000 or 46470400 or 48189100	TLY-123 SEL2910A GL3HY57
nLD20	07250900 or 46470300 or 48189200	TLG-123A SEL2410E GL-3EG7
nLD21	46176900 or 46470200 or 48189000	TLS-123 SEL2210S GL-3HD7
nLD22	07251000 or 46470400 or 48189100	TLY-123 SEL2910A GL3HY57
nLD23	07250900 or 46470300 or 48189200	TLG-123A SEL2410E GL-3EG7
nLD24	46176900 or 46470200 or 48189000	TLS-123 SEL2210S GL-3HD7
nR1	46343900	390Ω X6 1/8W A.R.
nPL1	48191900	12V 0.15A Pilot Lamp
oS1	46396700	Push SW., a
oS2	46396700	Push SW., NORMAL SPEED
oS3	46396700	Push SW., PROG
oS4	46396700	Push SW., REC MUTE
oS5	46396700	Push SW., INTROSKIP
oS6	46396700	Push SW., REC
oS7	46396700	Push SW., b
oS8	46396700	Push SW., HIGH SPEED
oS9	46396700	Push SW., SET
oS10	46396700	Push SW., DIRECTION
oS11	46396700	Push SW., RMPS MIX DUBBING
oS12	46396700	Push SW., PLAY
oS13	46396700	Push SW., RELAY
oS14	46396700	Push SW., RMPS DUBBING
oS15	46396700	Push SW., RCPS
oS16	46396700	Push SW., PAUSE
oS17	46396700	Push SW., AUTO FADER
oS18	46396700	Push SW., >>>
oS19	46396700	Push SW., DOUBLE REC
oS20	46396700	Push SW., TSR
oS21	46396700	Push SW., STOP
oS22	46396700	Push SW., <<<
oS23	46396700	Push SW., COMPU EDIT
oS24	46178400	Slide SW., REVERSE MODE
oS25	46178400	Slide SW., TIMER

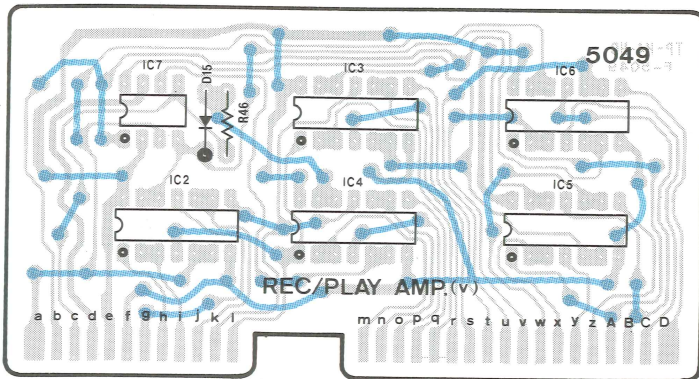
7-12. F-5048 Dubbing Amp. & Auto Fader Board
Component Side (Stock No. 00906201)



Parts List

Parts No.	Stock No.	Description
• Transistor		
vQ11	46367101 or 46367301 or 48058801	2SC2603 2SC2458 2SC1740S
vQ12	46367101 or 46367301 or 48058801	2SC2603 2SC2458 2SC1740S
vQ13	46367101 or 46367301 or 48058801	2SC2603 2SC2458 2SC1740S
vQ14	46367101 or 46367301 or 48058801	2SC2603 2SC2458 2SC1740S
• FET		
vFT1	46643800 or 46643801	2SJ103-Y 2SJ103-GR
• IC		
vIC8	46078900	M5218L
vIC9	46671600	LC7530

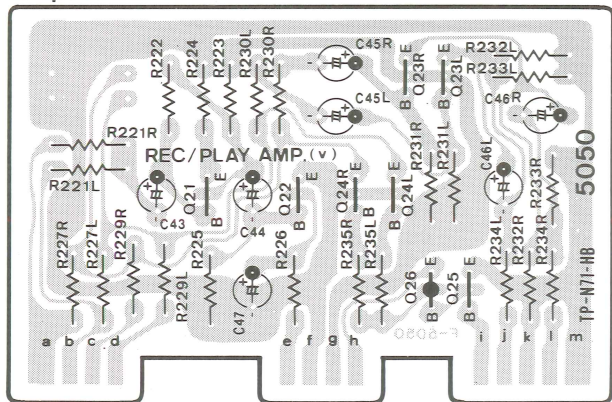
7-13. F-5049 Analog SW. Board (Stock No. 00906301)
Component Side



Parts List

Parts No.	Stock No.	Description
vIC2	46421000 or 48054500 or 48063800	UPD4066BC MSM4066BRS BU4066B
vIC3	46421000 or 48054500 or 48063800	UPD4066BC MSM4066BRS BU4066B
vIC4	46421000 or 48054500 or 48063800	UPD4066BC MSM4066BRS BU4066B
vIC5	46421000 or 48054500 or 48063800	UPD4066BC MSM4066BRS BU4066B
vIC6	46421000 or 48054500 or 48063800	UPD4066BC MSM4066BRS BU4066B
vIC7	46671300	LC4969
• Diode		
vD15	07176400	1S2473HS

7-14. F-5050 PHONES Amp. Board (Stock No. 00906401)
Component Side

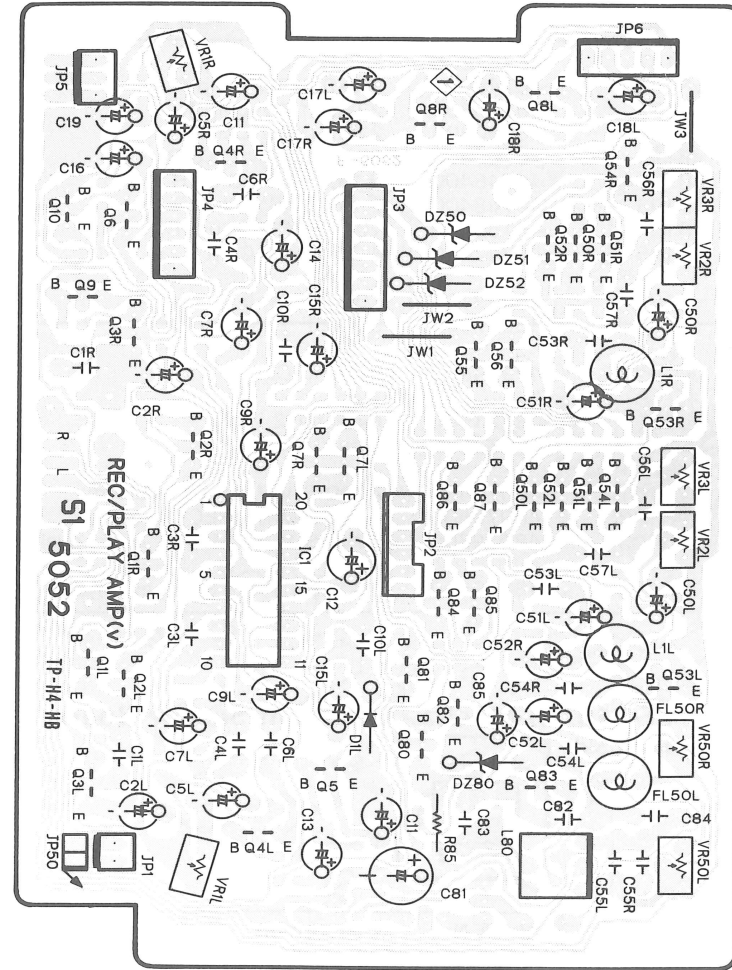


Parts List

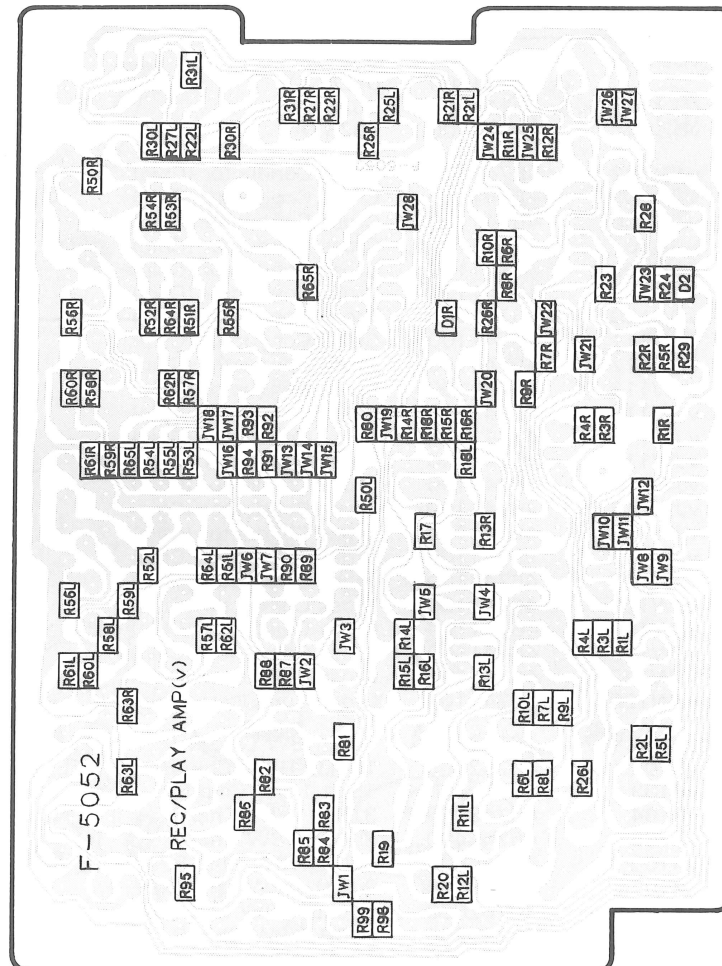
Parts No.	Stock No.	Description
• Transistor		
vQ21	46367101 or 46367301 or 48058801	2SC2603 2SC2458 2SC1740S
vQ22	46367101 or 46367301 or 48058801	2SC2603 2SC2458 2SC1740S
vQ23	46367101 or 46367301 or 48058801	2SC2603 2SC2458 2SC1740S
vQ24	46367101 or 46367301 or 48058801	2SC2603 2SC2458 2SC1740S
vQ25	46367101 or 46367301 or 48058801	2SC2603 2SC2458 2SC1740S
vQ26	46719800	DTA124ES

7-15. F-5052 b-Mecha. REC & PLAY Amp. Board (Stock No. 00906501)

Component Side



Pattern Side < Chip Parts >



Parts List

Parts No.	Stock No.	Description
• Transistor		
vQ1	46581701	2SC1845
vQ2	46581701	2SC1845
vQ3	46359801	2SC2001
vQ4	or 48055901	2SD1468S
	46367101	2SC2603
vQ5	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ6	46367101	2SC2603
	or 46367301	2SC2458
vQ7	or 48058801	2SC1740S
	46719800	DTA124ES
vQ8	46367101	2SC2603
	or 46367301	2SC2458
vQ9	or 48058801	2SC1740S
	46367101	2SC2603
vQ10	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ51	46719900	DTC124
	46367101	2SC2603
vQ52	or 46367301	2SC2458
	or 48058801	2SC1740S

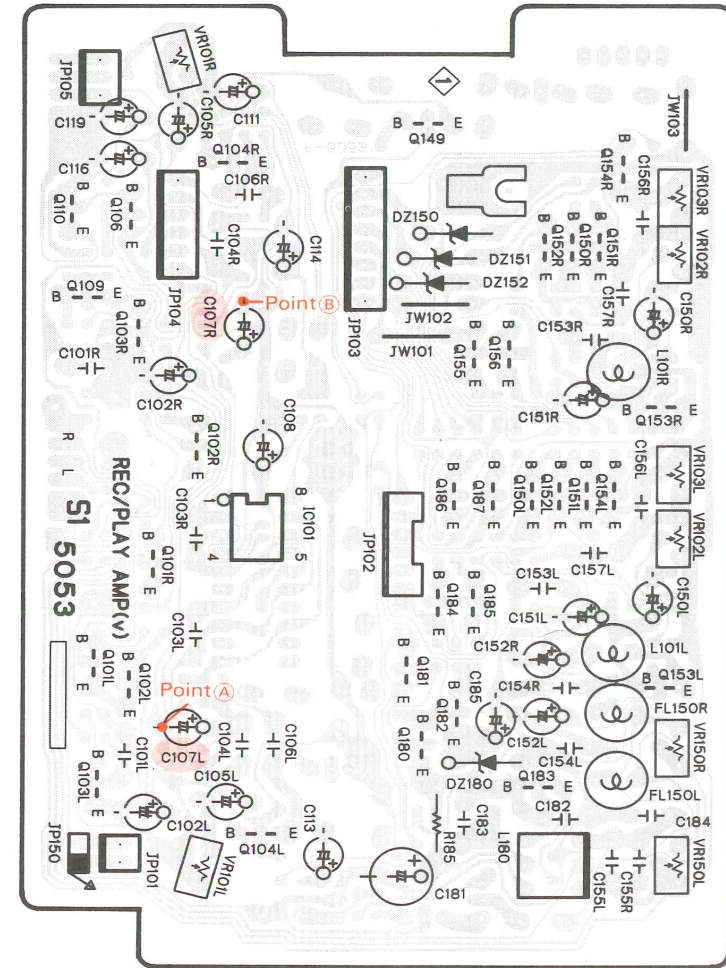
Parts No.	Stock No.	Description
vQ53	46367101	2SC2603
	or 46367301	2SC2458
vQ54	or 48058801	2SC1740S
	46367101	2SC2603
vQ55	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ56	46719800	DTA124ES
vQ80	46614101	2SC3243
	46367101	2SC2603
vQ81	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ82	46367101	2SC2603
	or 46367301	2SC2458
vQ83	or 48058801	2SC1740S
	48061801	2SC3244
vQ84	46367101	2SC2603
	or 46367301	2SC2458
vQ85	or 48058801	2SC1740S
	46367101	2SC2603
vQ86	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ87	46367001	2SA1115
	or 46392001	2SA1175
	or 48058601	2SA933S
	or 48058601	2SA933S

Parts No.	Stock No.	Description
• IC		
vic1	46362100	M51161P
• Diode		
vD1	03117600	1S2473T77
	or 46086000	1S1588TP-3
	or 46852000	RLS-73 (Chip)
vD2	46852000	RLS-73 (Chip)
• Zener Diode		
vDZ50	46111100	05Z5.1-X
	or 46111200	05Z5.1-Y
	or 46111300	05Z5.1-Z
vDZ51	46111100	05Z5.1-X
	or 46111200	05Z5.1-Y
vDZ52	or 46111300	05Z5.1-Z
	46111100	05Z5.1-X
vDZ80	or 46111200	05Z5.1-Y
	or 46111300	05Z5.1-Z
46109400	05Z3.0-Y	
vJW2	46741100	Cross Conductor (Chip)
vJW3	46741100	Cross Conductor (Chip)
vJW4	46741100	Cross Conductor (Chip)
vJW5	46741100	Cross Conductor (Chip)
vJW6	46741100	Cross Conductor (Chip)
vJW7	46741100	Cross Conductor (Chip)
vJW8	46741100	Cross Conductor (Chip)
vJW9	46741100	Cross Conductor (Chip)
vJW10	46741100	Cross Conductor (Chip)
vJW11	46741100	Cross Conductor (Chip)
vJW12	46741100	Cross Conductor (Chip)
vJW13	46741100	Cross Conductor (Chip)
vJW14	46741100	Cross Conductor (Chip)
vJW15	46741100	Cross Conductor (Chip)
vJW16	46741100	Cross Conductor (Chip)
vJW17	46741100	Cross Conductor (Chip)
vJW18	46741100	Cross Conductor (Chip)
vJW19	46741100	Cross Conductor (Chip)
vJW20	46741100	Cross Conductor (Chip)
vJW21	46741100	Cross Conductor (Chip)
vJW22	46741100	Cross Conductor (Chip)
vJW23	46741100	Cross Conductor (Chip)
vJW24	46741100	Cross Conductor (Chip)
vJW25	46741100	Cross Conductor (Chip)
vJW26	46741100	Cross Conductor (Chip)
vJW28	46741100	Cross Conductor (Chip)
vR1	46742800	10Ω 1/8W Chip R.
vR2	46752400	100kΩ 1/8W Chip R.
vR3	46750400	15kΩ 1/8W Chip R.
vR4	46748800	3.3kΩ 1/8W Chip R.
vR5	46748400	2.2kΩ 1/8W Chip R.
vR6	46746600	390Ω 1/8W Chip R.
vR7	46748400	2.2kΩ 1/8W Chip R.
vR8	46752600	120kΩ 1/8W Chip R.
vR9	46748000	1.5kΩ 1/8W Chip R.
vR10	46746200	270Ω 1/8W Chip R.
vR11	46753200	220kΩ 1/8W Chip R.
vR12	46750800	22kΩ 1/8W Chip R.
vR13	46746200	270Ω 1/8W Chip R.
vR14	46749200	4.7kΩ 1/8W Chip R.
vR15	46746800	470Ω 1/8W Chip R.
vR16	46754800	1MΩ 1/8W Chip R.
vR17	46749200	4.7kΩ 1/8W Chip R.
vR18	46748600	2.7kΩ 1/8W Chip R.
vR19	46750800	22kΩ 1/8W Chip R.
vR20	46748400	2.2kΩ 1/8W Chip R.
vR21	46741100	Cross Conductor (Chip)
vR22	46752400	100kΩ 1/8W Chip R.
vR23	46741100	Cross Conductor (Chip)
vR24	46750800	22kΩ 1/8W Chip R.

Parts No.	Stock No.	Description
vR25	46752400	100kΩ 1/8W Chip R.
vR26	46747600	1kΩ 1/8W Chip R.
vR27	46748000	1.5kΩ 1/8W Chip R.
vR28	46747600	1kΩ 1/8W Chip R.
vR29	46750800	22kΩ 1/8W Chip R.
vR30	46750800	22kΩ 1/8W Chip R.
vR31	46748800	3.3kΩ 1/8W Chip R.
vR50	46749200	4.7kΩ 1/8W Chip R.
vR51	46749000	3.9kΩ 1/8W Chip R.
vR52	46749800	8.2kΩ 1/8W Chip R.
vR53	46750000	10kΩ 1/8W Chip R.
vR54	46750000	10kΩ 1/8W Chip R.
vR55	46748400	2.2kΩ 1/8W Chip R.
vR56	46750000	10kΩ 1/8W Chip R.
vR57	46749800	8.2kΩ 1/8W Chip R.
vR58	46754400	680kΩ 1/8W Chip R.
vR59	46752000	68kΩ 1/8W Chip R.
vR60	46750400	15kΩ 1/8W Chip R.
vR61	46747200	680Ω 1/8W Chip R.
vR62	46746000	220Ω 1/8W Chip R.
vR63	46748600	2.7kΩ 1/8W Chip R.
vR64	46749600	6.8kΩ 1/8W Chip R.
vR65	46750000	10kΩ 1/8W Chip R.
vR80	46750000	10kΩ 1/8W Chip R.
vR81	46747200	680Ω 1/8W Chip R.
vR82	46747200	680Ω 1/8W Chip R.
vR83	46749600	6.8kΩ 1/8W Chip R.
vR84	46750400	15kΩ 1/8W Chip R.
vR85	46681300	10Ω 1/4W F.R.
vR86	46750000	10kΩ 1/8W Chip R.
vR87	46749800	8.2kΩ 1/8W Chip R.
vR88	46748800	3.3kΩ 1/8W Chip R.
vR89	46750800	22kΩ 1/8W Chip R.
vR90	46750800	22kΩ 1/8W Chip R.
vR91	46752400	100kΩ 1/8W Chip R.
vR92	46748400	2.2kΩ 1/8W Chip R.
vR93	46748400	2.2kΩ 1/8W Chip R.
vR94	46752400	100kΩ 1/8W Chip R.
vR95	46742000	4.7Ω 1/8W Chip R.
vR96	46746800	470Ω 1/8W Chip R.
vR98	46748800	3.3kΩ 1/8W Chip R.
vR99	46748800	3.3kΩ 1/8W Chip R.
vC81	46929100	100μF 16V E.C.
vC84	46657000	390pF 100V F.C.
vFL50	42904400	Peaking Coil
vL1	48121500	Inductor 2.7mH
vL80	46362200	Bias OSC Coil
vVR1	48078400	470Ω S.V.R., P.B Level Adj.
vVR2	48079600	47kΩ S.V.R., REC Level Adj.
vVR3	48079600	47kΩ S.V.R., MEMTAL REC Level Adj.
vVR50	48079800	100kΩ S.V.R., Bias Level Adj.

7-16. F-5053 a-Mecha. REC & PLAY Amp. Board (Stock No. 00906601)

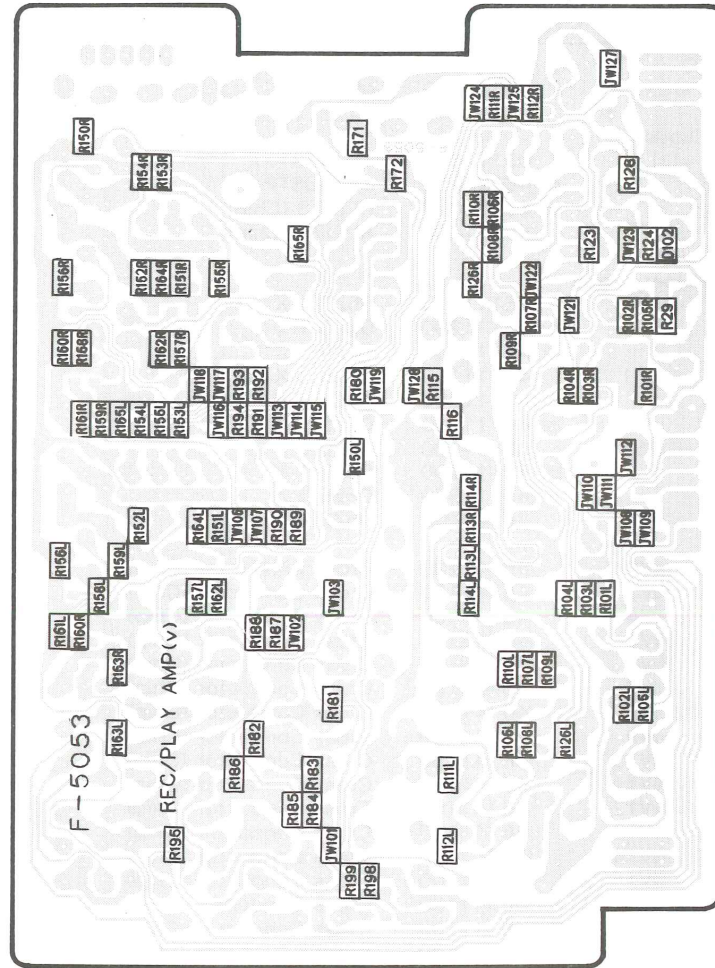
Component Side



Parts List

Parts No.	Stock No.	Description
• Transistor		
vQ101	46581701	2SC1845
vQ102	46581701	2SC1845
vQ103	46359801	2SC2001
	or 48055901	2SD1468S
vQ104	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ106	46719800	DTA124ES
vQ109	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ110	46719900	DTC124
vQ150	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ151	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ152	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ153	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ154	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ155	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S

Pattern Side < Chip Parts >



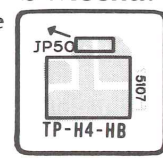
Parts No.	Stock No.	Description
vQ156	46719800	DTA124ES
vQ180	46614101	2SC3243
vQ181	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ182	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ183	48061801	2SC3244
vQ184	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ185	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ186	46367001	2SA1115
	or 48058601	2SA933S
vQ187	46367001	2SA1115
	or 48058601	2SA933S
• IC		
viC101	46673800	M5218P
• Diode		
vD102	46852000	RLS-73 (Chip)
• Zener Diode		
vDZ150	46111100	05Z5.1-X
	or 46111200	05Z5.1-Y
	or 46111300	05Z5.1-Z
	or 46111100	05Z5.1-X
	or 46111200	05Z5.1-Y
	or 46111300	05Z5.1-Z

Parts No.	Stock No.	Description
vDZ152	46111100	05Z5.1-X
	or 46111200	05Z5.1-Y
	or 46111300	05Z5.1-Z
vDZ180	46109400	05Z3.0-Y
vJW102	46741100	Cross Conductor (Chip)
vJW103	46741100	Cross Conductor (Chip)
vJW106	46741100	Cross Conductor (Chip)
vJW107	46741100	Cross Conductor (Chip)
vJW108	46741100	Cross Conductor (Chip)
vJW109	46741100	Cross Conductor (Chip)
vJW110	46741100	Cross Conductor (Chip)
vJW111	46741100	Cross Conductor (Chip)
vJW112	46741100	Cross Conductor (Chip)
vJW113	46741100	Cross Conductor (Chip)
vJW114	46741100	Cross Conductor (Chip)
vJW115	46741100	Cross Conductor (Chip)
vJW116	46741100	Cross Conductor (Chip)
vJW117	46741100	Cross Conductor (Chip)
vJW118	46741100	Cross Conductor (Chip)
vJW119	46741100	Cross Conductor (Chip)
vJW121	46741100	Cross Conductor (Chip)
vJW122	46741100	Cross Conductor (Chip)
vJW123	46741100	Cross Conductor (Chip)
vJW124	46741100	Cross Conductor (Chip)
vJW125	46741100	Cross Conductor (Chip)
vJW127	46741100	Cross Conductor (Chip)
vJW128	46741100	Cross Conductor (Chip)
vR101	46742800	10Ω 1/8W Chip R.
vR102	46752400	100kΩ 1/8W Chip R.
vR103	46750400	15kΩ 1/8W Chip R.
vR104	46748800	3.3kΩ 1/8W Chip R.
vR105	46748400	2.2kΩ 1/8W Chip R.
vR106	46746600	390Ω 1/8W Chip R.
vR107	46748400	2.2kΩ 1/8W Chip R.
vR108	46752600	120kΩ 1/8W Chip R.
vR109	46745200	100Ω 1/8W Chip R.
vR110	46746200	270Ω 1/8W Chip R.
vR111	46753200	220kΩ 1/8W Chip R.
vR112	46750800	22kΩ 1/8W Chip R.
vR113	46753200	220kΩ 1/8W Chip R.
vR114	46750800	22kΩ 1/8W Chip R.
vR115	46750800	22kΩ 1/8W Chip R.
vR116	46750800	22kΩ 1/8W Chip R.
vR123	46741100	Cross Conductor (Chip)
vR124	46750800	22kΩ 1/8W Chip R.
vR126	46750800	22kΩ 1/8W Chip R.
vR128	46747600	1kΩ 1/8W Chip R.
vR129	46750800	22kΩ 1/8W Chip R.
vR150	46749200	4.7kΩ 1/8W Chip R.
vR151	46749000	3.9kΩ 1/8W Chip R.
vR152	46749800	8.2kΩ 1/8W Chip R.
vR153	46750000	10kΩ 1/8W Chip R.
vR154	46750000	10kΩ 1/8W Chip R.
vR155	46748400	2.2kΩ 1/8W Chip R.
vR156	46750000	10kΩ 1/8W Chip R.
vR157	46749800	8.2kΩ 1/8W Chip R.
vR158	46754400	680kΩ 1/8W Chip R.
vR159	46752000	68kΩ 1/8W Chip R.
vR160	46750400	15kΩ 1/8W Chip R.
vR161	46747200	680Ω 1/8W Chip R.
vR162	46746000	220Ω 1/8W Chip R.
vR163	46748600	2.7kΩ 1/8W Chip R.
vR164	46749600	6.8kΩ 1/8W Chip R.
vR165	46750000	10kΩ 1/8W Chip R.
vR172	46749200	4.7kΩ 1/8W Chip R.
vR180	46750000	10kΩ 1/8W Chip R.
vR181	46747200	680Ω 1/8W Chip R.
vR182	46747200	680Ω 1/8W Chip R.
vR183	46749600	6.8kΩ 1/8W Chip R.
vR184	46750400	15kΩ 1/8W Chip R.
vR185	46681300	10Ω 1/4W F.R.
vR186	46750000	10kΩ 1/8W Chip R.

Parts No.	Stock No.	Description
vR187	46749800	8.2kΩ 1/8W Chip R.
vR188	46748800	3.3kΩ 1/8W Chip R.
vR189	46750800	22kΩ 1/8W Chip R.
vR190	46750800	22kΩ 1/8W Chip R.
vR191	46752400	100kΩ 1/8W Chip R.
vR192	46748400	2.2kΩ 1/8W Chip R.
vR193	46748400	2.2kΩ 1/8W Chip R.
vR194	46752400	100kΩ 1/8W Chip R.
vR195	46742000	4.7Ω 1/8W Chip R.
vC181	46929100	100μF 16V E.C.
vC184	46657000	3900pF 100V F.C.
vFL150	42904400	Peaking Coil
vL101	48121500	Inductor 2.7mH
vL180	46362200	Bias OSC Coil
vVR101	48078400	470Ω S.V.R., P.B Level Adj.
vVR102	48079600	47kΩ S.V.R., REC Level Adj.
vVR103	48079600	47kΩ S.V.R., METAL REC Level Adj.
vVR150	48079800	100kΩ S.V.R., Bias Level Adj.

7-17. F-5107 b-Mecha. Direction Sensor Board

Component Side

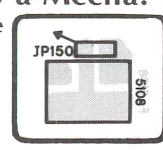


Parts List

Parts No.	Stock No.	Description
tS6	46133300	Push SW., Direction Sensor

7-18. F-5108 a-Mecha. Direction Sensor Board

Component Side

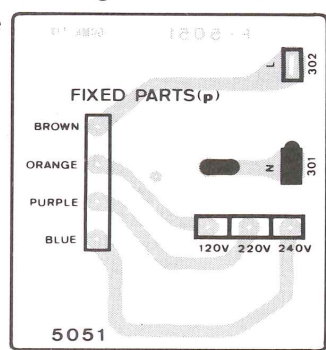


Parts List

Parts No.	Stock No.	Description
tS6	46133300	Push SW., Direction Sensor

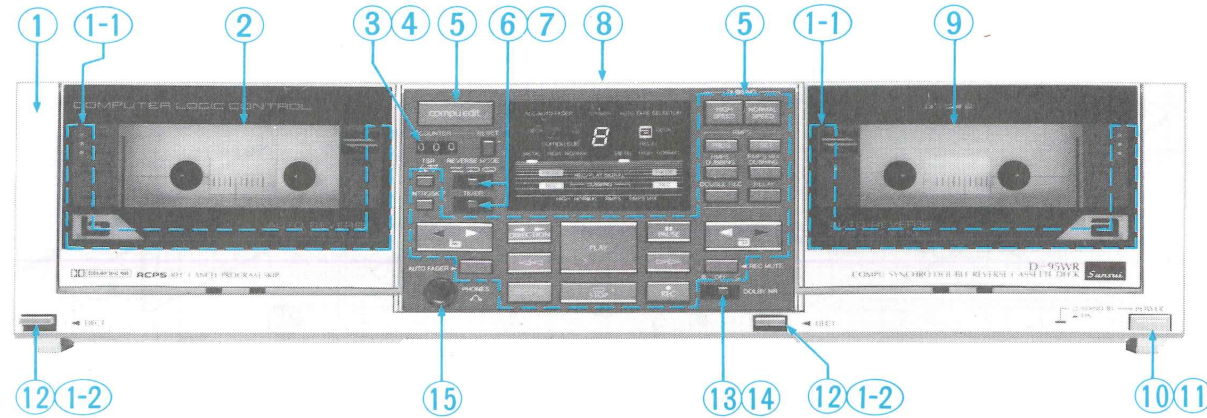
7-19. F-5051 Wiring Board (xx)

Component Side



8. OTHER PARTS

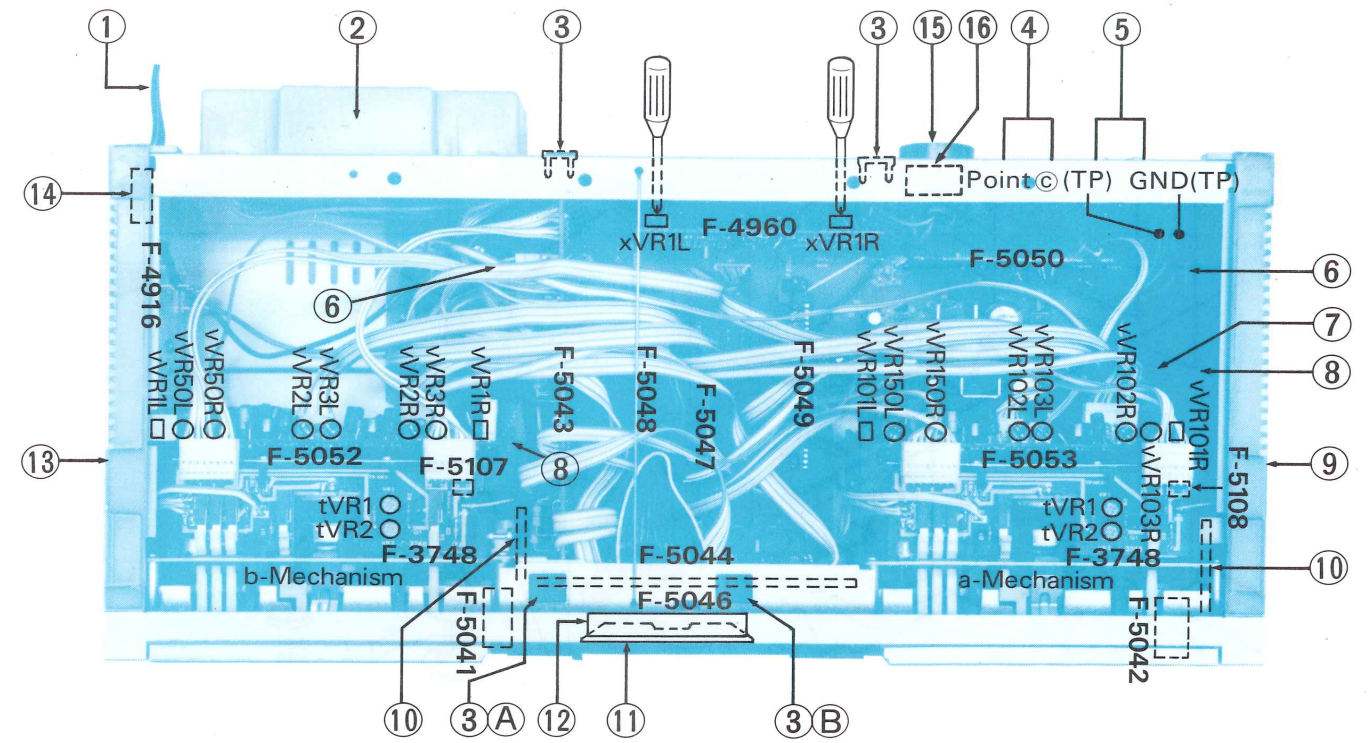
8-1. Front View



Parts List <Front View>

Parts No.	Stock No.	Description
1	47915800	Front Panel Ass'y <Silver Model>
	47915900	Front Panel Ass'y <Black Model>
1-1	47678700	Cassette Holder Ass'y
1-2	47776110	EJECT Knob <Silver Model>
	47776200	EJECT Knob <Black Model>
2	47864600	b-Side Cassette Lid Ass'y <Silver Model>
	47864700	b-Side Cassette Lid Ass'y <Black Model>
3	48192200	Tape Counter
4	47843300	Counter Belt
5	46396700	Control Push SW.
6	47799800	Slide Knob, REVERSE MODE, TIMER
7	46178400	Slide SW., REVERSE MODE, TIMER
8	47823500	Bonnet <Silver Model>
	47874700	Bonnet <Black Model>
9	47864400	a-Side Cassette Lid Ass'y <Silver Model>
	47864500	a-Side Cassette Lid Ass'y <Black Model>
10	47747000	Push Knob, POWER <Silver Model>
	47747100	Push Knob, POWER <Black Model>
11	48172700	Push SW., POWER
12	47673000	Spring, EJECT
13	47800700	Slide Knob, DOLBY NR
14	48126800	Slide SW., DOLBY NR
15	46265700	Jack, PHONES

8-2. Top View

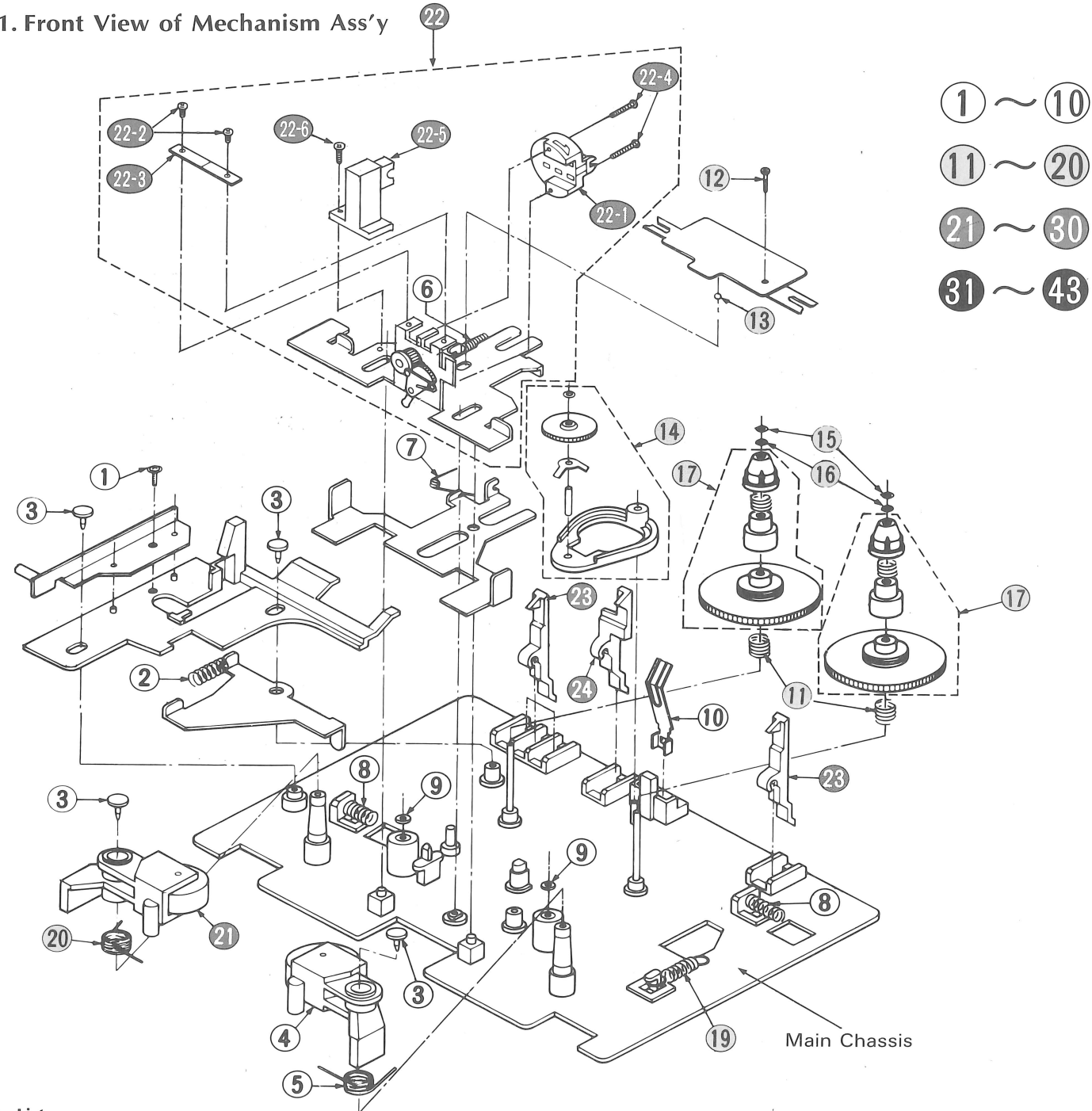


Parts List <Top View>

Parts No.	Stock No.	Description
△ 1	38005400	Power Supply Cord (XX,XX-V)
△	38004700	Power Supply Cord (UL)
△	38004500	Power Supply Cord (EU)
△	48187400	Power Supply Cord (CSA)
△ 2	15021201	Power Transformer (XX)
△	15021209	Power Transformer (with Socket, VOLTAGE SELECTOR XX-V)
△	15021202	Power Transformer (UL,CSA)
△	15021205	Power Transformer (EU)
3	47252300	P.C.B Holder
4	46547200	Jack, COMPU SELECTOR, COMPU EDIT
5	46371500	4P Terminal, LINE IN, LINE OUT
6	48126700	Damper Ass'y
7	47839600	Joint Shaft, POWER
8	47685320	Damper Holder
9	47768710	Right Side Panel <Silver Model>
	47874810	Right Side Panel <Black Model>
10	47628500	Joint Shaft, Damper Ass'y
11	47916000	Display Plate
12	47916100	Illumination Plate
13	47768800	Left Side Panel <Silver Model>
	47874900	Left Side Panel <Black Model>
14	47157300	Power Supply Cord Cover
△ 15	48175200	Plug, VOLTAGE SELECTOR (XX-V)
△ 16	07204700	Slide SW., VOLTAGE SELECTOR (EU)

9. EXPLODED VIEW & PARTS LIST

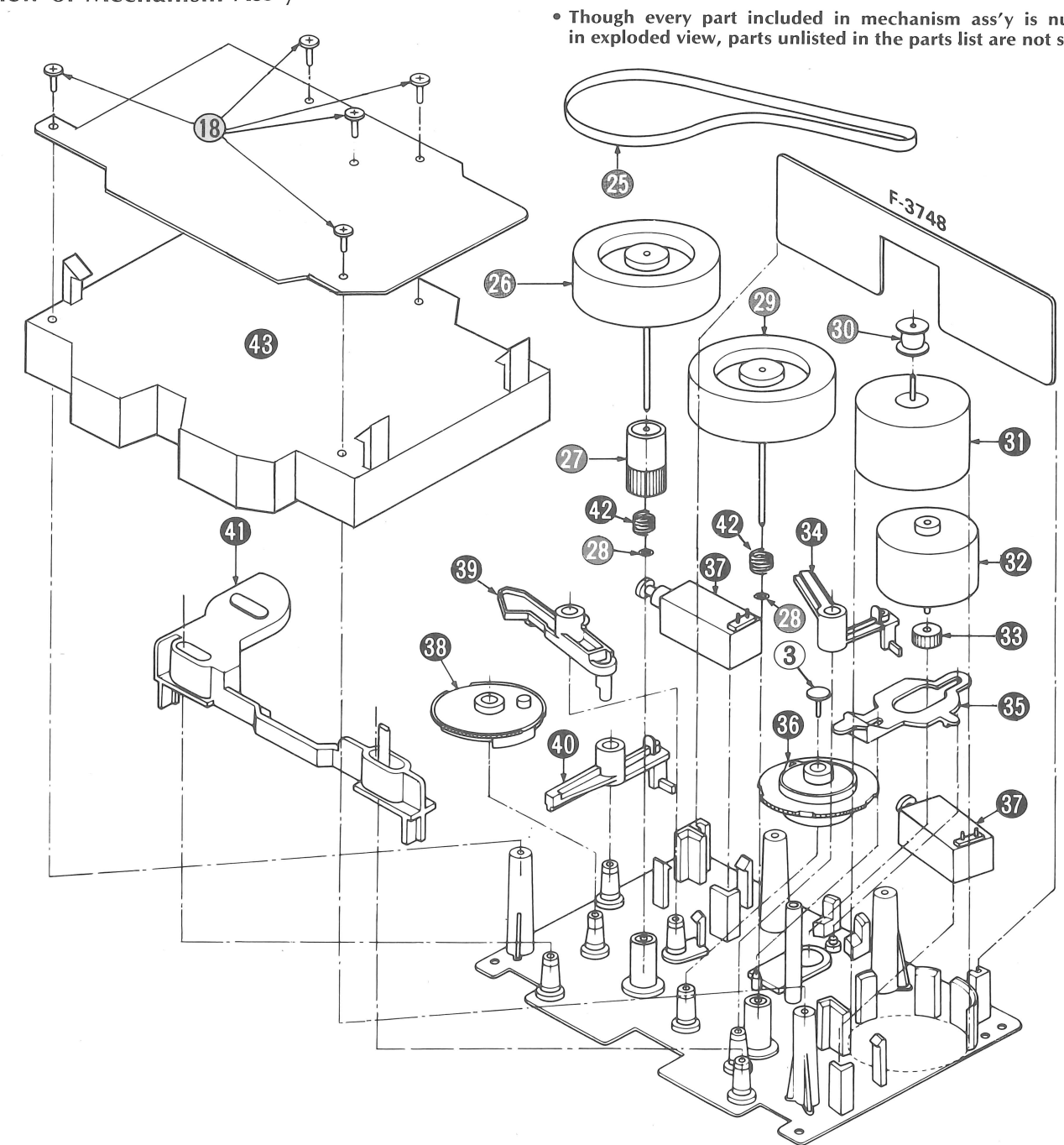
9-1. Front View of Mechanism Ass'y



Parts List

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
1	46267800	Tapping Screw, M3.0×8	14	47405000	Arm Ass'y
2	47644500	Spring, eject	15	47404800	Washer, d=1.6
3	47420900	Plastic Tack	16	47497100	Washer, d=2.0
4	47901500	Pinch Roller (R) Ass'y	17	47835510	Reel Gear Ass'y
5	47902100	Spring, pinch roller (R) ass'y	18	46268100	Screw, M3×10
6	47406200	Spring, head base	19	47406300	Spring, push arm
7	47405600	Spring, Slide base	20	47902200	Spring, pinch roller (L) ass'y
8	47668600	Spring, plunger solenoide	21	47901600	Pinch Roller (L) Ass'y
9	47404700	Nylon Washer, d=2.5	22	16764500	REC/PB & Erase Head Ass'y (with sensor)
10	47293510	Spring, half	22-1	48241000	REC/PB & Erase Head
11	47709610	Spring, reel	22-2	47917400	Screw, M2.0×5
12	13127800	Binding Head Screw, M2×12	22-3	47289200	Spring Plate, azimuth
13	47404900	Steel Ball, φ=2.0			

9-2. Rear View of Mechanism Ass'y



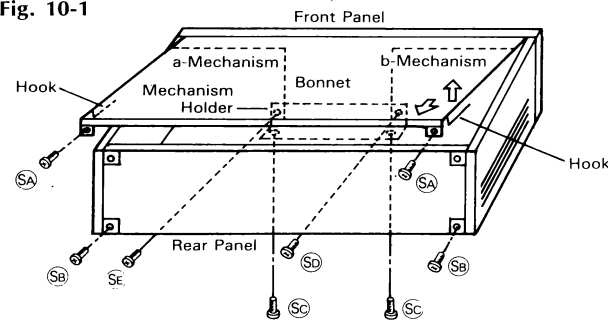
Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
22-4	46731300	Screw, M1.4×6	32	46737500	Reel Motor
22-5	37031900	Photo Sensor Ass'y (with Photo Coupler, GP2L02)	33	47293110	Gear, reel motor
22-6	46398800	Screw, M2.0×5	34	47903300	Lock Arm (A)
23	47723010	Sensor Arm A2	35	47293810	Arm (B)
24	47292520	Sensor Arm B	36	47283830	Asist Gear (A)
25	47405200	Capstan Belt	37	47292610	Plunger Solenoide
26	47901800	Flywheel (R) Ass'y	38	47283910	Assist Gear (B)
27	47906700	REC/PB & Erase Head Ass'y	39	47283710	Push Arm
28	47404600	Washer, d=2.5	40	47281710	Lock Arm (B)
29	47901900	Flywheel (L) Ass'y	41	47906900	FWD-REV Change Plate
30	47897100	Pulley	42	47530000	Spring A, Flywheel
31	48122800	Capstan Motor	43	47907000	Sub Chassis

10. MAIN PARTS REPLACEMENT

A. Bonnet (See Fig. 10-1)

- 1) Remove two screws (5A).
- 2) Pull the rear side of the bonnet remove the hooks and then remove bonnet.

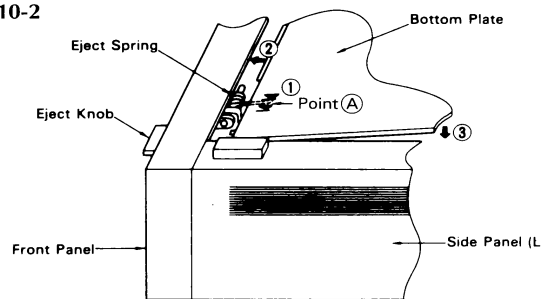
Fig. 10-1



B. Bottom Plate

- 1) Remove four screws (5B, 5C). (See Fig. 10-1)
 - 2) Pull the rear side of the bonnet and then remove it.
- Note:** Install the bottom plate after matching eject spring with point (A) of bottom plate. (See Fig. 10-2)

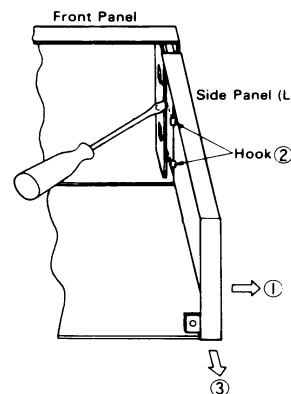
Fig. 10-2



C. Side Panel L (R) (See Fig. 10-3)

- 1) Remove bonnet and bottom plate.
- 2) Shift the position of the side panel L (R) 2.0cm in the arrow direction (1).
- 3) Remove the hooks (2) of the side panel from front panel and then pull it the arrow direction (3) to remove the side panel L (R).

Fig. 10-3



D. a-Side Mechanism Ass'y

- 1) Remove the bonnet and bottom plate.
- 2) Pluck out five connectors from F-5053 board.
- 3) Extract two connectors from the F-3748 board.
- 4) Remove the side panel R.
- 5) Remove the joint shaft from the groove of the damper holder. (See G. Damper Ass'y)
- 6) Loosen a screw (5D) fixing Mechanism Holder. (See Fig. 10-1)
- 7) Press the EJECT knob to open the cassette holder.
- 8) Remove four screws fixing the mechanism ass'y.
- 9) Remove the mechanism ass'y.

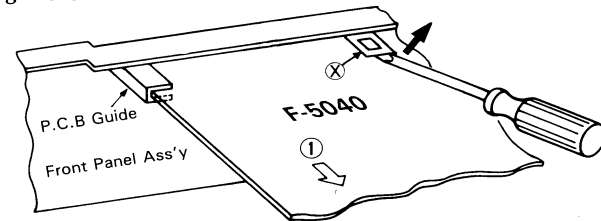
E. b-Side Mechanism Ass'y

- 1) Remove the bonnet and the bottom plate.
 - 2) Pluck out five connectors from F-5052 board.
 - 3) Extract two connectors from the F-3748 circuit board.
 - 4) Remove the side panel L.
 - 5) Remove the joint shaft from the groove of the damper holder. (See G. Damper Ass'y)
 - 6) Loosen a screw (5D) fixing Mechanism Holder. (See Fig. 10-1)
 - 7) Pluck out P.C.B (A) Holder. (See 8-2. Top View on Page 20)
 - 8) Press the EJECT knob to open the cassette holder.
 - 9) Remove four screws fixing the mechanism ass'y.
 - 10) Draw out the mechanism ass'y.
- Note:** To attach the mechanism ass'y, put the counter belt at the reel groove.

F. Front Panel Ass'y

- 1) Remove the bonnet and bottom plate.
 - 2) Loosen two screws (5E) and (5D) fixing the mechanism holder.
 - 3) Remove the side panel (L) and (R).
 - 4) Remove tension wire.
 - 5) Extract two P.C.B Holder (A) and (B). (See 8-2. Top View on Page 20)
 - 6) Pluck out F-5046 circuit board from front panel ass'y.
 - 7) Separate joint shaft (POWER) from power sw. on F-5040.
 - 8) Remove hook (X) of front panel ass'y and pull F-5040 circuit board arrow direction (1) to remove it. (See Fig. 10-4)
 - 9) Remove the mechanism ass'y and tape counter.
- Note:** As for precautions to be observed at the time of mounting, when mounting F-5040 circuit board, insert the circuit board into P.C.B guide and then push the hook (X).

Fig. 10-4



G. Damper Ass'y

- 1) Hold the damper holder to fix it, and push the damper ass'y to the arrow direction as Fig. 10-5, so that the damper ass'y is removed from the damper holder. (See Fig. 10-5)
- 2) Pinch the joint portion of the joint shaft and the damper ass'y, and remove the joint shaft from the groove of the damper holder after a little twist to the left. (See Fig. 10-6)
- 3) Turn up the damper end, to set the slit of the damper ass'y to the projection of the joint shaft. Then pull out the damper ass'y from the joint shaft. (See Fig. 10-7)

Fig. 10-5

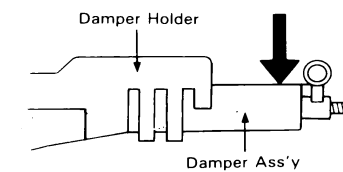


Fig. 10-6

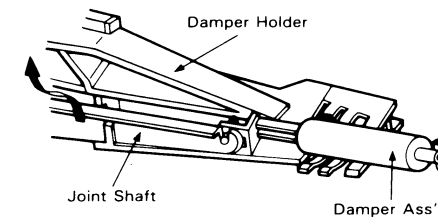
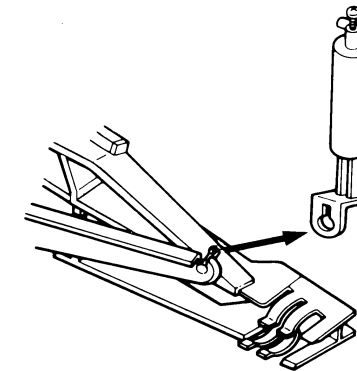


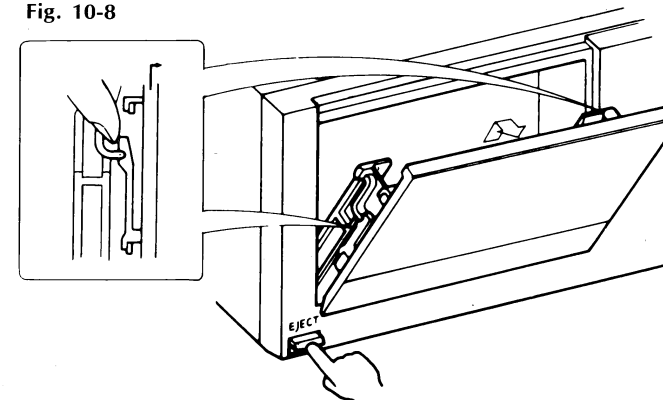
Fig. 10-7



H. Removement and Attachment of Lid Ass'y

Push EJECT Knob to open the cassette holder, push the parts locked at the left and right in the figure while pulling it upward, and remove the lid ass'y.

Fig. 10-8



I. Rec/PB Head (22-4)

- 1) Remove the mechanism ass'y from set.
- 2) Unsolder head read wires.
- 3) Loosen two screws.

J. Pinch Roller Ass'y (4), (21)

- 1) Remove the mechanism ass'y from set.
- 2) Pull out the lock pin (3).
- 3) Take out the pinchroller ass'y.

K. Reel Gear Ass'y (17)

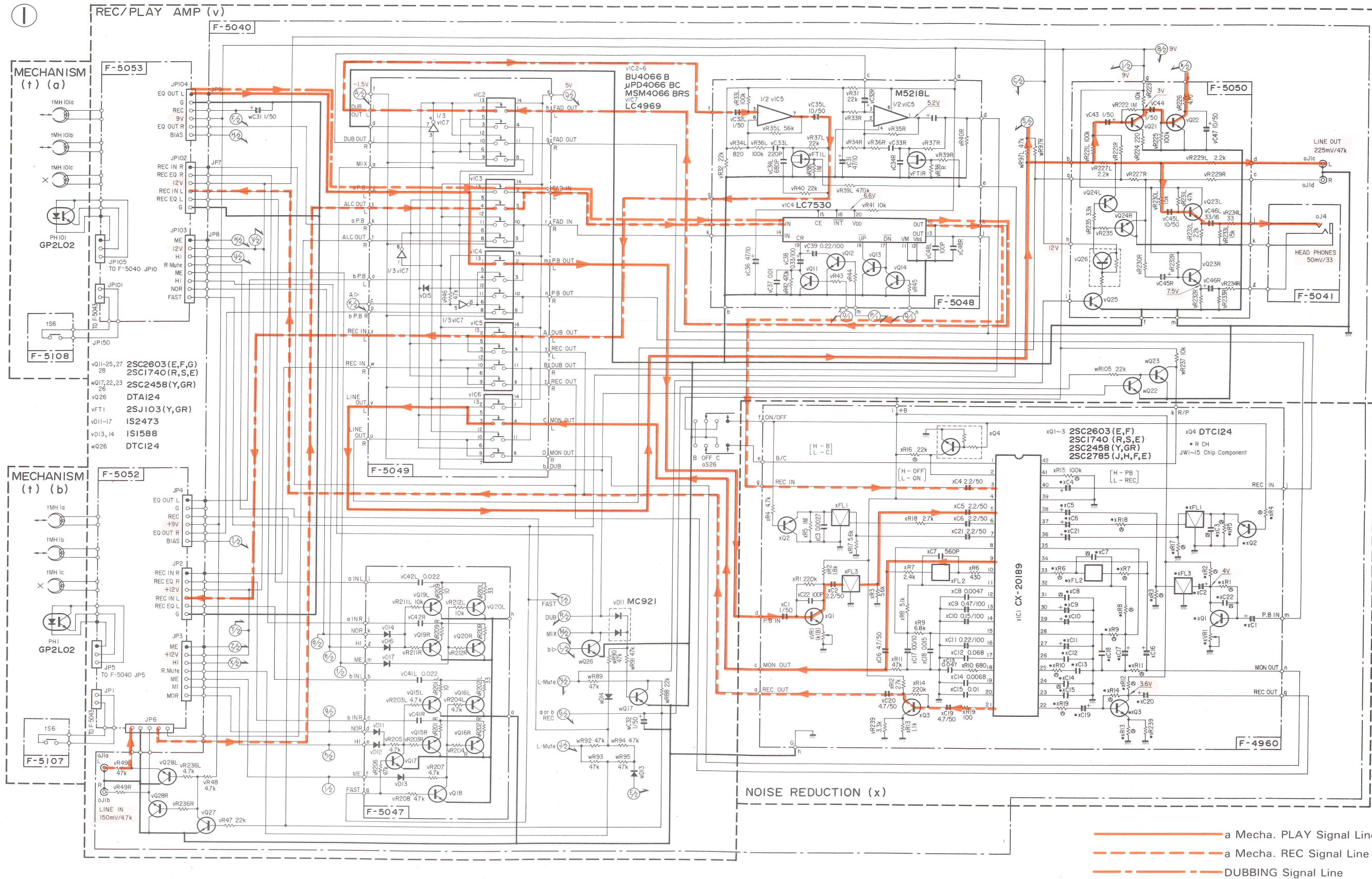
- 1) Remove the mechanism ass'y from set.
- 2) Take off two washer (15), (16) to pull out reel gear.

L. Capstan Motor (31), Reel Motor (32), Capstan Belt (25), Flywheel (26), (29), Plunger Solenoid (37)

- 1) Remove the mechanism ass'y from set.
- 2) Extract connectors on the F-5052 <b-Side Mecha.> or F-5053 <a-Side Mecha.> circuit board.
- 3) Remove the F-5052 <b-Side Mecha.> or F-5053 <a-Side Mecha.> circuit board from the mechanism ass'y.
- 4) Take out shield plate (24).
- 5) Loosen four screws (18) fasting sub chassis (4).

11. SCHEMATIC DIAGRAM 11-1. Amplifier Section

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 * Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



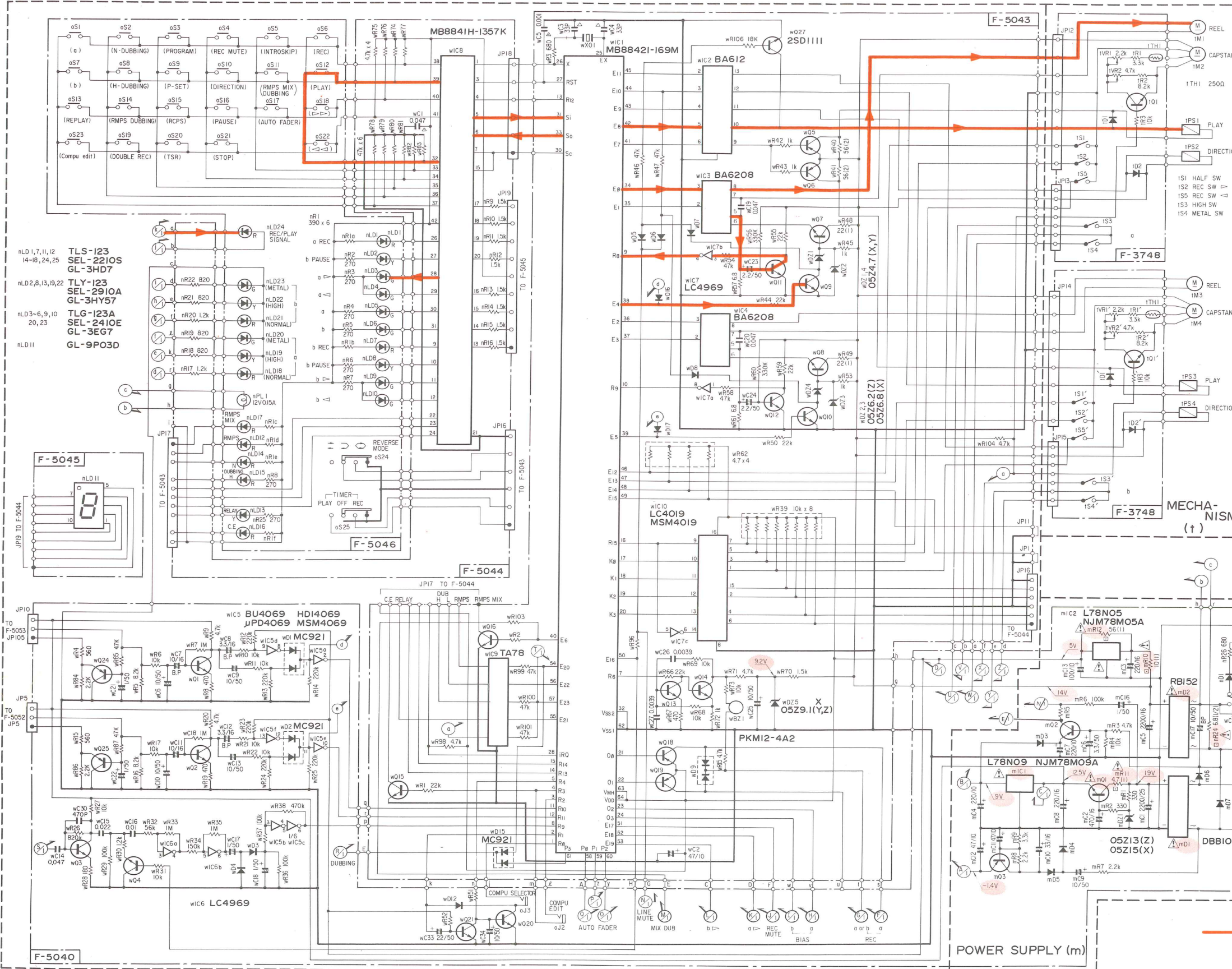
- 2SA934
- 2SA952
- 2SA1283
- 2SC1845
- 2SC2001
- 2SC3243
- 2SC3244
- 2SD357
- 2SA1115
- 2SC2458
- 2SC2603
- 2SJ103
- L78N05
- L78N09
- 2SA933S
- 2SA1175
- 2SC1740S
- 2SC2785
- 2SD1468S
- DTA124ES
- DTC124
- BA6208
- #PD4066BC
- #PD4069C
- BA612CA
- BU4066B
- BU4069UB
- CX20187
- HD14069UBP
- LC4019B
- LC4969
- LC7530
- M5218P
- MB8841H-1357K
- MB88421-169M
- MSM4019S
- MSM4066BRS
- MSM4069UBRS
- Dot or Slit or Line
- TA78
- M5218L
- NJM78M05A
- NJM78M09A
- RB152
- 05Z3.0
- 05Z24.7
- 05Z5.1
- 05Z6.2
- 05Z6.8
- 05Z9.1
- 05Z13
- 1S1588TP
- 1S2473T77
- DBB10-B
- RLS73

— a Mecha. PLAY Signal Line
 - - - a Mecha. REC Signal Line
 ····· DUBBING Signal Line

11-2. Control Section

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2



SYMBOL OF FUNCTION
 (m) POWER SUPPLY
 (n) INDICATOR
 (o) SELECTOR
 (p) FIXED PARTS
 (t) MECHANISM
 (v) REC/PLAY AMP
 (w) LOGIC CONTROL
 (x) NOISE REDUCTION

OPTIONAL USE OF SEMICONDUCTOR

PARTS NO.	TYPE NO.
m03-7, nD1, w03-8, 12, 16, 17 1D1, 2, 1, 2	IS2473D, IS1588
m01	2SD357(D,E)
w01-4, 9-17, 20, 21, 23	2SC2603(E, F, G) 2SC1740S(R, S, E) 2SC2785(J, H, F, E)
m02, 3, 24, 25	2SA1115(E, F) 2SA933S(R, S, E)
w05, 6	2SA952(M, L) 2SA934(P, D) 2SA1283(D, E)
w07, 8	2SD3243(D, E)
w018, 19	DTA124
w022	DTC124
101, 1'	2SC2001(M, L) 2SD1468(R, S)

SYMBOL
 Δ Ceramic Capacitor
 ▽ Barrier Layer Capacitor
 □ Non-Inflammable Resistor
 ⊞ Bi-Polar Electrolytic

RESISTORS
 Are in ohms, 1/4 Watts, ±5% Tolerance
 Unless Otherwise Noted. k: kΩ, M: MΩ

CAPACITORS
 Are in μF, Unless Otherwise Noted. P: pF

Each D.C. Voltage shows the nominal value in volts at during recording

Electrolytic Capacitor: Capacitance (μF) / Volt (V)

⚠ Safety Part.
 Use only replacement Parts recommended by the manufacturer.

2SA934
2SA952
2SA1283
2SC1845
2SC2001
2SC3243
2SC3244

2SD357
2SA1115
2SC2458
2SC2603

2SJ103

L78N05
L78N09

2SA933S
2SA1175
2SC1740S
2SC2785
2SD1468S
DTA124ES
DTC124

BA6208

μPD4066BC
μPD4069C
BA612CA
BU4066B
BU4069UB
CX20187
HD14069UBP
LC4019B
LC4969
LC7530
MS2159P
MB8841H-1357K
MB88421-169M
MSM4019RS
MSM4066BRS
MSM4069UBRS

RESISTORS

CAPACITORS

TA78

M5218L
NJM78M05A
NJM78M09A

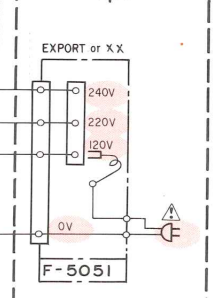
RB152

DBB10-B

05Z3.0
05Z24.7
05Z5.1
05Z6.2
05Z6.8
05Z9.1
05Z13

1S1588TP
1S2473T77

FIXED PARTS (p)



— a Mecha. PLAY Signal Line

1

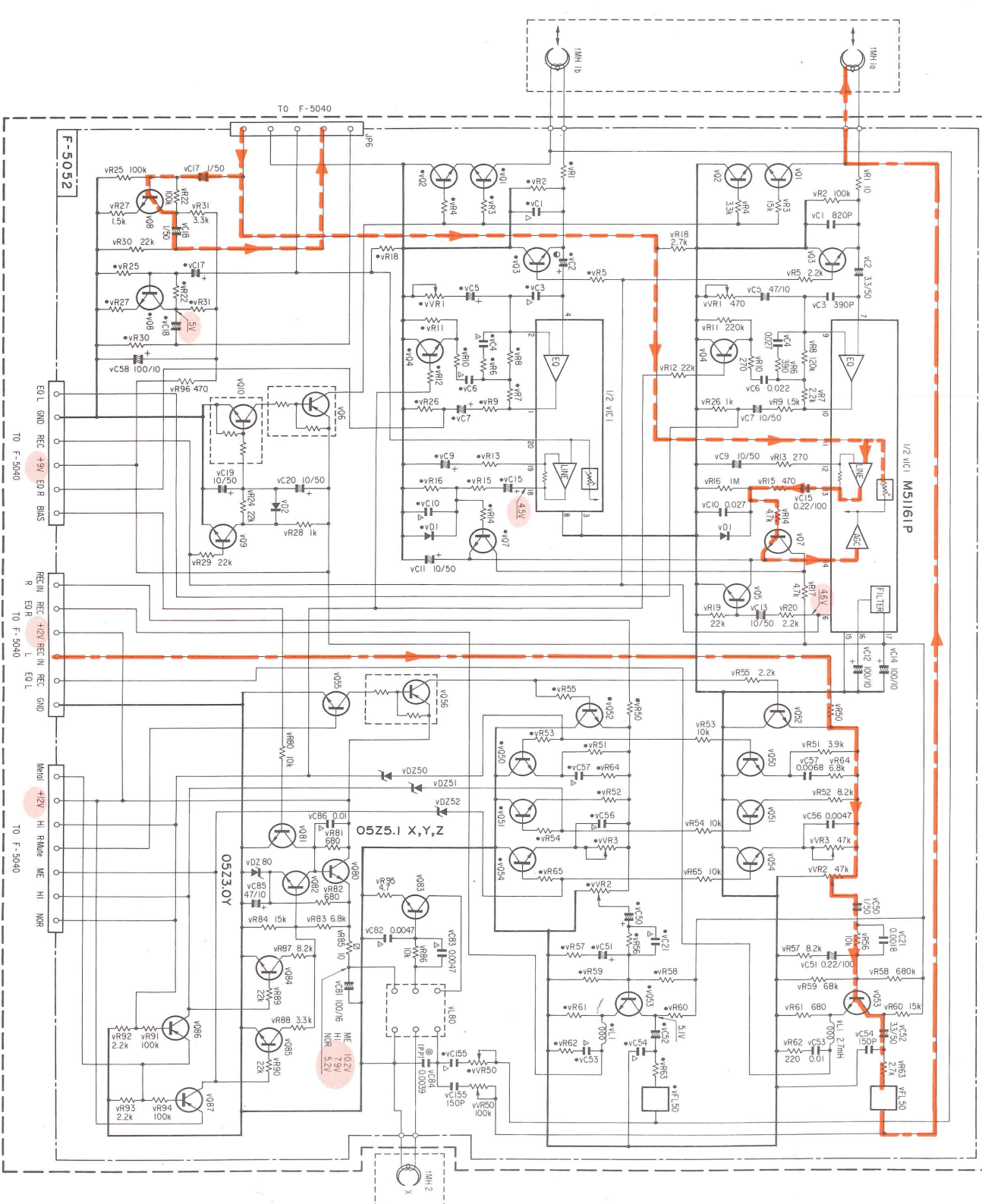
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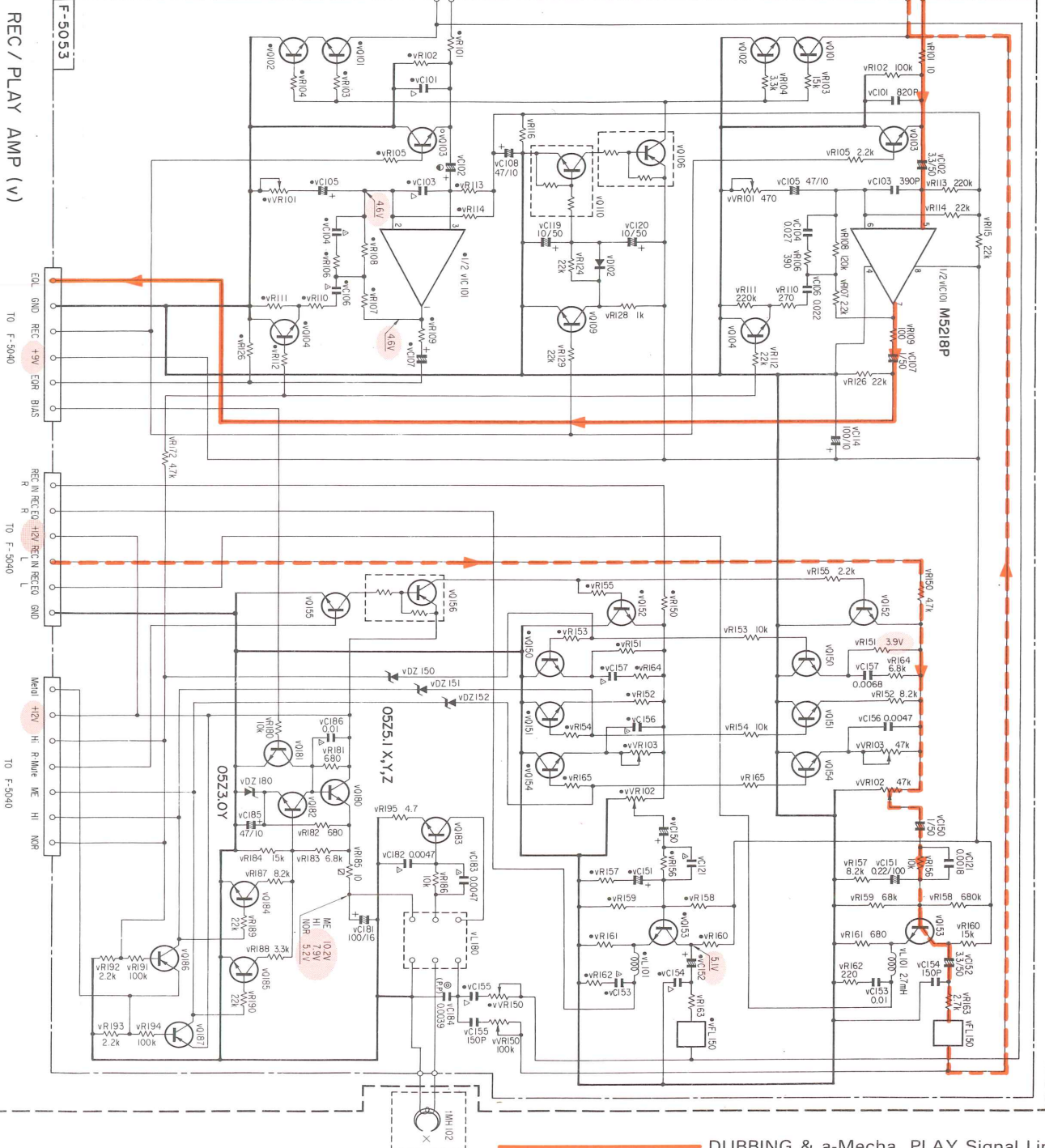
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5

11-3. REC/PLAY Amp. Section



REC / PLAY AMP (V)
• R-CH



OPTIONAL USE OF SEMICONDUCTOR

PARTS NO.	TYPE NO.
V01, V01, V02	2SC1843(E,F)
V03, V03	2SC2001(L,M) 2SD1468(S)
V04, V1, V9, V27, V28 V05, V6, V7, V8, V9 V04, V09, V49, V50, V51 V81, V82, V84, V85	2SC2603(E,F) 2SC1740(S,S,E) 2SC2456(Y,GR) 2SC2785 2SC2785 (L,H,F,E)
V05, V5, V06, V56	DTA124
V010, V10	DTC124
V080, V80	2SC3243(D,E)
V031, V83	2SC3244(D,E) 2SC1627(A,O,Y)
V066, V71, V65, V87	2SA1115(E,F) 2SA933S(R,S,E) 2SA1175 (L,H,F,E)
V01, V101	IS2473 IS1588

SYMBOL
△ Ceramic Capacitor
△ Better Layer Capacitor
@ Film Polypropylene Film
● Low-Leak Electrolytic

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- 2SA934
- 2SA952
- 2SA1283
- 2SC1845
- 2SC2001
- 2SC3243
- 2SC3244
- 2SD357
- 2SA1115
- 2SC2458
- 2SC2603
- 2SJ103
- L78N05
- L78N09
- 2SA933S
- 2SA1175
- 2SC1740S
- 2SC2785
- 2SD1468S
- DTA124ES
- DTC124
- BA6208
- μPD4066BC
- μPD4069C
- BA612CA
- BU4066B
- BU4069UB
- CX2018T
- HD14068UBP
- LC4019B
- LC4969
- LC7530
- M5218P
- M88841H-1357K
- M888421-169M
- MSM4019RS
- MSM4068RS
- MSM4069UBRS
- Dot or Slit or Line
- TA78
- M5218L
- NJM78M05A
- NJM78M09A
- RB152
- DBB10-B
- O5Z3.0
- O5Z24.7
- O5Z5.1
- O5Z6.2
- O5Z6.8
- O5Z8.8
- O5Z9.1
- O5Z13
- 1S1588TP
- 1S2473T77
- RLS73

— DUBBING & a-Mecha. PLAY Signal Line
- - - a-Mecha. REC Signal Line
- - - DUBBING & b-Mecha. REC Signal Line

A

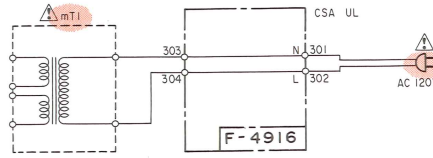
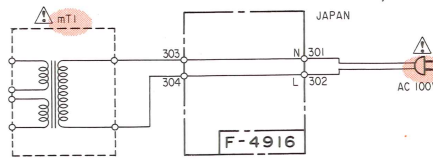
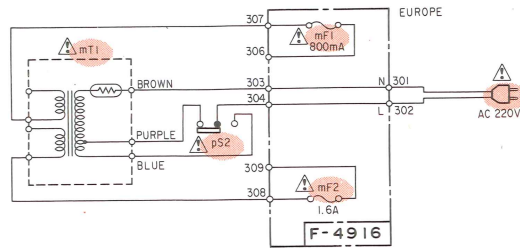
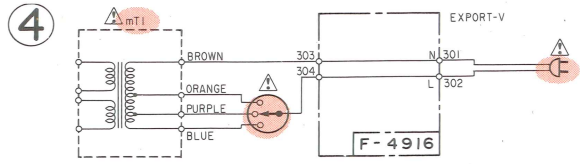
B

C

D

11-4. Power Supply Section

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1

2

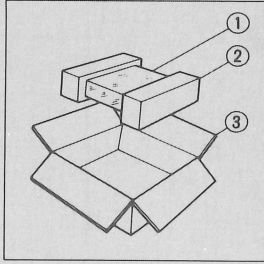
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5

12. PACKING LIST

Parts No.	Stock No.	Description
1	91263810	Vinyl Cover
2	47764600	Styrofoam Packing
< Silver Model >		
3	47916500	Carton Case (XX,UL,CSA,EU)
	47916700	Carton Case (XX-V)
< Black Model >		
3	47916600	Carton Case (XX,UL,CSA,EU)
	47916800	Carton Case (XX-V)



13. ACCESSORY LIST

Stock No.	Description
07193400	PJP Cord x 2
or 38103300	PJP Cord x 2
48181500	Mini Pin Plug Cord
48181300	Mini Pin Plug Cord
94300500	Head Cleaner
46979400	Operating Instruction

SANSUI ELECTRIC CO., LTD.:

SANSUI ELECTRONICS CORPORATION:

SANSUI ELECTRONICS (U.K.) LTD.:
SANSUI ELECTRONICS G.M.B.H.:

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 17150 South Margay Ave. Carson, California 90746 U.S.A.
 3036 Koapaka Street. Honolulu, Hawaii 96819 U.S.A.
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