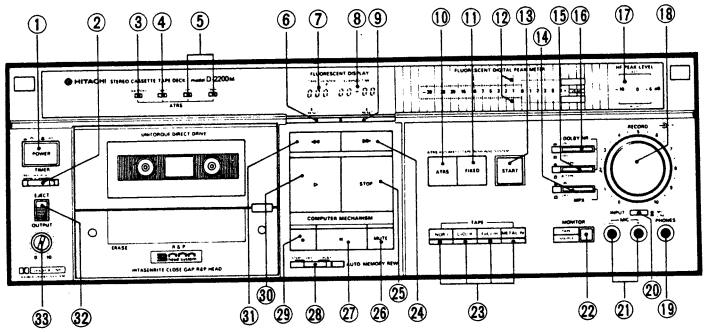
HITACHI
SERVICE MANUAL

TK | **No. 1672E**

D-2200M

171



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㉜ EJECT BUTTON
㉝ OUTPUT LEVEL CONTROL

SAFETY PRECAUTION

The following precautions should be observed when servicing.

1. **Since many parts in the unit have special safety related characteristics, always use genuine Hitachi's replacement parts. Especially critical parts in the power circuit block should not be replaced with other makes. Critical parts are marked with ⚠ in the schematic diagram and circuit board diagram.**
2. **Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.**

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

STEREO CASSETTE TAPE DECK

January 1982 **TOKAI WORKS**

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SPECIFICATIONS

Semiconductors :	
Modules :	5
ICs :	16
Transistors :	71
FETs :	2
Diodes :	69
LEDs :	24
Track System :	4 track 2 channel stereo
Tape :	Cassette tape (C-30, 60, 90)
Tape Speed :	4.75cm/s
Recording System and Bias Frequency :	AC bias, 105 kHz
Erasing System :	AC erase
Erase Ratio :	65 dB or more (at 1 kHz)
Frequency Response :	
NOR-I :	20 Hz - 20 kHz 30 Hz - 18 kHz ± 3 dB 25 Hz - 20 kHz*
CrO_2-II :	20 Hz - 22 kHz 30 Hz - 20 kHz ± 3 dB 25 Hz - 20 kHz*
FeCr-III :	20 Hz - 20 kHz 30 Hz - 18 kHz ± 3 dB 25 Hz - 20 kHz*
METAL-IV :	20 Hz - 22 kHz 30 Hz - 20 kHz ± 3 dB 25 Hz - 20 kHz*
S/N (Signal to Noise Ratio) :	
Dolby B NR ON :	69 dB (Weighted A, Reference 3% THD, Metal tape) 69 dB*
Dolby C NR ON :	75 dB (Weighted A, Reference 3% THD, Metal tape) 75 dB*
Dolby NR OFF :	61 dB (Weighted A, Reference 3% THD, Metal tape) 61 dB*
Wow and Flutter :	0.019% (WRMS) 0.055% *
Input Sensitivity and Impedance :	
Microphone :	0.4mV, 300 ohms-5 kohms
Line in :	100mV, 50 kohms or more
Output Level :	500mV
Output Load Impedance :	
Line out :	50 kohms or more
Headphone :	8 ohms-2 kohms
Distortion :	0.8% (1 kHz, 160 nwb/m)
Channel Separation :	40 dB or more (at 1 kHz)
Cross Talk :	60 dB or more (at 1 kHz)
Power Supply :	AC 120V, 60 Hz (U, C) AC 100–110V/115–127V/200–220V/230–250V, 50/60 Hz (W) AC 220V, 50 Hz (FS) AC 240V, 50 Hz (BS, AU)
Power Consumption :	36W (U, C) 33W (FS, BS, AU, W)
Dimensions :	150 (H) × 435 (W) × 282 (D) mm
Weight :	7.3 kg
Motor :	Uni-torque DD motor × 1 DC motor × 1
Heads :	1.4mm gap HITASENRITE R & P head Ferrite guard special permalloy erase head

* According to DIN 45 500

DISASSEMBLY

1. Head door

1) Open the head door.
2) Remove the polyester washer (A) and the engagement sections (B).

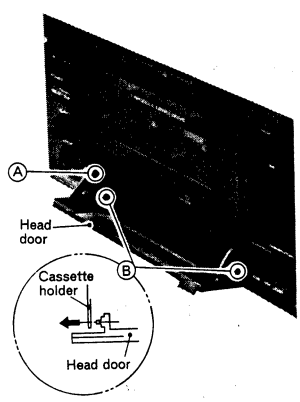


Fig. 1

2. Cassette door

1) Depress the eject button to open the cassette door.
2) Remove the two nylon rivets (C).

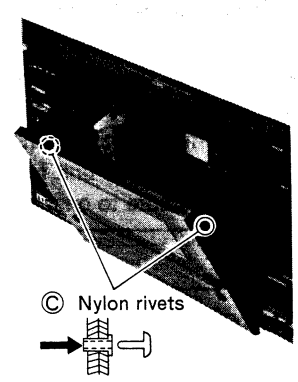


Fig. 2

3. **Upper cover**
   Remove the six screws (D, E, F).

4. **Bottom cover**
   Remove the five screws (F, G, H, I).

5. **Front panel**
   1) Remove the beads band of lead wires and pull out the connectors of the FL meter module, REC volume PC board.
   2) Remove the seven screws (J, K).

6. **Cassette chassis**
   After removing the front panel, remove the five screws (I, L).

7. **Power PC board**
   Remove the two screws (M) and open the PC board.

8. **HF peak PC board**
   Remove the two screws (N).

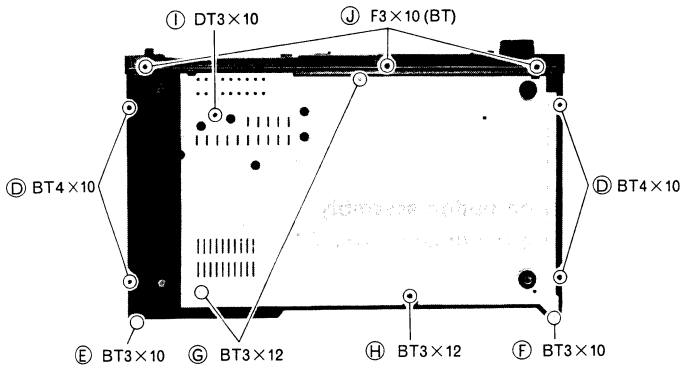


Fig. 3

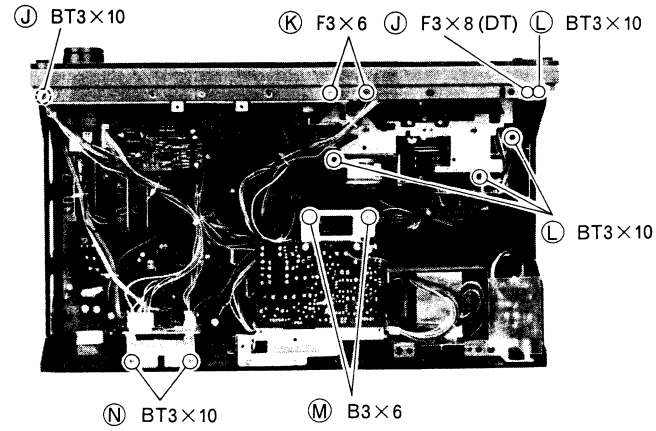


Fig. 4

9. **Main PC board**
   Remove the seven screws [H (Fig. 3), O, P] and jack holder (Q).

10. **DD motor PC board**
    Remove the one screw (R).

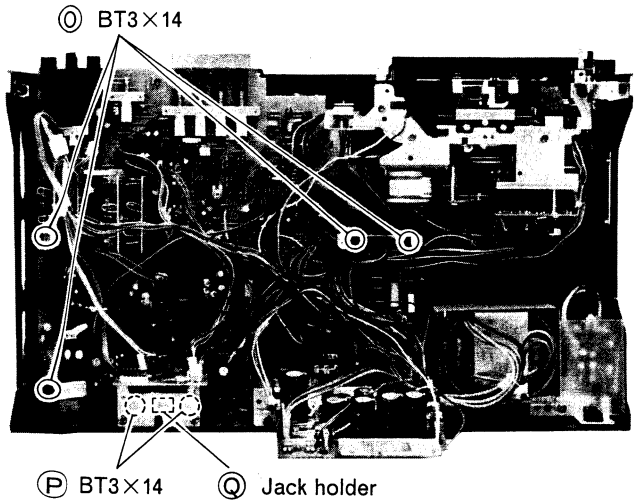


Fig. 5

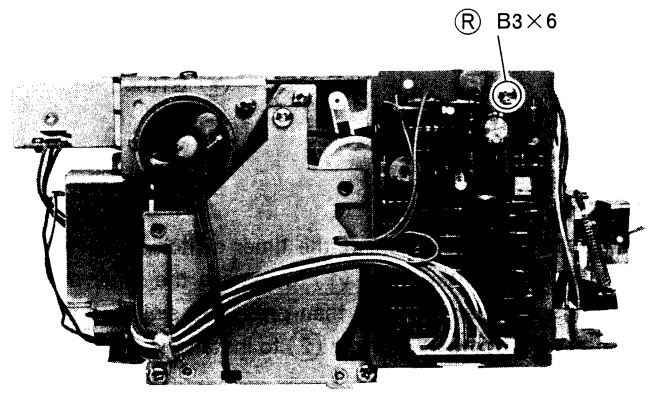


Fig. 6

11. FL meter module PC board
Remove the two screws (S).

12. Counter PC board
Remove the two screws (T) and push the two tabs (U).

13. Function switch PC board
Remove the six screws (V).

14. Dolby/ATRS switch PC board
Remove the two screws (W) and push the four tabs (X).

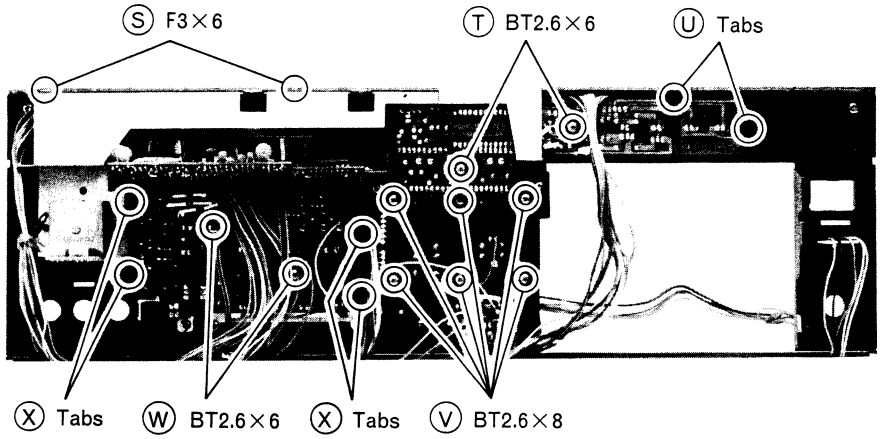


Fig. 7

15. REC volume PC board
Remove the REC level control knobs and the one screw (Y).

16. HF peak indicator PC board
Remove the one screw (Z).

17. Function button assembly
Remove the three screws (A1).

18. Clear plate
Remove the two screws (B1).

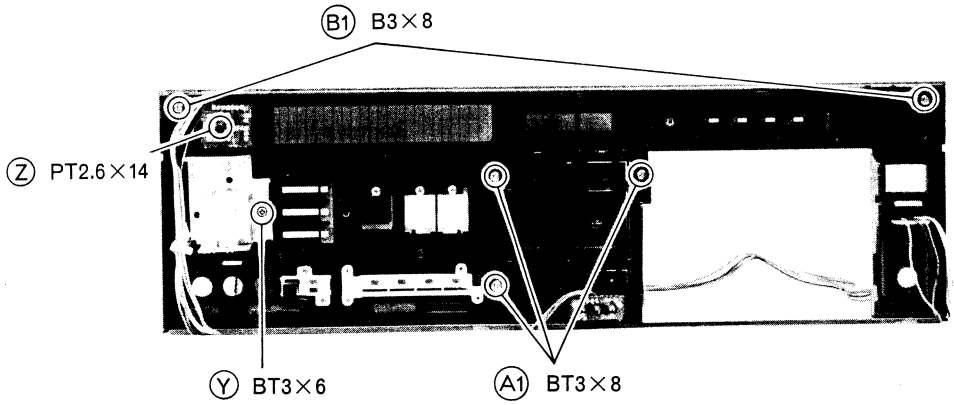


Fig. 8

19. Timer switch
Press the projection of the timer switch holder in the direction of the arrow (1) to remove the timer switch. Engage section (A) and then press the switch holder in the direction of the arrow (2) to install the timer switch.

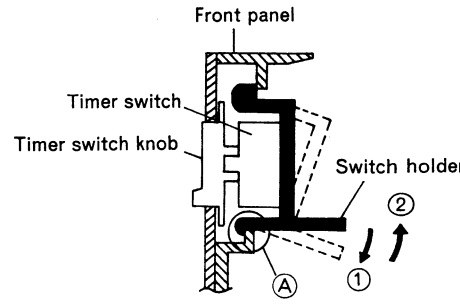


Fig. 9

ADJUSTMENT

Perform the following adjustments in the sequence stated after cleaning the heads, pressure rollers, and capstans with a head cleaning stick moisted in alcohol. Also, unless otherwise specified, set the switches and controls to the positions indicated in the table.

Symbol No.	Switches and Controls	Position	Symbol No.	Switches and Controls	Position
S1	Input select switch	LINE	S7	MPX switch	OFF
S2	Tape select switches	NOR-I	S8	Monitor switch	TAPE
S3	Auto/memory rewind switch	OFF	S109	ATRS switch	OFF
S4	Timer switch	OFF	S111	Fixed switch	ON
S5	Dolby NR switch	OFF	RV1L, R	Record level controls	MAX.
S6	Dolby NR B/C switch	B	RV2L, R	Output level control	MAX.

* According to DIN 45 500

Item	Adjustments	Measuring Instrument and Connection: Measuring Instrument	Input Terminal	Output Terminal	Check Tape	Mode	Adjusted Position	Adjusted Value	Remarks
1	Tape speed	· Frequency counter	——	LINE OUT	MTT-111, 3000 Hz (3150 Hz*)	Playback	RT1	3000 Hz $^{+20}_{+5}$ Hz (3150 Hz*)	See Note 1
2 (1)	Tilt and height of the head	· Head adjusting jig	——	——	——	Playback	Screw Ⓐ, Ⓑ, Ⓒ	——	See Note 2
2 (2)	Head azimuth	· VTVM	——	LINE OUT	MTT-114 (10 kHz)	Playback	Screw Ⓒ	Output Max.	See Note 3
3	Digital peak meter	· Audio oscillator (400 Hz) · Attenuator · VTVM	LINE IN	TP1L, R	——	——	RT303L, R	0 dB indicators flash	See Note 4
4	Playback gain	· VTVM	——	TP2L, R	MTT-150, 400 Hz, 20m Maxwell	Playback	RT301L, R	580mV	See Note 5
5	HF peak indicator	· Audio oscillator (15 kHz) · Attenuator	LINE IN	——	——	——	RT601L, R	0 dB indicators lights	See Note 6

Note :

1. Adjust within 30 sec. after heat-running for more than 20 minutes.
2. Use the Hitachi head adjusting jig and instructions (consult nearest Hitachi office) to obtain the correct head height, tilt and azimuth. This adjustment has to be done alternately.

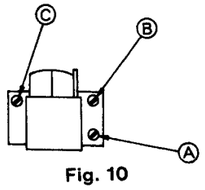


Fig. 10

3. When the maximum values of both channels are different, adjust to the maximum value of the L channel. In this case, the difference between the maximum values of both channels should be within 2 dB.
4. 1) Set the monitor switch to the SOURCE position.
   2) Feed a 400 Hz signal to the LINE IN jacks and adjust the audio oscillator output so that the level of TP1L, R becomes 580mV.
   3) Then, adjust the attenuator to lower the input level by 0.5 dB and adjust RT303L, R so that 0 dB indicators of the digital peak meter flash.
   4) Adjust the attenuator to increase the input level by 0.5 dB and confirm 0 dB indicators of the digital peak meter lights.
5. Playback a test tape (MTT-150, 400 Hz 20m Maxwell) and adjust RT301L, R so that the level of TP2L, R becomes 580mV.
6. 1) Set the monitor switch to the SOURCE position.
   2) Feed a 15 kHz signal to the LINE IN jacks and adjust the audio oscillator output so that the digital peak meter indicates 0 dB.
   3) Then, adjust the attenuator to lower the input level by 1 dB and adjust RT601L, R so that 0 dB indicators of the HF peak indicator lights.

ATRS circuit adjustment

Item	Adjustments	Measuring Instrument and Connection: Measuring Instrument	Input Terminal	Output Terminal	Check Tape	Mode	Adjusted Position	Adjusted Value	Remarks
1	Bias current	· Audio oscillator (1.5 kHz/15 kHz, 0 dB–23 dB) · Attenuator · VTVM	LINE IN	LINE OUT	Hitachi UD(C-90) tape	Record	RT103L, R	Output difference within ±0.5 dB	See Note 1
2 (1)	Bias trap	Set RV1L, R (Record level controls) to Minimum.							See Note 2
2 (2)		· VTVM	——	TP3L, R	——	Record	L108L, R	Min.	
3	Record level	· Audio oscillator (1 kHz, 0 dB–23 dB) · Attenuator · VTVM	LINE IN	LINE OUT	Hitachi UD(C-90) tape	Record	RT102L, R	Output difference within ±0.2 dB	See Note 3
4 (1)	AF oscillator	Set the AUTO/MEMORY REW switch (S3) to PLAY position and connect a diode (1S2473 or 1S2076) as shown in Fig. 11. Then, set the power switch to ON. (Microprocessor test program is performed).							
4 (2)		· VTVM	——	TP4	Hitachi UD(C-90) tape	——	RT101	Output difference within ±0.3 dB	See Note 4
5	A/D conversion	· Audio oscillator (1 kHz, 0 dB–23 dB) · Attenuator · VTVM	LINE IN	LINE OUT	Hitachi UD(C-90) tape	Record	RT302L, R	Within ±0.3 dB	See Note 5

Note :

1. 1) Set the monitor switch to the SOURCE position and feed a 1.5 kHz signal to the LINE IN jacks in the recording mode.
   2) Adjust the audio oscillator output so that the digital peak meter indicates 0 dB. Then, adjust the attenuator to lower the input level by 23 dB.
   3) Set the monitor switch to the TAPE position and read the playback output level of LINE OUT jacks.
   4) Then, set the audio oscillator frequency to 15 kHz and read the playback output level of LINE OUT jacks.
   5) Adjust RT103L, R so that the output level difference between two frequencies is within ±0.5 dB.
2. With the condition shown in item 1, set RV1L, R (Record level controls) to Minimum. Then, adjust L108L, R so that the level of TP3L, R becomes minimum.
3. 1) Set the monitor switch to the SOURCE position and feed a 1 kHz signal to the LINE IN jacks in the recording mode.
   2) Adjust the audio oscillator output so that the digital peak meter indicates 0 dB. Then, adjust the attenuator to lower the input level by 23 dB.
   3) Set the monitor switch to the TAPE position and adjust RT102L, R so that the output level difference between SOURCE and TAPE is within ±0.2 dB at LINE OUT jacks.
4. 1) Insert a tape.
   2) Connect the VTVM to TP4, press the PLAY button and read the output of the 1 kHz signal.
   3) Next, press the REC button, read the output of the 14 kHz signal and adjust RT101 so that the output difference between two frequencies is within ±0.3 dB.
   4) After adjustment, remove a diode as shown in Fig. 11.

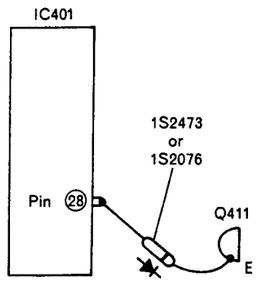


Fig. 11

5. 1) Perform the ATRS test using Hitachi UD(C-90) tape.
   2) Set the monitor switch to the SOURCE position and feed a 1 kHz signal to the LINE IN jacks in the recording mode.
   3) Adjust the audio oscillator output so that the digital peak meter indicates 0 dB. Then, adjust the attenuator to lower the input level by 23 dB.
   4) Read the output of LINE OUT jacks when the monitor switch is changed over, and adjust RT302L, R so that the output when the MONITOR switch is set to TAPE is within ±0.3 dB with respect to the output when the monitor switch is set to SOURCE.

INSPECTION OF MECHANISM

Check Item			Reference Value	Remarks
1	Pressure roller (Take-up side)	Pressure	380—450g	Measure in playback mode (Fig. 12)
		Driving force	120g or more	
2	Pressure of pressure roller (Supply side)		130—180g	Measure in playback mode (Fig. 13)
3	Pressure of take-up idler		60g or more	Measure in playback mode (Fig. 14)
4	Torque	Take-up	35—65g·cm	
		Fast forward	75—110g·cm	Measure in fast forward mode
		Rewind		Measure in rewind mode
5	Back tension	Supply side	7—10g·cm	Measure in playback mode (Fig. 15)
		Take-up side	1.7—5g·cm	
6	Brake torque	Supply side	50—100g·cm	Measure in stop mode (Fig. 16)
		Take-up side		
7	Head plate return strength		200g or more	Measure in stop mode (Fig. 17)
8	Head plate play lock allowance		300g or more	Measure in playback mode (Fig. 18)
9	Head plate pressing strength		150g or more	Measure in playback mode (Fig. 19)

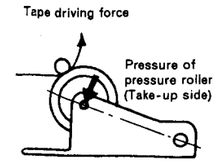


Fig. 12

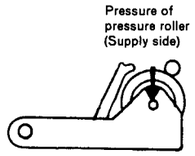


Fig. 13

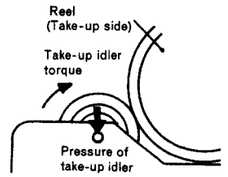


Fig. 14

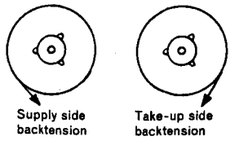


Fig. 15

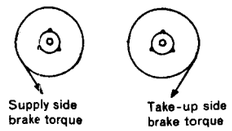


Fig. 16

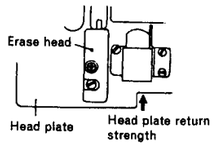


Fig. 17

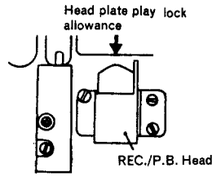


Fig. 18

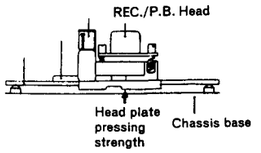


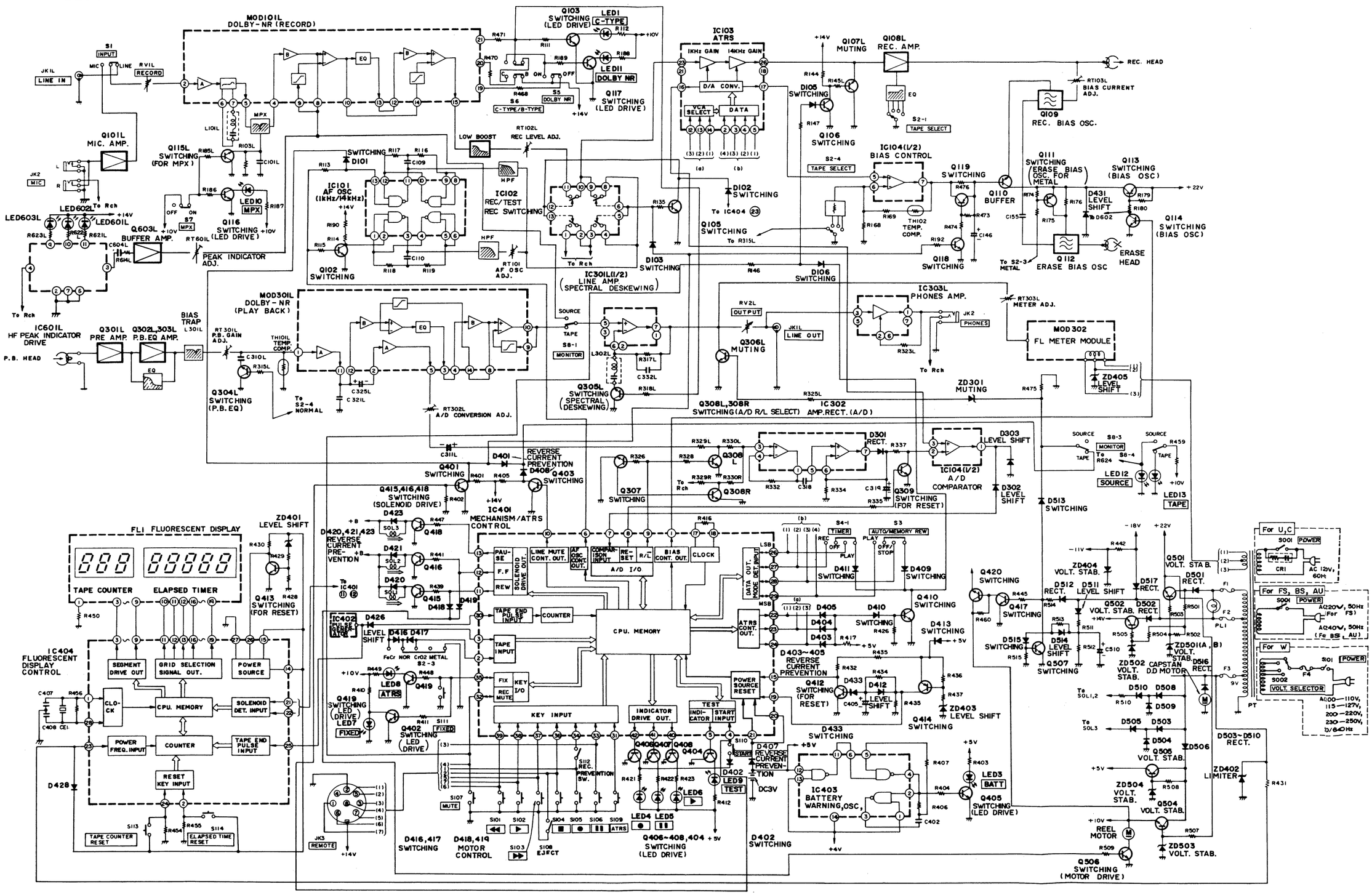
Fig. 19

LUBRICATIONS

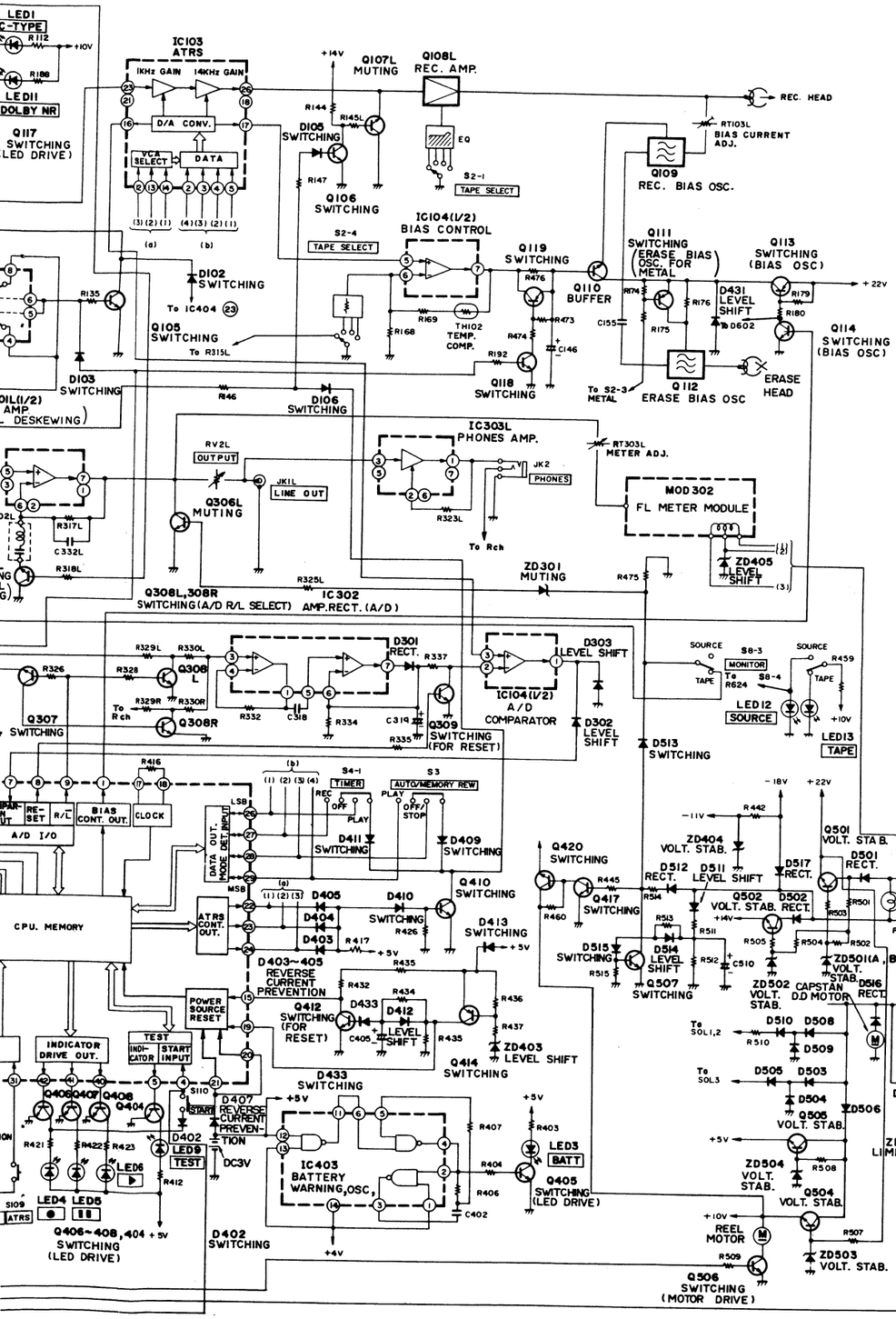
Lubricate one or two drops of oil to rotating point or lubricate grease to sliding point.
Lubricate the respective parts listed once every 1000 hours or once a year under normal conditions of use.
Avoid oiling them excessively, or rotation may become irregular because of oil splashes.

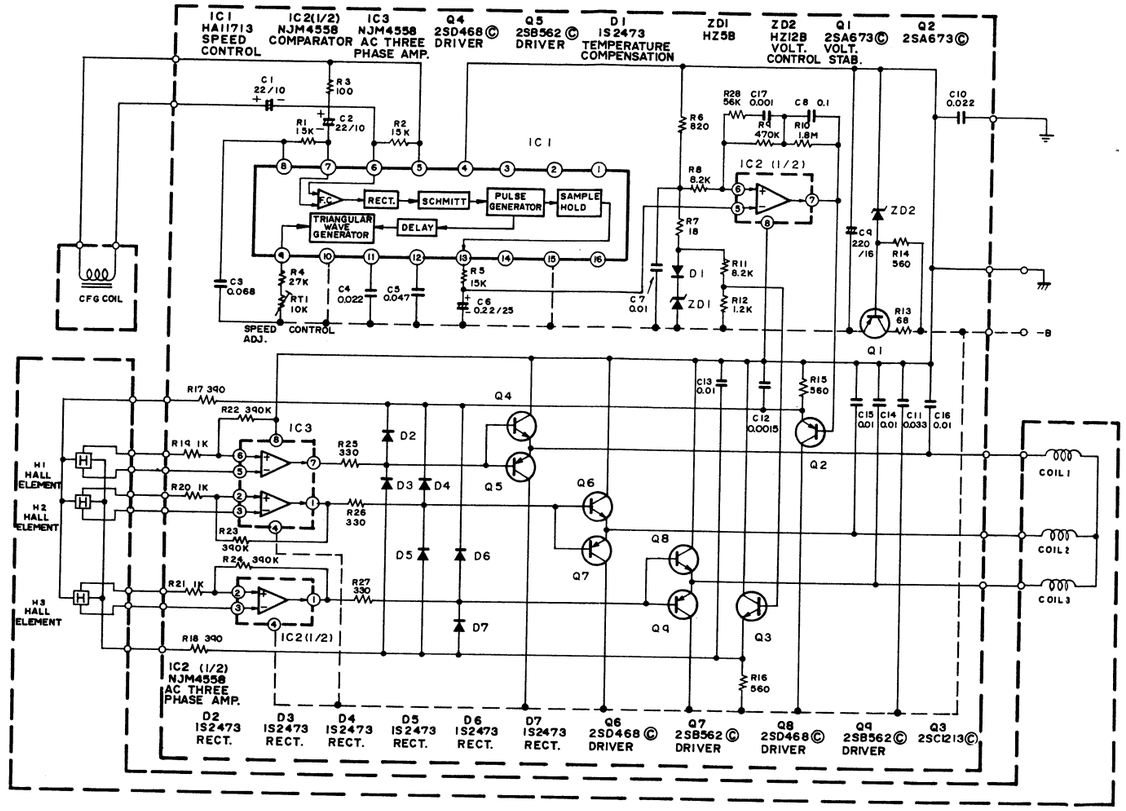
Lubrication		Oil or Grease
Rotary section	Metal and metal	Pan motor oil (10W-40)
	Mold and metal	Sonic slider oil (#1600)
Sliding section	Metal and metal	Hitasol (MO-138)
	Mold and mold Mold and metal	White grease (FL-LUBE-A)
Spring resonance prevention		Froil (GB-TS-1)

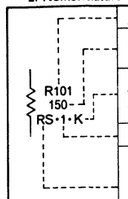
BLOCK DIAGRAM

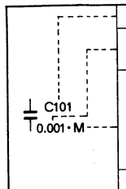


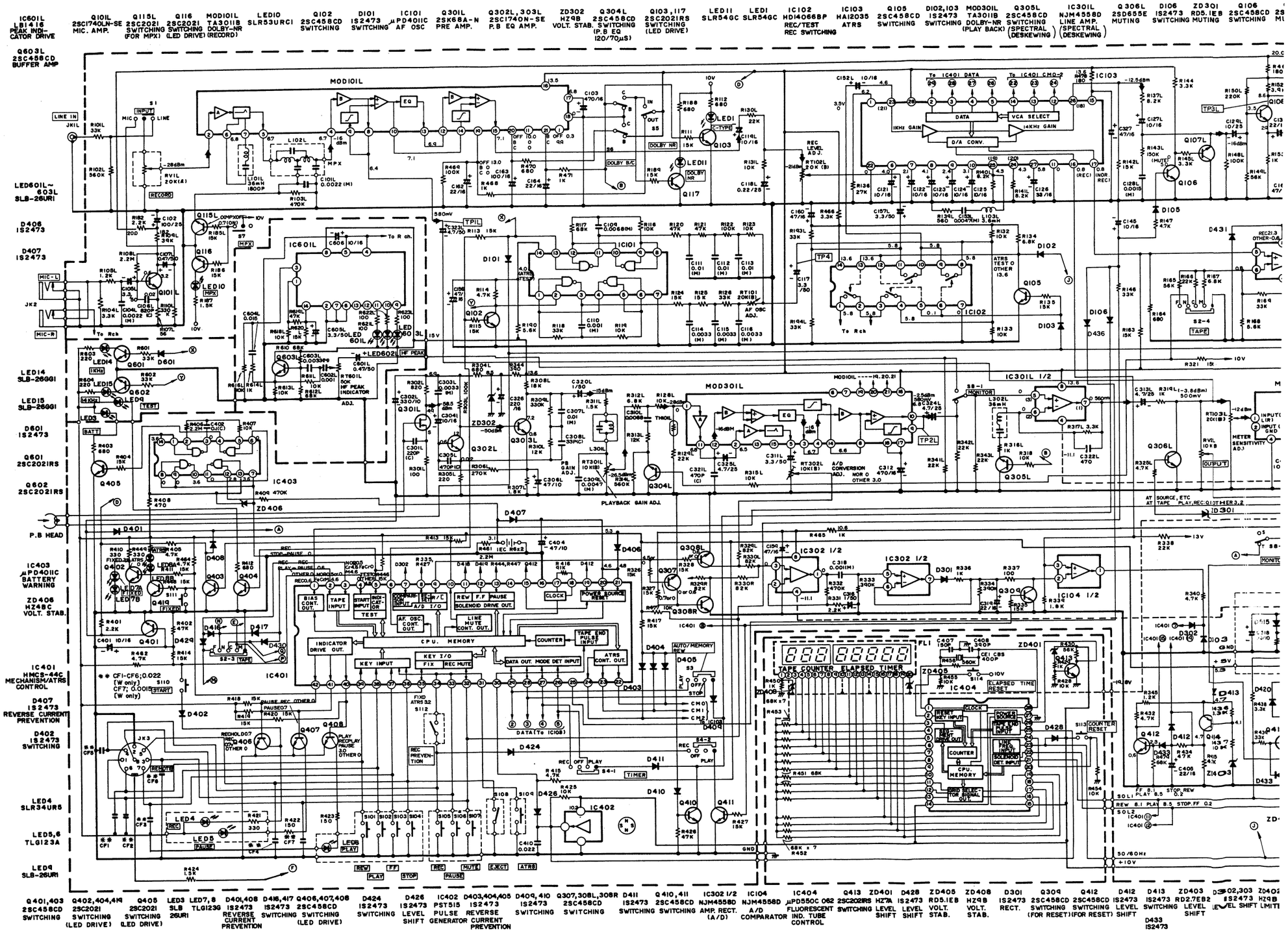
SCHEMATIC DIAGRAM (DD Motor Section)











Note

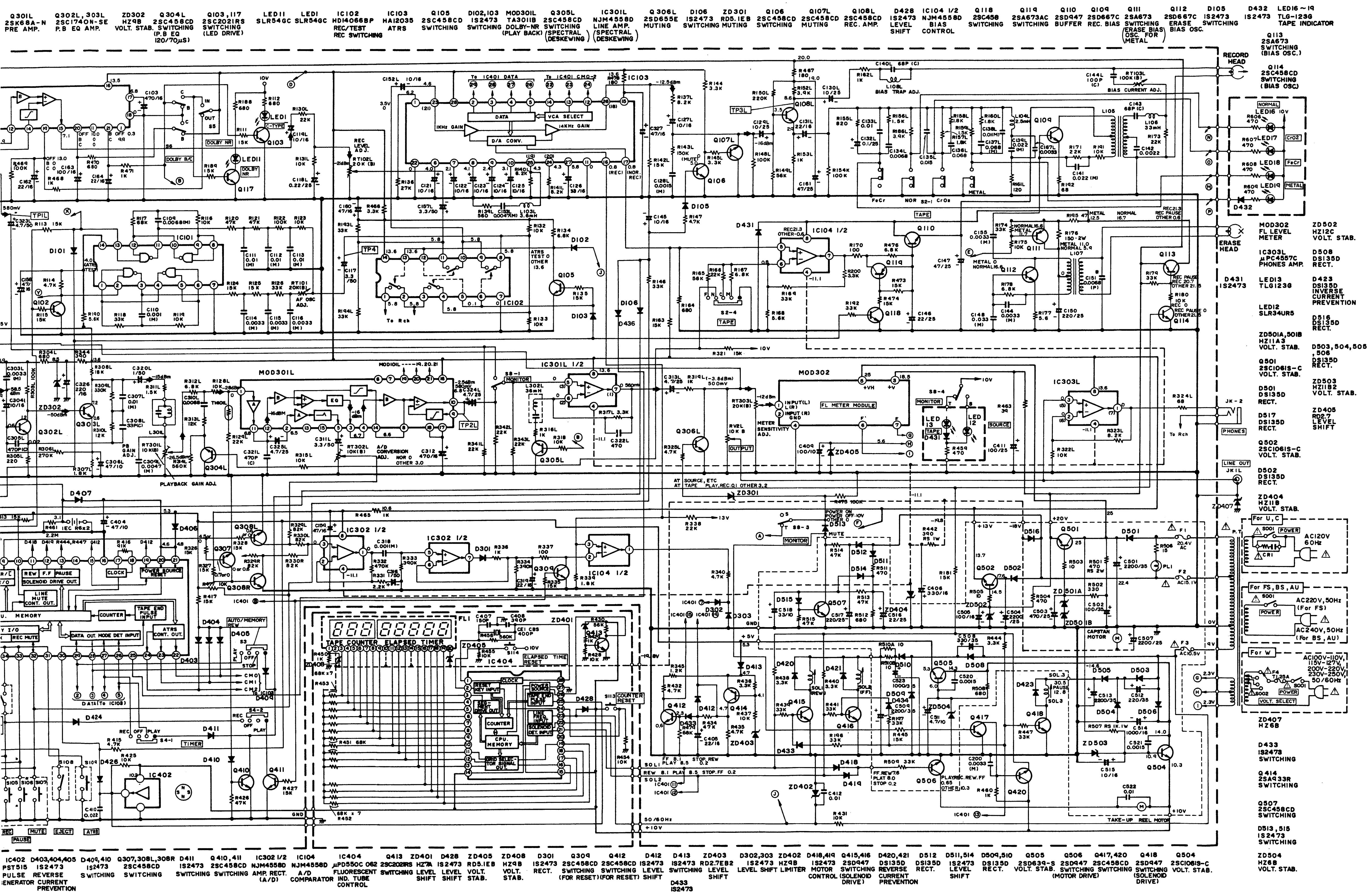
1. Voltage measured at base of chassis with minimum volume control and no signal.
2. Nomenclature of Resistors and Capacitors.

R101	Circuit No.	
150	Value	No indicated Ω(Ohm) M : 1000 kΩ
K	Tolerance	No indicated ±5% K : ±10% M : ±20%
1	Wattage	No indicated ¼W
RS	Sort	No indicated Carbon film RC : Composition RW : Wire wound RS : Oxide metal film RN : Fixed metal film

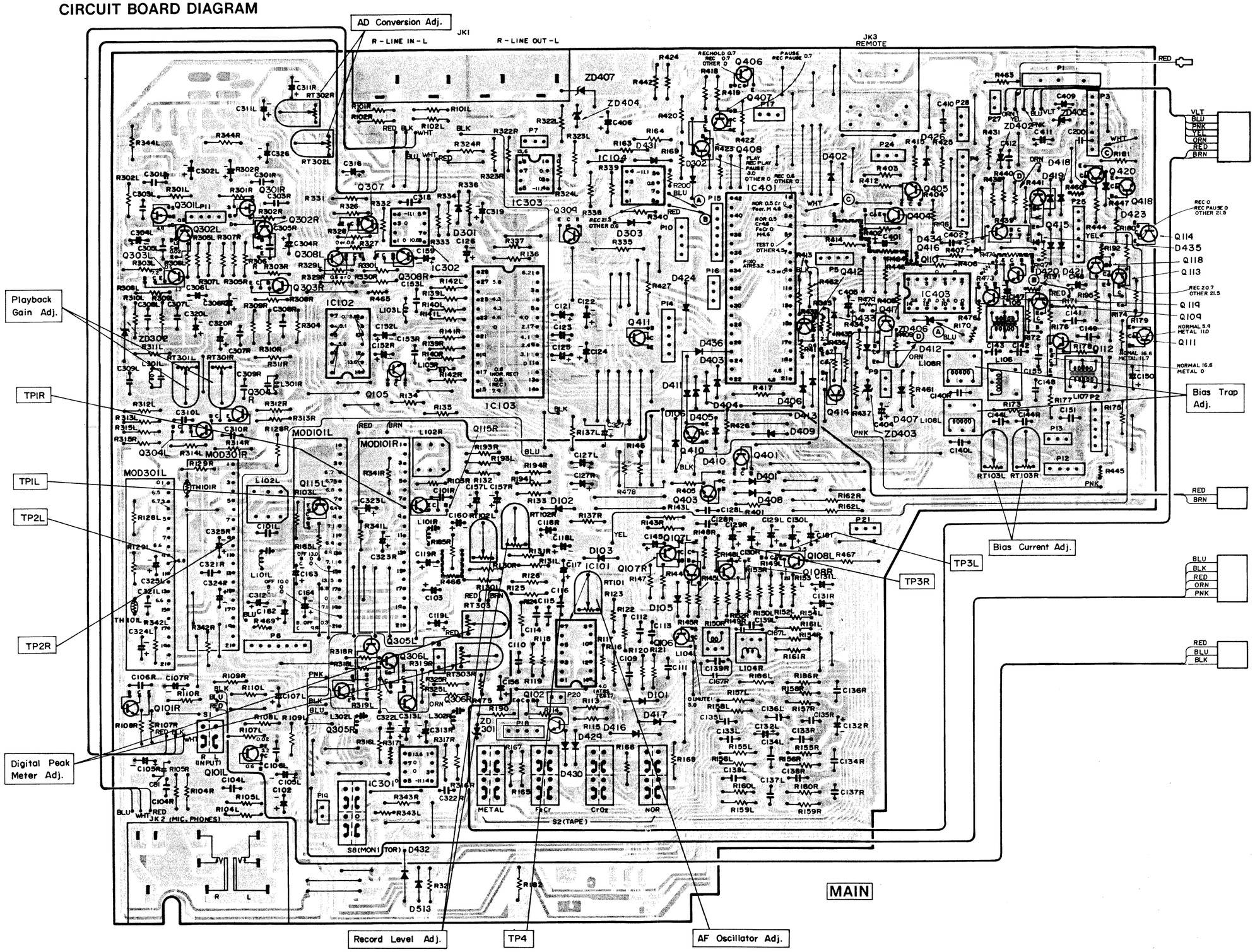
C101	Circuit No.		
0.001	Value	No indicated μF P : PF	
M	Tolerance	No indicated ±10% J : ± 5% M : ±20% Z : +80%, −20% D : ±0.5pF C : ±0.25pF	
	Sort		Ceramic
		+ −	Electrolitic
		M	Mylar
		P	Polyester
		S	Styrol
C102 0.1/16	Voltage	No indicated 50WV	

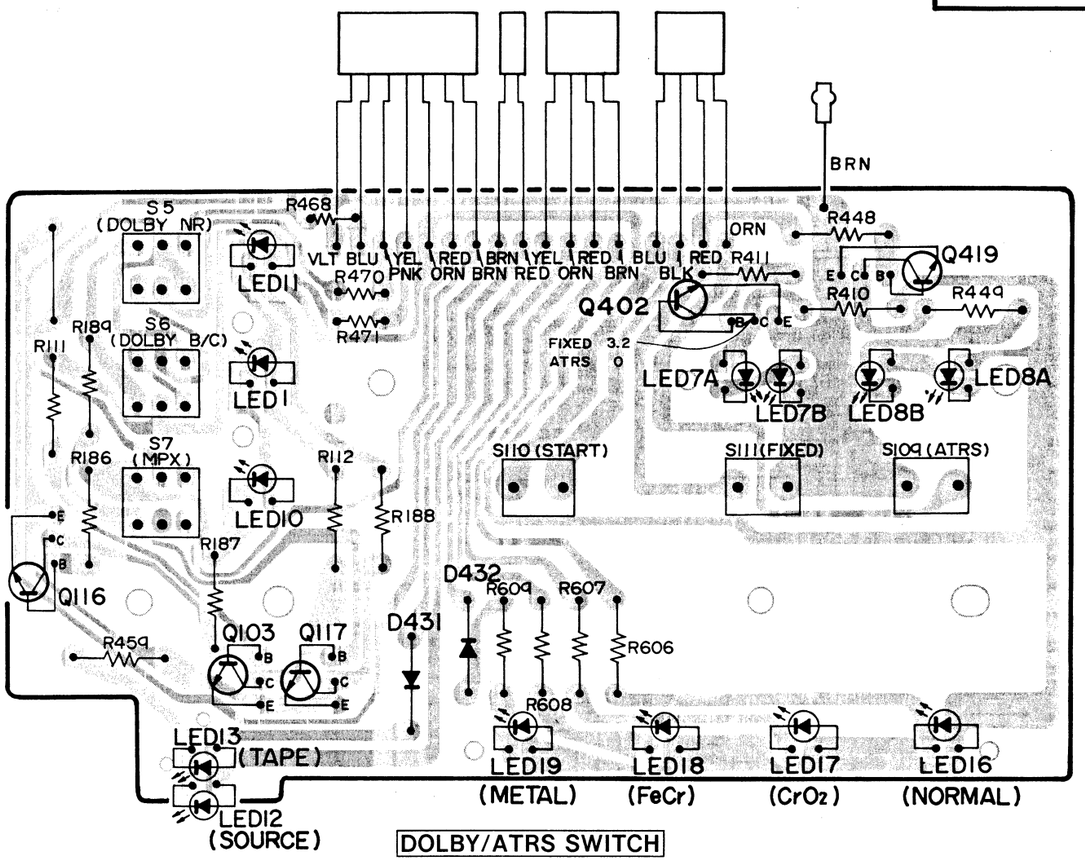
3. Be sure to make your orders of resistors and capacitors with value, voltage, tolerance and sort.
4. When replacing capacitors marked with ⁕, use specified ones stated on parts list since required temperature characteristics.

SCHEMATIC DIAGRAM

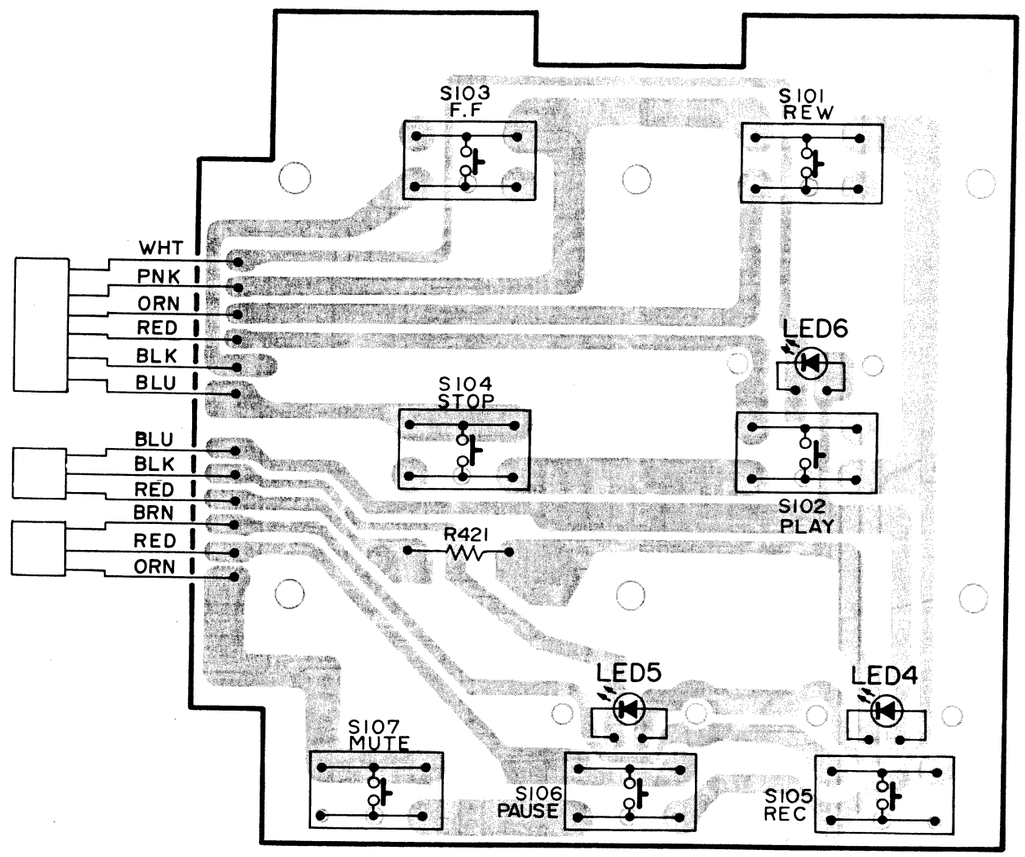

RECORD HEAD
ERASE HEAD
MOD302 FL LEVEL METER
IC303L μPC4557C PHONES AMP.
MOD301L
IC301L 1/2
IC302 1/2
IC104 1/2
IC101
IC102
IC103
IC404
IC402
FL METER MODULE
TAPE COUNTER ELAPSED TIMER
CAPSTAN MOTOR
TAKE-UP REEL MOTOR
PLAYBACK GAIN ADJ.
LINE OUT
PHONES
AC120V 60Hz
For U,C
For FS,BS,AU
For W
VOLT. SELECT

CIRCUIT BOARD DIAGRAM

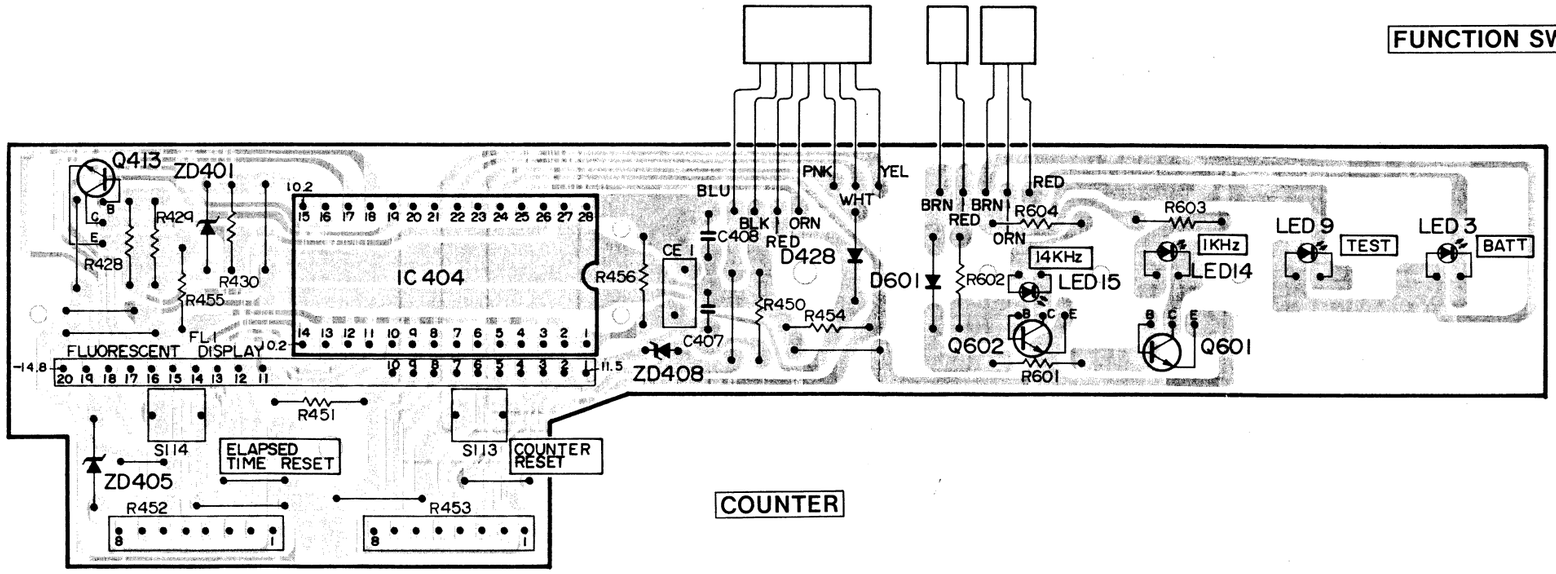




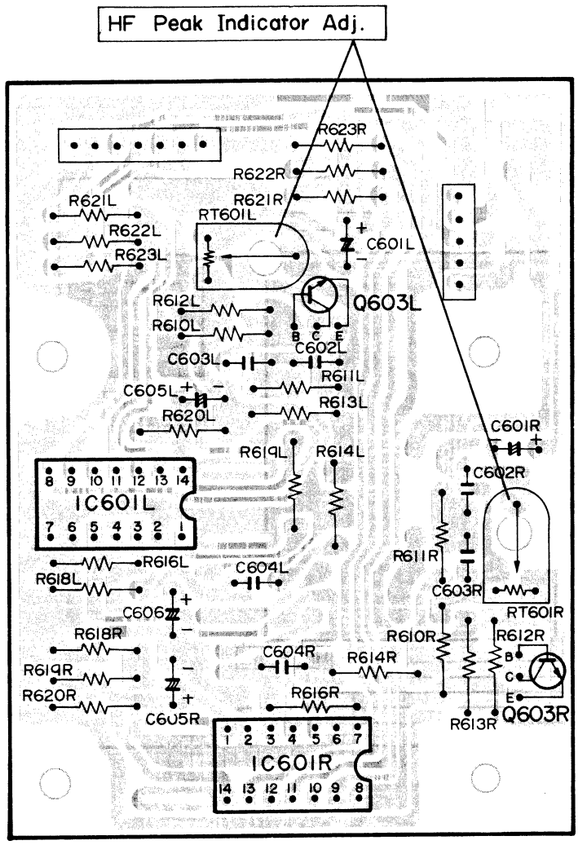
DOLBY/ATRS SWITCH



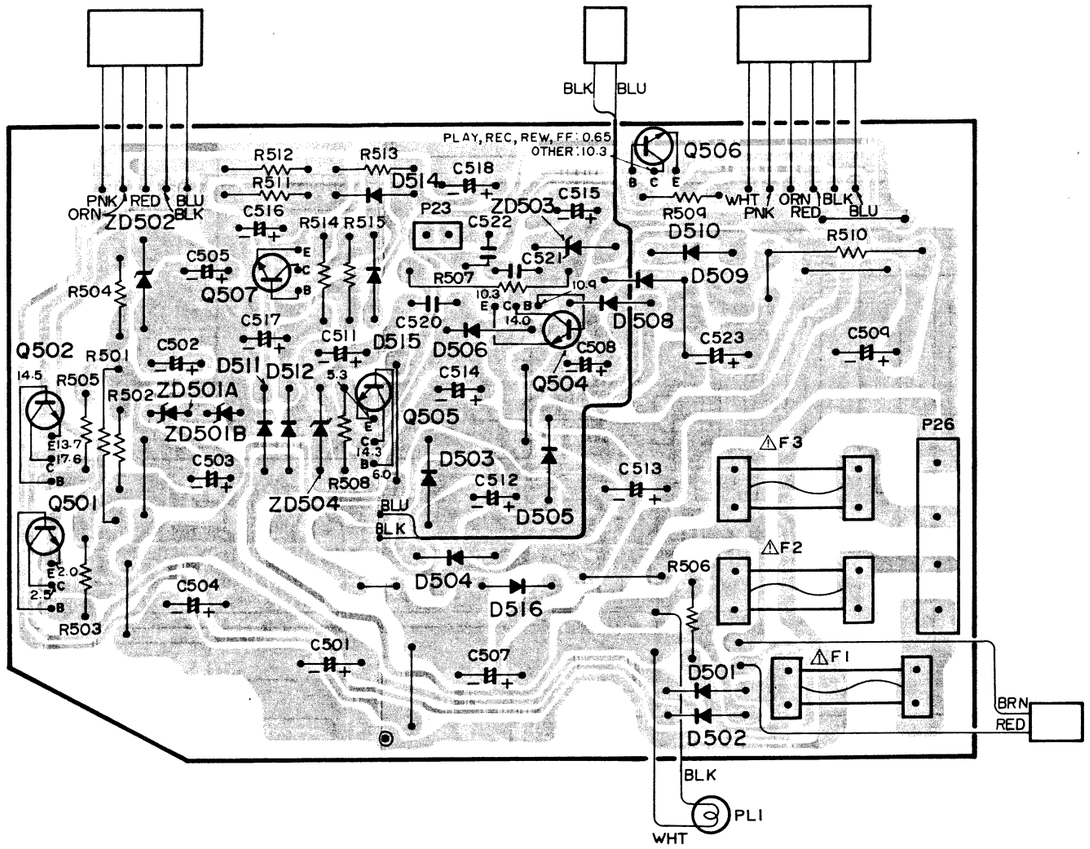
FUNCTION SWITCH



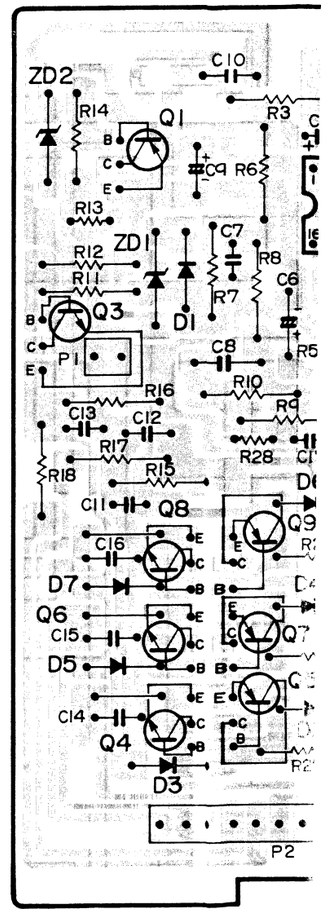
COUNTER



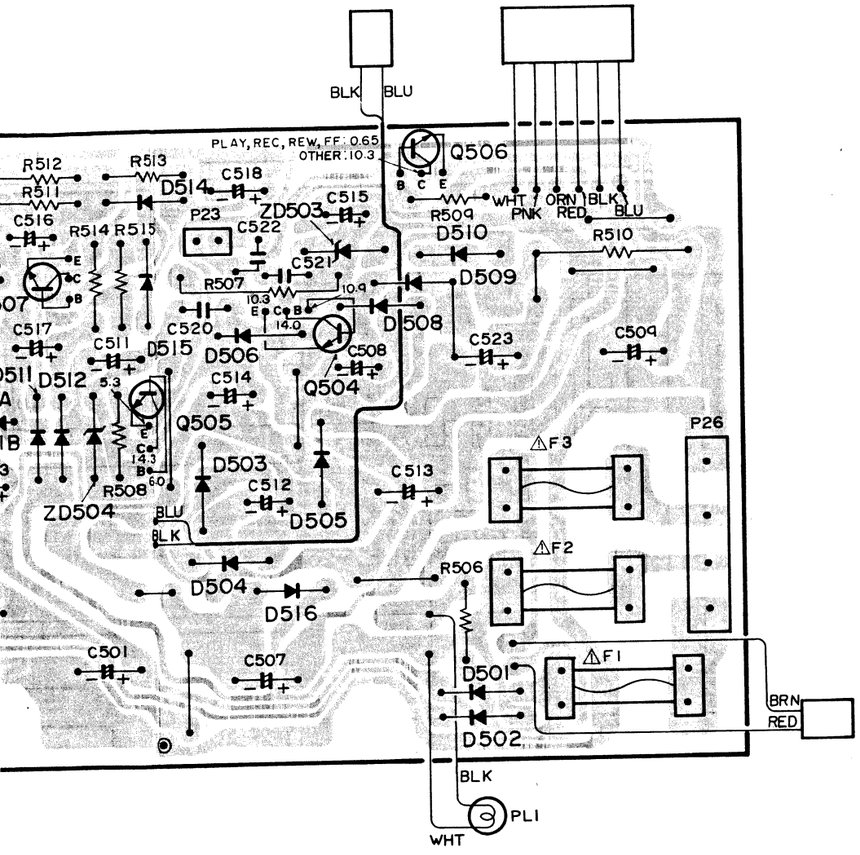
HF PEAK



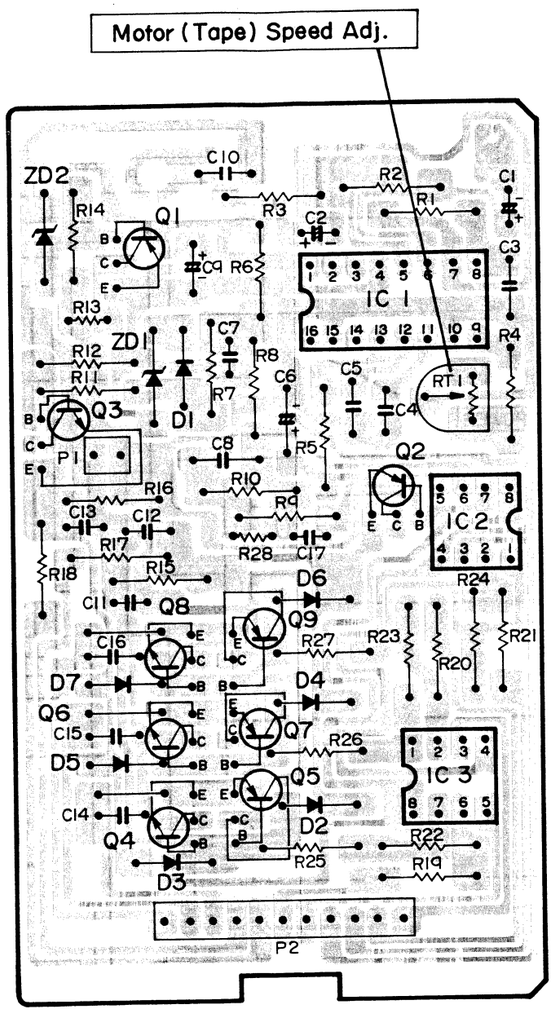
POWER



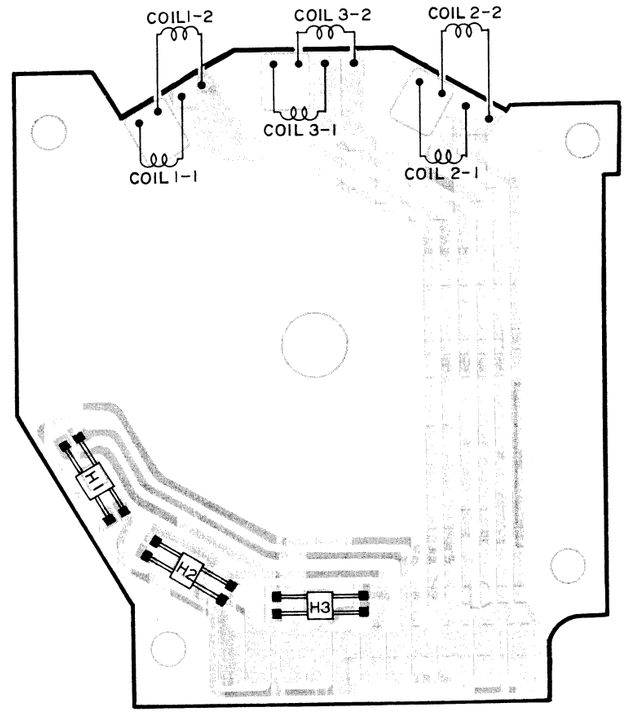
DD NOTOR C



POWER

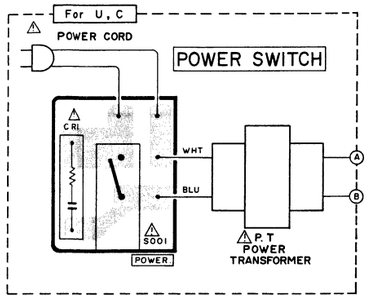


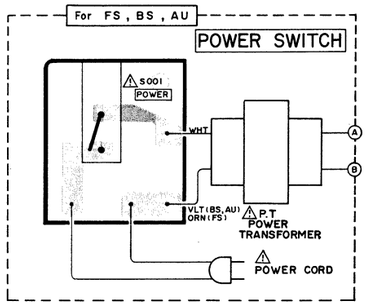
DD MOTOR CONTROL

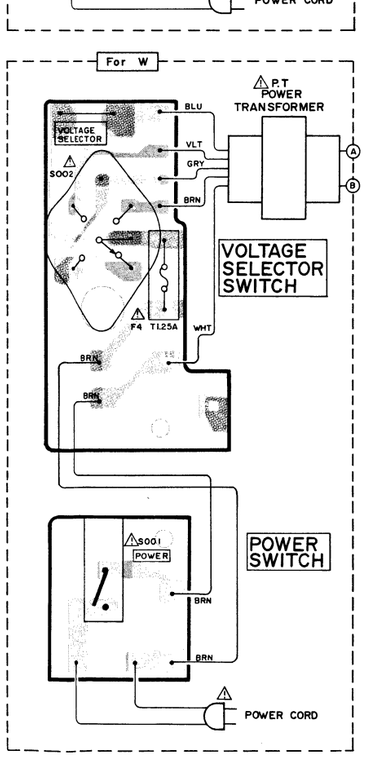


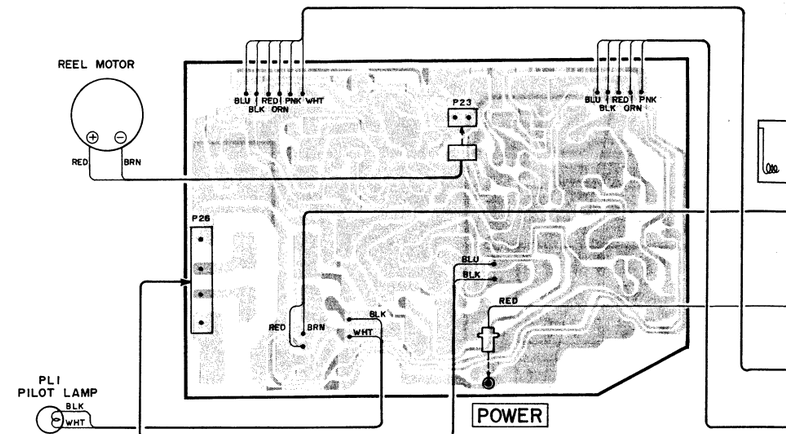
COIL

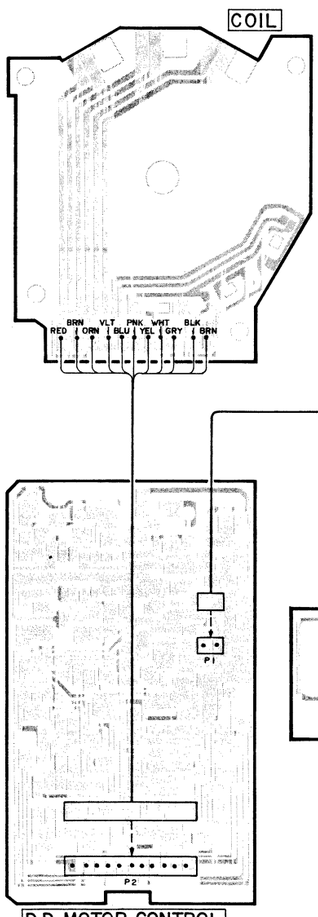
WIRING DIAGRAM

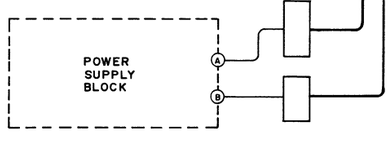


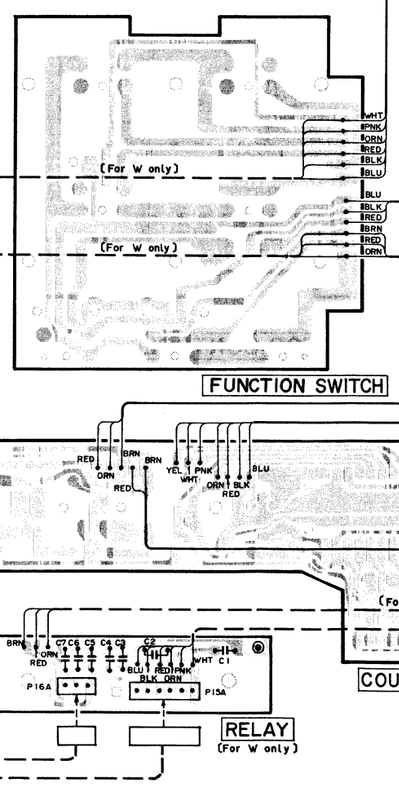


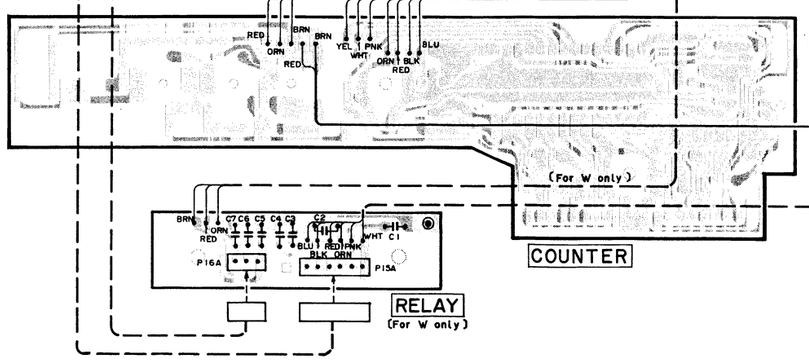


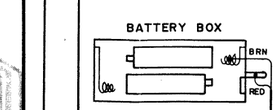


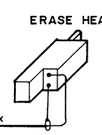


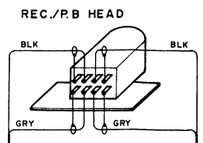


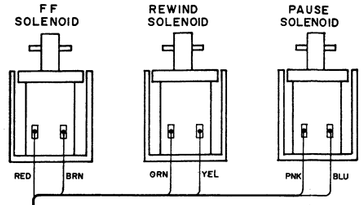


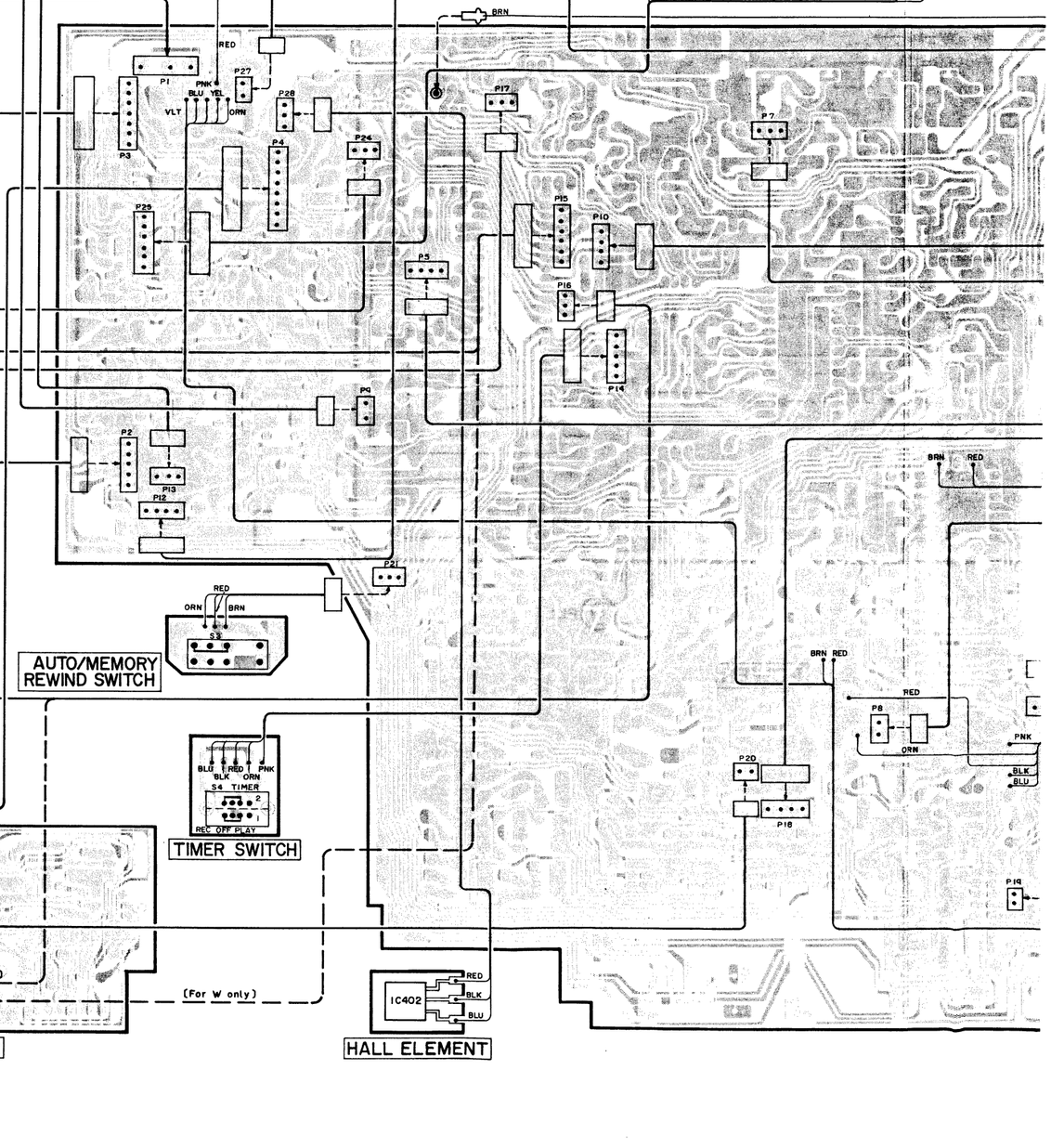


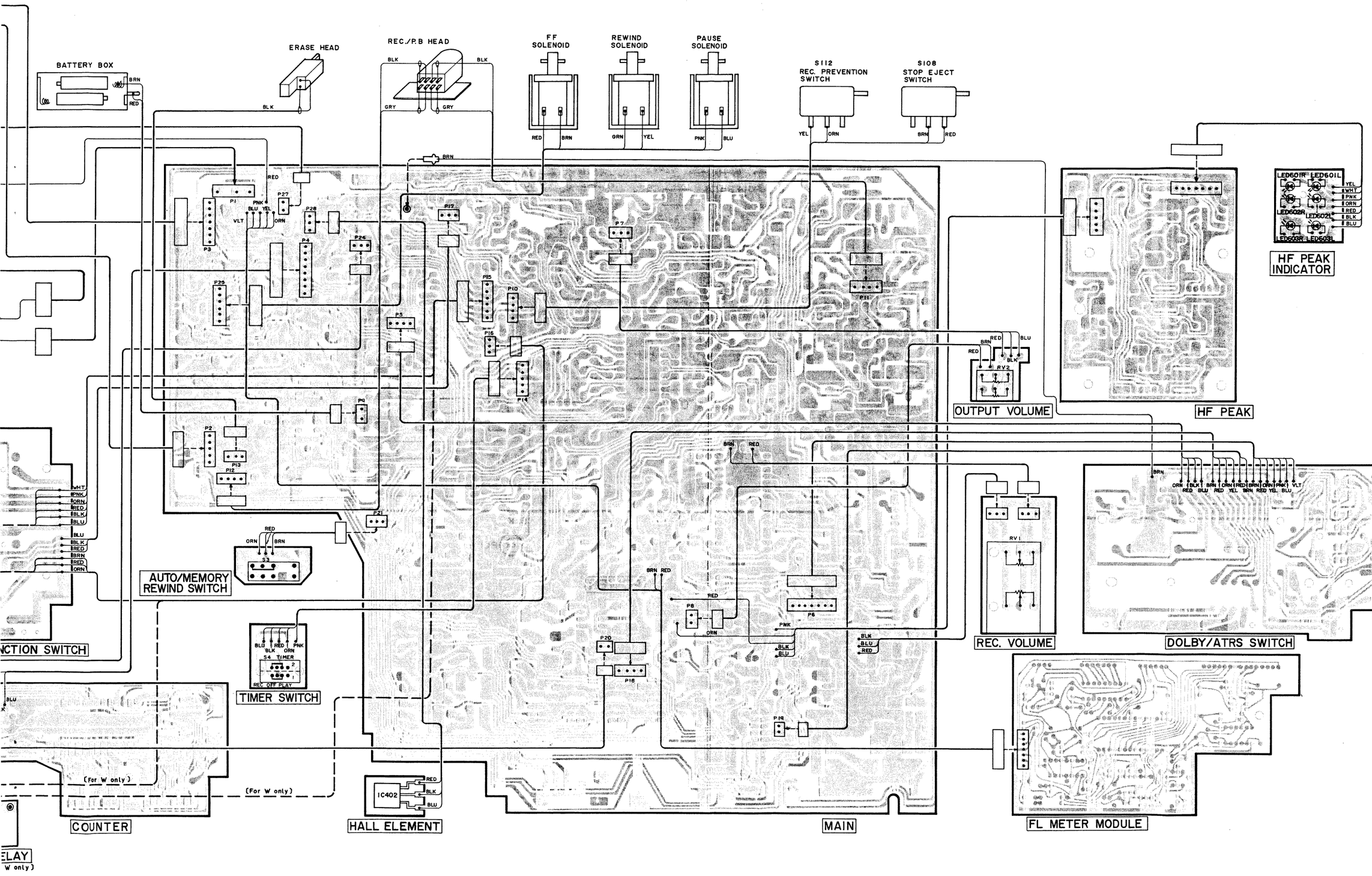




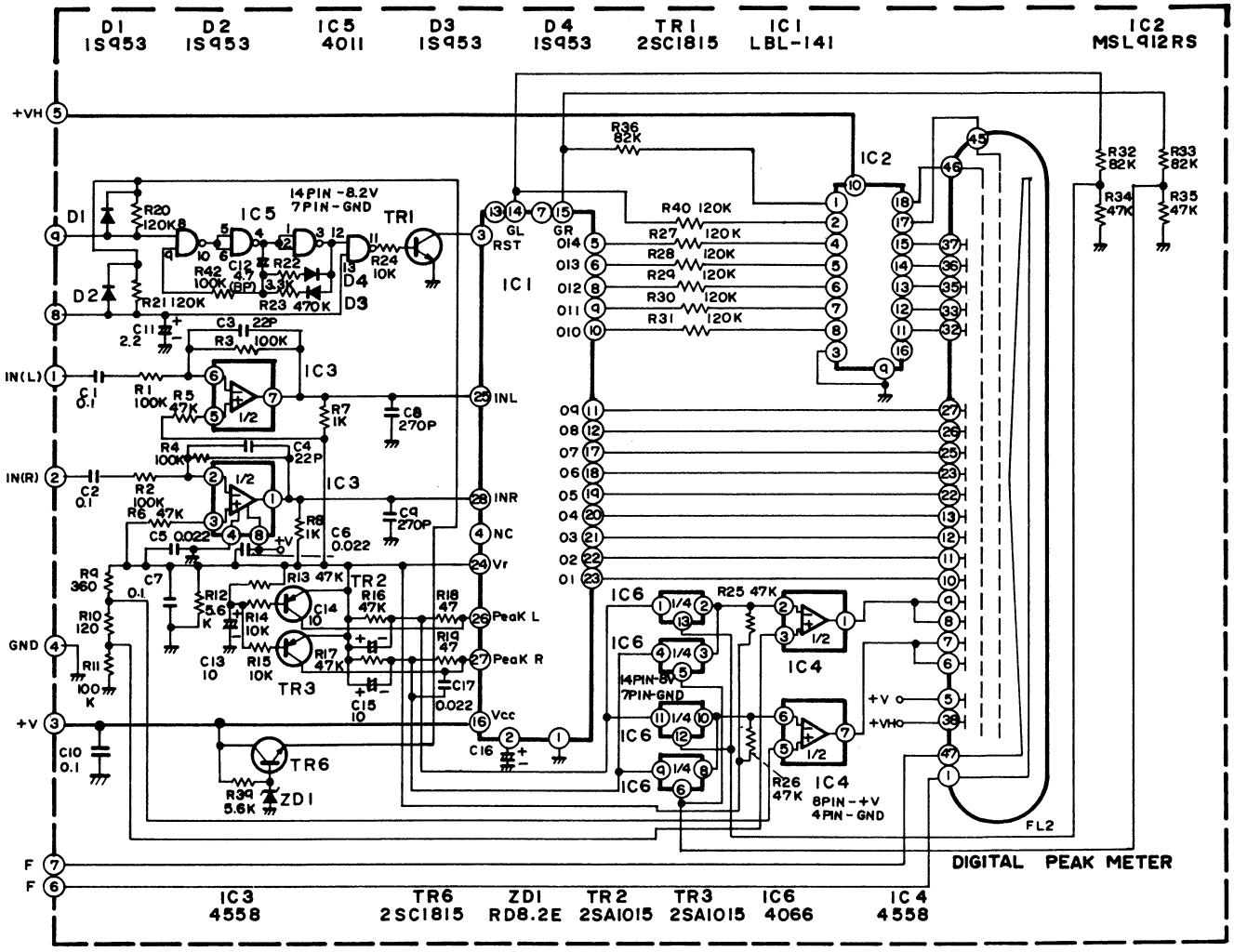


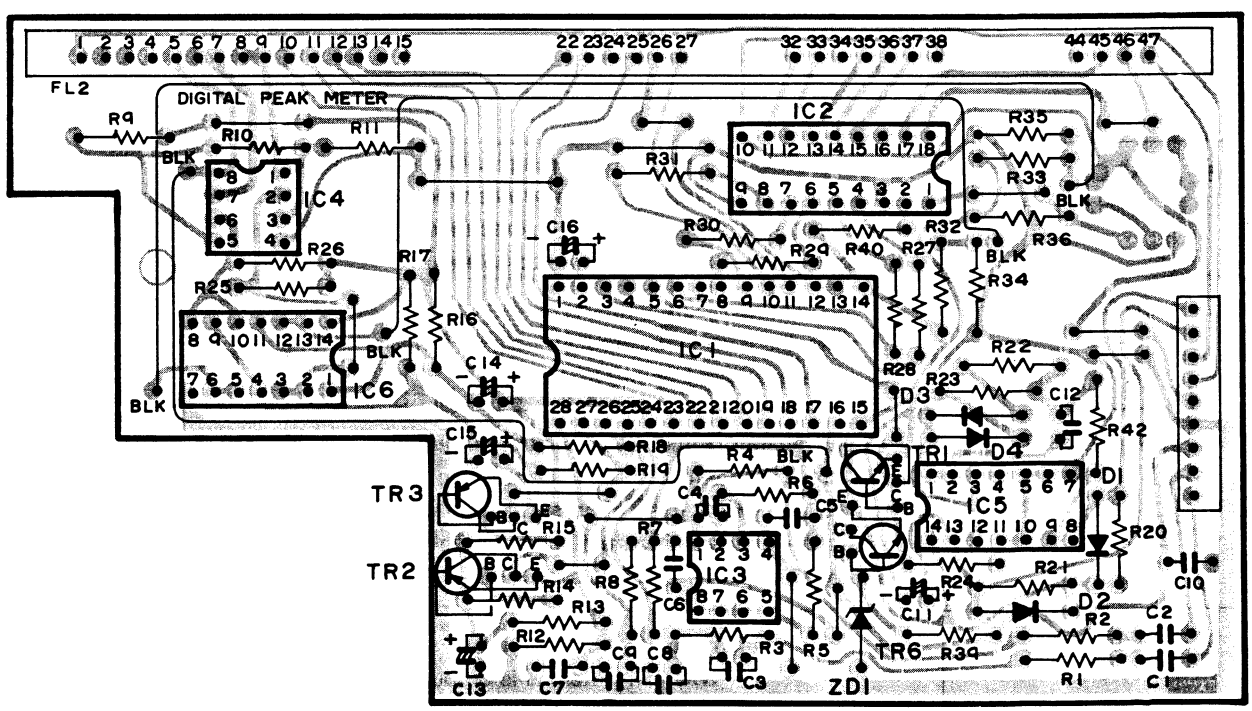





BATTERY BOX
BRN
RED
ERASE HEAD
BLK
REC./P.B HEAD
BLK
BLK
GRY
GRY
FF SOLENOID
RED
BRN
REWIND SOLENOID
GRN
YEL
PAUSE SOLENOID
PNK
BLU
S112
REC. PREVENTION SWITCH
YEL
ORN
S108
STOP EJECT SWITCH
BRN
RED
BRN
RED
P1
P3
P27
P26
PNK
BLU
YEL
VLT
ORN
P24
P4
P25
P17
P7
P15
P10
P11
P5
P16
P14
P9
P2
P13
P12
P21
RED
ORN
BRN
S3
AUTO/MEMORY REWIND SWITCH
BLU
BLK
RED
BRN
PNK
ORN
S4 TIMER
REC OFF PLAY
TIMER SWITCH
P20
P18
BRN
RED
P8
ORN
P6
PNK
BLK
BLU
BLK
BLU
RED
P19
WHT
PNK
ORN
RED
BLK
BLU
BLU
BLK
RED
BRN
RED
ORN
NCTION SWITCH
(For W only)
(For W only)
COUNTER
1C402
RED
BLK
BLU
HALL ELEMENT
MAIN
BRN
RED
RED
BRN
BLU
BLK
RV2
OUTPUT VOLUME
HF PEAK
LED601R
LED601L
LED602R
LED602L
LED603R
LED603L
YEL
WHT
PNK
ORN
RED
BLK
BLU
HF PEAK INDICATOR
RV1
REC. VOLUME
BRN
ORN RED
BLK BLU
BRN RED
ORN YEL
RED BRN
ORN RED
PNK YEL
VLT BLU
DOLBY/ATRS SWITCH
FL METER MODULE

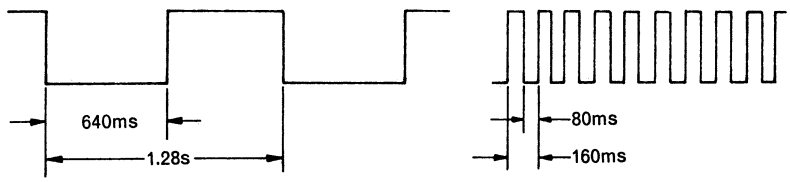
SCHEMATIC DIAGRAM/CIRCUIT BOARD DIAGRAM (FL Meter Module)





IC PIN FUNCTION TABLE

1. IC401 (HD44801A41 for mechanism/ATRS control)

<table>
<tr><th>Pin No.</th><th>Pin Symbol</th><th>Function</th></tr>
<tr><td>1</td><td>BIAS</td><td>• Control output pin to operate the bias oscillation circuit. Outputs Lo potential normally and Hi potential in the REC mode and the REC-PAUSE mode. Outputs after elapse of the inhibit time of 120 ms when the mode is changed from STOP, PLAY or PAUSE, and outputs after elapse of the inhibit time of 820 ms when the mode is changed from FF or REW. Outputs after elapse of the inhibit time of 180 ms when the mode is changed from STOP to REC-PAUSE.</td></tr>
<tr><td>2
3</td><td>TAPE SELECT 1
TAPE SELECT 2</td><td>• Tape select switch (S2) position detection input pin. Detects the tape select switch position according to the truth table shown below and changes over the output data.
<table>
<tr><th>Switch position / Input pins</th><th>NORMAL</th><th>FeCr</th><th>CrO2</th><th>METAL</th></tr>
<tr><td>Pin ②</td><td>0</td><td>1</td><td>0</td><td>1</td></tr>
<tr><td>Pin ③</td><td>0</td><td>0</td><td>1</td><td>1</td></tr>
</table></td></tr>
<tr><td>4</td><td>$\overline{\text{TEST START}}$</td><td>• ATRS test start detection input pin. Inputs Hi potential normally and inputs Lo potential by the button operation in the REC, REC-PAUSE or REC-HOLD mode, to detect the ATRS test start. The ATRS test starts actually when the input is detected during the REC or REC-PAUSE mode.
• Outputs Lo potential when executing the ATRS test and outputs Hi potential normally.</td></tr>
<tr><td>5</td><td>TEST INDI.</td><td>• Test indicator drive output pin. Outputs Lo potential normally and outputs the flashing pulse with 1.28 sec. period when executing the ATRS test. When error occurs during the ATRS test, the flashing pulse with 160 ms period is output as error indication.
This error indication continues until the play button or pause button key input is given.
 
</td></tr>
<tr><td>6</td><td>AF OSC
(1 kHz/$\overline{14\text{ kHz}}$)</td><td>• AF signal oscillator control output pin. Outputs Hi potential until ATRS test starts when power is ON. Outputs Hi potential when recording the 1 kHz signal and Lo potential when recording the 14 kHz signal during execution of the ATRS test. It is set to the Lo potential output mode after ATRS test is completed.</td></tr>
<tr><td>7</td><td>A/D COMP.</td><td>• A/D comparator output input pin.
Detects the inversion output (fall signal from Hi to Lo potential) of the A/D comparator during execution of the ATRS test.</td></tr>
<tr><td>8</td><td>A/D RESET</td><td>• A/D comparator circuit reset control output pin.
Outputs Lo potential in other modes than the ATRS operation, and outputs Hi potential with 80 ms width just after scanning the A/D comparison reference voltage during execution of the ATRS test to reset the test sample hold, and outputs Hi potential for approx. 3 sec. after power is supplied.</td></tr>
<tr><td>9</td><td>A/D SELECT</td><td>• A/D comparison circuit input (play output signal) channel select control output pin.
When Hi potential is output : R channel
When Lo potential is output : L channel</td></tr>
</table>

Pin No.	Pin Symbol	Function
10	$\overline{\text{LINE MUTE}}$	• LINE amp final stage muting control output pin. Outputs Hi potential during REC, PLAY and REC-PAUSE after recording to mute the play signal of the LINE amp output. Hi potential is output after elapse of the inhibit time of 120 ms during play, after elapse of the inhibit time of 400 ms during record and after elapse of the inhibit time of 1100 ms when changing the mode from FF or REW.
11	REW SOL.	• REW solenoid drive output pin. Outputs Lo potential normally and outputs Hi potential during REC, PLAY and REW.
12	FF SOL.	• FF solenoid drive output pin. Outputs Lo potential normally and outputs Hi potential during REC, PLAY and FF.
13	PAUSE SOL.	• PAUSE solenoid drive output pin. Outputs Lo potential normally and outputs Hi potential during REC-PAUSE mode and PLAY–PAUSE mode.
14	NC	• Blank pin.
15	RESET	• Initial reset input pin. This pin input is set to Hi potential when power is supplied to perform initial resetting.
16	GND	• Connected to GND.
17 18	OSC 1 OSC 2	• The external resonance circuit is coupled with these pins to operate the built-in clock oscillation circuit which is the reference of microprocessor operation. The oscillation frequency is set to 400 kHz.
19	$\overline{\text{HALT}}$	• HALT pin. This pin changes from Lo potential to Hi potential when power is supplied and the program of the microprocessor is executed. It is set to Lo potential when power is set to OFF and the execution of the program stops and is held.
20	$\overline{\text{TEST}}$	• Microprocessor test pin. Connected to Vcc pin ㉑ because this is not used.
21	Vcc	• Power pin. Applies +5V.
22 ≀ 24	VCA SELECT 0 ≀ VCA SELECT 2	• ATRS IC (HA12035) control output pins. Output during REC, REC-PAUSE and REC-HOLD, and designate the object of the ATRS IC internal circuit to be controlled by the control data output from the data output pins ㉖ ~ ㉙. These outputs are composed of the 3-bit signal.

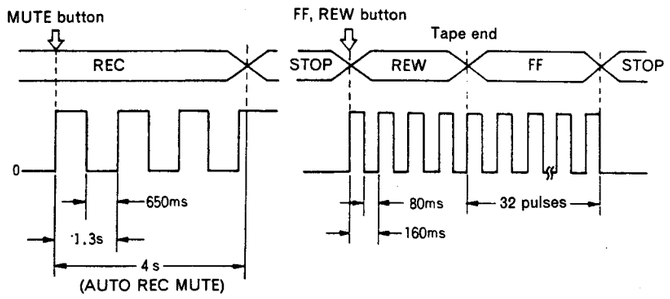
Output pins ㉔	㉓	㉒	Designation function
0	0	0	Designates that data has no meaning.
0	0	1	Designates that it is 1 kHz, Lch data.
0	1	0	Designates that it is 14 kHz, Lch data.
0	1	1	Designates that it is bias data.
1	0	0	Designates that it is 14 kHz, R ch data.
1	0	1	Designates that it is 1 kHz, R ch data.
1	1	0	Designates that it is A/D comparison reference voltage.
1	1	1	Designates to clear all data.

• Auto/memory rewind switch and timer switch position detection output pin. Outputs 111 when detecting switch position.

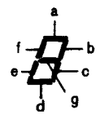
Pin No.	Pin Symbol	Function
25	IC MUTE	• IC muting control output pin.
26 ≀ 29	DATA 0(LSB) ≀ DATA 3(MSB)	• ATRS IC (HA12035) control output pins. The control data is composed of 4-bit signal and output during REC, REC-PAUSE and REC-HOLD. • Auto/memory rewind switch and timer switch position detection input pins. Input the timer switch position detection signal for 3 sec. after power is supplied, to judge the mode.

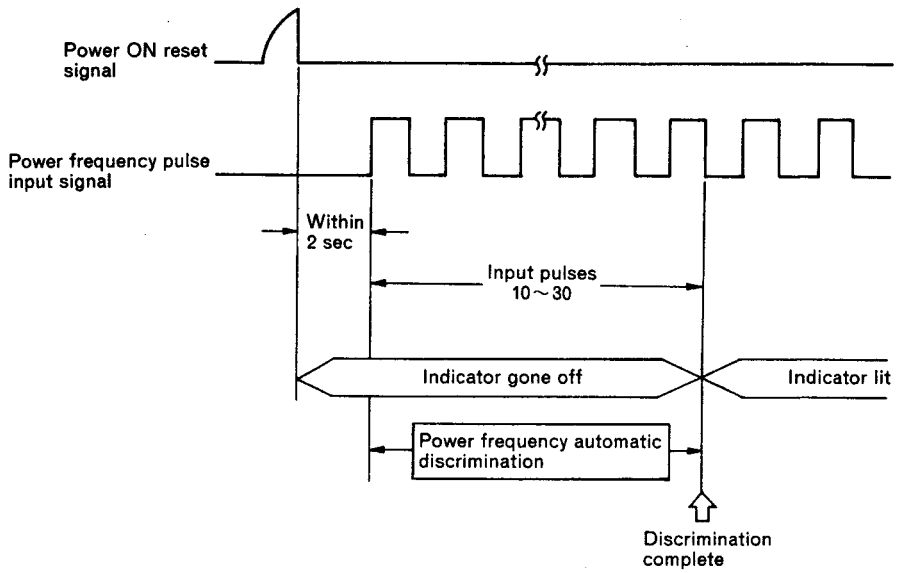
Input pins ㉙	㉘	㉗	㉖	Criterion mode
0	0	×	×	Test program execution
DATA2 +DATA3 = 1		0	0	Timer recording
		0	1	
		1	0	Timer play
		1	1	———

30	REEL PULSE	• Input pin of tape end detection Hall element pulse output. When the take-up reel disk stops rotating, pulse input disappears and tape end is detected with pulse not input for 3 sec. or more during REC and PLAY, and for 1 sec. or more during REW and FF. • Tape count during the memory rewind function operation is done counting the input pulses.
31	$\overline{\text{ATRS}}$	• ATRS mode input pin. Judged as ATRS mode with Lo potential input.
32	$\overline{\text{REC MUTE}}$	• Auto REC MUTE detection input/output pin. When Lo potential is input by the REC-MUTE button operation during outputting Hi potential (during REC or REC-PAUSE mode), it is judged as AUTO REC MUTE mode and Lo potential is output for approx. 4 sec.
33	$\overline{\text{PAUSE}}$	• PAUSE mode input pin. Judged as PAUSE mode with Lo potential input.
34	$\overline{\text{REC}}$	• REC mode input pin. Judged as REC mode with Lo potential input.
35	$\overline{\text{FIXED}}$	• ATRS FIXED mode input pin. When Lo potential is input, it is judged as FIXED mode and the REC control data output is changed over from the ATRS data to FIXED data. • When the Lo potential is input and it is judged as FIXED mode, Lo potential is output to light the FIXED indicator and makes ATRS indicator go off.
36	$\overline{\text{STOP}}$	• STOP mode input pin. When Lo potential is input, it is judged as STOP mode.
37	$\overline{\text{FF}}$	• FF mode input pin. When Lo potential is input, it is judged as FF mode.
38	$\overline{\text{PLAY}}$	• PLAY mode input pin. When Lo potential is input, it is judged as PLAY mode. • When the timer record or play is set within 3 sec. after power is supplied, Lo potential is output after approx. 3 sec. Outputs Lo potential with approx. 80 ms width simultaneously with the play operation start in the auto rewind play mode. This Lo potential is the one action control signal when the unit is combined with the system component stereo.
39	$\overline{\text{REW}}$	• REW mode input pin. When Lo potential is input, it is judged as REW mode.

Pin No.	Pin Symbol	Function
40	PLAY INDI.	• PLAY indicator drive output pin. Flashing pulse is output synchronizing with the reel pulse input during REC and PLAY. When the time of light gone off becomes 500 ms, Hi potential is output regardless of presence/absence of the reel pulse input. • Outputs Hi potential during REC-PAUSE and PLAY-PAUSE. • When the REC and PLAY buttons are pressed simultaneously within 3 sec after power is supplied and reset is completed, or during the timer recording or play, flashing pulse is output with 180 ms period for 3 sec. after resetting, and Hi potential is output after elapse of 3 sec.
41	PAUSE INDI.	• PAUSE indicator drive output pin. Outputs Hi potential during REC-PAUSE and PLAY-PAUSE. • Flashing pulse is output with 1.3 sec. period during the AUTO REC MUTE, and Hi potential is output after AUTO REC MUTE is completed. • Flashing pulse is output with 160 ms period during the stand-by mode and the Lo potential is output after the mode is complete. 
42	REC INDI.	• REC indicator drive output pin. Outputs Hi potential during REC, REC-PAUSE and REC-HOLD. • When the REC and PLAY buttons are pressed simultaneously within 3 sec. after power is supplied and resetting is complete or during the timer recording, flashing pulse is output with 180 ms period for 3 sec. after resetting is completed, and Hi potential is output after 3 sec.

2. IC404 (μPD550C 062, for counter with elapsed timer)

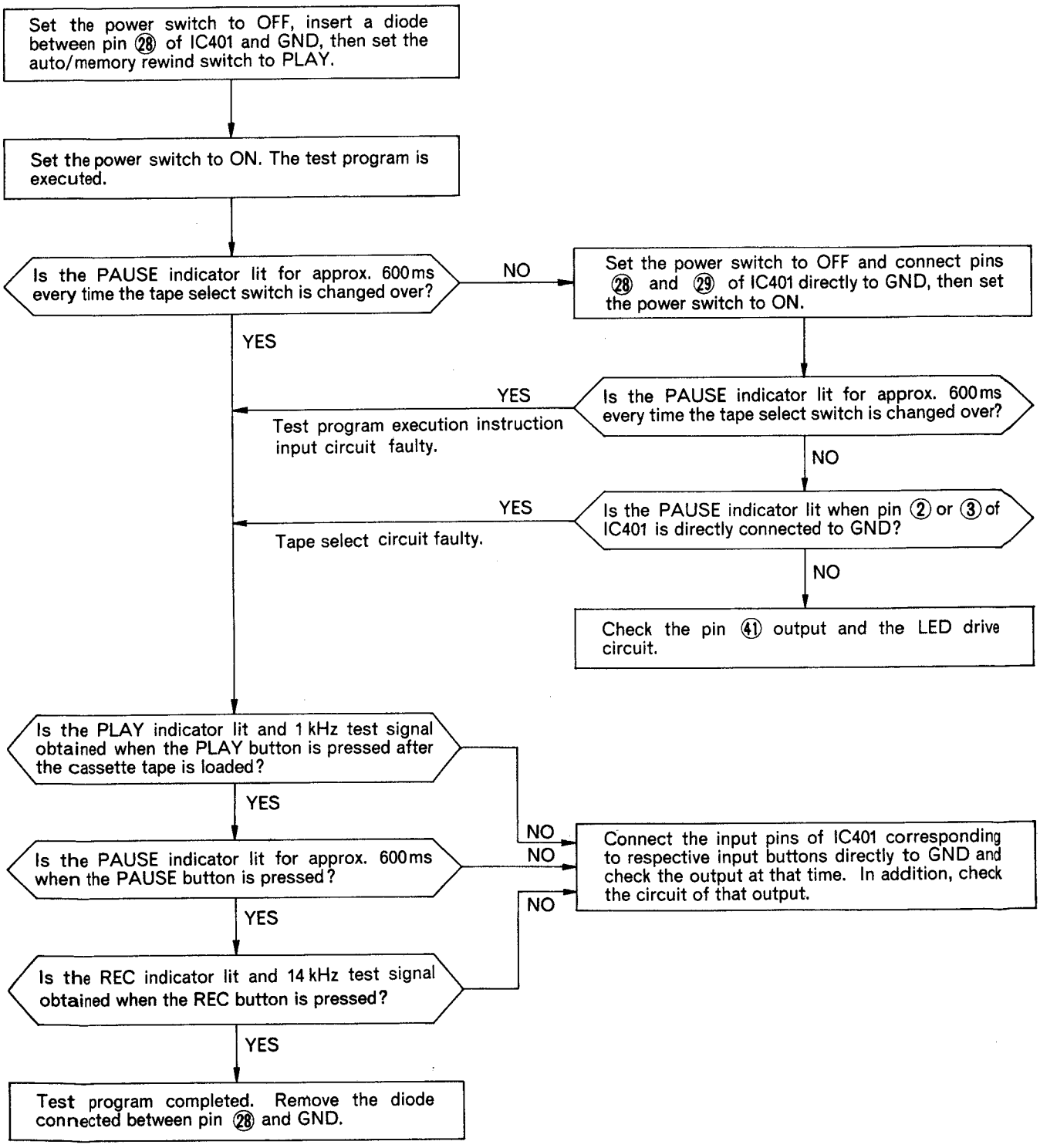
Pin No.	Pin Symbol	Function
1 28	CLOCK 1 CLOCK 0	• The external resonance circuit is coupled with these pins to operate the built-in clock oscillation circuit which is the reference of the microprocessor operation, and the oscillation frequency is set to 400 kHz.
2	TIMER CLEAR	• Elapsed time indication timer (stopwatch indication) zero clear input pin. Inputs Lo potential normally and inputs Hi potential during button operation.
3 ~ 9	a ~ g	• Fluorescent display tube plate segment drive output pins. The Hi potential output segment is lit synchronized with the grid select signal. Segment / Display: a b c d e f g 0: 1 1 1 1 1 1 0 1: 0 1 1 0 0 0 0 2: 1 1 0 1 1 0 1 3: 1 1 1 1 0 0 1 4: 0 1 1 0 0 1 1 5: 1 0 1 1 0 1 1 6: 1 0 1 1 1 1 1 7: 1 1 1 0 0 0 0 8: 1 1 1 1 1 1 1 9: 1 1 1 1 0 1 1 —: 0 0 0 0 0 0 1 
10 ~ 13 16 ~ 19	9 ~ 5 4 ~ 1	• Fluorescent display tube dynamic drive grid select (for display digit scanning) data output pins, and the display of the Hi potential output digit is lit. Output pin / Display digit: Tape counter (3 rd digit, 2 nd digit, 1 st digit); Elapsed timer (10 minute, 1 minute, —, 10 sec, 1 sec) 1 (pin ⑲): 0 0 0 0 0 0 0 1 2 (pin ⑱): 0 0 0 0 0 0 1 0 3 (pin ⑰): 0 0 0 0 0 1 0 0 4 (pin ⑯): 0 0 0 0 1 0 0 0 5 (pin ⑬): 0 0 0 1 0 0 0 0 7 (pin ⑫): 0 0 1 0 0 0 0 0 8 (pin ⑪): 0 1 0 0 0 0 0 0 9 (pin ⑩): 1 0 0 0 0 0 0 0
14	Vss	• Hi side power pin. Applies +10V.
15	TEST	• Microprocessor test pin. Connected to Vss pin because this is not used.
20	NC	• Blank pin.
21 22	FF SOL. REWIND SOL.	• Mechanism operation (solenoid operation) detection input pin. Addition/subtraction to/from the tape counter or addition of the elapsed timer is executed by inputting, and displayed to the fluorescent display tube.

<table>
<tr><th>Pin No.</th><th>Pin Symbol</th><th>Function</th></tr>
<tr><td>21
22</td><td>FF SOL.
REWIND SOL.</td><td>
<table>
<tr><th>Pin (21) Potential</th><th>Pin (22) Potential</th><th>Tape counter</th><th>Elapsed timer</th></tr>
<tr><td>0</td><td>0</td><td>—</td><td>—</td></tr>
<tr><td>0</td><td>1</td><td>Count subtracted</td><td>—</td></tr>
<tr><td>1</td><td>0</td><td>Count added</td><td>—</td></tr>
<tr><td>1</td><td>1</td><td>Count added</td><td>Count added</td></tr>
</table>
• Test program execution instruction input pin.
Test program is executed when pin (22) is set to Hi potential input with power ON reset.
</td></tr>
<tr><td>23</td><td>50/60</td><td>• Elapsed time indication timer drive power frequency pulse input pin.
Inputs power frequency pulse within 2 sec. after power is ON and resetting is complete and executes the 50/60 Hz frequency automatic discrimination.
 
</td></tr>
<tr><td>24</td><td>COUNTER CLEAR</td><td>• Tape counter indication reset (zero clear) input pin.
Inputs Lo potential normally and inputs Hi potential during button operation.</td></tr>
<tr><td>25</td><td>REEL PULSE</td><td>• Input pin of tape end detection Hall element pulse output signal. Becomes the reference signal of the addition/subtraction count of the tape counter.</td></tr>
<tr><td>26</td><td>RESET</td><td>• Reset pin. This pin is set to Lo potential when power is supplied and initial resetting is performed at the retrailing edge of the pulse.</td></tr>
<tr><td>27</td><td>V_{GG}</td><td>• Power pin. Connected to GND.</td></tr>
</table>

MICROPROCESSOR TEST PROGRAM

The test programming is stored in the microprocessor of this unit. Judge troubles according to the following procedure when the microprocessor and peripheral circuits are malfunctioning.

IC401 (HD44801A41)



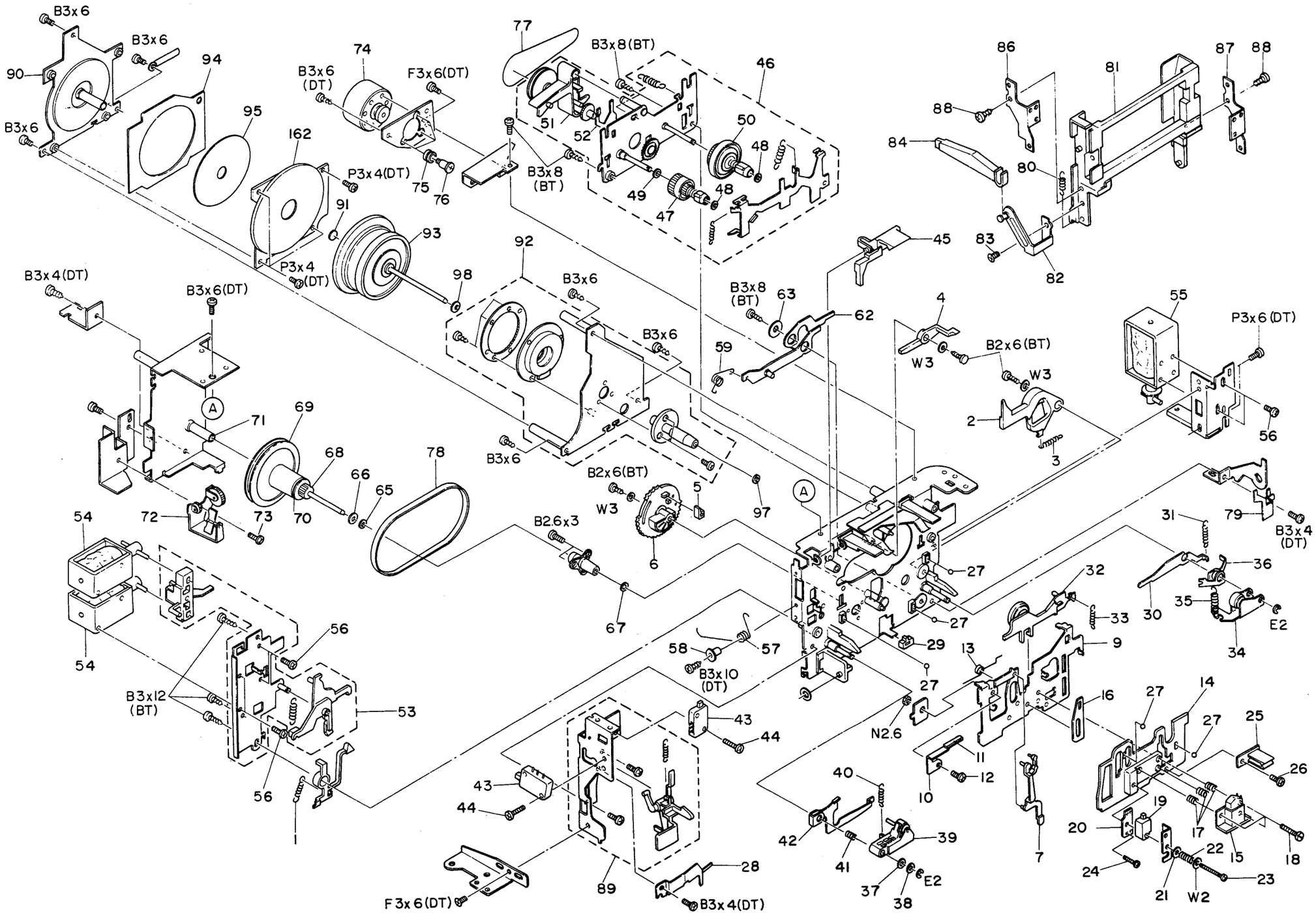
REPLACEMENT PARTS LIST

SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
⚠ CR 1	0219902	CR PACK 120 OHM 0.0033MF 450V (U)
⚠ CR 1	0219907	CR PACK (C)
		RESISTORS
R 4	0171257	METAL FILM RESISTOR 27K OHM+-1%,1/4W
R 13	0170480	FUSE RESISTOR 68 OHM+-5% 1/4W
RT 1	5007224	SEMI VARIABLE 10K OHM
RT101	5007478	SEMI VARIABLE 20K OHM
RT102LR	5007478	SEMI VARIABLE 20K OHM
RT103LR	5007481	SEMI VARIABLE 100K OHM
RT301LR	5007477	SEMI VARIABLE 10K OHM
RT302LR	5007477	SEMI VARIABLE 10K OHM
RT303LR	5007478	SEMI VARIABLE 20K OHM
RT601LR	5007479	SEMI VARIABLE 50K OHM
RV 2	5000872	VARIABLE RESISTOR 10K OHM (B)
R176	0111301	OXIDE METAL FILM 150 OHM+-5%
R195	0112912	METAL OXIDE RESISTOR 47 OHM+-10%
R301LR	0171253	METAL FILM RESISTOR 100 OHM+-1%,1/4W
R302LR	0171252	METAL FILM RESISTOR 820 OHM+-1% 1/4W
R442	0111078	OXIDE METAL FILM RESISTOR 390 OHM+-5%,1W
R452	5068302	RESISTOR BLOCK
R453	5068302	RESISTOR BLOCK
R467	0111303	OXIDE METAL FILM RESISTOR 82 OHM
R478	0111070	OXIDE METAL FILM RESISTOR 180 OHM+-5%,1W
R501	0111313	OXIDE METAL FILM RESISTOR 470 OHM+-5%,2W
R507	0111153	METAL OXIDE 1K OHM 1W
R510AB	0170407	FUSE RESISTOR 10 OHM+-5% 1/2W
		SEMI-CONDUCTORS
D 1-7	5330572	DIODE SILICON 1S2473HC
D101-103	5330573	DIODE 1S2473
D105	5330573	DIODE 1S2473
D106	5330573	DIODE 1S2473
D301-303	5330573	DIODE 1S2473
D401-413	5330573	DIODE 1S2473
D416-419	5330573	DIODE 1S2473
D420-423	5331671	DIODE DS135D-FA3
D424	5330573	DIODE 1S2473
D426	5330573	DIODE 1S2473
D428	5330574	DIODE 1S2473
D429-432	5330573	DIODE 1S2473
D431	5330574	DIODE 1S2473
D432	5330574	DIODE 1S2473
D433	5330573	DIODE 1S2473
D434-436	5330573	DIODE 1S2473
D501-505	5331671	DIODE DS135D-FA3
D506	5331671	DIODE DS135D-FA3
D508-510	5331671	DIODE DS135D-FA3
D511	5330573	DIODE 1S2473
D512	5331671	DIODE DS135D-FA3
D513	5330573	DIODE 1S2473
D514	5330573	DIODE 1S2473
D515	5380101	LED SLP-24B
D516	5331671	DIODE DS135D-FA3
D601	5330574	DIODE 1S2473
IC 1	5352101	IC HA11713
IC 2	5350601	IC NJM4558D
IC 3	5350601	IC NJM4558D
IC101	5359501	IC MPD4011C
IC102	5365491	IC HD14066BP
IC103	5355041	IC HA12035
IC104	5350601	IC NJM4558D
IC301	5350601	IC NJM4558D
IC302	5350601	IC NJM4558D
IC303	5352831	IC MPC4557C
IC401	5365559	IC HD44801A41
IC402	5352911	HALL IC PST515
IC403	5359501	IC MPD4011C
IC404	5359729	IC MPD550C
IC601LR	5359871	IC LB1416
LED 1	5380481	LED SLR-54GC
LED 3	5380361	LED SLB26UR1
LED 4	5380691	LED SLR34UR
LED 5	5380711	LED TLG123A
LED 6	5380711	LED TLG123A
LED 7AB	5380711	LED TLG123A
LED 8AB	5380711	LED TLG123A
LED 9	5380361	LED SLB26UR1
LED 10	5380482	LED SLR53URC1
LED 11	5380481	LED SLR-54GC
LED 12	5380691	LED SLR34UR
LED 13	5380711	LED TLG123A
LED 14	5380362	LED SLB26GG1
LED 15	5380362	LED SLB26GG1
LED 16-19	5380711	LED TLG123A
LED601LR	5380361	LED SLB26UR1
LED602LR	5380361	LED SLB26UR1
LED603LR	5380361	LED SLB26UR1
MOD101LR	5378063	MODULE TA3011B
MOD301LR	5378063	MODULE TA3011B
Q 1	5320593	TRANSISTOR 2SA673C
Q 2	5320593	TRANSISTOR 2SA673C
Q 3	5320613	TRANSISTOR 2SC1213C
Q 4	5321213	TRANSISTOR 2SD468C
Q 5	5321203	TRANSISTOR SILICON 2SB562C
Q 6	5321213	TRANSISTOR 2SD468C
Q 7	5321203	TRANSISTOR SILICON 2SB562C
Q 8	5321213	TRANSISTOR 2SD468C
Q 9	5321203	TRANSISTOR SILICON 2SB562C
Q101LR	5321298	TRANSISTOR 2SC1740LN-SE
Q102	5320069	TRANSISTOR 2SC458CD

SYMBOL-NO	P-NO	DESCRIPTION
		SEMI-CONDUCTORS
Q103	5321663	TRANSISTOR 2SC2021R/S
Q105	5320069	TRANSISTOR 2SC458CD
Q106	5320069	TRANSISTOR 2SC458CD
Q107LR	5320069	TRANSISTOR 2SC458CD
Q108LR	5320069	TRANSISTOR 2SC458CD
Q109	5322651	TRANSISTOR 2SD667C
Q110	5323071	TRANSISTOR 2SD947
Q111	5320603	TRANSISTOR SILICON 2SA673A-C
Q112	5322651	TRANSISTOR 2SD667C
Q113	5320603	TRANSISTOR SILICON 2SA673A-C
Q114	5320069	TRANSISTOR 2SC458CD
Q115LR	5321663	TRANSISTOR 2SC2021R/S
Q116	5321663	TRANSISTOR 2SC2021R/S
Q117	5321663	TRANSISTOR 2SC2021R/S
Q118	5320069	TRANSISTOR 2SC458CD
Q119	5320603	TRANSISTOR SILICON 2SA673A-C
Q301LR	5321506	TRANSISTOR 2SK68A-N
Q302LR	5321298	TRANSISTOR 2SC1740LN-SE
Q303LR	5321298	TRANSISTOR 2SC1740LN-SE
Q304LR	5320069	TRANSISTOR 2SC458CD
Q305LR	5320069	TRANSISTOR 2SC458CD
Q306LR	5322381	TRANSISTOR 2SD655
Q307	5320069	TRANSISTOR 2SC458CD
Q308LR	5320069	TRANSISTOR 2SC458CD
Q309	5320069	TRANSISTOR 2SC458CD
Q401	5320069	TRANSISTOR 2SC458CD
Q402	5320069	TRANSISTOR 2SC458CD
Q403	5320069	TRANSISTOR 2SC458CD
Q404-407	5320069	TRANSISTOR 2SC458CD
Q408	5320069	TRANSISTOR 2SC458CD
Q410	5320069	TRANSISTOR 2SC458CD
Q411	5320069	TRANSISTOR 2SC458CD
Q412	5320069	TRANSISTOR 2SC458CD
Q413	5321663	TRANSISTOR 2SC2021R/S
Q414	5322832	TRANSISTOR 2SA933R
Q415	5323071	TRANSISTOR 2SD947
Q416	5323071	TRANSISTOR 2SD947
Q417	5320069	TRANSISTOR 2SC458CD
Q418	5323071	TRANSISTOR 2SD947
Q419	5320069	TRANSISTOR 2SC458CD
Q420	5320069	TRANSISTOR 2SC458CD
Q501	5321301	TRANSISTOR 2SC1061
Q502	5321301	TRANSISTOR 2SC1061
Q504	5320643	TRANSISTOR 2SC1162WT-C
Q504	5321301	TRANSISTOR 2SC1061
Q505	5322442	TRANSISTOR 2SD639S
Q506	5323071	TRANSISTOR 2SD947
Q507	5320069	TRANSISTOR 2SC458CD
Q601	5321663	TRANSISTOR 2SC2021R/S
Q602	5321663	TRANSISTOR 2SC2021R/S
Q603LR	5320069	TRANSISTOR 2SC458CD
TH101LR	5340232	THERMISTOR 112103-2
ZD 1	5331012	ZENER DIODE HZ5B
ZD 2	5330532	ZENER DIODE SILICON HZ-12B
ZD301	5330841	ZENER DIODE RD5.1E-B
ZD302	5330322	ZENER DIODE SILICON TR-9S
ZD401	5330311	ZENER DIODE SILICON HZ7A
ZD402	5330322	ZENER DIODE SILICON TR-9S
ZD403	5331588	ZENER DIODE RD2.7EB2
ZD404	5330552	ZENER DIODE HZ11B
ZD405	5330841	ZENER DIODE RD5.1E-B
ZD405	5330847	ZENER DIODE RD2.7E-B2
ZD406	5330711	ZENER DIODE HZ4BC
ZD407	5330392	ZENER DIODE SILICON HZ6B
ZD408	5330324	ZENER DIODE HZ9B1
ZD501A	5330557	ZENER DIODE HZ11B1
ZD501AB	5330551	ZENER DIODE HZ11A
ZD502	5330533	ZENER DIODE SILICON HZ-12C
ZD502B	5330557	ZENER DIODE HZ11B1
ZD503	5330555	ZENER DIODE HZ11B2
ZD504	5330392	ZENER DIODE SILICON HZ6B
		COILS
L101LR	5120564	TRAP COIL
L102LR	5161668	DOLBY FILTER
L103LR	0333151	PEAKING COIL 36MH
L104LR	5120274	CHOKE COIL
L105	5260368	OSCILLATOR TRANSFORMER
L106	5260215	TRAP COIL 33HH
L107	5260368	OSCILLATOR TRANSFORMER
L108LR	5260215	TRAP COIL 33HH
L301LR	5120561	BIAS TRAP COIL
L302LR	5120564	TRAP COIL
		MISCELLANEOUS
CE 1	5780631	CERAMIC OSCILLATOR 400KHZ
⚠ F 1	5721063	FUSE 1.25AT (W,FS,BS,AU)
⚠ F 1	5721161	FUSE 1.6A (U,C)
⚠ F 2	5721063	FUSE 1.25AT (W,FS,BS,AU)
⚠ F 2	5721161	FUSE 1.6A (U,C)
⚠ F 3	5721064	FUSE 2.5A (W,FS,BS,AU)
⚠ F 3	5721224	FUSE 2.5A (U,C)
⚠ F 4	5721063	FUSE 1.25AT (W)
FL 1	5310641	FLUORESCENT DISPLAY (COUNTER/ELAPSED TIMER)
JK 1	5676261	PIN JACK ASSEMBLY (LINE IN, LINE OUT)
JK 2	5679825	JACK (MIC, HEADPHONE)
JK 3	5677131	8P DIN SOCKET (REMOTE CONTROL)
PL 1	5762036	PILOT LAMP
S 1	5634363	PUSH SWITCH (INPUT SELECTOR)
S 2	5634433	PUSH SWITCH (TAPE SELECTOR)
S 3	5620852	SLIDE SWITCH (AUTO/MEMORY REW)

(Continue to Page 41)

EXPLODED VIEW (Mechanism-DX-1)

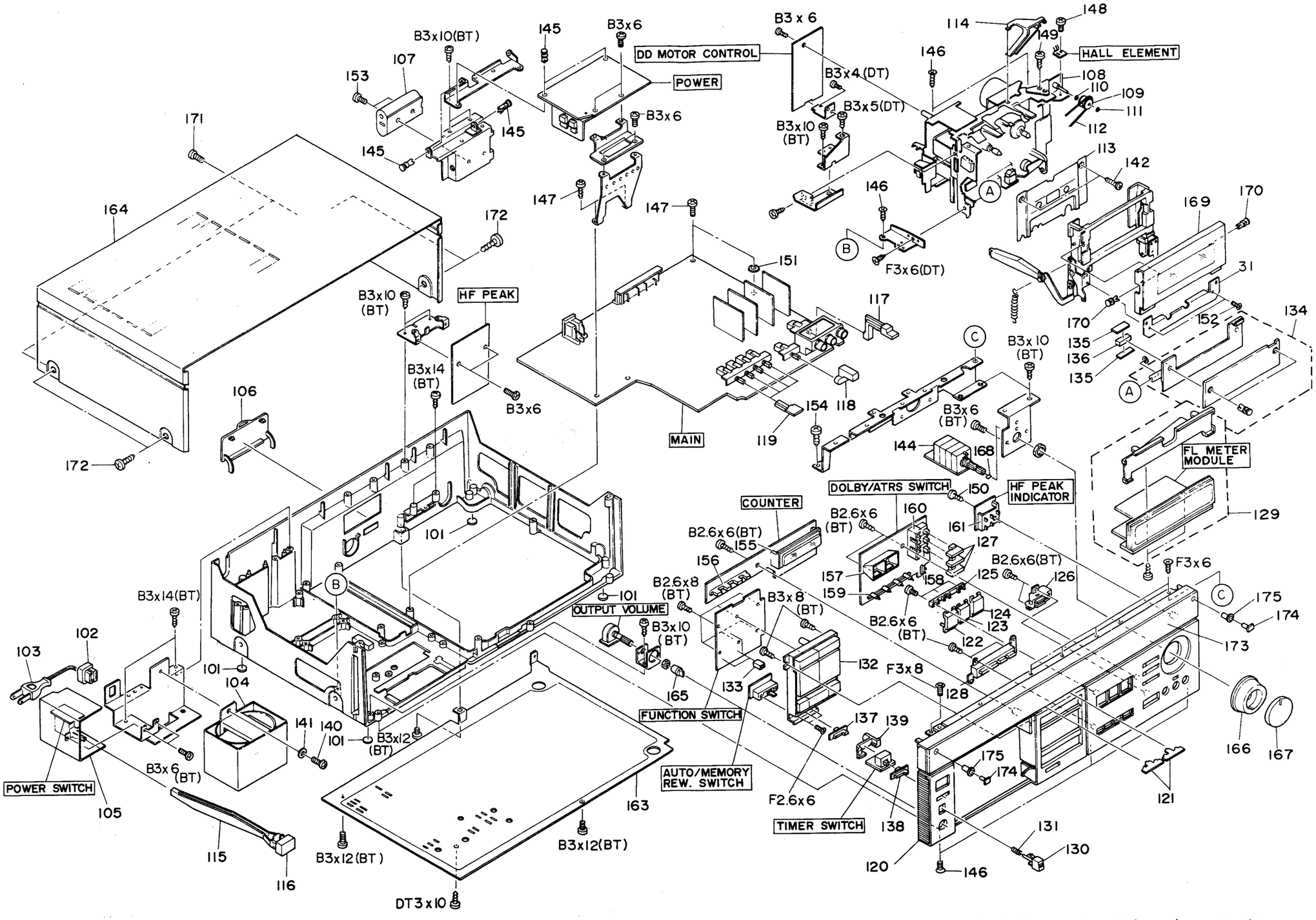


Note : Components marked without numbers in this drawing are not specified as replacement parts.

SYMBOL-NO	P-NO	DESCRIPTION
		MECHANISM (DX-1)
1	6300981	SPRING
2	6766552	PLAY ARM
3	6323761	SPRING
4	6761821	PICK UP ARM
5	6590122	RUBBER
6	6431522	PLAY GEAR
7	6768012	REWIND ARM
9	7341785	HEAD PLATE
10	6535212	LEAF SPRING FOR HEAD PLATE
11	7740394	FELT
12	0741304	BIND SCREW-2.6MMDX4MM
13	6547801	SPRING FOR HEAD PLATE
14	6973981	HEAD BASE
15	5449101	RECORD PLAYBACK HEAD
16	7342611	PAUSE SLIDER
17	6321246	HEAD SPRING
18	7781751	SPECIAL SCREW
19	5445313	ERASE HEAD
20	7321222	ERASE HEAD BASE
21	7786215	POLY SLIDER WASHER
22	6321737	HEAD SPRING FOR ERASE HEAD
23	7780559	SPECIAL SCREW-2MMDX25MM
24	7780554	SCREW
25	6766501	LEAD WIRE GUIDE
26	0671306	DT SCREW-2.6MMDX6MM
27	0948492	BALL - 2MMD
28	6535202	LEAF SPRING FOR HEAD PLATE HOLDER
29	6581042	RUBBER FOR RECORD PREVENTION
30	7341651	RETURN LEVER FOR HEAD PLATE
31	6300971	SPRING
32	6768536	TAKE UP IDLER ASSEMBLY
33	6320577	SPRING
34	7330583	PRESSURE ROLLER ARM ASSEMBLY (TAKE UP)
35	6321254	SPRING FOR PRESSURE ROLLER (TAKE UP)
36	7345093	PAUSE ARM (R)
37	7786215	POLY SLIDER WASHER
38	7786216	POLY SLIDER WASHER
39	7346464	PRESSURE ROLLER ARM ASSEMBLY (SUPPLY)
40	6301004	SPRING
41	6303731	SPRING
42	7341703	PAUSE ARM (L)
43	5633361	PUSH SWITCH
44	0671310	DT SCREW-2.6MMDX10MM
45	6761815	RECORD PREVENTION ARM
46	6766588	REEL BASE ASSEMBLY
47	6414431	TURNTABLE ASSEMBLY (SUPPLY)
48	7786745	POLY SLIDER WASHER
49	7778855	POLY SLIDER WASHER
50	6414213	TURNTABLE ASSEMBLY (TAKE UP)
51	6761673	FF/REWIND ARM ASSEMBLY
52	6761733	SELECT SLIDER ASSEMBLY
53	7342891	SOLENOID PLATE ASSEMBLY
54	5642961	DC SOLENOID (PLAY, FF, REW)
55	5642981	DC SOLENOID
56	8741403	BIND SCREW-3MMDX3MM
57	6547791	EJECT SPRING
58	7571531	COLLAR
59	6547771	SPRING FOR PAUSE ARM
62	7342546	PAUSE ARM ASSEMBLY
63	0645587	SPECIAL WASHER
65	7778847	POLY SLIDER WASHER
66	7772623	SPRING
67	7787566	POLY SLIDER WASHER
68	6431533	FLYWHEEL GEAR
69	6973964	FLYWHEEL ASSEMBLY
70	7790991	STOPPER RING
71	7768686	THRUST SUPPORT
72	6347261	GOVERNER
73	0671305	DT SCREW-2.6MMDX5MM
74	6428143	DC MOTOR ASSEMBLY (FF/REWIND)
75	6576322	RUBBER PLATE
76	7539002	SCREW FOR MOTOR MOUNTING
77	6355193	BELT
78	6357301	FLYWHEEL BELT
79	6535291	LEAF SPRING
80	6301723	SPRING FOR CASSETTE HOLDER
81	6768334	CASSETTE HOLDER
82	7346961	DAMPER BRACKET ASSEMBLY
83	7781589	SPECIAL SCREW-3MMDX8MM
84	6753015	EJECT ARM ASSEMBLY
86	7346811	CASSETTE HOLDER BRACKET (L)
87	7343112	CASSETTE HOLDER BRACKET (R)
88	8699308	BT BIND SCREW-2.6MMDX8MM(BLACK)
89	7330669	EJECT HOLDER ASSEMBLY
90	7342332	STAY YOKE ASSEMBLY
91	7768686	THRUST SUPPORT
92	7342322	MOTOR HOLDER ASSEMBLY
93	6974023	ROTOR ASSEMBLY
94	7746151	INSULATION SHEET
95	7757681	INSULATION SHEET
97	7787566	POLY SLIDER WASHER
98	7778847	POLY SLIDER WASHER

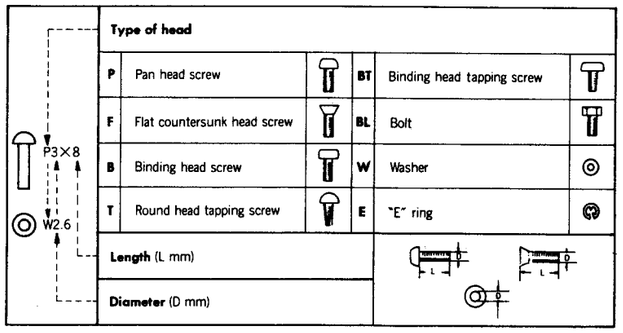
SYMBOL-NO	P-NO	DESCRIPTION
		FOR CASSETTE DECK ASSEMBLY
101	7740603	FELT LEG
⚠ 102	6794401	BUSHING (U,C,W,FS,AU)
⚠ 102	6794411	BUSHING (BS)
⚠ 103	5746443	POWER CORD (U,C)
⚠ 103	5746661	POWER CORD (W,FS)
⚠ 103	5746342	POWER CORD (BS)
⚠ 103	5746571	POWER CORD (AU)
⚠ 104	5213122	POWER TRANSFORMER (U,C)
⚠ 104	5213125	POWER TRANSFORMER (W)
⚠ 104	5213123	POWER TRANSFORMER (FS)
⚠ 104	5213124	POWER TRANSFORMER (BS,AU)
105	7758242	SWITCH COVER
106	6174253	BATTERY LID
107	6488342	BATTERY BOX
108	7348651	PULLEY BRACKET ASSEMBLY
109	6422541	COUNTER PULLEY ASSEMBLY
110	7778856	POLYESTER WASHER
111	7786115	POLYESTER WASHER
112	6354471	COUNTER BELT
113	7341183	CASSETTE METAL ASSEMBLY
114	6761962	LAMP HOLDER
115	6764211	POWER LEVER
116	6055621	PUSH BUTTON ASSEMBLY (POWER)
117	6055472	PUSH BUTTON ASSEMBLY (INPUT)
118	6055522	PUSH BUTTON (MONITOR)
119	6291981	KNOB (TAPE SELECT)
120	6225064	FRONT PANEL ASSEMBLY
121	6055582	RESET BUTTON (COUNTER, ELAPSED TIMER)
122	6060391	PUSH BUTTON (ATRS)
123	6060392	PUSH BUTTON (FIXED)
124	6060395	PUSH BUTTON (START)
125	6768661	BUTTON HOLDER
126	6792442	MONITOR INDICATOR ASSEMBLY
127	6055512	PUSH BUTTON (DOLBY NR,DOLBY B/C,MPX)
128	6792501	TAPE SWITCH INDICATOR ASSEMBLY
129	5310681	FLUORESCENT METER ASSEMBLY
130	6054862	EJECT BUTTON ASSEMBLY
131	6303115	SPRING FOR EJECT BUTTON
132	6055593	FUNCTION BUTTON ASSEMBLY
133	6769311	LED SPACER (REC, PLAY, PAUSE INDICATOR)
134	6769041	HEAD DOOR ASSEMBLY
135	7346851	MAGNET HOLDER
136	5771831	MAGNET
137	6292051	SLIDE KNOB (AUTO REWIND)
138	6291712	SLIDE KNOB (TIMER)
139	6769181	SWITCH HOLDER
140	8671608	DT SCREW-4MMDX8MM
141	0626577	SPECIAL WASHER
142	0678312	DT SCREW-2.6MMDX12MM (BLACK)
144	5986991	VOLUME PC BOARD ASSEMBLY
145	6714215	NYLON RIVET
146	7781582	FLAT SCREW-3MMDX10MM (BLACK)
147	8699414	BT BIND HEAD SCREW-3MMDX14MM (BLACK)
148	0711304	SCREW - 2.6MMD X 4MM
149	7781581	BT FLAT SCREW-3MMDX10MM
150	7780263	BIND TAPPING SCREW-2.6MMDX14MM
151	7786353	WASHER
152	0747305	BIND SCREW-2.6MMDX5MM
153	8699308	BT BIND SCREW-2.6MMDX8MM(BLACK)
154	8678408	DT SCREW-3MMDX8MM (BLACK)
155	6768731	COUNTER HOLDER
156	6768931	LED SPACER
157	6768721	LED SPACER
158	6768381	LED SPACER
159	6768921	LED SPACER
160	6768671	LED SPACER
161	6769201	LED SPACER
		FOR CHASSIS ASSEMBLY
162	5391071	HALL ELEMENT(H-20C)
		MISCELLANEOUS
163	6044694	BOTTOM COVER
164	6044922	UPPER COVER
165	6286672	KNOB (OUTPUT)
166	6289372	KNOB (RECORD-R)
167	6286682	KNOB (RECORD-L)
168	6328412	SPRING
169	6093571	CASSETTE DOOR ASSEMBLY
170	6714214	NYLON RIVET
171	8691410	BT BIND SCREW-3MMDX10MM (BLACK)
172	8699610	BT BIND SCREW-4MMDX10MM
173	7790982	CLEAR PLATE ASSEMBLY
174	6635351	CLEAR PLATE HOLDER
175	6587142	RUBBER BUSH

EXPLODED VIEW (Cabinet)



Note : Components marked without numbers in this drawing are not specified as replacement parts.

SYMBOL-NO	P-NO	DESCRIPTION
		MISCELLANEOUS
S 4	5624131	SLIDE SWITCH (TIMER)
S 5-7	5633792	PUSH SWITCH (DOLBY NR, DOLBY B/C, MPX)
S 8	5634367	PUSH SWITCH (MONITOR)
⚠ S001	5633842	PUSH SWITCH (POWER) (U, C)
⚠ S001	5633843	PUSH SWITCH (POWER) (W, FS, BS, AU)
⚠ S002	5605083	ROTARY SWITCH (VOLTAGE SELECTOR) (W)
S101-107	5633851	PUSH SWITCH (REW, PLAY, FF, STOP, REC, PAUSE, REC MUTE)
S109-111	5633671	PUSH SWITCH (ATRS, TEST START, FIXED)
S113	5633671	PUSH SWITCH (COUNTER RESET)
S114	5633671	PUSH SWITCH (ELAPSED TIME RESET)
		FOR ACCESSORIES
	7740321	HEAD CLEANING STICK
	5894163	PATCH CORD
⚠	5652291	SOCKET ADAPTER (W)



When ordering hardware excluding stated on these lists, be sure to make your orders with type and size.

HITACHI

HITACHI SALES CORPORATION OF AMERICA
Eastern Regional Office
1200 Wall Street West, Lyndhurst, New Jersey 07071
Tel. 201-935-8980
Mid-Western Regional Office
1400 Morse Ave., Elk Grove Village, Ill. 60007
Tel. 312-593-1550
Southern Regional Office
510 Plaza Drive College Park, Georgia 30349
Tel. 404-763-0360
Western Regional Office
401 West Artesia Boulevard, Compton, California 90220
Tel. 213-537-8383
HITACHI SALES CORPORATION OF HAWAII, INC
3219 Koapaka Street, Honolulu, Hawaii 96819, U.S.A.
Tel. 808-836-3621

HITACHI (HSC) CANADA INC.
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D-2200M TK No. 1672E TOKAI
U, C, FS, BS, AU, W

Printed in Japan (H.E.C)