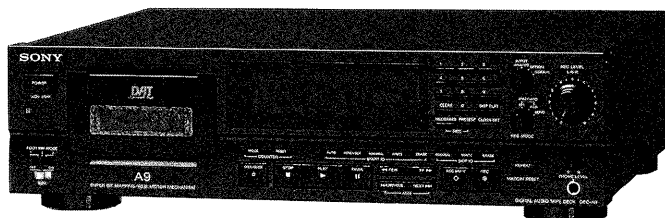


# DTC-A9

## SERVICE MANUAL

AEP Model  
UK Model



Model Name Using Similar Mechanism	DTC-A8
Tape Transport Mechanism Type	DATM-57

### SPECIFICATIONS

#### Recording section

<b>Tape</b>	Digital audio tape
<b>Recording head</b>	Rotary head
<b>Recording time</b>	Standard: 120 minutes Long-play: 240 minutes (DT-120)
<b>Tape speed</b>	Standard: 8.15 mm/s Long-play: 4.075 mm/s
<b>Drum rotation</b>	Standard: 2,000 rpm Long-play: 1,000 rpm
<b>Error correction</b>	Double-encoded Reed Solomon code

#### Tape section

<b>Track pitch</b>	13.6 $\mu\text{m}$ (20.4 $\mu\text{m}$ )
<b>Sampling frequency</b>	48 kHz, 44.1 kHz, 32 kHz
<b>Modulation system</b>	8-10 modulation
<b>Transfer rate</b>	2.46 Mbit / sec
<b>Number of channels</b>	2 channels, stereo
<b>D/A conversion (quantization)</b>	Standard: 16-bit linear Long-play: 12-bit non-linear

#### General section

<b>Power requirements</b>	220 - 240 V AC, 50/60 Hz
<b>Power consumption</b>	37 W
<b>Dimensions</b>	Approx 430 $\times$ 125 $\times$ 350 mm (w/h/d) (not including rack mount adaptor)
<b>Weight</b>	Approx 6.2 kg

#### Remote commander RM-D868 (supplied)

<b>Remote control system</b>	Infrared control
<b>Power requirements</b>	3V DC, with two size-AA (R6) batteries
<b>Dimensions</b>	Approx 45 $\times$ 185 $\times$ 20 mm (w/h/d)
<b>Weight</b>	Approx 100g incl. batteries

#### Supplied accessories

- AC power cord (1)
- Phono-plug audio connecting cords (2)
- Remote commander (remote) RM-D868 (1)
- Size-AA (R6) batteries (2)
- Rack mount adaptors (2)
- Screws (M5  $\times$  12) (4)
- Decorative washers (4)
- Decorative panel (1)
- Tapping screws (3  $\times$  8) (2)
- Operating instructions (1)

– Continued on next page –



DIGITAL AUDIO TAPE DECK  
**SONY**®

## Input Connectors

### Analog Input

Connector	Type	Input impedance	Rated input level
LINE	XLR-3 (FEMALE)	Approx 10 kilohms (balanced)	+4 dBs (factory setting)

### Digital Input

Connector	Type	Input impedance	Rated input level
COAXIAL	Phono-plug jack	75 ohms	0.5 Vp-p
OPTICAL	Optical jack	—	—

## Output Connectors

### Analog Output

Connector	Type	Output impedance	Rated output level	Load impedance
LINE	XLR-3 (MALE)	Approx 150 ohms (balanced)	+4 dBs (factory setting)	10 kilohms
HEADPHONES	Stereo phone-plug jack	100 ohms	1.2 mW	32 ohms

### Digital Output

Connector	Type	Output impedance	Rated output level	Load impedance
COAXIAL	Phono-plug jack	75 ohms	0.5 Vp-p	75 ohms
OPTICAL	Optical jack	—	(wavelength 660 nm)	—

Foot switch jacks Phone-plug jack × 2

### Audio characteristics

Frequency response*	Standard: 2-22,000 Hz (±0.5 dB) Long-play: 2-14,500 Hz (±0.5 dB)
Signal-to-noise ratio*	90 dB or more (Standard and long-play mode)
Dynamic range*	90 dB or more (Standard and long-play mode)
Total harmonic distortion*	Standard: 0.005% or less (1 kHz) Long-play: 0.008% or less (1 kHz)
Wow and flutter	Below measurable limit (±0.001% W.PEAK)

\* During analog input with the SBM function off

Design and specifications are subject to change without notice.

## Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

## Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

## SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\triangle$  OR DOTTED LINE WITH MARK  $\triangle$  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

## CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacture's instructions.

## ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Lever det brugte batteri tilbage til leverandøren.

## ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri. Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten. Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

## WARNING

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en likvärdig typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt gällande föreskrifter.

## VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

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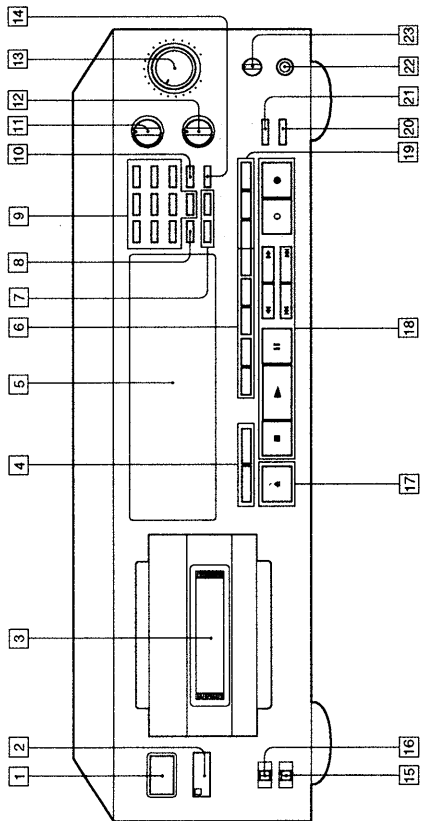
### 6. ELECTRICAL PARTS LIST

77

# SECTION 1 GENERAL

## IDENTIFYING THE PARTS

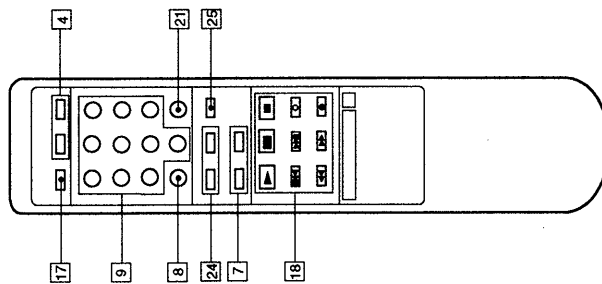
- Main Section -



- 13 REC (recording) LEVEL control
  - 14 CLOCK SET button
  - 15 SBM (super bit mapping) switch
  - 16 FOOT SW MODE switch
  - 17 ▲ OPEN/CLOSE button
  - 18 Tape operation buttons
    - STOP button
    - ▶ PLAY button
    - ⏸ PAUSE button
    - ◀◀ REW (rewind) button
    - ▶▶ FF (fast-forward) button
    - ◀◀ PREVIOUS AMS\* button
    - ▶▶ NEXT AMS\* button
    - REC MUTE (record muting) button
    - REC (recording) button
  - 19 SKIP ID buttons
  - REHEARSAL button
  - WRITE button
  - ERASE button
  - 20 MARGIN RESET button
  - 21 REPEAT button
  - 22 PHONES (stereo phone) jack
  - 23 PHONE (headphones) LEVEL control
  - 24 RMS buttons
  - CHECK button
  - ENTER button
  - 25 M.SCAN button
- \* AMS is an abbreviation for Automatic Music Sensor.

- 1 POWER switch
- 2 Remote control sensor
- 3 Cassette holder
- 4 COUNTER button
- MODE button
- 5 RESET button
- 6 Display window
- START ID buttons
- AUTO button
- RENUMBER button
- REHEARSAL button
- WRITE button
- ERASE button
- 7 DATE buttons
- RECORDED button
- PRESENT button
- 8 CLEAR button
- 9 Number buttons (0 to 9)
- 10 SKIP PLAY button
- 11 INPUT select switch
- ANALOG
- OPTICAL
- COAXIAL
- 12 REC MODE select switch
- STANDARD 48k
- STANDARD 44.1k
- LONG

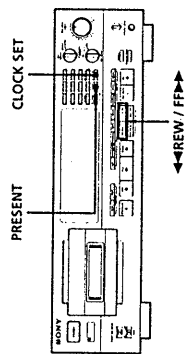
- Remote Commander Section (RM-D868) -





## Setting the Clock

Your deck has a built-in clock to keep track of the current date and time. Once you set the date and time, this information will be recorded on the tape along with the audio signal during recording, allowing you to check the recording date of the tape during playback at a later time.



- 1 With the unit stopped, press **CLOCK SET**. The year indication begins to flash.
- 2 Press **◀◀REW** or **FF▶▶** to decrease or increase the displayed year, then press **CLOCK SET**. The year indication stops flashing and the month indication begins to flash.
- 3 Repeat step 2 until all items have been set. After setting the seconds, press **CLOCK SET** to start the clock.

### The day of the week is displayed as follows:

Sunday: "SU", Monday: "MO", Tuesday: "TU",  
Wednesday: "WE", Thursday: "TH", Friday: "FR",  
Saturday: "SA".

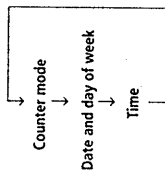
### Time display

- AEP, UK Model  
Time is displayed in a 24-hour format with midnight and noon indicated as follows:  
Midnight: 0:00  
Noon: 12:00

## To display the date or time

Press **PRESENT**.

Each time you press the **PRESENT** button, the display changes in the following order:



## Adjusting the clock

- 1 Press **CLOCK SET** repeatedly until the item you want to change begins to flash.
- 2 Press **◀◀REW** or **FF▶▶** to decrease or increase the displayed item.
- 3 Press **CLOCK SET** repeatedly until the seconds begin to flash, then press **CLOCK SET** again. The clock starts.

## For more accurate time recordings

Adjust the clock once a week.

### Notes

- When you first set the clock after unpacking the deck, "----" will appear when you press the **CLOCK SET** button. This is normal. Set the clock according to the procedures above.
- Your deck uses a back-up battery to keep the clock running when the power is turned off. The life of the battery under normal use is approximately seven years. When the battery starts to run down, the clock will stop operating normally. When this occurs, have the battery replaced (for a fee) at your dealer or nearest Sony Service Center.

## Remote Control Function Using a Foot Switch

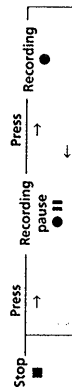
If you play an instrument, you may find it impossible to perform recording operations using the remote while you are performing. Connecting a foot switch to your deck gives you the convenience of controlling the deck with your foot.

### Connecting a foot switch

Connect the Sony FS-A8 foot switch (not supplied) or other commercially available foot switches (non-lock type, phone plug) to the **FOOT SW** jacks on the rear panel of the deck.

## When you connect a foot switch to the FOOT SW (REC/PAUSE) jack

Pressing the foot switch alternates the deck between recording pause and recording when a recordable tape is inserted into the deck.



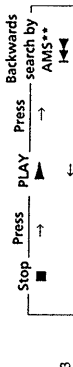
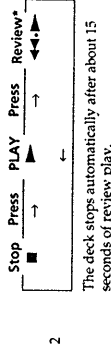
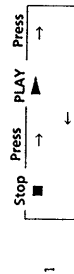
## When you connect a foot switch to the FOOT SW (MODE) jack

The operations controlled by the foot switch vary according to the position at which **FOOT SW MODE** on the front panel is set.



### FOOT SW Foot switch operations

MODE position



- If you press the foot switch during review play, the deck stops.
- If you press the foot switch during the AMS search, the deck stops.

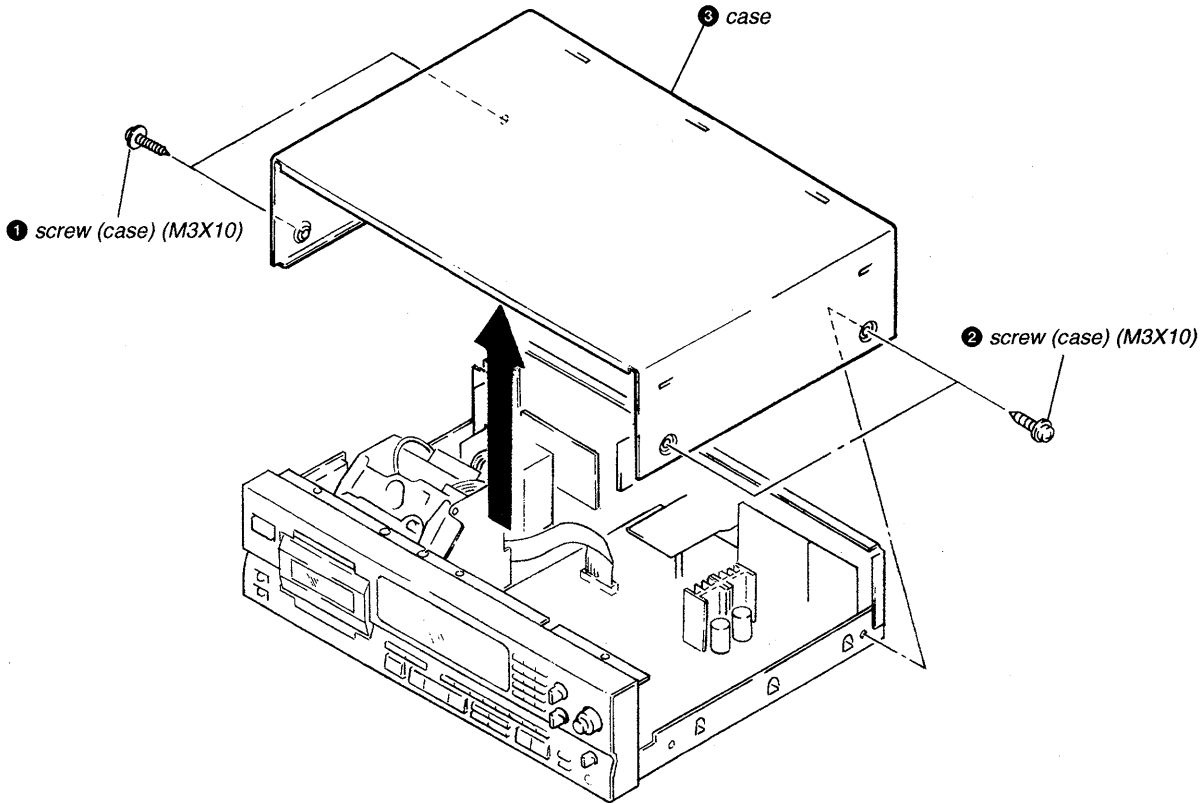
## You can start RMS play with the foot switch

- 1 Set **FOOT SW MODE** to 3.
- 2 Do the steps 1 to 3 of "Playing Tracks in the Order You Want" on page 18 to create a program.
- 3 Press the foot switch.  
The deck begins searching for beginning of the first track, then stops.
- 4 Press the foot switch again.  
The deck starts playing the first track. After playing the first track, the deck searches for the beginning of the second track, then stops.
- 5 Each time you press the foot switch, the deck repeats the operation (play → search → stop) until the end of your RMS program. If you press the foot switch while playing a track, the deck searches for the beginning of the track, then stops.

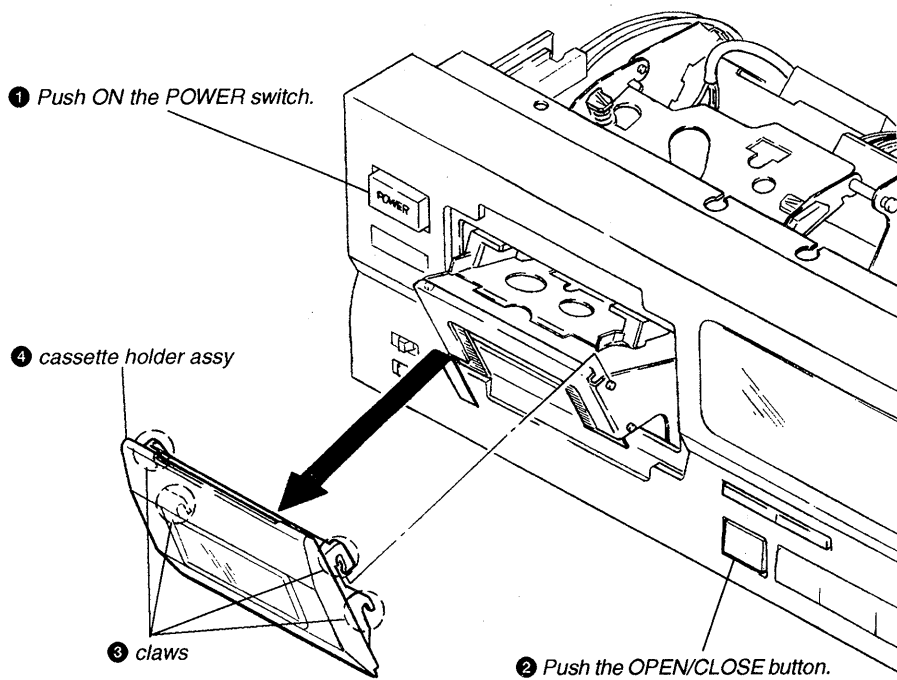
## SECTION 2 DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order givin.

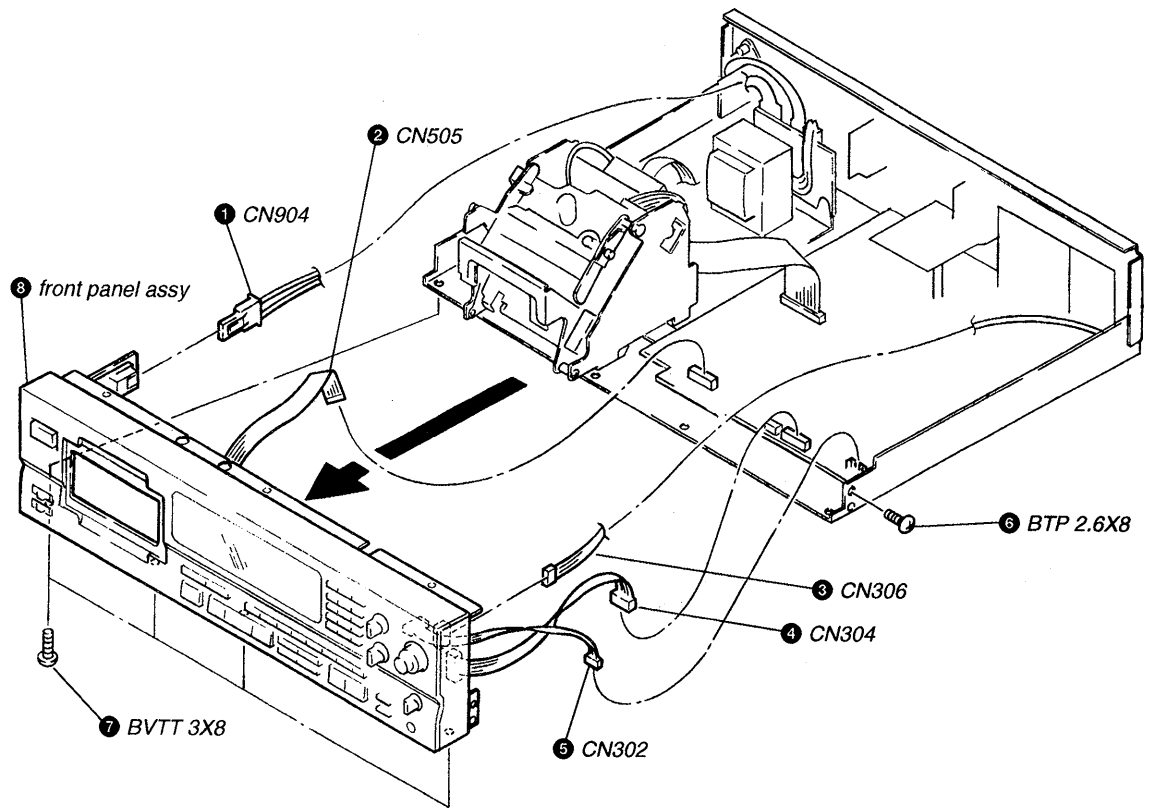
### 2-1. CASE



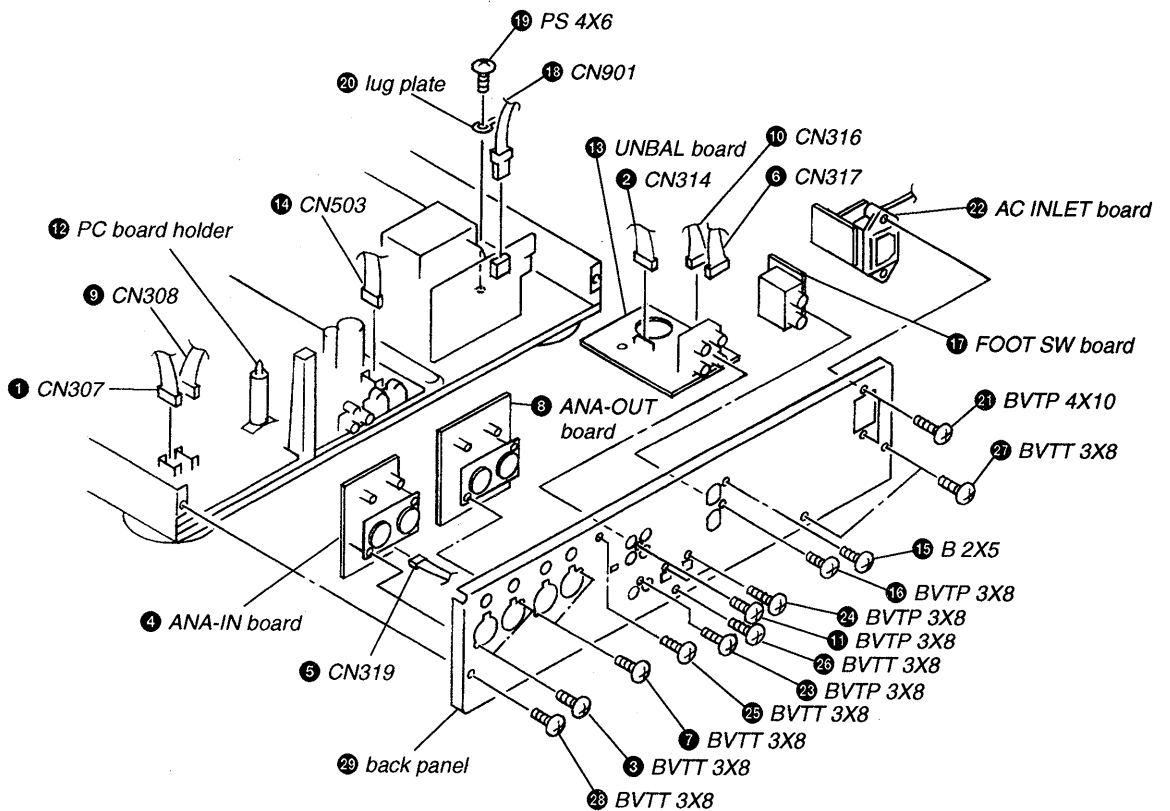
### 2-2. CASSETTE HOLDER ASSY



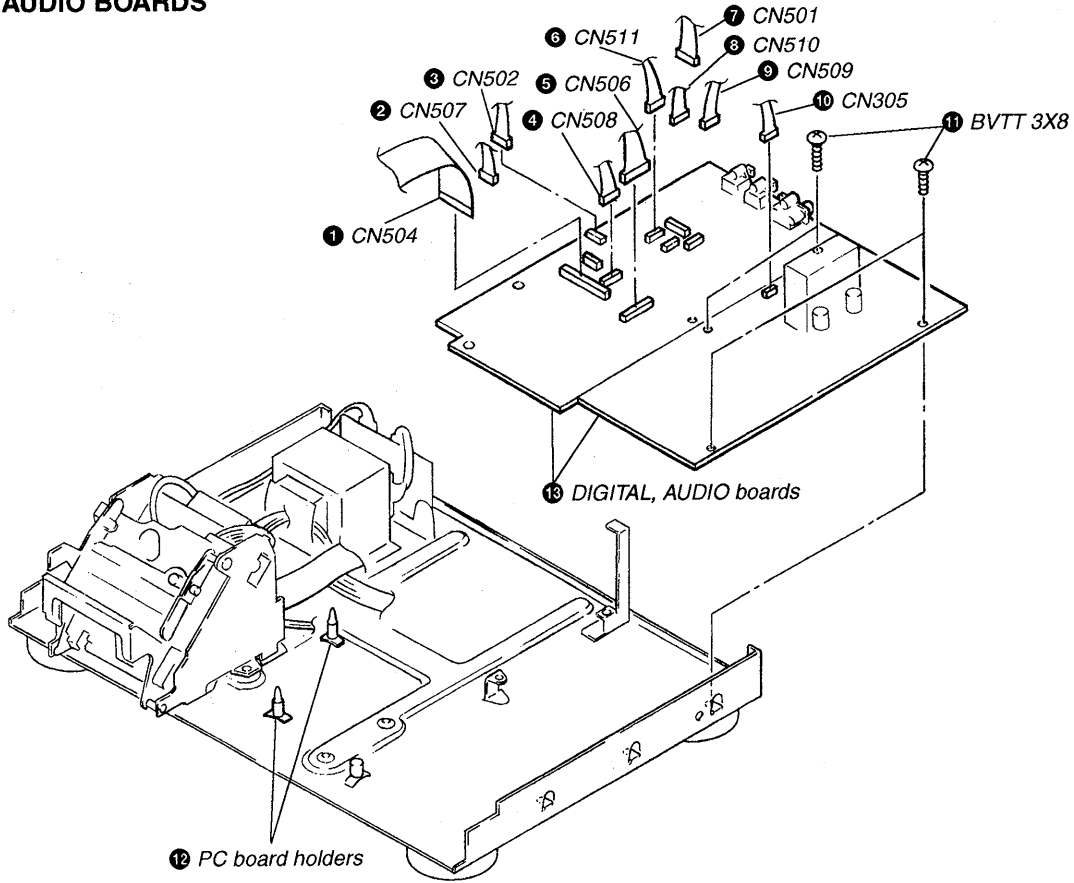
### 2-3. FRONT PANEL ASSY



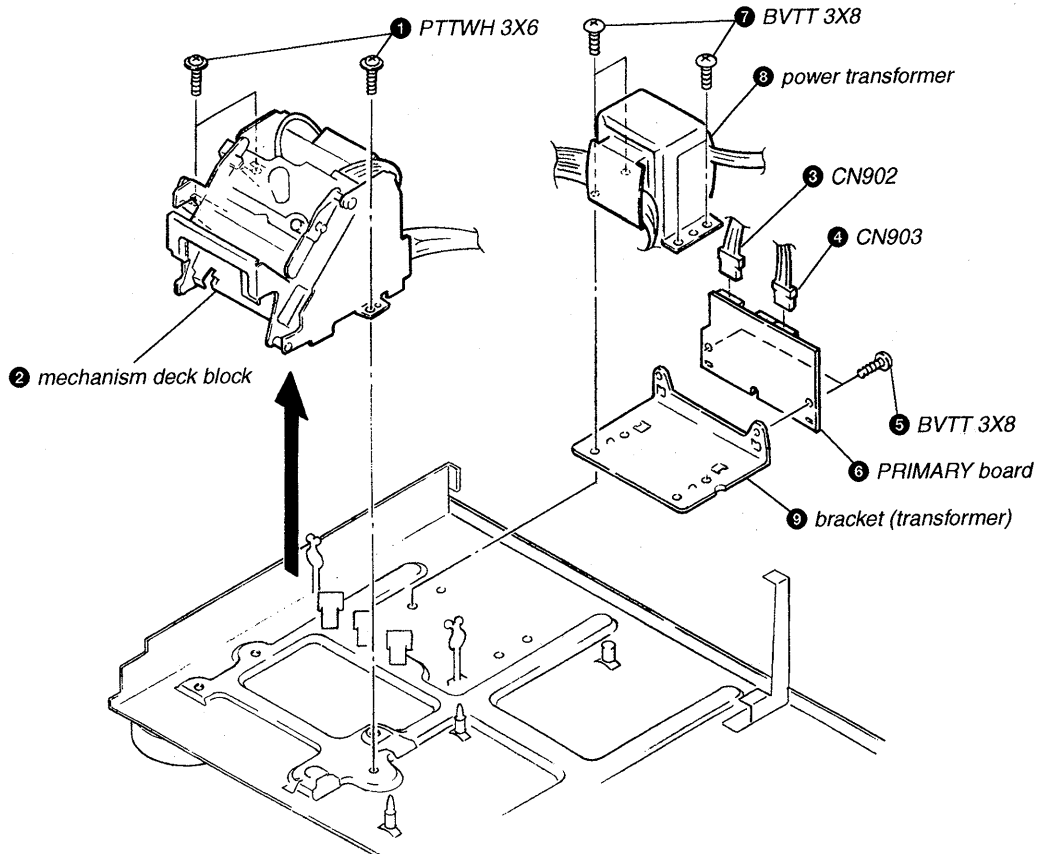
### 2-4. BACK PANEL



**2-5. DIGITAL, AUDIO BOARDS**



**2-6. MECHANISM DECK BLOCK, POWER TRANSFORMER**



## SECTION 3 ADJUSTMENTS

### PRECAUTION

1. The adjustments are performed in the sequence that they are described.
2. The required test tapes are :
 

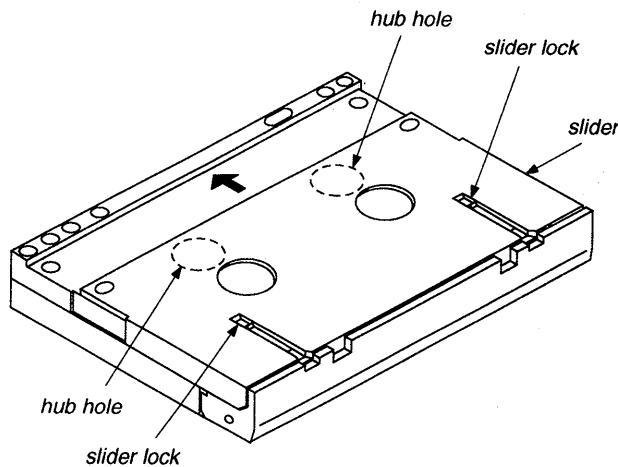
TY-7111 (8-909-812-00).....	Level
TY-7252 (8-909-822-00).....	Tracking
TY-7551 (8-909-814-00).....	Function
TY-30B (8-892-358-00).....	Blank

The required torque meter is :  
 TW-7131 (8-909-708-71) ..... FWD

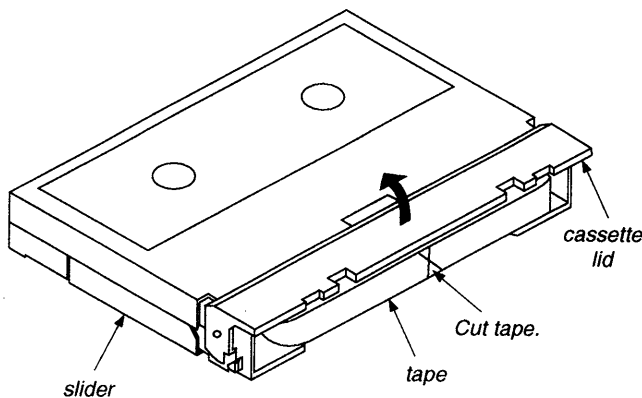
3. Switch and Control Settings
 

FOOT SW MODE switch	: 2
REC MODE switch	: 48k (STANDARD)
REC LEVEL control	: Minimum
PHONE LEVEL control	: Minimum

4. Preparation of End Sensor Cassette
  - (1) Push the slider locks of a cassette tape and slide the slider in the direction of the arrow.



- (2) Open the cassette lid and cut tape.

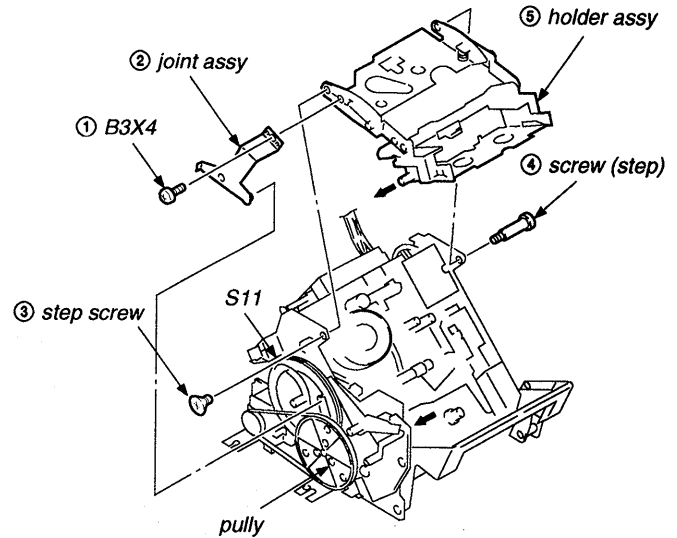


- (3) Turn the hubs to take-up tape (for both T and S sides).  
The end sensor cassette tape for end sensor adjustment is now prepared.

5. Take care never to turn RV1 and RV2 within the RF AMP board of the cassette compartment section.

6. When adjusting tape pass and each guide, as shown below, it is a good practice to remove the holder assy and use the DAT cassette holder (J-8000-002-A). This facilitates adjustment work.
  - When removing and installing the holder assy, turn the pulley counterclockwise and set loading OUT condition for easy removal and installation.
  - When adjusting, turn the pulley clockwise and turn on the CASSETTE COMPARTMENT LOCK switch (S11) to set loading IN condition. Then, set the test tape.

**Note :** When installing, align the arrowed portions.



7. Test Mode

- To enter the test mode, short between TP (MAIN-TEST) and the GND on the DIGITAL board, then turn on the power. The meter scale within the fluorescent indicator tube (FL701) will flash. Press the OPEN/CLOSE  $\blacktriangle$  key and set the test tape. (The specified tape should be used for each adjustment.)

Test Mode (Short between TP (MAIN-TEST) and GND)

- ① Have "DPG" display lit in the fluorescent indicator tube. (Press the AMS  $\blacktriangleright\blacktriangleright$  key.)
    - S2, T2 and F Guide Adjustments
    - End Sensor Adjustment
    - Tape Pass Fine Adjustment ( $\times 1.5$ FWD mode)
    - DPG Adjustment
  - ② Have "TR" display lit in the fluorescent indicator tube. (Press the  $\blacktriangleright$  key.)
    - FWD Torque Adjustment
    - FWD Back Tension Adjustment
- (Torque measurement mode)

- To release the test mode, remove the short between TP (MAIN-TEST) and GND. After necessary adjustment is completed, be sure to release the test mode.

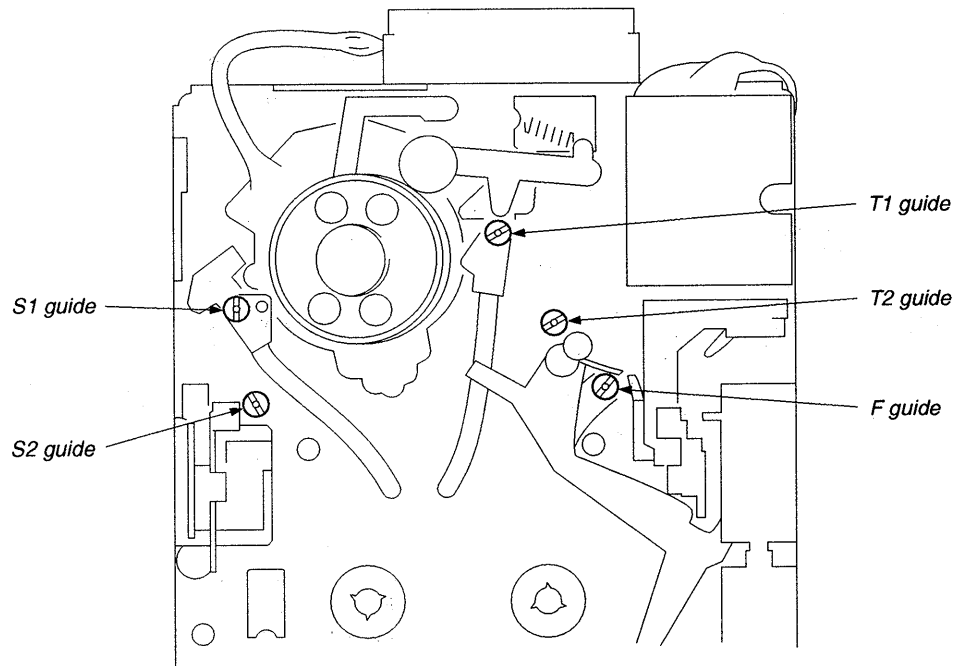
8. After adjustment is completed, perform the following checks to verify the tape speed.

- (1) Check that with the REC MODE switch set to STANDARD 48k, tape is normally recorded and played back. (×1)
- (2) Check that with the REC MODE switch set to LONG, tape is normally recorded and played back. (×0.5)
- (3) Check that in performing the CUE (▶ + ▶▶) or REVIEW (▶ + ◀◀) operation, "kyur kyur" sound is heard. (×3, ×8)

(4) Check that after performing the FF (▶▶) or REW (◀◀) operation, the time display is appropriate. (×16)

(5) Check that the AMS (▶▶▶, ◀◀◀) operation is normal.

**Adjustment Location :** mechanism deck block



### 3-1. MECHANICAL ADJUSTMENTS

When replacing any drum related parts, after S2, T2 and F guide adjustments have been made, tape pass fine adjustment ( $\times 1.5$ FWD mode) in Electrical adjustment should be performed.

#### S2, T2 and F Guide Adjustments

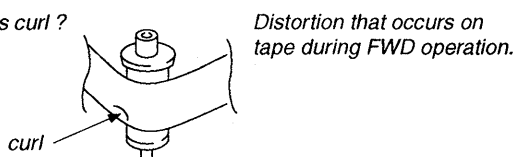
##### Adjustment Method :

1. Enter the Test Mode ① (see page 9.) and set the test tape TY-7252 (8-909-822-00).
2. Set the REC MODE switch to STANDARD 48k and press the AMS ►► key.

While in FWD mode, check that there is no curl on the upper and lower flanges of the S2, T2 and F guides.

If any curl is present, put the S2, T2 and F guides of concern back in the high position and adjust by adjusting the direction of tightening.

\* What is curl ?



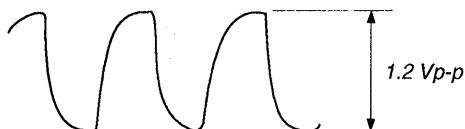
### 3-2. ELECTRICAL ADJUSTMENTS

#### End Sensor Adjustment

When removing the holder assy and when replacing the mechanism deck block, this adjustment should be performed.

##### Adjustment Method :

1. Connect the CH-1 terminal of an oscilloscope to TP (S-END) and the CH-2 terminal to TP (T-END) on the DIGITAL board.
2. Enter the Test Mode ① (see page 9.) and set the end sensor cassette tape (see page 9.).
3. Set the STOP (■) mode.
4. Adjust RV502 (S-END) and RV501 (T-END) on the DIGITAL board so that the respective peak to peak values of the waveforms on the oscilloscope are 1.2 Vp-p.



Adjustment Location : See page 13.

#### FWD Torque Adjustment

##### Adjustment Method :

1. Enter the Test Mode ② (Torque Measurement Mode) (see page 9.) and set the torque meter TW-7131 (8-909-708-71).
2. Press the PLAY (►) key.
3. Press the ►► key or ◀◀ key and adjust so that the FWD torque value (T side take-up torque) is within the range of 11 to 13 g•cm.
4. When the torque meter is circulating around, check the indicated value.

#### FWD Back Tension Adjustment

##### Adjustment Method :

1. Enter the Test Mode ② (Torque Measurement Mode) (see page 9.) and set the torque meter TW-7131 (8-909-708-71).
2. Press the PLAY (►) key.
3. Press the AMS ►► key or ◀◀ key and adjust so that the back tension (S side) is within the range of  $8.5 \pm 0.5$  g•cm.
4. When the torque meter is circulating around, check the indicated value.
5. Verify that the maximum value is less than 9.5 g•cm.

#### REV Torque Check and REV Back Tension Check

##### Check Method :

1. After FWD torque adjustment and FWD back tension adjustment are completed, press the PLAY (►) key again and set REV (◀) mode.
2. Check that the REV torque value is within the range of 13.5 to 17.5 g•cm and that the REV back tension value is within the range of 7.5 to 11.5 g•cm.

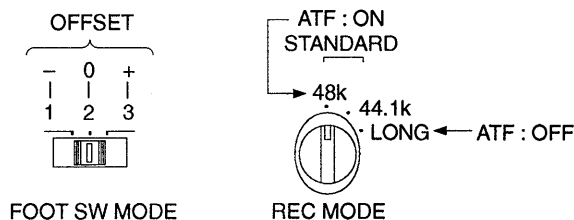
#### Tape Pass Fine Adjustment ( $\times 1.5$ FWD Mode)

When replacing any drum related parts, be sure to perform this adjustment.

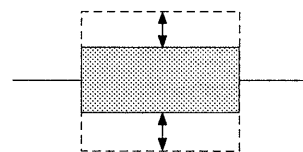
##### Adjustment Method :

1. Connect the CH-1 terminal of an oscilloscope to TP (RF) and the CH-2 terminal to TP (SWP) on the DIGITAL board.
2. Enter the Test Mode ① (see page 9.) and set the test tape TY-7252 (8-909-822-00).
3. Press the AMS ►► key.

##### Role of each switch in test mode

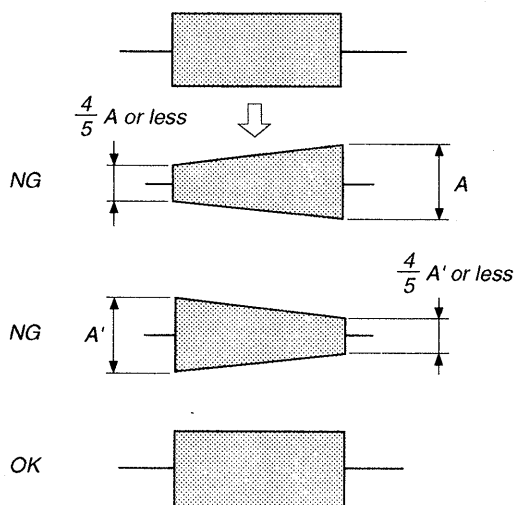


4. Put the REC MODE switch to the LONG (ATF : OFF) position and put the FOOT SW MODE switch to either the 1 or 3 position (OFFSET : - or +), fine adjust both the S1 guide and T1 guide so that the RF signal waveform of the oscilloscope repeatedly contracts and expands in vertical directions as it has the same shape.

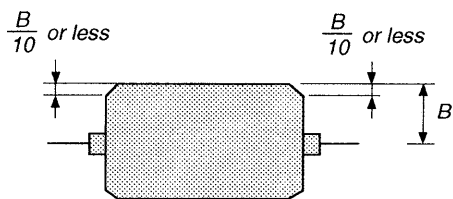


\* Adjust the direction of tightening to complete this adjustment. If there is curl on any of the upper and lower flanges of the S2, T2 and F guides, adjust the guide of concern.

5. Put the REC MODE switch to the STANDARD 48k (ATF : ON) position and put the FOOT SW MODE switch to either the 1 or 3 position (OFFSET : - or +), then check the RF signal waveform.



6. Put the REC MODE switch to the STANDARD 48k (AFT : ON) position and put the FOOT SW MODE switch to the 2 position (OFFSET : 0), then check the RF signal waveform.
- (1) Verify that the peak value (B) of the RF signal waveform is 60 mV or more.
  - (2) Verify that the flat position of the RF signal waveform has undershoots of 10 % or less.



7. If any of the specified values are not satisfied, repeat items 3 to 6.

**Adjustment Location :** See page 10.

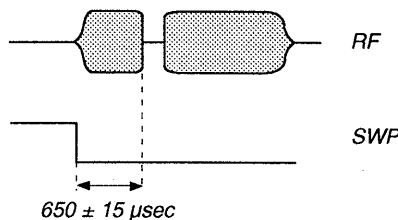
### DPG Adjustment

When replacing any drum related parts, be sure to perform this adjustment.

#### Adjustment Method :

1. Connect the CH-1 terminal of an oscilloscope to TP (RF) and the CH-2 terminal to TP (SWP) on the DIGITAL board.
2. Enter the Test Mode ① (see page 9.) and set the test tape TY-7252 (8-909-822-00).
3. Put the REC MODE switch to the STANDARD 48k (ATF : ON) position and put the FOOT SW MODE switch to the 2 position (OFFSET : 0).

4. Press the AMS ►►► key.
5. Press the PLAY (►) key.
6. "DPG OK" is displayed in the fluorescent indicator tube. Check that there is a difference of  $650 \pm 15 \mu\text{sec}$  between the oscilloscope's SWP signal and the RF signal.



**Adjustment Location :** See page 13.

### CHECK AND REPLACEMENT FOR DATE FUNCTION

#### Clock IC Back-up Check

- When replacing the lithium battery (BAT501) or replacing any of the clock IC (IC518) and peripheral parts, the clock will be reset. (The DATE display will be (\*-- --) (--h--m--s) even when the (PRESENT) button is pushed.)

Perform the back-up check by the following procedure.

- (1) Connect a DC voltmeter between the DIGITAL board's TP (BATT +) as (+) side on the TP (BATT -) as (-) side.
- (2) With the POWER switch of the set OFF, check that the voltage (1) is less than +20 mV. (If the measured value is more than +20 mV, inspect the IC518 and peripheral parts and replace as needed.)
- (3) With the POWER switch of the set ON, check that the voltage (1) is less than 0 mV (minus indication). (If plus indication, inspect the D510 and peripheral parts and replace as needed.)
- (4) When these voltages are normal, set the clock to the current date and time according to the instruction manual. (year/month/day/day of week/hours/minutes/seconds)\*
- (5) After the clock is set in item (4), turn off the POWER switch once and in several seconds, turn on the power again and make sure that the clock is operating.

**Adjustment Location :** See page 13.



### Replacement of Back-up Battery

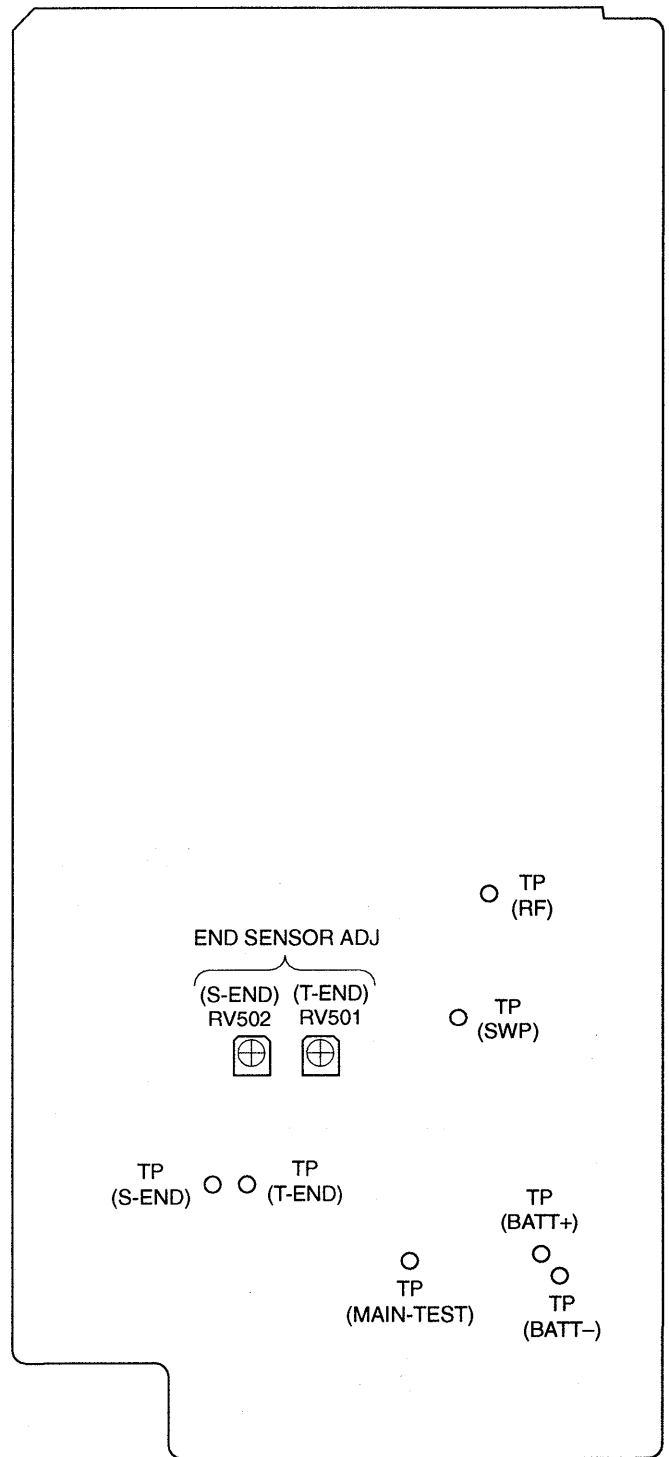
The back-up battery for clock is designed to serve for more than seven years under normal service conditions (room temperature and ordinary humidity).

When replacing the battery, take note of the following :

- Perform the above " Clock IC Back-up Check " and remedy the cause of battery consumption.
- The open voltage of the battery as removed is 3.0 V or more when it is new. If this voltage is 2.0 V or less, then battery is fully consumed and needs to be replaced.
- After the battery is replaced, perform the " Clock IC Back-up Check " again and set the clock.
- The coin type lithium battery (CR2032) is used for replacement.

\* For description of the clock setting, see page 5.

### Adjustment and Check Locations : DIGITAL board – component side –



## SECTION 4 DIAGRAMS

### 4-1. IC PIN DESCRIPTIONS

#### • SBM + Digital Filter (IC308 CXD8482Q)

Pin No.	Pin Name	I/O	Pin Description
1	TEST	I	Test input pin. "H" for test mode and "L" for normal mode. (Fixed at "L" level in this set.)
2	NC	—	Empty pin
3	SYNC	I	Sync mode setting pin. "H" for INT master mode and "L" for EXT slave mode.
4	INIT	I	A/D converter power down mode input from main microcomputer (IC501). ("H" active) (This IC is set OFF in digital input/output mode.)
5	NC	—	Empty pin
6	CFLG	O	FE calibration flag output (Not used in this set, empty pin.)
7, 8	VDD	—	Power supply pin (+5 V)
9	LRKI	I	L/R clock input (Not used in this set, fixed at "L" level.)
10	BKI	I	Beat clock input (Not used in this set, fixed at "L" level.)
11	NC	—	Empty pin
12	DLI	I	L channel data input (Not used in this set, fixed at "L" level.)
13	DRI	I	R channel data input (Not used in this set, fixed at "L" level.)
14	IFLG	O	FE sync flag output (Not used in this set, empty pin.)
15, 16	NC	—	Empty pin
17	FE	I	FE select input (Not used in this set, fixed at "L" level.)
18	AL2	I	Data signal (L) input (Not used in this set, fixed at "L" level.)
19	AR2	I	Data signal (R) input (Not used in this set, fixed at "L" level.)
20	AL1	I	Data signal (L) input from A/D converter (IC307).
21	AR1	I	Data signal (R) input from A/D converter (IC307).
22, 23	VSS	—	Ground
24, 25	CVSS	—	Ground
26	FCLK	O	Output of 128fs master clock for FE to A/D converter (IC307).
27	MCLK	I	Input of 256fs master clock from FS selector (IC325).
28	CVDD	—	Power supply pin (+5 V)
29	NC	—	Empty pin
30	IBIT	I	64fs input data mode select input ("H" : 4 bit, "L" : 1 bit) (Fixed at "L" level in this set.)
31	NC	—	Empty pin
32	VSS	—	Ground
33	SCALE	I	Scale select input ("H" : × 4, "L" : × 5) (Fixed at "L" level in this set.)
34	ISEL1	I	FS select of input data (Fixed at "L" level in this set.)
35	ISEL2	I	FS select of input data (Fixed at "L" level in this set.)
36	NC	—	Empty pin
37	DITH	I	Dither control input. Dither active when "H" and stopped when "L". (Not used in this set, empty pin.)
38	BOOST	I	Boost control input. Boost active when "H" and normal when "L". (Fixed at "H" level in this set.)
39	VDD	—	Power supply pin (+5 V)
40	MODE	I	Serial data signal input from main microcomputer (IC501).
41	SHIFT	I	Shift clock signal input from main microcomputer (IC501). (Shift when ↓, latch when ↑)
42	LATCH	I	Latch pulse signal input from main microcomputer (IC501).
43	NC	—	Empty pin
44	LC	I	Low cut control input. "H" for low frequency cut and "L" for flat. (Fixed at "H" level in this set.)
45	SBM	I	Super Bit Mapping (SBM) control input from main microcomputer (IC501). ("H" : ON, "L" : OFF)

Pin No.	Pin Name	I/O	Pin Description
46	NC	—	Empty pin
47	OSEL	I	FS select of data output. ("H" : 2FS output or EX mode, "L" : FS output) (Fixed at "L" level in this set.)
48	OBIT	I	Bit select of data output. ("H" : 24 bits, "L" : 16 bits) (Fixed at "L" level in this set.)
49	DRO	O	Write clock output (Not used in this set, empty pin.)
50	DLO	O	L/R channel data signal output
51	NC	—	Empty pin
52, 53	VSS	—	Ground
54	BCK	I	Bit clock input from digital filter (IC314).
55	NC	—	Empty pin
56	LRCK	I	L/R clock input from digital filter (IC314).
57	OFLG	O	Outside sync flag output (Not used in this set, empty pin.)
58	VDD	—	Power supply pin (+5 V)
59	OVR	O	R channel side overflow flag output (Not used in this set, empty pin.)
60	OVL	O	L channel side overflow flag output (Not used in this set, empty pin.)

• Main Microcomputer (IC501 CXP87532-027Q)

Pin No.	Pin Name	I/O	Pin Description																
1	SBM-ON	O	SBM (Super Bit Mapping) ON/OFF select pin ("L" : OFF, "H" : ON)																
2	LCF-ON	O	Not used.																
3	OBIT-SEL	O	Not used.																
4, 5	—	—	Empty pin																
6	PRE-EMPH	O	Not used.																
7	AUSO	O	Digital filter control serial data output pin																
8	AUSC	O	Digital filter control serial clock output pin																
9	VCO-EN	O	DIGITAL IN REC mode only for "H" output.																
10	XOPT/COA	O	DIGITAL IN OPTICAL/COAXIAL select pin ("L" : COAXIAL, "H" : OPTICAL)																
11	XADLD	O	A/D digital filter control latch output pin																
12	XDALD	O	D/A digital filter control latch output pin																
13	FADE-WE	O	Not used.																
14	FADE-RST	O	Not used.																
15	XANA/DIG	O	ANALOG/DIGITAL IN select output pin ("L" : ANALOG IN, "H" : DIGITAL IN)																
16	XREC/PB	O	Record/playback select output pin ("L" : REC, "H" : PB)																
17	XREPRO	O	Not used.																
18	MIC-ATT	O	Not used.																
19	MIC-ON	O	Not used.																
20	RTC-DT	I/O	Clock IC serial data input/output pin																
21	RTC-SC	O	Clock IC serial data output pin																
22	RTC-CE	O	Clock IC chip enable output pin																
23-27	—	—	Empty pin																
28	FS48	O	<table border="1"> <thead> <tr> <th></th> <th>Fs 48kHz</th> <th>Fs 44.1kHz</th> <th>Fs 32kHz</th> </tr> </thead> <tbody> <tr> <td>Pin ⑳</td> <td>H</td> <td>L</td> <td>L</td> </tr> <tr> <td>Pin ㉑</td> <td>L</td> <td>H</td> <td>L</td> </tr> <tr> <td>Pin ㉒</td> <td>L</td> <td>L</td> <td>H</td> </tr> </tbody> </table>		Fs 48kHz	Fs 44.1kHz	Fs 32kHz	Pin ⑳	H	L	L	Pin ㉑	L	H	L	Pin ㉒	L	L	H
	Fs 48kHz	Fs 44.1kHz		Fs 32kHz															
Pin ⑳	H	L		L															
Pin ㉑	L	H		L															
Pin ㉒	L	L	H																
29	FS44	O																	
30	FS32	O																	
31	XLM	O	Line mute output pin ("L" : ON, "H" : OFF)																
32	—	—	Empty pin																
33	SLV-MUT	O	Not used.																
34	XSLV-SEL	O	Not used.																
35-38	AF3-AF0	I	Pull-up fixed.																
39	MP	—	Connected to Ground.																
40	XRST	I/O	System reset input/output pin ("L" : ACTIVE)																
41	VSS	—	Ground																
42	XTAL	O	Not used.																
43	EXTAL	I	Operating clock input pin (9.408 MHz)																
44	XDISP-REQ	O	Pin for communication request output to display controller.																
45	—	—	Not used.																
46	XMECH-REQ	O	Pin for communication request output to mechanism microcomputer.																
47	—	—	Not used.																
48	XDISP-ACK	I	Pin for communication acknowledge input from display controller.																
49	DM-DI	I	Pin for serial data input from another microcomputer.																
50	DM-DO	O	Pin for serial data output to another microcomputer.																
51	DM-CK	O	Pin for serial clock output to another microcomputer.																
52	XSBSY	I	Pin for SBSY input from master DAT-DSP IC.																
53	SR-DTI	I	Pin for serial data input from master DAT-DSP IC.																

Pin No.	Pin Name	I/O	Pin Description
54	SR-DTO	O	Pin for serial data output to master DAT-DSP IC.
55	SR-CK	O	Pin for serial clock output to master DAT-DSP IC.
56	AVSS	—	Ground
57	AVREF	—	Reference voltage pin (+5 V)
58	AVDD	—	Power supply pin (+5 V)
59	XMECH-BSY	I	Pin for communication busy input from mechanism microcomputer. ("L" : BUSY)
60	FOOT-SW1	I	FOOT SW input 1 pin (REC/PAUSE)
61	FOOT-SW0	I	FOOT SW input 0 pin (MODE)
62	MODE1	I	Fixed at "H" level.
63	MODE0	I	Fixed at "L" level.
64	X24/12	I	24/12-hour system display select input pin ("L" : Fixed to 24-hour system display)
65	DATE-ODR	I	YY-MM-DD/DD-MM-YY display select input pin ("L" : Fixed to DD-MM-YY display)
66	PRL-REM	I	Pull-up fixed.
67	X4HEAD	I	Fixed at "H" level.
68	XPRODIO	I	Fixed at "H" level.
69	XFADER	I	Fixed at "H" level.
70	MUT-MONIT	I	Pin for mute monitor input from master DAT-DSP IC.
71	XAES/COA	I	Pull-up fixed.
72	XCNT-S	I	Pull-up fixed.
73	MODE3	I	Fixed at "H" level.
74	MODE2	I	Fixed at "H" level.
75, 76	LED1, 0	O	Not used.
77-85	—	—	Not used.
86	XTEST	I	TEST pin ("L" : TEST MODE)
87	POW-DWN	I	Fixed at "H" level.
88	VSS	—	Ground
89	VDD	—	Power supply pin (+5 V)
90	VPP	—	Connect to VDD.
91, 92	—	—	Not used.
93	XADINT	O	A/D digital filter initial setting output pin ("L" : INIT)
94	XDAINT	O	D/A digital filter initial setting output pin ("L" : INIT)
95	REC-DIS	O	Recording current control output pin ("L" : Normally, "H" : Recording current forced OFF)
96	EXSY-MUT	O	Not used.
97	XMST-SEL	O	Signal process IC chip select output pin
98	MST-MUTE	O	Playback data mute output pin ("L" : OFF, "H" : ON)
99, 100	—	—	Not used.

• Mechanism Microcomputer (IC502 CXP87532-023Q)

Pin No.	Pin Name	I/O	Pin Description
1	FPM-KI	O	FWD plunger kick control output
2	CAP-RVS	O	Capstan rotation direction control output. "H" for FWD and "L" for REV.
3	BPM-ON	O	Brake plunger ON control output
4	BPM-KI	O	Brake plunger kick control output
5	DRM-ON	O	Drum motor ON control output
6	—	O	} Not used.
7	—	O	
8	—	O	
9	—	O	
10	—	O	
11	—	O	
12	—	O	
13	—	O	
14	—	O	
15	LE-EJCT	O	Loading motor rotation direction control output (Eject direction)
16	LM-LOAD	O	Loading motor rotation direction control output (Loading direction)
17	CM-OUT	O	Cassette compartment motor rotation direction control output (OUT direction)
18	CM-IN	O	Cassette compartment motor rotation direction control output (IN direction)
19	XROM-CK	O	EEPROM serial clock output
20	XROM-DT	I/O	EEPROM serial data input/output
21	—	O	} Not used.
22	—	O	
23	H-FIX	I	} Not used. (Fixed at "H" level.)
24	H-FIX	I	
25	CAS-IN	I	Cassette IN switch input
26	REC-EN	I	REC enable switch input
27	CAS-LCK	I	Cassette compartment lock switch input
28	CAS-OUT	I	Cassette compartment OUT switch input
29	UNLD-SW	I	UNLOAD switch input. "H" in UNLOAD position.
30	LOAD-SW	I	LOAD switch. "H" in STOP position.
31	—	O	} Not used.
32	—	O	
33	—	O	
34	—	O	
35	H-FIX	I	} Not used. (Fixed at "H" level.)
36	H-FIX	I	
37	H-FIX	I	
38	H-FIX	I	
39	MP	—	Connect to Ground.
40	XRST	I	Reset input. "L" for reset.
41	VSS	—	Ground
42	XTAL	O	Crystal oscillator output pin (9.408 MHz). (Not used in this set.)
43	EXTAL	I	Crystal oscillator input pin (9.408 MHz)
44	XMECH-BSY	O	Mechanism microcomputer BUSY signal input
45	—	O	Not used.
46	TLED-ON	O	T-END sensor ON output. "H" for ON.
47	SLED-ON	O	S-END sensor ON output. "H" for ON.
48	XSBSY	I	SUB SYNC input from main microcomputer (IC501).

Pin No.	Pin Name	I/O	Pin Description
49	---	I	} Not used.
50	---	O	
51	---	O	
52	XMECH-REQ	I	Communication request input from main microcomputer (IC501).
53	MECH-DTI	I	Serial data input from main microcomputer (IC501).
54	MECH-DTO	O	Serial data output to main microcomputer (IC501).
55	MECH-SCK	I	Serial clock input from main microcomputer (IC501).
56	AVSS	---	A/D port Ground
57	AVREF	---	A/D port reference voltage (+5 V)
58	AVDD	---	A/D port power supply (+5 V)
59	TEND	I	T-END sensor input
60	SEND	I	S-END sensor input
61	H-FIX	I	} Fixed at "H" level.
62	H-FIX	I	
63	THICK	I	Fixed at "L" level.
64	SET-MODE	I	Fixed at "L" level.
65	CAS-MODE	I	Fixed at "L" level.
66	ATF-IN	I	ATF pilot signal input
67	TFG	I	T reel FG signal input
68	SFG	I	S reel FG signal input
69	CFG	I	Capstan FG signal input
70	DFG	I	Drum FG signal input
71	DPG	I	Drum PG signal input
72	DREF	I	Drum reference signal input
73	ATF-S2	I	Input of AFT sampling pulse for DPG automatic adjustment.
74	H-FIX	I	Not used. (Fixed at "H" level.)
75	---	O	Not used.
76	XCAS-TST	I	Test pin. "L" for cassette compartment without test mode.
77	MST-CLK	I	Master clock input
78	PBDT	I	PB data for ATF SYNC.
79	SWP	O	Switching pulse output
80	AGC-PWM	O	Output of PWM signal for AGC.
81	T-PWM	O	Output of PWM signal for T reel.
82	S-PWM	O	Output of PWM signal for S reel.
83	D-PWM	O	Output of PWM signal for drum.
84	C-PWM	O	Output of PWM signal for capstan.
85	H-FIX	I	Not used. (Fixed at "H" level.)
86	XTEST	I	Test pin. "L" for test mode. (Used at DPG, PASS and torque.)
87	POW-DWN	I	Not used. (Fixed at "H" level.)
88	VSS	---	Ground
89	VDD	---	+5 V power supply
90	VPP	---	Connect to +5 V.
91	ATF-S2	O	ATF sampling pulse #2 output
92	AREA	O	AREA signal output
93	---	O	} Not used.
94	---	O	
95	---	O	
96	XLP-REC	O	LP REC control output. "L" for LP mode REC.

Pin No.	Pin Name	I/O	Pin Description
97	---	O	} Not used.
98	---	O	
99	XTLK	O	Reel motor T LOCK control output. "L" for T LOCK.
100	FPM-ON	O	FWD plunger ON control output



• Master DAT-DSP (IC503 CXD2605Q)

Pin No.	Pin Name	I/O	Pin Description
1	A8	O	External RAM address output
2	A9	O	External RAM address output
3	VDD	—	+5 V
4	A10	O	External RAM address output
5	A11	O	External RAM address output
6	A12	O	External RAM address output
7	A13	O	External RAM address output
8	A14	O	External RAM address output
9	XWE	O	External RAM write enable signal output
10	XOE	O	External RAM output enable signal output
11	XEAN	O	External addressing enable signal output
12	TST1	I	Test input (Fixed at "L" level.)
13	XT1O	O	X'tal oscillation circuit 1 output
14	XT1I	I	X'tal oscillation circuit 1 input
15	VSS	—	Ground
16	XRST	I	Reset input. "L" for reset.
17	CLKO	O	System clock output. (The frequency is 4.9152 MHz when SELC is set "L" and 8.192 MHz when SELC is set "H".) (Not used in this set.)
18	MINT	O	Control byte (1). Bit 1 : Q code decode (intercurve detection) output when "L" and BCK clock output by RX-PLL when "H". (Not used in this set.)
19	ATSY	I	ATF sync signal input
20	MCLK	O	Channel clock (fch) output (Not used in this set.)
21	DREF	O	SBSY cycled Duty 50 signal output
22	SBPM	O	Control byte (1). Bit 1 : Output of monitor signal for data transfer to and from microcomputer when "L" ("L" to permit transfer) and F256 clock output by RX-PLL when "H". (Not used in this set.)
23	EXCK	I	Input of clock for data transfer to and from main microcomputer (IC501).
24	SDSI	I	Serial data input from main microcomputer (IC501).
25	SDSO	O	Serial data output to main microcomputer (IC501).
26	SBSY	O	Output of frame sync signal for data transfer to and from main microcomputer (IC501).
27	PLRF	O	Output of PLL clock divided by 5880. (Not used in this set.)
28	CCLK	O	9.8304 MHz output when SELC is "L" and 12.288 MHz output when SELC is "H". (Not used in this set.)
29	MUTE	I	Mute input. Set "H" to mute, but REC monitor sound will not be muted.
30	MUTM	O	Mute monitor. "H" in muting.
31	UNLK	O	RX-PLL lock monitor signal output. "L" in locking.
32	RFCT	I	Playback RF signal control. ("L" to enable RF signal and "H" to disable RF signal.)
33	SYMN	O	RF associated C1 check result monitor signal output. (Not used in this set.)
34	SELB	I	Test pin (Fixed at "H" level.)
35	PLCK	O	Control byte (1). Bit 1 : RF-PLL clock output when "L" and F128 clock output by RX-PLL when "H". (Not used in this set.)
36	TST2	I	Test pin (Fixed at "L" level.)
37	RFDT	I	Playback RF signal input
38	XCS	I	Input of chip select signal for data transfer to and from microcomputer. "L" to permit transfer.
39	SWP	I	RF switching pulse. "L" to select A track and "H" to select B track.
40	VSS	—	Ground
41	PIPC	O	Output of ATF pilot signal/discrimination signal for recording signal. "H" to output pilot signal.

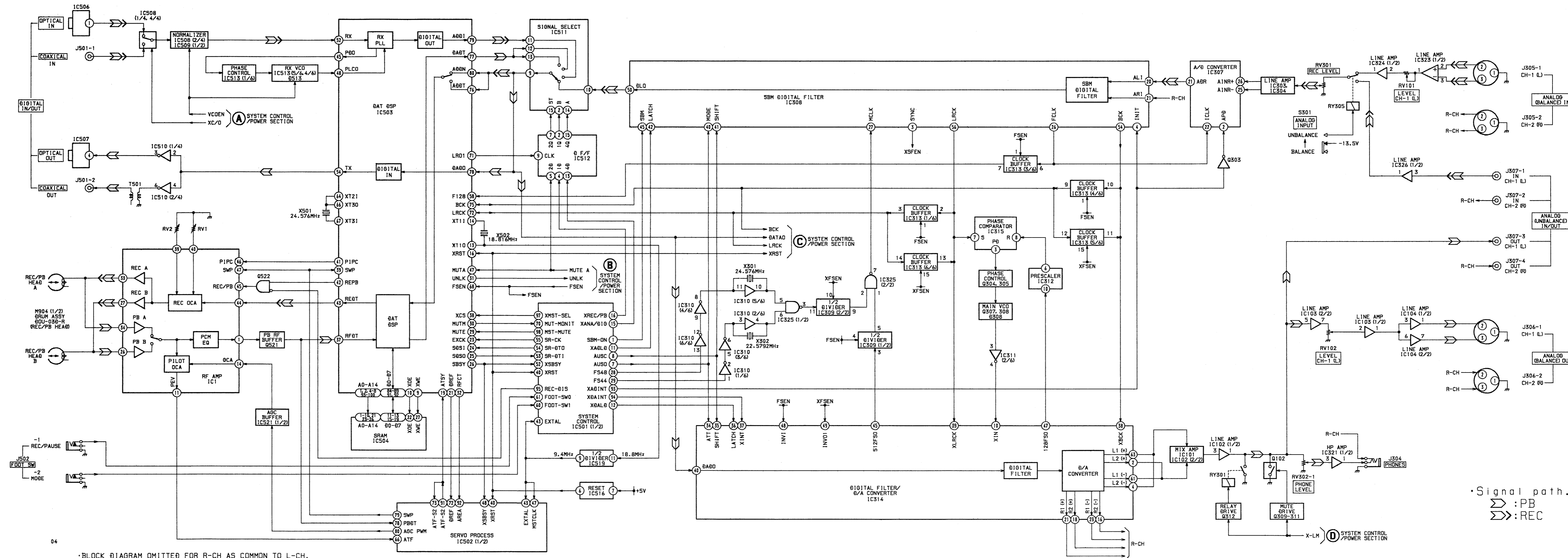
Pin No.	Pin Name	I/O	Pin Description
42	REPB	O	REC/PB discrimination signal output. "H" for REC mode.
43	REDT	O	Recording signal output
44	TST4	I	Test pin (Fixed at "L" level.)
45	PDO	O	RX-PLL phase comparator output
46	SELC	I	Oscillation frequency select signal input (Fixed at "L" level in this set.)
47	MUTA	I	Mute input. "H" to mute, and REC monitor sound is also muted.
48	PLCO	I	RX-PLL's external VCO clock input (512fs reference)
49	PLVR	O	Output of phase comparator signal for RX-PLL. (2fs generated from PLL clock.) (Not used in this set.)
50	PLRF	O	Output of phase comparator signal for RX-PLL. (RX SYNC detect signal 2fs) (Not used in this set.)
51	MSSL	I	Master mode/slave mode select. "H" for master mode.
52	RX	I	Digital interface signal input
53	VDD	—	+5 V
54	TX	O	Digital interface signal output
55	SELA	I	Test pin (Fixed at "L" level.)
56	EXSY	I/O	External sync signal input/output
57	EXSN	I/O	External sync signal input/output
58	F128	I/O	128fs signal/256fs signal (high speed) input/output
59	F256	O	256fs signal/512fs signal (high speed) output (Not used in this set.)
60	F512	O	512fs signal output (Not used in this set.)
61	ADLF	I	ADDT, ADDI, ADDN serial data LSB/MSB first select input. "L" for LSB first.
62	DALF	I	DADT, DADO serial data LSB/MSB first select input. "L" for LSB first.
63	XT2O	O	X'tal oscillation circuit 2 output
64	XT2I	I	X'tal oscillation circuit 2 input
65	VSS	—	Ground
66	XT3O	O	X'tal oscillation circuit 3 output
67	XT3I	I	X'tal oscillation circuit 3 input
68	FSEN	I	F128, BCK, LRCK input/output select input. "H" for output.
69	LR03	O	Inverted LR02 signal (Not used in this set.)
70	LR02	O	Control byte (1). Bit 1 : 16BCK delayed LRCK signal when "L" and LRCK clock output by RX-PLL when "H" (Not used in this set.)
71	LR01	O	15BCK delayed LRCK signal
72	LRCK	I/O	fs/2fs (high speed) signal input/output
73	WCK	O	2fs/4fs (high speed) signal output (Not used in this set.)
74	XBCK	O	Inverted BCK signal output
75	BCK	I/O	64fs/128fs (high speed) signal input/output
76	ADDT	I	AD serial data input
77	DADT	O	DA serial data output
78	DADO	I	DIGITAL OUT audio data input
79	ADDI	O	DIGITAL IN audio data output
80	ADDN	I	DIGITAL IN audio data input
81	ERRI	I	DIGITAL OUT Validity flag data input
82	ERRF	O	DADT data's interpolation data/discrimination signal output. "H" for interpolation data.
83	MNTG	O	"H" output indicates that error correction status monitor data is being output to D7 to D0. (Not used in this set.)
84	D7	I/O	External RAM data input/output (MSB)
85	D6	I/O	External RAM data input/output
86	D5	I/O	External RAM data input/output

Pin No.	Pin Name	I/O	Pin Description
87	D4	I/O	External RAM data input/output
88	D3	I/O	External RAM data input/output
89	D2	I/O	External RAM data input/output
90	VSS	—	Ground
91	D1	I/O	External RAM data input/output
92	D0	I/O	External RAM data input/output (LSB)
93	A0	O	External RAM address output
94	A1	O	External RAM address output
95	A2	O	External RAM address output
96	A3	O	External RAM address output
97	A4	O	External RAM address output
98	A5	O	External RAM address output
99	A6	O	External RAM address output
100	A7	O	External RAM address output

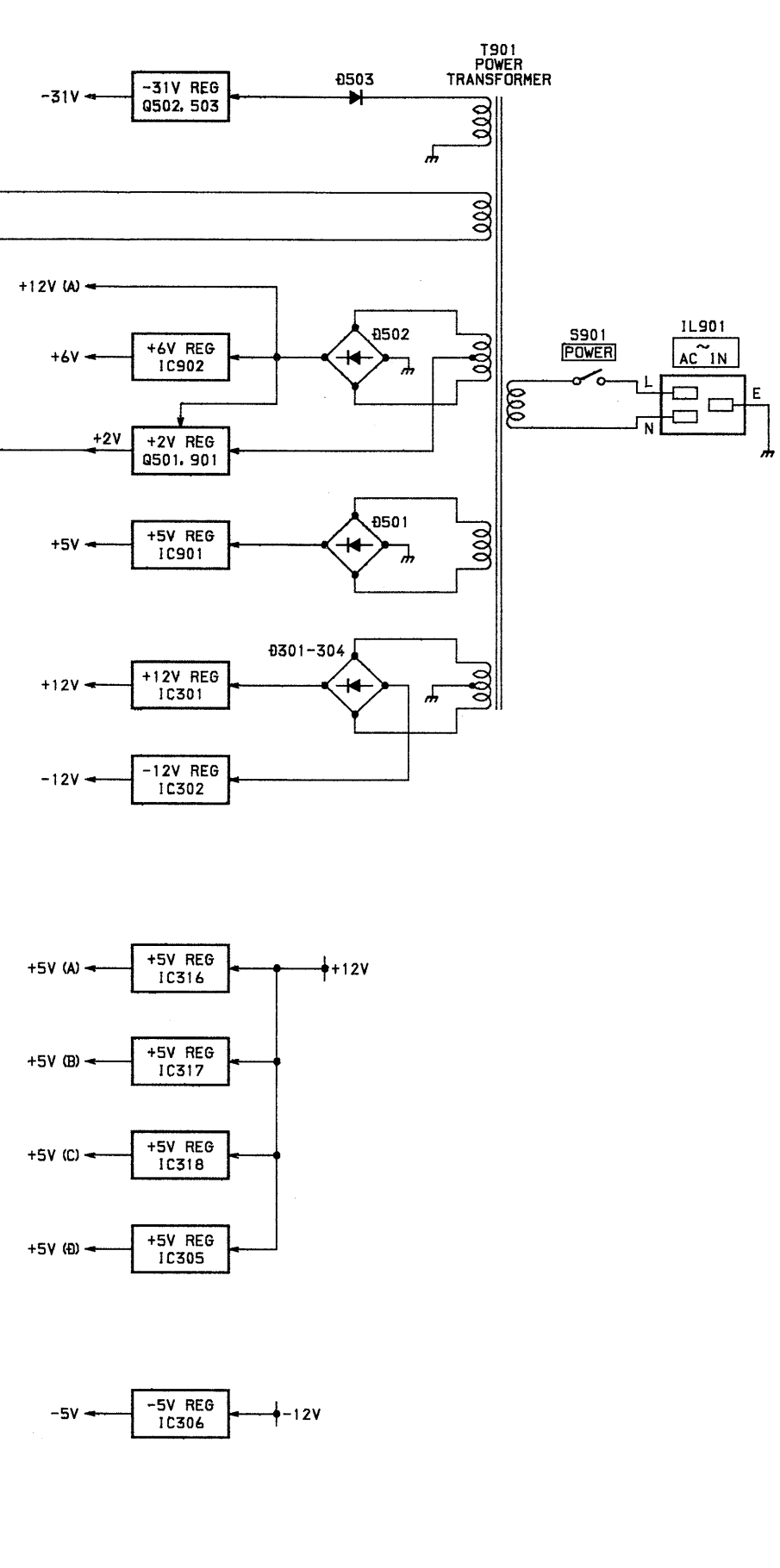
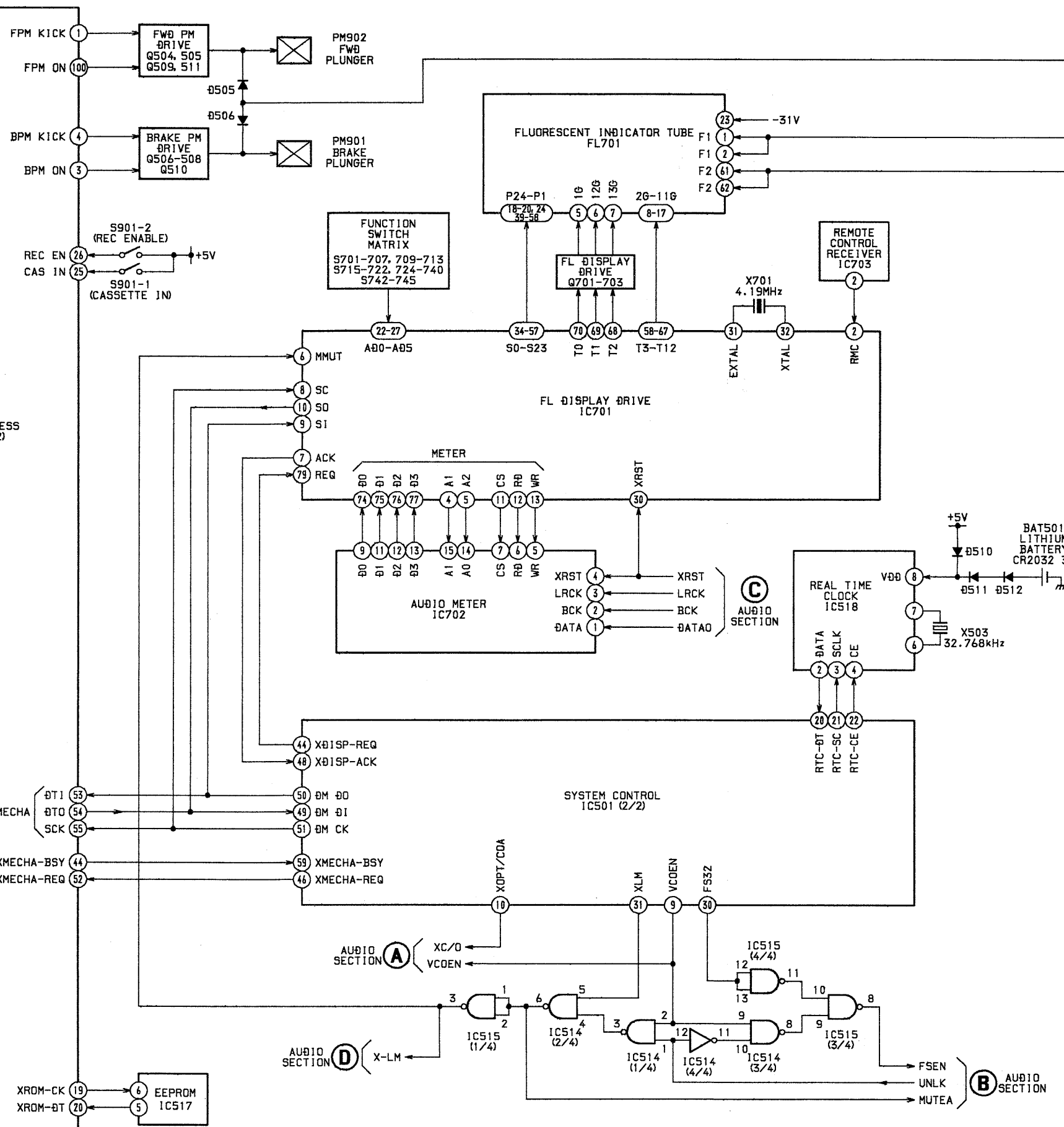
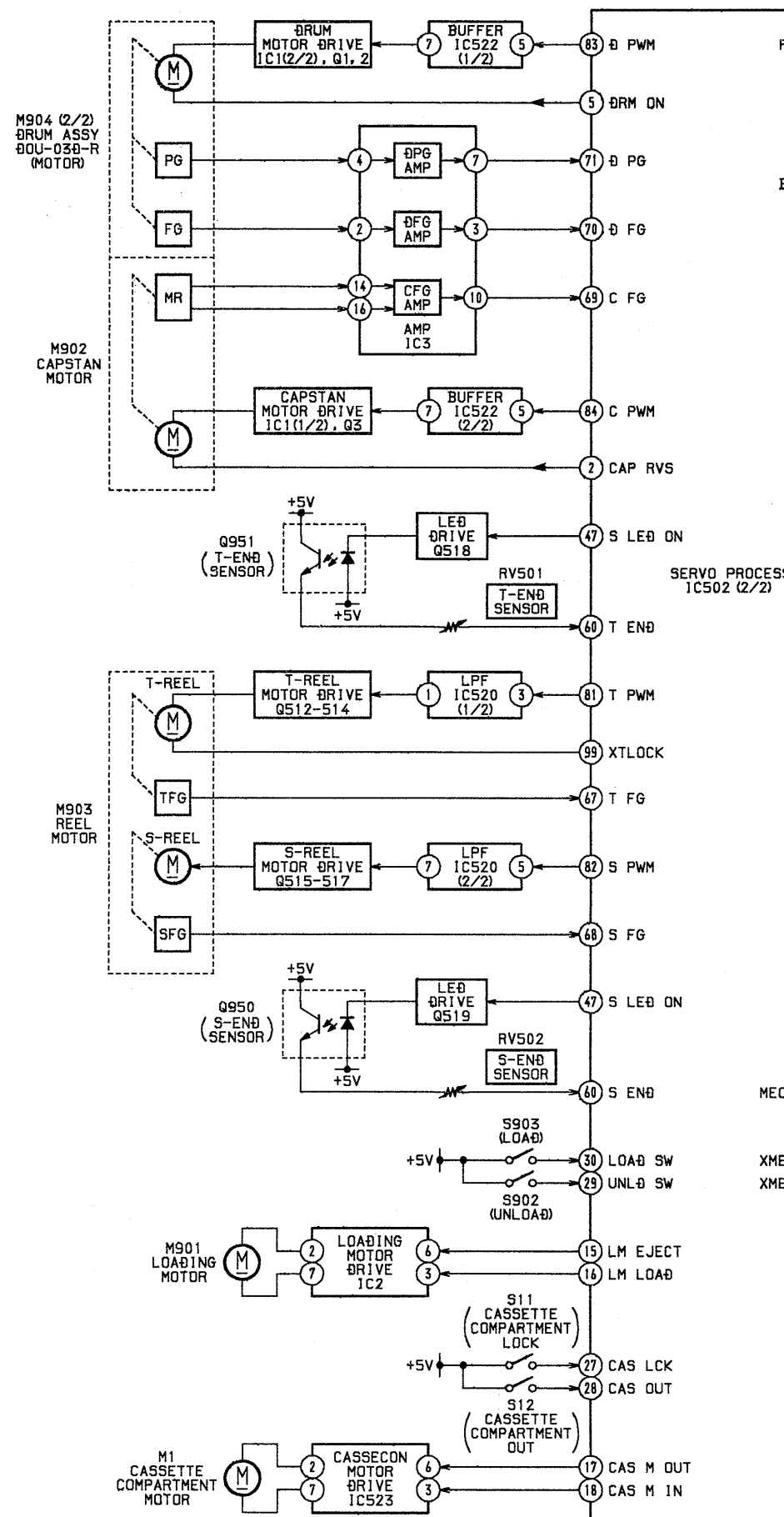
• **Display Controller (IC701 CXP82316-061Q)**

Pin No.	Pin Name	I/O	Pin Description
1	H	I	Fixed at "H" level.
2	RMC	I	Remote control input from IC703.
3	TEST	I	Test mode setting pin
4	A1 METER	O	Address 1 output to IC702.
5	A0 METER	O	Address 0 output to IC702.
6	M MUT	I	Level meter mute input pin
7	ACK	O	Pin for acknowledge output to main microcomputer (IC501).
8	SC	I	Pin for serial clock input from main microcomputer (IC501).
9	SI	I	Pin for serial data input from main microcomputer (IC501).
10	SO	O	Pin for serial data output to main microcomputer (IC501).
11	CS METER	O	Pin for chip select output to IC702.
12	RD METER	O	Pin for read output to IC702.
13	WR METER	O	Pin for write output to IC702.
14	REM SEL	O	} Not used.
15	FWD LED	O	
16	PAUSE LED	O	
17	REC LED	O	
18-21	—	—	Empty pin
22-29	AD0-AD7	I	Key input pins
30	XRST	I/O	System reset pin (active "L")
31	EXTAL	I	System clock input pin
32	XTAL	O	System clock output pin (4.19 MHz)
33	VSS	—	Ground
34-57	S0-S23	O	FL tube segment output pins
58-70	T12-T0	O	FL tube grid output pins
71	VFDP	I	Power supply pin (-31 V)
72	VDD	—	Power supply pin (+5 V)
73	NC	—	Connect to VDD.
74-77	D0METER-D3METER	I/O	Pin for data input/output to and from IC702.
78	H	I	Fixed at "H" level.
79	REQ	I	Pin for communication request input from main microcomputer (IC501).
80	MODE	I	Fixed at "H" level.

4-2. BLOCK DIAGRAM — AUDIO SECTION —

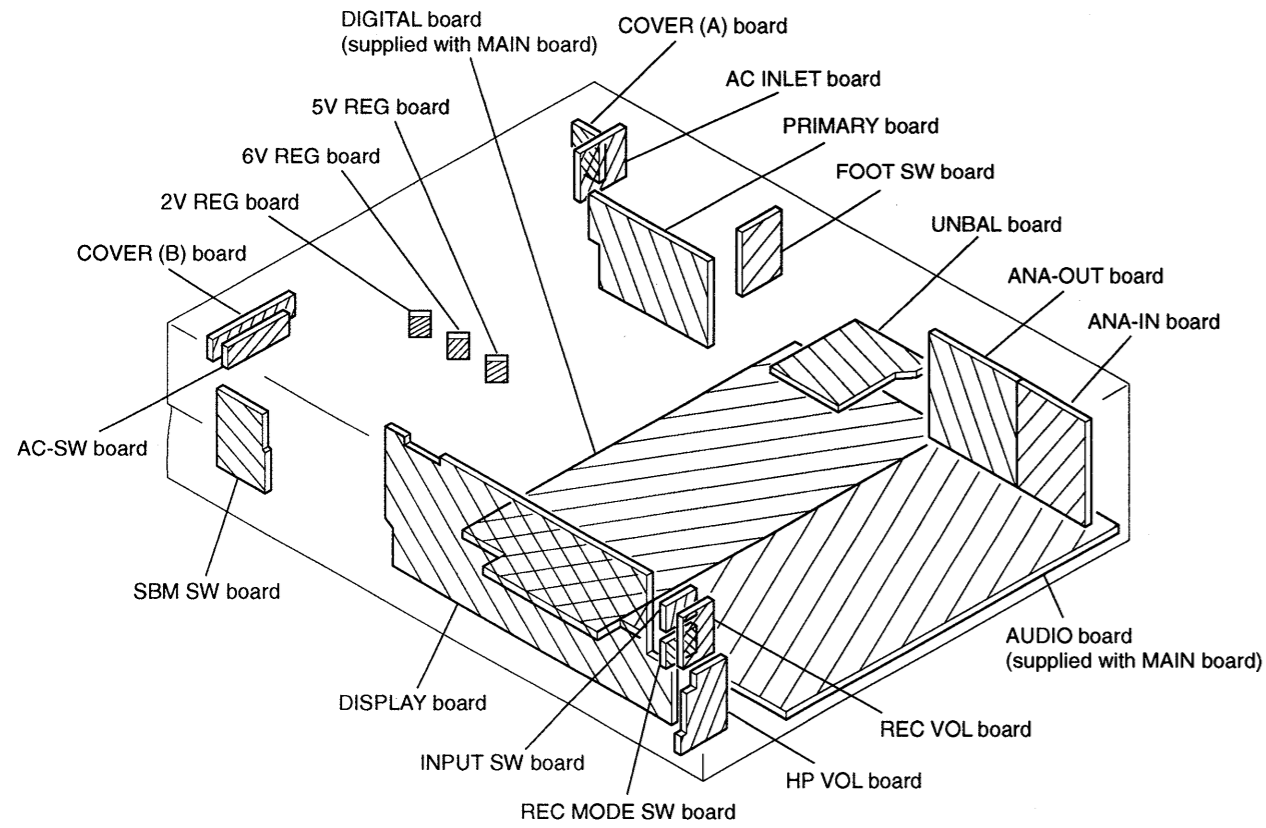


4-3. BLOCK DIAGRAM — SYSTEM CONTROL/POWER SECTION —

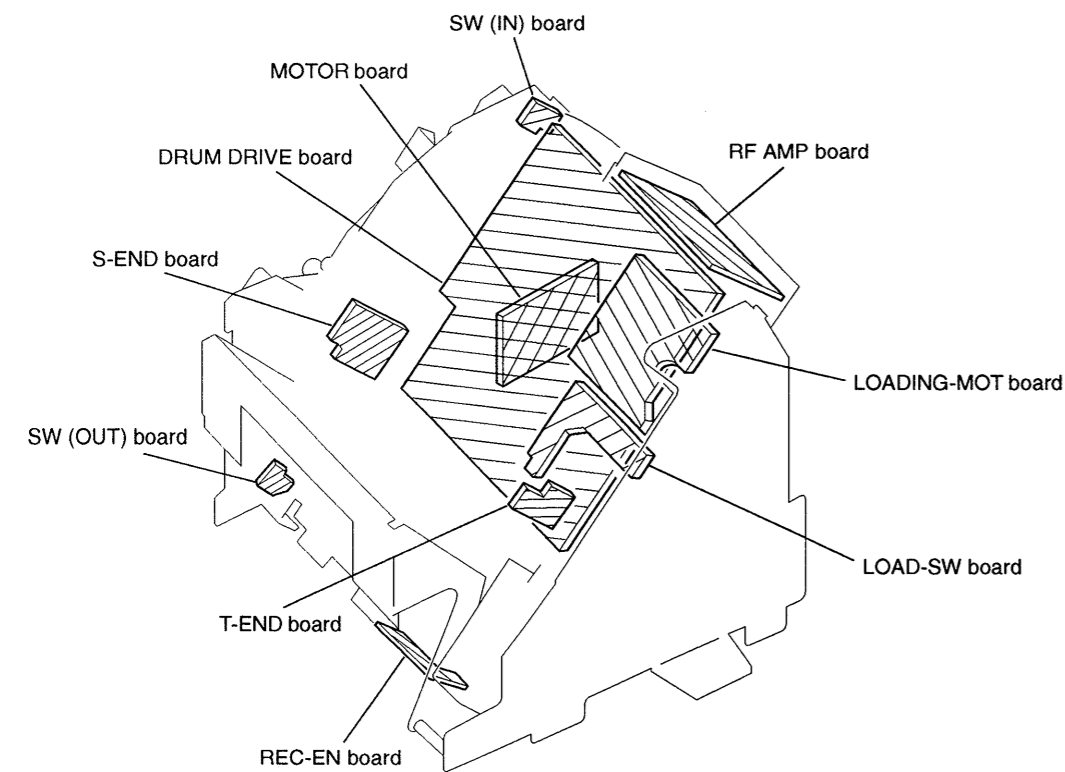


4-4. CIRCUIT BOARDS LOCATION

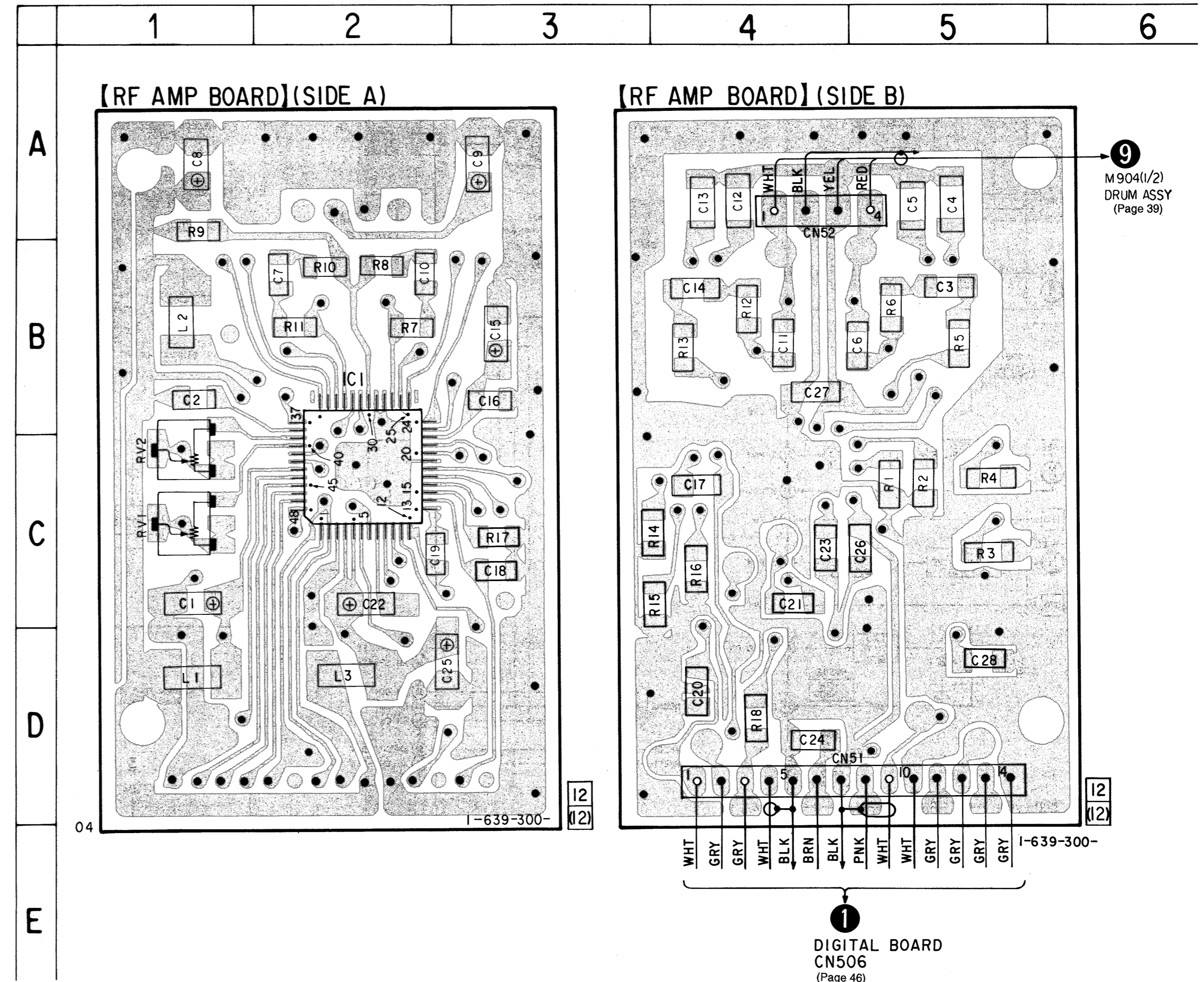
• Main Section



• Mechanism Deck Section

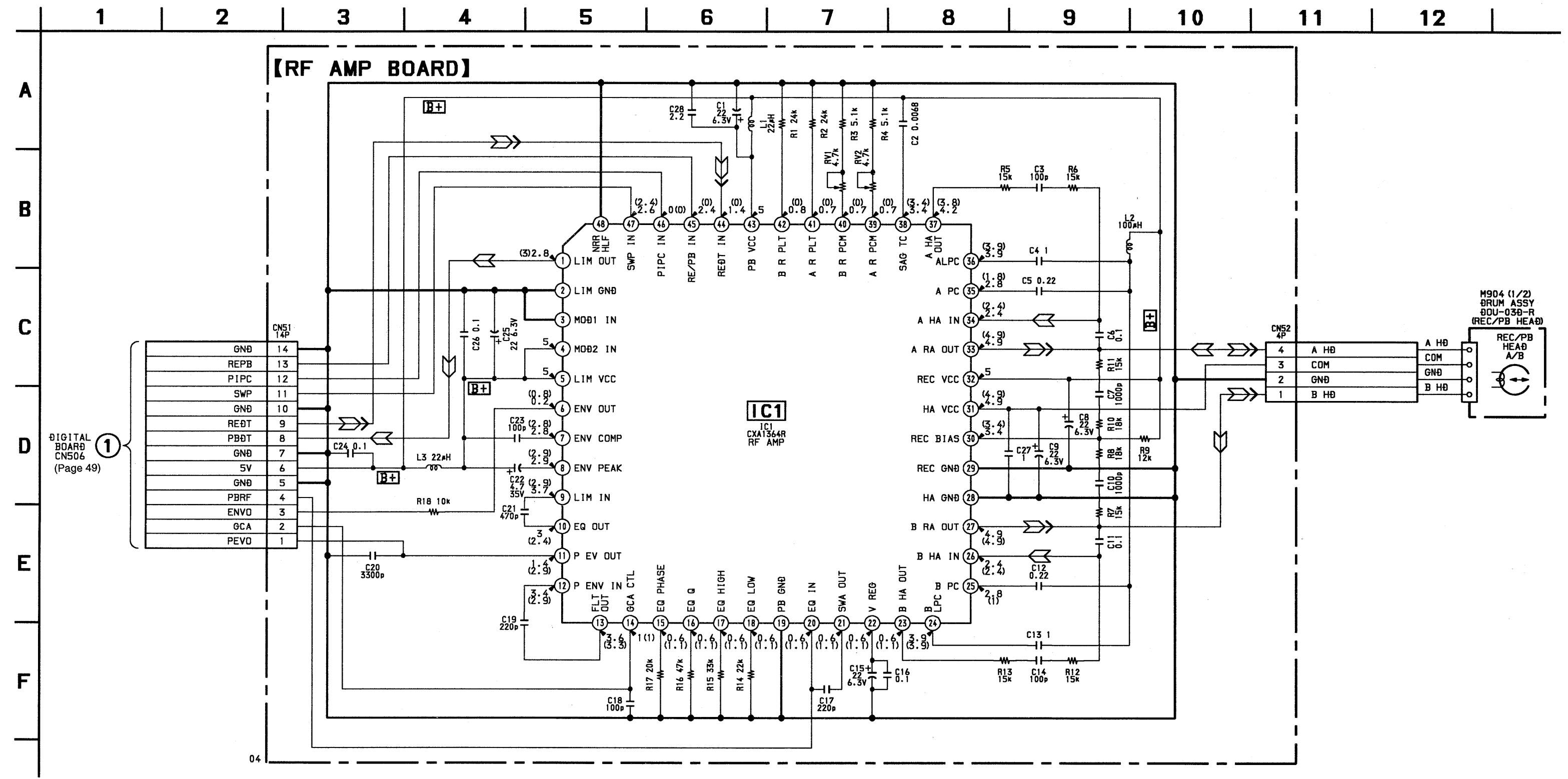


4-5. PRINTED WIRING BOARD — RF AMP SECTION —





4-6. SCHEMATIC DIAGRAM — RF AMP SECTION — • Refer to page 66 for IC Block Diagrams.



**Note :**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$  :  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and 1/4 W or less unless otherwise specified.
- **[B+]** : B+ Line.
- Voltage is dc with respect to ground under no-signal conditions.
- no mark : PB
- ( ) : REC
- Voltage are taken with a VOM (Input Impedance 10 M $\Omega$ ). Voltage variations may be noted due to normal production tolerance.
- Signal path.
- : PB
- : REC

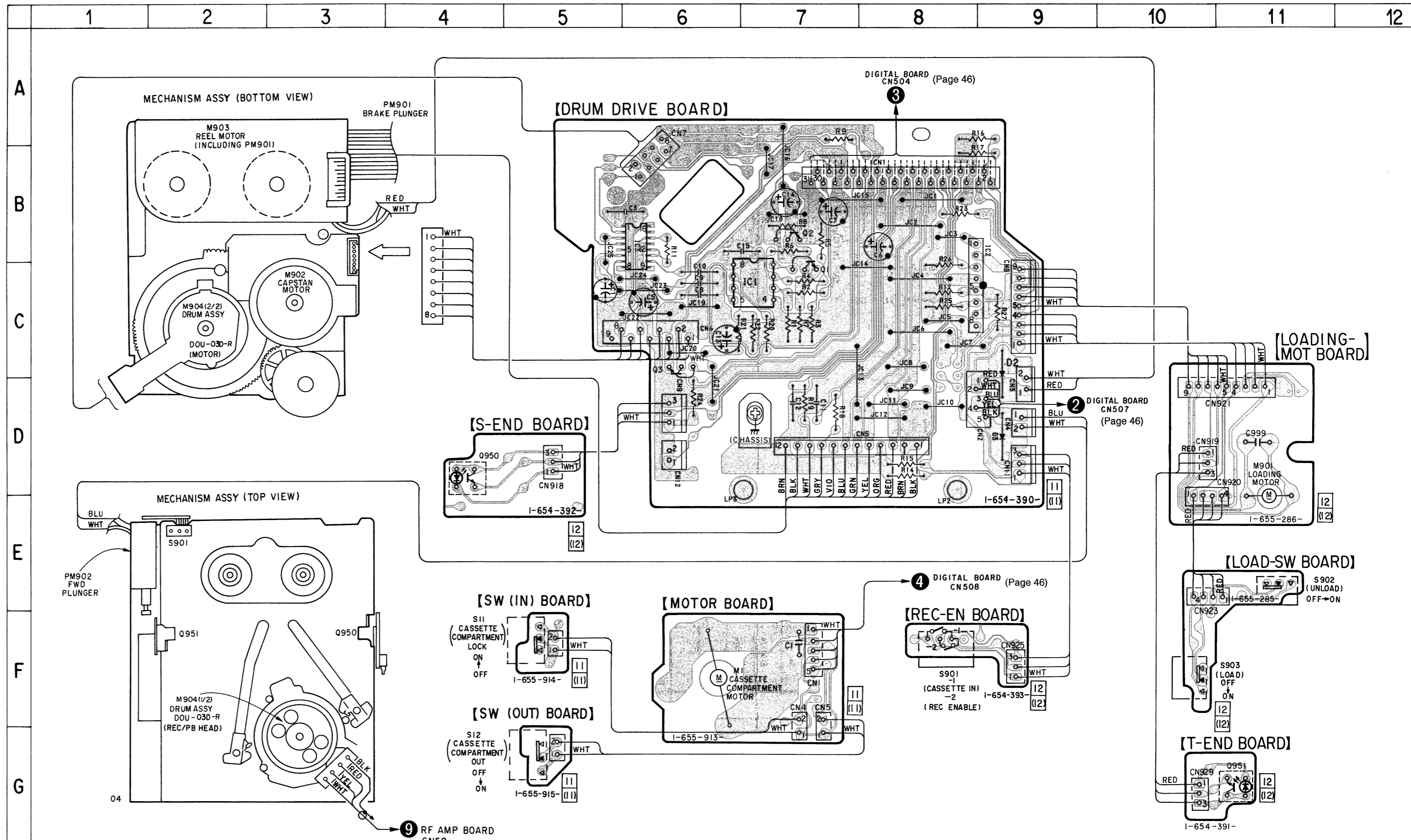


4-7. PRINTED WIRING BOARDS — MD SECTION —

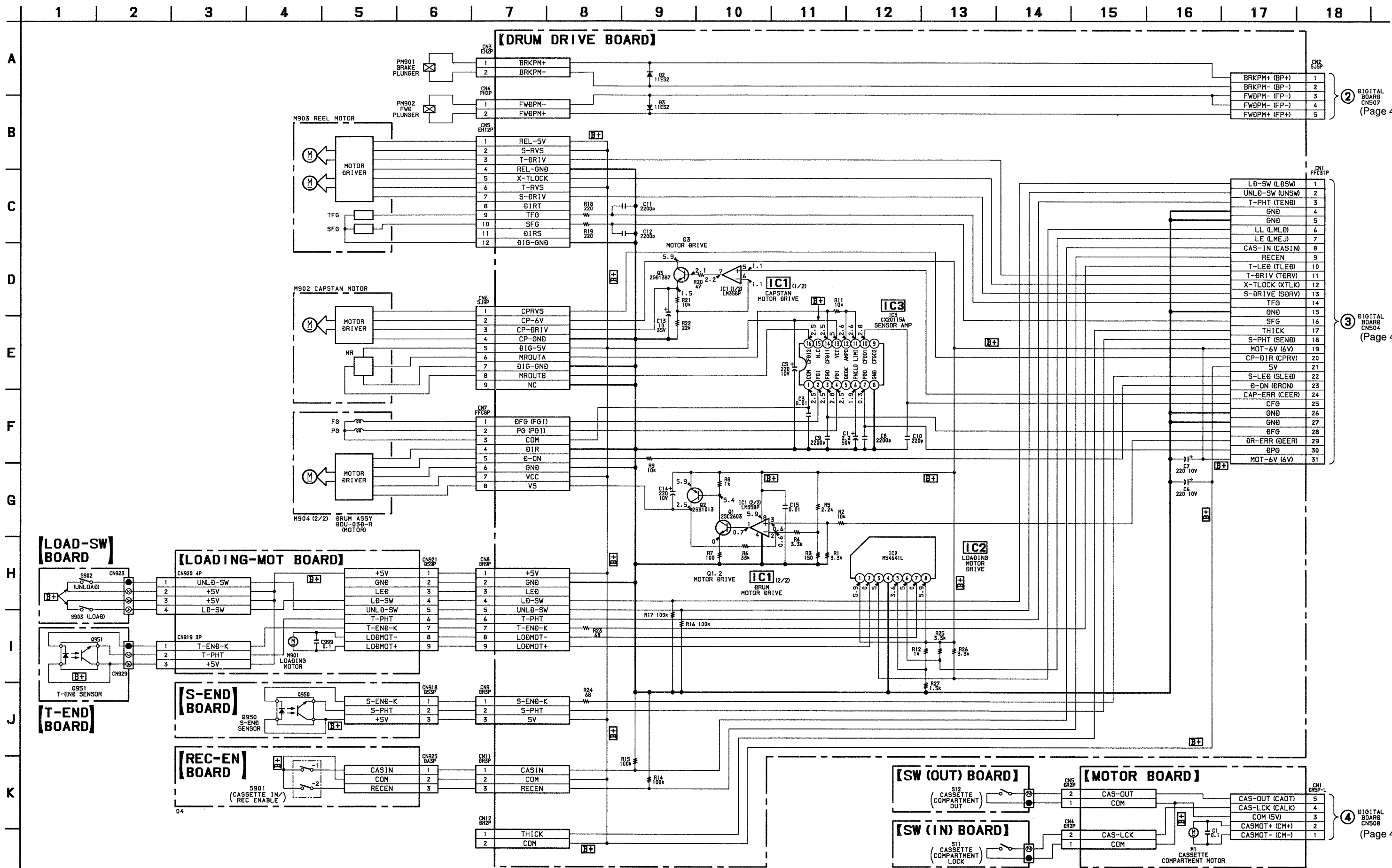
• Semiconductor Location

Ref. No.	Location
D2	C-9
D3	D-9
IC1	C-7
IC2	B-8
IC3	B-6
Q1	B-7
Q2	B-7
Q3	C-6
Q950	D-4
Q951	G-11

Note:  
 • ○ : parts extracted from the component side.  
 • ▨ : Pattern on the side which is seen.



4-8. SCHEMATIC DIAGRAM — MD SECTION — • Refer to page 66 for IC Block Diagrams.



**Note :**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$  :  $\mu\text{pF}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and 1/4 W or less unless otherwise specified.
- [B+] : B+ Line.
- Voltage is dc with respect to ground under no-signal conditions.
- Voltage are taken with a VOM (Input Impedance 10 M $\Omega$ ).
- Voltage variations may be noted due to normal production tolerance.

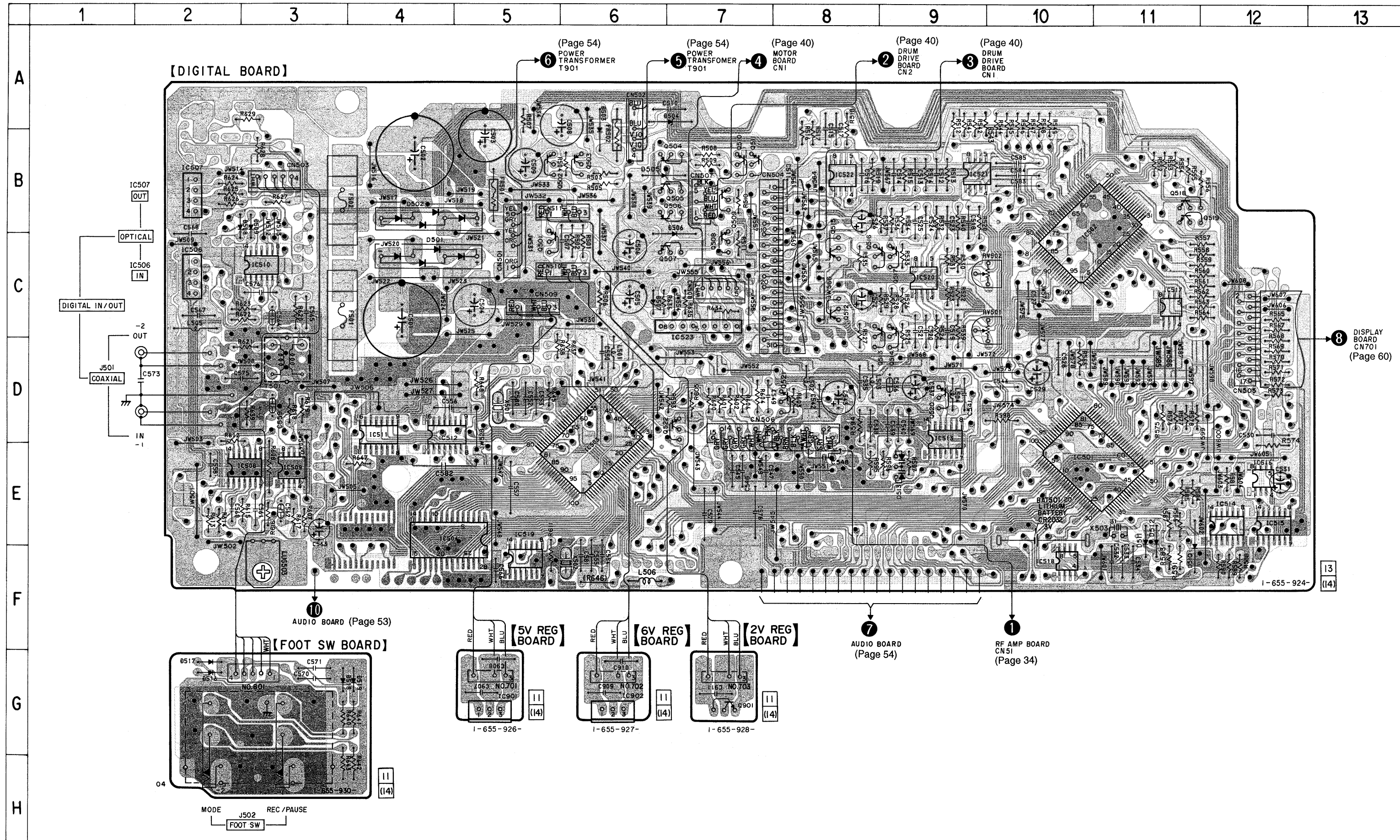


4-9. PRINTED WIRING BOARDS — DIGITAL SECTION —

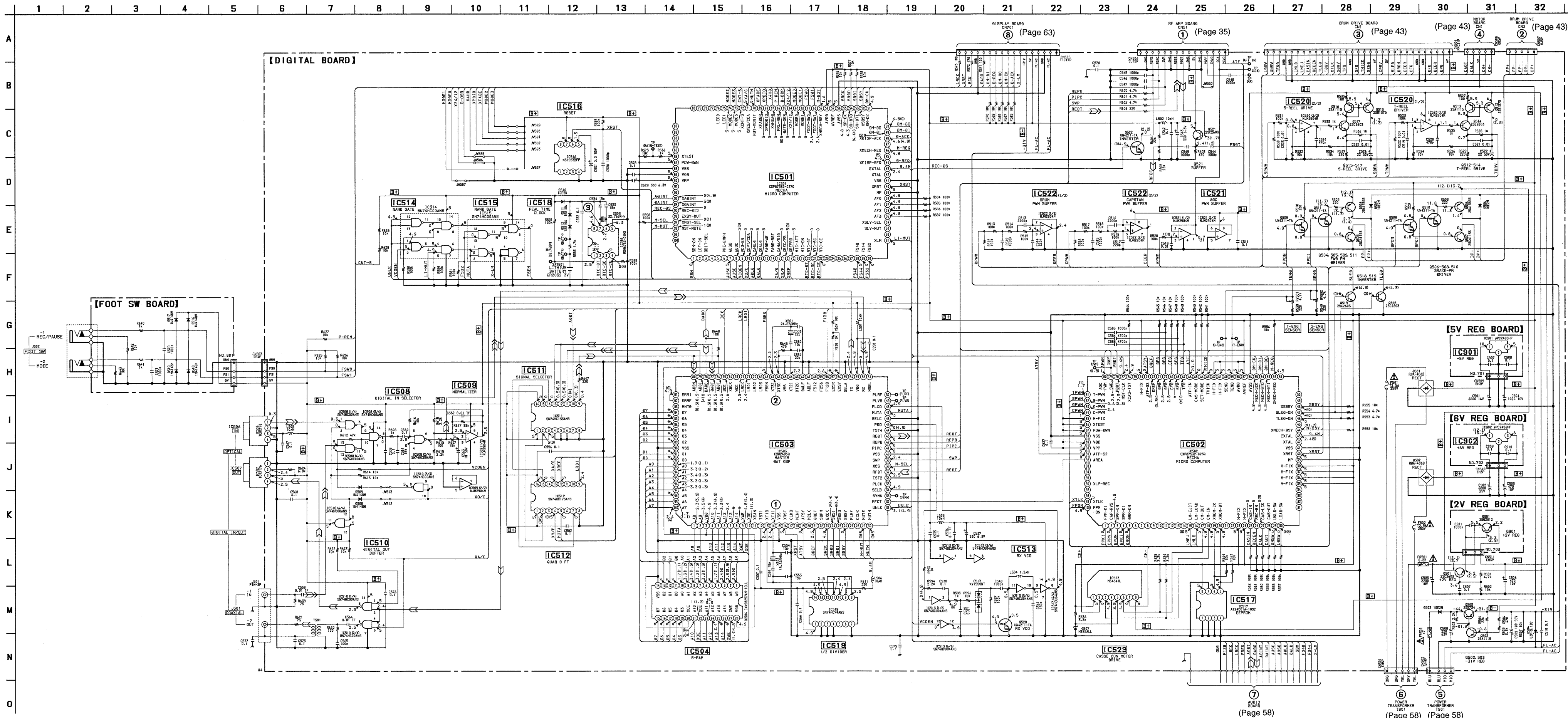
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D501	C-4	IC517	C-11
D502	B-4	IC518	F-10
D503	A-6	IC519	F-5
D504	A-7	IC520	C-9
D505	B-6	IC521	B-9
D506	B-7	IC522	B-8
D507	C-6	IC523	C-7
D508	B-2	IC901	G-5
D509	B-3	IC902	G-6
D510	E-11		
D511	E-11	Q501	C-5
D512	E-11	Q502	B-5
D513	E-9	Q503	B-6
D516	G-2	Q504	B-7
D517	G-2	Q505	B-7
D518	G-3	Q506	B-7
D519	G-4	Q507	C-7
		Q508	C-7
IC501	E-10	Q509	B-7
IC502	B-10	Q510	B-7
IC503	D-6	Q511	B-7
IC504	E-4	Q512	C-8
IC506	C-2	Q513	D-8
IC507	B-2	Q514	D-9
IC508	E-3	Q515	C-8
IC509	E-3	Q516	C-8
IC510	C-3	Q517	C-9
IC511	D-4	Q518	B-11
IC512	D-4	Q519	B-11
IC513	D-9	Q520	D-9
IC514	E-12	Q521	D-8
IC515	E-12	Q522	D-7
IC516	E-12	Q901	G-7

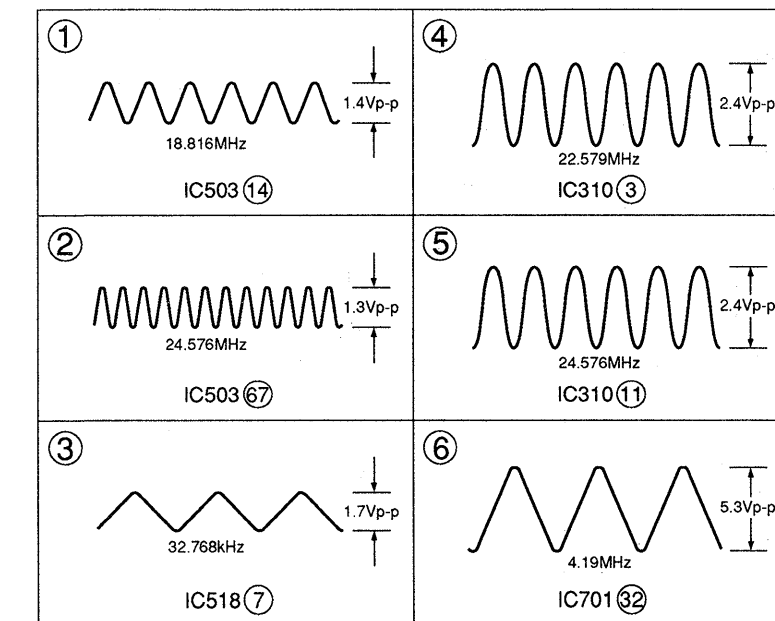
Note:  
 ○ : parts extracted from the component side.  
 ● : Through hole.  
 - : indicates side identified with part number.  
 ▨ : Pattern on the side which is seen.  
 ▩ : Pattern on the rear side.



4-10. SCHEMATIC DIAGRAM — DIGITAL SECTION — • Refer to page 66 for IC Block Diagrams.



• Waveforms



Note:  
 • All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF :  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics and tantalums.  
 • All resistors are in  $\Omega$  and 1/4 W or less unless otherwise specified.  
 • % : indicates tolerance.

Note : The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

- $\square$  : fusible resistor.
- $\square+$  : B+ Line.
- $\square-$  : B- Line.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark : PB
- ( ) : REC
- \* : impossible measurement point.
- Voltage are taken with a VOM (Input Impedance 10 M $\Omega$ ). Voltage variations may be noted due to normal production tolerance.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerance.
- Circled numbers refer to waveforms.
- Signal path:  
 □ : PB  
 ○ : VIO  
 △ : REC

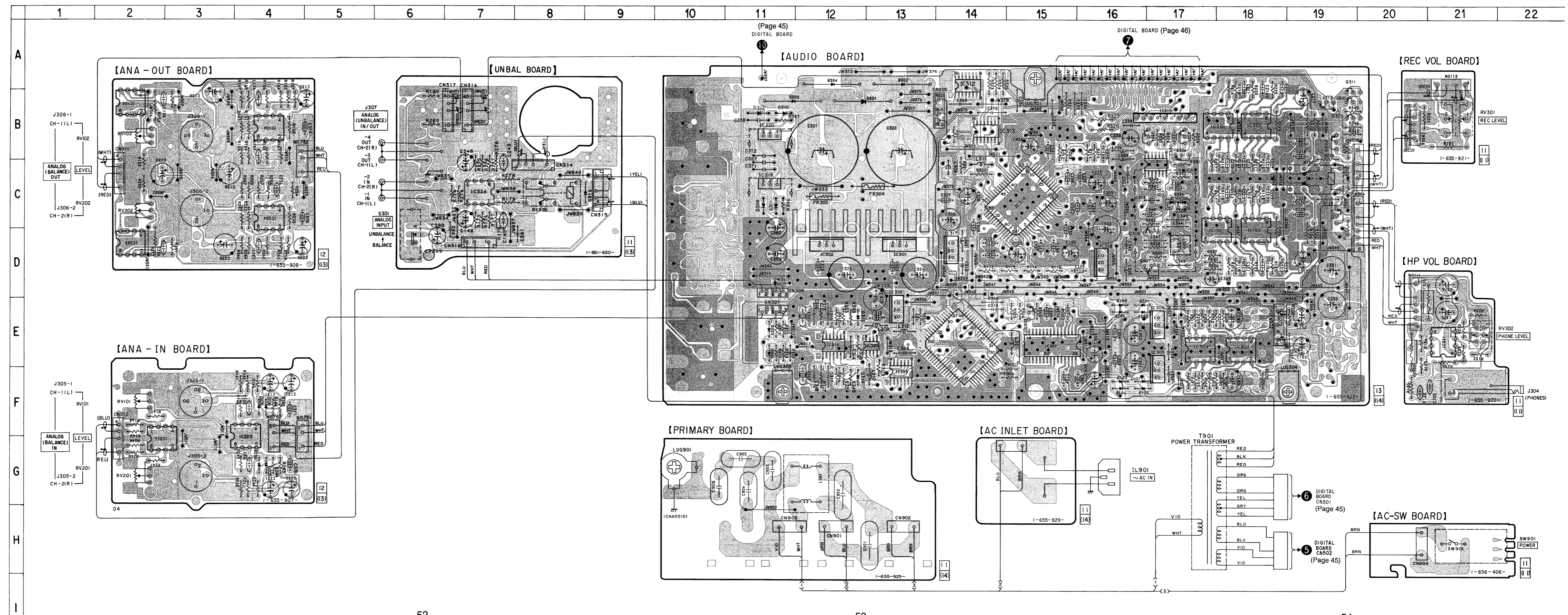


4-11. PRINTED WIRING BOARDS — AUDIO SECTION —

• Semiconductor Location

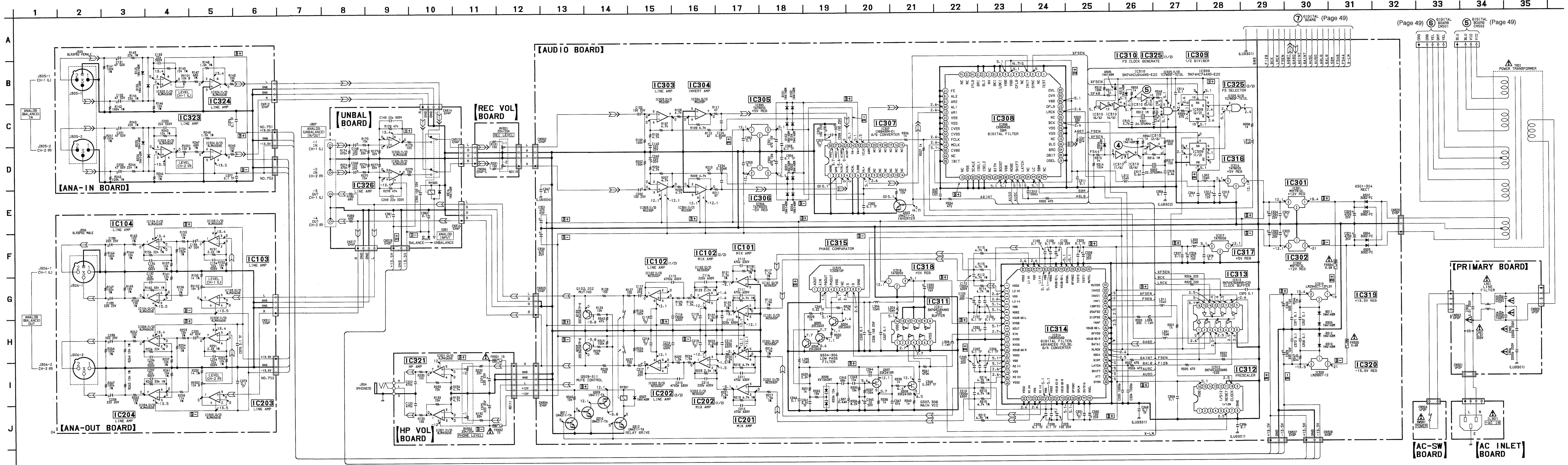
Ref. No.	Location	Ref. No.	Location
D101	F-16	IC302	D-12
D102	F-16	IC303	E-18
D103	F-16	IC304	E-17
D104	F-16	IC305	E-17
D105	F-4	IC306	E-17
D106	F-4	IC307	E-15
D201	E-16	IC308	E-14
D202	E-16	IC309	F-13
D203	E-16	IC310	E-12
D204	E-16	IC311	C-17
D205	G-4	IC312	A-14
D206	G-4	IC313	B-14
D301	B-12	IC314	C-15
D302	A-13	IC315	B-17
D303	B-11	IC316	E-13
D304	A-12	IC317	D-14
D305	E-11	IC318	D-16
D306	E-11	IC319	C-11
D307	C-19	IC320	B-11
D308	C-17	IC321	E-21
D309	C-11	IC323	F-4
D310	B-11	IC324	G-2
D311	C-11	IC325	E-13
D312	B-11	IC326	C-7
D313	E-12		
D314	F-12	Q102	C-19
D316	C-8	Q202	B-19
		Q303	E-15
		Q304	B-16
		Q305	B-17
		Q306	B-17
		Q307	D-16
		Q308	D-16
		Q309	B-19
		Q310	B-19
		Q311	A-19
		Q312	B-19

Note :  
 ○ : parts extracted from the component side.  
 ● : Through hole.  
 ▨ : Pattern on the side which is seen.  
 ▩ : Pattern on the rear side.





4-12. SCHEMATIC DIAGRAM — AUDIO SECTION — • Refer to page 50 for Waveforms and Note. • Refer to page 66 for IC Block Diagrams.

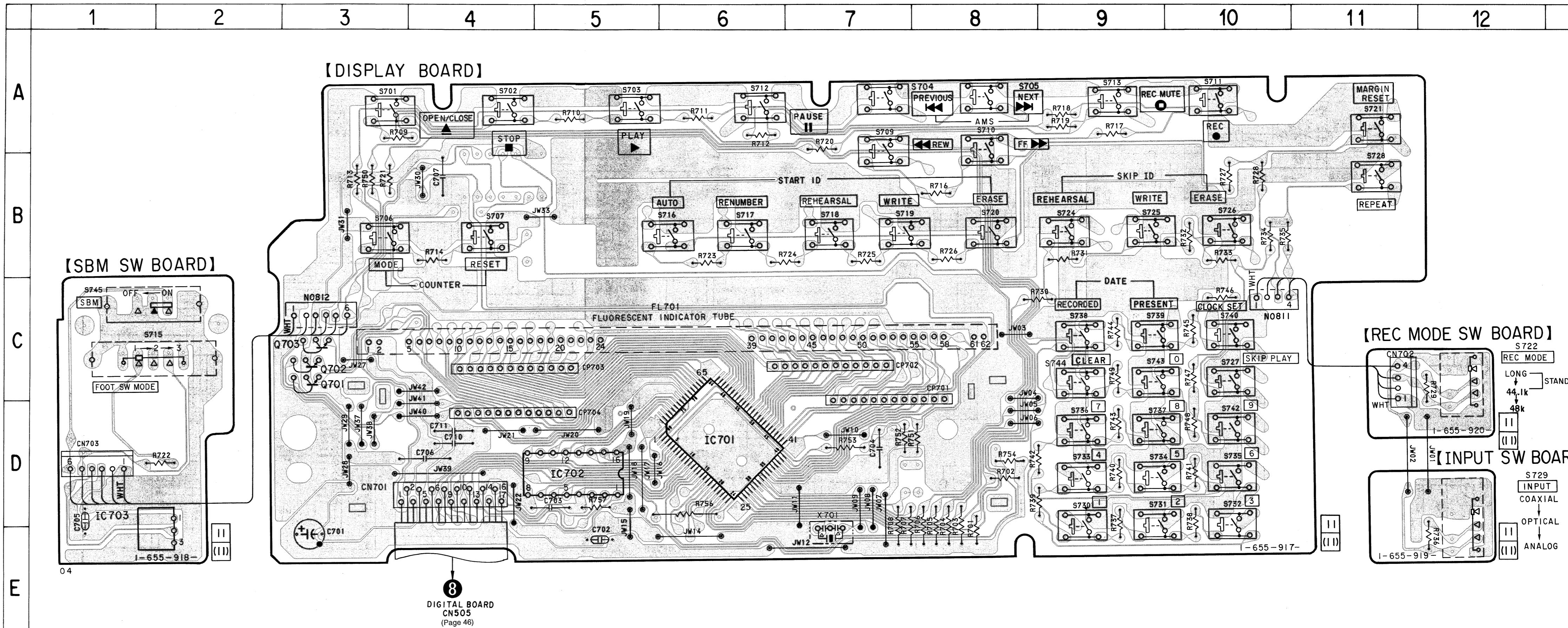


4-13. PRINTED WIRING BOARDS — PANEL SECTION —

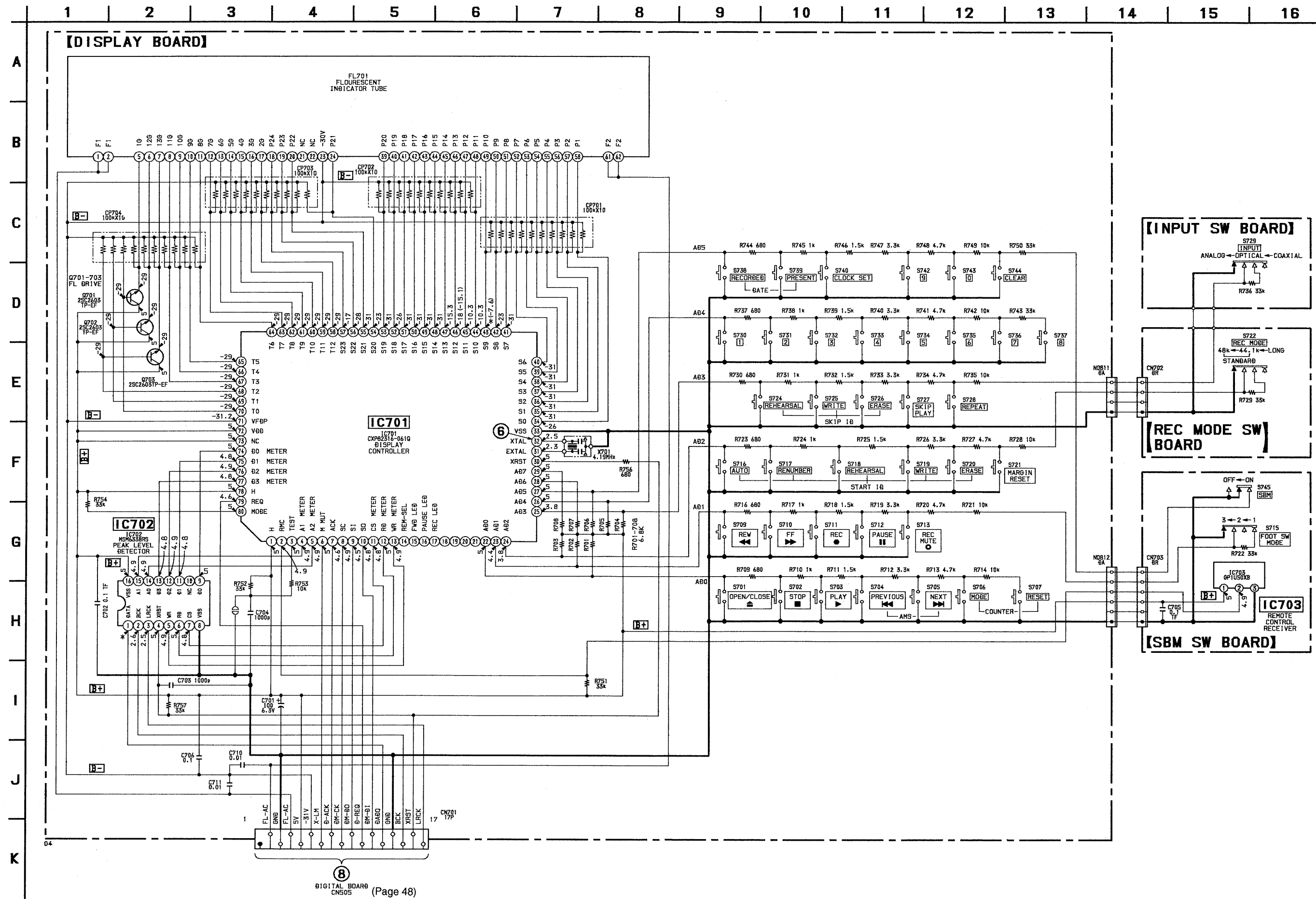
• Semiconductor Location

Ref. No.	Location
IC701	D-6
IC702	D-5
IC703	D-1
Q701	C-3
Q702	C-3
Q703	C-3

Note :  
 • ○ : parts extracted from the component side.  
 • □ : Pattern of the side which is seen.





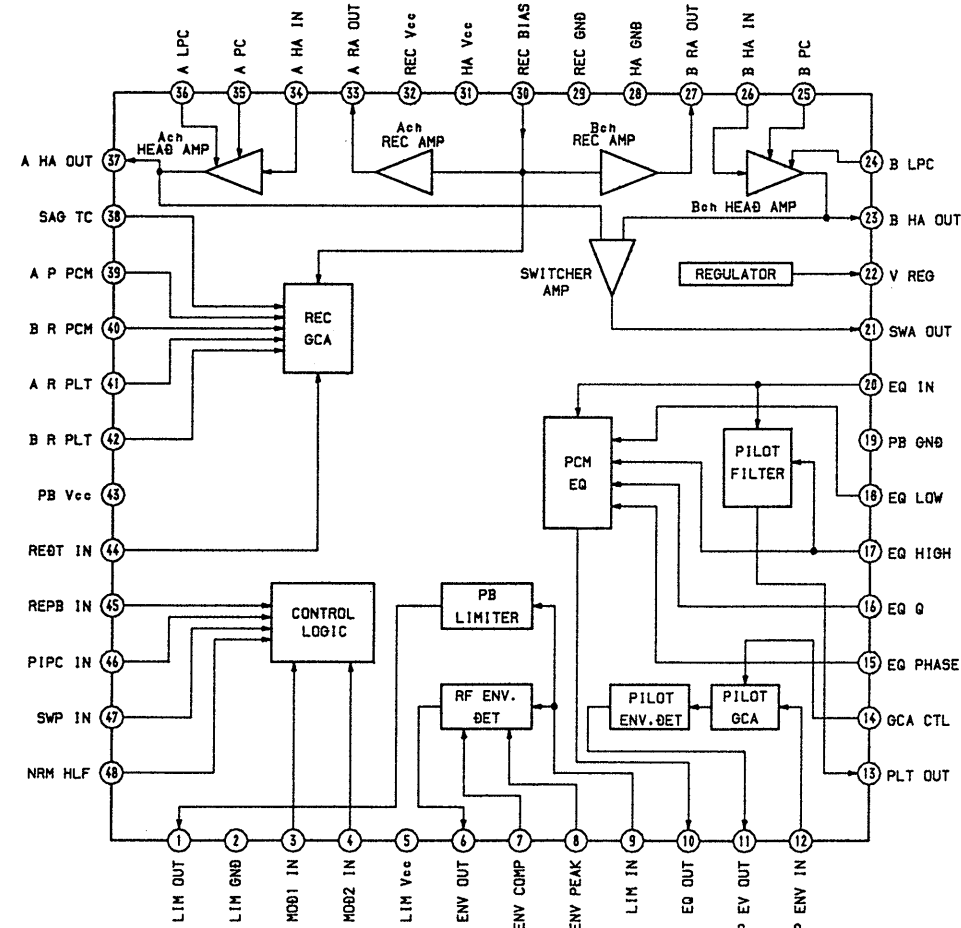


**Note :**

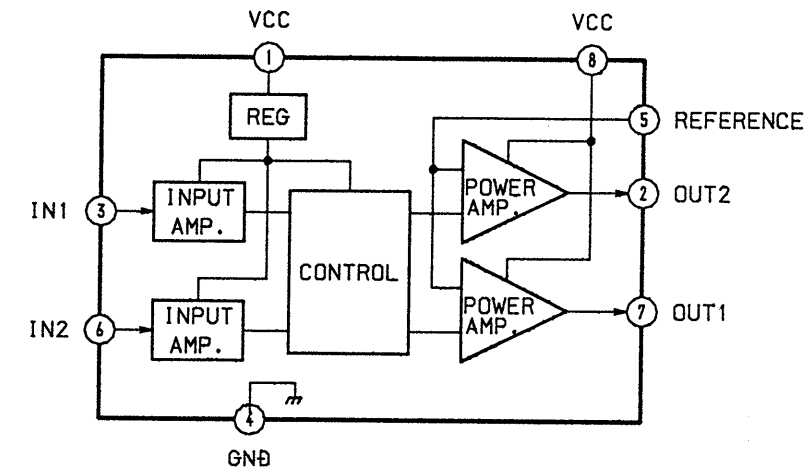
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF} = \mu\text{F} 50 \text{ WV}$  or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4 \text{ W}$  or less unless otherwise specified.
- $\Delta$  : internal component.
- $\text{B}+$  : B+ Line.
- $\text{B}-$  : B- Line.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : PB
- ( ) : REC
- \* : impossible measurement point.
- Voltage are taken with a VOM (Input Impedance  $10 \text{ M}\Omega$ ). Voltage variations may be noted due to normal production tolerance.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerance.
- Circled numbers refer to waveforms.



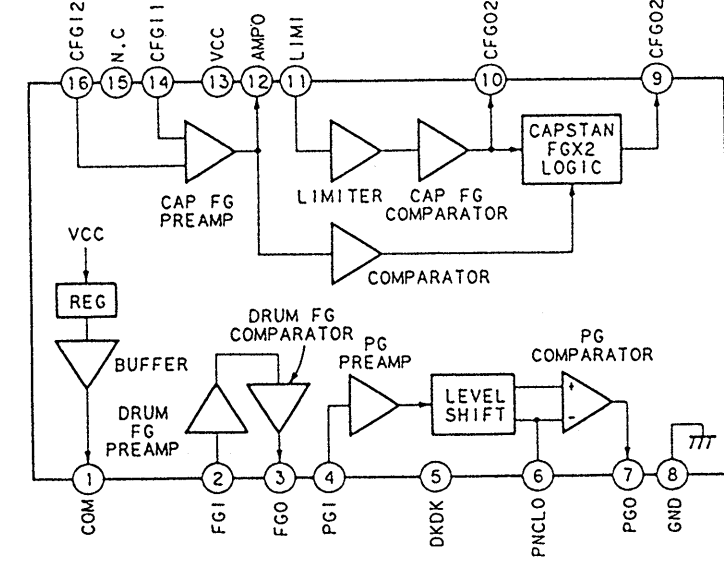
IC1 CXA1364R (RF AMP board)



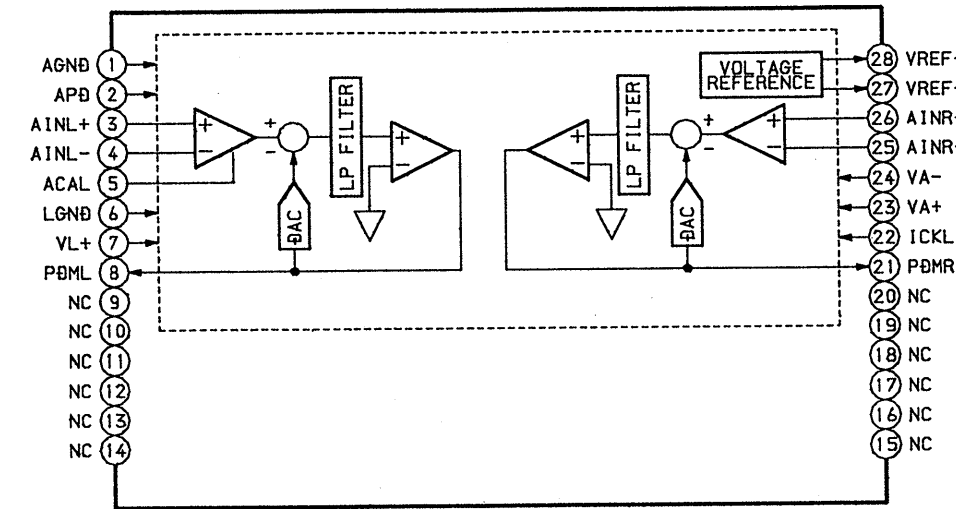
IC2, 523 M54641L



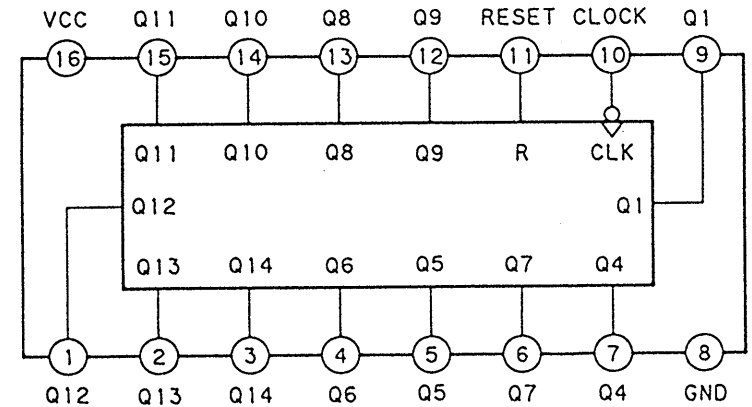
IC3 CX20115A



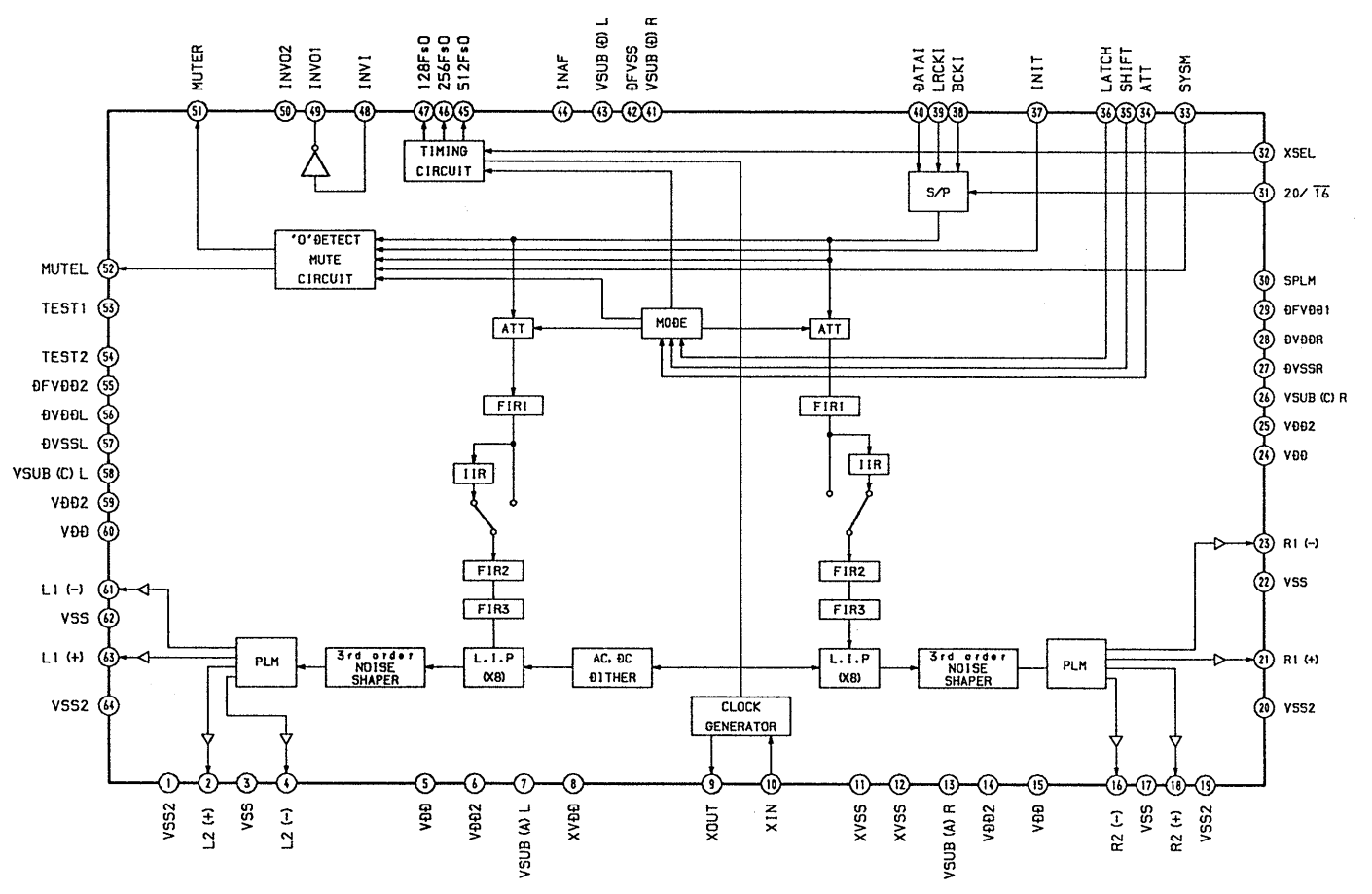
IC307 CXD8493M-E1



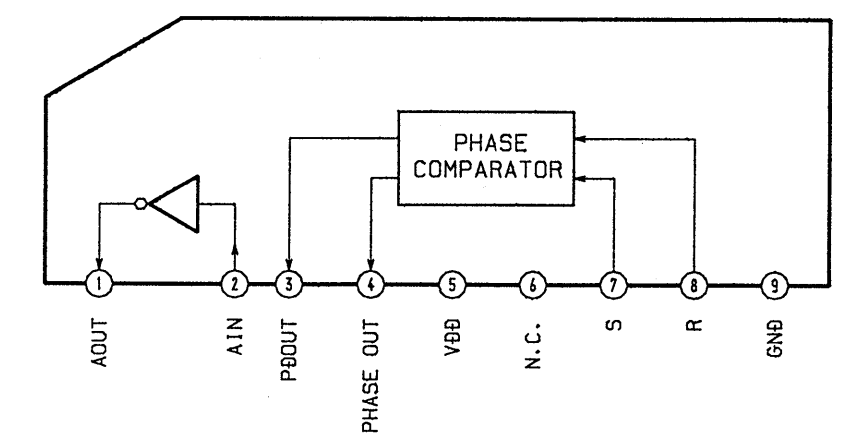
IC312 SN74HC4020ANS-E20



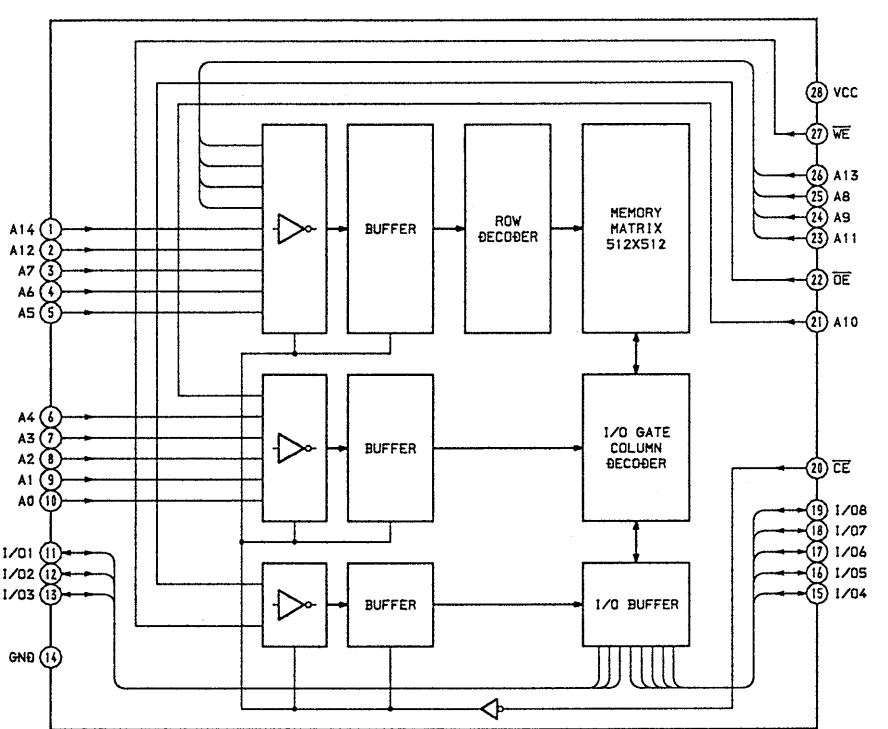
IC314 CXD8505AQ



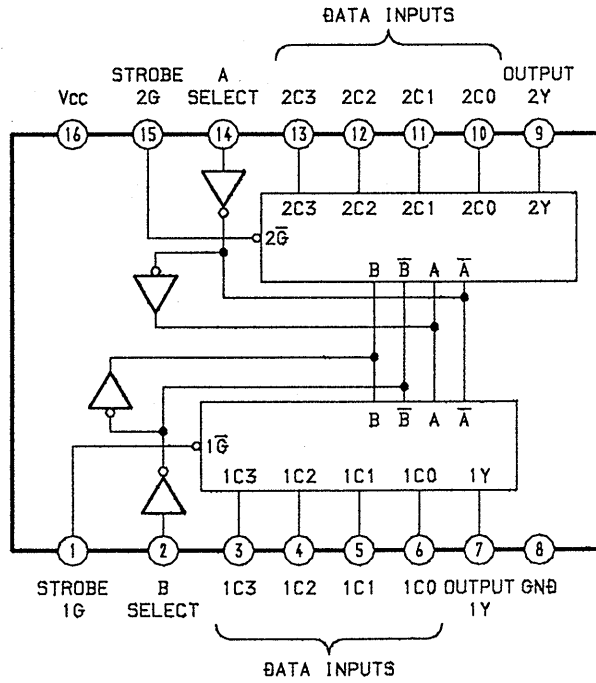
IC315 TC5081AP



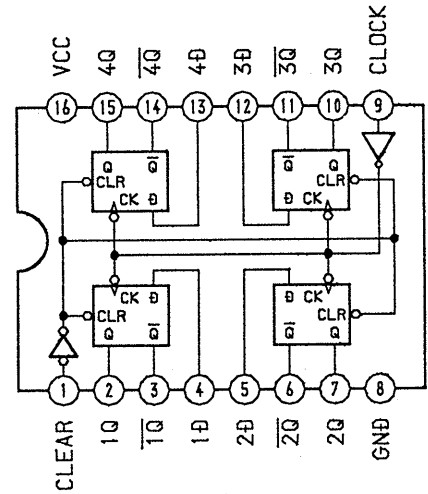
IC504 CXK58257AM-10LL



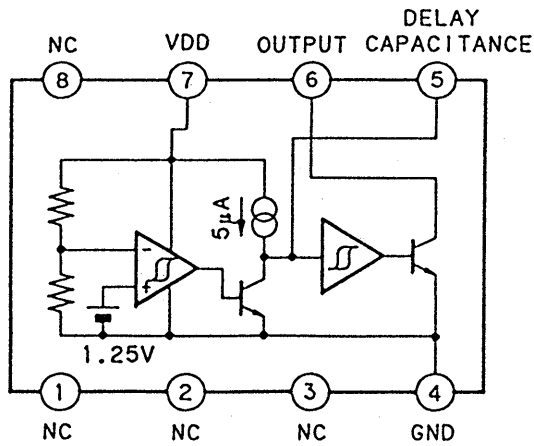
IC511 SN74HC153ANS



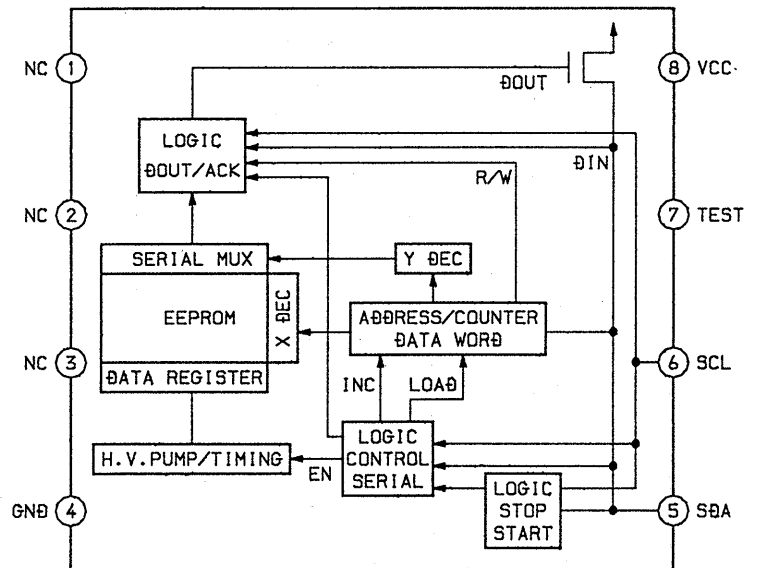
IC512 SN74HC175ANS



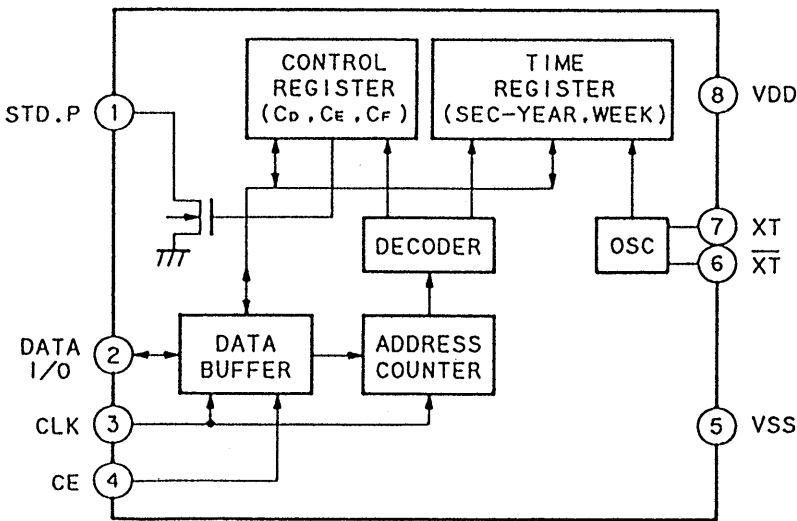
IC516 M51953BFP



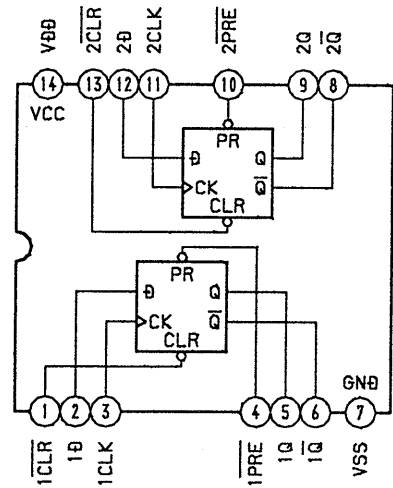
IC517 AT24C01A-10SC



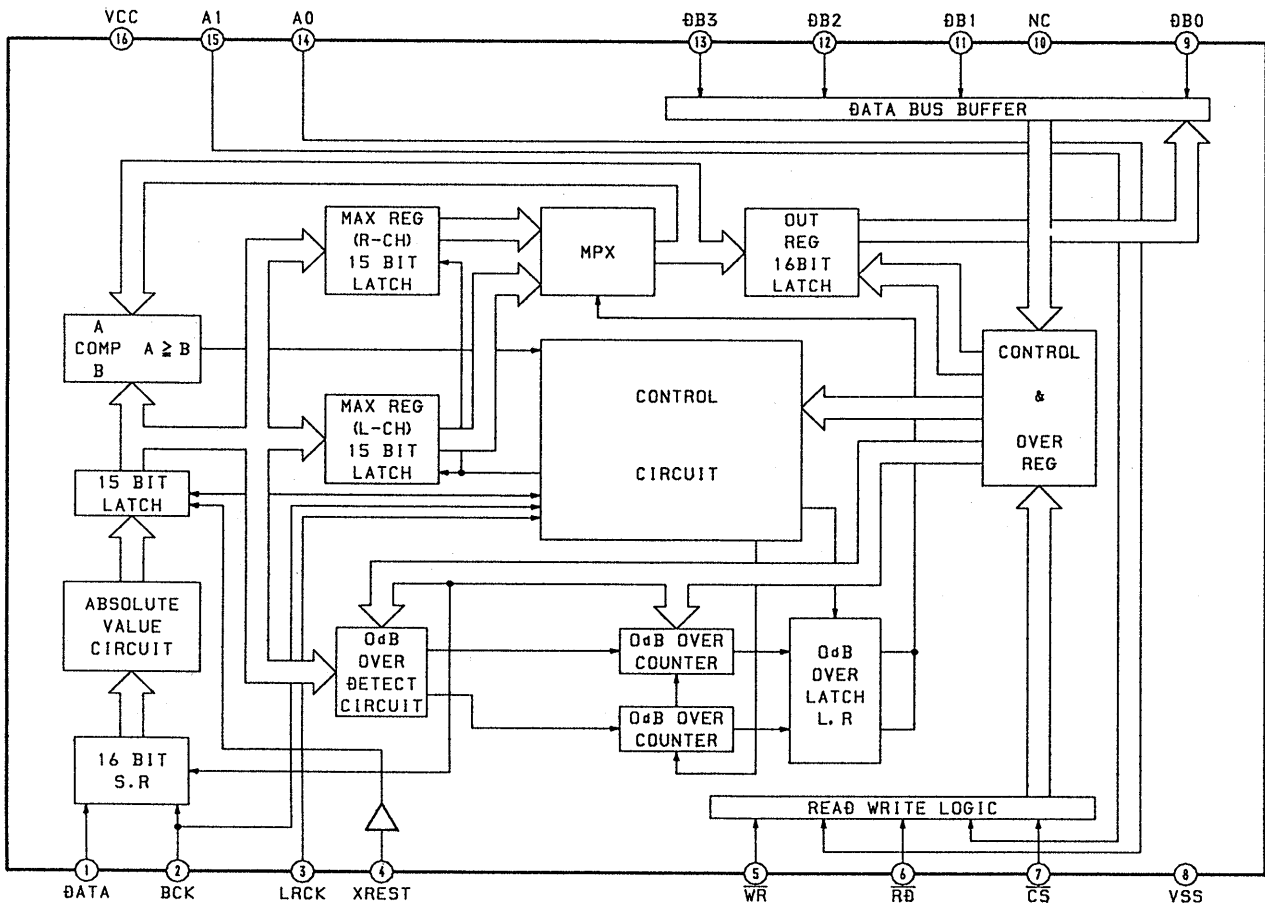
**IC518 MSM6782-01MS**



**IC519 SN74HC74ANS**



**IC702 MSM6338RS**



## SECTION 5 EXPLODED VIEWS

### NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

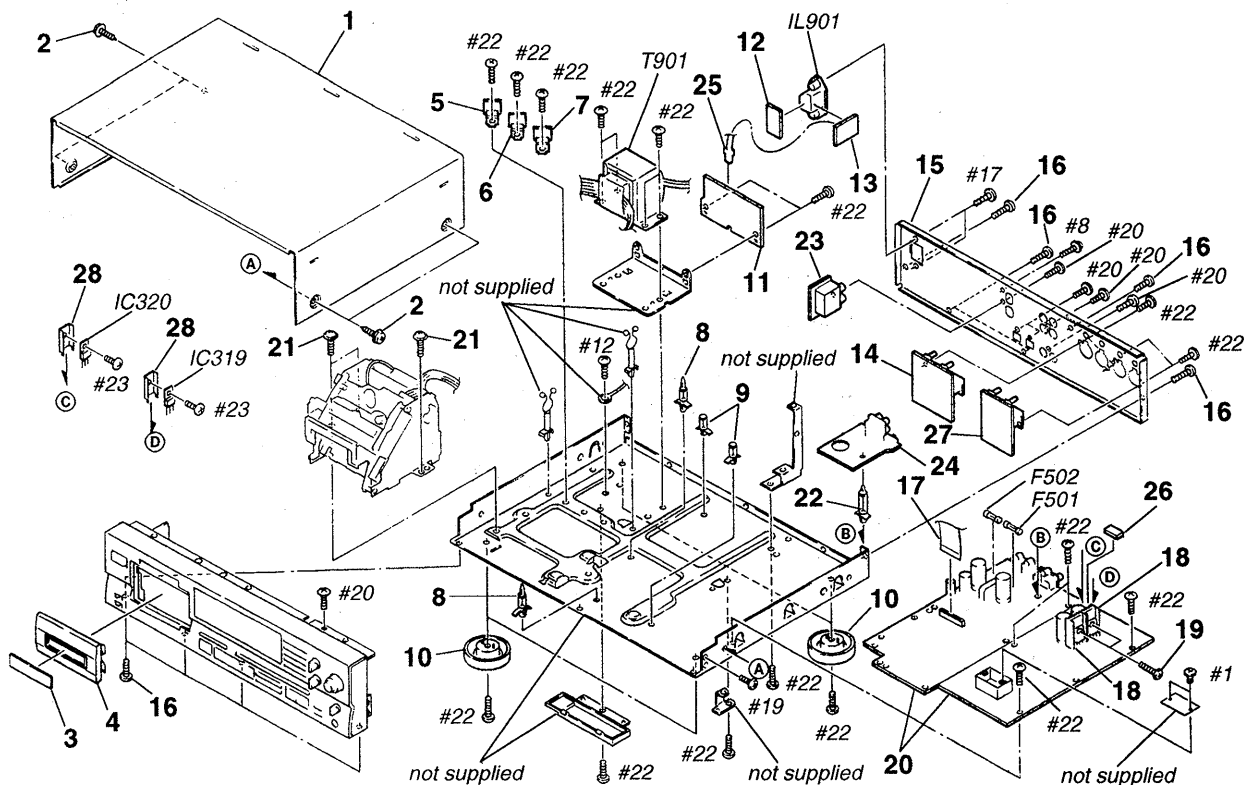
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts

Example :  
 KNOB, BALANCE (WHITE) ... (RED)  
↑ Parts Color ↑ Cabinet's Color

- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

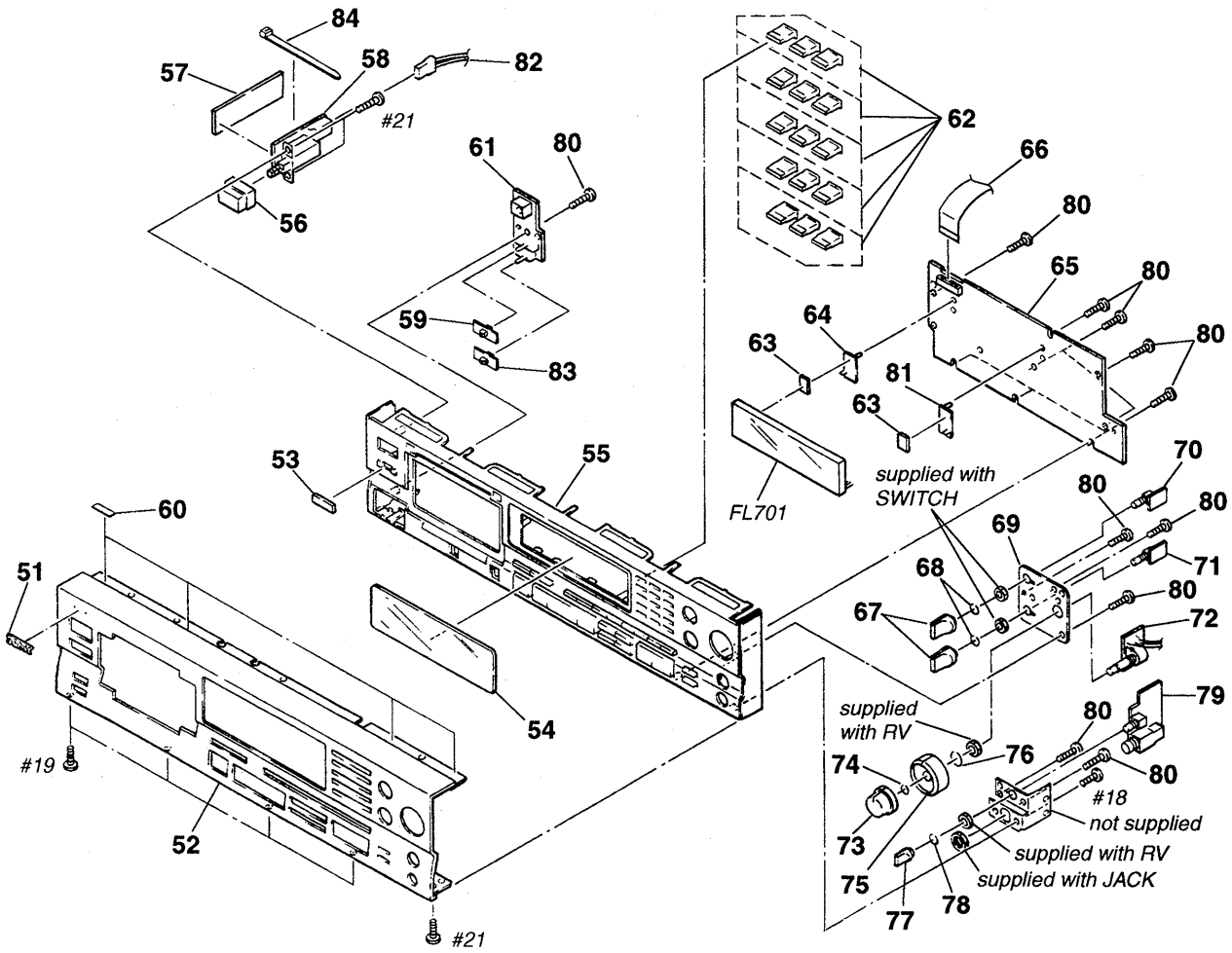
The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

### 5-1. CHASSIS SECTION



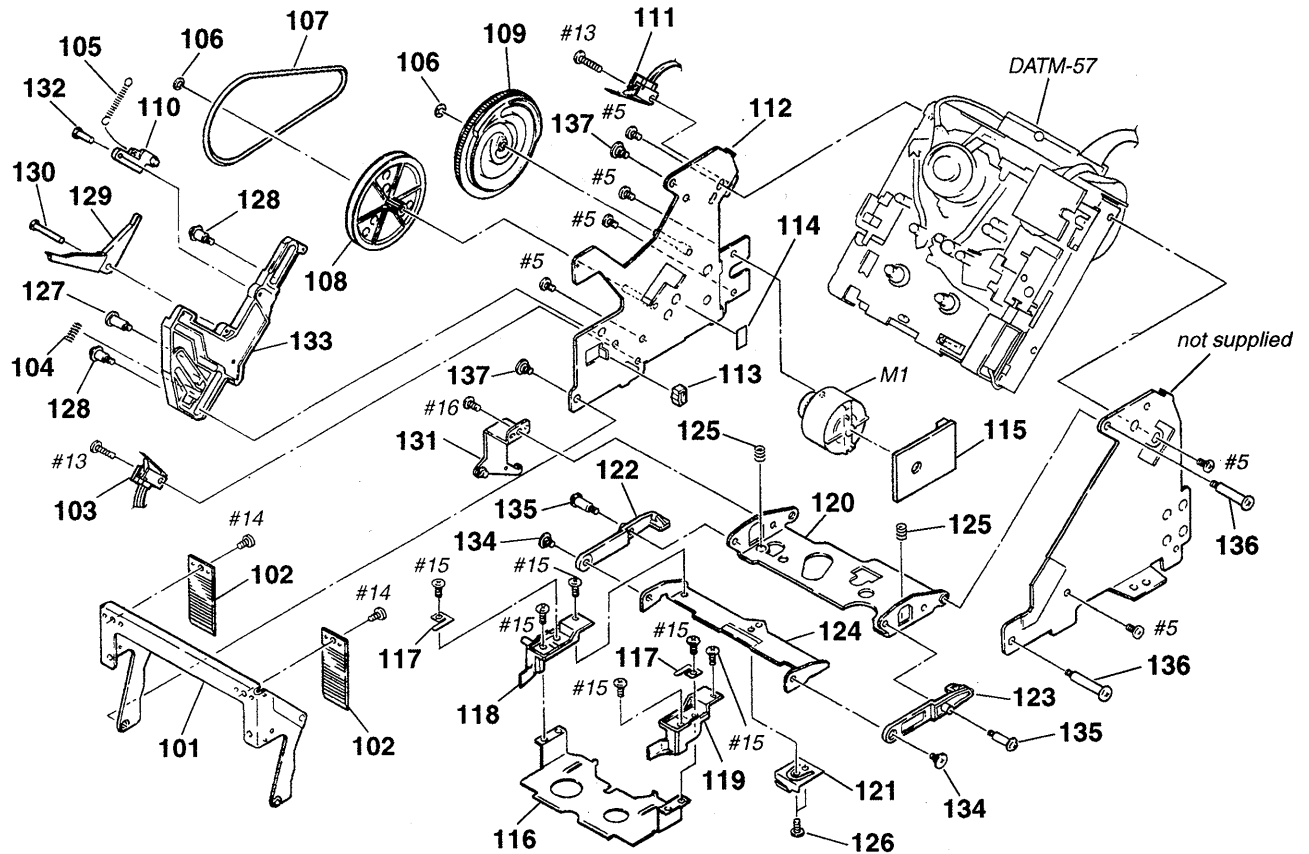
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-350-407-41	CASE		19	2-259-121-01	SCREW, TR	
2	3-704-366-21	SCREW (CASE) (M3X10)		* 20	A-2007-595-A	MAIN BOARD, COMPLETE (INCLUDING AUDIO AND DIGITAL BOARD)	
3	3-374-275-11	WINDOW (670)		21	4-886-821-11	SCREW, S TIGHT, +PTTW 3X6	
4	3-374-279-01	HOLDER (670)		22	4-924-098-81	HOLDER, PC BOARD	
* 5	1-655-928-11	2V REG BOARD		* 23	1-655-930-11	FOOT SW BOARD	
* 6	1-655-927-11	6V REG BOARD		* 24	1-661-650-11	UNBAL BOARD	
* 7	1-655-926-11	5V REG BOARD		25	1-775-047-11	CORD (WITH CONNECTOR)	
8	4-924-098-01	HOLDER, PC BOARD		* 26	4-911-041-01	CUSHION, RUBBER	
* 9	3-670-570-00	SPACER, SUPPORT		* 27	1-655-907-12	ANA-IN BOARD	
10	4-956-885-01	FOOT (F58175S2W)		* 28	3-309-144-21	HEAT SINK	
* 11	1-655-925-11	PRIMARY BOARD		$\Delta$ F501	1-532-286-00	FUSE (T2.5A/250V)	
* 12	1-655-931-11	COVER (A) BOARD		$\Delta$ F502	1-532-286-00	FUSE (T2.5A/250V)	
* 13	1-655-929-11	AC INLET BOARD		IC319	8-759-390-38	IC LM2940CT-12FL91	
* 14	A-2007-599-A	ANA-OUT BOARD, COMPLETE		IC320	8-759-333-80	IC LM2990T-12	
* 15	3-937-917-01	PANEL, BACK		$\Delta$ IL901	1-251-234-11	INLET, AC (~ AC IN)	
16	3-703-685-21	SCREW (+BV 3X8)		$\Delta$ T901	1-427-913-11	TRANSFORMER, POWER	
17	1-769-542-11	WIRE (FLAT TYPE) (31 CORE)					
* 18	4-363-146-71	HEAT SINK, V.OUT					

## 5-2. FRONT PANEL SECTION



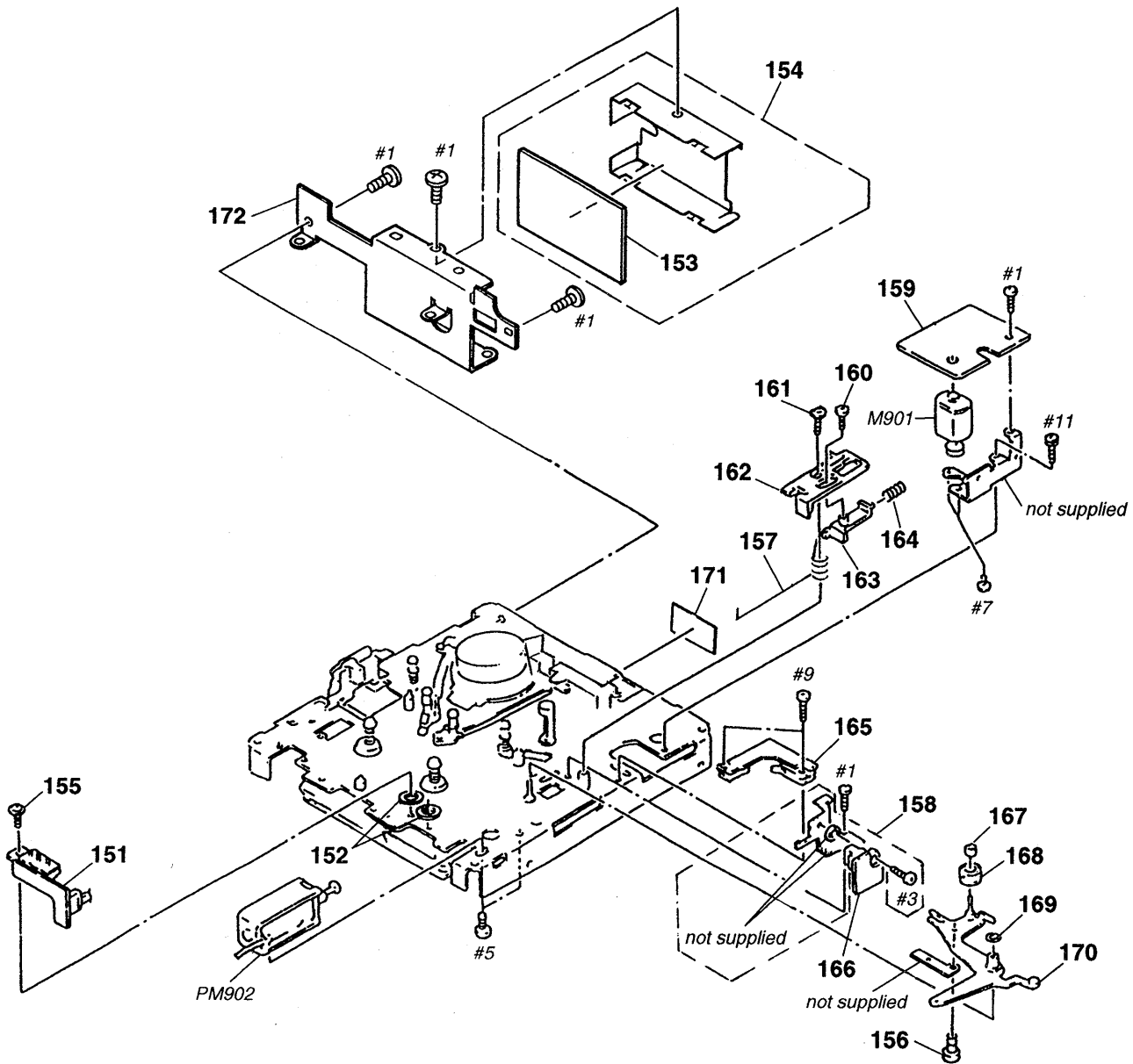
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-942-568-01	EMBLEM (NO.5), SONY		* 69	3-920-796-01	BRACKET (REC VOL)	
52	3-368-713-81	PANEL (FRONT)		* 70	1-655-919-11	INPUT SW BOARD	
53	3-364-919-01	FILTER		* 71	1-655-920-11	REC MODE SW BOARD	
54	3-368-698-01	WINDOW (FL TUBE)		* 72	1-655-921-11	REC VOL BOARD	
55	X-3369-702-1	ESCUTCHEON (PANEL) ASSY		73	3-382-635-01	KNOB (REC-R)	
56	4-917-460-72	KNOB, POWER		74	3-356-957-01	SPRING	
* 57	1-656-407-11	COVER (B) BOARD		75	3-382-634-01	KNOB (REC-L)	
* 58	1-656-406-11	AC-SW BOARD		76	3-382-627-01	SPRING, RING	
59	3-382-651-01	KNOB		77	3-354-931-01	KNOB (DIA.10)	
60	3-831-441-XX	CUSHION		78	3-354-981-01	SPRING (SUS), RING	
* 61	1-655-918-11	SBM SW BOARD		* 79	1-655-922-11	HP VOL BOARD	
62	3-364-927-01	BUTTON (10 KEY)		80	4-951-620-01	SCREW (2.6X8), +BVTP	
63	2-389-320-01	CUSHION		* 81	4-922-524-01	HOLDER (LEFT)	
* 64	4-922-523-01	HOLDER (RIGHT)		82	1-775-048-11	CORD (WITH CONNECTOR)	
* 65	A-2007-340-A	DISPLAY BOARD, COMPLETE		83	3-382-651-11	KNOB	
66	1-769-541-11	WIRE (FLAT TYPE) (17 CORE)		84	3-701-748-00	CLAMP	
67	4-908-097-21	KNOB		FL701	1-517-382-11	INDICATOR TUBE, FLUORESCENT	
68	3-362-235-01	SPRING (REC LEVEL), RING					

### 5-3. CASSETTE COMPARTMENT SECTION



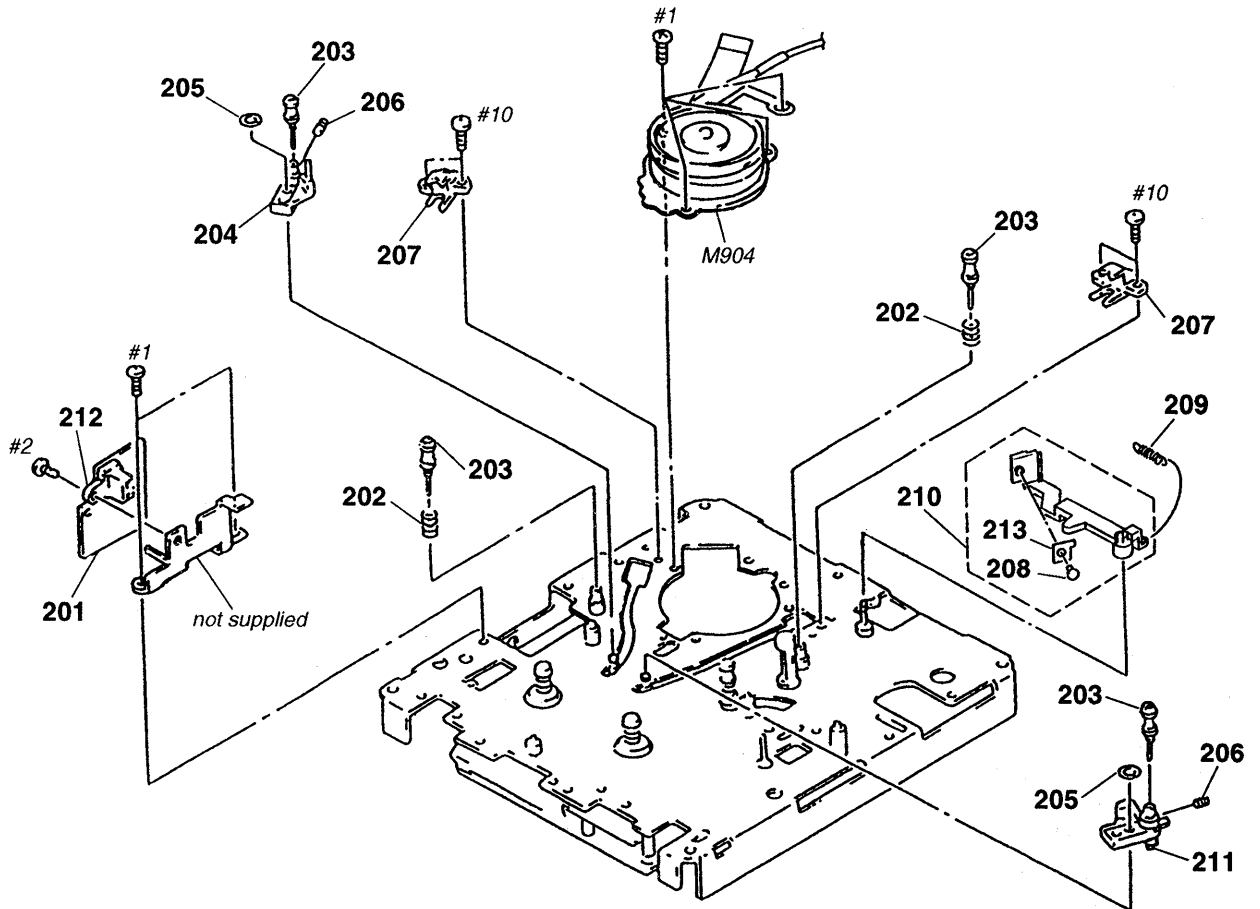
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	4-931-474-01	HOLDER (WINDOW)		* 120	3-369-235-01	PLATE, FULCRUM	
102	4-931-469-01	PLATE, ORNAMENTAL		121	4-931-461-01	SPRING (CENTER), LEAF	
* 103	1-655-915-11	SW (OUT) BOARD		122	4-931-481-01	ARM (LIMITER L)	
104	3-537-215-00	SPRING, COMPRESSION		123	4-931-473-01	ARM (LIMITER R)	
105	3-549-810-00	SPRING, TENSION		* 124	4-931-485-01	HOLDER (C-INNER)	
106	3-307-948-21	WASHER, NYLON		125	3-537-214-00	SPRING, COMPRESSION	
107	4-931-470-01	BELT (DRIVING)		126	3-352-517-01	SCREW (M2X2.5)	
108	4-931-459-01	PULLEY		127	4-931-471-01	SCREW (STEP)	
109	4-931-477-01	GEAR (CAM)		128	4-932-336-01	SCREW (STEP)	
110	4-931-460-01	ARM (SLIDER)		129	4-931-490-01	LEVER (LINK)	
* 111	1-655-914-11	SW (IN) BOARD		130	4-931-468-01	SHAFT (PRESS FITTING)	
* 112	X-4919-023-1	PLATE ASSY, SIDE		* 131	X-4919-020-1	JOINT ASSY	
113	4-887-175-00	RUBBER, STOPPER		132	4-936-626-01	SHAFT (ARM PRESS FITTING)	
114	3-846-312-01	SPACER		133	4-931-492-01	SLIDER (CAM)	
* 115	1-655-913-11	MOTOR BOARD		134	3-312-161-00	SCREW, STEP, PRECISION	
116	4-931-476-01	HOLDER (LOWER)		135	4-918-991-01	SCREW, STEP	
117	3-366-308-01	SPRING (SIDE), PLATE		136	4-931-463-01	SCREW (STEP)	
118	4-931-484-01	HOLDER (C-LEFT)		137	2-236-956-00	SCREW, STEP	
119	4-931-486-01	HOLDER (C-RIGHT)		M1	A-2003-448-A	MOTOR ASSY (CASSETTE COMPARTMENT)	

5-4. MECHANISM DECK SECTION (1)  
(DATM-57)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 151	1-654-393-11	REC-EN BOARD		163	3-362-149-01	SLIDER (LIMITER)	
152	3-344-781-01	WASHER, POLYETHYLENE		164	3-564-035-00	SPRING, COMPRESSION	
* 153	A-2006-455-A	RF AMP BOARD, COMPLETE		* 165	1-655-285-11	LOAD-SW BOARD	
* 154	A-2001-587-A	RF COMPLETE ASSY		* 166	1-654-391-11	T-END BOARD	
155	3-321-041-01	SCREW (M1.7X3.5), TAPPING		167	3-337-626-01	CAP, PINCH ROLLER	
156	3-704-244-01	SCREW (P1.7X1.6)		168	X-3337-610-1	PINCH ROLLER ASSY	
157	3-931-541-01	SPRING (PINCH)		169	3-701-436-11	WASHER, STOPPER	
158	A-2004-299-A	DETECTION (R) ASSY, E		170	X-3362-021-1	LEVER (PINCH ROLLER) ASSY	
* 159	1-655-286-11	LOADING-MOT BOARD		171	3-366-886-01	SHEET (RF BRACKET)	
160	2-623-756-01	SCREW (B1.7X3), TAPPING		* 172	3-929-800-01	BRACKET (RF)	
161	3-703-502-11	SCREW		M901	A-2003-660-A	MOTOR ASSY (LOADING)	
162	3-362-148-01	SLIDER (PINCH)		PM902	1-454-522-11	SOLENOID, PLUNGER	

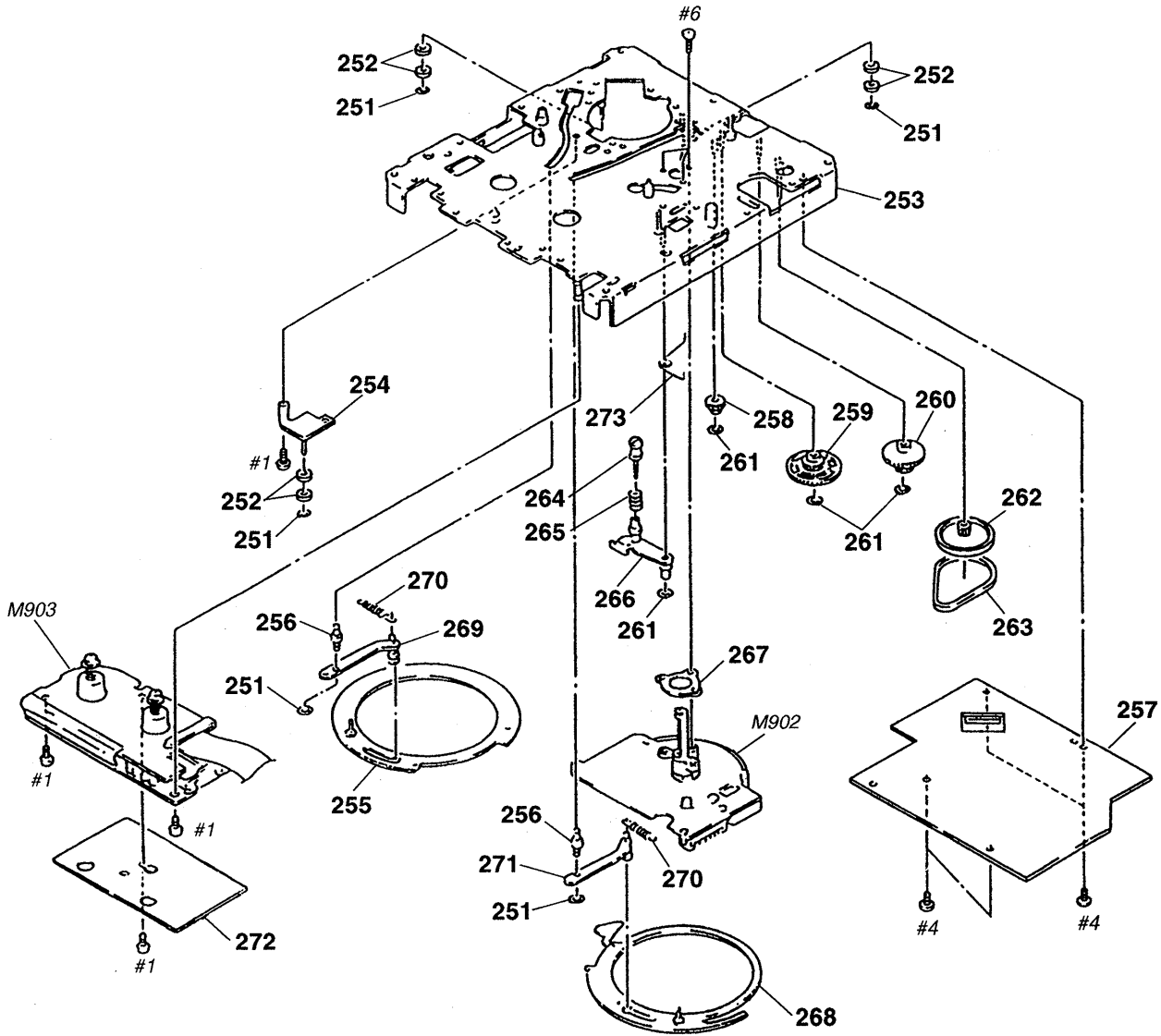
**5-5. MECHANISM DECK SECTION (2)  
(DATM-57)**



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
* 201	1-654-392-11	S-END BOARD		208	3-368-414-01	SHAFT (CAM SLIDER GUIDE)	
202	3-573-470-00	SPRING, COMPRESSION		209	3-929-804-01	SPRING, TENSION	
203	X-3371-518-1	ROLLER GUIDE ASSY		210	X-3371-230-1	LEVER (CLEANER) ASSY	
204	X-3362-028-1	SLANT BLOCK (L2) ASSY		211	X-3362-029-1	SLANT BLOCK (R2) ASSY	
205	3-341-752-11	WASHER, POLYETHYLENE		212	A-2004-550-A	DETECTION (L) ASSY, E	
206	3-362-152-01	SCREW (RETURN GUIDE BOSS)		213	3-927-040-01	SHEET (CLEANER)	
207	3-912-011-01	CATCHER		M904	8-848-626-11	DRUM ASSY DOU-03D-R	



5-6. MECHANISM DECK SECTION (3)  
(DATM-57)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
251	3-559-408-11	WASHER, POLYETHYLENE, DIA.1.2		264	X-3371-518-1	ROLLER GUIDE ASSY	
252	3-337-622-01	ROLLER, RING		265	3-573-470-00	SPRING, COMPRESSION	
* 253	X-3362-030-7	CHASSIS ASSY		* 266	X-3362-020-1	LEVER (F GUIDE) ASSY	
254	X-3370-186-1	ARM (RING ROLLER) ASSY		* 267	3-362-156-01	BRACKET (CAPSTAN)	
255	X-3369-705-1	RING (L) ASSY, LOADING		268	X-3362-204-1	GEAR (LOAD) ASSY	
256	3-362-151-01	BOSS (GUIDE)		* 269	X-3362-024-1	LEVER (LOADING L) ASSY	
257	A-2007-321-A	DRUM DRIVE BOARD, COMPLETE		270	3-337-653-01	SPRING, TENSION	
258	3-372-619-01	GEAR		* 271	X-3362-025-1	LEVER (LOADING R) ASSY	
259	3-345-181-01	GEAR (LOADING A)		* 272	3-929-801-01	BRACKET (MD PC BOARD)	
260	3-362-155-01	GEAR (A)		273	3-375-034-01	SPRING (F GUIDE)	
261	3-701-436-11	WASHER, STOPPER		M902	8-835-306-01	MOTOR, DC U-17A (CAPSTAN)	
262	4-932-338-01	PULLEY (A)		M903	8-835-205-01	MOTOR, DC U-2A (REEL) (INCLUDING PM901)	
263	4-913-325-01	BELT, TAKE-UP					

## SECTION 6 ELECTRICAL PARTS LIST

2V REG
5V REG
6V REG
AC INLET
AC-SW
ANA-IN

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS  
All resistors are in ohms.  
METAL: Metal-film resistor.  
METAL OXIDE: Metal oxide-film resistor.  
F: nonflammable

- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS  
In each case, u :  $\mu$ , for example:  
uA. :  $\mu$ A. uPA. :  $\mu$ PA.  
uPB. :  $\mu$ PB. uPC. :  $\mu$ PC. uPD. :  $\mu$ PD.
- CAPACITORS  
uF :  $\mu$ F
- COILS  
uH :  $\mu$ H

The components identified by mark  $\Delta$  or dotted line with mark.  $\Delta$  are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description		Remark		Ref. No.	Part No.	Description		Remark
*	1-655-928-11	2V REG BOARD ***** < CAPACITOR >				*	1-656-406-11	AC-SW BOARD ***** < CONNECTOR >		
C911	1-162-294-31	CERAMIC	0.001uF	10%	50V	CN904	1-770-550-11	PIN, CONNECTOR (PC BOARD) 2P < SWITCH >		
Q901	8-729-209-15	TRANSISTOR 2SD2012 *****				$\Delta$ SW901	1-572-267-51	SWITCH, PUSH (AC POWER) (1 KEY) (POWER) *****		
*	1-655-926-11	5V REG BOARD ***** < CAPACITOR >				*	1-655-907-12	ANA-IN BOARD ***** < CAPACITOR >		
C907	1-164-159-11	CERAMIC	0.1uF		50V	C131	1-126-051-11	ELECT	47uF	20% 50V
C908	1-164-159-11	CERAMIC	0.1uF		50V	C132	1-126-051-11	ELECT	47uF	20% 50V
		< IC >				C133	1-107-597-11	CERAMIC	22PF	10% 500V
IC901	8-759-144-82	IC uPC2405HF *****				C231	1-126-051-11	ELECT	47uF	20% 50V
*	1-655-927-11	6V REG BOARD ***** < CAPACITOR >				C232	1-126-051-11	ELECT	47uF	20% 50V
C909	1-164-159-11	CERAMIC	0.1uF		50V	C233	1-107-597-11	CERAMIC	22PF	10% 500V
C910	1-164-159-11	CERAMIC	0.1uF		50V	C376	1-136-165-00	FILM	0.1uF	5% 50V
		< IC >				C377	1-136-165-00	FILM	0.1uF	5% 50V
IC902	8-759-390-48	IC uPC2406HF *****						< CONNECTOR >		
*	1-655-929-11	AC INLET BOARD ***** < AC INLET >				CN312	1-691-766-21	PLUG (MICRO CONNECTOR) 4P < DIODE >		
$\Delta$ IL901	1-251-234-11	INLET, AC (~ AC IN) *****				D105	8-719-987-63	DIODE 1N4148M		
						D106	8-719-987-63	DIODE 1N4148M		
						D205	8-719-987-63	DIODE 1N4148M		
						D206	8-719-987-63	DIODE 1N4148M < IC >		
						IC323	8-759-981-96	IC RC4560D		
						IC324	8-759-981-96	IC RC4560D < JACK >		
						J305	1-750-786-11	CONNECTOR (XLR TYPE) 3P (ANALOG(BALANCE) IN)		

**ANA-IN**

**ANA-OUT**

Ref. No.	Part No.	Description	Remark
< RESISTOR >			
R141	1-215-469-00	METAL 100K 1% 1/4W	
R142	1-215-469-00	METAL 100K 1% 1/4W	
R143	1-215-453-00	METAL 22K 1% 1/4W	
R144	1-215-453-00	METAL 22K 1% 1/4W	
R145	1-215-445-00	METAL 10K 1% 1/4W	
R146	1-215-445-00	METAL 10K 1% 1/4W	
R147	1-215-417-00	METAL 680 1% 1/4W	
R148	1-215-425-00	METAL 1.5K 1% 1/4W	
R149	1-215-397-00	METAL 100 1% 1/4W	
R241	1-215-469-00	METAL 100K 1% 1/4W	
R242	1-215-469-00	METAL 100K 1% 1/4W	
R243	1-215-453-00	METAL 22K 1% 1/4W	
R244	1-215-453-00	METAL 22K 1% 1/4W	
R245	1-215-445-00	METAL 10K 1% 1/4W	
R246	1-215-445-00	METAL 10K 1% 1/4W	
R247	1-215-417-00	METAL 680 1% 1/4W	
R248	1-215-425-00	METAL 1.5K 1% 1/4W	
R249	1-215-397-00	METAL 100 1% 1/4W	
< VARIABLE RESISTOR >			
RV101	1-223-877-11	RES, VAR, CARBON 10K (LEVEL CH-1(L) (ANALOG(BALANCE) IN))	
RV201	1-223-877-11	RES, VAR, CARBON 10K (LEVEL CH-2(R) (ANALOG(BALANCE) IN))	
*****			
* A-2007-599-A	ANA-OUT BOARD, COMPLETE *****		
< CAPACITOR >			
C134	1-107-597-11	CERAMIC 22PF 10% 500V	
C135	1-126-051-11	ELECT 47uF 20% 50V	
C136	1-107-597-11	CERAMIC 22PF 10% 500V	
C137	1-107-597-11	CERAMIC 22PF 10% 500V	
C138	1-126-024-11	ELECT 220uF 20% 25V	
C139	1-126-024-11	ELECT 220uF 20% 25V	
C234	1-107-597-11	CERAMIC 22PF 10% 500V	
C235	1-126-051-11	ELECT 47uF 20% 50V	
C236	1-107-597-11	CERAMIC 22PF 10% 500V	
C237	1-107-597-11	CERAMIC 22PF 10% 500V	
C238	1-126-024-11	ELECT 220uF 20% 25V	
C239	1-126-024-11	ELECT 220uF 20% 25V	
C378	1-136-165-00	FILM 0.1uF 5% 50V	
C379	1-136-165-00	FILM 0.1uF 5% 50V	
< CONNECTOR >			
CN311	1-691-766-41	PLUG (MICRO CONNECTOR) 4P	

Ref. No.	Part No.	Description	Remark
< IC >			
IC103	8-759-981-96	IC RC4560D	
IC104	8-759-981-96	IC RC4560D	
IC203	8-759-981-96	IC RC4560D	
IC204	8-759-981-96	IC RC4560D	
< JACK >			
J306	1-750-785-11	CONNECTOR (XLR TYPE) 3P (ANALOG(BALANCE) OUT)	
< RESISTOR >			
R150	1-215-421-00	METAL 1K 1% 1/4W	
R151	1-215-429-00	METAL 2.2K 1% 1/4W	
R152	1-215-445-00	METAL 10K 1% 1/4W	
R153	1-215-445-00	METAL 10K 1% 1/4W	
R154	1-215-473-00	METAL 150K 1% 1/4W	
R156	1-215-453-00	METAL 22K 1% 1/4W	
R157	1-215-445-00	METAL 10K 1% 1/4W	
R158	1-215-446-00	METAL 11K 1% 1/4W	
R160	1-215-457-00	METAL 33K 1% 1/4W	
R161	1-215-445-00	METAL 10K 1% 1/4W	
R162	1-215-401-11	METAL 150 1% 1/4W	
R163	1-215-401-11	METAL 150 1% 1/4W	
R164	1-215-445-00	METAL 10K 1% 1/4W	
R165	1-215-445-00	METAL 10K 1% 1/4W	
R166	1-215-469-00	METAL 100K 1% 1/4W	
R167	1-215-469-00	METAL 100K 1% 1/4W	
R250	1-215-421-00	METAL 1K 1% 1/4W	
R251	1-215-429-00	METAL 2.2K 1% 1/4W	
R252	1-215-445-00	METAL 10K 1% 1/4W	
R253	1-215-445-00	METAL 10K 1% 1/4W	
R254	1-215-473-00	METAL 150K 1% 1/4W	
R256	1-215-453-00	METAL 22K 1% 1/4W	
R257	1-215-445-00	METAL 10K 1% 1/4W	
R258	1-215-446-00	METAL 11K 1% 1/4W	
R260	1-215-457-00	METAL 33K 1% 1/4W	
R261	1-215-445-00	METAL 10K 1% 1/4W	
R262	1-215-401-11	METAL 150 1% 1/4W	
R263	1-215-401-11	METAL 150 1% 1/4W	
R264	1-215-445-00	METAL 10K 1% 1/4W	
R265	1-215-445-00	METAL 10K 1% 1/4W	
R266	1-215-469-00	METAL 100K 1% 1/4W	
R267	1-215-469-00	METAL 100K 1% 1/4W	
< VARIABLE RESISTOR >			
RV102	1-223-877-11	RES, VAR, CARBON 10K (LEVEL CH-1(L) (ANALOG(BALANCE) OUT))	

**ANA-OUT**

**AUDIO (MAIN)**

Ref. No.	Part No.	Description	Remark
RV202	1-223-877-11	RES, VAR, CARBON 10K (LEVEL CH-2(R) (ANALOG(BALANCE) OUT))	
*****			
*	A-2007-595-A	MAIN BOARD, COMPLETE (INCLUDING AUDIO AND DIGITAL BOARD) AUDIO BOARD (SUPPLIED WITH MAIN BOARD, COMPLETE)	
*****			
	2-259-121-01	SCREW, TR	
*	3-309-144-21	HEAT SINK	
*	4-363-146-71	HEAT SINK, V.OUT	
	7-685-871-01	SCREW +BVTT 3X6 (S)	
< CAPACITOR >			
C102	1-126-023-11	ELECT	100uF 20% 25V
C104	1-130-481-00	MYLAR	0.0068uF 5% 50V
C105	1-126-023-11	ELECT	100uF 20% 25V
C106	1-136-165-00	FILM	0.1uF 5% 50V
C107	1-136-165-00	FILM	0.1uF 5% 50V
C108	1-136-165-00	FILM	0.1uF 5% 50V
C109	1-136-165-00	FILM	0.1uF 5% 50V
C110	1-129-702-00	FILM	0.001uF 5% 630V
C111	1-136-478-11	FILM	470PF 5% 630V
C112	1-136-478-11	FILM	470PF 5% 630V
C113	1-136-437-11	FILM	220PF 5% 630V
C114	1-136-437-11	FILM	220PF 5% 630V
C115	1-136-559-11	FILM	0.0047uF 5% 630V
C116	1-129-702-00	FILM	0.001uF 5% 630V
C117	1-126-023-11	ELECT	100uF 20% 25V
C118	1-136-165-00	FILM	0.1uF 5% 50V
C119	1-136-165-00	FILM	0.1uF 5% 50V
C123	1-126-023-11	ELECT	100uF 20% 25V
C140	1-126-024-11	ELECT	220uF 20% 25V
C202	1-126-023-11	ELECT	100uF 20% 25V
C204	1-130-481-00	MYLAR	0.0068uF 5% 50V
C205	1-126-023-11	ELECT	100uF 20% 25V
C206	1-136-165-00	FILM	0.1uF 5% 50V
C207	1-136-165-00	FILM	0.1uF 5% 50V
C208	1-136-165-00	FILM	0.1uF 5% 50V
C209	1-136-165-00	FILM	0.1uF 5% 50V
C210	1-129-702-00	FILM	0.001uF 5% 630V
C211	1-136-478-11	FILM	470PF 5% 630V
C212	1-136-478-11	FILM	470PF 5% 630V
C213	1-136-437-11	FILM	220PF 5% 630V
C214	1-136-437-11	FILM	220PF 5% 630V
C215	1-136-559-11	FILM	0.0047uF 5% 630V
C216	1-129-702-00	FILM	0.001uF 5% 630V
C217	1-126-023-11	ELECT	100uF 20% 25V
C218	1-136-165-00	FILM	0.1uF 5% 50V

Ref. No.	Part No.	Description	Remark
C219	1-136-165-00	FILM	0.1uF 5% 50V
C223	1-126-023-11	ELECT	100uF 20% 25V
C240	1-126-024-11	ELECT	220uF 20% 25V
C301	1-124-997-11	ELECT	470uF 20% 10V
C302	1-124-997-11	ELECT	470uF 20% 10V
C303	1-136-165-00	FILM	0.1uF 5% 50V
C304	1-136-165-00	FILM	0.1uF 5% 50V
C305	1-136-165-00	FILM	0.1uF 5% 50V
C306	1-126-023-11	ELECT	100uF 20% 25V
C307	1-136-165-00	FILM	0.1uF 5% 50V
C308	1-126-023-11	ELECT	100uF 20% 25V
C309	1-162-294-31	CERAMIC	0.001uF 10% 50V
C310	1-162-294-31	CERAMIC	0.001uF 10% 50V
C311	1-164-159-11	CERAMIC	0.1uF 50V
C312	1-124-997-11	ELECT	470uF 20% 10V
C313	1-136-165-00	FILM	0.1uF 5% 50V
C314	1-164-159-11	CERAMIC	0.1uF 50V
C315	1-162-195-31	CERAMIC	4.7PF 10% 50V
C316	1-162-195-31	CERAMIC	4.7PF 10% 50V
C317	1-162-196-31	CERAMIC	5.6PF 10% 50V
C318	1-162-196-31	CERAMIC	5.6PF 10% 50V
C319	1-164-159-11	CERAMIC	0.1uF 50V
C320	1-124-564-11	ELECT	4700uF 20% 25V
C321	1-124-564-11	ELECT	4700uF 20% 25V
C322	1-136-165-00	FILM	0.1uF 5% 50V
C323	1-136-165-00	FILM	0.1uF 5% 50V
C324	1-126-027-11	ELECT	1000uF 20% 25V
C325	1-126-027-11	ELECT	1000uF 20% 25V
C326	1-124-997-11	ELECT	470uF 20% 10V
C327	1-136-165-00	FILM	0.1uF 5% 50V
C328	1-126-023-11	ELECT	100uF 20% 25V
C329	1-136-165-00	FILM	0.1uF 5% 50V
C330	1-126-023-11	ELECT	100uF 20% 25V
C331	1-136-165-00	FILM	0.1uF 5% 50V
C332	1-136-165-00	FILM	0.1uF 5% 50V
C333	1-126-013-11	ELECT	1000uF 20% 16V
C334	1-162-294-31	CERAMIC	0.001uF 10% 50V
C335	1-162-294-31	CERAMIC	0.001uF 10% 50V
C336	1-164-159-11	CERAMIC	0.1uF 50V
C337	1-164-159-11	CERAMIC	0.1uF 50V
C338	1-126-023-11	ELECT	100uF 20% 25V
C339	1-164-159-11	CERAMIC	0.1uF 50V
C340	1-136-169-00	FILM	0.22uF 5% 50V
C341	1-136-153-00	FILM	0.01uF 5% 50V
C342	1-162-219-31	CERAMIC	68PF 5% 50V
C343	1-162-199-31	CERAMIC	10PF 5% 50V
C344	1-162-199-31	CERAMIC	10PF 5% 50V
C345	1-126-048-81	ELECT	10uF 20% 50V
C346	1-164-159-11	CERAMIC	0.1uF 50V

# AUDIO (MAIN)

Ref. No.	Part No.	Description	Remark
C347	1-162-215-31	CERAMIC 47PF	5% 50V
C348	1-136-161-00	FILM 0.047uF	5% 50V
C350	1-126-026-11	ELECT 470uF	20% 25V
C351	1-126-026-11	ELECT 470uF	20% 25V
C352	1-164-159-11	CERAMIC 0.1uF	50V
C353	1-164-159-11	CERAMIC 0.1uF	50V
C356	1-164-159-11	CERAMIC 0.1uF	50V
C357	1-164-159-11	CERAMIC 0.1uF	50V
C358	1-164-159-11	CERAMIC 0.1uF	50V
C359	1-126-025-11	ELECT 330uF	20% 16V
C360	1-126-025-11	ELECT 330uF	20% 16V
C364	1-164-159-11	CERAMIC 0.1uF	50V
C367	1-164-159-11	CERAMIC 0.1uF	50V
C368	1-164-159-11	CERAMIC 0.1uF	50V
C369	1-164-159-11	CERAMIC 0.1uF	50V
C370	1-164-159-11	CERAMIC 0.1uF	50V
C371	1-164-159-11	CERAMIC 0.1uF	50V
C372	1-164-159-11	CERAMIC 0.1uF	50V
< CONNECTOR >			
CN302	1-691-766-31	PLUG (MICRO CONNECTOR) 4P	
CN303	1-691-766-11	PLUG (MICRO CONNECTOR) 4P	
CN304	1-691-768-11	PLUG (MICRO CONNECTOR) 6P	
CN305	1-691-765-11	PLUG (MICRO CONNECTOR) 3P	
CN307	1-691-765-31	PLUG (MICRO CONNECTOR) 3P	
CN308	1-691-765-41	PLUG (MICRO CONNECTOR) 3P	
< DIODE >			
D101	8-719-987-63	DIODE 1N4148M	
D102	8-719-987-63	DIODE 1N4148M	
D103	8-719-987-63	DIODE 1N4148M	
D104	8-719-987-63	DIODE 1N4148M	
D201	8-719-987-63	DIODE 1N4148M	
D202	8-719-987-63	DIODE 1N4148M	
D203	8-719-987-63	DIODE 1N4148M	
D204	8-719-987-63	DIODE 1N4148M	
D301	8-719-230-02	DIODE 30DF2	
D302	8-719-230-02	DIODE 30DF2	
D303	8-719-230-02	DIODE 30DF2	
D304	8-719-230-02	DIODE 30DF2	
D305	8-719-987-63	DIODE 1N4148M	
D306	8-719-987-63	DIODE 1N4148M	
D307	8-719-987-63	DIODE 1N4148M	
D308	8-719-976-30	DIODE KV1560N	
D309	8-719-987-63	DIODE 1N4148M	
D310	8-719-987-63	DIODE 1N4148M	
D311	8-719-987-63	DIODE 1N4148M	
D312	8-719-987-63	DIODE 1N4148M	

Ref. No.	Part No.	Description	Remark
D313	8-719-987-63	DIODE 1N4148M	
D314	8-719-987-63	DIODE 1N4148M	
< RESISTOR >			
△FR304	1-219-139-11	FUSIBLE	0.68 10% 1/4W F
△FR305	1-219-139-11	FUSIBLE	0.68 10% 1/4W F
< IC >			
IC101	8-759-900-72	IC NE5532P	
IC102	8-759-900-72	IC NE5532P	
IC201	8-759-900-72	IC NE5532P	
IC202	8-759-900-72	IC NE5532P	
IC301	8-759-231-58	IC TA7812S	
IC302	8-759-245-86	IC TA7912S	
IC303	8-759-602-83	IC M5238P	
IC304	8-759-602-83	IC M5238P	
IC305	8-759-094-53	IC TA7805S	
IC306	8-759-094-68	IC TA79005S-LBSONY	
IC307	8-759-330-53	IC CXD8493M-E1	
IC308	8-759-196-21	IC CXD8482Q	
IC309	8-759-925-90	IC SN74HC74ANS	
IC310	8-759-269-92	IC SN74HCU04ANS-E20	
IC311	8-759-269-92	IC SN74HCU04ANS-E20	
IC312	8-759-926-95	IC SN74HC4020NS	
IC313	8-759-270-50	IC SN74HC368ANS-E20	
IC314	8-759-334-75	IC CXD8505AQ	
IC315	8-759-250-81	IC TC5081AP	
IC316	8-759-094-53	IC TA7805S	
IC317	8-759-094-53	IC TA7805S	
IC318	8-759-094-53	IC TA7805S	
IC319	8-759-390-38	IC LM2940CT-12FL91	
IC320	8-759-333-80	IC LM2990T-12	
IC325	8-759-242-72	IC TC7W00F	
< COIL >			
L301	1-410-509-11	INDUCTOR	10uH
L302	1-410-509-11	INDUCTOR	10uH
L303	1-410-509-11	INDUCTOR	10uH
L304	1-410-509-11	INDUCTOR	10uH
L305	1-410-509-11	INDUCTOR	10uH
L306	1-410-509-11	INDUCTOR	10uH
L307	1-426-850-11	COIL (RF)	
L308	1-410-397-21	FERRITE BEAD INDUCTOR	1.1uH
L309	1-410-397-21	FERRITE BEAD INDUCTOR	1.1uH
L310	1-410-509-11	INDUCTOR	10uH
L311	1-410-509-11	INDUCTOR	10uH
L312	1-410-509-11	INDUCTOR	10uH

The components identified by mark △ or dotted line with mark. △ are critical for safety. Replace only with part number specified.

# AUDIO (MAIN)

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
< TERMINAL BOARD >				R208	1-249-425-11	CARBON	4.7K 5% 1/4W
LUG301	1-537-770-21	TERMINAL BOARD, GROUND		R209	1-249-425-11	CARBON	4.7K 5% 1/4W
LUG302	1-537-770-21	TERMINAL BOARD, GROUND		R210	1-249-401-11	CARBON	47 5% 1/4W
LUG304	1-537-770-21	TERMINAL BOARD, GROUND		R211	1-249-401-11	CARBON	47 5% 1/4W
< TRANSISTOR >				R212	1-259-444-11	CARBON	4.7K 1% 1/6W
Q102	8-729-107-85	TRANSISTOR 2SC3623A-K		R213	1-259-444-11	CARBON	4.7K 1% 1/6W
Q202	8-729-107-85	TRANSISTOR 2SC3623A-K		R214	1-259-444-11	CARBON	4.7K 1% 1/6W
Q303	8-729-900-80	TRANSISTOR DTC114ES		R215	1-259-444-11	CARBON	4.7K 1% 1/6W
Q304	8-729-620-05	TRANSISTOR 2SC2603-EF		R216	1-259-432-11	CARBON	1.5K 1% 1/6W
Q305	8-729-620-05	TRANSISTOR 2SC2603-EF		R217	1-259-432-11	CARBON	1.5K 1% 1/6W
Q306	8-729-620-05	TRANSISTOR 2SC2603-EF		R218	1-259-444-11	CARBON	4.7K 1% 1/6W
Q307	8-729-200-56	TRANSISTOR 2SK241-GR		R219	1-259-444-11	CARBON	4.7K 1% 1/6W
Q308	8-729-200-56	TRANSISTOR 2SK241-GR		R220	1-259-436-11	CARBON	2.2K 1% 1/6W
Q309	8-729-422-57	TRANSISTOR UN4111		R221	1-259-436-11	CARBON	2.2K 1% 1/6W
Q310	8-729-900-80	TRANSISTOR DTC114ES		R222	1-259-436-11	CARBON	2.2K 1% 1/6W
Q311	8-729-900-80	TRANSISTOR DTC114ES		R223	1-259-436-11	CARBON	2.2K 1% 1/6W
Q312	8-729-900-80	TRANSISTOR DTC114ES		R224	1-249-419-11	CARBON	1.5K 5% 1/4W
< RESISTOR >				R225	1-249-419-11	CARBON	1.5K 5% 1/4W
R102	1-249-441-11	CARBON	100K 5% 1/4W	R226	1-249-441-11	CARBON	100K 5% 1/4W
R106	1-249-425-11	CARBON	4.7K 5% 1/4W	R227	1-249-407-11	CARBON	150 5% 1/4W
R107	1-249-425-11	CARBON	4.7K 5% 1/4W	R228	1-249-407-11	CARBON	150 5% 1/4W
R108	1-249-425-11	CARBON	4.7K 5% 1/4W	R229	1-249-429-11	CARBON	10K 5% 1/4W
R109	1-249-425-11	CARBON	4.7K 5% 1/4W	R303	1-249-429-11	CARBON	10K 5% 1/4W
R110	1-249-401-11	CARBON	47 5% 1/4W	R304	1-249-413-11	CARBON	470 5% 1/4W
R111	1-249-401-11	CARBON	47 5% 1/4W	R305	1-249-413-11	CARBON	470 5% 1/4W
R112	1-259-444-11	CARBON	4.7K 1% 1/6W	R306	1-249-417-11	CARBON	1K 5% 1/4W
R113	1-259-444-11	CARBON	4.7K 1% 1/6W	R307	1-249-417-11	CARBON	1K 5% 1/4W
R114	1-259-444-11	CARBON	4.7K 1% 1/6W	R308	1-249-417-11	CARBON	1K 5% 1/4W
R115	1-259-444-11	CARBON	4.7K 1% 1/6W	R309	1-249-413-11	CARBON	470 5% 1/4W
R116	1-259-432-11	CARBON	1.5K 1% 1/6W	R310	1-249-441-11	CARBON	100K 5% 1/4W
R117	1-259-432-11	CARBON	1.5K 1% 1/6W	R311	1-249-417-11	CARBON	1K 5% 1/4W
R118	1-259-444-11	CARBON	4.7K 1% 1/6W	R312	1-247-903-00	CARBON	1M 5% 1/4W
R119	1-259-444-11	CARBON	4.7K 1% 1/6W	R313	1-249-407-11	CARBON	150 5% 1/4W
R120	1-259-436-11	CARBON	2.2K 1% 1/6W	R314	1-249-441-11	CARBON	100K 5% 1/4W
R121	1-259-436-11	CARBON	2.2K 1% 1/6W	R315	1-249-417-11	CARBON	1K 5% 1/4W
R122	1-259-436-11	CARBON	2.2K 1% 1/6W	R316	1-247-903-00	CARBON	1M 5% 1/4W
R123	1-259-436-11	CARBON	2.2K 1% 1/6W	R317	1-249-407-11	CARBON	150 5% 1/4W
R124	1-249-419-11	CARBON	1.5K 5% 1/4W	R320	1-249-411-11	CARBON	330 5% 1/4W
R125	1-249-419-11	CARBON	1.5K 5% 1/4W	R321	1-249-417-11	CARBON	1K 5% 1/4W
R126	1-249-441-11	CARBON	100K 5% 1/4W	R322	1-249-441-11	CARBON	100K 5% 1/4W
R127	1-249-407-11	CARBON	150 5% 1/4W	R323	1-249-409-11	CARBON	220 5% 1/4W
R128	1-249-407-11	CARBON	150 5% 1/4W	R324	1-249-409-11	CARBON	220 5% 1/4W
R129	1-249-429-11	CARBON	10K 5% 1/4W	R325	1-249-413-11	CARBON	470 5% 1/4W
R202	1-249-441-11	CARBON	100K 5% 1/4W	R326	1-249-413-11	CARBON	470 5% 1/4W
R206	1-249-425-11	CARBON	4.7K 5% 1/4W	R327	1-249-413-11	CARBON	470 5% 1/4W
R207	1-249-425-11	CARBON	4.7K 5% 1/4W	R328	1-249-425-11	CARBON	4.7K 5% 1/4W
				R329	1-249-417-11	CARBON	1K 5% 1/4W
				R330	1-249-401-11	CARBON	47 5% 1/4W
				R331	1-249-417-11	CARBON	1K 5% 1/4W

**AUDIO (MAIN)**

**COVER (A)**

**COVER (B)**

**DIGITAL (MAIN)**

Ref. No.	Part No.	Description	Remark		
R332	1-249-429-11	CARBON	10K	5%	1/4W
R333	1-249-421-11	CARBON	2.2K	5%	1/4W
R334	1-249-429-11	CARBON	10K	5%	1/4W
R335	1-249-429-11	CARBON	10K	5%	1/4W
R336	1-249-428-11	CARBON	8.2K	5%	1/4W
R337	1-249-441-11	CARBON	100K	5%	1/4W
R338	1-249-417-11	CARBON	1K	5%	1/4W
R339	1-249-417-11	CARBON	1K	5%	1/4W
R340	1-249-417-11	CARBON	1K	5%	1/4W
R341	1-247-895-00	CARBON	470K	5%	1/4W
R342	1-249-437-11	CARBON	47K	5%	1/4W
R343	1-249-441-11	CARBON	100K	5%	1/4W
R345	1-249-429-11	CARBON	10K	5%	1/4W
R346	1-249-429-11	CARBON	10K	5%	1/4W
R347	1-249-421-11	CARBON	2.2K	5%	1/4W
R348	1-249-409-11	CARBON	220	5%	1/4W
R349	1-249-409-11	CARBON	220	5%	1/4W
R350	1-249-411-11	CARBON	330	5%	1/4W
R351	1-249-413-11	CARBON	470	5%	1/4W
R353	1-249-417-11	CARBON	1K	5%	1/4W
R354	1-249-417-11	CARBON	1K	5%	1/4W
		< RELAY >			
RY301	1-515-726-11	RELAY			
		< VIBRATOR >			
X301	1-567-814-11	VIBRATOR, CRYSTAL (24.567MHz)			
X302	1-567-815-11	VIBRATOR, CRYSTAL (22.5792MHz)			

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\* 1-655-931-11 COVER (A) BOARD  
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\* 1-656-407-11 COVER (B) BOARD  
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Ref. No.	Part No.	Description	Remark		
*	A-2007-595-A	MAIN BOARD, COMPLETE (INCLUDING AUDIO AND DIGITAL BOARD) DIGITAL BOARD (SUPPLIED WITH MAIN BOARD, COMPLETE)			
		*****			
	1-533-293-11	FUSE HOLDER			
	1-550-414-21	HOLDER, BATTERY			
		< CAPACITOR >			
C501	1-126-017-11	ELECT	6800uF	20%	16V
C502	1-126-946-11	ELECT	6800uF	20%	25V
C503	1-126-927-11	ELECT	2200uF	20%	10V
C504	1-124-473-11	ELECT	1000uF	20%	10V
C505	1-124-472-11	ELECT	470uF	20%	10V
C506	1-124-472-11	ELECT	470uF	20%	10V
C507	1-164-159-11	CERAMIC	0.1uF		50V
C508	1-124-919-11	ELECT	220uF	20%	63V
C509	1-124-122-11	ELECT	100uF	20%	50V
C510	1-164-159-11	CERAMIC	0.1uF		50V
C511	1-164-159-11	CERAMIC	0.1uF		50V
C512	1-162-294-31	CERAMIC	0.001uF	10%	50V
C513	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C514	1-162-286-31	CERAMIC	220PF	10%	50V
C515	1-162-294-31	CERAMIC	0.001uF	10%	50V
C516	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C517	1-162-286-31	CERAMIC	220PF	10%	50V
C518	1-162-306-11	CERAMIC	0.01uF	20%	16V
C519	1-162-306-11	CERAMIC	0.01uF	20%	16V
C520	1-162-290-31	CERAMIC	470PF	10%	50V
C521	1-162-306-11	CERAMIC	0.01uF	20%	16V
C522	1-126-965-11	ELECT	22uF	20%	50V
C523	1-162-306-11	CERAMIC	0.01uF	20%	16V
C524	1-162-290-31	CERAMIC	470PF	10%	50V
C525	1-162-306-11	CERAMIC	0.01uF	20%	16V
C526	1-126-965-11	ELECT	22uF	20%	50V
C527	1-164-159-11	CERAMIC	0.1uF		50V
C528	1-164-159-11	CERAMIC	0.1uF		50V
C529	1-124-442-00	ELECT	330uF	20%	6.3V
C530	1-162-294-31	CERAMIC	0.001uF	10%	50V
C531	1-126-961-11	ELECT	2.2uF	20%	50V
C532	1-164-159-11	CERAMIC	0.1uF		50V
C533	1-162-203-31	CERAMIC	15PF	5%	50V
C534	1-162-203-31	CERAMIC	15PF	5%	50V
C535	1-164-159-11	CERAMIC	0.1uF		50V
C536	1-136-165-00	FILM	0.1uF	5%	50V
C537	1-124-442-00	ELECT	330uF	20%	6.3V
C538	1-164-159-11	CERAMIC	0.1uF		50V
C539	1-162-306-11	CERAMIC	0.01uF	20%	16V
C540	1-162-294-31	CERAMIC	0.001uF	10%	50V

Ref. No.	Part No.	Description		Remark	Ref. No.	Part No.	Description	Remark
C541	1-162-284-31	CERAMIC	150PF	10%	50V	CN510	1-691-765-41	PLUG (MICRO CONNECTOR) 3P
C542	1-164-159-11	CERAMIC	0.1uF		50V	CN511	1-691-765-21	PLUG (MICRO CONNECTOR) 3P
C543	1-124-442-00	ELECT	330uF	20%	6.3V			< DIODE >
C544	1-162-294-31	CERAMIC	0.001uF	10%	50V	D501	8-719-312-47	DIODE RBA-406B
C545	1-162-294-31	CERAMIC	0.001uF	10%	50V	D502	8-719-312-47	DIODE RBA-406B
C546	1-162-294-31	CERAMIC	0.001uF	10%	50V	D503	8-719-200-77	DIODE 10E2N
C547	1-162-294-31	CERAMIC	0.001uF	10%	50V	D504	8-719-015-13	DIODE UZP-9.1BC-TP
C548	1-162-294-31	CERAMIC	0.001uF	10%	50V	D505	8-719-200-77	DIODE 10E2N
C549	1-162-294-31	CERAMIC	0.001uF	10%	50V	D506	8-719-200-77	DIODE 10E2N
C550	1-164-159-11	CERAMIC	0.1uF		50V	D507	8-719-985-62	DIODE HZS5ALL
C552	1-162-207-31	CERAMIC	22PF	5%	50V	D508	8-719-987-63	DIODE 1N4148M
C553	1-162-207-31	CERAMIC	22PF	5%	50V	D509	8-719-987-63	DIODE 1N4148M
C554	1-162-203-31	CERAMIC	15PF	5%	50V	D510	8-719-200-77	DIODE 10E2N
C555	1-162-203-31	CERAMIC	15PF	5%	50V	D511	8-719-911-06	DIODE 1SS106
C556	1-164-159-11	CERAMIC	0.1uF		50V	D512	8-719-911-06	DIODE 1SS106
C557	1-164-159-11	CERAMIC	0.1uF		50V	D513	8-719-045-72	DIODE KV1550NT
C558	1-164-159-11	CERAMIC	0.1uF		50V			< FUSE >
C559	1-136-153-00	FILM	0.01uF	5%	50V	△ F501	1-532-286-00	FUSE (T2.5A/250V)
C560	1-164-159-11	CERAMIC	0.1uF		50V	△ F502	1-532-286-00	FUSE (T2.5A/250V)
C561	1-162-211-31	CERAMIC	33PF	5%	50V			< RESISTOR >
C562	1-136-153-00	FILM	0.01uF	5%	50V	△ FR501	1-219-136-11	FUSIBLE 0.22 10% 1/4W F
C563	1-124-907-11	ELECT	10uF	20%	50V	△ FR502	1-212-873-11	FUSIBLE 47 5% 1/4W F
C564	1-136-153-00	FILM	0.01uF	5%	50V			< IC >
C565	1-162-282-31	CERAMIC	100PF	10%	50V	IC501	8-752-877-89	IC CXP87532-027Q
C566	1-164-159-11	CERAMIC	0.1uF		50V	IC502	8-752-870-87	IC CXP87532-023Q
C567	1-164-159-11	CERAMIC	0.1uF		50V	IC503	8-752-355-55	IC CXD2605Q
C568	1-164-159-11	CERAMIC	0.1uF		50V	IC504	8-752-337-79	IC CXK58257AM-10LL
C573	1-162-179-11	CERAMIC	0.1uF		50V	IC506	8-759-242-84	IC TORX176 (DIGITAL IN/OUT OPTICAL IN)
C575	1-164-159-11	CERAMIC	0.1uF		50V	IC507	8-759-242-85	IC TOTX176 (DIGITAL IN/OUT OPTICAL OUT)
C576	1-164-159-11	CERAMIC	0.1uF		50V	IC508	8-759-927-46	IC SN74HC00ANS
C578	1-164-159-11	CERAMIC	0.1uF		50V	IC509	8-759-701-01	IC NJM2904M
C579	1-164-159-11	CERAMIC	0.1uF		50V	IC510	8-759-927-46	IC SN74HC00ANS
C580	1-162-203-31	CERAMIC	15PF	5%	50V	IC511	8-759-926-17	IC SN74HC153ANS
C581	1-162-205-31	CERAMIC	18PF	5%	50V	IC512	8-759-007-80	IC MC74HC175F
C582	1-164-159-11	CERAMIC	0.1uF		50V	IC513	8-759-269-92	IC SN74HCU04ANS-E20
C583	1-162-600-11	CERAMIC	0.0047uF	20%	16V	IC514	8-759-927-46	IC SN74HC00ANS
C584	1-162-600-11	CERAMIC	0.0047uF	20%	16V	IC515	8-759-927-46	IC SN74HC00ANS
C585	1-162-294-31	CERAMIC	0.001uF	10%	50V	IC516	8-759-634-43	IC M51953BFP
		< CONNECTOR >				IC517	8-759-426-52	IC AT24C01A-10SC-TP-B
CN501	1-691-767-11	PLUG (MICRO CONNECTOR) 5P				IC518	8-759-333-82	IC MSM6782-01MS-K-R1
CN502	1-691-766-11	PLUG (MICRO CONNECTOR) 4P				IC519	8-759-925-90	IC SN74HC74ANS
* CN503	1-691-759-61	PIN, CONNECTOR 4P				IC520	8-759-701-01	IC NJM2904M
* CN504	1-568-845-11	SOCKET, CONNECTOR 31P				IC521	8-759-701-01	IC NJM2904M
* CN505	1-568-836-11	SOCKET, CONNECTOR 17P				IC522	8-759-701-01	IC NJM2904M
CN506	1-770-164-11	PIN, CONNECTOR (PC BOARD) 15P						
CN507	1-691-461-11	PIN, CONNECTOR (PC BOARD) 5P						
* CN508	1-564-339-00	PIN, CONNECTOR 5P						
CN509	1-691-765-31	PLUG (MICRO CONNECTOR) 3P						

The components identified by mark △ or dotted line with mark. △ are critical for safety. Replace only with part number specified.



# DIGITAL (MAIN)

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
IC523	8-759-633-65	IC M54641L		R507	1-249-429-11	CARBON 10K 5% 1/4W	
		< JACK >		R508	1-249-409-11	CARBON 220 5% 1/4W	
J501	1-770-162-11	JACK, PIN 2P (DIGITAL IN/OUT COAXIAL)		R509	1-249-409-11	CARBON 220 5% 1/4W	
		< COIL >		R510	1-249-409-11	CARBON 220 5% 1/4W	
L501	1-410-509-11	INDUCTOR 10uH		R511	1-249-409-11	CARBON 220 5% 1/4W	
L502	1-410-509-11	INDUCTOR 10uH		R512	1-249-441-11	CARBON 100K 5% 1/4W	
L503	1-410-509-11	INDUCTOR 10uH		R513	1-249-441-11	CARBON 100K 5% 1/4W	
L504	1-410-498-11	INDUCTOR 1.2uH		R514	1-249-441-11	CARBON 100K 5% 1/4W	
L505	1-410-509-11	INDUCTOR 10uH		R515	1-249-441-11	CARBON 100K 5% 1/4W	
L506	1-410-509-11	INDUCTOR 10uH		R516	1-249-441-11	CARBON 100K 5% 1/4W	
		< TERMINAL BOARD >		R517	1-249-441-11	CARBON 100K 5% 1/4W	
LUG503	1-537-770-21	TERMINAL BOARD, GROUND		R518	1-249-441-11	CARBON 100K 5% 1/4W	
		< TRANSISTOR >		R519	1-249-441-11	CARBON 100K 5% 1/4W	
Q501	8-729-620-05	TRANSISTOR 2SC2603-EF		R520	1-249-441-11	CARBON 100K 5% 1/4W	
Q502	8-729-119-76	TRANSISTOR 2SA1175-HFE		R522	1-249-441-11	CARBON 100K 5% 1/4W	
Q503	8-729-140-97	TRANSISTOR 2SB734-34		R523	1-249-441-11	CARBON 100K 5% 1/4W	
Q504	8-729-927-11	TRANSISTOR 2SA1585SQR		R524	1-249-429-11	CARBON 10K 5% 1/4W	
Q505	8-729-927-12	TRANSISTOR 2SC4115SQR		R525	1-249-417-11	CARBON 1K 5% 1/4W	
Q506	8-729-927-11	TRANSISTOR 2SA1585SQR		R526	1-249-429-11	CARBON 10K 5% 1/4W	
Q507	8-729-927-12	TRANSISTOR 2SC4115SQR		R527	1-247-807-11	CARBON 100 5% 1/4W	
Q508	8-729-900-80	TRANSISTOR DTC114ES		R528	1-249-417-11	CARBON 1K 5% 1/4W	
Q509	8-729-900-80	TRANSISTOR DTC114ES		R529	1-249-409-11	CARBON 220 5% 1/4W	
Q510	8-729-900-80	TRANSISTOR DTC114ES		R530	1-249-441-11	CARBON 100K 5% 1/4W	
Q511	8-729-900-80	TRANSISTOR DTC114ES		R531	1-249-441-11	CARBON 100K 5% 1/4W	
Q512	8-729-141-83	TRANSISTOR 2SB1094-LK		R532	1-249-429-11	CARBON 10K 5% 1/4W	
Q513	8-729-119-76	TRANSISTOR 2SA1175-HFE		R533	1-249-417-11	CARBON 1K 5% 1/4W	
Q514	8-729-620-05	TRANSISTOR 2SC2603-EF		R534	1-249-429-11	CARBON 10K 5% 1/4W	
Q515	8-729-141-83	TRANSISTOR 2SB1094-LK		R535	1-247-807-11	CARBON 100 5% 1/4W	
Q516	8-729-119-76	TRANSISTOR 2SA1175-HFE		R536	1-249-417-11	CARBON 1K 5% 1/4W	
Q517	8-729-620-05	TRANSISTOR 2SC2603-EF		R537	1-249-409-11	CARBON 220 5% 1/4W	
Q518	8-729-620-05	TRANSISTOR 2SC2603-EF		R539	1-249-409-11	CARBON 220 5% 1/4W	
Q519	8-729-620-05	TRANSISTOR 2SC2603-EF		R540	1-249-409-11	CARBON 220 5% 1/4W	
Q520	8-729-900-80	TRANSISTOR DTC114ES		R541	1-249-441-11	CARBON 100K 5% 1/4W	
Q521	8-729-620-05	TRANSISTOR 2SC2603-EF		R542	1-249-441-11	CARBON 100K 5% 1/4W	
Q522	8-729-900-80	TRANSISTOR DTC114ES		R543	1-249-441-11	CARBON 100K 5% 1/4W	
		< RESISTOR >		R544	1-249-441-11	CARBON 100K 5% 1/4W	
R501	1-249-425-11	CARBON 4.7K 5% 1/4W		R545	1-249-429-11	CARBON 10K 5% 1/4W	
R502	1-249-429-11	CARBON 10K 5% 1/4W		R546	1-249-429-11	CARBON 10K 5% 1/4W	
R503	1-249-421-11	CARBON 2.2K 5% 1/4W		R547	1-249-429-11	CARBON 10K 5% 1/4W	
R504	1-249-433-11	CARBON 22K 5% 1/4W		R548	1-249-441-11	CARBON 100K 5% 1/4W	
R505	1-247-843-11	CARBON 3.3K 5% 1/4W		R549	1-249-441-11	CARBON 100K 5% 1/4W	
R506	1-249-413-11	CARBON 470 5% 1/4W		R552	1-249-429-11	CARBON 10K 5% 1/4W	
				R553	1-249-425-11	CARBON 4.7K 5% 1/4W	
				R554	1-249-425-11	CARBON 4.7K 5% 1/4W	
				R555	1-249-429-11	CARBON 10K 5% 1/4W	
				R556	1-249-429-11	CARBON 10K 5% 1/4W	
				R557	1-249-441-11	CARBON 100K 5% 1/4W	
				R558	1-249-441-11	CARBON 100K 5% 1/4W	
				R559	1-249-441-11	CARBON 100K 5% 1/4W	

Ref. No.	Part No.	Description	Remark		Ref. No.	Part No.	Description	Remark
R560	1-249-441-11	CARBON	100K 5% 1/4W		R616	1-249-429-11	CARBON	10K 5% 1/4W
R561	1-249-441-11	CARBON	100K 5% 1/4W		R617	1-249-435-11	CARBON	33K 5% 1/4W
R562	1-249-441-11	CARBON	100K 5% 1/4W		R618	1-249-421-11	CARBON	2.2K 5% 1/4W
R563	1-249-429-11	CARBON	10K 5% 1/4W		R619	1-249-421-11	CARBON	2.2K 5% 1/4W
R564	1-249-429-11	CARBON	10K 5% 1/4W		R620	1-247-807-11	CARBON	100 5% 1/4W
R565	1-249-429-11	CARBON	10K 5% 1/4W		R621	1-247-804-11	CARBON	75 5% 1/4W
R566	1-249-417-11	CARBON	1K 5% 1/4W		R622	1-249-429-11	CARBON	10K 5% 1/4W
R567	1-249-429-11	CARBON	10K 5% 1/4W		R623	1-249-429-11	CARBON	10K 5% 1/4W
R568	1-249-429-11	CARBON	10K 5% 1/4W		R624	1-249-427-11	CARBON	6.8K 5% 1/4W
R569	1-249-429-11	CARBON	10K 5% 1/4W		R625	1-249-429-11	CARBON	10K 5% 1/4W
R570	1-249-429-11	CARBON	10K 5% 1/4W		R626	1-249-429-11	CARBON	10K 5% 1/4W
R571	1-247-807-11	CARBON	100 5% 1/4W		R627	1-249-429-11	CARBON	10K 5% 1/4W
R572	1-249-413-11	CARBON	470 5% 1/4W		R628	1-249-429-11	CARBON	10K 5% 1/4W
R573	1-247-807-11	CARBON	100 5% 1/4W		R629	1-249-429-11	CARBON	10K 5% 1/4W
R574	1-249-441-11	CARBON	100K 5% 1/4W		R634	1-247-843-11	CARBON	3.3K 5% 1/4W
R575	1-249-429-11	CARBON	10K 5% 1/4W		R635	1-247-843-11	CARBON	3.3K 5% 1/4W
R576	1-249-429-11	CARBON	10K 5% 1/4W		R636	1-247-843-11	CARBON	3.3K 5% 1/4W
R577	1-249-429-11	CARBON	10K 5% 1/4W		R637	1-249-429-11	CARBON	10K 5% 1/4W
R578	1-249-429-11	CARBON	10K 5% 1/4W		R638	1-249-429-11	CARBON	10K 5% 1/4W
R581	1-249-441-11	CARBON	100K 5% 1/4W		R639	1-247-804-11	CARBON	75 5% 1/4W
R583	1-249-425-11	CARBON	4.7K 5% 1/4W		R645	1-249-413-11	CARBON	470 5% 1/4W
R584	1-249-441-11	CARBON	100K 5% 1/4W		R647	1-249-409-11	CARBON	220 5% 1/4W
R585	1-249-441-11	CARBON	100K 5% 1/4W		R648	1-247-807-11	CARBON	100 5% 1/4W
R586	1-249-441-11	CARBON	100K 5% 1/4W				< VARIABLE RESISTOR >	
R587	1-249-441-11	CARBON	100K 5% 1/4W					
R588	1-249-441-11	CARBON	100K 5% 1/4W		RV501	1-241-763-11	RES, ADJ, CARBON 4.7K	
R589	1-249-441-11	CARBON	100K 5% 1/4W		RV502	1-241-763-11	RES, ADJ, CARBON 4.7K	
R590	1-249-441-11	CARBON	100K 5% 1/4W				< COIL >	
R591	1-249-441-11	CARBON	100K 5% 1/4W					
R593	1-249-417-11	CARBON	1K 5% 1/4W		T501	1-409-594-11	COIL (WITH CORE)	
R594	1-249-421-11	CARBON	2.2K 5% 1/4W				< VIBRATOR >	
R595	1-249-417-11	CARBON	1K 5% 1/4W					
R596	1-249-429-11	CARBON	10K 5% 1/4W		X501	1-567-814-11	VIBRATOR, CRYSTAL (24.576MHz)	
R597	1-249-441-11	CARBON	100K 5% 1/4W		X502	1-567-816-11	VIBRATOR, CRYSTAL (18.816MHz)	
R598	1-249-441-11	CARBON	100K 5% 1/4W		X503	1-567-098-61	VIBRATOR, CRYSTAL (32.768kHz)	
R600	1-249-425-11	CARBON	4.7K 5% 1/4W				*****	
R601	1-249-425-11	CARBON	4.7K 5% 1/4W					
R602	1-249-425-11	CARBON	4.7K 5% 1/4W		*	A-2007-340-A	DISPLAY BOARD, COMPLETE	
R603	1-249-413-11	CARBON	470 5% 1/4W				*****	
R604	1-249-433-11	CARBON	22K 5% 1/4W					
R605	1-249-433-11	CARBON	22K 5% 1/4W			2-389-320-01	CUSHION	
R606	1-249-409-11	CARBON	220 5% 1/4W		*	4-922-523-01	HOLDER (RIGHT)	
R607	1-249-431-11	CARBON	15K 5% 1/4W		*	4-922-524-01	HOLDER (LEFT)	
R608	1-249-417-11	CARBON	1K 5% 1/4W				< CAPACITOR >	
R611	1-249-411-11	CARBON	330 5% 1/4W					
R612	1-249-437-11	CARBON	47K 5% 1/4W		C701	1-126-177-11	ELECT	100uF 20% 10V
R613	1-249-429-11	CARBON	10K 5% 1/4W		C702	1-136-165-00	FILM	0.1uF 5% 50V
R614	1-249-429-11	CARBON	10K 5% 1/4W		C703	1-162-294-31	CERAMIC	0.001uF 10% 50V
R615	1-247-807-11	CARBON	100 5% 1/4W		C704	1-162-294-31	CERAMIC	0.001uF 10% 50V
					C706	1-164-159-11	CERAMIC	0.1uF 50V

# DISPLAY

Ref. No.	Part No.	Description	Remark
C710	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C711	1-162-306-11	CERAMIC 0.01uF 20% 16V	
< CONNECTOR >			
CN701	1-568-860-11	SOCKET, CONNECTOR 17P	
< COMPOSITION CIRCUIT BLOCK >			
CP701	1-233-566-11	COMPOSITION CIRCUIT BLOCK 100KX10	
CP702	1-233-566-11	COMPOSITION CIRCUIT BLOCK 100KX10	
CP703	1-233-566-11	COMPOSITION CIRCUIT BLOCK 100KX10	
CP704	1-233-566-11	COMPOSITION CIRCUIT BLOCK 100KX10	
< FLUORESCENT INDICATOR >			
FL701	1-517-382-11	INDICATOR TUBE, FLUORESCENT	
< IC >			
IC701	8-752-869-39	IC CXP82316-061Q	
IC702	8-759-995-09	IC MSM6338RS	
< TRANSISTOR >			
Q701	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q702	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q703	8-729-620-05	TRANSISTOR 2SC2603-EF	
< RESISTOR >			
R701	1-249-427-11	CARBON 6.8K 5% 1/4W	
R702	1-249-427-11	CARBON 6.8K 5% 1/4W	
R703	1-249-427-11	CARBON 6.8K 5% 1/4W	
R704	1-249-427-11	CARBON 6.8K 5% 1/4W	
R705	1-249-427-11	CARBON 6.8K 5% 1/4W	
R706	1-249-427-11	CARBON 6.8K 5% 1/4W	
R707	1-249-427-11	CARBON 6.8K 5% 1/4W	
R708	1-249-427-11	CARBON 6.8K 5% 1/4W	
R709	1-249-415-11	CARBON 680 5% 1/4W	
R710	1-249-417-11	CARBON 1K 5% 1/4W	
R711	1-249-419-11	CARBON 1.5K 5% 1/4W	
R712	1-247-843-11	CARBON 3.3K 5% 1/4W	
R713	1-249-425-11	CARBON 4.7K 5% 1/4W	
R714	1-249-429-11	CARBON 10K 5% 1/4W	
R716	1-249-415-11	CARBON 680 5% 1/4W	
R717	1-249-417-11	CARBON 1K 5% 1/4W	
R718	1-249-419-11	CARBON 1.5K 5% 1/4W	
R719	1-247-843-11	CARBON 3.3K 5% 1/4W	
R720	1-249-425-11	CARBON 4.7K 5% 1/4W	
R721	1-249-429-11	CARBON 10K 5% 1/4W	
R723	1-249-415-11	CARBON 680 5% 1/4W	
R724	1-249-417-11	CARBON 1K 5% 1/4W	
R725	1-249-419-11	CARBON 1.5K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R726	1-247-843-11	CARBON 3.3K 5% 1/4W	
R727	1-249-425-11	CARBON 4.7K 5% 1/4W	
R728	1-249-429-11	CARBON 10K 5% 1/4W	
R730	1-249-415-11	CARBON 680 5% 1/4W	
R731	1-249-417-11	CARBON 1K 5% 1/4W	
R732	1-249-419-11	CARBON 1.5K 5% 1/4W	
R733	1-247-843-11	CARBON 3.3K 5% 1/4W	
R734	1-249-425-11	CARBON 4.7K 5% 1/4W	
R735	1-249-429-11	CARBON 10K 5% 1/4W	
R737	1-249-415-11	CARBON 680 5% 1/4W	
R738	1-249-417-11	CARBON 1K 5% 1/4W	
R739	1-249-419-11	CARBON 1.5K 5% 1/4W	
R740	1-247-843-11	CARBON 3.3K 5% 1/4W	
R741	1-249-425-11	CARBON 4.7K 5% 1/4W	
R742	1-249-429-11	CARBON 10K 5% 1/4W	
R743	1-249-435-11	CARBON 33K 5% 1/4W	
R744	1-249-415-11	CARBON 680 5% 1/4W	
R745	1-249-417-11	CARBON 1K 5% 1/4W	
R746	1-249-419-11	CARBON 1.5K 5% 1/4W	
R747	1-247-843-11	CARBON 3.3K 5% 1/4W	
R748	1-249-425-11	CARBON 4.7K 5% 1/4W	
R749	1-249-429-11	CARBON 10K 5% 1/4W	
R750	1-249-435-11	CARBON 33K 5% 1/4W	
R751	1-249-435-11	CARBON 33K 5% 1/4W	
R752	1-249-435-11	CARBON 33K 5% 1/4W	
R753	1-249-429-11	CARBON 10K 5% 1/4W	
R754	1-249-435-11	CARBON 33K 5% 1/4W	
R756	1-249-415-11	CARBON 680 5% 1/4W	
R757	1-249-435-11	CARBON 33K 5% 1/4W	
< SWITCH >			
S701	1-554-937-11	SWITCH, KEY BOARD (OPEN/CLOSE ▲)	
S702	1-554-937-11	SWITCH, KEY BOARD (STOP ■)	
S703	1-554-937-11	SWITCH, KEY BOARD (PLAY ►)	
S704	1-554-937-11	SWITCH, KEY BOARD (PREVIOUS ◀◀ (AMS))	
S705	1-554-937-11	SWITCH, KEY BOARD (NEXT ►► (AMS))	
S706	1-554-937-11	SWITCH, KEY BOARD (MODE (COUNTER))	
S707	1-554-937-11	SWITCH, KEY BOARD (RESET (COUNTER))	
S709	1-554-937-11	SWITCH, KEY BOARD (REW ◀◀)	
S710	1-554-937-11	SWITCH, KEY BOARD (FF ►►)	
S711	1-554-937-11	SWITCH, KEY BOARD (REC ●)	
S712	1-554-937-11	SWITCH, KEY BOARD (PAUSE ■■)	
S713	1-554-937-11	SWITCH, KEY BOARD (REC MUTE ○)	
S716	1-554-937-11	SWITCH, KEY BOARD (AUTO (START ID))	
S717	1-554-937-11	SWITCH, KEY BOARD (RENUMBER (START ID))	
S718	1-554-937-11	SWITCH, KEY BOARD (REHEARSAL (START ID))	
S719	1-554-937-11	SWITCH, KEY BOARD (WRITE (START ID))	
S720	1-554-937-11	SWITCH, KEY BOARD (ERASE (START ID))	
S721	1-554-937-11	SWITCH, KEY BOARD (MARGIN RESET)	

<b>DISPLAY</b>	<b>DRUM DRIVE</b>
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Ref. No.	Part No.	Description	Remark
S724	1-554-937-11	SWITCH, KEY BOARD (REHEARSAL (SKIP ID))	
S725	1-554-937-11	SWITCH, KEY BOARD (WRITE (SKIP ID))	
S726	1-554-937-11	SWITCH, KEY BOARD (ERASE (SKIP ID))	
S727	1-554-937-11	SWITCH, KEY BOARD (SKIP PLAY)	
S728	1-554-937-11	SWITCH, KEY BOARD (REPEAT)	
S730	1-554-937-11	SWITCH, KEY BOARD (1)	
S731	1-554-937-11	SWITCH, KEY BOARD (2)	
S732	1-554-937-11	SWITCH, KEY BOARD (3)	
S733	1-554-937-11	SWITCH, KEY BOARD (4)	
S734	1-554-937-11	SWITCH, KEY BOARD (5)	
S735	1-554-937-11	SWITCH, KEY BOARD (6)	
S736	1-554-937-11	SWITCH, KEY BOARD (7)	
S737	1-554-937-11	SWITCH, KEY BOARD (8)	
S738	1-554-937-11	SWITCH, KEY BOARD (RECORDED (DATE))	
S739	1-554-937-11	SWITCH, KEY BOARD (PRESENT (DATE))	
S740	1-554-937-11	SWITCH, KEY BOARD (CLOCK SET)	
S742	1-554-937-11	SWITCH, KEY BOARD (9)	
S743	1-554-937-11	SWITCH, KEY BOARD (0)	
S744	1-554-937-11	SWITCH, KEY BOARD (CLEAR)	
< VIBRATOR >			
X701	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)	
*****			
A-2007-321-A		DRUM DRIVE BOARD, COMPLETE	
*****			
1-537-770-21		TERMINAL BOARD, GROUND	
< CAPACITOR >			
C1	1-124-257-00	ELECT	2.2uF 20% 50V
C3	1-162-306-11	CERAMIC	0.01uF 20% 16V
C5	1-126-923-11	ELECT	220uF 20% 10V
C6	1-126-923-11	ELECT	220uF 20% 10V
C7	1-126-923-11	ELECT	220uF 20% 10V
C8	1-162-302-11	CERAMIC	0.0022uF 30% 16V
C9	1-162-302-11	CERAMIC	0.0022uF 30% 16V
C10	1-162-286-31	CERAMIC	220PF 10% 50V
C11	1-162-302-11	CERAMIC	0.0022uF 30% 16V
C12	1-162-302-11	CERAMIC	0.0022uF 30% 16V
C13	1-126-096-11	ELECT	10uF 20% 35V
C14	1-126-923-11	ELECT	220uF 20% 10V
C15	1-162-306-11	CERAMIC	0.01uF 20% 16V
< CONNECTOR >			
* CN1	1-568-845-11	SOCKET, CONNECTOR 31P	
CN2	1-691-461-11	PIN, CONNECTOR (PC BOARD) 5P	
CN3	1-564-505-11	PLUG, CONNECTOR 2P	
* CN4	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
* CN5	1-564-515-11	PLUG, CONNECTOR 12P	

Ref. No.	Part No.	Description	Remark
* CN6	1-691-465-11	PIN, CONNECTOR (PC BOARD) 9P	
* CN7	1-568-369-11	HOUSING, CONNECTOR (PC BOARD) 8P	
* CN8	1-506-503-11	PIN, CONNECTOR 9P	
* CN9	1-564-337-00	PIN, CONNECTOR 3P	
* CN11	1-564-337-61	PIN, CONNECTOR 3P	
< DIODE >			
D2	8-719-200-82	DIODE 11ES2	
D3	8-719-200-82	DIODE 11ES2	
< IC >			
IC1	8-759-135-80	IC uPC358C	
IC2	8-759-633-65	IC M54641L	
IC3	8-752-060-73	IC CX20115A-T4	
< TRANSISTOR >			
Q1	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q2	8-729-801-84	TRANSISTOR 2SB1013-4	
Q3	8-729-801-93	TRANSISTOR 2SD1387	
< RESISTOR >			
R1	1-247-843-11	CARBON	3.3K 5% 1/4W
R2	1-249-429-11	CARBON	10K 5% 1/4W
R3	1-249-407-11	CARBON	150 5% 1/4W
R4	1-247-843-11	CARBON	3.3K 5% 1/4W
R5	1-249-421-11	CARBON	2.2K 5% 1/4W
R6	1-249-435-11	CARBON	33K 5% 1/4W
R7	1-247-807-11	CARBON	100 5% 1/4W
R8	1-249-417-11	CARBON	1K 5% 1/4W
R9	1-249-429-11	CARBON	10K 5% 1/4W
R11	1-249-429-11	CARBON	10K 5% 1/4W
R12	1-249-417-11	CARBON	1K 5% 1/4W
R14	1-249-441-11	CARBON	100K 5% 1/4W
R15	1-249-441-11	CARBON	100K 5% 1/4W
R16	1-249-441-11	CARBON	100K 5% 1/4W
R17	1-249-441-11	CARBON	100K 5% 1/4W
R18	1-249-409-11	CARBON	220 5% 1/4W
R19	1-249-409-11	CARBON	220 5% 1/4W
R20	1-249-401-11	CARBON	47 5% 1/4W
R21	1-249-429-11	CARBON	10K 5% 1/4W
R22	1-249-433-11	CARBON	22K 5% 1/4W
R23	1-249-403-11	CARBON	68 5% 1/4W
R24	1-249-403-11	CARBON	68 5% 1/4W
R25	1-247-843-11	CARBON	3.3K 5% 1/4W
R26	1-247-843-11	CARBON	3.3K 5% 1/4W
R27	1-249-419-11	CARBON	1.5K 5% 1/4W
*****			

**FOOT SW    HP VOL    INPUT SW    LOAD-SW    LOADING-MOT    MOTOR**

Ref. No.	Part No.	Description	Remark		
*	1-655-930-11	FOOT SW BOARD *****			
		< CAPACITOR >			
C570	1-162-294-31	CERAMIC	0.001uF	10%	50V
C571	1-162-294-31	CERAMIC	0.001uF	10%	50V
		< DIODE >			
D516	8-719-987-63	DIODE 1N4148M			
D517	8-719-987-63	DIODE 1N4148M			
D518	8-719-987-63	DIODE 1N4148M			
D519	8-719-987-63	DIODE 1N4148M			
		< JACK >			
J502	1-563-363-11	JACK, LARGE TYPE 2P (FOOT SW)			
		< RESISTOR >			
R640	1-249-417-11	CARBON	1K	5%	1/4W
R641	1-249-417-11	CARBON	1K	5%	1/4W
R642	1-249-429-11	CARBON	10K	5%	1/4W
R643	1-249-429-11	CARBON	10K	5%	1/4W
*****					
*	1-655-922-11	HP VOL BOARD *****			
		< CAPACITOR >			
C122	1-102-114-00	CERAMIC	470PF	10%	50V
C222	1-102-114-00	CERAMIC	470PF	10%	50V
C374	1-126-024-11	ELECT	220uF	20%	25V
C375	1-126-024-11	ELECT	220uF	20%	25V
		< RESISTOR >			
△ FR301	1-212-857-00	FUSIBLE	10	5%	1/4W F
△ FR302	1-212-857-00	FUSIBLE	10	5%	1/4W F
		< IC >			
IC321	8-759-981-96	IC RC4560D			
		< JACK >			
J304	1-565-327-11	JACK, LARGE TYPE 1P (PHONES)			
		< RESISTOR >			
R132	1-249-435-11	CARBON	33K	5%	1/4W
R133	1-249-431-11	CARBON	15K	5%	1/4W
R134	1-249-425-11	CARBON	4.7K	5%	1/4W
R135	1-247-807-11	CARBON	100	5%	1/4W
R232	1-249-435-11	CARBON	33K	5%	1/4W

Ref. No.	Part No.	Description	Remark		
R233	1-249-431-11	CARBON	15K	5%	1/4W
R234	1-249-425-11	CARBON	4.7K	5%	1/4W
R235	1-247-807-11	CARBON	100	5%	1/4W
		< VARIABLE RESISTOR >			
RV302	1-241-537-11	RES, VAR, CARBON 20K/20K (PHONE LEVEL)			
*****					
*	1-655-919-11	INPUT SW BOARD *****			
		< RESISTOR >			
R736	1-249-435-11	CARBON	33K	5%	1/4W
		< SWITCH >			
S729	1-572-758-11	SWITCH, ROTARY (INPUT)			
*****					
*	1-655-285-11	LOAD-SW BOARD *****			
		< SWITCH >			
S902	1-571-489-11	SWITCH, SLIDE (UNLOAD)			
S903	1-571-489-11	SWITCH, SLIDE (LOAD)			
*****					
*	1-655-286-11	LOADING-MOT BOARD *****			
		< CAPACITOR >			
C999	1-136-165-00	FILM	0.1uF	5%	50V
		< CONNECTOR >			
* CN919	1-564-496-11	PIN, CONNECTOR 3P			
* CN920	1-564-497-11	PIN, CONNECTOR 4P			
*****					
*	1-655-913-11	MOTOR BOARD *****			
		< CAPACITOR >			
C1	1-161-772-11	CERAMIC	0.1uF	10%	25V
		< CONNECTOR >			
* CN1	1-564-498-11	PIN, CONNECTOR 5P			
* CN4	1-564-336-00	PIN, CONNECTOR 2P			
* CN5	1-564-336-61	PIN, CONNECTOR 2P			
*****					

The components identified by mark △ or dotted line with mark. △ are critical for safety. Replace only with part number specified.

**PRIMARY**

**REC MODE SW**

**REC VOL**

**REC-EN**

**RF AMP**

Ref. No.	Part No.	Description	Remark
*	1-655-925-11	PRIMARY BOARD *****	
	1-775-047-11	CORD (WITH CONNECTOR)  < CAPACITOR >	
△ C901	1-113-916-11	CERAMIC	0.01uF 20% 250V
△ C902	1-113-916-11	CERAMIC	0.01uF 20% 250V
△ C903	1-113-920-11	CERAMIC	0.0022uF 20% 250V
△ C904	1-113-920-11	CERAMIC	0.0022uF 20% 250V
△ C905	1-113-920-11	CERAMIC	0.0022uF 20% 250V
△ C906	1-113-920-11	CERAMIC	0.0022uF 20% 250V  < CONNECTOR >
* CN901	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P	
CN902	1-770-353-21	PIN, CONNECTOR (PC BOARD) 2P	
CN903	1-770-354-11	PIN, CONNECTOR (PC BOARD) 2P  < COIL >	
△ L901	1-421-915-11	COIL, LINE FILTER  < GROUND PLATE >	
* LUG901	3-346-266-12	PLATE, GROUND *****	
*	1-655-920-11	REC MODE SW BOARD *****  < CONNECTOR >	
CN702	1-691-758-51	PIN, CONNECTOR 3P  < RESISTOR >	
R729	1-249-435-11	CARBON	33K 5% 1/4W  < SWITCH >
S722	1-572-758-11	SWITCH, ROTARY (REC MODE) *****	
*	1-655-921-11	REC VOL BOARD *****  < CONNECTOR >	
CN306	1-764-341-31	PIN, CONNECTOR (PCB) (L TYPE) 4P  < RESISTOR >	
R101	1-247-807-11	CARBON	100 5% 1/4W
R201	1-247-807-11	CARBON	100 5% 1/4W

Ref. No.	Part No.	Description	Remark
		< VARIABLE RESISTOR >	
RV301	1-241-937-11	RES, VAR, CARBON 20K/20K (REC LEVEL) *****	
*	1-654-393-11	REC-EN BOARD *****  < SWITCH >	
S901	1-572-459-11	SWITCH, PUSH (CASSETTE IN/REC ENABLE) *****	
*	A-2006-455-A	RF AMP BOARD, COMPLETE *****  < CAPACITOR >	
C1	1-124-778-00	ELECT CHIP	22uF 20% 6.3V
C2	1-163-019-00	CERAMIC CHIP	0.0068uF 10% 50V
C3	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C4	1-107-682-11	CERAMIC CHIP	1uF 10% 16V
C5	1-164-299-11	CERAMIC CHIP	0.22uF 10% 25V
C6	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C7	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C8	1-124-778-00	ELECT CHIP	22uF 20% 6.3V
C9	1-124-778-00	ELECT CHIP	22uF 20% 6.3V
C10	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C11	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C12	1-164-299-11	CERAMIC CHIP	0.22uF 10% 25V
C13	1-107-682-11	CERAMIC CHIP	1uF 10% 16V
C14	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C15	1-124-778-00	ELECT CHIP	22uF 20% 6.3V
C16	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C17	1-163-001-11	CERAMIC CHIP	220PF 10% 50V
C18	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C19	1-163-001-11	CERAMIC CHIP	220PF 10% 50V
C20	1-164-182-11	CERAMIC CHIP	0.0033uF 10% 50V
C21	1-163-005-11	CERAMIC CHIP	470PF 10% 50V
C22	1-126-603-11	ELECT CHIP	4.7uF 20% 35V
C23	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C24	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C25	1-124-778-00	ELECT CHIP	22uF 20% 6.3V
C26	1-163-038-00	CERAMIC CHIP	0.1uF 25V
C27	1-107-682-11	CERAMIC CHIP	1uF 10% 16V
C28	1-164-505-11	CERAMIC CHIP	2.2uF 16V  < CONNECTOR >
* CN51	1-566-207-11	PIN, CONNECTOR (PC BOARD) 14P	
* CN52	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P	

The components identified by mark △ or dotted line with mark. △ are critical for safety. Replace only with part number specified.

<b>RF AMP</b>	<b>S-END</b>	<b>SBM SW</b>	<b>SW (IN)</b>	<b>SW (OUT)</b>	<b>T-END</b>	<b>UNBAL</b>
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Ref. No.	Part No.	Description	Remark
		< IC >	
IC1	8-752-039-01	IC CXA1364R	
		< COIL >	
L1	1-408-781-00	INDUCTOR CHIP 22uH	
L2	1-408-789-21	INDUCTOR CHIP 100uH	
L3	1-408-781-00	INDUCTOR CHIP 22uH	
		< RESISTOR >	
R1	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
R2	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
R3	1-216-066-00	METAL CHIP 5.1K 5% 1/10W	
R4	1-216-066-00	METAL CHIP 5.1K 5% 1/10W	
R5	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R6	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R7	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R8	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R9	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R10	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R11	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R12	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R13	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R14	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R15	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R16	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R17	1-216-080-00	METAL CHIP 20K 5% 1/10W	
R18	1-216-073-00	METAL CHIP 10K 5% 1/10W	
		< VARIABLE RESISTOR >	
RV1	1-238-181-11	RES, ADJ, CERMET 4.7K	
RV2	1-238-181-11	RES, ADJ, CERMET 4.7K	
*****			
*	1-654-392-11	S-END BOARD	
		*****	
		< PHOTO SENSOR >	
Q950	1-808-957-11	PHOTO SENSOR	
*****			
*	1-655-918-11	SBM SW BOARD	
		*****	
		< CAPACITOR >	
C705	1-136-165-00	FILM 0.1uF 5% 50V	
		< CONNECTOR >	
CN703	1-691-760-51	PIN, CONNECTOR 5P	

Ref. No.	Part No.	Description	Remark
		< IC >	
IC703	8-749-922-36	IC GP1U50XB	
		< RESISTOR >	
R722	1-249-435-11	CARBON 33K 5% 1/4W	
		< SWITCH >	
S715	1-571-520-11	SWITCH, SLIDE (FOOT SW MODE)	
S745	1-570-974-11	SWITCH, SLIDE (SBM)	
*****			
*	1-655-914-11	SW (IN) BOARD	
		*****	
		< SWITCH >	
S11	1-572-247-11	SWITCH, SLIDE (CASSETTE COMPARTMENT LOCK)	
*****			
*	1-655-915-11	SW (OUT) BOARD	
		*****	
		< SWITCH >	
S12	1-570-975-11	SWITCH, SLIDE (CASSETTE COMPARTMENT OUT)	
*****			
*	1-654-391-11	T-END BOARD	
		*****	
		< PHOTO SENSOR >	
Q951	1-808-957-11	PHOTO SENSOR	
*****			
*	1-661-650-11	UNBAL BOARD	
		*****	
		< CAPACITOR >	
C148	1-126-023-11	ELECT 100uF 20% 25V	
C149	1-107-597-11	CERAMIC 22PF 10% 500V	
C248	1-126-023-11	ELECT 100uF 20% 25V	
C249	1-107-597-11	CERAMIC 22PF 10% 500V	
C380	1-126-023-11	ELECT 100uF 20% 25V	
C381	1-164-159-11	CERAMIC 0.1uF 50V	
C382	1-164-159-11	CERAMIC 0.1uF 50V	
		< CONNECTOR >	
CN314	1-691-766-21	PLUG (MICRO CONNECTOR) 4P	
CN315	1-691-766-31	PLUG (MICRO CONNECTOR) 4P	
CN316	1-691-766-11	PLUG (MICRO CONNECTOR) 4P	
CN317	1-691-766-41	PLUG (MICRO CONNECTOR) 4P	

Ref. No.	Part No.	Description	Remark		Ref. No.	Part No.	Description	Remark
CN318	1-691-765-41	PLUG (MICRO CONNECTOR) 3P					MISCELLANEOUS *****	
		< DIODE >						
D316	8-719-987-63	DIODE 1N4148M			17	1-769-542-11	WIRE (FLAT TYPE) (31 CORE)	
		< IC >			25	1-775-047-11	CORD (WITH CONNECTOR)	
IC326	8-759-981-96	IC RC4560D			66	1-769-541-11	WIRE (FLAT TYPE) (17 CORE)	
		< JACK >			82	1-775-048-11	CORD (WITH CONNECTOR)	
J307	1-770-163-11	JACK, PIN 4P (ANALOG(UNBALANCE) IN/OUT)			△ F501	1-532-286-00	FUSE (T2.5A/250V)	
		< RESISTOR >			△ F502	1-532-286-00	FUSE (T2.5A/250V)	
R174	1-247-895-00	CARBON	470K 5% 1/4W		M1	A-2003-448-A	MOTOR ASSY (CASSETTE COMPARTMENT)	
R175	1-249-431-11	CARBON	15K 5% 1/4W		M901	A-2003-660-A	MOTOR ASSY (LOADING)	
R176	1-249-435-11	CARBON	33K 5% 1/4W		M902	8-835-306-01	MOTOR, DC U-17A (CAPSTAN)	
R177	1-249-435-11	CARBON	33K 5% 1/4W		M903	8-835-205-01	MOTOR, DC U-2A (REEL) (INCLUDING PM901)	
R178	1-249-437-11	CARBON	47K 5% 1/4W					
					M904	8-848-626-11	DRUM ASSY DOU-03D-R	
R179	1-247-807-11	CARBON	100 5% 1/4W		PM902	1-454-522-11	SOLENOID, PLUNGER	
R180	1-249-415-11	CARBON	680 5% 1/4W		△ T901	1-427-913-11	TRANSFORMER, POWER	
R274	1-247-895-00	CARBON	470K 5% 1/4W		*****			
R275	1-249-431-11	CARBON	15K 5% 1/4W		ACCESSORIES & PACKING MATERIALS			
R276	1-249-435-11	CARBON	33K 5% 1/4W		*****			
R277	1-249-435-11	CARBON	33K 5% 1/4W					
R278	1-249-437-11	CARBON	47K 5% 1/4W					
R279	1-247-807-11	CARBON	100 5% 1/4W					
R280	1-249-415-11	CARBON	680 5% 1/4W					
		< RELAY >						
RY305	1-515-726-11	RELAY						
		< SWITCH >						
S301	1-572-622-11	SWITCH, SLIDE (ANALOG INPUT)						

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<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
		***** HARDWARE LIST *****	
#1	7-621-772-08	SCREW +B 2X3	
#2	7-621-772-20	SCREW +B 2X5	
#3	7-621-772-30	SCREW +B 2X6	
#4	7-621-773-86	SCREW +B 2.6X4	
#5	7-621-775-08	SCREW +B 2.6X3	
#6	7-627-552-47	SCREW, PRECISION +P 1.7X4	
#7	7-627-553-27	SCREW, PRECISION +P 2X2.5	
#8	7-621-771-06	SCREW, LOCK	
#9	7-627-553-67	SCREW, PRECISION +P 2X5	
#10	7-627-852-48	PRECISION SCREW +P1.7X3.5 TYPE3	
#11	7-628-253-00	SCREW +PS 2X4	
#12	7-682-660-09	SCREW +PS 4X6	
#13	7-621-255-45	SCREW +P 2X6	
#14	7-621-772-00	SCREW +B 2X3	
#15	7-621-772-10	SCREW +B 2X4	
#16	7-682-545-09	SCREW +B 3X4	
#17	7-685-660-29	SCREW +BVTP 4X10 TYPE2 SLIT	
#18	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#19	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
#20	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#21	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#22	7-682-548-04	SCREW +BVTT 3X8 (S)	
#23	7-685-871-01	SCREW +BVTT 3X6 (S)	