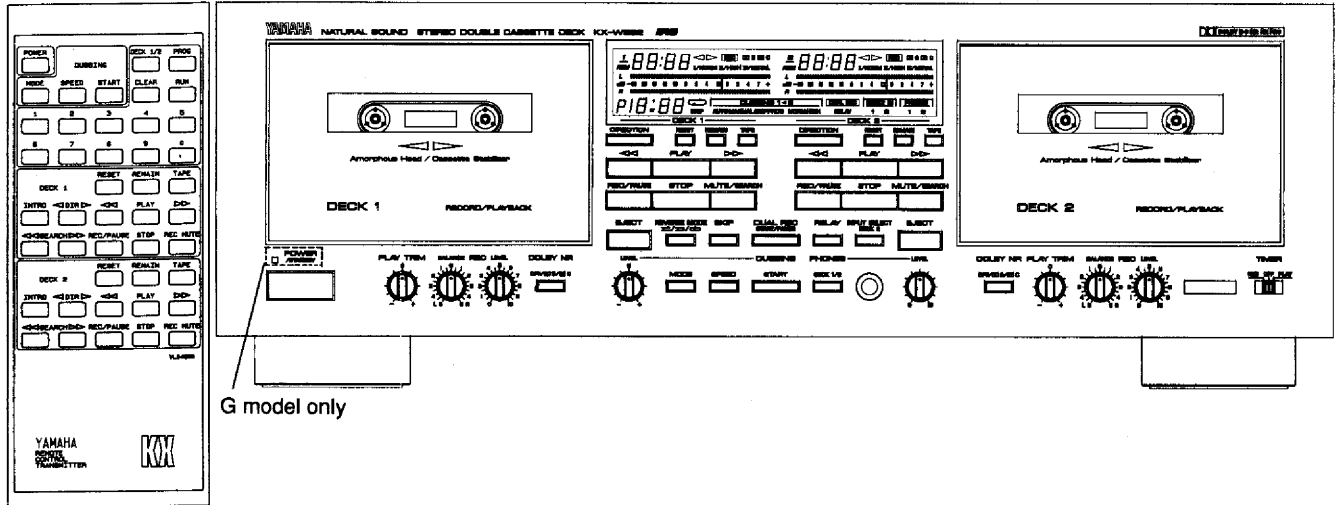


STEREO DOUBLE CASSETTE DECK KX-W952

SERVICE MANUAL

FRONT PANEL



IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification, recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.


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■ TO SERVICE PERSONNEL

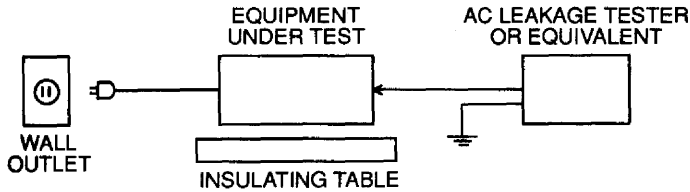
1. Critical Components Information.

Components having special characteristics are marked  and must be replaced with parts having specifications equal to those originally installed.

2. Leakage Current Measurement (For 120 V Model Only).

When service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuits.

- Meter impedance should be equivalent to 1500 ohm shunted by 0.15 μ F.
- Leakage current must not exceed 0.5 mA.
- Be sure to test for leakage with the AC plug in both polarities.



• POLARIZATION

This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. (U,C model only)

Dolby noise reduction and HX PRO headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX PRO originated by Bang and Olufsen. "Dolby", the double-D symbol and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

■ WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER. ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

■ SPECIFICATIONS

- Type** Auto reverse 4-track, 2-channel recording and playback stereo twin cassette deck
- Motors** DC servo motor x 2 (capstan)
DC motor x 2 (reel)
- Heads** Recording/playback: Amorphous x 2
Erase: Double-gap Ferrite

Rapid Transport 90 sec. (C-60)

Wow and Flutter

WRMS 0.05%

W.Peak $\pm 0.08\%$

Signal-to-Noise Ratio

(Dolby NR off) better than 58 dB

(Dolby B NR on) better than 66 dB

(Dolby C NR on) better than 74 dB

Frequency Response (-20 dB)

Type I/Normal 20 ~ 17,000 Hz ± 3 dB

Type II/High (CrO₂) 20 ~ 19,000 Hz ± 3 dB

Type IV/Metal 20 ~ 20,000 Hz ± 3 dB

Harmonic Distortion

Type I/Normal less than 0.8%

Type II/High (CrO₂) less than 0.8%

Type IV/Metal less than 0.8%

Input Sensitivity/Impedance

Line 120 mV/50 k-ohms

Output Level

Line 570 mV/1 k-ohms

Phones 2.0 mW/8 ohms

Channel Separation (3150 Hz)

..... 40 dB

Crosstalk (125 Hz) 55 dB

GENERAL

Power Supply

U.S.A. and Canada model 120 V, 60 Hz

Europe model 230 V, 50 Hz

U.K. model and Australia model 240 V, 50 Hz

Other model 110/120/220/240 V, 50/60 Hz

Power Consumption 28 W

(Power off: 6 W)

Dimensions (W x H x D) 435 x 150 x 360 mm

(17-1/8" x 5-7/8" x 14-3/16")

Weight 8.3 kg (18 lbs. 5 oz.)

Accessories

Remote control transmitter 1

Batteries 2

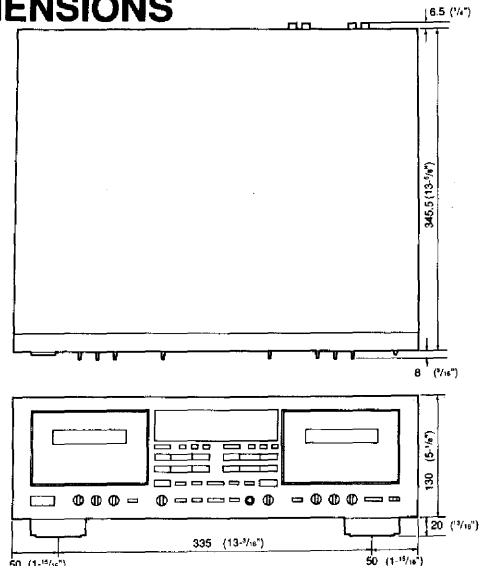
* Specifications subject to change without notice.

U U.S.A. model **G** European model

C Canadian model **B** British model

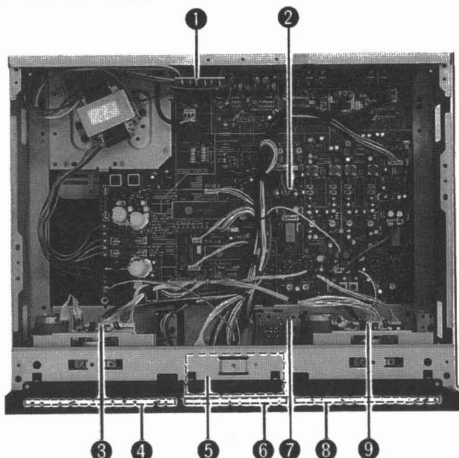
A Australian model **R** General model

■ DIMENSIONS



Unit: mm (inch)

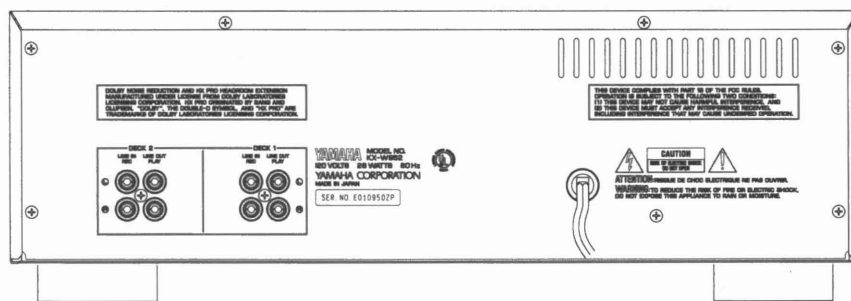
INTERNAL VIEW



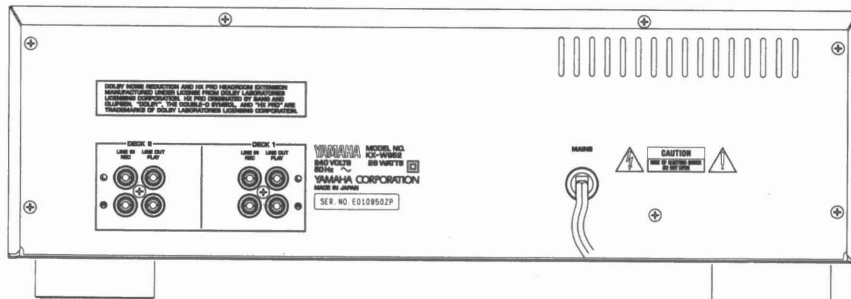
- ① MAIN Circuit Board (2)
- ② MAIN Circuit Board (1)
- ③ Cassette Mechanism Circuit Board (1) and Cassette Mechanism Ass'y (1)
- ④ OPERATION Circuit Board (2)
- ⑤ LCD Unit
- ⑥ OPERATION Circuit Board (1)
- ⑦ MAIN Circuit Board (3)
- ⑧ OPERATION Circuit Board (3)
- ⑨ Cassette Mechanism Circuit Board (2) and Cassette Mechanism Ass'y (2)

REAR PANELS

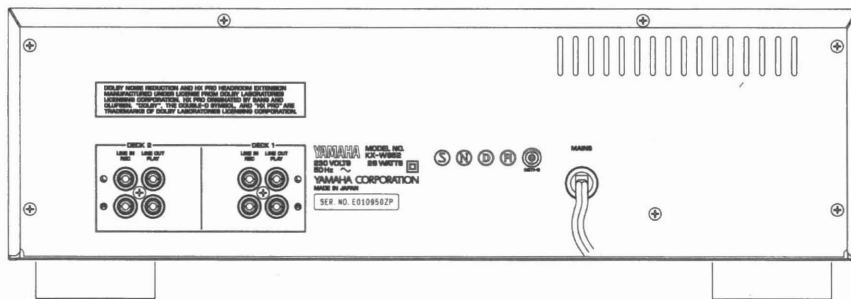
U,C models



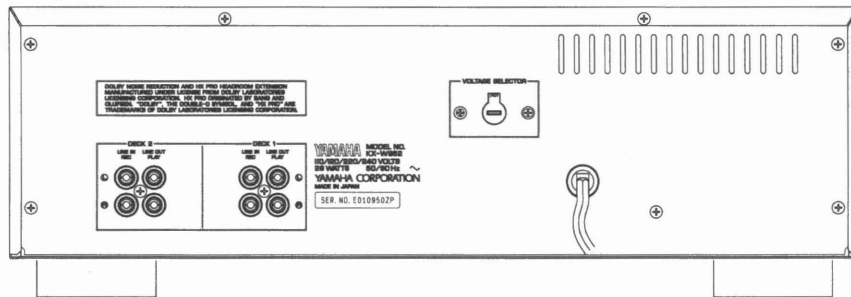
A,B models



G model



R model



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DISASSEMBLY PROCEDURES

(Remove parts in disassembly order as numbered)

Removal of the Cabinet Parts

1. Removal of the Top Cover

a. Remove the 7 screws (①, ②, ③) in fig. 1.

2. Removal of the Front Panel

a. Remove the 6 screws (④) in fig. 1.
 b. Remove the 1 knob (PHONES LEVEL) in fig. 1.
 c. Remove the connectors in 10 places (#5~12, 14, LCD).

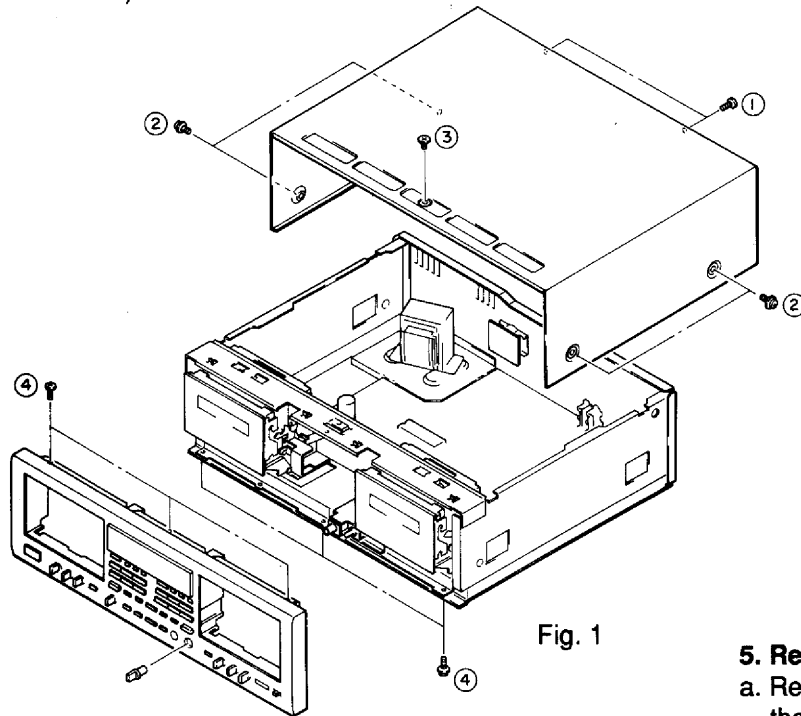


Fig. 1

3. Removal of the Cassette Mechanism Unit

a. Remove the 3 screws (⑤, ⑥) in fig. 2.
 b. Remove the connectors in 3 places (#1, MCN1, MCN2)
 c. Remove the cassette mechanism unit after sliding it forward through the front.

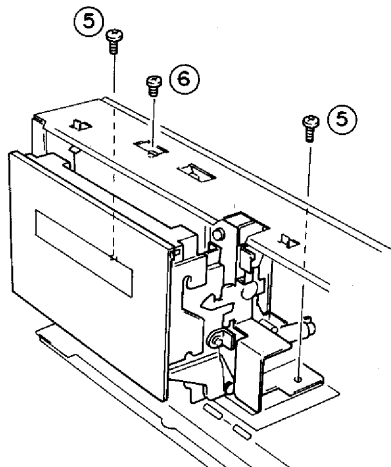


Fig. 2

4. Removal of the Housing Frame and the Blind Plate

a. Open the housing frame.
 b. Remove the springs on both sides.
 c. Remove the hooks (A) on both sides of the housing frame.

Remove the housing frame in the indicated direction.

d. Remove the blind plate by removing the 1 screw (⑦) and 1 plastic rivet (⑧) in fig. 3.

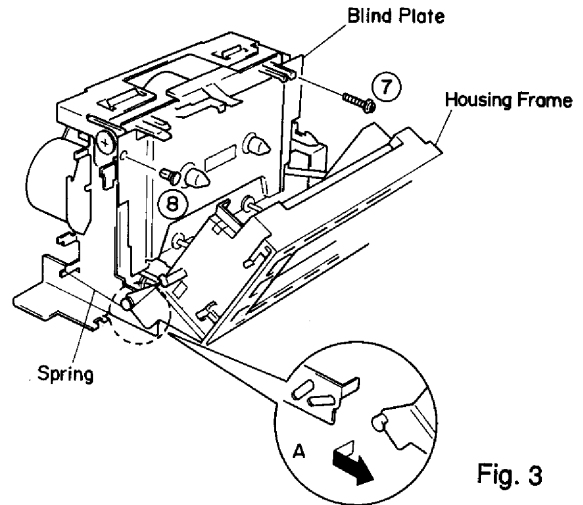


Fig. 3

5. Removal of the Pinch Roller

a. Remove the pinch roller assembly after releasing the hook.

* When assembling the unit, make sure to place the spring of the pinch roller in the correct position.

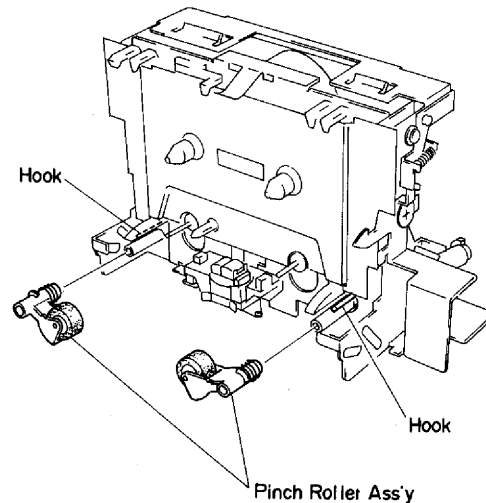


Fig. 4

6. Removal of the Heads

- a. Remove the head unit by removing the 2 screws (9) in fig. 5.

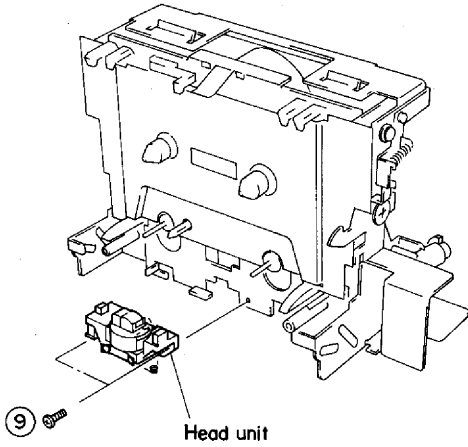
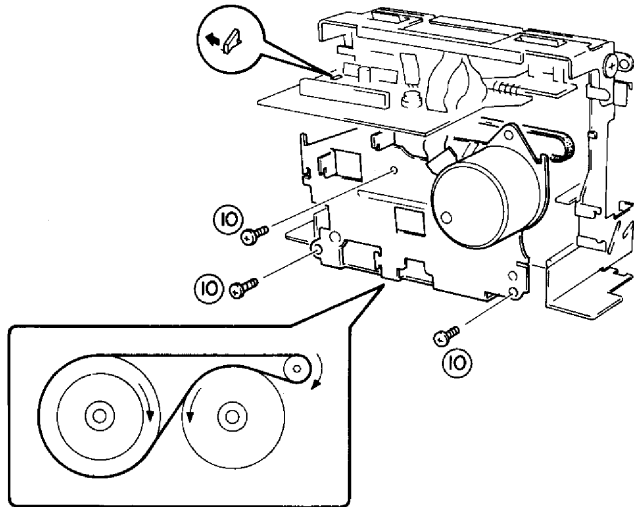


Fig. 5

7. Removal of the Capstan Motor

- a. Remove the 3 screws (10) in fig. 6, then remove the capstan motor Ass'y.



Flywheel belt installation
(viewed from the rear)

Fig. 6

8. Removal of the Reel Motor

- a. Remove the E-ring (B) in fig. 7.
- b. Remove the 1 screw (11) and 1 screw (12) in fig. 8, then remove the eject arm.
- c. Remove the 2 screws (13) in fig. 9, then remove the reel motor.

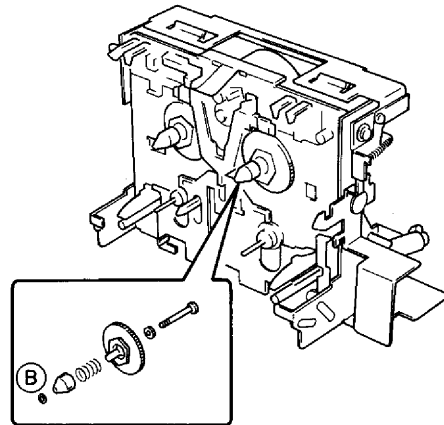


Fig. 7

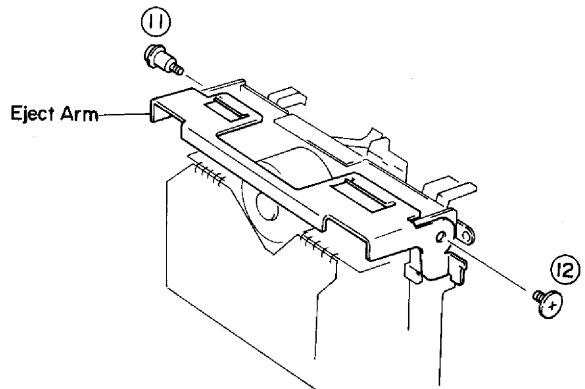


Fig. 8

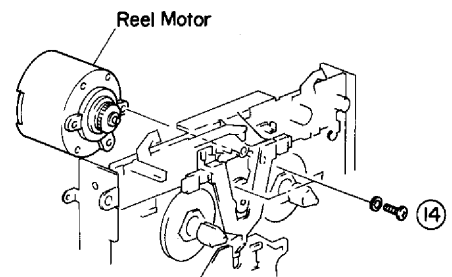
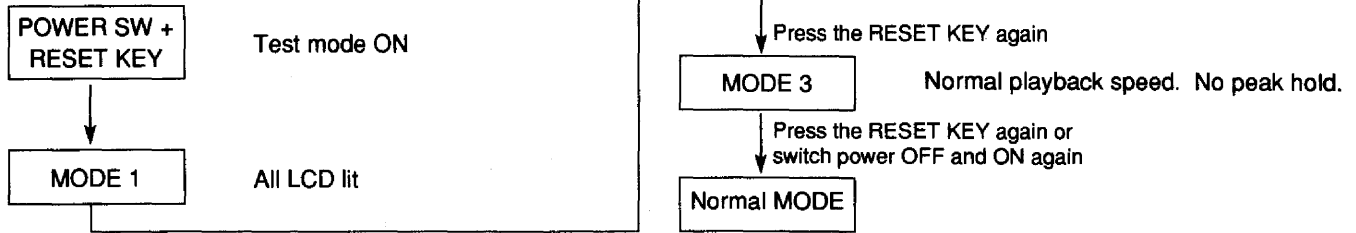


Fig. 9

● INTERNAL TEST MODE

TEST MODE

Enter the TEST MODE by pressing the POWER SW while pressing the RESET KEY (RESET KEY is on DECK 1) when the power is OFF.



■ ADJUSTMENTS

1. Before Adjustment:

- Make sure that AC line voltage is within:

Models	AC line voltage
U, C	120 V ± 10%
G	230 V ± 10%
A, B	240 V ± 10%

- Since head magnetization, dust accumulation, etc. are likely to cause error in the various characteristics, it is very important to keep the heads properly demagnetized and clean.

2. Instruments required

- Audio frequency oscillator (AF OSC)
- ACVM or dual channel ACVM
- DCVM
- Wow/flutter meter
- Mirror Cassette MC-109C (TX911430)

● Torque meter

- TW-2111A (TX911580): Take up/Back tension (FORWARD)
- TW-2121A (TX911570): Take up/Back tension (REVERSE)
- CT160L (TX911120)

3. Test tape required

- MTT-111N (TX911650): Tape Speed (Normal)
- TCW-211 (TX911550): Tape Speed (High speed)
- MTT-114N (TX911680): Azimuth
- MTT-212CN (TX911670): Playback Level (160 nWb/m)
- MTT-212N (TX911660): Playback Level (250 nWb/m)
- MTT-256 (TX911300): Playback Frequency Response (Normal)
- MTT-356 (TX911310): Playback Frequency Response (High)
- Reference tape
 - Normal : TDK AC224 (TX912190)
 - High : TDK SA-60 or TDK AC513 (TX911610)
 - METAL : TDK AC712 (TX911590)

● MECHANISM ADJUSTMENT

* Adjust deck 2 the same way as in deck 1.

Note: The damper must be removed before you perform steps 1 and 2 of the procedure, because the torque meter are hidden behind the damper (Fig.a).

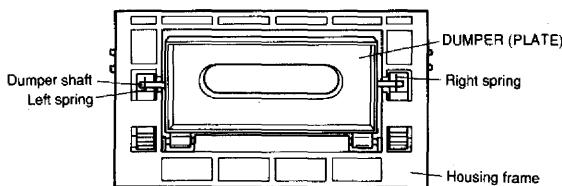
* How to remove the damper from the housing ass'y.

Step 1. Pinch strongly the points A and B indicated in Fig.b with fingers, and the damper can be removed from the shaft.

Step 2. Remove the leftside spring (shown in Fig.b) from the shaft, moving it toward the left direction with a screw driver or a tweezer (leaving the rightside spring as it is).

Step 3. Take out the damper, pulling it toward you.

Step 4. To put the damper in the original position, perform steps 1 to 3 backward.



The lid panel is removed

Fig.a

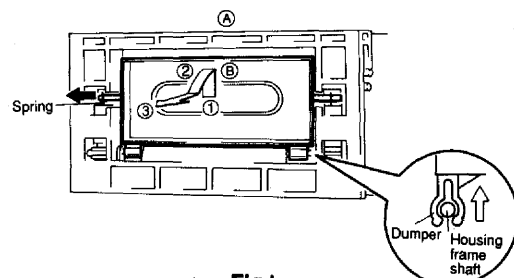
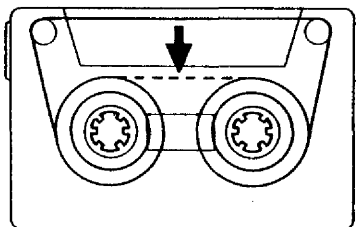


Fig.b

Step	Item to be Adjusted	Test tape	Instrument required	Mode	Adjustment part	Rating	Remarks
1	Check each torque		Torque meter TW2111A (Forward) TW2121A (Reverse)	PLAY		Take-up torque: 25 g·cm~70g·cm Back tension: 1.5g·cm~6g·cm	
			Torque meter CT160L	FF REW		Take-up torque: More than 70g·cm	
2	Check FF REW take up times	AC-224 C-60		FF REW		90 ±15 seconds	
3	Check tape movement		Mirror cassette (MC-109C)	PLAY		Tape should be advanced in the center of head smoothly.	
4	Wow/flutter	MTT-111N 3 kHz, -10 dB	Wow/flutter meter	PLAY		Less than 0.1% (JLS W. RMS)	
5	Tape speed (High speed)	TCW-211 1.5 kHz, -4 dB	Wow/flutter meter or Frequency counter	PLAY	Potentiometer on the Mechanism circuit board. (Fig. B) MVR 1	3000 Hz ±15 Hz (Point of Measurement: LINE OUT) * TEST MODE 2 (Refer to page 5)	* Perform adjustment at the position Where the test tape is advanced/rewound to the middle if possible.
6	Tape speed (Normal)	MTT-111N 3 kHz, -10 dB	Same as above		Same as above MVR2	3000 Hz ±15 Hz (Point of Measurement: LINE OUT)	
7	Azimuth	MTT-114N 10 kHz, -10 dB	ACVM Oscilloscope	PLAY	Azimuth adjustment screw. (Fig. A)	Adjust the Azimuth so that the outputs of both Lch and Rch are maximum and the difference in the phase is minimum.	After the adjustment make sure to apply screw lock paint.
8	Leader Tape Sensor	Leader Sensor Adjustment tape*	DCVM	PLAY	Potentiometer on the mechanism circuit board. MVR 3	Playback FWD and measure the test point of DC voltage. TP + ↔ TP- DC 3.5V $\begin{matrix} +0.3 \\ -0.5 \end{matrix}$ V	

* How to make a leader sensor adjustment tape.
Reposition the tape inside the cassette housing as shown.



Reposition the tape

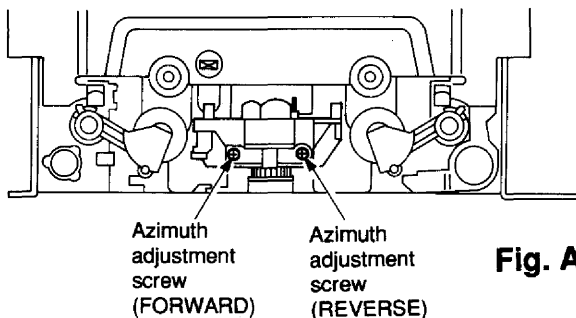


Fig. A

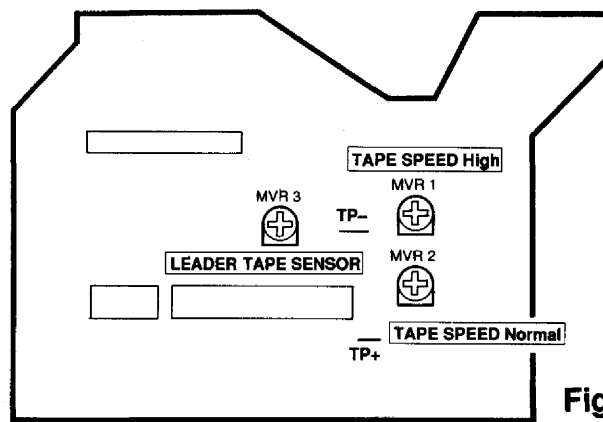


Fig. B

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● **ELECTRIC ADJUSTMENT**

* Standard level of this machine is that 250 nwb/m is 0 dB. (LINE OUT LEVEL: 570 mV).

● **PLAYBACK ADJUSTMENT**

Step	Adjustment Items	Test Tape	Instrument Required	Mode	Adjustment Terms Point	Measurement Point	Adjustment Method	Rating
1	Playback Level	MTT-212CN (160 nwb/m)	ACVM	PLAY	DECK 1 VR1 (Lch) VR2 (Rch)	LINE OUT	When MTT-212CN (MTT-212N) played back, adjust VR so that LINE OUT Terminal Voltage becomes the Specified Value.	360 mV ± 25 mV (Relay SW:OFF)
		MTT-212N (250 nwb/m)			DECK 2 VR19 (Lch) VR20 (Rch)			570 mV ± 39 mV (Relay SW:OFF)
2	Confirmation of Playback Frequency Response	MTT-256 (Normal: 3180 μs + 120 μs) MTT-356 (High: 3180 μs + 70 μs)	ACVM Oscilloscope	PLAY		LINE OUT	Make sure that level of LINE OUT is within the specification of Fig. C when Test Tape is played back.	0 dB ± 4 dB

● **PLAYBACK FREQUENCY RESPONSE**

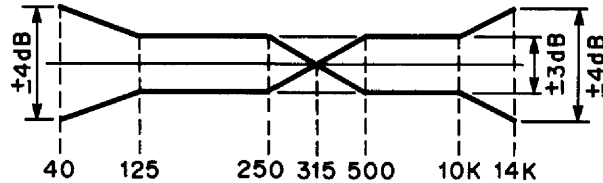
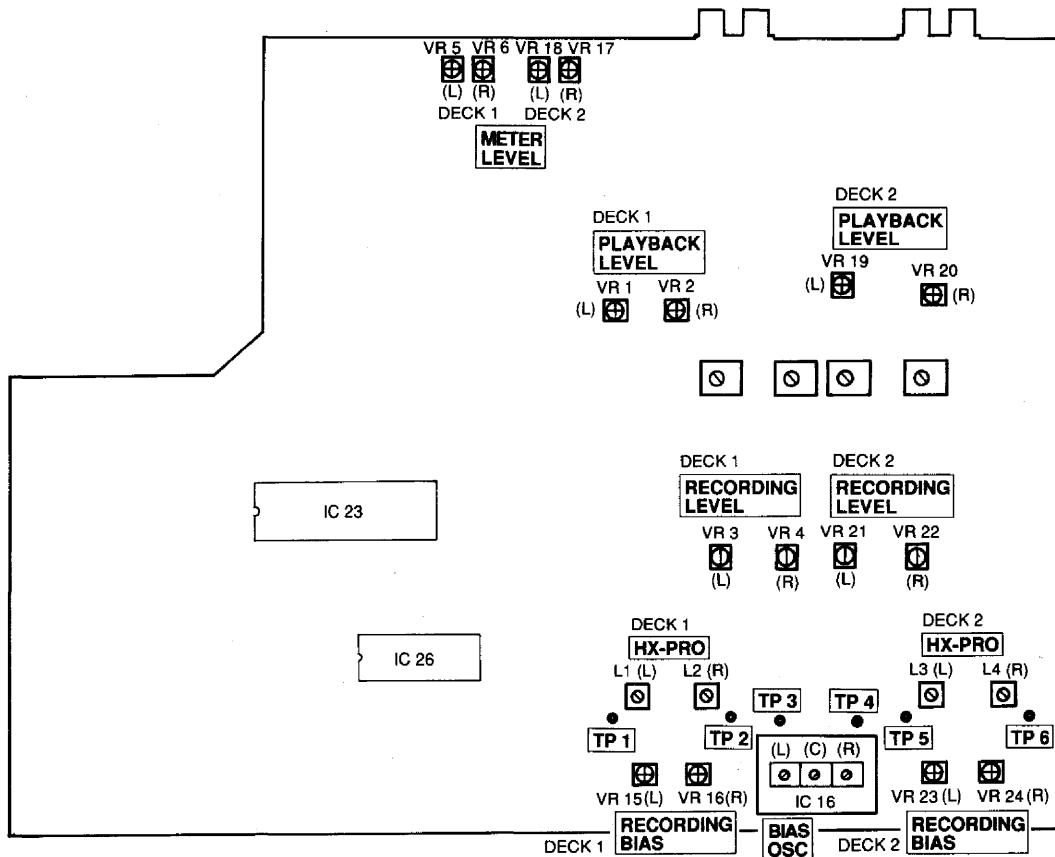


Fig. C

● **TEST POINT**



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● RECORDING ADJUSTMENT (BIAS ADJ. → VR Center, if not specified otherwise)
(REC BALANCE VR, PLAY TRIM VR → Center)

Step	Adjustment Items	Test Tape	Instrument Required	Mode	Adjustment Terms Point	Measurement Point	Adjustment Method	Rating
1	Meter Level (Adjust during REC mode in test mode 2 and 3.)	Normal (AC224)	ACVM Audio Frequency Oscillator	REC/ PAUSE PEAK HOLD OFF	1. Set REC LEVEL to maximum. 2. Input 315 Hz Signal to LINE INTERMINAL from Audio Frequency Oscillator. Adjust output level of Audio Frequency Oscillator so that the voltage of LINE OUT TERMINAL becomes 570 mV.	Peak Level Meter	Deck 1 VR 5 (Lch) VR 6 (Rch) Deck 2 VR 18 (Lch) VR 17 (Rch)	Adjust VR to the minimum level where 0dB segment of peak level meter lights up.
2	Bias Oscillation Level	METAL (AC712)	ACVM	REC PLAY		Deck 1 TP 3 ↔ GND	IC 16 (Center coil)	Connect ACVM between each TP-GND and adjust IC 16 to maximum
						Deck 2 TP 4 ↔ GND	IC 16 (Right coil)	
3	HX-PRO	METAL (AC712)	DCVM	REC PLAY		Deck 1 TP 1 ↔ GND TP 2 ↔ GND	L 1 (Lch) L 2 (Rch)	Connect DCVM between each TP-GND and adjust L 1~L 4 to minimum.
						Deck 2 TP 5 ↔ GND TP 6 ↔ GND	L 3 (Lch) L 4 (Rch)	
4	Recording Level	High (AC513 or SA60)	ACVM Audio Frequency Oscillator	REC PLAY and PLAY- BACK	1. Set BIAS VR to the center position. 2. Enter REC/PAUSE mode. 3. Input 315 Hz Signal to LINE INTERMINAL from Audio Frequency Oscillator. Adjust REC LEVEL knob so that voltage of LINE OUT TERMINAL becomes 360 mV (-4 dB). 4. Record the above-mentioned signal. 5. Adjust VR for specified output.	LINE OUT TERMINAL	Deck 1 VR 3 (Lch) VR 4 (Rch) Deck 2 VR 21 (Lch) VR 22 (Rch)	Adjust VR so that the voltage of LINE OUT TERMINAL becomes 360mV±25mV, when recorded signal is played back.
5	Recording Bias	High (AC513 or SA60)	ACVM Audio Frequency Oscillator	REC PLAY	1. Set REC LEVEL to maximum. 2. Enter REC/PAUSE mode. 3. Input several frequency signals to LINE INTERMINAL from Audio Frequency Oscillator. Adjust the level of LINE OUT TERMINAL so that the voltage becomes 36 mV (-24 dB). 4. Record the above-mentioned signal. 5. Adjust the bias so that LINE OUTPUT in each frequency becomes 36mV. Confirm that the value satisfies Fig. D in each test tape.	LINE OUT TERMINAL	Deck 1 VR 15 (Lch) VR 16 (Rch)	Several frequency signals High 15 :kHz Normal : 14kHz METAL : 16 KHz
	Confirmation of Recording Bias	Normal (AC224) and METAL (AC712)	Deck 2 VR 23 (Lch) VR 24 (Rch)					

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NOTES:

- Re-adjust the recording level and the recording bias if the level is over/below the standard value after recording bias is adjusted and recording level is checked again.
- The recording level and the recording bias can be adjusted simultaneously by setting the recording level adjustment signal to 36 mV (-24 dB) and combine it with the recording bias adjustment signal. (Adjusted by separating two signals with the filter.)
- Do not adjust the leader tape sensor during the quick reverse mode.
- Make all the adjustments on the forward side unless otherwise instructed.

● **TOTAL FREQUENCY RESPONSE**

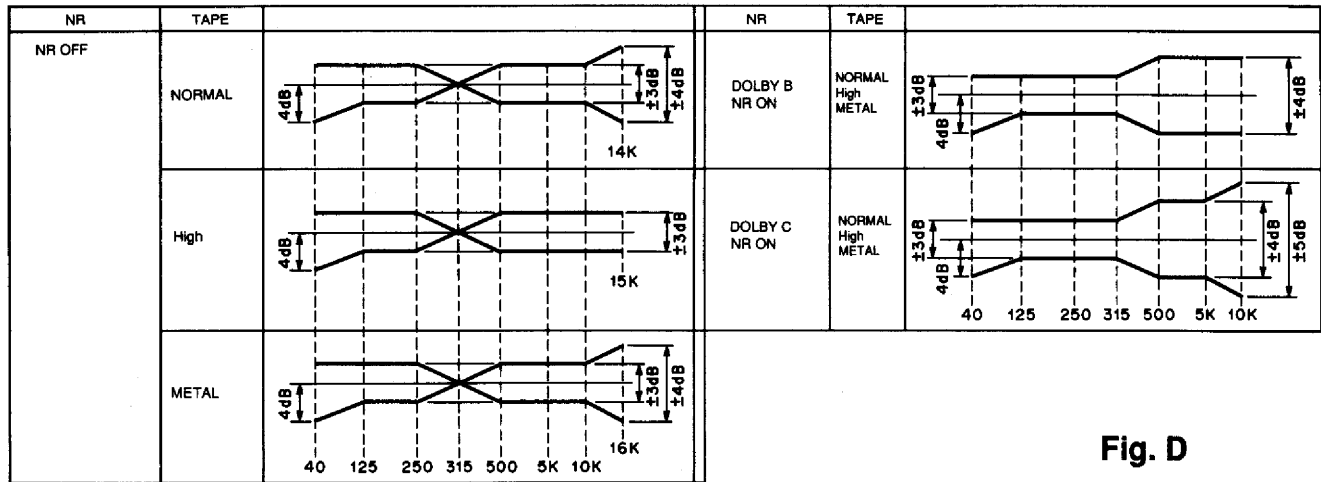


Fig. D

● **DUBBING FREQUENCY RESPONSE**

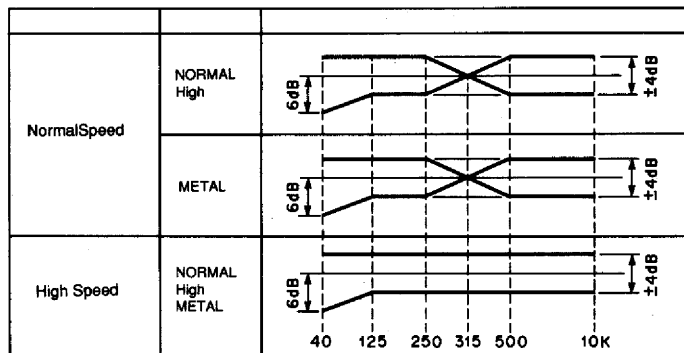
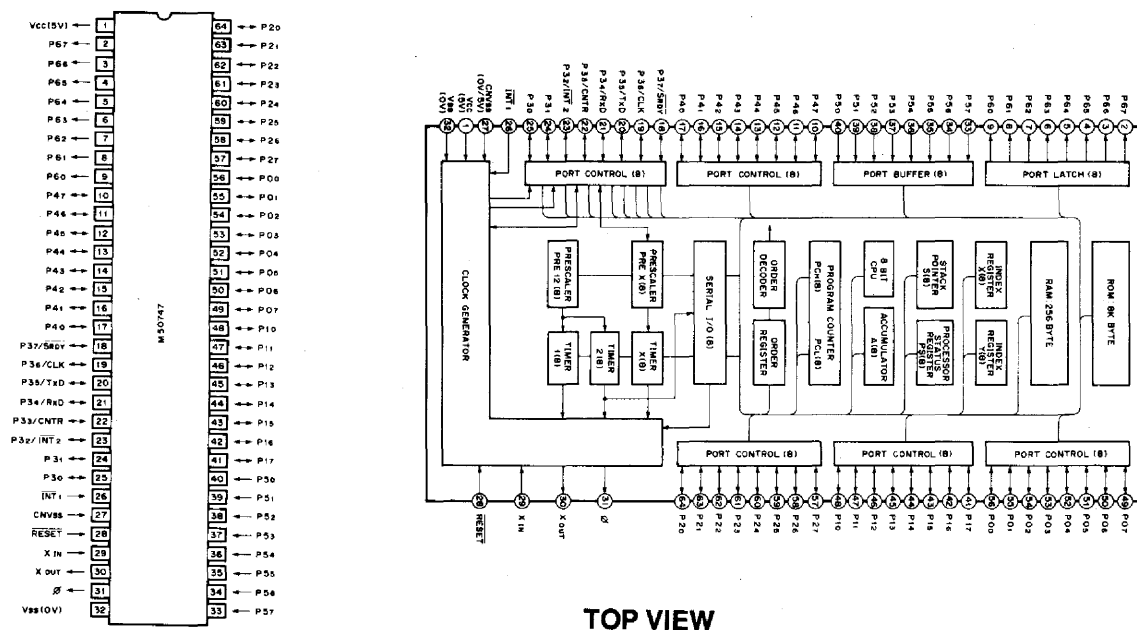


Fig. E

■ μ-COM DATA (IC23: M50747)



TOP VIEW

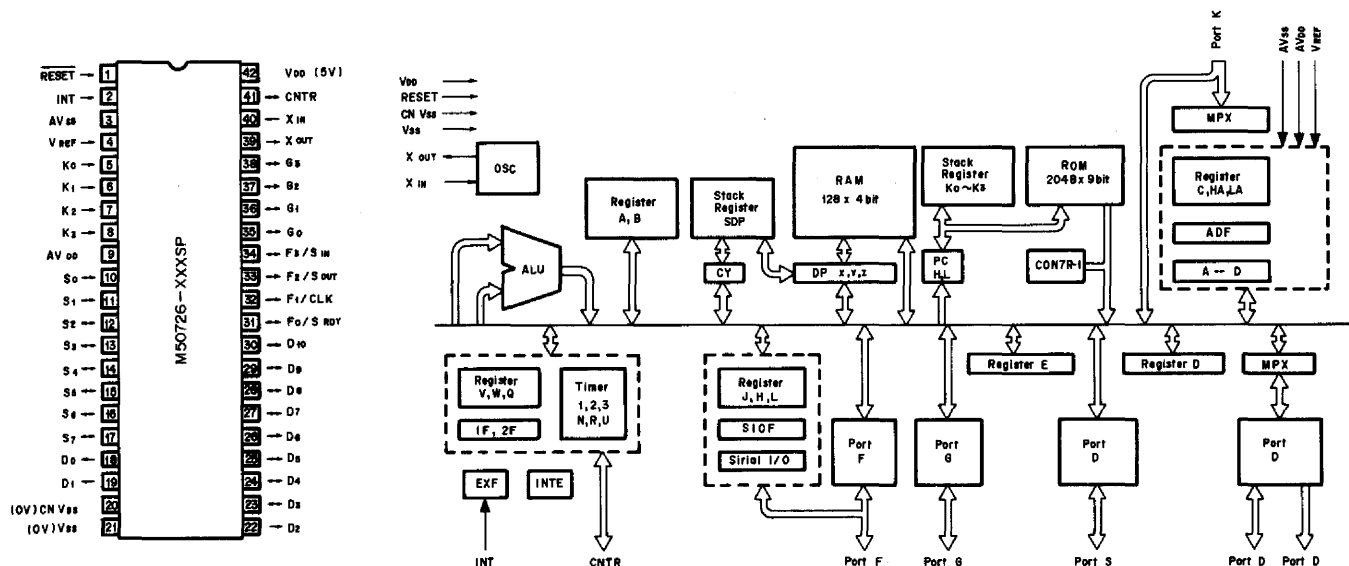
● μCOM PORT (M50747)

No.	Terminal	Function	Remark	
1	V _{cc}	+5 V		
2	P67	Solenoid	Deck 2 H: ON	
3	P66	Solenoid retain		H: ON
4	P65	REEL 1		H: F
5	P64	REEL 2		H: R
6	P63	Capstan		H: ON
7	P62	SPEED		H: Normal
8	P61	Standby indication		
9	P60	POWCT 2 (Power Control)	H: OFF	
10	P47	Solenoid	Deck 1 H: ON	
11	P46	Solenoid retain		H: ON
12	P45	REEL 1		H: F
13	P44	REEL 2		H: R
14	P43	Capstan		H: ON
15	P42	SPEED		H: Normal
16	P41	Sub-μCOM reset output		
17	P40	COM WRQ	H: OFF	
18	P37	COM Srdy		
19	P36	COM CLK		
20	P35	LCD DATA OUT		
21	P34	COM DATA IN		
22	P33	LCD CLK		
23	P32	LCD CE 1		
24	P31	LCD CE 2		
25	P30	POWER OFF	L: POFF	
26	/INT1	BACK UP RETURN		
27	CNV _{ss}	GND		
28	/RES	RESET		
29	X _{IN}	8 MHz		
30	X _{OUT}	8 MHz		
31	Φ	OPEN		
32	V _{ss}	GND		

No.	Terminal	Function	Remark	
64	P20	Amplifier control	Deck 1 H: PB H: POFF	
63	P21	Bias ON/OFF		H: ON
62	P22	REC MUTE		L: ON
61	P23	LINE MUTE		H: OFF
60	P24	Dolby (OFF: B: C)		H: L H: POFF
59	P25	Dolby (OFF: B: C)		H: L H: POFF
58	P26	70 μ		H: OFF H: POFF
57	P27	GND		
56	P00	Amplifier control	Deck 2 H: PB H: POFF	
55	P01	Bias ON/OFF		H: ON
54	P02	REC MUTE		L: ON
53	P03	LINE MUTE		H: OFF
52	P04	Dolby (OFF: B: C)		H: L H: POFF
51	P05	Dolby (OFF: B: C)		H: L H: POFF
50	P06	70 μ		H: OFF H: POFF
49	P07	Normal speed + 70 μ	H: OFF	
48	P10	Double speed + 70 μ	H: OFF	
47	P11	Double speed dubbing	H: Double speed	
46	P12	Output switch	H: Independent	
45	P13	Dubbing switch	H: Dubbing	
44	P14	Input switch	H: IN 2	
43	P15	Dubbing VR pass	L: Pass	
42	P16	HP switch	H: 1	
41	P17	HP MUTE	H: OFF	
40	P50	Timer PLAY (OFF: PLAY: REC)	H: L: H	
39	P51	Timer REC (OFF: PLAY: REC)	H: L: H	
38	P52	G model detection	L: G	
37	P53	Power pulse		
36	P54	Reel base pulse T	Deck 1	
35	P55	Reel base pulse S		
34	P56	Reel base pulse T	Deck 2	
33	P57	Reel base pulse S		

* POFF : POWER OFF

● SUB-μCOM DATA (M50726) : IC26



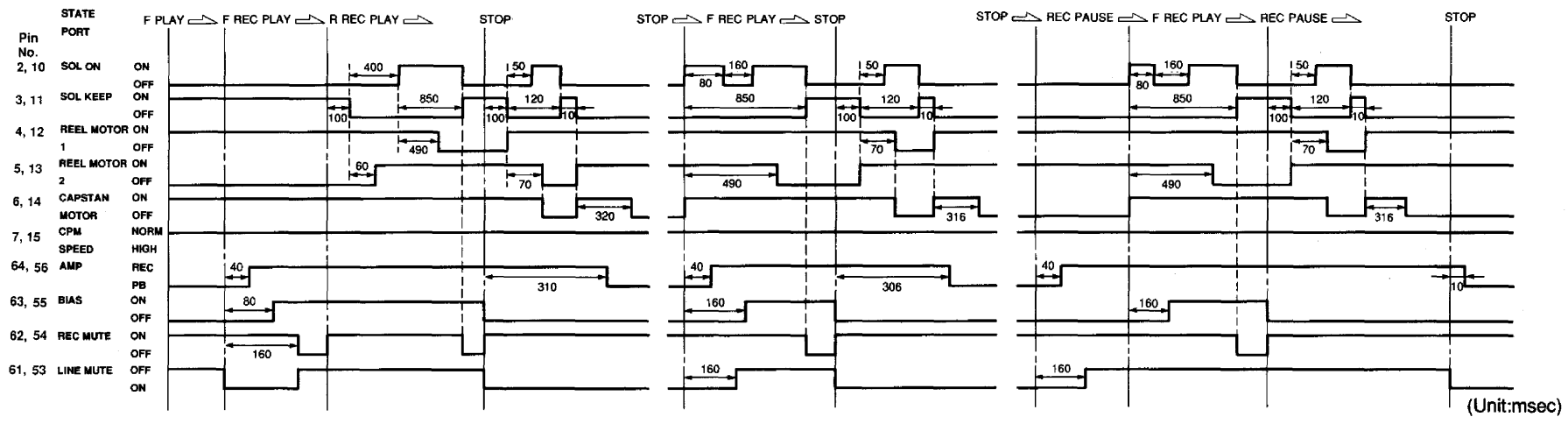
Pin No.	Pin Name	Function	Remark
1	RESET	μCOM reset	
2	INT	Data transmission demand (main μCOM)	
3	AVSS	A/D • Gnd	
4	VREF	A/D standard voltage • 5 V	
5	K0	Key 1/key 2	
6	K1	Key 3/key 4	
7	K2	METER DECK 1 L/R	
8	K3	METER DECK 2 L/R	
9	AVDD	A/D POWER • 5 V	
10	S0	DECK 1 • Cassette Half detection	
11	S1	DECK 1 • 70 μ hole	
12	S2	DECK 1 • Metal hole	
13	S3	DECK 1 • Erasure protection (F)	
14	S4	DECK 2 • Cassette Half detection	
15	S5	DECK 2 • 70 μ hole	
16	S6	DECK 2 • Metal hole	
17	S7	DECK 2 • Erasure protection (F)	
18	D0	A/D port input switch signal	
19	D1		
20	CNVSS	GND	
21	VSS	GND	

Pin No.	Pin Name	Function	Remark
22	D2	DECK 1 • METAL	
23	D3	DECK 2 • METAL	
24	D4	DECK 1 • HIGH (CrO ₂)	
25	D5	DECK 1 • NORMAL	
26	D6	DECK 2 • HIGH (CrO ₂)	
27	D7	DECK 2 • NORMAL	
28	D8	Pulse for tune selection (deck 2)	
29	D9	Pulse for tune selection (deck 1)	
30	D10	Wireless remote control • Pulse input	
31	F0	Data reception OK (main μCOM)	
32	CLK	Serial transmission clock	500 KHz
33	SOUT	Data output to main μCOM	
34	SIN	Not used	
35	G0	DECK 2 • Leader tape sensor	
36	G1	DECK 2 • Erasure protection (R)	
37	G2	DECK 1 • Leader tape sensor	
38	G3	DECK 1 • Erasure protection (R)	
39	XOUT	4 MHz	
40	XIN	4 MHz	
41	CNTR	Power ON/OFF	
42	VDD	μCOM power • 5 V (basck-up unnecessary)	

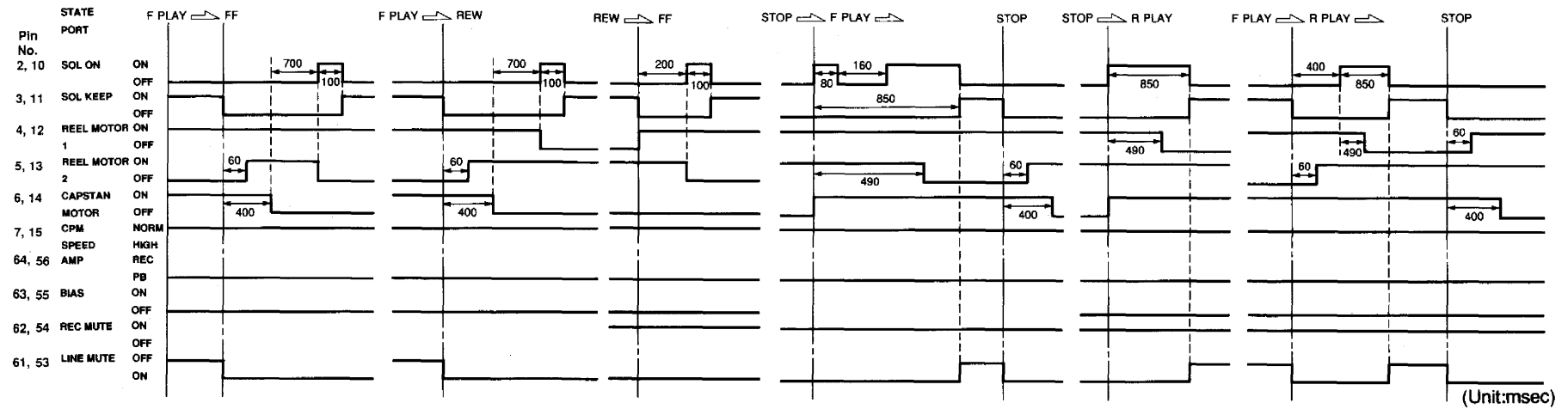
● A/D INPUT

No	Name	< 0.275	< 0.825	< 1.375	< 1.925	< 2.475	< 3.025	< 3.575	< 4.125
5	KEY 1	STOP 1	PLAY 1	REW 1	FF 1	DIR 1	RESET 1	REMAIN 1	TAPE 1
	KEY 2	POWER	NR 1	DUB. START	REC 1	MUTE 1	REV. MODE	DUB. MODE	DUB. SPEED
6	KEY 3	STOP	PLAY 2	REW 2	FF 2	DIR 2	RESET 2	REMAIN 2	TAPE 2
	KEY 4	NR 2	DUAL REC	DECK 2 IN	REC 2	MUTE 2	SKIP	RELAY	PHONES 1/2

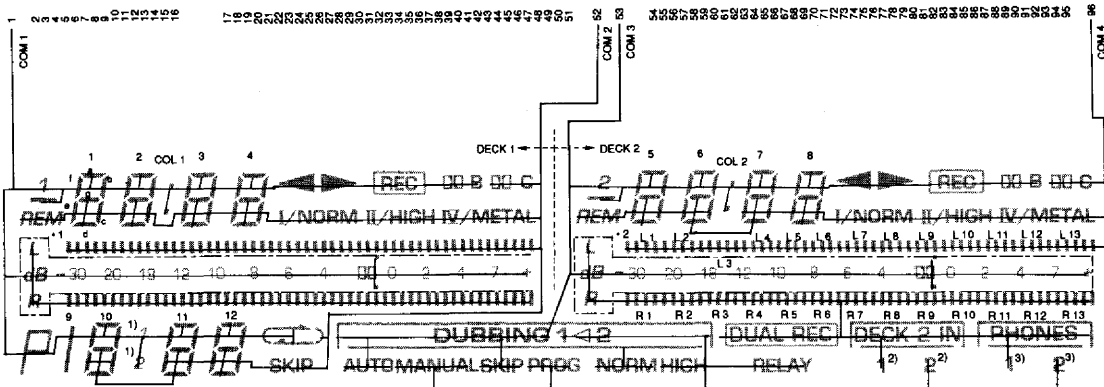
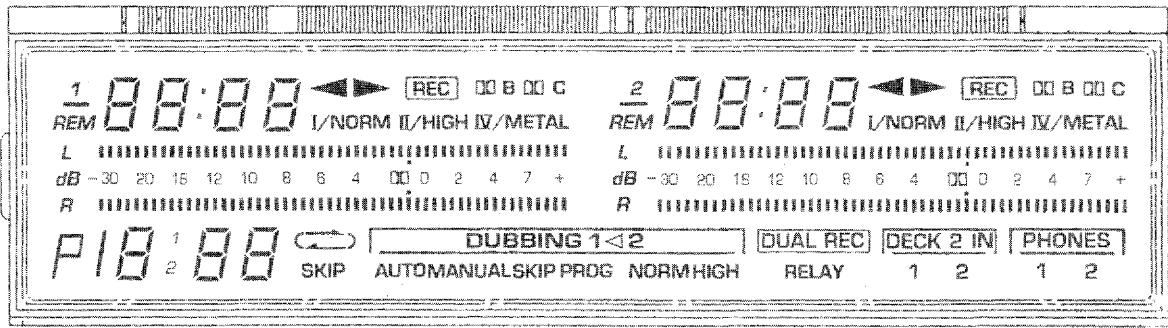
F PLAY → F REC PLAY → R REC PLAY → STOP, STOP → F REC PLAY → STOP, STOP → REC PAUSE → F REC PLAY → REC PAUSE → STOP



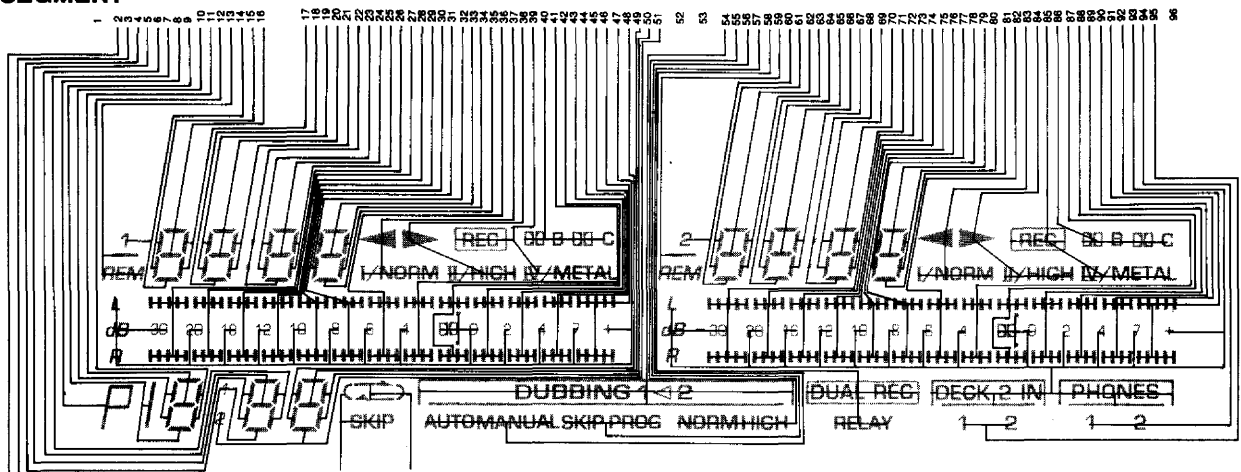
F PLAY → FF, F PLAY → REW, REW → FF, STOP → F PLAY → STOP, STOP → R PLAY, F PLAY → R PLAY → STOP



DISPLAY PIN CONNECTIONS



- COMMON
- SEGMENT



DECK 1 side

NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
COM1	COM	←	(1	11f	11a	11b	P	9bc	10f	10a	10b	—	1	1f	1a	1b	—	2f
COM2	—)	SKIP	11d	11e	11g	11c	—	10d	10e	10g	10c	REM	1d	1e	1g	1c	2d	2e

NO	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
COM1	2a	2b	COL	3f	3a	3b	R1	R2	R3	R4	R5	R6	4f	4a	4b	—	R7	△	▷
COM2	2g	2c	3d	3e	3g	3c	L1	LC	L3	L4	L5	L6	4e	4g	4c	4d	L7	I/NORMAL	II/HIGH

NO	39	40	41	42	43	44	45	46	47	48	49	50	51	52
COM1	REC	□ B	R8	R9	R10	R11	R12	R13	1	12f	12a	12b	2	—
COM2	I/METAL	□ C	L8	L9	L10	L11	L12	L13	—	12e	12g	12c	12d	COM

DECK 2 side

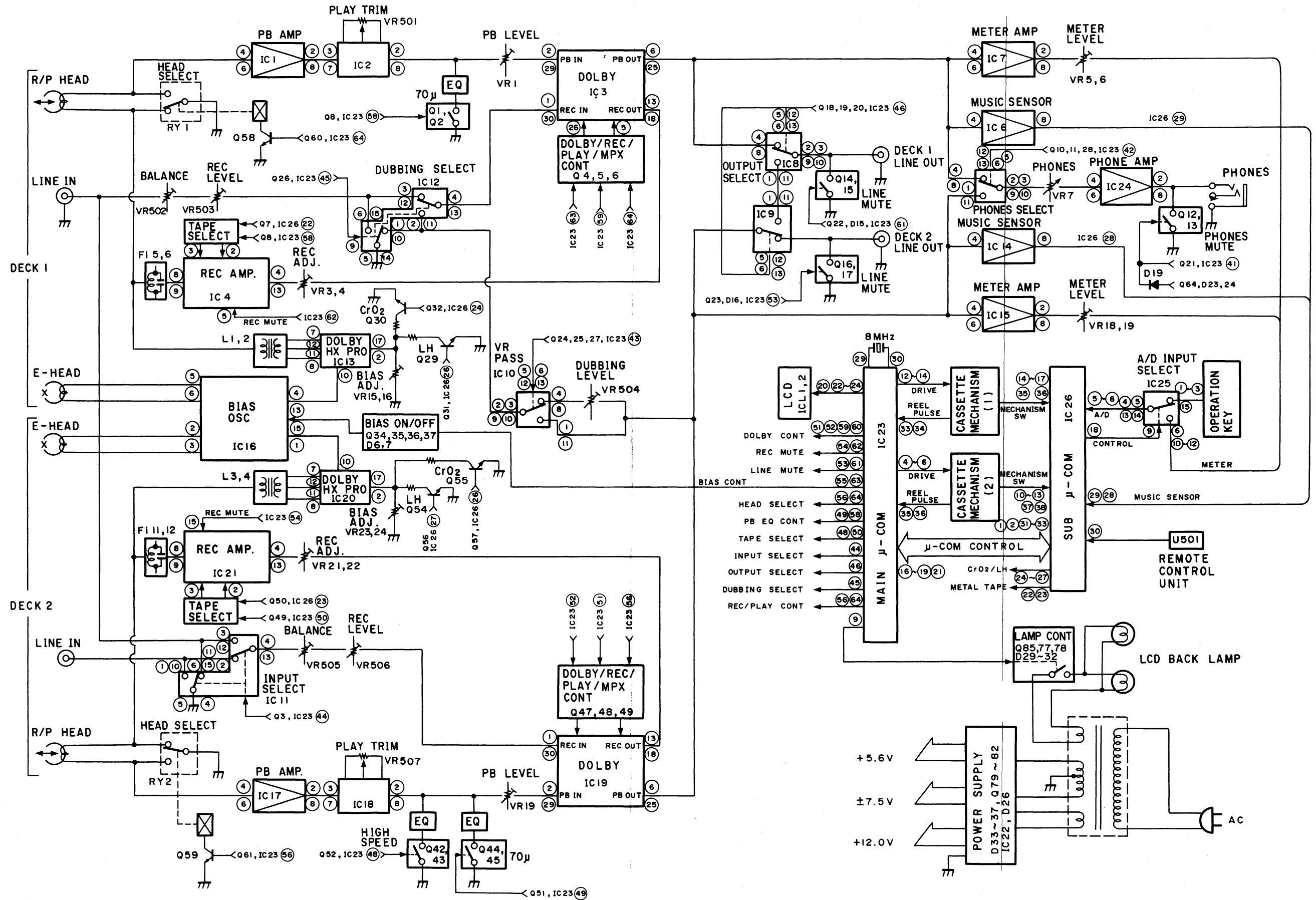
NO	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
COM3	COM	DUBBING	NORM	SKIP	AUTO	D.REC	—	2	5f	5a	5b	—	6f	6a	6b	COL	7f	7a	7b
COM4	—	1<2	HIGH	PROG	MANUAL	RELAY	REM	5d	5e	5g	5c	6d	6e	6g	6c	7d	7e	7g	7c

NO	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
COM3	R1	R2	R3	R4	R5	R6	8f	8a	8b	—	R7	△	▷	REC	□ B	R8	R9	R10	R11
COM4	L1	L2	L3	L4	L5	L6	8e	8g	8c	8d	L7	I/NORMAL	II/HIGH	I/METAL	□ C	L8	L9	L10	L11

NO	91	92	93	94	95	96
COM3	R12	R13	2	1 ³⁾	1	—
COM4	L12	L13	—	2 ³⁾	2	COM

KX-W952

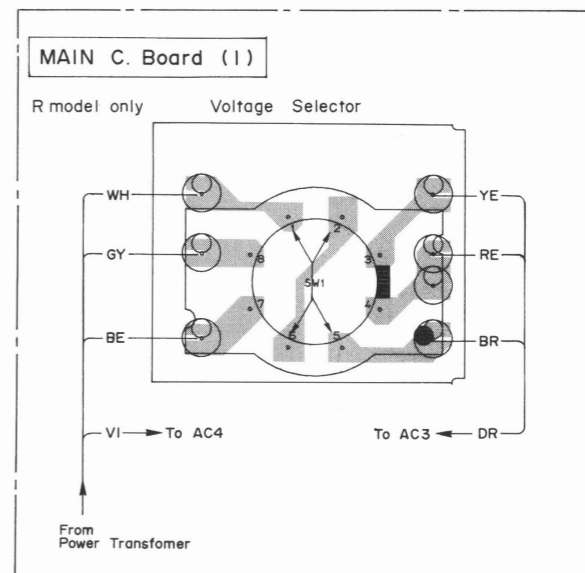
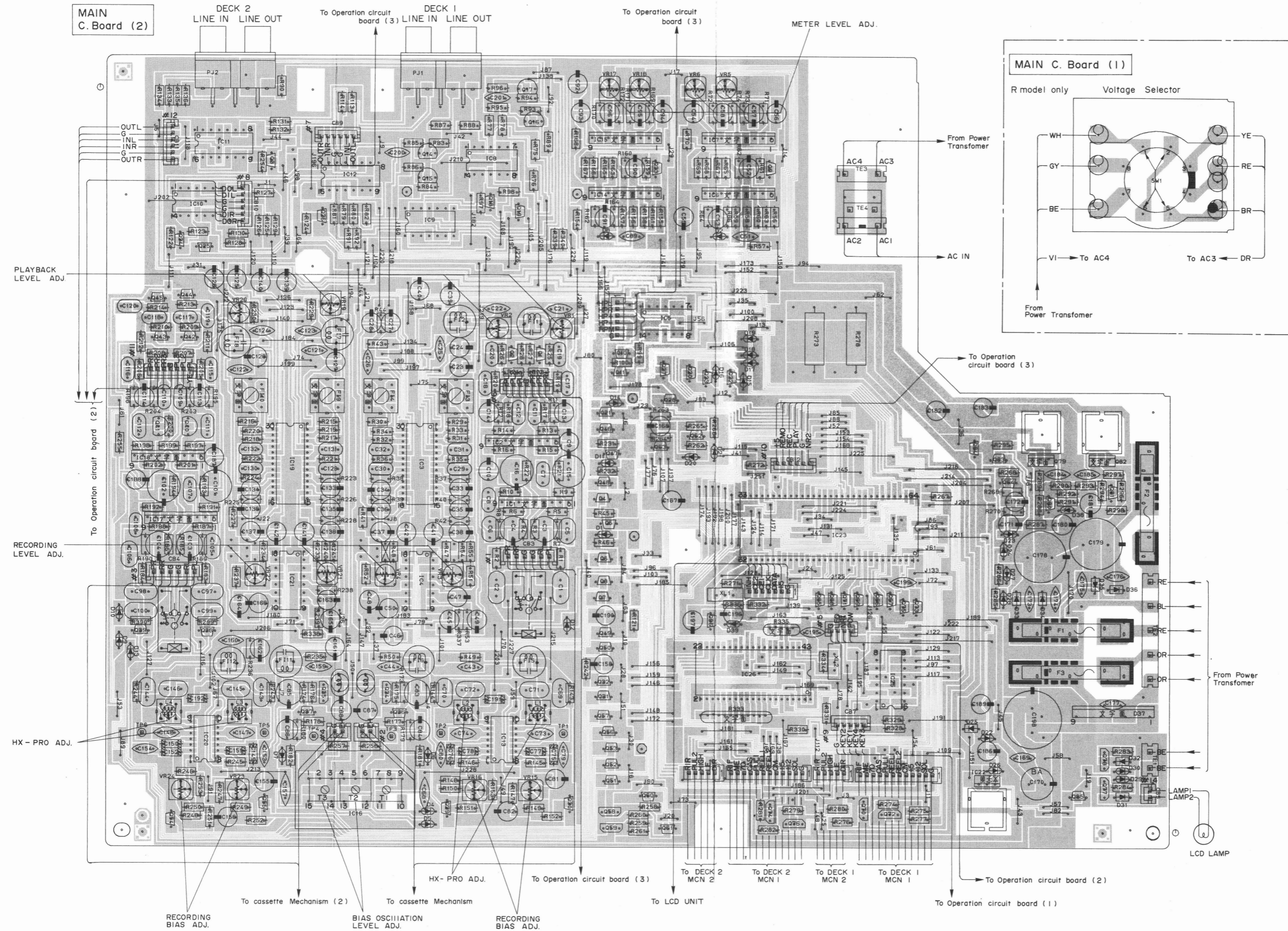
■ BLOCK DIAGRAM



PRINTED CIRCUIT BOARD

● Semiconductors Location

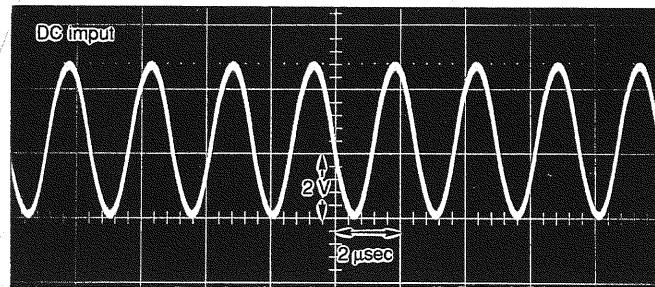
Ref. No	Location	Ref. No	Location
IC 1	D 4	Q 60	D 5
IC 2	D 4	Q 61	E 6
IC 3	C 4	Q 62	E 4
IC 4	C 5	Q 63	E 4
IC 5	E 3	Q 64	G 4
IC 6	E 2	Q 65	F 5
IC 7	E 2	Q 66	F 5
IC 8	C 2	Q 67	F 5
IC 9	C 2	Q 68	F 5
IC 10	A 2	Q 69	F 5
IC 11	B 2	Q 70	F 6
IC 12	B 2	Q 71	F 5
IC 13	C 6	Q 72	F 6
IC 14	D 2	Q 73	F 5
IC 15	D 2	Q 74	E 6
IC 16	B 6	Q 75	F 6
IC 17	A 4	Q 76	E 6
IC 18	A 4	Q 77	H 6
IC 19	B 4	Q 78	H 6
IC 20	A 6	Q 79	G 4
IC 21	B 5	Q 80	G 4
IC 22	G 6	Q 81	H 4
IC 23	F 4	Q 82	H 4
IC 25	F 5	Q 83	G 4
IC 26	E 5	Q 84	G 4
		Q 85	G 6
Q 1	D 3	D 1	D 4
Q 3	B 2	D 2	E 2
Q 4	D 4	D 4	C 6
Q 5	D 4	D 5	C 6
Q 6	D 5	D 6	C 6
Q 7	D 5	D 7	B 6
Q 8	D 5	D 8	D 2
Q 9	E 2	D 9	A 5
Q 10	D 3	D 10	A 5
Q 11	D 3	D 11	D 4
Q 14	C 2	D 12	D 5
Q 15	C 2	D 13	A 5
Q 16	D 2	D 14	D 4
Q 17	D 1	D 15	E 3
Q 18	C 2	D 16	E 3
Q 19	D 2	D 17	E 3
Q 20	E 3	D 18	E 3
Q 21	D 4	D 19	E 3
Q 22	E 3	D 20	E 4
Q 23	E 3	D 21	E 4
Q 24	A 2	D 22	G 6
Q 25	A 3	D 23	G 4
Q 26	B 2	D 24	G 4
Q 27	E 3	D 25	G 6
Q 28	E 3	D 26	G 6
Q 29	C 6	D 27	G 5
Q 30	D 6	D 28	G 5
Q 31	D 5	D 29	H 6
Q 32	D 5	D 30	H 6
Q 33	E 2	D 31	H 6
Q 34	C 5	D 32	H 6
Q 35	B 5	D 33	G 5
Q 36	C 6	D 34	G 5
Q 37	B 6	D 35	G 5
Q 38	B 5	D 36	H 5
Q 39	A 5	D 37	H 6
Q 40	A 4	D 38	G 4
Q 41	A 4	D 39	E 5
Q 42	A 3		
Q 43	A 3	VR 1	D 3
Q 44	A 3	VR 2	C 3
Q 45	A 3	VR 3	C 5
Q 46	D 4	VR 4	C 5
Q 47	D 4	VR 5	E 1
Q 48	D 4	VR 6	E 1
Q 49	D 5	VR 15	D 6
Q 50	D 5	VR 16	C 6
Q 51	D 6	VR 17	D 1
Q 52	D 6	VR 18	D 1
Q 53	D 6	VR 19	B 3
Q 54	A 6	VR 20	B 3
Q 55	B 6	VR 21	B 5
Q 56	D 6	VR 22	B 5
Q 57	D 6	VR 23	B 6
Q 58	D 6	VR 24	A 6
Q 59	D 6		



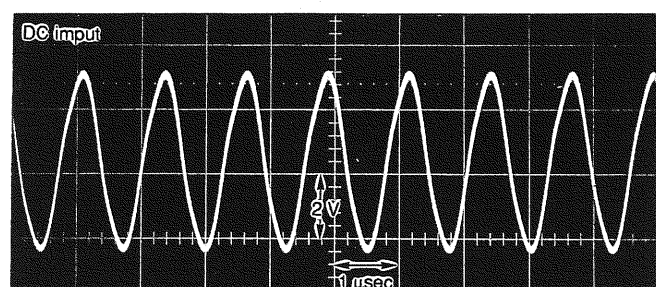
SCHEMATIC DIAGRAM

A to C: Waveform of test point.

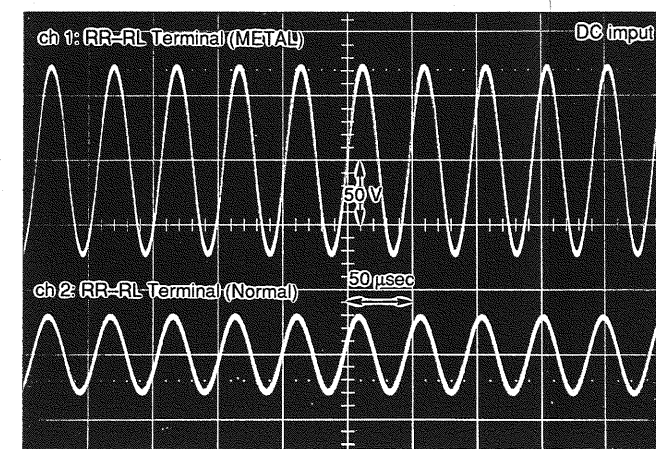
IC26 @ pin



IC23 @ pin



REC/PB HEAD (Recording bias signal)



REMARKS	PARTS NAME	CAPACITOR	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/4W)	NO MARK	ELECTROLYTIC CAPACITOR
CO	CARBON FILM RESISTOR (1/4W)	NO MARK	TANTALUM CAPACITOR
A	METAL FILM RESISTOR	NO MARK	CERAMIC CAPACITOR
AX	AXIAL LEAD CERAMIC CAPACITOR	NO MARK	POLYESTER FILM CAPACITOR
AL	METAL LEAD CERAMIC CAPACITOR	NO MARK	POLYSTYRENE FILM CAPACITOR
AF	FIRE PROOF CARBON FILM RESISTOR	NO MARK	MICA CAPACITOR
CF	CERMET WOUND RESISTOR	NO MARK	POLYPROPYLENE FILM CAPACITOR
SV	SEMI VARIABLE RESISTOR	NO MARK	SEMICONDUCTIVE CERAMIC CAPACITOR
CR	CHIP RESISTOR	NO MARK	

NOTICE
 (J)..... Japanese model
 (U)..... U.S.A. model
 (C)..... Canadian model
 (A)..... Australian model
 (S)..... European model
 (B)..... British model
 (R)..... General model
 (P)..... RP model

Interchangeable Parts at Manufacture Stage

Mark	Reference Number	Parts Name
F1	000-04-01	2S4933S (R)
F2	034-35-70-73-74-75	2S41309A (R, S)
F3	036-37-63-60-63	2S41401R (S)
F4	008-59-77-79	2S41401R (S)
F5	012-17	2S41401R (S)
F6	04-9-10-18-20-24-27-28	DT114ES
F7	01-7-9-11-19-20-26	DT114ES
F8	05-30-32-38-39-40-42	UM4111
F9	04-5-05-08-71-73-75	DT114ES
F4		UM4111

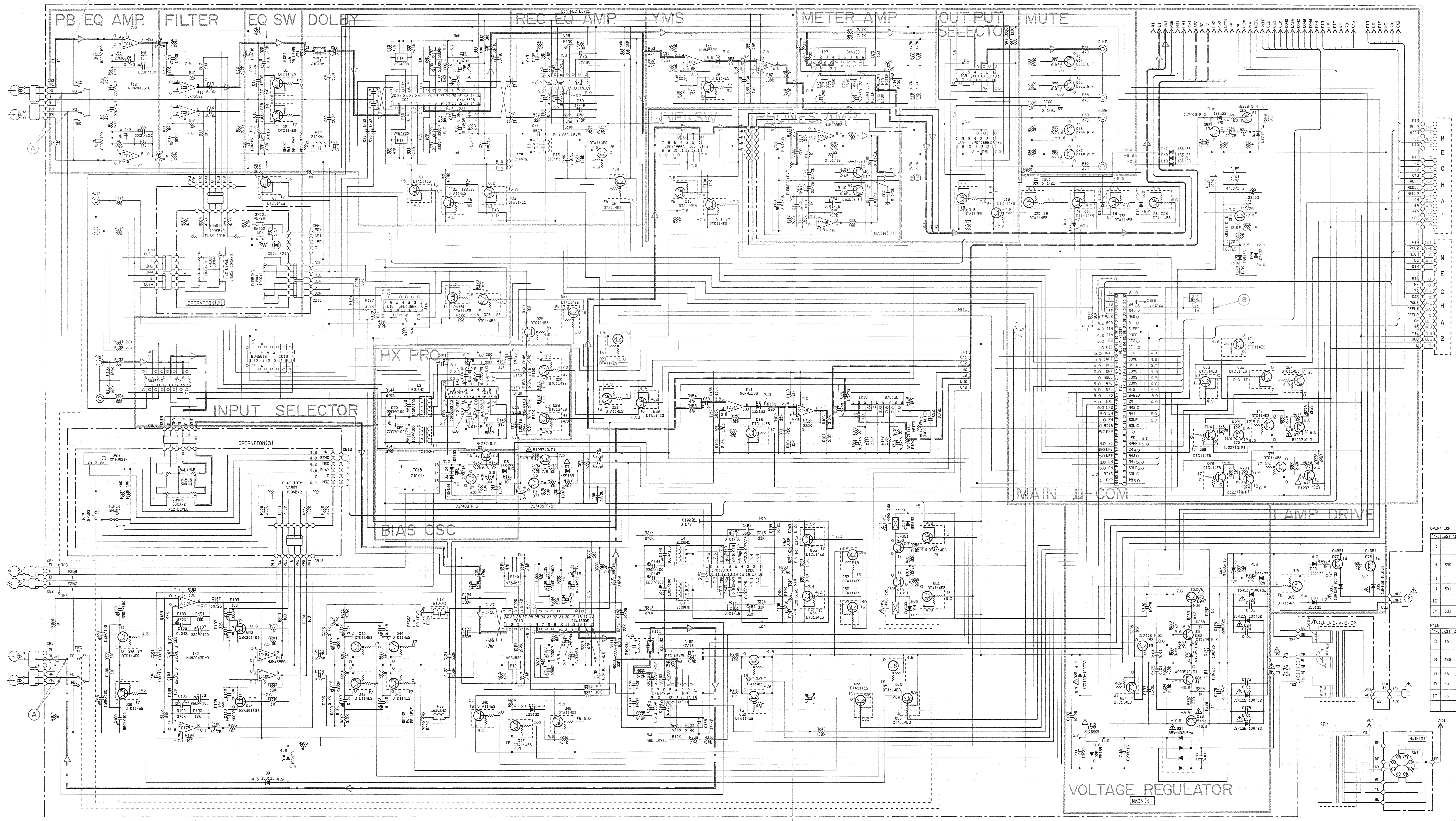
Interchangeable Parts at Manufacture Stage

Mark	Reference Number	Parts Name
F11	022-6-14-18	AN6557
F12	021-17	NJM4558S-D
F13	020	AN78M05
F14	025-8-10	PC4066BC
F15	023	M50726
F16		M50727

	J	U.C.	R	A.S.	0
1 F3	0.04700V	0.04700V	0.04700V	0.04700V	
2 F1, 2	0.75A250V	0.75A250V	0.75A250V	0.75A250V	
3 F4	VE2070	LA00214	VE2070		
4	WPC	OPEN			SHORT

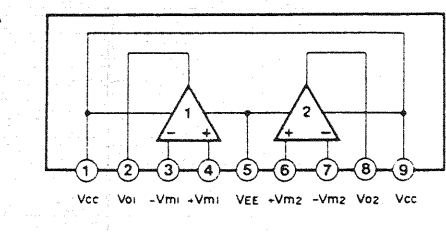
	J-U.C.R.A.S.	0
1	OPEN	SLP-34VCH3
2	OPEN	800

— PB SIGNAL
 - - - CONTROL SIGNAL
 ····· REC SIGNAL

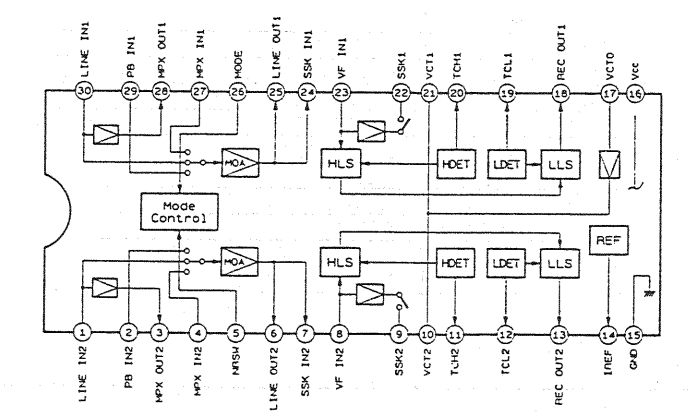


IC BLOCK

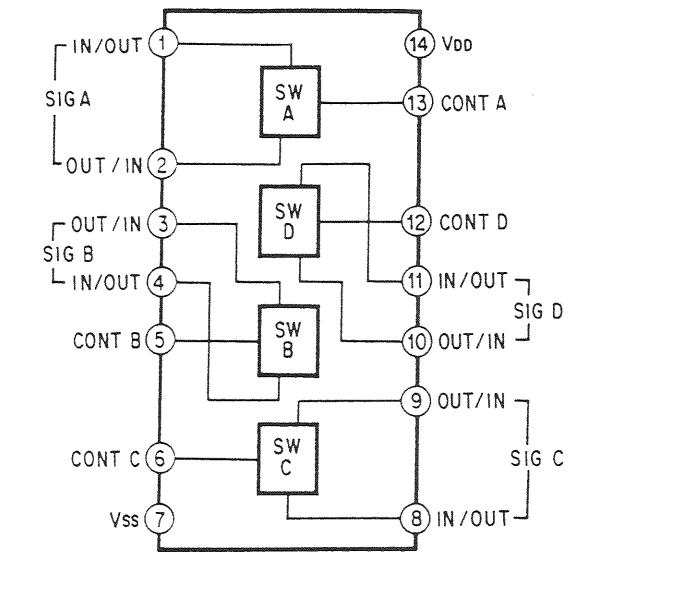
IC1, 17: NJM2043S-D, AN6557F
 IC2, 6, 14, 18: AN6551, NJM4558S, BA715
 IC24: NJM4556S-A
 (Dual Op-amp.)



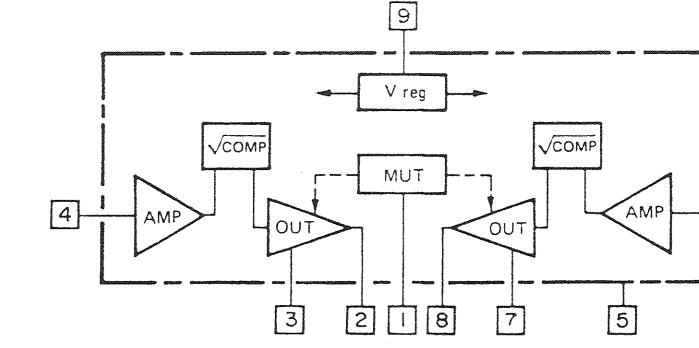
IC3, 19: CXA1330S
 (Dolby NR)



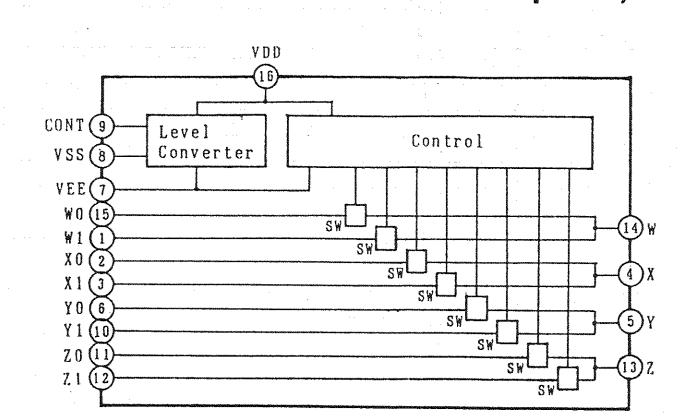
IC5, 8-10: μPD4066BC, LC4066B, M4066BP, MN4066B, BU4066B
 (Analog Switch)



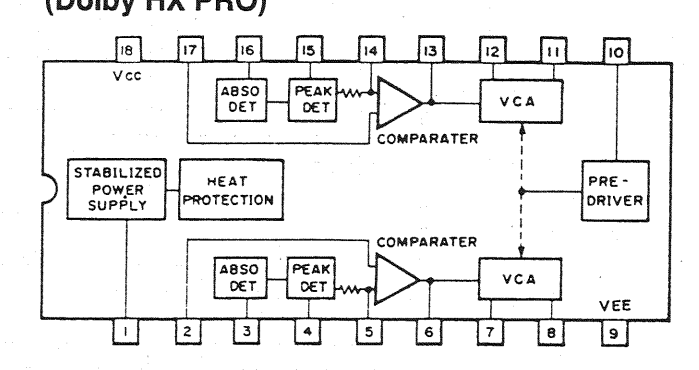
IC7, 15: BA6138
 (1/2W Power of Compressor Amp.)



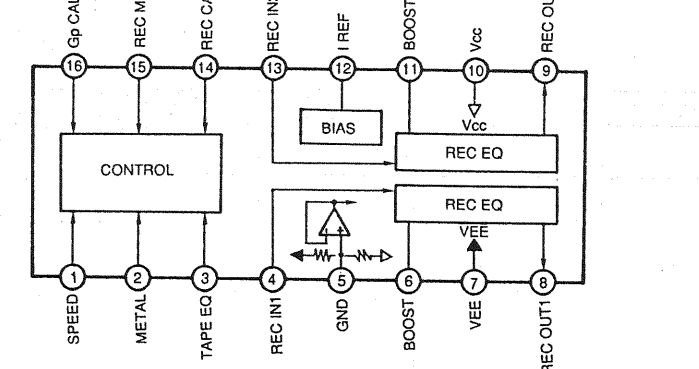
IC11, 12: BU4551B
 (Quad 2-Input Analog Multiplexer/Demultiplexer)



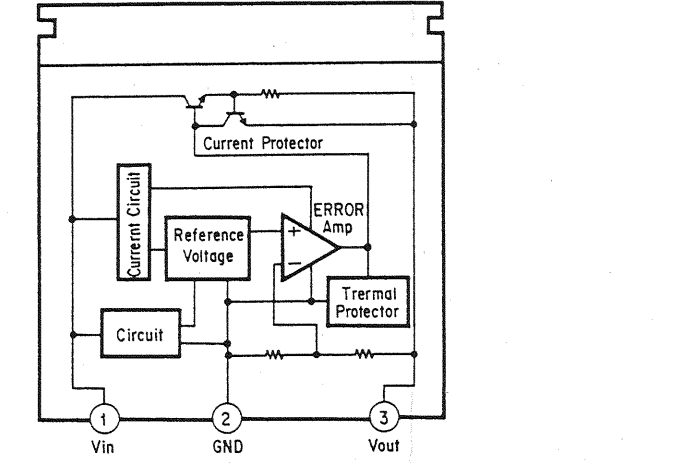
IC13, 20: μPC1297CA
 (Dolby HX PRO)



IC4, 21: CXA1495P
 (REC EQ Amp.)

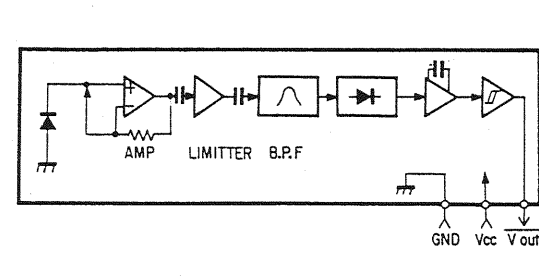


IC22: AN78M05, NJM78M05A
 (Voltage Regulator)

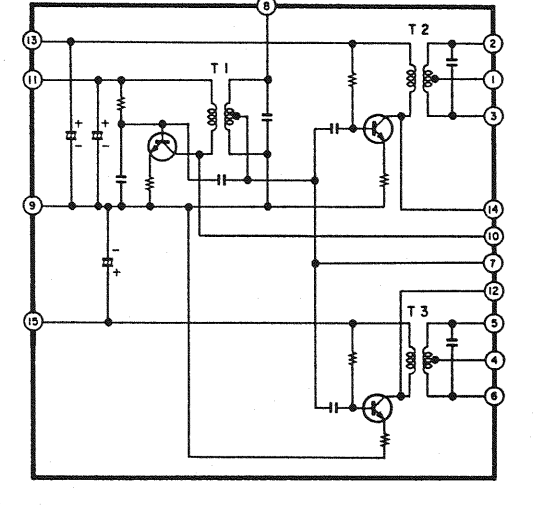


CAUTION
 • Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
 • All voltages are measured with a 10MΩ/V DC electric volt meter.
 • Schematic diagram is subject to change without notice.
 • The voltage are measured by manual (Deck 1 → REC, Deck 2 → PLAY) mode at dubbing.

U501: GP1U501X
 (Remote Control Receptor)



IC16: VK705000
 (Bias OSC Block)



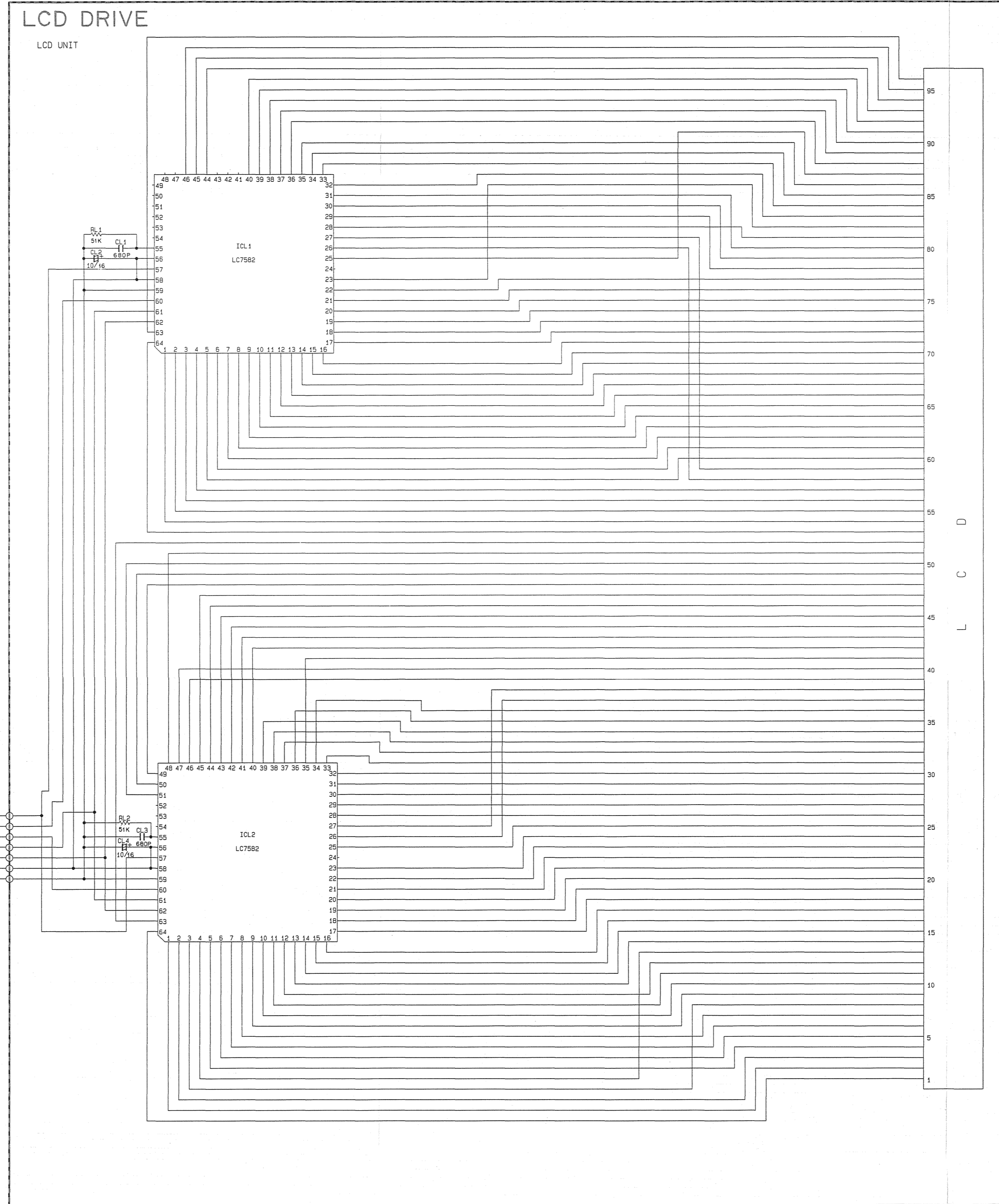
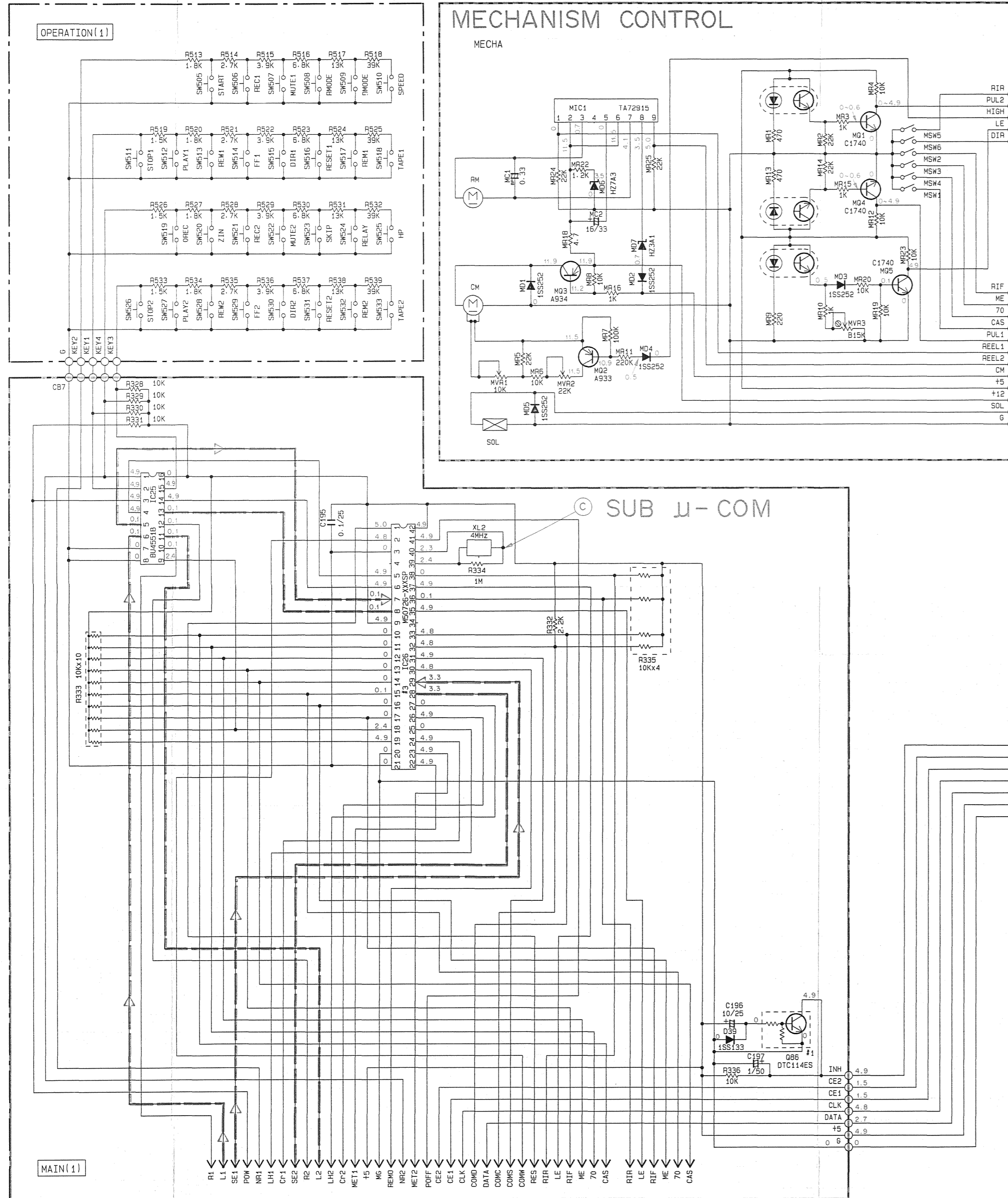
2S4934	2S4935	DTA114ES	2S8786	2SK301	2S41974	RBV-402LF-A	NJM78M05A	AN6551	μPD4066BC	CXA1495P	μPC1297CA	CXA1330S	M50726	M50727	M50747	LC7582
2SD1055	2S4111S	UM4111	2SD947		2S41237		AN78M05	NJM4558S	LC4066B	BU4551B						
2SD1302	2S41309A	DTC114ES			2S41401R			BA715	M4066BP							
2SD1488	2S41408	UM4211			2S41401R (S)			AN6557F	MN4066B							
	2SC2029	2SC3311A			2S41401R (S)			BA6138	BU4066B							

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
□	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
⊡	FIRE PROOF CARBON FILM RESISTOR
⊞	CEMENT MOUNTED RESISTOR
⊚	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

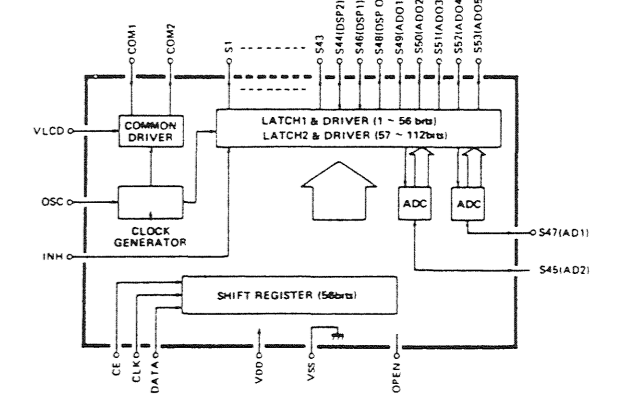
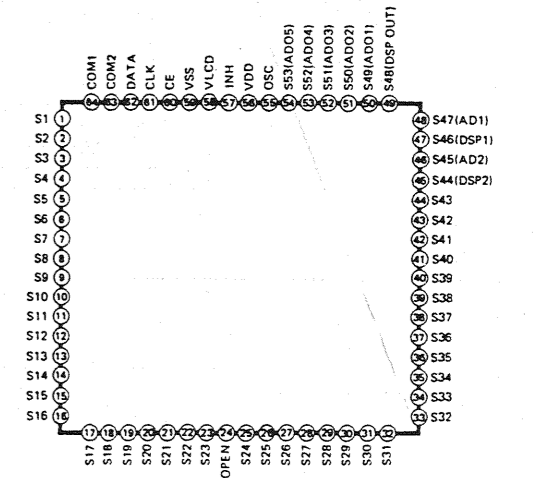
Mark	Reference Parts Number	Parts Name
F1	096	DTC114ES LN4211
F3	IC26	MS0726-XXSP MS0727-XXSP

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	AXIAL LEAD CERAMIC CAPACITOR
⊚	POLYESTER FILM CAPACITOR
⊚	POLYSTYRENE FILM CAPACITOR
⊚	MICA CAPACITOR
⊚	POLYPROPYLENE FILM CAPACITOR
⊚	SEMICONDUCTIVE CERAMIC CAPACITOR

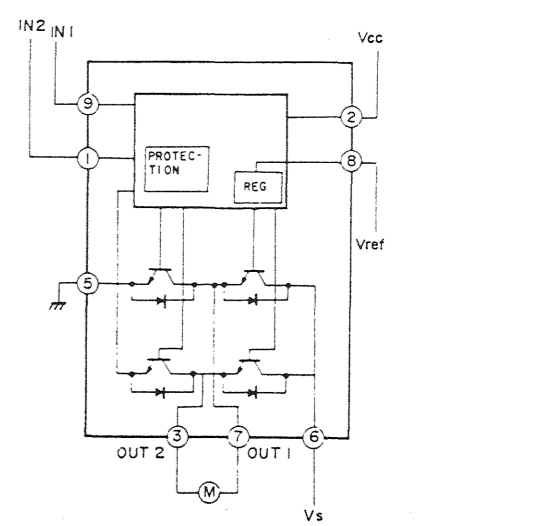
NOTICE
(J)..... Japanese model
(U)..... U.S.A model
(C)..... Canadian model
(A)..... Australian model
(G)..... European model
(B)..... British model
(R)..... General model
(P)..... RP model



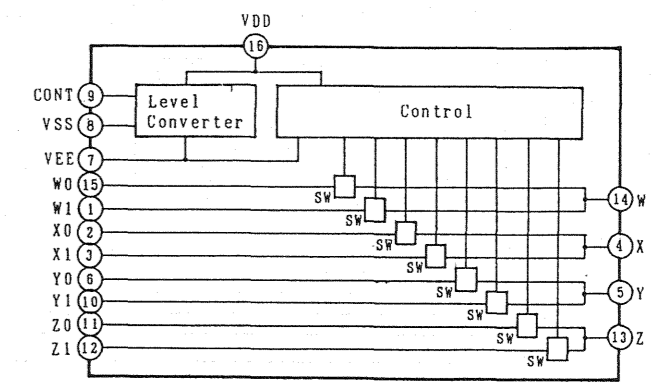
IC BLOCK
ICL1, ICL2: LC7592
(LCD Driver)



IC1: TA7291S
(Full Bridge Motor Driver)



IC25: BU4551B
(Quad 2-Input Analog Multiplexer/
Demultiplexer)

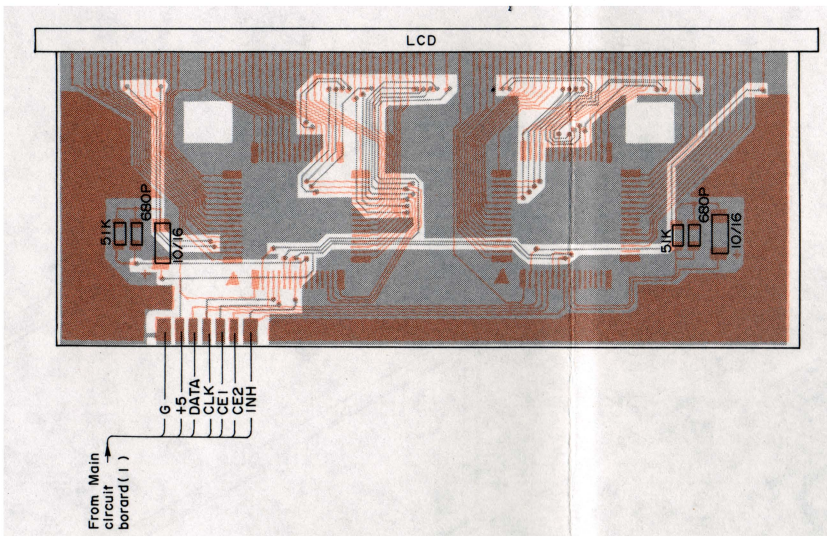


CAUTION
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• All voltages are measured with a 10M Ω /V DC electric volt meter.
• Schematic diagram is subject to change without notice.

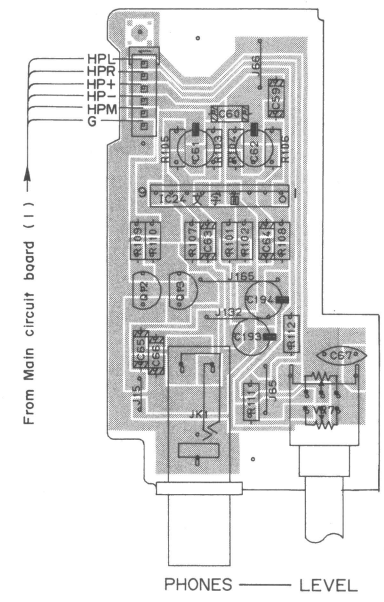
PRINTED CIRCUIT BOARD

1
2
3
4
5
6
7

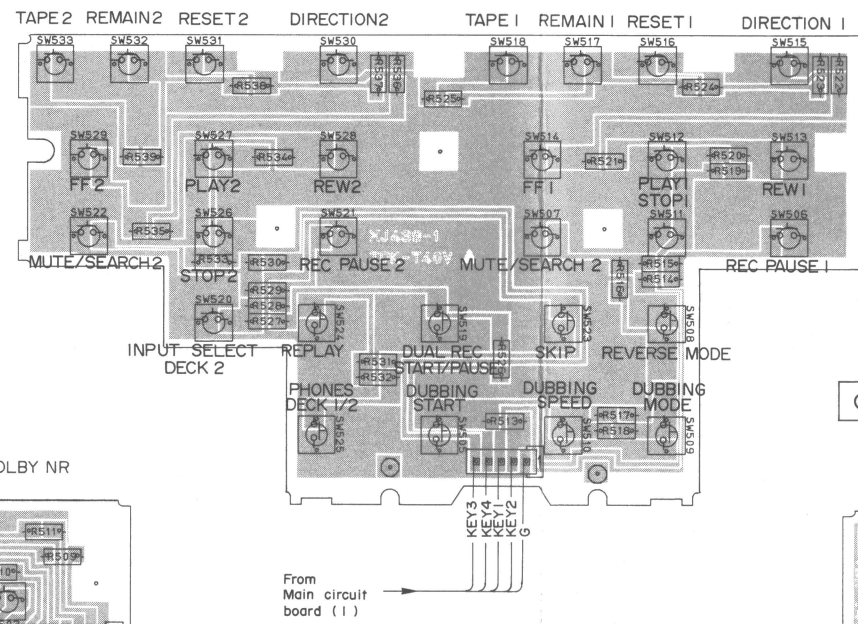
LCD UNIT



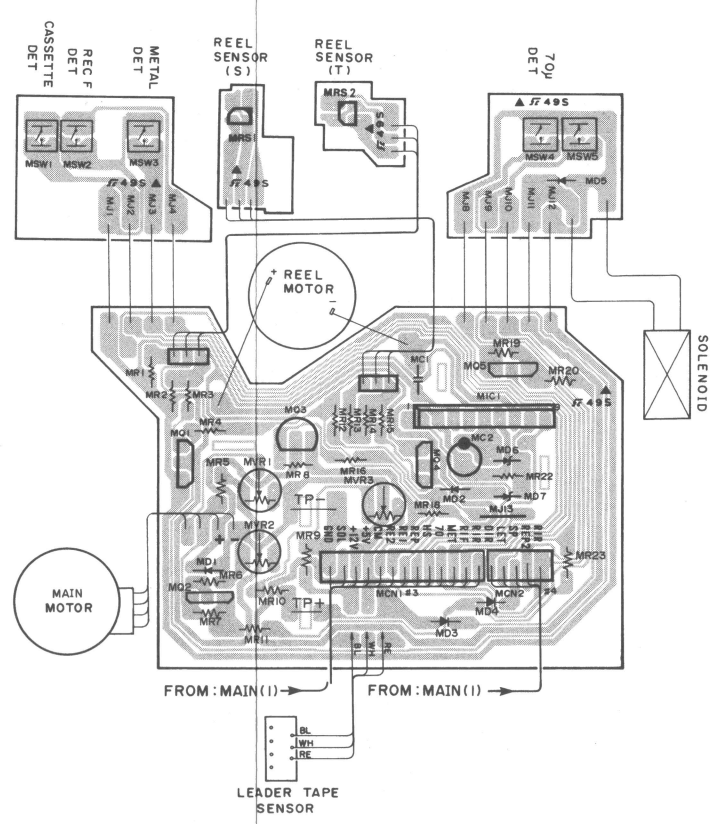
MAIN C. Board (3)



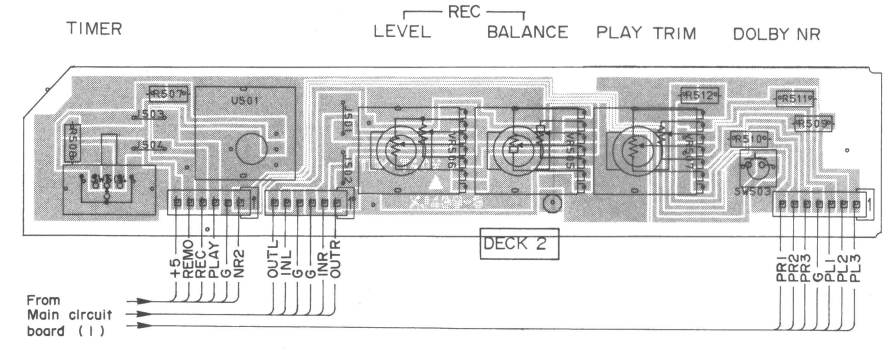
OPERATION C. Board (1)



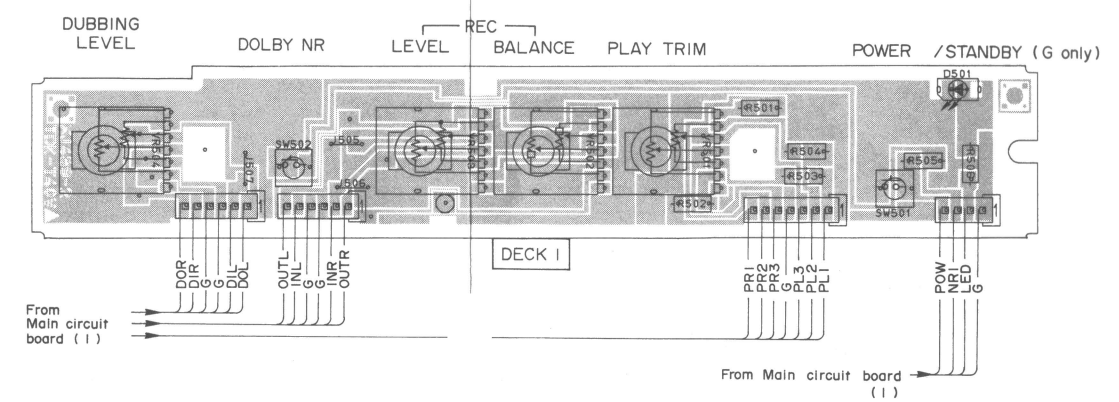
Mechanism Control C. Board DECK 1 and DECK 2



OPERATION C. Board (3)

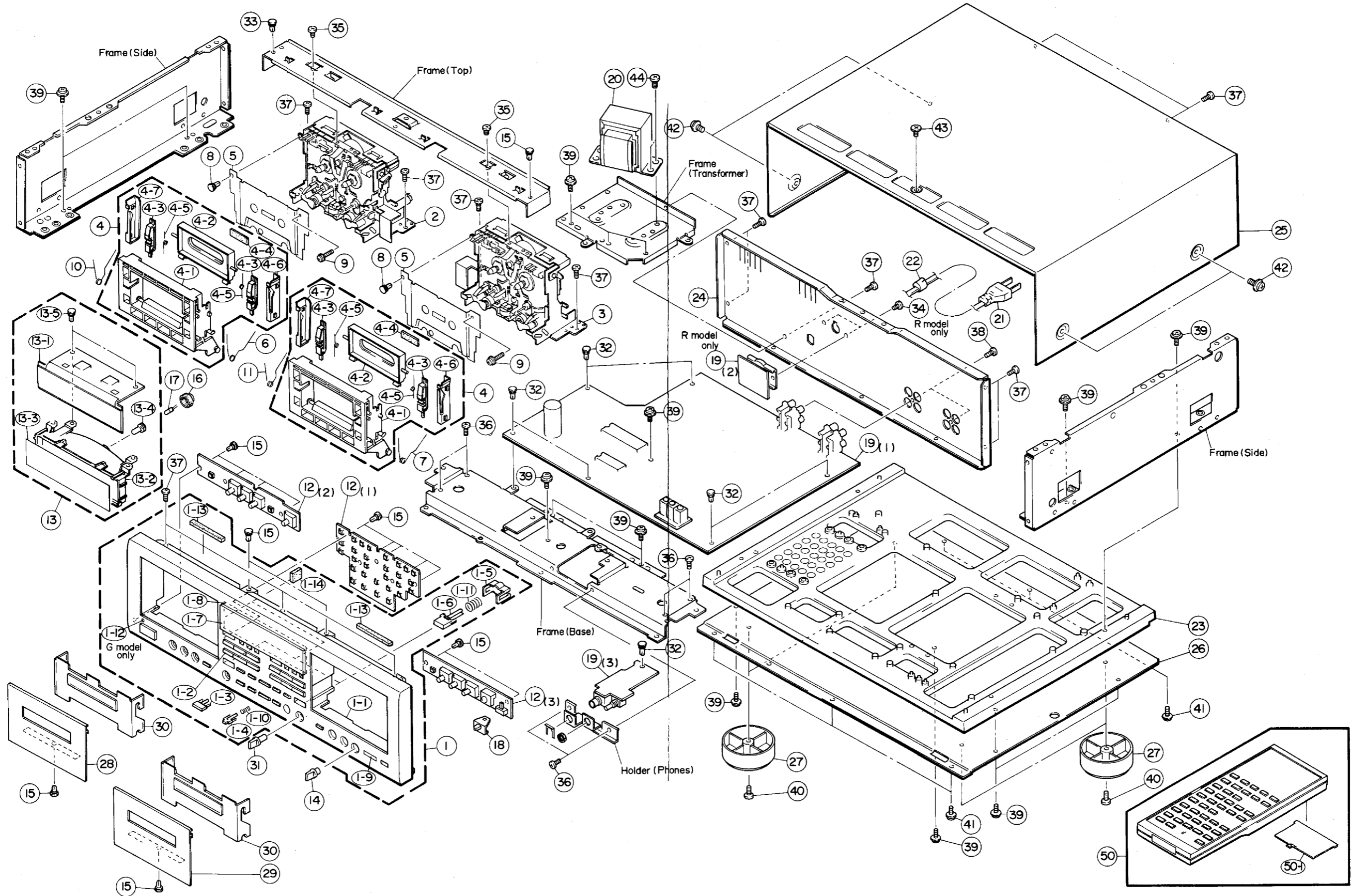


OPERATION C. Board (2)



Ref. No	Location	Ref. No	Location
IC 24	B3	MQ 3	H2
Q 12	B3	MQ 4	H2
Q 13	B3	MQ 5	H2
U 501	A5	MD 1	G3
D 501	I5	MD 2	H3
		MD 3	H3
		MD 4	H3
		MD 6	H2
		MD 7	H3

EXPLODED VIEW



PARTS LIST

■ WARNING

Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

■ MECHANISM PARTS

- Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS list. For the parts No. of the carbon resistor, refer to last page.

Ref. NO.	PART NO.	Description	部 品 名	Remarks	Markets	ランク
* 1	VL220500	FRONT PANEL ASS'y	パネル ASSY	BL	UCRAB	
* 1	VL220600	FRONT PANEL ASS'y	パネル ASSY	BL	G	
* 1	VL220800	FRONT PANEL ASS'y	パネル ASSY	T	UCRAB	
* 1	VL220900	FRONT PANEL ASS'y	パネル ASSY	T	G	
* 1-1	VK915600	SUB PANEL	サブパネル	BL		
* 1-1	VK915700	SUB PANEL	サブパネル	T		
* 1-2	VK915800	BUTTON	ボタン	BL		
* 1-2	VK915900	BUTTON	ボタン	T		
* 1-3	VK916100	BUTTON	ボタン	BL		
* 1-3	VK916200	BUTTON	ボタン	T		
* 1-4	VK916300	BUTTON	ボタン	BL		
* 1-4	VK916400	BUTTON	ボタン	T		
* 1-5	VK916700	BUTTON GUIDE	ボタンガイド			
* 1-6	VJ658100	BUTTON EJ	ボタン EJ	BL		
* 1-6	VJ658200	BUTTON EJ	ボタン EJ	T		
* 1-7	VK916800	WINDOW	ウインドウ			
* 1-8	VK917000	SHEET	シート			
* 1-9	VH897500	LENS	レンズ			
* 1-10	VL233200	SPRING	スプリング/ボタン			
* 1-11	VE931900	SPRING EJ	EJ スプリング			
* 1-12	VH897700	LENS	レンズ		G	
* 1-13	VK863200	DAMPER	ダンパー			
* 1-14	VL347200	DAMPER	ダンパー			
* 2	VL222900	CASSETTE DECK MECHA.	CMAY2Z269A カセットメカ	DECK-1		
* 3	VL223000	CASSETTE DECK MECHA.	CMAY2Z268A カセットメカ	DECK-2		
* 4	VL221700	HOUSING ASS'y	ハウジング ASSY	BL		
* 4	VL221800	HOUSING ASS'y	ハウジング ASSY	T		
* 4-1	VK919400	HOUSING FRAME	ハウジングフレーム	BL		
* 4-1	VK919500	HOUSING FRAME	ハウジングフレーム	T		
* 4-2	VK918800	PLATE, DAMPER	プレート	BL		
* 4-2	VK936600	PLATE, DAMPER	プレート	T		
* 4-3	VK918900	LEVER, DAMPER	レバー			
* 4-4	VK919000	DAMPER	ダンパー			
* 4-5	VL036900	SPRING, DAMPER	スプリング			
* 4-6	CB609880	GUIDE, CASSETTE	R カセットガイド			
* 4-6	CB628570	GUIDE, CASSETTE	L カセットガイド			
* 5	V9794500	BLIND PLATE	ブラインドプレート	BL		
* 5	VK919300	BLIND PLATE	ブラインドプレート	T		
* 6	VK919200	SPRING	EJ スプリング	DECK-1		
* 7	VK919100	SPRING	EJ スプリング	DECK-2		
* 8	CB099600	PLASTIC RIVET	NO.920 プラスチックリベット			
* 9	EK096060	BW HEAD S-TITE SCREW	2.5x12 FCRM3-BL BWヘッド Sタイトネジ			
* 10	VL506600	SPRING	L スプリング			
* 11	VL506700	SPRING	R スプリング			
* 12	VL221100	OPERATION CIRCUIT BOARD	オペレーションシート		UCRAB	
* 12	VL221200	OPERATION CIRCUIT BOARD	オペレーションシート		G	
* 13	VL221000	LCD UNIT	LCDユニット			
* 13-1	VL113900	LCD ASS'y	LCD ASSY			
* 13-2	VK916900	REFLECTOR	リフレクター			
* 13-3	VK917100	SHEET	シート			

* : New Parts (新規部品)

ランク : Japan only

Ref. NO.	PART NO.	Description	部 品 名		Remarks	Markets	ランク
13-4	VF444500	LAMP CAP	AG-4015	ランプキャップ			
13-5	CB068880	PLASTIC RIVET	NO.1027	プラスチックリベット			
14	VI051400	KNOB		ノブ	BL		
14	VI051500	KNOB		ノブ	T		
15	CB068880	PLASTIC RIVET	NO.1027	プラスチックリベット			
16	VG650400	RING		リング			
17	VH254600	LAMP	150mA 8V	ランプ			△
* 18	VK916500	KNOB		ノブ	BL		
* 18	VK916600	BUTTON		ノブ	T		
* 19	VL222200	MAIN CIRCUIT BOARD		メインシート		UC	
* 19	VL222300	MAIN CIRCUIT BOARD		メインシート		R	
* 19	VL222400	MAIN CIRCUIT BOARD		メインシート		AB	
* 19	VL222500	MAIN CIRCUIT BOARD		メインシート		G	
* 20	XJ361A00	POWER TRANSFORMER		電源トランス		UC	△
* 20	XJ362A00	POWER TRANSFORMER		電源トランス		R	△
* 20	XJ363A00	POWER TRANSFORMER		電源トランス		AB	△
* 20	XJ364A00	POWER TRANSFORMER		電源トランス		G	△
21	HG002220	POWER CORD	10A	電源コード		UC	△
21	VE222900	POWER CORD ASS'y		パワーコードASSY		R	△
21	VE042900	POWER CORD ASS'y		パワーコードASSY		A	△
21	VK815600	POWER CORD ASS'y		パワーコードASSY		B	△
21	VE043400	POWER CORD ASS'y		パワーコードASSY		G	△
22	CB620190	CORD STOPPER	CM-22B	コードストッパー		RABG	
22	CB620200	CORD STOPPER	CM-22C	コードストッパー		UC	
23	VK233300	CHASSIS		シャーシ アートベース			
* 24	VK917800	REAR PANEL		リヤパネル		UC	
* 24	VK917900	REAR PANEL		リヤパネル		R	
* 24	VK918000	REAR PANEL		リヤパネル		AB	
* 24	VK918100	REAR PANEL		リヤパネル		G	
* 25	VK918200	TOP COVER		トップカバー	BL		
* 25	VK918300	TOP COVER		トップカバー	T		
* 26	VL233300	BOTTOM COVER		ボトムカバー			
27	VI615200	LEG		レッグ			
* 28	VK941300	LID PANEL		リッドパネル	DECK-1 BL		
* 28	VK941400	LID PANEL		リッドパネル	DECK-1 T		
* 29	VK941600	LID PANEL		リッドパネル	DECK-2 BL		
* 29	VK941700	LID PANEL		リッドパネル	DECK-2 T		
30	VJ923900	LID COVER		リッドカバー			
31	VH888800	KNOB	D10	ノブ	BL		
31	VH888900	KNOB	D10	ノブ	T		
32	CB605620	PLASTIC RIVET	NO.1057	プラスチックリベット			
34	ED330066	BIND HEAD SCREW	3x6 FCRM3-BL	バインド小ネジ	PACK	R	
35	EA030066	PAN HEAD S-TITE SCREW	3x6 ZMC2-Y	ナベSタイトネジ	PACK		
36	EI330066	BIND HEAD B-TITE SCREW	3x6 FCRM3-BL	バインドBタイトネジ			
37	EI330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL	バインドBタイトネジ			
38	EN335030	BIND HEAD BONDING TAP. SCREW	3x10 FCRM3-BL	ボンディングBタイトネジ			
39	VB770200	BW HEAD P-TITE SCREW	3x10-8 FCRM3	BWヘッドPタイトネジ			
40	EK930010	BW HEAD TAPPING SCREW	3x8-8 FCRM3-BL	BWヘッドBタイトネジ			
41	EK330030	BW HEAD B-TITE SCREW	3x10 FCRM3-BL	BWヘッドBタイトネジ			
42	EK365090	BW HEAD SCREW	4x8 ZMC2-BL	BWヘッドSタイトネジ			

* : New Parts (新規部品)

ランク : Japan only

KX-W952

■ PARTS LIST

Ref. NO.	PART NO.	Description	部 品 名	Remarks	Markets	ラック
*	VL222900	CASSETTE DECK MECHANISM	カセットデッキメカ		CHAY22269A	
*	VL223000	CASSETTE DECK MECHANISM	カセットデッキメカ		CHAY22268A	
*	2 NX609470	CHASSIS ASS'y	シャーシーBLK		F511-421	
	2-1 AX605120	IDLER ASS'y	アイドラーBLK		F517-049	
	2-2 AX605130	REEL MOTOR ASS'y	モーターリールASSY		F564-258	
	2-3 AX605240	CHASSIS BASE ASS'y	シャーシベースASSY		F612-137	
	2-4 AX605150	REEL BASE	リールベースBLK		F623-037	
	2-6 AX605170	SOLENOID ASS'y	ソレノイドASSY		F705-252	
	2-7 EA026046	PAN HEAD SCREW	2.6x4 ZMC2-BL ナベ小ネジ	PACK	FG114-15	
	2-8 XX649090	PAN HEAD SCREW	2.6x6 ZMC2-BL ナベ小ネジ		FG114-20	
	2-9 XX636610	WASHER	1.7x0.25 ワッシャー		FJ111-17	
	2-10 XX695160	PLUNGER	プランジャー		PL306-11	
	2-12 XX641850	POLY-SLIDER WASHER	2.1x0.25 ポリスライダーワッシャー		UJ12V-11	
	3 AX605250	PLATE HEAD ASS'y	プレートヘッドASSY		F513-473	
*	3-1 PX601430	SENSOR, REEL	SPI-320-B リールセンサー		AZ14V-00	
	3-3 AX605260	HOUSING HEAD ASS'y	ハウジングヘッドASSY		F769-016	
	3-10 GX603070	ROTARY HEAD	回転ヘッド		FU18D-11	
*	3-16 MX603240	LEAD	QSリード線		WG50H-02A	
*	3-17 LX605970	WIRE CONNECTOR	R/P ワイヤコネクタ		WH44Y-00A	
*	4 NX609480	MAIN MOTOR ASS'y	メインモーターBLK		F525-281	
	5 NX604000	CONTROL P.C.B ASS'y	コントロールシート		F567-229	
	5-1 JX618310	SENSOR, REEL	SPI-335-34-FG リールセンサー		AW13F-00	
	5-6 KX601080	PUSH SWITCH	プッシュスイッチ		UE10E-11	
*	7 AX613120	ARM	EJECT防止アームR		FC39H-68	
	8 XX695200	SPRING, CASSETTE HOLDER	カセット押えバネ		FC40N-32	
	9 BX601190	SLIDE PLATE	スライドプレート		FC47B-15	
*	10 CX617460	HOLDER, WIRE	リードホルダー		FD31Y-41	
	11 AX605210	HOLD LEVER	ホールドレバー (B)		FD36H-12	
	12 CX607640	PLAY ARM(F)	プレイアーム (F)		FD38H-22	
	13 AX605940	ARM, DIRECTION	ディレクションアーム		FD38H-12	
	14 CX610610	CAM GEAR (G)	カムギア (G)		FD39C-54	
	15 CX607660	SENSOR LEVER, REC	REC検知レバー		FD38S-21	
*	16 AX613130	SENSOR LEVER, PACK	バック検知レバー		FD38T-12B	
	17 CX603150	SENSOR LEVER, METAL TAPE	メタル検知レバー		FD38U-12	
	18 XX684580	MAIN BELT	メインベルト		FF16H-11	
	20 XX636810	POLY-SLIDER WASHER	2.6x0.25 ポリスライダーワッシャー		FJ111-30	
*	21 BX602070	WASHER	2.4x0.25 オイルシール		FJ141-11A	
*	22 BX602080	WASHER	2.15x0.25 オイルシール		FJ141-14A	
*	23 AX605930	HOLD SPRING	ホールドバネ		FK22E-11	
	24 XX684630	SPRING, REVERSE	反転バネ		FK22N-12	
	25 AX608980	SPRING L, EJECT PROTECTION	EJECT防止バネ (L)		FK22P-16	
*	25 AX613140	SPRING R, EJECT PROTECTION	EJECT防止バネ (R)		FK22V-21	
	26 AX605290	SLIDE SPRING	スライドバネ		FK25T-13	
	27 AX605300	SPRING, DIRECTION	ディレクションバネ		FK25U-13	
	29 XX695220	FLYWHEEL ASS'y	フライホイールASSY		FR19V-22C	
*	30 NX609490	FLYWHEEL ASS'y	フライホイールASSY		FR20K-12A	
*	31 NX609500	PINCH ROLLER ASS'y	ピンチローラーASS'Y (R)		FR20L-21A	
	32 NX606710	PINCH ROLLER ASS'y	3.0x8 ピンチローラーASS'Y (L)		FR20H-22	
	36 XX684890	SPECIAL SCREW	2.6x8 ウェーブネジ		UG12H-14	

* : New Parts (新規部品)

ラック : Japan only

Ref. NO.	PART NO.	Description	部 品 名		Remarks	Markets	ランク
* 37	AX613160	SPECIAL SCREW	7.7		段付ネジ	UG15S-11A	
38	AX605230	SPECIAL SCREW WITH WASHER	2x15		ワッシャ付きネジ	UG17L-11	
39	AX602560	BIND HEAD SCREW	2.6x23.5		Sタイトネジ	UG17H-11	
40	XX637000	REFLECTOR			反射板	UT11R-11	
* 41	AX613170	SPECIAL SCREW	4.7		段付ネジ	UG14W-31	
42	EJ030056	PAN HEAD TAPPING SCREW	3x5	ZMC2-Y	ナベタッピングネジ	KG194-11	
* 43	LX605980	WIRE CONNECTOR	R/P/E		ワイヤーコネクター	WH62A-02	
* 43	LX605990	WIRE CONNECTOR	R/P/E		ワイヤーコネクター	WH62A-01	
44	XX684660	SPECIAL SCREW			段付きSタイトネジ	UG14L-11	
45	CX607630	RUBBER, BRAKE			ブレーキゴム	FF16N-13	
* 50	NX609510	SPRING, EJECT LEVER			EJECTレバーバネ	F531-073	
50-1	CX612780	ARM, EJECT			EJECTアーム	FC46W-13	
50-2	XX695340	ARM B, EJECT			EJECTアームB	FC49T-11	
50-3	XX684810	PAN HEAD TAPPING SCREW			ナベタッピングネジ	KG194-46	
* 51	NX609520	PLATE HOLD ASS'y			プレートホルドBLK	F573-236	
* 51-1	AX613180	HOLDER ASS'y (R)			ホルダーブラケットR	FC56V-11	
* 51-2	AX613190	EJECT LEVER (R)			EJECTレバーR	FC56W-21	
51-3	XX670240	SPRING, EJECT ARM			イジェクトアームバネ	FK22Y-11	
* 51-7	NX609530	DAMPER ASS'y			ダンパーASSY	FD30V-13	
51-8	XX662810	TAP TITE SCREW			タップタイトネジ	UG12R-11	
51-9	AX613110	SPECIAL SCREW			特殊テーパーネジ	UG14K-11	
* 52	NX609460	PLATE HOLD ASS'y			プレートホルドBLK	F573-233	
52-1	AX613200	HOLDER ASS'y (L)			ホルダーブラケットL	FC56U-11	
* 52-2	AX613100	EJECT LEVER (L)			EJECTレバーL	FC56W-11	
52-3	XX670240	SPRING, EJECT ARM			イジェクトアームバネ	FK22Y-11	
52-7	NX609530	DAMPER ASS'y			ダンパーASSY	FD30V-13	
52-8	XX662810	TAP. TITE SCREW			タップタイトネジ	UG12R-11	
* 52-9	AX613110	SPECIAL SCREW			特殊テーパーネジ	UG14K-11	
	NX604000	CONTROL P.C.B.			コントロールPCB	F567-229	
	IX607180	TRANSISTOR	2SA933		トランジスタ	MQ2	
	IX615330	TRANSISTOR	2SA934		トランジスタ	MQ3	
	IX614420	TRANSISTOR	2SC1740		トランジスタ	MQ1,4,5	
	IX614400	DIODE	1SS252		ダイオード	MD1-5	
	IX614440	ZENER DIODE	HZ3A1		ツェナーダイオード	MD7	
	IX614430	ZENER DIODE	HZ7A3		ツェナーダイオード	MD6	
	IX614410	IC	TA7291S		IC	MIC1	

* : New Parts (新規部品)

ランク : Japan only

KX-W952

■ ELECTRICAL PARTS

Ref. NO.	PART NO.	Description			部 品 名	Remarks	Markets	ランク
* * * *	VL222200	MAIN CIRCUIT BOARD			メインシート		UC R AB G	
	VL222300	MAIN CIRCUIT BOARD			メインシート			
	VL222400	MAIN CIRCUIT BOARD			メインシート			
	VL222500	MAIN CIRCUIT BOARD			メインシート			
	FA153100	MYLAR FILM CAP	1000pF	50V	マイラーコン	C11,12,109-112		
	FA153220	MYLAR FILM CAP	2200pF	50V	マイラーコン	C29-32,129-132		
	FA153430	MYLAR FILM CAP	4300pF	50V	マイラーコン	C17,18,115,116		
	FA154100	MYLAR FILM CAP	0.01uF	50V	マイラーコン	C117,118		
	FA154130	MYLAR FILM CAP	0.013uF	50V	マイラーコン	C5,6,105,106		
	FA154160	MYLAR FILM CAP	0.016uF	50V	マイラーコン	C19,20,119,120		
	UT452100	POLYPROPYLENE FILM CAP	100pF	100V	PPコン	C71,72,145,146		
	UT452150	POLYPROPYLENE FILM CAP	150pF	100V	PPコン	C97,98		
	UT452220	POLYPROPYLENE FILM CAP	220pF	100V	PPコン	C7,8,69,70,107,108,143, ,144		
	UT452680	POLYPROPYLENE FILM CAP	680pF	100V	PPコン	C99,100		
	UT452820	POLYPROPYLENE FILM CAP	820pF	100V	PPコン	C1,2		
	FG212330	CERAMIC CAP	330pF	50V	セラコン	C25,26,123,124		
	FG112560	CERAMIC CAP	560pF	50V	セラコン	C21,22,43,44,79,80,121, ,122,153,154,159,160		
	FG244100	CERAMIC CAP	0.01uF	50V	セラコン	C51,89,169,173-177,184, ,185		
	FG244150	CERAMIC CAP	0.015uF	50V	セラコン	C73,74,147,148		
	FH611100	CERAMIC CAP	10pF	500V (CH)	セラコン	C68,157		
	FZ005880	MULTILAYER CERAMIC CAP	0.1uF	25V	積層セラコン	C67,195,199-201		
	VF467300	CERAMIC CAP	0.01uF	16V	円筒セラコン	C59,60,63-66,77,78,151, ,152		
	VG280100	CERAMIC CAP	0.022uF	25V	円筒セラコン	C75,76,149,150		
	VI101300	CERAMIC CAP	0.047uF	50V	円筒セラコン	C191,192		
	UJ737330	ELECTROLYTIC CAP	33uF	16V	ケミコン	C39,40,139,140		
	UJ837470	ELECTROLYTIC CAP	47uF	16V	ケミコン	C49,50,165,166		
	UJ738100	ELECTROLYTIC CAP	100uF	16V	ケミコン	C15,16,37,38,82,84,86, ,101,102,137,138,156		
	UJ738220	ELECTROLYTIC CAP	220uF	16V	ケミコン	C83,85		
	UJ846470	ELECTROLYTIC CAP	4.7uF	25V	ケミコン	C45,46,55,56,93,94,161, ,162		
	UJ747100	ELECTROLYTIC CAP	10uF	25V	ケミコン	C9,10,13,14,41,42,54, ,81,92,113,114,141,142, ,155,186-189,196		
	UJ847220	ELECTROLYTIC CAP	22uF	25V	ケミコン	C168,172		
	UJ847470	ELECTROLYTIC CAP	47uF	25V	ケミコン	C87,88		
	UJ848100	ELECTROLYTIC CAP	100uF	25V	ケミコン	C171,180,181		
	UJ865330	ELECTROLYTIC CAP	0.33uF	50V	ケミコン	C35,36,135,136		
	UJ865470	ELECTROLYTIC CAP	0.47uF	50V	ケミコン	C47,48,163,164		
	UJ866100	ELECTROLYTIC CAP	1uF	50V	ケミコン	C23,24,27,28,52,53,90, ,91,125-128,167,197		
	UJ766220	ELECTROLYTIC CAP	2.2uF	50V	ケミコン	C57,58,95,96		
	UJ766330	ELECTROLYTIC CAP	3.3uF	50V	ケミコン	C158,190		
	UH149220	ELECTROLYTIC CAP	2200uF	25V	ケミコン	C178,179		
	UM407220	ELECTROLYTIC CAP	22uF	25V	ケミコン	C61,62		
	UM115560	ELECTROLYTIC CAP	0.56uF	50V	ケミコン	C33,34,133,134		

* : New Parts (新規部品)

ランク : Japan only

Ref. NO.	PART NO.	Description	部 品 名		Remarks	Markets	ランク
	UM416100	ELECTROLYTIC CAP	1uF	50V	ケミコン		C193,194
	VE392400	ELECTROLYTIC CAP	220uF	6.3V	ケミコン		C3,4,103,104
	VE018300	ELECTROLYTIC CAP	10uF	25V	ケミコン		C182,183
	VB170100	ELECTROLYTIC CAP	4.7mF	5.5V	バックアップケミコン		C170
	U1939820	ELECTROLYTIC CAP	8200uF	16V	ケミコン		C198
	GE900960	COIL	820uH		固定コイル		L5,6
	VD852800	BIAS TRAP	210KHz		バイアストラップ		F11,2,5-8,11,12
	VK157900	COIL, STEP UP	210KHz		ステップアップコイル		L1-4
	VK705000	OSC. COIL, BIAS	210KHz		B I A S O S Cコイル		IC16
	HL324270	METAL OXIDE RESISTOR	27Ω	2W	酸化金属被膜抵抗		R273,278
	VG734100	RESISTOR ARRAY	10KΩx4		抵抗アレイ		R335
	VG734700	RESISTOR ARRAY	10KΩx10		抵抗アレイ		R333
	IG076800	IC	NJM4558S		I C		IC2,6,14,18
	IG077410	IC	NJM4556S-A		I C		IC24
	IG082900	IC	NJM2043S-D		I C		IC1,17
	XJ383A00	IC	CXA1495P		I C		IC4,21
	IG075300	IC	AN78M05		I C		IC22
	IG074900	IC	BA6138		I C		IC7,15
	XA300A00	IC	uPC1297CA		I C		IC13,20
	XH105A00	IC	CXA1330S		I C		IC3,19
	XI929A00	IC	BU4551B		I C		IC11,12,25
	XD148A00	IC	BU4066B		I C		IC5,8-10
	XJ337A00	IC	M50726-347SP		I C		IC26
	XJ339A00	IC	M50747-0E9SP		I C		IC23
	VA961800	VOLTAGE SELECTOR	ESE-37247-F		電圧切替器	R	SW1
	KB000350	FUSE	2.0A	250V	ヒューズ	R	F3
	KB001240	FUSE	T2.0A	250V UL	ヒューズ	UC	F3
	KB000740	FUSE	T1.6A	250V	ヒューズ	ABG	F3
	KB000320	FUSE	T0.75A	250V	ヒューズ	R	F1,2
	KB001220	FUSE	T0.75A	250V UL	ヒューズ	UC	F1,2
	KB000670	FUSE	T0.63A	250V	ヒューズ	ABG	F1,2
	VK578700	RELAY	DC MR-62-12S		リレー		RY1,2
	LA002110	WRAPPING TERMINAL	2P	i-TYPE P=5	ラッピング端子		TE1
	LA002140	WRAPPING TERMINAL	2P	i-TYPE P=10	ラッピング端子		TE3
	LA002140	WRAPPING TERMINAL	2P	i-TYPE P=10	ラッピング端子	UC	TE4
	VE225700	BASE PIN	2P	P=7.5	ベースポスト	RABG	TE4
	LA002340	WRAPPING TERMINAL	5P	i-TYPE P=7.5	ラッピング端子		TE2
	LA004120	PIN, TEST POINT			テストポイントピン		TP1-6
	LB401050	PIN JACK	4P		ピンジャック		PJ1,2
	LB301760	PHONES JACK		HLJ0540	ホーンコネクタ		JK1
	LB918020	BASE PIN	XH	i-TYPE 2P TE	ベース付ポスト		CB1,2
	LB918060	BASE PIN	XH	i-TYPE 6P TE	ベース付ポスト		CB3,4
	VD004500	BASE PIN	PH	i-TYPE 2P TE	ベースピン		CB5
	VD004700	BASE PIN	PH	i-TYPE 4P TE	ベースピン		CB6
	VD004800	BASE PIN	PH	i-TYPE 5P TE	ベースピン		CB7
	VD004900	BASE PIN	PH	i-TYPE 6P TE	ベースピン		CB9-12
	VD005000	BASE PIN	PH	i-TYPE 7P TE	ベースピン		CB13,14
	VF648300	COIL, MPX	FXD221A210		M P Xフィルター		F13,4,9,10
	VD794300	CERAMIC RESONATOR	8MHz	FF0-FC800	セラミック振動子		XL1
	VD827600	CERAMIC RESONATOR	4MHz		セラミック振動子		XL2

* : New Parts (新規部品)

ランク : Japan only

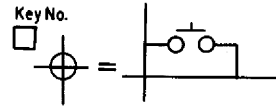
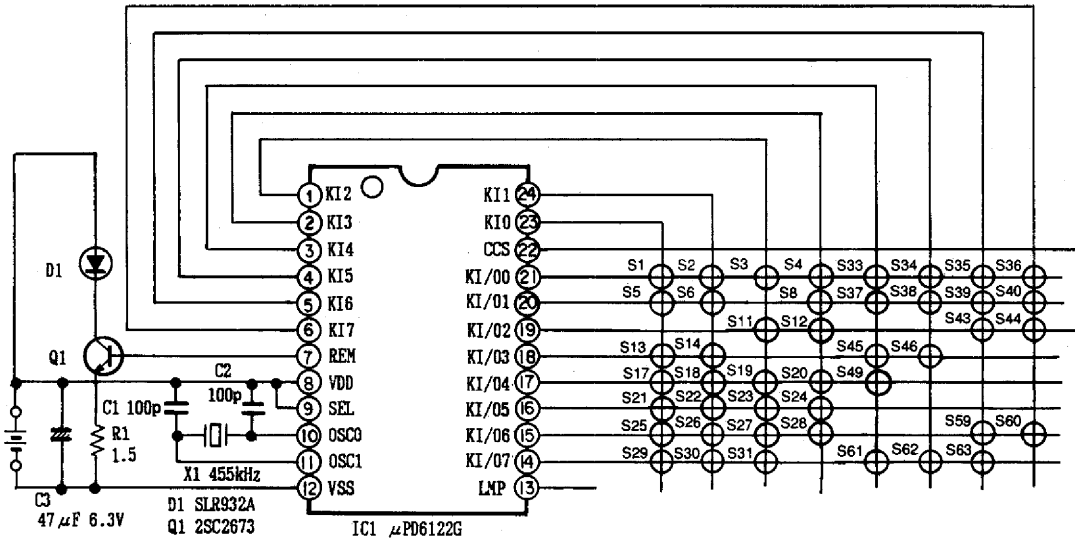
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Ref. NO.	PART NO.	Description	部 品 名	Remarks	Markets	ランク
*	VJ693600	PRE-SET POTENTIOMETER	B10KΩ	半固定VR	VR3-6,15-18,21-24	
	VJ693800	PRE-SET POTENTIOMETER	B22KΩ	半固定VR	VR1,2,19,20	
	VL038000	POTENTIOMETER	A5KΩx2	二連ロータリーVR	VR7	
	IA093320	TRANSISTOR	2SA933S Q,R	トランジスタ	Q62,64;81	
	VE613300	TRANSISTOR	2SB1237 Q,R	トランジスタ	Q34,35,70,72,74,76	△
	IB078600	TRANSISTOR	2SB786	トランジスタ	Q82	△
	IC174020	TRANSISTOR	2SC1740S R,S	トランジスタ	Q36,37,83,80,83	
	VE613400	TRANSISTOR	2SD1858 Q,R	トランジスタ	Q58,59,77,78	
	ID130210	TRANSISTOR	2SD1302 R,S	トランジスタ	Q12-17	
	ID094700	TRANSISTOR	2SD947	トランジスタ	Q79	△
		VD678500	DIGITAL TRANSISTOR	DTA114ES	デジタルトランジスタ	Q4-8,10,18,20-24,27,28,31,32,46-53,56,57,60,61,85
VD678700		DIGITAL TRANSISTOR	DTC114ES	デジタルトランジスタ	Q1-3,9,11,19,25,26,29,30,33,38,39,42-45,54,55,65-69,71,73,75,84,86	
	IE102100	FET	2SK301 P,Q,R	F E T	Q40,41	
	IF004600	DIODE	1SS133	ダイオード	D1,2,4-20,22-24,26,28-30,39	△
*	VH770800	DIODE	1SR139-100 T-32	ダイオード	D25,31-36	△
	VH348200	DIODE BRIDGE	RBV-402 LF-A	ダイオードブリッジ	D37	△
	VG436200	ZENER DIODE	MTZJ3.6A	ツェナーダイオード	D21	
	VG437400	ZENER DIODE	MTZJ5.1B	ツェナーダイオード	D27,38	
	VJ828000	PIN	INSA-6024-03E	スタイルピン		
	LB201880	FUSE HOLDER PIN	PC-FH1	ヒューズホルダピン		
	BA084000	HEATSINK		放熱板		
	EI330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL	バインドBタイトネジ		
*	VL221100	OPERATION CIRCUIT BOARD		オペレーションシート		UCRAB
	VL221200	OPERATION CIRCUIT BOARD		オペレーションシート		G
*	VF926500	LIGHT DETECTING MODULE	GP1U501X	リモコン受光ユニット	U501	
	VK836300	SLIDE SWITCH	SSSF11	スライドSW	SW504	
	VG392900	TACT SWITCH	SKHVAA	タクトSW	SW501-503,505-533	
	VK835900	POTENTIOMETER	10KΩx2	二連ロータリーVR	VR504	
	VK836000	POTENTIOMETER	A50Kx2Ω	二連ロータリーVR	VR503,506	
*	VK836200	POTENTIOMETER	B100KΩx2	二連ロータリーVR	VR501,507	
	VK836100	POTENTIOMETER	MN50KΩ	二連ロータリーVR	VR502,505	
	VI013600	LED	SLR-34VC3H3 (RED)	L E D	D501	G
	VB966900	PIN	INSA-6024	スタイルピン		
*	VL113900	LCD ASS'y		L C D A S S Y		
	XB417A00	IC	LC7582	I C		

* : New Parts (新規部品)

ランク : Japan only

REMOTE CONTROL TRANSMITTER

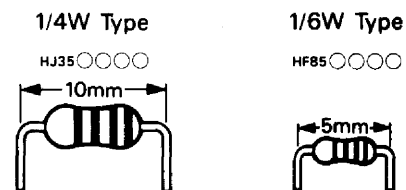


KEY NO.	DATA CODE								FUNCTION
	D0	D1	D2	D3	D4	D5	D6	D7	
1	0	0	0	0	0	0	0	0	PLAY (DECK1)
2	1	0	0	0	0	0	0	0	◀◀ (DECK1)
3	0	1	0	0	0	0	0	0	▶▶ (DECK1)
4	1	1	0	0	0	0	0	0	STOP (DECK1)
5	0	0	1	0	0	0	0	0	REC/PAUSE (DECK1)
6	1	0	1	0	0	0	0	0	REC MUTE (DECK1)
8	1	1	1	0	0	0	0	0	DIR (DECK1)
11	0	1	0	1	0	0	0	0	SEARCH ▶▶ (DECK1)
12	1	1	0	1	0	0	0	0	SEARCH ◀◀ (DECK1)
13	0	0	1	1	0	0	0	0	TAPE (DECK1)
14	1	0	1	1	0	0	0	0	RESET (DECK1)
17	0	0	0	0	1	0	0	0	0
18	1	0	0	0	1	0	0	0	1
19	0	1	0	0	1	0	0	0	2
20	1	1	0	0	1	0	0	0	3
21	0	0	1	0	1	0	0	0	4
22	1	0	1	0	1	0	0	0	5
23	0	1	1	0	1	0	0	0	6
24	1	1	1	0	1	0	0	0	7
25	0	0	0	1	1	0	0	0	8
26	1	0	0	1	1	0	0	0	9
27	0	1	0	1	1	0	0	0	PROG
28	1	1	0	1	1	0	0	0	CLEAR
29	0	0	1	1	1	0	0	0	RUN
30	1	0	1	1	1	0	0	0	REMAIN (DECK1)
31	0	1	1	1	1	0	0	0	INTRO (DECK1)
33	0	0	0	0	0	0	1	0	PLAY (DECK2)
34	1	0	0	0	0	0	1	0	◀◀ (DECK2)
35	0	1	0	0	0	0	1	0	▶▶ (DECK2)
36	1	1	0	0	0	0	1	0	STOP (DECK2)
37	0	0	1	0	0	0	1	0	REC/PAUSE (DECK2)
38	1	0	1	0	0	0	1	0	REC MUTE (DECK2)
39	0	1	1	0	0	0	1	0	DECK1/2
40	1	1	1	0	0	0	1	0	DIR (DECK2)
43	0	1	0	1	0	0	1	0	SEARCH ▶▶ (DECK2)
44	1	1	0	1	0	0	1	0	SEARCH ◀◀ (DECK2)
45	0	0	1	1	0	0	1	0	TAPE (DECK2)
46	1	0	1	1	0	0	1	0	RESET (DECK2)
49	0	0	0	0	1	0	1	0	POWER (DECK2)
59	0	1	0	1	1	0	1	0	MODE (DUB)
60	1	1	0	1	1	0	1	0	SPEED (DUB)
61	0	0	1	1	1	0	1	0	START (DUB)
62	1	0	1	1	1	0	1	0	REMAIN (DECK2)
63	0	1	1	1	1	0	1	0	INTRO (DECK2)
CUSTOM CODE	0	1	1	1	1	1	1	0	

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Parts List for Carbon Resistor

Value	1/4W Type Part No.	1/6W Type Part No.	Value	1/4W Type Part No.	1/6W Type Part No.
1.0 Ω	HJ353100	HF853100	12K Ω	HJ357120	HF857120
1.8 "	HJ353180	*	15 "	HJ357150	HF857150
2.2 "	HJ353220	HF853220	18 "	HJ357180	HF857180
3.3 "	HJ353330	HF853330	22 "	HJ357220	HF857220
4.7 "	HJ353470	HF853470	27 "	HJ357270	HF857270
5.6 "	HJ353560	HF853560	33 "	HJ357330	HF857330
10 "	HJ354100	HF854100	39 "	HJ357390	HF857390
15 "	HJ354150	HF854150	47 "	HJ357470	HF857470
22 "	HJ354220	HF854220	56 "	HJ357560	HF857560
27 "	HJ354270	HF854270	68 "	HJ357680	HF857680
33 "	HJ354330	HF854330	82 "	HJ357820	HF857820
39 "	HJ354390	HF854390	91 "	HJ357910	HF857910
47 "	HJ354470	HF854470	100 "	HJ358100	HF858100
56 "	HJ354560	HF854560	120 "	HJ358120	HF858120
68 "	HJ354680	HF854680	150 "	HJ358150	HF858150
82 "	HJ354820	HF854820	180 "	HJ358180	HF858180
100 "	HJ355100	HF855100	220 "	HJ358220	HF858220
110 "	HJ355110	HF855110	270 "	HJ358270	HF858270
120 "	HJ355120	HF855120	330 "	HJ358330	HF858330
150 "	HJ355150	HF855150	390 "	HJ358390	HF858390
160 "	HJ355160	*	470 "	HJ358470	HF858470
180 "	HJ355180	HF855180	560 "	HJ358560	HF858560
220 "	HJ355220	HF855220	680 "	HJ358680	HF858680
270 "	HJ355270	HF855270	820 "	HJ358820	HF858820
330 "	HJ355330	HF855330	1.0M Ω	HJ359100	HF859100
390 "	HJ355390	HF855390	1.2 "	HJ359120	*
470 "	HJ355470	HF855470	1.5 "	HJ359150	HF859150
510 "	*	HF855510	1.8 "	HJ359180	HF859180
560 "	HJ355560	HF855560	2.2 "	HJ359220	HF859220
680 "	HJ355680	HF855680	3.3 "	HJ359330	HF859330
820 "	HJ355820	HF855820	3.9 "	HJ359390	*
910 "	HJ355910	HF855910	4.7 "	HJ359470	HF859470
1.0K Ω	HJ356100	HF856100			
1.2 "	HJ356120	HF856120			
1.5 "	HJ356150	HF856150			
1.8 "	HJ356180	HF856180			
2.0 "	HJ356200	HF856200			
2.2 "	HJ356220	HF856220			
2.4 "	HJ356240	HF856240			
2.7 "	HJ356270	HF856270			
3.0 "	HJ356300	HF856300			
3.3 "	HJ356330	HF856330			
3.6 "	HJ356360	HF856360			
3.9 "	HJ356390	HF856390			
4.7 "	HJ356470	HF856470			
5.1 "	HJ356510	HF856510			
5.6 "	HJ356560	HF856560			
6.8 "	HJ356680	HF856680			
8.2 "	HJ356820	HF856820			
9.1 "	HJ356910	HF856910			
10 "	HJ357100	HF857100			



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YAMAHA