

# TC-H4700

## SERVICE MANUAL

*AEP Model  
E Model  
Australian Model  
Tourist Model*



This set is the cassette deck section in FH-E858, MHC-4700.

### SPECIFICATIONS

Recording system 4-track 2-channel stereo  
Frequency response (DOLBY NR OFF)  
40 — 13,000 Hz ( $\pm 3$  dB),  
using TYPE I cassette  
(Sony HF-S)  
40 — 14,000 Hz ( $\pm 3$  dB),  
using TYPE II cassette  
40 — 15,000 Hz ( $\pm 3$  dB),  
using  
TYPE IV cassette  
Wow and flutter 0.1% WRMS  $\pm 0.3\%$  (DIN)  
Inputs PHONO (phono jacks):  
sensitivity 2.5 mV,  
impedance 47 kilohms  
DAT (phono jacks):  
sensitivity 450 mV,  
impedance 47 kilohms  
VIDEO (phono jacks):  
sensitivity 300 mV,  
impedance 47 kilohms

Design and specifications subject to change without notice.

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

|                                    |                |              |
|------------------------------------|----------------|--------------|
| Model Name Using Similar Mechanism | TC-H2700/H3700 |              |
| Tape Transport Mechanism Type      | DECK A         | TCM-190RA13A |
|                                    | DECK B         | TCM-190RB12A |

### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  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.

STEREO CASSETTE DECK  
**SONY**®

## CAUTION WHEN REPAIRING

Normally the power of this set is supplied from the TA-H4700 amplifier connected. When only this set is repaired, connect the power of 18V AC as shown in the figure below.

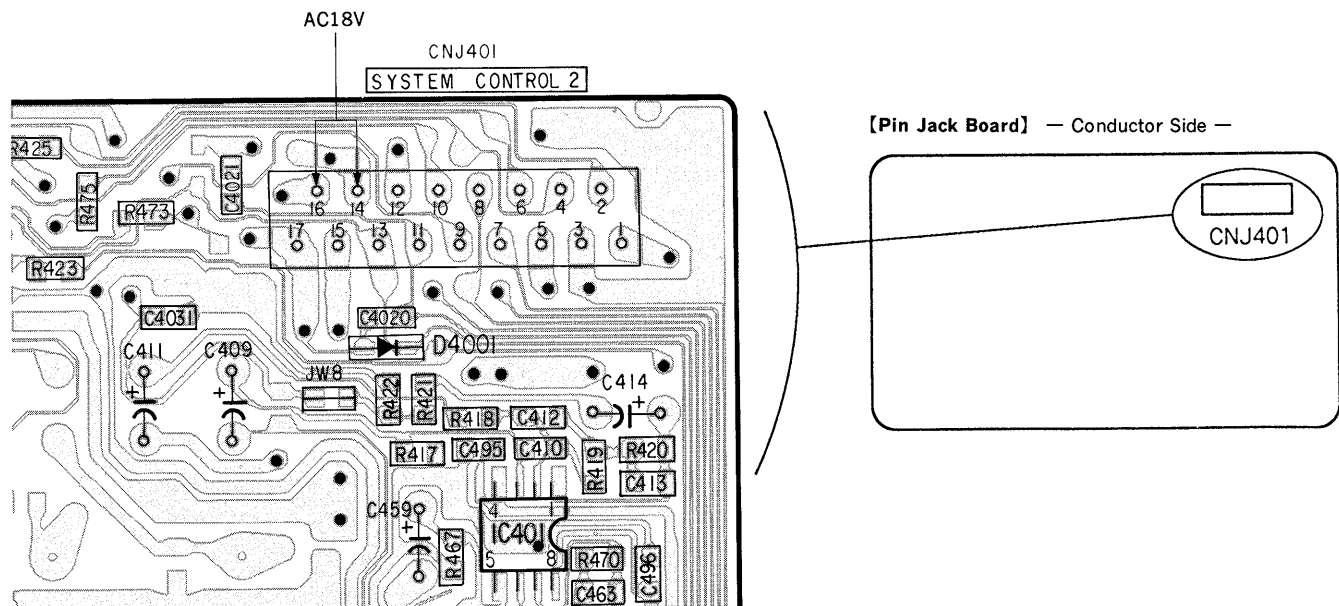
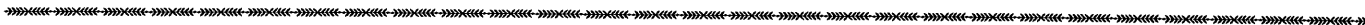


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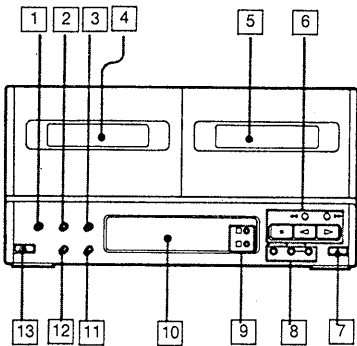
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SECTION 1  
GENERAL

1-1. PARTS IDENTIFICATION

This section is extracted from instruction manual.

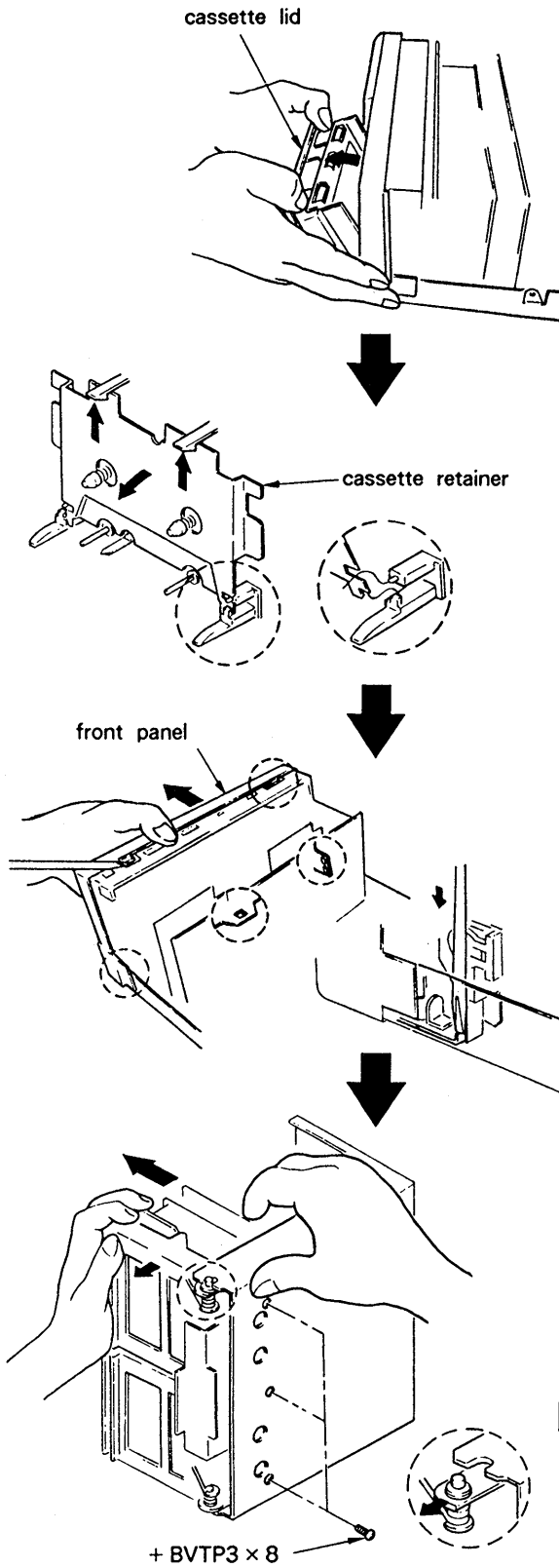


- 1 DUBBING MODE button and indicator 82
- 2 CD SYNCHRO (CD synchronized recording) button and indicator 94 100
- 3 COUNTER RESET button 62  
Resets the counter of the cassette deck to "0".
- 4 Cassette holder (Deck A)
- 5 Cassette holder (Deck B)
- 6 Tape operation buttons (for Deck A and B)  
AMS ◀▶▶▶ : Fast winding  
■ : Stop  
▷ : Forward play  
◁ : Reverse play
- 7 EJECT button (Deck B)
- 8 Tape operation buttons (for Deck B)  
|| : PAUSE  
○ : MUTE (Muting)  
● : REC (recording)
- 9 DECK A/B selector 62
- 10 Display window
- 11 DIRECTION MODE selector 62 68
- 12 DOLBY NR (Dolby Noise Reduction) switch 64
- 13 EJECT button (Deck A)

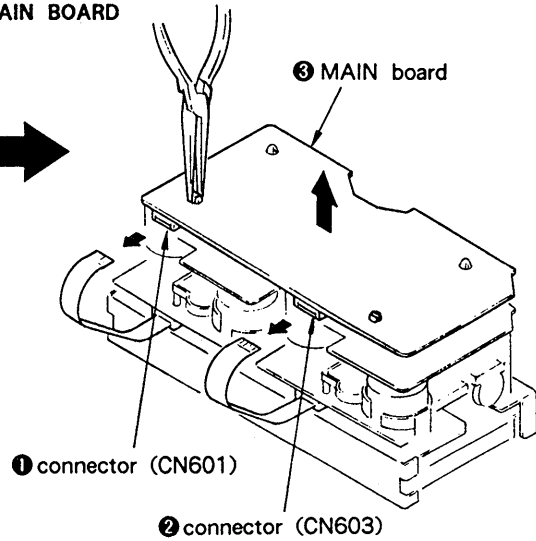
## SECTION 2 DISASSEMBLY

NOTE: Follow the disassembly procedure in the numerical order given.

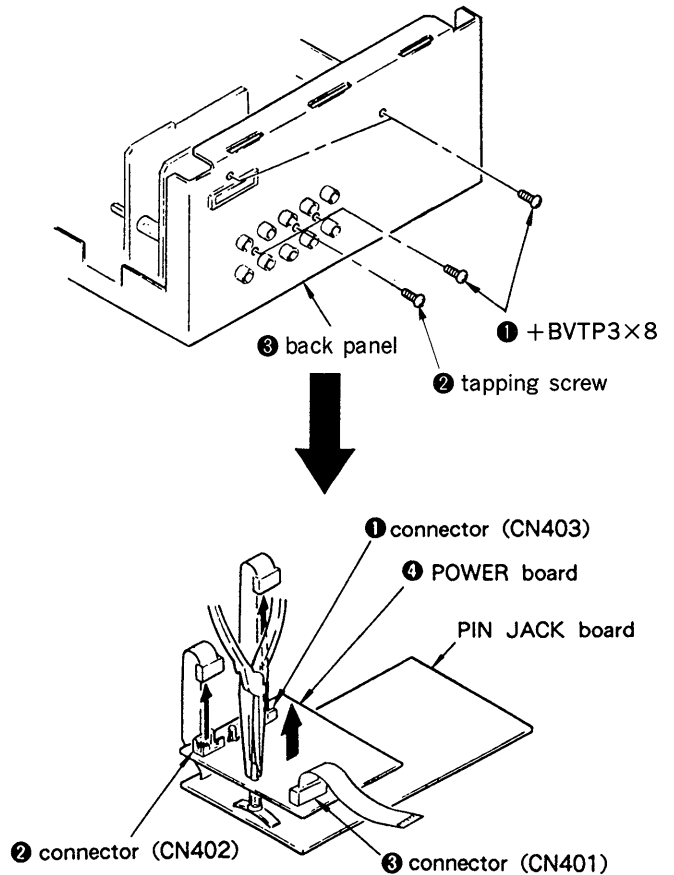
### • FRONT PANEL



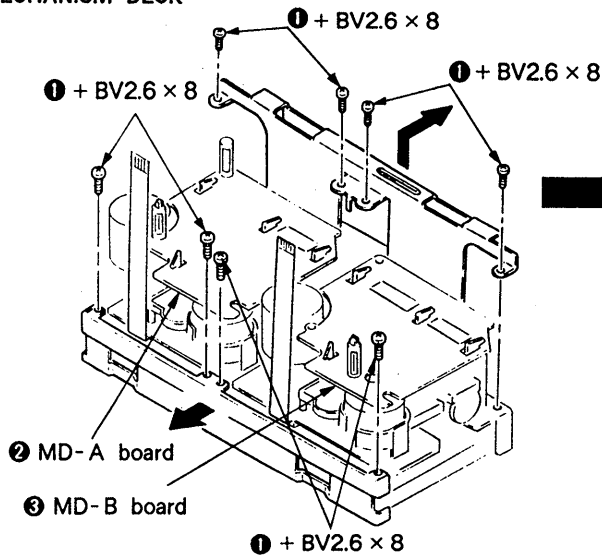
### • MAIN BOARD



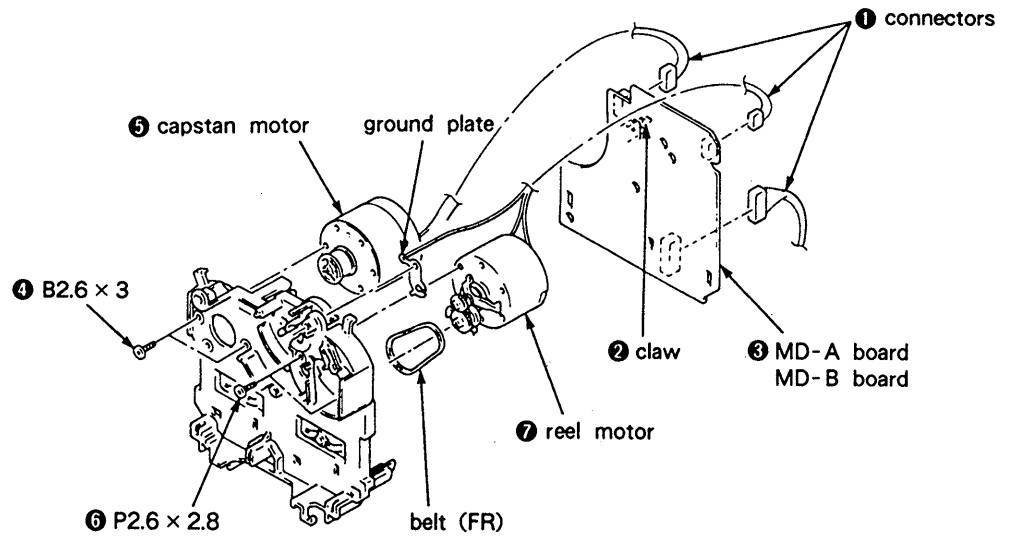
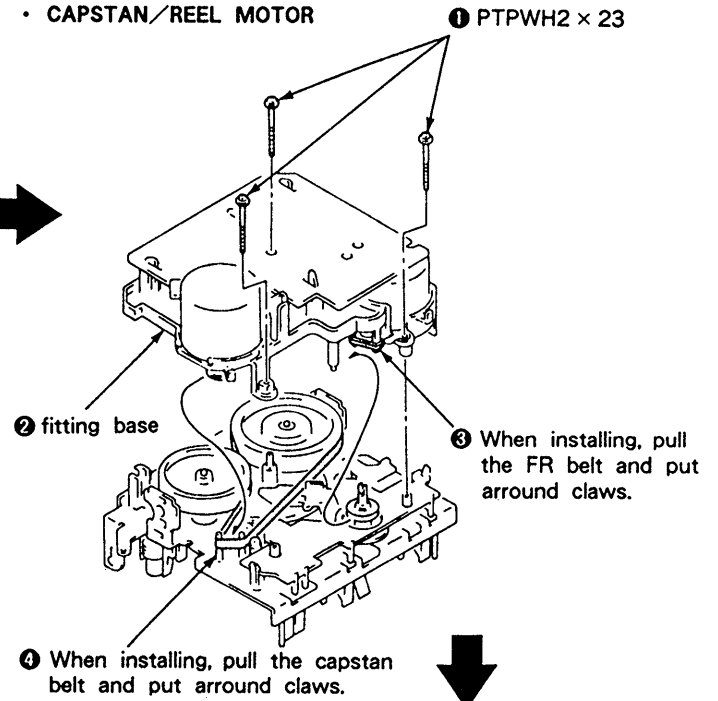
### • PIN JACK/POWER BOARD



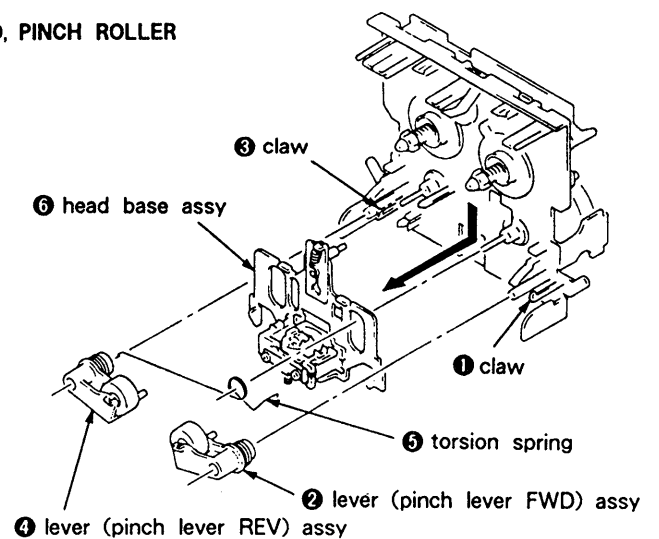
• MECHANISM DECK



• CAPSTAN/REEL MOTOR



• HEAD, PINCH ROLLER



## SECTION 3 MECHANICAL ADJUSTMENTS

### PRECAUTION

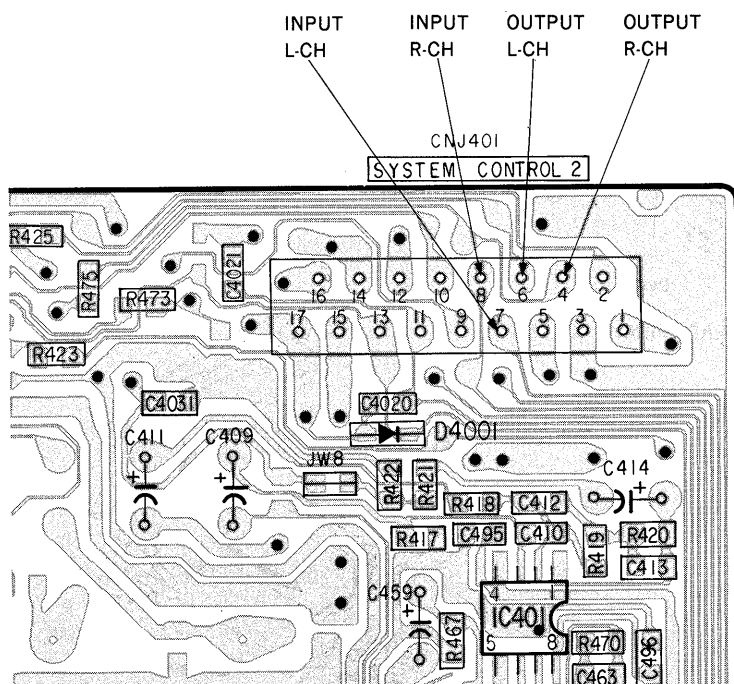
- Clean the following parts with a denatured alcoholmois-tened swad :
 

|                      |              |
|----------------------|--------------|
| record/playback head | pinch roller |
| erase head           | rubber belts |
| capstan              | idlers       |
- Demagnetize the record/playback head with a head demagnetizer.  
(Head demagnetizer do not approach for the erase head.)
- Do not use a magnetized screwdriver for the adjustment.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.

### Torque Measurement

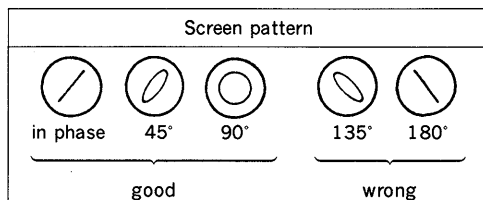
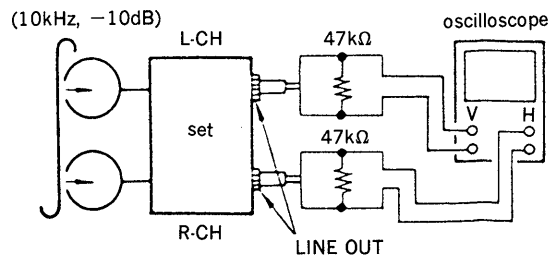
| Torque                  | Torque meter | Meter reading                               |
|-------------------------|--------------|---------------------------------------------|
| Forward                 | CQ-102C      | 35 to 60g · cm<br>(0.49 to 0.83 oz · inch)  |
| Forward<br>back tension | CQ-102C      | 2 to 6g · cm<br>(0.03 to 0.08oz · inch)     |
| Reverse                 | CQ-102RC     | 35 to 60g · cm<br>(0.49 to 0.83oz · inch)   |
| Reverse<br>back tension | CQ-102RC     | 2 to 6g · cm<br>(0.03 to 0.08oz · inch)     |
| Forward,<br>Reverse     | CQ-201B      | 70 to 110g · cm<br>(0.98 to 1.52 oz · inch) |

### LINE IN/OUT Terminal (CNJ401)



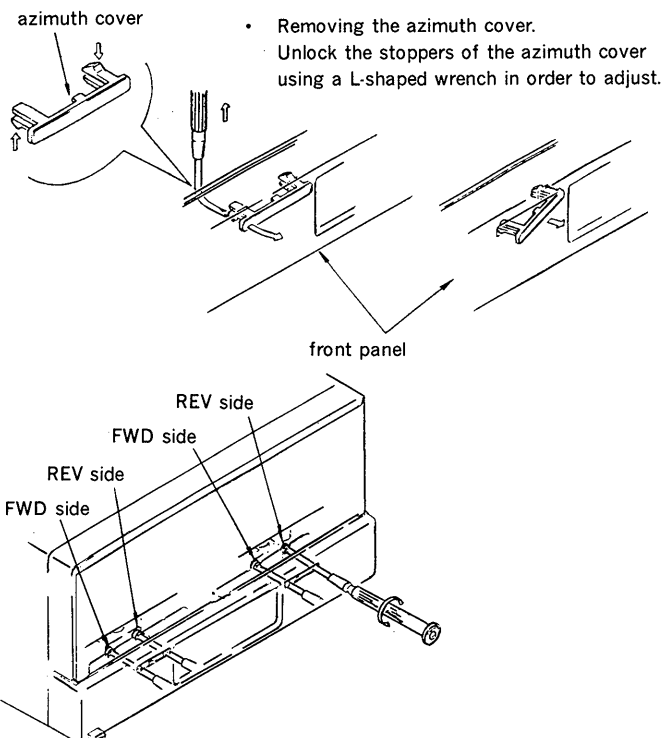
### 3. Playback Mode

test tape  
P-4-A100  
(10kHz, -10dB)



4. Change the reverse playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screw with suitable locking compound.

**Adjustment Location :** —record/playback head—



### Tape Speed Adjustment

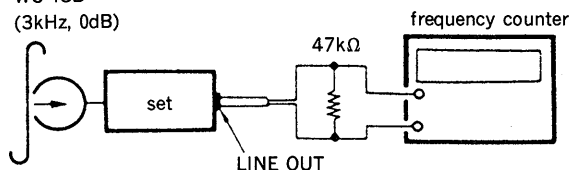
**DECK A**

**DECK B**

#### Procedure :

—Forward Playback Mode—

test tape  
WS-48B  
(3kHz, 0dB)



Perform high speed adjustment before normal speed adjustment.

(High speed adjustment)

1. Short TP601 (main board) when the power is OFF.
2. Turn on the power and put the deck A into the FWD mode.
3. Connect a 150Ω resistor to both the terminals of TP6001 (main board). (The set enters into high speed playback mode.)
4. Adjust RV72A (H) of the deck A so that a reading of the frequency counter meets the adjustment value.
5. Adjust the RV72B (H) of deck B performing steps 2 to 5 as deck A.
6. After the adjustment is completed, remove the short of TP601 and 150Ω resistor of TP6001.

(Normal speed adjustment)

1. Put the set into the FWD playback mode.
2. At this time, adjust RV71A (L) of the deck A and RV71B (L) of the deck B so that a reading of the frequency counter meets the adjustment value.

#### Adjustment Limits :

| Speed  | Frequency Counter Reading |
|--------|---------------------------|
| High   | $6,000 \pm 20\text{Hz}$   |
| Normal | $3,000 \pm 10\text{Hz}$   |

Frequency difference between the beginning and the end of the tape should be within 3%.

Frequency difference between deck A and deck B the beginning of the tape should be within 1.5%.

**Adjustment Location :** MD-A Board

MD-B HX PRO Board

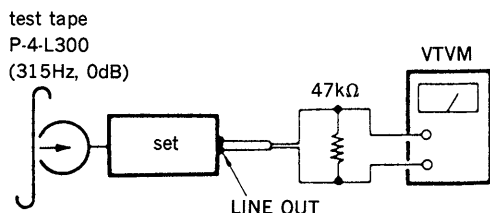
## Playback Level Adjustment

DECK A

DECK B

### Procedure :

—Forward Playback Mode—



Adjust deck A : RV11A (L-CH), RV21A (R-CH) and deck B : RV11B (L-CH), RV21B (R-CH) so that the VTVM reading becomes the adjustment limits below.

### Adjustment Limits :

LINE OUT level :  $-7.5 \pm 0.5\text{dB}$  (0.31 to 0.35V)

Level Difference between Channels : within 0.5dB

Confirm the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MD-A Board

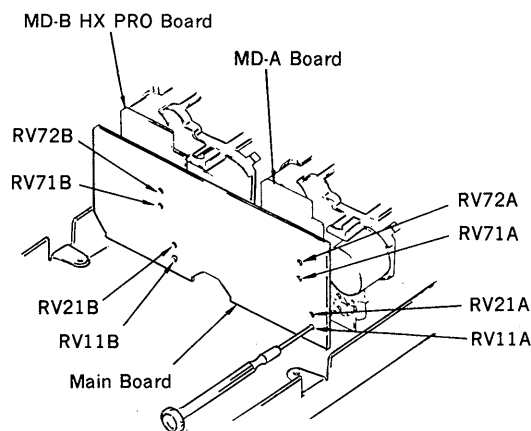
MD-B HX PRO Board

## Tape Speed/playback Level Adjustment

Screwdriver to adjust the MD block



The MD block adjustment can be performed by inserting a screwdriver of which axis length (not including the shaft) is 35 mm or more through the rear side of the main board.

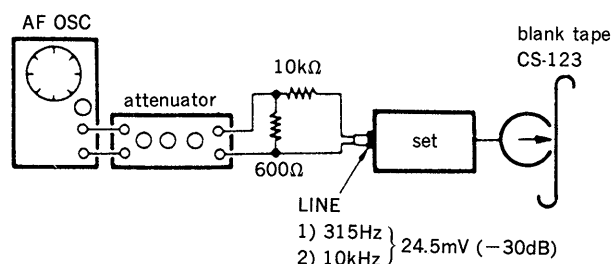


## Record Bias Adjustment

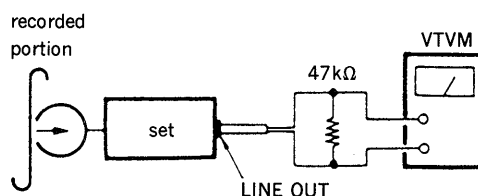
DECK B

### Procedure :

1. Record Mode



2. Playback Mode



Playback the signal recorded in step 1.

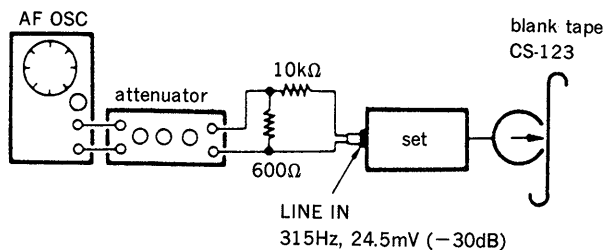
Confirm that the 10kHz playback output is  $0 \pm 0.5\text{dB}$  (0.732 to 0.821V) relative to the 315Hz output. if necessary. adjust RV81 (L-CH), RV91 (R-CH) and repeat the steps given above.

Adjustment Location : MD-B HX PRO Board

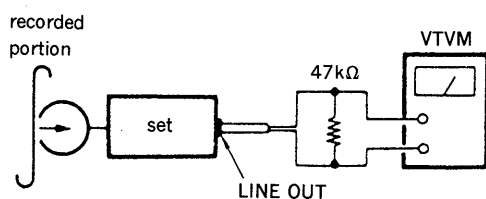
## Record Level Adjustment **DECK B**

### Procedure :

1. Record Mode



2. Playback Mode



Confirm playback the tape recorded become adjustment level as follows.

If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat steps 1 and 2.

### Adjustment Limits :

LINE OUT level :  $-27.5 \pm 0.5\text{dB}$  (31 to 35mV)

**Adjustment Location :** main board

### Adjustment Location :

【MD-A Board】 —Component Side—

Tape Speed Adjustment

{ RV72A (H)  
RV71A (L)

Playback Level Adjustment

{ RV21A (R-CH)  
RV11A (L-CH)

【MD-B HX PRO Board】 —Component Side—

Record Bias Adjustment

{ RV81 (L-CH)  
RV91 (R-CH)

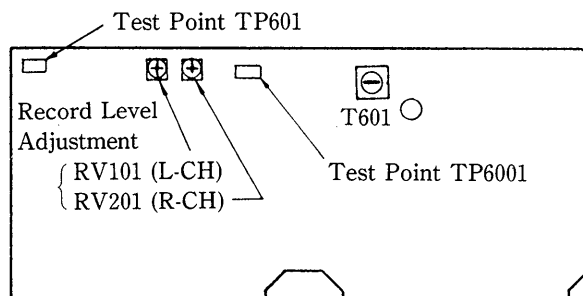
Tape Speed Adjustment

{ RV72B (H)  
RV71B (L)

Playback Level Adjustment

{ RV21B (R-CH)  
RV11B (L-CH)

【Main Board】 —Component Side—



## SECTION 5 DIAGRAMS

### 5-1. IC PIN DESCRIPTION

#### IC351 display microprocessor HD614023-FA93

Fluorescent indicator tube is activated by receiving data from IC601 (system controller).

| Pin No. | Pin Name        | I/O | Description                                                                                  |
|---------|-----------------|-----|----------------------------------------------------------------------------------------------|
| 1—11    | S10—S0          | O   | FL indicator tube (FL351) segment output                                                     |
| 12      |                 |     | Not used. (+5.6V)                                                                            |
| 13      | VDISP           | —   | Power supply for activating the FL indicator tube (−20V)                                     |
| 14—15   |                 |     | Not used (GND)                                                                               |
| 16      | SYNC            | I   | Interrupt input. Data transmission from IC601 (system controller) is checked.                |
| 17      | INT             | I   | Not used. (GND)                                                                              |
| 18—25   |                 | I   | Not used. (GND)                                                                              |
| 26      | V <sub>CC</sub> | —   | Power supply terminal (+5.6V)                                                                |
| 27      | CLK             | I   | Data transmission clock input from IC601 (system controller)                                 |
| 28      | DATA            | I   | Serial data input from IC601 (system controller)                                             |
| 29      | SYNC            | I   | Sync signal input which indicates the first byte of data sent from IC601 (system controller) |
| 30      |                 | —   | Not used. (GND)                                                                              |
| 31      | KEY A           | O   | LED (D303) light output in the deck A.                                                       |
| 32      | KEY B           | O   | LED (D304) light output in the deck B.                                                       |
| 33      | HIGH DUB        | O   | LED (D301) light output in the high speed dubbing mode.                                      |
| 34      | NORM DUB        | O   | LED (D301) light output in the normal speed dubbing mode.                                    |
| 35      | CD SYNC         | O   | LED (D302) light output in the CD synchro mode.                                              |
| 36—38   |                 |     | Not used. (GND)                                                                              |
| 39      | FLCHECK         | I   | All the FL indicator tubes are lit when this port is set to “L”. (Normally +5.6V)            |
| 40—42   |                 |     | Not used. (GND)                                                                              |
| 43      | RESET           | I   | Reset input from IC601 (system controller). “L” : Reset.                                     |
| 44      | TEST            | I   | Not used. (+5.6V)                                                                            |
| 45      | OSC1            | I   | Clock input (4.19MHz)                                                                        |
| 46      | OSC2            | O   | Clock output                                                                                 |
| 47      | GND             | —   | Power supply terminal (GND)                                                                  |
| 48—50   |                 |     | Not used. (GND)                                                                              |
| 51      |                 |     | Not used. (Pull-up)                                                                          |
| 52—57   | G0—G6           | O   | FL indicator tube (FL351) grid output                                                        |
| 58—61   |                 |     | Not used. (+5.6V)                                                                            |
| 62—64   | S11—S13         | O   | FL indicator tube (FL351) segment output                                                     |

#### IC406 selector controller M50760-315FP

AV output is switched with the audio pass signal sent from the amplifier (TA-H4700).

| Pin No. | Pin Name          | I/O | Description                                            |
|---------|-------------------|-----|--------------------------------------------------------|
| 1       | D3                | I   | Model selection input port. Connected to GND.          |
| 2       | A0                | O   | Audio IN switch (IC403 and IC404) control output port. |
| 3       |                   |     | Not used.                                              |
| 4       | A1                | O   | Audio IN switch (IC403 and IC404) control output port. |
| 5       | CNV <sub>SS</sub> | —   | Power supply terminal (GND)                            |
| 6       | V <sub>SS</sub>   | —   | Power supply terminal (GND)                            |
| 7       | A2                | O   | Audio IN switch (IC403 and IC404) control output port. |
| 8       | B0                | O   | Audio OUT switch (IC405) control output port.          |
| 9       | B1                | O   | Audio OUT switch (IC405) control output port.          |
| 10      |                   |     | Not used.                                              |
| 11, 12  |                   |     | Not used.                                              |
| 13, 14  |                   |     | Not used. (GND)                                        |
| 15      |                   |     | Not used.                                              |
| 16      | RESET             | I   | Reset input. “L” : Reset                               |
| 17      | XOUT              | O   | Clock output.                                          |
| 18      | XIN               | I   | Clock input.                                           |
| 19      | S                 | I   | Serial data input (audio bus)                          |
| 20      | D2                | I   | Serial data input (audio bus)                          |
| 21      | S1                | I   | Model selection input port. Connected to GND.          |
| 22      |                   |     | Not used.                                              |
| 23      | VD0               | I   | Model selection input port. Connected to GND.          |
| 24      | V <sub>DD</sub>   | —   | Power supply terminal (+5V)                            |

**IC601 system controller M50944-128FP**

The system is wholly controlled by communication between IC351 (display microprocessor) and IC602 (mechanism controller).

| Pin No. | Pin Name     | I/O | Description                                                                                                                        |
|---------|--------------|-----|------------------------------------------------------------------------------------------------------------------------------------|
| 1       | KEY2         | I   | Not used. (GND)                                                                                                                    |
| 2       | KEY1         | I   | Not used. (GND)                                                                                                                    |
| 3       | SYNC         | O   | Synchro signal input which indicates the first byte of data sent to IC351 (display microprocessor).                                |
| 4       | FL-SCK       | O   | Data transmission clock output to IC351 (display microprocessor).                                                                  |
| 5       | FL-SO        | O   | Serial data output to IC351 (display microprocessor).                                                                              |
| 6       | AU-BUS       | O   | Audio pass output.                                                                                                                 |
| 7       | AU-BUS       | I   | Audio pass input (negative edge).                                                                                                  |
| 8       | POWER-IN     | I   | Power-off detection input. "L": Power OFF.                                                                                         |
| 9       | PB-SELECT    | O   | Deck A/B switch output in the playback mode. "L": deck B, "H": deck A.                                                             |
| 10      | AMS-SELECT   | O   | AMS amplifier input switch output                                                                                                  |
| 11      | MD-REQ       | I   | Data request input from IC602 (mechanism controller)                                                                               |
| 12      | MD-SCLK      | O   | Data transmission clock output to IC602 (mechanism controller)                                                                     |
| 13      | MD-SO        | O   | Serial data output to IC602 (mechanism controller)                                                                                 |
| 14      | MD-SI        | I   | Serial data input from IC602 (mechanism controller)                                                                                |
| 15      |              | O   | Not used. (GND)                                                                                                                    |
| 16      | RESET (MD)   | O   | IC602 (mechanism controller) reset signal output.                                                                                  |
| 17      | AU-BUS       | I   | Audio bus input (positive-edge)                                                                                                    |
| 18      | RESET (DSP)  | O   | IC351 (display microprocessor) reset signal output.                                                                                |
| 19      | GND          | —   | Power supply terminal. (GND)                                                                                                       |
| 20      | RESET        | I   | System reset input. "L": Reset.                                                                                                    |
| 21      | X-IN         | I   | Clock input (4MHz)                                                                                                                 |
| 22      | X-OUT        | O   | Clock output                                                                                                                       |
| 23      | XC-IN        | I   | Not used. (GND)                                                                                                                    |
| 24      | XC-OUT       | O   | Not used. (open)                                                                                                                   |
| 25      | VSS          | —   | Power supply terminal (GND)                                                                                                        |
| 26      | N. C.        |     | Not used. (open)                                                                                                                   |
| 27      | TEST         | I   | Electrical adjustment test mode setting input<br>This set enters into the test mode when the power is on and it is set to "L". * 1 |
| 28      | VAR SELECT   | I   | Not used. (pull-up)                                                                                                                |
| 29      | METAL (B)    | I   | Metal switch (S83) input for deck B. "H": Metal.                                                                                   |
| 30      | 70 $\mu$ (B) | I   | Chrome switch (S82) input for deck B. "L": Normal.                                                                                 |
| 31      | PPOWER-ON    | O   | Not used. (open)                                                                                                                   |
| 32—35   |              |     | Not used. (GND)                                                                                                                    |
| 36      | 70 $\mu$ (A) | I   | Chrome switch (S83) input for deck A. "L": Normal.                                                                                 |
| 37      | AMS IN       | I   | Signal input from the AMS amplifier. "H": Detected, "L": Not detected.                                                             |
| 38      | N. C.        |     | Not used. (GND)                                                                                                                    |
| 39      |              |     | Not used. (GND)                                                                                                                    |
| 40      | EQ-HIGH      | O   | REC equalizer characteristic switch output<br>"H": High speed, "L": Normal speed.                                                  |
| 41      | BIAS FADE    | O   | Not used. (GND)                                                                                                                    |
| 42      | BIAS (B)     | O   | Bias ON/OFF switch output. "H": OFF, "L": ON.                                                                                      |
| 43      | TYPE II (B)  | O   | Not used. (GND)                                                                                                                    |
| 44      | TYPE I (B)   | O   | Not used. (GND)                                                                                                                    |
| 45      | R.MUTE (B)   | O   | REC mute control output. "L": Mute ON, "H": Mute OFF.                                                                              |
| 46      | RELAY (B)    | O   | Mechanism deck head switch control output. "L": ON.                                                                                |
| 47      | DOLBY B      | O   | Dolby B/C switch control output. "L": Dolby C, "H": Dolby B.                                                                       |
| 48      | DOLBY ON     | O   | Dolby ON/OFF switch control output. "L": ON, "H": OFF.                                                                             |
| 49      | REC/PB       | O   | Dolby amplifier REC/PB switch output. "L": REC, "H": PB.                                                                           |
| 50      |              |     | Not used. (open)                                                                                                                   |
| 51      | PB 70 $\mu$  | O   | Playback equalizer characteristic switch output. "H": normal, "L": chrome/metal.                                                   |
| 52      | AMS/BS       | O   | Not used.                                                                                                                          |
| 53      | PASS         | O   | PASS amplifier switch output for LINE OUT. "L": PASS amplifier, "H": Through.                                                      |

| Pin No. | Pin Name  | I/O | Description                                           |
|---------|-----------|-----|-------------------------------------------------------|
| 54      | LINE-MUTE | O   | Line mute control output. "L": MUTE OFF, "H": MUTE ON |
| 55      | AVCC      | —   | Power supply terminal. (+5V)                          |
| 56      | VCC       | —   | Power supply terminal. (+5V)                          |
| 57      | AVSS      | —   | Power supply terminal (GND)                           |
| 58      | V.REF     | I   | Reference voltage input for A/D input port (+5V)      |
| 59      | METER (R) | I   | Level meter signal input (R-CH)                       |
| 60      | METER (L) | I   | Level meter signal input (L-CH)                       |
| 61      | VOL DATA  | I   | Not used. (GND)                                       |
| 62      | KEY5      | I   | Not used. (GND)                                       |
| 63      | KEY4      | I   | Key input. (analog) * 2                               |
| 64      | KEY3      | I   | Key input. (analog) * 2                               |

# \* 1 Test mode

When the power is on and pin ②⑦ is set to "L" Short TP601. (main board), the set enters the electrical adjustment test mode and the followings can be available.

## (1) High speed playback

When deck A or B is in the playback mode and a 150Ω resistor is connected to both the terminals of TP6001 (main board), the set can be entered the high speed playback mode.

## (2) Source monitor

Recording signals can be monitored through the LINE OUT terminal (see page 6.) because the line short is removed in recording.

## (3) Recording memory

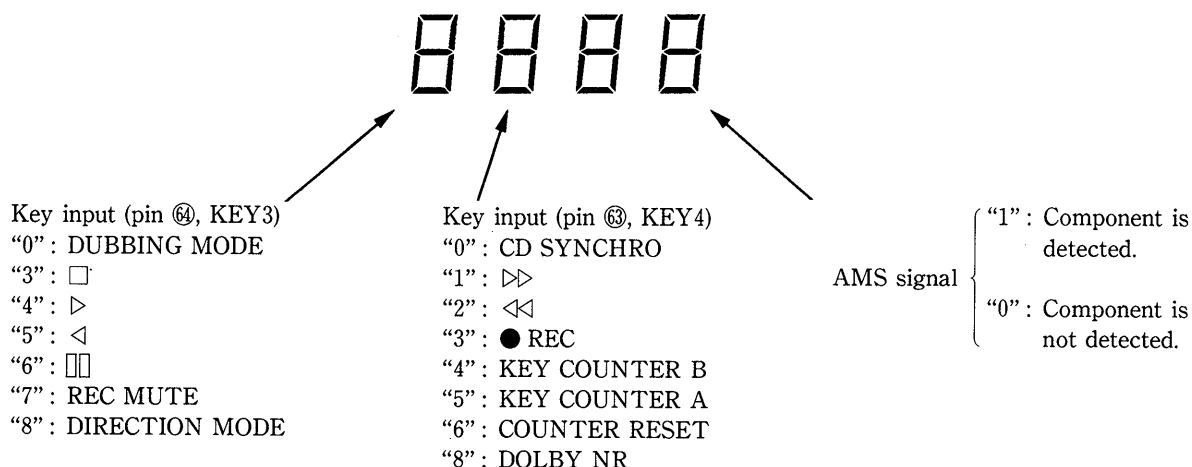
Recording memory is set to ON when the tape counter is reset at the record start point.

## (4) Mode display

The counter displays as shown in the figure A when the counter mode is set to the deck A and the deck A button of deck A/B switch is pressed, or when the counter mode is the deck B and the deck B button is pressed.

## (5) When this terminal is set back to "H" after it is set to the test mode in "L" of the power-on mode, all the FL indicator tubes are lit.

(The mechanism block continues to operate as before it is set to "H".)



**Figure A**

# \* 2 Key input (analog port)

| Voltage(V)   | 0            | 0.3 | 0.7 | 1.2   | 1.7           | 2.3           | 2.8           | 3.3        | 4.0            |
|--------------|--------------|-----|-----|-------|---------------|---------------|---------------|------------|----------------|
| Input port   |              |     |     |       |               |               |               |            |                |
| Pin ⑥③, KEY4 | CD SYNCHRO   | ◁◁  | ▷▷  | ● REC | KEY COUNTER B | KEY COUNTER A | COUNTER RESET |            | DOLBY NR       |
| Pin ⑥④, KEY3 | DUBBING MODE |     |     | □     | ▷             | ◁             | □□ PAUSE      | ○ REC MUTE | DIRECTION MODE |

**IC602 mechanism controller M50925-482FP**

The mechanism deck is controlled by receiving data from IC601 (system controller).

| Pin No. | Pin Name  | I/O | Description                                                                                              |
|---------|-----------|-----|----------------------------------------------------------------------------------------------------------|
| 1       | RESET     | I   | Reset input from IC601 (system controller). "L": Reset.                                                  |
| 2       | STOP-A    | I   | Deck A stop switch (S81) input. "H": Stop.                                                               |
| 3       | AVSS      | —   | Power supply terminal (GND)                                                                              |
| 4       | Vref      | I   | A/D input port reference voltage input.                                                                  |
| 5       | A/D. IN-B | I   | Deck B leaf switch input (analog). * 1                                                                   |
| 6       | A/D. IN-A | I   | Deck A leaf switch input (analog). * 1                                                                   |
| 7       | AVDD      | —   | Power supply terminal. (+5V)                                                                             |
| 8       | N. C.     |     |                                                                                                          |
| 9       | T. REEL-B | I   | Not used. (GND)                                                                                          |
| 10      | S. REEL-B | I   | Deck B supply reel table sensor (IC81)                                                                   |
| 11      | T. REEL-A | I   | Not used. (GND)                                                                                          |
| 12      | S. REEL-A | I   | Deck A supply reel table sensor (IC81)                                                                   |
| 13, 14  | N. C.     |     |                                                                                                          |
| 15      | CM. ON-A  | O   | Deck A capstan motor (M102) ON/OFF control output. "L": OFF, "H": ON.                                    |
| 16      | CM. ON-B  | O   | Deck B capstan motor (M102) ON/OFF control output. "L": OFF, "H": ON.                                    |
| 17      | GND       | —   | Power supply terminal. (GND)                                                                             |
| 18      | VSS       | —   | Power supply terminal. (GND)                                                                             |
| 19      | CM. H/L   | O   | Capstan motor (M102) speed switch output. "H": High speed, "L": Normal.                                  |
| 20      | FWD-B     | O   | } Deck B reel motor control output. * 2<br>The reel motor is activated by combining these three outputs. |
| 21      | FF-B      | O   |                                                                                                          |
| 22      | TRIG-B    | O   |                                                                                                          |
| 23      | FWD-A     | O   | } Deck A reel motor control output. * 2<br>The reel motor is activated by combining these three outputs. |
| 24      | FF-A      | O   |                                                                                                          |
| 25      | TRIG-A    | O   |                                                                                                          |
| 26      | N. C.     |     |                                                                                                          |
| 27      | S. REQ    | O   | Data request output to IC601 (system controller).                                                        |
| 28      | S. CLK    | I   | Data transmission clock input from IC601 (system controller).                                            |
| 29      | S. OUT    | O   | Serial data output to IC601 (system controller).                                                         |
| 30      | S. IN     | I   | Serial data input from IC601 (system controller).                                                        |
| 31, 32  | N. C.     |     |                                                                                                          |
| 33      | XOUT      | O   | Clock output.                                                                                            |
| 34      | XIN       | I   | Clock input.                                                                                             |
| 35      | STOP-B    | I   | Deck B stop switch (S81) input. "H": Stop.                                                               |
| 36      | VDD       | —   | Power supply terminal. (+5V)                                                                             |

\* 1 HALF, REC safety tab leaf switch input

| Voltage(V)             |     | 1                              | 1.9                          | 2.8                                 | 3.9                            | 5                |
|------------------------|-----|--------------------------------|------------------------------|-------------------------------------|--------------------------------|------------------|
| Leaf switch            |     |                                |                              |                                     |                                |                  |
| Harf                   | S86 | ON                             |                              |                                     |                                |                  |
| REC safety tab, side A | S84 | OFF                            | ON                           | OFF                                 | ON                             | OFF              |
| REC safety tab, side B | S85 | ON                             | ON                           | OFF                                 | OFF                            | OFF              |
|                        |     | ↑                              | ↑                            | ↑                                   | ↑                              | ↑                |
|                        |     | REC available for only side B. | REC available for both sides | REC inhibit for both sides A and B. | REC available for only side A. | Tape is not set. |
| Tape is set.           |     |                                |                              |                                     |                                |                  |

\* 2 Reel motor drive

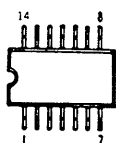
| Mode            | FF | TRIG (kick) | STOP | FWD |
|-----------------|----|-------------|------|-----|
| Output port     |    |             |      |     |
| Pins ②and④ FF   | L  | H           | L    | L   |
| Pins ②and⑤ TRIG | H  | L           | L    | H   |
| Pins ②and③ FWD  | H  | H           | L    | L   |

Reel motor drive amplifier output voltage

| Output  | Voltage |
|---------|---------|
| TRIG    | +6V     |
| FF, REW | -5V     |
| FWD     | -3V     |

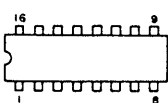
## 5-2. SEMICONDUCTOR LEAD LAYOUTS

BA3308F  
CD4066BCM



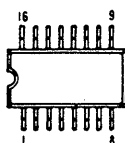
(TOP VIEW)

HD14053BFP



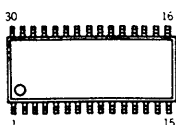
(TOP VIEW)

CD4052BCM  
CXA1578M  
MC14051BF



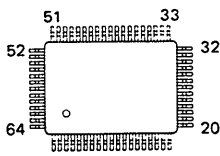
(TOP VIEW)

CXA1331M



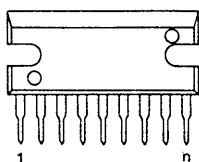
(TOP VIEW)

HD614023-FA93  
M50944-128FP



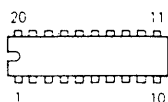
(TOP VIEW)

LA5603-S



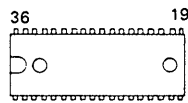
1 n

M50760-315FP



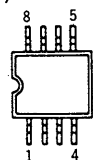
(TOP VIEW)

M50925-482FP



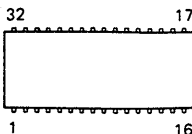
(TOPVIEW)

M51953BFP  
 $\mu$ PC4570G2



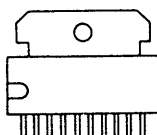
(TOP VIEW)

M5218AFP



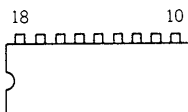
1 16

TA7272P



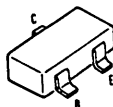
marking side view

$\mu$ PC1297CA

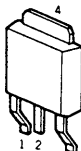


(TOP VIEW)

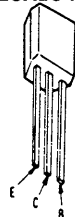
FA1A4M-L33  
FA1A4Z-L68  
2SA1162-C  
2SA1602-F  
2SC3395  
2SC4154-F



2SA1341



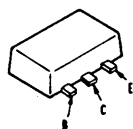
2SA1344



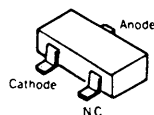
2SB1094-LK  
2SD2012



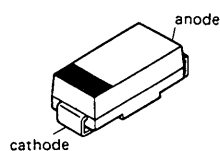
2SB1122-S  
2SD1622-S



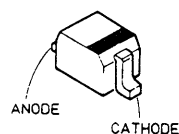
DCA010



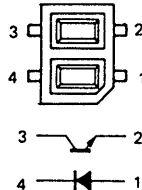
EC10DS2  
EC10QS-04



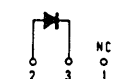
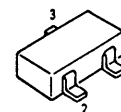
MA8056  
MA8091  
1SS352



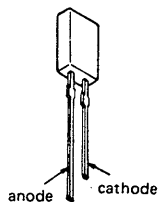
NJL5165K-B



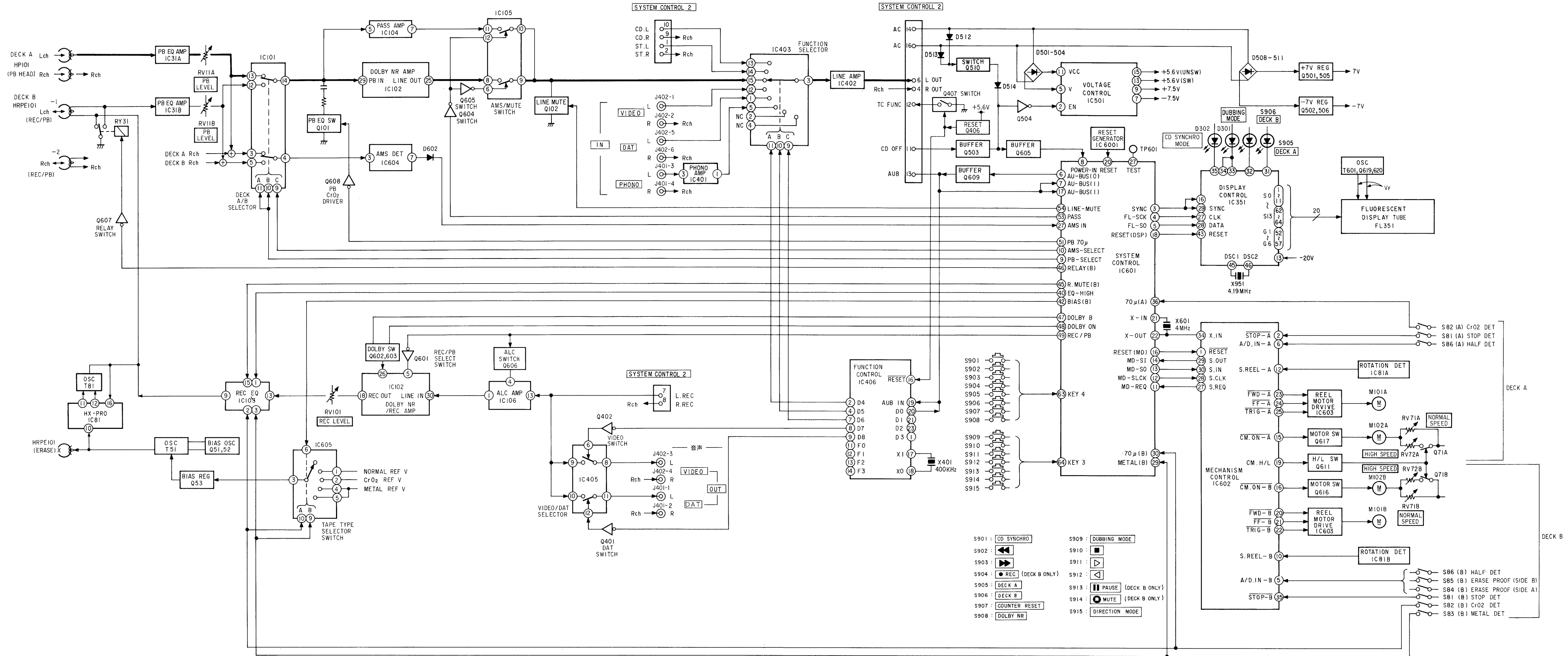
UZM8.2Z



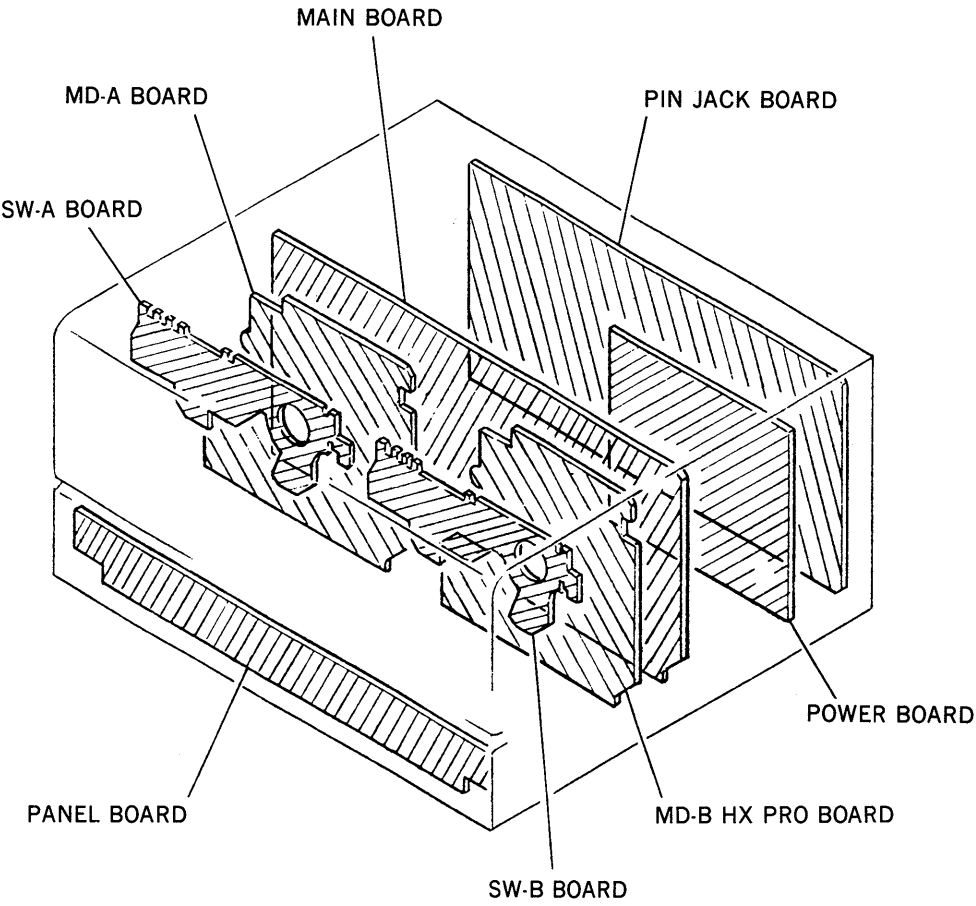
SEL4226R-CD



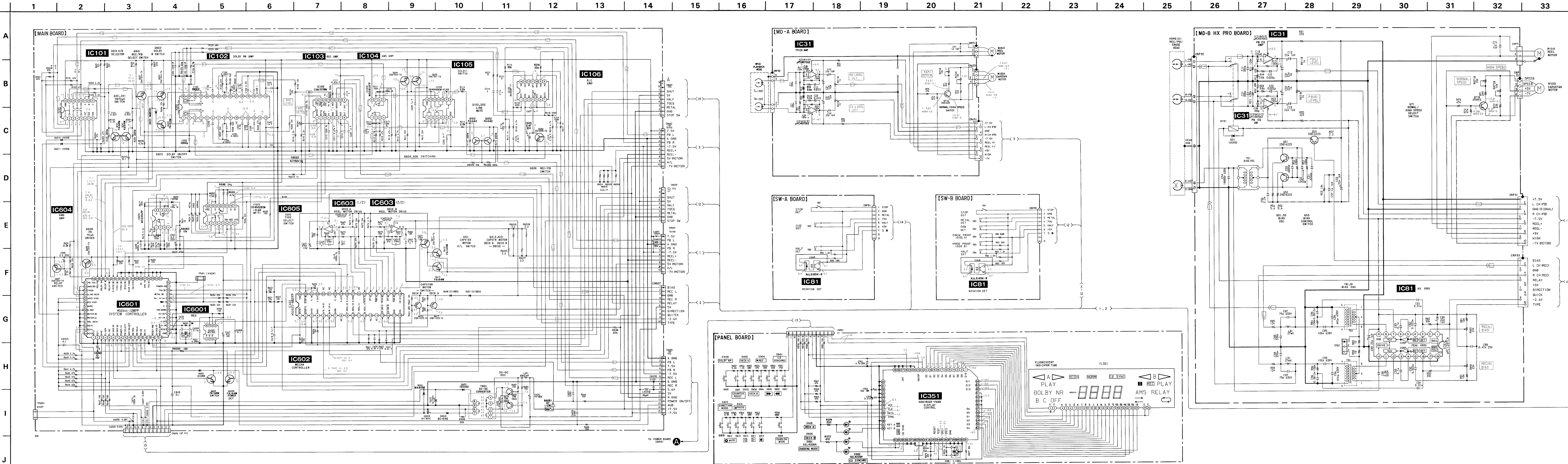
5-3. BLOCK DIAGRAM

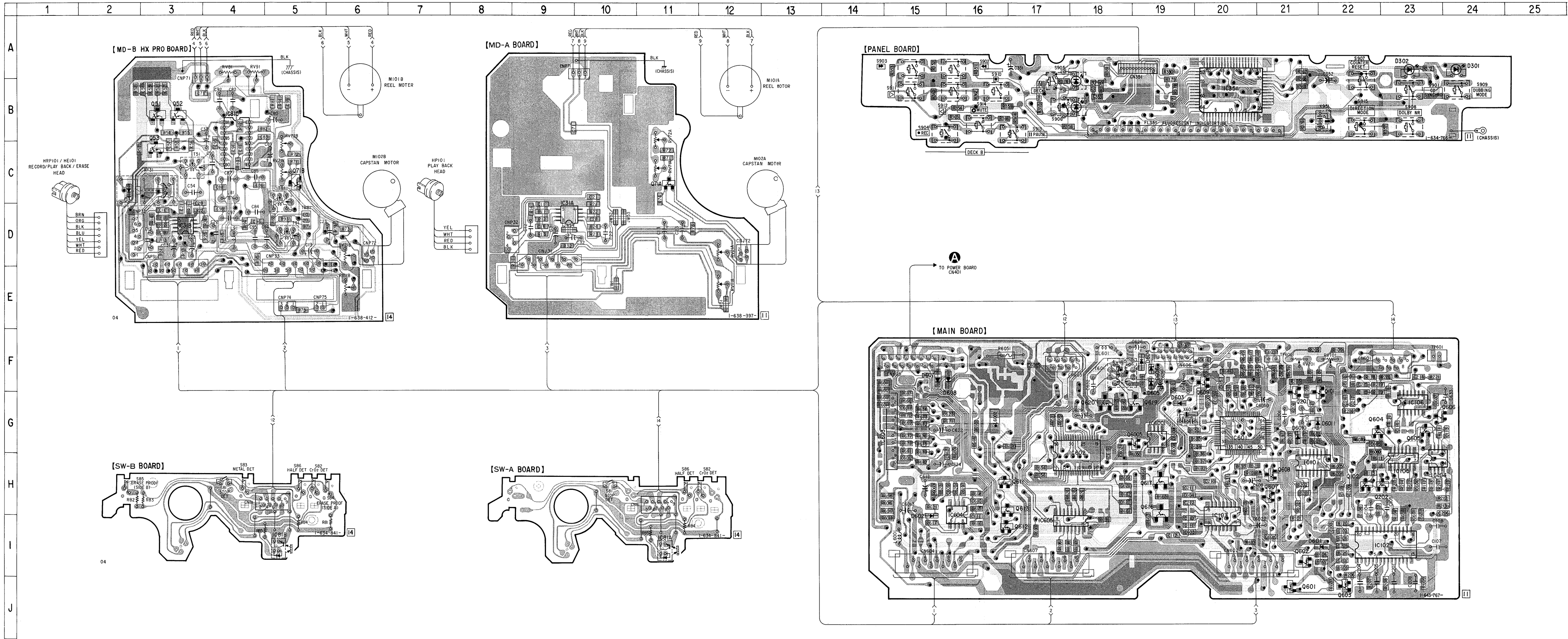


5-4. CIRCUIT BOARDS LOCATION



5-5. SCHEMATIC DIAGRAM —MAIN SECTION— ●Refer to page 36 for IC Block Diagrams.





**Note on Schematic Diagram:**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- $\triangle$ : internal component.
- $\square$ : nonflammable resistor.

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

- $\square$ : B+ Line
- $\square$ : B- Line
- $\square$ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark: STOP
- ( ): PB
- < >: REC
- Voltages are taken with a VOM (Input Impedance  $10\text{M}\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- $\square$ : PB (DECK A)  $\square$ : REC (DECK B)
- $\square$ : REC (DECK A)

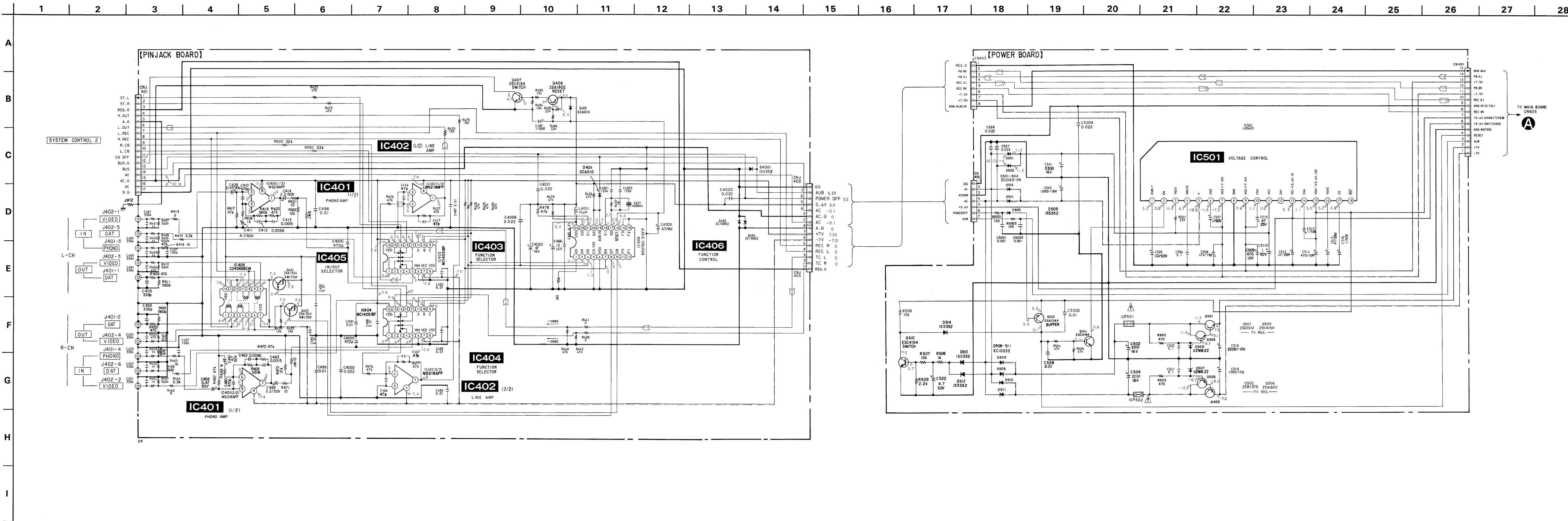
• Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| D31      | C-2      |
| D301     | B-24     |
| D302     | A-23     |
| D601     | I-21     |
| D602     | I-15     |
| D603     | G-19     |
| D604     | F-19     |
| D605     | F-19     |
| D606     | F-19     |
| D607     | F-15     |
| D608     | F-15     |
| D6010    | G-21     |
| D6011    | G-21     |
| IC31A    | D-9      |
| IC31B    | D-3      |
| IC81A    | I-11     |
| IC81B    | I-5      |
| IC81C    | B-4      |
| IC101    | H-21     |
| IC102    | I-22     |
| IC103    | I-20     |
| IC104    | H-23     |
| IC105    | H-23     |
| IC106    | G-23     |
| IC351    | B-20     |
| IC601    | G-20     |
| IC602    | H-17     |
| IC603    | G-15     |
| IC604    | I-16     |
| IC605    | I-17     |
| IC6001   | G-19     |
| Q51      | B-3      |
| Q52      | B-3      |
| Q53      | C-3      |
| Q71A     | C-11     |
| Q71B     | C-5      |
| Q101     | G-21     |
| Q102     | H-22     |
| Q201     | G-21     |
| Q202     | H-22     |
| Q601     | J-21     |
| Q602     | I-21     |
| Q603     | J-22     |
| Q604     | G-22     |
| Q605     | G-23     |
| Q606     | G-23     |
| Q607     | H-21     |
| Q608     | H-21     |
| Q609     | F-20     |
| Q611     | H-16     |
| Q612     | I-16     |
| Q613     | H-16     |
| Q616     | H-19     |
| Q617     | H-19     |
| Q619     | G-18     |
| Q620     | G-18     |
| Q6005    | G-18     |

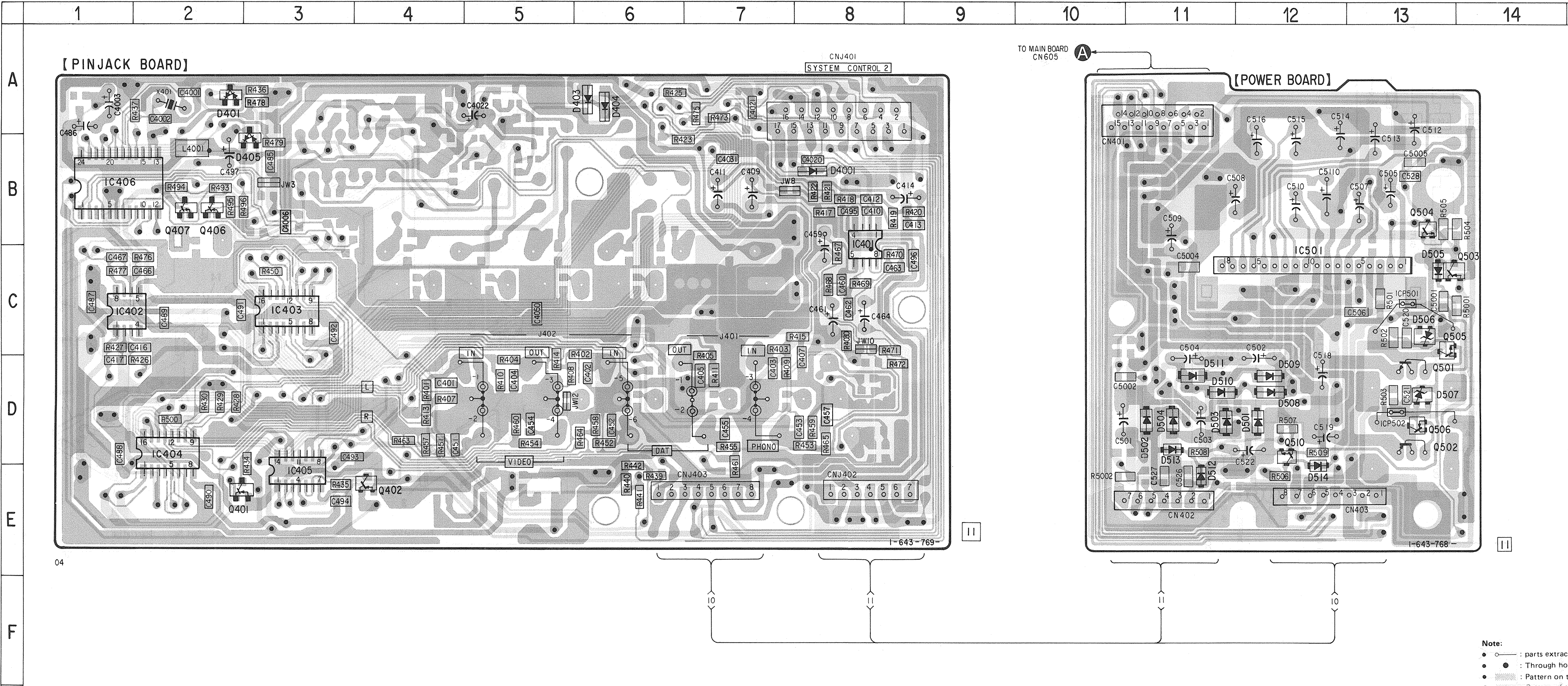
**Note on Printed Wiring Board:**

- $\square$ : parts extracted from the component side.
- $\bullet$ : Through hole.
- $\square$ : Pattern on the side which is seen.
- $\square$ : Pattern of the rear side.

5-7. SCHEMATIC DIAGRAM —PIN JACK SECTION— •Refer to page 36 for IC Block Diagrams.



5-8. PRINTED WIRING BOARDS —PIN JACK SECTION— •Refer to page 14 for Semiconductor Lead Layouts.



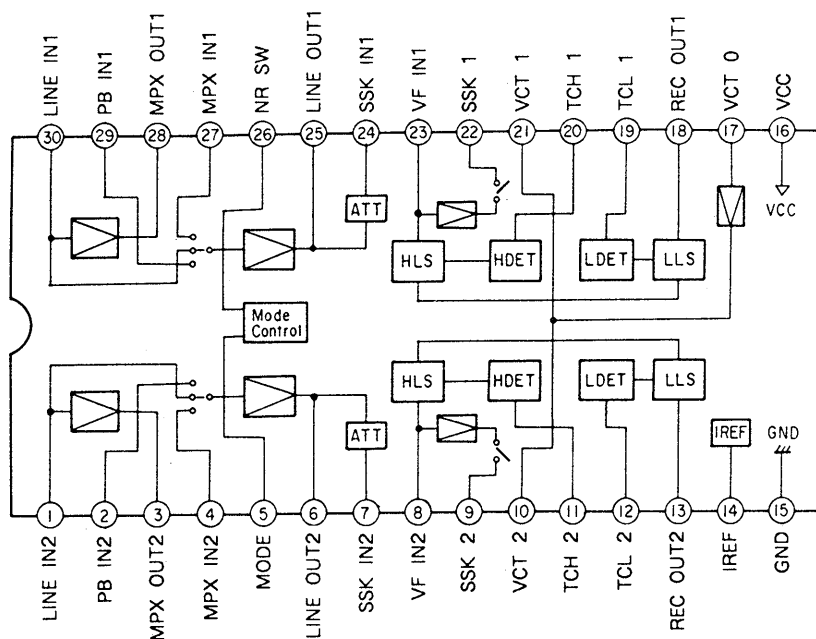
•Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| D401     | A-2      |
| D403     | A-6      |
| D404     | A-6      |
| D405     | B-3      |
| D501     | D-12     |
| D502     | D-11     |
| D503     | D-11     |
| D504     | D-11     |
| D505     | C-13     |
| D506     | C-13     |
| D507     | D-13     |
| D508     | D-12     |
| D509     | D-12     |
| D510     | D-11     |
| D511     | D-11     |
| D512     | E-11     |
| D513     | D-11     |
| D514     | E-12     |
| D4001    | B-8      |
| IC401    | B-8      |
| IC402    | C-1      |
| IC403    | C-3      |
| IC404    | D-2      |
| IC405    | E-3      |
| IC406    | B-1      |
| IC501    | C-12     |
| Q401     | E-2      |
| Q402     | E-4      |
| Q406     | B-2      |
| Q407     | B-2      |
| Q501     | D-13     |
| Q502     | D-13     |
| Q503     | C-13     |
| Q504     | B-13     |
| Q505     | C-13     |
| Q506     | D-13     |
| Q510     | D-12     |

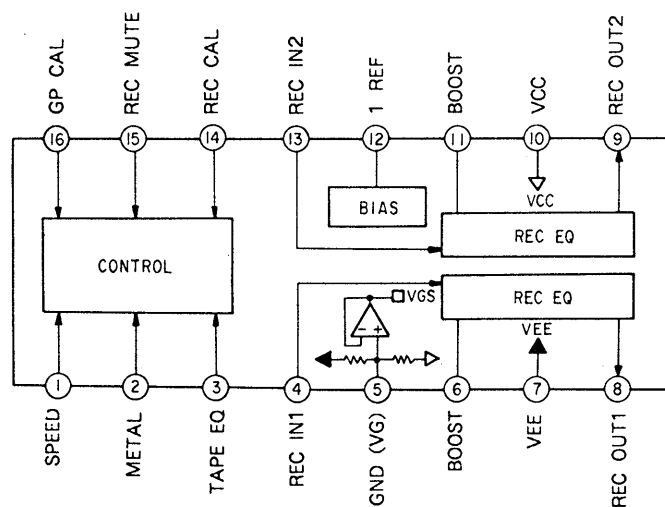
Note:  
○ : parts extracted from the component side.  
● : Through hole.  
▨ : Pattern on the side which is seen.  
▩ : Pattern of the rear side.

• IC Block Diagrams

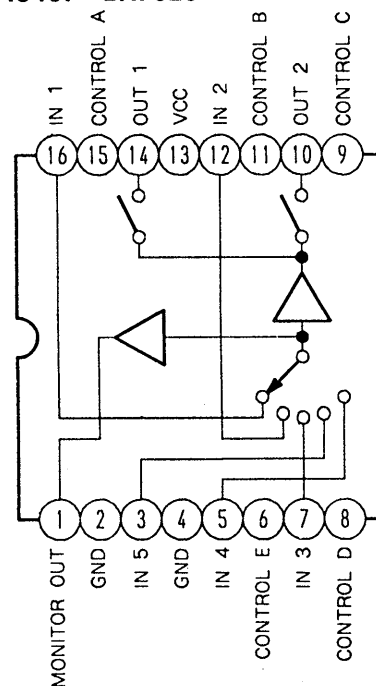
IC102 CXA1331M



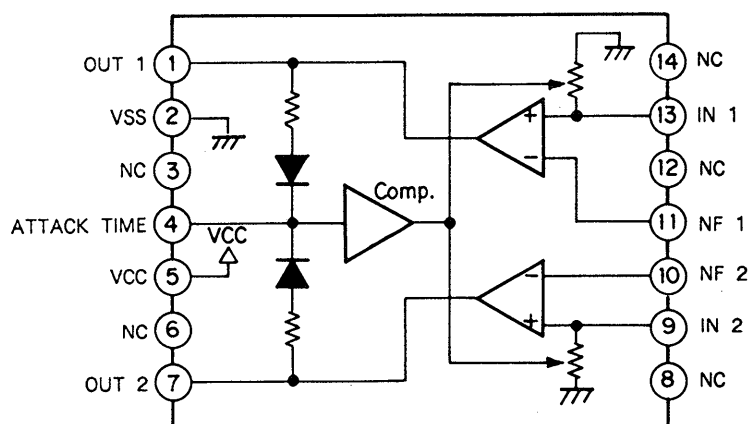
IC103 CXA1578M



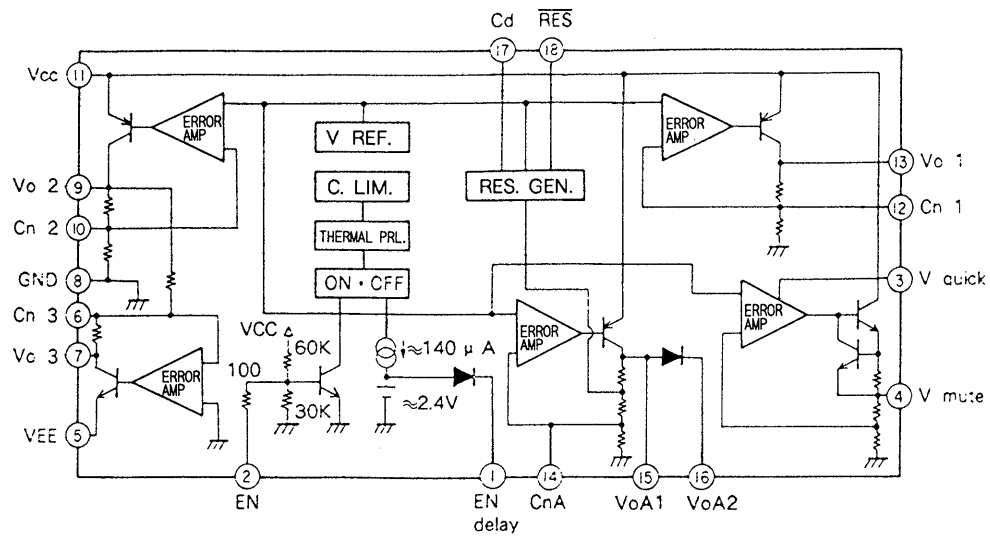
IC407 BA7625



IC106 BA3308F



## IC501 LA5603-S

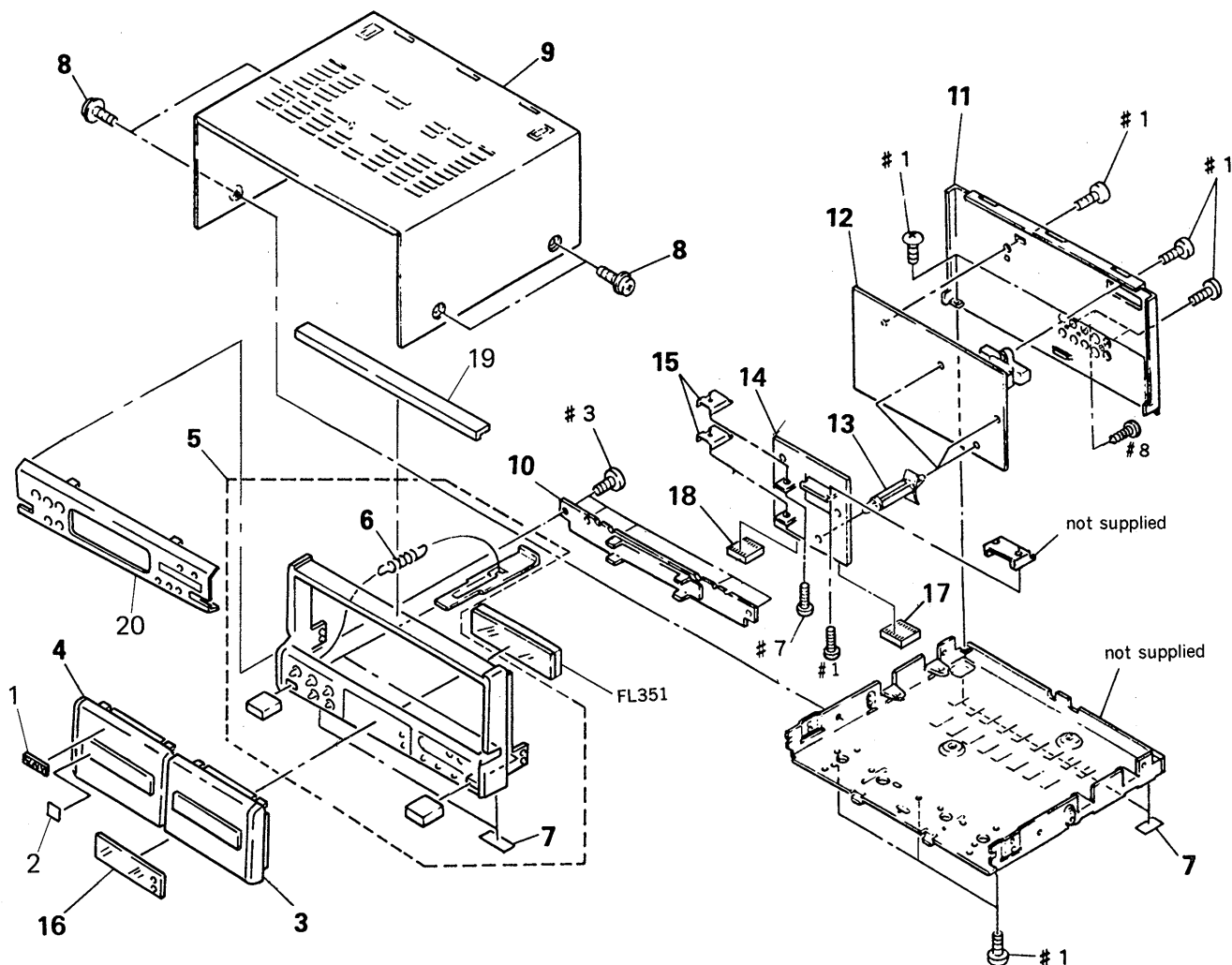


## SECTION 6 EXPLODED VIEWS

## 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 is given in the last of this parts list.

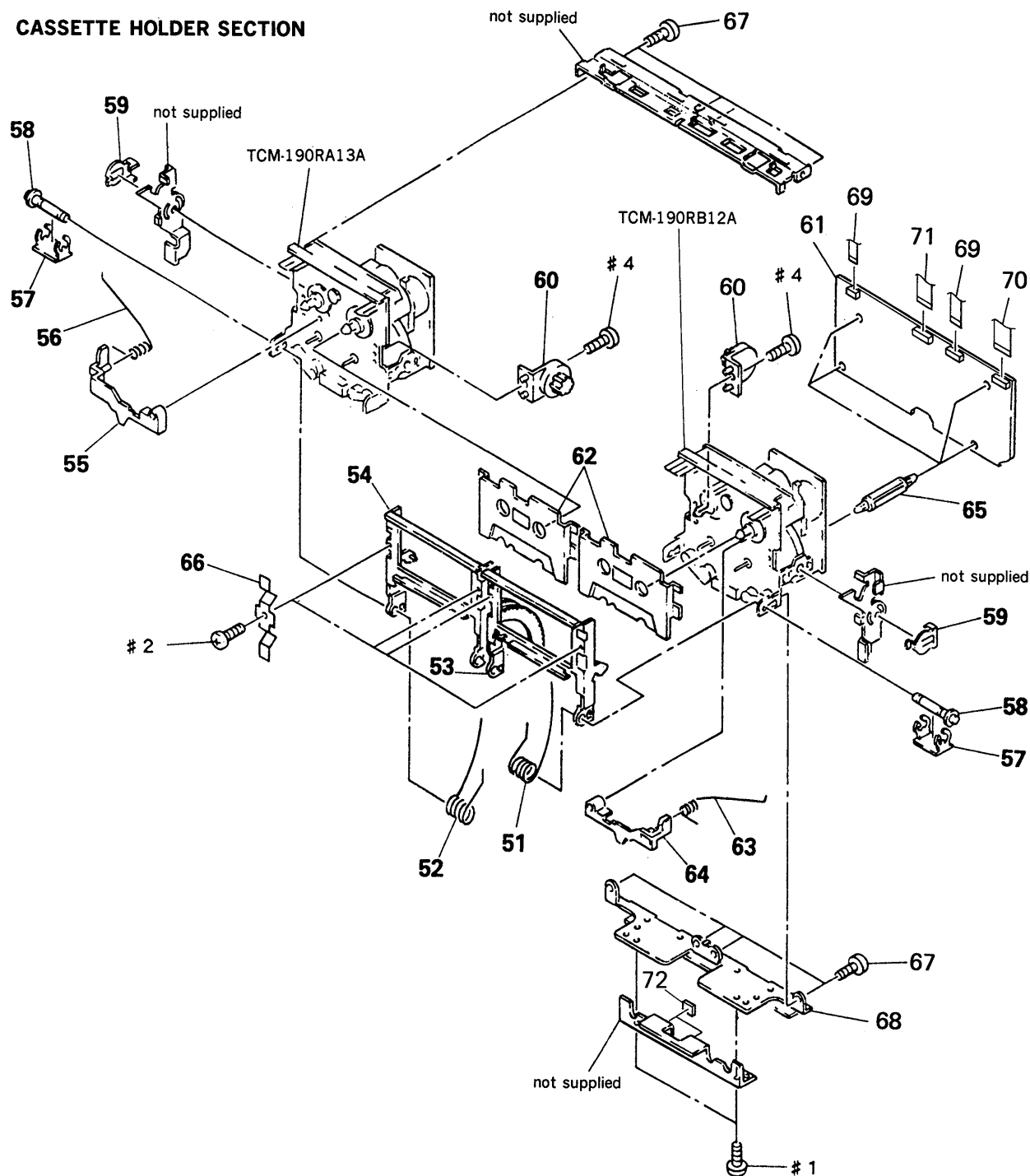
### 6-1. CABINET SECTION



| Ref. No. | Part No.     | Description                  | Remark |
|----------|--------------|------------------------------|--------|
| 1        | 4-942-636-01 | EMBLEM (NO. 3.5), SONY       |        |
| * 2      | 3-703-713-41 | STICKER, SONY SYMBOL (10)    |        |
| 3        | X-3363-046-1 | LID (B) ASSY, CASSETTE       |        |
| 4        | X-3363-140-1 | LID (A) ASSY, CASSETTE       |        |
| 5        | X-3364-835-2 | PANEL (/H) ASSY, FRONT       |        |
| 6        | 3-567-110-00 | SPRING, TENSION              |        |
| 7        | 4-930-336-21 | FOOT (FELT)                  |        |
| 8        | 3-363-099-01 | SCREW (CASE +3X8 TP2)        |        |
| 9        | 4-932-841-01 | CASE                         |        |
| * 10     | A-2006-692-A | PANEL BOARD, COMPLETE        |        |
| * 11     | 3-374-471-81 | PANEL, BACK (EXCEPT Germany) |        |
| * 11     | 3-374-471-91 | PANEL, BACK (Germany)        |        |

| Ref. No. | Part No.     | Description                 | Remark |
|----------|--------------|-----------------------------|--------|
| * 12     | A-2006-730-A | PIN JACK BOARD, COMPLETE    |        |
| * 13     | 3-703-353-02 | SUPPORT, PC BOARD           |        |
| * 14     | A-2006-733-A | POWER BOARD, COMPLETE       |        |
| * 15     | 3-309-144-21 | HEAT SINK                   |        |
| 16       | X-3362-924-1 | WINDOW (PANEL) ASSY         |        |
| * 17     | 1-573-188-11 | CONNECTOR, BRIDGE 7P        |        |
| * 18     | 1-573-389-11 | COONECTOR, BRIDGE 8P        |        |
| 19       | 3-367-893-01 | PLATE (TOP), ORNAMENTAL     |        |
| 20       | 3-377-931-11 | PLATE (PANEL), ORNAMENTAL   |        |
| FL351    | 1-519-708-11 | INDICATOR TUBE, FLUORESCENT |        |

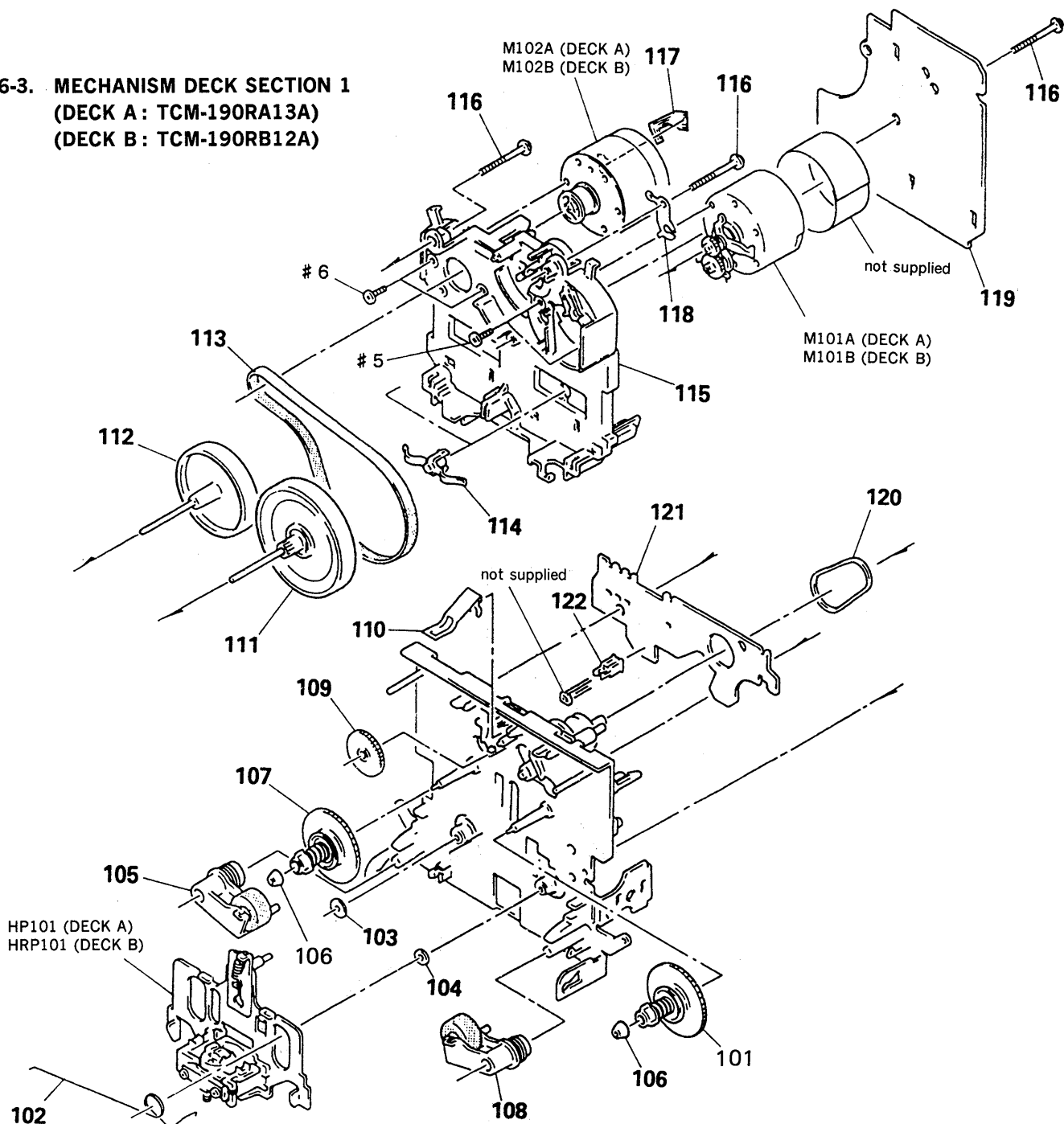
## 6-2. CASSETTE HOLDER SECTION



| Ref. No. | Part No.     | Description                 | Remark |
|----------|--------------|-----------------------------|--------|
| 51       | 3-354-960-01 | SPRING (LOADING R), TORSION |        |
| 52       | 3-354-959-01 | SPRING (LOADING L), TORSION |        |
| 53       | X-3362-856-1 | HOLDER (R) ASSY, CASSETTE   |        |
| 54       | X-3362-857-1 | HOLDER (L) ASSY, CASSETTE   |        |
| 55       | 3-354-955-01 | LEVER (EJ SAFTY LEVER L)    |        |
| 56       | 3-354-961-01 | SPRING (EJ SAFTY SPRING L)  |        |
| 57       | 3-367-720-01 | RING (W), RETAINING         |        |
| 58       | 3-367-721-01 | SHAFT (FULCRUM SHAFT)       |        |
| 59       | 3-354-957-01 | JOINT (LOCK LEVER)          |        |
| 60       | 3-354-963-01 | DAMPER                      |        |
| * 61     | A-2006-708-A | MAIN BOARD, COMPLETE        |        |

| Ref. No. | Part No.     | Description                | Remark |
|----------|--------------|----------------------------|--------|
| 62       | 3-367-711-01 | RETAINER, CASSETTE         |        |
| 63       | 3-354-962-01 | SPRING (EJ SAFTY SPRING R) |        |
| 64       | 3-354-956-01 | LEVER (EJ SAFTY LEVER R)   |        |
| * 65     | 3-682-419-21 | HOLDER, P. C. B            |        |
| 66       | 3-340-137-01 | SPRING, CASSETTE RETAINER  |        |
| 67       | 4-951-620-01 | SCREW (2.6X8), +BVTP       |        |
| * 68     | 3-367-724-01 | JOINT (LOWER)              |        |
| 69       | 1-590-902-11 | WIRE, FLAT TYPE (9 CORE)   |        |
| 70       | 1-590-903-11 | WIRE, FLAT TYPE (15 CORE)  |        |
| 71       | 1-590-904-11 | WIRE, FLAT TYPE (12 CORE)  |        |
| * 72     | 3-563-504-01 | PLATE, ADJUSTMENT          |        |

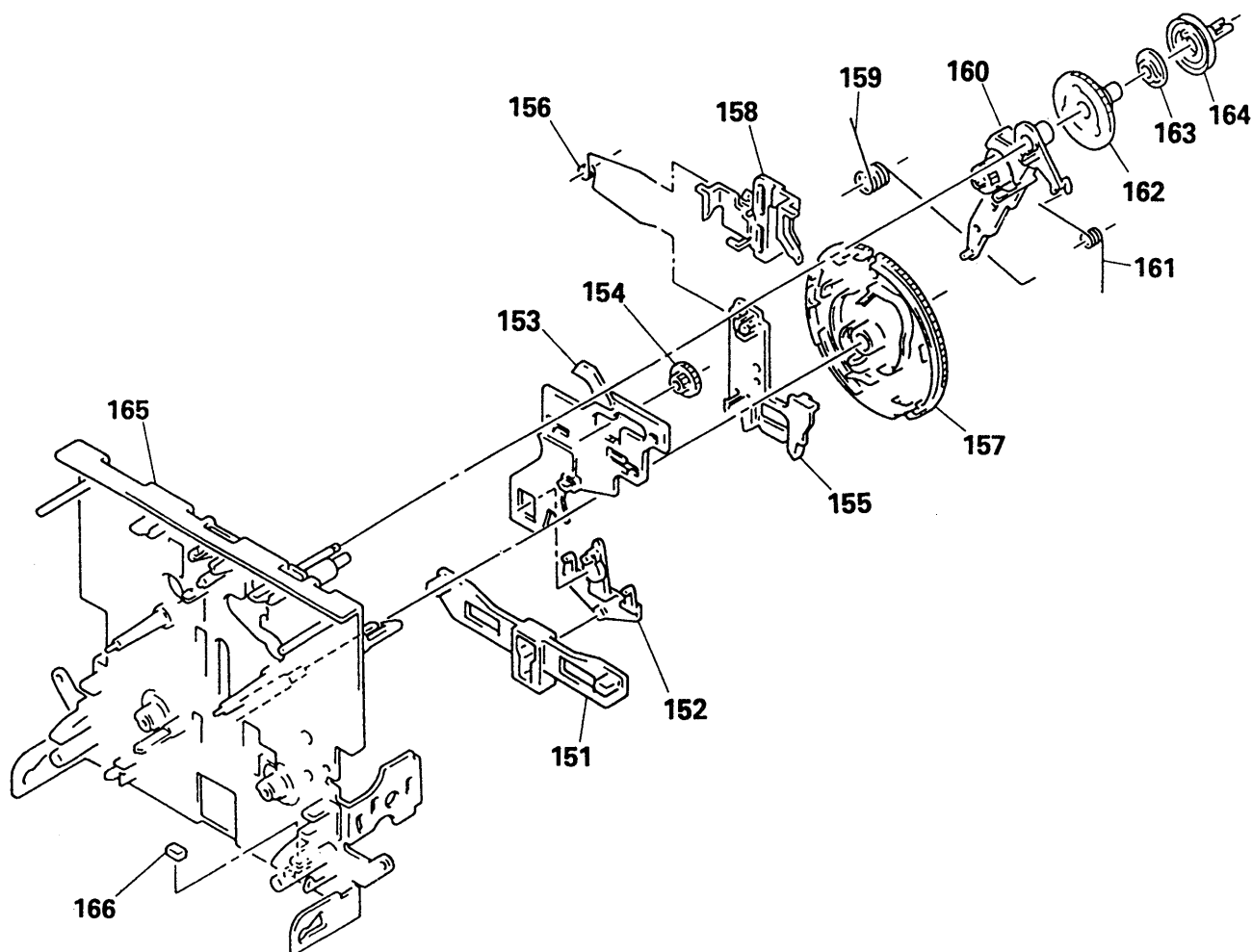
**6-3. MECHANISM DECK SECTION 1**  
**(DECK A: TCM-190RA13A)**  
**(DECK B: TCM-190RB12A)**



| Ref. No. | Part No.     | Description                      | Remark |
|----------|--------------|----------------------------------|--------|
| 101      | X-3359-404-1 | TABLE ASSY, REEL                 |        |
| 102      | 3-359-455-01 | SPRING, TORSION                  |        |
| 103      | 3-356-714-01 | WASHER                           |        |
| 104      | 3-356-713-01 | WASHER                           |        |
| 105      | X-3359-409-1 | LEVER (PINCH LEVER REV) ASSY     |        |
| 106      | 3-362-308-01 | CAP (REEL)                       |        |
| 107      | X-3362-078-1 | TABLE ASSY (B), REEL             |        |
| 108      | X-3359-408-1 | LEVER (PINCH LEVER FWD) ASSY     |        |
| 109      | 3-359-424-01 | GEAR (REV GEAR)                  |        |
| 110      | 3-359-430-01 | SPRING (CASSETTE RETAINER), LEAF |        |
| 111      | X-3364-554-1 | FLYWHEEL (FWD) ASSY              |        |
| 112      | X-3359-410-1 | FLYWHEEL (REV) ASSY              |        |
| 113      | 3-359-417-01 | BELT (FLAT), CAPSTAN             |        |
| 114      | 3-575-321-00 | RETAINER, THRUST, CAPSTAN        |        |
| * 115    | 3-359-436-01 | BASE (THRUST RETAINER), FITTING  |        |

| Ref. No. | Part No.     | Description                  | Remark |
|----------|--------------|------------------------------|--------|
| 116      | 3-359-414-01 | SCREW (+PTPWH 2X23)          |        |
| 117      | 1-638-983-11 | PC BOARD, MOTOR FLEXIBLE     |        |
| 118      | 3-359-450-01 | PLATE, GROUND                |        |
| * 119    | A-2006-399-A | MD-A BOARD, COMPLETE         |        |
| * 119    | A-2006-401-A | MD-B HX PRO BOARD, COMPLETE  |        |
| 120      | 3-359-466-01 | BELT (FR), SQUARE            |        |
| * 121    | 1-634-841-14 | SW-A BOARD (DECK A)          |        |
| * 121    | 1-634-841-14 | SW-B BOARD (DECK B)          |        |
| 122      | 3-343-419-01 | HOLDER (S SENSOR A)          |        |
| HP101    | A-2003-868-A | BASE ASSY, HEAD (DECK A)     |        |
| HP101    | A-2003-838-A | BASE ASSY, HEAD (DECK B)     |        |
| M101A    | X-3363-501-1 | MOTOR ASSY, REEL (DECK A)    |        |
| M101B    | X-3363-501-1 | MOTOR ASSY, REEL (DECK B)    |        |
| M102A    | X-3359-417-1 | MOTOR ASSY, CAPSTAN (DECK A) |        |
| M102B    | X-3359-417-1 | MOTOR ASSY, CAPSTAN (DECK B) |        |

**6-4. MECHANISM DECK SECTION 2**  
**(DECK A : TCM-190RA13A)**  
**(DECK B : TCM-190RB12A)**



| Ref. No. | Part No.     | Description             | Remark |
|----------|--------------|-------------------------|--------|
| * 151    | 3-359-425-01 | SLIDER (REVERSE SLIDER) |        |
| 152      | 3-359-426-01 | LEVER (REVERSE LEVER)   |        |
| * 153    | 3-359-415-01 | SLIDER (TRIGGER SLIDER) |        |
| 154      | 3-359-448-01 | GEAR (TRIGGER)          |        |
| * 155    | 3-359-427-01 | SLIDER (LEVERSE SLIDER) |        |
| 156      | 3-359-454-01 | SPRING, TORSION         |        |
| 157      | 3-359-420-01 | GEAR (CAM GEAR)         |        |
| 158      | 3-359-429-01 | SLIDER (BRAKE PLATE)    |        |

| Ref. No. | Part No.     | Description                      | Remark |
|----------|--------------|----------------------------------|--------|
| 159      | 3-359-456-01 | SPRING (TRIGGER SPRING), TORSION |        |
| 160      | X-3359-405-1 | LEVER (FR ARM) ASSY              |        |
| 161      | 3-359-453-01 | SPRING (FR ARM), TORSION         |        |
| 162      | 3-359-419-01 | GEAR (FR GEAR)                   |        |
| 163      | 3-359-421-01 | CLUTCH (HEEL DISK)               |        |
| 164      | 3-359-418-01 | PULLEY (FR PULLEY)               |        |
| 165      | X-3363-790-1 | CHASSIN ASSY, MECHANICAL         |        |
| 166      | 3-359-469-01 | SPACER                           |        |

## MAIN

SECTION 7  
ELECTRICAL PARTS LIST

## 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 |
|----------|--------------|-------------------------------|--------|----------|--------------|-------------------------|--------|
| *        | A-2006-708-A | MAIN BOARD, COMPLETE<br>***** |        | C604     | 1-164-346-11 | CERAMIC CHIP 1uF        | 16V    |
|          |              | < CAPACITOR >                 |        | C605     | 1-164-346-11 | CERAMIC CHIP 1uF        | 16V    |
| C101     | 1-136-158-00 | FILM 0.027uF 5%               | 50V    | C606     | 1-164-346-11 | CERAMIC CHIP 1uF        | 16V    |
| C102     | 1-164-161-11 | CERAMIC CHIP 0.0022uF 10%     | 100V   | C607     | 1-164-346-11 | CERAMIC CHIP 1uF        | 16V    |
| C103     | 1-164-182-11 | CERAMIC CHIP 0.0033uF 10%     | 50V    | C608     | 1-124-257-00 | ELECT 2.2uF 20%         | 50V    |
| C104     | 1-106-351-00 | MYLAR 2200PF 5%               | 200V   | C609     | 1-163-141-00 | CERAMIC CHIP 0.001uF 5% | 50V    |
| C105     | 1-106-351-00 | MYLAR 2200PF 5%               | 200V   | C610     | 1-163-038-00 | CERAMIC CHIP 0.1uF      | 25V    |
| C106     | 1-164-346-11 | CERAMIC CHIP 1uF              | 16V    | C611     | 1-163-117-00 | CERAMIC CHIP 100PF 5%   | 50V    |
| C107     | 1-136-174-00 | FILM 0.56uF 5%                | 50V    | C612     | 1-124-257-00 | ELECT 2.2uF 20%         | 50V    |
| C108     | 1-136-171-00 | FILM 0.33uF 5%                | 50V    | C615     | 1-163-038-00 | CERAMIC CHIP 0.1uF      | 25V    |
| C109     | 1-164-346-11 | CERAMIC CHIP 1uF              | 16V    | C616     | 1-163-141-00 | CERAMIC CHIP 0.001uF 5% | 50V    |
| C110     | 1-163-117-00 | CERAMIC CHIP 100PF 5%         | 50V    | C617     | 1-124-472-11 | ELECT 470uF 20%         | 10V    |
| C111     | 1-164-005-11 | CERAMIC CHIP 0.47uF           | 25V    | C618     | 1-163-038-00 | CERAMIC CHIP 0.1uF      | 25V    |
| C112     | 1-164-346-11 | CERAMIC CHIP 1uF              | 16V    | C619     | 1-163-141-00 | CERAMIC CHIP 0.001uF 5% | 50V    |
| C113     | 1-163-117-00 | CERAMIC CHIP 100PF 5%         | 50V    | C620     | 1-164-232-11 | CERAMIC CHIP 0.01uF     | 50V    |
| C114     | 1-164-346-11 | CERAMIC CHIP 1uF              | 16V    | C621     | 1-164-232-11 | CERAMIC CHIP 0.01uF     | 50V    |
| C115     | 1-164-505-11 | CERAMIC CHIP 2.2uF            | 16V    | C622     | 1-124-472-11 | ELECT 470uF 20%         | 10V    |
| C116     | 1-163-117-00 | CERAMIC CHIP 100PF 5%         | 50V    | C623     | 1-163-038-00 | CERAMIC CHIP 0.1uF      | 25V    |
| C201     | 1-136-158-00 | FILM 0.027uF 5%               | 50V    | C624     | 1-124-472-11 | ELECT 470uF 20%         | 10V    |
| C202     | 1-164-161-11 | CERAMIC CHIP 0.0022uF 10%     | 100V   | C625     | 1-126-059-11 | ELECT 10uF 20%          | 50V    |
| C203     | 1-164-182-11 | CERAMIC CHIP 0.0033uF 10%     | 50V    | C626     | 1-126-059-11 | ELECT 10uF 20%          | 50V    |
| C204     | 1-106-351-00 | MYLAR 2200PF 5%               | 200V   | C629     | 1-126-157-11 | ELECT 10uF 20%          | 16V    |
| C205     | 1-106-351-00 | MYLAR 2200PF 5%               | 200V   | C632     | 1-136-594-11 | FILM 0.018uF 5%         | 100V   |
| C206     | 1-164-346-11 | CERAMIC CHIP 1uF              | 16V    | C633     | 1-124-465-00 | ELECT 0.47uF 20%        | 50V    |
| C207     | 1-136-174-00 | FILM 0.56uF 5%                | 50V    | C639     | 1-163-038-00 | CERAMIC CHIP 0.1uF      | 25V    |
| C208     | 1-136-171-00 | FILM 0.33uF 5%                | 50V    | C862     | 1-163-038-00 | CERAMIC CHIP 0.1uF      | 25V    |
| C209     | 1-164-346-11 | CERAMIC CHIP 1uF              | 16V    | C6008    | 1-163-038-00 | CERAMIC CHIP 0.1uF      | 25V    |
| C210     | 1-163-117-00 | CERAMIC CHIP 100PF 5%         | 50V    | C6009    | 1-163-038-00 | CERAMIC CHIP 0.1uF      | 25V    |
| C211     | 1-164-005-11 | CERAMIC CHIP 0.47uF           | 25V    | C6010    | 1-163-038-00 | CERAMIC CHIP 0.1uF      | 25V    |
| C212     | 1-164-346-11 | CERAMIC CHIP 1uF              | 16V    | C6011    | 1-163-129-00 | CERAMIC CHIP 330PF 5%   | 50V    |
| C213     | 1-163-117-00 | CERAMIC CHIP 100PF 5%         | 50V    | C6012    | 1-163-129-00 | CERAMIC CHIP 330PF 5%   | 50V    |
| C214     | 1-164-346-11 | CERAMIC CHIP 1uF              | 16V    | C6013    | 1-126-023-11 | ELECT 100uF 20%         | 16V    |
| C215     | 1-164-505-11 | CERAMIC CHIP 2.2uF            | 16V    | C6020    | 1-163-141-00 | CERAMIC CHIP 0.001uF 5% | 50V    |
| C216     | 1-163-117-00 | CERAMIC CHIP 100PF 5%         | 50V    | C6021    | 1-163-141-00 | CERAMIC CHIP 0.001uF 5% | 50V    |
| C601     | 1-164-346-11 | CERAMIC CHIP 1uF              | 16V    | C6022    | 1-126-163-11 | ELECT 4.7uF 20%         | 50V    |
| C602     | 1-164-346-11 | CERAMIC CHIP 1uF              | 16V    | C6026    | 1-163-141-00 | CERAMIC CHIP 0.001uF 5% | 50V    |
| C603     | 1-164-346-11 | CERAMIC CHIP 1uF              | 16V    | C6027    | 1-163-141-00 | CERAMIC CHIP 0.001uF 5% | 50V    |
|          |              |                               |        | C6029    | 1-163-141-00 | CERAMIC CHIP 0.001uF 5% | 50V    |
|          |              |                               |        | C6030    | 1-163-141-00 | CERAMIC CHIP 0.001uF 5% | 50V    |
|          |              |                               |        | C6031    | 1-163-038-00 | CERAMIC CHIP 0.1uF      | 25V    |

| Ref. No. | Part No.     | Description                 | Remark |
|----------|--------------|-----------------------------|--------|
| C6035    | 1-163-141-00 | CERAMIC CHIP 0.001uF 5% 50V |        |
| C6050    | 1-126-157-11 | ELECT 10uF 20% 16V          |        |

## &lt; CONNECTOR &gt;

|         |              |                           |  |
|---------|--------------|---------------------------|--|
| CN601   | 1-573-101-11 | SOCKET, CONNECTOR 9P      |  |
| CN602   | 1-580-783-11 | CONNECTOR, BOARD TO BOARD |  |
| CN603   | 1-573-101-11 | SOCKET, CONNECTOR 9P      |  |
| CN604   | 1-580-783-11 | CONNECTOR, BOARD TO BOARD |  |
| * CN605 | 1-568-858-11 | SOCKET, CONNECTOR 15P     |  |
| CN606   | 1-568-795-11 | SOCKET, CONNECTOR 12P     |  |
| CN607   | 1-580-783-11 | CONNECTOR, BOARD TO BOARD |  |

## &lt; DIODE &gt;

|       |              |                 |  |
|-------|--------------|-----------------|--|
| D601  | 8-719-422-91 | DIODE MA8091    |  |
| D602  | 8-719-016-74 | DIODE 1SS352    |  |
| D603  | 8-719-016-74 | DIODE 1SS352    |  |
| D604  | 8-719-210-39 | DIODE EC10QS-04 |  |
| D605  | 8-719-016-74 | DIODE 1SS352    |  |
| D606  | 8-719-422-46 | DIODE MA8056    |  |
| D607  | 8-719-210-33 | DIODE EC10DS2   |  |
| D608  | 8-719-210-33 | DIODE EC10DS2   |  |
| D6010 | 8-719-016-74 | DIODE 1SS352    |  |
| D6011 | 8-719-016-74 | DIODE 1SS352    |  |

## &lt; IC &gt;

|        |              |                 |  |
|--------|--------------|-----------------|--|
| IC101  | 8-759-300-71 | IC HD14053BFP   |  |
| IC102  | 8-752-037-90 | IC CXA1331M     |  |
| IC103  | 8-752-055-60 | IC CXA1578M     |  |
| IC104  | 8-759-636-55 | IC M5218AFP     |  |
| IC105  | 8-759-516-47 | IC CD4066BCM    |  |
| IC106  | 8-759-998-71 | IC BA3308F      |  |
| IC601  | 8-759-058-40 | IC M50944-128FP |  |
| IC602  | 8-759-636-67 | IC M50925-482FP |  |
| IC603  | 8-759-207-05 | IC TA7272P      |  |
| IC604  | 8-759-636-55 | IC M5218AFP     |  |
| IC605  | 8-759-516-41 | IC CD4052BCM    |  |
| IC6001 | 8-759-634-43 | IC M51953BFP    |  |

## &lt; COIL &gt;

|       |              |                    |  |
|-------|--------------|--------------------|--|
| L601  | 1-410-761-11 | INDUCTOR 0.68mH    |  |
| L6001 | 1-410-482-31 | INDUCTOR 100uH     |  |
| L6002 | 1-410-381-11 | INDUCTOR CHIP 10uH |  |

## &lt; TRANSISTOR &gt;

|      |              |                       |  |
|------|--------------|-----------------------|--|
| Q101 | 8-729-113-13 | TRANSISTOR FA1A4M-L33 |  |
| Q102 | 8-729-113-40 | TRANSISTOR FA1A4Z-L68 |  |
| Q201 | 8-729-113-13 | TRANSISTOR FA1A4M-L33 |  |
| Q202 | 8-729-113-40 | TRANSISTOR FA1A4Z-L68 |  |
| Q601 | 8-729-805-65 | TRANSISTOR 2SA1344    |  |

| Ref. No. | Part No.     | Description           | Remark |
|----------|--------------|-----------------------|--------|
| Q602     | 8-729-805-65 | TRANSISTOR 2SA1344    |        |
| Q603     | 8-729-113-13 | TRANSISTOR FA1A4M-L33 |        |
| Q604     | 8-729-805-65 | TRANSISTOR 2SA1344    |        |
| Q605     | 8-729-805-69 | TRANSISTOR 2SA1341    |        |
| Q606     | 8-729-805-45 | TRANSISTOR 2SC3395    |        |

|      |              |                       |  |
|------|--------------|-----------------------|--|
| Q607 | 8-729-805-65 | TRANSISTOR 2SA1344    |  |
| Q608 | 8-729-805-65 | TRANSISTOR 2SA1344    |  |
| Q609 | 8-729-113-13 | TRANSISTOR FA1A4M-L33 |  |
| Q611 | 8-729-805-65 | TRANSISTOR 2SA1344    |  |
| Q612 | 8-729-113-13 | TRANSISTOR FA1A4M-L33 |  |

|      |              |                       |  |
|------|--------------|-----------------------|--|
| Q613 | 8-729-113-13 | TRANSISTOR FA1A4M-L33 |  |
| Q616 | 8-729-804-41 | TRANSISTOR 2SB1122-S  |  |
| Q617 | 8-729-804-41 | TRANSISTOR 2SB1122-S  |  |
| Q619 | 8-729-808-01 | TRANSISTOR 2SD1622-S  |  |
| Q620 | 8-729-808-01 | TRANSISTOR 2SD1622-S  |  |

|       |              |                       |  |
|-------|--------------|-----------------------|--|
| Q6005 | 8-729-113-13 | TRANSISTOR FA1A4M-L33 |  |
|-------|--------------|-----------------------|--|

## &lt; RESISTOR &gt;

|      |              |                          |  |
|------|--------------|--------------------------|--|
| R101 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W  |  |
| R102 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W  |  |
| R103 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W |  |
| R104 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W |  |
| R105 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W |  |

|      |              |                          |  |
|------|--------------|--------------------------|--|
| R106 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W |  |
| R107 | 1-216-082-00 | METAL GLAZE 24K 5% 1/10W |  |
| R108 | 1-216-043-00 | METAL CHIP 560 5% 1/10W  |  |
| R109 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W  |  |
| R110 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W |  |

|      |              |                          |  |
|------|--------------|--------------------------|--|
| R111 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W |  |
| R112 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W |  |
| R113 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W  |  |
| R114 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W |  |
| R115 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W |  |

|      |              |                          |  |
|------|--------------|--------------------------|--|
| R116 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W  |  |
| R117 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W   |  |
| R118 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W |  |
| R119 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W |  |
| R120 | 1-216-093-00 | METAL CHIP 68K 5% 1/10W  |  |

|      |              |                          |  |
|------|--------------|--------------------------|--|
| R121 | 1-216-295-00 | METAL CHIP 0 5% 1/10W    |  |
| R201 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W  |  |
| R202 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W  |  |
| R203 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W |  |
| R204 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W |  |

|      |              |                          |  |
|------|--------------|--------------------------|--|
| R205 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W |  |
| R206 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W |  |
| R207 | 1-216-082-00 | METAL GLAZE 24K 5% 1/10W |  |
| R208 | 1-216-043-00 | METAL CHIP 560 5% 1/10W  |  |
| R209 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W  |  |

## MAIN

| Ref. No. | Part No.     | Description | Remark |    |       |
|----------|--------------|-------------|--------|----|-------|
| R210     | 1-216-057-00 | METAL CHIP  | 2. 2K  | 5% | 1/10W |
| R211     | 1-216-097-00 | METAL CHIP  | 100K   | 5% | 1/10W |
| R212     | 1-216-065-00 | METAL CHIP  | 4. 7K  | 5% | 1/10W |
| R213     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R214     | 1-216-057-00 | METAL CHIP  | 2. 2K  | 5% | 1/10W |
|          |              |             |        |    |       |
| R215     | 1-216-105-00 | METAL CHIP  | 220K   | 5% | 1/10W |
| R216     | 1-216-085-00 | METAL CHIP  | 33K    | 5% | 1/10W |
| R217     | 1-216-049-00 | METAL CHIP  | 1K     | 5% | 1/10W |
| R218     | 1-216-105-00 | METAL CHIP  | 220K   | 5% | 1/10W |
| R219     | 1-216-065-00 | METAL CHIP  | 4. 7K  | 5% | 1/10W |
|          |              |             |        |    |       |
| R220     | 1-216-093-00 | METAL CHIP  | 68K    | 5% | 1/10W |
| R221     | 1-216-295-00 | METAL CHIP  | 0      | 5% | 1/10W |
| R601     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R602     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R603     | 1-216-057-00 | METAL CHIP  | 2. 2K  | 5% | 1/10W |
|          |              |             |        |    |       |
| R605     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R606     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R607     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R608     | 1-216-049-00 | METAL CHIP  | 1K     | 5% | 1/10W |
| R609     | 1-216-083-00 | METAL CHIP  | 27K    | 5% | 1/10W |
|          |              |             |        |    |       |
| R610     | 1-216-084-00 | METAL CHIP  | 30K    | 5% | 1/10W |
| R611     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R612     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R615     | 1-216-057-00 | METAL CHIP  | 2. 2K  | 5% | 1/10W |
| R616     | 1-216-097-00 | METAL CHIP  | 100K   | 5% | 1/10W |
|          |              |             |        |    |       |
| R617     | 1-216-097-00 | METAL CHIP  | 100K   | 5% | 1/10W |
| R618     | 1-216-097-00 | METAL CHIP  | 100K   | 5% | 1/10W |
| R619     | 1-216-057-00 | METAL CHIP  | 2. 2K  | 5% | 1/10W |
| R620     | 1-216-097-00 | METAL CHIP  | 100K   | 5% | 1/10W |
| R621     | 1-216-049-00 | METAL CHIP  | 1K     | 5% | 1/10W |
|          |              |             |        |    |       |
| R623     | 1-216-113-00 | METAL CHIP  | 470K   | 5% | 1/10W |
| R624     | 1-216-295-00 | METAL CHIP  | 0      | 5% | 1/10W |
| R625     | 1-216-295-00 | METAL CHIP  | 0      | 5% | 1/10W |
| R626     | 1-216-295-00 | METAL CHIP  | 0      | 5% | 1/10W |
| R628     | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W |
|          |              |             |        |    |       |
| R629     | 1-216-057-00 | METAL CHIP  | 2. 2K  | 5% | 1/10W |
| R630     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R631     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R634     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R635     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
|          |              |             |        |    |       |
| R636     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R637     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R638     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R639     | 1-216-057-00 | METAL CHIP  | 2. 2K  | 5% | 1/10W |
| R640     | 1-216-057-00 | METAL CHIP  | 2. 2K  | 5% | 1/10W |
|          |              |             |        |    |       |
| R641     | 1-216-065-00 | METAL CHIP  | 4. 7K  | 5% | 1/10W |
| R642     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R643     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R644     | 1-216-025-00 | METAL CHIP  | 100    | 5% | 1/10W |

| Ref. No. | Part No.     | Description | Remark |    |       |
|----------|--------------|-------------|--------|----|-------|
| R645     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R646     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R647     | 1-216-025-00 | METAL CHIP  | 100    | 5% | 1/10W |
| R648     | 1-216-025-00 | METAL CHIP  | 100    | 5% | 1/10W |
| R649     | 1-216-025-00 | METAL CHIP  | 100    | 5% | 1/10W |
|          |              |             |        |    |       |
| R650     | 1-216-121-00 | METAL CHIP  | 1M     | 5% | 1/10W |
| R651     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R652     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R653     | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W |
| R654     | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W |
|          |              |             |        |    |       |
| R655     | 1-216-121-00 | METAL CHIP  | 1M     | 5% | 1/10W |
| R656     | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W |
| R661     | 1-216-083-00 | METAL CHIP  | 27K    | 5% | 1/10W |
| R662     | 1-216-083-00 | METAL CHIP  | 27K    | 5% | 1/10W |
| R663     | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W |
|          |              |             |        |    |       |
| R664     | 1-216-045-00 | METAL CHIP  | 680    | 5% | 1/10W |
| R665     | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W |
| R666     | 1-216-045-00 | METAL CHIP  | 680    | 5% | 1/10W |
| R667     | 1-216-025-00 | METAL CHIP  | 100    | 5% | 1/10W |
| R668     | 1-216-090-00 | METAL CHIP  | 51K    | 5% | 1/10W |
|          |              |             |        |    |       |
| R669     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R670     | 1-216-084-00 | METAL CHIP  | 30K    | 5% | 1/10W |
| R671     | 1-216-090-00 | METAL CHIP  | 51K    | 5% | 1/10W |
| R672     | 1-216-065-00 | METAL CHIP  | 4. 7K  | 5% | 1/10W |
| R673     | 1-216-080-00 | METAL CHIP  | 20K    | 5% | 1/10W |
|          |              |             |        |    |       |
| R674     | 1-216-083-00 | METAL CHIP  | 27K    | 5% | 1/10W |
| R675     | 1-216-080-00 | METAL CHIP  | 20K    | 5% | 1/10W |
| R676     | 1-216-065-00 | METAL CHIP  | 4. 7K  | 5% | 1/10W |
| R677     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R678     | 1-216-084-00 | METAL CHIP  | 30K    | 5% | 1/10W |
|          |              |             |        |    |       |
| R679     | 1-216-083-00 | METAL CHIP  | 27K    | 5% | 1/10W |
| R680     | 1-216-090-00 | METAL CHIP  | 51K    | 5% | 1/10W |
| R681     | 1-216-090-00 | METAL CHIP  | 51K    | 5% | 1/10W |
| R682     | 1-216-025-00 | METAL CHIP  | 100    | 5% | 1/10W |
| R686     | 1-216-077-00 | METAL CHIP  | 15K    | 5% | 1/10W |
|          |              |             |        |    |       |
| R687     | 1-216-077-00 | METAL CHIP  | 15K    | 5% | 1/10W |
| R690     | 1-216-025-00 | METAL CHIP  | 100    | 5% | 1/10W |
| R691     | 1-216-057-00 | METAL CHIP  | 2. 2K  | 5% | 1/10W |
| R692     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R693     | 1-216-025-00 | METAL CHIP  | 100    | 5% | 1/10W |
|          |              |             |        |    |       |
| R695     | 1-216-065-00 | METAL CHIP  | 4. 7K  | 5% | 1/10W |
| R696     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R697     | 1-216-070-00 | METAL CHIP  | 7. 5K  | 5% | 1/10W |
| R698     | 1-216-082-00 | METAL GLAZE | 24K    | 5% | 1/10W |
| R699     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
|          |              |             |        |    |       |
| R700     | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W |
| R6004    | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R6005    | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R6010    | 1-216-049-00 | METAL CHIP  | 1K     | 5% | 1/10W |

MAIN

MD-A

MD-B HX PRO

| Ref. No. | Part No.     | Description | Remark |    |        |
|----------|--------------|-------------|--------|----|--------|
| R6011    | 1-216-298-00 | METAL CHIP  | 2.2    | 5% | 1/10W  |
| R6012    | 1-216-298-00 | METAL CHIP  | 2.2    | 5% | 1/10W  |
| R6013    | 1-216-298-00 | METAL CHIP  | 2.2    | 5% | 1/10W  |
| R6014    | 1-216-298-00 | METAL CHIP  | 2.2    | 5% | 1/10W  |
| R6015    | 1-216-298-00 | METAL CHIP  | 2.2    | 5% | 1/10W  |
| R6016    | 1-216-298-00 | METAL CHIP  | 2.2    | 5% | 1/10W  |
| R6017    | 1-216-298-00 | METAL CHIP  | 2.2    | 5% | 1/10W  |
| R6018    | 1-216-298-00 | METAL CHIP  | 2.2    | 5% | 1/10W  |
| R6050    | 1-216-025-00 | METAL CHIP  | 100    | 5% | 1/10W  |
| △R6051   | 1-212-974-00 | FUSIBLE     | 47     | 5% | 1/2W F |
| R6060    | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W  |
| R6070    | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W  |
| R6080    | 1-216-097-00 | METAL CHIP  | 100K   | 5% | 1/10W  |

## &lt; VARIABLE RESISTOR &gt;

|       |              |                      |
|-------|--------------|----------------------|
| RV101 | 1-241-136-11 | RES, ADJ, CARBON 10K |
| RV201 | 1-241-136-11 | RES, ADJ, CARBON 10K |

## &lt; TRANSFORMER &gt;

|      |              |                              |
|------|--------------|------------------------------|
| T601 | 1-450-458-11 | TRANSFORMER, DC-DC CONVERTER |
|------|--------------|------------------------------|

## &lt; TEST PIN &gt;

- \* TP601 1-564-718-11 PIN, CONNECTOR (SMALL TYPE) 2P  
 \* TP6001 1-564-517-11 PLUG, CONNECTOR 2P

## &lt; VIBRATOR &gt;

|      |              |                          |
|------|--------------|--------------------------|
| X601 | 1-577-358-21 | VIBRATOR, CERAMIC (4MHz) |
|------|--------------|--------------------------|

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- \* A-2006-399-A MD-A BOARD, COMPLETE  
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## &lt; CAPACITOR &gt;

|     |              |              |         |     |     |
|-----|--------------|--------------|---------|-----|-----|
| C11 | 1-163-131-00 | CERAMIC CHIP | 390PF   | 5%  | 50V |
| C12 | 1-136-157-00 | FILM         | 0.022uF | 5%  | 50V |
| C13 | 1-124-234-00 | ELECT        | 22uF    | 20% | 16V |
| C18 | 1-163-117-00 | CERAMIC CHIP | 100PF   | 5%  | 50V |
| C21 | 1-163-131-00 | CERAMIC CHIP | 390PF   | 5%  | 50V |

|     |              |              |         |     |     |
|-----|--------------|--------------|---------|-----|-----|
| C22 | 1-136-157-00 | FILM         | 0.022uF | 5%  | 50V |
| C23 | 1-124-234-00 | ELECT        | 22uF    | 20% | 16V |
| C28 | 1-163-117-00 | CERAMIC CHIP | 100PF   | 5%  | 50V |
| C31 | 1-124-234-00 | ELECT        | 22uF    | 20% | 16V |
| C32 | 1-124-234-00 | ELECT        | 22uF    | 20% | 16V |

|     |              |              |     |  |     |
|-----|--------------|--------------|-----|--|-----|
| C71 | 1-164-346-11 | CERAMIC CHIP | 1uF |  | 16V |
|-----|--------------|--------------|-----|--|-----|

## &lt; CONNECTOR &gt;

- \* CNJ31 1-580-782-11 CONNECTOR, BOARD TO BOARD  
 \* CNJ72 1-580-411-11 SOCKET, CONNECTOR 4P

| Ref. No. | Part No.     | Description                    | Remark |  |  |
|----------|--------------|--------------------------------|--------|--|--|
| * CNP32  | 1-580-772-11 | PIN, CONNECTOR (PC BOARD) 4P   |        |  |  |
| * CNP71  | 1-564-719-11 | PIN, CONNECTOR (SMALL TYPE) 3P |        |  |  |

## &lt; IC &gt;

|       |              |    |           |  |  |
|-------|--------------|----|-----------|--|--|
| IC31A | 8-759-106-02 | IC | uPC4570G2 |  |  |
|-------|--------------|----|-----------|--|--|

## &lt; JUMPER RESISTOR &gt;

|      |              |            |   |    |       |
|------|--------------|------------|---|----|-------|
| JW1  | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| JW51 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W  |
| JW52 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W  |
| JW53 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W  |
| JW54 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W  |

## &lt; TRANSISTOR &gt;

|      |              |            |           |  |  |
|------|--------------|------------|-----------|--|--|
| Q71A | 8-729-602-36 | TRANSISTOR | 2SA1602-F |  |  |
|------|--------------|------------|-----------|--|--|

## &lt; RESISTOR &gt;

|     |              |             |      |    |       |
|-----|--------------|-------------|------|----|-------|
| R11 | 1-216-099-00 | METAL CHIP  | 120K | 5% | 1/10W |
| R12 | 1-216-025-00 | METAL CHIP  | 100  | 5% | 1/10W |
| R13 | 1-216-100-00 | METAL GLAZE | 130K | 5% | 1/10W |
| R14 | 1-216-067-00 | METAL CHIP  | 5.6K | 5% | 1/10W |
| R21 | 1-216-099-00 | METAL CHIP  | 120K | 5% | 1/10W |

|     |              |             |      |    |       |
|-----|--------------|-------------|------|----|-------|
| R22 | 1-216-025-00 | METAL CHIP  | 100  | 5% | 1/10W |
| R23 | 1-216-100-00 | METAL GLAZE | 130K | 5% | 1/10W |
| R24 | 1-216-067-00 | METAL CHIP  | 5.6K | 5% | 1/10W |
| R31 | 1-216-033-00 | METAL CHIP  | 220  | 5% | 1/10W |
| R32 | 1-216-033-00 | METAL CHIP  | 220  | 5% | 1/10W |

|     |              |             |     |    |       |
|-----|--------------|-------------|-----|----|-------|
| R71 | 1-216-082-00 | METAL GLAZE | 24K | 5% | 1/10W |
| R72 | 1-216-081-00 | METAL CHIP  | 22K | 5% | 1/10W |
| R73 | 1-216-089-00 | METAL CHIP  | 47K | 5% | 1/10W |
| R74 | 1-216-089-00 | METAL CHIP  | 47K | 5% | 1/10W |

## &lt; VARIABLE RESISTOR &gt;

|       |              |                      |
|-------|--------------|----------------------|
| RV11A | 1-241-627-11 | RES, ADJ, CARBON 1K  |
| RV21A | 1-241-627-11 | RES, ADJ, CARBON 1K  |
| RV71A | 1-241-630-11 | RES, ADJ, CARBON 10K |
| RV72A | 1-241-630-11 | RES, ADJ, CARBON 10K |

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- \* A-2006-401-A MD-B HX PRO BOARD, COMPLETE  
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## &lt; CAPACITOR &gt;

|     |              |              |         |     |     |
|-----|--------------|--------------|---------|-----|-----|
| C11 | 1-163-131-00 | CERAMIC CHIP | 390PF   | 5%  | 50V |
| C12 | 1-136-157-00 | FILM         | 0.022uF | 5%  | 50V |
| C13 | 1-124-234-00 | ELECT        | 22uF    | 20% | 16V |
| C18 | 1-163-117-00 | CERAMIC CHIP | 100PF   | 5%  | 50V |
| C21 | 1-163-131-00 | CERAMIC CHIP | 390PF   | 5%  | 50V |

|     |              |      |         |    |     |
|-----|--------------|------|---------|----|-----|
| C22 | 1-136-157-00 | FILM | 0.022uF | 5% | 50V |
|-----|--------------|------|---------|----|-----|

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

## MD-B HX PRO

| Ref. No.      | Part No.     | Description                    | Remark |
|---------------|--------------|--------------------------------|--------|
| C23           | 1-124-234-00 | ELECT 22uF 20%                 | 16V    |
| C28           | 1-163-117-00 | CERAMIC CHIP 100PF 5%          | 50V    |
| C31           | 1-124-234-00 | ELECT 22uF 20%                 | 16V    |
| C32           | 1-124-234-00 | ELECT 22uF 20%                 | 16V    |
| C33           | 1-124-234-00 | ELECT 22uF 20%                 | 16V    |
| C51           | 1-164-161-11 | CERAMIC CHIP 0.0022uF 10%      | 100V   |
| C52           | 1-164-161-11 | CERAMIC CHIP 0.0022uF 10%      | 100V   |
| C53           | 1-163-019-00 | CERAMIC CHIP 0.0068uF 10%      | 50V    |
| C54           | 1-136-601-11 | FILM 0.01uF 5%                 | 630V   |
| C56           | 1-164-505-11 | CERAMIC CHIP 2.2uF             | 16V    |
| C57           | 1-164-346-11 | CERAMIC CHIP 1uF               | 16V    |
| C71           | 1-164-346-11 | CERAMIC CHIP 1uF               | 16V    |
| C80           | 1-124-234-00 | ELECT 22uF 20%                 | 16V    |
| C81           | 1-164-232-11 | CERAMIC CHIP 0.01uF            | 50V    |
| C82           | 1-136-157-00 | FILM 0.022uF 5%                | 50V    |
| C83           | 1-164-004-11 | CERAMIC CHIP 0.1uF 10%         | 25V    |
| C84           | 1-136-478-11 | FILM 470PF 5%                  | 630V   |
| C85           | 1-136-433-11 | FILM 100PF 5%                  | 630V   |
| C86           | 1-163-143-00 | CERAMIC CHIP 0.0012uF 5%       | 50V    |
| C87           | 1-136-273-91 | FILM 75PF 5%                   | 630V   |
| C88           | 1-163-003-11 | CERAMIC CHIP 330PF 10%         | 50V    |
| C89           | 1-124-234-00 | ELECT 22uF 20%                 | 16V    |
| C90           | 1-107-045-00 | MICA 3.9PF                     | 500V   |
| C91           | 1-164-232-11 | CERAMIC CHIP 0.01uF            | 50V    |
| C92           | 1-136-157-00 | FILM 0.022uF 5%                | 50V    |
| C93           | 1-164-004-11 | CERAMIC CHIP 0.1uF 10%         | 25V    |
| C94           | 1-136-478-11 | FILM 470PF 5%                  | 630V   |
| C95           | 1-136-433-11 | FILM 100PF 5%                  | 630V   |
| C96           | 1-163-143-00 | CERAMIC CHIP 0.0012uF 5%       | 50V    |
| C97           | 1-136-273-91 | FILM 75PF 5%                   | 630V   |
| C98           | 1-163-003-11 | CERAMIC CHIP 330PF 10%         | 50V    |
| C99           | 1-164-005-11 | CERAMIC CHIP 0.47uF            | 25V    |
| < CONNECTOR > |              |                                |        |
| * CNP31       | 1-580-782-11 | CONNECTOR, BOARD TO BOARD      |        |
| * CNP32       | 1-580-781-11 | PIN, CONNECTOR (PC BOARD) 7P   |        |
| * CNP33       | 1-580-782-11 | CONNECTOR, BOARD TO BOARD      |        |
| * CNP71       | 1-564-719-11 | PIN, CONNECTOR (SMALL TYPE) 3P |        |
| * CNP72       | 1-580-411-11 | SOCKET, CONNECTOR 4P           |        |
| < DIODE >     |              |                                |        |
| D31           | 8-719-016-74 | DIODE 1SS352                   |        |
| < IC >        |              |                                |        |
| IC31B         | 8-759-106-02 | IC uPC4570G2                   |        |
| IC81C         | 8-759-106-56 | IC uPC1297CA                   |        |

| Ref. No.              | Part No.     | Description          | Remark |
|-----------------------|--------------|----------------------|--------|
| < COIL >              |              |                      |        |
| L81                   | 1-410-780-11 | INDUCTOR 27mH        |        |
| L91                   | 1-410-780-11 | INDUCTOR 27mH        |        |
| < TRANSISTOR >        |              |                      |        |
| Q51                   | 8-729-808-01 | TRANSISTOR 2SD1622-S |        |
| Q52                   | 8-729-808-01 | TRANSISTOR 2SD1622-S |        |
| Q53                   | 8-729-808-01 | TRANSISTOR 2SD1622-S |        |
| Q71B                  | 8-729-216-22 | TRANSISTOR 2SA1162-C |        |
| < RESISTOR >          |              |                      |        |
| R11                   | 1-216-099-00 | METAL CHIP 120K 5%   | 1/10W  |
| R12                   | 1-216-025-00 | METAL CHIP 100 5%    | 1/10W  |
| R13                   | 1-216-100-00 | METAL GLAZE 130K 5%  | 1/10W  |
| R14                   | 1-216-067-00 | METAL CHIP 5.6K 5%   | 1/10W  |
| R21                   | 1-216-099-00 | METAL CHIP 120K 5%   | 1/10W  |
| R22                   | 1-216-025-00 | METAL CHIP 100 5%    | 1/10W  |
| R23                   | 1-216-100-00 | METAL GLAZE 130K 5%  | 1/10W  |
| R24                   | 1-216-067-00 | METAL CHIP 5.6K 5%   | 1/10W  |
| R31                   | 1-216-033-00 | METAL CHIP 220 5%    | 1/10W  |
| R32                   | 1-216-033-00 | METAL CHIP 220 5%    | 1/10W  |
| R51                   | 1-216-097-00 | METAL CHIP 100K 5%   | 1/10W  |
| R52                   | 1-216-097-00 | METAL CHIP 100K 5%   | 1/10W  |
| R53                   | 1-216-073-00 | METAL CHIP 10K 5%    | 1/10W  |
| R54                   | 1-216-309-00 | METAL CHIP 5.6 5%    | 1/10W  |
| R55                   | 1-216-309-00 | METAL CHIP 5.6 5%    | 1/10W  |
| R57                   | 1-216-298-00 | METAL CHIP 2.2 5%    | 1/10W  |
| R71                   | 1-216-082-00 | METAL GLAZE 24K 5%   | 1/10W  |
| R72                   | 1-216-081-00 | METAL CHIP 22K 5%    | 1/10W  |
| R73                   | 1-216-089-00 | METAL CHIP 47K 5%    | 1/10W  |
| R74                   | 1-216-089-00 | METAL CHIP 47K 5%    | 1/10W  |
| R81                   | 1-216-073-00 | METAL CHIP 10K 5%    | 1/10W  |
| R82                   | 1-216-085-00 | METAL CHIP 33K 5%    | 1/10W  |
| R83                   | 1-216-001-00 | METAL CHIP 10 5%     | 1/10W  |
| R84                   | 1-216-101-00 | METAL CHIP 150K 5%   | 1/10W  |
| R85                   | 1-216-075-00 | METAL CHIP 12K 5%    | 1/10W  |
| R91                   | 1-216-073-00 | METAL CHIP 10K 5%    | 1/10W  |
| R92                   | 1-216-085-00 | METAL CHIP 33K 5%    | 1/10W  |
| R93                   | 1-216-001-00 | METAL CHIP 10 5%     | 1/10W  |
| R94                   | 1-216-101-00 | METAL CHIP 150K 5%   | 1/10W  |
| R95                   | 1-216-075-00 | METAL CHIP 12K 5%    | 1/10W  |
| < VARIABLE RESISTOR > |              |                      |        |
| RV11B                 | 1-241-627-11 | RES, ADJ, CARBON 1K  |        |
| RV21B                 | 1-241-627-11 | RES, ADJ, CARBON 1K  |        |
| RV71B                 | 1-241-630-11 | RES, ADJ, CARBON 10K |        |
| RV72B                 | 1-241-630-11 | RES, ADJ, CARBON 10K |        |
| RV81                  | 1-241-122-11 | RES, ADJ, CARBON 22K |        |

## MD-B HX PRO

## PANEL

## PIN JACK

| Ref. No. | Part No.     | Description                     | Remark |
|----------|--------------|---------------------------------|--------|
| RV91     | 1-241-122-11 | RES, ADJ, CARBON 22K            |        |
|          |              | < RELAY >                       |        |
| RY31     | 1-515-726-11 | RELAY                           |        |
|          |              | < TRANSFORMER >                 |        |
| T51      | 1-406-417-11 | COIL, BIAS OSCILLATION          |        |
| T81      | 1-433-381-11 | TRANSFORMER, BIAS OSCILLATOR    |        |
| T91      | 1-433-381-11 | TRANSFORMER, BIAS OSCILLATOR    |        |
|          |              | < TEST PIN >                    |        |
| * TP81   | 1-568-449-11 | HOUSING, CONNECTOR(PC BOARD) 3P |        |
| *****    |              |                                 |        |
| *        | A-2006-692-A | PANEL BOARD, COMPLETE           |        |
| *****    |              |                                 |        |
| *        | 3-367-839-01 | HOLDER, FL TUBE                 |        |
|          | 3-377-932-01 | SPRING, GROUND                  |        |
|          |              | < CAPACITOR >                   |        |
| C351     | 1-126-163-11 | ELECT 4.7uF 20% 50V             |        |
| C352     | 1-124-638-11 | ELECT 22uF 20% 10V              |        |
| C353     | 1-164-232-11 | CERAMIC CHIP 0.01uF 50V         |        |
| C354     | 1-164-232-11 | CERAMIC CHIP 0.01uF 50V         |        |
|          |              | < CONNECTOR >                   |        |
| CN351    | 1-580-883-21 | SOCKET, CONNECTOR (SMT) 12P     |        |
|          |              | < DIODE >                       |        |
| D301     | 8-719-312-30 | LED SEL4226R-CD (DUBBING MODE)  |        |
| D302     | 8-719-312-30 | LED SEL4226R-CD (CD SYNCHRO)    |        |
|          |              | < FLUORESCENT INDICATOR >       |        |
| FL351    | 1-519-708-11 | INDICATOR TUBE, FLUORESCENT     |        |
|          |              | < IC >                          |        |
| IC351    | 8-759-323-35 | IC HD-614023-FA93               |        |
|          |              | < RESISTOR >                    |        |
| R351     | 1-216-029-00 | METAL CHIP 150 5% 1/10W         |        |
| R352     | 1-216-033-00 | METAL CHIP 220 5% 1/10W         |        |
| R353     | 1-216-037-00 | METAL CHIP 330 5% 1/10W         |        |
| R354     | 1-216-041-00 | METAL CHIP 470 5% 1/10W         |        |
| R355     | 1-216-045-00 | METAL CHIP 680 5% 1/10W         |        |
| R356     | 1-216-049-00 | METAL CHIP 1K 5% 1/10W          |        |
| R357     | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W        |        |
| R359     | 1-216-045-00 | METAL CHIP 680 5% 1/10W         |        |

| Ref. No. | Part No.     | Description                      | Remark |
|----------|--------------|----------------------------------|--------|
| R362     | 1-216-041-00 | METAL CHIP 470 5% 1/10W          |        |
| R363     | 1-216-045-00 | METAL CHIP 680 5% 1/10W          |        |
| R364     | 1-216-049-00 | METAL CHIP 1K 5% 1/10W           |        |
| R365     | 1-216-055-00 | METAL CHIP 1.8K 5% 1/10W         |        |
| R366     | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W         |        |
| R367     | 1-216-089-00 | METAL CHIP 47K 5% 1/10W          |        |
| R368     | 1-216-089-00 | METAL CHIP 47K 5% 1/10W          |        |
| R369     | 1-216-089-00 | METAL CHIP 47K 5% 1/10W          |        |
| R372     | 1-216-041-00 | METAL CHIP 470 5% 1/10W          |        |
| R374     | 1-216-037-00 | METAL CHIP 330 5% 1/10W          |        |
| R375     | 1-216-081-00 | METAL CHIP 22K 5% 1/10W          |        |
| R376     | 1-216-121-00 | METAL CHIP 1M 5% 1/10W           |        |
| R377     | 1-216-085-00 | METAL CHIP 33K 5% 1/10W          |        |
| R378     | 1-216-025-00 | METAL CHIP 100 5% 1/10W          |        |
| R379     | 1-216-025-00 | METAL CHIP 100 5% 1/10W          |        |
| R380     | 1-216-025-00 | METAL CHIP 100 5% 1/10W          |        |
| R381     | 1-216-025-00 | METAL CHIP 100 5% 1/10W          |        |
|          |              | < SWITCH >                       |        |
| S901     | 1-554-303-21 | SWITCH, TACTILE (CD SYNCHRO)     |        |
| S902     | 1-554-303-21 | SWITCH, TACTILE (◀)              |        |
| S903     | 1-554-303-21 | SWITCH, TACTILE (▶)              |        |
| S904     | 1-554-303-21 | SWITCH, TACTILE (● REC)          |        |
| S905     | 1-692-064-11 | SWITCH, TACTIL (DECK A)          |        |
| S906     | 1-692-064-11 | SWITCH, TACTIL (DECK B)          |        |
| S907     | 1-554-303-21 | SWITCH, TACTILE (COUNTER RESET)  |        |
| S908     | 1-554-303-21 | SWITCH, TACTILE (DOLBY NR)       |        |
| S909     | 1-554-303-21 | SWITCH, TACTILE (DUBBING MODE)   |        |
| S910     | 1-554-303-21 | SWITCH, TACTILE (■)              |        |
| S911     | 1-554-303-21 | SWITCH, TACTILE (▷)              |        |
| S912     | 1-554-303-21 | SWITCH, TACTILE (◁)              |        |
| S913     | 1-554-303-21 | SWITCH, TACTILE (   PAUSE)       |        |
| S914     | 1-554-303-21 | SWITCH, TACTILE (● MUTE)         |        |
| S915     | 1-554-303-21 | SWITCH, TACTILE (DIRECTION MODE) |        |
|          |              | < VIBRATOR >                     |        |
| X951     | 1-577-101-11 | VIBRATOR, CERAMIC (4.19MHz)      |        |
| *****    |              |                                  |        |
| *        | A-2006-730-A | PIN JACK BOARD, COMPLETE         |        |
| *****    |              |                                  |        |
|          |              | < CAPACITOR >                    |        |
| C401     | 1-163-003-11 | CERAMIC CHIP 330PF 10% 50V       |        |
| C402     | 1-163-003-11 | CERAMIC CHIP 330PF 10% 50V       |        |
| C403     | 1-163-003-11 | CERAMIC CHIP 330PF 10% 50V       |        |
| C404     | 1-163-003-11 | CERAMIC CHIP 330PF 10% 50V       |        |
| C405     | 1-163-003-11 | CERAMIC CHIP 330PF 10% 50V       |        |
| C407     | 1-163-117-00 | CERAMIC CHIP 100PF 5% 50V        |        |

## PIN JACK

| Ref. No. | Part No.     | Description               | Remark |
|----------|--------------|---------------------------|--------|
| C409     | 1-124-465-00 | ELECT 0.47uF 20%          | 50V    |
| C410     | 1-163-133-00 | CERAMIC CHIP 470PF 5%     | 50V    |
| C411     | 1-126-163-11 | ELECT 4.7uF 20%           | 50V    |
| C412     | 1-163-018-00 | CERAMIC CHIP 0.0056uF 5%  | 50V    |
| C413     | 1-163-011-11 | CERAMIC CHIP 0.0015uF 10% | 50V    |
| C414     | 1-124-257-00 | ELECT 2.2uF 20%           | 50V    |
| C416     | 1-163-109-00 | CERAMIC CHIP 47PF 5%      | 50V    |
| C417     | 1-163-109-00 | CERAMIC CHIP 47PF 5%      | 50V    |
| C451     | 1-163-003-11 | CERAMIC CHIP 330PF 10%    | 50V    |
| C452     | 1-163-003-11 | CERAMIC CHIP 330PF 10%    | 50V    |
| C453     | 1-163-003-11 | CERAMIC CHIP 330PF 10%    | 50V    |
| C454     | 1-163-003-11 | CERAMIC CHIP 330PF 10%    | 50V    |
| C455     | 1-163-003-11 | CERAMIC CHIP 330PF 10%    | 50V    |
| C457     | 1-163-117-00 | CERAMIC CHIP 100PF 5%     | 50V    |
| C459     | 1-124-465-00 | ELECT 0.47uF 20%          | 50V    |
| C460     | 1-163-133-00 | CERAMIC CHIP 470PF 5%     | 50V    |
| C461     | 1-126-163-11 | ELECT 4.7uF 20%           | 50V    |
| C462     | 1-163-018-00 | CERAMIC CHIP 0.0056uF 5%  | 50V    |
| C463     | 1-163-011-11 | CERAMIC CHIP 0.0015uF 10% | 50V    |
| C464     | 1-124-257-00 | ELECT 2.2uF 20%           | 50V    |
| C466     | 1-163-109-00 | CERAMIC CHIP 47PF 5%      | 50V    |
| C467     | 1-163-109-00 | CERAMIC CHIP 47PF 5%      | 50V    |
| C485     | 1-164-232-11 | CERAMIC CHIP 0.01uF       | 50V    |
| C486     | 1-126-157-11 | ELECT 10uF 20%            | 16V    |
| C487     | 1-164-232-11 | CERAMIC CHIP 0.01uF       | 50V    |
| C488     | 1-164-232-11 | CERAMIC CHIP 0.01uF       | 50V    |
| C489     | 1-164-232-11 | CERAMIC CHIP 0.01uF       | 50V    |
| C490     | 1-164-232-11 | CERAMIC CHIP 0.01uF       | 50V    |
| C491     | 1-164-232-11 | CERAMIC CHIP 0.01uF       | 50V    |
| C492     | 1-164-232-11 | CERAMIC CHIP 0.01uF       | 50V    |
| C493     | 1-164-232-11 | CERAMIC CHIP 0.01uF       | 50V    |
| C494     | 1-164-232-11 | CERAMIC CHIP 0.01uF       | 50V    |
| C495     | 1-164-232-11 | CERAMIC CHIP 0.01uF       | 50V    |
| C496     | 1-164-232-11 | CERAMIC CHIP 0.01uF       | 50V    |
| C497     | 1-126-301-11 | ELECT 1uF 20%             | 50V    |
| C4001    | 1-163-119-00 | CERAMIC CHIP 120PF 5%     | 50V    |
| C4002    | 1-163-119-00 | CERAMIC CHIP 120PF 5%     | 50V    |
| C4003    | 1-124-589-11 | ELECT 47uF 20%            | 16V    |
| C4006    | 1-101-005-00 | CERAMIC 22000PF           | 50V    |
| C4020    | 1-163-037-11 | CERAMIC CHIP 0.022uF 10%  | 25V    |
| C4021    | 1-163-037-11 | CERAMIC CHIP 0.022uF 10%  | 25V    |
| C4022    | 1-124-589-11 | ELECT 47uF 20%            | 16V    |
| C4030    | 1-163-133-00 | CERAMIC CHIP 470PF 5%     | 50V    |
| C4031    | 1-163-133-00 | CERAMIC CHIP 470PF 5%     | 50V    |
| C4050    | 1-163-037-11 | CERAMIC CHIP 0.022uF 10%  | 25V    |

## &lt; CONNECTOR &gt;

\* CNJ401 1-580-740-11 SOCKET, CONNECTOR 17P (SYSTEM CONTROL 2)

\* CNJ402 1-573-187-11 PIN, CONNECTOR (PC BOARD) 7P

| Ref. No.            | Part No.     | Description                         | Remark |
|---------------------|--------------|-------------------------------------|--------|
| * CNJ403            | 1-573-388-11 | PIN, CONNECTOR (PC BOARD) 8P        |        |
| < DIODE >           |              |                                     |        |
| D401                | 8-719-990-36 | DIODE DCA010                        |        |
| D403                | 8-719-210-33 | DIODE EC10DS2                       |        |
| D404                | 8-719-210-33 | DIODE EC10DS2                       |        |
| D405                | 8-719-990-36 | DIODE DCA010                        |        |
| D4001               | 8-719-016-74 | DIODE 1SS352                        |        |
| < IC >              |              |                                     |        |
| IC401               | 8-759-636-55 | IC M5218AFP                         |        |
| IC402               | 8-759-636-55 | IC M5218AFP                         |        |
| IC403               | 8-759-009-05 | IC MC14051BF                        |        |
| IC404               | 8-759-009-05 | IC MC14051BF                        |        |
| IC405               | 8-759-516-47 | IC CD4066BCM                        |        |
| IC406               | 8-759-636-35 | IC M50760-315FP                     |        |
| < JACK >            |              |                                     |        |
| J401                | 1-565-304-11 | JACK, PIN 4P (DAT OUT, PHONO IN)    |        |
| * J402              | 1-569-812-11 | JACK, PIN 6P (DAT IN, VIDEO IN/OUT) |        |
| < JUMPER RESISTOR > |              |                                     |        |
| JW3                 | 1-216-295-00 | METAL CHIP 0 5% 1/10W               |        |
| JW8                 | 1-216-295-00 | METAL CHIP 0 5% 1/10W               |        |
| JW10                | 1-216-295-00 | METAL CHIP 0 5% 1/10W               |        |
| JW12                | 1-216-295-00 | METAL CHIP 0 5% 1/10W               |        |
| < COIL >            |              |                                     |        |
| L4001               | 1-410-381-11 | INDUCTOR CHIP 10uH                  |        |
| < TRANSISTOR >      |              |                                     |        |
| Q401                | 8-729-805-65 | TRANSISTOR 2SA1344                  |        |
| Q402                | 8-729-805-65 | TRANSISTOR 2SA1344                  |        |
| Q406                | 8-729-602-36 | TRANSISTOR 2SA1602-F                |        |
| Q407                | 8-729-602-21 | TRANSISTOR 2SC4154-F                |        |
| < RESISTOR >        |              |                                     |        |
| R401                | 1-216-049-00 | METAL CHIP 1K 5% 1/10W              |        |
| R402                | 1-216-049-00 | METAL CHIP 1K 5% 1/10W              |        |
| R403                | 1-216-049-00 | METAL CHIP 1K 5% 1/10W              |        |
| R404                | 1-216-041-00 | METAL CHIP 470 5% 1/10W             |        |
| R405                | 1-216-041-00 | METAL CHIP 470 5% 1/10W             |        |
| R407                | 1-216-115-00 | METAL CHIP 560K 5% 1/10W            |        |
| R408                | 1-216-115-00 | METAL CHIP 560K 5% 1/10W            |        |
| R409                | 1-216-089-00 | METAL CHIP 47K 5% 1/10W             |        |
| R410                | 1-216-115-00 | METAL CHIP 560K 5% 1/10W            |        |
| R411                | 1-216-115-00 | METAL CHIP 560K 5% 1/10W            |        |
| R413                | 1-216-295-00 | METAL CHIP 0 5% 1/10W               |        |

PIN JACK

POWER

| Ref. No. | Part No.     | Description | Remark |    |       |
|----------|--------------|-------------|--------|----|-------|
| R414     | 1-216-061-00 | METAL CHIP  | 3.3K   | 5% | 1/10W |
| R415     | 1-216-049-00 | METAL CHIP  | 1K     | 5% | 1/10W |
| R417     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R418     | 1-216-049-00 | METAL CHIP  | 1K     | 5% | 1/10W |
| R419     | 1-216-115-00 | METAL CHIP  | 560K   | 5% | 1/10W |
| R420     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R421     | 1-216-001-00 | METAL CHIP  | 10     | 5% | 1/10W |
| R422     | 1-216-075-00 | METAL CHIP  | 12K    | 5% | 1/10W |
| R423     | 1-216-041-00 | METAL CHIP  | 470    | 5% | 1/10W |
| R425     | 1-216-025-00 | METAL CHIP  | 100    | 5% | 1/10W |
| R426     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R427     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R428     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R429     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R430     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R434     | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W |
| R435     | 1-216-073-00 | METAL CHIP  | 10K    | 5% | 1/10W |
| R436     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R437     | 1-216-121-00 | METAL CHIP  | 1M     | 5% | 1/10W |
| R439     | 1-216-295-00 | METAL CHIP  | 0      | 5% | 1/10W |
| R440     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R441     | 1-216-295-00 | METAL CHIP  | 0      | 5% | 1/10W |
| R442     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R450     | 1-216-081-00 | METAL CHIP  | 22K    | 5% | 1/10W |
| R451     | 1-216-049-00 | METAL CHIP  | 1K     | 5% | 1/10W |
| R452     | 1-216-049-00 | METAL CHIP  | 1K     | 5% | 1/10W |
| R453     | 1-216-049-00 | METAL CHIP  | 1K     | 5% | 1/10W |
| R454     | 1-216-041-00 | METAL CHIP  | 470    | 5% | 1/10W |
| R455     | 1-216-041-00 | METAL CHIP  | 470    | 5% | 1/10W |
| R457     | 1-216-115-00 | METAL CHIP  | 560K   | 5% | 1/10W |
| R458     | 1-216-115-00 | METAL CHIP  | 560K   | 5% | 1/10W |
| R459     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R460     | 1-216-115-00 | METAL CHIP  | 560K   | 5% | 1/10W |
| R461     | 1-216-115-00 | METAL CHIP  | 560K   | 5% | 1/10W |
| R463     | 1-216-295-00 | METAL CHIP  | 0      | 5% | 1/10W |
| R464     | 1-216-061-00 | METAL CHIP  | 3.3K   | 5% | 1/10W |
| R465     | 1-216-049-00 | METAL CHIP  | 1K     | 5% | 1/10W |
| R467     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R468     | 1-216-049-00 | METAL CHIP  | 1K     | 5% | 1/10W |
| R469     | 1-216-115-00 | METAL CHIP  | 560K   | 5% | 1/10W |
| R470     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R471     | 1-216-001-00 | METAL CHIP  | 10     | 5% | 1/10W |
| R472     | 1-216-075-00 | METAL CHIP  | 12K    | 5% | 1/10W |
| R473     | 1-216-041-00 | METAL CHIP  | 470    | 5% | 1/10W |
| R475     | 1-216-025-00 | METAL CHIP  | 100    | 5% | 1/10W |
| R476     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R477     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R478     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |
| R479     | 1-216-089-00 | METAL CHIP  | 47K    | 5% | 1/10W |

| Ref. No.      | Part No.     | Description                  | Remark  |       |       |
|---------------|--------------|------------------------------|---------|-------|-------|
| R493          | 1-216-073-00 | METAL CHIP                   | 10K     | 5%    | 1/10W |
| R494          | 1-216-073-00 | METAL CHIP                   | 10K     | 5%    | 1/10W |
| R495          | 1-216-081-00 | METAL CHIP                   | 22K     | 5%    | 1/10W |
| R496          | 1-216-081-00 | METAL CHIP                   | 22K     | 5%    | 1/10W |
| R500          | 1-216-081-00 | METAL CHIP                   | 22K     | 5%    | 1/10W |
| < VIBRATOR >  |              |                              |         |       |       |
| X401          | 1-577-077-11 | OSCILLATOR, CERAMIC (400kHz) |         |       |       |
| *****         |              |                              |         |       |       |
| *             | A-2006-733-A | POWER BOARD, COMPLETE        |         |       |       |
| *****         |              |                              |         |       |       |
| *             | 3-309-144-21 | HEAT SINK                    |         |       |       |
|               | 7-685-646-79 | SCREW +BVTP                  | 3X8     | TYPE2 | N-S   |
|               | 7-682-547-04 | SCREW +BVTT                  | 3X6     | (S)   |       |
| < CAPACITOR > |              |                              |         |       |       |
| C501          | 1-126-936-11 | ELECT                        | 3300uF  | 20%   | 16V   |
| C502          | 1-124-556-11 | ELECT                        | 2200uF  | 20%   | 16V   |
| C503          | 1-124-360-00 | ELECT                        | 1000uF  | 20%   | 16V   |
| C504          | 1-124-556-11 | ELECT                        | 2200uF  | 20%   | 16V   |
| C505          | 1-124-907-11 | ELECT                        | 10uF    | 20%   | 50V   |
| C506          | 1-163-038-00 | CERAMIC CHIP                 | 0.1uF   |       | 25V   |
| C507          | 1-124-903-11 | ELECT                        | 1uF     | 20%   | 50V   |
| C508          | 1-124-472-11 | ELECT                        | 470uF   | 20%   | 10V   |
| C509          | 1-124-472-11 | ELECT                        | 470uF   | 20%   | 10V   |
| C510          | 1-124-477-11 | ELECT                        | 47uF    | 20%   | 25V   |
| C512          | 1-124-477-11 | ELECT                        | 47uF    | 20%   | 25V   |
| C513          | 1-124-903-11 | ELECT                        | 1uF     | 20%   | 50V   |
| C514          | 1-124-472-11 | ELECT                        | 470uF   | 20%   | 10V   |
| C515          | 1-124-477-11 | ELECT                        | 47uF    | 20%   | 25V   |
| C516          | 1-124-903-11 | ELECT                        | 1uF     | 20%   | 50V   |
| C518          | 1-126-927-11 | ELECT                        | 2200uF  | 20%   | 10V   |
| C519          | 1-124-473-11 | ELECT                        | 1000uF  | 20%   | 10V   |
| C520          | 1-163-038-00 | CERAMIC CHIP                 | 0.1uF   |       | 25V   |
| C521          | 1-163-038-00 | CERAMIC CHIP                 | 0.1uF   |       | 25V   |
| C522          | 1-124-927-11 | ELECT                        | 4.7uF   | 20%   | 100V  |
| C526          | 1-163-037-11 | CERAMIC CHIP                 | 0.022uF | 10%   | 25V   |
| C527          | 1-163-037-11 | CERAMIC CHIP                 | 0.022uF | 10%   | 25V   |
| C528          | 1-164-232-11 | CERAMIC CHIP                 | 0.01uF  |       | 50V   |
| C5001         | 1-163-009-11 | CERAMIC CHIP                 | 0.001uF | 10%   | 50V   |
| C5002         | 1-163-009-11 | CERAMIC CHIP                 | 0.001uF | 10%   | 50V   |
| C5004         | 1-163-037-11 | CERAMIC CHIP                 | 0.022uF | 10%   | 25V   |
| C5005         | 1-164-232-11 | CERAMIC CHIP                 | 0.01uF  |       | 50V   |
| C5110         | 1-124-903-11 | ELECT                        | 1uF     | 20%   | 50V   |
| < CONNECTOR > |              |                              |         |       |       |
| * CN401       | 1-568-834-11 | SOCKET, CONNECTOR 15P        |         |       |       |
| * CN402       | 1-573-187-11 | PIN, CONNECTOR (PC BOARD) 7P |         |       |       |

POWER

SW-A

SW-B

| Ref. No. | Part No.     | Description                  | Remark |
|----------|--------------|------------------------------|--------|
| * CN403  | 1-573-388-11 | PIN, CONNECTOR (PC BOARD) 8P |        |
|          |              | < DIODE >                    |        |
| D501     | 8-719-210-39 | DIODE EC10QS-04              |        |
| D502     | 8-719-210-39 | DIODE EC10QS-04              |        |
| D503     | 8-719-210-39 | DIODE EC10QS-04              |        |
| D504     | 8-719-210-39 | DIODE EC10QS-04              |        |
| D505     | 8-719-016-74 | DIODE 1SS352                 |        |
| D506     | 8-719-021-77 | DIODE UZM8. 2Z               |        |
| D507     | 8-719-021-77 | DIODE UZM8. 2Z               |        |
| D508     | 8-719-210-33 | DIODE EC10DS2                |        |
| D509     | 8-719-210-33 | DIODE EC10DS2                |        |
| D510     | 8-719-210-33 | DIODE EC10DS2                |        |
| D511     | 8-719-210-33 | DIODE EC10DS2                |        |
| D512     | 8-719-016-74 | DIODE 1SS352                 |        |
| D513     | 8-719-016-74 | DIODE 1SS352                 |        |
| D514     | 8-719-016-74 | DIODE 1SS352                 |        |
|          |              | < IC >                       |        |
| IC501    | 8-759-041-09 | IC LA5603-S                  |        |
|          |              | < IC LINK >                  |        |
| △ICP501  | 1-532-843-21 | LI NK, IC                    |        |
| △ICP502  | 1-532-843-21 | LI NK, IC                    |        |
|          |              | < TRANSISTOR >               |        |
| Q501     | 8-729-209-15 | TRANSISTOR 2SD2012           |        |
| Q502     | 8-729-141-83 | TRANSISTOR 2SB1094-LK        |        |
| Q503     | 8-729-805-65 | TRANSISTOR 2SA1344           |        |
| Q504     | 8-729-602-21 | TRANSISTOR 2SC4154-F         |        |
| Q505     | 8-729-602-21 | TRANSISTOR 2SC4154-F         |        |
| Q506     | 8-729-602-36 | TRANSISTOR 2SA1602-F         |        |
| Q510     | 8-729-602-21 | TRANSISTOR 2SC4154-F         |        |
|          |              | < RESISTOR >                 |        |
| R501     | 1-216-033-00 | METAL CHIP 220 5% 1/10W      |        |
| R502     | 1-216-041-00 | METAL CHIP 470 5% 1/10W      |        |
| R503     | 1-216-041-00 | METAL CHIP 470 5% 1/10W      |        |
| R504     | 1-216-089-00 | METAL CHIP 47K 5% 1/10W      |        |
| R505     | 1-216-089-00 | METAL CHIP 47K 5% 1/10W      |        |
| R506     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W      |        |
| R507     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W      |        |
| R508     | 1-126-049-00 | METAL CHIP 1K 5% 1/10W       |        |
| R509     | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W     |        |
| R5001    | 1-216-025-00 | METAL CHIP 100 5% 1/10W      |        |
| R5002    | 1-216-025-00 | METAL CHIP 100 5% 1/10W      |        |

| Ref. No. | Part No.     | Description                       | Remark |
|----------|--------------|-----------------------------------|--------|
| *        | 1-634-841-14 | SW-A BOARD                        |        |
|          |              | *****                             |        |
|          | 3-343-419-01 | HOLDER (S SENSER A)               |        |
|          |              | < CONNECTOR >                     |        |
| * CNP81  | 1-568-852-11 | SOCKET, CONNECTOR 9P              |        |
|          |              | < IC >                            |        |
| IC81A    | 8-719-710-03 | DIODE NJL5165K-B                  |        |
|          |              | < RESISTOR >                      |        |
| R84      | 1-249-417-11 | CARBON 1K 5% 1/4W                 |        |
| R85      | 1-249-408-11 | CARBON 180 5% 1/4W                |        |
|          |              | < SWITCH >                        |        |
| S81      | 1-571-958-11 | SWITCH, PUSH (1 KEY) (STOP DET)   |        |
| S82      | 1-571-281-21 | SWITCH, LEAF (CrO2 DET)           |        |
| S86      | 1-571-281-21 | SWITCH, LEAF (HALF DET)           |        |
|          |              | *****                             |        |
| *        | 1-634-841-14 | SW-B BOARD                        |        |
|          |              | *****                             |        |
|          | 3-343-419-01 | HOLDER (S SENSER A)               |        |
|          |              | < CONNECTOR >                     |        |
| * CNP81  | 1-568-852-11 | SOCKET, CONNECTOR 9P              |        |
|          |              | < IC >                            |        |
| IC81B    | 8-719-710-03 | DIODE NJL5165K-B                  |        |
|          |              | < RESISTOR >                      |        |
| R81      | 1-249-414-11 | CARBON 560 5% 1/4W                |        |
| R82      | 1-247-818-11 | CARBON 300 5% 1/4W                |        |
| R83      | 1-247-834-11 | CARBON 1.3K 5% 1/4W               |        |
| R84      | 1-249-417-11 | CARBON 1K 5% 1/4W                 |        |
| R85      | 1-249-408-11 | CARBON 180 5% 1/4W                |        |
|          |              | < SWITCH >                        |        |
| S81      | 1-571-958-11 | SWITCH, PUSH (1 KEY) (STOP DET)   |        |
| S82      | 1-571-281-21 | SWITCH, LEAF (CrO2)               |        |
| S83      | 1-571-281-21 | SWITCH, LEAF (METAL DET)          |        |
| S84      | 1-571-281-21 | SWITCH, LEAF (ERASE PROOF SIDE A) |        |
| S85      | 1-571-281-21 | SWITCH, LEAF (ERASE PROOF SIDE B) |        |
| S86      | 1-571-281-21 | SWITCH, LEAF (HALF DET)           |        |
|          |              | *****                             |        |

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

| Ref.No. | Part No. | Description | Remark |
|---------|----------|-------------|--------|
|---------|----------|-------------|--------|

MISCELLANEOUS

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|      |              |                           |  |
|------|--------------|---------------------------|--|
| * 17 | 1-573-188-11 | CONNECTOR, BRIDGE 7P      |  |
| * 18 | 1-573-389-11 | COONECTOR, BRIDGE 8P      |  |
| 69   | 1-590-902-11 | WIRE, FLAT TYPE (9 CORE)  |  |
| 70   | 1-590-903-11 | WIRE, FLAT TYPE (15 CORE) |  |
| 71   | 1-590-904-11 | WIRE, FLAT TYPE (12 CORE) |  |

|        |              |                           |  |
|--------|--------------|---------------------------|--|
| 117    | 1-638-983-11 | PC BOARD, MOTOR FLEXIBLE  |  |
| HP101  | A-2003-868-A | BASE ASSY, HEAD (DECK A)  |  |
| HRP101 | A-2003-838-A | BASE ASSY, HEAD (DECK B)  |  |
| M101A  | X-3363-501-1 | MOTOR ASSY, REEL (DECK A) |  |
| M101B  | X-3363-501-1 | MOTOR ASSY, REEL (DECK B) |  |

|       |              |                              |  |
|-------|--------------|------------------------------|--|
| M102A | X-3359-417-1 | MOTOR ASSY, CAPSTAN (DECK A) |  |
| M102B | X-3359-417-1 | MOTOR ASSY, CAPSTAN (DECK B) |  |

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HARDWARE LIST

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|    |              |                            |  |
|----|--------------|----------------------------|--|
| #1 | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S  |  |
| #2 | 7-621-255-15 | SCREW +PTT 2X3 (S)         |  |
| #3 | 7-685-134-19 | SCREW +BTP 2.6X8 TYPE2 N-S |  |
| #4 | 7-621-770-67 | SCREW +PTT 2.6X6 (S)       |  |
| #5 | 7-627-556-08 | SCREW +P 2.6X2.8           |  |
| #6 | 7-621-775-00 | SCREW +B 2.6X3             |  |
| #7 | 7-682-547-04 | SCREW +BVTT 3X6 (S)        |  |
| #8 | 7-621-849-00 | SCREW, TAPPING             |  |

