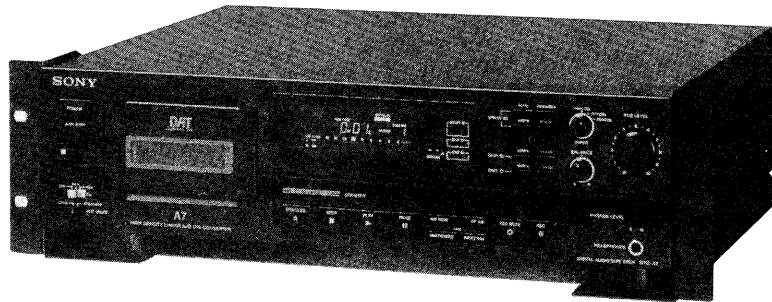


DTC-A7

SERVICE MANUAL

US Model
Canadian Model



Model Name Using Similar Mechanism	DTC-57ES
Tape Transport Mechanism Type	DATM-100

SPECIFICATIONS

Tape	Digital audio tape
Recording head	Rotary head
Recording time	Standard: 120 minutes. Long-play mode: 240 minutes (with DT-120)
Tape speed	Standard: 8.15 mm/s, Long play mode: 4.075 mm/s
Drum rotation	Standard: 2,000 rpm, Long-play mode: 1,000 rpm
Error correction	Double Read Solomon code
Tape	
Track pitch	13.6 μ m (20.4 μ m)
Sampling frequency	48 kHz, 44.1 kHz, 32 kHz
Modulation system	8-10 Modulation
Transfer rate	2.46 Mbit/sec.
Number of channel	2 channels, stereo
D/A conversion (Quantization)	Standard: 16-bit linear Long-play mode: 12-bit non-linear
Frequency response	Standard: 2-22,000 Hz (± 0.5 dB) Long-play mode: 2-14,500 Hz (± 0.5 dB)
Signal to noise ratio	Standard: more than 90 dB Long-play mode: more than 90 dB
Dynamic range	Standard: more than 90 dB Long-play mode: more than 90 dB
Total harmonic distortion	Standard: less than 0.005% (1 kHz) Long-play mode: less than 0.08% (1 kHz)
Wow and flutter	Below measurable limit ($\pm 0.001\%$ W. PEAK)

Input	Jack type	Impedance	Rated input level
LINE IN	phono jack	47 kohms	- 4 dBs
DIGITAL IN	phono jack	75 ohms	0.5 Vp-p, $\pm 20\%$
DIGITAL IN	optical jack	—	—

Output

	Jack type	Impedance	Rated output	Load impedance
LINE OUT	phono jack	470 ohms	- 4 dBs	More than 10 kohms
PHONES	stereo phone jack	220 ohms	1.3 mW	32 ohms
DIGITAL OUT	phono jack	75 ohms	0.5 Vp-p $\pm 20\%$	—

DIGITAL OUT (optical jack): wavelength 660 nm

General

Power requirements	120 V AC, 60 Hz
Power consumption	33 W
Dimensions	Approx. 430 x 125 x 350 mm (w/h/d) (16 ¹⁵ / ₁₆ x 4 ¹⁵ / ₁₆ x 13 ⁷ / ₈ inches)
Weight	Approx. 7 kg (15 lb 7 oz)

Remote commander (supplied)

Remote control system	Infrared control
Power requirements	3V DC, with two size AA (R6) batteries
Dimensions	Approx. 63 x 19 x 175 mm (w/h/d) (2 ¹ / ₄ x ³ / ₄ x 6 ⁷ / ₈ inches)
Weight	Approx. 130 g (5 oz) incl. batteries.

Design and specifications are subject to change without notice.

DIGITAL AUDIO TAPE DECK
SONY®





TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
Specifications	1
Note on Checking and Repairing in Power Off State	··	2
Safety Check-Out	2
1. GENERAL		
Precautions	3
Features	3
Identifying the Parts and Controls	3
Clock Settings	7
2. DISASSEMBLY	8
3. ADJUSTMENTS		
3-1. Electrical Adjustments	13
3-2. Checks and Adjustments for Date Function	··	15
4. DIAGRAMS		
4-1. Block Diagram	22
4-2. Printed Wiring Boards (Power, Display and MD Section)	25
4-3. Schematic Diagram (Power, Display and MD Section)	29
4-4. Printed Wiring Boards (Main Section)	35
4-5. Schematic Diagram (Main Section)	37
5. EXPLODED VIEWS	53
6. ELECTRICAL PARTS LIST	60

NOTE ON CHECKING AND REPAIRING IN POWER OFF STATE

When repairing in the power off state, first disconnect CN932 (EH8P) on the power board. When assembling, connect it last. Because the charge remains in the smoothing capacitor on the power board in the power off state, there is the possibility that elements are damaged by short-circuit between terminals for power supply and neighboring terminals on connecting or disconnecting the flexible board or so on.

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.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

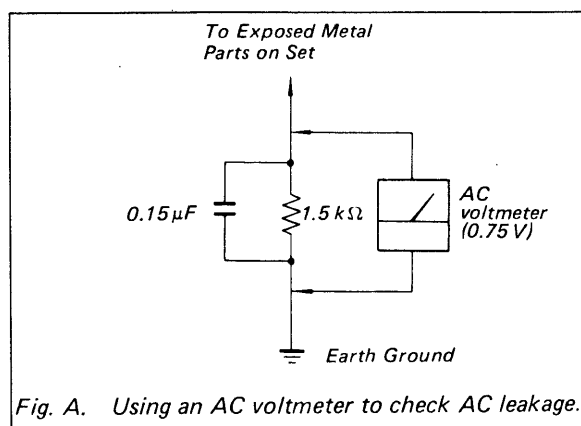



Fig. A. Using an AC voltmeter to check AC leakage.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

Precautions

- **On safety**
- Operate the unit only on 120 V AC, 60 Hz.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.
- AC power cord must be changed only at the qualified service shop.

Operation

Before making program source connections, be sure to unplug the unit.

Installation

Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

Moisture Condensation

If the unit is brought directly from a cold to a warm location, moisture may condense inside the unit. In this condition, the tape may adhere to the head drum and be damaged, or the unit may not operate correctly. Always remove the cassette when the unit will not be used.

If moisture is present...

- Function controls will not operate.
- All operations will stop.

When the CAUTION indicator lights and the unit will not operate

Leave the unit turned on for about an hour.

NOTE

When closing the cassette compartment, do not push the cassette lid forcibly by hand, but perform with the **OPEN** / **CLOSE** button.

For the customers in the U.S.A.

For detailed safety precautions, see the "IMPORTANT SAFEGUARDS" leaflet.

Features

Serial copy management system (SCMS)

This unit utilizes the serial copy management system that permits digital-to-digital recording for one generation. You can record CD sound or other digital formats through a digital-to-digital connector. (See page 50.)

Three sampling frequencies

Recording/playback can be done with three sampling frequencies (48 kHz, 44.1 kHz and 32 kHz).

48 kHz: For analog and digital input signals in standard mode.

44.1 kHz: For compact disc and pre-recorded DAT tape.

32 kHz: For analog input signals in long-play mode. When recording analog signals in standard mode, you can select the sampling frequency among 48 kHz, 44.1 kHz and 32 kHz.

Long play mode

This unit can operate in a long-play mode. Analog input signals can be recorded or playback for up to four consecutive hours when the DT-120 DAT cassette tape is used. The sampling frequency will be 32 kHz in the long-play mode.

Visible cassette loading

You can view the tape operation through the lid of the cassette compartment. Due to a revolutionary new transport mechanism, cassette loading time has been significantly reduced.

Excellent sound quality

1-bit A/D converter
For the A/D converter section which converts analog input signals to digital signals, the unit employs a 1-bit A/D converter which theoretically generates no zero-cross distortion for a clear, elegant sound quality.

Pulse D/A converter

Superior playback performance is achieved with a pulse D/A converter.

Rich variety of subcode information

This unit can record subcode information such as Start IDs, program numbers, Skip IDs, and absolute time data, enabling you to quickly locate selections and display the playback time in the same manner as when playing compact discs.

Post edit recording of sub codes

You can record or rewrite the following sub codes after the audio signal recording has been completed.

Start ID: Signifies the beginning of a selection.

Program number: Gives a number to the selection.

Skip ID: Signifies the beginning of a portion to be skipped.

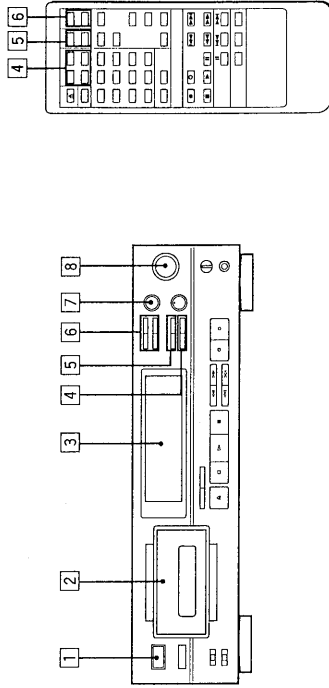
End ID: Signifies the end position of recording/playback. Since sub codes are written on the tape separately from audio signals, the audio signals are not affected.

Date Function

The year, month, day, day of the week, hour, minute and second are automatically recorded in the subcode area during recording, so that during playback you can display this data to check when the tape was recorded. This function is especially convenient when recording live performances, etc.

Identifying the Parts and Controls

Front Panel/Remote Commander



Refer to the pages indicated in parenthesis for details.

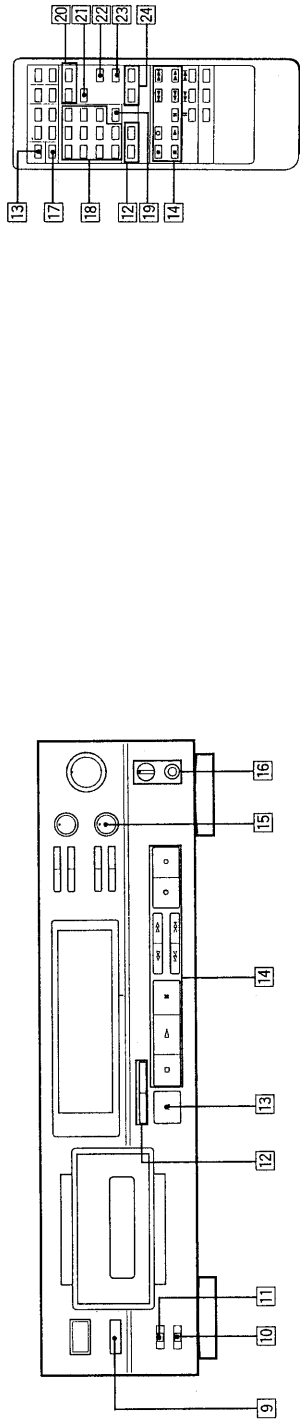
- 1 POWER button**
Turns the power on and off.
- 2 Cassette compartment**
Insert a cassette with the window side up and the safety tab facing you. (19)
- 3 Display window**
- 4 END ID buttons**
WRITE: Press to write the ID signifying the end of playback or recording. (37)
ERASE: Press to erase the end ID. (39)
- 5 SKIP ID buttons**
WRITE: Press at the beginning of the portion you may wish to skip later. Playback skips from the point where this button was pressed to the next start ID. (35)
ERASE: Press to erase the nearest skip ID which is before the current position. (36)
- 6 START ID buttons**
AUTO: Press to turn on and off the AUTO indicator. When the AUTO indicator is lit, the start ID will automatically be written during recording. When the AUTO indicator is not lit, press the START ID WRITE button at the point where you want to write a start ID. (28)
WRITE: Press to write the start ID at the desired point during recording or playback. (29)
ERASE: Press to erase a start ID. When a start ID and a selection number are written on the tape, both codes are simultaneously erased by pressing this button. (31)
RENUMBER: Press to renumber all selections on the tape. When only the start IDs are written, pressing this button will insert the proper selection numbers beginning with "1". The tape will rewind and start from the beginning to accomplish this function. (33)
- 7 INPUT selector**
Set according to the signal to be recorded. (21)
ANALOG: For recording from the equipment connected to the LINE IN jacks.
OPTICAL: For recording from the equipment connected to the DIGITAL IN (OPTICAL) jack.
COAXIAL: For recording from the equipment connected to the DIGITAL IN (COAXIAL) jack.
- 8 REC LEVEL control**
Adjust the recording level for analog input signals. When recording digital signals, it is not necessary to adjust the recording level. (21, 23)

This section is extracted from instruction manual.

SECTION 1 GENERAL

Identifying the Parts and Controls

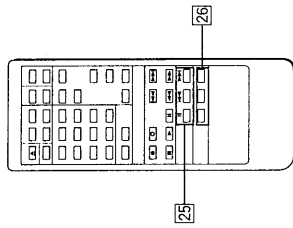
Front Panel/Remote Commander



- 9 Remote sensor**
Receives the signal from the remote commander.
- 10 REC MODE selector**
Normally set to the STANDARD position. When this selector is set to the LONG position, you can record analog input signals or digital signals with 32 kHz in the long-play mode. (21, 23)
- 11 Fs selector**
The sampling frequency can be set to 32 kHz, 44.1 kHz or 48 kHz only when recording analog signals with the STANDARD setting of the REC MODE selector. (21)
- 12 COUNTER buttons**
MODE: Selects the display mode among the absolute time, the elapsed time of a selection, remaining time to the end of whole tape and linear counter (tape running time). Each time you press the button, the display changes sequentially. (41)
RESET: Resets the linear counter to "0M 00S". (41)
- 13 ▲OPEN/CLOSE button**
Press to open or close the cassette compartment. (19)
This button does not function during recording or in the record muting mode.
- 14 Tape operating buttons**
■ **(stop):** Press to stop recording or playback.
▶ **(play):** Press to start playback or recording.
■ **IF PAUSE:** Press to stop for a moment during recording or playback. To restart recording or playback, press this button again or press the ▶ button.
If the unit is left in the pause mode for about 10 minutes, it will automatically be released and the deck will enter the stop mode. To restart recording or playback from the stop mode, press the ●REC or ▶ button respectively.
◀◀ **AMS (Automatic Music Sensor):** Press to locate the beginning of the selection during playback or in the stop mode.
◀◀▶▶ **(rewind/review, fast-forward/cue):** In the stop mode, press to rewind/fast-forward the tape. During playback, press to rewind or fast-forward the tape while listening to the sound.
OREC MUTE (record muting): Inserts a sound-muted portion (space).
● **REC (recording):** Press to enter the record-pause mode. After pressing this button, press the IF PAUSE or ▶ button.
- 15 BALANCE control**
Adjust the recording balance between the left channel and right channel for analog input signals. When recording digital signals, it is not necessary to adjust the balance. (21)
- 16 PHONES jack and LEVEL control**
Insert the headphones plug to this jack and turn the control to adjust the headphones volume level. (40)
- 17 DISPLAY MODE button**
Changes the display mode. (10)
- 18 Numeric buttons (0-9) and CLEAR button**
To play back the desired selection, specify the corresponding selection number with the numeric buttons before starting playback. (44)
To write the desired selection number, specify it with the numeric buttons in record-pause mode. The selection number is written consecutively from the specified number. (33)
Press the CLEAR button to cancel the selection number which has been mistakenly entered.
- 19 MUSIC SCAN button**
Press to listen to the beginning of each selection successively. (43)
- 20 RMS (Random Music Sensor) play buttons**
ENTER: To program the selections in a desired order, press this button after pressing the numeric buttons. (45)
CHECK: Press to check the programmed contents. (46)
REPEAT 1/ALL button
Press to play a desired portion repeatedly. Each time you press the button, the indicator changes as follows: REPEAT 1 → REPEAT ALL → off (42)
- 21 MARGIN RESET button**
Press to reset the margin of peak level. "—" appears at the MARGIN display. (23)
- 22 SKIP PLAY button**
Press to activate the skip ID function. The portion of the tape previously marked will be skipped. (45)
- 23 DATE buttons**
RECORDED: Press to display the recording date and time of the tape being played. (42)
PRESENT: Press to display the current date and time. (42)
Each time the RECORDED or PRESENT button is pressed, the date display switches in the following order.
Day, month and year
↓
Day of the week
↓
Time

Identifying the Parts and Controls

Front Panel/Remote Commander



25 CD player operation buttons

Operative only for the Sony CD player equipped with the remote sensor.

II (pause): During playback, press the button to enter the pause mode. To resume playback, press the button again.

In stop mode, press the button twice to start playback.

◀▶ (Automatic Music Sensor):

Press to locate the desired selection on the Compact Disc.

26 CD SYNCHRO (CD synchronized recording) buttons

(25)

(The playback of the Sony CD player equipped with the remote sensor and the recording of this deck can be performed simultaneously.)

STANDBY: Press to set the deck in the record-standby mode.

START: Press to start synchronized recording.

Playback of the CD player starts automatically few seconds later than the deck starts recording.

STOP: Press to stop the synchronized recording. The deck stops recording and the CD player stops playback.

Remote Commander Operation

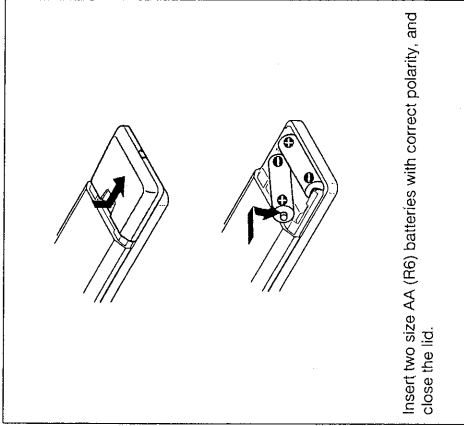
Each button on the remote commander functions in the same way as those having the same name on the front panel. However, the following operations cannot be performed using the remote commander. Use the front panel controls instead.

- Turning the power on and off
- Selecting digital(optical/coaxial)/analog input source
- Adjusting the recording level and balance
- Adjusting the headphones level
- Selecting the sampling frequency when recording analog signals
- Selecting the record mode (standard or long)
- Setting the built-in clock

The following operations can be performed only with the remote commander.

- To activate CD synchronized recording using a Sony CD player and controlling the CD player
- To locate the desired selection on the Compact Disc or to set the CD player in the pause mode (possible only when a Sony CD player is used.)
- Repeat play
- Skip play
- RMS* play
- *RMS: Random Music Sensor
- Designating and canceling a program number.
- Resetting the margin or peak level.
- Changing the display mode.
- Changing the brightness of the display
- Displaying the Fs map
- Displaying the recording date and time or the current date and time

Installing Batteries



Insert two size AA (R6) batteries with correct polarity, and close the lid.

Notes on remote control

- Do not expose the remote sensor on the deck to strong light such as direct sunlight, lighting apparatus, etc.
- Do not place any obstructions between the remote commander and the remote sensor, or else operations will not be performed correctly.
- The controllable range is limited. Point the remote commander directly at the remote sensor on the deck.
- When remote control operation distance becomes shorter, the batteries are weak. Replace both batteries with new ones.

To avoid battery leakage

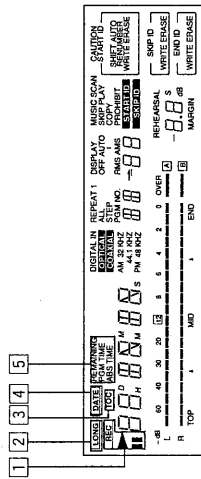
When the commander will not be used for a long period of time, remove the batteries to avoid damage caused by battery leakage and corrosion.

Battery life

About half a year of normal operation can be expected when using the Sony SUMI-3 (NS) batteries.

Identifying the Parts and Controls

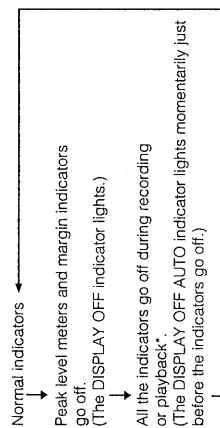
Display Window



To turn off the display window

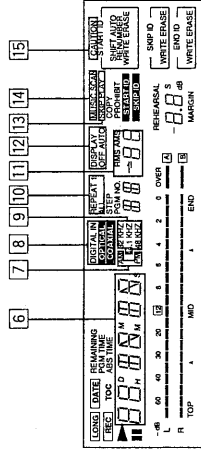
When the power is turned on, the display window is also turned on. During recording or playback, all display or some parts of the display can be turned off as follows:

This operation can be performed only with the DISPLAY MODE button on the remote commander. Each time you press the DISPLAY MODE button, the display changes as follows:



When pressing the DISPLAY MODE button except during recording or playback, the DISPLAY OFF AUTO indicator lights. In this case, all the indicators go off immediately after recording or playback starts.

To change the brightness of the display window
While pressing the COUNTER MODE button, press one of the numeric buttons 1, 2 and 3 on the remote commander. The greater number pressed, the darker the display window becomes.



1 Tape operation indicators

REC: Lights during recording or in the record-pause mode. Flashes in the record muting mode.
▶: Lights during recording or playback. It also lights in the record-pause mode, the play-pause mode or in the record muting mode.
II: Lights in the record-pause mode or in the play-pause mode.

2 LONG play mode indicator

Lights when recording or playback is being performed in the long play mode.

3 TOC (Table Of Contents)

Lights when a pre-recorded DAT cassette is played back.

4 DATE indicator

Lights when pressing the RECORDED button to display the recording date and time of the tape being played. Flashes when pressing the PRESENT button to display the current date and time.

5 Time indicators

When the REMAINING indicator appears: Shows the remaining time of the tape.
 When the ABS TIME (absolute time) indicator appears: Shows the elapsed time from the beginning of the tape.
 When the PGM TIME indicator appears: Shows the elapsed time of the selection being played.
 When only the time display appears: Shows the tape running time.

6 Time display

Indicates the tape running time, absolute time or elapsed time of a selection or remaining time. Each time you press the COUNTER MODE button, the display is changed.

7 AM and PM indicators

Indicate AM (morning) or PM (afternoon) of the built-in clock time.

8 INPUT selector indicators

The DIGITAL IN OPTICAL or DIGITAL IN COAXIAL indicator lights according to the position of the INPUT selector. No indicator lights when the INPUT selector is set to the ANALOG position.

9 Sampling frequency indicators

48 kHz: Lights when recording or playing back analog input signals (standard mode).
44.1 kHz: Lights when recording or playing back a CD or a pre-recorded DAT cassette tape.
32 kHz: Lights when recording or playing back analog or digital input signals (long-play mode).
 • The corresponding indicator lights when the sampling frequency is selected with the Fs selector to record analog signals in standard mode as well.

10 REPEAT indicators

REPEAT 1: Lights when a desired selection is played back repeatedly.
REPEAT ALL: Lights when all the selections are played back repeatedly.

11 RMS (Random Music Sensor)/AMS (Automatic Music Sensor) indicators

When programming the desired selections in the RMS operation, the display shows the selection number to be programmed.
 Show the number of selections to be skipped ahead or behind in the AMS operation. When designating a selection directly by the numeric button and the button, the display shows the selection number being traversed while the selection is being searched for.

12 DISPLAY OFF/AUTO indicators

The DISPLAY OFF indicator lights when peak level meters and margin indicators are turned off. The DISPLAY OFF AUTO indicator lights momentarily before all the indicators are turned off.

13 SKIP PLAY indicator

When this indicator is lit during playback, the portion marked by the skip ID is skipped and playback continues from the next start ID.

14 MUSIC SCAN indicator

Lights after you press the MUSIC SCAN button to listen to the beginning of each selection successively.

15 CAUTION indicator

Lights when moisture condensation occurs. If this happens, the deck stops functioning automatically. (4)

Clock Settings

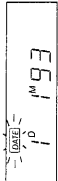
This unit employs a built-in clock to keep track of the current date and time. Once you set the date and time, this information will be recorded on the tape along with the audio signal during recording. This function is very convenient because it allows you to check when the tape was recorded when playing back the tape later.

- The DATE FUNCTION buttons (PRESENT, CLOCK SET, + and -) are located on the rear panel.
- Set the clock while the tape is stopped.
- Although this unit's clock automatically adjusts for leap years and long and short months, do not enter a date which does not exist.

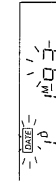
Setting the Date

Example: Setting the clock to 10:30 a.m., July 4, 1993

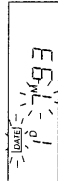
- 1 Display the current date.**
"DATE" flashes.



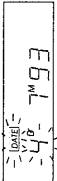
PRESENT
- 2 Set the year.**
The year display flashes.



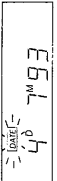
CLOCK SET
- 3 Set the month.**
The month display flashes.



CLOCK SET
- 4 Set the day.**
The day display flashes.



CLOCK SET
- 5 Complete the setting procedures.**
The day display stops flashing and "DATE" flashes slowly.




CLOCK SET


Clock Settings

Setting the Time

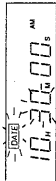
- 1 Display the time.**
"DATE" flashes.




PRESENT
- 2 Set the hour.**
The hour display flashes.




CLOCK SET
- 3 Set the minutes.**
The minute display flashes.



CLOCK SET
- 4 Set the seconds to 00.**
The second display flashes.

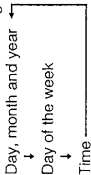


CLOCK SET
- 5 Start the clock simultaneously with the signal from a timecast (telephone, etc.)**
The second display stops flashing and "DATE" flashes slowly.



CLOCK SET

To confirm the date and time
Each time the PRESENT button is pressed, the date display switches in the following order.



To return to the original counter display, press the COUNTER MODE button.

Time display
The time is displayed in 12-hour format. Midnight and noon are displayed as follows.
Midnight: 12:00 AM
Noon: 12:00 PM

Built-in clock
This unit's built-in clock operates using a quartz oscillator, and time variations caused by changes in temperature, etc., may accumulate. For precise recording of hour, minute, and second data by the built-in date function, it is recommended that you set the clock once a week.

The day of the week is displayed as follows:

Sunday	SU
Monday	MO
Tuesday	TU
Wednesday	WE
Thursday	TH
Friday	FR
Saturday	SA

Note
This unit uses a back-up battery to keep the clock running when the power is turned off. The life of the battery under normal use is approximately five years. When the battery starts to run down, the clock will stop operating normally. When this occurs, have the battery replaced at your dealer or nearest Sony Service Center (a battery replacement fee is required).

SECTION 2 DISASSEMBLY

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

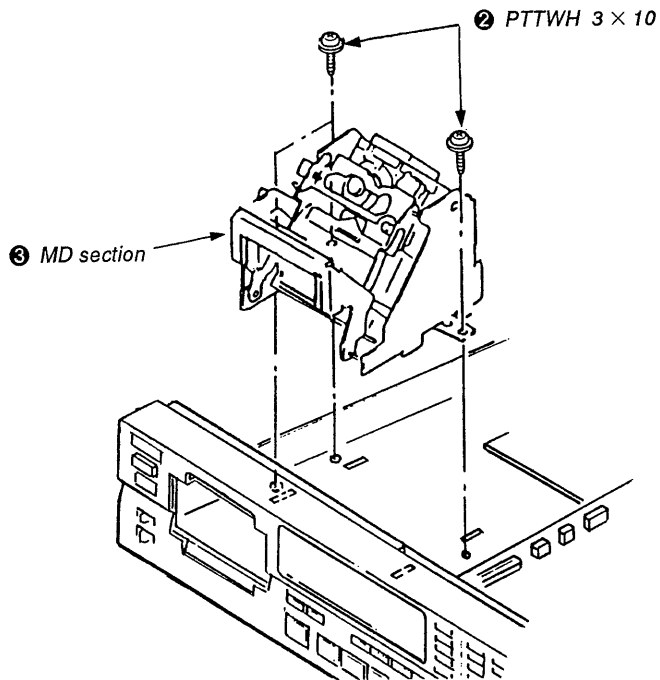
CASE

Remove the case by unscrewing four case stopper screws.

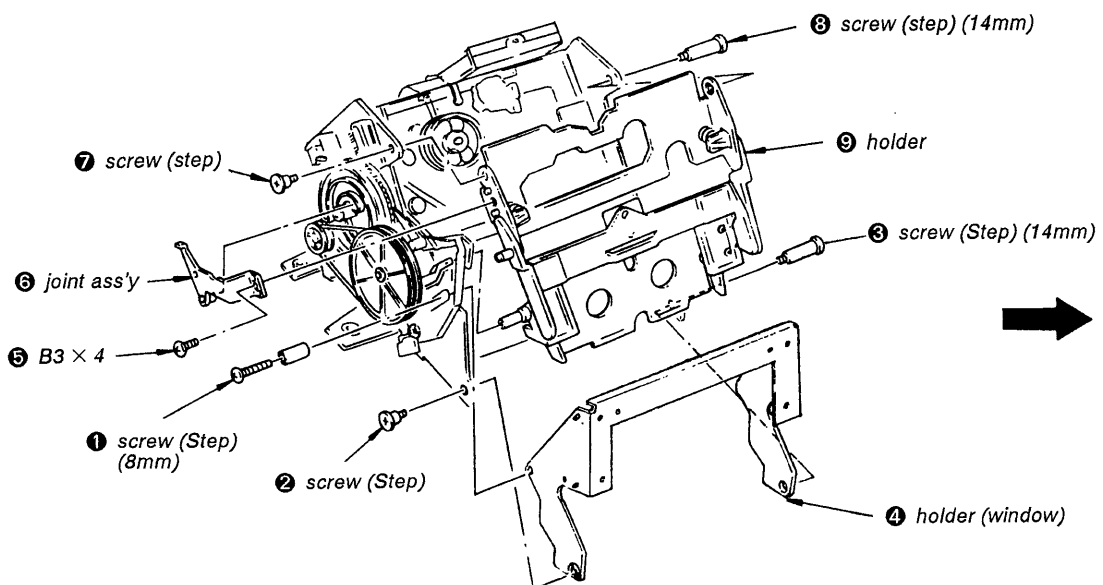
CASSETTE WINDOW

- ① Open the cassette holder by pressing OPEN/ CLOSE switch. (When it cannot be turning on the power, turn the pulley on the left side of the mechanism deck counterclockwise.)
- ② Remove the cassette window by raising it up.

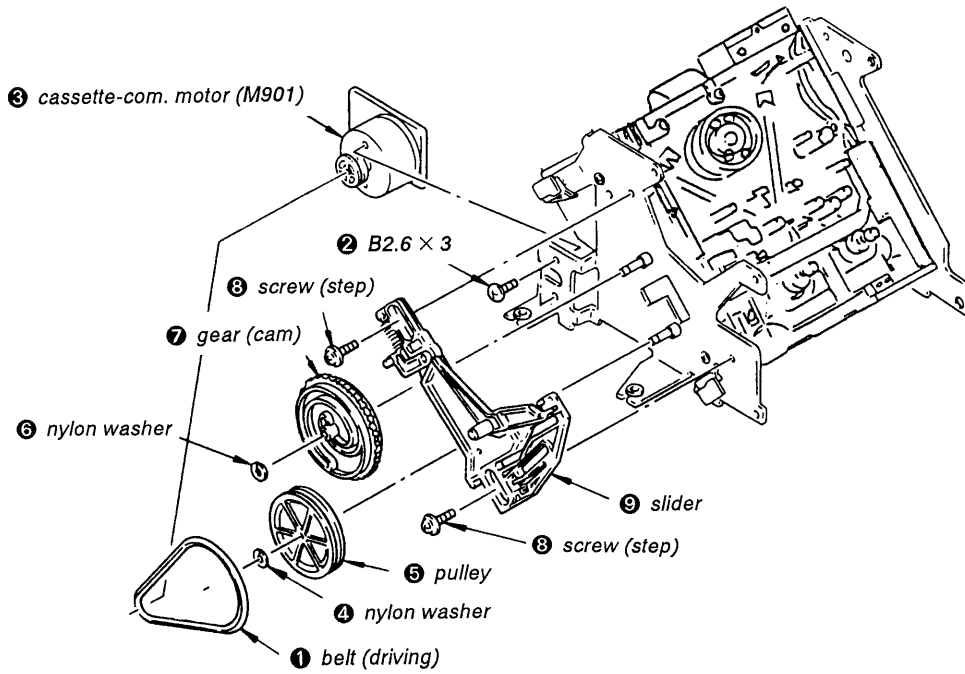
MD SECTION



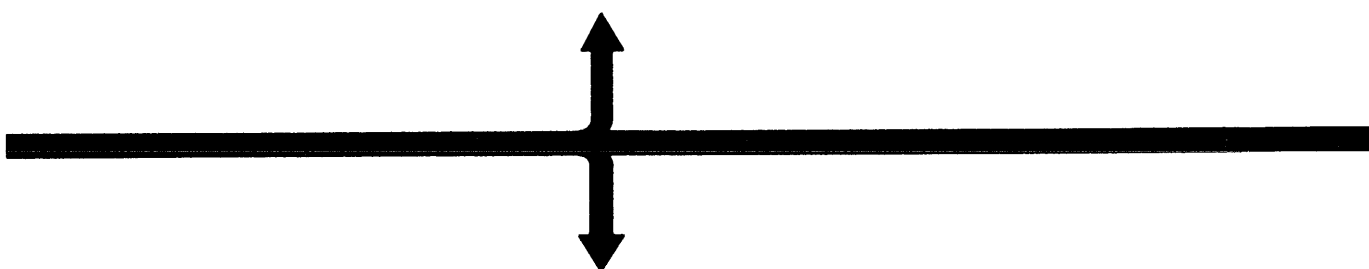
HOLDER



CASSETTE-COM. MOTOR (M901), PULLEY, GEAR (CAM) AND SLIDER

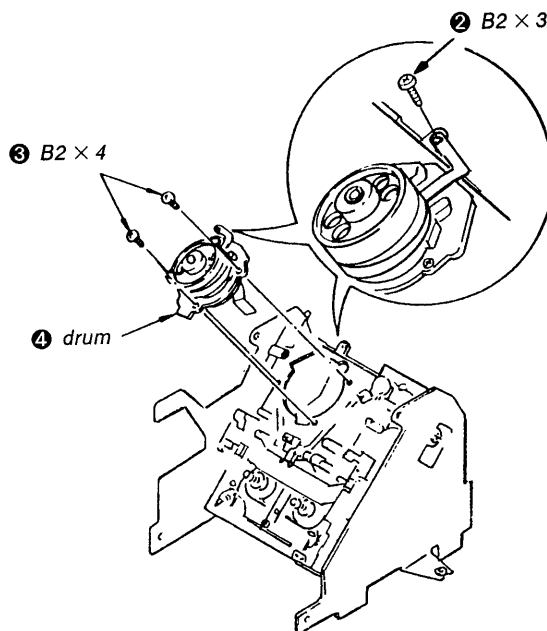


A



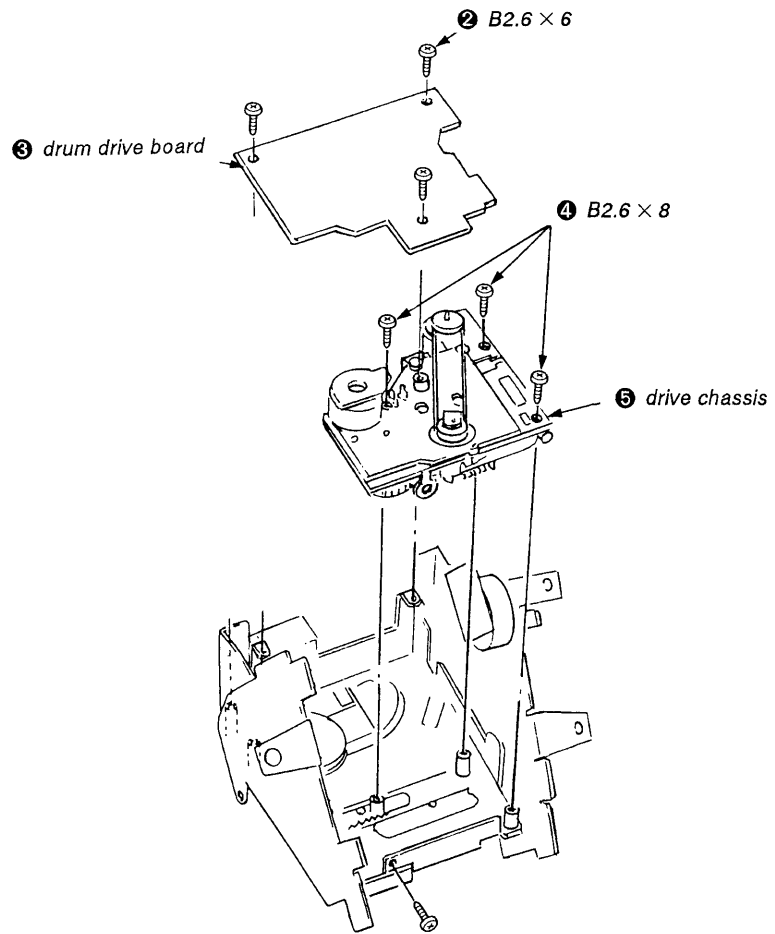
DRUM

1 Remove the drum lead from the connector.



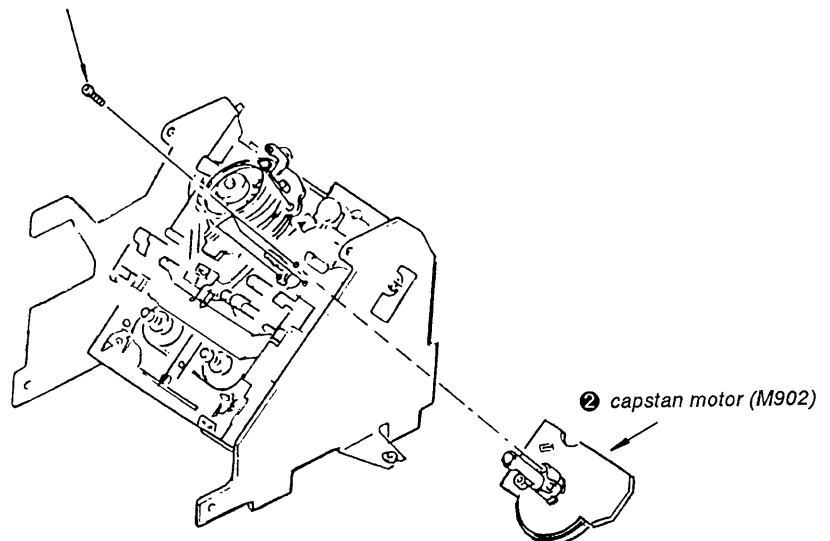
DRUM DRIVE BOARD

- 1 Disconnect the connectors on the drum drive board.



CAPSTAN MOTOR (M902)

- 1 precision screw M1.7 × 4



SECTION 3 ADJUSTMENTS

Notes When Making Adjustments

1. Adjustments should be performed in the order listed.

2. Use the following test tapes :

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

Use the following torque meter :

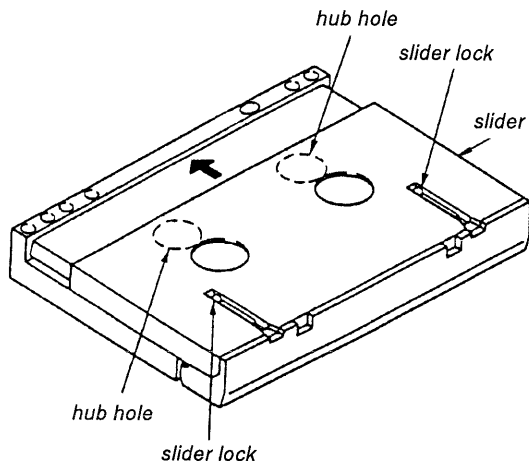
TW-7131 (8-909-708-71)	FWD
------------------------	-------	-----

3. Switches and controls should be set as follows unless otherwise specified.

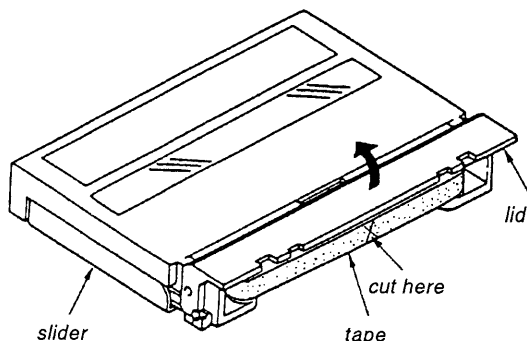
TIMER switch :	OFF
REC MODE switch :	LONG
INPUT switch :	OPTICAL
PHONES LEVEL control :	Min.
REC LEVEL control :	Min.

4. Creating an end sensor cassette

(1) Press the tape slider lock and move the slider in the direction indicated by the arrow.



(2) Open the lid and cut the tape.



(3) Turn the hubs until the tape is completely inside the cassette (both T and S sides).

The end sensor cassette for end sensor adjustment is now ready for use.

5. Rotary Drum Assembly Cleaning

(1) Lightly press a chamois cloth (2-034-697-00) or a knit cloth turned up four times or more soaked in cleaning fluid (9-919-573-00) a little against the rotary drum assembly and clean by slowly turning the rotary drum assembly counterclockwise twice or three times by hand.

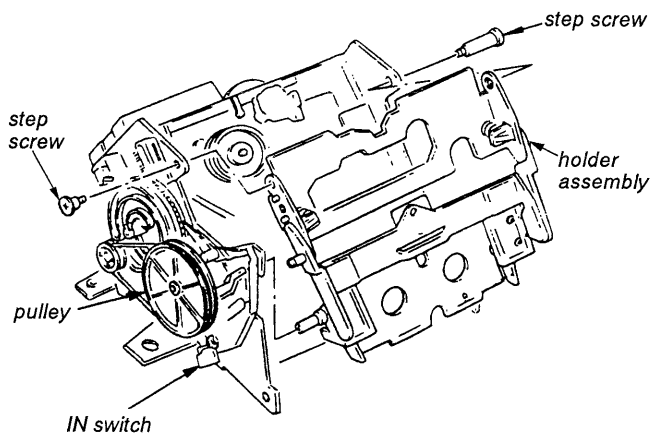
(2) At this time, don't clean by moving the chamois cloth vertically against the head tip. Because, it is in danger of damaging the head tip.

6. Be careful not to move RV1 and RV2 on the RF AMP board in the mechanism assembly.

7. To adjust the tape path and guides, remove the holder assembly as shown in the diagram and use the DAT holder jig (J-8000-002-A). This will make it easier to perform adjustments.

- First turning the pulley counterclockwise to put it in loading out status will make removal and reattachment of the holder assembly easier.

- To perform adjustments, turn the pulley clockwise to put it in loading in status, load the cassette tape and set the IN switch to the ON position.



8. Test mode

Short-circuit between the test lands (XTEST MAIN, XTEST SERVO, XTEST DISP) on the main and control sw boards and ground.

The test mode is set.

(1) Test mode (Main Servo)

Short-circuit between XTEST MAIN and XTEST SERVO on the main board and ground after turning power off.

Following adjustments should be done.

- Tape Path Adjustment
- DPG Adjustment
- ATF Pilot (GCA) Adjustment
- End Sensor Adjustment
- FWD Torque Adjustment
- FWD Back-Tension Adjustment

(2) Test mode (Display)

You can check the following FL display tube and the panel switch by turning OFF the power switch, disconnecting CN932 on the power board, removing flexible board CN752 on the control switch board, connecting XTEST DISP to GND, connecting CN932 again and then turning ON the power switch.

Each grid of the fluorescent display tube turns on in order and at last all the grids turn on.



The grids for the level meter turn off one by one.



In this state, operate the remote commander for DAT (any key you want), then all the grids for the level meter turn off.

(There are some cases one or two grids remains according to the key pressed.)



Every time you press the switch on the panel, the grid turns on one by one. When all the keys are pressed, all the grids for the level meter turn off.

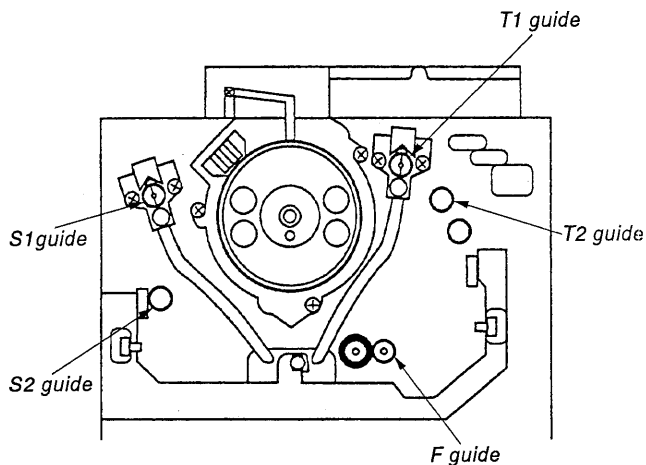
- To release the test mode is removing the short-circuit position between XTEST and ground. After adjustment, be sure to release the test mode.

9. After adjustment, check the following items for the tape speed confirmation.

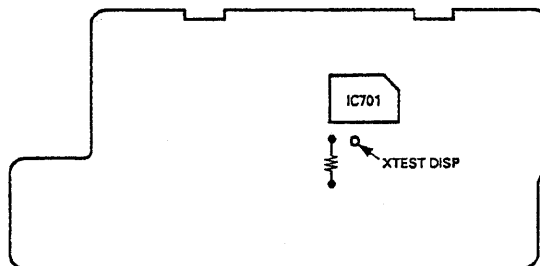
- (1) Set the REC MODE switch to STANDARD. Recording and playback operate normally. (× 1)
- (2) Set the REC MODE switch to LONG. Recording and playback operate normally.
- (3) On QUE (▶+▶▶) and REVIEW (▶+◀◀), queing noise is heard. (× 3, × 8)
- (4) After FF (▶▶) and REW (◀◀), the time indication is correct. (× 16)
- (5) SEARCH (▶▶|, |◀◀) is normal.

Adjust Parts Location

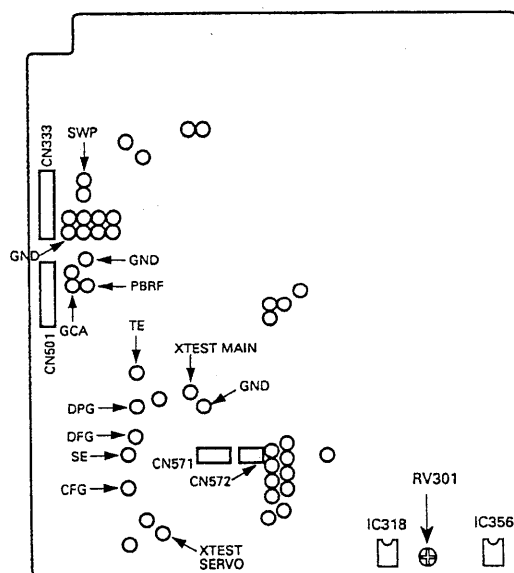
— Mechanism assembly —



CONTROL SW BOARD — Conductor Side —



MAIN BOARD — Component Side —



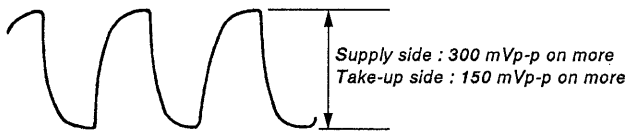
3-1. ELECTRICAL ADJUSTMENTS

End Sensor Adjustment

Perform the following adjustment when the holder has been removed or part of the mechanism deck section replaced.

Adjustment Procedure :

1. Connect an oscilloscope to the test land SE (supply side) and TE (take-up side) on the main board.
2. Put the set into the test mode (main servo), load an end sensor cassette and put the set into the STOP (■) mode.
3. Check the peak to peak values of the waveform go to following value.



FWD Torque Adjustment

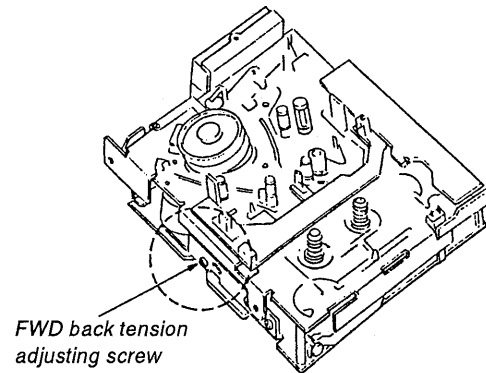
Adjustment Procedure :

1. Put the set into the test mode and load the FWD torque meter TW-7131 (8-909-708-71).
2. Put the set into the PLAY (▶) mode.
3. Adjust RV301 on the main board so that the minimum value of FWD torque (taking up torque) goes 10 to 11 g•cm and at this time confirm the maximum value is 16 g•cm or below.
4. Confirm that the value indicated by the torque meter is maintained for one full cycle.

FWD Back Tension Adjustment

Adjustment Procedure :

1. Put the set into the test mode (main servo) and load the FWD torque meter TW-7131 (8-909-708-71).
2. Put the set into the Play (▶) mode.
3. Check the back tension (supply side) goes 4 to 5 g•cm (minimum value of torque meter).
When it is out of order, adjust with the FWD back tension adjusting screw on the side of Mechanism deck and at this time confirm the maximum value is 8 g•cm or below. After adjustment, be sure to apply suitable locking compound.
4. Confirm that the value indicated by the torque meter is maintained for one full cycle.



- { Tighten (clockwise) Increase back tension
- { Loosen (counterclockwise) ... Decrease back tension

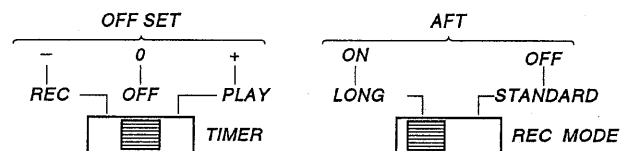
Tape Path Fine Adjustment (× 1.5 FWD Mode)

Perform the following adjustment when the drum has been replaced.

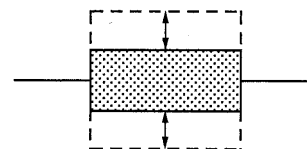
Adjustment Procedure :

1. Connect an oscilloscope CH-1 to the test land PBRF on the main board and CH-2 to the test land SWP.
2. Put the set into the test mode (main servo) and load the test tape TY-7252 (8-909-822-00).
3. Press the AMS (▶▶) key.

Each part of switches on Test Mode.

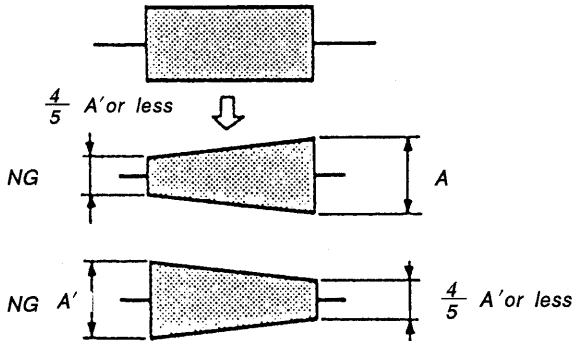


4. With the REC MODE switch set to STANDARD (ATF: OFF) and the TIMER REC switch set to PLAY or REC (OFFSET: + or -), fine adjust the S1 and T1 guides so that the oscilloscope RF signal waveform remains the same when high-low is repeated.

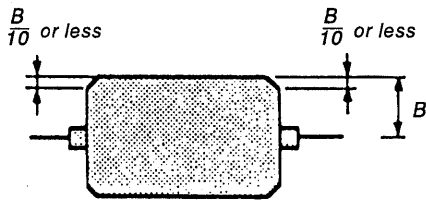


* Adjustment should be completed with a turn in the clockwise direction.

- Check the RF signal waveform with the REC MODE switch set to LONG (ATF: ON) and the TIMER REC switch set to PLAY or REC (OFFSET: + or -).



- Check the RF signal waveform with the REC MODE switch set to LONG (ATF: ON) and the TIMER REC switch set to PLAY or REC (OFFSET: 0)
 - Confirm that the RF signal waveform peak value (B) is 60 mV or more.
 - Confirm that undershoot level of the RF signal waveform's flat portion is within 10%.



- When the measured value are not within the above tolerances, repeat item 3 - 6 above.

Adjustment Point : mechanism assembly

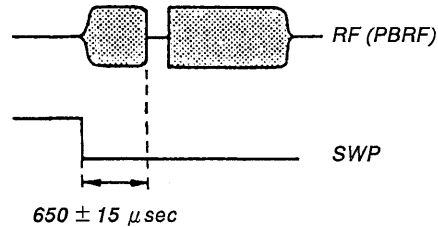
DPG Adjustment

Perform the following adjustment without fail when the drum has been replaced.

Adjustment Procedure :

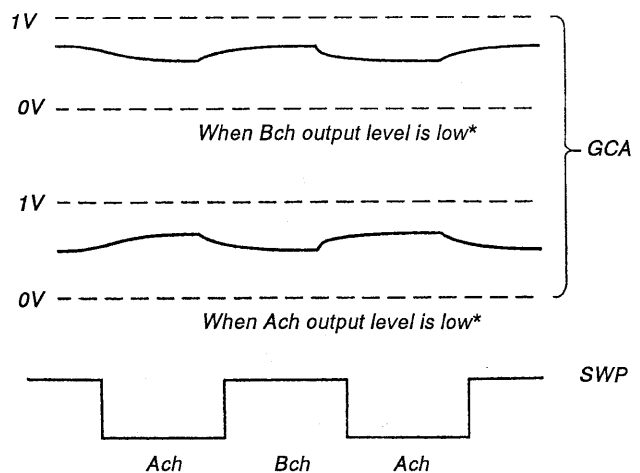
- Connect an oscilloscope CH-1 to the test land PBRF on the main board and CH-2 to the test land SWP. (Use CH-2 as the trigger (falling edge))
- Put the set into the test mode and load test tape TY-7252 (8-909-822-00).
- Set the REC MODE switch to LONG (ATF : ON) and the TIMER switch to OFF (OFFSET : 0).
- Press the AMS (▶▶) key.

- Press the ◀◀ and ▶▶ keys as appropriate so that the gap between the oscilloscope SWP and RF signals becomes $650 \pm 15 \mu\text{sec}$ (Hold the ◀◀ and ▶▶ keys down for more than 1 second to perform rough adjustment. Hold them down for approximately 0.2 seconds for fine adjustment.)



Checking Procedure :

- Connect an oscilloscope CH-1 to the test land GCA (Gain Control Amp) and CH-2 to the test land SWP. (Use CH-2 as the trigger)
- Put the set into the test mode (main servo) and load the test tape TY-7111 (8-909-812-00).
- Put the set into the Play (▶) mode and check GCA waveform on the oscilloscope goes as following figure.



* It changes a little according to the head condition. When the GCA waveform is 1 V on more or ground level, it needs replacement.

3-2. CHECKS AND ADJUSTMENTS FOR DATE FUNCTION

Clock IC Back-up Check

- When there is the short-circuit position on the pattern around the lithium battery (BT301) or the clock IC (IC330) or disconnecting CN559 on removing the front panel assembly the clock is reset.

(In spite of pressing PRESET button, the date indication becomes “_ _ Y _ _ M _ _ D ” “ _ _ H _ _ M _ _ S”.)

At this time, check the back-up function by the procedures given below.

- (1) Connect a DC voltmeter to the test lands BATT+ and BATT – on the main board.
- (2) When the power is off, the voltage value of the item (1) should be less than +30 mV.

(When the voltage value becomes +30 mV or more, Check around IC330 or replace IC330.)

- (3) When the power is on, the voltage value of the item (1) should be less than 0 mV (– (minus) indication).

(When the voltage value becomes + (plus) indication, Check around D321 or replace D321.)

- (4) When the above voltage values are normal, set the preset date and time (year, month, day, day of the week, hour, minute, second) according to the instruction manual*.
- (5) After setting the time on the item (4), turn power off and turn power on several seconds later, and check the clock works normally.

Back-up Battery Replacement

The life of the back-up battery under normal use (normal temperature, normal humidity) is approximately ten years or more. (On the instruction manual, described “approximately seven years”.)

Be careful about the following points on the battery replacement.

- Repair the cause of the battery wastage by performing mentioned above “Clock IC Back-up Check”.
- The open-circuit voltage of the replaced battery is 3.0 V or more as the new one, and when it is 2.0 V or less, it is completely consumed, replace it with new one.
- After the battery replacement, perform “Clock IC Back-up Check” again and set the time*.

* Time setting procedure described on page 7.

Clock Frequency Adjustment

Adjustment Procedure:

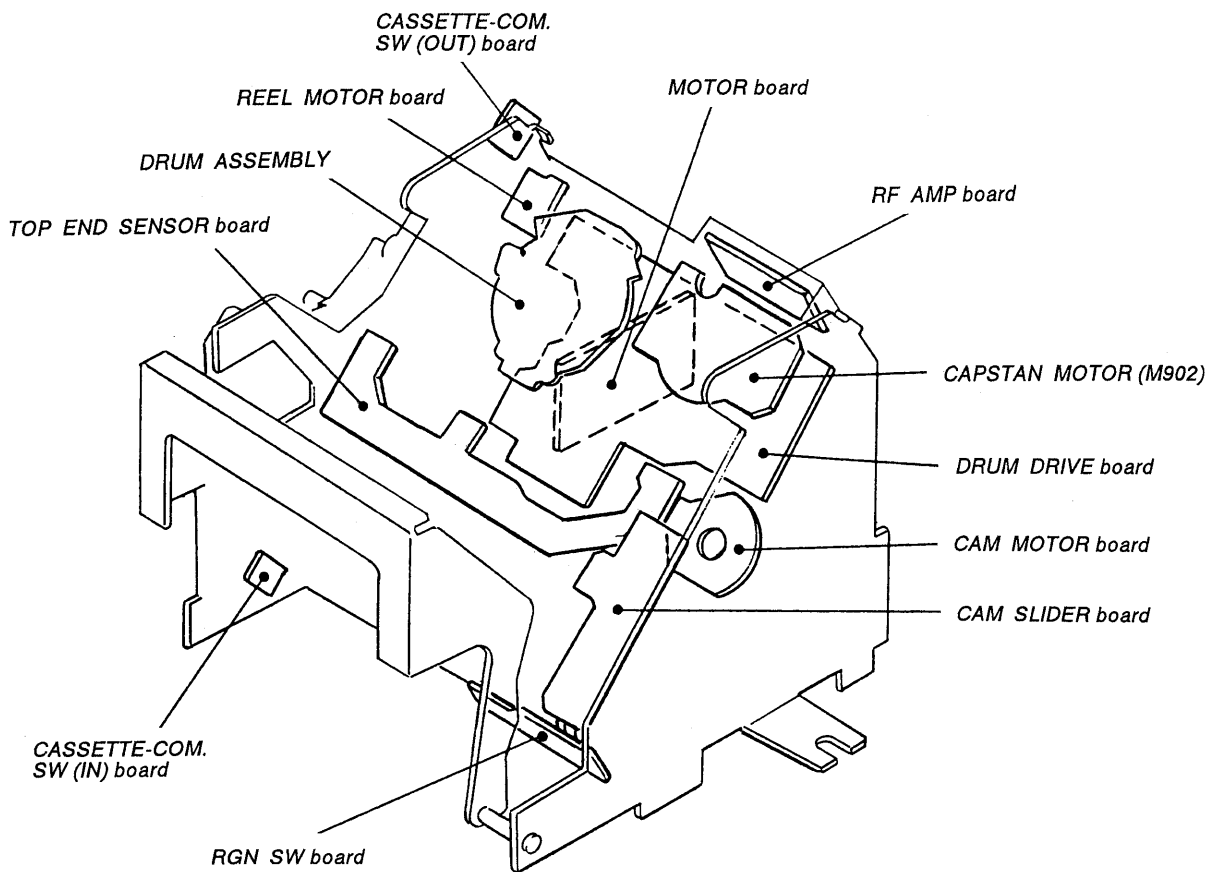
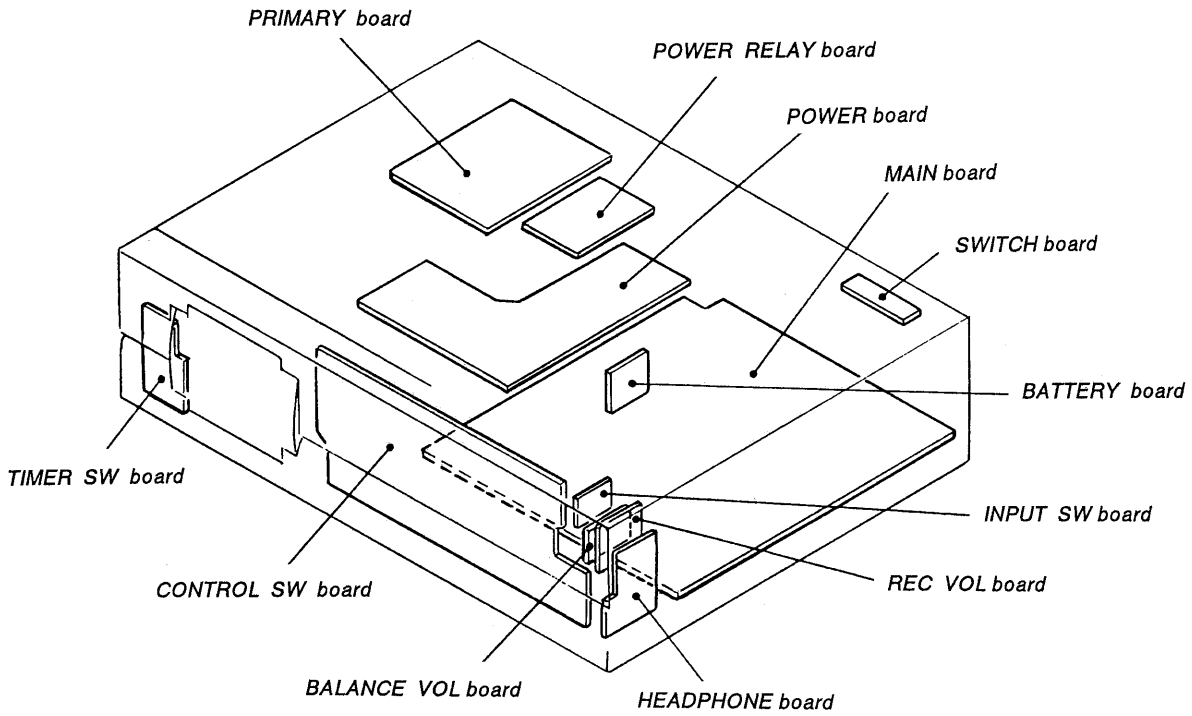
1. Connect a frequency counter between pin ⑮ of IC330 and ground.
2. Turn power on and check the frequency goes as follows.

Standard : 2048.00 ± 0.02 Hz (in normal temperature)
(2047.98 – 2048.02 Hz)

3. Perform “Clock IC Back-up Check” described above.

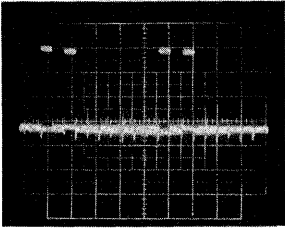
SECTION 4 DIAGRAMS

• Circuit Boards Location

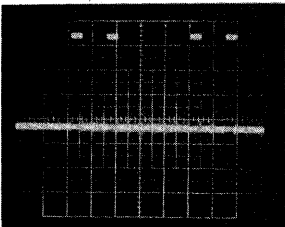


• Waveforms

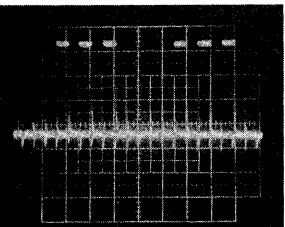
① FL701 ①-②pin
(1G-10G)
32Vp-p, 2.5ms



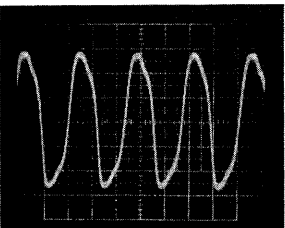
② IC701 ①⑨-②⑩pin
(10G-1G)
34Vp-p, 2.45ms



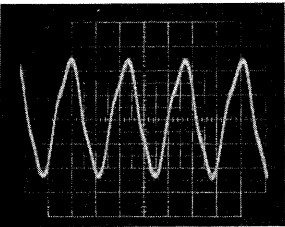
③ IC701 ⑦⑩-⑧⑩pin,
①-⑩pin (a-v)
38Vp-p, 1.2ms



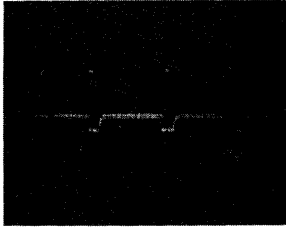
④ IC701 ⑩pin
(XTAL)
5.5Vp-p, 2.5μs



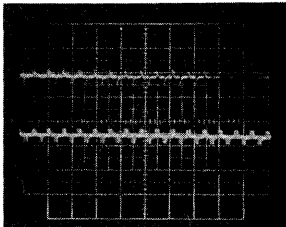
⑤ IC701 ⑩pin
(EXTAL)
5Vp-p, 2.5μs



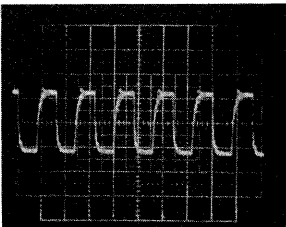
⑥ IC701 ④⑥pin,
IC312 ③pin (SI)
5.2Vp-p, 0.64ms



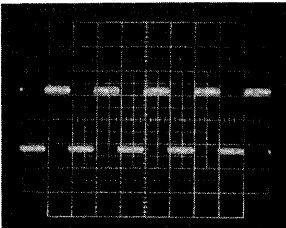
⑦ IC702 ①pin
(DATA)
6.4Vp-p, 0.3μs



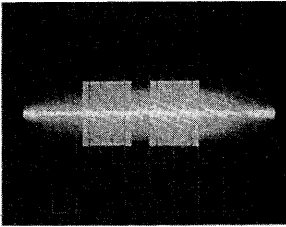
⑧ IC702 ②pin
(BCK)
5.2Vp-p, 0.3μs



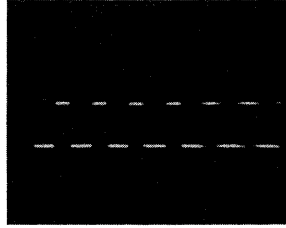
⑨ IC702 ③pin
(LRCK)
5.7Vp-p, 20μs



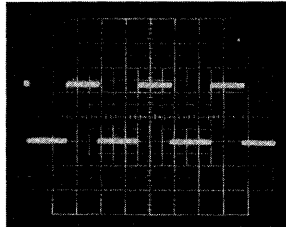
⑩ IC01 ②⑦,③③pin
(HEAD) REC mode
4.2Vp-p



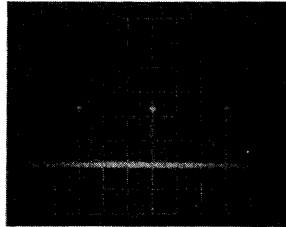
⑪ IC01 ①,⑦pin,IC311
⑤⑤,⑤⑤pin(FGT,FGS)
FF,REW mode
3.6Vp-p, 0.1ms



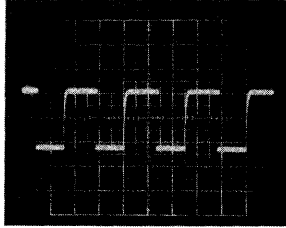
⑫ IC01 ⑩pin, IC311
⑤⑦pin (CFG)
PLAY mode
5Vp-p, 1.5ms



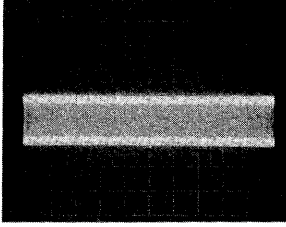
⑬ IC01 ⑦pin, IC311
⑤⑨pin (DPG)
PLAY mode
5Vp-p, 10ms



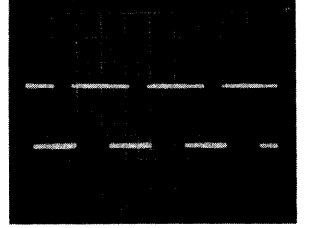
⑭ IC01 ③pin, IC311
⑤③pin (DFG)
PLAY mode
5Vp-p, 1.25ms



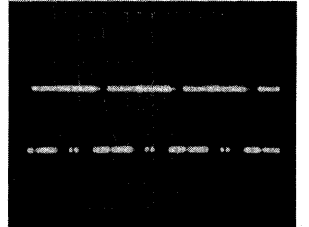
⑮ IC01 ①pin,Q440
Base (PBDT)
PLAY mode
1Vp-p



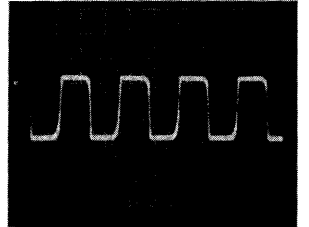
⑯ IC307 ⑦⑧pin
(DADO)
5.2Vp-p, 5μs



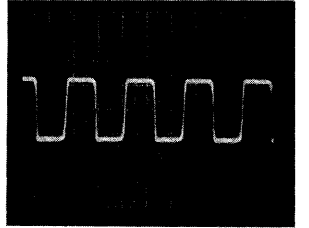
⑰ IC307 ⑦⑧pin, IC359
①⑥pin (ADDT)
REC mode
5.6Vp-p, 1μs



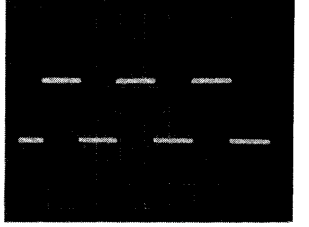
⑱ IC307 ⑦⑤pin
(BCK)
5.2Vp-p, 0.3μs



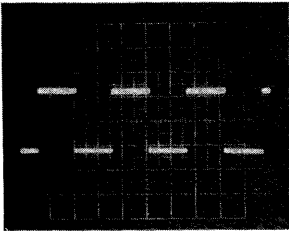
⑲ IC307 ⑦④pin, IC359
①⑤pin (XBCK)
6.4Vp-p, 0.48μs



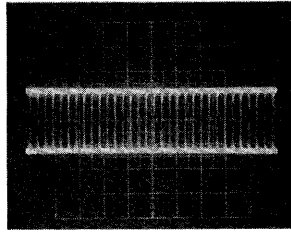
⑳ IC307 ⑦②pin
(LRCK)
5.6Vp-p, 32μs



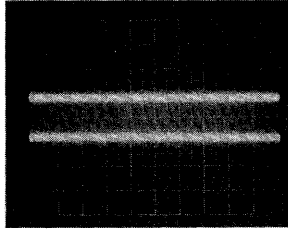
21 IC307 69pin, IC359
14pin (LR03)
5.6Vp-p, 32μs



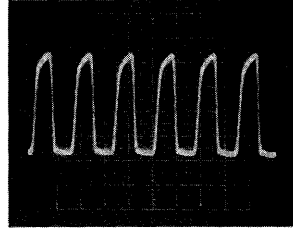
26 IC307 54pin
(TX)
PLAY mode
6.5Vp-p, 0.16μs



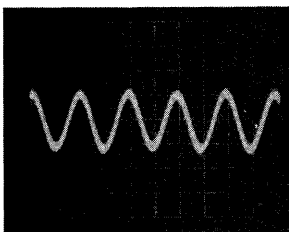
31 IC307 57pin, IC311
22pin (RFDT)
PLAY mode
1.3mVp-p, 2ms



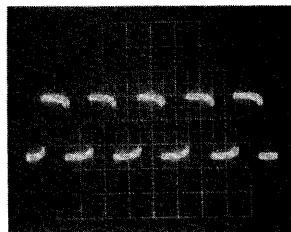
36 IC308 8pin
(ZOUT)
4.1Vp-p, 0.17μs



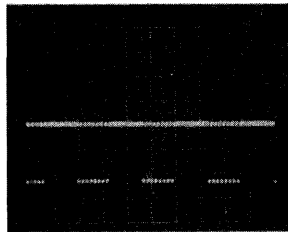
22 IC307 67pin
(XT3I)
0.9Vp-p, 0.2μs



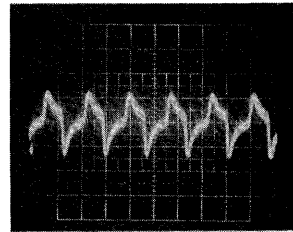
27 IC307 52pin
(RX)
5.2Vp-p, 0.1ms



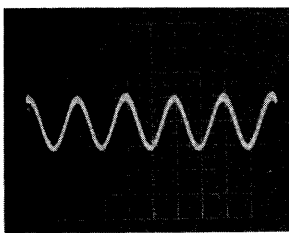
32 IC307 21pin, IC311
20pin (DREF)
6Vp-p, 1.75μs



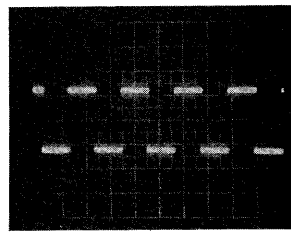
37 IC308 13pin
(F.C.)
25mVp-p, 0.17μs



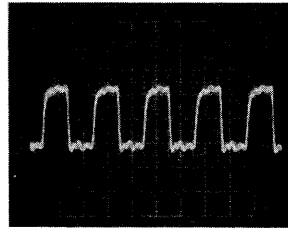
23 IC307 66pin
(XT3O)
2.9Vp-p, 0.2μs



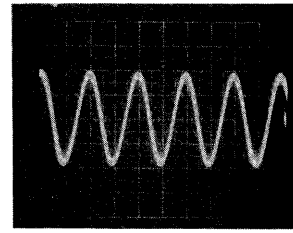
28 IC307 48pin
(PLCO)
4.8Vp-p, 0.18ms



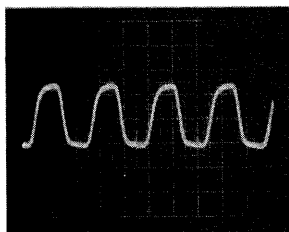
33 IC307 20pin, IC311
25, 61pin IC312 25pin
(MCLK)
6Vp-p, 0.1μs



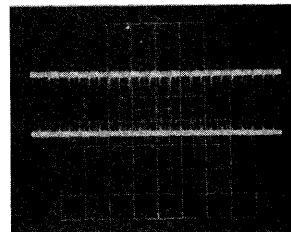
38 IC362 11pin, IC502
1, 6pin (XIN)
3.8Vp-p, 40ns



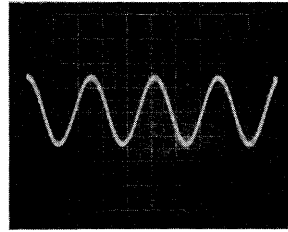
24 IC307 59pin
(F256)
6.1Vp-p, 85μs



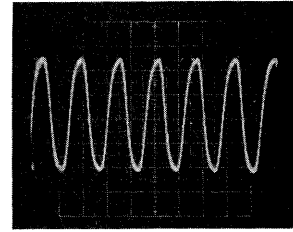
29 IC307 43pin
(REDT)
REC mode
4.4Vp-p, 0.84μs



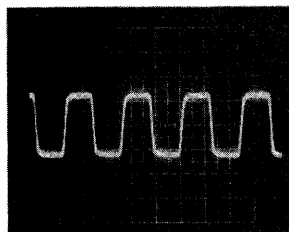
34 IC307 14pin
(XT1I)
2.8Vp-p, 55ns



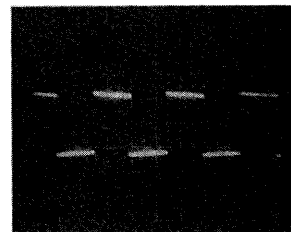
39 IC362 7pin
(BCK)
4.6Vp-p, 80ns



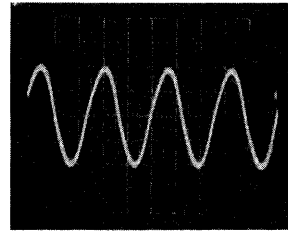
25 IC307 58pin
(F128)
6.8Vp-p, 0.17μs



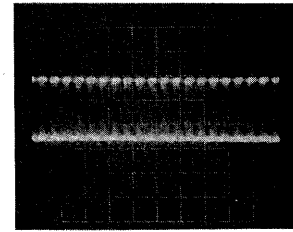
30 IC307 63pin, IC311
63pin (SWP)
PLAY mode
5.2Vp-p, 30ms



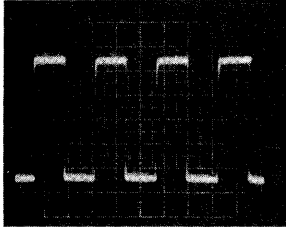
35 IC307 13pin
(XT10)
4.4Vp-p, 55ns



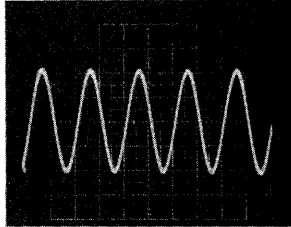
40 IC362 6, 5pin
(DATAL, DATAR)
5Vp-p



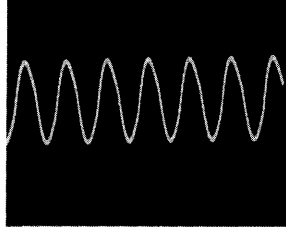
41 IC362 ④pin
(LRCK)
5Vp-p, 0.26μs



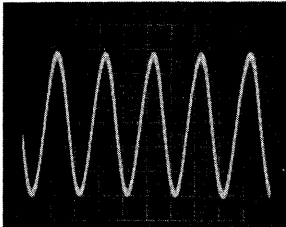
46 Q502 SOURCE
(VCO)
2.1Vp-p, 40ns



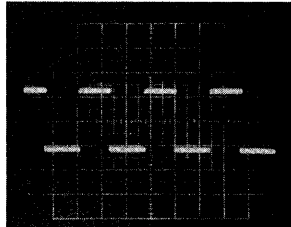
51 X304 ⑩pin
1Vp-p, 32.768kHz



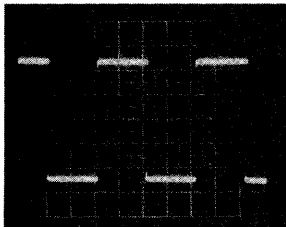
42 IC363 ⑰pin, IC503
⑩pin
(MCLK)
2.9Vp-p, 40ns



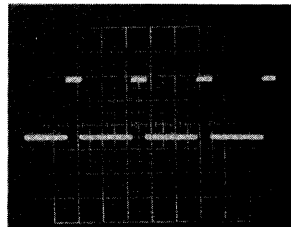
47 IC311 ⑥⑨pin
(D PWM)
PLAYmode
5Vp-p, 0.14μs



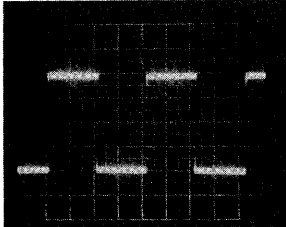
43 IC363 ⑩pin, IC504
⑦pin
(LRCKI)
5Vp-p, 21μs



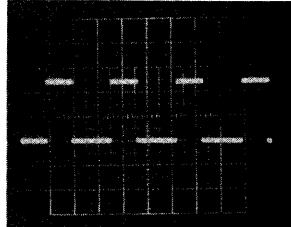
48 IC311 ⑥⑤, ⑥⑥pin
(CPWM, PWMR)
PLAY mode
5Vp-p, 28μs



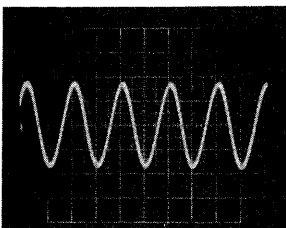
44 IC504 ⑨pin, IC503
⑫pin
(1/512)
4Vp-p, 20.5μs



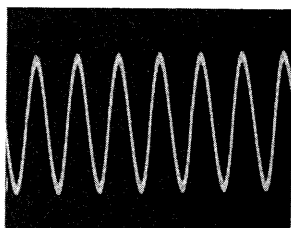
49 IC311 ⑥⑦, ⑥⑧pin
(TEN PWM, AGC
PWM) PLAY mode
5Vp-p, 28μs



45 IC501 CATHODE
(VCO)
2.5Vp-p, 40ns

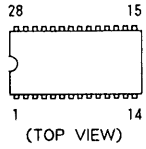


50 IC330 ⑰pin
16Vp-p

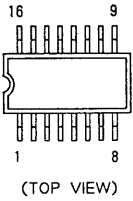


• Semiconductor Lead Layouts

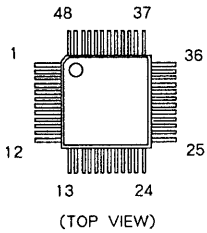
CS5339-KP



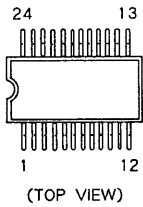
**CX20115A
TC74HC4020AF**



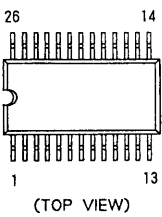
CXA1364R



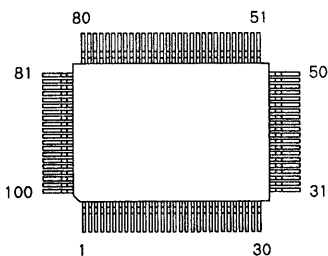
CXD2560M



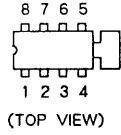
**CXD2561BM-1
CXK58257AM-12L**



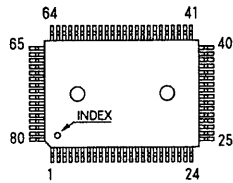
CXD2601AQ



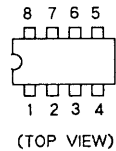
CXK1011P



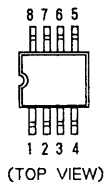
**CXP5058H-658Q
CXP80524-046Q
CXP80524-060Q**



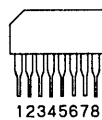
**LF412CN/SL161841
M5238P
NE5532P
RC4558P
RC4560D
μPC358C**



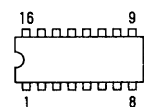
LM358M



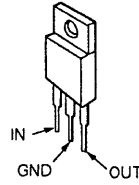
M54641L



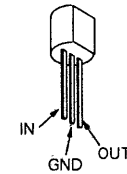
MSM6338RS



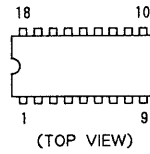
**M5F7808L
TA7805S
TA7812S
μPC2406HF**



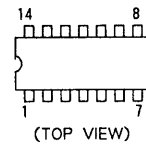
**PST529C
PST529E**



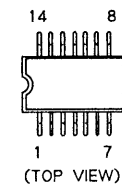
RP5C62



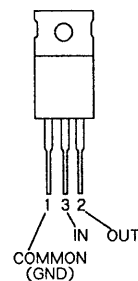
**SN74HC00AN
SN74HCU04AN
SN74HC14AN
SN74LS624N**



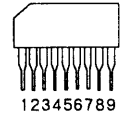
**SN74HC10ANS
TC74HCU04AF**



**TA79005S
TA79012S**



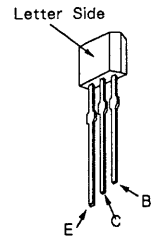
TC5081AP



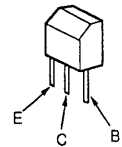
**DTA114ES
DTC114ES**



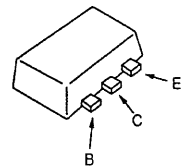
**2SA1175-HFE
2SA1585S-QR
2SC2785-HFE
2SC3623A-K
2SC4115S-QR**



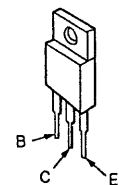
2SB734-34



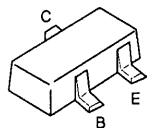
2SB798-DL



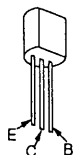
**2SB1370-EF
2SD2012**



2SC1623-L5L6



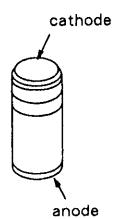
2SD1387-3



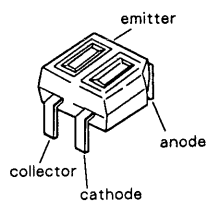
2SK241-GR



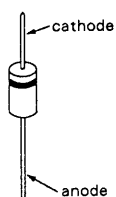
GL-453S



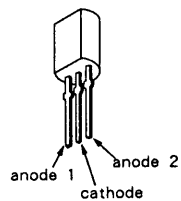
GP2S09-C



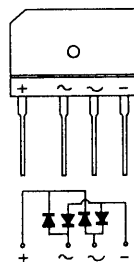
HZS6A1L
HZS24-3L
1SS106
1SS168
1SS202-1
10E2N
11EQS04
11ES2



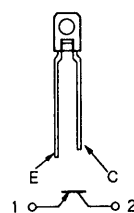
KV1310



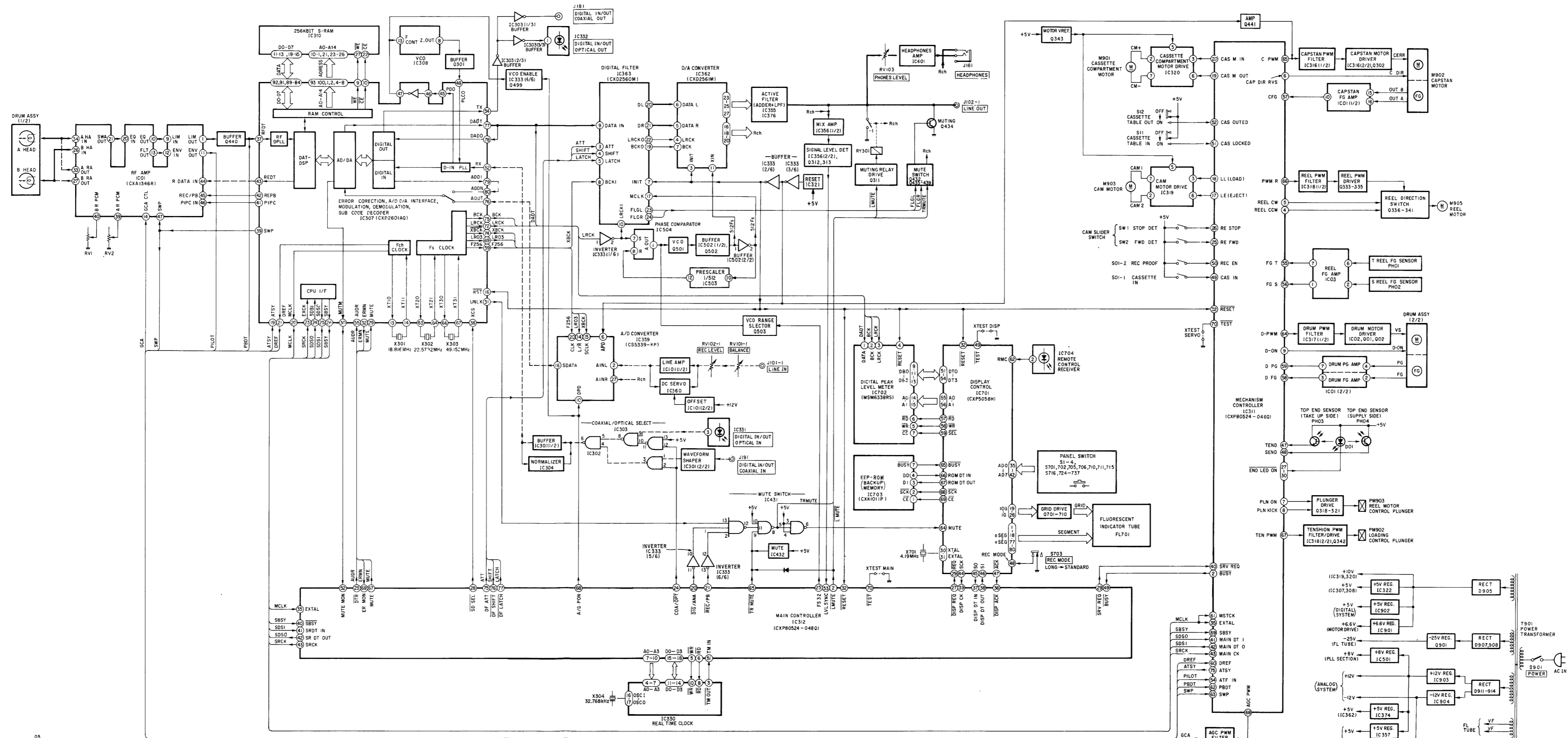
RBA406B



PT4850F



4-1. BLOCK DIAGRAM



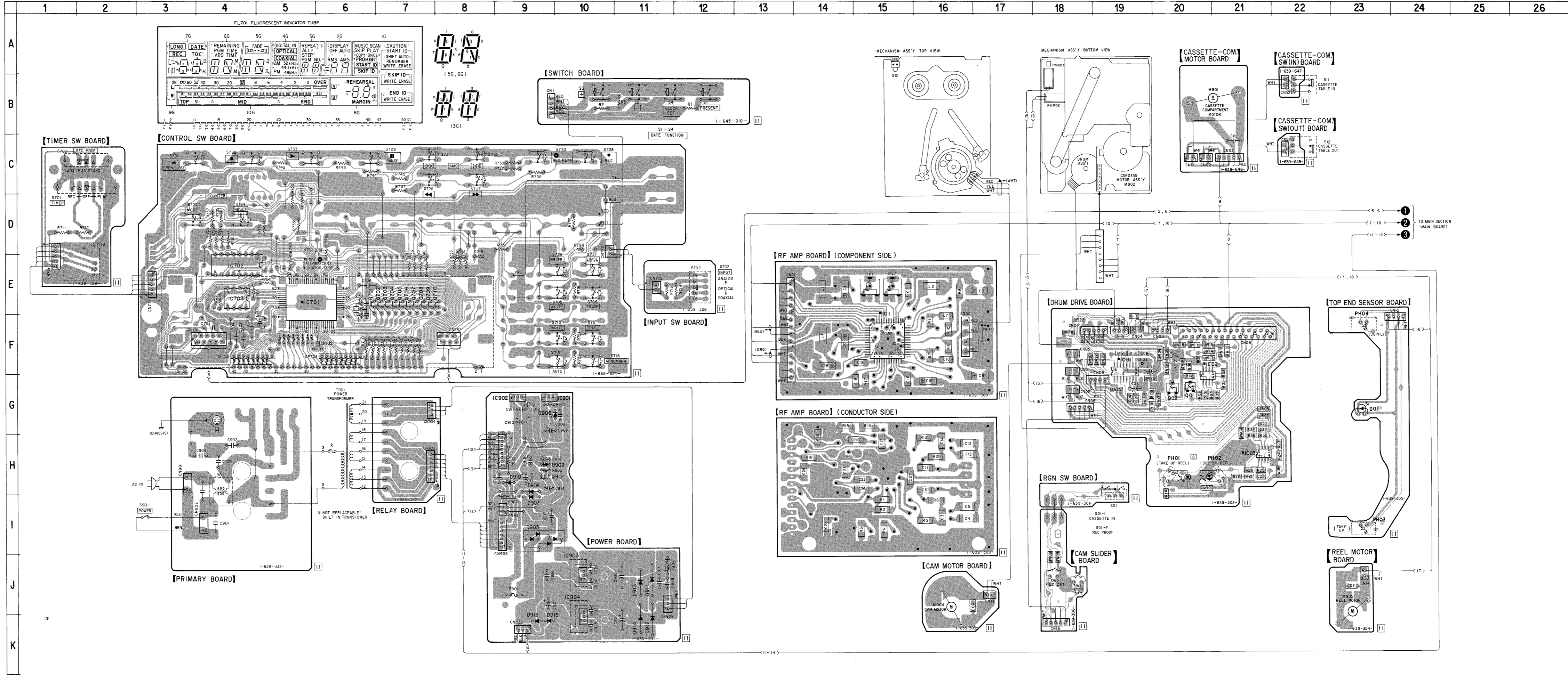
4-2. PRINTED WIRING BOARDS (Power, Display and MD Section)
• See page 16 for Circuit Boards Location and page 20 to 21 for Semiconductor Lead Layouts.

• Semiconductor Location

Table with 2 columns: Ref. No. and Location. Lists components like D01, D905, IC01, PH01, Q01, etc. and their corresponding board locations.

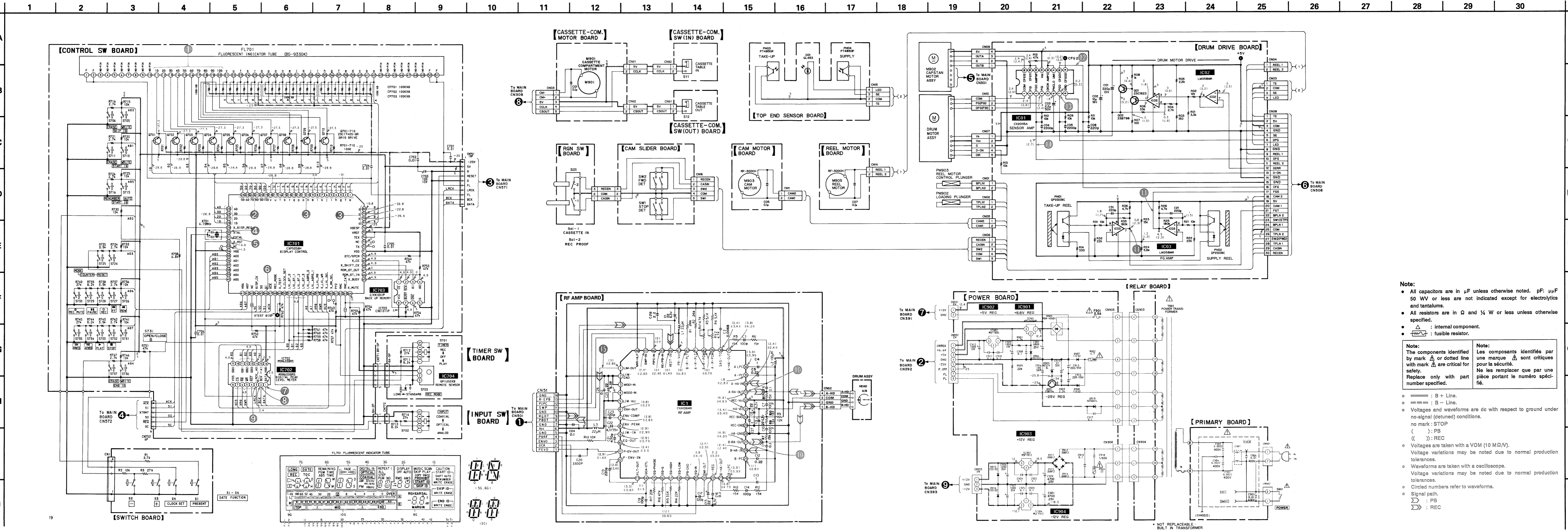
Note:
• : parts extracted from the component side.
• : parts mounted on the conductor side.
• : Through hole.
• : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated.)

Caution:
Pattern face side: Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: Parts on the parts face side seen from the parts face are indicated.



4-3. SCHEMATIC DIAGRAM (Power, Display and MD Section)

• See page 17 to 19 for Waveforms, page 41 to 44 for IC Block Diagrams and page 45 to 52 for IC Pin Description.



- Note:**
- All capacitors are in μF unless otherwise noted. pF: μF 50 WV or less are not indicated except for electrolytics and tantalums.
 - All resistors are in Ω and $\frac{1}{4}$ W or less unless otherwise specified.
 - Δ : internal component.
 - $\text{---}/\text{---}$: fusible resistor.

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

Note:
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- --- : B + Line.
- --- : B - Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions. no mark : STOP () : PB () : REC
- Voltages are taken with a VOM (10 M Ω /V).
- Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path. --- : PB --- : REC

4-4. PRINTED WIRING BOARD (Main Section)

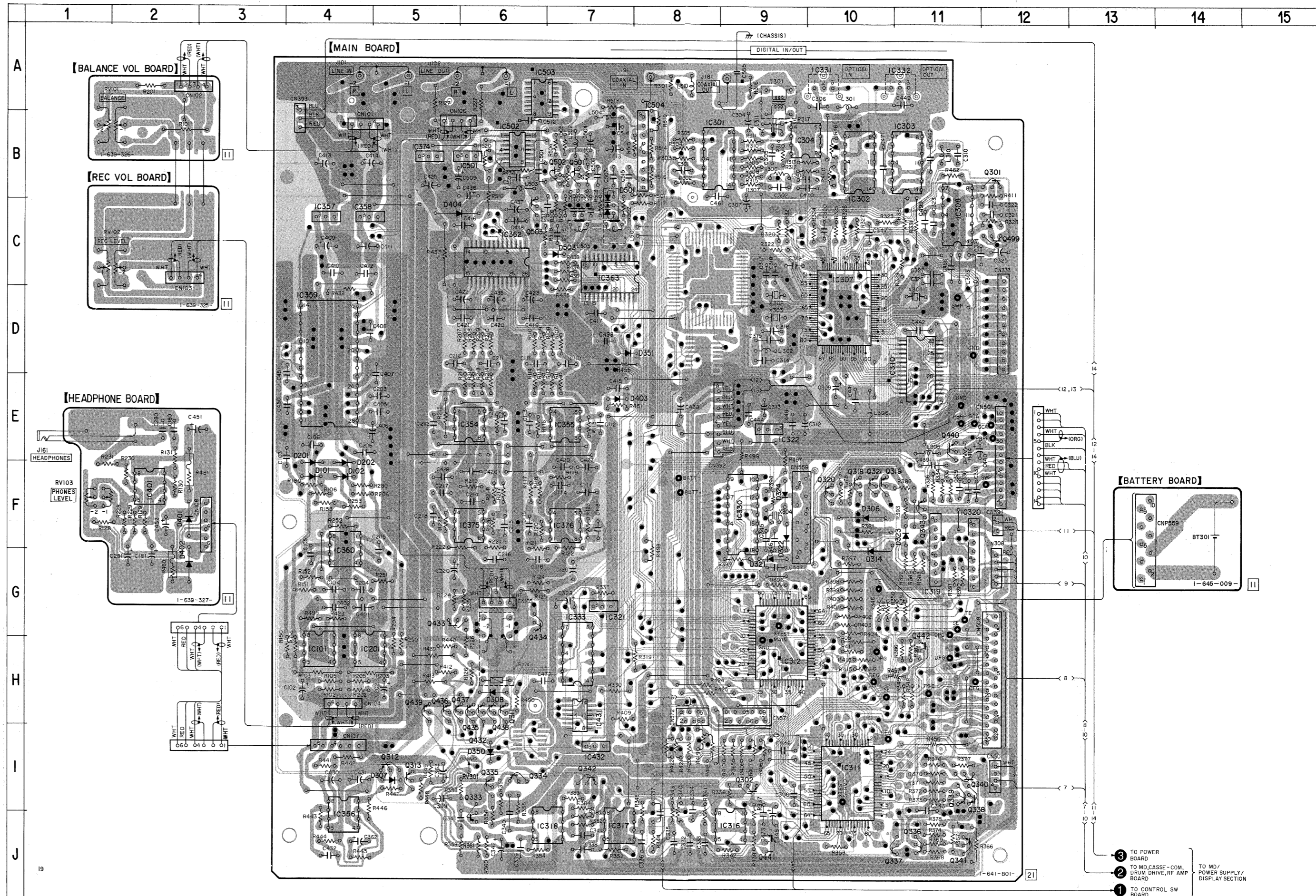
• See page 16 for Circuit Boards Location and page 20 to 21 for Semiconductor Lead Layouts.

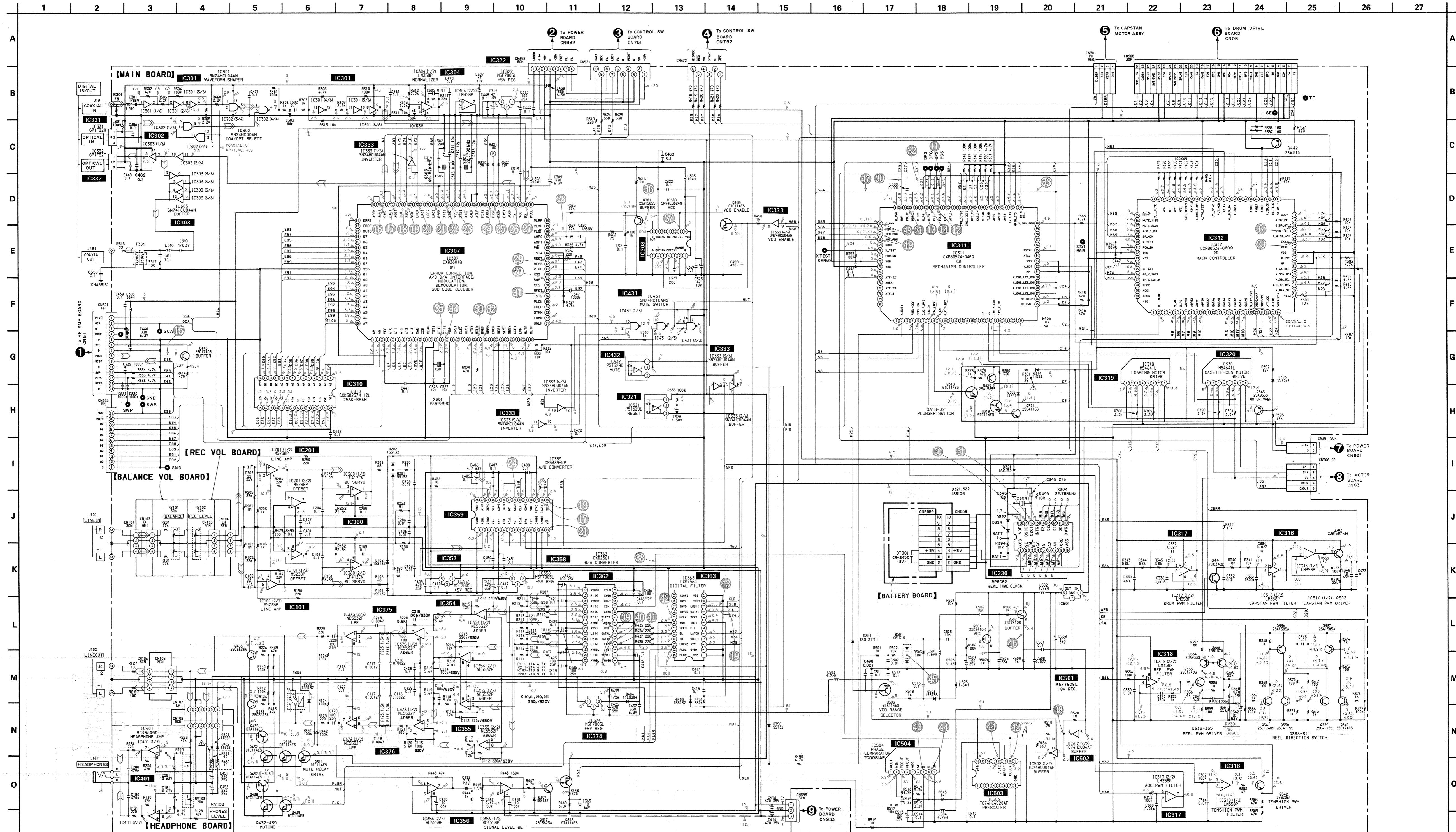
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D101	F-4	IC360	F-4
D102	F-4	IC362	C-6
D201	E-4	IC363	C-7
D202	E-4	IC374	B-5
D306	F-10	IC375	F-6
D307	I-5	IC376	F-7
D308	H-6	IC401	F-2
D314	F-10	IC431	H-7
D321	G-9	IC432	I-7
D322	F-9	IC501	B-6
D323	F-11	IC502	B-6
D324	F-9	IC503	A-6
D350	I-6	IC504	B-8
D351	D-7		
D401	F-2	Q301	B-12
D402	G-2	Q302	I-9
D403	E-7	Q311	H-6
D404	C-5	Q312	I-5
D501	C-7	Q313	I-5
D503	C-7	Q318	F-10
		Q319	F-10
		Q320	F-10
IC101	H-4	Q321	F-10
IC201	H-4	Q321	F-10
IC301	B-8	Q333	I-6
IC302	B-10	Q334	I-6
IC303	B-11	Q335	I-6
IC304	B-9	Q336	J-11
IC307	D-10	Q337	J-10
IC308	C-11	Q338	I-11
IC310	D-11	Q339	I-11
IC311	I-10	Q340	I-11
IC312	G-9	Q341	J-11
IC316	J-9	Q342	I-7
IC317	J-7	Q343	F-11
IC318	J-6	Q432	H-6
IC319	F-11	Q433	G-5
IC320	F-11	Q434	G-6
IC321	G-7	Q435	H-6
IC322	E-9	Q436	H-5
IC330	F-9	Q437	H-5
IC331	A-10	Q438	H-6
IC332	A-11	Q439	H-5
IC333	H-7	Q440	E-11
IC354	E-6	Q441	J-9
IC355	E-7	Q442	H-11
IC356	I-4	Q499	C-12
IC357	C-4	Q501	B-7
IC358	C-4	Q502	B-7
IC359	D-4	Q503	C-6

Note:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : parts mounted on the conductor side.
- : Through hole.
- ▨ : Pattern of the rear side.
- : Pattern from the side which enables seeing.





Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{2}$ W or less unless otherwise specified.
- --- : fusible resistor.

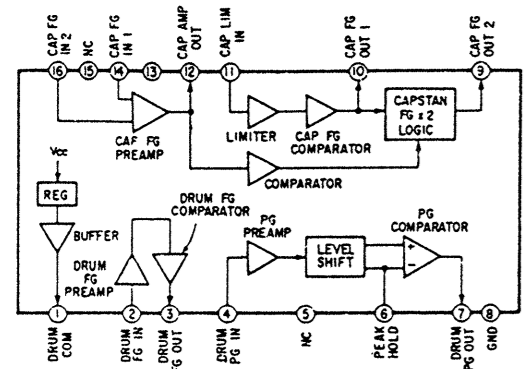
Notes:

- The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.
- Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

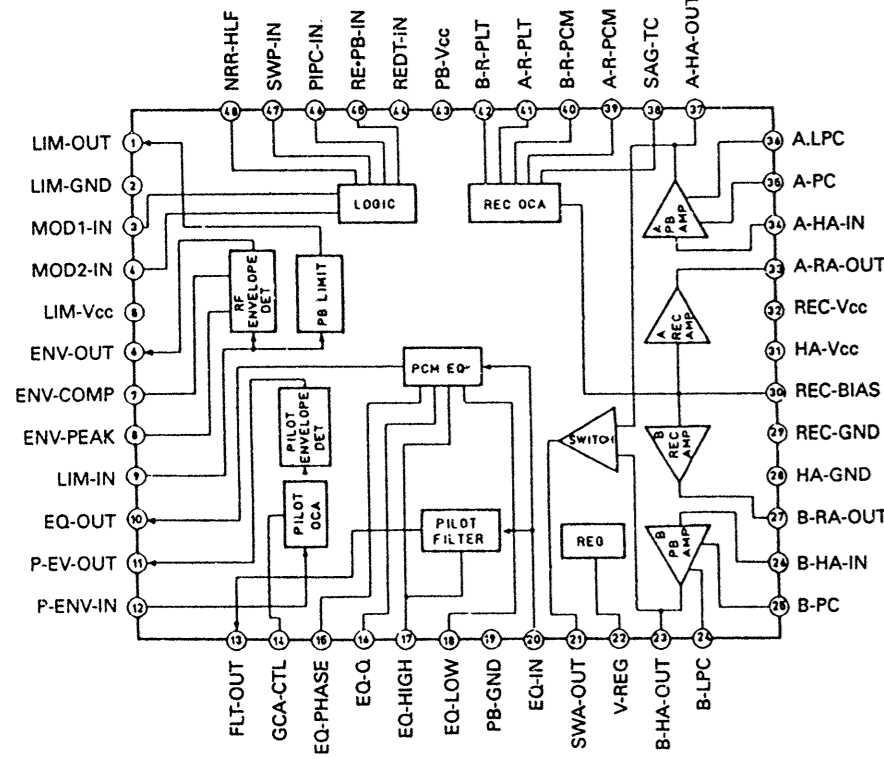
• --- : B + Line.
 • --- : B - Line.
 • Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
 • no mark : STOP
 • () : PB
 • < > : REC
 • < > : FF
 • < > : REW
 • () : The moment \ll , \gg , \ll or \gg buttons are pressed.
 • () : On muting
 • Voltages are taken with a VOM (10 M Ω /V). Voltage variations may be noted due to normal production tolerances.
 • Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
 • Circled numbers refer to waveforms.
 • Signal path:
 • --- : PB
 • --- : REC

• IC Block Diagrams

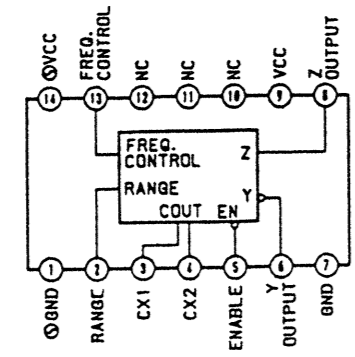
DRUM DRIVE BOARD
IC01 CX20115A



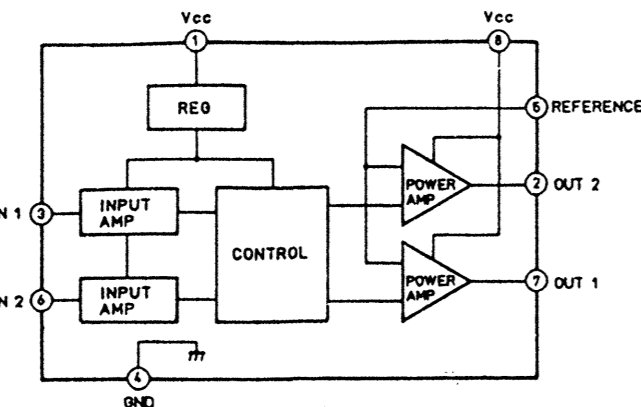
RF AMP BOARD
IC1 CXA1364R



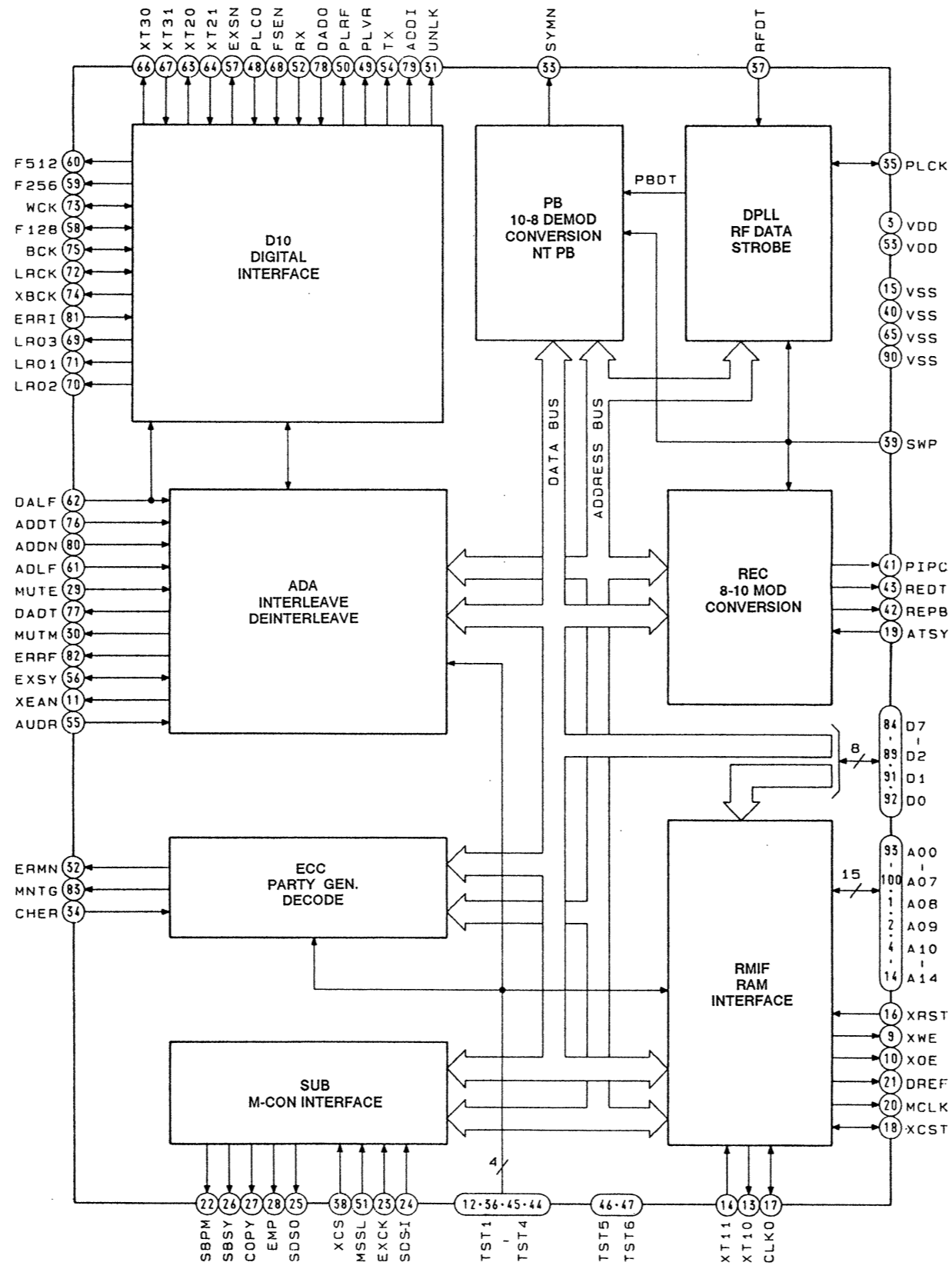
MAIN BOARD
IC308 SN74LS624N



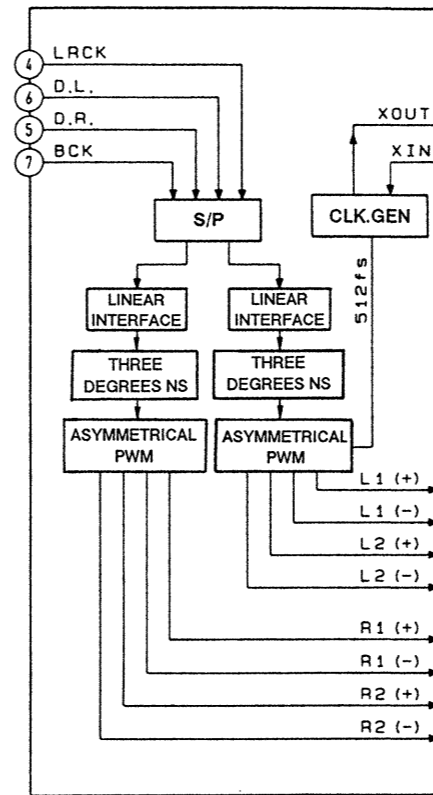
IC319, 320 M54641L



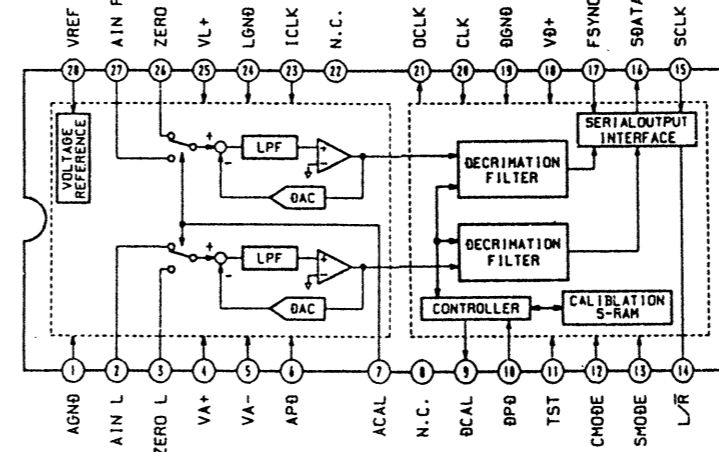
IC307 CXD2601AQ



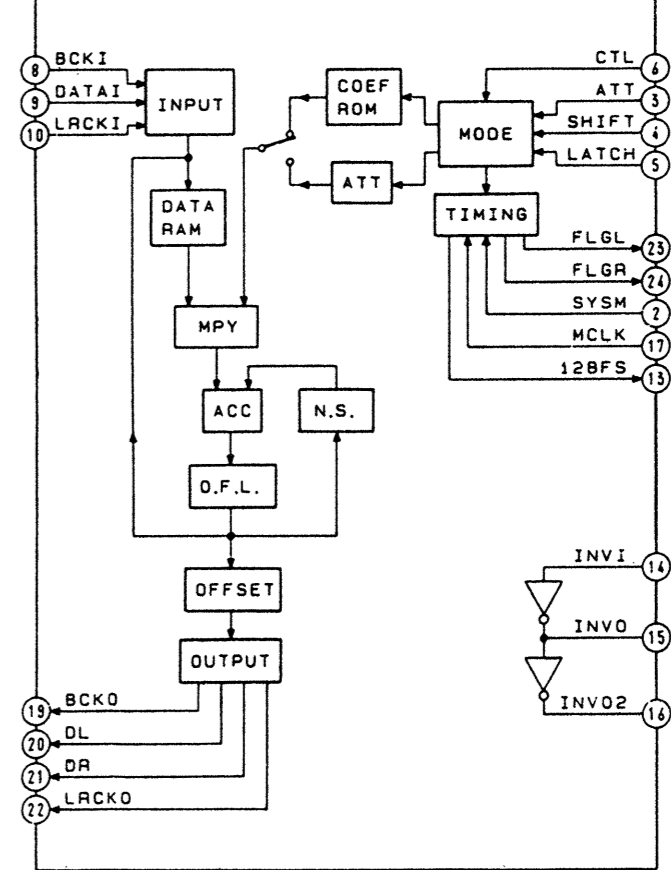
IC362 CXD2561BM-1



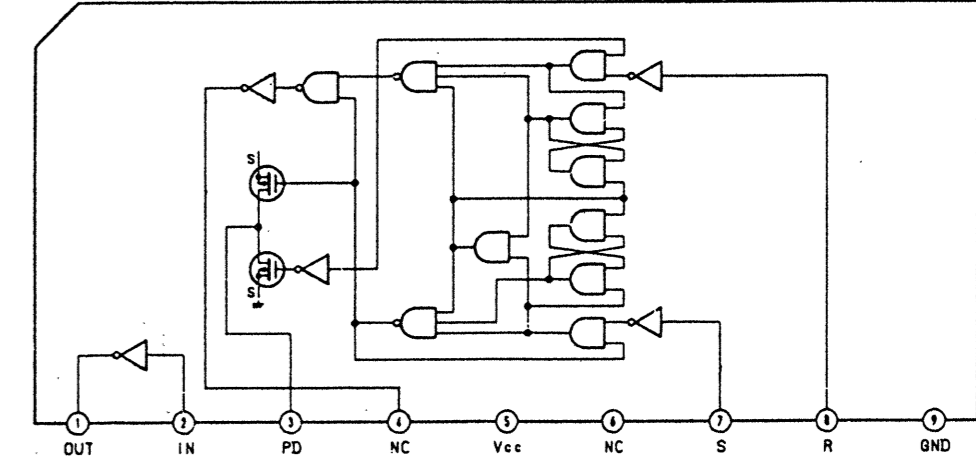
IC359 CS5339-KP



IC363 CXD2560M



IC504 TC5081AP



[PIN FUNCTION]

● **IC307 DAT signal processor (CXD2601AQ)**

This IC is a 1-chip LSI used to carry out recording and playback signal processing of the R-DAT system. Digital PLL, coding and decoding, error correction, digital I/O, and RAM control circuits are incorporated in the IC.

PIN	SIGNAL NAME	I/O	FUNCTION
1, 2	A08, A09	I/O	RAM address A08 and A09
3	VDD	—	Power supply pin (+5 V)
4~6	A10~A12	I/O	RAM address A10 to A12
7, 8	A13, A14	O	RAM address A13 and A14
9	XWE	O	RAM write enable signal
10	XOE	O	RAM output enable signal
11	XEAN	O	Bus interrupt enable signal for external addressing (Not used with this set)
12	TST1	I	Test pin (Normally "L")
13	XT1O	O	18.816 MHz X'tal OSC output
14	XT1I	I	18.816 MHz X'tal OSC input
15	VSS	—	Power supply pin (GND)
16	XRST	I	Rest pin (Normally "H")
17	CLKO	I/O	18.816 MHz clock output (Not used with this set)
18	XCST	I/O	CLKO demultiplication timing signal for SYCK (internal system clock) generation (Not used with this set)
19	ATSY	I	ATF sync signal input pin
20	MCLK	O	9.408 MHz clock output
21	DRFF	O	Drum servo reference signal (Normal: 50/3 to 200/3 Hz, Search: 16 kHz)
22	SBPM	O	Clock (EXCK) acceptance identification signal for subcode I/O ("L": accepted, "H": not accepted) (Not used with this set)
23	EXCK	I	Data transmission clock for subcode I/O (Duty: 50)
24	SDSI	I	Subcode serial data input
25	SDSO	O	Subcode serial data output
26	SBSY	O	Sync signal for subcode I/O
27	COPY	O	Copy information output (Not used with this set)
28	EMP	O	Emphasis information output (Active: "H") (Not used with this set)
29	MUTE	I	Muting pin
30	MUTM	O	Muting identification signal (Muted: "H")
31	UNLK	O	RX PLL clock identification signal (Locked: "H")
32	ERMN	O	RF existence check (RF: "H", REC: "L")
33	SYMN	O	C1 check results for RF (OK: "H") (Not used with this set)
34	CHER	I	Identification signal of C2 occurrence, once or twice (C2 → C1 → C2 or C1 → C2) (Once: "H", Twice: "L")
35	PLCK	I/O	RF PLL clock output (Not used with this set)
36	TST2	I	Test pin (Normally "L")
37	RFDT	I	RF signal input
38	XCS	I	Subcode I/O chip select (Selected: "L")
39	SWP	I	RF switching pulse (A-CH: "L", B-CH: "H")
40	VSS	—	Power pin (GND)
41	PIPC	O	PILOT/PCM identification signal for REC data (PILOT: "H", PB: "L" fixed)
42	REPB	O	REC/PB switching signal (REC: "H")
43	REDT	O	Recording signal output (PB: "L" fixed)
44	TST4	I	Test pin (Normally "L")
45	PDO	O	PD output of RX APLL (Comparator output)
46	AMPI	I	OSC cell amplifier input of RX APLL
47	AMPO	O	Inverted OSC cell amplifier output of RX APLL

PIN	SIGNAL NAME	I/O	FUNCTION
48	PLCO	I	External VCO clock input of RX APLL
49	PLVR	O	Comparison signal (Vin) when an external comparator of RX APLL is used (Not used with this set)
50	PLRF	O	Comparison signal (Rin) when an external comparator of RX APLL is used (Not used with this set)
51	MSSL	I	Master/slave setting (Master: "H", Slave: "L") (Fixed to Master "H" with this set)
52	RX	I	Digital input
53	VDD	—	Power supply pin (+5 V)
54	TX	O	Digital output
55	AUDR	I	Audio mode/data recorder mode setting (Audio mode: "H", Data recorder mode: "L")
56	EXSY	I/O	Sync signal for full copy (25/3 to 100/3 Hz)
57	EXSN	I/O	Sync signal for full copy (25/3 to 100/3 Hz)
58	F128	I/O	128 fs clock (Normal), 256 fs clock (x 2) (Duty: 50)
59	F256	O	256 fs clock (Normal), 512 fs clock (x 2) (Duty: 50)
60	F512	O	512 fs clock (Normal), 512 fs clock (x 2) (Duty: 50)
61	ADLF	I	MSB first/LSB first identification signal for ADDT serial data (LSB first: "H")
62	DALF	I	MSB first/LSB first identification signal for DADT serial data (LSB first: "H")
63	XT2O	O	22.5792 MHz X'tal OSC output
64	XT2I	I	22.5792 MHz X'tal OSC input
65	VSS	—	Power supply pin (GND)
66	XT3O	O	49.152 MHz X'tal OSC output (24.576 MHz for B' mode)
67	XT3I	I	49.152 MHz X'tal OSC input (24.576 MHz for B' mode)
68	FSEN	I	Input/output selection of F128, BCK, LRCK (Output: "H") (Fixed to Output "H" with this set)
69	LR03	O	Inverted LR02
70	LR02	O	16 BCK delay signal of LRCK (Not used with this set)
71	LR01	O	15 BCK delay signal of LRCK (Not used with this set)
72	LRCK	I/O	fs clock output (Normal: fs, x 2: 2fs) (L-CH: "L", R-CH: "H")
73	WCK	O	2 fs clock output (Normal: 2 fs, x 2: 4 fs) (Only for test input mode) (Not used with this set)
74	XBCK	O	Inverted BCK
75	BCK	I/O	64 fs clock (Normal), 128 fs (x 2)
76	ADDT	I	Serial AD data (2's complement)
77	DADT	O	Serial DA data (2's complement)
78	DADO	I	(DA) data input for digital output (To be connected to DADT)
79	ADDI	O	(AD) data output for digital input (To be connected to ADDN)
80	ADDN	I	(AD) data input for digital input
81	ERRI	I	V-FLAG information input for digital output (To be connected to ERRF)
82	ERRF	O	Identification signal whether the data is interpolation data by DADT (Interpolation data: "H")
83	MUTG	O	Error correction status monitoring trigger
84~89	D7~D2	I/O	RAM data bus D7 to D2
90	VSS	—	Power supply pin (GND)
91, 92	D1, D0	I/O	RAM data bus D1 and D0
93~100	A00~A07	I/O	RAM address A00 to A07

● IC311 MECHANISM/SERVO microcomputer (CXP80524-082Q)

This IC controls the mechanisms and the servo systems following the instructions from the main microcomputer (IC312).

PIN	SIGNAL NAME	I/O	CONNECTION	FUNCTION	
1		O		Not used	
2	BUSY	O	Main microcomputer	Busy for main microcomputer (Active: "L")	
3		O		Not used	
4	REEL_CCW	O	Mechanism	CCW reel motor rotation (RVS direction: "L") } * 1	
5	REEL_CW	O	Mechanism		CW reel motor rotation (FWD: "H")
6	C_DIR_RVS	O	Mechanism	Rotating direction of capstan motor (FWD: "L", RVS: "H")	
7	PLN_ON	O	Mechanism	Plunger ON output	
8	PLN_KICK	O	Mechanism	Plunger kick output	
9	D_ON	O	Mechanism	Drum ON output (Rotating: "H")	
10	D_DIR_RVS	O		Not used	
11~16		O		Not used	
17	LE	O	Mechanism	Loading motor output (Eject) } * 2	
18	LL	O	Mechanism		Loading motor output (Load)
19	CAS_M_OUT	O	Mechanism	Cassette compartment motor output } * 3	
20	CAS_M_IN	O	Mechanism		Cassette compartment motor input
21~23		-		Not used	
24		O	Mechanism	Encoder SW2 } * 4	
25	RE_FWD	I	Mechanism		Encoder SW1
26	RE_STOP	I	Mechanism		
27~30	END_LED_ON	O	Mechanism	Lights up when end sensor is Active "L" (Square waveform signal at about 1 kHz) No output when a cassette is not loaded. ("H")	
31	MP	I		Selection of microprocessor mode (Fixed to "L" with this set)	
32	RST	I		System reset (Active: "L")	
33	Vss	-		Power supply pin (GND)	
34	XTAL	O		System clock output (Not used with this set)	
35	EXTAL	I	CXD2601AQ	System clock input (9.408 MHz)	
36~39		-		Not used	
40	X_SRV_REQ	I	Main microcomputer	Communication request from main microcomputer	
41	MAIN_DT_I	I	Main microcomputer	Serial input from main microcomputer	
42	MAIN_DT_O	O	Main microcomputer	Serial output to main microcomputer	
43	MAIN_CK	I	Main microcomputer	Serial clock with the main microcomputer	
44	AVss	-		GND for A/D	
45	AVref	-		Reference voltage to A/D (+5 V)	
46	AVdd	-		Power supply voltage to A/D (+5 V)	
47	T_END	I	Mechanism	End sensor input (analog) at take up side } Magnetic substance: 0 V	
48	S_END	I	Mechanism		End sensor input (analog) at supply side } Leader tape: AC (* 5)
49	CAS_IN	I	Mechanism	Cassette in switch (S01) (IN: "H")	
50	REC_EN	I	Mechanism	REC enable switch (S01) (REC possible: "H")	
51	CAS_LCKed	I	Mechanism	Cassette compartment locked (Loading completed: "H")	
52	CAS_OUTed	I	Mechanism	Cassette compartment out (Loading out: "H")	
53		I		Not used	
54	ATF_IN	I	RF Amp	ATF pilot signal input	
55	FG_T	I	Mechanism	Reel FG (T side) } 6/24 Hz (Small winding) to 15/24 Hz	
56	FG_S	I	Mechanism		Reel FG (S side) } (large winding) (For SP FWD)
57	C_FG	I	Mechanism	Capstan FG SP: 674 Hz, LP: 337 Hz	
58	D_FG	I	Mechanism	Drum FG 400 Hz: LP REC, 800 Hz: For others	
59	D_PG	I	Mechanism	Drum PG } Not LP REC: 800/24 Hz	
60	D_REF	I	CXD2601AQ		Drum reference } LP REC: 400/24 Hz
61	MST_CK	I	CXD2601AQ	Master clock (9.408 MHz)	
62	PB_DT	I	RF Amp	PB data input for ATF sync generation	
63	SWP	O	CXD2601AQ	Switching pulse output (A-CH: "L", B-CH: "H")	

PIN	SIGNAL NAME	I/O	CONNECTION	FUNCTION
64	D_PWM	O	Mechanism	PWM output to drum
65	C_PWM	O	Mechanism	PWM output to capstan motor
66	PWM_R	O	Mechanism	PWM output to reel motor
67	TEN_PWM	O	Mechanism	PWM output to the tension regulator plunger
68	AGC_PWM	O	RF Amp	PWM output to AGC
69	SBSY	I	CXD2601AQ	Falling edge detection of sub-sync (XINT2)
70	$\overline{\text{TEST}}$	I	Pull-up	Test mode (XTST MAIN) (Active: "L")
71	POW_DN	I		Not used
72	Vdd	-		Power supply pin (+5 V)
73	Vss	-		Power supply pin (GND)
74		-		Not used
75	ATF_S2	O	CXD2601AQ	Sampling pulse output of ATF
76~80		O		Not used

*** 1 Reel Motor Control**

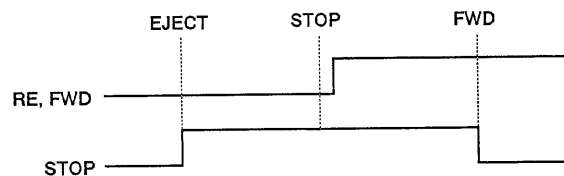
	CCW (Counterclockwise)	CW (Clockwise)
STOP (Only when POWER ON)	L	L
FWD	L	H
RVS	H	L
Inhibited	H	H

*** 4 Encoder**

RE_FWD	RE_STOP	Position
L	L	EJECT
L	H	STOP UNLD-STOP
H	L	FWD
H	H	STOP-FWD

*** 2 Loading Motor Control**

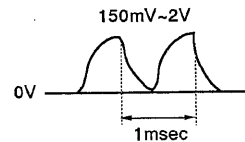
	LE	LL
-	L	L
LOAD	L	H
EJECT	H	L
Brake	H	H



*** 3 Cassette Compartment Motor Control**

	OUT	IN
-	L	L
IN	L	H
OUT	H	L
Brake	H	H

*** 5 End Sensor**



For leader tape

● **IC312 MAIN microcomputer (CXP80524-080Q)**

This IC controls overall operations of this set. It exchanges the data with the display microcomputer (IC701) and the mechanism/servo microcomputer (IC311), and controls the DAT signal processing IC (IC307), the attenuator IC (IC306), the clock (IC330), and the digital filter (IC363).

PIN	SIGNAL NAME	I/O	CONNECTION	FUNCTION
1	$\overline{\text{L_MUTE}}$	O	Line Out	Not used
2		O		Line muting (Active: "L")
3		O		Not used
4		O		Not used
5	$\overline{\text{WRT}}$	O	Clock IC	Write request (Active: "L")
6	RD	O	Clock IC	Read request (Active: "L")
7~10	ADRS_3~0	O	Clock IC	Address 3 to 0 (Address bus)
11~14	DATA_7~4	I/O	Clock IC	Data 7 to 4 (Data bus) (Not used with this set)
15~18	DATA_3~0	I/O		Data 3 to 0 (Data bus) (Not used with this set)
19	$\overline{\text{ATT_EXT}}$	O		External selection of attenuator clock for fading (Active: "L") (Not used with this set)
20	$\overline{\text{DIG/ANA}}$	O		DIG ("L")/ANA ("H") selection for fading I/O
21	$\overline{\text{REC/PB}}$	O	CXD2601AQ	REC ("L")/PB ("H") selection for fading I/O
22	ATT_CK	O		Clock for fading I/O (Not used with this set)
23	$\overline{\text{DTR}}$	O		Audio use ("H")/Data Recorder use ("L") (After REC or Search: "L")
24	$\overline{\text{OPT/COA}}$	O		Optical ("L")/Coaxial ("H") selection
25	FS32	O		1Bit DAC "H" for Fs = 32 kHz, otherwise "L"
26	$\overline{\text{RAM_SEL}}$	O	CXD2601AQ	Not used
27	$\overline{\text{DISP_REQ}}$	O		Display microcomputer Communication request to display microcomputer (Active: "L")
28	$\overline{\text{SD_REQ}}$	O		CXD2601AQ Communication request to CXD2601 (Active: "L")
29	$\overline{\text{SRV_REQ}}$	O		Mechanism microcomputer Communication request to mechanism microcomputer (Active: "L")
30	$\overline{\text{CLOCK_SEL}}$	O		Clock IC Chip select for clock IC
31	MP	I	CXD2601AQ	Microprocessor mode selection (Fixed to "L" with this set)
32	$\overline{\text{RET}}$	I		System reset (Active "L")
33	Vss	—		Power supply pin (GND)
34	XTAL	O		System clock output (Not used with this set)
35	EXTAL	I		System clock input (9.408 MHz)
36	$\overline{\text{DISP_ACK}}$	I	Display microcomputer	Acknowledge (Active: "L")
37	DISP_DT_I	I	Display microcomputer	Serial input
38	DISP_DT_O	O	Display microcomputer	Serial output
39	DISP_CK	I	Display microcomputer	Serial clock
40	SBSY	I	CXD2601AQ	Subcode sync
41	SR_DT_IN	I	CXD2601AQ & Mechanism microcomputer	Serial data input
42	SR_DT_OUT	O		Serial data output
43	$\overline{\text{SR_CK}}$	I/O		Serial clock (IN/OUT) to subcode interface
44	AVss	—		GND for A/D
45	AVref	—		Reference voltage for A/D (+5 V)
46	AVdd	—		Power supply to A/D (+5 V)
47		I		Not used
48		I		Not used
49	$\overline{\text{BUSY}}$	I	Mechanism microcomputer	Mechanism servo microcomputer busy (Active: "L")
50	AU_BUS_IN	I	Audio Bus	Not used

PIN	SIGNAL NAME	I/O	CONNECTION	FUNCTION
51	TM_IN	I	Clock IC	TM_OUT
52	MUT_MON	I	CXD2601AQ	Muting monitor (Active "H")
53	LVL_SYNC	I	Audio Block	Writes the start ID using audio input to Level Sync Input
54		I		Not used
55	TRQ_TEST	I	Pull-up	Not used
56	NO_CAS_TEST	I	Pull-up	Not used
57	TIME_24/12	I	Pull-up	Time display 12 Hours (AM/PM): "H", 24 Hours: "L"
58	DATE_ORDER	I	Pull-up	Order of data display (Y/M/D: "H", M/D/Y: "L")
59-62	AF_3~0	I	Pull-up	Not used
63		O	Pull-up	Not used
64	L_MUTE	O	Pull-up	Line muting (Active: "L") (Not used with this set)
65	TR_MUTE	O	Line Out	Transistor muting (Active: "L")
66	MUTE_1136	O		Not used
67	MUTE_2061	O	CXD2601AQ	Muting output to CXD2601 (Active: "H")
68	A_D_PWR_DWN	O	CS5339	A/D converter power down mode (Active: "H") Turns off A/D converter for digital I/O
69	ER_MON	I	CXD2601AQ	Error monitor (Data Valid)
70	TEST	I	Pull-up	Test mode (XTEST MAIN) (Active: "L")
71	POW_DN	I	+5 V	Not used
72	Vdd	-		Power supply pin (+5 V)
73	Vss	-		Power supply pin (GND)
74		-		Not used
75	D_F_ATT	O	CXD2560M	Communication line to digital filter (Serial data)
76	D_F_SHIFT	O	CXD2560M	Communication line to digital filter (Shift lock: Shift with falling edge and input with rising edge)
77	D_F_LATCH	O	CXD2560M	Communication line to digital filter (Latch pulse)
78, 79	MODE2, 1	O	CXA1364R	Mode control of RF amplifier (Not used with this set)
80		O		Not used

● IC330 real-time clock (RP5C62)

This IC is used for clock and calendar. A lithium battery (BT301) is used to back up power supply when the set is turned off.

PIN	SIGNAL NAME	I/O	FUNCTION
1	CS	I	Chip select input (Active: "L")
2	CE	I	Chip enable input (Active: "H")
3	TMOUT	O	Interval output
4-7	A0-3	I	4-bit address input
8	RD	I	Read control input
9	Vss	-	Power supply pin (GND)
10	WR	I	Write control input
11-14	D0-3	I/O	4-bit data I/O
15	INTR	O	Interrupt output (A 2048 Hz signal is output here with this set)
16	OSCIN	I	Clock input (32.768 kHz)
17	OSCOU	O	Clock output
18	VDD	-	Power supply pin (+5 V)

● **IC362 pulse D/A converter (CXD2561BM-1)**

This IC is small sized high performance 1-bit pulse D/A converter. It outputs asymmetric four PWM waveform signals for each L/R channel output.

PIN	SIGNAL NAME	I/O	FUNCTION
1	DVDD	—	Digital power supply
2	TEST	I	Test pin Fixed to "L" normally
3	INIT	I	Synchronized again with rising edge of the signal
4	LRCKI	I	LRCK input
5	DRI	I	R-CH data input
6	DLI	I	L-CH data input
7	BCKI	I	BCK input
8	DVss	—	Digital GND
9	512Fs	O	512 Fs output
10	XVss	—	Clock GND
11	XIN	I	X'tal OSC input pin (512 Fs)
12	XOUT	O	X'tal OSC output pin
13	XVDD	—	Clock power supply
14	VSUB	—	Sub-straight To be connected to GND
15	AVDDR	—	Analog power supply
16	R1(+)	O	R-CH PLM output 1 (Normal phase)
17	AVssR	—	Analog GND
18	R1(-)	O	R-CH PLM output 1 (Reverse phase)
19	R2(+)	O	R-CH PLM output 2 (Normal phase)
20	R2(-)	O	R-CH PLM output 2 (Reverse phase)
21	AVDD	—	Analog power supply
22	AVss	—	Analog GND
23	L2(-)	O	L-CH PLM output 2 (Reverse phase)
24	L2(+)	O	L-CH PLM output 2 (Normal phase)
25	L1(-)	O	L-CH PLM output 1 (Reverse phase)
26	AVssL	—	Analog GND
27	L1(+)	O	L-CH PLM output 1 (Normal phase)
28	AVDDL	—	Analog power supply

● **IC363 digital filter (CXD2560M)**

This IC is the 8-times over sampling digital filter. This has L/R 2ch filters, noise shaping, attenuator, soft muting and deemphasis functions.

PIN	SIGNAL NAME	I/O	FUNCTION
1	Vss	—	Power supply pin (GND)
2	SYSM	I	Effective when system mute input is "H"
3	ATT	I	ATT data input when CTL is "L" EMP input when CTL is "H"
4	SHIFT	I	Shift clock input when CTL is "L" FS32 input when CTL is "H"
5	LATCH	I	Latch clock input when CTL is "L" FS48 input when CTL is "H"
6	CTL	I	Pull-down in the IC Direct input mode when "L" Serial transfer mode when "L"
7	INIT	I	Synchronized again with rising edge of the signal
8	BCKI	I	BCK input
9	DATAI	I	Data input
10	LRCKI	I	LRCK input
11	TEST	I	Test pin (Fixed to "L" normally)
12	Vss	—	Power supply pin (GND)
13	128Fs	O	128 Fs clock output
14	INVI	I	Inverter input
15	INVO	O	Inverter output
16	INVO2	O	Inverter output
17	MCLK	I	Master clock input (f = 512 Fs)
18	VDD	—	Power supply pin (+5 V)
19	BCKO	O	BCK output
20	DL	O	L-CH data output
21	DR	O	R-CH data output
22	LRCKO	O	LRCK output
23	FLGL	O	L-CH ϕ muting flag output
24	FLGR	O	R-CH ϕ muting flag output

● IC701 display microcomputer (CXP5058H-658Q)

This IC controls the key input, the FL tube display, the remote control input signals, the level meter (IC702), and the EEPROM (IC703) in accordance with the instruction from the main microcomputer (IC312).

PIN	SIGNAL NAME	I/O	CONNECTION	FUNCTION
1~18	e_v_SEG	O	FL tube FL701	FL Segment "e" to "v"
19~28	10_~1_G	O	FL tube FL701	FL Grid #10 to #1
29	DSP_REQ	I	MAIN microcomputer	Communication request (Active: "L")
30	XTAL	—	Ceramic oscillator	
31	EXTAL	I	Ceramic oscillator	4.19 MHz ceramic oscillator
32	RST	I		System Reset (Active "L")
33	NC	—		Not used
34	Vdd	I		Power supply pin (+5 V)
35~42	AD_0~7	I	Panel switch	A/D converter input #0 to #7 for Key input
43	NC	—		Not used
44	DISP_CK	O	MAIN microcomputer	Shift clock
45	SO	O	MAIN microcomputer	Serial data output
46	SI	I	MAIN microcomputer	Serial data input
47	DSP_ACK	O	MAIN microcomputer	Acknowledge (Active: "L")
48	REC_MODE	I	S703	REC MODE (Normal: "H", Long: "L")
49	TEST	I	Pull-down	Test mode (XTEST DISP) (Active: "L")
50	CLOCK_SET	I	S4	CLOCK SET switch S4 (Active: "L")
51~54	LVL_DT_0~3	I/O	Level Meter IC	Level Meter Data 0 to 3
55, 56	LVL_ADRS_0, 1	O	Level Meter IC	Level Meter Address 0 and 1
57	LVL_RD	O	Level Meter IC	Level Meter Read Mode (Active: "L")
58	LVL_WR	O	Level Meter IC	Level Meter Write Mode (Active: "L")
59	LVL_SEL	O	Level Meter IC	Level Meter IC Select (Active: "L")
60	RM_SEL	O	Open	External remote control selection (Not used with this set)
61	PY2	I	Pull-up	Not used
62	RMC	I	Open	Not used
63	RMC_CAT	I	Pull-down	Remote control category (DAT1: "L", DAT2: "H") Fixed to "L" with this set
64	TR_MUTE	I	IC431	Level meter muting (Active: "L")
65	BUSY	I	EEPROM	BUSY signal (Active: "L")
66	ROM_DT_IN	I	EEPROM	Data input
67	ROM_DT_OUT	O	EEPROM	Data output
68	SHIFT_CK	O	EEPROM	Shift clock
69	CE	O	EEPROM	Chip enable
70	DTC/XPCM	I	Pull-up	Model identification input (Fixed to "H" with this set)
71	Vss	I		Power supply pin (GND)
72	TX	—	Open	Not used
73	NC	—	Open	Not used
74	TEX	—	+5 V	Not used
75	Vref	I	+5 V	Reference analog port voltage
76	Vfdp	I	− 25 V	FL display tube drive voltage
77~80	a_~d_SEG	O	FL tube	FL Segment "a" to "d"

SECTION 5 EXPLODED VIEWS

NOTE:

- -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

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

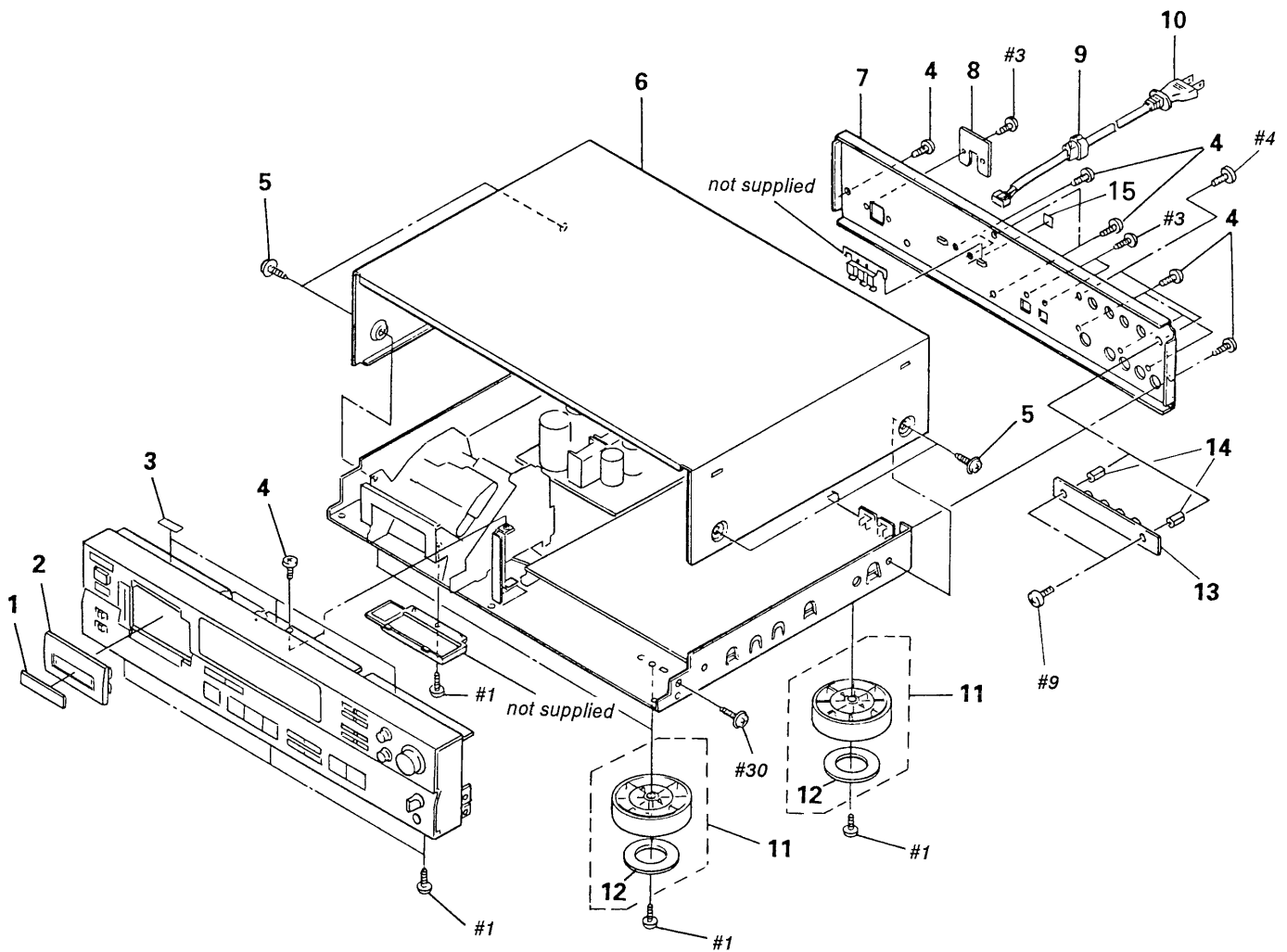
- The mechanical parts with no reference number in the exploded views are not supplied.

- Hardware (# mark) list is given in the last of this parts list.

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

Les composants identifiés par une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

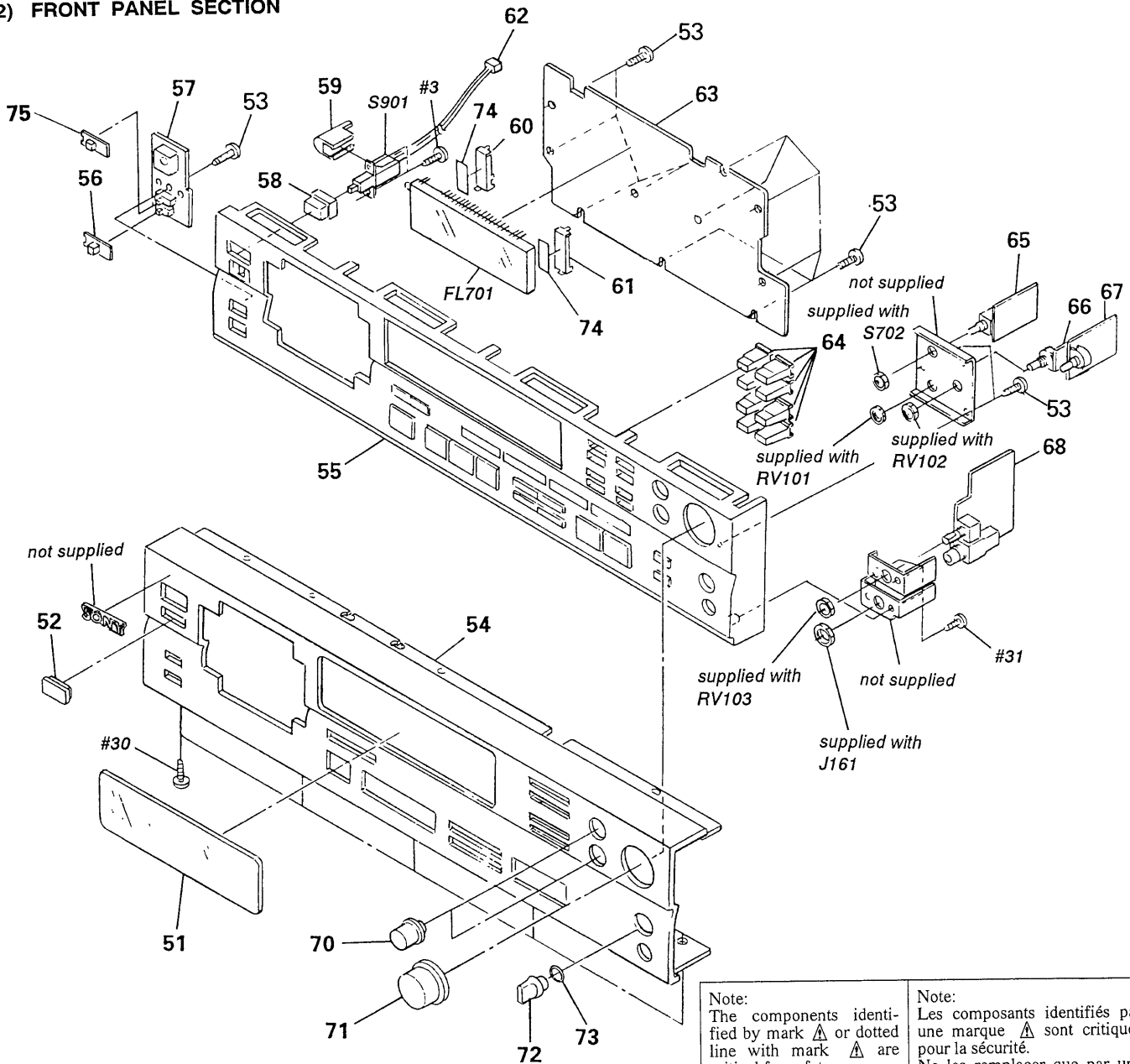
(1) CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3-374-275-11	WINDOW (670)	
2	3-374-279-01	HOLDER (670)	
3	3-831-441-XX	CUSHION, SPEAKER	
4	3-703-685-21	SCREW (+BV 3X8)	
5	3-363-099-01	SCREW (CASE 3 TP2)	
6	3-350-407-41	CASE	
7	3-379-527-12	PANEL, BACK	
* 8	4-923-873-01	BRACKET, CORD STOPPER	

Ref. No.	Part No.	Description	Remark
* 9	3-703-244-00	BUSHING (2104), CORD	
	10	1-690-609-21	CORD, POWER
11	X-4934-013-1	FOOT ASSY	
12	4-923-836-11	CUSHION	
* 13	1-645-010-11	SWITCH BOARD	
14	4-907-937-01	STAY (A)	
* 15	4-950-766-01	LABEL, FCC DIGITAL DEVICE	

(2) FRONT PANEL SECTION



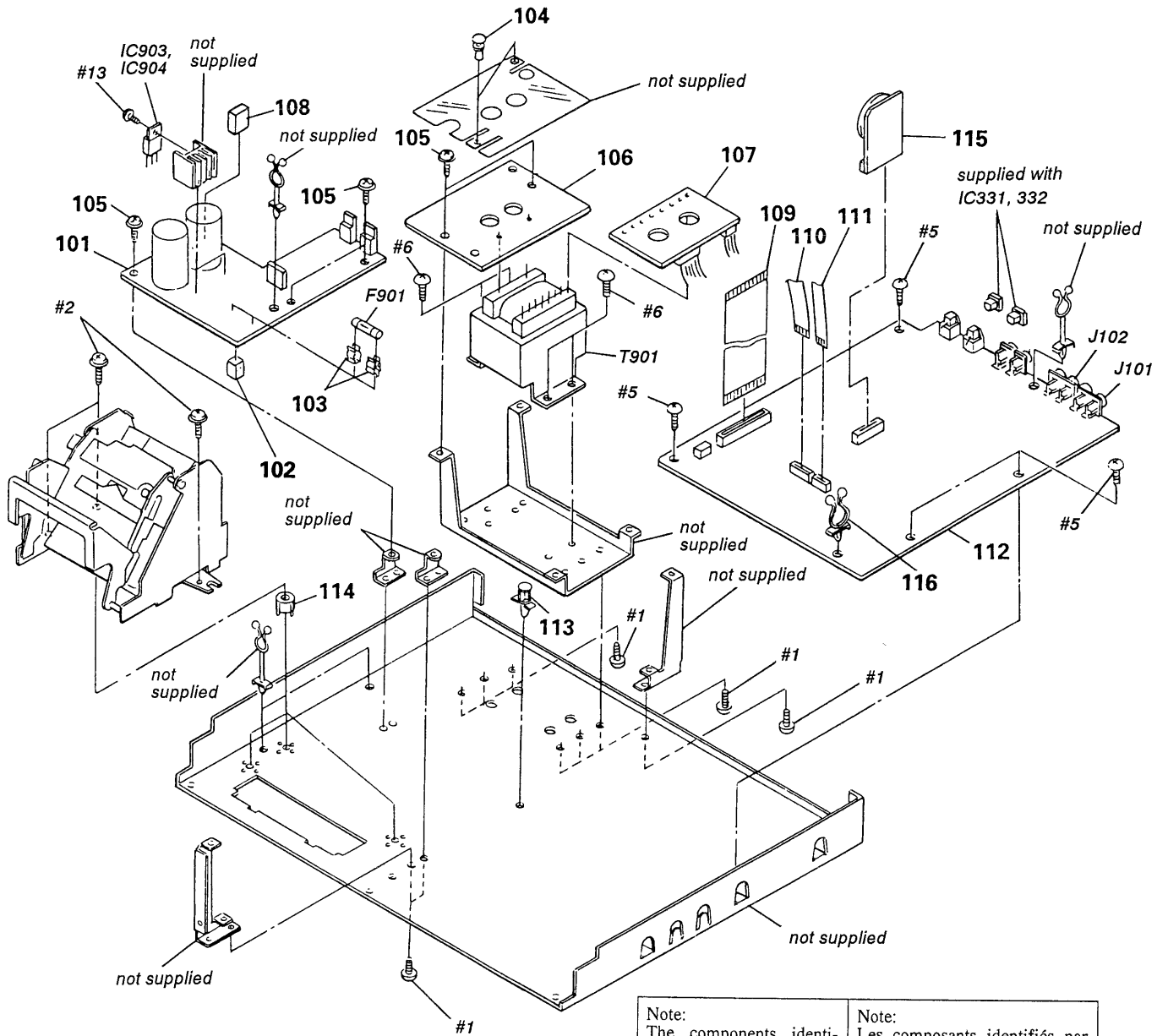
Note:
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
51	3-368-698-01	WINDOW (FL TUBE)	
52	3-364-919-11	FILTER	
53	4-951-620-01	SCREW (2.6X8), +BVTP	
54	3-374-281-11	PANEL (FRONT)	
55	X-3365-572-1	ESCUTCHEON (PANEL) ASSY	
56	4-931-421-01	KNOB (T & S)	
* 57	1-639-329-11	TIMER SW BOARD	
58	4-917-460-72	KNOB, POWER	
59	3-575-524-00	COVER, POWER SWITCH	
60	4-922-524-01	HOLDER (LEFT)	
61	4-922-523-01	HOLDER (RIGHT)	
62	1-590-321-71	LEAD (WITH CONNECTOR)	
* 63	A-2006-806-A	CONTROL SW BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remark
64	3-364-927-01	BUTTON (10 KEY)	
* 65	1-639-328-11	INPUT SW BOARD	
* 66	1-639-326-11	BALANCE VOL BOARD	
* 67	1-639-325-11	REC VOL BOARD	
* 68	1-639-327-11	HEADPHONE BOARD	
70	4-950-528-31	KNOB (DIA. 11 F)	
71	3-368-707-01	KNOB (REC LEVEL)	
72	3-354-931-01	KNOB (DIA. 10)	
73	3-354-981-01	SPRING (SUS), RING	
74	9-911-839-XX	CUSHION	
75	4-931-421-21	KNOB (T & S)	
FL701	1-519-672-11	INDICATOR TUBE, FLUORESCENT	
Δ S901	1-554-920-21	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)	

(3) CHASSIS SECTION

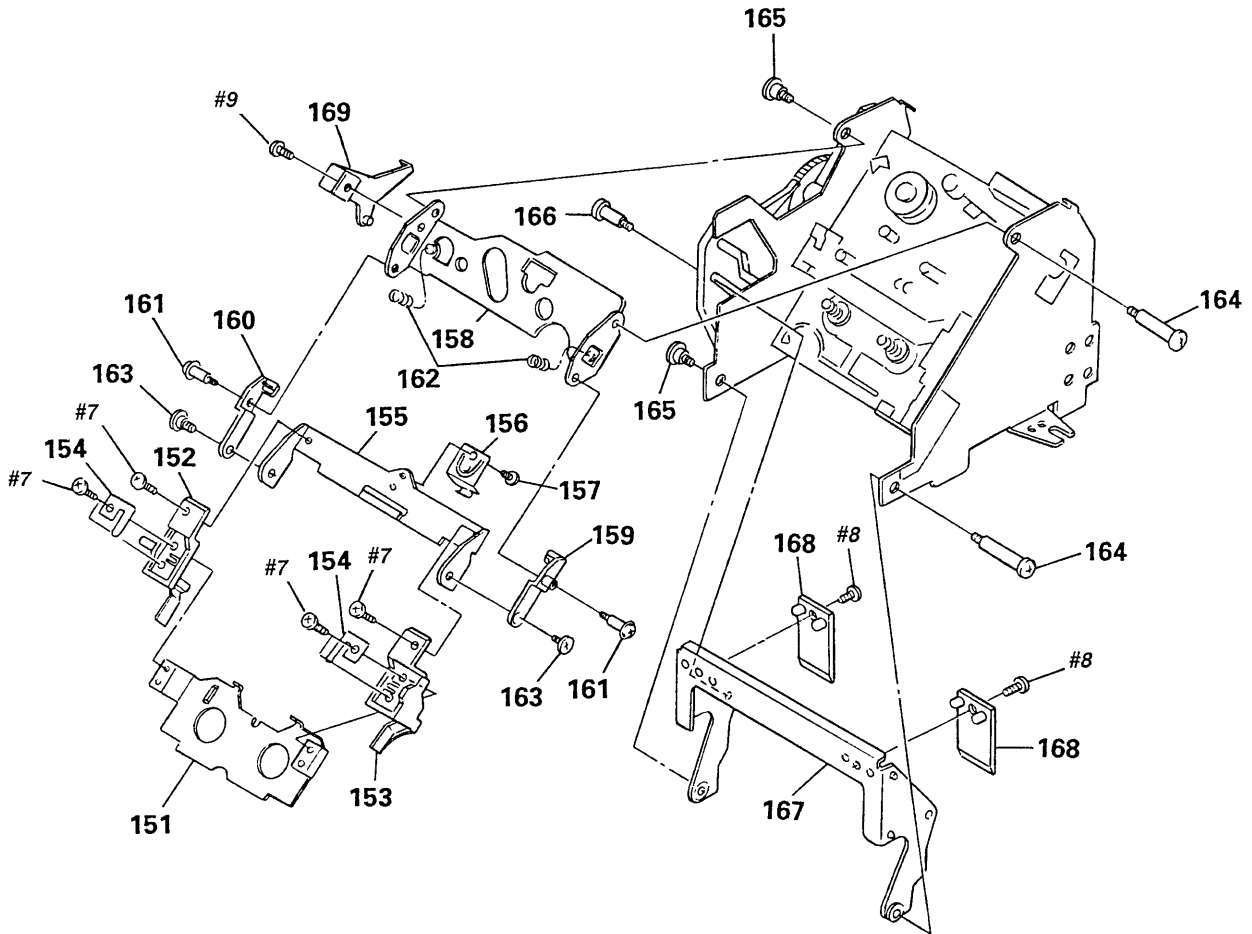


<p>Note: The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.</p>	<p>Note: Les composants identifiés par une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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Ref. No.	Part No.	Description	Remark
* 101	A-2006-670-A	POWER BOARD, COMPLETE	
* 102	3-346-279-01	CUSHION (P)	
103	1-533-183-11	HOLDER, FUSE	
104	4-812-134-00	RIVET NYLON, 3.5	
105	4-886-821-11	SCREW, S TIGHT, +PTWH 3X6	
* 106	1-639-333-11	PRIMARY BOARD	
* 107	1-639-332-11	RELAY BOARD	
* 108	3-685-232-01	SPACER, VI	
109	1-590-915-11	WIRE, FLAT TYPE (30 CORE)	
110	1-590-916-11	WIRE, FLAT TYPE (10 CORE)	

Ref. No.	Part No.	Description	Remark
111	1-590-914-11	WIRE, FLAT TYPE (6 CORE)	
* 112	A-2007-067-A	MAIN BOARD, COMPLETE	
* 113	3-670-570-00	SPACER, SUPPORT	
114	3-368-709-01	HOLDER (MD)	
* 115	1-645-009-11	BATTERY BOARD	
* 116	4-953-346-01	CLAMP, LEAD	
\triangle F901	1-576-105-11	FUSE	
IC903	8-759-231-58	IC M5F7812L	
IC904	8-759-245-86	IC TA7912S	
\triangle T901	1-450-556-21	TRANSFORMER, POWER	

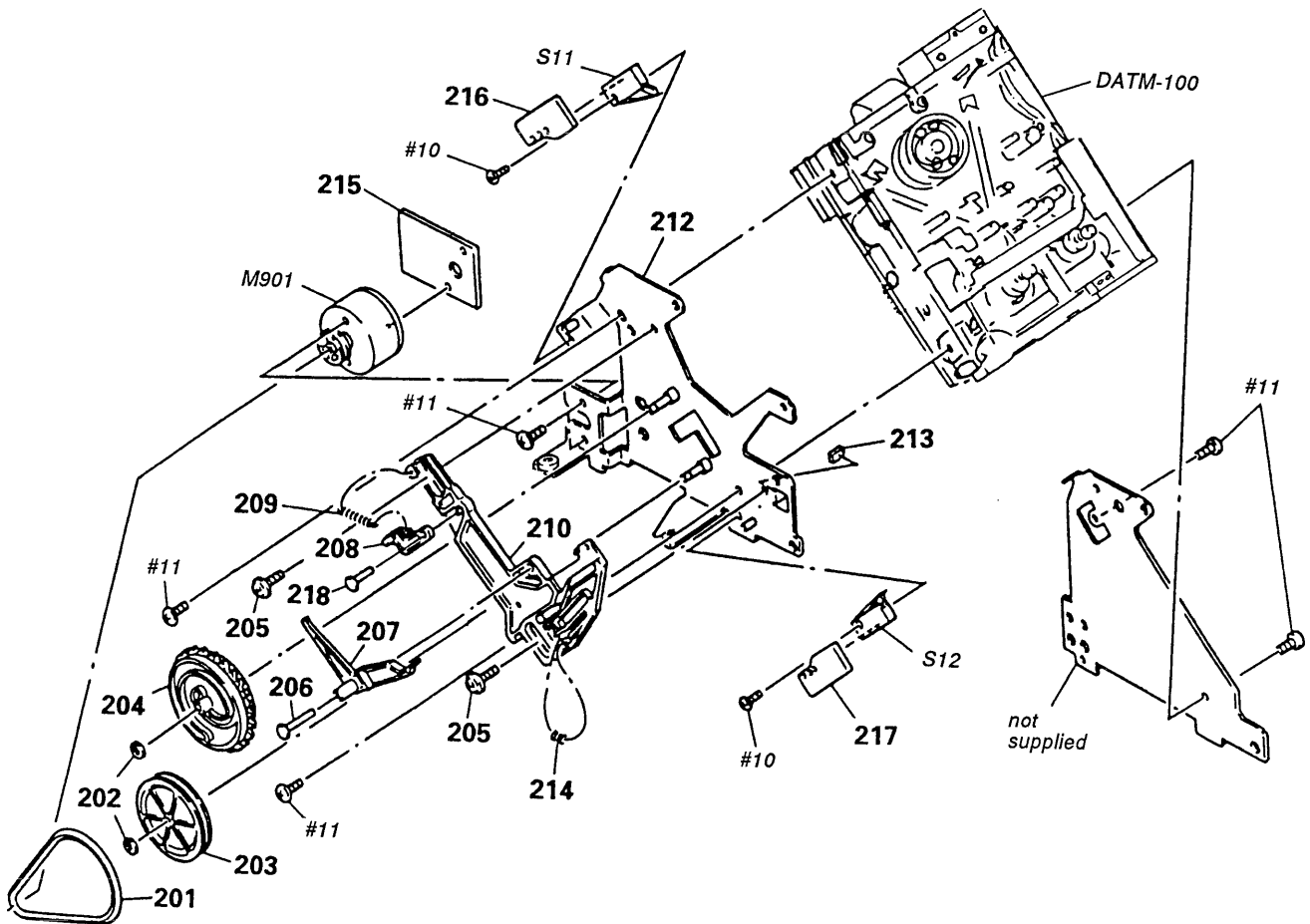
(4) MD SECTION 1



Ref. No.	Part No.	Description	Remark
151	4-931-476-01	HOLDER (LOWER)	
152	4-931-484-01	HOLDER (C-LEFT)	
153	4-931-486-01	HOLDER (C-RIGHT)	
154	3-366-308-01	SPRING (SIDE), PLATE	
* 155	4-931-485-01	HOLDER (C-INNER)	
156	4-931-461-01	SPRING (CENTER), LEAF	
157	3-352-517-01	SCREW (M2X2.5)	
* 158	3-369-235-01	PLATE, FULCRUM	
159	4-931-481-01	ARM (LIMITER L)	
160	4-931-473-01	ARM (LIMITER R)	

Ref. No.	Part No.	Description	Remark
161	4-918-991-01	SCREW, STEP	
162	3-537-214-00	SPRING, COMPRESSION	
163	3-312-161-00	SCREW, STEP, PRECISION	
164	4-931-463-01	SCREW (STEP)	
165	2-236-956-00	SCREW, STEP	
166	4-931-471-01	SCREW (STEP)	
167	4-931-474-01	HOLDER (WINDOW)	
168	4-931-469-01	PLATE, ORNAMENTAL	
* 169	X-4919-020-1	JOINT ASSY	

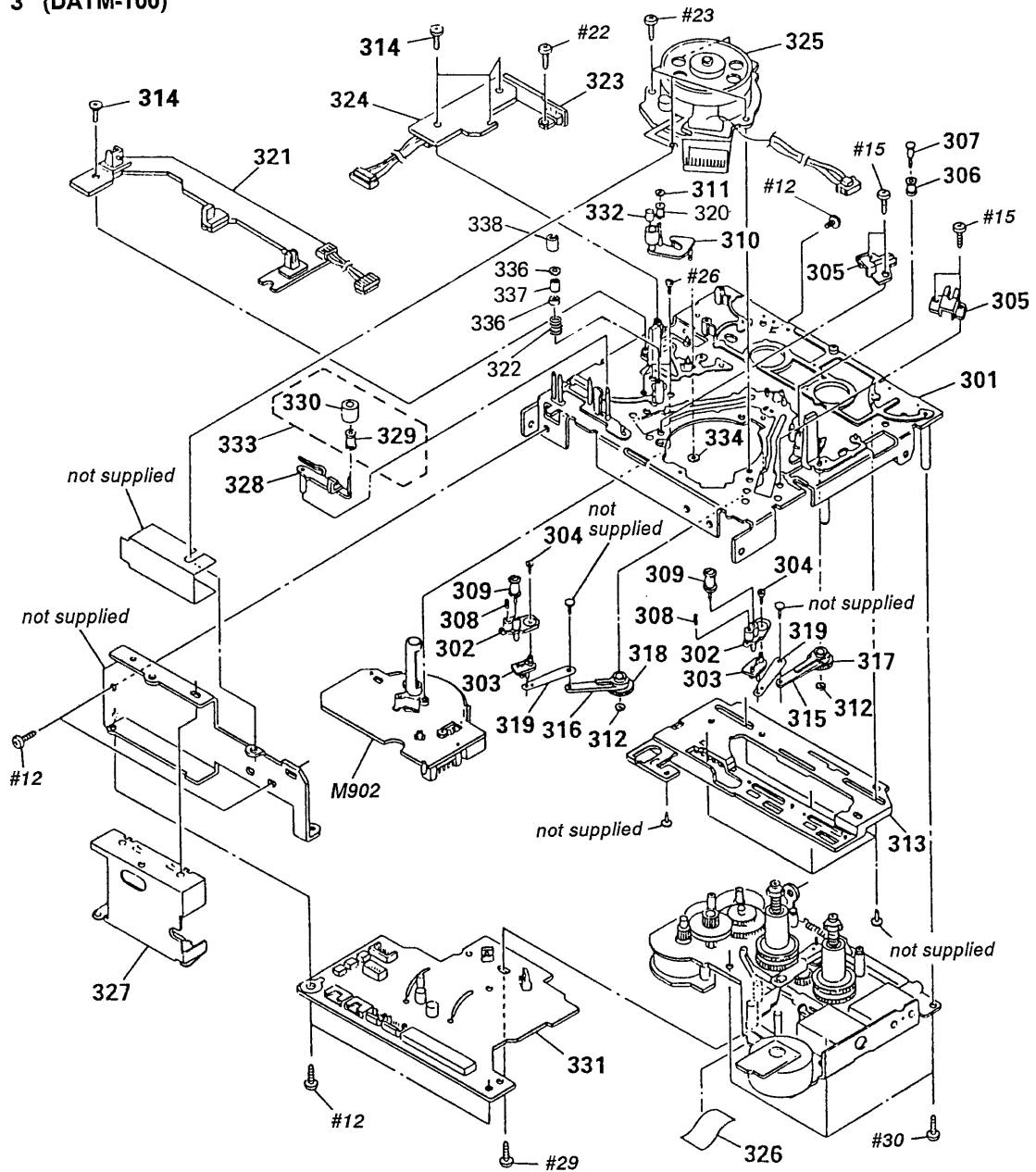
(5) MD SECTION 2



Ref. No.	Part No.	Description	Remark
201	4-931-470-01	BELT (DRIVING)	
202	3-307-948-21	WASHER, NYLON	
203	4-931-459-01	PULLEY	
204	4-931-477-01	GEAR (CAM)	
205	4-932-336-01	SCREW (STEP)	
206	4-931-468-01	SHAFT (PRESS FITTING)	
207	4-931-490-01	LEVER (LINK)	
208	4-931-460-01	ARM (SLIDER)	
209	3-549-810-00	SPRING, TENSION	
210	4-931-492-01	SLIDER (CAM)	

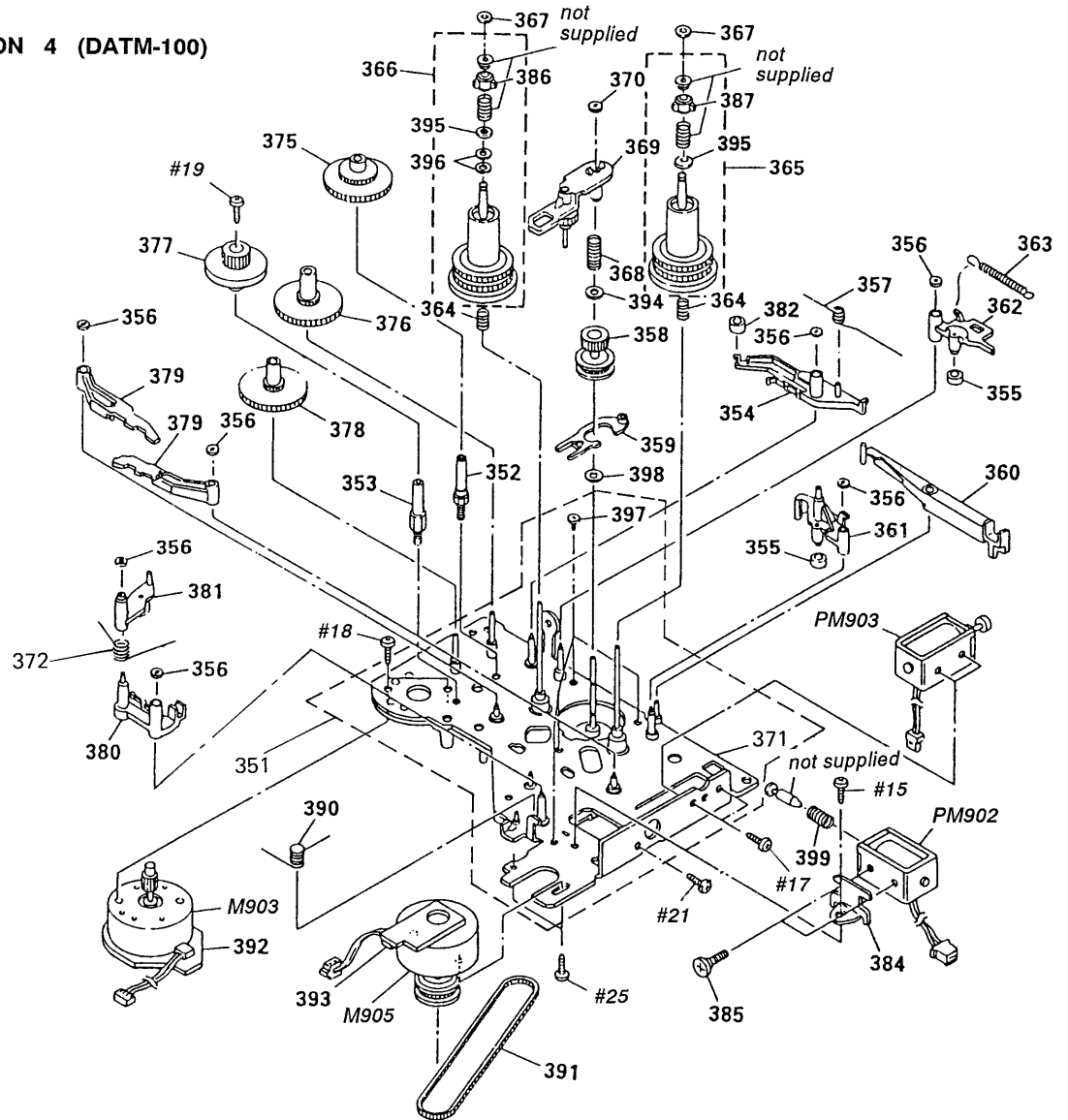
Ref. No.	Part No.	Description	Remark
* 212	X-4919-023-1	PLATE ASSY, SIDE	
213	9-911-863-XX	SPACER	
214	3-537-215-00	SPRING, COMPRESSION	
* 215	1-639-646-11	MOTOR BOARD	
* 216	1-639-647-11	SW (IN) BOARD	
* 217	1-639-648-11	SW (OUT) BOARD	
218	4-936-626-01	SHAFT (ARM PRESS FITTING)	
M901	A-2003-448-A	MOTOR ASSY	
S11	1-572-247-11	SWITCH, SLIDE	
S12	1-570-975-11	SWITCH, SLIDE	

(6) MD SECTION 3 (DATM-100)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 301	X-3366-740-1	CHASSIS ASSY, MECHANICAL		320	3-384-243-01	GUIDE (T3), ROLLER	
* 302	3-368-390-01	BASE (#1 GUIDE)		* 321	1-639-305-11	TOP END SENSOR BOARD	
303	3-368-409-01	JOINT (#1 GUIDE)		322	3-389-294-01	SPRING (T2 300G), COMPRESSION	
304	3-368-413-01	SCREW (1.4), +P TAPPING (B)		* 323	1-639-301-11	RGN SW BOARD	
* 305	3-368-442-01	CATCHER		* 324	1-639-306-11	CAM SLIDER BOARD	
306	3-368-399-01	GUIDE, ROLLER		325	8-848-567-11	DRUM ASSY DOU-03A	
307	3-368-428-01	SHAFT (ROLLER GUIDE)		326	9-911-835-XX	SPACER	
308	3-368-436-01	SPRING (#1 GUIDE), COMPRESSION		* 327	A-2001-587-A	RF COMPLETE ASSY	
309	X-3337-643-1	GUIDE (RIC) ASSY, ROLLER		328	3-368-459-01	LEVER (CLEANER)	
310	X-3363-025-1	PINCH LEVER ASSY		329	3-353-812-01	COLLAR (ROLLER)	
311	3-315-384-01	WASHER, STOPPER		330	3-352-518-01	ROLLER (CLEANER)	
312	3-368-398-01	BUSHING		* 331	A-2056-488-A	DRUM DRIVE BOARD, COMPLETE	
* 313	A-2003-708-A	SLIDER ASSY, CAM		332	3-337-626-01	CAP, PINCH ROLLER	
314	3-372-761-01	SCREW (M1.7X4), TAPPING		333	X-3337-655-1	ROLLER (CLEANER) ASSY	
315	3-368-427-01	LEVER (LOAD-T)		334	3-321-813-01	WASHER, COTTER POLYETHYLENE	
316	3-368-426-01	LEVER (LOAD-S)		336	3-337-677-01	FLANGE	
317	3-368-444-01	GEAR (LOAD-T)		337	3-337-676-01	GUIDE, FIXED	
318	3-368-443-01	GEAR (LOAD-S)		338	3-337-605-01	NUT, ADJUSTMENT	
319	3-368-415-01	SHAFT (LOAD LEVER JOINT)		M902	8-835-361-01	MOTOR, DC U-17B	

(7) MD SECTION 4 (DATM-100)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 351	A-2003-857-A	CHASSIS (REEL) ASSY		377	3-368-403-01	GEAR (CAM DRIVE D)	
352	3-368-420-04	SHAFT (CAM DRIVE GEAR C)		378	3-368-402-01	GEAR (CAM DRIVE A, B)	
353	3-368-419-04	SHAFT (CAM DRIVE GEAR D)		379	X-3363-024-1	LEVER (BT) ASSY	
* 354	3-368-455-01	LEVER (GEAR LOCK)		* 380	3-368-451-01	LEVER (BT SOLENOID)	
355	3-368-418-01	TUBE (BREAK)		* 381	3-368-454-01	LEVER (BT SELECTION)	
356	3-368-398-01	BUSHING		382	3-377-332-01	TUBE (BREAK2)	
357	3-368-430-01	SPRING (GEAR LOCK)		* 384	3-368-416-01	BRACKET (B. T SOLENOID)	
358	X-3363-022-1	GEAR (REEL DRIVE) ASSY		385	3-368-423-01	SCREW (M2. 6), STEP	
* 359	3-368-411-01	SLIDER (REEL LOCK)		386	2-623-736-01	CLAW (C) (LEFT), REEL	
* 360	3-368-453-01	LEVER (BRAKE SOLENOID)		387	2-623-752-01	CLAW (C) (RIGHT), REEL	
* 361	3-368-447-01	LEVER (BRAKE S)		390	3-368-431-01	SPRING (B. T SOLENOID)	
* 362	3-368-446-01	LEVER (BRAKE T)		391	3-368-417-01	BELT (170TN10-1. 0T), TIMING	
363	3-368-438-01	SPRING (BREAK), TENSION		* 392	1-639-303-11	CAM MOTOR BOARD	
364	3-905-586-01	SPRING (FF/REW), COMPRESSION		* 393	1-639-304-11	REEL MOTOR BOARD	
365	A-2003-709-A	TABLE (S) ASSY, REEL		394	3-738-212-21	RETAINER, THRUST, REEL TABLE	
366	A-2003-710-B	TABLE (T) ASSY, REEL		395	3-701-443-11	WASHER	
367	3-578-224-00	WASHER		396	3-701-443-21	WASHER, 5 DIA.	
368	3-368-435-01	SPRING (FR LEVER), COMPRESSION		397	2-623-756-01	SCREW, (B1. 7X3), TAPPING	
369	X-3364-581-3	LEVER (F/R) ASSY		398	3-701-436-01	WASHER, 1. 6	
370	3-315-384-31	WASHER, STOPPER		399	3-370-480-01	SPRING (BT PLUNGER), COMPRESSION	
* 371	X-3366-312-1	CHASSIS ASSY, REEL		M903	X-3363-109-1	MOTOR ASSY (CAM)	
372	3-383-478-01	SPRING (B, T LEVER RETURN)		M905	X-3363-110-2	MOTOR ASSY (REEL)	
375	3-368-421-01	GEAR (CAM DRIVE C)		PM902	1-454-536-11	SOLENOID, PLUNGER	
376	3-373-039-01	GEAR (CAM DRIVE B)		PM903	1-454-535-11	SOLENOID, PLUNGER	

SECTION 6 ELECTRICAL PARTS LIST

BALANCE VOL

BATTERY

CAM MOTOR

CAM SLIDER

CONTROL SW

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: μ , for example:

uA .. μ A. uPA.. μ PA.

uPB.. μ PB. uPC.. μ PC. uPD.. μ PD.

● CAPACITORS

uF: μ F

● COILS

uH: μ H

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

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

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
*	1-639-326-11	BALANCE VOL BOARD ***** < CONNECTOR >	
* CN102	1-564-507-11	PLUG, CONNECTOR 4P < RESISTOR >	
R101	1-259-462-11	CARBON 27K 5% 1/6W	
R201	1-259-462-11	CARBON 27K 5% 1/6W	
		< VARIABLE RESISTOR >	
RV101	1-238-687-11	RES, VAR, CARBON 50K/50K *****	
*	1-645-009-11	BATTERY BOARD ***** < BATTERY >	
Δ BT301	1-528-229-11	BATTERY, LITHIUM CR-2450 < CONNECTOR >	
* CNP559	1-573-299-11	CONNECTOR, BOARD TO BOARD 10P *****	
*	1-639-303-11	CAM MOTOR BOARD ***** < CAPACITOR >	
C06	1-163-077-00	CERAMIC CHIP 0.1uF 10% 25V *****	
*	1-639-306-11	CAM SLIDER BOARD ***** < JUMPER RESISTOR >	
JW04	1-216-296-00	METAL CHIP 0 5% 1/8W	
JW05	1-216-296-00	METAL CHIP 0 5% 1/8W	

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
SW1	1-570-953-11	SWITCH, PUSH (1 KEY) (STOP DET)	
SW2	1-570-953-11	SWITCH, PUSH (1 KEY) (FWD DET) *****	
*	A-2006-806-A	CONTROL SW BOARD, COMPLETE *****	
	9-911-839-XX	CUSHION	
*	4-922-523-01	HOLDER (RIGHT)	
*	4-922-524-01	HOLDER (LEFT)	
		< CAPACITOR >	
C701	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C702	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C703	1-124-584-00	ELECT 100uF 20% 10V	
C704	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C705	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C706	1-161-379-00	CERAMIC 0.01uF 20% 25V	
		< CONNECTOR >	
CN751	1-568-853-11	SOCKET, CONNECTOR 10P	
CN752	1-568-849-11	SOCKET, CONNECTOR 6P	
		< COMPOSITION CIRCUIT BLOCK >	
CP701	1-233-140-11	COMPOSITION CIRCUIT BLOCK	
CP702	1-233-140-11	COMPOSITION CIRCUIT BLOCK	
CP703	1-233-140-11	COMPOSITION CIRCUIT BLOCK	
		< FILTER >	
FL701	1-519-672-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC701	8-752-832-73	IC CXP5058H-658Q	
IC702	8-759-995-09	IC MSM6338RS	
IC703	8-752-330-59	IC CXK1011P	

CONTROL SW

DRUM DRIVE

Ref. No.	Part No.	Description	Remark
< TRANSISTOR >			
Q701	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q702	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q703	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q704	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q705	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q706	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q707	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q708	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q709	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q710	8-729-620-05	TRANSISTOR 2SC2603-EF	
< RESISTOR >			
R701	1-249-441-11	CARBON 100K 5% 1/4W	
R702	1-249-441-11	CARBON 100K 5% 1/4W	
R703	1-249-441-11	CARBON 100K 5% 1/4W	
R704	1-249-441-11	CARBON 100K 5% 1/4W	
R705	1-249-441-11	CARBON 100K 5% 1/4W	
R706	1-249-441-11	CARBON 100K 5% 1/4W	
R707	1-249-441-11	CARBON 100K 5% 1/4W	
R708	1-249-441-11	CARBON 100K 5% 1/4W	
R709	1-249-441-11	CARBON 100K 5% 1/4W	
R710	1-249-441-11	CARBON 100K 5% 1/4W	
R715	1-249-429-11	CARBON 10K 5% 1/4W	
R716	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R720	1-249-429-11	CARBON 10K 5% 1/4W	
R721	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R725	1-249-429-11	CARBON 10K 5% 1/4W	
R726	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R730	1-249-429-11	CARBON 10K 5% 1/4W	
R733	1-249-429-11	CARBON 10K 5% 1/4W	
R734	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R735	1-249-424-11	CARBON 3.9K 5% 1/4W	F
R736	1-249-429-11	CARBON 10K 5% 1/4W	
R737	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R738	1-249-424-11	CARBON 3.9K 5% 1/4W	F
R739	1-249-428-11	CARBON 8.2K 5% 1/4W	F
R740	1-249-434-11	CARBON 27K 5% 1/4W	
R741	1-249-429-11	CARBON 10K 5% 1/4W	
R742	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R743	1-249-424-11	CARBON 3.9K 5% 1/4W	F
R744	1-249-428-11	CARBON 8.2K 5% 1/4W	F
R745	1-249-434-11	CARBON 27K 5% 1/4W	
R746	1-249-429-11	CARBON 10K 5% 1/4W	
R747	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R751	1-249-437-11	CARBON 47K 5% 1/4W	
R752	1-249-437-11	CARBON 47K 5% 1/4W	
R753	1-249-437-11	CARBON 47K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R754	1-249-437-11	CARBON 47K 5% 1/4W	
R755	1-249-437-11	CARBON 47K 5% 1/4W	
R756	1-249-437-11	CARBON 47K 5% 1/4W	
R757	1-249-437-11	CARBON 47K 5% 1/4W	
R758	1-249-437-11	CARBON 47K 5% 1/4W	
R759	1-249-437-11	CARBON 47K 5% 1/4W	
R760	1-249-437-11	CARBON 47K 5% 1/4W	
R761	1-249-437-11	CARBON 47K 5% 1/4W	
R762	1-249-437-11	CARBON 47K 5% 1/4W	
R763	1-249-437-11	CARBON 47K 5% 1/4W	
R764	1-249-437-11	CARBON 47K 5% 1/4W	
R798	1-249-427-11	CARBON 6.8K 5% 1/4W	F
< SWITCH >			
S705	1-554-937-11	SWITCH, KEY BOARD (SKIP ID WRITE)	
S706	1-554-937-11	SWITCH, KEY BOARD (SKIP ID ERASE)	
S710	1-554-937-11	SWITCH, KEY BOARD (START ID WRITE)	
S711	1-554-937-11	SWITCH, KEY BOARD (START ID ERASE)	
S715	1-554-937-11	SWITCH, KEY BOARD (START ID AUTO)	
S716	1-554-937-11	SWITCH, KEY BOARD (START ID RENUMBER)	
S724	1-554-937-11	SWITCH, KEY BOARD (COUNTER RESET)	
S725	1-554-937-11	SWITCH, KEY BOARD (COUNTER MODE)	
S726	1-554-937-11	SWITCH, KEY BOARD (REW ◀)	
S727	1-554-937-11	SWITCH, KEY BOARD (FF ▶)	
S728	1-554-937-11	SWITCH, KEY BOARD (REC ○)	
S729	1-554-937-11	SWITCH, KEY BOARD (PAUSE)	
S730	1-554-937-11	SWITCH, KEY BOARD (REC MUTE ●)	
S731	1-554-937-11	SWITCH, KEY BOARD (OPEN/CLOSE ⊞)	
S732	1-554-937-11	SWITCH, KEY BOARD (STOP ■)	
S733	1-554-937-11	SWITCH, KEY BOARD (PLAT ▶)	
S734	1-554-937-11	SWITCH, KEY BOARD (AMS Ⓚ)	
S735	1-554-937-11	SWITCH, KEY BOARD (AMS Ⓚ)	
S736	1-554-937-11	SWITCH, KEY BOARD (END ID WRITE)	
S737	1-554-937-11	SWITCH, KEY BOARD (END ID ERASE)	
< VIBRATOR >			
X701	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)	

*	A-2056-488-A	DRUM DRIVE BOARD, COMPLETE	

*	3-343-491-01	HOLDER (S SENSOR B)	
*	4-870-539-00	PLATE, GROUND	
< CAPACITOR >			
C01	1-126-176-11	ELECT 220uF 20% 10V	
C02	1-126-157-11	ELECT 10uF 20% 16V	
C03	1-124-257-00	ELECT 2.2uF 20% 50V	
C04	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	

DRUM DRIVE

HEADPHONE

Ref. No.	Part No.	Description	Remark
C05	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C08	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
C21	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
C31	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
C32	1-164-232-11	CERAMIC CHIP 0.01uF	50V
< CONNECTOR >			
* CN01	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
* CN02	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
* CN03	1-564-338-00	PIN, CONNECTOR 4P	
* CN04	1-564-336-00	PIN, CONNECTOR 2P	
* CN05	1-564-336-61	PIN, CONNECTOR 2P	
* CN06	1-564-339-00	PIN, CONNECTOR 5P	
CN07	1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P	
* CN08	1-568-872-11	SOCKET, CONNECTOR 30P	
* CN09	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
* CN10	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
< IC >			
IC01	8-759-107-68	IC CX20115A	
IC02	8-759-502-80	IC LM358M	
IC03	8-759-502-80	IC LM358M	
< JUMPER RESISTOR >			
JW06	1-216-296-00	METAL CHIP 0 5%	1/8W
JW07	1-216-296-00	METAL CHIP 0 5%	1/8W
JW08	1-216-296-00	METAL CHIP 0 5%	1/8W
JW09	1-216-296-00	METAL CHIP 0 5%	1/8W
JW10	1-216-296-00	METAL CHIP 0 5%	1/8W
JW11	1-216-296-00	METAL CHIP 0 5%	1/8W
JW12	1-216-296-00	METAL CHIP 0 5%	1/8W
JW13	1-216-296-00	METAL CHIP 0 5%	1/8W
JW14	1-216-296-00	METAL CHIP 0 5%	1/8W
JW15	1-216-296-00	METAL CHIP 0 5%	1/8W
JW16	1-216-296-00	METAL CHIP 0 5%	1/8W
JW17	1-216-296-00	METAL CHIP 0 5%	1/8W
JW18	1-216-296-00	METAL CHIP 0 5%	1/8W
JW19	1-216-296-00	METAL CHIP 0 5%	1/8W
JW20	1-216-296-00	METAL CHIP 0 5%	1/8W
JW21	1-216-296-00	METAL CHIP 0 5%	1/8W
JW22	1-216-296-00	METAL CHIP 0 5%	1/8W
JW23	1-216-296-00	METAL CHIP 0 5%	1/8W
JW24	1-216-296-00	METAL CHIP 0 5%	1/8W
JW25	1-216-296-00	METAL CHIP 0 5%	1/8W
JW26	1-216-296-00	METAL CHIP 0 5%	1/8W
JW27	1-216-296-00	METAL CHIP 0 5%	1/8W
JW28	1-216-296-00	METAL CHIP 0 5%	1/8W
JW29	1-216-296-00	METAL CHIP 0 5%	1/8W
JW30	1-216-296-00	METAL CHIP 0 5%	1/8W

Ref. No.	Part No.	Description	Remark
< PHOTO INTERRUPTER >			
PH01	8-719-939-23	DIODE GP-2S09-C (TAKE UP REEL)	
PH02	8-719-939-23	DIODE GP-2S09-C (SUPPLY REEL)	
< TRANSISTOR >			
Q01	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q02	8-729-101-07	TRANSISTOR 2SB798-DL	
< RESISTOR >			
R01	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
R02	1-216-075-00	METAL CHIP 12K 5%	1/10W
R03	1-216-029-00	METAL CHIP 150 5%	1/10W
R04	1-216-059-00	METAL CHIP 2.7K 5%	1/10W
R05	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
R06	1-216-085-00	METAL CHIP 33K 5%	1/10W
R07	1-216-025-00	METAL CHIP 100 5%	1/10W
R08	1-216-049-00	METAL CHIP 1K 5%	1/10W
R09	1-216-073-00	METAL CHIP 10K 5%	1/10W
R10	1-216-073-00	METAL CHIP 10K 5%	1/10W
R11	1-216-073-00	METAL CHIP 10K 5%	1/10W
R12	1-216-089-00	METAL CHIP 47K 5%	1/10W
R13	1-216-073-00	METAL CHIP 10K 5%	1/10W
R14	1-216-037-00	METAL CHIP 330 5%	1/10W
R21	1-216-073-00	METAL CHIP 10K 5%	1/10W
R22	1-216-081-00	METAL CHIP 22K 5%	1/10W
R23	1-216-077-00	METAL CHIP 15K 5%	1/10W
R24	1-216-067-00	METAL CHIP 5.6K 5%	1/10W
R25	1-216-103-00	METAL CHIP 180K 5%	1/10W
R26	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
R31	1-216-073-00	METAL CHIP 10K 5%	1/10W
R32	1-216-081-00	METAL CHIP 22K 5%	1/10W
R35	1-216-103-00	METAL CHIP 180K 5%	1/10W
R36	1-216-065-00	METAL CHIP 4.7K 5%	1/10W

*	1-639-327-11	HEADPHONE BOARD	

< CAPACITOR >			
C180	1-162-290-31	CERAMIC 470PF	10% 50V
C181	1-126-059-11	ELECT 10uF	20% 63V
C280	1-162-290-31	CERAMIC 470PF	10% 50V
C281	1-126-059-11	ELECT 10uF	20% 63V
C451	1-126-024-11	ELECT 220uF	20% 25V
C452	1-126-024-11	ELECT 220uF	20% 25V

HEADPHONE

INPUT SW

MAIN

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D401	8-719-200-82	DIODE 11ES2	
D402	8-719-200-82	DIODE 11ES2	
		< IC >	
IC401	8-759-981-96	IC RC4560D	
		< JACK >	
J161	1-565-327-11	JACK, LARGE TYPE 1P	
		< RESISTOR >	
R128	1-259-468-11	CARBON 47K 5% 1/6W	
R129	1-259-444-11	CARBON 4.7K 5% 1/6W	
R130	1-259-468-11	CARBON 47K 5% 1/6W	
R131	1-259-412-11	CARBON 220 5% 1/6W	
R228	1-259-468-11	CARBON 47K 5% 1/6W	
R229	1-259-444-11	CARBON 4.7K 5% 1/6W	
R230	1-259-468-11	CARBON 47K 5% 1/6W	
R231	1-259-412-11	CARBON 220 5% 1/6W	
△R460	1-212-857-00	FUSIBLE 10 5% 1/4W F	
△R461	1-212-857-00	FUSIBLE 10 5% 1/4W F	
		< VARIABLE RESISTOR >	
RV103	1-241-537-11	RES, VAR, CARBON 20K/20K	

*	1-639-328-11	INPUT SW BOARD	

		< CONNECTOR >	
* CN772	1-564-336-00	PIN, CONNECTOR 2P	
		< RESISTOR >	
R713	1-249-428-11	CARBON 8.2K 5% 1/4W F	
R714	1-249-434-11	CARBON 27K 5% 1/4W	
		< SWITCH >	
S702	1-572-758-11	SWITCH, ROTARY (INPUT)	

*	A-2007-067-A	MAIN BOARD, COMPLETE	

		< CAPACITOR >	
C102	1-126-233-11	ELECT 22uF 20% 50V	
C103	1-136-153-00	FILM 0.01uF 5% 50V	
C104	1-136-165-00	FILM 0.1uF 5% 50V	
C105	1-136-165-00	FILM 0.1uF 5% 50V	

Ref. No.	Part No.	Description	Remark
C106	1-136-153-00	FILM 0.01uF 5% 50V	
C110	1-136-439-11	FILM 330PF 5% 630V	
C111	1-136-439-11	FILM 330PF 5% 630V	
C112	1-136-437-11	FILM 220PF 5% 630V	
C113	1-136-437-11	FILM 220PF 5% 630V	
C114	1-136-433-11	FILM 100PF 5% 630V	
C115	1-136-433-11	FILM 100PF 5% 630V	
C116	1-130-475-00	MYLAR 0.0022uF 5% 50V	
C117	1-130-472-00	MYLAR 0.0012uF 5% 50V	
C118	1-130-479-00	MYLAR 0.0047uF 5% 50V	
C120	1-126-023-11	ELECT 100uF 20% 25V	
C202	1-126-233-11	ELECT 22uF 20% 50V	
C203	1-136-153-00	FILM 0.01uF 5% 50V	
C204	1-136-165-00	FILM 0.1uF 5% 50V	
C205	1-136-165-00	FILM 0.1uF 5% 50V	
C206	1-136-153-00	FILM 0.01uF 5% 50V	
C210	1-136-439-11	FILM 330PF 5% 630V	
C211	1-136-439-11	FILM 330PF 5% 630V	
C212	1-136-437-11	FILM 220PF 5% 630V	
C213	1-136-437-11	FILM 220PF 5% 630V	
C214	1-136-433-11	FILM 100PF 5% 630V	
C215	1-136-433-11	FILM 100PF 5% 630V	
C216	1-130-475-00	MYLAR 0.0022uF 5% 50V	
C217	1-130-472-00	MYLAR 0.0012uF 5% 50V	
C218	1-130-479-00	MYLAR 0.0047uF 5% 50V	
C220	1-126-023-11	ELECT 100uF 20% 25V	
C300	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C301	1-130-834-00	FILM 1uF 10% 63V	
C302	1-164-159-11	CERAMIC 0.1uF 5% 50V	
C303	1-162-211-31	CERAMIC 33PF 5% 50V	
C304	1-126-059-11	ELECT 10uF 20% 63V	
C305	1-136-153-00	FILM 0.01uF 5% 50V	
C306	1-164-159-11	CERAMIC 0.1uF 5% 50V	
C307	1-126-022-11	ELECT 47uF 20% 10V	
C309	1-124-983-11	ELECT 330uF 20% 6.3V	
C310	1-130-834-00	FILM 1uF 10% 63V	
C311	1-162-279-31	CERAMIC 75PF 10% 50V	
C312	1-126-022-11	ELECT 47uF 20% 10V	
C313	1-126-023-11	ELECT 100uF 20% 25V	
C314	1-162-199-31	CERAMIC 10PF 5% 50V	
C315	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C316	1-162-199-31	CERAMIC 10PF 5% 50V	
C317	1-162-201-31	CERAMIC 12PF 5% 50V	
C318	1-162-201-31	CERAMIC 12PF 5% 50V	
C319	1-164-159-11	CERAMIC 0.1uF 5% 50V	
C320	1-130-834-00	FILM 1uF 10% 63V	
C321	1-136-165-00	FILM 0.1uF 5% 50V	
C322	1-164-159-11	CERAMIC 0.1uF 5% 50V	

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

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MAIN

Ref. No.	Part No.	Description	Remark
C323	1-162-206-31	CERAMIC	20PF 5% 50V
C324	1-164-159-11	CERAMIC	0.1uF 50V
C325	1-126-022-11	ELECT	47uF 20% 10V
C326	1-162-201-31	CERAMIC	12PF 5% 50V
C327	1-162-201-31	CERAMIC	12PF 5% 50V
C328	1-124-903-11	ELECT	1uF 20% 50V
C329	1-162-294-31	CERAMIC	0.001uF 10% 50V
C330	1-162-294-31	CERAMIC	0.001uF 10% 50V
C331	1-162-294-31	CERAMIC	0.001uF 10% 50V
C332	1-136-153-00	FILM	0.01uF 5% 50V
C333	1-130-473-00	MYLAR	0.0015uF 5% 50V
C334	1-136-158-00	FILM	0.027uF 5% 50V
C335	1-136-153-00	FILM	0.01uF 5% 50V
C336	1-130-473-00	MYLAR	0.0015uF 5% 50V
C337	1-136-158-00	FILM	0.027uF 5% 50V
C338	1-162-306-11	CERAMIC	0.01uF 20% 16V
C339	1-162-306-11	CERAMIC	0.01uF 20% 16V
C340	1-162-290-31	CERAMIC	470PF 10% 50V
C341	1-162-306-11	CERAMIC	0.01uF 20% 16V
C342	1-126-059-11	ELECT	10uF 20% 63V
C343	1-162-306-11	CERAMIC	0.01uF 20% 16V
C344	1-162-306-11	CERAMIC	0.01uF 20% 16V
C345	1-162-209-31	CERAMIC	27PF 5% 50V
C346	1-162-205-31	CERAMIC	18PF 5% 50V
C347	1-162-294-31	CERAMIC	0.001uF 10% 50V
C348	1-126-059-11	ELECT	10uF 20% 63V
C362	1-126-043-11	ELECT	0.47uF 20% 50V
C363	1-126-059-11	ELECT	10uF 20% 63V
C399	1-126-058-11	ELECT	4.7uF 20% 25V
C401	1-136-165-00	FILM	0.1uF 5% 50V
C402	1-136-165-00	FILM	0.1uF 5% 50V
C405	1-136-165-00	FILM	0.1uF 5% 50V
C406	1-126-058-11	ELECT	4.7uF 20% 63V
C407	1-136-165-00	FILM	0.1uF 5% 50V
C408	1-136-165-00	FILM	0.1uF 5% 50V
C409	1-126-104-11	ELECT	470uF 20% 35V
C410	1-136-165-00	FILM	0.1uF 5% 50V
C411	1-126-104-11	ELECT	470uF 20% 35V
C412	1-136-165-00	FILM	0.1uF 5% 50V
C413	1-126-104-11	ELECT	470uF 20% 35V
C414	1-126-104-11	ELECT	470uF 20% 35V
C415	1-136-165-00	FILM	0.1uF 5% 50V
C416	1-136-165-00	FILM	0.1uF 5% 50V
C417	1-164-159-11	CERAMIC	0.1uF 50V
C418	1-136-165-00	FILM	0.1uF 5% 50V
C419	1-136-165-00	FILM	0.1uF 5% 50V
C420	1-136-165-00	FILM	0.1uF 5% 50V
C421	1-136-165-00	FILM	0.1uF 5% 50V

Ref. No.	Part No.	Description	Remark
C422	1-126-023-11	ELECT	100uF 20% 25V
C423	1-126-023-11	ELECT	100uF 20% 25V
C425	1-126-104-11	ELECT	470uF 20% 35V
C426	1-136-165-00	FILM	0.1uF 5% 50V
C427	1-136-165-00	FILM	0.1uF 5% 50V
C428	1-136-165-00	FILM	0.1uF 5% 50V
C429	1-136-165-00	FILM	0.1uF 5% 50V
C430	1-126-059-11	ELECT	10uF 20% 63V
C431	1-126-059-11	ELECT	10uF 20% 63V
C432	1-124-273-00	ELECT	3.3uF 20% 50V
C435	1-126-023-11	ELECT	100uF 20% 25V
C436	1-126-023-11	ELECT	100uF 20% 25V
C437	1-124-983-11	ELECT	330uF 20% 6.3V
C438	1-124-983-11	ELECT	330uF 20% 6.3V
C439	1-164-159-11	CERAMIC	0.1uF 50V
C440	1-124-983-11	ELECT	330uF 20% 6.3V
C441	1-164-159-11	CERAMIC	0.1uF 50V
C442	1-164-159-11	CERAMIC	0.1uF 50V
C444	1-164-159-11	CERAMIC	0.1uF 50V
C446	1-164-159-11	CERAMIC	0.1uF 50V
C447	1-164-159-11	CERAMIC	0.1uF 50V
C448	1-164-159-11	CERAMIC	0.1uF 50V
C449	1-164-159-11	CERAMIC	0.1uF 50V
C450	1-136-165-00	FILM	0.1uF 5% 50V
C451	1-136-165-00	FILM	0.1uF 5% 50V
C460	1-164-159-11	CERAMIC	0.1uF 50V
C461	1-164-159-11	CERAMIC	0.1uF 50V
C462	1-164-159-11	CERAMIC	0.1uF 50V
C470	1-164-159-11	CERAMIC	0.1uF 50V
C471	1-164-159-11	CERAMIC	0.1uF 50V
C472	1-164-159-11	CERAMIC	0.1uF 50V
C473	1-164-159-11	CERAMIC	0.1uF 50V
C498	1-136-158-00	FILM	0.027uF 5% 50V
C499	1-162-290-31	CERAMIC	470PF 10% 50V
C501	1-136-165-00	FILM	0.1uF 5% 50V
C503	1-162-199-31	CERAMIC	10PF 5% 50V
C504	1-126-023-11	ELECT	100uF 20% 25V
C505	1-162-211-31	CERAMIC	33PF 5% 50V
C506	1-162-199-31	CERAMIC	10PF 5% 50V
C507	1-136-153-00	FILM	0.01uF 5% 50V
C508	1-136-158-00	FILM	0.027uF 5% 50V
C509	1-126-023-11	ELECT	100uF 20% 25V
C511	1-136-165-00	FILM	0.1uF 5% 50V
C512	1-164-159-11	CERAMIC	0.1uF 50V
C513	1-126-023-11	ELECT	100uF 20% 25V
C514	1-136-165-00	FILM	0.1uF 5% 50V
C515	1-136-169-00	FILM	0.22uF 5% 50V
C516	1-136-153-00	FILM	0.01uF 5% 50V
C517	1-164-159-11	CERAMIC	0.1uF 50V

Ref. No.	Part No.	Description	Remark
C555	1-162-179-11	CERAMIC 0.1uF	50V
< CONNECTOR >			
* CN104	1-564-507-11	PLUG, CONNECTOR 4P	
* CN107	1-564-509-11	PLUG, CONNECTOR 6P	
* CN301	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
* CN308	1-564-339-00	PIN, CONNECTOR 5P	
* CN333	1-564-514-11	PLUG, CONNECTOR 11P	
* CN501	1-564-716-11	PIN, CONNECTOR (SMALL TYPE) 14P	
* CN508	1-568-933-11	SOCKET, CONNECTOR 30P	
CN559	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
* CN571	1-568-829-11	SOCKET, CONNECTOR 10P	
* CN572	1-568-825-11	SOCKET, CONNECTOR 6P	
< DIODE >			
D101	8-719-107-94	DIODE 1SS202-1	
D102	8-719-107-94	DIODE 1SS202-1	
D201	8-719-107-94	DIODE 1SS202-1	
D202	8-719-107-94	DIODE 1SS202-1	
D306	8-719-200-82	DIODE 11ES2	
D307	8-719-107-94	DIODE 1SS202-1	
D308	8-719-107-94	DIODE 1SS202-1	
D314	8-719-200-82	DIODE 11ES2	
D321	8-719-107-94	DIODE 1SS202-1	
D322	8-719-911-06	DIODE 1SS106	
D323	8-719-107-94	DIODE 1SS202-1	
D324	8-719-911-06	DIODE 1SS106	
D350	8-719-107-94	DIODE 1SS202-1	
D351	8-719-107-94	DIODE 1SS202-1	
D403	8-719-107-94	DIODE 1SS202-1	
D404	8-719-210-21	DIODE 11EQS04	
D501	8-719-918-45	DIODE KV1310	
D503	8-719-903-27	DIODE 1SS168	
< IC >			
IC101	8-759-602-83	IC M5238P	
IC201	8-759-602-83	IC M5238P	
IC301	8-759-917-18	IC SN74HCU04N	
IC302	8-759-916-12	IC TC74HC00P	
IC303	8-759-917-18	IC SN74HCU04N	
IC304	8-759-135-80	IC uPC358C	
IC307	8-752-339-43	IC CXD2601AQ	
IC308	8-759-906-24	IC SN74LS624N	
IC310	8-752-350-81	IC CXK58257AM-12L	
IC311	8-752-844-26	IC CXP80524-082Q	
IC312	8-752-843-12	IC CXP80524-080Q	
IC316	8-759-135-80	IC uPC358C	
IC317	8-759-135-80	IC uPC358C	
IC318	8-759-135-80	IC uPC358C	

Ref. No.	Part No.	Description	Remark
IC319	8-759-633-65	IC M54641L	
IC320	8-759-633-65	IC M54641L	
IC321	8-759-971-12	IC PST529E	
IC322	8-759-231-53	IC M5F7805	
IC330	8-759-984-34	IC RP5C62	
IC331	8-749-921-11	IC GP1F32R	
IC332	8-749-921-12	IC GP1F32T	
IC333	8-759-916-20	IC SN74HC14AN	
IC354	8-759-900-72	IC NE5532P	
IC355	8-759-900-72	IC NE5532P	
IC356	8-759-145-58	IC uPC4558C	
IC357	8-759-231-53	IC M5F7805	
IC358	8-759-245-79	IC M5F7905	
IC359	8-759-504-36	IC AK5339	
IC360	8-759-504-50	IC LF412CN/SL161841	
IC362	8-752-351-20	IC CXD2561BM-1	
IC363	8-752-342-65	IC CXD2560M	
IC374	8-759-231-53	IC M5F7805	
IC375	8-759-900-72	IC NE5532P	
IC376	8-759-900-72	IC NE5532P	
IC431	8-759-925-78	IC SN74HC10ANS	
IC432	8-759-995-76	IC PST529C	
IC501	8-759-231-55	IC TA7808S	
IC502	8-759-233-64	IC TC74HCU04AF	
IC503	8-759-242-57	IC TC74HC4020AF	
IC504	8-759-250-81	IC TC5081AP	
< JACK >			
J101	1-568-751-61	JACK, PIN (2P SHIELD TYPE) (LINE IN)	
J102	1-568-751-61	JACK, PIN (2P SHIELD TYPE) (LINE OUT)	
J181	1-565-406-41	JACK, PIN 1P (COAXIAL OUT)	
J191	1-568-750-21	JACK, PIN (1P SHIELD TYPE) (COAXIAL IN)	
< COIL >			
L301	1-410-509-11	INDUCTOR 10uH	
L302	1-410-498-11	INDUCTOR 1.2uH	
L303	1-410-509-11	INDUCTOR 10uH	
L305	1-410-515-11	INDUCTOR 33uH	
L306	1-410-509-11	INDUCTOR 10uH	
L310	1-410-953-11	INDUCTOR, SMALL TYPE	
L501	1-424-604-11	COIL	
L502	1-410-324-11	INDUCTOR 4.7uH	
L503	1-410-324-11	INDUCTOR 4.7uH	
L504	1-410-324-11	INDUCTOR 4.7uH	
L505	1-424-604-11	COIL	
L510	1-410-397-21	FERRITE BEAD INDUCTOR	

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
< TRANSISTOR >							
Q301	8-729-140-93	TRANSISTOR 2SB733-34		R112	1-249-425-11	CARBON 4.7K 5%	1/4W F
Q302	8-729-801-93	TRANSISTOR 2SD1387		R113	1-249-425-11	CARBON 4.7K 5%	1/4W F
Q311	8-729-900-80	TRANSISTOR DTC114ES		R114	1-249-425-11	CARBON 4.7K 5%	1/4W F
Q312	8-729-141-26	TRANSISTOR 2SC3622A-LK		R115	1-249-430-11	CARBON 12K 5%	1/4W
Q313	8-729-900-61	TRANSISTOR DTA114ES		R116	1-249-430-11	CARBON 12K 5%	1/4W
Q318	8-729-900-80	TRANSISTOR DTC114ES		R117	1-249-426-11	CARBON 5.6K 5%	1/4W
Q319	8-729-900-80	TRANSISTOR DTC114ES		R118	1-249-426-11	CARBON 5.6K 5%	1/4W
Q320	8-729-140-93	TRANSISTOR 2SB733-34		R119	1-249-426-11	CARBON 5.6K 5%	1/4W
Q321	8-729-601-50	TRANSISTOR 2SC3242-E		R120	1-249-426-11	CARBON 5.6K 5%	1/4W
Q333	8-729-141-83	TRANSISTOR 2SA473		R121	1-249-405-11	CARBON 100 5%	1/4W F
Q334	8-729-119-76	TRANSISTOR 2SA1175-HFE		R122	1-249-419-11	CARBON 1.5K 5%	1/4W F
Q335	8-729-620-05	TRANSISTOR 2SC2603-EF		R123	1-249-419-11	CARBON 1.5K 5%	1/4W F
Q336	8-729-140-93	TRANSISTOR 2SB733-34		R124	1-249-441-11	CARBON 100K 5%	1/4W
Q337	8-729-140-93	TRANSISTOR 2SB733-34		R125	1-249-409-11	CARBON 220 5%	1/4W F
Q338	8-729-601-50	TRANSISTOR 2SC3242-E		R126	1-249-429-11	CARBON 10K 5%	1/4W
Q339	8-729-601-50	TRANSISTOR 2SC3242-E		R127	1-249-405-11	CARBON 100 5%	1/4W F
Q340	8-729-620-05	TRANSISTOR 2SC2603-EF		R150	1-249-433-11	CARBON 22K 5%	1/4W
Q341	8-729-620-05	TRANSISTOR 2SC2603-EF		R151	1-259-882-11	CARBON 3.3M 5%	1/4W
Q342	8-729-209-15	TRANSISTOR 2SD2012		R152	1-259-882-11	CARBON 3.3M 5%	1/4W
Q343	8-729-119-76	TRANSISTOR 2SA1175-HFE		R153	1-247-806-11	CARBON 91 5%	1/4W
Q432	8-729-900-80	TRANSISTOR DTC114ES		R180	1-249-397-11	CARBON 22 5%	1/4W F
Q433	8-729-141-26	TRANSISTOR 2SC3622A-LK		R202	1-247-903-00	CARBON 1M 5%	1/4W
Q434	8-729-141-26	TRANSISTOR 2SC3622A-LK		R203	1-249-417-11	CARBON 1K 5%	1/4W F
Q435	8-729-900-61	TRANSISTOR DTA114ES		R204	1-249-433-11	CARBON 22K 5%	1/4W
Q436	8-729-900-80	TRANSISTOR DTC114ES		R205	1-249-435-11	CARBON 33K 5%	1/4W
Q437	8-729-900-61	TRANSISTOR DTA114ES		R206	1-249-403-11	CARBON 68 5%	1/4W F
Q438	8-729-900-80	TRANSISTOR DTC114ES		R207	1-247-854-11	CARBON 9.1K 5%	1/4W
Q439	8-729-900-80	TRANSISTOR DTC114ES		R208	1-247-854-11	CARBON 9.1K 5%	1/4W
Q440	8-729-620-05	TRANSISTOR 2SC2603-EF		R209	1-247-854-11	CARBON 9.1K 5%	1/4W
Q441	8-729-900-80	TRANSISTOR DTC114ES		R210	1-247-854-11	CARBON 9.1K 5%	1/4W
Q442	8-729-119-76	TRANSISTOR 2SA1175-HFE		R211	1-249-425-11	CARBON 4.7K 5%	1/4W F
Q499	8-729-900-80	TRANSISTOR DTC114ES		R212	1-249-425-11	CARBON 4.7K 5%	1/4W F
Q501	8-729-200-56	TRANSISTOR 2SK241-GR		R213	1-249-425-11	CARBON 4.7K 5%	1/4W F
Q502	8-729-200-56	TRANSISTOR 2SK241-GR		R214	1-249-425-11	CARBON 4.7K 5%	1/4W F
Q503	8-729-900-61	TRANSISTOR DTA114ES		R215	1-249-430-11	CARBON 12K 5%	1/4W
< RESISTOR >							
R102	1-247-903-00	CARBON 1M 5%	1/4W	R216	1-249-430-11	CARBON 12K 5%	1/4W
R103	1-249-417-11	CARBON 1K 5%	1/4W F	R217	1-249-426-11	CARBON 5.6K 5%	1/4W
R104	1-249-433-11	CARBON 22K 5%	1/4W	R218	1-249-426-11	CARBON 5.6K 5%	1/4W
R105	1-249-435-11	CARBON 33K 5%	1/4W	R219	1-249-426-11	CARBON 5.6K 5%	1/4W
R106	1-249-403-11	CARBON 68 5%	1/4W F	R220	1-249-426-11	CARBON 5.6K 5%	1/4W
R107	1-247-854-11	CARBON 9.1K 5%	1/4W	R221	1-249-405-11	CARBON 100 5%	1/4W F
R108	1-247-854-11	CARBON 9.1K 5%	1/4W	R222	1-249-419-11	CARBON 1.5K 5%	1/4W F
R109	1-247-854-11	CARBON 9.1K 5%	1/4W	R223	1-249-419-11	CARBON 1.5K 5%	1/4W F
R110	1-247-854-11	CARBON 9.1K 5%	1/4W	R224	1-249-441-11	CARBON 100K 5%	1/4W
R111	1-249-425-11	CARBON 4.7K 5%	1/4W F	R225	1-249-409-11	CARBON 220 5%	1/4W F
				R226	1-249-429-11	CARBON 10K 5%	1/4W
				R227	1-249-405-11	CARBON 100 5%	1/4W F
				R250	1-249-433-11	CARBON 22K 5%	1/4W
				R251	1-259-882-11	CARBON 3.3M 5%	1/4W

Ref. No.	Part No.	Description	Remark		
R252	1-259-882-11	CARBON	3. 3M	5%	1/4W
R253	1-247-806-11	CARBON	91	5%	1/4W
R280	1-249-397-11	CARBON	22	5%	1/4W F
R301	1-247-804-11	CARBON	75	5%	1/4W
R302	1-249-437-11	CARBON	47K	5%	1/4W
R303	1-249-421-11	CARBON	2. 2K	5%	1/4W F
R304	1-249-441-11	CARBON	100K	5%	1/4W
R305	1-249-421-11	CARBON	2. 2K	5%	1/4W F
R306	1-249-417-11	CARBON	1K	5%	1/4W F
R307	1-249-417-11	CARBON	1K	5%	1/4W F
R308	1-249-425-11	CARBON	4. 7K	5%	1/4W F
R309	1-249-421-11	CARBON	2. 2K	5%	1/4W F
R310	1-249-441-11	CARBON	100K	5%	1/4W
R311	1-249-429-11	CARBON	10K	5%	1/4W
R312	1-249-421-11	CARBON	2. 2K	5%	1/4W F
R313	1-249-421-11	CARBON	2. 2K	5%	1/4W F
R314	1-249-435-11	CARBON	33K	5%	1/4W
R315	1-249-429-11	CARBON	10K	5%	1/4W
R316	1-249-397-11	CARBON	22	5%	1/4W F
R317	1-249-405-11	CARBON	100	5%	1/4W F
R319	1-249-409-11	CARBON	220	5%	1/4W F
R320	1-247-804-11	CARBON	75	5%	1/4W
R321	1-249-405-11	CARBON	100	5%	1/4W F
R322	1-249-429-11	CARBON	10K	5%	1/4W
R323	1-249-433-11	CARBON	22K	5%	1/4W
R324	1-249-433-11	CARBON	22K	5%	1/4W
R325	1-249-425-11	CARBON	4. 7K	5%	1/4W F
R326	1-249-409-11	CARBON	220	5%	1/4W F
R327	1-249-425-11	CARBON	4. 7K	5%	1/4W F
R328	1-249-417-11	CARBON	1K	5%	1/4W F
R329	1-249-413-11	CARBON	470	5%	1/4W F
R330	1-249-417-11	CARBON	1K	5%	1/4W F
R331	1-249-429-11	CARBON	10K	5%	1/4W
R332	1-249-429-11	CARBON	10K	5%	1/4W
R333	1-249-441-11	CARBON	100K	5%	1/4W
R334	1-249-425-11	CARBON	4. 7K	5%	1/4W F
R335	1-249-425-11	CARBON	4. 7K	5%	1/4W F
R336	1-249-425-11	CARBON	4. 7K	5%	1/4W F
R337	1-249-429-11	CARBON	10K	5%	1/4W
R338	1-249-433-11	CARBON	22K	5%	1/4W
R339	1-249-401-11	CARBON	47	5%	1/4W F
R340	1-249-429-11	CARBON	10K	5%	1/4W
R341	1-249-429-11	CARBON	10K	5%	1/4W
R342	1-249-429-11	CARBON	10K	5%	1/4W
R343	1-249-438-11	CARBON	56K	5%	1/4W
R344	1-249-438-11	CARBON	56K	5%	1/4W
R345	1-249-438-11	CARBON	56K	5%	1/4W
R346	1-249-441-11	CARBON	100K	5%	1/4W

Ref. No.	Part No.	Description	Remark		
R347	1-249-441-11	CARBON	100K	5%	1/4W
R348	1-249-441-11	CARBON	100K	5%	1/4W
R349	1-249-441-11	CARBON	100K	5%	1/4W
R350	1-249-425-11	CARBON	4. 7K	5%	1/4W F
R351	1-249-425-11	CARBON	4. 7K	5%	1/4W F
R352	1-249-441-11	CARBON	100K	5%	1/4W
R353	1-249-441-11	CARBON	100K	5%	1/4W
R354	1-249-441-11	CARBON	100K	5%	1/4W
R355	1-249-417-11	CARBON	1K	5%	1/4W F
R356	1-249-417-11	CARBON	1K	5%	1/4W F
R357	1-249-405-11	CARBON	100	5%	1/4W F
R358	1-249-417-11	CARBON	1K	5%	1/4W F
R359	1-249-408-11	CARBON	180	5%	1/4W F
R360	1-249-433-11	CARBON	22K	5%	1/4W
R361	1-249-433-11	CARBON	22K	5%	1/4W
R365	1-249-425-11	CARBON	4. 7K	5%	1/4W F
R366	1-249-441-11	CARBON	100K	5%	1/4W
R367	1-249-417-11	CARBON	1K	5%	1/4W F
R368	1-249-417-11	CARBON	1K	5%	1/4W F
R369	1-249-405-11	CARBON	100	5%	1/4W F
R370	1-249-405-11	CARBON	100	5%	1/4W F
R371	1-249-417-11	CARBON	1K	5%	1/4W F
R372	1-249-405-11	CARBON	100	5%	1/4W F
R373	1-249-417-11	CARBON	1K	5%	1/4W F
R374	1-249-417-11	CARBON	1K	5%	1/4W F
R375	1-249-405-11	CARBON	100	5%	1/4W F
R376	1-249-417-11	CARBON	1K	5%	1/4W F
R377	1-249-441-11	CARBON	100K	5%	1/4W
R378	1-249-417-11	CARBON	1K	5%	1/4W F
R379	1-249-401-11	CARBON	47	5%	1/4W F
R380	1-249-411-11	CARBON	330	5%	1/4W
△R381	1-215-881-11	METAL OXIDE	15	5%	2W F
R382	1-249-441-11	CARBON	100K	5%	1/4W
R383	1-249-401-11	CARBON	47	5%	1/4W F
R384	1-249-437-11	CARBON	47K	5%	1/4W
R385	1-249-437-11	CARBON	47K	5%	1/4W
R386	1-249-405-11	CARBON	100	5%	1/4W F
R387	1-249-405-11	CARBON	100	5%	1/4W F
R388	1-249-423-11	CARBON	3. 3K	5%	1/4W F
R389	1-249-423-11	CARBON	3. 3K	5%	1/4W F
R390	1-249-423-11	CARBON	3. 3K	5%	1/4W F
R391	1-249-423-11	CARBON	3. 3K	5%	1/4W F
R392	1-249-430-11	CARBON	12K	5%	1/4W
R393	1-247-864-11	CARBON	24K	5%	1/4W
R394	1-249-429-11	CARBON	10K	5%	1/4W
R395	1-249-425-11	CARBON	4. 7K	5%	1/4W F
R396	1-249-441-11	CARBON	100K	5%	1/4W
R397	1-249-441-11	CARBON	100K	5%	1/4W

<p>The components identified by mark \triangle or dotted line with mark. \triangle are critical for safety. Replace only with part number specified.</p>	<p>Les composants identifiés par une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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MAIN

MOTOR

Ref. No.	Part No.	Description	Remark
R398	1-249-441-11	CARBON	100K 5% 1/4W
R399	1-249-441-11	CARBON	100K 5% 1/4W
R400	1-249-441-11	CARBON	100K 5% 1/4W
R401	1-249-441-11	CARBON	100K 5% 1/4W
R402	1-249-441-11	CARBON	100K 5% 1/4W
R403	1-249-441-11	CARBON	100K 5% 1/4W
R404	1-249-441-11	CARBON	100K 5% 1/4W
R405	1-249-441-11	CARBON	100K 5% 1/4W
R406	1-249-429-11	CARBON	10K 5% 1/4W
R407	1-249-429-11	CARBON	10K 5% 1/4W
R408	1-249-429-11	CARBON	10K 5% 1/4W
R409	1-249-425-11	CARBON	4.7K 5% 1/4W F
R410	1-249-425-11	CARBON	4.7K 5% 1/4W F
R411	1-249-417-11	CARBON	1K 5% 1/4W F
R412	1-249-441-11	CARBON	100K 5% 1/4W
R413	1-249-437-11	CARBON	47K 5% 1/4W
R414	1-249-413-11	CARBON	470 5% 1/4W F
R415	1-249-437-11	CARBON	47K 5% 1/4W
R416	1-249-437-11	CARBON	47K 5% 1/4W
R417	1-249-437-11	CARBON	47K 5% 1/4W
R418	1-249-413-11	CARBON	470 5% 1/4W F
R419	1-249-413-11	CARBON	470 5% 1/4W F
R420	1-249-413-11	CARBON	470 5% 1/4W F
R421	1-249-413-11	CARBON	470 5% 1/4W F
R422	1-249-413-11	CARBON	470 5% 1/4W F
R424	1-249-411-11	CARBON	330 5% 1/4W
R425	1-249-411-11	CARBON	330 5% 1/4W
R429	1-249-407-11	CARBON	150 5% 1/4W F
R432	1-249-393-11	CARBON	10 5% 1/4W F
R433	1-216-349-00	CARBON	1 5% 1/2W
R434	1-249-411-11	CARBON	330 5% 1/4W
R435	1-249-409-11	CARBON	220 5% 1/4W F
R436	1-249-409-11	CARBON	220 5% 1/4W F
R437	1-249-409-11	CARBON	220 5% 1/4W F
R438	1-249-409-11	CARBON	220 5% 1/4W F
R439	1-249-437-11	CARBON	47K 5% 1/4W
R440	1-249-441-11	CARBON	100K 5% 1/4W
R441	1-249-441-11	CARBON	100K 5% 1/4W
R442	1-249-441-11	CARBON	100K 5% 1/4W
R443	1-249-437-11	CARBON	47K 5% 1/4W
R444	1-249-417-11	CARBON	1K 5% 1/4W F
R445	1-249-419-11	CARBON	1.5K 5% 1/4W F
R446	1-247-883-00	CARBON	150K 5% 1/4W
R447	1-249-425-11	CARBON	4.7K 5% 1/4W F
R448	1-249-413-11	CARBON	470 5% 1/4W F
R449	1-249-424-11	CARBON	3.9K 5% 1/4W F
R451	1-247-891-00	CARBON	330K 5% 1/4W
R455	1-249-429-11	CARBON	10K 5% 1/4W
R456	1-249-429-11	CARBON	10K 5% 1/4W

Ref. No.	Part No.	Description	Remark
R457	1-249-413-11	CARBON	470 5% 1/4W F
R460	1-249-421-11	CARBON	2.2K 5% 1/4W F
R461	1-249-441-11	CARBON	100K 5% 1/4W
R462	1-247-804-11	CARBON	75 5% 1/4W
R490	1-249-425-11	CARBON	4.7K 5% 1/4W F
R495	1-249-429-11	CARBON	10K 5% 1/4W
R497	1-249-429-11	CARBON	10K 5% 1/4W
R498	1-249-417-11	CARBON	1K 5% 1/4W F
R499	1-249-429-11	CARBON	10K 5% 1/4W
R501	1-249-417-11	CARBON	1K 5% 1/4W F
R502	1-249-429-11	CARBON	10K 5% 1/4W
R503	1-249-429-11	CARBON	10K 5% 1/4W
R504	1-249-429-11	CARBON	10K 5% 1/4W
R505	1-249-428-11	CARBON	8.2K 5% 1/4W F
R506	1-249-441-11	CARBON	100K 5% 1/4W
R507	1-249-417-11	CARBON	1K 5% 1/4W F
R508	1-249-417-11	CARBON	1K 5% 1/4W F
R509	1-249-417-11	CARBON	1K 5% 1/4W F
R510	1-247-804-11	CARBON	75 5% 1/4W
R513	1-249-417-11	CARBON	1K 5% 1/4W F
R514	1-249-423-11	CARBON	3.3K 5% 1/4W F
R515	1-249-423-11	CARBON	3.3K 5% 1/4W F
R516	1-249-425-11	CARBON	4.7K 5% 1/4W F
R517	1-249-429-11	CARBON	10K 5% 1/4W
R518	1-249-417-11	CARBON	1K 5% 1/4W F
R519	1-249-417-11	CARBON	1K 5% 1/4W F
R520	1-247-903-00	CARBON	1M 5% 1/4W
< VARIABLE RESISTOR >			
RV301	1-226-773-11	RES, ADJ, METAL 22K	
< RELAY >			
RY301	1-515-726-11	RELAY	
< TRANSFORMER >			
T301	1-459-795-11	COIL (WITH CORE)	
< VIBRATOR >			
X301	1-567-816-11	VIBRATOR, CRYSTAL (18.816MHz)	
X302	1-567-815-11	VIBRATOR, CRYSTAL (22.5792MHz)	
X303	1-578-667-11	VIBRATOR, CRYSTAL (49.152MHz)	
X304	1-567-098-00	OSCILLATOR, CRYSTAL (32.768KHz)	

*	1-639-646-11	MOTOR BOARD	*****

REVISED

MOTOR

POWER

POWER RELAY

PRIMARY

Ref. No.	Part No.	Description	Remark
< CAPACITOR >			
C01	1-162-851-11	CERAMIC 0.1MF	16V
< CONNECTOR >			
* CN01	1-564-336-00	PIN, CONNECTOR 2P	
* CN02	1-564-336-61	PIN, CONNECTOR 2P	
* CN03	1-564-498-11	PIN, CONNECTOR 5P	

*	A-2006-670-A	POWER BOARD, COMPLETE	

	1-533-183-11	HOLDER, FUSE	
	7-682-147-15	SCREW, TR	
< CAPACITOR >			
C907	1-126-946-11	ELECT 6800uF	20% 25V
C908	1-164-159-11	CERAMIC 0.1uF	50V
C909	1-124-473-11	ELECT 1000uF	20% 10V
C910	1-164-159-11	CERAMIC 0.1uF	50V
C911	1-164-159-11	CERAMIC 0.1uF	50V
C912	1-124-473-11	ELECT 1000uF	20% 10V
C913	1-126-037-51	ELECT 220uF	20% 35V
C914	1-126-037-51	ELECT 220uF	20% 35V
C915	1-126-049-11	ELECT 22uF	20% 50V
C916	1-126-052-11	ELECT 100uF	20% 50V
C917	1-136-165-00	FILM 0.1uF	5% 50V
C918	1-130-834-00	FILM 1uF	10% 63V
C919	1-136-165-00	FILM 0.1uF	5% 50V
C920	1-128-468-51	ELECT 4700uF	20% 25V
C921	1-128-468-51	ELECT 4700uF	20% 25V
C922	1-164-159-11	CERAMIC 0.1uF	50V
C923	1-164-159-11	CERAMIC 0.1uF	50V
C924	1-164-159-11	CERAMIC 0.1uF	50V
C925	1-164-159-11	CERAMIC 0.1uF	50V
C926	1-126-105-11	ELECT 1000uF	20% 35V
C927	1-126-105-11	ELECT 1000uF	20% 35V
< CONNECTOR >			
* CN905	1-560-338-00	PIN, CONNECTOR 7P	
* CN906	1-560-061-00	PIN, CONNECTOR 3P	
* CN931	1-564-505-11	PLUG, CONNECTOR 2P	
CN932	1-564-511-11	PLUG, CONNECTOR 8P	
* CN933	1-564-506-11	PLUG, CONNECTOR 3P	
< DIODE >			
D905	8-719-312-47	DIODE RBA-406B	
D906	8-719-107-94	DIODE 1SS202-1	
D907	8-719-200-82	DIODE 11ES2	

Ref. No.	Part No.	Description	Remark
D908	8-719-200-82	DIODE 11ES2	
D909	8-719-934-15	DIODE HZS24-3L	
D910	8-719-933-33	DIODE HZS6A1L	
D911	8-719-200-77	DIODE 10E2N	
D912	8-719-200-77	DIODE 10E2N	
D913	8-719-200-77	DIODE 10E2N	
D914	8-719-200-77	DIODE 10E2N	
D915	8-719-107-94	DIODE 1SS202-1	
D916	8-719-107-94	DIODE 1SS202-1	
< FUSE >			
<u>△</u> F901	1-532-747-11	FUSE 125V 2.5A	
< IC >			
IC901	8-759-148-79	IC uPC2406HF	
IC902	8-759-231-53	IC M5F7805	
IC903	8-759-231-58	IC M5F7812L	
IC904	8-759-245-86	IC TA7912S	
< TRANSISTOR >			
Q901	8-729-140-97	TRANSISTOR KSA708	
< RESISTOR >			
R901	1-249-425-11	CARBON 4.7K 5%	1/4W F
<u>△</u> R902	1-212-849-00	FUSIBLE 4.7 5%	1/4W F
R903	1-249-421-11	CARBON 2.2K 5%	1/4W F
<u>△</u> R904	1-212-865-00	FUSIBLE 22 5%	1/4W F
R905	1-249-433-11	CARBON 22K 5%	1/4W

*	1-639-332-11	POWER RELAY BOARD	

*	1-639-333-11	PRIMARY BOARD	

*	3-346-266-12	PLATE, GROUND	
< CAPACITOR >			
<u>△</u> C901	1-161-744-00	CERAMIC 0.01uF	400V
<u>△</u> C902	1-161-742-00	CERAMIC 0.0022uF	20% 400V
<u>△</u> C903	1-161-742-00	CERAMIC 0.0022uF	20% 400V
<u>△</u> C904	1-161-742-00	CERAMIC 0.0022uF	20% 400V
<u>△</u> C906	1-161-744-00	CERAMIC 0.01uF	400V

The components identified by mark <u>△</u> or dotted line with mark. <u>△</u> are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque <u>△</u> sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
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PRIMARY

REC VOL

REEL MOTOR

RF AMP

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN901	1-564-321-00	PIN, CONNECTOR 2P	
CN902	1-564-321-00	PIN, CONNECTOR 2P	
		< COIL >	
△L901	1-421-915-11	COIL, LINE FILTER	

*	1-639-325-11	REC VOL BOARD	

		< VARIABLE RESISTOR >	
RV102	1-238-833-21	RES, VAR, CARBON 20K/20K	

*	1-639-304-11	REEL MOTOR BOARD	

		< CAPACITOR >	
C07	1-163-077-00	CERAMIC CHIP 0.1uF 10% 25V	

*	A-2006-455-A	RF AMP BOARD, COMPLETE	

		< CAPACITOR >	
C1	1-124-778-00	ELECT CHIP 22uF 20% 6.3V	
C2	1-163-019-00	CERAMIC CHIP 0.0068uF 10% 50V	
C3	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C4	1-162-638-11	CERAMIC CHIP 1uF 16V	
C5	1-164-299-11	CERAMIC CHIP 0.22uF 10% 25V	
C6	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C7	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C8	1-124-778-00	ELECT CHIP 22uF 20% 6.3V	
C9	1-124-778-00	ELECT CHIP 22uF 20% 6.3V	
C10	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C11	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C12	1-164-299-11	CERAMIC CHIP 0.22uF 10% 25V	
C13	1-162-638-11	CERAMIC CHIP 1uF 16V	
C14	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C15	1-124-778-00	ELECT CHIP 22uF 20% 6.3V	
C16	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C17	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C18	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C19	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C20	1-164-182-11	CERAMIC CHIP 0.0033uF 10% 50V	
C21	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
C22	1-126-603-11	ELECT CHIP 4.7uF 20% 35V	
C23	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	

Ref. No.	Part No.	Description	Remark
C24	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C25	1-124-778-00	ELECT CHIP 22uF	20% 6.3V
C26	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C27	1-162-638-11	CERAMIC CHIP 1uF	16V
C28	1-164-505-11	CERAMIC CHIP 2.2uF	16V
		< CONNECTOR >	
* CN51	1-566-207-11	PIN, CONNECTOR (PC BOARD) 14P	
* CN52	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P	
		< IC >	
IC1	8-752-039-01	IC CXA1364R	
		< COIL >	
L1	1-408-781-00	INDUCTOR CHIP 22uH	
L2	1-408-789-21	INDUCTOR CHIP 100uH	
L3	1-408-781-00	INDUCTOR CHIP 22uH	
		< RESISTOR >	
R1	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
R2	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
R3	1-216-066-00	METAL CHIP 5.1K 5% 1/10W	
R4	1-216-066-00	METAL CHIP 5.1K 5% 1/10W	
R5	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R6	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R7	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R8	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R9	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R10	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R11	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R12	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R13	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R14	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R15	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R16	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R17	1-216-080-00	METAL CHIP 20K 5% 1/10W	
R18	1-216-073-00	METAL CHIP 10K 5% 1/10W	
		< VARIABLE RESISTOR >	
RV1	1-238-181-11	RES, ADJ, CERMET 4.7K	
RV2	1-238-181-11	RES, ADJ, CERMET 4.7K	

<p>The components identified by mark △ or dotted line with mark. △ are critical for safety. Replace only with part number specified.</p>	<p>Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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RGN SW

SW (IN)

SW (OUT)

SWITCH

TIMER SW

TOP END SENSOR

Ref. No.	Part No.	Description	Remark
*	1-639-301-11	RGN SW BOARD ***** < SWITCH >	
S01	1-571-878-11	SWITCH, PUSH (2 KEY) *****	
*	1-639-647-11	SW (IN) BOARD ***** < SWITCH >	
S11	1-572-247-11	SWITCH, SLIDE (CASSETTE TABLE IN) *****	
*	1-639-648-11	SW (OUT) BOARD ***** < SWITCH >	
S12	1-570-975-11	SWITCH, SLIDE (CASSETTE TABLE OUT) *****	
*	1-645-010-11	SWITCH BOARD *****	
	4-907-937-01	SUPPORT (A)	
	7-682-545-09	SCREW +B 3X4	
		< CONNECTOR >	
* CN1	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P < RESISTOR >	
R1	1-249-422-11	CARBON 2.7K 5% 1/4W F	
R2	1-249-430-11	CARBON 12K 5% 1/4W	
R3	1-249-434-11	CARBON 27K 5% 1/4W	
		< SWITCH >	
S1	1-570-313-11	SWITCH, KEYBOARD (PRESET)	
S2	1-570-313-11	SWITCH, KEYBOARD (-)	
S3	1-570-313-11	SWITCH, KEYBOARD (+)	
S4	1-570-313-11	SWITCH, KEYBOARD (CLOCK SET) *****	
*	1-639-329-11	TIMER SW BOARD ***** < IC >	
IC704	8-749-922-36	IC GPIU50XB < RESISTOR >	
R711	1-249-428-11	CARBON 8.2K 5% 1/4W F	

Ref. No.	Part No.	Description	Remark
R712	1-249-434-11	CARBON 27K 5% 1/4W < SWITCH >	
S701	1-692-478-11	SWITCH, SLIDE (TIMER)	
S703	1-570-974-11	SWITCH, SLIDE (REC MODE) *****	
*	1-639-305-11	TOP END SENSOR BOARD *****	
*	3-368-456-01	HOLDER (END SENSOR LIGHT)	
*	3-368-457-01	HOLDER (END SENSOR) (RECIEVE) < DIODE >	
D01	8-719-988-42	DIODE GL453S < PHOTO INTERRUPTER >	
PH03	8-729-907-25	TRANSISTOR PT4850F (TAKE UP)	
PH04	8-729-907-25	TRANSISTOR PT4850F (SUPPLY) *****	
		MISCELLANEOUS *****	
△10	1-690-609-21	CORD, POWER	
62	1-590-321-71	LEAD (WITH CONNECTOR)	
109	1-590-915-11	WIRE, FLAT TYPE (30 CORE)	
110	1-590-916-11	WIRE, FLAT TYPE (10 CORE)	
111	1-590-914-11	WIRE, FLAT TYPE (6 CORE)	
325	8-848-567-11	DRUM ASSY DOU-03A	
M901	A-2003-448-A	MOTOR ASSY	
M902	8-835-361-01	MOTOR, DC U-17B	
M903	X-3363-109-1	MOTOR ASSY (CAM)	
M905	X-3363-110-2	MOTOR ASSY (REEL)	
PM902	1-454-536-11	SOLENOID, PLUNGER	
PM903	1-454-535-11	SOLENOID, PLUNGER	
△S901	1-554-920-21	SWITCH, PUSH (AC POWER) (1 KEY)	
△T901	1-450-556-21	TRANSFORMER, POWER *****	
		ACCESSORIES & PACKING MATERIALS *****	
	1-466-782-11	REMOTE COMMANDER (RM-D70)	
	1-558-271-11	CORD, CONNECTION	
	1-695-488-11	PLUG, CONVERSION	
	2-297-913-00	WASHER (DIA. 5), ORNAMENTAL	
	3-707-584-01	COVER, BATTERY	
	3-755-179-21	MANUAL, INSTRUCTION (ENGLISH)	
	3-755-179-31	MANUAL, INSTRUCTION (FRENCH) (Canadian)	
*	4-936-624-01	CUSHION	

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Ref. No.	Part No.	Description	Remark
	7-682-255-09	SCREW +K 3X30	
	7-682-276-04	SCREW +RK 5X12	

HARDWARE LIST

- #1 7-682-548-09 SCREW +BVTT 3X8 (S)
- #2 7-685-647-79 SCREW, TAPPING
- #3 7-685-646-79 SCREW +BVTP 3X8 TYPE2 N-S
- #4 7-682-544-09 SCREW +B 3X3
- #5 7-682-547-09 SCREW +BVTT 3X6 (S)

- #6 7-682-560-04 SCREW +BVTT 4X6 (S)
- #7 7-621-772-10 SCREW +B 2X4
- #8 7-621-772-00 SCREW +B 2X3
- #9 7-682-545-09 SCREW +B 3X4
- #10 7-621-255-45 SCREW +P 2X6

- #11 7-621-775-08 SCREW +B 2. 6X3
- #12 7-621-773-86 SCREW +B 2. 6X4
- #13 7-682-147-15 SCREW, TR
- #15 7-621-255-20 SCREW +BVTT 2X4 (S)
- #17 7-627-556-17 SCREW, PRECISION +P 2. 6X3 TYPE1

- #18 7-627-450-28 +K 1. 7X2
- #19 7-621-255-15 SCREW +P 2X3
- #21 7-627-854-07 PRECISION SCREW +P 2X2. 5 TYPE3
- #22 7-621-772-08 SCREW +B 2X3
- #23 7-621-772-18 SCREW +B 2X4

- #25 7-627-552-27 SCREW, PRECISION +P 1. 7X2
- #26 7-627-552-47 SCREW, PRECISION +P 1. 7X4
- #29 7-685-133-19 SCREW +BTP 2. 6X6 TYPE2 N-S
- #30 7-685-534-19 SCREW +BTP 2. 6X8 TYPE2 N-S
- #31 7-685-132-19 SCREW +BTP 2. 6X5 TYPE2 N-S

DTC-A7


SONY SERVICE MANUAL

*US Model
Canadian Model*

SUPPLEMENT-1

File this supplement with the service manual.

Subject : Changing notice for the Fuse

Page	Current			Revised	
	<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Description</u>
69	△F901	1-576-105-11	FUSE	<u>1-532-747-11</u> 	FUSE 125V 2.5A

DTC-A7

SONY

*US Model
Canadian Model*

SERVICE MANUAL

SUPPLEMENT-2

File this supplement with the service manual.

Subject: Changing of parts supply classification

(SPM-98003)

- Revise your service manual as shown below due to parts supply classification has been changed.

Page	Current			Revised		
	No.	Part No.	Description	No.	Part No.	Description
71			< ACCESSORIES & PACKING MATERIALS >			
			Not Supply		*3-370-877-11	RACK (L)
			Not Supply		*3-370-878-11	RACK (R)

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

DTC-A7

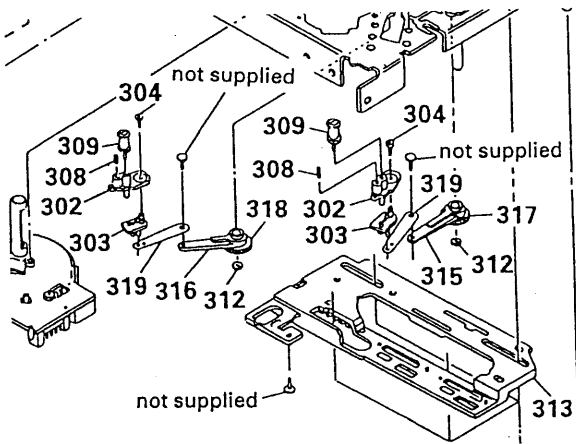
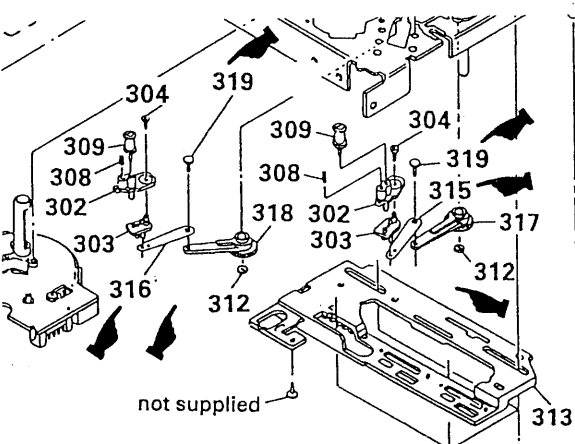
SONY. SERVICE MANUAL

US Model
Canadian Model

CORRECTION-1

Correct your service manual as shown below.

 : indicates corrected portion.

Page	INCORRECT	CORRECT
58	 <p>Diagram showing the assembly of a component. The diagram is labeled 'INCORRECT'. It shows various parts numbered 302, 303, 304, 308, 309, 312, 313, 315, 316, 317, 318, and 319. Some parts are labeled 'not supplied'. The diagram shows the component being assembled onto a base unit (313).</p>	 <p>Diagram showing the assembly of a component. The diagram is labeled 'CORRECT'. It shows various parts numbered 302, 303, 304, 308, 309, 312, 313, 315, 316, 317, 318, and 319. Some parts are labeled 'not supplied'. Arrows indicate corrected portions. The diagram shows the component being assembled onto a base unit (313).</p>