DTC-57ES/750

SERVICE MANUAL

US Model
Canadian Model
AEP Model
E Model
DTC-57ES
US Model
Canadian Model
UK Model
DTC-750

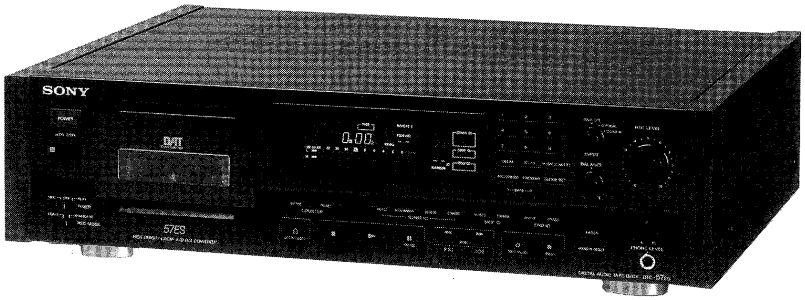


Photo : DTC-57ES

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 µm (20.4 µm)
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)

		DTC-57ES (AEP, E model), DTC-750	DTC-57ES (US, Canadian model)
Signal to noise ratio	SP	more than 92dB	more than 93dB
	LP		more than 92dB
Dynamic range	SP	more than 92dB	more than 93dB
	LP		more than 92dB
Total harmonic distortion (1kHz)	SP	less than 0.0045%	less than 0.004%
	LP	less than 0.08%	less than 0.08%

*SP : Standard
LP : Long-play mode

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	DATM-100

Wow and flutter — Below measurable limit (±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, 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	0.6 mW	32 ohms
DIGITAL OUT (DTC-57ES)	phono jack	75 ohms	0.5 Vp-p ±20%	—

DIGITAL OUT (optical jack): wavelength 660 nm

– continued on next page –

使用時は添付資料も参照のこと
Refer to the additional documents.

DIGITAL AUDIO TAPE DECK

SONY®

General

Power requirements	**120V AC, 60Hz (US, Canadian models) 240V AC, 50Hz (UK model) 220-230V AC, 50/60Hz (AEP model) 110-120, 220-240V AC adjustable, 50/60Hz (E model)**
Power consumption	32 W
Dimensions (w/h/d) & Weight	**DTC-57ES: Approx. 470×125×350mm (18 5/8×5×13 7/8 inches) Approx. 8kg (17 lb 10oz) DTC-750: Approx. 430×125×350mm (17×5×13 7/8 inches) Approx. 7.2kg (15 lb 14oz)**

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 1/2 x 3/4 x 7 inches)
Weight	Approx. 130 g (4 oz) incl. batteries.

Supplied accessories

Sony batteries SUM-3(NS) (2)
Audio connecting cords (2 phono plugs - 2 phono plugs, stereo for line inputs and outputs) (2)
Screws (4) **(DTC-57ES only)**

Design and specifications subject to change without notice.

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.

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 SES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

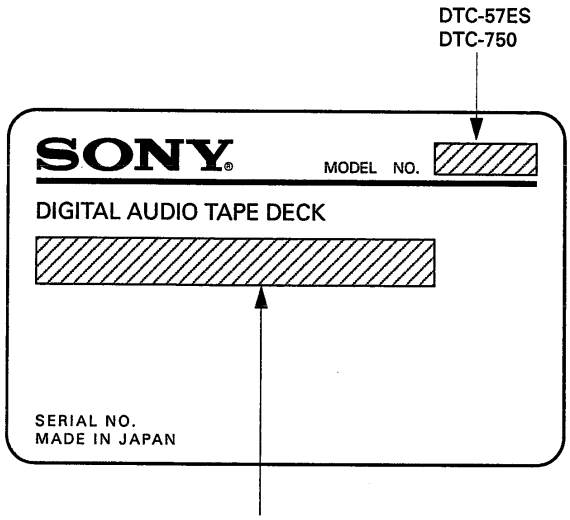
TABLE OF CONTENTS

PRECAUTIONS FOR INSPECTIONS AND REPAIR WITH POWER OFF

Before beginning repair work after turning OFF the main switch, be sure to first remove CN932 (EH8P) of the power board. When assembling the equipment, be sure to plug this connector last.
This is because, even with the main switch turned OFF, electric charges still remain in the smoothing capacitor in the power board. Therefore, if another flexible board is inserted or removed, a terminal of the power supply may short an adjacent terminal while destroying the device.

MODEL IDENTIFICATION

– SPECIFICATION LABEL –



US,Canadian model : AC 120V 60Hz 32W
AEP model : AC 220-230V~ 50/60Hz 32W
UK model : AC 240V 50Hz 32W
E model : AC 110-120, 220-240V~ adjustable, 50/60Hz 32W

CAUTION

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

ADVERSEL !
Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Lever det brugte batteri tilbage til leverandcren.

ADVARSEL
Lithiumbatteri – Eksplosjonsfare.
Ved utskifting benyttes kun batteri som
anbefalt av apparatfabrikanten.
Brukt batteri returneres apparatleveranderen.

VARNING
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ
som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

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

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 0.5mA (500 microampers). 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 0.75V, 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)

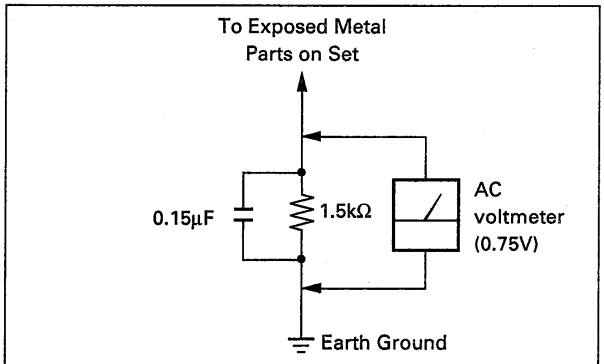


Fig. A. Using an AC voltmeter to check AC leakage.

SECTION 1
GENERAL

This section is extracted from instruction manual.

Features

Serial copy management system

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 connection. (See page 42.)

Date Function automatically memories the recording date and time

The year, month, day, day of the week, hour, minute and second are automatically memorized 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.

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 a standard mode.
44.1 kHz: For compact disc and pre-recorded DAT tape.
32 kHz: For analog input signals in a long-play mode.

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 1-bit 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 tunes and display the playback time in the same manner as when playing compact discs.

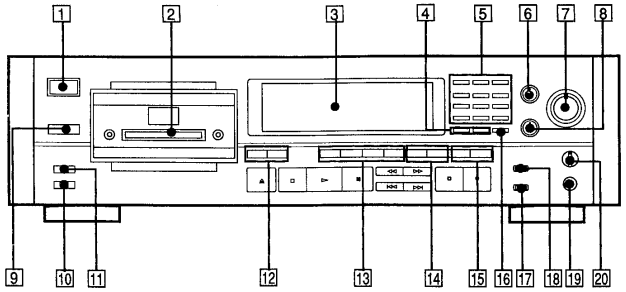
Digital fade-in/fade-out

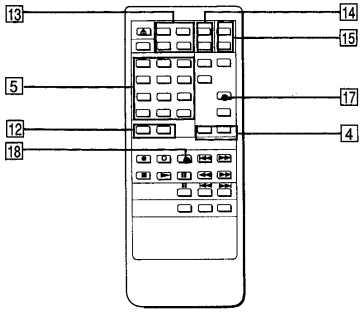
Professional sounding fade-in/fade-out of either digital or analog signals can be accomplished by use of the FADER button.

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.

Location and Function of Controls





Front Panel/Remote Commander

1 POWER switch
Turns the power on and off.

2 Cassette compartment
Insert a cassette with the window side up and the safety tab facing you.

3 Display window

4 DATE buttons
RECORDED: Press to display the recording day of the tape being played.
PRESENT: Press to display the current time.
Each time the RECORDED or PRESENT button is pressed, day, month and year display, the day of the week display or hour, minute and second display is switched sequencially.

5 Music select buttons
Numeric buttons (0–9): Designate the desired program number to be played back before starting playback. Designate the desired number in the record-pause mode, the program number is written consecutively from the designated number.
CLEAR: Use to cancel the program number which has been mistakenly entered.
MUSIC SCAN: Use this feature to listen to the beginning of each selection successively.

6 INPUT selector
Set according to the signal to be recorded.
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.

7 REC LEVEL (recording level) control
Adjust the recording level for the analog input signals. When recording digital signals, it is not necessary to adjust the recording level.

8 BALANCE control
Adjust the recording balance for the analog input signals. When recording digital signals, it is not necessary to adjust the recording balance.

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.

11 TIMER switch
Normally set to the OFF position. When recording or playing back at the desired time using a commercially available audio timer, set to the REC position or the PLAY position respectively.

12 COUNTER buttons
MODE: Selects the counter display in the display window among the linear counter (tape running time), absolute time, elapsed time of the selection, and total remaining time of tape. Each time you press the button, the display changes sequentially.
RESET: Resets the linear counter to "0M 00S".

13 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.
WRITE: Press to write the start ID at the desired point during recording or playback.
ERASE: Press to erase a start ID. When a start ID and a program number are written on the tape, both codes are simultaneously erased by pressing this button.
RENUMBER: Press to renumber all programs on the tape. When only the start IDs are written, pressing this button will insert the proper program numbers beginning with "1". The tape will rewind and start from the beginning to accomplish this function.

14 SKIP ID buttons
WRITE: Press at the beginning of the portion you may wish to skip later. A skip ID will be written from the point where you pressed this button.
ERASE: Press to erase the nearest skip ID which is before the current position.

15 END ID buttons
WRITE: Press to write the ID signifying the end of playback or recording.
ERASE: Press to erase the end ID.

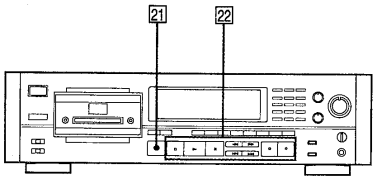
16 CLOCK SET button
Press to adjust the time of the clock built in this unit.
In this mode, the MUSIC SCAN button and the 0 button function as the + and – buttons respectively.

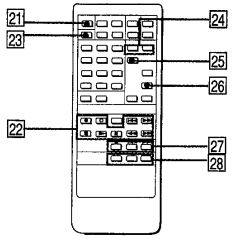
17 MARGIN RESET button
Press to reset the margin of peak level.

18 FADER button
Press to fade in or fade out during recording or playback.

19 Headphones jack
Insert the headphones plug to this jack.

20 PHONE LEVEL control
The PHONE LEVEL control adjusts the headphones volume level.





Front Panel/Remote Commander

21 OPEN/CLOSE button

Press to open or close the cassette compartment.

22 Tape operating buttons

■ **(stop):** Press to stop recording or playback.
► **(play)**: Press to play back the tape.
●**REC (recording):** Press to enter the record-pause mode. After pressing this button, press the ❚❚ or ► button.
❚❚**PAUSE (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.
○**REC MUTE (record muting):** Inserts a sound-muted portion (space).
⏮/⏭ **(AMS):** Press to locate the beginning of the selection during the playback.
◄◄/►► **(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.

23 DISPLAY MODE button

Changes the display mode. (Refer to page 10.)

24 RMS play buttons

ENTER: To program the selections in a desired order, press this button after pressing the numeric buttons.
CHECK: Press to check the programmed contents.

25 REPEAT 1/ALL button

Press to play a desired portion repeatedly. Each time you press the button, the indicatior changes as follows:
REPEAT 1 → REPEAT ALL → off

26 SKIP PLAY button

Press to activate the skip ID code function. The portion of the tape previously marked will be skipped.

27 CD operation buttons

Operative only for the Sony CD player equipped with a Remote Commander.
❚❚ **(pause):** Press this button twice to start playback. Press this button once in the playback mode, the deck enters the pause mode.
⏮/⏭ **(AMS):** Press to locate the desired selection on the Compact Disc during playback or in the stop mode.

28 CD SYNCHRO (CD synchronized recording) buttons

(The playback of the Sony CD player equipped with a Remote Commander and the recording of the DAT deck can be performed simultaneously.)
STANDBY: Press to set the unit in the record-standby mode.
START: Press to start recording of the DAT deck and then playback of the CD player.
STOP: Press to stop the DAT deck recording and the CD player playback.

Remote Commander Operation

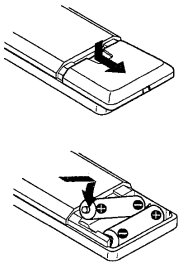
Each button on the remote commander functions in the same way as those having the same name on the front panel.
However, the following operations cannot be performed using the remote commander. Use the front panel controls instead.

- Turing the power on and off
- Selecting digital(optical/coaxial)/analog input source
- Setting the clock
- Adjusting the recording level and balance
- Adjusting the headphones level
- Setting the timer recording/playback
- Selecting the record mode (standard or long)

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

- Activating CD synchronized recording using a Sony CD player and controlling the CD player
- Locating the desired selection on the Compact Disc or setting 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

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 SUM-3 (NS) batteries.

Display Window

To turn off the display window
When the power is turned on, the display window also is turned on. During recording or playback, all display or some parts of the display can be turned off as follows:
When operating with the front panel controls
While pressing the COUNTER MODE button, press the 0 button.
When operating with the remote commander
Press the DISPLAY MODE button.
Each time you press the above buttons, the indicators change as follws:

Normal indicators ←
↓
Peak level meters and margin indicators go off.
(The DISPLAY OFF indicator lights.)
↓
All the indicators go off during recording or playback*.
(The DISPLAY OFF AUTO indicator lights momentarily just before the indicators go off.)

* When pressing the COUNTER MODE or 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. The greater number pressed, the darker the display window becomes.
(When operating with the remote commander, also press the COUNTER MODE button.)

1 LONG PLAY mode indicator
Lights when recording or playback is being performed in the long play mode.

2 TOC (Table Of Contents) indicator
When a pre-recorded DAT cassette is played back, this indicator will light.

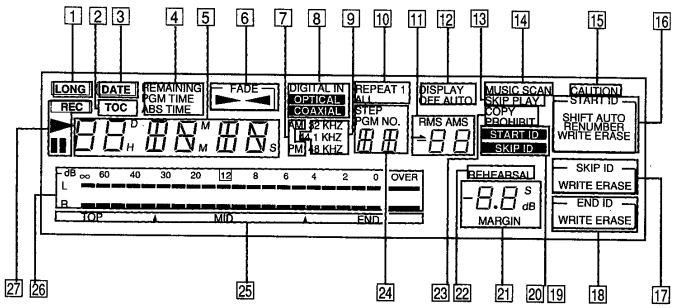
3 DATE indicator
Lights when pressing the RECORDED button to display the recording day of the tape being played. Flashes when pressing the PRESENT button to display the current time.

4 REMAINING (remaining time): Lights when the counter shows the remaining time of the tape.
PGM TIME (program time): Lights when the counter shows the elapsed time of the current selection.
ABS TIME (absolute time) indicator: Lights when the counter shows the elapsed time from the beginning of the tape.

5 Time indicator
Indicates the tape running time, absolute time, elapsed time of the current selection, remaining time or recording day. Each time the COUNTER MODE button is pressed, the display is changed.

6 Fade in/out indicator
FADE : Flashes when recording or playback fades in.
FADE : Flashes when recording of playback fades out.

7 AM/PM indicators
Show AM or PM of the time.



8 INPUT selector indicators
The OPTICAL or 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 FREQ. (Sampling frequency) indicator
48 kHz: For recording/playback of analog input signals (standard mode)
44.1 kHz: For recording/playback of CD or a pre-recorded DAT cassette
32 kHz: For recording/playback of analog input signals (long-play mode)

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 AMS (Automatic Music Sensor)/RMS (Random Music Sensor) indicators
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 program number of the target selection while the selection is being searched for. When programming the desired selections in the RMS operation (page 38), the display shows the program number of the selection to be programmed.

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 pressing 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. (See page 4.)

16 START ID mode indicators
AUTO: Lights when the AUTO button is pressed to write the start ID automatically.
RENUMBER: Lights when the RENUMBER button is pressed to renumber the program numbers.
WRITE: Lights when writing the start ID manually.
ERASE: Lights when erasing the start ID.
AUTO RENUMBER: Lights when renumbering program numbers automatically.
SHIFT RENUMBER: Lights when shifting the start ID and program number position.

17 SKIP ID mode indicator
WRITE: Lights when writing the skip ID.
ERASE: Lights when erasing the skip ID.

18 END ID mode indicator
WRITE: Lights when writing the end ID.
ERASE: Lights when erasing the end ID.

19 START ID indicator
Flashes when writing (for 9 or 18 seconds) or erasing a start ID code, and lights when the start ID is detected durin playback.

20 SKIP ID indicator
Lights when writing (for 1 or 2 seconds) or erasing a skip ID code or when the skip ID is detected during playback.

21 MARGIN indicator
Shows how much margin there is between the peak level of input audio signal and 0 dB.

22 REHEARSAL indicator
Lights while the rehearsal function is activated (page 28).

23 COPY PROHIBIT indicator
Lights when recording the digital signal with the copy prohibit code. In this case, record with the LINE IN jacks.

24 STEP/PGM NO. indicator
Shows the program number of the selection being played. When programming the desired selection in the RMS operation (page 38), the display shows the step number of the programmed selection.

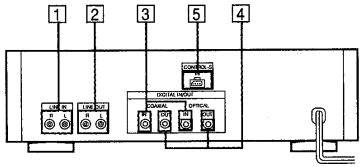
25 Frequencies map
When pressing the 4 button while keeping the COUNTER MODE button pressed, bars indicating the sampling frequencies with which the tape was recorded appear on the peak level meters.

26 Peak level meters
Indicate the level of the audio signal being recorded during recording, and the peak values of the audio signal recorded on the tape during playback.

27 Tape operation indicators
REC : Lights during recording or in the record-pause mode.
►: Lights during recording or playback. It also lights in the record-pause mode or in the play-pause mode.
II: Lights in the record-pause mode or in the play-pause mode.

Connections

Rear Panel Jacks



1 LINE IN (line input) jacks (phono jack)
Connect to the recording outputs of an amplifier. Signals supplied by the amplifier can be recorded using the sampling frequency of 48 kHz in the standard play mode or 32 kHz in the long play mode.

2 LINE OUT (line output) jacks (phono jack)
Connect to the DAT or tape inputs of an amplifier. The playback signal of this deck will be output.

3 COAXIAL/OPTICAL DIGITAL IN (digital input) jacks (coaxial phono jack/optical jack)
Connect to the digital outputs of an amplifier having a built-in D/A converter or other digital source, such as a CD player for digital-to-digital recording.

4 COAXIAL/OPTICAL DIGITAL OUT (digital output) jack (coaxial phono jack/optical jack)
Connect to the digital inputs of an amplifier having a built-in D/A converter or another DAT deck, for playback of a DAT cassette or digital-to-digital recording.

5 CONTROL-S IN jack
Connect to the CONTROL-S output of a Sony amplifier or receiver for remote control.

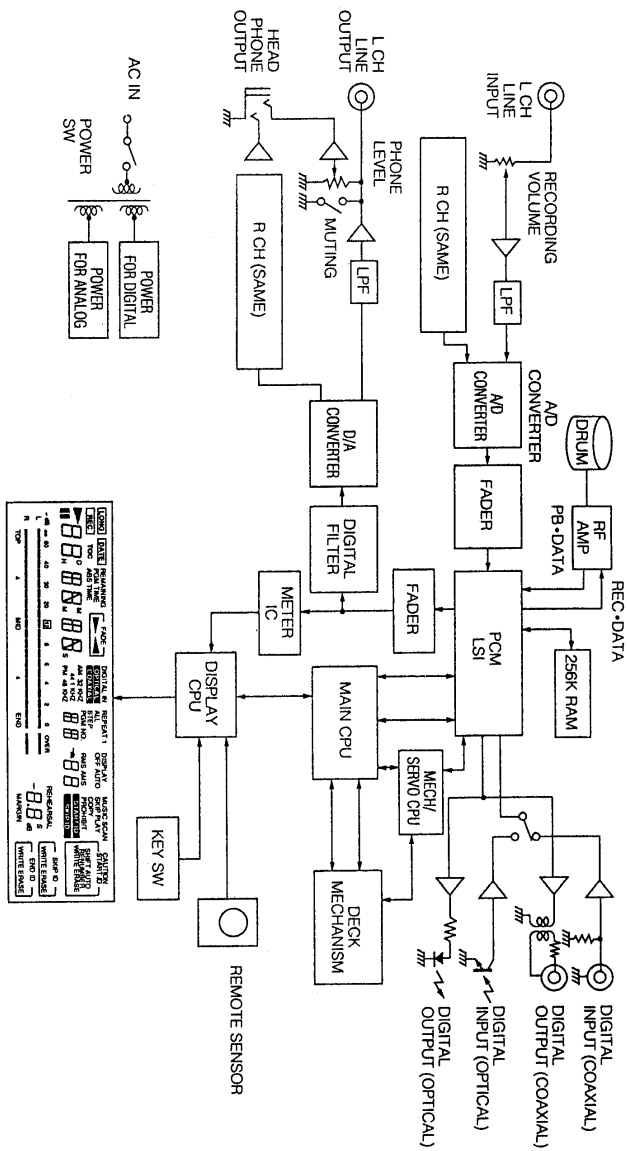
Notes on connection
- Use the connecting cords specified in the illustrations.
- Turn off the power for all equipments before making connections.
- Be sure to insert the plugs firmly into the jacks. Loose connections may cause hum and noise. When unplugging, grasp the plug and not the cord.

Notes on the optical cable
- Do not bend the cord. When the cord is not used, curl it with a diameter of more than 15 cm (5 7/8 inches).
- Do not use it under high temperatures.
- When the optical cable is not connected, cover the OPTICAL IN/OUT jacks with the supplied caps.

Note on sound signals
When connecting an optical cable to the DIGITAL IN/ DIGITAL OUT jacks, sound signals (L/R) are transmitted together through the cable.

Note on the CONTROL-S IN jack
To remotely control this unit through a receiver or amplifier, connect the input of this unit to the CONTROL-S output of a Sony receiver or amplifier, with a CONTROL-S cable. When this connection is used, only remote control commands sent through the receiver or amplifier will be executed. The remote sensor of this unit will not function.

Block Diagram



Clock Setting

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 the tape later.

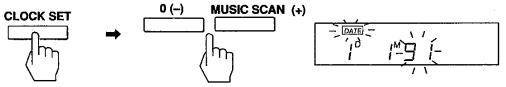
Setting the date and time

Example: Setting the clock to 10:30:00 AM, July 4, 1991 (Thursday)

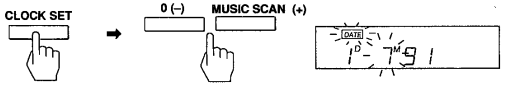
Setting the day

1 Display the date.

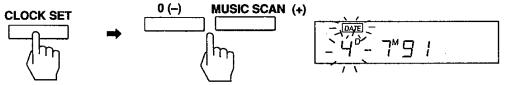
2 Set the year.



3 Set the month.



4 Set the day.

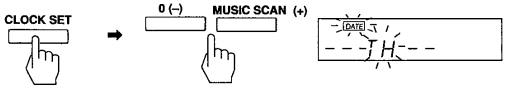


5 Complete the setting procedure.

Setting the day of the week

1 Display the day of the week.

2 Set the day of the week.

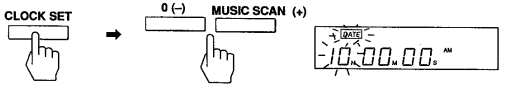


3 Complete the setting procedure.

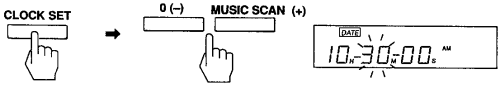
Setting the time

1 Display the time.

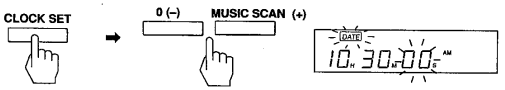
2 Set the hour.



3 Set the minutes.



4 Set the seconds to 0.



5 Start the clock simultaneously with the signal from a timecast (telephone, etc.).

To confirm the date or time
Press the PRESENT button to display the date, the day of the week or time. When pressing the PRESENT button once, the date is displayed, when pressing twice, the day of the week is displayed and when pressing three times, the time is displayed. To return to the original counter display, press the COUNTER button.

Time display
AEP, UK, E models :
The time is displayed in 24-hour format.
US, Canadian models :
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.

Precautions when setting the clock
- 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.

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

- **Remove the following devices shown by ❶, etc. In the order of the numbers.**

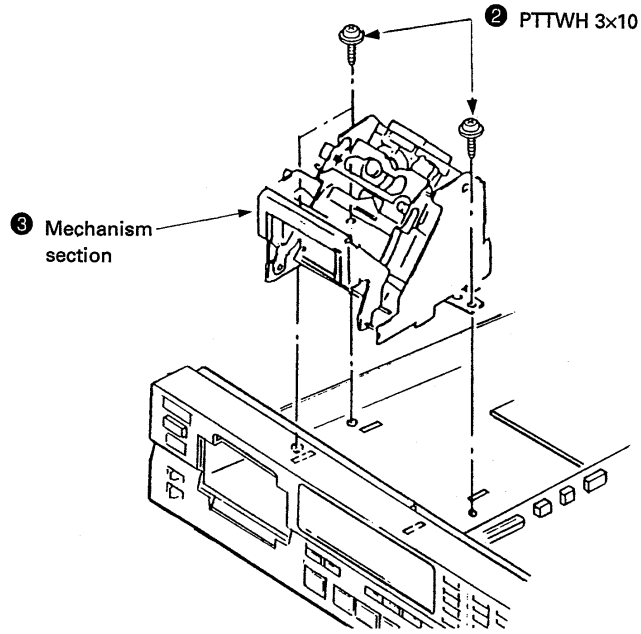
[CASE]

Unscrew the four case attachment screws and remove the case.

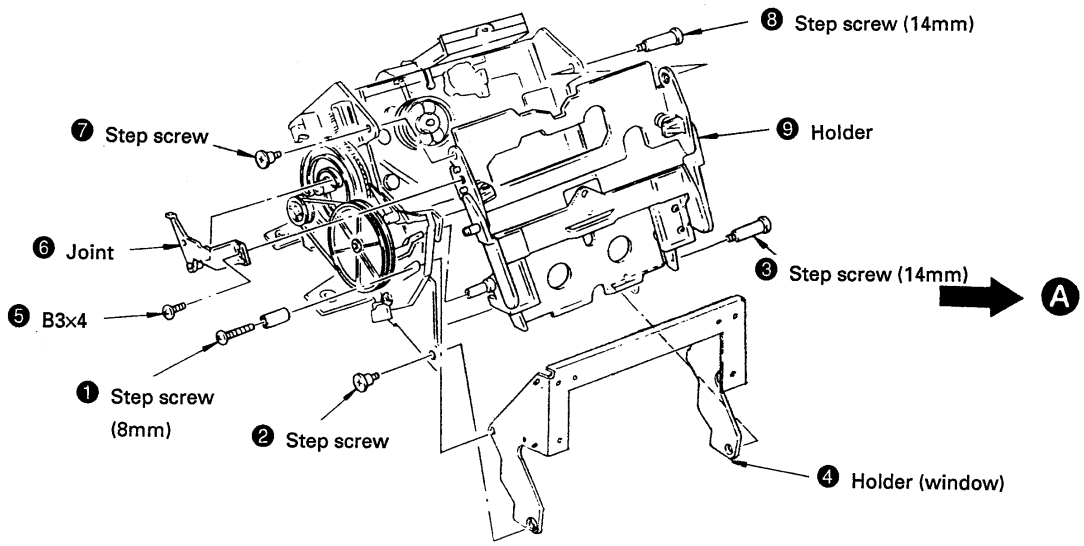
[CASSETTE WINDOW]

❶ Press the OPEN/CLOSE switch to effect LOADING OUT STATE (if power is not supplied) rotate the pulley in the left side of the Mechanism Deck counterclockwise.)
❷ Remove the cassette by lifting the window up.

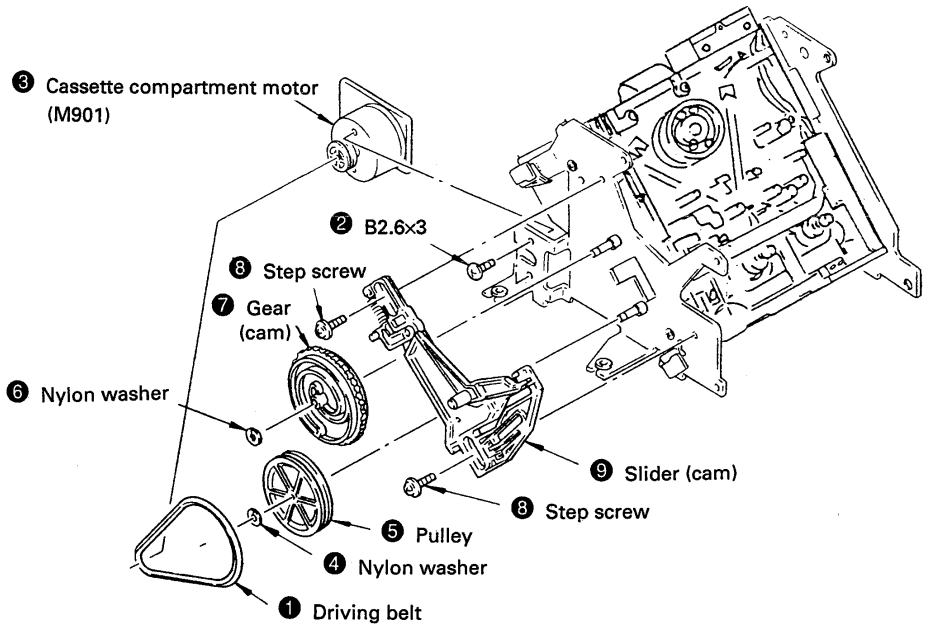
MECHANISM SECTION

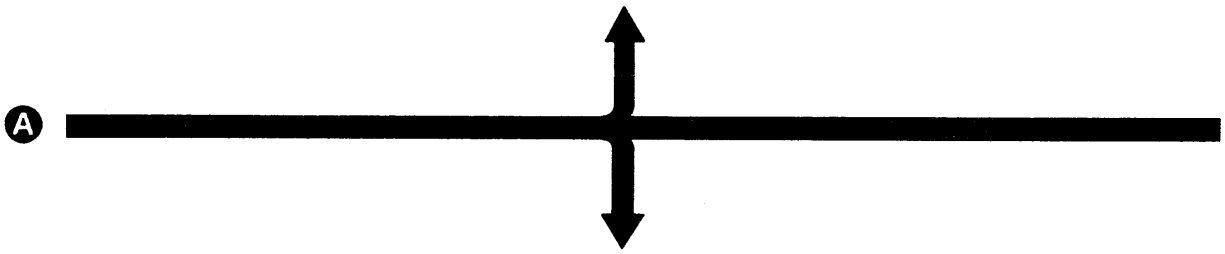


HOLDER



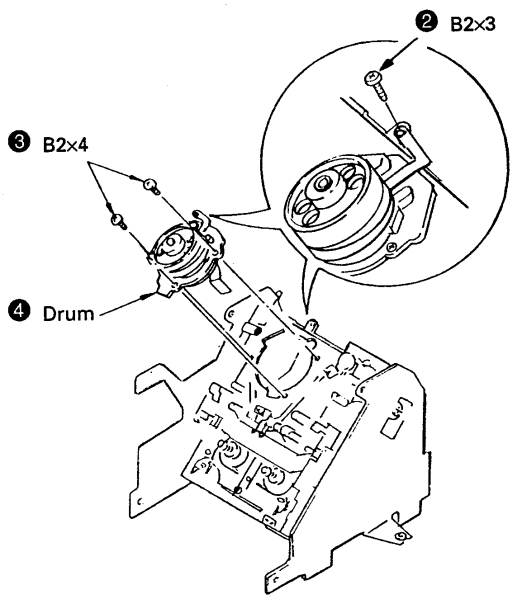
CASSETTE COMPARTMENT MOTOR (M901), PULLEY, GEAR (CAM) AND SLIDER





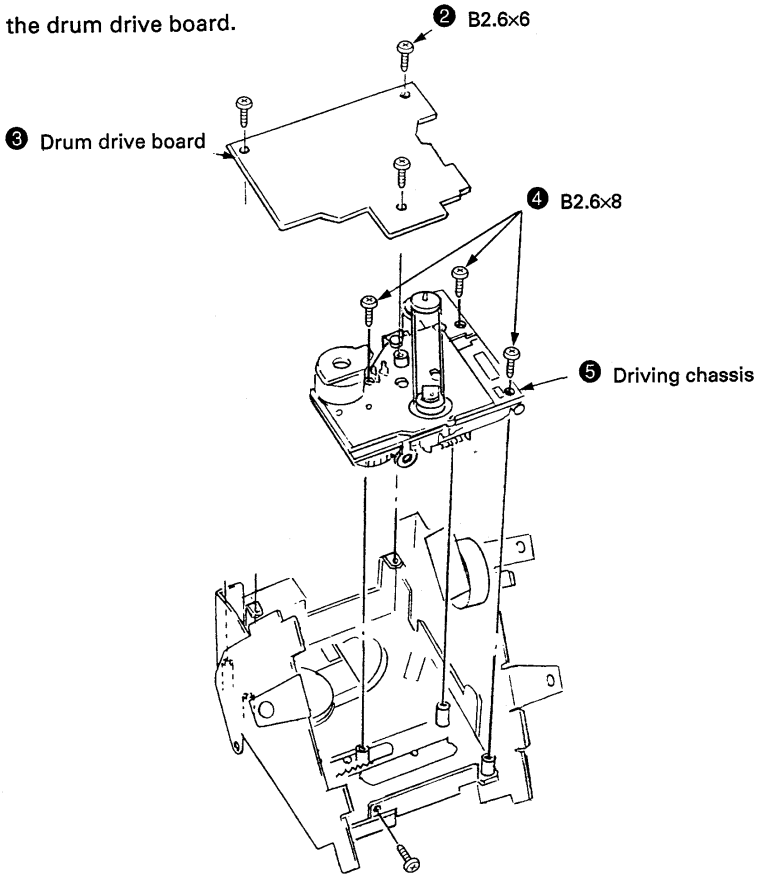
DRUM

❶ Remove the drum lead wires on rear side of the drum from the connector.

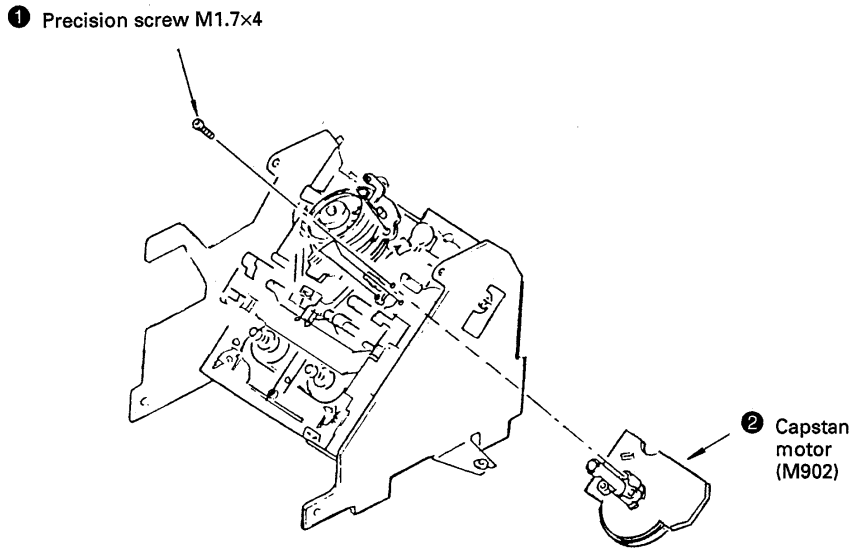


DRUM DRIVE BOARD, DRIVING CHASSIS

❶ Remove the connector on the drum drive board.



CAPSTAN MOTOR (M902)



SECTION 3
ADJUSTMENTS

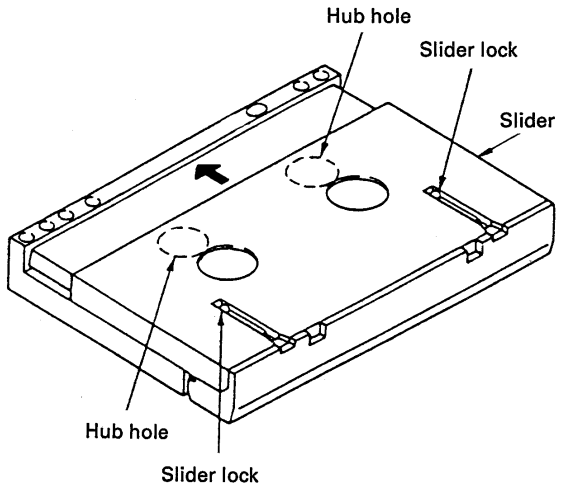
Notes When Making Adjustments

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

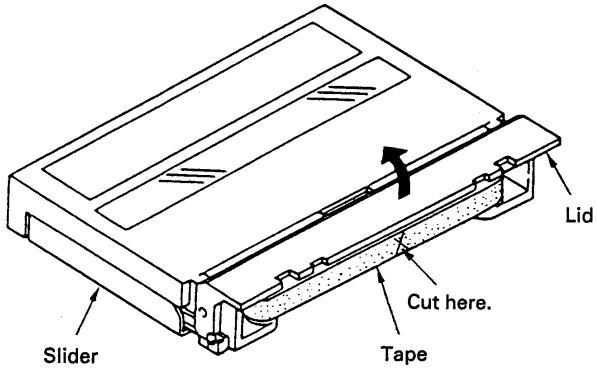
   Use the following torque meter:
   TW-7131 (8-909-708-71) ..... FWD

3. Switches and controls should be set as follows unless otherwise specified.
   TIMER switch : OFF
   REC MODE switch : LONG
   INPUT switch : COAXIAL
   REC LEVEL control : Min.
   PHONES 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.

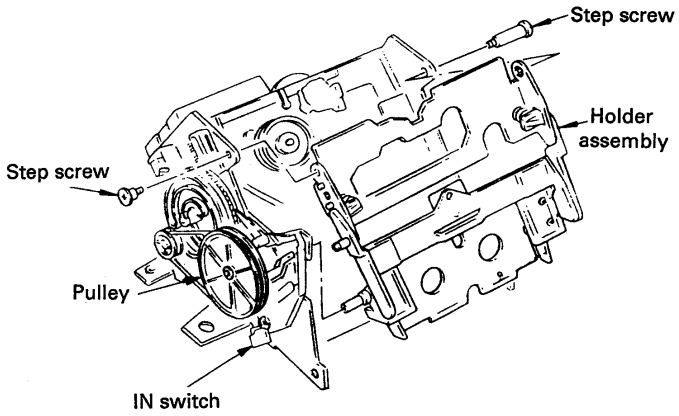


   (3) Turn the hubs until the tape is completely inside the cassette (both T and S sides).
   The end sensor cassette for end sensor adjustment is now ready for use.

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

6. 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.



7. Test mode
   The test mode is effected by shorting TP (XTEST MAIN, XTEST SERVO and XTEST DISP) on the main board and the operation switch board and GND.
   (1) Test mode (main)
   Turn OFF the main switch, connect XTEST MAIN on the main board to GND and perform the following adjustments.
   - Tape path adjustment
   - DPG adjustment
   - ATF pilot (GCA) checking

   (2) Test mode (servo)
   Turn OFF the main switch, connect XTEST SERVO on the main board to GND and perform the following adjustments.
   - End sensor checking
   - FWD torque checking
   - FWD back tension checking

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

Each grid of the FL display tube sequentially lights up while all tubes being lighted up finally.

⇓

Level meters go out one after one.

⇓

Press any of the remote controller for DAT in this state. Thus, all level meters go out. (It may sometimes occur that one or two meters remain lighting up according to switch setting at that time.)

⇓

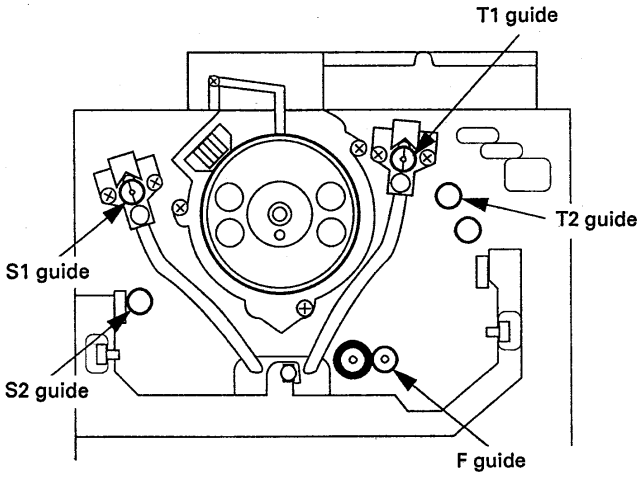
Everytime a switch on the panel is pressed, display tubes light up sequentially one after one. With all keys once pressed, all level meters go out.

- To reset the test mode, disconnect the wire shorting XTEST and GND. After completion of adjusting, be sure to reset the test mode.

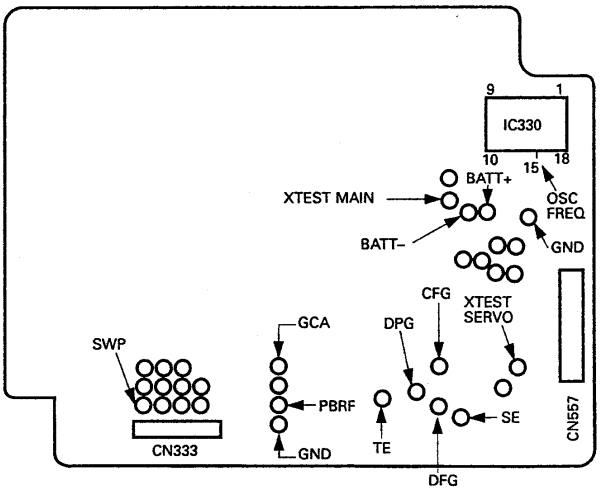
8. Check the following items for correct tape speed, after completion of adjusting.
   (1) Set the REC MODE switch to STANDARD and check for normal recording and playback. (× 1)
   (2) Set the REC MODE switch to LONG and check for normal recording and playback. (× 0.5)
   (3) With QUE (▶ + ▶▶) or REVIEW (▶ + ◀◀), check that qurrr, qurrr sound is heard. (× 3, × 8)
   (4) Check that correct time is displayed after FF (▶▶) or REV (◀◀). (× 16)
   (5) Check that SEARCH (▶▶I, I◀◀) is normal.

Adjust Parts Location

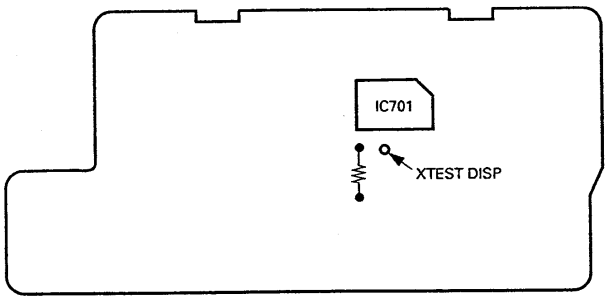
— Mechanism assembly —



— Main board —



— Display board —



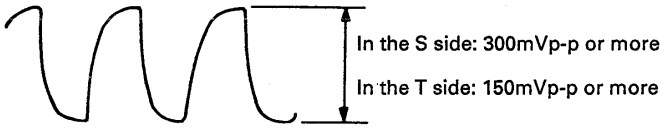
3-1. ELECTRICAL ADJUSTMENTS

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 (in the S side) and TE (in the T side) of the main board.
2. Actuate the test mode (servo), mount an end sensor casette and effect the STOP (■) mode.
3. Check that p-p values of waveform of the oscilloscope satisfy the following.



FWD Torque Adjustment

Adjustment Procedure:

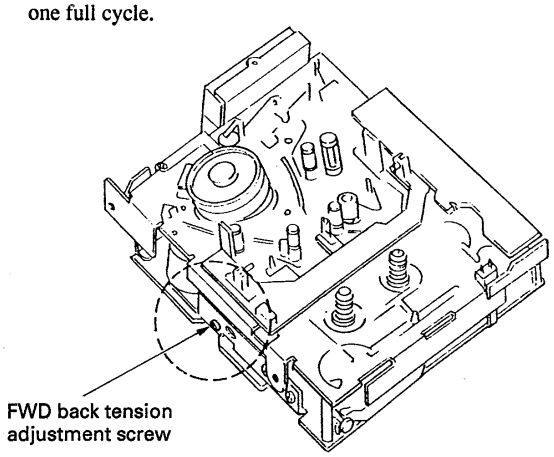
1. Put the set into the test mode and load the FWD torque meter TW-7131 (8-909-708-71).
2. Put the set into the PLAY (▶) mode.
3. Confirm that the FWD torque value (take-up side rewinding torque) is between 10 – 20 g·cm (0.14 – 0.28 oz·inch).
4. Confirm that the value indicated by the torque meter is maintained for one full cycle.

Adjustment Point: main board

FWD Back Tension Check

Check 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. Confirm that the back tension (supply side) is between 5 – 6 g·cm (0.07 –0.09 oz·inch).
   If this is not satisfied, adjust back tension by rotating the FWD back tension adjustment screw equipped on the side surface of the mechanical deck. After completion of adjusting, be sure to apply screw lock.
4. Confirm that value indicated by the torque meter is maintained for one full cycle.



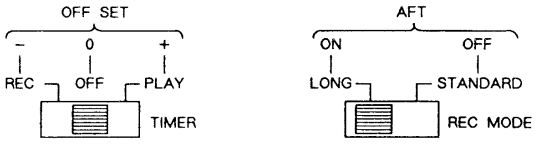
To tighten (clockwise) — back tension becomes larger.
To loosen (counterclockwise) — back tension becomes smaller.

Tape Path Fine Adjustments (× 1.5 FWD Mode)

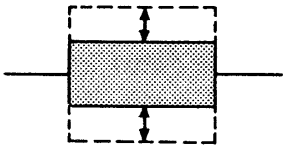
Perform the following adjustment when the drum has been replaced.

Adjustment Procedure :

1. Connect an oscilloscope CH-1 to TP (PBRF) and CH-2 to TP (SWP) on the main board.
2. Put the set into the test mode and load test tape TY-7252 (8-909-822-00).
3. Press the AMS (▶▶I) key.
   Each part of switches on Test Mode.

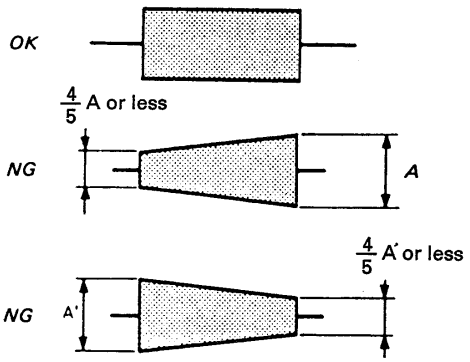


4. With the REC MODE switch set to STANDARD (ATF: OFF) and the TIMER REC switch set to PLAY or REC (OFFSET: + or –), fine adjust the S1 and T1 guides so that the oscilloscope RF signal waveform remains the same when high-low is repeated.



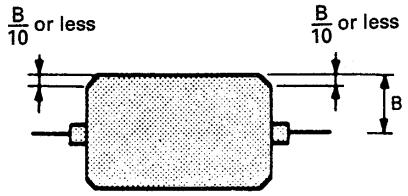
* Finish the adjustment by screwing in.

5. 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 –).



6. 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).
   (1) Confirm theat the RF signal waveform peak value (B) is 60 mV or more.

(2) Confirm that the undershoot level of the RF signal waveform's flat portion is within 10%.



7. When the measured values are not within the above tolerances, repeat items 3 – 6 above.

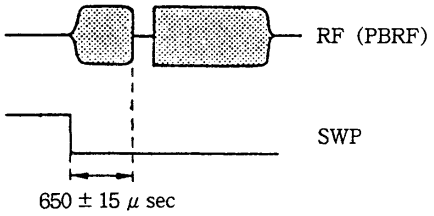
Adjustment Point: mechanism assembly

DPG Adjustment

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

Adjustment Procedure:

1. Connect oscilloscope CH-1 to TP (PBRF) and CH-2 to TP (SWP) on the main board. (Use CH-2 as the trigger. When the CH-2 signal is inverted, the trailing edge can be used for synchronization.)
2. Put the set into the test mode and load test tape TY-7252 (8-909-822-00).
3. Set the REC MODE switch to LONG (ATF: ON) and the TIMER REC switch to OFF (OFFSET: 0).
4. Press the AMS (▶▶I) key.
5. Press the ◀◀ and ▶▶ keys as appropriate so that the gap between the oscilloscope SWP and RF signals becomes 650 ± 15 µsec. (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.)



ATF Pilot (GCA) Adjustment

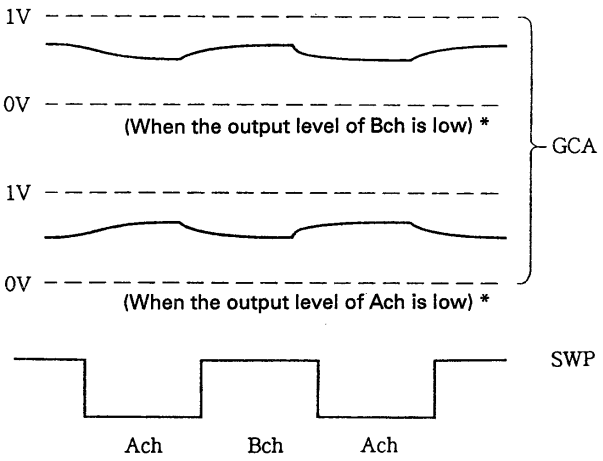
Perform this adjustment after cleaning the heads with a cleaning cassette.

Adjustment Procedure:

1. Connect oscilloscope CH-1 to TP (GCA: Gain Control Amp.) and CH-2 to TP (SWP) on the main board. (When the CH-2 signal is inverted, the trailing edge can be used for synchronization.)

2. Put the set into the test mode and load test tape TY-7111 (8-909-812-00).

3. Actuate the PLAY (▶) mode and check that the GCA waveform on the oscilloscope is as follows.



* Slightly changes depending on the state of the head. NG if the GCA waveform is 1V or more or equal to the GND level.

3-2. CHECKS FOR DATE FUNCTION

Clock IC Back-up Check

- When there is the short-circuit position on the pattern around the lithium battery (BAT301) or the clock IC (IC330) or disconnecting CN398 on removing the front panel assembly the clock is reset. (In spite of pressing PRESET button, the data indication becomes "– –^{Y} – –^{M} – –^{D}" "– –$_{H}$ – –$_{M}$ – –$_{S}$")
  At this time, check the back-up function by the procedures given below.

(1) Connect DC voltmeter to TP (BATT+) and TP (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 IC321 or replace IC321.)
(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 five 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.

Clock Frequency Adjustment

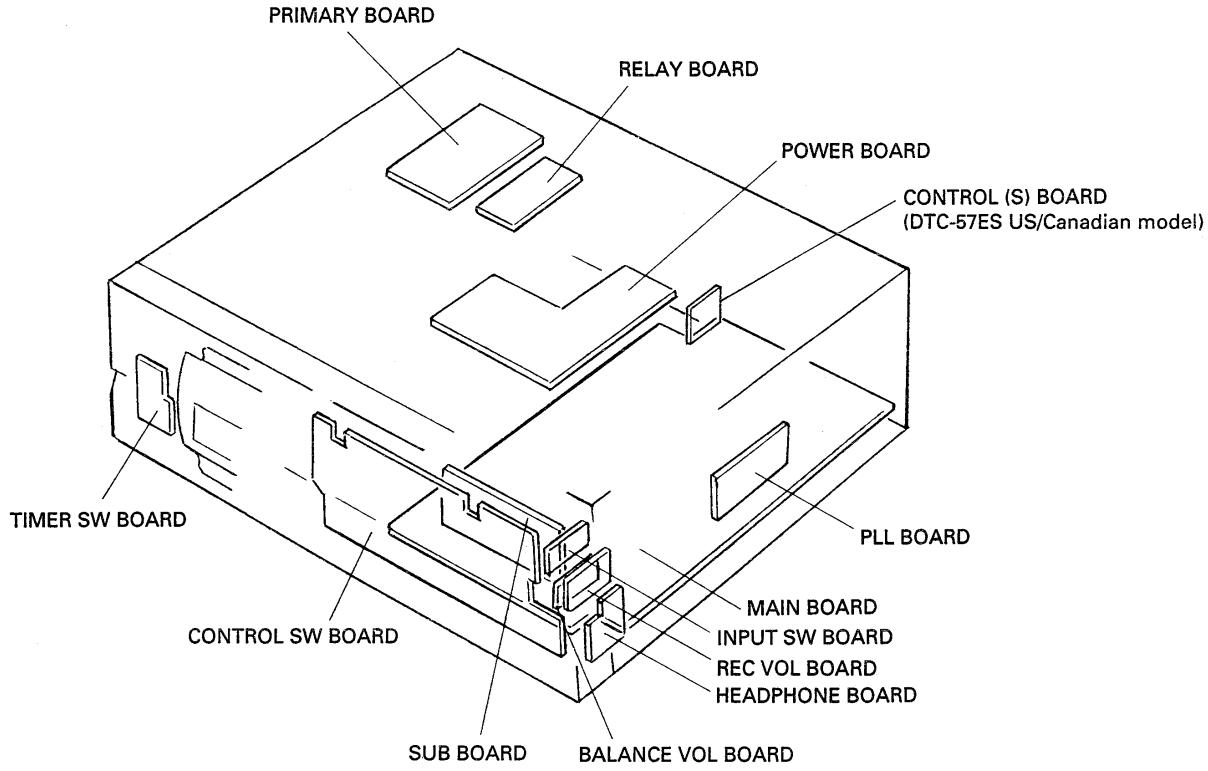
Adjustment Procedure:

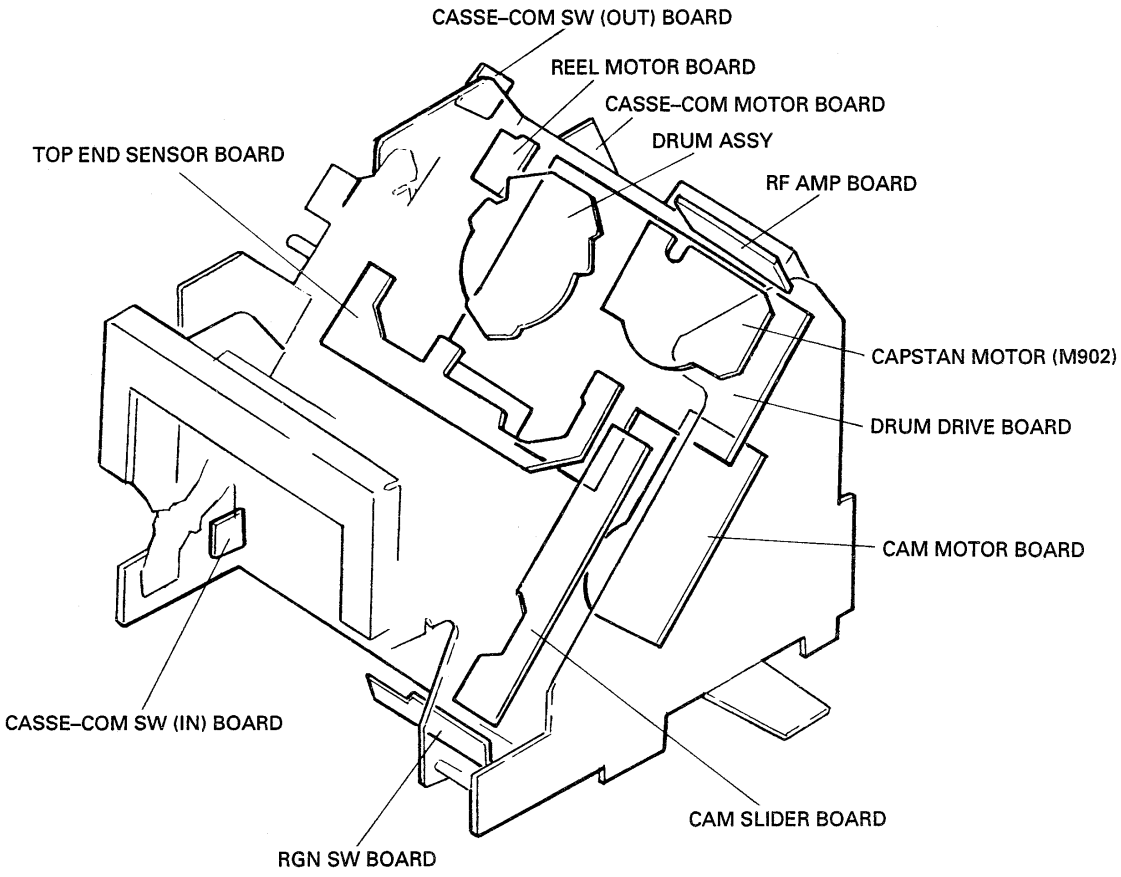
1. Connect a frequency counter to pin ⑮ of IC330 and GND on the main board.
2. Turn power on and confirm that the reading on the frequency counter is 2048.00 ± 0.02 Hz. (in normal temperature)
3. Perform "Clock IC Back-up Check" described above.

* Time setting procedure described on page 9.

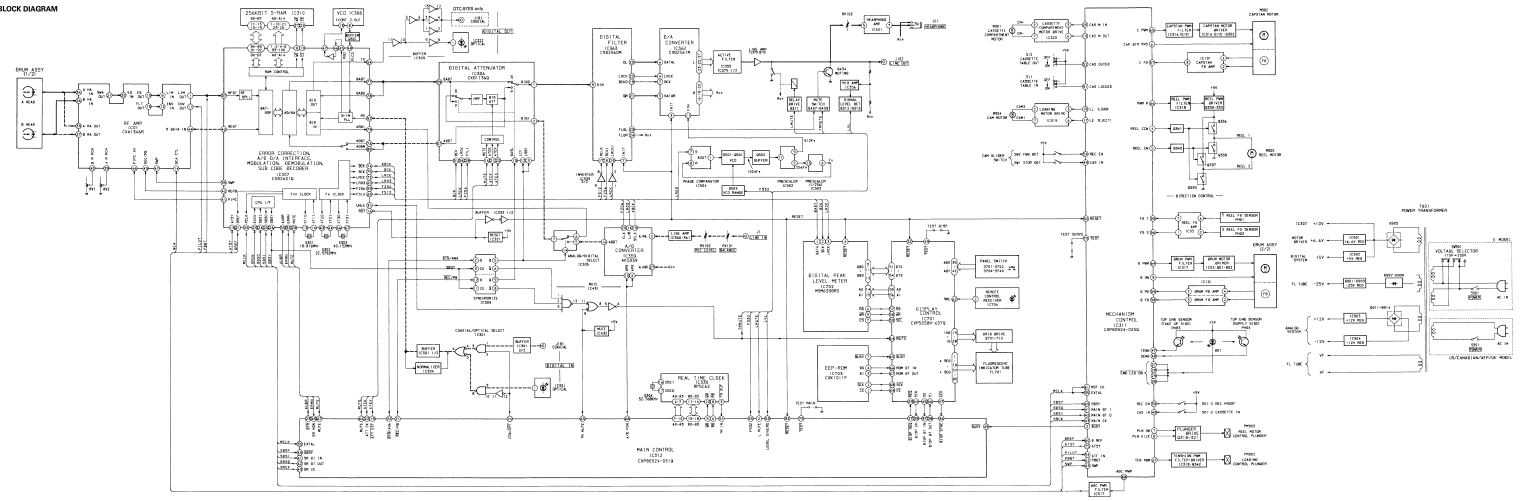
SECTION 4
DIAGRAMS

4-1. CIRCUIT BOARDS LOCATION



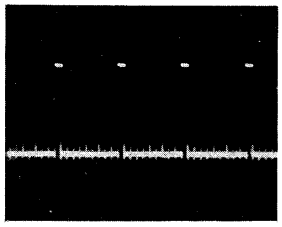


4-2. BLOCK DIAGRAM

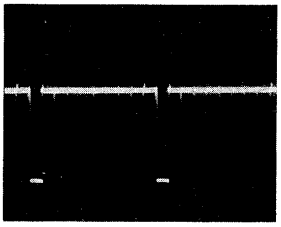


4-3. WAVEFORMS

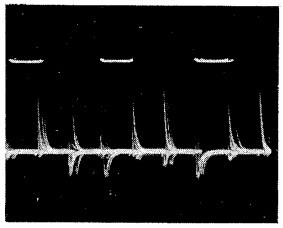
❶ FL701 ⑪-⑱pin
36Vp-p, 1ms



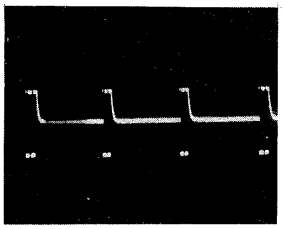
❷ IC701 ㉕-㉘pin
38Vp-p, 0.5µs



❸ IC701 ①-⑳pin
36Vp-p, 2µs

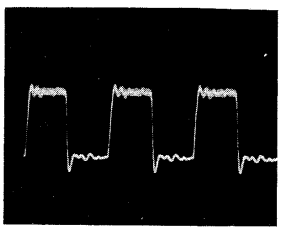


❹ IC701 ㊹-㊼pin
5.2Vp-p, 10ms

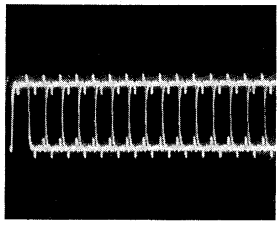


❺ IC702 ③pin
5.2Vp-p, 5µs

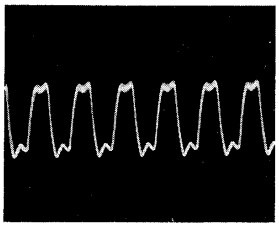
❻ IC702 ②pin
6.4Vp-p, 1µs



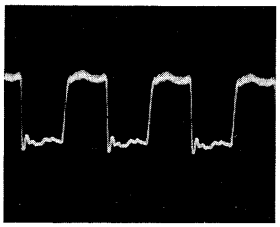
❼ IC702 ①pin
5Vp-p, 0.5µs



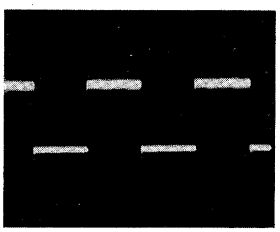
❽ IC306 ㉘pin
5Vp-p, 0.5µs



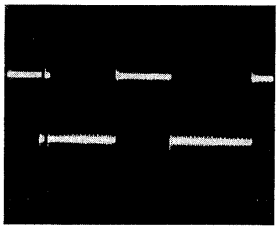
❾ IC306 ㊶pin
6Vp-p, 0.1µs



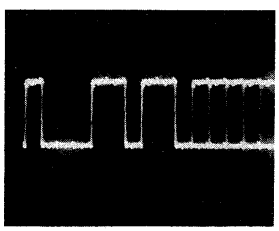
❿ IC306 ㊻pin
5Vp-p, 5µs



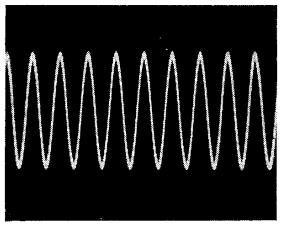
⓫ IC306 ㊼pin
5Vp-p, 5µs



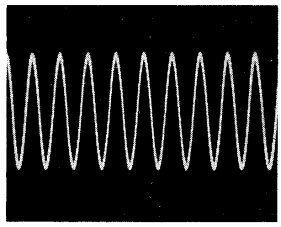
⓬ IC306 ①,㊾pin
5Vp-p, 1µs



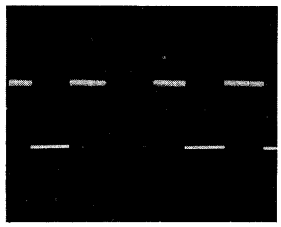
⓭ IC307 ⑬pin
4.2Vp-p, 18MHz



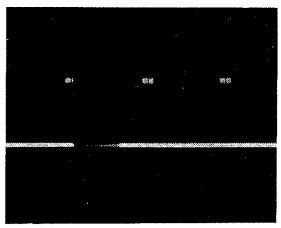
⓮ IC307 ⑭pin
3Vp-p, 18MHz



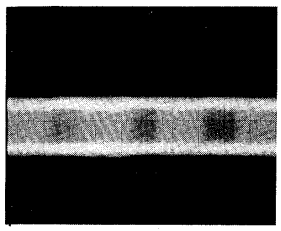
⓯ IC307 ⑳pin
5.2Vp-p, 5ms



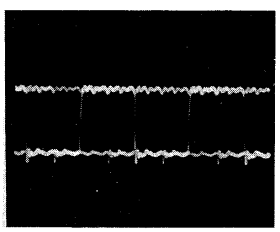
⓰ IC307 ㉑pin
5Vp-p, 10ms



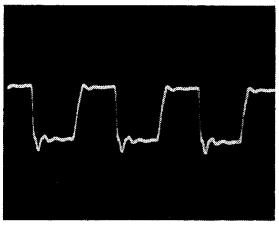
⓱ IC307 ㊲pin
100mVp-p, 2ms



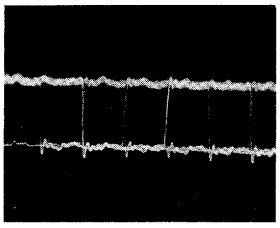
⓲ IC306 ㊸pin
5Vp-p, 0.2µs



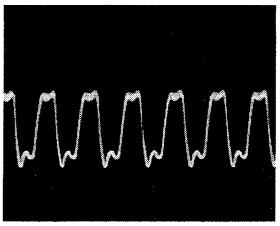
⑲ IC307 ㊽pin
4Vp-p, 0.5µs



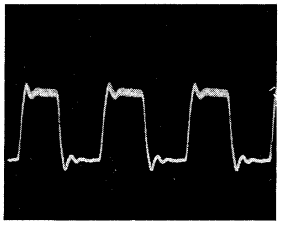
⑳ IC307 ㊿pin
6Vp-p, 1µs



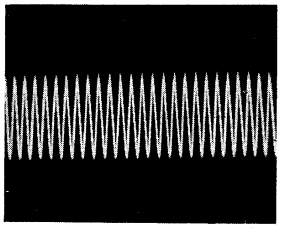
㉑ IC307 (58)pin
6Vp-p, 0.5µs



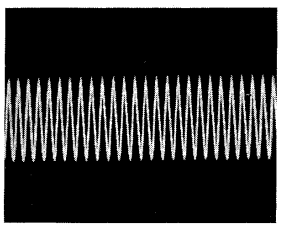
㉒ IC307 (59)pin
6Vp-p, 0.5µs



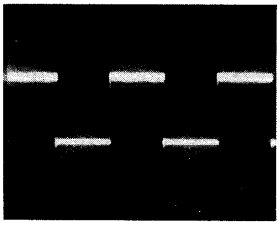
㉓ IC307 (66)pin
3.6Vp-p, 49MHz



㉔ IC307 (67)pin
1Vp-p, 49MHz

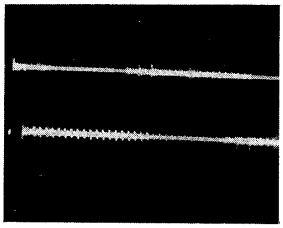


㉕ IC307 (69),(72)pin
5Vp-p, 5µs

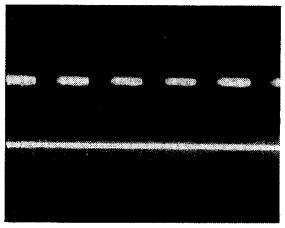


㉖ IC307 (74)pin
6Vp-p, 0.1µs

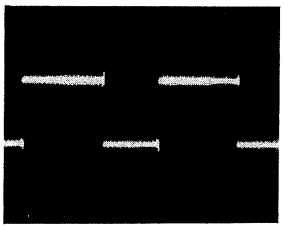
㉗ IC307 (76)pin
5Vp-p, 1µs



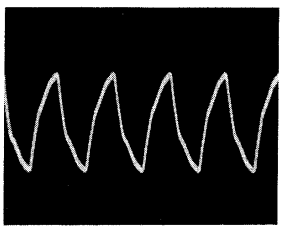
㉘ IC307 (78)pin
5Vp-p, 5µs



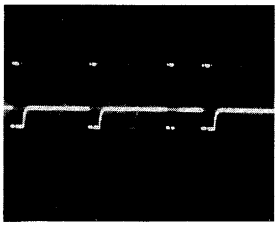
㉙ IC307 (80)pin
5Vp-p, 2µs



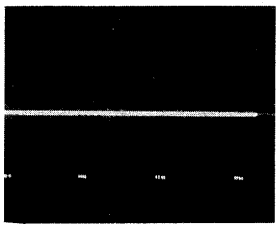
㉚ IC312 (35)pin
3.8Vp-p, 0.5µs



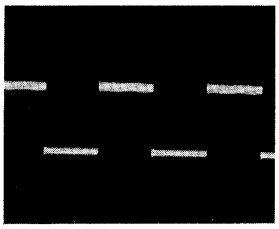
㉛ IC312 (36),(37),(38)pin
5Vp-p, 10ms



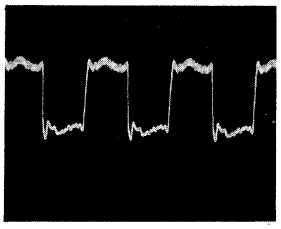
㉜ IC312 (39)pin
5Vp-p, 10ms



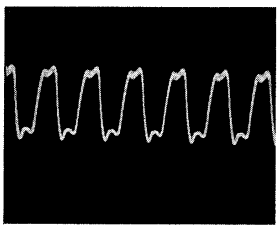
㉝ IC359 (14)pin
5Vp-p, 0.5µs



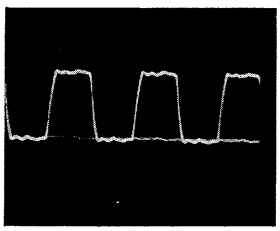
㉞ IC359 (15)pin
6Vp-p, 0.1µs



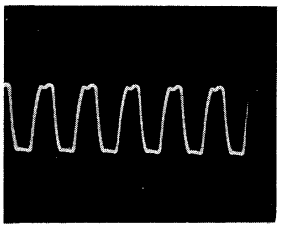
㉟ IC359 (20)pin
5.6Vp-p, 0.5µs



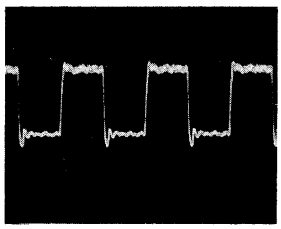
㊱ IC362 ⑤,⑥pin
5Vp-p, 0.5µs



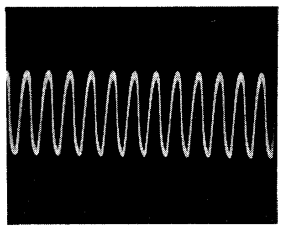
㊲ IC362 (7)pin
5Vp-p, 0.5µs



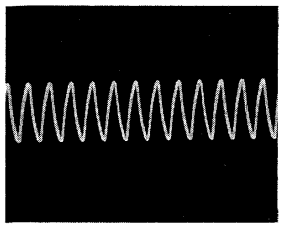
㊳ IC363 (8)pin
6.4Vp-p, 0.1µs



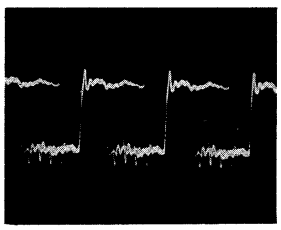
㊴ IC362 (11)pin
7Vp-p, 0.5µs



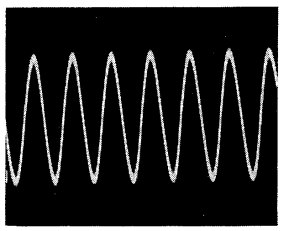
㊵ IC363 (17)pin
4.8Vp-p, 1µs



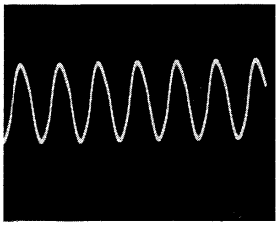
㊶ IC362 (16),(18),(19),(25),(27)pin
6Vp-p, 0.1µs



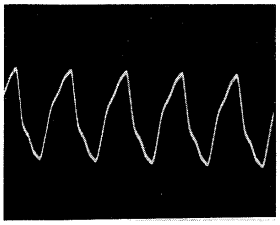
㊷ X304 (16)pin
1Vp-p, 32.768kHz



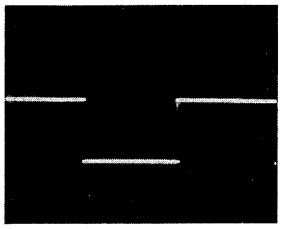
㊸ IC330 ⑰pin
16Vp-p



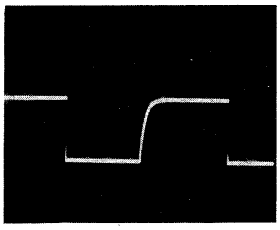
㊹ IC311 ㉟pin
4.5Vp-p, 0.5µs



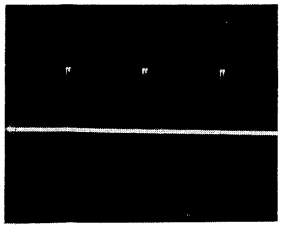
㊺ IC311 ㊼pin
5Vp-p, 2ms



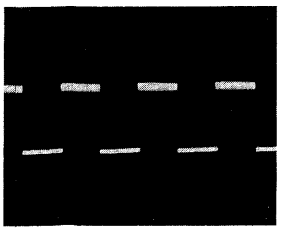
㊻ IC311 ㊽pin
5Vp-p, 2ms



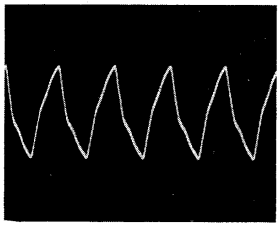
㊼ IC311 ㊾pin
5Vp-p, 10ms



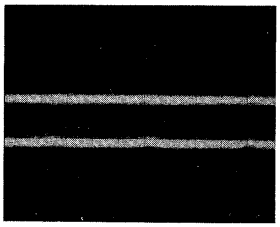
㊽ IC311 ㊿pin
5Vp-p, 10ms



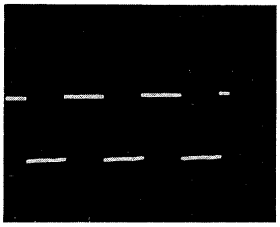
㊾ IC311 ㊶pin
3.5Vp-p, 10µs



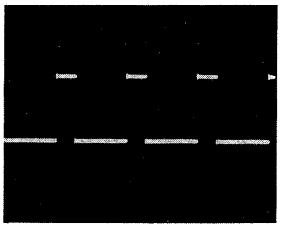
㊿ IC311 ㊷pin
100mVp-p, 10µs



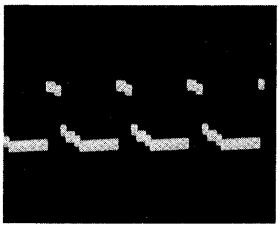
(51) IC311 ㊸pin
5Vp-p, 10µs



(52) IC311 ㊹,㊻pin
5Vp-p, 10µs

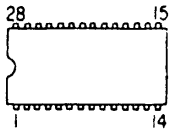


(53) IC311 ㊺pin
15mVp-p, 10µs

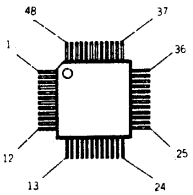


4-4. SEMICONDUCTOR LEAD LAYOUTS

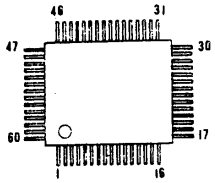
CX5339-KP
CXD2561M



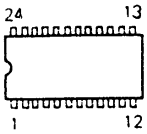
CXA1364R



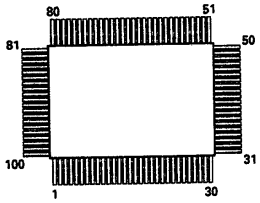
CXD1136Q



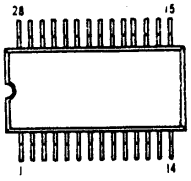
CXD2560M



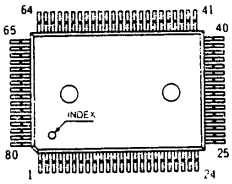
CXD2601AQ



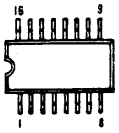
CXK58257M-12L



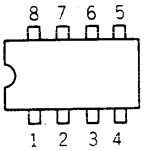
CXP5058H-657Q
CXP80524-040Q
CXP80524-025Q



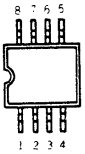
CX20115A



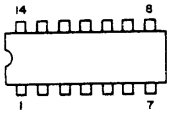
CXK1011P
LF412CN
M5238P
NE5532P
RC4558P
RC4560DD
µPC358C



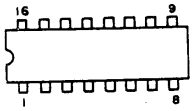
LM358M-FL63



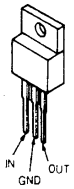
MC74AC74N
MC14011BCP
SN74HCU04AN
SN74HC10ANS
SN74HC393AN
SN74HC74ANS
SN74LS624N
TC74HC132AP



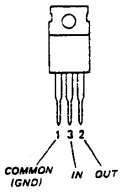
MSM6338RS
SN74HC153ANS



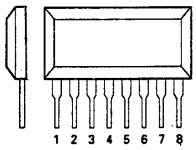
M5F7805L
M5F7805L-720
M5F7808L
M5F7812L
TA7805S
µPC2406HF



M5F7912L
TA7905S

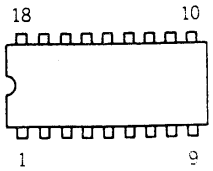


M54641L

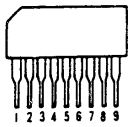


PST529C
PST529E

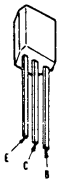
RP5C62



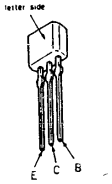
TC5081AP



DTA114ES
DTC114ES



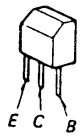
2SA1585S-QR
2SC4115S-OR
2SC2785-HFE



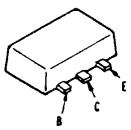
2SA933S-QR
2SC3623A-K
2SD1387

2SB1370-EF

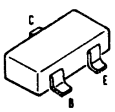
2SB734-34



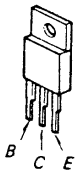
2SB798-DL



2SC1623

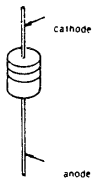


2SD2012

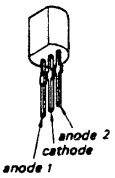


2SK241GR

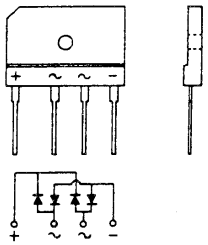
HZS24-3L
HZS6A1L
1SS168
1SS202-1
11EQS04
11ES2



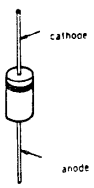
KV1320



RBA-406B



1SS106
30D2-FC



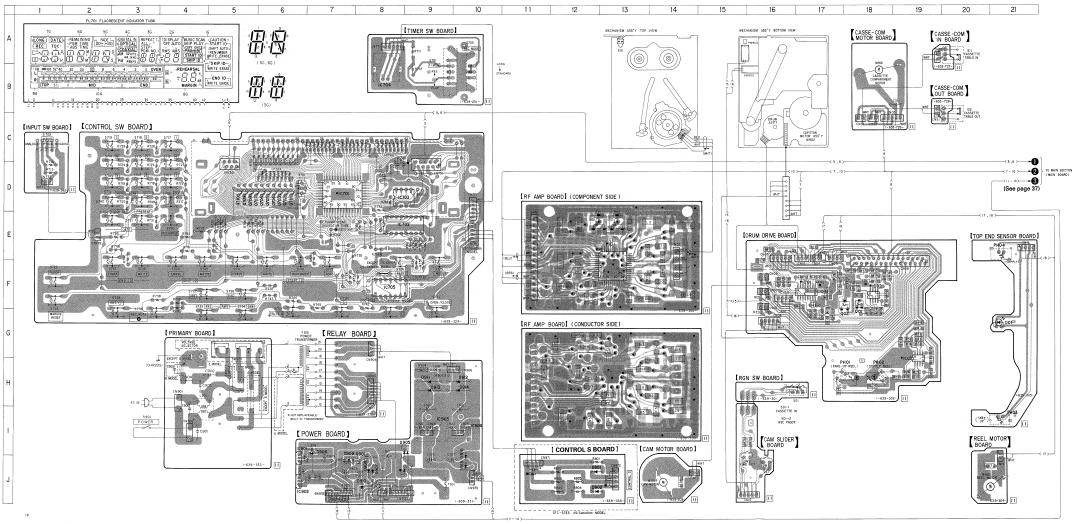
● SEMICONDUCTOR LOCATION

Ref. No.	LOCATION
D01	G – 21
D905	J – 9
D906	I – 7
D907	J – 8
D908	J – 8
D909	J – 7
D910	J – 8
D911	H – 9
D912	H – 10
D913	H – 9
D914	H – 10
D915	J – 10
D916	J – 10
IC1	F – 13
IC01	F – 17
IC02	F – 16
IC03	G – 19
IC701	D – 7
IC702	E – 8
IC703	D – 8
IC704	B – 8
IC901	J – 6
IC902	J – 6
IC903	I – 9
IC904	I – 10
PH01	H – 17
PH02	H – 18
PH03	I – 21
PH04	E – 21
Q01	F – 18
Q02	F – 18
QT01	D – 6
QT02	D – 6
QT03	D – 6
QT04	D – 6
QT05	D – 6
QT06	D – 5
QT07	D – 5
QT08	D – 5
QT09	D – 5
QT10	D – 5
Q901	J – 8

Note:
- ▪▬▪▬▪ : Indicated a lead wire mounted on the component side.
- ▪ ■ ▪ : parts mounted on the conductor side.
- ▪ ● ▪ : Through hole.
- ▪ ▒▒▒ ▪ : Pattern from the side which enables seeing.
- ▪ ▒▒▒ ▪ : Pattern of the rear side.

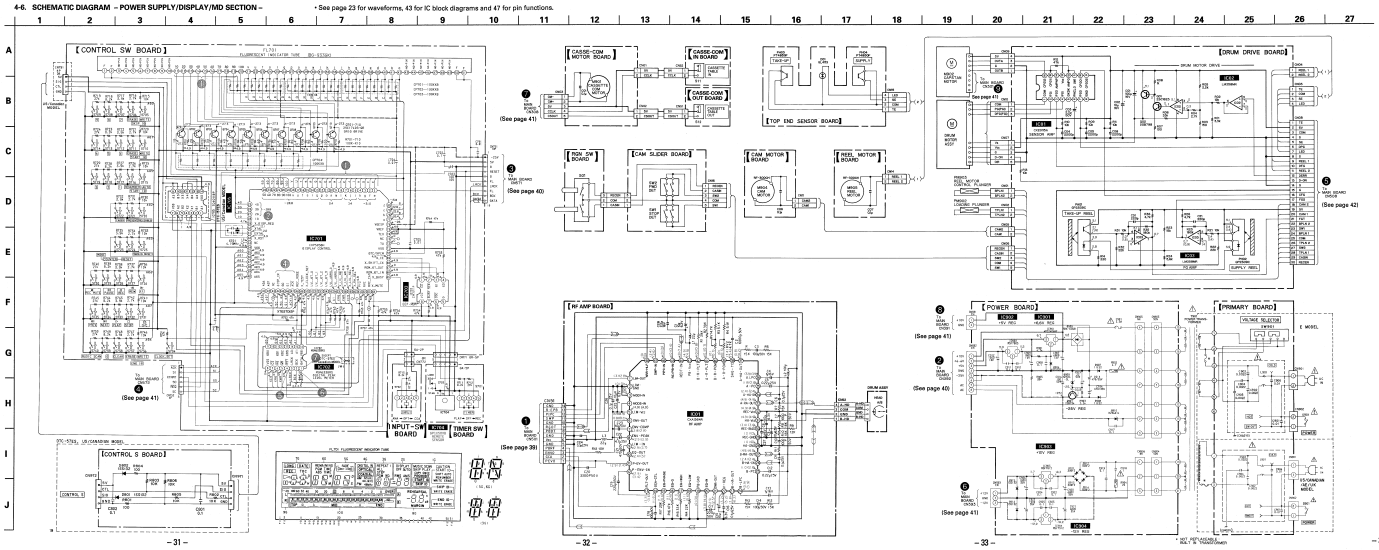
4-5. PRINTED WIRING BOARDS – POWER SUPPLY/DISPLAY/MD SECTION –

• See page 25 for semiconductor lead layouts.



4-6. SCHEMATIC DIAGRAM – POWER SUPPLY/DISPLAY/MD SECTION –

• See page 23 for waveforms, 43 for IC block diagrams and 47 for pin functions.



Note:
- All capacitors are in µF unless otherwise noted. pF: µF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- △ : Internal component.
- RW5□ : Fuse resistor

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.

- ———— : B + Line.
- – – – – : B – Line.
- □ : adjustment for repair.
- Voltage are dc with respect to ground under no-signal (STOP) conditions.
  no mark : Stop
  ( ) : PLAY
  < > : REC
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path
  ▷ : PB
  ▷ : REC

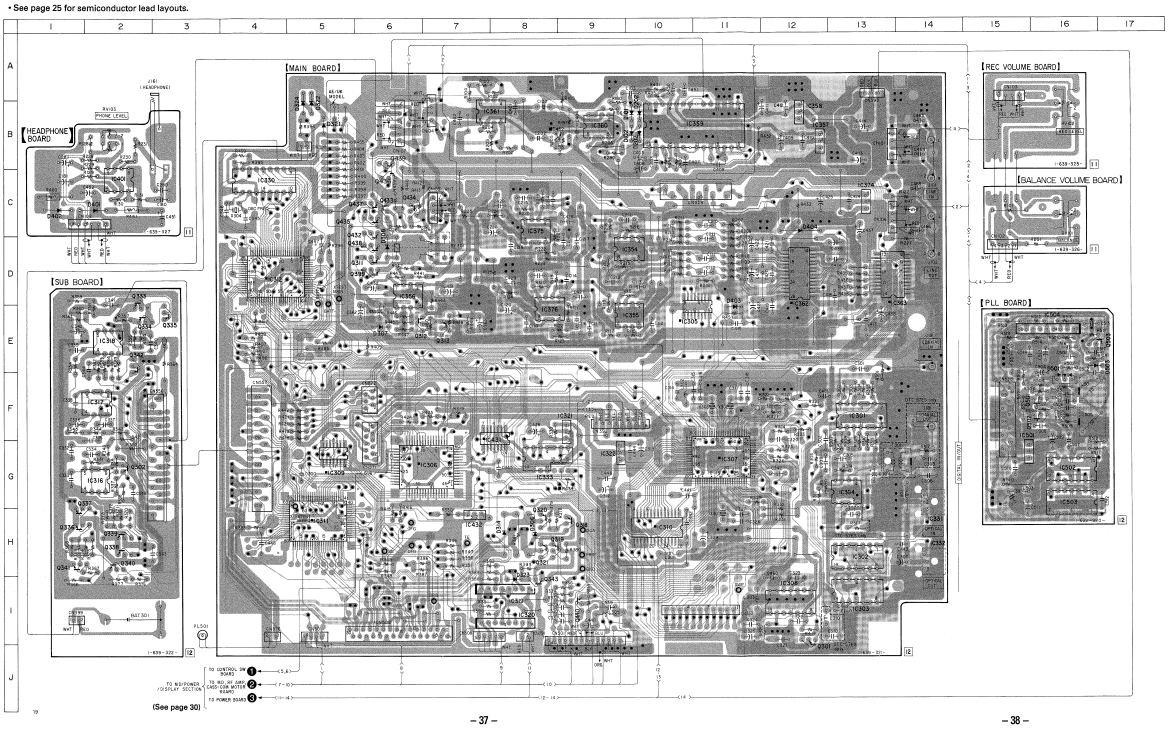
4-7. PRINTED WIRING BOARDS – MAIN SECTION –

● SEMICONDUCTOR LOCATION

Ref. No.	LOCATION	Ref. No.	LOCATION
D101	B – 10	IC361	B – 7
D102	B – 10	IC362	D – 12
D201	B – 10	IC363	D – 13
D202	B – 10	IC374	C – 13
D306	H – 8	IC375	C – 8
D307	E – 6	IC376	E – 8
D308	D – 6	IC401	C – 2
D314	H – 8	IC431	F – 8
D321	B – 5	IC432	H – 7
D322	B – 5	IC501	G – 15
D323	I – 8	IC502	G – 16
D324	B – 5	IC503	G – 16
D401	C – 2	IC504	E – 16
D402	C – 1		
D403	E – 11		
		Q301	I – 12
D404	C – 12	Q302	G – 2
D501	F – 16	Q311	D – 6
D503	E – 16	Q312	E – 6
		Q313	E – 7
IC301	F – 13	Q318	H – 9
IC302	H – 13	Q319	H – 8
IC303	I – 13	Q320	H – 8
IC304	G – 13	Q321	H – 8
IC305	E – 11	Q333	D – 2
IC306	G – 6	Q334	E – 2
IC307	G – 11	Q335	E – 3
IC308	I – 12	Q336	H – 1
IC309	G – 5	Q337	H – 1
IC310	H – 10	Q338	H – 2
IC311	H – 5	Q339	H – 2
IC312	D – 4	Q340	H – 2
IC316	G – 2	Q341	H – 1
IC317	F – 2	Q342	E – 2
IC318	E – 2	Q343	I – 8
IC319	I – 8	Q399	D – 6
IC320	I – 8	Q432	C – 6
IC321	F – 9	Q433	C – 6
IC322	G – 9	Q434	C – 6
IC330	C – 4	Q435	C – 6
IC331	G – 14	Q436	C – 6
IC332	H – 14	Q437	C – 6
IC333	G – 8	Q438	D – 6
IC354	D – 10	Q439	B – 6
IC355	E – 10	Q440	I – 9
IC356	D – 6	Q501	F – 16
IC357	B – 12	Q502	F – 16
IC358	B – 12	Q503	E – 16
IC359	B – 10		
IC360	B – 9		

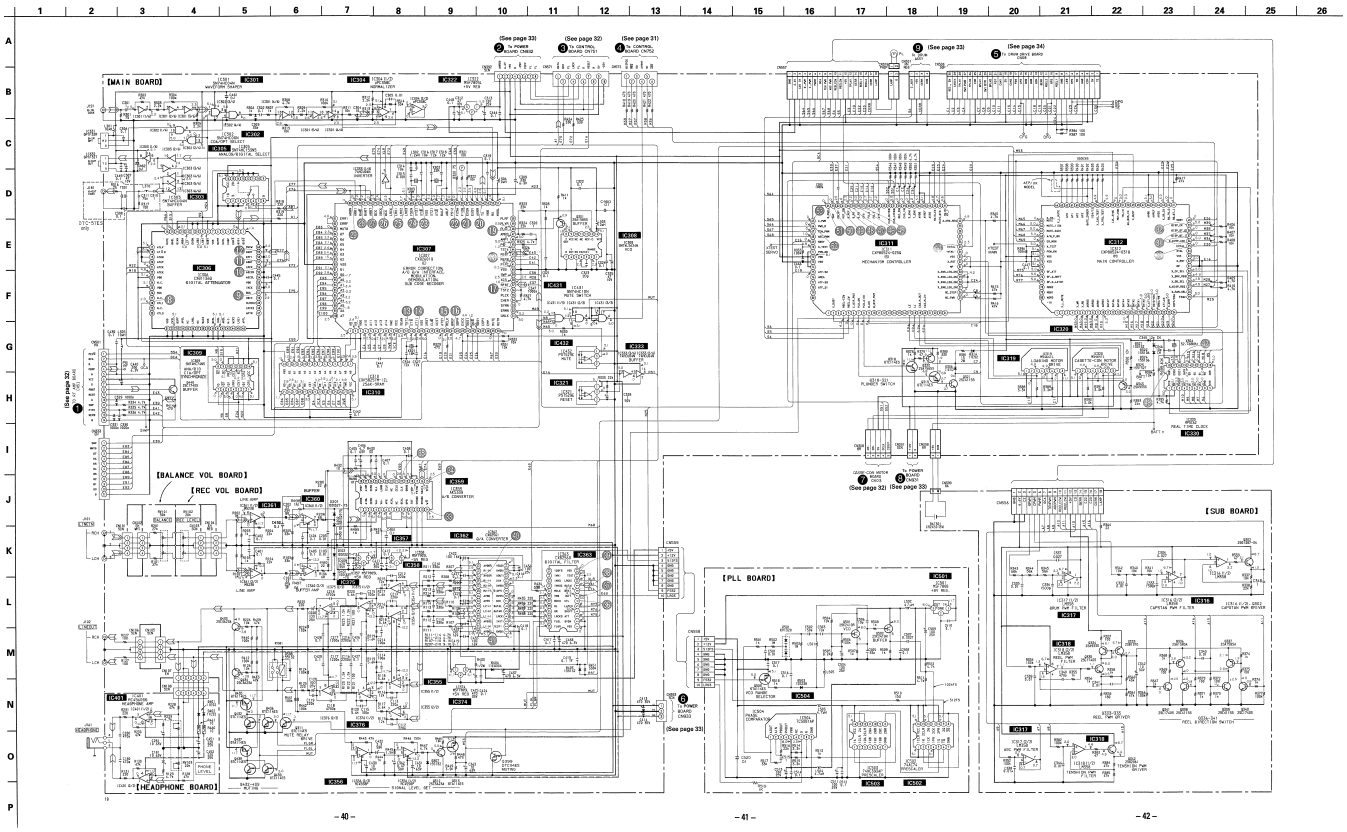
Note:
- ⊷: Indicated a lead wire mounted on the component side.
- ⊷: Indicated a lead wire mounted on the conductor side.
- ■ : parts mounted on the conductor side.
- ⊏⊐: indicates side identified with part number.
- ● : Through hole.
- ▒▒: Pattern from the side which enables seeing.
- ▒▒: Pattern of the rear side.

• See page 25 for semiconductor lead layouts.



4-8. SCHEMATIC DIAGRAM – MAIN SECTION –

• See page 23 for waveforms, 43 for IC block diagrams and 47 for pin functions.



Note:
- All capacitors are in µF unless otherwise noted. pF: µF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- Fuse resistor

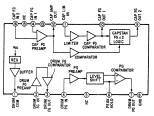
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

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

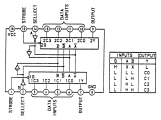
- ⟋⟋⟋⟋ : B + Line.
- - - - : B – Line.
- ▭ : adjustment for repair.
- Voltage are dc with respect to ground under no-signal (STOP) conditions.
  no mark : Stop
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path
  ▷ : PB
  ▷ : REC

4-9. IC BLOCK DIAGRAMS

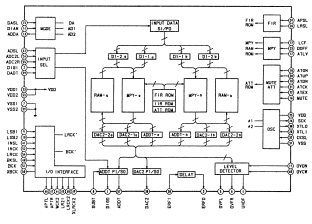
IC01 CX20115A



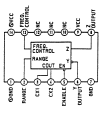
IC305 SN74HC153NS



IC306 CXD1136Q

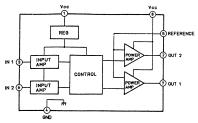


IC308 SN74LS624N

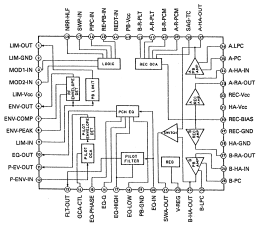


IC309 SN74HC74NS

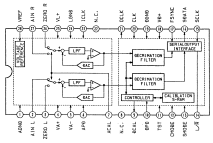
IC319,320 M54641L



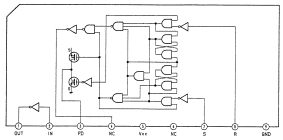
IC1 CXA1364R



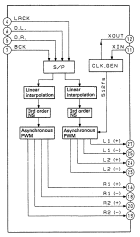
IC359 AK5339



IC504 TC5081AP



IC362 CXD2561M



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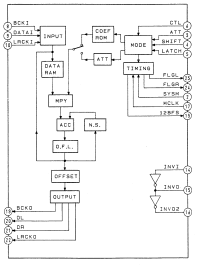
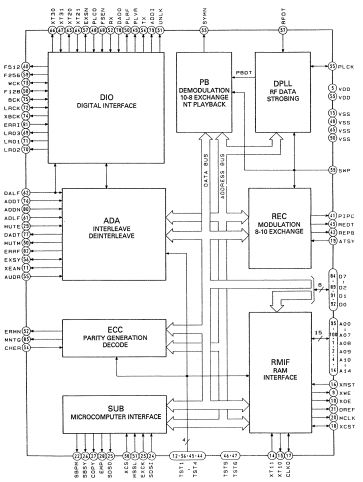


IC307 CXD2601AQ



4-10. PIN FUNCTIONS

IC306 Digital Attenuator (CXD1136Q)

The captioned attenuator is used with the equipment as a digital attenuator in fade IN and fade OUT.

Pin No.	Pin Name	I/O	Description
1	DIGO	O	Serial data output synchronized with BCK (complement of 2)
2	DIGI	I	Serial data input synchronized with BCK (complement of 2)
3	ERFO	O	Signal output for discriminating whether or not DADT has interpolated data
4	UNDF	O	Detect result for ADDT L, R channel data of –54 dB or less ("L": –54 dB or less)
5	OVFL	O	Detect result for ADDT L channel overflow ("L": overflow detected)
6	OVFR	O	Detect result for ADDT R channel overflow ("L": overflow detected)
7	VSS		GND
8	SUBT	I	Selects whether subcode or 18-bit data is output to ADDT and DIGO ("H" or open: 18-bit data output, "L": subcode output)
9	LSB1	I	MSB/LSB fast switching for DADT, ADDT, DIGI, DIGO ("H" or open MSB fast, L: LSB fast)
10	LSB2	I	MSB/LSB fast switching for DAC2, ADC2L (ADC2R) ("H" or open MSB fast, L: LSB fast)
11	OVON	I	Overflow detect result on/off ("H" or open: OVFL, OVFR output valid, L: OVFL, OVFR fixed "H")
12	LCF	I	Low-cut filter on/off ("H" or open: on)
13	ADDA	O	"H" in AD mode (DASL = DIAN = "L")
14	DIAN	I	Sets AD and DA modes
15	DASL	I	Sets AD and DA modes
16	MUTE	I	Soft muting on/off ("H": mute on)
17	ATLV	I	Digital volume range setting ("H" or open: 0 - –60, – ∞ dB, "L": +12 - –48, ∞ dB
18	ATON	I	Digital volume on/off ("H" or open: off)
19	ATDN	I	Digital volume level down
20	ATUP	I	Digital volume level up
21	ATCK	I	Digital volume level setting clock and soft muting external clock
22	ATEX	I	Soft muting operation clock selection ("H" or open: internal clock, "L": ATCK)
23	VDD	—	Power supply (+5 V)
24	NC		
25	VDD'	—	Oscillator circuit power supply (+5 V)
26	SCK	O	Oscillator clock output
27	NC		
28	XTLI	I	Crystal connector and clock input pin
29	NC		
30	XTLO	O	Crystal connector pin (24.576 MHz oscillation frequency possible)
31	VSS'	—	Oscillator circuit GND
32	CKSL	I	Oscillator clock division selection ("H" or open: no division, "L": 1/2 division)
33	NC		
34	NC		
35	DOFF	I	DAC2 digital offset on/off ("H" or open: on)
36	APSL	I	Aperture correction filter coefficient selection (not valid in AD mode) ("H" or open: correction active)
37	LRSL	I	L, R channel phase difference correction selection ("H" or open: correction active)
38	DAC2	O	Serial data output to 2-times oversampling DA converter (complement of 2)
39	VSS	—	Power supply (+5 V)
40	BKSL	I	LRCK, BCK input timing switch ("H" or open: LRCK change point and BCK leading edge synchronized, "L": LRCK change point and BCK trailing edge synchronized)
41	INSL	I	DADT, DIGI, ADC2L (ADC2R) data incorporation clock selection ("H" or open: BCK, "L": INCK)
42	ADSL	I	ADC2L, ADC2R data selection ("H" or open: ADC2L, "L": ADC2L and ADC2R switched by LRCK2)
43	NC		
44	WCK2	O	Clock equivalent to 4fs
45	LR21	O	DAC2 L, R channel discrimination signal in I²S format

Pin No.	Pin Name	I/O	Description
46	APTL	O	Aperture signal
47	APTR	O	Aperture signal
48	LRCK2	O	DAC2, ADC2L (ADC2R) L, R channel discrimination signal (equivalent to 2fs) ("L": L channel, "H": R channel)
49	XLRCK2	O	LRCK2 inverted output
50	XBCK	O	BCK inverted output
51	BCK	I	Clock equivalent to 64fs for DADT, ADDT, DIGI, DIGO data incorporation
52	INCK	I	DADT, DIGI, ADC2L (ADC2R) data incorporation clock
53	VDD	—	Power supply (+5 V)
54	ADC2L	I	Serial data input from 2-times oversampling AD converter (complement of 2)
55	ADC2R	I	Serial data input from 2-times oversampling AD converter (complement of 2)
56	LRCK	I	DADT, ADDT, DIGI, DIGO L, R channel discrimination signal (fs) ("L": L channel, "H": R channel)
57	ADDT	O	Serial data output synchronized with BCK (complement of 2)
58	ERFI	I	Signal input for discriminating whether or not DADT has interpolated data (complement of 2)
59	DADT	I	Serial data input synchronized with BCK (complement of 2)
60	OVCW	I	Clock input which determines detect time for OVFL, OVFR and UNDF

IC307 DAT Signal Processor (CXD2601Q)

This processor is an LSI to process recording and playback signals of the R-DAT system, in a single chip and provided with digital PLL, modem, error correction circuit, digital I/O, RAM control circuit, etc.

Pin No.	Pin Name	I/O	Description
1, 2	A08, A09	I/O	RAM address A08, A09
3	VDD	—	5 V
4-6	A10-A12	I/O	RAM address A10-A12
7, 8	A13, A14	O	RAM address A13, A14
9	XWE	O	RAM write enable signal
10	XOE	O	RAM output enable signal
11	XEAN	O	External addressing bus interrupt enable signal
12	TST1	I	Test pin (normally "L")
13	XT1O	O	18.816 MHz crystal oscillator output
14	XT1I	I	18.816 MHz crystal oscillator input
15	VSS	—	GND
16	XRST	I	Reset pin (normally"H")
17	CLKO	I/O	18.816 MHz clock output
18	XCST	I/O	SYEK (internal system clock) generation CLKO division timing signal
19	ATSY	I	ATF sync signal input
20	MCLK	O	9.408 MHz clock output
21	DREF	O	Drum servo reference signal
22	SBPM	O	Discrimination signal determining whether the subcode I/O clock (EXCK) is accepted ("L": accept, "H": ignore)
23	EXCK	I	Subcode I/O data transfer clock (DUTY50)
24	SDSI	I	Subcode serial data input
25	SDSO	O	Subcode serial data output
26	SBSY	O	Subcode I/O sync signal
27	COPY	O	Copy data output
28	EMP	O	Emphasis data output
29	MUTE	I	Mute pin
30	MUTM	O	Mute discrimination signal ("H": muted)
31	UNLK	O	RX PLL lock discrimination signal ("H": locked)
32	ERMN	O	Detects presence or absence of RF ("H": RF present, "L" during REC)

Pin No.	Pin Name	I/O	Description
33	SYMN	O	C1 check result for RF ("H": OK)
34	CHER	I	Signal for discriminating whether C2 is 1 or 2 times (C2→C1→C2 or C1→C2) ("H": 1 time, "L": 2 times)
35	PLCK	I/O	RF PLL clock output
36	TST2	I	Test pin (normally "L")
37	RFDT	I	RF signal input
38	XCS	I	Subcode I/O chip select ("L": select)
39	SWP	I	RF switching pulse ("L": A-CH, "H": B-CH)
40	VSS	—	GND
41	PIPC	O	REC data PILOT/PCM discrimination signal ("H": PILOT, during playback: always "L")
42	REPB	O	Record/playback switching signal ("H": record)
43	REDT	O	Recording signal output, fixed "L" during playback
44	TST4	I	Test pin (normally "L")
45	TST3	O	RX APLL PD output (comparator output)
46	TST5	I	RX APLL oscillator cell amp input
47	TST6	O	RX APLL oscillator cell amp inverted output
48	PLCO	I	RX APLL external VCO clock input
49	PLVR	O	RX APLL comparison signal when external comparator is active (Vin) Not in use
50	PLVF	O	RX APLL comparison signal when external comparator is active (Rin) Not in use
51	MSSL	I	Master/slave setting ("H": master (fixed with the equipment), "L": slave)
52	RX	I	Digital input
53	VDD	—	5 V
54	TX	O	Digital output
55	AUDR	I	Audio mode/data recorder mode setting ("H": audio mode, "L": data recorder mode)
56	EXSY	I/O	Complete copy sync signal (25/3 - 100/3 Hz)
57	EXSN	I/O	Complete copy sync signal (25/3 - 100/3 Hz)
58	F128	I/O	128fsCK (normal)/256fsCK (×2) (DUTY50)
59	F256	O	256fsCK (normal)/512fsCK (×2) (DUTY50)
60	F512	O	512fsCK (normal)/512fsCK (×2) (DUTY50)
61	ADLF	I	Signal for discriminating whether ADDT serial data is MSB first or LSB first ("H": LSB first)
62	DALF	I	Signal for discriminating whether DADT serial data is MSB first or LSB first ("H": LSB first)
63	XT20	O	22.5792 MHz crystal oscillator output
64	XT21	I	22.5792 MHz crystal oscillator input
65	VSS	—	GND
66	XT30	O	49.152 MHz crystal oscillator output (24.576 MHz in B mode)
67	XT31	I	49.152 MHz crystal oscillator input (24.576 MHz in B mode)
68	FSEN	I	F128, BCK, LRCK input/output switch ("H": output)
69	LR03	O	LR02 inversion
70	LR02	O	LRCK 16BCK delay signal
71	LR01	O	LRCK 15BCK delay signal
72	LRCK	I/O	fs (normal)/2fs (×2) ("L": L-CH, "H": R-CH)
73	WCK	I/O	2fs (normal)/4fs (×2) (input mode only for testing)
74	XBCK	O	BCK inversion
75	BCK	I/O	64fs (normal)/128fs (×2)
76	ADDT	I	Serial AD data (complement of 2)
77	DADT	O	Serial DA data (complement of 2)
78	DADO	I	Digital output (DA) data input (normally connected to DADT)
79	ADDI	O	Digital input (AD) data output (normally connected to ADDN)
80	ADDN	I	Digital input (DA) data input
81	ERRI	I	Digital output V-FLAG data input (normally connected to ERRF)
82	ERRF	O	Signal output for discriminating whether or not DADT has interpolated data ("H": interpolated data)

Pin No.	Pin Name	I/O	Description
83	MNTG	O	Error correction status monitor trigger
84-89	D7-D2	I/O	RAM data bus D7-D2
90	VSS	—	GND
91, 92	D1, D0	I/O	RAM data bus D1, D0
93-100	A00-A07	I/O	RAM address A00-A07

IC311 Mechanism/Servo Micon (CXP80524-025Q)

The mechanical deck servo systems are controlled by the captioned micon according to instructions from the main micon (IC312).

Pin No.	Pin Name	I/O	Connected to	Description
1		O		Not in use
2	$\overline{\text{BUSY}}$	O	Main Micon	Busy (Active "L") to the Main Micon
3		O		Not in use
4	REEL_CCW	O	Mechanism	Reel motor CCW ("L": RVS direction) } *1
5	REEL_CW	O	Mechanism	Reel motor CW ("H": FWD direction) } *1
6	C_DIR_RVS	O	Mechanism	Capstan Direction ("L": FWD, "H": RVS)
7	PLN_ON	O	Mechanism	Plunger On
8	PLN_KICK	O	Mechanism	Plunger Kick
9	D_ON	O	Mechanism	Drum On ("H": The drum is revolving)
10	D_DIR_RVS	O	Mechanism	Not in use
11-16		O		Not in use
17	LE	O	Mechanism	Loading Motor Eject } *2
18	LL	O	Mechanism	Loading Motor Load } *2
19	CAS_M_OUT	O	Mechanism	Cassette control motor Out } *3
20	CAS_M_IN	O	Mechanism	Cassette control motor In } *3
21-24		—		Not in use
25	RE_FWD	I	Mechanism	Encoder SW2 } *4
26	RE_STOP	I	Mechanism	Encoder SW1 } *4
27-30	$\overline{\text{END\_LED\_ON}}$	O	Mechanism	End sensor ON Illuminated upon "L" (rectangular wave of about 1kHz). It is not output unless a cassette is mounted ("H").
31	$\overline{\text{MP}}$	I		Microprocessor mode selected (the equipment is fixed at "L").
32	$\overline{\text{RST}}$	I		System Reset (low active)
33	Vss	—		Power terminal (GND)
34	XTAL	O		System Clock Output
35	EXTAL	I	CXD2601AQ	System Clock Input (9.408 MHz)
36-39		—		Not in use
40	X_SRV_REQ	I	Main Micon	Request for communication from the Main Micon
41	MAIN_DT_I	I	Main Micon	Serial Input from the Main Micon
42	MAIN_DT_O	O	Main Micon	Serial Output to the Main Micon
43	MAIN_CK	I	Main Micon	Serial Clock with the Main Micon
44	AVss	—		GND for A/D
45	AVref	—		Reference Voltage for A/D (+5 V)
46	AVdd	—		Power Supply for A/D (+5 V)
47	T_END	I	Mechanism	Take-up side end sensor input (analog) } Magnetic matter: 0V,
48	S_END	I	Mechanism	Supply side end sensor input (analog) } Leader tape: AC (*5)
49	CAS_IN	I	Mechanism	Cassette-in switch (S01). "H": Cassette is mounted.
50	REC_EN	I	Mechanism	Rec-enable switch (S01). "H": REC enabled.
51	CAS_LCKed	I	Mechanism	Casecon locked Upon completion of loading: "H"
52	CAS_OUTed	I	Mechanism	Casecon outed Upon completion of loading OUT: "H"
53		I		Not in use
54	ATF_IN	I	RF Amp	ATF PILOT input
55	FG_T	I	Mechanism	Reel FG (T Side) } 6/24Hz (Small reel diameter) -
56	FG_S	I	Mechanism	Reel FG (S Side) } 15/24Hz (Large reel diameter) (In 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: Other modes
59	D_PG	I	Mechanism	Drum PG } Other than LP REC: 800/24Hz
60	D_REF	I	CXD2601AQ	Drum Reference } In LP REC: 400/24Hz

Pin No.	Pin Name	I/O	Connected to	Description
61	MST_CK	I	CXD2601AQ	Master clock (9.408MHz)
62	PB_DT	I	RF Amp	PB Data input to create ATF Sync
63	SWP	O	CXD2601AQ	Switching Pulse "L": Ach, "H": Bch
64	D_PWM	O	Mechanism	PWM Out for Drum
65	C_PWM	O	Mechanism	PWM Out for Capstan
66	PWM_R	O	Mechanism	PWM Out for Reel
67	TEN_PWM	O	Mechanism	PWM Out for Tension Regulator Plunger
68	AGC_PWM	O	RF Amp	PWM Out for AGC
69	$\overline{\text{SBSY}}$	I	CXD2601AQ	↓ of subsync is detected (XINT2).
70	$\overline{\text{TEST}}$	I	Pull-up	Test Mode (active "L")
71	POW_DN	I		Not in use
72	Vdd	—		Power terminal (+5 V)
73	Vss	—		Power terminal (GND)
74		—		Not in use
75	ATF_S2	O	CXD2601AQ	ATF Sampling Pulse
76-80		—		Not in use

* 1 Reel motor control

	CCW (counterclockwise)	CW (clockwise)
STOP (only in POWER ON)	L	L
FWD	L	H
RVS	H	L
Prohibit	H	H

*2 Loading motor control

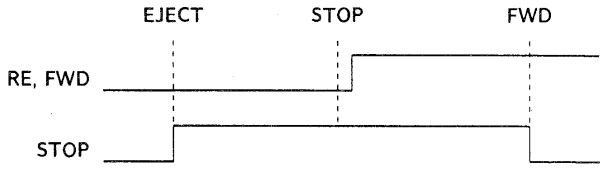
	LE	LL
—	L	L
LOAD	L	H
EJECT	H	L
Brake	H	H

*3 Casecon motor control

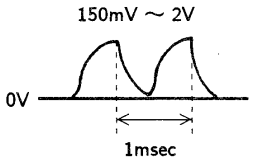
	OUT	IN
—	L	L
IN	L	H
OUT	H	L
Brake	H	H

*4 Encoder

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



*5 End sensor



With leader tape

IC312 Main Micon (CXP80524-040Q)

This Micon generally controls the operation of the equipment while exchanging data with the display micon (IC701) and mechanism/servo micon (IC311) in serial communications, including the DAT signal processor (IC307), attenuator (IC306), clock (IC330), digital filter (IC363) and other IC.

Pin No.	Pin Name	I/O	Connected to	Description
1		O		Not in use
2	L_MUTE	O	Line Out	Line Mute (Active "L")
3		O		Not in use
4		O		Not in use
5	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 3-0 (Address BUS)
11-14	DATA_7-4	I/O		DATA 7-4 (DATA BUS). Not in use with the equipment
15-18	DATA_3-0	I/O	Clock IC	DATA 3-0 (DATA BUS)
19	ATT_EXT	O	CXD1136Q	Fade attenuator ck externally selected (Active "L")
20	DIG/ANA	O	CXD1136Q	Fade In/Out switching for DIG ("L")/ANA ("H")
21	REC/PB	O	CXD1136Q	Fade In/Out REC switching for ("L")/PB ("H")
22	ATT_CK	O	CXD1136Q	Clock for fade In/Out
23	DTR	O	CXD2601AQ	Audio use ("H")/Data Recorder use ("L). Becomes "L" in after-recording and searching.
24	OPT/COA	O	Digital I/O	Switching for Optical ("L")/Coaxial ("H")
25	FS32	O	1Bit DAC	"H" upon Fs = 32kHz. "L" for others.
26	RAM_SEL	O		Not in use
27	DISP_REQ	O	Display Micon	Request for communication with the Display Micon ("L" Active)
28	SD_REQ	O	CXD2601AQ	Request for communication with CXD2601 ("L" Active)
29	SRV_REQ	O	Mechanism Micon	Request for communication with the Mechanism Micon ("L" Active)
30	CLOCK_SEL	O	Clock IC	Clock IC chip selected
31	MP	I		Microprocessor mode selected (fixed at "L" with the equipment)
32	RST	I		System Reset ("L" Active)
33	Vss	—		Power terminal (GND)
34	XTAL	O		System Clock Output
35	EXTAL	I	CXD2601AQ	System Clock Input (9.048 MHz)
36	DISP_ACK	I	Display Micon	ACKnowledge (Active "L")
37	DISP_DT_I	I	Display Micon	Serial Input
38	DISP_DT_O	O	Display Micon	Serial Output
39	DISP_CK	I	Display Micon	Serial clock
40	SBSY	I	CXD2601AQ	Subcode sync
41	SR_DT_IN	I	CXD2601AQ & Mechanism Micon	Serial Data In
42	SR_DT_OUT	O		Serial Data Out
43	SR_CK	I/O		Serial clock (In/Out) to Sub Code Interface
44	AVss	—		GND for A/D
45	AVref	—		Reference Voltage for A/D (+5 V)
46	AVdd	—		Power Supply for A/D (+5 V)
47		I		Not in use
48		I		Not in use
49	BUSY	I	Mechanism Micon	Mechanism servo micon Busy (Active "L")
50	AU_BUS_IN	I	Audio Bus	Not in use

Pin No.	Pin Name	I/O	Connected to	Description
51	TM_IN	I	Clock IC	TM_OUT for clock IC
52	MUT_MON	I	CXD2601AQ	Mute monitor (Active "H")
53	LVL_SYNC	I	Audio Block	Start ID is written by entering Level Sync Input audio.
54		I		Not in use
55	$\overline{\text{TRQ\_TEST}}$	I	Pull-up	Not in use
56	$\overline{\text{NO\_CAS\_TEST}}$	I	Pull-up	Not in use
57	TIME_$\overline{24}$/12	I	Pull-up	Time indication "H": 12 hours (AM, PM) "L": 24 hours display
58	DATE_ORDER	I	Pull-up	Order of DATA display "H": Year, month and day "L": Month, day and year
59-62	AF_3-0	I	Pull-up	Not in use
63		O		Not in use
64	$\overline{\text{L\_MUTE}}$	O	Pull-up	Line Mute (Active "L"). Not in use with the equipment
65	$\overline{\text{TR\_MUTE}}$	O	Line Out	Transistor Mute (Active "L")
66	MUTE_1136	O	CXD1136Q	Mute for CXD1136 (Active "H")
67	MUTE_2061	O	CXD2601AQ	Mute for CXD2601 (Active "H")
68	A_D_PWR_DWN	O	AK5339	A/D Converter Power Down Mode (Active "H"). The AD converter is turned OFF upon digital input/output.
69	ER_MON	I	CXD2601AQ	Error Monitor (Data Valid)
70	$\overline{\text{TEST}}$	I	Pull-up	Test Mode (Active "L")
71	POW_DN	I	+5 V	Not in use
72	Vdd	—		Power terminal (+5V)
73	Vss	—		Power terminal (GND)
74		—		Not in use
75	D_F_ATT	O	CXD2560M	Communication line (Serial Data) with Digital Filter
76	D_F_$\overline{\text{SHIFT}}$	O	CXD2560M	Communication line with Digital Filter (Shift Clock; shifted by ↓ and taken in by ↑)
77	D_F_$\overline{\text{LATCH}}$	O	CXD2560M	Communication line (Latch Pulse) with Digital Filter
78, 79	MODE2, 1	O	CXA1364R	Mode Control of the RF amplifier
80		O		Not in use

IC330 Real Time Clock (RP5C62)

The Clock is an IC for clock and calendar and backed up by a lithium battery when the power supply to the set is OFF.

Pin No.	Pin Name	I/O	Description
1	$\overline{\text{CS}}$	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	$\overline{\text{RD}}$	I	Read-out control input
9	Vss	—	Power terminal (GND)
10	$\overline{\text{WR}}$	I	Write-in control input
11-14	D0-3	I/O	4 bit data input/output
15	$\overline{\text{INTR}}$	O	Interrupt output. A 2048Hz signal is output here with the equipment.
16	OSCIN	I	Clock input (32.768kHz)
17	OSCOUT	O	Clock output
18	V_{DD}	—	Power terminal (+5 V)

IC362 Pulse D/A Converter (CXD2561M)

The Converter is a small, high-performance 1 bit pulse D/A converter that provides 4 asymmetrical PWM wave outputs in each ch of L/R.

Pin No.	Pin Name	I/O	Description
1	DV_{DD}	—	Digital power supply
2	TEST	I	Test terminal. Normally fixed at "L."
3	INIT	I	Again synchronized at the buildup edge of the signal.
4	LRCKI	I	LRCK input
5	DRI	I	Rch data input
6	DLI	I	Lch data input
7	BCKI	I	BCK input
8	DVss	—	Digital GND
9	512Fs	O	512Fs output
10	XVss	—	Clock GND
11	XIN	I	X'tal oscillator input terminal (512Fs)
12	XOUT	O	X'tal oscillator output terminal
13	XV_{DD}	—	Clock power supply
14	VSUB	—	Substrate. Connected to GND.
15	$AV_{DD}R$	—	Analog power supply
16	R1 (+)	O	Rch PLM output 1 (normal phase)
17	AVssR	—	Analog GND
18	R1 (–)	O	Rch PLM output 1 (reverse phase)
19	R2 (+)	O	Rch PLM output 2 (normal phase)
20	R2 (–)	O	Rch PLM output 2 (reverse phase)
21	AV_{DD}	—	Analog power supply
22	AVss	—	Analog GND
23	L2 (–)	O	Lch PLM output 2 (reverse phase)
24	L2 (+)	O	Lch PLM output 2 (normal phase)
25	L1 (–)	O	Lch PLM output 1 (reverse phase)
26	AVssL	—	Analog GND
27	L1 (+)	O	Lch PLM output 1 (normal phase)
28	$AV_{DD}L$	—	Analog power supply

IC363 Digital Filter (CXD2560M)

The Filter is a digital audio 8x oversampling digital filter with builtin L/R 2ch filter, noise shaping attenuator, soft muting deemphasis, etc.

Pin No.	Pin Name	I/O	Description
1	Vss	—	Power terminal (GND)
2	SYSM	I	System mute input. Effective upon "H"
3	ATT	I	ATT data input in CTL "L." EMP input upon CLT "H."
4	SHIFT	I	Shift clock input upon CTL "L." FS32 input upon CTL "H."
5	LATCH	I	Latch clock input upon CTL "L." FS48 input upon CLT "H."
6	CTL	I	Pull-down in the IC. Direct input mode upon "H." Serial transfer mode upon "L."
7	INIT	I	Synchronized again at the buildup edge of the signal.
8	BCKI	I	BCK input
9	DATAI	I	Data input
10	LACKI	I	LRCK input
11	TEST	I	Test terminal. Fixed at "L" during normal use.
12	Vss	—	Power terminal (GND)
13	128Fs	O	128Fs clock output
14	INVI	I	Inverter input
15	INVO	O	Inverter output
16	INVO2	O	Inverter output
17	MCLK	I	Master clock input (f=512Fs)
18	V_{DD}	—	Power terminal (+2 V)
19	BCKO	O	BCK output
20	DL	O	Lch data output
21	DR	O	Rch data output
22	LRCKO	O	LRCK output
23	FLGL	O	Lch ø mute flag output
24	FLGR	O	Rch ø mute flag output

IC701 Display Micon (CXP5058H-657Q)

The Micon controls key input, FL tube display, remote control signal input, level meter (IC702) and EEP-ROM (IC703) according to instructions from the Main Micon (IC312).

Pin No.	Pin Name	I/O	Connected to	Description
1-18	e_-v_SEG	O	FL tube FL701	FL Segment 'e'-'v'
19-28	10_-1_G	O	FL tube FL701	FL Grid #10-#1
29	$\overline{\text{DSP\_REQ}}$	I	MAIN Micon	Communication request ("L" Active)
30	XTAL	—	Ceramic oscillator	
31	EXTAL	I	Ceramic oscillator	4.19MHz ceramic oscillator
32	$\overline{\text{RST}}$	I		System Reset ("L" active)
33	NC	—		Not in use
34	Vdd	I		Power terminal (+5 V)
35-42	AD_0-7	I	Panel switch	Key input A/D converter input #0 - #7
43	NC	—		Not in use
44	DISP_CK	O	MAIN Micon	Shift clock
45	SO	O	MAIN Micon	Serial data OUT
46	SI	I	MAIN Micon	Serial data IN
47	$\overline{\text{DSP\_ACK}}$	O	MAIN Micon	Acknowledge (Active"L")
48	REC_MODE	I	S703	REC MODE "H": Standard, "L": Long
49	$\overline{\text{TEST}}$	I	Pull-down	Test mode (Active "L")
50	$\overline{\text{CLOCK\_SET}}$	I	S704	CLOCK SET switch S704 (Active "L")
51-54	LVL_DT_0-3	I/O	Level Meter IC	Level Meter Data 0-3
55, 56	LVL_ADRS_0, 1	O	Level Meter IC	Level Meter Data 0, 1
57	$\overline{\text{LVL\_RD}}$	O	Level Meter IC	Level Meter Read Mode (Active "L")
58	$\overline{\text{LVL\_WR}}$	O	Level Meter IC	Level Meter Write Mode (Active "L")
59	$\overline{\text{LVL\_SEL}}$	O	Level Meter IC	Level Meter IC Select (Active "L")
60	$\overline{\text{RM\_SEL}}$	O	Open	External remote controller selected (not in use)
61	PY2	I	Pull-up	Not in use
62	RMC	I	Open	Not in use
63	RMC_CAT	I	Pull-down	Remote control category "L": DAT1, "H": DAT2. Fixed at "L" with the equipment.
64	$\overline{\text{TR\_MUTE}}$	I	IC431	Level meter mute (Active "L")
65	$\overline{\text{BUSY}}$	I	EEPROM	BUSY signal (Active "L")
66	ROM_DT_IN	I	EEPROM	Data input
67	ROM_DT_OUT	O	EEPROM	Data output
68	$\overline{\text{SHIFT\_CK}}$	O	EEPROM	Shift clock
69	$\overline{\text{CE}}$	O	EEPROM	Chip enable
70	DTC/$\overline{\text{XPCM}}$	I	Pull-up	Equipment model discrimination input. Fixed at "H" with the equipment
71	Vss	I		Power terminal (GND)
72	TX	—	Open	Not in use
73	NC	—	Open	Not in use
74	TEX	—	+5 V	Not in use
75	Vref	I	+5 V	Analog board reference voltage
76	Vfdp	I	–25 V	FL display tube driving voltage
77-80	a_-d_SEG	O	FL tube	FL Segment 'a'-'d'

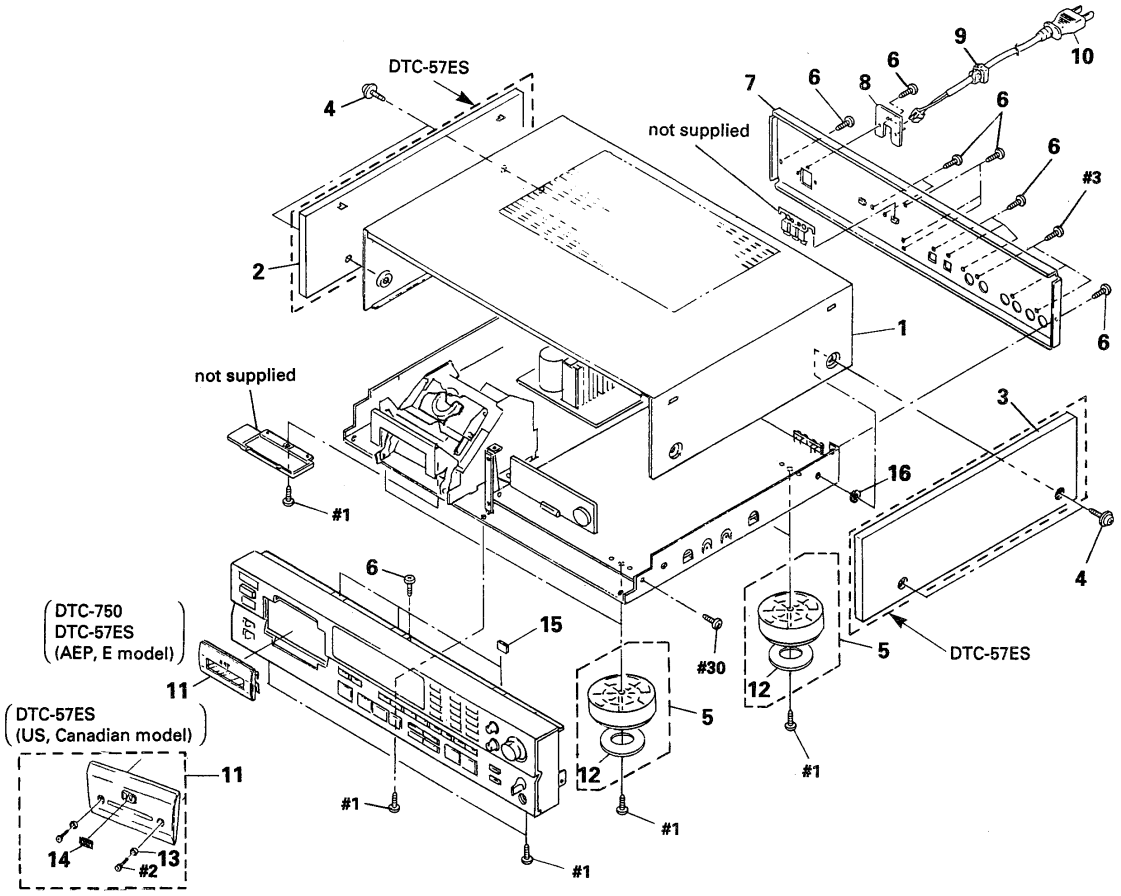
SECTION 5
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences 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.
- CND : Canadian model

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

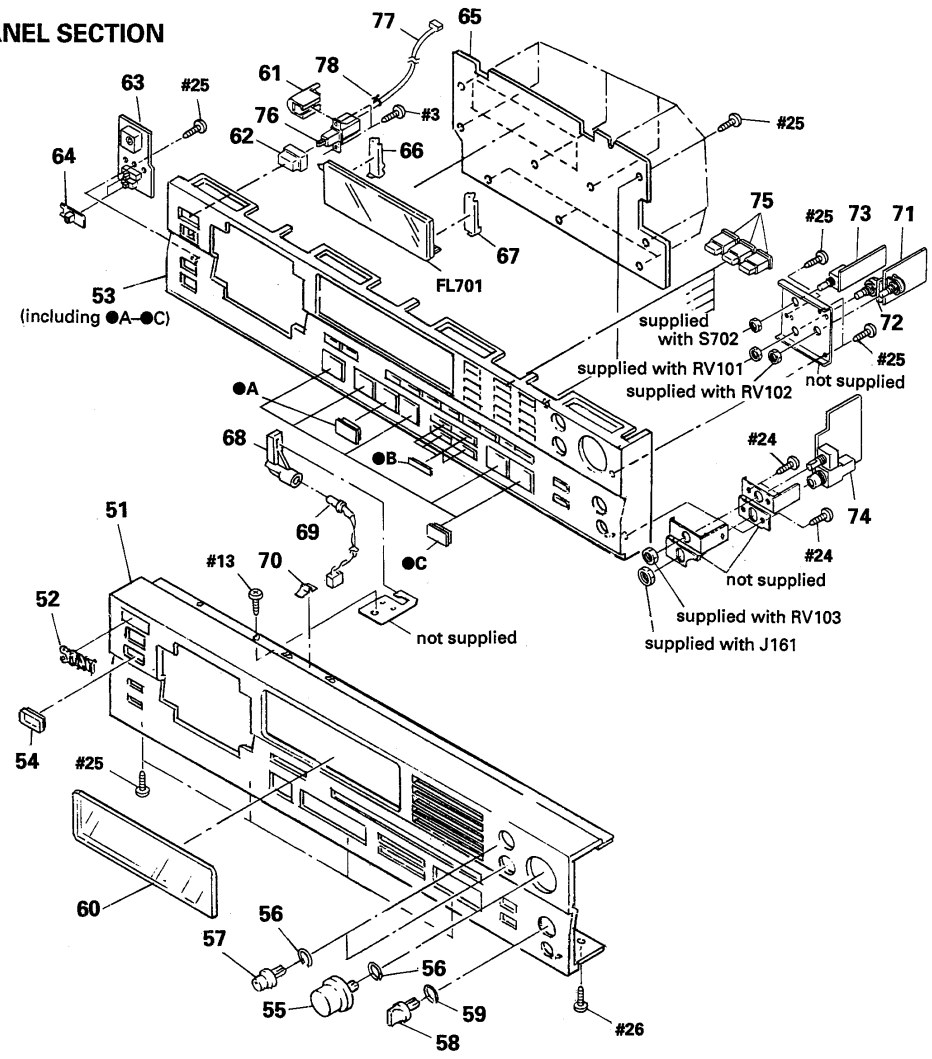
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

5-1. CABINET SECTION



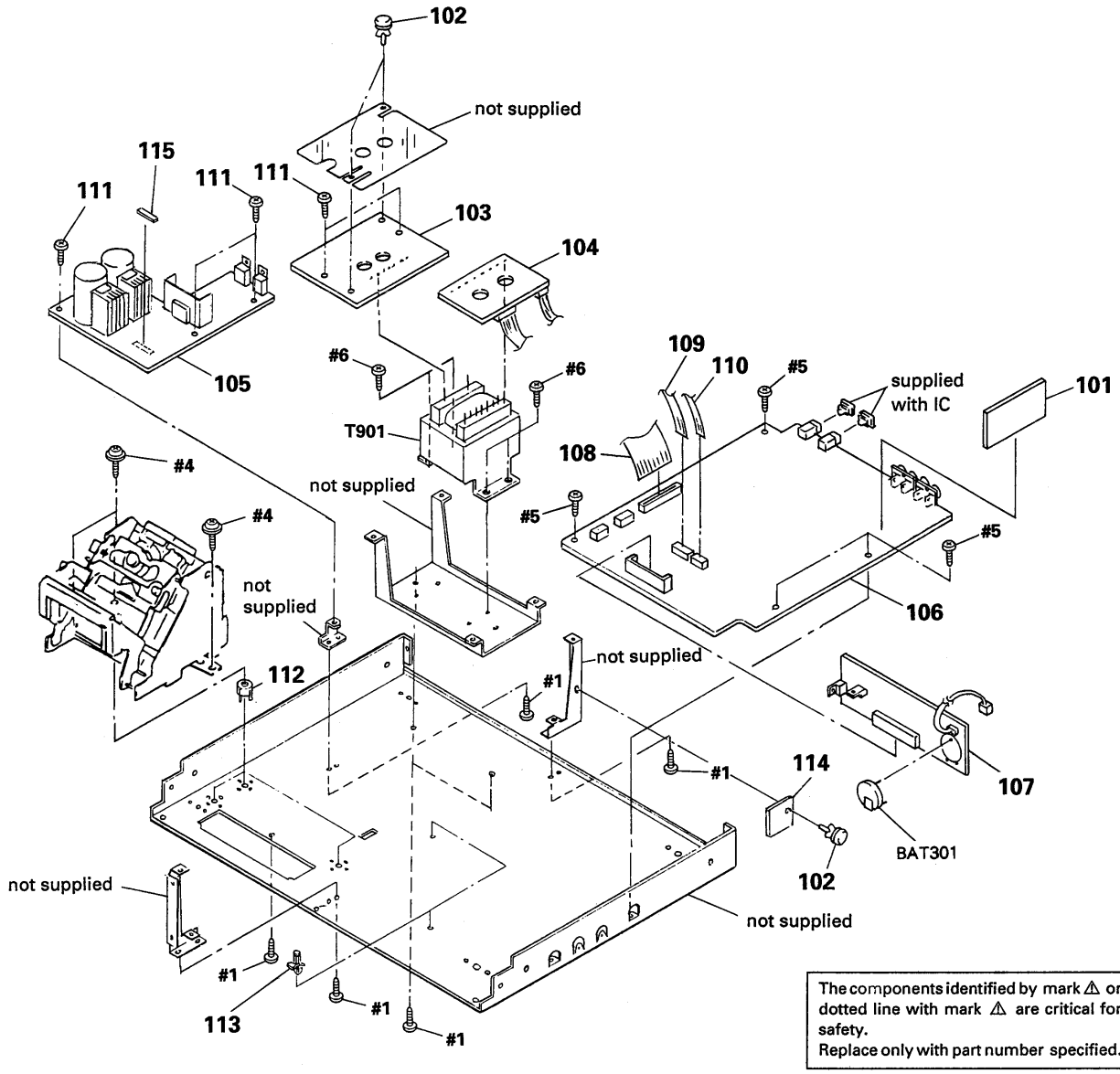
Ref. No.	Part No.	Description	Remarks
1	3-350-407-41	CASE (BLACK)	
1	3-350-407-71	CASE (GOLD)	
2	* X-4919-027-2	PANEL (L) ASSY, SIDE (BLACK) (57ES)	
2	* X-3363-390-1	PANEL (L) ASSY, SIDE (GOLD) (57ES)	
3	* X-4919-028-2	PANEL (R) ASSY, SIDE (BLACK) (57ES)	
3	* X-3363-389-1	PANEL (R) ASSY, SIDE (GOLD) (57ES)	
4	4-933-446-01	SCREW (SIDE PANEL) (57ES)	
4	3-704-366-01	SCREW (CASE M3X8) (750)	
5	X-3304-938-2	FOOT ASSY (BLACK)	
5	X-4928-110-1	FOOT ASSY (GOLD)	
6	3-703-685-21	SCREW (+BV 3X8)	
7	* 3-368-712-51	PANEL, BACK (57ES:US, CND)	
7	* 3-368-712-21	PANEL, BACK (BLACK) (57ES:AEP)	
7	* 3-368-712-71	PANEL, BACK (GOLD) (57ES:AEP)	
7	* 3-368-712-42	PANEL, BACK (57ES:E)	
7	* 3-368-712-11	PANEL, BACK (750:US, CND)	
7	* 3-368-712-31	PANEL, BACK (750:UK)	
8	* 4-923-873-01	BRACKET, CORD STOPPER	
9	4-916-783-01	BUSHING, CORD (57ES:US, CND, E)	
9	* 3-703-244-00	BUSHING (2104), CORD (57ES:AEP/750)	
10	⚠ 1-559-479-11	CORD, POWER (57ES:US, CND)	
10	⚠ 1-559-297-31	CODE, POWER (57ES:E)	
10	⚠ 1-575-912-11	CODE, POWER (57ES:AEP)	
10	⚠ 1-575-913-11	CODE, POWER (750:UK)	
10	⚠ 1-575-695-11	CODE, POWER (750:US, CND)	
11	A-2003-671-A	PANEL (CASSETTE) ASSY (57ES:US, CND)	
11	A-2003-773-A	WINDOW ASSY, CASSETTE (BLACK) (57ES:AEP, E/750)	
11	A-2003-893-A	WINDOW ASSY, CASSETTE (GOLD) (57ES:AEP)	
12	4-923-836-11	CUSHION	
13	4-884-635-00	BASE, ORNAMENTAL (57ES:US, CND)	
14	4-936-615-01	PLATE (DAT LOGO), ORNAMENTAL	
15	3-831-441-XX	CUSHION, SPEAKER	
16	3-942-525-01	BLIND (1), KNOB	

5-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remarks
51	3-368-713-32	PANEL (FRONT) (57ES:US, CND)	
51	3-368-713-01	PANEL (FRONT) (BLACK) (57ES:AEP, E)	
51	3-368-713-11	PANEL (FRONT) (GOLD) (57ES:AEP, E)	
51	3-368-713-21	PANEL (FRONT) (750)	
52	4-908-848-01	EMBLEM, SONY (BLACK)	
52	4-908-848-21	EMBLEM, SONY (GOLD)	
53	X-3363-047-2	ESCUTCHEON (PANEL) ASSY (BLACK)	
53	X-3363-191-1	ESCUTCHEON (PANEL) ASSY (GOLD)	
54	3-364-919-01	FILTER	
55	3-368-707-01	KNOB (REC LEVEL) (BLACK)	
55	3-368-707-11	KNOB (REC LEVEL) (GOLD)	
56	3-356-957-01	SPRING	
57	3-364-173-11	KNOB (BAL) (BLACK)	
57	3-364-173-21	KNOB (BAL) (GOLD)	
58	3-354-931-01	KNOB (DIA. 10) (BLACK)	
58	3-354-931-31	KNOB (DIA. 10) (GOLD)	
59	3-354-981-01	SPRING (SUS), RING (BLACK)	
59	3-356-935-01	SPRING (GOLD)	
60	3-368-698-01	WINDOW (FL TUBE)	
61	3-575-524-00	COVER, POWER SWITCH	
62	4-917-460-01	KNOB, POWER (BLACK)	
62	4-917-460-51	KNOB, POWER (GOLD)	
63	* 1-639-329-11	TIMMER SW BOARD	
64	4-931-421-11	KNOB (T & S) (BLACK)	
64	4-931-421-21	KNOB (T & S) (GOLD)	
65	* A-2006-555-A	CONTROL SW BOARD, COMPLETE (57ES:US, CND)	
65	* A-2006-444-A	CONTROL SW BOARD, COMPLETE (57ES:AEP, E/750)	
66	* 4-922-524-01	HOLDER (LEFT)	
67	* 4-922-523-01	HOLDER (RIGHT)	
68	* 4-925-758-11	COVER (L), LAMP	
69	1-518-634-11	LAMP, PILOT	
70	3-846-312-00	SPACER	
71	* 1-639-325-11	REC VOL BOARD	
72	* 1-639-326-11	BALANCE VOL BOARD	
73	* 1-639-328-11	INPUT SW BOARD	
74	* 1-639-327-11	HEADPHONE BOARD	
75	3-364-927-01	BUTTON (10 KEY) (BLACK)	
75	3-364-927-11	BUTTON (10 KEY) (GOLD)	
76	1-554-920-21	SWITCH, PUSH (AC POWER) (1 KEY)	
77	1-590-321-71	LEAD (WITH CONNECTOR)	
78	3-701-748-00	CLAMP	
FL701	1-519-672-11	INDICATOR TUBE, FLUORESCENT	

5-3. CHASSIS SECTION

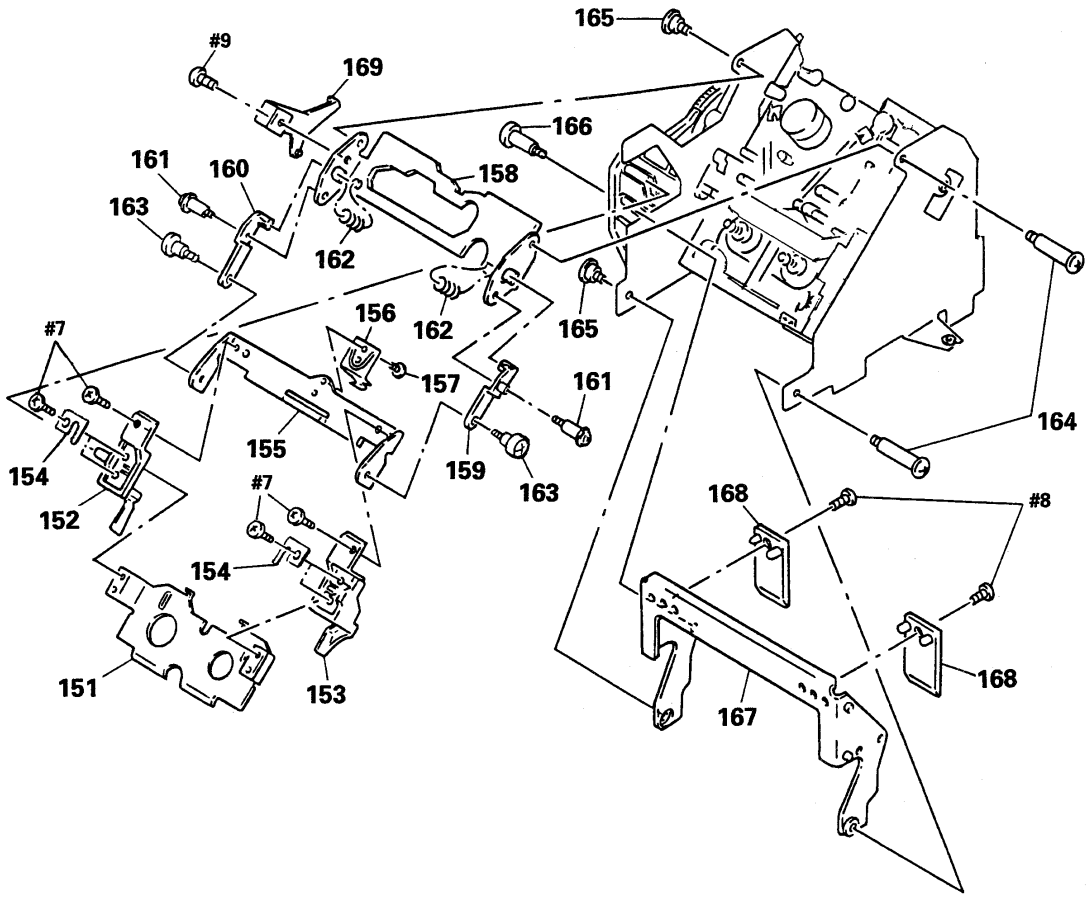


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

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

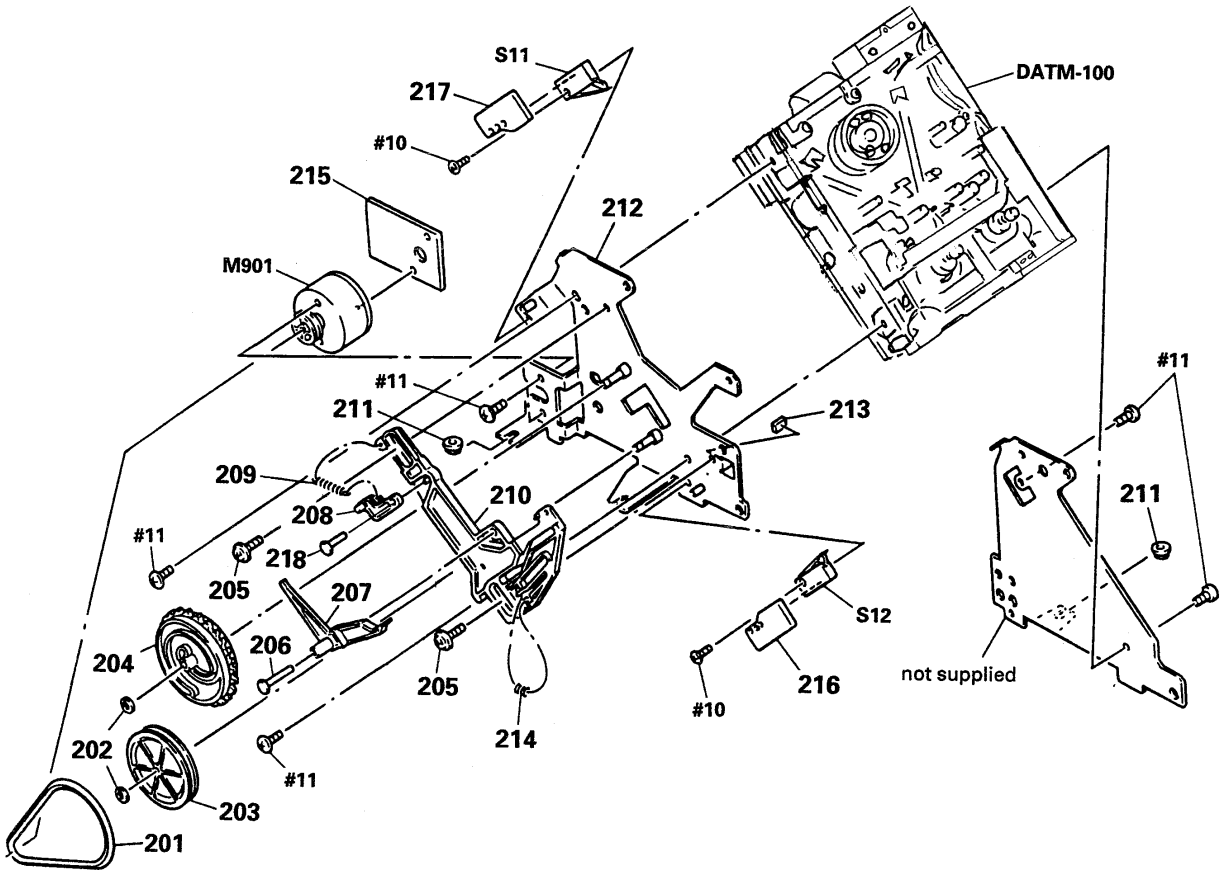
Ref. No.	Part No.	Description	Remarks
101	* 1-639-920-11	PLL BOARD	
102	4-812-134-00	RIVET NYLON, 3.5	
103	* 1-639-333-11	PC BOARD, PRIMARY	
104	* 1-639-332-11	RELAY BOARD	
105	* A-2006-463-A	POWER BOARD, COMPLETE	
106	* A-2006-572-A	MAIN BOARD, COMPLETE (57ES:US, CND, E)	
106	* A-2006-614-A	MAIN BOARD, COMPLETE (57ES:AEP)	
106	* A-2006-681-A	MAIN BOARD, COMPLETE (750:US, CND)	
106	* A-2006-682-A	MAIN BOARD, COMPLETE (750:UK)	
107	* A-2006-553-A	SUB BOARD, COMPLETE	
108	1-590-915-11	WIRE, FLAT TYPE (30 CORE)	
109	1-590-916-11	WIRE, FLAT TYPE (10 CORE)	
110	1-590-914-11	WIRE, FLAT TYPE (6 CORE)	
111	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
112	3-368-709-01	HOLDER (MD)	
113	* 3-670-570-00	SPACER, SUPPORT	
114	* 1-639-330-11	CONTROL (S) BOARD (57ES:US, CND)	
115	3-701-947-15	LABEL (T2.5A), FUSE (57ES:AEP, E/750:UK)	
BAT301	⚠ 1-528-229-11	BATTERY, LITHIUM CR-2450	
T901	⚠ 1-450-556-11	TRANSFORMER, POWER (US, CND)	
T901	⚠ 1-450-557-11	TRANSFORMER, POWER (57ES:AEP/750:UK)	
T901	⚠ 1-450-558-11	TRANSFORMER, POWER (57ES:E)	

5-4. MECHANISM SECTION 1



Ref. No.	Part No.	Description	Remarks
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)	
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	

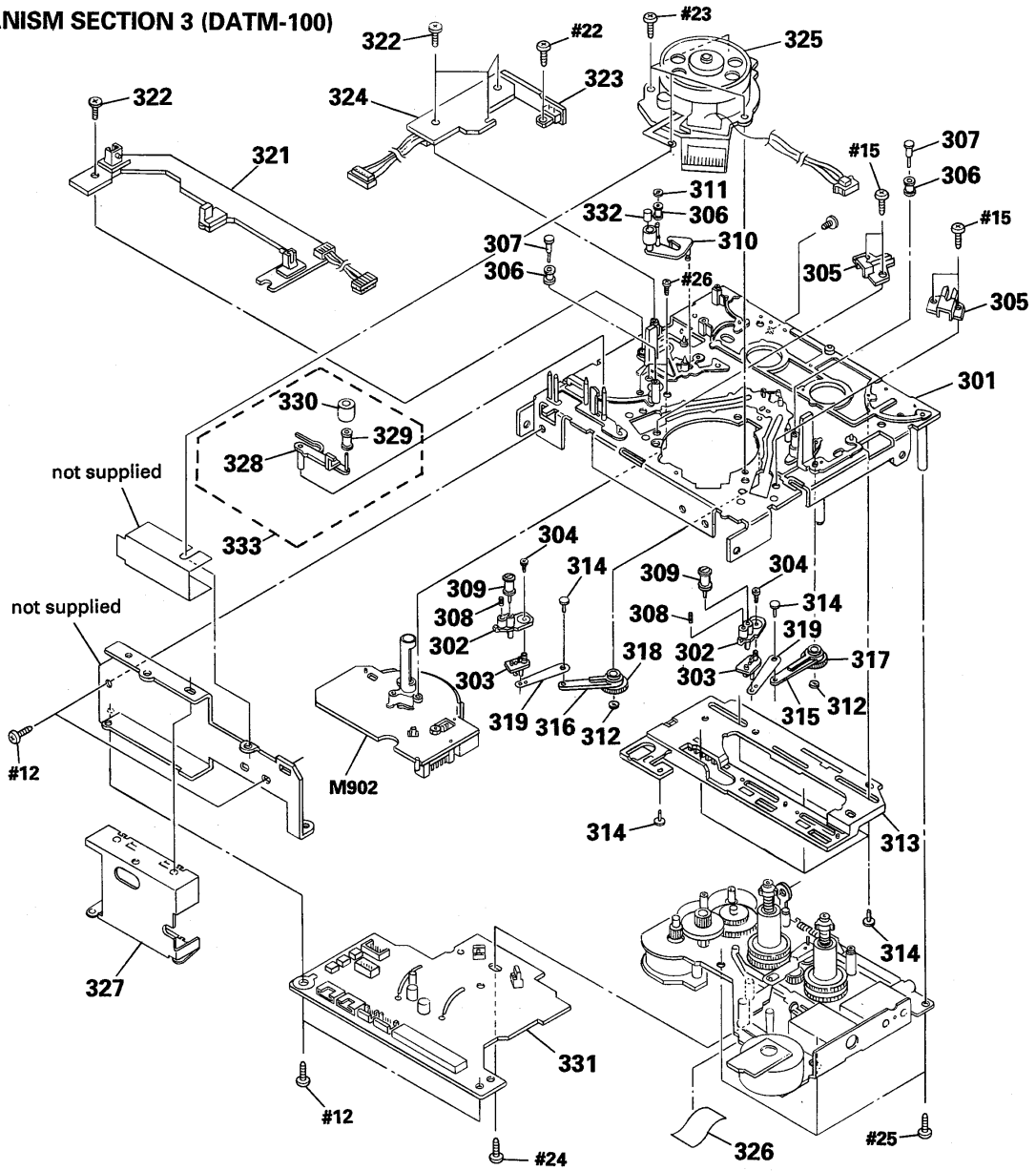
5-5. MECHANISM SECTION 2



Ref. No.	Part No.	Description	Remarks
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)	

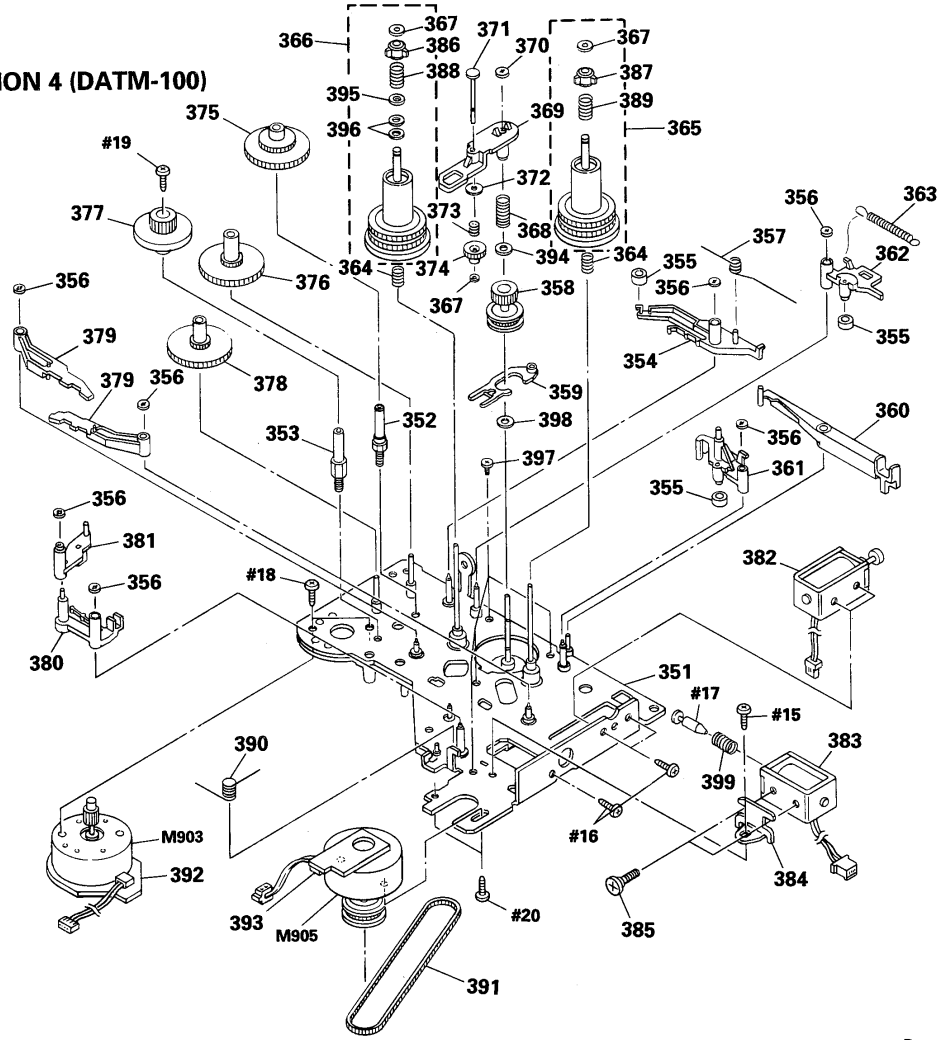
Ref. No.	Part No.	Description	Remarks
212	* X-4919-023-1	PLATE ASSY, SIDE	
213	9-911-863-XX	SPACER	
214	3-537-215-00	SPRING, COMPRESSION	
215	* 1-639-646-11	MOTOR BOARD	
216	* 1-639-647-11	SW (IN) BOARD	
217	* 1-639-648-11	SW (OUT) BOARD	
218	4-936-626-01	SHAFT (ARM PRESS FITTING)	
M901	A-2003-448-A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

5-6. MECHANISM SECTION 3 (DATM-100)



Ref. No.	Part No.	Description	Remarks
301	* 3-368-462-01	CHSSIS (OUTSERT), MECHANIAL	
302	* 3-368-390-01	BASE (#1 GUIDE)	
303	3-368-409-01	JOINT (#1 GUIDE)	
304	3-368-413-01	SCREW, +P (1) B1.4X2.5	
305	* 3-368-442-01	CATCHER	
306	3-368-399-01	GUIDE, ROLLER	
307	3-368-428-01	SHAFT (ROLLER GUIDE)	
308	3-368-436-01	SPRING (#1 GUIDE), COMPRESSION	
309	X-3337-643-1	GUIDE (RIC) ASSY, ROLLER	
310	X-3363-025-1	PINCH (LEVER) ASSY	
311	3-315-384-31	WASHER, STOPPER	
312	3-368-398-01	BUSHING	
313	* A-2003-708-A	SLIDER ASSY, CAM	
314	3-368-414-01	SHAFT (CAM SLIDER GUIDE)	
315	3-368-427-01	LEVER (LOAD-T)	
316	3-368-426-01	LEVER (LOAD-S)	
317	3-368-444-01	GEAR (LOAD-T)	
318	3-368-443-01	GEAR (LOAD-S)	
319	3-368-415-01	SHAFT (LOAD LEVER JOINT)	
321	* 1-639-305-11	TOP END SENSOR BOARD	
323	* 1-639-301-11	RGN SW BOARD	
324	* 1-639-306-11	CAM SLIDER BOARD	
325	8-848-567-01	DRUM ASSY DOU-03A	
326	9-911-835-XX	SPACER	
327	* A-2001-587-A	RF COMPLETE ASSY	
328	3-368-459-01	LEVER (CLEANER)	
329	3-353-812-01	COLLAR (ROLLER)	
330	3-352-518-01	ROLLER (CLEANER)	
331	* A-2056-488-A	DRUM DRIVE BOARD, COMPLETE	
332	3-337-626-01	CAP, PINCH ROLLER	
333	X-3337-655-1	ROLLER (CLEANER) ASSY	
M902	8-835-361-01	MOTOR, DC U-17B (CAPSTAN)	

5-7. MECHANISM SECTION 4 (DATM-100)



Ref. No.	Part No.	Description	Remarks
351	* A-2003-857-A	CHASSIS (REEL) ASSY	
352	* 3-368-420-01	SHAFT (CAM DRIVE GEAR C)	
353	* 3-368-419-01	SHAFT (CAM DRIVE GEAR D)	
354	* 3-368-455-01	LEVER (GEAR LOCK)	
355	3-368-418-01	TUBE (BREAK)	
356	3-368-398-01	BUSHING	
357	3-368-430-01	SPRING (GEAR LOCK)	
358	X-3363-022-1	GEAR (REEL DRIVE) ASSY	
359	* 3-368-411-01	SLIDER (REEL LOCK)	
360	* 3-368-453-01	LEVER (BRAKE SOLENOID)	
361	* 3-368-447-01	LEVER (BRAKE S)	
362	* 3-368-446-01	LEVER (BRAKE T)	
363	3-368-438-01	SPRING (BREAK), TENSION	
364	3-368-432-01	SPRING (FF/REW), COMPRESSION	
365	A-2003-709-A	TABLE (S) ASSY, REEL	
366	A-2003-710-A	TABLE (T) ASSY, REEL	
367	3-578-224-00	WASHER	
368	3-368-435-01	SPRING (FR LEVER), COMPRESSION	
369	3-368-450-01	LEVER (F/R)	
370	3-315-384-31	WASHER, STOPPER	
371	3-368-429-01	SHAFT (NECK)	
372	3-368-422-01	POLY-SLIDER(DIA. 4.5-DIA. 1.5)	
373	3-368-437-01	SPRING(GEAR NECK), COMPRESSION	
374	3-368-406-01	GEAR (NECK)	
375	3-368-421-01	GEAR (CAM DRIVE C)	
376	3-368-402-11	GEAR (CAM DRIVE A,B)	
377	3-368-403-01	GEAR (CAM DRIVE D)	
378	3-368-402-01	GEAR (CAM DRIVE A,B)	
379	X-3363-024-1	LEVER (BT) ASSY	
380	* 3-368-451-01	LEVER (BT SOLENOID)	
381	* 3-368-454-01	LEVER (BT SELECTION)	
382	1-454-535-11	SOLENOID, PLUNGER (BRAKE)	
383	1-454-536-11	SOLENOID, PLUNGER (BT CONTROL)	
384	* 3-368-416-01	BRACKET (B.T SOLENOID)	
385	3-368-423-01	SCREW (M2.6), STEP	
386	2-623-736-01	CLAW (C) (LEFT), REEL	
387	2-623-752-01	CLAW (C) (RIGHT), REEL	
388	3-370-481-01	SPRING (T), COMPRESSION	
389	3-370-482-01	SPRING (S), COMPRESSION	
390	3-368-431-01	SPRING (B.T SOLENOID)	
391	3-368-417-01	BELT (170TN10-1.0T), TIMING	
392	* 1-639-303-11	CAM MOTOR BOARD	
393	* 1-639-304-11	REEL MOTOR BOARD	
394	3-738-212-21	RETAINER, THRUST, REEL TABLE	
396	3-701-443-21	WASHER, 5 DIA.	
397	2-623-756-01	SCREW, (B1.7X3), TAPPING	
398	3-701-436-01	WASHER, 1.6	
399	3-370-480-01	SPRING (BT), COMPRESSION	
M903	X-3363-109-1	MOTOR (CAM) ASSY	
M905	X-3363-110-1	MOTOR (REEL) ASSY	

SECTION 6
ELECTRICAL PARTS LIST

CONTROL SW

NOTE:

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.

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

- 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, -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
- CND : Canadian model
- 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...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF :μF
- COILS
  uH : μH

Ref. No.	Part No.	Description			Remarks
	* A-2006-555-A	CONTROL SW BOARD, COMPLETE (57ES:US, CND)			
	* A-2006-444-A	CONTROL SW BOARD, COMPLETE(57ES:AEP, E/750)			
		**********			
	* 4-922-523-01	HOLDER (RIGHT)			
	* 4-922-524-01	HOLDER (LEFT)			
	9-911-839-XX	CUSHION			
		〈 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			
		〈 INDICATOR TUBE 〉			
FL701	1-519-672-11	INDICATOR TUBE, FLUORESCENT			
		〈 IC 〉			
IC701	8-752-818-86	IC CXP5058H-657Q			
IC702	8-759-995-09	IC MSM6338RS			
IC703	8-752-330-59	IC CXK1011P			
IC705	8-759-140-11	IC MC14011BCP			
		〈 TRANSISTOR 〉			
Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q703	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q704	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q706	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q707	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q709	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q710	8-729-119-78	TRANSISTOR 2SC2785-HFE			

Ref. No.	Part No.	Description			Remarks
		〈 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	
R717	1-249-424-11	CARBON	3.9K	5% 1/4W	
R718	1-249-428-11	CARBON	8.2K	5% 1/4W	
R719	1-249-434-11	CARBON	27K	5% 1/4W	
R720	1-249-429-11	CARBON	10K	5% 1/4W	
R721	1-249-422-11	CARBON	2.7K	5% 1/4W	
R722	1-249-424-11	CARBON	3.9K	5% 1/4W	
R723	1-249-428-11	CARBON	8.2K	5% 1/4W	
R724	1-249-434-11	CARBON	27K	5% 1/4W	
R725	1-249-429-11	CARBON	10K	5% 1/4W	
R726	1-249-422-11	CARBON	2.7K	5% 1/4W	
R727	1-249-424-11	CARBON	3.9K	5% 1/4W	
R728	1-249-428-11	CARBON	8.2K	5% 1/4W	
R729	1-249-434-11	CARBON	27K	5% 1/4W	
R730	1-249-429-11	CARBON	10K	5% 1/4W	
R731	1-249-422-11	CARBON	2.7K	5% 1/4W	
R732	1-249-424-11	CARBON	3.9K	5% 1/4W	
R733	1-249-429-11	CARBON	10K	5% 1/4W	
R734	1-249-422-11	CARBON	2.7K	5% 1/4W	
R735	1-249-424-11	CARBON	3.9K	5% 1/4W	
R736	1-249-429-11	CARBON	10K	5% 1/4W	
R737	1-249-422-11	CARBON	2.7K	5% 1/4W	
R738	1-249-424-11	CARBON	3.9K	5% 1/4W	
R739	1-249-428-11	CARBON	8.2K	5% 1/4W	
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	

CONTROL SW | BALANCE VOL | CAM MOTOR | CAM SLIDER

Ref. No.	Part No.	Description				Remarks
R743	1-249-424-11	CARBON	3.9K	5%	1/4W	
R744	1-249-428-11	CARBON	8.2K	5%	1/4W	
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	
R748	1-249-424-11	CARBON	3.9K	5%	1/4W	
R749	1-249-428-11	CARBON	8.2K	5%	1/4W	
R750	1-249-434-11	CARBON	27K	5%	1/4W	
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	
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	
		〈 SWITCH 〉				
S704	1-554-937-11	SWITCH, KEY BOARD (CLOCK SET)				
S705	1-554-937-11	SWITCH, KEY BOARD (SKIP ID WRITE)				
S706	1-554-937-11	SWITCH, KEY BOARD (SKIP ID ERASE)				
S707	1-554-937-11	SWITCH, KEY BOARD (7)				
S708	1-554-937-11	SWITCH, KEY BOARD (8)				
S709	1-554-937-11	SWITCH, KEY BOARD (9)				
S710	1-554-937-11	SWITCH, KEY BOARD (START ID WRITE)				
S711	1-554-937-11	SWITCH, KEY BOARD (START ID ERASE)				
S712	1-554-937-11	SWITCH, KEY BOARD (4)				
S713	1-554-937-11	SWITCH, KEY BOARD (5)				
S714	1-554-937-11	SWITCH, KEY BOARD (6)				
S715	1-554-937-11	SWITCH, KEY BOARD (START ID AUTO)				
S716	1-554-937-11	SWITCH, KEY BOARD (START ID RENUMBER)				
S717	1-554-937-11	SWITCH, KEY BOARD (1)				
S718	1-554-937-11	SWITCH, KEY BOARD (2)				
S719	1-554-937-11	SWITCH, KEY BOARD (3)				
S720	1-554-937-11	SWITCH, KEY BOARD (RECORDED)				
S721	1-554-937-11	SWITCH, KEY BOARD (PRESENT)				
S722	1-554-937-11	SWITCH, KEY BOARD (FADER)				
S723	1-554-937-11	SWITCH, KEY BOARD (MARGIN RESET)				
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 (O/C ⏏)				
S732	1-554-937-11	SWITCH, KEY BOARD (STOP □)				
S733	1-554-937-11	SWITCH, KEY BOARD (PLAY ▷)				
S734	1-554-937-11	SWITCH, KEY BOARD (PREV ⏮)				
S735	1-554-937-11	SWITCH, KEY BOARD (NEXT ⏭)				
S736	1-554-937-11	SWITCH, KEY BOARD (END ID WRITE)				
S737	1-554-937-11	SWITCH, KEY BOARD (END ID ERASE)				
S738	1-554-937-11	SWITCH, KEY BOARD (CLEAR)				
S739	1-554-937-11	SWITCH, KEY BOARD (0 -)				
S740	1-554-937-11	SWITCH, KEY BOARD (MUSIC SCAN +)				
		〈 CRYSTAL 〉				
X701	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)				
		**********				
	* 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 (BALANCE)				
		**********				
	* 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				
		**********				
		〈 CHIP JUMPER 〉				
JW04	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW05	1-216-296-00	METAL CHIP	0	5%	1/8W	
		〈 SWITCH 〉				
SW1	1-570-953-11	SWITCH, PUSH (1 KEY) (STOP DET)				
SW2	1-570-953-11	SWITCH, PUSH (1 KEY) (FWD DET)				
		**********				

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

CONTROL (S) DRUM DRIVE

Ref.No.	Part No.	Description			Remarks
	* 1-639-330-11	CONTROL (S) BOARD (57ES:US, CND)			
		**********			
		〈 CAPACITOR 〉			
C801	1-136-165-00	FILM 0.1uF	5%	50V	
C802	1-136-165-00	FILM 0.1uF	5%	50V	
		〈 CONNECTOR 〉			
CN971	* 1-564-497-11	PIN, CONNECTOR 4P			
CN972	1-558-350-21	CORD (WITH CONNECTOR)			
		〈 DIODE 〉			
D801	8-719-107-94	DIODE 1SS202-1			
D802	8-719-107-94	DIODE 1SS202-1			
		〈 RESISTOR 〉			
R801	1-249-393-11	CARBON 10	5%	1/4W	
R802	1-249-429-11	CARBON 10K	5%	1/4W	
R803	1-249-429-11	CARBON 10K	5%	1/4W	
R804	1-249-405-11	CARBON 100	5%	1/4W	
R805	1-249-429-11	CARBON 10K	5%	1/4W	
R806	1-249-429-11	CARBON 10K	5%	1/4W	
		**********			
	* A-2056-488-A	DRUM DRIVE BOARD, COMPLETE			
		**********			
	* 3-343-491-01	HOLDER (S SENSOR B)			
	4-870-539-00	PLATE, GROUND			
		〈 CAPACITOR 〉			
C01	1-124-584-00	ELECT 100uF	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	
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	
		〈 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-FL63			
IC03	8-759-502-80	IC LM358M-FL63			

Ref.No.	Part No.	Description			Remarks
		〈 CHIP JUMPER 〉			
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	
		〈 PHOTO INTERUPTER 〉			
PH01	8-719-939-23	GP2S09-C			
PH02	8-719-939-23	GP2S09-C			
		〈 TRANSISTOR 〉			
Q01	8-729-100-66	TRANSISTOR 2SC1623			
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	

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

DRUM DRIVE | HEADPHONE | INPUT SW | MAIN

Ref. No.	Part No.	Description				Remarks
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	
		〈 CONNECTOR 〉				
CNP701	* 1-566-910-11	HOUSING, CONNECTOR 3P				
		〈 DIODE 〉				
D401	8-719-200-82	DIODE 11ES2				
D402	8-719-200-82	DIODE 11ES2				
		〈 IC 〉				
IC401	8-759-981-98	IC RC4560DD				
		〈 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
R799	1-249-437-11	CARBON	47K	5%	1/4W	
		〈 VARIABLE RESISTOR 〉				
RV103	1-241-537-11	RES, VAR, CARBON 20K/20K (PHONE LEVEL)				
		**********				

Ref. No.	Part No.	Description				Remarks
	* 1-639-328-11	INPUT SW BOARD				
		**********				
		〈 CONNECTOR 〉				
CN772	* 1-564-336-00	PIN, CONNECTOR 2P				
CNP702	* 1-566-910-11	HOUSING, CONNECTOR 3P				
		〈 RESISTOR 〉				
R713	1-249-428-11	CARBON	8.2K	5%	1/4W	
R714	1-249-434-11	CARBON	27K	5%	1/4W	
		〈 SWITCH 〉				
S702	1-572-758-11	SWITCH, ROTARY (INPUT)				
		**********				
	* A-2006-572-A	MAIN BOARD, COMPLETE (57ES:US, CND, E)				
	* A-2006-614-A	MAIN BOARD, COMPLETE (57ES:AEP)				
	* A-2006-681-A	MAIN BOARD, COMPLETE (750:US, CND)				
	* A-2006-682-A	MAIN BOARD, COMPLETE (750:UK)				
		**********				
		〈 CAPACITOR 〉				
C102	1-126-233-11	ELECT	22uF	20%	50V	
C103	1-130-955-00	FILM	0.01uF	5%	100V	
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	1-136-230-00	FILM	0.0022uF	5%	100V	
C117	1-136-228-11	FILM	0.0012uF	5%	100V	
C118	1-136-233-11	FILM	0.0047uF	5%	100V	
C120	1-124-122-11	ELECT	100uF	20%	50V	
C202	1-126-233-11	ELECT	22uF	20%	50V	
C203	1-130-955-00	FILM	0.01uF	5%	100V	
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	1-136-230-00	FILM	0.0022uF	5%	100V	
C217	1-136-228-11	FILM	0.0012uF	5%	100V	
C218	1-136-233-11	FILM	0.0047uF	5%	100V	
C220	1-124-122-11	ELECT	100uF	20%	50V	
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		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	

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.

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

MAIN

Ref. No.	Part No.	Description			Remarks
C306	1-164-159-11	CERAMIC	0.1uF		50V
C307	1-126-022-11	ELECT	47uF	20%	10V
C308	1-164-159-11	CERAMIC	0.1uF		50V (57ES)
C309	1-124-983-11	ELECT	330uF	20%	6.3V
C310	1-130-834-00	FILM	1uF	10%	63V (57ES)
C311	1-162-279-31	CERAMIC	75PF	10%	50V (57ES)
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		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		50V
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
C345	1-162-201-31	CERAMIC	12PF	5%	50V
C346	1-162-199-31	CERAMIC	10PF	5%	50V
C347	1-162-294-31	CERAMIC	0.001uF	10%	50V
C362	1-126-043-11	ELECT	0.47uF	20%	50V
C363	1-126-059-11	ELECT	10uF	20%	63V
C401	1-136-165-00	FILM	0.1uF	5%	50V
C402	1-136-165-00	FILM	0.1uF	5%	50V
C403	1-136-165-00	FILM	0.1uF	5%	50V
C404	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
C422	1-126-023-11	ELECT	100uF	20%	25V
C423	1-126-023-11	ELECT	100uF	20%	25V
C424	1-136-165-00	FILM	0.1uF	5%	50V
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	1-124-997-11	ELECT	470uF	20%	6.3V
C438	1-124-997-11	ELECT	470uF	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
C445	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
C452	1-136-165-00	FILM	0.1uF	5%	50V
C460	1-164-159-11	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
CN398	*	1-564-336-00	PIN, CONNECTOR 2P
CN501	*	1-564-716-11	PIN, CONNECTOR (SMALL TYPE)14P
CN508	*	1-568-933-11	SOCKET, CONNECTOR 30P
CN557		1-573-297-11	CONNECTOR, BOARD TO BOARD 18P
CN571	*	1-568-829-11	SOCKET, CONNECTOR 10P
CN572	*	1-568-825-11	SOCKET, CONNECTOR 6P
CN576	*	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P

〈 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

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

MAIN

Ref. No.	Part No.	Description	Remarks
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	
D403	8-719-107-94	DIODE 1SS202-1	
D404	8-719-210-21	DIODE 11EQS04	
		〈 IC 〉	
IC301	8-759-917-18	IC SN74HCU04AN	
IC302	8-759-232-49	IC TC74HC132AP	
IC303	8-759-917-18	IC SN74HCU04AN	
IC304	8-759-135-80	IC uPC358C	
IC305	8-759-926-17	IC SN74HC153ANS	
IC306	8-759-947-57	IC CXD1136Q	
IC307	8-752-339-43	IC CXD2601AQ	
IC308	8-759-906-24	IC SN74LS624N	
IC309	8-759-925-90	IC SN74HC74ANS	
IC310	8-752-330-68	IC CXK58257M-12L	
IC311	8-752-818-91	IC CXP80524-025Q	
IC312	8-752-832-33	IC CXP80524-040Q	
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 TA7805S	
IC330	8-759-984-34	IC RP5C62	
IC331	8-749-921-11	IC GP1F32R	
IC332	8-749-921-12	IC GP1F32T	
IC333	8-759-917-18	IC SN74HCU04AN	
IC354	8-759-900-72	IC NE5532P	
IC355	8-759-900-72	IC NE5532P	
IC356	8-759-945-58	IC RC4558P	
IC357	8-759-231-53	IC TA7805S	
IC358	8-759-245-79	IC TA7905S	
IC359	8-759-504-36	IC CS5339-KP	
IC360	8-759-972-47	IC LF412CN	
IC361	8-759-602-83	IC M5238P	
IC362	8-752-344-10	IC CXD2561M	
IC363	8-752-342-65	IC CXD2560M	
IC374	8-759-634-55	IC M5F7805L-720	
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	
		〈 JACK 〉	
J101	1-568-751-61	JACK, PIN (2P SHIELD TYPE)	
J102	1-568-751-61	JACK, PIN (2P SHIELD TYPE)	
J181	1-565-406-41	JACK, PIN 1P (57ES)	
J191	1-568-750-21	JACK, PIN (1P SHIELD TYPE)	
		〈 COIL 〉	
L301	1-410-509-11	INDUCTOR 10uH	
L302	1-410-498-11	INDUCTOR 1.2uH	
L303	1-410-509-11	INDUCTOR 10uH	
L305	1-410-509-11	INDUCTOR 10uH	
L306	1-410-509-11	INDUCTOR 10uH	
L310	1-410-953-11	INDUCTOR, SMALL TYPE (57ES)	
		〈 TRANSISTOR 〉	
Q301	8-729-927-11	TRANSISTOR 2SA1585S-QR	
Q311	8-729-900-80	TRANSISTOR DTC114ES	
Q312	8-729-107-85	TRANSISTOR 2SC3623A-K	
Q313	8-729-900-61	TRANSISTOR DTA114ES	
Q318	8-729-900-80	TRANSISTOR DTC114ES	
Q319	8-729-900-80	TRANSISTOR DTC114ES	
Q320	8-729-927-11	TRANSISTOR 2SA1585S-QR	
Q321	8-729-927-12	TRANSISTOR 2SC4115S-QR	
Q343	8-729-920-68	TRANSISTOR 2SA933S-QR	
Q399	8-729-900-80	TRANSISTOR DTC114ES	
Q432	8-729-900-80	TRANSISTOR DTC114ES	
Q433	8-729-107-85	TRANSISTOR 2SC3623A-K	
Q434	8-729-107-85	TRANSISTOR 2SC3623A-K	
Q435	8-729-900-61	TRANSISTOR DTA114ES	
Q436	8-729-900-80	TRANSISTOR DTC114ES	
Q437	8-729-900-61	TRANSISTOR DTA114ES	
Q438	8-729-900-80	TRANSISTOR DTC114ES	
Q439	8-729-900-80	TRANSISTOR DTC114ES	
Q440	8-729-119-78	TRANSISTOR 2SC2785-HFE	
		〈 RESISTOR 〉	
R102	1-247-903-00	CARBON 1M 5% 1/4W	
R103	1-249-417-11	CARBON 1K 5% 1/4W	
R104	1-249-433-11	CARBON 22K 5% 1/4W	
R105	1-249-435-11	CARBON 33K 5% 1/4W	
R106	1-249-403-11	CARBON 68 5% 1/4W	
R107	1-247-854-11	CARBON 9.1K 5% 1/4W	
R108	1-247-854-11	CARBON 9.1K 5% 1/4W	
R109	1-247-854-11	CARBON 9.1K 5% 1/4W	
R110	1-247-854-11	CARBON 9.1K 5% 1/4W	
R111	1-249-425-11	CARBON 4.7K 5% 1/4W	
R112	1-249-425-11	CARBON 4.7K 5% 1/4W	
R113	1-249-425-11	CARBON 4.7K 5% 1/4W	
R114	1-249-425-11	CARBON 4.7K 5% 1/4W	
R115	1-249-430-11	CARBON 12K 5% 1/4W	
R116	1-249-430-11	CARBON 12K 5% 1/4W	
R117	1-249-426-11	CARBON 5.6K 5% 1/4W	
R118	1-249-426-11	CARBON 5.6K 5% 1/4W	
R119	1-249-426-11	CARBON 5.6K 5% 1/4W	
R120	1-249-426-11	CARBON 5.6K 5% 1/4W	
R121	1-249-405-11	CARBON 100 5% 1/4W	
R122	1-249-419-11	CARBON 1.5K 5% 1/4W	
R123	1-249-419-11	CARBON 1.5K 5% 1/4W	
R124	1-249-441-11	CARBON 100K 5% 1/4W	
R125	1-249-409-11	CARBON 220 5% 1/4W	
R126	1-249-429-11	CARBON 10K 5% 1/4W	

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

MAIN

Ref. No.	Part No.	Description				Remarks
R127	1-249-405-11	CARBON	100	5%	1/4W	
R180	1-249-397-11	CARBON	22	5%	1/4W	
R202	1-247-903-00	CARBON	1M	5%	1/4W	
R203	1-249-417-11	CARBON	1K	5%	1/4W	
R204	1-249-433-11	CARBON	22K	5%	1/4W	
R205	1-249-435-11	CARBON	33K	5%	1/4W	
R206	1-249-403-11	CARBON	68	5%	1/4W	
R207	1-247-854-11	CARBON	9.1K	5%	1/4W	
R208	1-247-854-11	CARBON	9.1K	5%	1/4W	
R209	1-247-854-11	CARBON	9.1K	5%	1/4W	
R210	1-247-854-11	CARBON	9.1K	5%	1/4W	
R211	1-249-425-11	CARBON	4.7K	5%	1/4W	
R212	1-249-425-11	CARBON	4.7K	5%	1/4W	
R213	1-249-425-11	CARBON	4.7K	5%	1/4W	
R214	1-249-425-11	CARBON	4.7K	5%	1/4W	
R215	1-249-430-11	CARBON	12K	5%	1/4W	
R216	1-249-430-11	CARBON	12K	5%	1/4W	
R217	1-249-426-11	CARBON	5.6K	5%	1/4W	
R218	1-249-426-11	CARBON	5.6K	5%	1/4W	
R219	1-249-426-11	CARBON	5.6K	5%	1/4W	
R220	1-249-426-11	CARBON	5.6K	5%	1/4W	
R221	1-249-405-11	CARBON	100	5%	1/4W	
R222	1-249-419-11	CARBON	1.5K	5%	1/4W	
R223	1-249-419-11	CARBON	1.5K	5%	1/4W	
R224	1-249-441-11	CARBON	100K	5%	1/4W	
R225	1-249-409-11	CARBON	220	5%	1/4W	
R226	1-249-429-11	CARBON	10K	5%	1/4W	
R227	1-249-405-11	CARBON	100	5%	1/4W	
R280	1-249-397-11	CARBON	22	5%	1/4W	
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	
R304	1-249-441-11	CARBON	100K	5%	1/4W	
R305	1-249-421-11	CARBON	2.2K	5%	1/4W	
R306	1-249-417-11	CARBON	1K	5%	1/4W	
R307	1-249-417-11	CARBON	1K	5%	1/4W	
R308	1-249-425-11	CARBON	4.7K	5%	1/4W	
R309	1-249-421-11	CARBON	2.2K	5%	1/4W	
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	
R313	1-249-421-11	CARBON	2.2K	5%	1/4W	
R314	1-249-435-11	CARBON	33K	5%	1/4W	
R315	1-249-429-11	CARBON	10K	5%	1/4W	
R316	1-247-804-11	CARBON	75	5%	1/4W	(57ES)
R317	1-249-405-11	CARBON	100	5%	1/4W	(57ES)
R318	1-249-409-11	CARBON	220	5%	1/4W	
R319	1-249-409-11	CARBON	220	5%	1/4W	
R320	1-247-804-11	CARBON	75	5%	1/4W	
R321	1-249-405-11	CARBON	100	5%	1/4W	
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	
R326	1-249-409-11	CARBON	220	5%	1/4W	
R327	1-249-425-11	CARBON	4.7K	5%	1/4W	
R328	1-249-417-11	CARBON	1K	5%	1/4W	
R329	1-249-413-11	CARBON	470	5%	1/4W	
R330	1-249-417-11	CARBON	1K	5%	1/4W	
R331	1-249-429-11	CARBON	10K	5%	1/4W	
R332	1-249-429-11	CARBON	10K	5%	1/4W	
R333	1-249-433-11	CARBON	22K	5%	1/4W	
R334	1-249-425-11	CARBON	4.7K	5%	1/4W	
R335	1-249-425-11	CARBON	4.7K	5%	1/4W	
R336	1-249-425-11	CARBON	4.7K	5%	1/4W	
R346	1-249-441-11	CARBON	100K	5%	1/4W	
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	
R351	1-249-425-11	CARBON	4.7K	5%	1/4W	
R353	1-249-441-11	CARBON	100K	5%	1/4W	
R365	1-249-425-11	CARBON	4.7K	5%	1/4W	
R378	1-249-417-11	CARBON	1K	5%	1/4W	
R379	1-249-401-11	CARBON	47	5%	1/4W	
R380	1-249-411-11	CARBON	330	5%	1/4W	
R381	⚠ 1-215-881-11	METAL OXIDE	15	5%	2W	F
R386	1-249-405-11	CARBON	100	5%	1/4W	
R387	1-249-405-11	CARBON	100	5%	1/4W	
R388	1-249-423-11	CARBON	3.3K	5%	1/4W	
R389	1-249-423-11	CARBON	3.3K	5%	1/4W	
R390	1-249-423-11	CARBON	3.3K	5%	1/4W	
R391	1-249-423-11	CARBON	3.3K	5%	1/4W	
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	
R396	1-249-441-11	CARBON	100K	5%	1/4W	
R397	1-249-441-11	CARBON	100K	5%	1/4W	
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	
R410	1-249-425-11	CARBON	4.7K	5%	1/4W	
R411	1-249-417-11	CARBON	1K	5%	1/4W	
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	

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.

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

MAIN MOTOR PLL

Ref. No.	Part No.	Description				Remarks
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	
R419	1-249-413-11	CARBON	470	5%	1/4W	
R420	1-249-413-11	CARBON	470	5%	1/4W	
R421	1-249-413-11	CARBON	470	5%	1/4W	
R422	1-249-413-11	CARBON	470	5%	1/4W	
R424	1-249-411-11	CARBON	330	5%	1/4W	
R425	1-249-411-11	CARBON	330	5%	1/4W	
R430	1-249-399-11	CARBON	33	5%	1/4W	
R431	1-249-399-11	CARBON	33	5%	1/4W	
R432	1-249-393-11	CARBON	10	5%	1/4W	
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	
R436	1-249-409-11	CARBON	220	5%	1/4W	
R437	1-249-409-11	CARBON	220	5%	1/4W	
R438	1-249-409-11	CARBON	220	5%	1/4W	
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	
R445	1-249-419-11	CARBON	1.5K	5%	1/4W	
R446	1-247-883-00	CARBON	150K	5%	1/4W	
R447	1-249-425-11	CARBON	4.7K	5%	1/4W	
R448	1-249-413-11	CARBON	470	5%	1/4W	
R449	1-249-424-11	CARBON	3.9K	5%	1/4W	
R451	1-247-891-00	CARBON	330K	5%	1/4W	
R460	1-249-429-11	CARBON	10K	5%	1/4W	
R495	1-249-417-11	CARBON	1K	5%	1/4W	
R496	1-249-417-11	CARBON	1K	5%	1/4W	
R497	1-247-903-00	CARBON	1M	5%	1/4W	
R498	1-247-903-00	CARBON	1M	5%	1/4W	
R499	1-249-429-11	CARBON	10K	5%	1/4W	
		〈 RELAY 〉				
RY301	1-515-726-11	RELAY				
		〈 COIL 〉				
T301	1-459-795-11	COIL (WITH CORE) (57ES)				
		〈 CRYSTAL 〉				
X301	1-567-816-11	VIBRATOR, CRYSTAL (18MHz)				
X302	1-567-815-11	VIBRATOR, CRYSTAL (22MHz)				
X303	1-578-667-11	VIBRATOR, CRYSTAL (49MHz)				
X304	1-567-098-00	VIBRATOR, CRYSTAL (32.768kHz)				

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Ref. No.	Part No.	Description				Remarks
	* 1-639-646-11	MOTOR BOARD				
		**********				
		〈 CAPACITOR 〉				
C06	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				

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	* 1-639-920-11	PLL BOARD				
		*********				
	1-543-563-11	FERRITE BOARD, MULTI HOLE				
		〈 CAPACITOR 〉				
C501	1-136-153-00	FILM	0.01uF	5%	50V	
C502	1-162-284-31	CERAMIC	150PF	10%	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	1-136-158-00	FILM	0.027uF	5%	50V	
C508	1-136-165-00	FILM	0.1uF	5%	50V	
C509	1-126-023-11	ELECT	100uF	20%	25V	
C510	1-136-165-00	FILM	0.1uF	5%	50V	
C511	1-126-023-11	ELECT	100uF	20%	25V	
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	1-130-834-00	FILM	1uF	10%	63V	
C516	1-136-165-00	FILM	0.1uF	5%	50V	
C517	1-164-159-11	CERAMIC	0.1uF		50V	
C520	1-164-159-11	CERAMIC	0.1uF		50V	
		〈 CONNECTOR 〉				
CN558	* 1-573-299-11	CONNECTOR, BOARD TO BOARD 10P				
		〈 DIODE 〉				
D501	8-719-901-59	DIODE KV1320				
D503	8-719-903-27	DIODE 1SS168				
		〈 IC 〉				
IC501	8-759-604-30	IC M5F7808L				
IC502	8-759-036-44	IC MC74AC74N				
IC503	8-759-917-11	IC SN74HC393AN				
IC504	8-759-250-81	IC TC5081AP				
		〈 COIL 〉				
L501	1-460-042-11	COIL (WITH CORE)				

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

PLL POWER

Ref. No.	Part No.	Description				Remarks
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	1-460-042-11	COIL (WITH CORE)				
		〈 TRANSISTOR 〉				
Q501	8-729-200-56	TRANSISTOR	2SK241GR			
Q502	8-729-200-56	TRANSISTOR	2SK241GR			
Q503	8-729-900-61	TRANSISTOR	DTA114ES			
		〈 RESISTOR 〉				
R501	1-249-417-11	CARBON	1K	5%	1/4W	
R502	1-247-903-00	CARBON	1M	5%	1/4W	
R503	1-247-903-00	CARBON	1M	5%	1/4W	
R504	1-249-429-11	CARBON	10K	5%	1/4W	
R505	1-249-428-11	CARBON	8.2K	5%	1/4W	
R506	1-249-441-11	CARBON	100K	5%	1/4W	
R507	1-249-417-11	CARBON	1K	5%	1/4W	
R508	1-249-417-11	CARBON	1K	5%	1/4W	
R509	1-249-417-11	CARBON	1K	5%	1/4W	
R510	1-249-407-11	CARBON	150	5%	1/4W	
R511	1-249-425-11	CARBON	4.7K	5%	1/4W	
R512	1-249-425-11	CARBON	4.7K	5%	1/4W	
R513	1-249-417-11	CARBON	1K	5%	1/4W	
R514	1-249-423-11	CARBON	3.3K	5%	1/4W	
R515	1-249-423-11	CARBON	3.3K	5%	1/4W	
R516	1-249-433-11	CARBON	22K	5%	1/4W	
R517	1-249-435-11	CARBON	33K	5%	1/4W	
R518	1-249-417-11	CARBON	1K	5%	1/4W	
R519	1-249-417-11	CARBON	1K	5%	1/4W	
**********						
*	A-2006-463-A	POWER BOARD, COMPLETE				
		**********				
*	1-533-213-31	HOLDER, FUSE				
*	4-363-146-71	HEAT SINK, V.OUT				
	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	1-126-104-11	ELECT	470uF	20%	35V	
C914	1-126-104-11	ELECT	470uF	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	1-126-129-11	ELECT	6800uF	20%	35V	
C921	1-126-129-11	ELECT	6800uF	20%	35V	
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			
D908	8-719-200-82	DIODE	11ES2			
D909	8-719-934-15	DIODE	HZS24-3L			
D910	8-719-933-33	DIODE	HZS6A1L			
D911	8-719-230-02	DIODE	30D2-FC			
D912	8-719-230-02	DIODE	30D2-FC			
D913	8-719-230-02	DIODE	30D2-FC			
D914	8-719-230-02	DIODE	30D2-FC			
D915	8-719-107-94	DIODE	1SS202-1			
D916	8-719-107-94	DIODE	1SS202-1			
		〈 FUSE 〉				
F901	⚠ 1-532-744-11	FUSE, GLASS TUBE(2.5A) (US, CND)				
F901	⚠ 1-532-286-11	FUSE, TIME-LAG(T2.5A)(57ES:AEP, E/750:UK)				
		〈 IC 〉				
IC901	8-759-148-79	IC	uPC2406HF			
IC902	8-759-231-53	IC	M5F7805L			
IC903	8-759-231-58	IC	M5F7812L			
IC904	8-759-604-51	IC	M5F7912L			
		〈 TRANSISTOR 〉				
Q901	8-729-140-97	TRANSISTOR	2SB734-34			
		〈 RESISTOR 〉				
R901	1-249-425-11	CARBON	4.7K	5%	1/4W	
R902	⚠ 1-212-849-00	FUSIBLE	4.7	5%	1/4W	F
R903	1-249-421-11	CARBON	2.2K	5%	1/4W	
R904	⚠ 1-212-865-00	FUSIBLE	22	5%	1/4W	F
R905	1-249-433-11	CARBON	22K	5%	1/4W	
		〈 TRANSFORMER 〉				
T901	⚠ 1-450-556-11	TRANSFORMER, POWER (US, CND)				
T901	⚠ 1-450-557-11	TRANSFORMER, POWER (57ES:AEP/750:UK)				
T901	⚠ 1-450-558-11	TRANSFORMER, POWER (57ES:E)				

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.

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

RELAY | PRIMARY | REC VOL | REEL MOTOR | RF AMP

Ref.No.	Part No.	Description			Remarks
	* 1-639-332-11	RELAY BOARD			
		**********			
**********					
	* 1-639-333-11	PRIMARY BOARD			
		**********			
	* 3-685-232-01	SPACER, VI			
	* 3-346-266-12	PLATE, GROUND			
		< CAPACITOR >			
C901	1-161-744-00	CAP, CERAMIC 0.01uF			400V
C902	1-161-742-00	CAP, CERAMIC 0.0022uF	20%		400V
C903	1-161-742-00	CAP, CERAMIC 0.0022uF	20%		400V
C904	1-161-742-00	CAP, CERAMIC 0.0022uF	20%		400V
C905	1-161-742-00	CAP, CERAMIC 0.0022uF	20%		400V
					(57ES:AEP, E/750:UK)
C906	1-161-744-00	CAP, CERAMIC 0.01uF			400V
		< CONNECTOR >			
CN901	* 1-564-321-00	PIN, CONNECTOR 2P			
		< COIL >			
L901	1-421-915-11	COIL, LINE FILTER			
		< SWITCH >			
SW901	* 1-571-722-11	SWITCH, VOLTAGE SELECTION			
					(VOLTAGE SELECTOR) (57ES:E)
**********					
	* 1-639-325-11	REC VOL BOARD			
		**********			
		< VARIABLE RESISTOR >			
RV102	1-238-833-21	RES, VAR, CARBON 20K/20K (REC LEVEL)			
**********					
	* 1-639-304-11	REEL MOTOR BOARD			
		**********			
		< CAPACITOR >			
C07	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
**********					
	* A-2001-587-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
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	1-216-234-00	METAL GLAZE	33K	5%	1/8W

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

RF AMP | RGN SW | SUB | SW (IN)

Ref.No.	Part No.	Description				Remarks
R16	1-216-238-00	METAL GLAZE	47K	5%	1/8W	
R17	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R18	1-216-222-00	METAL GLAZE	10K	5%	1/8W	
		〈 VARIABLE RESISTOR 〉				
RV1	1-238-181-11	RES, ADJ, CERMET 4.7K				
RV2	1-238-181-11	RES, ADJ, CERMET 4.7K				
**********						
*	1-639-301-11	RGN SW BOARD				
		**********				
		〈 SWITCH 〉				
S01	1-571-878-11	SWITCH, PUSH (2 KEY) (CASSETTE IN, REC PROOF)				
**********						
*	A-2006-553-A	SUB BOARD, COMPLETE				
		**********				
		〈 CAPACITOR 〉				
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	
C348	1-130-834-00	FILM	1uF	10%	63V	
		〈 CONNECTOR 〉				
CN556	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P				
		〈 IC 〉				
IC316	8-759-135-80	IC uPC358C				
IC317	8-759-135-80	IC uPC358C				
IC318	8-759-135-80	IC uPC358C				
		〈 TRANSISTOR 〉				
Q302	8-729-801-93	TRANSISTOR	2SD1387			
Q333	8-729-924-90	TRANSISTOR	2SB1370-EF			
Q334	8-729-920-68	TRANSISTOR	2SA933S-QR			
Q335	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q336	8-729-927-11	TRANSISTOR	2SA1585S-QR			
Q337	8-729-927-11	TRANSISTOR	2SA1585S-QR			
Q338	8-729-927-12	TRANSISTOR	2SC4115S-QR			
Q339	8-729-927-12	TRANSISTOR	2SC4115S-QR			
Q340	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q341	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q342	8-729-209-15	TRANSISTOR	2SD2012			
		〈 RESISTOR 〉				
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	
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	
R352	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	
R356	1-249-417-11	CARBON	1K	5%	1/4W	
R357	1-249-405-11	CARBON	100	5%	1/4W	
R358	1-249-417-11	CARBON	1K	5%	1/4W	
R359	1-249-408-11	CARBON	180	5%	1/4W	
R360	1-247-870-11	CARBON	43K	5%	1/4W	
R361	1-249-437-11	CARBON	47K	5%	1/4W	
R364	1-247-731-11	CARBON	22	5%	1/2W	
R366	1-249-441-11	CARBON	100K	5%	1/4W	
R367	1-249-417-11	CARBON	1K	5%	1/4W	
R368	1-249-417-11	CARBON	1K	5%	1/4W	
R369	1-249-405-11	CARBON	100	5%	1/4W	
R370	1-249-405-11	CARBON	100	5%	1/4W	
R371	1-249-417-11	CARBON	1K	5%	1/4W	
R372	1-249-405-11	CARBON	100	5%	1/4W	
R373	1-249-417-11	CARBON	1K	5%	1/4W	
R374	1-249-417-11	CARBON	1K	5%	1/4W	
R375	1-249-405-11	CARBON	100	5%	1/4W	
R376	1-249-417-11	CARBON	1K	5%	1/4W	
R377	1-249-441-11	CARBON	100K	5%	1/4W	
R382	1-249-441-11	CARBON	100K	5%	1/4W	
R383	1-249-401-11	CARBON	47	5%	1/4W	
R384	1-249-437-11	CARBON	47K	5%	1/4W	
R385	1-249-437-11	CARBON	47K	5%	1/4W	
**********						
*	1-639-647-11	SW (IN) BOARD				
		**********				
		〈 SWITCH 〉				
S12	1-572-247-11	SWITCH, SLIDE (CASSETTE TABLE OUT)				
**********						

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

SW (OUT) TIMER SW TOP END SENSOR

Ref.No.	Part No.	Description	Remarks
	* 1-639-648-11	SW (OUT) BOARD	
		**********	
		〈 SWITCH 〉	
S11	1-570-975-11	SWITCH, SLIDE (CASSETTE TABLE IN)	
**********			
	* 1-639-329-11	TIMER SW BOARD	
		**********	
		〈 IC 〉	
IC704	8-749-922-36	IC GP1U50XB	
		〈 RESISTOR 〉	
R711	1-249-428-11	CARBON 8.2K 5% 1/4W	
R712	1-249-434-11	CARBON 27K 5% 1/4W	
		〈 SWITCH 〉	
S701	1-571-520-11	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	8-719-951-03	DIODE GL453	
		〈 PHOTO INTERUPTER 〉	
PH03	8-729-907-25	PT4850F	
PH04	8-729-907-25	PT4850F	
**********			

Ref.No.	Part No.	Description	Remarks
		MISCELLANEOUS	
		**********	
10	⚠ 1-559-297-31	CODE, POWER (57ES:E)	
10	⚠ 1-559-479-11	CORD, POWER (57ES:US, CND)	
10	⚠ 1-575-695-11	CODE, POWER (750:US, CND)	
10	⚠ 1-575-912-11	CODE, POWER (57ES:AEP)	
10	⚠ 1-575-913-11	CODE, POWER (750:UK)	
108	1-590-915-11	WIRE, FLAT TYPE (30 CORE)	
109	1-590-916-11	WIRE, FLAT TYPE (10 CORE)	
110	1-590-914-11	WIRE, FLAT TYPE (6 CORE)	
325	8-848-567-01	DRUM ASSY DOU-03A	
382	1-454-535-11	SOLENOID, PLUNGER (BRAKE)	
383	1-454-536-11	SOLENOID, PLUNGER (BT CONTROL)	
69	1-518-634-11	LAMP, PILOT	
76	1-554-920-21	SWITCH, PUSH (AC POWER) (1 KEY)	
77	1-590-321-71	LEAD (WITH CONNECTOR)	
BAT301	⚠ 1-528-229-11	BATTERY, LITHIUM CR-2450	
M901	A-2003-448-A	MOTOR ASSY (CASSETTE COM)	
M902	8-835-361-01	MOTOR, DC U-17B (CAPSTAN)	
M903	X-3363-109-1	MOTOR (CAM) ASSY	
M905	X-3363-110-1	MOTOR (REEL) ASSY	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-465-737-11	REMOTE COMMANDER (RM-D57A) (BLACK)	
	1-465-777-11	REMOTE COMMANDER (RM-D57A) (GOLD)	
	1-559-533-11	CORD, CONNECTION	
	* 3-369-495-01	INDIVIDUAL CARTON	
	3-703-450-01	INSTRUCTION (US)	
	3-704-366-01	SCREW (CASE) (M3X8)	
	3-707-584-01	COVER, BATTERY (for RM-D57A)	
	3-753-349-11	MANUAL, INSTRUCTION (57ES:AEP, E) (English, French, Spanish, Portuguese)	
	3-753-349-21	MANUAL, INSTRUCTION (750:US, CND, UK) (English)	
	3-753-349-31	MANUAL, INSTRUCTION (750:CND) (French)	
	3-753-349-41	MANUAL, INSTRUCTION (57ES:AEP) (German, Dutch, Swedish, Italian)	
	3-753-349-51	MANUAL, INSTRUCTION (57ES:AEP) (Danish, Finnish)	
	3-753-350-21	MANUAL, INSTRUCTION (57ES:US, CND) (English)	
	3-753-350-31	MANUAL, INSTRUCTION (57ES:CND) (French)	
	* 4-936-624-01	CUSHION	
**********			

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.

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

Ref. No.	Part No.	Description	Remarks

HARDWARE LIST

#1	7-682-548-09	SCREW +BVTT 3X8 (S)	
#2	7-683-412-05	BOLT, HEXAGON SOCKET 2.6X6	
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#4	7-685-647-79	SCREW, TAPPING (M3X10)	
#5	7-682-547-04	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	7-621-775-20	SCREW +B 2.6X5	
#14	7-682-147-15	SCREW, TR	
#15	7-621-255-20	SCREW +BVTT 2X4 (S)	
#16	7-627-854-07	PRECISION SCREW +P 2X2.5 TYPE3	
#17	7-627-556-17	SCREW, PRECISION +P 2.6X3 TYPE1	
#18	7-627-852-27	+P 1.7X3	
#19	7-621-255-15	SCREW +P 2X3	
#20	7-627-552-27	SCREW, PRECISION +P 1.7X2	
#21	7-627-552-47	SCREW, PRECISION +P 1.7X4	
#22	7-621-772-08	SCREW +B 2X3	
#23	7-621-772-18	SCREW +B 2X4	
#24	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#25	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
#26	7-682-550-09	SCREW +BVTT 3X12 (S)	

9-956-471-11

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DTC-57ES/750

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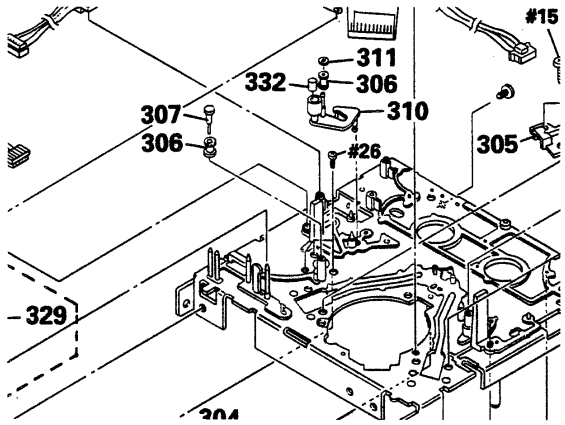
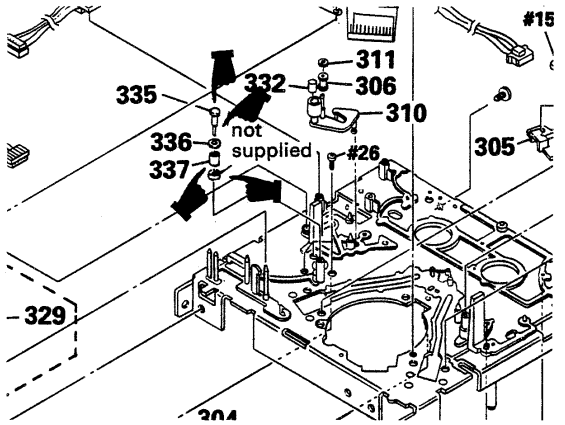
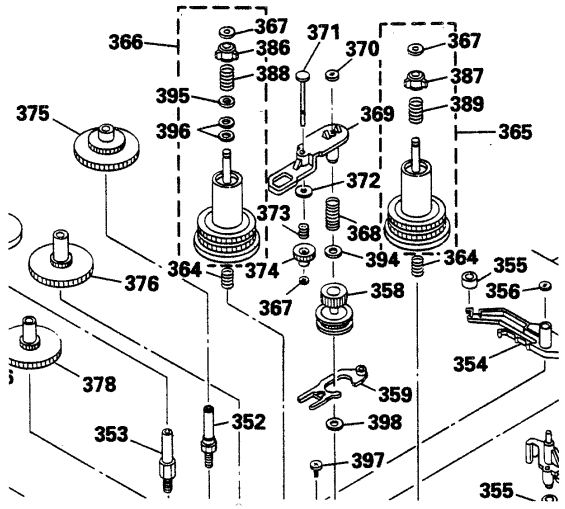
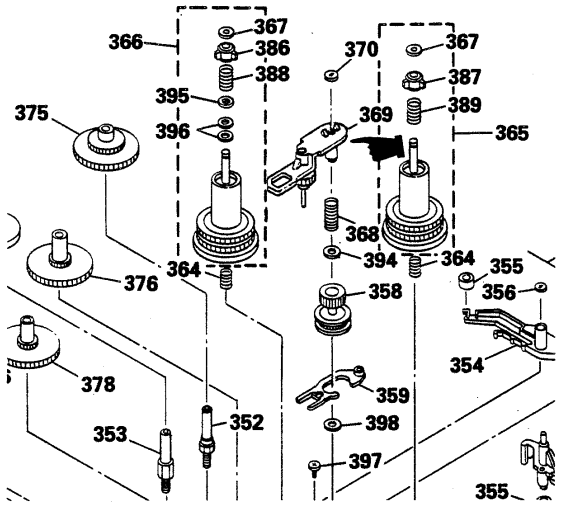
SUPPLEMENT-1

File this supplement with the Service Manual.

Design change of the Mechanism section (DATM-100)

The T2 roller guide has been changed to a fixed guide by the design change (to improve reliability), while the composition of the lever (F/R) assy also being modified as shown on the following page.

: Altered portion

Page	Incorrect	Correct
6		
7		

Ref. No. | Part No. | Description | Remarks

335 3-375-209-01 SHAFT (FIXED GUIDE)
336 3-337-677-01 FLANGE
337 3-337-676-01 GUIDE, FIXED

Ref. No. | Part No. | Description | Remarks

367 3-578-224-00 WASHER
369 3-368-450-01 LEVER (F/R)
371 3-368-429-01 SHAFT (NECK)
372 3-368-422-01 POLY-SLIDER (DIA. 4.5-DIA. 1.5)
373 3-368-437-01 SPRING (GEAR NECK), COMPRESSION
374 3-368-406-01 GEAR (NECK)

Ref. No. | Part No. | Description | Remarks

369 X-3364-581-1 LEVER (F/R) ASSY

9-956-471-81

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SUPPLEMENT-2

File this supplement with the service manual.

1. Service Manual Correction
2. FWD torque adjustment procedure change
3. Circuit design and board change (SUB board)
4. Addition part and change of part

1. Service Manual Correction

☛ : Corrected portion

Page	Incorrect	Correct
15	**FWD Torque Adjustment** **Adjustment Procedure:** 3. Confirm that the FWD torque value (take-up side rewinding torque) is between 10 – 20 g·cm (0.14 – 0.28 oz·inch).	**FWD Torque Check** **Check Procedure:** 3. Confirm that the FWD torque value (take-up side rewinding torque) is between 10 – 16 g·cm (0.14 – 0.22 oz·inch).
15	**FWD Back Tension Check** **Check procedure:** 3. Confirm that the back tension (supply side) is between 5 – 6 g·cm (0.07 –0.09 oz·inch). If this is not satisfied, adjust back tension by rotating the FWD back tension adjustment screw equipped on the side surface of the mechanical deck. After completion of adjusting, be sure to apply screw lock.	**FWD Back Tension Adjustment** **Adjustment procedure:** 3. Turn the FWD back tension adjustment screw locked on the mechanical deck side so that the minimum value of FWD back tension torque (supply side) is between 4 – 5 g·cm (0.06 – 0.07 oz·inch). Also, make sure that the maximum reading does not exceed 8 g·cm (does not exceed 0.11 oz·inch). After completion of adjusting, be sure to apply screw lock.

2. FWD torque adjustment procedure change (Except US model)

		Serial Number
DTC-57ES	Canadian model	A700, 101 and later
	AEP model (Black Type)	519, 501 and later
	AEP model (Gold Type)	503, 201 and later
	E model	302, 001 and later
DTC-750	Canadian model	A700, 501 and later
	UK model	603, 201 and later

- Sets with the serial numbers shown above have a new variable resister (RV301) on the sub board which serves for FWD torque adjustment. The adjustment for these sets should therefore be carried out as described below.

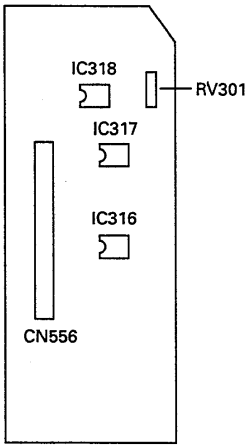
FWD Torque Adjustment:

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. Adjust RV301 so that the minimum value of FWD take up torque (take-up side rewinding torque) is between 10 – 11 g·cm (0.14 – 0.15 oz·inch).
   Also, make sure that the maximum reading does not exceed 16 g·cm (does not exceed 0.22 oz·inch).
4. Confirm that the value indicated by the torque meter is maintained for one full cycle.

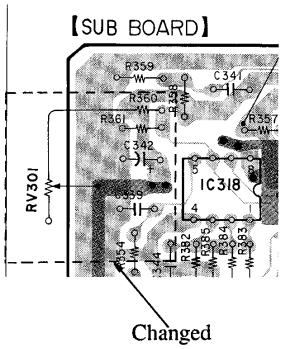
Adjustment point:

– SUB board – (Component side)

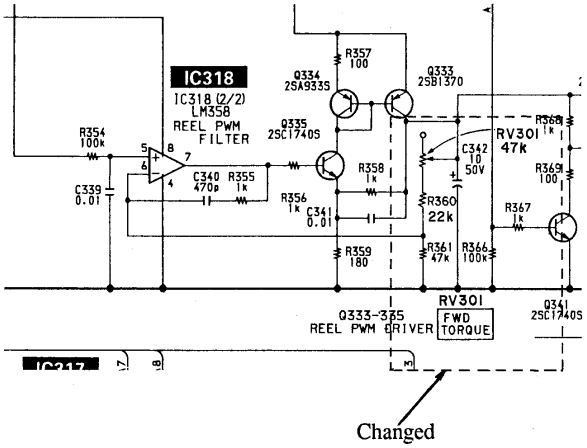


3. Circuit design and board change (SUB board) (Except US model)

Printed Wiring Board



Schematic Diagram



4. Additional part and change of part (Except US model)

Page	Former	New	Remarks
–	–	RV301 1-238-019-11 RES, ADJ, METAL 47K (FWD TORQUE)	Addition
74	R360 43K	R360 1-249-433-11 CARBON 22K 5% 1/4W	Change

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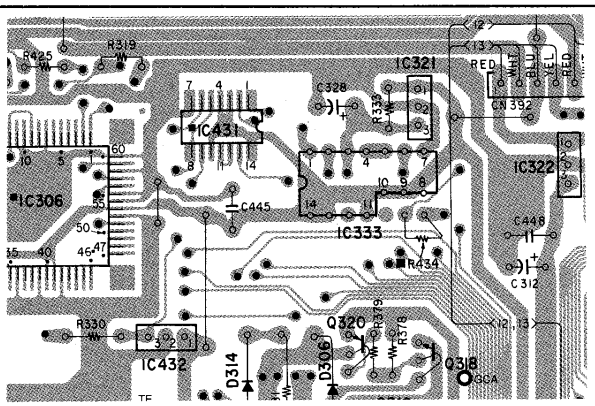
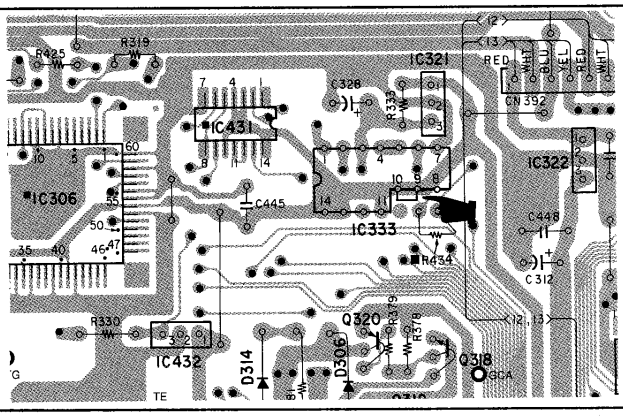
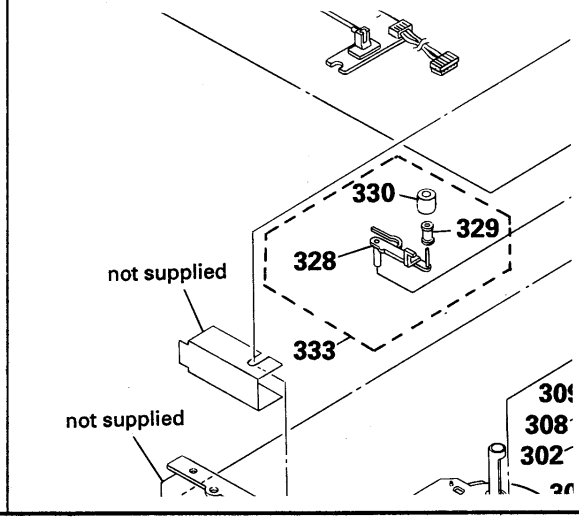
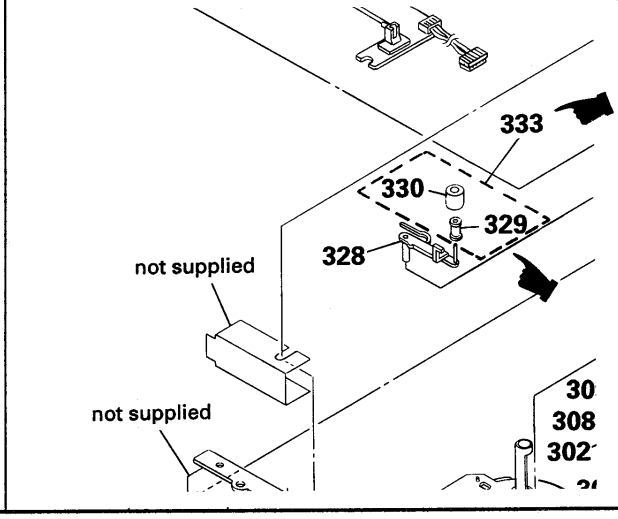
CORRECTION-1

Correct your service manual as shown below.

☛ : Corrected portion

Page	Incorrect	Correct
37		
62		

<table>
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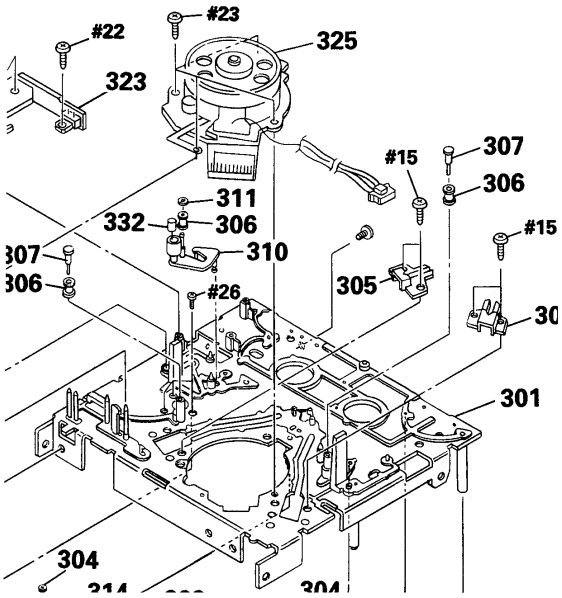
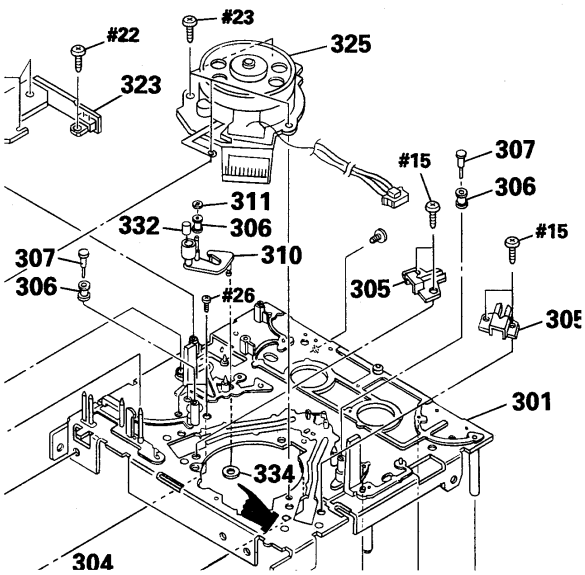
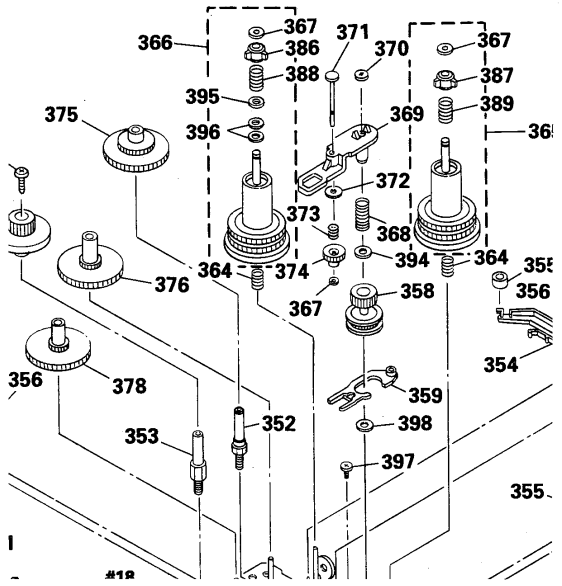
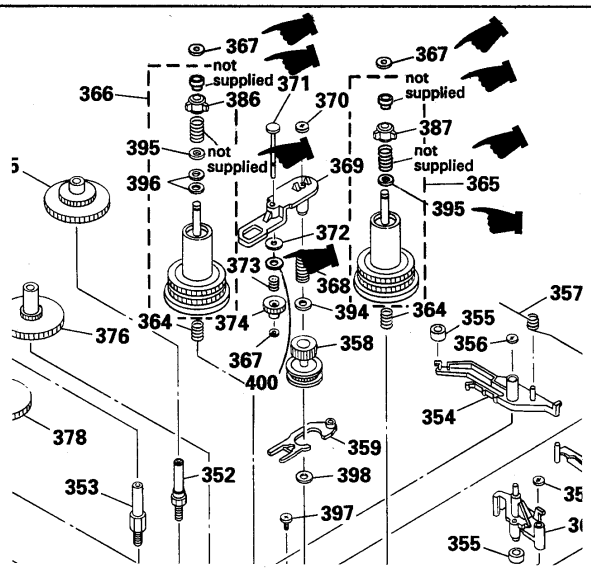
<tr><td>62</td><td> 
</td><td> 

Ref. No. Part No. Description
334 3-321-813-01 WASHER, COTTER POLYETHYLENE</td></tr>
<tr><td>63</td><td> 

Ref. No. Part No. Description
365 A-2003-709-A TABLE (S) ASSY, REEL
366 A-2003-710-A TABLE (T) ASSY, REEL
388 3-370-481-01 SPRING (T), COMPRESSION
389 3-370-482-01 SPRING (S), COMPRESSION</td><td> 

Ref. No. Part No. Description
365 A-2003-709-C TABLE (S) ASSY, REEL
366 A-2003-710-B TABLE (T) ASSY, REEL
388 } Not supplied
389
395 3-701-443-11 WASHER
400 3-369-233-01 FELT</td></tr>
</table>

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DTC-57ES/750

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CORRECTION-2

Correct your service manual as shown below.

☛ : Corrected portion

Page	Incorrect	Correct
13	7. Test mode The test mode is effected by shorting TP (XTEST MAIN, XTEST SERVO and XTEST DISP) on the main board and the operation switch board and GND. (1) Test mode (main) Turn OFF the main switch, connect XTEST MAIN on the main board to GND and perform the following adjustments. • Tape path adjustment • DPG adjustment • ATF pilot (GCA) checking (2) Test mode (servo) Turn OFF the main switch, connect XTEST SERVO on the main board to GND and perform the following adjustments. • End sensor checking • FWD torque checking • FWD back tension checking (3) Test mode (display) You can check the following FL display tube and the panel switch by turning OFF the main switch, disconnecting CN932 on the power board, removing flexible board CN752 on the operation switch board, connecting XTEST DISP to GND, connecting CN932 again and then turning ON the main switch.	7. Test mode The test mode is effected by shorting TP (XTEST MAIN, XTEST SERVO and XTEST DISP) on the main board and the operation switch board and GND. (1) Test mode (main • servo) ☛ Turn OFF the main switch, connect XTEST MAIN and ☛ XTEST SERVO on the main board to GND and perform the following adjustments. • Tape path adjustment • DPG adjustment • ATF pilot (GCA) checking • End sensor checking ☛ • FWD torque checking • FWD back tension checking (2) Test mode (display) ☛ You can check the following FL display tube and the panel switch by turning OFF the main switch, disconnecting CN932 on the power board, removing flexible board CN752 on the operation switch board, connecting XTEST DISP to GND, connecting CN932 again and then turning ON the main switch.
15	**End Sensor Adjustment** 2. Actuate the test mode (servo), mount an end sensor casette and effect the STOP (■) mode.	**End Sensor Adjustment** ☛ 2. Actuate the test mode (main • servo), mount an end sensor casette and effect the STOP (■) mode.
	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).	**FWD Torque 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).
	FWD Back Tension Check **Check procedure:** 1. Put the set into the test mode and load the FWD torque meter TW-7131 (8-909-708-71)	**FWD Back Tension Check** **Check procedure:** ☛ 1. Put the set into the test mode (main • servo) and load the FWD torque meter TW-7131 (8-909-708-71)

☛ : Corrected portion

<table>
<tr><th>Page</th><th>Incorrect</th><th>Correct</th></tr>
<tr><td>15</td><td>Tape Path Fine Adjustments (× 1.5 FWD Mode)
2. Put the set into the test mode and load test tape TY-7252 (8-909-822-00).</td><td>Tape Path Fine Adjustments (× 1.5 FWD Mode)
2. Put the set into the test mode (main • servo) and load test tape TY-7252 (8-909-822-00).</td></tr>
<tr><td rowspan="2">16</td><td>DPG Adjustment
2. Put the set into the test mode and load test tape TY-7252 (8-909-822-00).</td><td>DPG Adjustment
2. Put the set into the test mode (main • servo) and load test tape TY-7252 (8-909-822-00).</td></tr>
<tr><td>ATF Pilot (GCA) Adjustment
2. Put the set into the test mode and load test tape TY-7111 (8-909-812-00).</td><td>ATF Pilot (GCA) Adjustment
2. Put the set into the test mode (main • servo) and load test tape TY-7111 (8-909-812-00).</td></tr>
<tr><td>55</td><td>IC363 Digital Filter (CXD2560M)
The Filter is a digital audio 8x oversampling digital filter with builtin L/R 2ch filter, noise shaping attenuator, soft muting deemphasis, etc.
<table><tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr><tr><td>1</td><td>Vss</td><td>—</td><td>Power terminal (GND)</td></tr><tr><td>2</td><td>SYSM</td><td>I</td><td>System mute input.
Effective upon “H”</td></tr><tr><td>3</td><td>ATT</td><td>I</td><td>ATT data input in CTL “L.”
EMP input upon CLT “H.”</td></tr><tr><td>4</td><td>SHIFT</td><td>I</td><td>Shift clock input upon CTL “L.”
FS32 input upon CTL “H.”</td></tr><tr><td>5</td><td>LATCH</td><td>I</td><td>Latch clock input upon CTL
“L.” FS48 input upon CLT “H.”</td></tr><tr><td>16</td><td>INVO2</td><td>O</td><td>Inverter output</td></tr><tr><td>17</td><td>MCLK</td><td>I</td><td>Master clock input (f=512Fs)</td></tr><tr><td>18</td><td>VDD</td><td>—</td><td>Power terminal (+2 V)</td></tr><tr><td>19</td><td>BCKO</td><td>O</td><td>BCK output</td></tr><tr><td>20</td><td>DL</td><td>O</td><td>Lch data output</td></tr></table></td><td>IC363 Digital Filter (CXD2560M)
The Filter is a digital audio 8x oversampling digital filter with builtin L/R 2ch filter, noise shaping attenuator, soft muting deemphasis, etc.
<table><tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr><tr><td>1</td><td>Vss</td><td>—</td><td>Power terminal (GND)</td></tr><tr><td>2</td><td>SYSM</td><td>I</td><td>System mute input.
Effective upon “H”</td></tr><tr><td>3</td><td>ATT</td><td>I</td><td>ATT data input in CTL “L.”
EMP input upon CTL “H.”</td></tr><tr><td>4</td><td>SHIFT</td><td>I</td><td>Shift clock input upon CTL “L.”
FS32 input upon CTL “H.”</td></tr><tr><td>5</td><td>LATCH</td><td>I</td><td>Latch clock input upon CTL
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</table>

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DTC-57ES/750

SONY
SERVICE MANUAL

US Model
Canadian Model
AEP Model
E Model
DTC-57ES

US Model
Canadian Model
UK Model
DTC-750

CORRECTION-3

Correct your service manual as shown below.

☛ : **indicates corrected portion.**

Page	INCORRECT			CORRECT		
	No.	Part No.	Description	No.	Part No.	Description
61	216	*1-639-647-11	SW(IN) BOARD		*1-639-648-11	SW(OUT) BOARD
	217	*1-639-648-11	SW(OUT) BOARD		*1-639-647-11	SW(IN) BOARD
	S11	1-570-975-11	SWITCH, SLIDE (CASSETTE TABLE OUT)		1-572-247-11	SWITCH, SLIDE (CASSETTE TABLE IN)
	S12	1-572-247-11	SWITCH, SLIDE (CASSETTE TABLE IN)		1-570-975-11	SWITCH, SLIDE (CASSETTE TABLE OUT)
74	S12	1-572-247-11	SWITCH, SLIDE (CASSETTE TABLE OUT)	S11	1-572-247-11	SWITCH, SLIDE (CASSETTE TABLE IN)
75	S11	1-570-975-11	SWITCH, SLIDE (CASSETTE TABLE IN)	S12	1-570-975-11	SWITCH, SLIDE (CASSETTE TABLE OUT)

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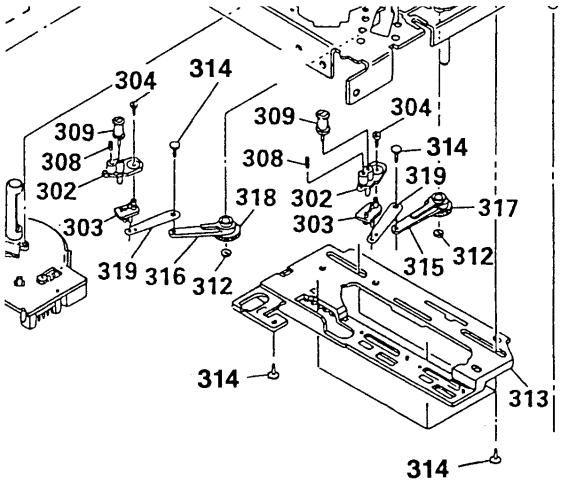
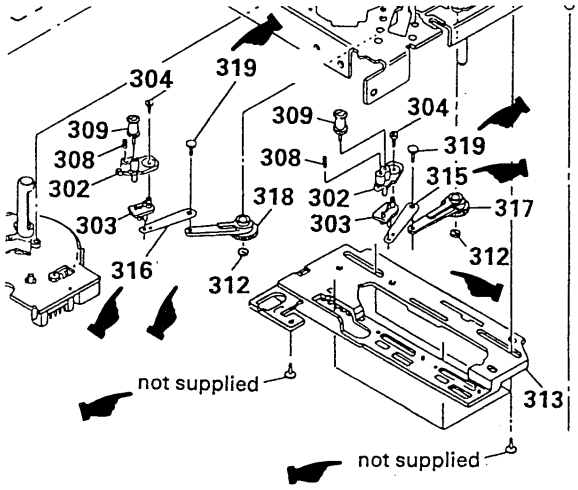
DTC-750

CORRECTION-4

Correct your service manual as shown below.

☛ : indicates corrected portion.

Page	INCORRECT	CORRECT
62		

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