

Service Manual

Cassette Deck

Dolby NR-Equipped
Stereo Double Cassette Deck

RS-T230



Color

(S)...Silver Type
(K)...Black Type



Area

Color	Area
(K)	(M).....U.S.A.
(S) (K)	(MC).....Canada.
(S) (K)	(E).....Continental Europe.
(S) (K)	(EK).....United Kingdom.
(S) (K)	(EG).....F.R. Germany.
(S) (K)	(EH).....Holland.
(S) (K)	(XA).....Asia, Latin America, Middle Near East, Africa and Oceania.
(S) (K)	(XL).....Australia.

Note: Please dispose of the service manual for Model No. RS-T230 (Order No. HAD8804120C0) and replace it with this service manual.

SPECIFICATIONS (Except M, MC)

■ CASSETTE DECK SECTION

Deck system	Stereo cassette deck
Track system	4-track, 2-channel
Heads	
(DECK A) REC/PLAY	Permalloy head
Erasing	Double-gap ferrite head
(DECK B) PLAY	Permalloy head
Motors	Electronically controlled DC motor
Recording system	AC bias
Bias frequency	80 kHz
Erasing system	AC erase
Tape speed	4.8 cm/sec. (1-7/8 ips)
Frequency response (w/o Dolby N.R.)	
METAL	20 Hz~16 kHz (±15 dB) 30 Hz~15 kHz (DIN)
CrO ₂	20 Hz~15 kHz (±15 dB) 30 Hz~15 kHz (DIN)
NORMAL	20 Hz~15 kHz (±15 dB) 30 Hz~15 kHz (DIN)
S/N (signal level = max recording level, CrO ₂ type tape)	
Dolby C NR on	74 dB (CCIR)
Dolby B NR on	66 dB (CCIR)
NR off	56 dB (A weighted)
Wow and flutter	
For Australia	0.1% (WRMS)
For others	0.07% (WRMS) ±0.2% (DIN)

Fast Forward and Rewind Time

Approx. 110 seconds with C-60 cassette tape

Input sensitivity and impedance

LINE 60 mV/47 kΩ

Output voltage and impedance

LINE 400 mV/3.2 kΩ

HEADPHONES 30 mV/8 Ω

■ GENERAL

Power consumption 14W

Power supply

For Australia and United Kingdom AC 50 Hz/60 Hz, 240V

For continental Europe AC 50 Hz/60 Hz, 220V

For others AC 50 Hz/60 Hz, 110V/127V/220V/240V

Dimensions (W×H×D) 430 × 125 × 235 mm

Weight 4.5 kg

Note:

Specifications are subject to change without notice.
Weight and dimensions are approximate.

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

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SPECIFICATIONS (M, MC only)

■ CASSETTE DECK SECTION

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Motors	Electronically controlled DC motor
Recording system	AC bias
Bias frequency	80 kHz
Erasing system	AC erase
Tape speed	4.8 cm/sec. (1-7/8 ips)
Frequency response (w/o Dolby N.R.)	
METAL	20 Hz~16 kHz
	40 Hz~15 kHz (±3 dB)

CrO ₂	20 Hz~15 kHz
	40 Hz~14 kHz (±3 dB)
NORMAL	20 Hz~15 kHz
	40 Hz~14 kHz (±3 dB)
S/N	(signal level = max recording level, CrO ₂ type tape)
Dolby C NR on	74 dB (CCIR)
Dolby B NR on	66 dB (CCIR)
NR off	56 dB (A weighted)
Wow and flutter	0.1% (WRMS)
Fast Forward and Rewind Time	Approx. 110 seconds with C-60 cassette tape
Input sensitivity and impedance	
LINE	60 mV/47 kΩ
Output voltage and impedance	
LINE	400 mV/3.2 kΩ

HEADPHONES	30 mV/8 Ω
	(Plug type: 1/4 inch stereo phone plug)

■ GENERAL

Power consumption	14W
Power supply	AC 60 Hz, 120V
Dimensions (W×H×D)	430 × 125 × 235 mm (16-15/16" × 4-29/32" × 9-8/32")
Weight	4.5 kg (9.9 lb.)

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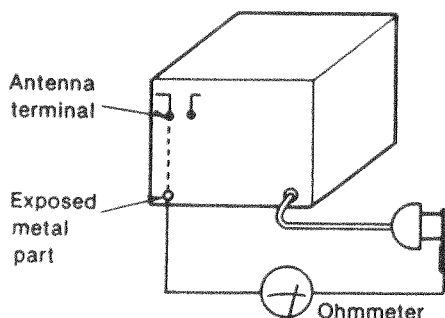
■ SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

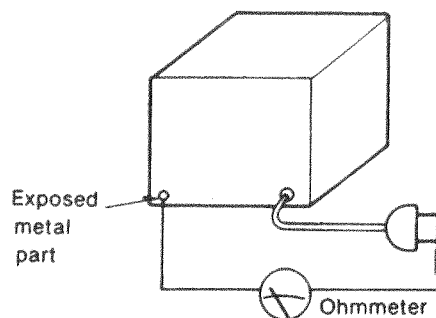
• INSULATION RESISTANCE TEST

1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = $3\text{M}\Omega$ — $5.2\text{M}\Omega$ 

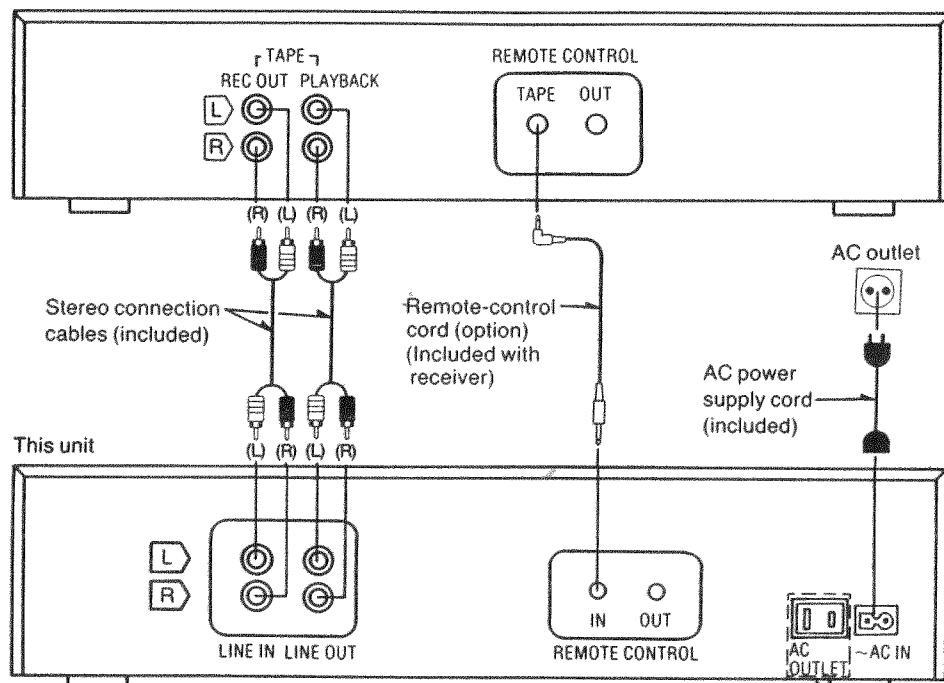
(Fig. B)

Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

HOW TO CONNECT

Receiver (option)



Configuration of the AC outlet and AC power supply cord differ according to area.

(M, MC) only

Remote-control "IN" terminal

This terminal can be used only with Technics receivers or amplifiers having the appropriate remote-control terminal. (Contact your dealer for details.)

Remote-control "OUT" terminal

This terminal can be used only with Technics graphic equalizer or compact disc players having the appropriate remote-control terminal. (Contact your dealer for details.)

Placement hints

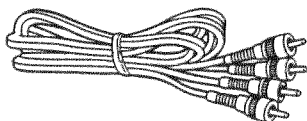
If this unit is placed near a receiver, a "hum" noise may be heard during tape playback, recording, or AM reception of the receiver. If this occurs, leave as much space as possible between the units, or place them where there is the least amount of "hum".

"UNSWITCHED" outlet

Power is always available, regardless of the unit's power switch setting. Audio equipment rated up to 100 W can be connected.

ACCESSORIES

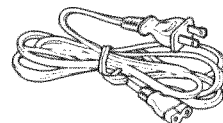
• Stereo connection cables..... 2
(SJP2264)



• Connection cable for remote-control.. 1
(SJP2257T)



• AC power supply cord (polarized) 1
SFDAC05G02 (EK)
SFDAC05E03 (E, EH, EG)
SJA172 (MC)
SJA173 (XL)
SJA175-1T (M)
SJA168 (XA)



LOCATION OF CONTROLS

Power switch (power)

Power "standby ϕ /on" switch: (Except M, MC) (power "standby ϕ /on")

This switch switches ON and OFF the secondary circuit power only. The unit is in the "standby" condition when this switch is set to the "standby ϕ " position. Regardless of the switch setting, the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.

Timer stand-by switch (timer)

"DECK A" counter/reset button (DECK A counter/reset)

This indicates the amount of tape travel of "DECK A". When this button is pressed, the readout will be reset to "000".

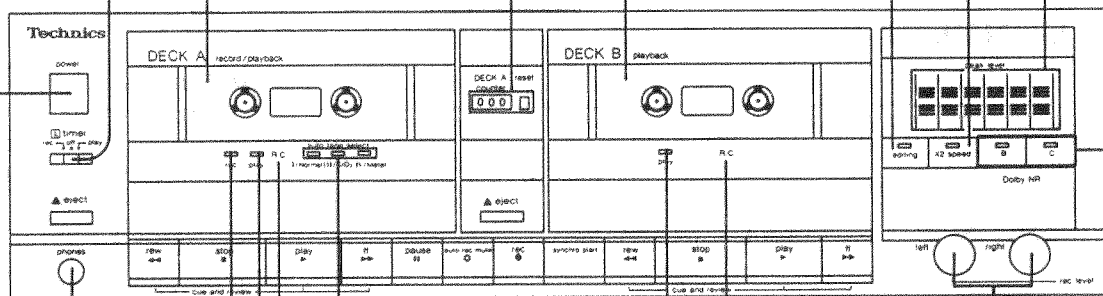
Cassette holder

Editing tape-speed selector/indicator ($\times 2$ speed)

Editing switch/indicator (editing)

Recording level indicators (peak level)

During recording, these meters indicate the recording level. The level is adjusted by using the recording level controls. During playback, they indicate the level of the recorded sound.



Headphones jack (phones)

Recording indicator (rec)

Playback indicator (play)

Tape-select indicators (auto tape select)

Playback indicator (play)

Remote-control operation indicator (R.C): (M, MC) only

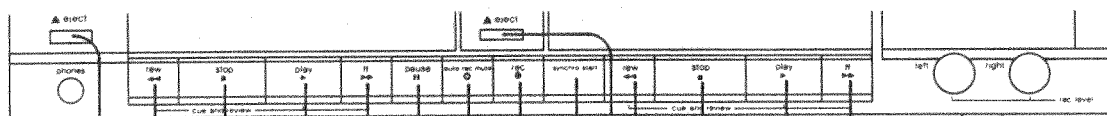
Recording-level controls (rec level)

Used to adjust the recording level.

Dolby noise-reduction switches/ indicators (Dolby NR)

When using "DECK A"

When using "DECK B"



Eject button (Δ eject)

Rewind/review button (rew/ $\ll$)

Stop button (stop/ $\blacksquare$)

Playback button (play/ $\triangleright$)

Fast-forward/cue button (ff/ $\gg$)

Pause button (pause/ $\parallel$)

Record-muting button (auto rec mute/ $\odot$)

Record button (rec/ $\bullet$)

Synchro-recording-start button (synchro start)

Fast-forward/cue button (ff/ $\gg$)

Playback button (play/ $\triangleright$)

Stop button (stop/ $\blacksquare$)

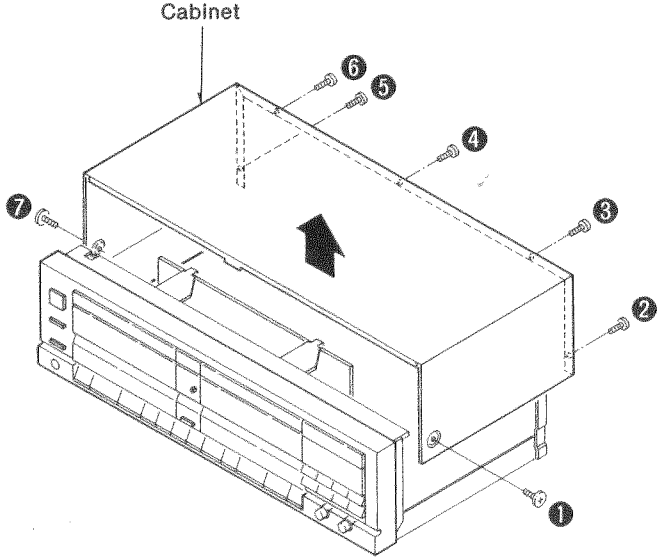
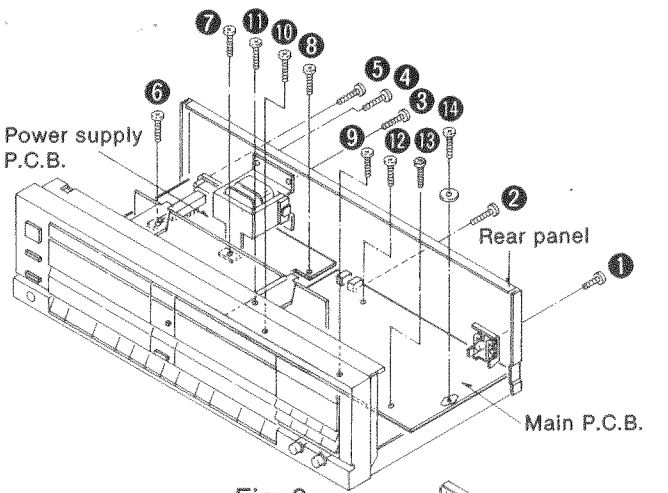
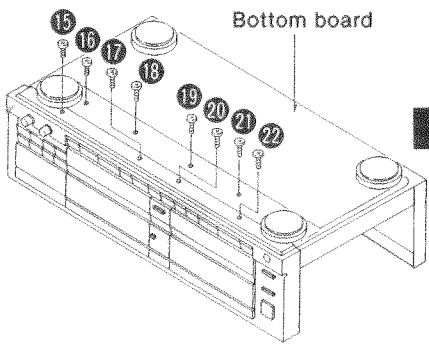
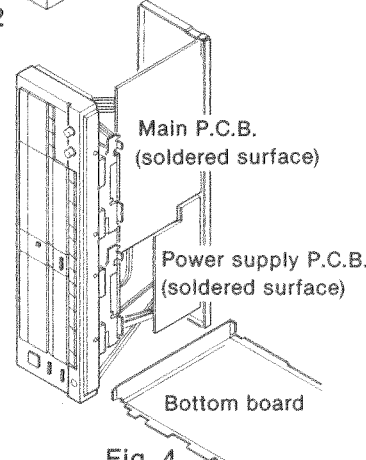
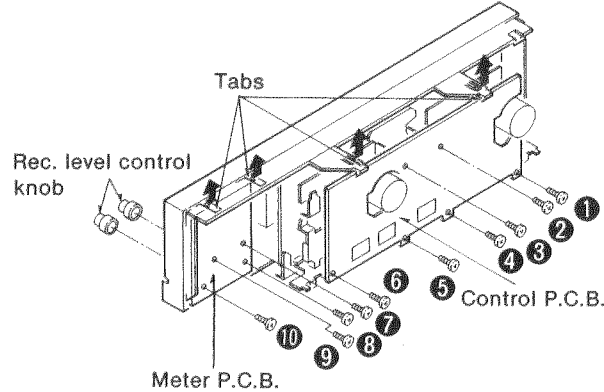
Rewind/review button (rew/ $\ll$)

Eject button (Δ eject)

DISASSEMBLY INSTRUCTIONS

"ATTENTION SERVICER"

Some chassis components may have sharp edges. Be careful when disassembling and servicing.

Ref. No. 1	How to remove the Cabinet.	Ref. No. 2	How to remove the Power supply P.C.B. and the Main P.C.B.
Procedure 1	Remove the 7 screws (①~⑦).	Procedure 1→2	- Remove the 5 screws (①~⑤), and then remove the Rear panel. - Remove the 3 screws (⑥~⑧), and then remove the Power supply P.C.B. - Remove the 6 screws (⑨~⑭), and then remove the Main P.C.B.
	 Fig. 1		 Fig. 2
	How to check the Main P.C.B. - When checking the soldered surfaces of Main P.C.B. and replacing the parts, do as show. - Remove the 9 screws (⑥~⑭), and then remove the Main P.C.B. and Power supply P.C.B. (See Fig. 2) - Remove the 9 screws (②, ⑮~⑳), and then remove the Bottom board. (See Fig. 2, 3)	 Fig. 3	 Fig. 4
Ref. No. 3	How to remove the Control P.C.B. and Meter P.C.B.		
Procedure 1→2→3	- Remove the 6 screws (①~⑥). - Release the 2 tabs, and then remove the Control P.C.B. - Pull out the 2 Rec. level control knobs. - Remove the 4 screws (⑦~⑩). - Release the 2 tabs, and then remove the Meter P.C.B.		
			 Fig. 5

Ref. No. 4	How to remove the Timer sw P.C.B. and Headphones P.C.B.	Fig. 6
Procedure 1→2→4	• Remove the one screw (①), and then remove the Timer sw P.C.B. • Remove the one screw (②), and then remove the Headphones P.C.B.	
Ref. No. 5	How to remove the Mechanism unit.	• Remove the 8 screws (⑤~⑫). • Push the eject button, and then remove the Mechanism unit. Fig. 8
Procedure 1→2→3→5	• Remove the 4 screws (①~④). Fig. 7	
Ref. No. 6	How to remove the Operation P.C.B.	• Release the 2 tabs, and then remove the Operation knob. • Remove the Operation P.C.B. Fig. 10
Procedure 1→2→3→5→6	• Remove the 4 screws (①~④). Fig. 9	
Ref. No. 7	How to remove the LED P.C.B.	Fig. 11
Procedure 7	• Remove the Cassette lid. • Push the 3 tabs in the direction of arrow, and then remove the LED P.C.B.	

MEASUREMENT AND ADJUSTMENT METHODES

Measurement Condition

- Rec. level control; Maximum
- Timer stand-by switch; Off
- Editing switch; Off
- Editing tape-speed selector; off (X1)

Measuring instrument

- EVM (Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator

Test tape

- Head azimuth adjustment (8kHz, -20dB); QZZCFM
- Tape speed adjustment (3kHz, -10dB); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz, -20dB); QZZCFM

- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature $20 \pm 5^\circ\text{C}$ ($68 \pm 9^\circ\text{F}$)

- ATT (Attenuator)
- DC voltmeter
- Resistor (600 Ω)

- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment
Normal reference blank tape; QZZCRA
CrO₂ reference blank tape; QZZCRX
Metal reference blank tape; QZZCRZ

HEAD AZIMUTH ADJUSTMENT (DECK A/B)

1. Playback the azimuth adjustment portion (8kHz, -20dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the outputs of the L-CH and R-CH are maximized and the lissajous waveform, as illustrated, approaches 0 degrees.

Note: If L-CH and R-CH are not maximized at the same point, adjust to the point where the levels of each channel are maximized and equal.

2. Perform the same adjustment in the play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

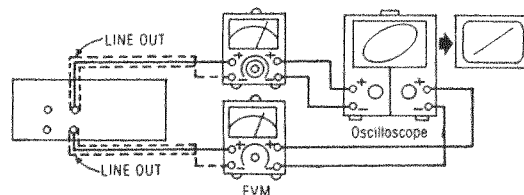


Fig. 1

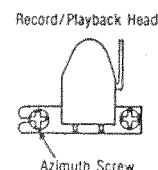


Fig. 2

TAPE SPEED ADJUSTMENT (DECK A/B)

Normal speed

1. Shift the editing tape-speed selector to "OFF (X1)".
2. Playback the middle portion of the test tape (QZZCWAT).
3. Adjust Deck B=VR802 and Deck A=VR801 so that the output is within the standard value.

High speed

4. Shift the editing tape speed switch to "X2" and connect the MODE TEST POINT and GND.
5. Playback the middle portion of the test tape (QZZCWAT).
6. Adjust Deck B=VR803 so that the output is within the standard value.

Note: The Normal speed adjustment must be done before the High speed adjustment.

Standard value: $3000 \pm 15\text{ Hz}$ (Normal), $6000 \pm 600\text{ Hz}$ (High)

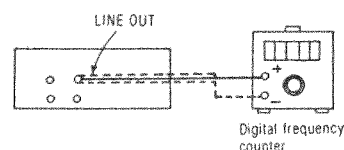


Fig. 3

PLAYBACK GAIN ADJUSTMENT (DECK A/B)

1. Playback the gain adjusted portion (315Hz, 0dB) of the test tape (QZZCFM).
2. Adjust Deck B=VR3 (L-CH) [[VR4 (R-CH)]] and Deck A=VR1 (L-CH) [[VR2 (R-CH)]] so that the output is within the standard value.

Standard value: $0.4\text{V} \pm 0.5\text{dB}$

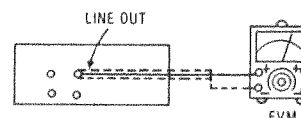


Fig. 4

PLAYBACK FREQUENCY RESPONSE (DECK A/B)

1. Playback the frequency response portion (315Hz, 12.5kHz~63Hz, -20dB) of the test tape (QZZCFM).
2. Assure that the frequency response is within the range shown in Fig. 6 for both L-CH and R-CH.

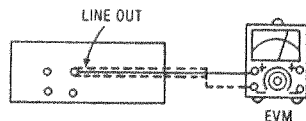


Fig. 5

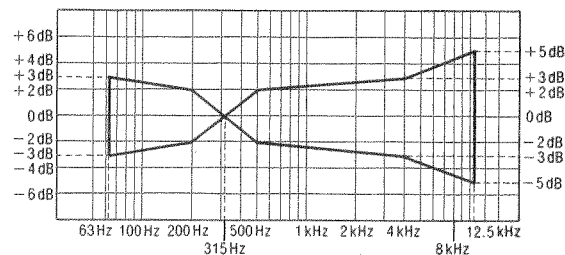


Fig. 6

ERASE CURRENT ADJUSTMENT (DECK A)

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record Pause mode.
2. Adjust VR301 so that the output between TP301 and GND is within the standard value.

Standard value: $170 \pm 5\text{mV}$ (Metal)

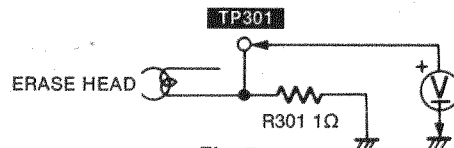


Fig. 7

OVERALL FREQUENCY RESPONSE

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record Pause mode.
2. Apply a reference input signal (1 kHz, -24dB) through an attenuator.
3. Attenuate the signal by 20dB and adjust the frequency from 50Hz~10kHz.
4. Record the frequency sweep.
5. Playback the recorded signal and assure that it is within the range shown in Fig. 8 in comparison to the reference frequency (1 kHz).
6. If it is not within the standard range, adjust VR7 (L-CH) and VR8 (R-CH) so that the frequency level is within the standard range.
 - Level up in high frequency rangeIncrease the bias current.
 - Level down in high frequency range ...Decrease the bias current.
7. Repeat steps 2~6 above using the CrO₂ tape (QZZCRX) and the Metal tape (QZZCRZ) increasing the frequency range to 12.5kHz (50Hz~12.5kHz).
8. Assure that the level is within the range shown in Fig. 9.

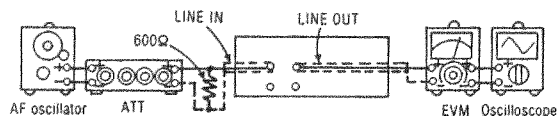


Fig. 10

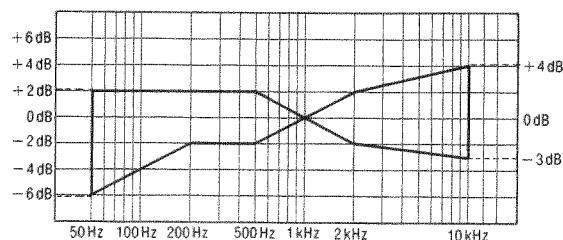
Normal Overall frequency response chart (NR OUT)

Fig. 8

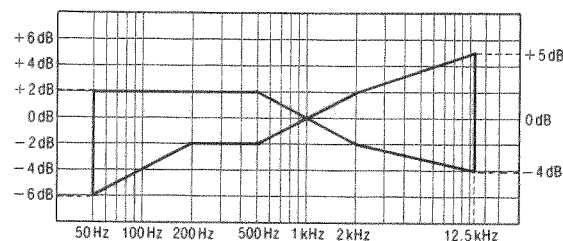
CrO₂ Metal Overall frequency response chart (NR OUT)

Fig. 9

OVERALL GAIN ADJUSTMENT

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record pause mode.
2. Apply a reference input signal (1kHz, -24dB). Attenuate the output so that its level becomes 0.4V.
3. Record this input signal.
4. Playback the signal recorded in step 3 above, and assure that the output is within the standard value.
5. If it is not within the standard value, adjust VR5 (L-CH) and VR6 (R-CH).
6. Repeat the step 2~5 above until the output is within the standard value.

Standard value: $0\text{V} \pm 0.5\text{dB}$

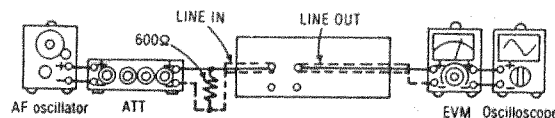
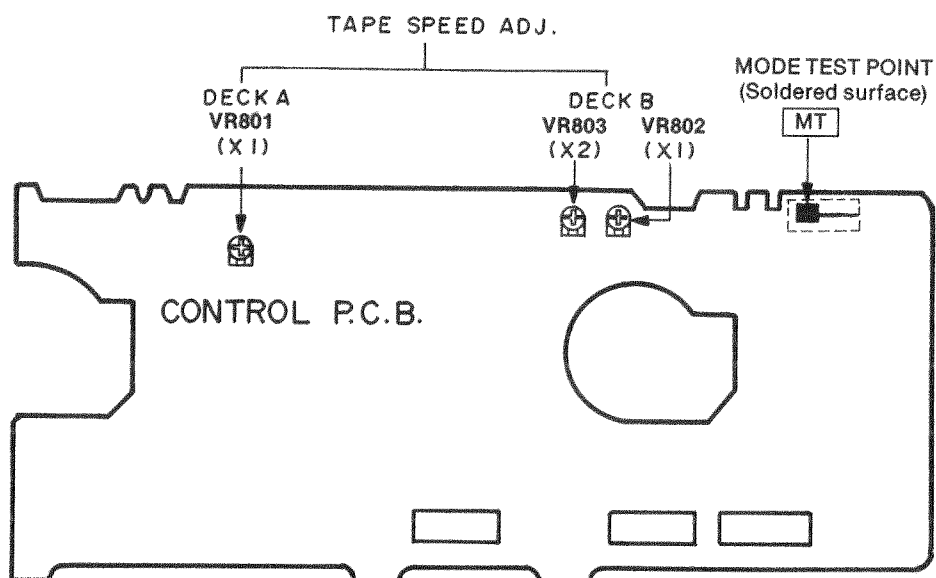
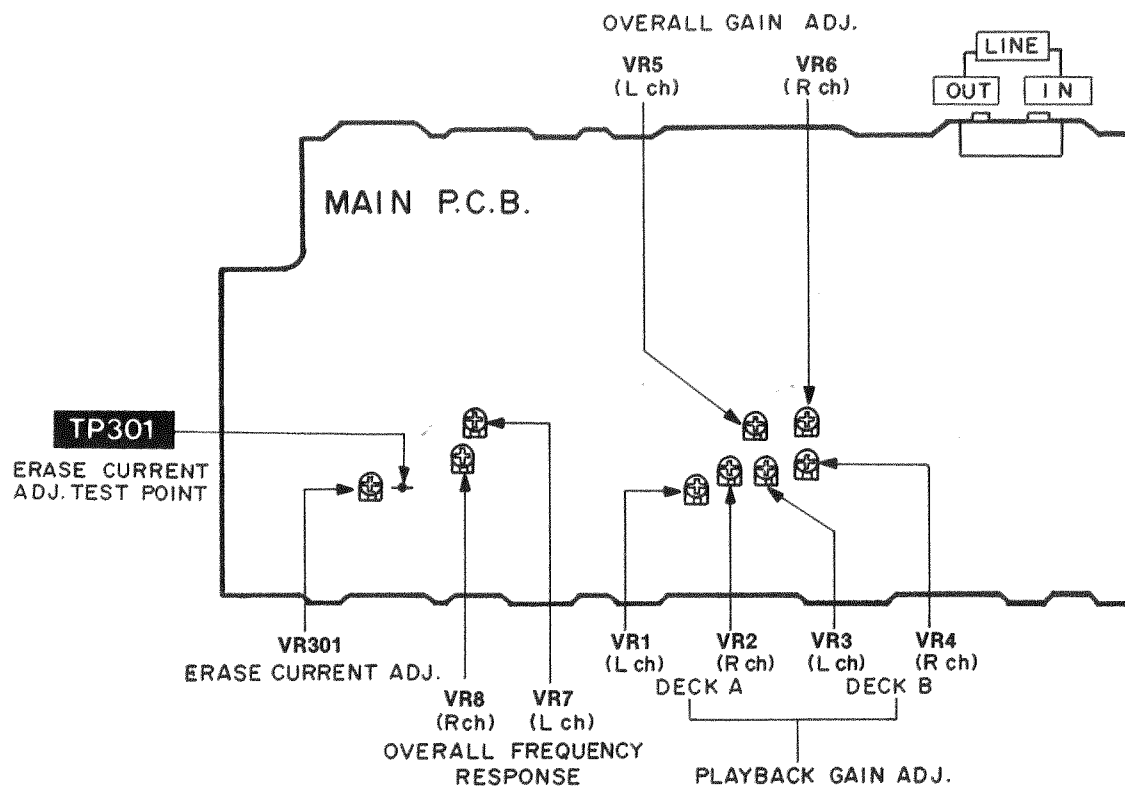


Fig. 11

• Adjustment Points



■ MICROCOMPUTER TERMINAL FUNCTION **(IC801: M50746-412SP)**

Pin No.	Symbol	In/Out	Description of terminal
1	V _{CC}	——	Power supply terminal
2	A V _{SS}	——	• Connected to V _{SS}
3	V _{REF}	Input	Standard voltage terminal (5V)
4	D/A	——	Not used in this unit.
5	PWM	——	Not used in this unit.
6	P6 (3)	——	Not used in this unit.
7	P6 (2)	Output	• "L" level in CUE/REV mode. • "H" level in other mode.
8	P6 (1)	Output	Mater mute control signal • "L" level in muting is on mode. • "H" level in muting is off mode.
9	P6 (0)	Output	• "H" level in Line In REC mode. • "L" level in other mode.
10	AN (7)	——	Not used in this unit.
11	AN (6)	Input	Key switch scan (Editing, X2 speed, Dolby B•C)
12	AN (5)	Input	Key switch scan (DECK A: Stop, F.F., Rew. Play, DECK B: Rec. Synchro start, Timer Rec./Play)
13	AN (4)	Input	Key switch scan (DECK A: Stop, F.F., Rew, Play, Pause, Auto rec mute)
14	P4 (3)	Input	Rec. inhibit switch • "L" level in rec inhibit switch is on mode. • "H" level in rec inhibit switch is off mode.
15	P4 (2)	——	Not used in this unit.
16	P4 (1)	Input	Remote control serial signal
17	P4 (0)	Input	• "L" level input terminal
18	P3 (7)	Output	Direct mute signal • "H" level in mute is on mode. • "L" level in mute is off mode.
19	P3 (6)	Output	Rec. amp. mute signal • "L" level in mute is on mode. • "H" level in mute is off mode.
20	P3 (5)	Output	Encode/Decode select signal • "L" level in encode mode. • "H" level in decode mode.
21	P3 (4)	Output	Deck A/B Playback amp. select signal • "L" level in Deck A Playback amp. • "H" level in Deck B Playback amp.

Pin No.	Symbol	In/Out	Description of terminal
22	P3 (3)	Output	Playback equalizer (120/170 μ s) select signal • "L" level in 120 μ s mode. • "H" level in 70 μ s mode.
23	P3 (2)	Output	Deck B High Speed Playback equalizer select signal • "L" level in high speed (X2) playback mode. • "H" level in normal speed (X1) playback mode.
24	P3 (1)	—	MPX filter control
25	P3 (0)	Output	Rec. mode signal • "L" level in Deck A Rec. mode. • "H" level in other mode.
26	POF (INT1)	Input	Power supply off detection
27	CNV _{SS}	—	Connected to V _{SS}
28	RESET	Input	Reset terminal
29	X _{IN}	Input	Clock OSC terminal
30	X _{OUT}	Output	
31	ϕ	—	Not used in this unit.
32	V _{SS}	—	Connected to GND
33	P5 (7)	Input	Deck B Automatic tape select switch • "L" level in ATS switch is on mode. • "H" level in ATS switch is off mode.
34	P5 (6)	Input	Deck B cassette half detection switch • "L" level in half detection switch is on mode. • "H" level in half detection switch is off mode.
35	P5 (5)	Input	Deck B Mode switch • "L" level in mode switch is on mode. • "H" level in mode switch is off mode.
36	P5 (4)	Input	Deck B Rotation pulse signal of reel table
37	P5 (3)	Input	Deck A Rotation pulse signal of reel table
38	P5 (2)	Input	Deck A Mode switch • "L" level in mode switch is on mode. • "H" level in mode switch is off mode.
39	P5 (1)	Input	Deck A cassette half detection switch • "L" level in half detection switch is on mode. • "H" level in half detection switch is off mode.
40	P5 (0)	Input	Deck A Automatic tape select switch • "L" level in ATS switch is on mode. • "H" level in ATS switch is off mode.
41	P1 (7)	—	5V terminal
42	P1 (6)	—	Not used in this unit.
43	P1 (5)	Output	Deck B Playback LED display • "L" level in LED on mode. • "H" level in LED off mode.

Pin No.	Symbol	In/Out	Description of terminal
44	P1 (4)	Output	Deck B Remote control LED display • "L" level in LED on mode. • "H" level in LED off mode.
45	P1 (3)	Output	Deck A Playback LED display • "L" level when LED is on mode. • "H" level when LED is off mode.
46	P1 (2)	Output	Deck A Remote control LED display • "L" level when LED is on mode. • "H" level when LED is off mode.
47	P1 (1)	Output	X2 Speed LED display • "L" level when LED is on mode. • "H" level when LED is off mode.
48	P1 (0)	Output	Editing LED display • "L" level when LED is on mode. • "H" level when LED is off mode.
49	P0 (7)	—	Not used in this unit.
50	P0 (6)	—	
51	P0 (5)	—	
52	P0 (4)	—	
53	P0 (3)	Output	Dolby B LED display • "L" level when LED is on mode. • "H" level when LED is off mode.
54	P0 (2)	Output	Dolby C LED display • "L" level when LED is on mode. • "H" level when LED is off mode.
55	P0 (1)	—	Not used in this unit.
56	P0 (0)	—	Not used in this unit.
57	P2 (7)	Output	Deck B Solenoid control signal • "H" level when solenoid is on mode. • "L" level when solenoid is off mode.
58	P2 (6)	Output	Deck B Motor control signal • "H" level when motor is on mode. • "L" level when motor is off mode.
59	P2 (5)	Output	Deck B Motor speed control signal • "L" level when normal speed (X1). • "H" level when high speed (X2).
60	P2 (4)	Output	Deck A Solenoid control signal • "H" level when solenoid is on mode. • "L" level when solenoid is off mode.
61	P2 (3)	Output	Deck A Motor control signal • "H" level when motor is on mode. • "L" level when motor is off mode.
62	P2 (2)	Output	Deck A Motor speed control signal • "L" level when normal speed (X1). • "H" level when high speed (X2).

Pin No.
63
64

Pin No.	Symbol	In/Out	Description of terminal												
63	P2 (1)	Output	Dolby NR select signal <table><tr><td></td><td>NR OFF</td><td>Dolby B</td><td>Dolby C</td></tr><tr><td>63</td><td>H</td><td>H</td><td>L</td></tr><tr><td>64</td><td>H</td><td>L</td><td>L</td></tr></table>		NR OFF	Dolby B	Dolby C	63	H	H	L	64	H	L	L
	NR OFF			Dolby B	Dolby C										
63	H			H	L										
64	H	L	L												
64	P2 (0)														

RE

Notes : *

Ref.

CABINE

CABINE

1

1

2

2

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(M, MC)

3

(E, EG,

(XA, XL

3

(E, EG,

(XA, XL

3

(MC)

4

(M, MC)

4

(E, EG,

(XA, XL

4

(MC)

4

(E, EG,

(XA, XL

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(XA)

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29-1

29-2

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31-1

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34

(E)

34

(EG, EH

REPLACEMENT PARTS LIST

Notes : * Important safety notice :

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)

Parts without these indications can be used for all areas.

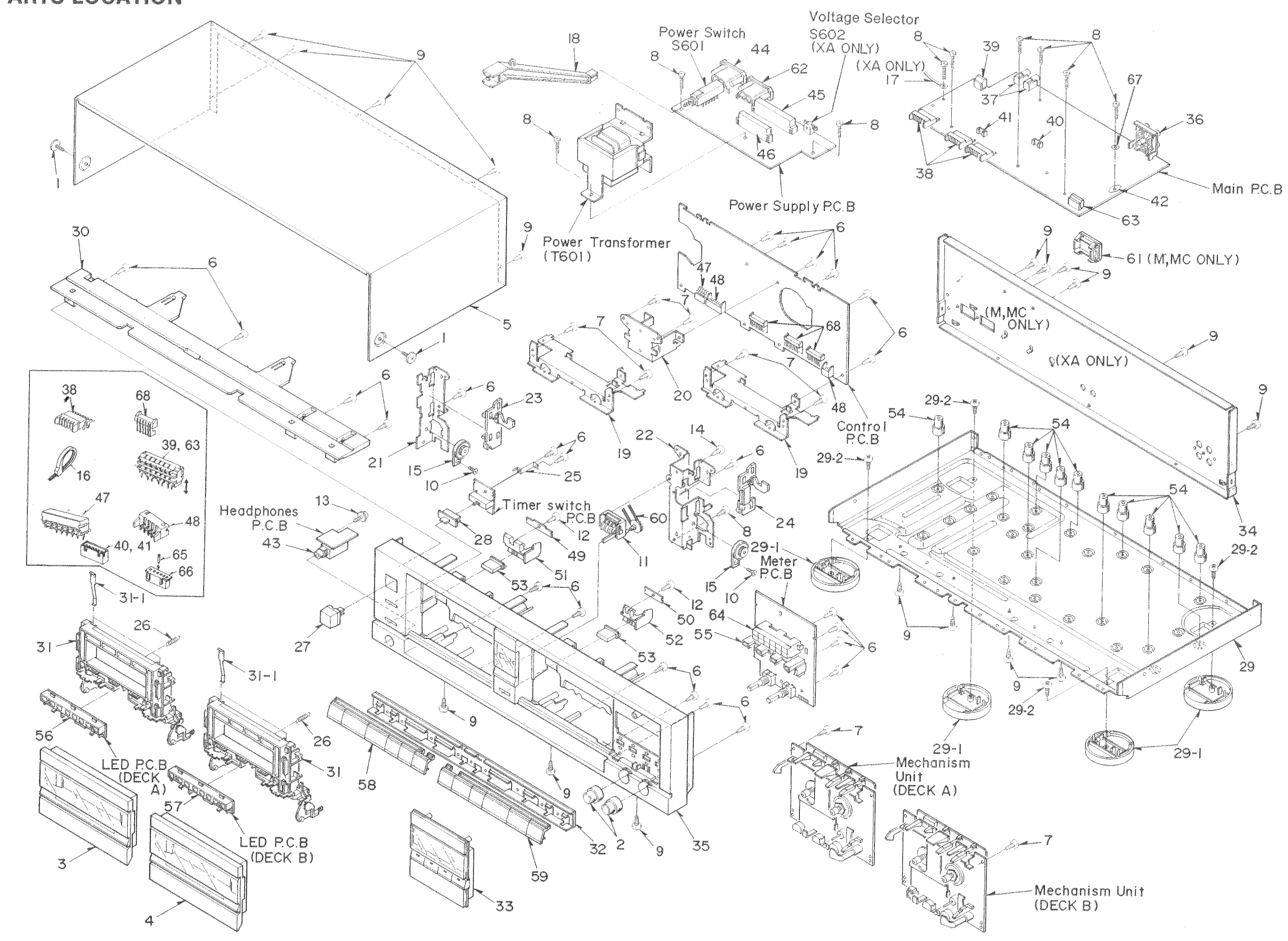
* $\textcircled{K}$ mark parts are used for black type only.

* $\textcircled{S}$ mark parts are used for silver type only.

Parts other than $\textcircled{K}$ and $\textcircled{S}$ marked are used for all color types.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
CABINET			34	SGP7280-1E	REAR PANEL
CABINET AND CHASSIS			(E, K)		
1	$\textcircled{K}$ SNE2129-1	SCREW	34	SGP7280-1G	REAR PANEL
1	$\textcircled{S}$ SNE2129	SCREW	(XL)		
2	$\textcircled{K}$ SBN1228-4	KNOB, REC LEVEL CONTROL	34	SGP7280-2A	REAR PANEL
2	$\textcircled{S}$ SBN1228-5	KNOB, REC LEVEL CONTROL	(XA)		
3	$\textcircled{K}$ SGE1911	CASSETTE LID (DECK A)	34	SGP7280A	REAR PANEL
(M, MC)			(M, MC)		
3	$\textcircled{K}$ SGE1911-3	CASSETTE LID (DECK A)	35	$\textcircled{K}$ SGYST230-KE	FRONT PANEL ASS'Y
(E, EG, EH, EK)			(E, EG, EH, EK)		
(XA, XL)			(XA, XL)		
3	$\textcircled{S}$ SGE1911-6	CASSETTE LID (DECK A)	35	$\textcircled{K}$ SGYST230-KM	FRONT PANEL ASS'Y
(E, EG, EH, EK)			(M, MC)		
(XA, XL)			35	$\textcircled{S}$ SGYST230-SE	FRONT PANEL ASS'Y
3	$\textcircled{S}$ SGE1911-9	CASSETTE LID (DECK A)	(E, EG, EH, EK)		
(MC)			(XL, XA)		
4	$\textcircled{K}$ SGE1911-1	CASSETTE LID (DECK B)	35	$\textcircled{S}$ SGYST230-SM	FRONT PANEL ASS'Y
(M, MC)			(MC)		
4	$\textcircled{K}$ SGE1911-4	CASSETTE LID (DECK B)	36	SJF3069N	TERMINAL BOARD
(E, EG, EH, EK)			37	SJJ141-1	M3 JACK
(XA, XL)			38	SJS51080WL	SOCKET(10P)
4	$\textcircled{S}$ SGE1911-10	CASSETTE LID (DECK B)	39	SJT30340LX-V	CONNECTOR(3P)
(MC)			40	SJTD0313	CONNECTOR(3P)
4	$\textcircled{S}$ SGE1911-7	CASSETTE LID (DECK B)	41	SJTD0513	CONNECTOR(5P)
(E, EG, EH, EK)			42	SNE55	BRACKET
(XA, XL)			43	SJJ134B	JACK, HEADPHONES
5	$\textcircled{K}$ SKC2160K99	CABINET	44	Δ SJS16	AC INLET
5	$\textcircled{S}$ SKC2160S98	CABINET	(M, MC, XL)		
6	XTB3+10J	SCREW	44	Δ SJS9236	AC INLET
7	XTB3+12JFR	SCREW	(E, EG, EH, EK)		
8	XTB3+20J	SCREW	(XA)		
9	XTB3+8JFZ	SCREW	45	SJS501	SOCKET
10	XTS3+8J	SCREW	46	SJS502	SOCKET
11	SJN32	TAPE COUNTER	47	SJT30444-H	CONNECTOR(4P)
12	XTB3+8J	SCREW	48	SJT3321	CONNECTOR(3P)
13	XTWS3+10Q	SCREW	48	SJT3811	CONNECTOR(8P)
14	XTV26+6J	SCREW	49	SMN2076	PLATE
15	SMQ SX840-KN	DAMPER GEAR ASS'Y	50	SMN2077	PLATE
16	SHR301	CLAMPER	51	SMQ40033	BRACKET
17	SHE36-3	LEAD HOLDER	52	SMQ40034	BRACKET
(XA)			53	$\textcircled{K}$ SBC1007	BUTTON, EJECT
18	SUB247	CONNECTION ROD	53	$\textcircled{S}$ SBC1007-1	BUTTON, EJECT
19	SMN2074	ANGLE	54	SHE187-2	HOLDER
20	SMN2075	ANGLE	55	LN041445P	LED BLOCK ASS'Y
21	SMQ30052	BRACKET	56	SLNST230-KE	LED BLOCK ASS'Y
22	SMQ30053	BRACKET	(E, EG, EH, EK)		
23	SMQ40041	LEVER	(XL, XA)		
24	SMQ40042	LEVER	56	SLNST230-KM	LED BLOCK ASS'Y
25	SUS1002	PLATE	(M, MC)		
26	SUS1005	SPRING	57	SLNST230-KE1	LED BLOCK ASS'Y
27	$\textcircled{K}$ SBC666-5	BUTTON, POWER	(E, EG, EH, EK)		
27	$\textcircled{S}$ SBC666	BUTTON, POWER	(XL, XA)		
28	$\textcircled{K}$ SBD145	KNOB, TIMER	57	SLNST230-KM1	LED BLOCK ASS'Y
28	$\textcircled{S}$ SBD145-1	KNOB, TIMER	(M, MC)		
29	SKUST330R-KE	BOTTOM BOARD ASS'Y	58	$\textcircled{K}$ SBC1013	BUTTON, OPERATION (DECK A)
29-1	SKL313	FOOT	58	$\textcircled{S}$ SBC1013-1	BUTTON, OPERATION (DECK A)
29-2	XTB3+10J	SCREW	59	$\textcircled{K}$ SBC1012	BUTTON, OPERATION (DECK B)
30	SGX7956	SPACER	59	$\textcircled{S}$ SBC1012-1	BUTTON, OPERATION (DECK B)
31	SGE1912	CASSETTE HOLDER	60	SMQ20022	BELT, TAPE COUNTER
31-1	QBP2006A	SPRING	61	SJS9331A	AC OUTLET COVER
32	SMN2073	BRACKET	(M, MC)		
33	$\textcircled{K}$ SGXST230-KE	METER ORNAMENT ASS'Y	62	Δ SJS9331B	AC OUTLET
33	$\textcircled{S}$ SGXST230-SE	METER ORNAMENT ASS'Y	(M, MC)		
34	SGP7280-1A	REAR PANEL	63	SJT30543-V	CONNECTOR(5P)
(E)			64	LN121451P	LED BLOCK ASS'Y
34	SGP7280-1C	REAR PANEL	65	SJT783	CONTACT
(EG, EH)			66	SJS5331	SOCKET(3P)
			66	SJS5811	SOCKET(8P)
			67	XWA3B	WASHER
			68	SJT31047WL	CONNECTOR(10P)

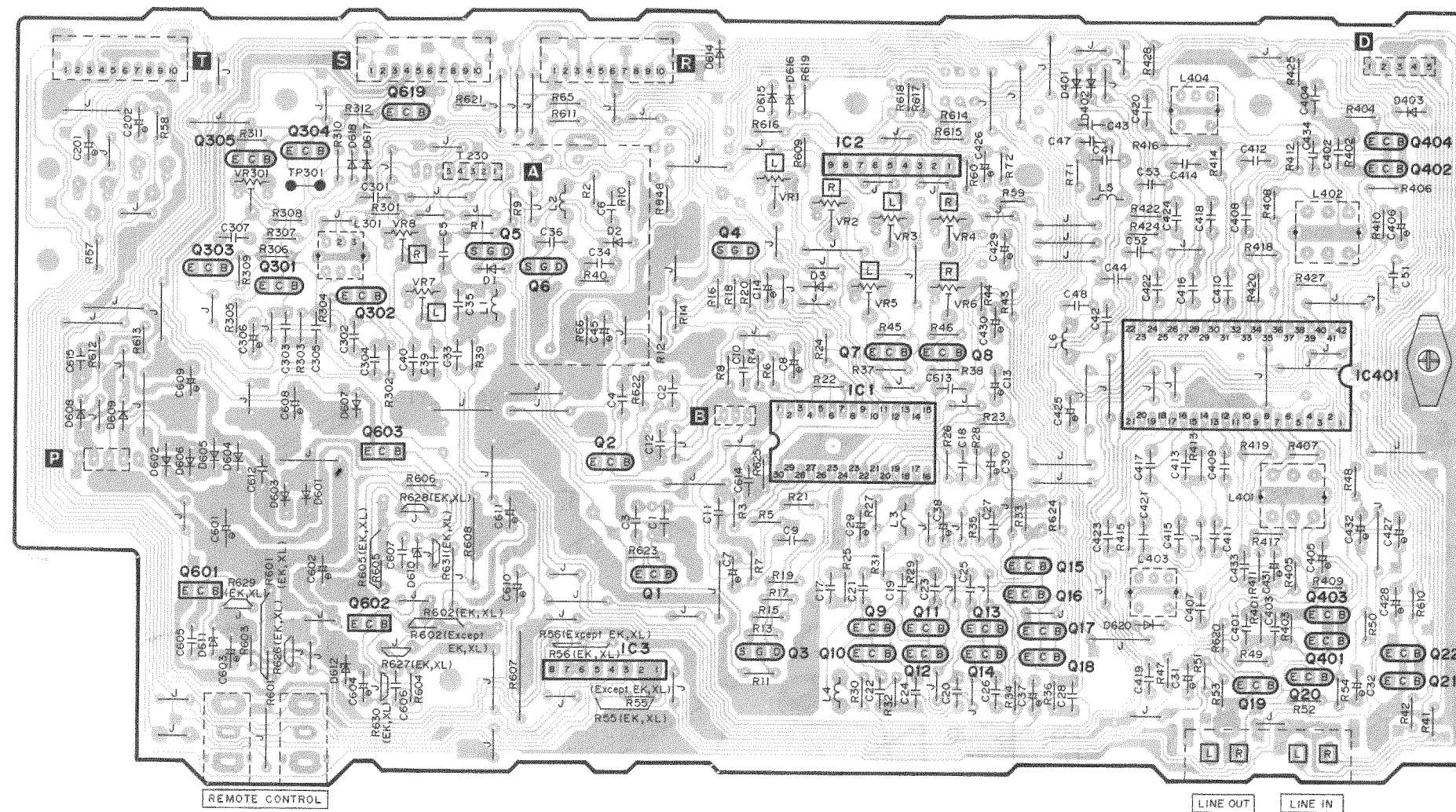
CABINET PARTS LOCATION



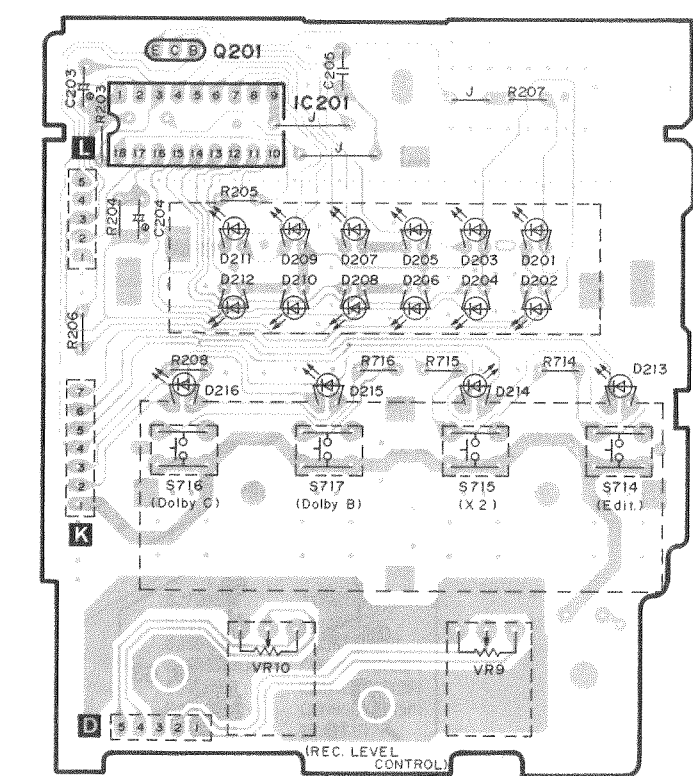
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30	31	38	26	31-1	39	31-1	27	26	31	26	28	23	25	33	32	22	35	29-1	24	29-2	38	37	29-2	39	41	40	29-2	36	29-1	29-2	29	34																					
40	41	48	68	56	63	57	48	65	66	43	58	59	53	59	51	49	55	53	60	52	50	44	47	48	62	64	46	45	64	68	48	54	61	54	61	42	67	54	63														

PRINTED CIRCUIT BOARDS

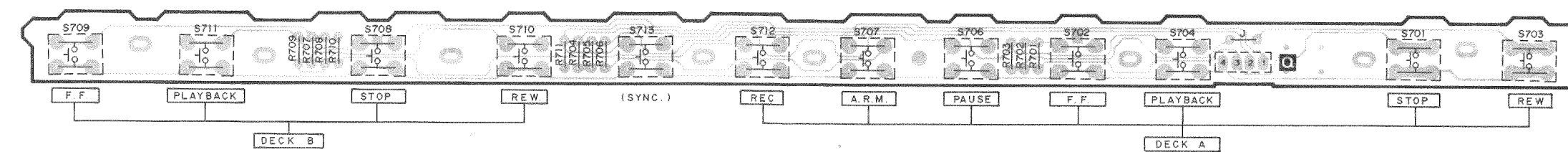
I MAIN P.C.B.



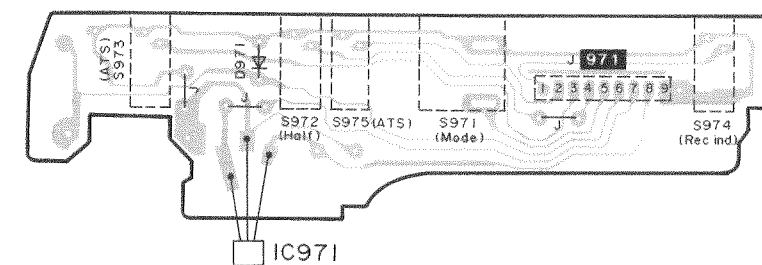
IV METER P.C.B.



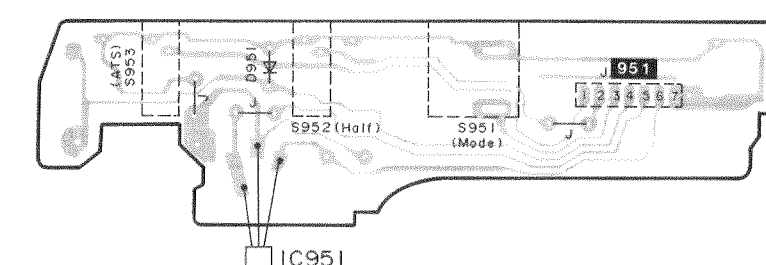
V OPERATION P.C.B.



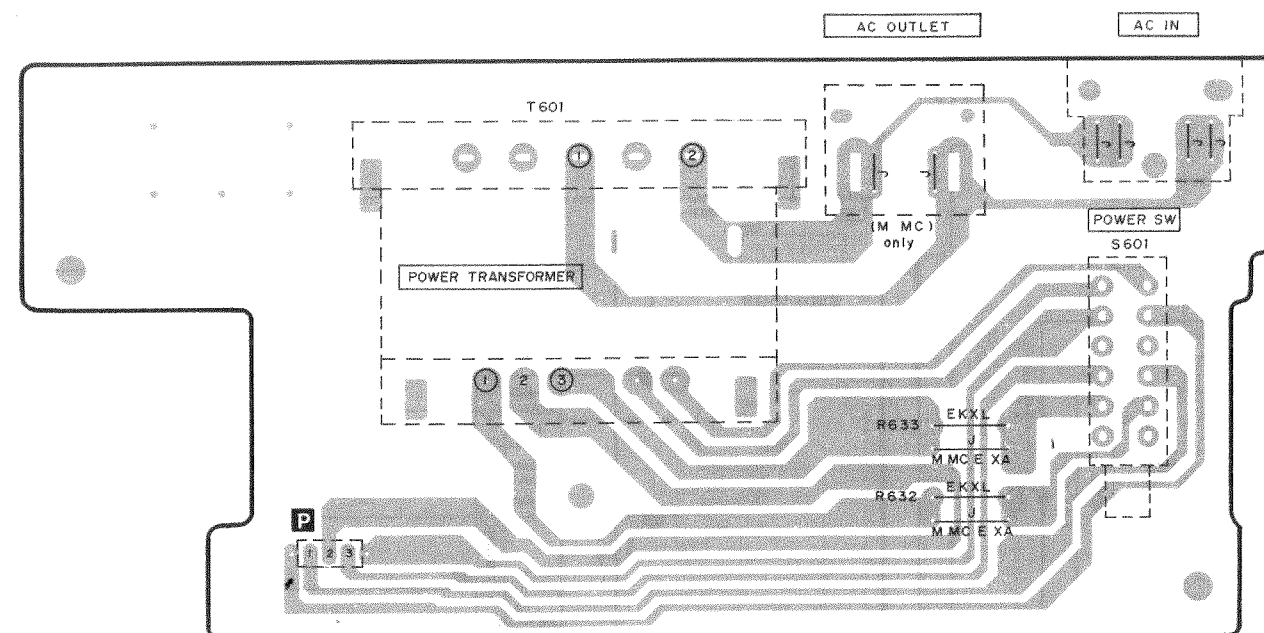
VII MECHANISM P.C.B. (DECK A)



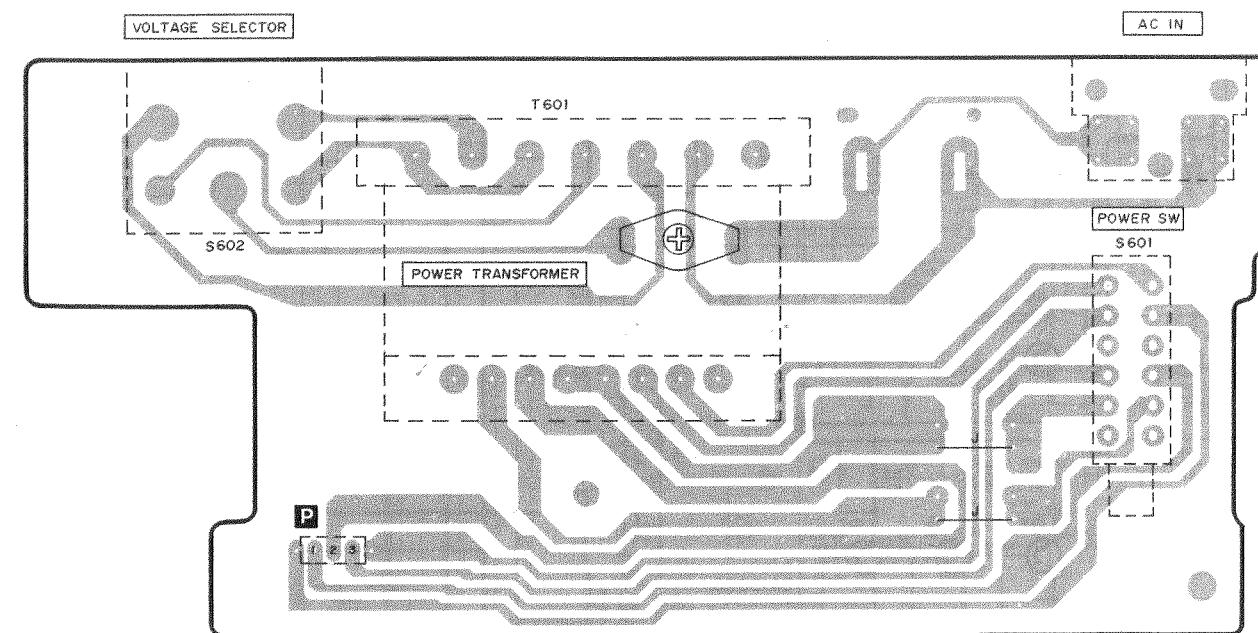
IX MECHANISM P.C.B. (DECK B)



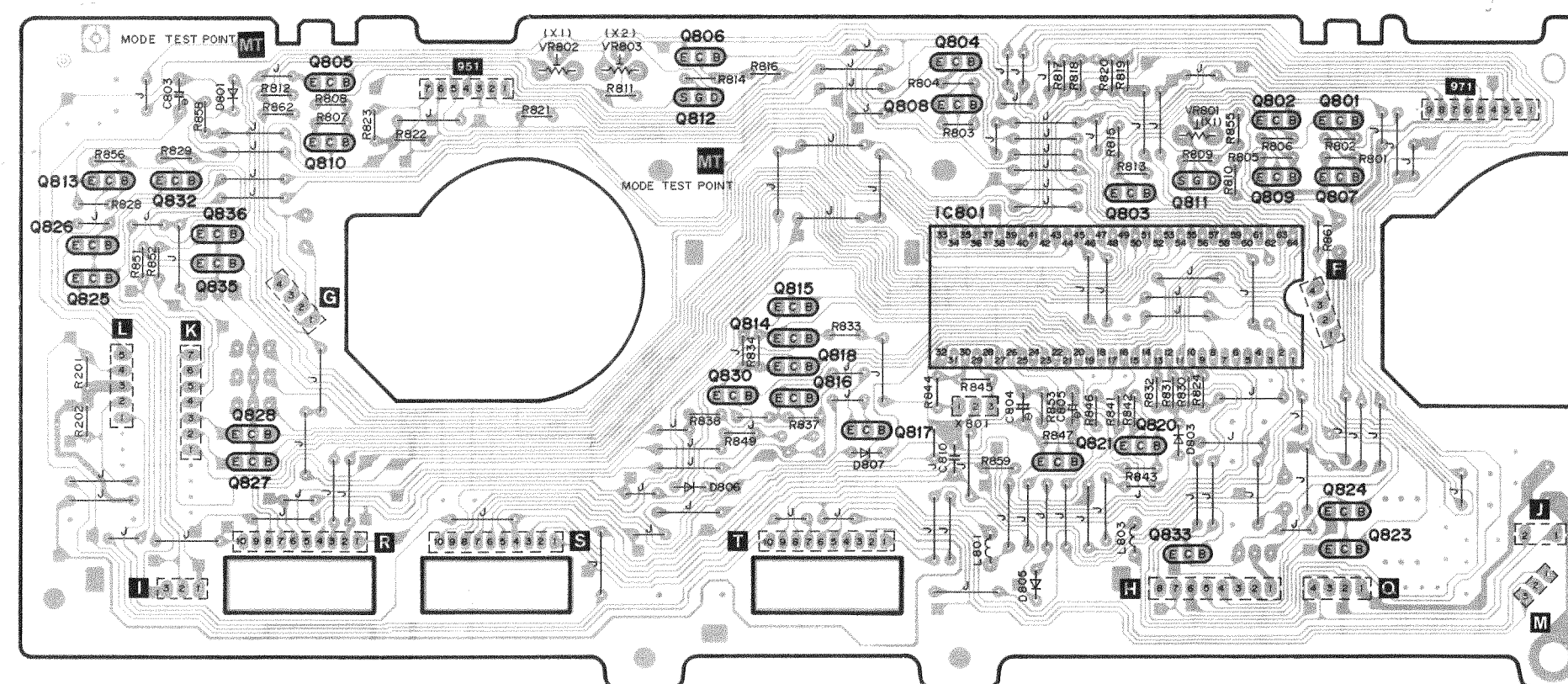
III POWER SUPPLY P.C.B. (M, MC, E, EK, EG, EH, XL)



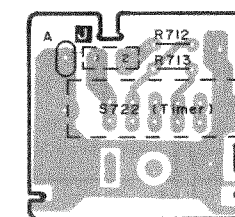
III POWER SUPPLY P.C.B. (XA)



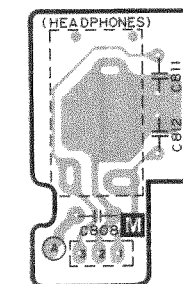
II CONTROL P.C.B.



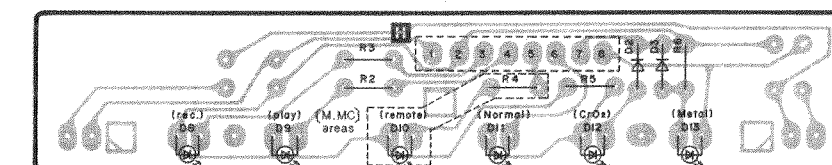
VII TIMER SW P.C.B.



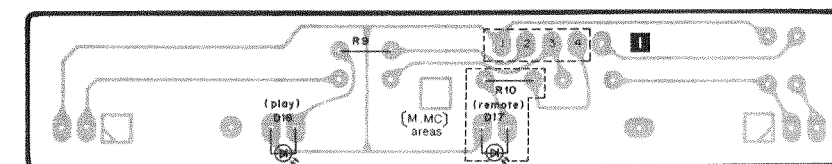
VI HEADPHONES P.C.B.



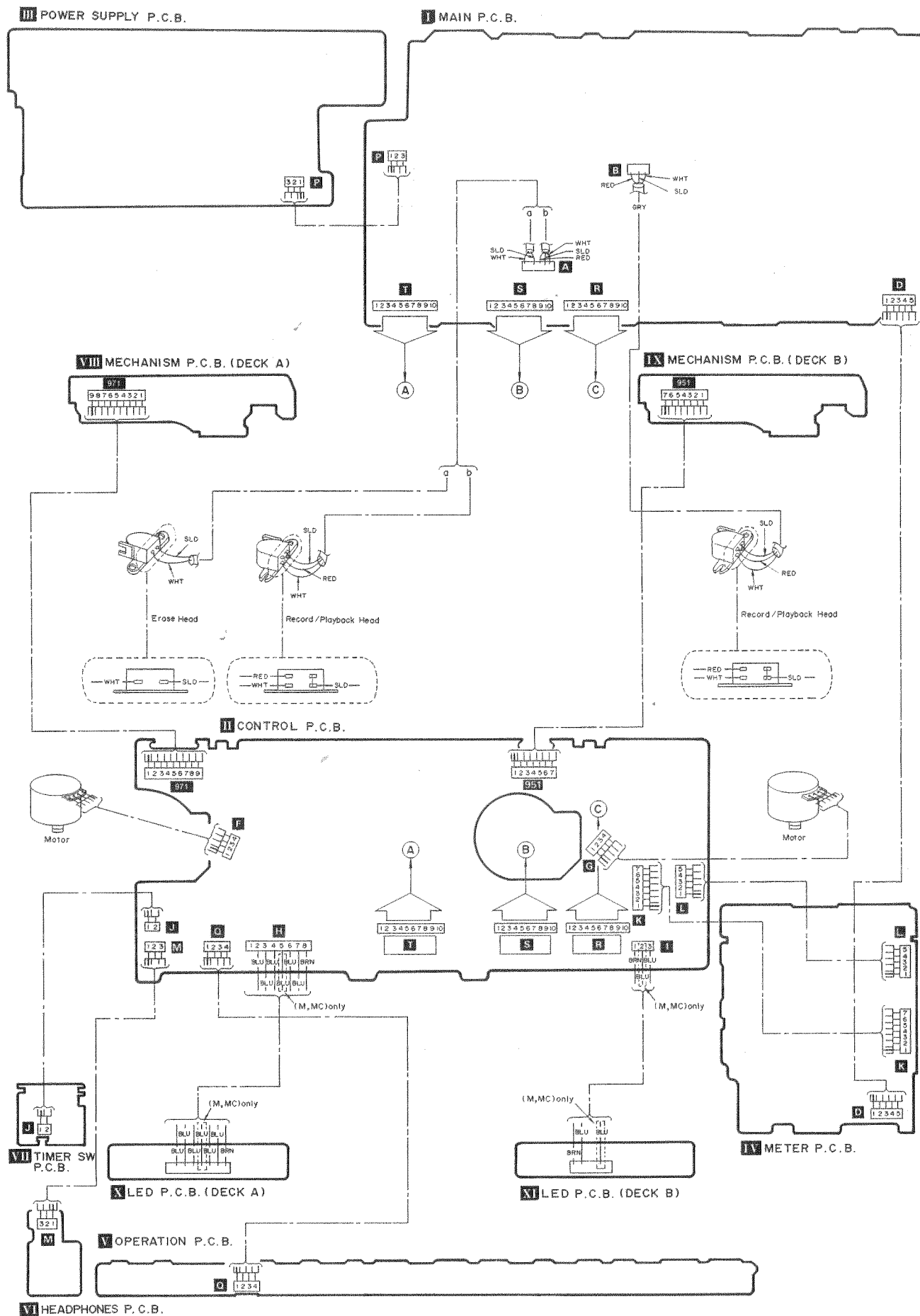
X LED P.C.B. (DECK A)



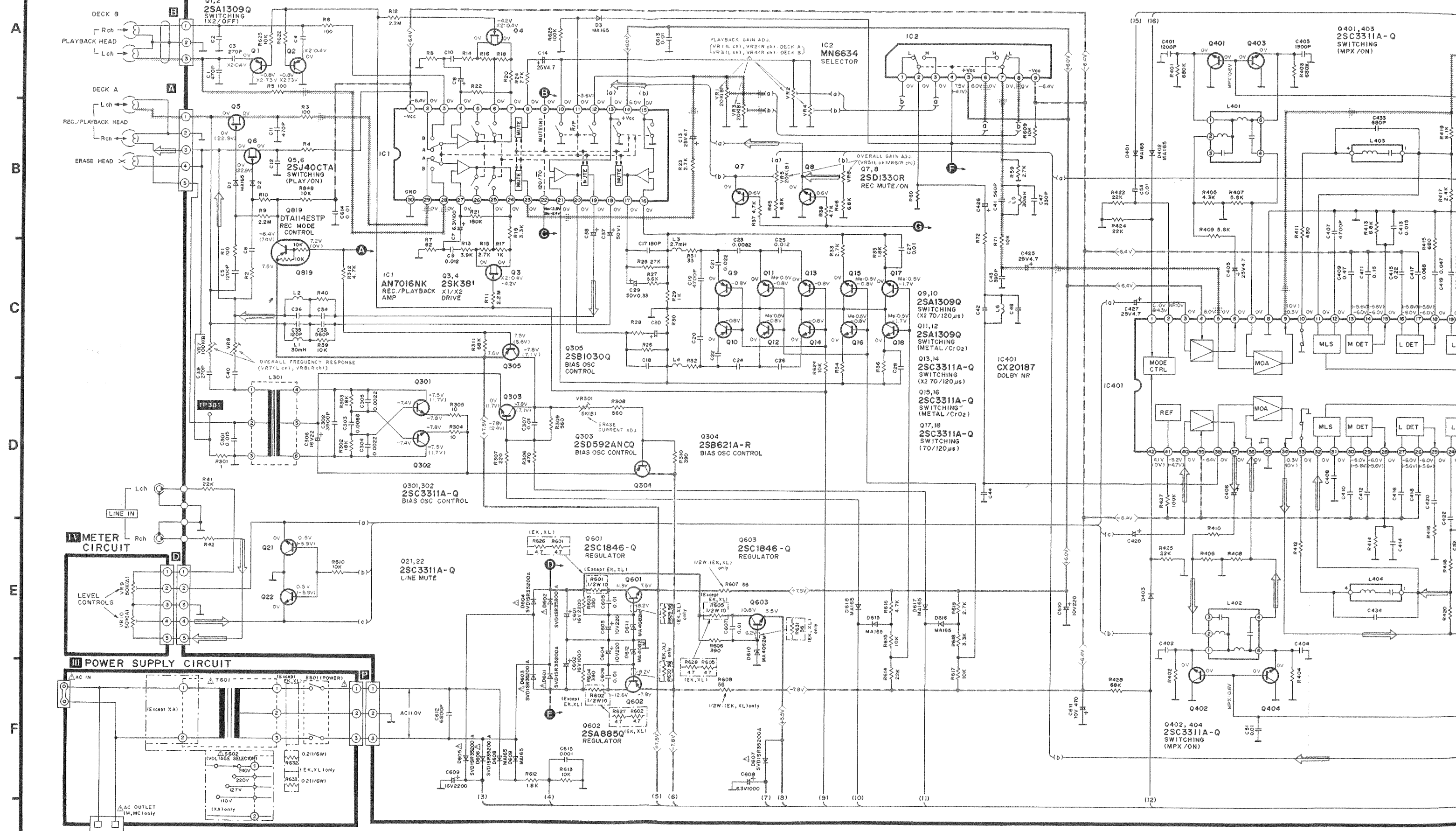
XI LED P.C.B. (DECK B)

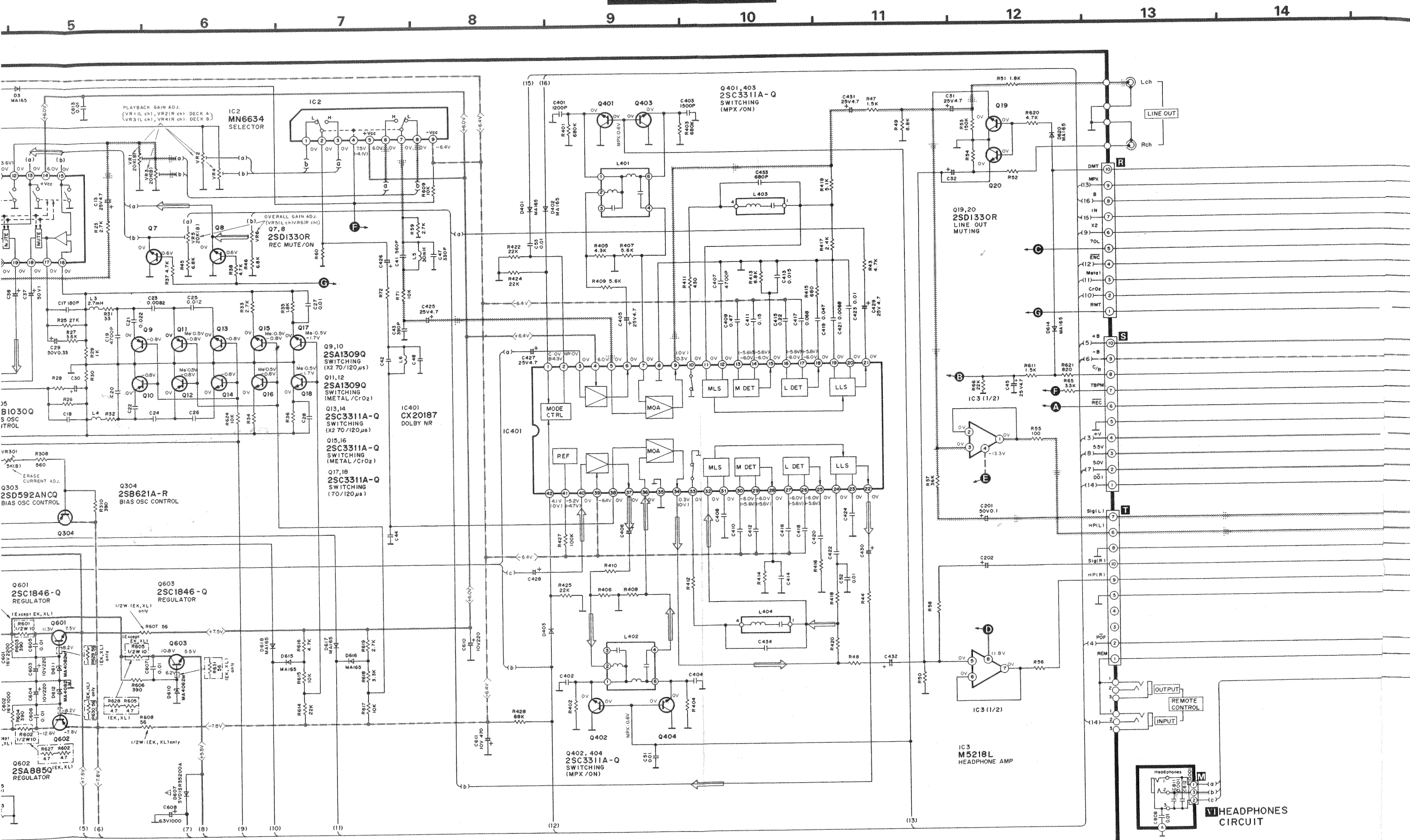


WIRING CONNECTION DIAGRAM

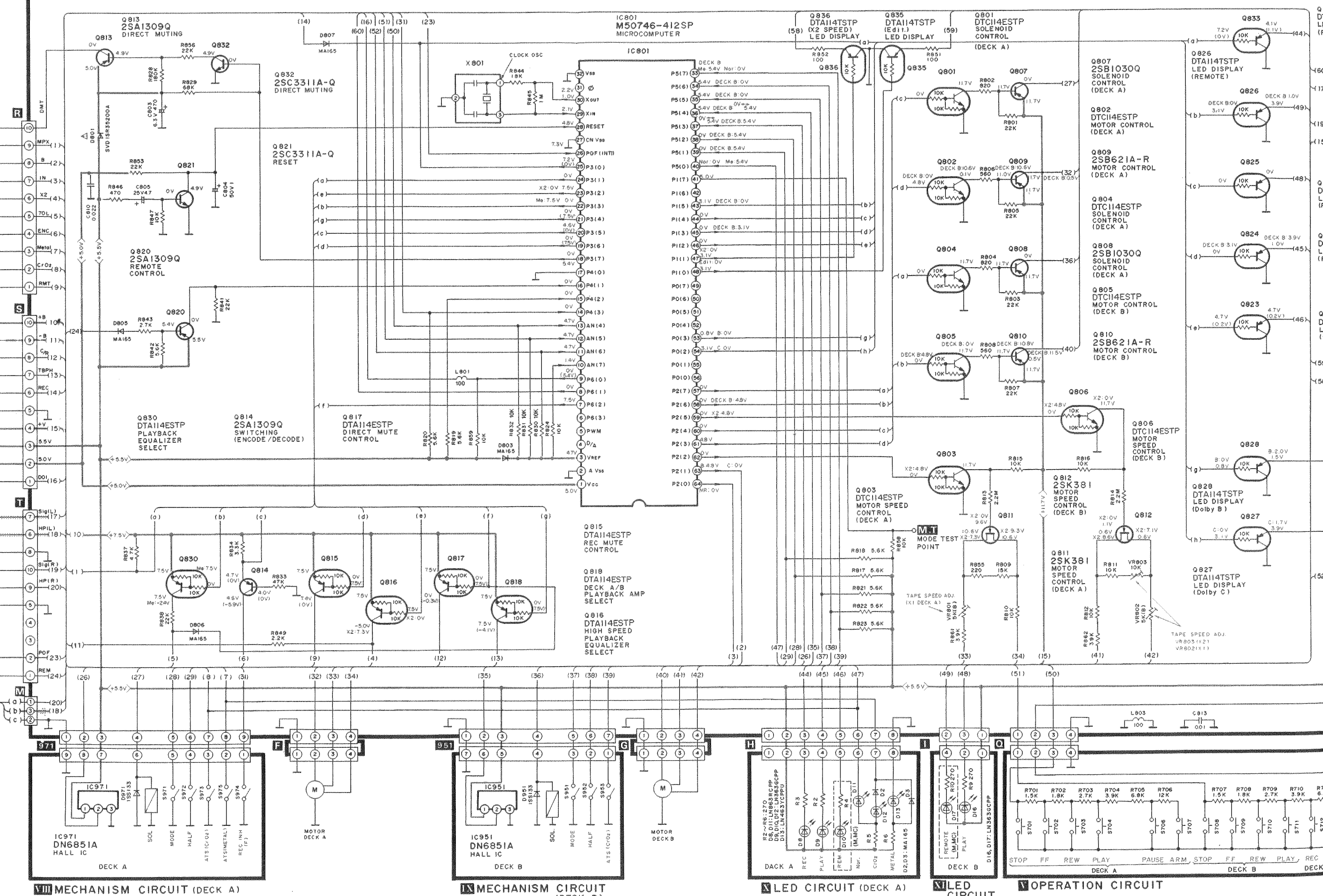


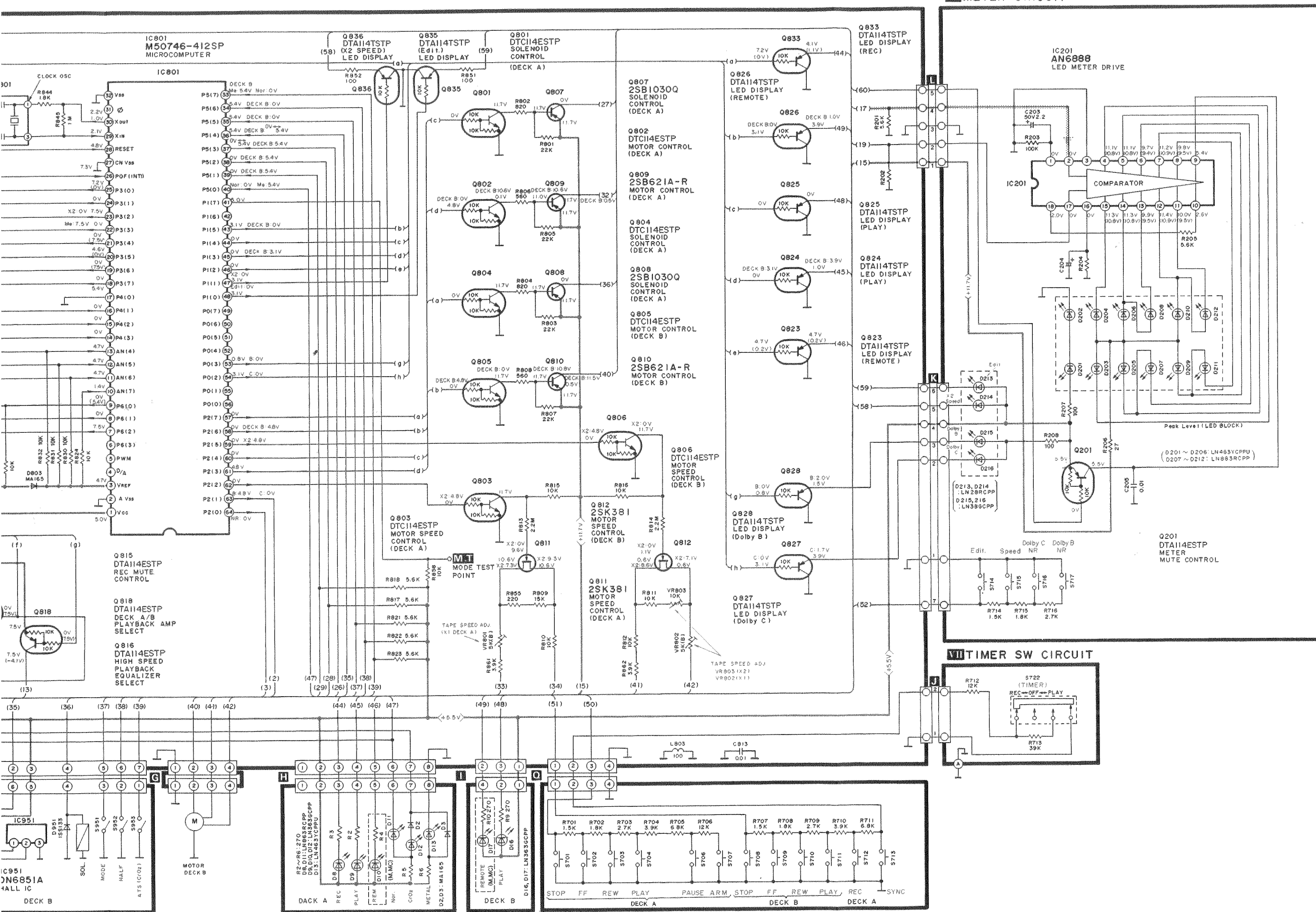
I MAIN CIRCUIT



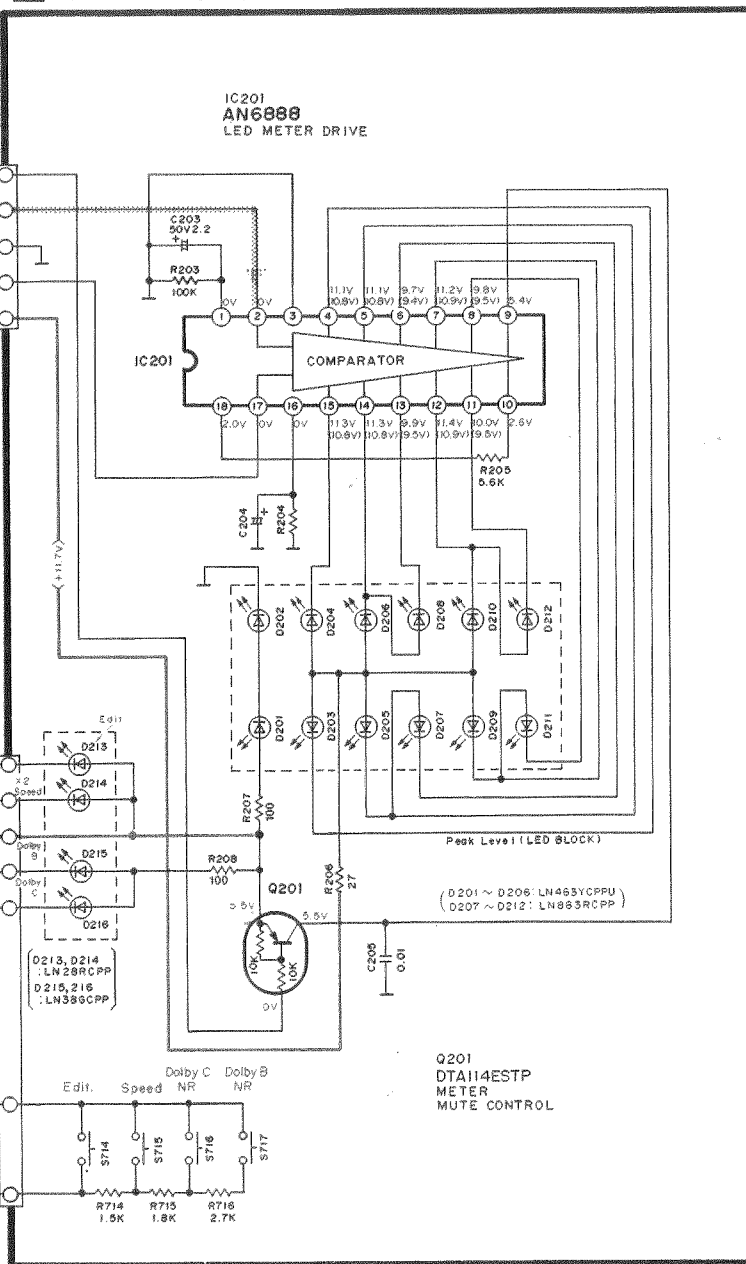


III CONTROL CIRCUIT

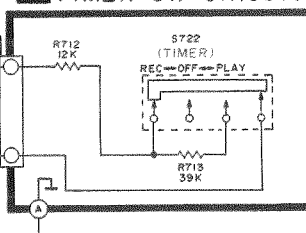




METER CIRCUIT



TIMER SW CIRCUIT



MECHANISM CIRCUIT (DECK B)



LED CIRCUIT (DECK A)



LED CIRCUIT (DECK B)



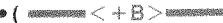
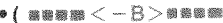
OPERATION CIRCUIT



■ SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

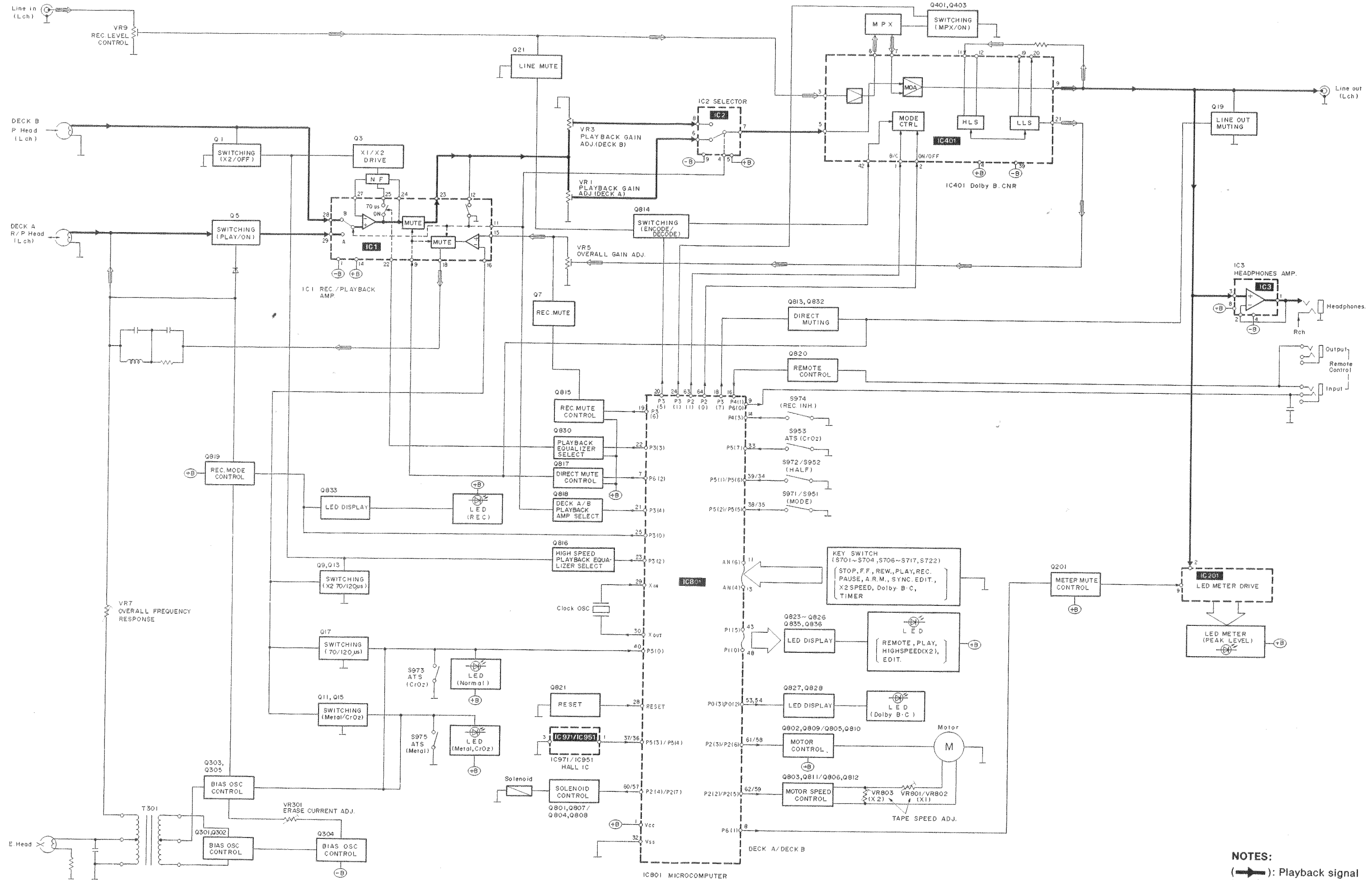
Notes:

- S601: Power switch in "on" position.
 - S602: Voltage selector in "240V" position. (XA)
 - S701: DECK A Stop switch in "off" position.
 - S702: DECK A F.F. switch in "off" position.
 - S703: DECK A Rew. switch in "off" position.
 - S704: DECK A Playback switch in "off" position.
 - S706: DECK A Pause switch in "off" position.
 - S707: DECK A Auto rec. mute switch in "off" position.
 - S708: DECK B Stop switch in "off" position.
 - S709: DECK B F.F. switch in "off" position.
 - S710: DECK B Rew. switch in "off" position.
 - S711: DECK B Playback switch in "off" position.
 - S712: DECK A Record switch in "off" position.
 - S713: Synchro recording start switch in "off" position.
 - S714: Editing switch in "off" position.
 - S715: Editing tape speed selector in "off (X1)" position.
 - S716: Dolby C NR switch in "off" position.
 - S717: Dolby B NR switch in "off" position.
 - S722: Timer stand-by switch in "off" position.
 - S951: DECK B Mode switch in "off" position.
 - S952: DECK B Cassette half detection switch in "off" position.
 - S953: DECK B ATS (CrO₂) switch in "off" position.
 - S971: DECK A Mode switch in "off" position.
 - S972: DECK A Cassette half detection switch in "off" position.
 - S973: DECK A ATS (CrO₂) switch in "off" position.
 - S974: DECK A Rec inhibit switch in "off" position.
 - S975: DECK A ATS (Metal) switch in "off" position.
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.
1K = 1,000 (Ω), 1M = 1,000k (Ω)
- Capacity are in micro-farads (μ F) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
() Voltage values at record mode.
For measurement us EVM.
- Important safety notice
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- () indicates +B (bias).
 - () indicates -B (bias).
 - () indicates the flow of the playback signal.
 - () indicates the flow of the record signal.

* Caution!

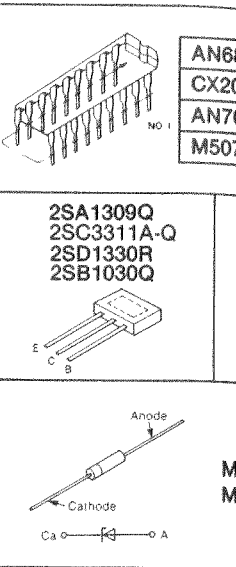
- IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
- * Cover the parts boxes made of plastics with aluminum foil.
 - * Ground the soldering iron.
 - * Put a conductive mat on the work table.
 - * Do not touch the legs of IC or LSI with the fingers directly.

BLOCK DIAGRAM

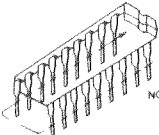
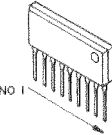
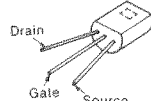
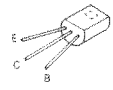
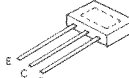
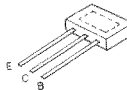
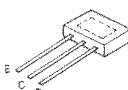
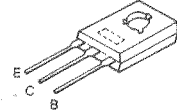
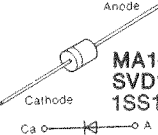
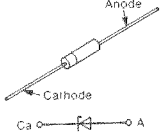
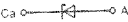
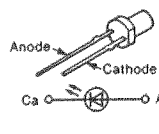


NOTES:
 (→): Playback signal
 (⇨): Recording signal

TERMINAL



■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

 <table><tr><td>AN6888</td><td>18 Pin</td></tr><tr><td>CX20187</td><td>42 Pin</td></tr><tr><td>AN7016NK</td><td>30 Pin</td></tr><tr><td>M50746-412SP</td><td>64 Pin</td></tr></table>	AN6888	18 Pin	CX20187	42 Pin	AN7016NK	30 Pin	M50746-412SP	64 Pin	 <table><tr><td>M5218L</td><td>8 Pin</td></tr><tr><td>MN6634</td><td>9 Pin</td></tr></table>	M5218L	8 Pin	MN6634	9 Pin	2SJ40CTA 2SK381 	2SB621A-R 2SD592ANCQ 
AN6888	18 Pin														
CX20187	42 Pin														
AN7016NK	30 Pin														
M50746-412SP	64 Pin														
M5218L	8 Pin														
MN6634	9 Pin														
2SA1309Q 2SC3311A-Q 2SD1330R 2SB1030Q 	DTC114ESTP  	DTA114ESTP, DTA114TS  	2SA885Q 2SC1846-Q 	MA165 SVD1SR35200A 1SS133  											
 MA4062M MA4082M 	 LN28RCPP (ORANGE) LN38GCPP (GREEN) LN363GCPP (GREEN) LN463YCPPU (AMBER) LN863RCPP (ORANGE) 														

REPLACEMENT PARTS LIST

Notes : * Important safety notice :

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)

Parts without these indications can be used for all areas.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
INTEGRATED CIRCUITS			Q827	DTA114TSTP	TRANSISTOR
IC1	AN7016NK	I.C. REC/PLAYBACK AMP.	Q828	DTA114TSTP	TRANSISTOR
IC2	MN6634	I.C. SELECTOR	Q830	DTA114ESTP	TRANSISTOR
IC3	M5218L	I.C. HEADPHONES AMP.	Q832	2SC3311A-Q	TRANSISTOR
IC201	AN6888	I.C. METER DRIVE	Q833	DTA114TSTP	TRANSISTOR
IC401	CX20187	I.C. DOLBY B-C NR	Q835	DTA114TSTP	TRANSISTOR
IC801	M50746-412SP	I.C. MICROCOMPUTER	Q836	DTA114TSTP	TRANSISTOR
IC951	DN6851A	I.C. HALL	DIODES		
IC971	DN6851A	I.C. HALL	D1	MA165	DIODE
TRANSISTORS			D2	MA165	DIODE
Q1	2SA1309Q	TRANSISTOR	D3	MA165	DIODE
Q2	2SA1309Q	TRANSISTOR	D201	LN463YCPPU	L.E.D
Q3	2SK381	TRANSISTOR	D202	LN463YCPPU	L.E.D
Q4	2SK381	TRANSISTOR	D203	LN463YCPPU	L.E.D
Q5	2SJ40CTA	TRANSISTOR	D204	LN463YCPPU	L.E.D
Q6	2SJ40CTA	TRANSISTOR	D205	LN463YCPPU	L.E.D
Q7	2SD1330R	TRANSISTOR	D206	LN463YCPPU	L.E.D
Q8	2SD1330R	TRANSISTOR	D207	LN863RCPP	L.E.D
Q9	2SA1309Q	TRANSISTOR	D208	LN863RCPP	L.E.D
Q10	2SA1309Q	TRANSISTOR	D209	LN863RCPP	L.E.D
Q11	2SA1309Q	TRANSISTOR	D210	LN863RCPP	L.E.D
Q12	2SA1309Q	TRANSISTOR	D211	LN863RCPP	L.E.D
Q13	2SC3311A-Q	TRANSISTOR	D212	LN863RCPP	L.E.D
Q14	2SC3311A-Q	TRANSISTOR	D213	LN28RCPP	DIODE
Q15	2SC3311A-Q	TRANSISTOR	D214	LN28RCPP	DIODE
Q16	2SC3311A-Q	TRANSISTOR	D215	LN38GCPP	L.E.D
Q17	2SC3311A-Q	TRANSISTOR	D216	LN38GCPP	L.E.D
Q18	2SC3311A-Q	TRANSISTOR	D401	MA165	DIODE
Q19	2SD1330R	TRANSISTOR	D402	MA165	DIODE
Q20	2SD1330R	TRANSISTOR	D403	MA165	DIODE
Q21	2SC3311A-Q	TRANSISTOR	D601	Δ SVD1SR35200A	DIODE
Q22	2SC3311A-Q	TRANSISTOR	D602	Δ SVD1SR35200A	DIODE
Q201	DTA114ESTP	TRANSISTOR	D603	Δ SVD1SR35200A	DIODE
Q301	2SC3311A-Q	TRANSISTOR	D604	Δ SVD1SR35200A	DIODE
Q302	2SC3311A-Q	TRANSISTOR	D605	Δ SVD1SR35200A	DIODE
Q303	2SD592ANCQ	TRANSISTOR	D606	Δ SVD1SR35200A	DIODE
Q304	2SB621A-R	TRANSISTOR	D607	Δ SVD1SR35200A	DIODE
Q305	2SB1030Q	TRANSISTOR	D608	MA165	DIODE
Q401	2SC3311A-Q	TRANSISTOR	D609	MA165	DIODE
Q402	2SC3311A-Q	TRANSISTOR	D610	MA4062M	DIODE
Q403	2SC3311A-Q	TRANSISTOR	D611	MA4082M	DIODE
Q404	2SC3311A-Q	TRANSISTOR	D612	MA4082M	DIODE
Q601	2SC1846-Q	TRANSISTOR	D614	MA165	DIODE
Q602	2SA885Q	TRANSISTOR	D615	MA165	DIODE
Q603	2SC1846-Q	TRANSISTOR	D616	MA165	DIODE
Q801	DTC114ESTP	TRANSISTOR	D617	MA165	DIODE
Q802	DTC114ESTP	TRANSISTOR	D618	MA165	DIODE
Q803	DTC114ESTP	TRANSISTOR	D620	MA165	DIODE
Q804	DTC114ESTP	TRANSISTOR	D801	Δ SVD1SR35200A	DIODE
Q805	DTC114ESTP	TRANSISTOR	D803	MA165	DIODE
Q806	DTC114ESTP	TRANSISTOR	D805	MA165	DIODE
Q807	2SB1030Q	TRANSISTOR	D806	MA165	DIODE
Q808	2SB1030Q	TRANSISTOR	D807	MA165	DIODE
Q809	2SB621A-R	TRANSISTOR	D951	1SS133	DIODE
Q810	2SB621A-R	TRANSISTOR	D971	1SS133	DIODE
Q811	2SK381	TRANSISTOR	VARIABLE RESISTORS		
Q812	2SK381	TRANSISTOR	VR1	EVND4AA00B24	V.R. PLAYBACK GAIN ADJ.
Q813	2SA1309Q	TRANSISTOR	VR2	EVND4AA00B24	V.R. PLAYBACK GAIN ADJ.
Q814	2SA1309Q	TRANSISTOR	VR3	EVND4AA00B24	V.R. PLAYBACK GAIN ADJ.
Q815	DTA114ESTP	TRANSISTOR	VR4	EVND4AA00B24	V.R. PLAYBACK GAIN ADJ.
Q816	DTA114ESTP	TRANSISTOR	VR5	EVND4AA00B24	V.R. OVERALL GAIN ADJ.
Q817	DTA114ESTP	TRANSISTOR	VR6	EVND4AA00B24	V.R. OVERALL GAIN ADJ.
Q818	DTA114ESTP	TRANSISTOR	VR7	EVND4AA00B15	V.R. OVERALL FREQ. ADJ.
Q819	DTA114ESTP	TRANSISTOR	VR8	EVND4AA00B15	V.R. OVERALL FREQ. ADJ.
Q820	2SA1309Q	TRANSISTOR	VR9	SVR2F25A54	V.R. LEVEL CONTROL
Q821	2SC3311A-Q	TRANSISTOR	VR10	SVR2F25A54	V.R. LEVEL CONTROL
Q823	DTA114TSTP	TRANSISTOR	VR301	EVND4AA00B53	V.R. ERASE CURRENT ADJ.
Q824	DTA114TSTP	TRANSISTOR	VR801	EVN49C00YB53	V.R. TAPE SPEED ADJ.
Q825	DTA114TSTP	TRANSISTOR	VR802	EVN49C00YB53	V.R. TAPE SPEED ADJ.
Q826	DTA114TSTP	TRANSISTOR	VR803	EVN49C00YB14	V.R. TAPE SPEED ADJ.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
COILS AND TRANSFORMERS			S710	EVQQB005R	SW. REW (DECK B)
L1	SLQX303-1KT	CHOKE COIL	S711	EVQQB005R	SW. PLAYBACK (DECK B)
L2	SLQX303-1KT	CHOKE COIL	S712	EVQQB005R	SW. REC (DECK A)
L3	SLQX272-1YT	CHOKE COIL	S713	EVQQB005R	SW. SYNC REC
L4	SLQX272-1YT	CHOKE COIL	S714	EVQQB005R	SW. EDITING
L5	SLQX303-1KT	CHOKE COIL	S715	EVQQB005R	SW. EDITING TAPE SPEED
L6	SLQX303-1KT	CHOKE COIL	S716	EVQQB005R	SW. DOLBY C NR
L301	SL09B4-K	OSCILLATOR	S717	EVQQB005R	SW. DOLBY B NR
L401	SLM1C90-M	COIL	S722	SSS147-1	SW. TIMER
L402	SLM1C90-M	COIL	S951	RSH1A89Z	SW. MODE (DECK B)
L403	SLM1B12-K	COIL	S952	RSH1A90Z	SW. HALF (DECK B)
L404	SLM1B12-K	COIL	S953	RSH1A90Z	SW. ATS (DECK B)
L801	ELEPK101KA	CHOKE COIL	S971	RSH1A89Z	SW. MODE (DECK A)
L802	SLQX272-1YT	CHOKE COIL	S972	RSH1A90Z	SW. HALF (DECK A)
L803	ELEPK101KA	CHOKE COIL	S973	RSH1A90Z	SW. ATS (DECK A)
T601 $\triangle$	SLT5K251K	POWER TRANSFORMER	S974	RSH1A90Z	SW. REC INH (DECK A)
(M, MC)			S975	RSH1A90Z	SW. ATS (DECK A)
T601 $\triangle$	SLT5K252K	POWER TRANSFORMER	OTHERS		
(E, EH, EG)			D2	MA165	DIODE
T601 $\triangle$	SLT5K253K	POWER TRANSFORMER	D3	MA165	DIODE
(EK, XL)			D8	LN863RCPP	L.E.D
T601 $\triangle$	SLT5K254K	POWER TRANSFORMER	D9	LN363GCPP	L.E.D
(XA)			D10	LN363GCPP	L.E.D
OSCILLATORS			(M, MC)		
X801	EF0FC4004A4	CERAMIC FILTER	D11	LN863RCPP	L.E.D
SWITCHES			D12	LN363GCPP	L.E.D
S601 $\triangle$	SSH1226	SW. POWER	D13	LN463YCPPU	L.E.D
S602 $\triangle$	SSR187-1	SW. VOLTAGE SELECTOR	D16	LN363GCPP	L.E.D
(XA)			D17	LN363GCPP	L.E.D
S701	EVQQB005R	SW. STOP (DECK A)	(M, MC)		
S702	EVQQB005R	SW. F.F (DECK A)	R2	ERDS2TJ271	CARBON, 270 Ω , 1/4W
S703	EVQQB005R	SW. REW (DECK A)	R3	ERDS2TJ271	CARBON, 270 Ω , 1/4W
S704	EVQQB005R	SW. PLAYBACK (DECK A)	R4	ERDS2TJ271	CARBON, 270 Ω , 1/4W
S706	EVQQB005R	SW. PAUSE (DECK A)	(M, MC)		
S707	EVQQB005R	SW. AUTO REC MUTE	R5	ERDS2TJ271	CARBON, 270 Ω , 1/4W
S708	EVQQB005R	SW. STOP (DECK B)	R6	ERDS2TJ271	CARBON, 270 Ω , 1/4W
S709	EVQQB005R	SW. F.F (DECK B)	R9	ERDS2TJ271	CARBON, 270 Ω , 1/4W
			R10	ERDS2TJ271	CARBON, 270 Ω , 1/4W
			(M, MC)		

RESISTORS & CAPACITORS

Notes : * Important safety notice :

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Numbering System For Resistors

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1K Ω)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470 Ω)

Numbering System For Capacitors

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001 μ F)	Tolerance	Unique
ECEA	50	M		330
Type	Voltage (50V)	Characteristics	Value (33 μ F)	

● Capacity values are in microfarads (μ F) unless specified otherwise, P = Pico-farads (pF) F = Farads (F).

● Resistance values are in ohms (Ω), unless specified otherwise, 1K = 1,000 Ω , 1M = 1,000k Ω

Resistor Type	Wattage	Tolerance
ERD : Carbon	10 : 1/8W 12 : 1/2W	J : $\pm 5\%$
ERG : Metal Oxide	14 : 1/4W 25 : 1/4W	F : $\pm 1\%$
ERQ : Fuse Type Metal	1A : 1W 18 : 1/8W	G : $\pm 2\%$
ERX : Metal Film	S2 : 1/4W S1 : 1/2W	J : $\pm 5\%$
ERD L : Carbon (chip)	2F : 1/4W 50 : 1/2W	K : $\pm 10\%$
ERO K : Metal Film (chip)	2A : 2W 3A : 3W	M : $\pm 20\%$
ERC : Solid	6G : 1/10W 8G : 1/8W	
ERF : Incombustible Box-Shaped		
ERM : Wire-Wound		
RRJ : Chip Resistor		
ERJ : Chip Resistor		

Capacitor Type	Voltage	Tolerance
ECE : Electrolytic	0J : 6.3V 1A : 10V	K : $\pm 10\%$
ECCD : Ceramic	1C : 16V 1E : 25V	M : $\pm 20\%$
ECKD : Ceramic Capacitor	1H : 50V 1V : 35V	Z : $\pm 80\%$
ECOM : Polyester	50 : 50V 05 : 50V	-20
ECOP : Polypropylene	2H : 500V 2A : 100V	J : $\pm 5\%$
ECG : Ceramic	1 : 100V 1J : 63V	G : $\pm 2\%$
ECEA N : Non Polar Electrolytic	KC : 400V AC	F : $\pm 1\%$
QCU : Ceramic (Chip Type)	KC : 125V AC	C : ± 0.25 pF
ECUX : Ceramic (Chip Type)	(UL)	D : ± 0.5 pF
ECF : Semiconductor		
EECW : Liquid electrolyte double layer capacitor		

Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.
RESISTORS (VALUE, WATTAGE)			R41	ERDS2TJ223	22K 1/4	R302	ERDS2TJ183	18K 1/4
R1	ERDS2TJ101	100 1/4	R42	ERDS2TJ223	22K 1/4	R303	ERDS2TJ183	18K 1/4
R2	ERDS2TJ101	100 1/4	R43	ERDS2TJ472	4.7K 1/4	R304	ERDS2TJ100	10 1/4
R3	ERDS2TJ101	100 1/4	R44	ERDS2TJ472	4.7K 1/4	R305	ERDS2TJ100	10 1/4
R4	ERDS2TJ101	100 1/4	R45	ERDS2TJ682	6.8K 1/4	R306	ERDS2TJ471	470 1/4
R5	ERDS2TJ101	100 1/4	R46	ERDS2TJ682	6.8K 1/4	R307	ERDS2TJ221	220 1/4
R6	ERDS2TJ101	100 1/4	R47	ERDS2TJ152	1.5K 1/4	R308	ERDS2TJ561	560 1/4
R7	ERDS2TJ820	82 1/4	R48	ERDS2TJ152	1.5K 1/4	R309	ERDS2TJ561	560 1/4
R8	ERDS2TJ820	82 1/4	R49	ERDS2TJ682	6.8K 1/4	R310	ERDS2TJ391	390 1/4
R9	ERDS2TJ225	2.2M 1/4	R50	ERDS2TJ682	6.8K 1/4	R311	ERDS2TJ683	68K 1/4
R10	ERDS2TJ225	2.2M 1/4	R51	ERDS2TJ182	1.8K 1/4	R312	ERDS2TJ472	4.7K 1/4
R11	ERDS2TJ225	2.2M 1/4	R52	ERDS2TJ182	1.8K 1/4	R401	ERDS2TJ684	680K 1/4
R12	ERDS2TJ225	2.2M 1/4	R53	ERDS2TJ154	150K 1/4	R402	ERDS2TJ684	680K 1/4
R13	ERDS2TJ392	3.9K 1/4	R54	ERDS2TJ154	150K 1/4	R403	ERDS2TJ684	680K 1/4
R14	ERDS2TJ392	3.9K 1/4	R55	ERDS2TJ101	100 1/4	R404	ERDS2TJ684	680K 1/4
R15	ERDS2TJ272	2.7K 1/4	(M, MC, E, EG)			R405	ERDS2TJ432	4.3K 1/4
R16	ERDS2TJ272	2.7K 1/4	(EH, XA)			R406	ERDS2TJ432	4.3K 1/4
R17	ERDS2TJ102	1K 1/4	(EK, XL)	ERD2FCG101	100 1/4	R407	ERDS2TJ562	5.6K 1/4
R18	ERDS2TJ102	1K 1/4	R56	ERDS2TJ101	100 1/4	R408	ERDS2TJ562	5.6K 1/4
R19	ERDS2TJ332	3.3K 1/4	(M, MC, E, EG)			R409	ERDS2TJ562	5.6K 1/4
R20	ERDS2TJ332	3.3K 1/4	(EH, XA)			R410	ERDS2TJ562	5.6K 1/4
R21	ERDS2TJ184	180K 1/4	(EK, XL)	ERD2FCG101	100 1/4	R411	ERDS2TJ431T	430 1/4
R22	ERDS2TJ184	180K 1/4	R57	ERDS2TJ363	36K 1/4	R412	ERDS2TJ431T	430 1/4
R23	ERDS2TJ272	2.7K 1/4	R58	ERDS2TJ363	36K 1/4	R413	ERDS2TJ682	6.8K 1/4
R24	ERDS2TJ272	2.7K 1/4	R59	ERDS2TJ272	2.7K 1/4	R414	ERDS2TJ682	6.8K 1/4
R25	ERDS2TJ273	27K 1/4	R60	ERDS2TJ272	2.7K 1/4	R415	ERDS2TJ681	680 1/4
R26	ERDS2TJ273	27K 1/4	R65	ERDS2TJ332	3.3K 1/4	R416	ERDS2TJ681	680 1/4
R27	ERDS2TJ562	5.6K 1/4	R66	ERDS2TJ223	22K 1/4	R417	ERDS2TJ242	2.4K 1/4
R28	ERDS2TJ562	5.6K 1/4	R71	ERDS2TJ103	10K 1/4	R418	ERDS2TJ242	2.4K 1/4
R29	ERDS2TJ102	1K 1/4	R72	ERDS2TJ103	10K 1/4	R419	ERDS2TJ512	5.1K 1/4
R30	ERDS2TJ102	1K 1/4	R201	ERDS2TJ562	5.6K 1/4	R420	ERDS2TJ512	5.1K 1/4
R31	ERDS2TJ330	33 1/4	R202	ERDS2TJ562	5.6K 1/4	R422	ERDS2TJ223	22K 1/4
R32	ERDS2TJ330	33 1/4	R203	ERDS2TJ104	100K 1/4	R424	ERDS2TJ223	22K 1/4
R33	ERDS2TJ272	2.7K 1/4	R204	ERDS2TJ104	100K 1/4	R425	ERDS2TJ223	22K 1/4
R34	ERDS2TJ272	2.7K 1/4	R205	ERDS2TJ562	5.6K 1/4	R427	ERDS2TJ104	100K 1/4
R35	ERDS2TJ182	1.8K 1/4	R206	ERDS2TJ270	27 1/4	R428	ERDS2TJ683	68K 1/4
R36	ERDS2TJ182	1.8K 1/4	R207	ERDS2TJ101	100 1/4	R601	ERDS1FJ100	10 1/2
R37	ERDS2TJ472	4.7K 1/4	R208	ERDS2TJ101	100 1/4	(M, MC, E, EG)		
R38	ERDS2TJ472	4.7K 1/4	R301	ERDS2TJ1R0	1 1/4	(EH, XA)		
R39	ERDS2TJ103	10K 1/4				R601	ERD2FCJ4R7	4.7 1/4
R40	ERDS2TJ103	10K 1/4				(EK, XL)		

Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.
R602 (M, MC, E, EG) (EH, XA)	ERDS1FJ100	10 1/2	R806	ERDS2TJ561	560 1/4	C32	ECEA1EK4R7	4.7 25
R602 (EK, XL)	ERD2FCJ4R7	4.7 1/4	R807	ERDS2TJ223	22K 1/4	C33	ECKD1H561KB	560P 50
R603	ERDS2TJ391	390 1/4	R808	ERDS2TJ561	560 1/4	C34	ECKD1H561KB	560P 50
R604	ERDS2TJ391	390 1/4	R809	ERDS2TJ153	15K 1/4	C35	ECKD2H121KB	120P 500
R605	ERDS1FJ100	10 1/2	R810	ERDS2TJ103	10K 1/4	C36	ECKD2H121KB	120P 500
(M, MC, E, EG) (EH, XA)			R811	ERDS2TJ103	10K 1/4	C37	ECEA1HK010	1 50
R605 (EK, XL)	ERD2FCJ4R7	4.7 1/4	R812	ERDS2TJ103	10K 1/4	C38	ECEA1HK010	1 50
R606	ERDS2TJ391	390 1/4	R813	ERDS2TJ225	2.2M 1/4	C39	ECKD1H271KB	270P 50
R607	ERDS1FJ560	56 1/2	R814	ERDS2TJ225	2.2M 1/4	C40	ECKD1H271KB	270P 50
(EK, XL)			R815	ERDS2TJ103	10K 1/4	C41	ECKD1H561KB	560P 50
R607 (M, MC, E, EG) (EH, XA)	ERDS2TJ560	56 1/4	R816	ERDS2TJ103	10K 1/4	C42	ECKD1H561KB	560P 50
R608 (EK, XL)	ERDS1FJ560	56 1/2	R817	ERDS2TJ562	5.6K 1/4	C43	ECKD1H391KB	390P 50
R608 (M, MC, E, EG) (EH, XA)	ERDS2TJ560	56 1/4	R818	ERDS2TJ562	5.6K 1/4	C44	ECKD1H391KB	390P 50
R609	ERDS2TJ103	10K 1/4	R819	ERDS2TJ562	5.6K 1/4	C45	ECEA1EK4R7	4.7 25
R610	ERDS2TJ103	10K 1/4	R820	ERDS2TJ562	5.6K 1/4	C47	ECBT1H561KB5	560P 50
R611	ERDS2TJ152	1.5K 1/4	R821	ERDS2TJ562	5.6K 1/4	C48	ECBT1H561KB5	560P 50
R612	ERDS2TJ182	1.8K 1/4	R822	ERDS2TJ562	5.6K 1/4	C51	ECBT1E103ZF	0.01 25
R613	ERDS2TJ103	10K 1/4	R823	ERDS2TJ562	5.6K 1/4	C52	ECBT1E103ZF	0.01 25
R614	ERDS2TJ223	22K 1/4	R824	ERDS2TJ103	10K 1/4	C53	ECBT1E103ZF	0.01 25
R615	ERDS2TJ103	10K 1/4	R828	ERDS2TJ184	180K 1/4	C201	ECEA1HK0R1	0.1 50
R616	ERDS2TJ472	4.7K 1/4	R829	ERDS2TJ683	68K 1/4	C202	ECEA1HK0R1	0.1 50
R617	ERDS2TJ103	10K 1/4	R830	ERDS2TJ103	10K 1/4	C203	ECEA1HK2R2B	2.2 50
R618	ERDS2TJ332	3.3K 1/4	R831	ERDS2TJ103	10K 1/4	C204	ECEA1HK2R2B	2.2 50
R619	ERDS2TJ272	2.7K 1/4	R832	ERDS2TJ103	10K 1/4	C205	ECKD1H103PF	0.01 50
R620	ERDS2TJ472	4.7K 1/4	R833	ERDS2TJ473	47K 1/4	C301	ECQP1153JZW	0.015 100
R621	ERDS2TJ821	820 1/4	R834	ERDS2TJ332	3.3K 1/4	C302	ECKD1H392KB	3900P 50
R622	ERDS2TJ103	10K 1/4	R837	ERDS2TJ472	4.7K 1/4	C303	ECKD1H682KB	0.0068 50
R623	ERDS2TJ103	10K 1/4	R838	ERDS2TJ223	22K 1/4	C304	ECKD1H222MD	0.0022 50
R624	ERDS2TJ103	10K 1/4	R841	ERDS2TJ223	22K 1/4	C305	ECKD1H222MD	0.0022 50
R625	ERDS2TJ104	100K 1/4	R842	ERDS2TJ562	5.6K 1/4	C306	ECEA1CU220	22 16
R626 (EK, XL)	ERDS2TJ4R7T	4.7 1/4	R843	ERDS2TJ272	2.7K 1/4	C307	ECKD1H103PF	0.01 50
R627 (EK, XL)	ERDS2TJ4R7T	4.7 1/4	R844	ERDS2TJ182	1.8K 1/4	C401	ECKD1H122KB	1200P 50
R628 (EK, XL)	ERDS2TJ4R7T	4.7 1/4	R845	ERDS2TJ105	1M 1/4	C402	ECKD1H122KB	1200P 50
R629 (EK, XL)	ERDS2TJ560	56 1/4	R846	ERDS2TJ471	470 1/4	C403	ECKD1H152KB	1500P 50
R630 (EK, XL)	ERDS2TJ560	56 1/4	R847	ERDS2TJ103	10K 1/4	C404	ECKD1H152KB	1500P 50
R631 (EK, XL)	ERDS2TJ560	56 1/4	R848	ERDS2TJ103	10K 1/4	C405	ECEA1EK4R7	4.7 25
R632	ERQ16NKR20E	0.2 1/6	R849	ERDS2TJ222	2.2K 1/4	C406	ECEA1EK4R7	4.7 25
R633 (EK, XL)	ERQ16NKR20E	0.2 1/6	R851	ERDS2TJ101	100 1/4	C407	ECQB1H472JZ	4700P 50
R701	ERDS2TJ152	1.5K 1/4	R852	ERDS2TJ101	100 1/4	C408	ECQB1H472JZ	4700P 50
R702	ERDS2TJ182	1.8K 1/4	R853	ERDS2TJ223	22K 1/4	C409	ECQV1H474JZ3	0.47 50
R703	ERDS2TJ272	2.7K 1/4	R855	ERDS2TJ221	220 1/4	C410	ECQV1H474JZ3	0.47 50
R704	ERDS2TJ392	3.9K 1/4	R856	ERDS2TJ223	22K 1/4	C411	ECQMIH154JZ	0.15 50
R705	ERDS2TJ682	6.8K 1/4	R858	ERDS2TJ103	10K 1/4	C412	ECQMIH154JZ	0.15 50
R706	ERDS2TJ123	12K 1/4	R859	ERDS2TJ103	10K 1/4	C413	ECQB1H153JZ	0.015 50
R707	ERDS2TJ152	1.5K 1/4	R861	ERDS2TJ392	3.9K 1/4	C414	ECQB1H153JZ	0.015 50
R708	ERDS2TJ182	1.8K 1/4	R862	ERDS2TJ392	3.9K 1/4	C415	ECQV1H224JZ	0.22 50
R709	ERDS2TJ272	2.7K 1/4	CAPACITORS (VALUE, VOLTAGE)			C416	ECQV1H224JZ	0.22 50
R710	ERDS2TJ392	3.9K 1/4	C1	ECKD1H471KB	470P 50	C417	ECQV1H683JZ3	0.068 50
R711	ERDS2TJ682	6.8K 1/4	C2	ECKD1H471KB	470P 50	C418	ECQV1H683JZ3	0.068 50
R712	ERDS2TJ123	12K 1/4	C3	RCBS1H271KBY	270P 50	C419	ECQMIH473JZ	0.047 50
R713	ERDS2TJ393	39K 1/4	C4	RCBS1H271KBY	270P 50	C420	ECQMIH473JZ	0.047 50
R714	ERDS2TJ152	1.5K 1/4	C5	ECKD1H122KB	1200P 50	C421	ECQB1H682JZ3	0.0068 50
R715	ERDS2TJ182	1.8K 1/4	C6	ECKD1H122KB	1200P 50	C422	ECQB1H682JZ3	0.0068 50
R716	ERDS2TJ272	2.7K 1/4	C7	ECEA0JU101	100 6.3	C423	ECQB1H103JZ	0.01 50
R801	ERDS2TJ223	22K 1/4	C8	ECEA0JU101	100 6.3	C424	ECQB1H103JZ	0.01 50
R802	ERDS2TJ821	820 1/4	C9	ECQB1H123JZ	0.012 50	C425	ECEA1EK4R7	4.7 25
R803	ERDS2TJ223	22K 1/4	C10	ECQB1H123JZ	0.012 50	C426	ECEA1EK4R7	4.7 25
R804	ERDS2TJ821	820 1/4	C11	ECKD1H471KB	470P 50	C427	ECEA1EK4R7	4.7 25
R805	ERDS2TJ223	22K 1/4	C12	ECKD1H471KB	470P 50	C428	ECEA1EK4R7	4.7 25
			C13	ECEA1EK4R7	4.7 25	C429	ECEA1EK4R7	4.7 25
			C14	ECEA1EK4R7	4.7 25	C430	ECEA1EK4R7	4.7 25
			C17	ECCD1H181K	180P 50	C431	ECEA1EK4R7	4.7 25
			C18	ECCD1H181K	180P 50	C432	ECEA1EK4R7	4.7 25
			C19	ECQB1H472JZ	4700P 50	C433	ECKD1H681K	680P 50
			C20	ECQB1H472JZ	4700P 50	C434	ECKD1H681K	680P 50
			C21	ECQB1H223JZ	0.022 50	C601	ECEA1CU222	2200 16
			C22	ECQB1H223JZ	0.022 50	C602	ECEA16V1000	1000 16
			C23	ECQB1H822JZ	0.0082 50	C603	ECEA1AU221	220 10
			C24	ECQB1H822JZ	0.0082 50	C604	ECEA1AU221	220 10
			C25	ECQB1H123JZ	0.012 50	C605	ECKD1H103PF	0.01 50
			C26	ECQB1H123JZ	0.012 50	C606	ECKD1H103PF	0.01 50
			C27	ECQB1H103JZ	0.01 50	C607	ECKD1H103PF	0.01 50
			C28	ECQB1H103JZ	0.01 50	C608	ECEA0JS102	1000 6.3
			C29	ECEA1HKR33	0.33 50	C609	ECEA1CU222	2200 16
			C30	ECEA1HKR33	0.33 50	C610	ECEA1AU221	220 10
			C31	ECEA1EK4R7	4.7 25	C611	ECEA1AU471	470 10
						C612	ECKD2H682PEL	6800P 500

Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.
C613	ECKD1H103PF	0.01 50	C803	ECEA0JU471	470 6.3	C808	ECKD1H103PF	0.01 50
C614	ECKD1H103PF	0.01 50	C804	ECEA1HK010	1 50	C810	ECKD1H223PF	0.022 50
C615	ECKD1H102KB	0.001 50	C805	ECEA1EK4R7	4.7 25	C811	ECBT1H102KB	0.001 50
						C812	ECBT1H102KB	0.001 50
						C813	ECKD1H103PF	0.01 50

REPLACEMENT PARTS LIST

Notes : * Important safety notice :

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)

Parts without these indications can be used for all areas.

* "(K)" mark parts are used for black type only.

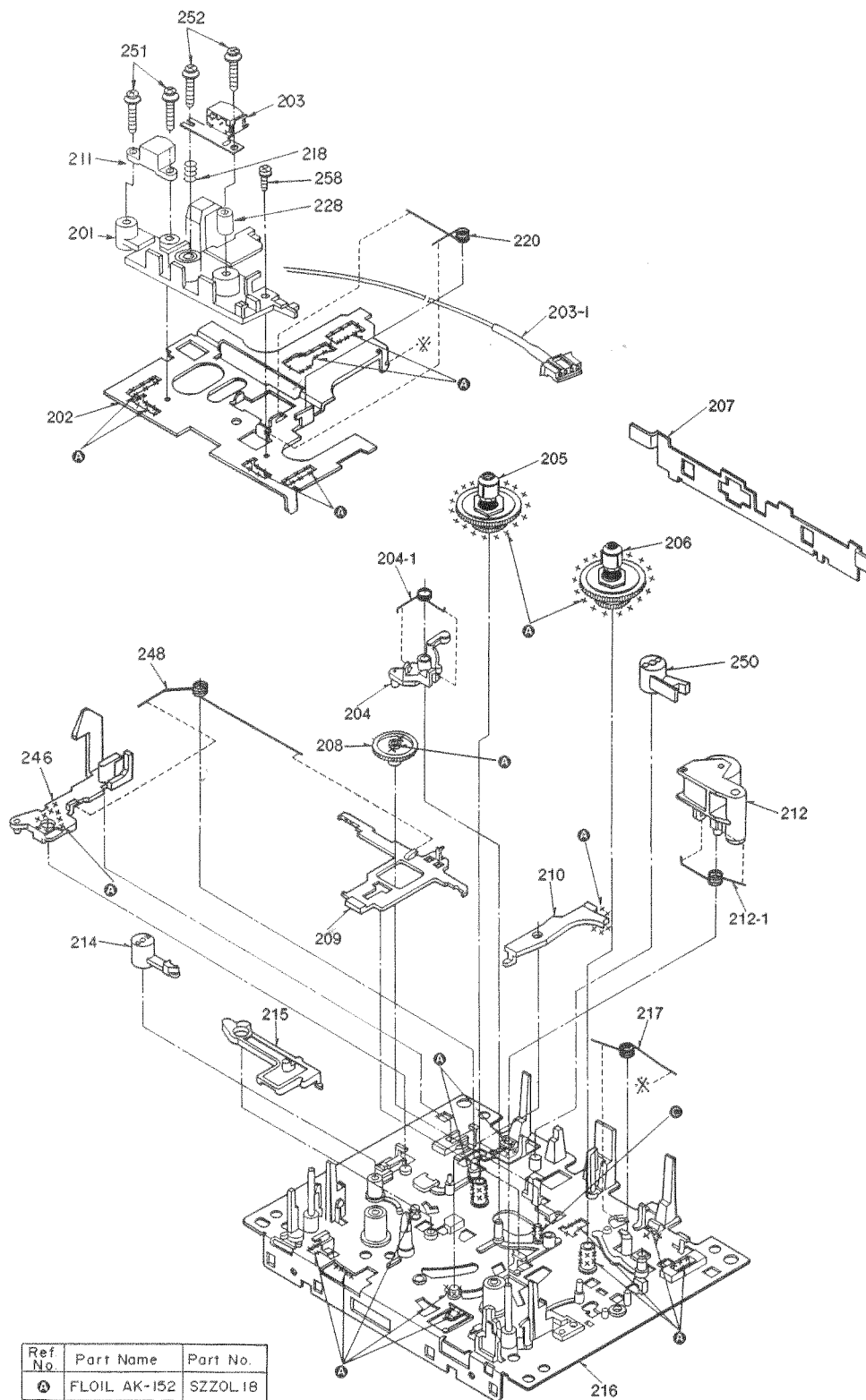
* "(S)" mark parts are used for silver type only.

Parts other than "(K)" and "(S)" marked are used for all color types.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
PACKING MATERIAL			(EG)		
P1	SPG6229	PACKING CASE	A1	SQF13326	INSTRUCTION MANUAL
(M)			(EK)		
P1	SPG6231	PACKING CASE	A1	SQF13398	INSTRUCTION MANUAL
(MC, E, EG, EH)			(XA)		
(EK, XA, XL)			A1	SQF13399	INSTRUCTION MANUAL
P1	SPG6232	PACKING CASE	(XL)		
(MC, E, EG, EH)			A2 Δ	SFDAC05E03	POWER CORD
(EK, XA, XL)			(E, EG, EH)		
P2	SPS5131	PAD	A2 Δ	SFDAC05G02	POWER CORD
P3	SPS5132	PAD	(EK)		
P4	SPS5185	PAD	A2 Δ	SJA168	POWER CORD
P5	XZB50X65B02	POLY SHEET	(XA)		
ACCESSORIES			A2 Δ	SJA172	POWER CORD
A1	SQF13233	INSTRUCTION MANUAL	(MC)		
(M)			A2 Δ	SJA173	POWER CORD
A1	SQF13234	INSTRUCTION MANUAL	(XL)		
(MC)			A2 Δ	SJA175-1T	POWER CORD
A1	SQF13235	INSTRUCTION MANUAL	(M)		
(E, EH)			A3	SJP2257T	CORD
A1	SQF13236	INSTRUCTION MANUAL	(M, MC)		
			A4	SJP2264	CORD
			A5 Δ	RJP120ZBS-H	AC PLUG ADAPTOR
			(XA)		

MECHANICAL PARTS LOCATION

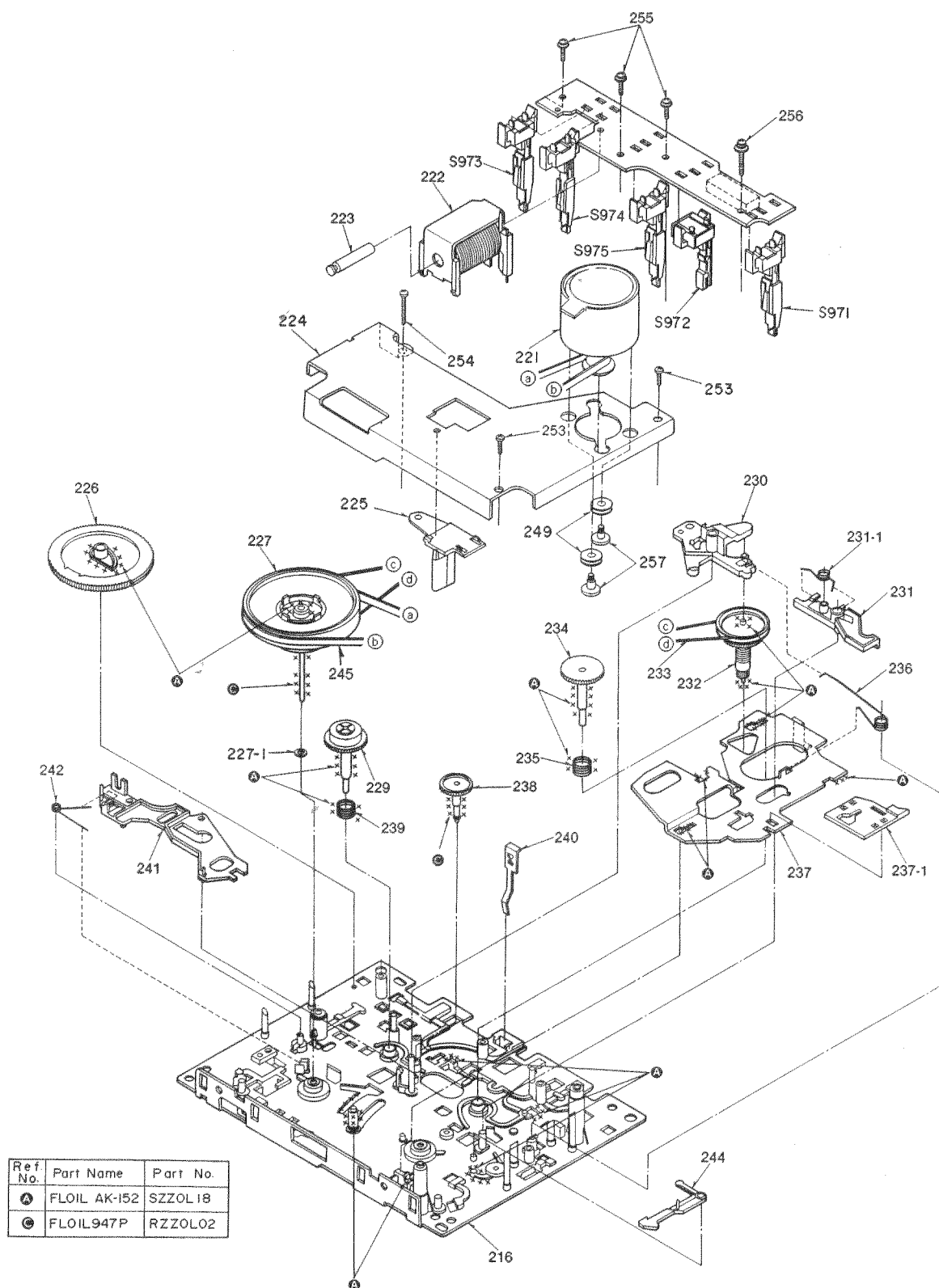
(DECK A: Up Side)



Ref No	Part Name	Part No.
A	FLOIL AK-152	SZZOL18
B	FLOIL947P	RZZOL02

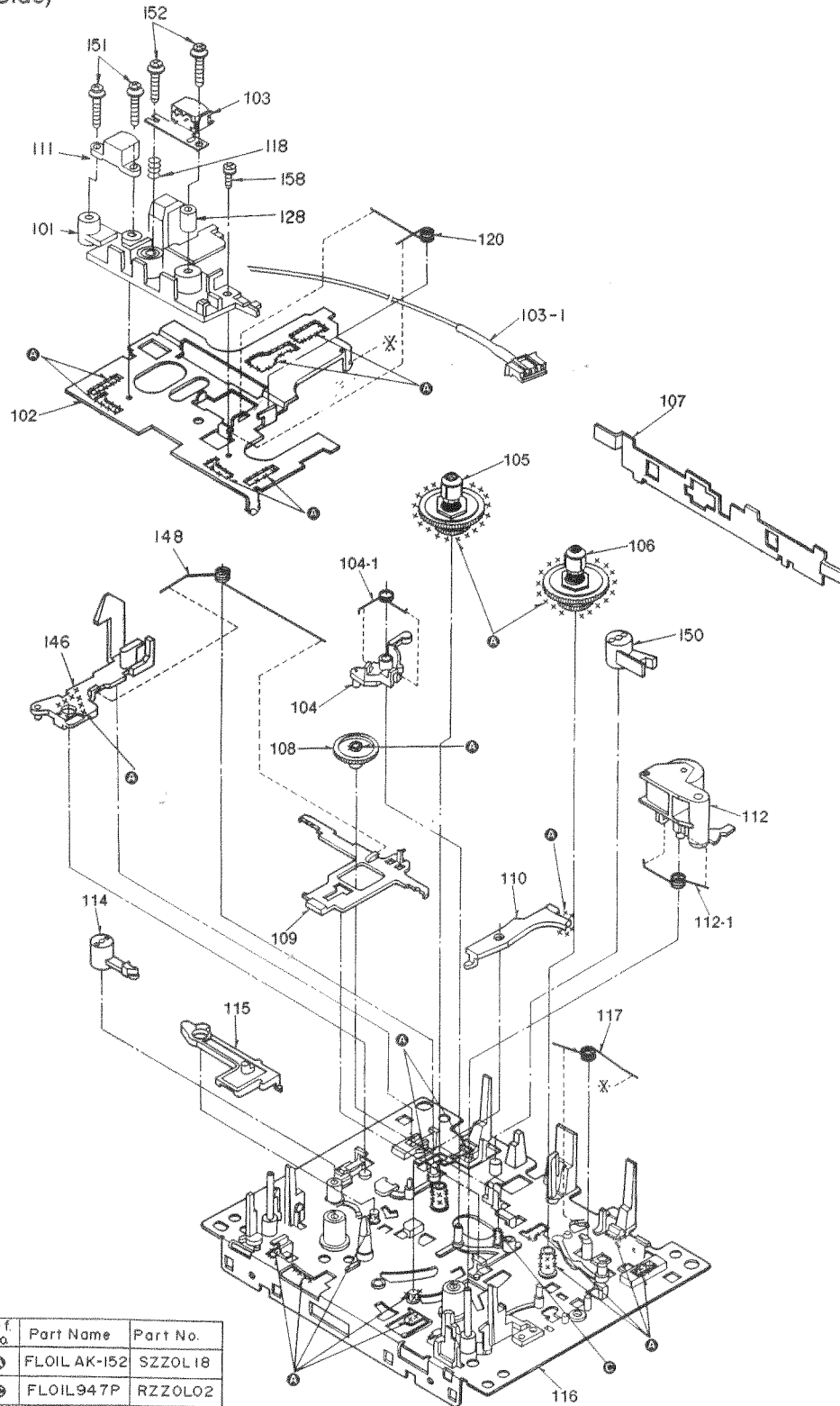
100~209	202 201	203	209	208	204	204-1	203-1	205	206	207
210~229	214 211	218 228 215				220	210	216	217	212-1 212
230~	246	248 251 252	258							250

(DECK A: Down Side)



200~229	226	227-1	227	224	223	225	229	222	221	216												
230~239	239										238	235	234	233	232	230	237	231-1	231	236	237-1	
240~	242	241	245										255	254	253	240	249	257	255	244	253	256

(DECK B: Up Side)



Ref. No.	Part Name	Part No.
A	FL01L AK-152	SZZ0L18
B	FL01L947P	RZZ0L02

100~109	102 101	108 109 104 104-1 103	105 103-1	106 107
110~129	111 114	118 115 128	120 110	116 117 112-1 112
130~	146 151 152 148	158		150

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
DECK A			258	XTN2+5F	SCREW
CASSETTE DECK			DECK B		
201	RMD5013ZB	HEAD SP	CASSETTE DECK		
202	RUA793YA	CHASSIS	101	RMD5013ZB	HEAD SP
203	SJH95	REC/PLAY HEAD	102	RUA793YA	CHASSIS
203-1	1JS0061ZA	LEAD WIRE	103	RJH4C35GYAM	HEAD /PLAYBACK
204	1UB0089ZA	ARM	103-1	1JS0060ZA	LEAD WIRE
204-1	RUW148ZA	COIL SPRING	104	1UB0089ZA	ARM
205	1DM0005ZA	REEL TABLE ASS'Y	104-1	RUW148ZA	COIL SPRING
206	1DM0017ZA	REEL TABLE ASS'Y	105	1DM0005ZA	REEL TABLE ASS'Y
207	RUB502ZC	LEVER	106	1DM0017ZA	REEL TABLE ASS'Y
208	RDG577Z	GEAR	107	RUB502ZC	LEVER
209	RUB508ZA	ROD	108	RDG577Z	GEAR
210	RUB506ZB	LEVER	109	RUB508ZA	ROD
211	RJH7E5YAM	MAGNETIC HEAD	110	RUB506ZB	LEVER
212	1UB0087ZA	ARM	111	RUG82Z	DAMPE HEAD
212-1	RUW140ZB	COIL SPRING	112	1UB0087ZA	ARM
214	RNL1Z	DAMPER ARM	112-1	RUW140ZB	COIL SPRING
215	RUB503ZB	LEVER	114	RNL1Z	DAMPER ARM
216	RZUAR300	PLATE	115	RUB503ZB	LEVER
217	RUW142ZA	COIL SPRING	116	RZUAR300	PLATE
218	QBA51278	SPRING	117	RUW142ZA	COIL SPRING
220	RUW139ZA	SPRING	118	QBA51278	SPRING
221	RFM134ZA	DC MOTOR	120	RUW139ZA	SPRING
222	1UE0015ZA	PLUNGER	121	RFM134ZA	DC MOTOR
223	RUB428Z	LEVER	122	1UE0015ZA	PLUNGER
224	RUL1030ZC	ANGLE	123	RUB428Z	LEVER
225	RMD5017ZA	ANGLE	124	RUL1030ZC	ANGLE
226	RDG5927Z	GEAR	125	RMD5017ZA	ANGLE
227	1DW0037ZA	FLYWHEEL ASS'Y	126	RDG5927Z	GEAR
(M, MC, XA, XL)			127	1DW0037ZA	FLYWHEEL ASS'Y
227	1DW0053ZA	FLYWHEEL ASS'Y	(M, MC, XA, XL)		
(E, EG, EH, EK)			127	1DW0053ZA	FLYWHEEL ASS'Y
228	RHM278ZA	SPACER	(E, EG, EH, EK)		
229	1DG0006ZA	GEAR ASS'Y	128	RHM278ZA	SPACER
230	RUB513ZC	ARM	129	1DG0006ZA	GEAR ASS'Y
231	1UB0091ZA	LEVER	130	RUB513ZC	ARM
231-1	RUW146ZA	COIL SPRING	131	1UB0091ZA	LEVER
232	1DR0011ZA	PULLEY ASS'Y	131-1	RUW146ZA	COIL SPRING
233	RDV90ZB	BELT	132	1DR0011ZA	PULLEY ASS'Y
234	RDG5769Z	GEAR	133	RDV90ZB	BELT
235	RUQ10Z	SPRING	134	RDG5769Z	GEAR
236	RUW145ZA	COIL SPRING	135	RUQ10Z	SPRING
237	1UB0090ZA	ROD	136	RUW145ZA	COIL SPRING
237-1	RUB512ZB	ROD	137	1UB0090ZA	ROD
238	RDG5773Z	GEAR	137-1	RUB512ZB	ROD
239	RUQ30Z	SPRING	138	RDG5773Z	GEAR
240	RUS609Z	SPRING	139	RUQ30Z	SPRING
241	RUB514ZB	LEVER	140	RUS609Z	SPRING
242	RUW147ZA	COIL SPRING	141	RUB514ZB	LEVER
244	RUB509ZA	LEVER	142	RUW147ZA	COIL SPRING
245	RDV109ZA	BELT	144	RUB509ZA	LEVER
246	RUB541Z	EJECT ROD (L)	145	RDV109ZA	BELT
248	RUW167Z	SPRING	146	RUB541Z	EJECT ROD (L)
249	RHG3032Z	RUBBER CUSHION	149	RHG3032Z	RUBBER CUSHION
250	RNL180Z	DAMPER ARM	150	RNL180Z	DAMPER ARM
SCREWS, WASHERS AND NUTS			SCREWS, WASHERS AND NUTS		
227-1	RNW139ZA	WASHER	127-1	RNW139ZA	WASHER
251	QH1361A	SCREW	151	QH1361A	SCREW
252	RHE5201ZA	SCREW	152	RHE5201ZA	SCREW
253	XTN26+7J	SCREW	153	XTN26+7J	SCREW
254	XTN26+16F	SCREW	154	XTN26+16F	SCREW
255	XTW2+8S	SCREW	155	XTW2+8S	SCREW
256	XYC2+JF16	SCREW	156	XYC2+JF16	SCREW
257	XSN26+3	SCREW	157	XSN26+3	SCREW
			158	XTN2+5F	SCREW

Service Manual

Cassette Deck

RS-T230

Supplement

Dolby NR-Equipped
Stereo Double Cassette Deck

Color

(S)...Silver Type
(K)...Black Type



Area

Color	Area
(K)	(M).....U.S.A.
(S) (K)	(MC)Canada.
(S) (K)	(E).....Continental Europe.
(S) (K)	(EK)United Kingdom.
(S) (K)	(EG).....F.R. Germany.
(S) (K)	(EH).....Holland.
(S) (K)	(XA)Asia, Latin America, Middle Near East, Africa and Oceania.
(S) (K)	(XL).....Australia.

Please file and use this supplement manual together with the Service Manual for Model No. RS-T230, Order No. HAD8804120C0.
This supplement is issued to correct a mistake in a part number on page 41.

Ref. No.	Wrong Part No.	Correct Part No.	Part Name & Description	Remarks
121	RFM134ZA	RFM133ZA	DC MOTOR (DECK B)	Correction
221	RFM134ZA	RFM133ZA	DC MOTOR (DECK A)	Correction

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