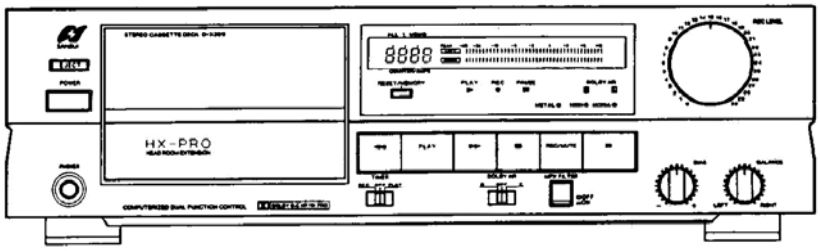
SANSUI

SERVICE MANUAL

D-X301*i*

STEREO CASSETTE DECK



CAUTION

1. Parts identified by the ⚠ 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.
Heads (2-head configuration)
Rec/pb head ..... Hard permalloy
Erase head ..... Double-gap ferrite
Motor ..... Capstan: Electronically Controlled DC Motor
Reels: DC Motor
Wow/flutter ..... 0.05% max (WRMS)
Fast forwarding (rewinding) time ..... Approx. 90 sec. (for C-60 tape)
Frequency response (—20 VU recording/playback)
Normal tape (LH) ..... 20 to 18,000 Hz (30 to 17,000 Hz ±3 dB)
Chrome tape ..... 20 to 19,000 Hz (30 to 18,000 Hz ±3 dB)
Metal tape ..... 20 to 21,000 Hz (30 to 20,000 Hz ±3 dB)
Signal-to-noise ratio (recording/playback with metal tape)
DOLBY NR OFF ..... Better than 55 dB
DOLBY-B NR ON ..... Better than 65 dB
DOLBY-C NR ON ..... Better than 75 dB
Erasure rate (metal tape) . More than 70 dB at 1 kHz
Recording bias frequency 105 kHz
Input sensitivity/Impedance
LINE IN (REC) ..... 70 mV/47 kohms
Power requiremets ..... 110/120/220/240V 50/60 Hz
For U.S.A. and Canada 120V (60 Hz)
Power consumption ..... 20 watts
Dimensions ..... 430 mm (16-15/16″) W
126 mm (5″) H
296 mm (11-11/16″) D
Weight ..... 4.5 kg (9.9 lbs) net
5.6 kg (12.3 lbs) packed

- **Design and specifications subject to changes without notice for improvements.**
- **Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.**
- **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 trade marks of Dolby Laboratories Licensing Corporation.

NOTE

1. The symbols, EU and SS on the parts list and the schematic diagram mean followings respectively.

   EU..... Manufactured for European market.
   SS..... Manufactured for Saudi Arabia market.
   NON MARK..... Common Parts.

2. Some printed circuit boards are not supplied assembled. To separate these in this service manual, the stock numbers are not indicated for these boards. However, stock numbers for individual parts are indicated.

3. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors and resistors, which was issued on June 1987.

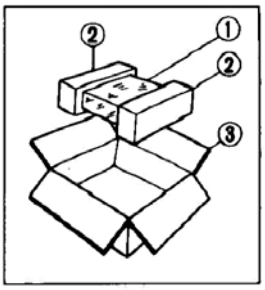
4. Abbreviations in this service manual are as follows.

•Abbreviations List

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

1. PACKING LIST

Parts No.	Stock No.	Description
1	47859100	Vinyl Bag
2	27621000	Styrofoam Packing
3	27620800	Carton Case

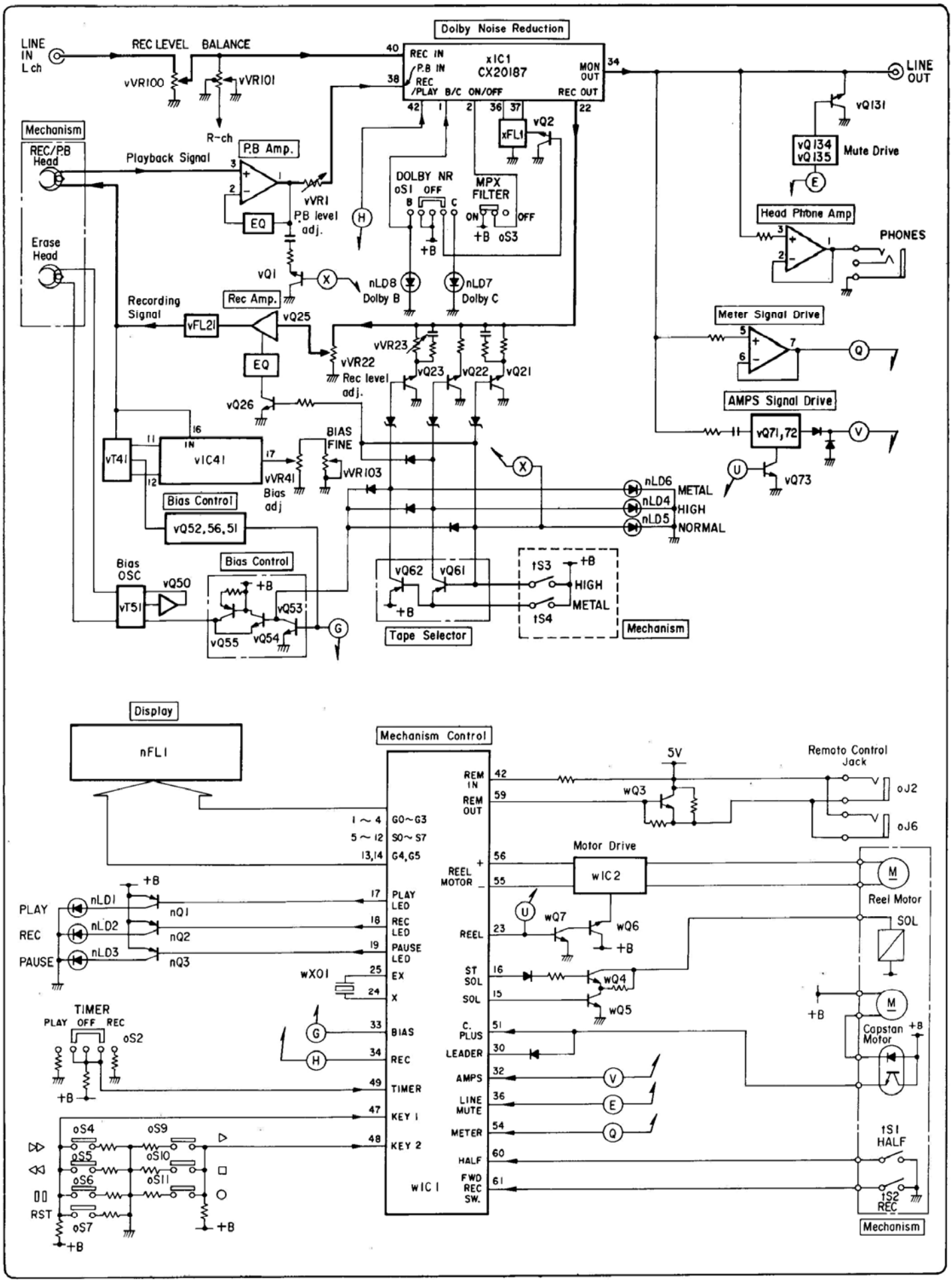


2. ACCESSORY LIST

	Stock No.	Description
	48802100	PJP Cord
	46267300	Mini Pin Plug Cord
	49041800	Operating Instruction (*E•F•S)
	49041900	Operating Instruction (*G•I•Sw)

***Note:**
E•F•S: **E**nglish•**F**rench and **S**panish Version
G•I•Sw: **G**erman•**I**talian and **Sw**edish Version

3. BLOCK DIAGRAM



4. ADJUSTMENTS (See F-6022 Parts Location on page 7)

4-1. Tape Speed Adjustment

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

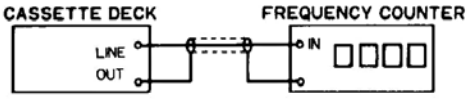
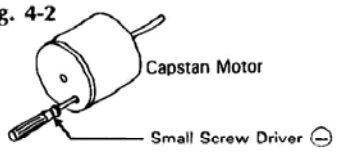


Fig. 4-2



STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	Tape Speed Adj.	LINE OUT, Frequency counter	Playback the TEST TAPE SCT-S3K.	Turn semi-variable resistor as Fig. 4-2.	3000Hz ± 10Hz	See Fig. 4-2.

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. Remove the Lid Ass'y.
5. Connections are shown in Fig. 4-3.

Fig. 4-3

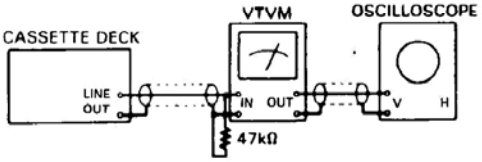
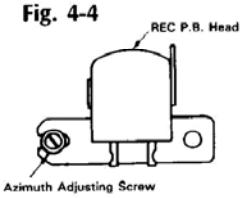


Fig. 4-4



STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	P.B. Head Adj.	LINE OUT, AC Volt Meter and Scope	Playback the TEST TAPE SCT-F10K	Adjust the azimuth adjusting screw in Fig. 4-4.	MAX. Output both channels	After this adjustment, lock the screw with paint.
2.	Playback Level Adj.	LINE OUT, AC Volt Meter and Scope	Playback the TEST TAPE SCT-L400	Adjust each vVR1 (L-CH and R-CH, F-6022)	500mV ± 1dB	

4-3. Bias Adjustment

Note: 1. BIAS control volume ..... Center click position.
2. BALANCE control volume..... Center click position.
3. REC LEVEL volume ..... Max.
4. DOLBY NR switch..... OFF
5. MPX FILTER swtich ..... OFF

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	Bias Frequency Adj.	Between Point Ⓐ (vC46L) and GND (L-CH), Point Ⓑ (vC46R) and GND, AC Volt Meter and Frequency counter.	1. Load the TEST TAPE SCT-MA. 2. Push the REC button twice. 3. Turn the vVR41 (L and R) fulley counter clockwise.	Turn the core of VT51, F-6022	105kHz ± 2kHz	
2.	Bias OSC Output Level Adj.	Same as above	Same as above	Turn the core of VT41 (L-CH, R-CH), F-6022	Max. output	After this adjustment, turn the vVR41 (L-CH, R-CH) to center position.

◆ List of Sansui Test Tape

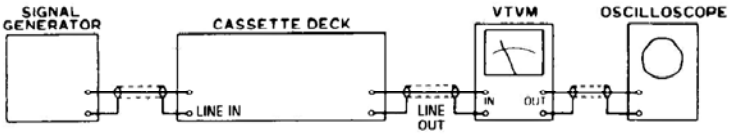
Name of TEST TAPE	Recorded Frequency	Description	Equivalent To
SCT-F40	40 Hz	Playback Frequency Response Check	—
SCT-F1K	1 kHz	High Frequency Equialization Check	—
SCT-F10K	10 kHz	REC/PB Head Adjustment	—
SCT-L400N	400 Hz	Playback Level and Indicator Level Adjustment	—
SCT-S3K	3 kHz	Speed Check and Wow & 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.

4-4. REC Level & Frequency Response Adjustment

Note: 1. Connections are shown in Fig. 4-5.
2. Set the Dolby NR switch to be ON(C position).
3. REC LEVEL Volume..... Max.
4. BIAS control volume ..... Center click position.
5. BALANCE control volume..... Center click position.

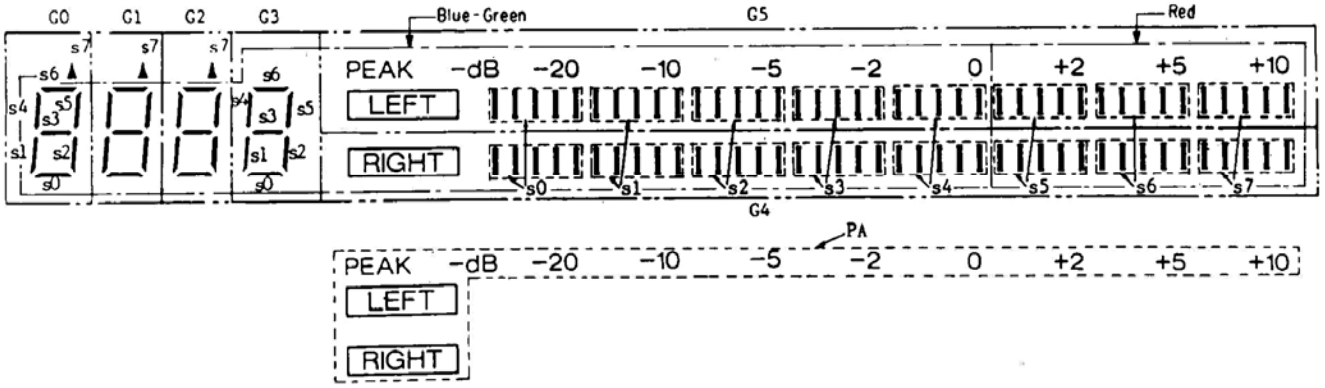
Fig. 4-5



STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1.	REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN.	LINE OUT AC Volt Meter and Scope	Load the TEST TAPE SCT-SA. 1. Record the 1kHz signal. 2. Confirm that output terminal level. 3. Playback the 1kHz signal.	Adjust vVR22 (L-CH and R-CH, F-6022) until playback level and output signal level on recording operation will be equal.	
2.	Frequency Response Adj.	Feed 1kHz, 7mV and 12kHz, 7mV from S.G. into LINE IN	LINE OUT AC Volt Meter and Scope	Load the TEST TAPE SCT-SA. 1. Record the 1kHz and 12kHz signals from S.G. 2. Playback the 1kHz and 12kHz signals, then confirm 12kHz signal level in less than 1kHz signal level ±2dB on AC Volt Metter.	1. If not, adjust vVR41 (L-CH and R-CH, F-6022) slightly until the 12kHz signal level in less than 1kHz signal level ±2dB on AC Volt Meter.	
3.	Metal REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN	LINE OUT AC Volt Meter and Scope	Load the TEST TAPE SCT-MA. 1. Record the 1kHz signal. 2. Confirm that output terminal level. 3. Playback the 1kHz signal.	Adjust vVR21 (L-CH and R-CH, F-6022) until playback level and output signal level on recording operation will be equal.	

5. DISPLAY PATTERN AND PIN ASSIGNMENT OF CP1087AGR FL DISPLAY

•Grid Assignment



♦ Pin Assignment

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Assignment	F	Ps6	Ps5	Ps4	Ps3	Ps2	Ps1	Ps0	G0	G1	G2	G3	G4	PA	Ps7	G5	F

6. MAIN PARTS REPLACEMENT (See Top View on page 11)

A. Cassette Mechanism Ass'y

1) Remove the bonnet.
2) Remove the cassette lid ass'y
3) Disconnect two connectors JP1 and JP2 from the F-5734 board.
4) Disconnect one connector JP1 from the F-5735 board.
5) Disconnect one connector JP4 from the F-5736 board.
6) Take out the three screws Ⓢa and two screws Ⓢb. (See fig. 6-1)
7) Push the EJECT knob to open the cassette pocket.
8) Take out the two screws Ⓢc. (See Fig. 6-2)
9) Take out the cassette mechanism ass'y from the unit.

B. Front Panel Ass'y A or B

1) Remove the bonnet.
2) Remove the cassette mechanism ass'y.
3) Pull out the REC LEVEL knob.
4) Pull out the BALANCE and BIAS knobs.
5) Pull out the POWER knob.
6) Take out the two screws to remove the power switch from the front panel.
7) Disconnect six connectors (JP5, JP6, JP7, JP8, JP1 and JP15) from the F-6022 board.
8) Remove the F-6040 phones board.
9) Take out the nut to remove the REC LEVEL volume.
10) Unhook two stroppers Ⓒ to remove the front panel-A and B from unit. (See Fig. 6-3)
11) Take out the three screws Ⓓ (See Fig. 6-3).
12) Remove the F-6032 FL display board from the front panel ass'y.
13) Remove the F-6034 BIAS and BALANCE volume board from the front panel ass'y.
14) Take out the one screw to remove the damper holder with it.
15) Put the bottom side of frontpanel ass'y A upward, insert the flat-type driver while pushing the stopper Ⓔ. (See Fig. 6-3)
16) To separat the frontpanel ass'y A and B, unhook five them (stopper Ⓔ and Ⓕ) in all while pushing a frontpanel ass'y B to the arrow direction. (See Fig. 6-3)

C. Head Base Ass'y ①

(See Exploded View of Cassette Mechanism Ass'y on page 6)

1) Take out the Cassette Mechanism Ass'y from the unit.
2) Remove the Pinch Roller F④ Ass'y.
3) Pull out the lock pin Ⓒ ⑬ fixing the Eject Stopper ⑦ and take it.
4) Remove the Head Base Spring ⑧.
5) Unsolder the lead wires for head on the F-5734 board. (See Fig. 6-4)
6) Take out the head base ass'y

D. Assist Gear ㉗, Capstan Belt ㉓, Flywheel Ass'y ㉕.

(See Exploded View of Cassette Mechanism Ass'y on page 6)

1) Loosen the two screws ㊴ fixing the Reel Motor Ass'y ⑯.
2) Loosen the screw ㊵ fixing the F-5735 board.
3) Loosen the four screws ㊴ fixing the Sub Chassis ㉛ and take it with Capstan Motor Ass'y.
4) Remove the Capstan Belt ㉓.
5) Remove the Flywheel F Ass'y ㉕.
6) Remove the Lock Arm ㉙ and Lock Arm Spring ㉚.
7) Pull out the lock pin Ⓑ ㊳ fixing the Assist Gear ⑳ and take it.

Fig. 6-1

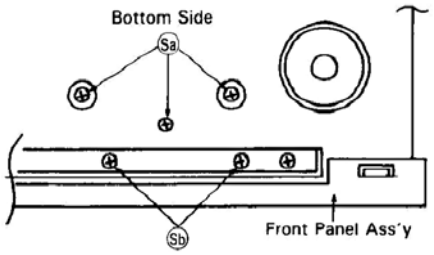


Fig. 6-2

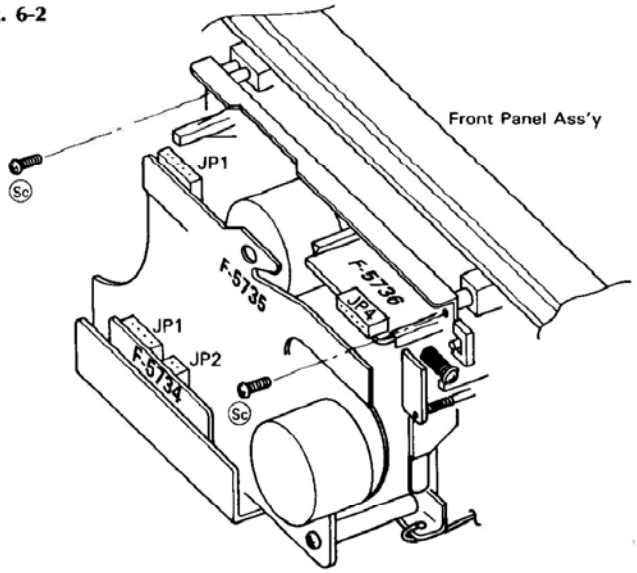


Fig. 6-3

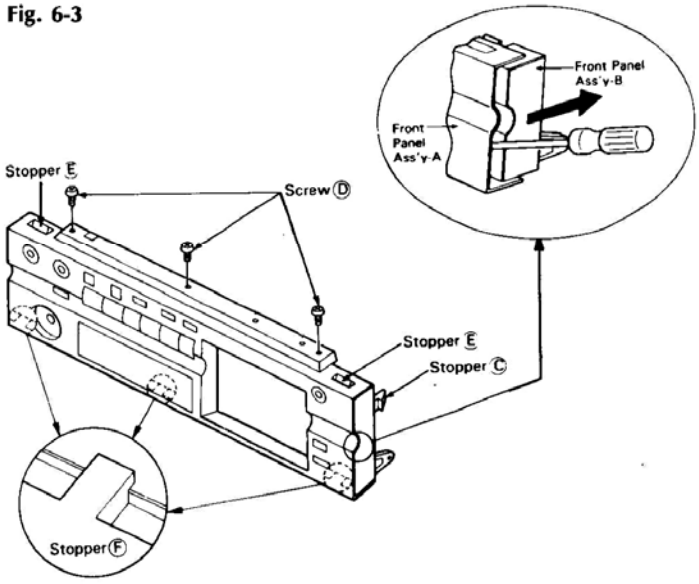
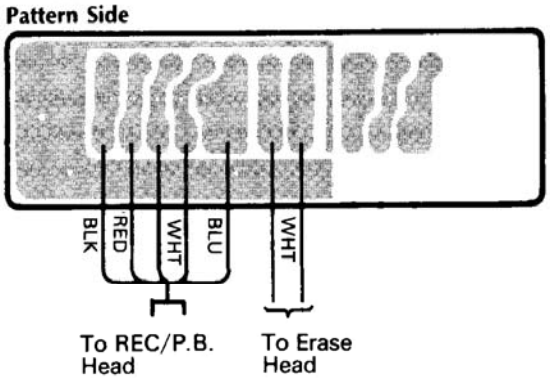
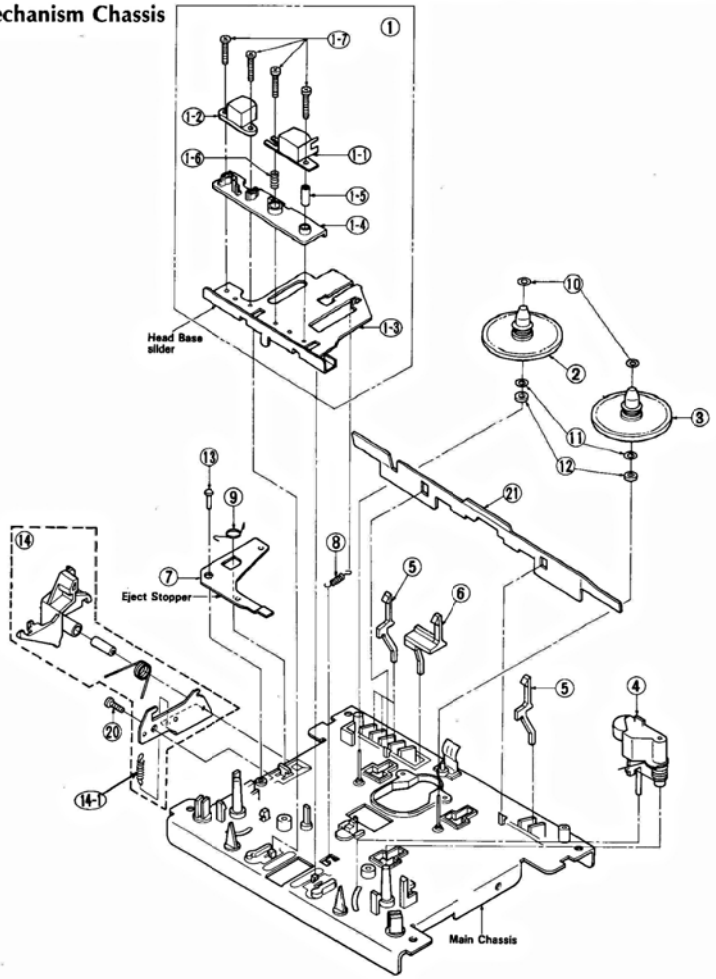


Fig. 6-4 Lead wire connections for F-5734 board

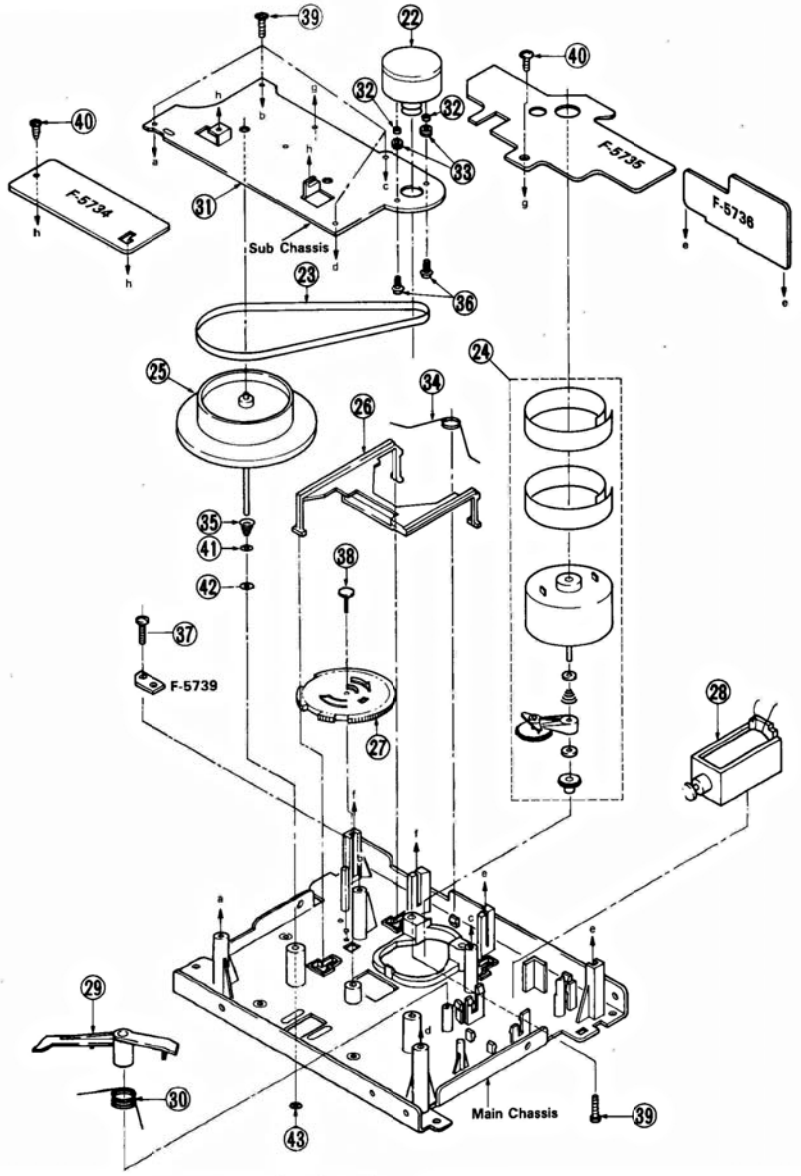


7. EXPLODED VIEW OF MECHANISM AND PARTS LIST

7-1. Front View of Mechanism Chassis



7-2. Rear View of Mechanism Chassis



Parts List <Front View and Rear View>

Parts No.	Stock No.	Description
1	———	Head Base Ass'y
1-1	49321500	REC/P.B Head
1-2	49321400	Erase Head
1-3	———	Head Base Slider
1-4	27372110	Head Base
1-5	27657600	Head Color
1-6	47406100	Azimuth Spring
1-7	00420800	M2x10 Bind Head Screw
2	27569320	Reel Gear S Ass'y
3	27640900	Reel Gear Ass'y
4	27654600	Pinch Roller Ass'y
5	27368800	Switch Arm A
6	27368910	Switch Arm B
7	———	Eject Stopper
8	27378500	Head Base Spring
9	27412400	Eject Spring

Parts No.	Stock No.	Description
10	27083100	Slit Washer (1.6x3.5x0.35)
11	27604200	Thrust Washer (2x3.6x0.5)
12	27569200	Washer (Rubber)
13	27636600	Lock Pin C
14	27674900	Pocket Hook Ass'y
14-1	27639900	Hook Spring
19	49343700	M3x18 Pan Head Screw
20	48508900	M3x6 Binding Head Deltite Screw
21	———	Arm Flapper
22	18182401	Capstan Motor Ass'y (with pulley)
23	27413400	Capstan Belt
24	18157301	Reel Motor Ass'y
25	27609710	Flywheel Ass'y
26	27370500	Brake Arm
27	27376320	Assist Gear Ass'y
28	48844900	Plunger Solenoide

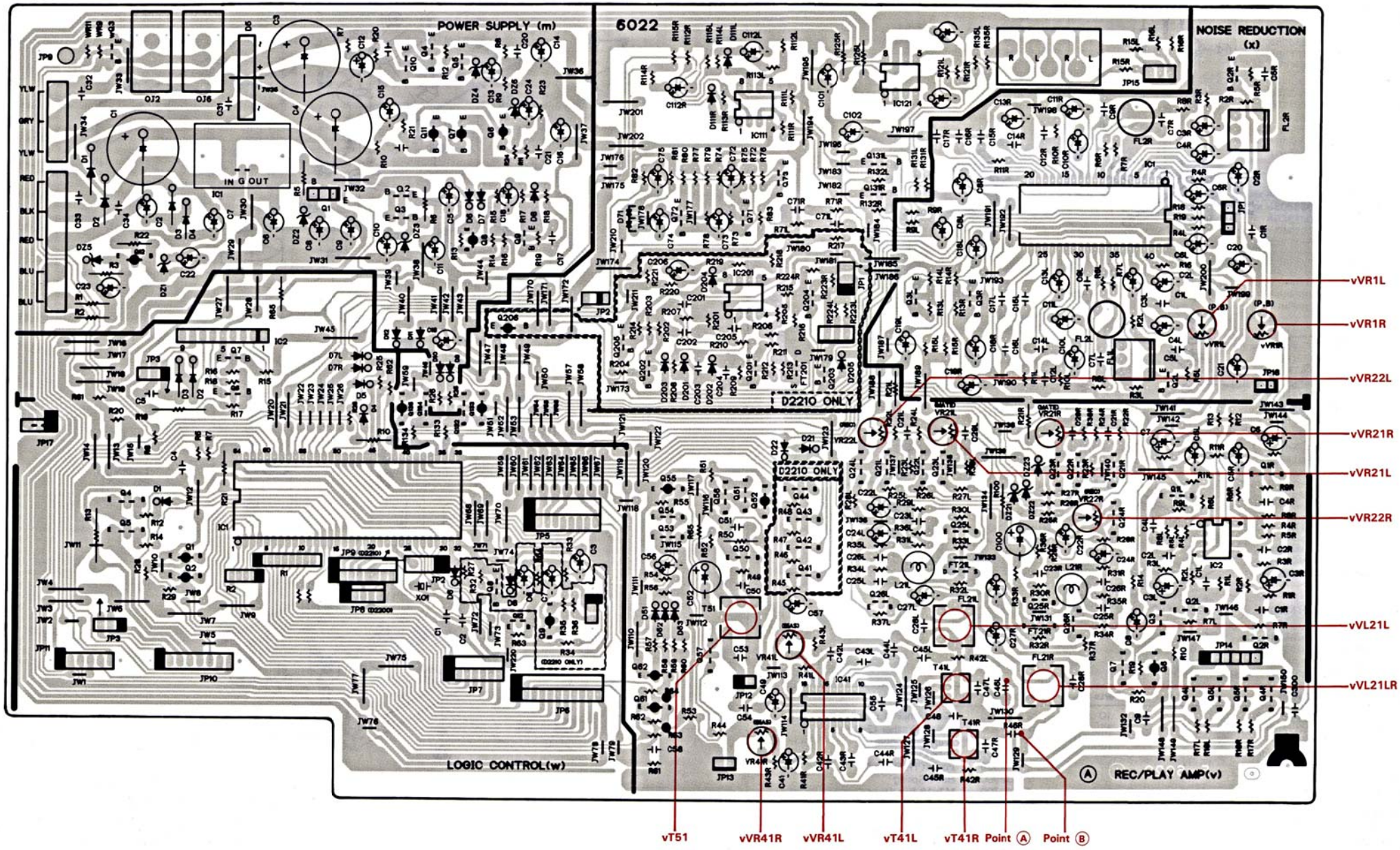
Parts No.	Stock No.	Description
29	27370600	Lock Arm
30	27378810	Lock Arm Spring
31	———	Sub Chassis
32	27459700	Motor Color
33	27459800	Motor Bushing
34	27379300	Brake Spring
35	27672000	Flywheel Spring A
36	48913100	M2.6x4 Flanged Head Screw

Parts No.	Stock No.	Description
37	49250900	M2x3 Pan Head Screw
38	27597900	Lock Pin B
39	18158700	M3x8 Binding Head Screw
40	48508900	M3x6 Binding Head Deltite Screw
41	47404600	Thrust Washer (2.5x4x0.25)
42	27655500	Thrust Washer (2x0.5)
43	47404700	Nylon Washer, D=2.5

8. PARTS LOCATION ON BOARD

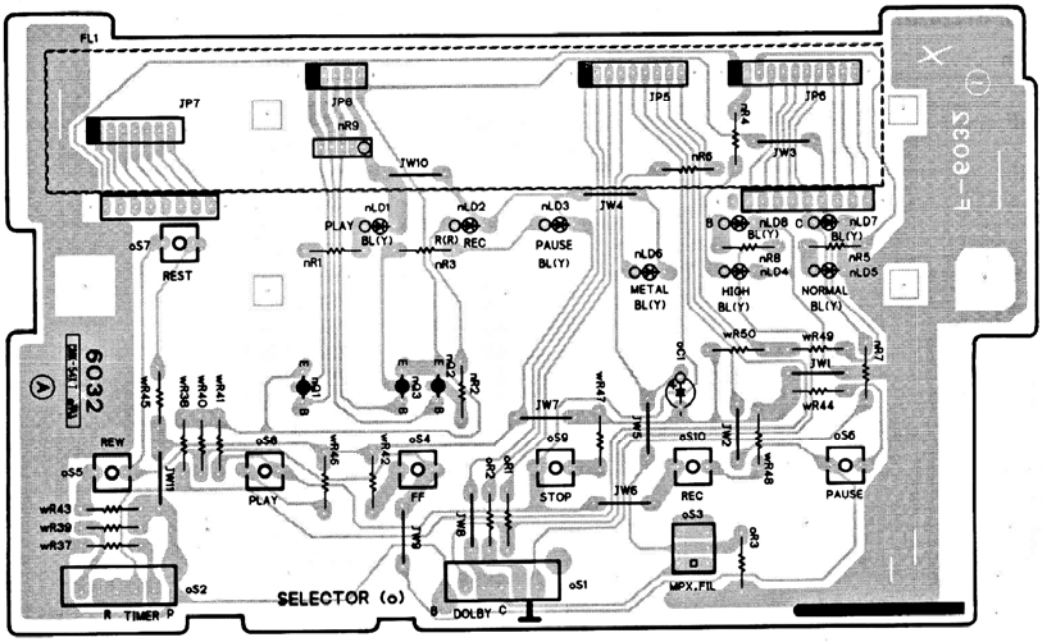
8-1. F-6022 Main Board

Component Side



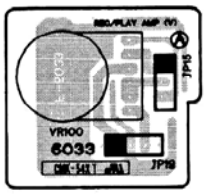
8-2. F-6032 FL Display Board

Component Side



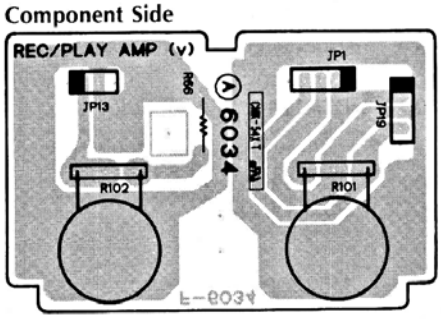
8-3. F-6033 REC LEVEL Volume Board

Component Side



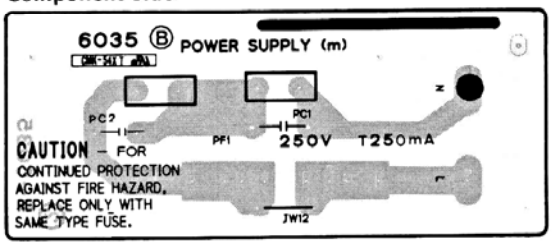
8-4. F-6034 BIAS, BALANCE Volumbe Board

Component Side



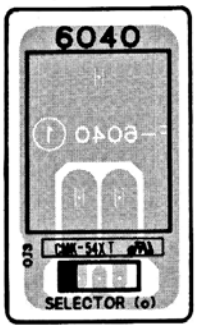
8-5. F-6035 AC Fuse Board

Component Side



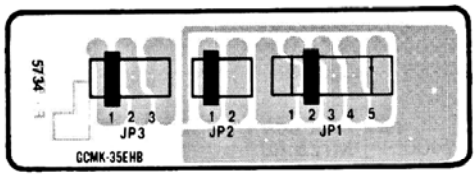
8-6. F-6040 PHONES Jack Board

Component Side



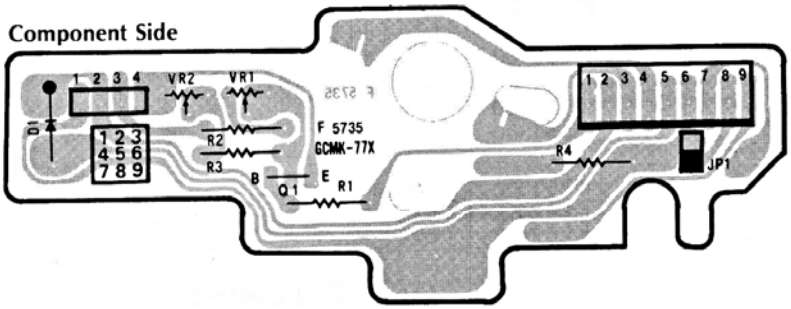
8-7. F-5734 REC/P.B Head Connector Board

Component Side



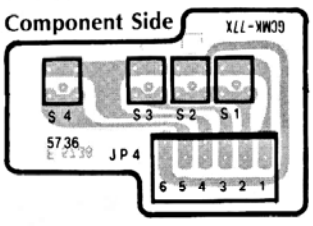
8-8. F-5735 Reel Motor Connection Board

Component Side



8-9. F-5736 Tape Selector Switch Board

Component Side



9. PARTS LIST OF BOARD

9-1. F-6022 Main Board <Stock No. 01124201>

Parts No.	Stock No.	Description
•Transistor		
mQ1	03083901	2SD313HP
	or 46546701	2SD880
⚠mQ2	03083901	2SD313HP
⚠	or 46546701	2SD880
mQ3	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
mQ4	46614101	2SC3243
mQ5	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
mQ6	46367001	2SA1115
	or 46367201	2SA1048
	or 48058601	2SA933S
mQ7	46614001	2SA1283
mQ8	46367001	2SA1115
	or 46367201	2SA1048
	or 48058601	2SA933S
mQ9, 10	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
mQ11	46367001	2SA1115
	or 46367201	2SA1048
	or 48058601	2SA933S
⚠mQ12	46581601	2SA992
•IC		
⚠mIC1	46144600	NJM78M12A
⚠	or 48470100	μPC78M12H
•Diode		
⚠mD1	03117700	10E-2
⚠mD2	03117700	10E-2
⚠mD3	48123600	11E2
⚠mD4	48123600	11E2
⚠mD5	03117000	RB152-LFF
mD6 ~ 12	46464100	1SS133
•Zener Diode		
mDZ1	48557200	MTZ24B
	or 48557300	MTZ24C
mDZ2	48552400	MTZ5.6B
	or 48552500	MTZ5.6C
mDZ3	48555200	MTZ13B
mDZ4	48551200	MTZ3.9A
	or 48551300	MTZ3.9B
mDZ5	48552400	MTZ5.6B
	or 48552500	MTZ5.6C
mDZ6	48551200	MTZ3.9A
	or 48551300	MTZ3.9B
mC1	49350300	4700μF 25V E.C.
mC20	48662600	100pF 50V C.C.
mC21	48662600	100pF 50V C.C.
oJ2	46547200	Jack, SYSTEM CONTROL
oJ6	46547200	Jack, SYSTEM CONTROL
oJ1	48528500	4P Terminal, LINE IN/OUT
•Transistor		
vQ1	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ2	46359801	2SC2001
vQ3	46719900	DTC124ES
vQ4, 5	46581701	2SC1845
vQ6	46581601	2SA992
vQ7	46719900	DTC124ES

Parts No.	Stock No.	Description
vQ21 ~ 26	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ50	46614101	2SC3243
	or 46725801	2SC1627A
vQ51	46719900	DTC124ES
vQ52	48229600	DTA114ES
vQ53	46719900	DTC124ES
vQ54	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ55	46614001	2SA1283
vQ56	46719900	DTC124ES
vQ57	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ61, 62	46367001	2SA1115
	or 46367201	2SA1048
	or 48058601	2SA933S
vQ71 ~ 73	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ131	46540801	2SC2878
	or 46604301	2SC3327
vQ132	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ133	46719800	DTA124ES
vQ134	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
vQ135	46719800	DTA124ES
•FET		
vFT21	46643500	2SK163-K1
	or 46643601	2SK117-Y
•IC		
vIC2	46638700	M5220P
	or 49264000	NJM2068D-D
vIC41	49323400	μPC1297CA
vIC111	46580100	M5218P
	or 49263900	NJM2068D
vIC121	46580100	M5218P
	or 49263900	NJM2068D
•Diode		
vD21, 22	46464100	1SS133
vD51 ~ 53	46464100	1SS133
vD71	46836900	MC931
vD111	46464100	1SS133
•Zener Diode		
vDZ21 ~ 23	48552400	MTZ5.6B
	or 48552500	MTZ5.6C
vC27	48103400	1μF 50V E.B.
vC54, 55	48659400	22pF 50V C.C.
vFL21	49335500	Trap Coil (105kHz)
vL21	48121700	Inductor 3.9mH
vT41	49323600	Step Up Coil
vT51	49323700	Bias OSC Coil
vVR1	46634100	4.7kΩ S.V.R., Play Back Level Adj.
vVR21	46634700	47kΩ S.V.R., Metal Rec Level Adj.
vVR22	46634700	47kΩ S.V.R., Rec Level Adj.
vVR41	46634700	47kΩ S.V.R., Bias Level Adj.

<F-6022>

Parts No.	Stock No.	Description
•Transistor		
wQ1, 2	46367001	2SA1115
	or 46367201	2SA1048
	or 48058601	2SA933S
wQ3	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
wQ4, 5	46359801	2SC2001
	or 48000901	2SC2060
wQ6	46614101	2SC3243
wQ7	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
wQ12	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
•IC		
wIC1	49346300	MB88514BP-616-SH
wIC2	46149600	BA6208
wXO1	48977800	Ceramic Oscillator
•Diode		
wD1	46464100	1SS133
wD2, 3	48123600	11E2
wD4~8	46464100	1SS133
wR1	48774800	100kΩX8 A.R.
wR2	48767400	100kΩX4 A.R.
wR13	46624000	56Ω 2W N.I.R.
•Transistor		
xQ2, 3	46367101	2SC2603
	or 46367301	2SC2458
	or 48058801	2SC1740S
•IC		
xIC1	48179900	CX20187
xFL1	49344400	Low Pass Filter
xFL2	48193300	Dolby Filter

9-2. F-6032 FL Display Board

<Stock No. 01124401 = SS/01124405 = EU>

Parts No.	Stock No.	Description
•Transistor		
nQ1~3	46719800	DTA124ES
nFL1	49323310	FL. Display Tube CP1087AGR
•LED		
nLD1	49326000	SEL3410E, PLAY (SS)
	or 49343200	SEL3810A, PLAY (EU)
nLD2	49325900	SEL3210S, REC
nLD3	49326000	SEL3410E, PAUSE (SS)
	or 49343200	SEL3810A, PAUSE (EU)
nLD4	49326000	SEL3410E, HIGH (SS)
	or 49343200	SEL3810A, HIGH (EU)
nLD5	49326000	SEL3410E, NOR. (SS)
	or 49343200	SEL3810A, NOR. (EU)
nLD6	49326000	SEL3410E, METAL (SS)
	or 49343200	SEL3810A, METAL (EU)
nLD7	49326000	SEL3410E, Dolby C (SS)
	or 49343200	SEL3810A, Dolby C (EU)
nLD8	49326000	SEL3410E, Dolby B (SS)
	or 49343200	SEL3810A, Dolby B (EU)
nR9	48766200	10kΩX4 A.R.
oS1	46178400	Slide SW., DOLBY NR
oS2	46178400	Slide SW., TIMER
oS3	46563500	Push SW., MPX FILTER
oS4	49326300	Push SW., ▷▷
oS5	49326300	Push SW., ◁◁
oS6	49326300	Push SW., ▯▯

<F-6032>

Parts No.	Stock No.	Description
oS7	49326300	Push SW., REC/MUTE
oS8	49326300	Push SW., ▷
oS9	49326300	Push SW., □
oS10	49326300	Push SW., ○

9-3. F-6033 REC LEVEL Volume Board

Parts No.	Stock No.	Description
vVR100	49326400	50KBX2 V.R.

9-4. F-6034 BIAS, BALANCE Volume Board

Parts No.	Stock No.	Description
vVR101	49326500	50kΩ (B) V.R., BALANCE
vVR102	49326600	10kΩ (B) V.R., BIAS

9-5. F-6035 AC Fuse Board

Parts No.	Stock No.	Description
⚠pC1, 2	46425800	0.01μF 400V C.C.
⚠	or 46943200	0.01μF 400V C.C.
⚠	or 48186700	0.01μF 400V C.C.

9-6. F-6040 PHONES Jack Board

Parts No.	Stock No.	Description
oJ3	46265700	Jack

9-7. F-5735 Reel Motor Connection Board

Parts No.	Stock No.	Description
•Diode		
tD1	03111600	1S2473
	or 03111800	1S1588
•Zener Diode		
tDZ1	46103600	05Z12-X
	or 46103700	05Z12-Y
	or 46103800	05Z12-Z
	or 46805000	RD12E-B1
	or 46805100	RD12E-B2
	or 46805200	RD12E-B3

9-8. F-5736 Tape Selector Switch Board

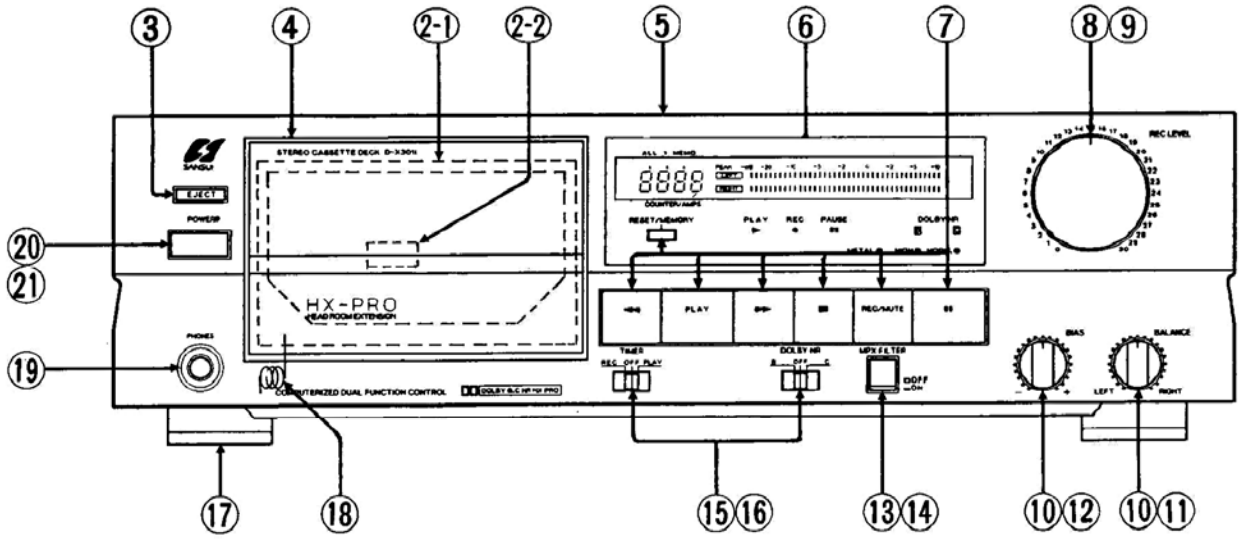
Parts No.	Stock No.	Description
tS1	48829100	Push SW., Half Sensor
tS2	48829100	Push SW., FWD Rec Prevention
tS3	48829100	Push SW., Tape Sel. HIGH
tS4	48829100	Push SW., Tape Sel. METAL

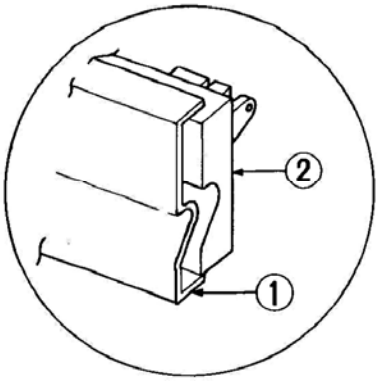
9-9. F-5739 Counter Pulse Sensor Board

Parts No.	Stock No.	Description
tPH2	49326101	ON2170-Q Photo Refractor
	or 49326102	ON2170-R Photo Refractor

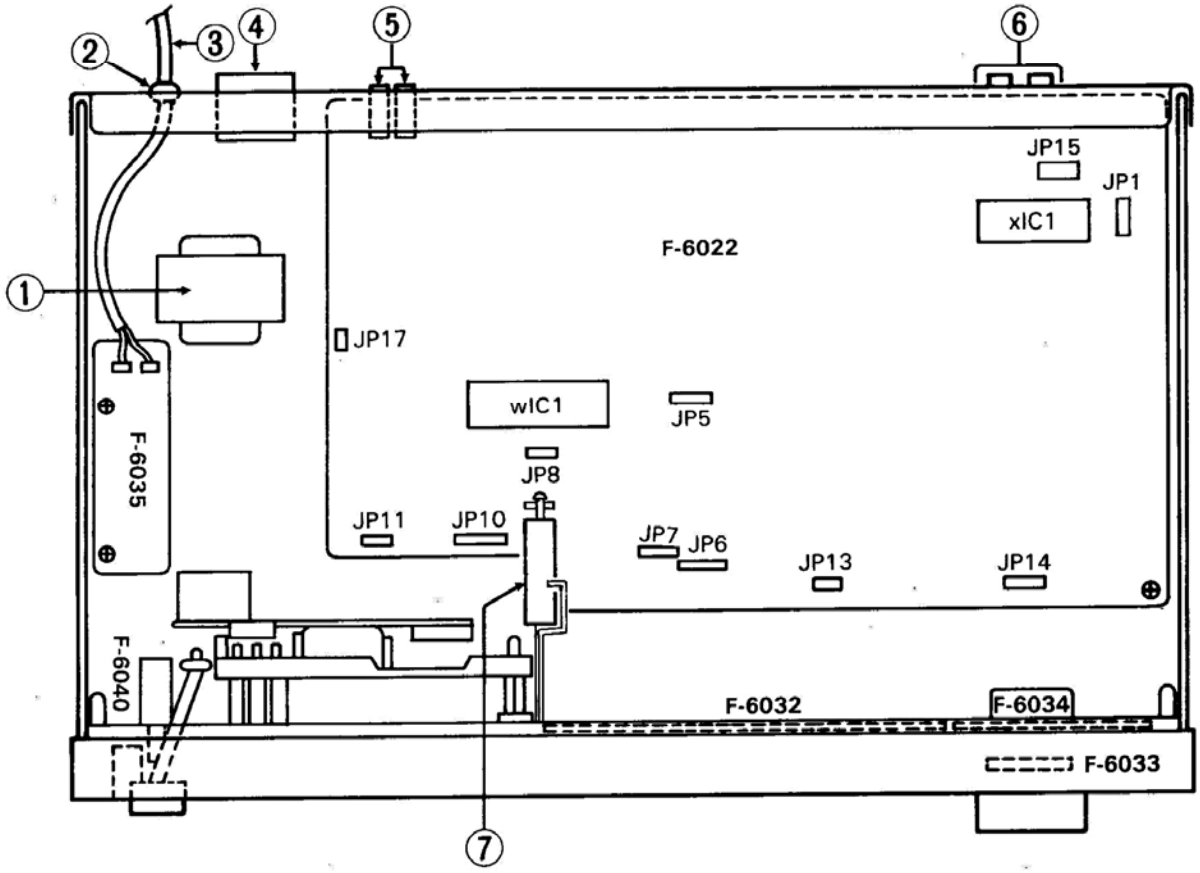
10. OTHER PARTS

10-1. Front View





10-2. Top View



Parts List <Front View>

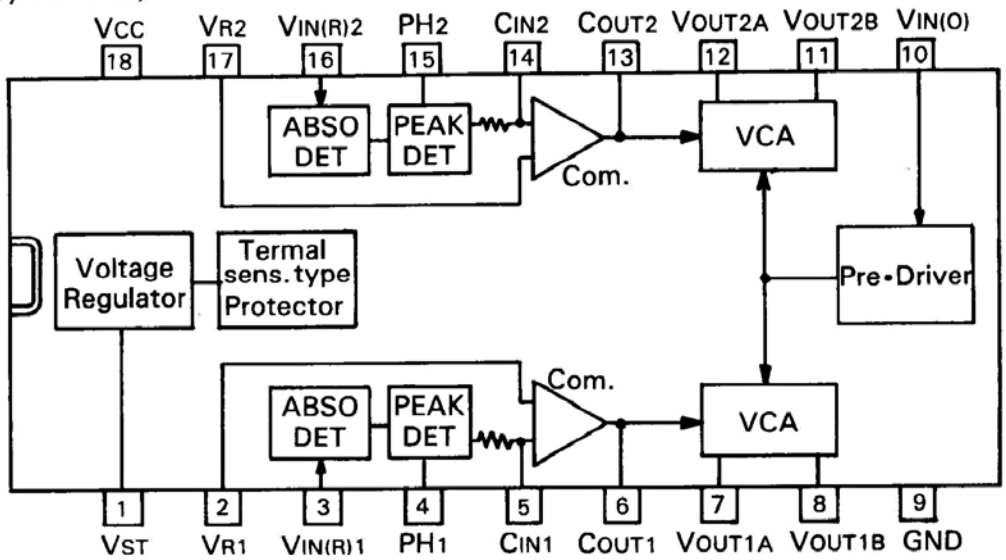
Parts No.	Stock No.	Description
1	27618400	Front Panel Ass'y A
2	27618610	Front Panel Ass'y B
2-1	47620310	Cassette Pocket
2-2	27585500	Glossy Seal
3	27617400	EJECT Knob
4	27618200	Cassette Lid Ass'y
5	27620000	Bonnet
6	49323310	FL Display Tube CP1087AGR
7	49326300	Push SW., PLAY•REC/MUTE•■•II•►►•◄◄
8	49326400	50kΩ (B)x2 V.R., REC LEVEL
9	27611500	Knob, REC LEVEL
10	84580100	Knob, BIAS•BALANCE
11	49326500	50kΩ (B) V.R., BALANCE
12	49326600	10kΩ (B) V.R., BIAS
13	46563500	Push SW., MPX FILTER
14	27608300	Push Knob, MPX FILTER
15	46178400	Push SW., DOLBY NR•TIMER
16	27608600	Slide Knob, DOLBY NR•TIMER
17	27273510	Leg
18	47673000	Spring, Cassette Pocket
19	46265700	Jack, PHONES
⚠20	46364300	Push SW., POWER
21	27626500	Push Knob, POWER

Parts List <Top View>

Parts No.	Stock No.	Description
⚠ 1	15033209	Power Transformer (SS)
⚠	15033205	Power Transformer (EU)
⚠ 2	48913500	Strain Relief
⚠ 3	48837700	Power Supply Cord (SS)
⚠	38004500	Power Supply Cord (EU)
⚠ 4	48484200	Voltage Selector (SS)
⚠	07204700	Slide SW., VOLTAGE SELECTOR (EU)
5	46547200	Mini Jack, SYSTEM CONTROL
6	48528500	4P Terminal, LINE IN/OUT
7	27620700	Damper Ass'y

11. TERMINAL FUNCTION OF ICs, μPC1297CA AND MB88514BP

•μPC1297CA (Dolby HX PRO)



♦ Terminal Function <μPC1297CA>

Pin No.	Pin Name	Terminal Function
1	VST	Input terminal for standard supply voltage.
2	VR1	Input terminal for standard voltage of comparator.
3	VIN(R)1	Input terminal for rec signal.
4	PH1	Terminal to connect a capacitor for peak hold.
5	CIN1	Input terminal for comparator.
6	COUT1	Output terminal of comparator.
7	VOUT1A	Output terminal of VCA1A.
8	VOUT1B	Output terminal of VCA1B.
9	GND	Ground terminal.

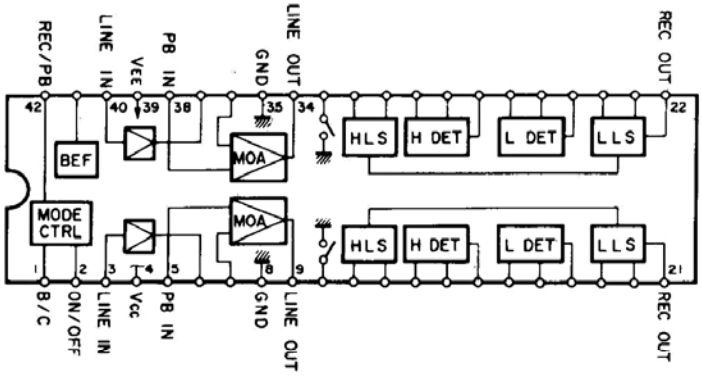
Pin No.	Pin Name	Terminal Function
10	VIN (O)	Input terminal for bias signal.
11	VOUT2B	Output terminal of VCA2B.
12	VOUT2A	Output terminal of VCA2A.
13	COUT2	Output terminal of comparator.
14	CIN2	Input terminal for comparator.
15	PH2	Terminal to connect a capacitor for peak hold.
16	VIN(R)2	Input terminal for rec signal.
17	VR2	Input terminal for standard voltage of comparator.
18	VCC	Power supply voltage terminal.

•MB88514BP (Mechanism Control)

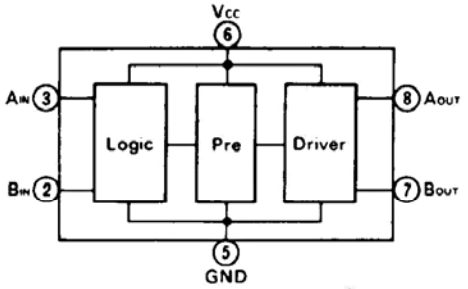
◆ Terminal Function <MB88514BP>

Pin No.	Pin Name	I/O	Description	Active H	Active L
1~4	G0~G3	O	Terminals for outputting grid signals to the FL display.	○	
13, 14	G4, G5	O	Terminals for outputting grid signals to the FL display.		○
5~12	S0~S7	O	Terminals for outputting segment signals to the FL display.	○	
15	SOL	O	Terminal for outputting a current to hold the play plunger.		
16	START SOL	O	Terminal for generating a driving current to enerigize the play plunger. The play plunger is initially energized by a pulse (⊓⊔).		
17	PLAY LED	O	PLAY indicater LED diring signal output.		○
18	REC LED	O	REC indicator LED driving signal output.		○
19	A.B LED	O	AUTO BIAS indicator LED driving signal output.		○
20	PAUSE LED	O	PAUSE indicator LED driving signal output.		○
21	DIR."▷" LED	O	Direction (▷) indicator LED driving signal output.		○
22	DIR."◁" LED	O	Direction (◁) indicator LED driving signal output.		○
23	REEL FAST	O	Terminal for switching the reel motor speed from NORMAL play to FF/REW or visa versa.	Normal Play	FF and REW
25 26	EX $\overline{EX}$	— —	Terminals to connect a OSC.		
30	LEADER	I	Terminal for inputting a detecting signal for tape leader.		○
31	AMPS	I	Terminal for inputting music blank signals in AMPS operation.	Music play	Music blank
33	BIAS	O	This terminal outputs an "L" level signal in the recording mode.		○
34	REC	O	This terminal outputs an "H" signal in the recording mode.		○
35	R. MUTE	O	Terminal for outputting a rec mute signal. This terminal outputs an "L" signal until set to the PAUSE mode, when REC MUTE key is depressed in the recording mode.	Rec Mute Off	Rec Mute On
36	L. MUTE	O	Terminal for outputting a line mute signal. If at "L" level, LINE OUT is muted.	Line Mute Off	Line Mute On
37~40	ATT0~ ATT3	O	Terminals for outputting auto bias control signal.		
42	REM IN	I	Terminal for inputting a signal from system control.		
47 48	KEY1 KEY2	I	Terminals for inputting an operation key signal.		
49	TIMER	I	Terminal for inputting a signal for timer operation.		
50	REV MODE	I	Reverse mode selection signal input.		
51	C.PULSE	I	Terminal for inputting a signal for tape counter.		
52	BIAS CHECK	I	Bias conparison signal input.		
53	L.METER R	I	Terminal to input a control signal for right-channel level meter.		
54	L.METER L	I	Terminal to input a control signal for left-channel level meter.		
55 56	REEL + REEL −	O	Reel motor drive signal output.	FWD·FF REV·REW	REV·REW FWD·F.F
59	REM OUT	O	Terminal for outputting a signal for system control.		
60	HALF	I	Cassette tape in/out detection signal input.	Out	In
61	FWD.REC SW	I	Forward recording OK signal input.		○
62	REV. REC SW	I	Reverse recording OK signal input.		○

•CX20187 (Dolby Noise Reduction)



•BA6208 (Motor Drive)

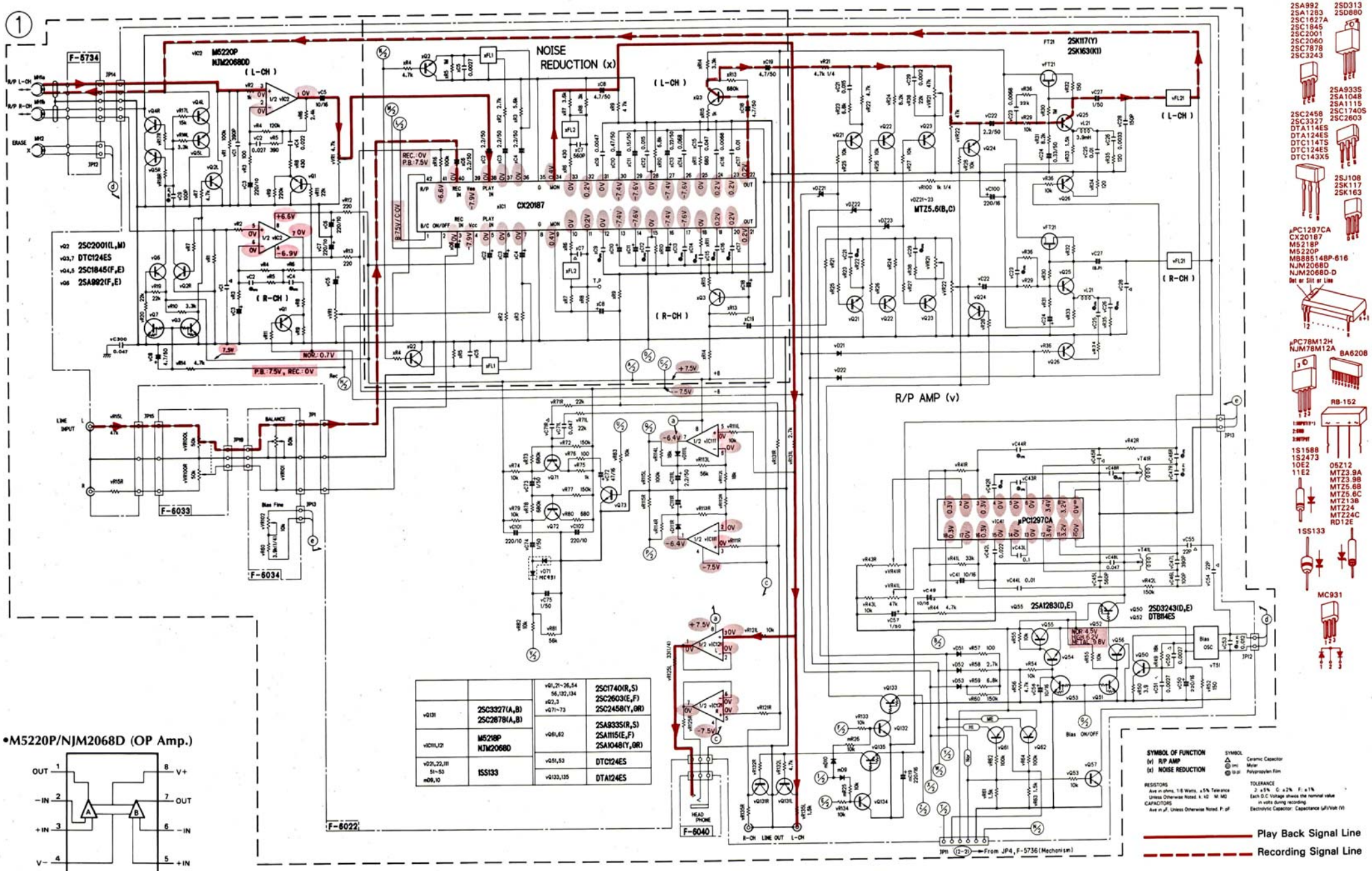


Input A	Input B	Output A	Output B	Output Mode
1	1	L	L	Motor Short
1	0	H	L	Normal Turn
0	1	L	H	Reverse Turn
0	0	—	—	Motor Open

I: More than 2.0V, O: Less Than 0.8V

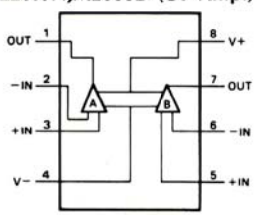
12. SCHEMATIC DIAGRAM 12-1. REC/Play Back Amp. Section

* Design and specifications subject to change without notice for improvement.
* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



vQ131	2SC3327(A,B) 2SC2878(A,B)	vQ1,21~26,54 56,132,134 vQ2,3 vQ71~73	2SC1740(R,S) 2SC2603(E,F) 2SC2458(Y,GR)
vIC111,121	M5218P NJM2068D	vQ61,62	2SA933S(R,S) 2SA1115(E,F) 2SA1048(Y,GR)
vD21,22,111 51~53 mD9,10	1SS133	vQ51,53	DTC124ES
		vQ133,135	DTA124ES

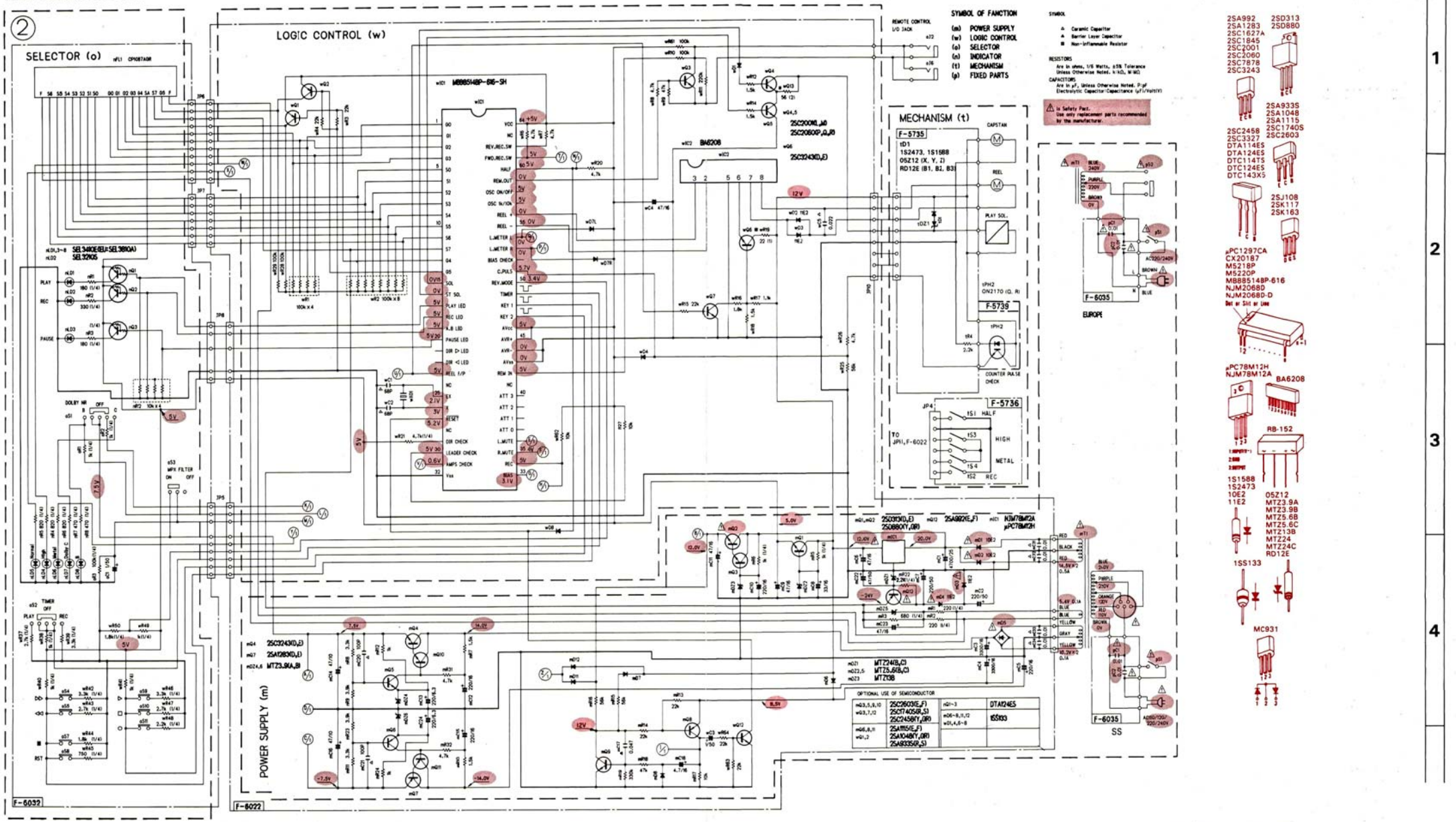
•M5220P/NJM2068D (OP Amp.)



2SA992 2SD313
2SA1283 2SD880
2SC1627A
2SC1845
2SC2001
2SC2060
2SC7878
2SC3243
2SA933S
2SA1048
2SA1115
2SC1740S
2SC2603
2SC2458 2SC3327
DTA114ES
DTA124ES
DTC114TS
DTC124ES
DTC143X5
2SJ108
2SK117
2SK163
μPC1297CA
CX20187
M5218P
M5220P
MB88514BP-616
NJM2068D
NJM2068D-D
μPC78M12H
NJM78M12A
BA6208
RB-152
1S1588
1S2473
10E2
11E2
05Z12
MTZ3.9A
MTZ3.9B
MTZ5.6B
MTZ5.6C
MTZ13B
MTZ24
MTZ24C
RD12E
1SS133
MC931

12-2. Control Section

* Design and specifications subject to change without notice for improvement.
* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



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