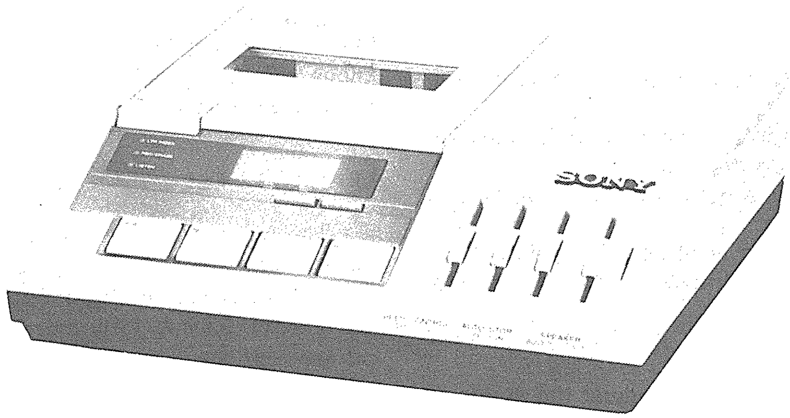
BM-75

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model



SPECIFICATIONS

Tape Transport Mechanims Type	MB-75-57

Recording system	4-track 2-channel monaural (L channel for electronic index signals, and R channel for sound signals)
Fast winding time	Approx. 2 min. 15 sec. with Sony cassette DC-90
Frequency response	100–8,000 Hz
Speaker	Approx. 7 cm ($2\frac{7}{8}$ inches)
Power output	400 mW (at 10% harmonic distortion)
Output	Earphone jack (minijack) for 8-ohm earphone
Power requirements	120V ac, 60 Hz (US, Canadian model) 220V ac, 50 Hz (AEP model) 240V ac, 50 Hz (UK model)
Current drain	240 mA
Dimensions	Approx. 224×68×232 mm (w/h/d) ($8\frac{7}{8}$×$2\frac{3}{4}$×$9\frac{1}{4}$ inches) incl. projecting parts and controls
Weight	Approx. 2.5 kg (5 lb 9 oz)
Accessories supplied	Tape cassette DC-60 (1) Microphone cradle (1 set)

SAFETY-RELATED COMPONENT WARNING!!

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

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

DICTATOR/TRANSCRIBER

SONY®

TC

FEATURES

The Sony dictator/transcriber BM-75 is a combination model for both dictating and transcribing.

As a dictator

- Full remote control dictation by using the hand control unit.
- By using the LTR button of the hand control unit, cue signals are recorded on the tape.
- Fail-safe warning systems during recording: end alarm and empty alarm.
- The automatic recording level control system automatically adjusts and maintains a proper recording level.
- Choice of built-in speaker or hand speaker of the hand control unit.
- TONE and VOLUME controls to adjust the sound to your preference.
- LED voice mirror with the REC/ERASE indicator.

As a transcriber

- Full remote control transcription by using the foot control unit.
- The tape speed in playback mode can be controlled by the SPEED control to keep pace with your transcribing speed.
- The REVERSE TIME control enables you to repeat a few words of dictated material as often as you like.
- The automatic stop function together with the remote indexing system enables you to reach any part of the tape quickly and accurately.
- All mode shut-off mechanism activates at the end of the tape in any operating mode.
- The tape travel is displayed in minutes and seconds for indexing the contents.
- Built-in quick erasing.
- Three indicators: LTR INDEX indicator, REC/ERASE indicator and LISTEN indicator.

SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 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 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

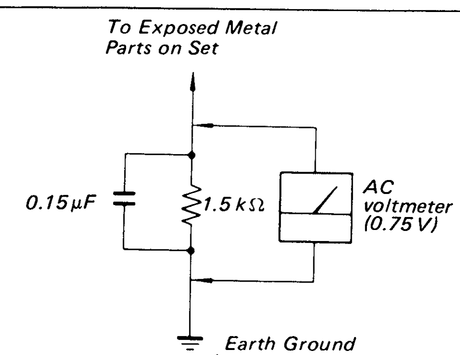
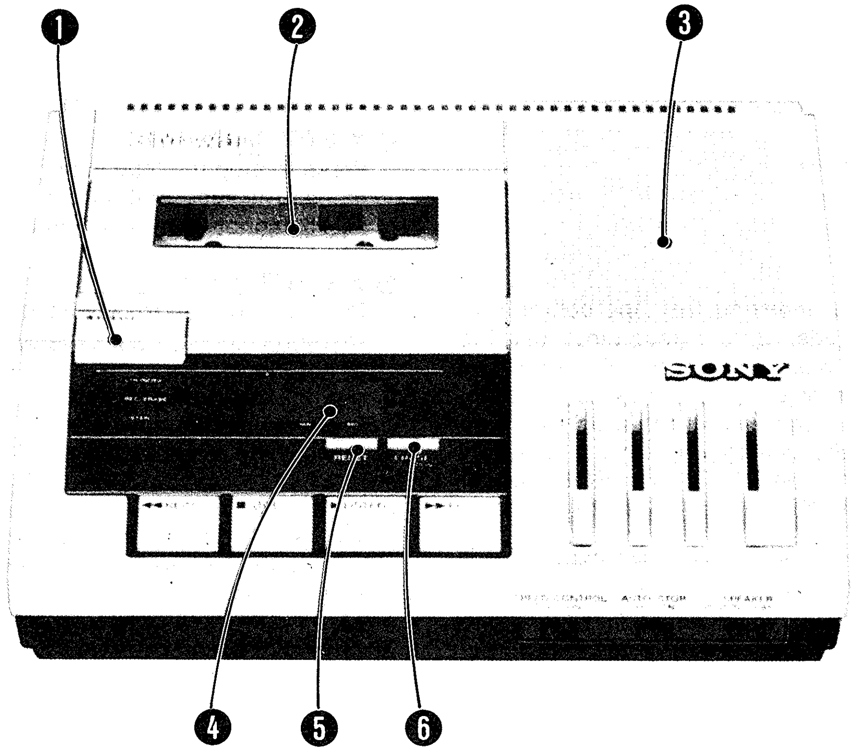
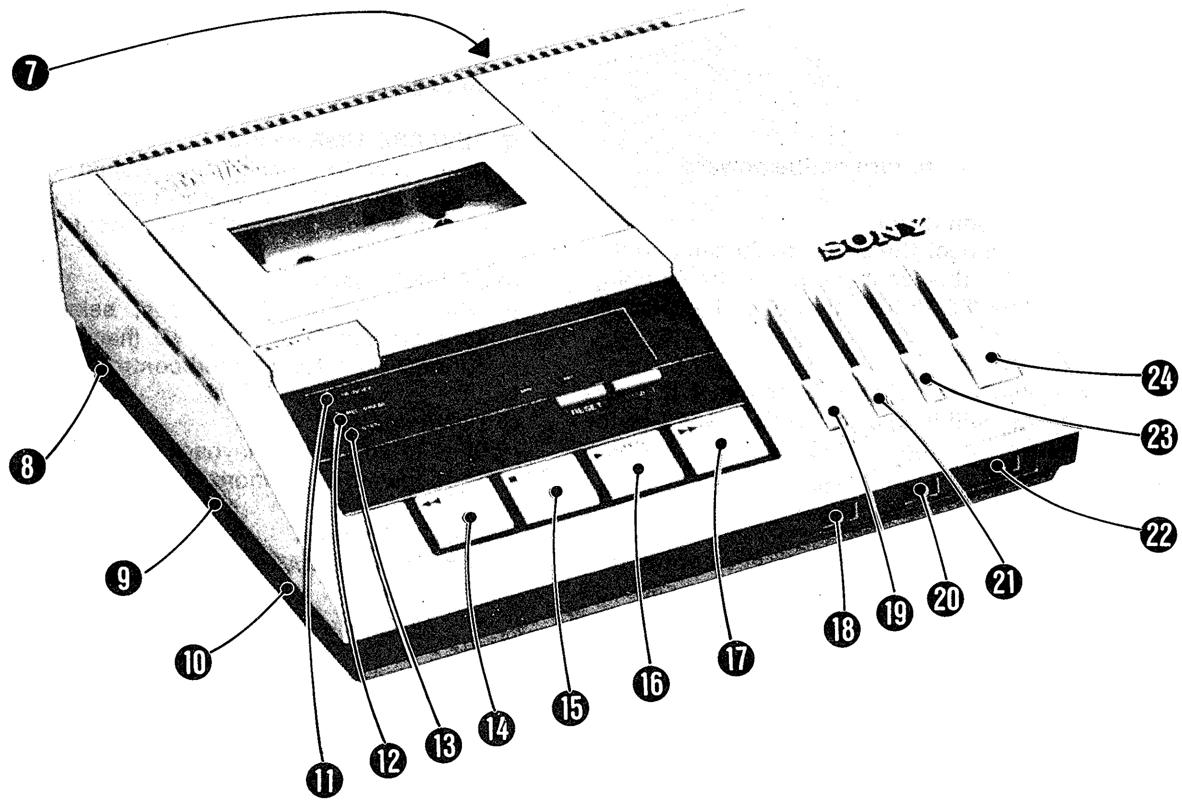


Fig. A. Using an AC voltmeter to check AC leakage.

LOCATION OF CONTROLS

Each number in the photo is keyed to the descriptive text.





FUNCTION OF CONTROLS

Each number in the text is keyed to that of "Location of controls" on page 3.

❶ ≜ **EJECT button**
Press to open the cassette compartment lid. Press again to pop up the cassette. When the tape is moving, this button activates only for opening the cassette compartment lid.

❷ **Cassette compartment**

❸ **Built-in speaker**

❹ **Tape counter**
Use the counter for indexing the tape contents in minutes and seconds. Before recording, set the counter to 0.00 by pushing the RESET button. The figures of the counter change as the tape passes. Make a note of the figures and the program being recorded. Later on the desired program can be rapidly located by using the ◀◀ REW or ▶▶ FF button, or by setting the HU-70 function lever to B (back) SPACE.

❺ **RESET button**
Press the RESET button when you begin to record to return the counter readout to 0.00 for proper indexing.

❻ **ERASE button**
To erase, while keeping this button pressed, press the ◀◀ REW button. Refer to page 9.

❼ **AC power cord**
Connect the cord to a wall outlet.

❽ **Power switch**
Set the switch to ON to turn on the power.

❾ **CONTROL UNIT connector**
For dictating, connect the Sony HU-70 hand control unit (optional) to this connector. For transcribing, connect the Sony FS-75 foot control unit (optional).

❿ **EARPHONE jack**
For listening with an earphone. When the earphone is plugged in, the built-in speaker of the BM-75 or the hand speaker of the HU-70 is automatically disconnected.

⓫ **LTR INDEX indicator**
When the LTR button of the HU-70 hand control unit is pressed, this indicator lights for approx. 3 seconds and a cue signal is recorded on the tape.

⓬ **REC (record)/ERASE indicator**
When the set is in record mode (dictating or telephone recording), this indicator lights and flickers according to the strength of the input sound signal. During erasing, the indicator lights.

⓭ **LISTEN indicator**
This indicator lights when the unit is in listen mode.

⓮ ◀◀ **REW (rewind) button**
Press to rewind the tape. To release the rewind mode, press the ■ STOP button.

⓯ ■ **STOP button**
Press to stop the tape in play, rewind or fast forward mode. The tape motion controlled by the HU-70 or FS-75 cannot be stopped with this button.

⓰ ▶ **LISTEN button**
Press this button to play back. The LISTEN indicator will light.

⓱ ▶▶ **FF (fast forward) button**
Press to rapidly advance the tape. To release fast forward mode, press the ■ STOP button.

⓲ **SPEED CONTROL switch**
The SPEED CONTROL knob funcions when this switch is set to ON. Refer to "Speed control" on page 9.

⓳ **SPEED CONTROL knob**
Slide to adjust the playback speed. This knob functions only when the SPEED CONTROL switch is set to ON. Refer to the "Speed control" on page 9.

⓴ **AUTO-STOP switch**
To activate the automatic stop function, set the switch to ON. For details, see " AUTO-STOP switch" on page 10.

㉑ **REVERSE TIME control**
Used only in transcribing. Adjust the control to review the last few words each time you resume listening. See "REVERSE TIME control" on page 9.

㉒ **SPEAKER selector**
When listening to the tape, select the desired speaker; BUILT-IN or HAND (hand speaker of the optional Sony HU-70 hand control unit).

㉓ **TONE control**
Slide to adjust the playback tone quality.
Slide toward H for more treble, or L for less treble.

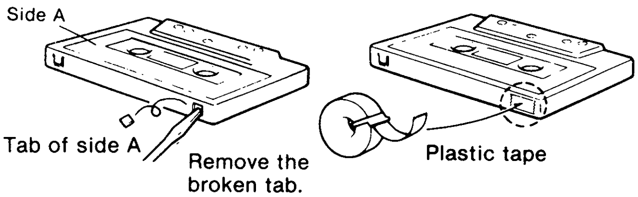
㉔ **VOLUME control**
Slide towards MAX for more volume.

NOTES ON CASSETTES

- Any standard cassette can be used, but the Sony leaderless cassette tape DC-60 (supplied) or DC-90 (optional) is recommended. The use of the chromium dioxide or metal type of cassette is not advisable.
- Choose a cassette of suitable length. Recording time of each side of these cassettes is as follows:
  DC-60 Approx. 30 minutes
  DC-90 Approx. 45 minutes
- The letter A on the Sony cassette is embossed to help you distinguish that side of the cassette in a dimly lit area.

Note on the 120-minute cassette
The use of a 120-minute cassette tape is not recommended except for long continuous recording or playback. When using this cassette tape, do not switch the tape operation mode frequently.

To prevent accidental erasure
When the BM-75 is operated in record mode, previous recordings are automatically erased. For this reason, cassettes incorporate a safety device to prevent accidental erasure. When the small tabs at the rear of a cassette are broken out, an interlock on the BM-75 will be activated, preventing recording. To protect side A recording, break out the tab of that side. For the protection of side B, break out the tab of that side. When the cassette is installed for dictating with the tabs broken out, recording cannot be attempted, but the alarm sound is heard.

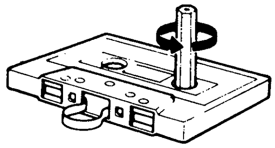


To reuse a cassette for recording after the tabs have been removed, simply cover each slot with a small piece of plastic tape. Do not stick any material on any part of the cassette except the circled portions, as shown.

CASSETTE INSERTION

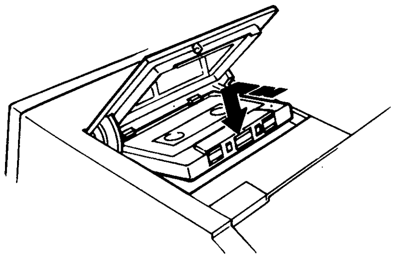
BEFORE INSERTION

Before inserting a cassette, take up any tape slack by inserting a thick pencil into the hub of the cassette and turning it a few times as shown.



INSERT THE CASSETTE AS FOLLOWS:

1 Press the ≜ EJECT button to open the cassette compartment.
2 Insert the cassette with the exposed tape facing you. Insert the cassette all the way until a click is heard, so that the head pops out. Make sure the hub wound with the tape is on the left.



3 Close the cassette compartment lid.

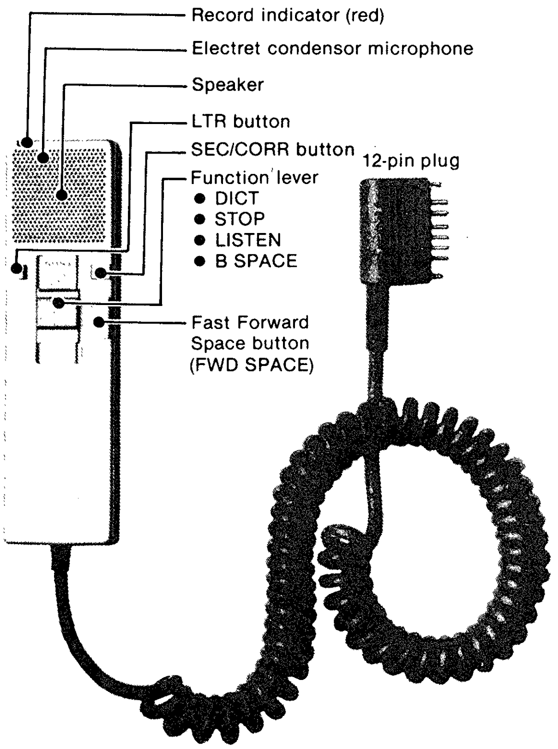
Precautions
- Never touch the surface of the tape. Oil from your fingers could damage the tape.
- Always insert the tape so that the side or portion of the tape you are recording is wound completely on the left reel of the cassette. For playback, be sure to insert the cassette with the recorded side up.

DICTATION

As you read, refer to the photo on page 3.

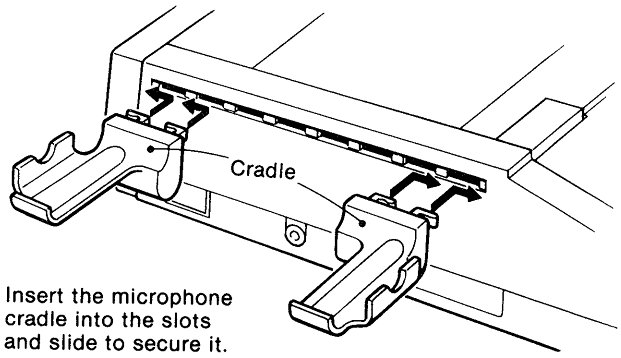
By connecting the Sony HU-70 hand control unit (optional), the BM-75 can be used as a dictator.

HU-70

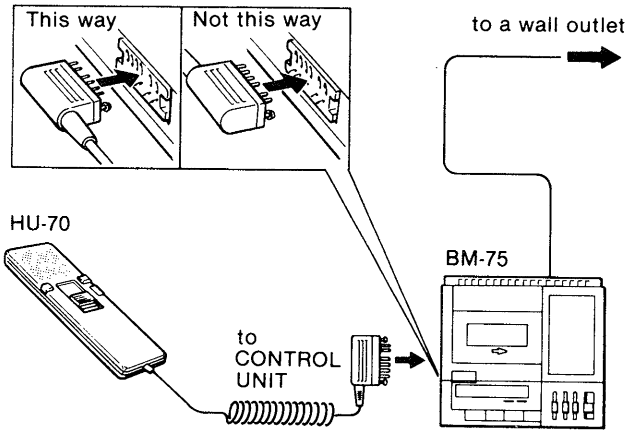


CONNECTION

1 Attach the microphone cradles (supplied) to the left or right side of the BM-75. Place the HU-70 on the cradle while not in use, or recording a conference, etc.



2 Connect the plug of the HU-70 to the accessory connector on the left side.



3 Plug the ac power cord into a wall outlet.

OPERATION

1 Turn the power switch on. The figures will appear on the tape counter showing that the BM-75 is ready to operate.
2 Insert a cassette into the cassette compartment. See "CASSETTE INSERTION" on page 5. Make sure that the tape is fully rewound.
3 Set the function lever of the HU-70 to DICT. The tape will start and the red REC/ERASE indicator of the BM-75 and the red indicator of the HU-70 will light.
- If an alarm is heard and the tape does not start, check as described in "ALARM SYSTEM" on page 8.

4 Speak into the microphone of the HU-70. The red indicator flickers according to your voice.
- No recording level adjustment is necessary with the SONY-MATIC recording system.

5 To stop the tape, set the function lever to STOP. Be sure to set the power switch of the BM-75 to STANDBY after use.
- At the end of the tape, the automatic shut-off mechanism activates, then the tape motion stops automatically and an alarm sound is heard (end alarm). Set the function lever to STOP, and the alarm will stop.
- For indexing the tape contents, set the tape counter to 0.00 by pushing the RESET button.

LTR button

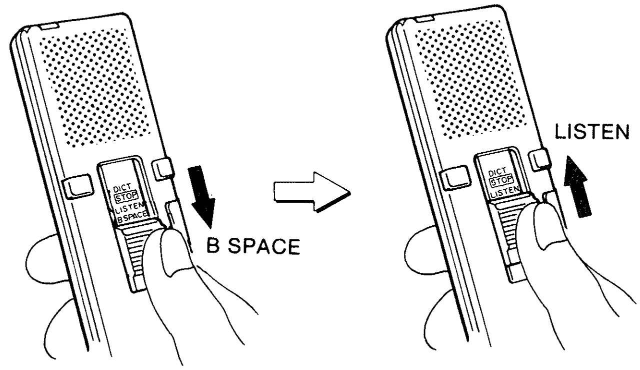
To give instructions to your secretary, press the LTR button on the HU-70 while dictating. An electronic cue signal for the auto stop device of the Sony transcribing units will be recorded on the tape. With the automatic stop function of the transcribing machine, the tape will stop automatically at each signal in rewind or fast forward mode, so your secretary can reach any part of the tape without having to listen to all of the dictated material. The SEC CORR button of the HU-70 has the same function as the LTR button when the HU-70 is connectecd to the BM-75.

- The LTR button on the HU-70 is operative not only in the dictating mode but also in the stop and listening modes.

When you finish dictation, give the cassette to your secretary without rewinding and ask her to press the RESET button to set the tape counter to "0.00", and to rewind the tape. The number in the time counter, preceded by the " ⊢ " mark, will increase, and when the cassette is rewound, she can see the total dictation time.

REVIEWING (PLAYBACK)/CORRECTING THE TAPE

1 Set the SPEAKER selector to BUILT-IN or HAND, as desired.
BUILT-IN: To listen to the sound with the BM-75 speaker.
HAND: To listen to the sound privately with the HU-70 hand speaker.
2 Keep the function lever of the HU-70 set to B SPACE until desired point on the tape is reached, then release the lever at LISTEN. The dictated material will be played back.



3 Adjust the volume with the VOLUME control.
4 When the review is completed, set the function lever to DICT, and proceed with the dictation.

- In LISTEN mode, with the SPEED CONTROL switch set to ON, the SPEED CONTROL knob can be adjusted to allow faster or slower playback. When the SPEED CONTROL switch is set to OFF, the original speed and tone of dictation can be obtained.
- For fast forward of the tape, keep the FWD SPACE button pressed with the function lever set to LISTEN until the desired portion is reached.

Instant edit function

If a change or correction is necessary, backspace to the desired point, and immediately set the function lever to DICT. A new recording will begin from that point.

ALARM SYSTEM

A continuous alarm sound will come on if the BM-75 is set in operation in the cases listed below. To stop the alarm sounds, set each control unit to stop mode and proceed as described under "correction".

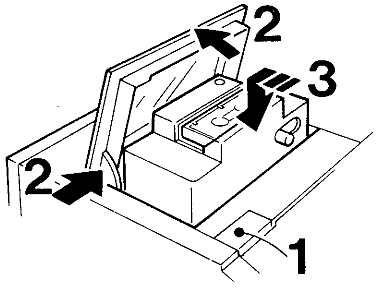
	Function lever of the HU-70	FS-75	occasion	correction
Empty alarm	DICT LISTEN, B SPACE or FWD SPACE	in the play, rewind, back space or forward space mode	No cassette in the cassette compartment.	Insert a cassette.
			The cassette inserted is not firmly locked	Press the cassette until it locks into place with a click.
	DICT	—	The cassette inserted has had the safety tabs removed.	Use a cassette with the tab not broken, or cover the slot with a small piece of plastic tape and reinsert the cassette.
End alarm	DICT, LISTEN, B SPACE or FWD SPACE	in the forward space mode	The tape of the cassette inserted has been completely wound onto the right reel.	Press the ◀◀ REW button to rewind the tape or turn the cassette over.
		in the back space mode	The tape has been completely wound onto the left reel.	Forward the tape.

When the unit is operated by the BM-75 operation buttons, the alarm sounds at the end of the tape, the automatic shut-off mechanism activates and the alarm stops automatically.

MICROCASSETTE TRANSCRIPTION

With the Sony MA-50 microcassette adaptor (optional), transcription from the microcassette is possible.

Installation



1 Press the ⏏ EJECT button to open the lid of the cassette compartment.
2 Depress the support of the cassette compartment lid in the direction of the arrow to further open the lid.
3 Install the MA-50 microcassette adaptor as shown in the illustration.

To remove the MA-50, lift it up while pressing the ⏏ EJECT button.

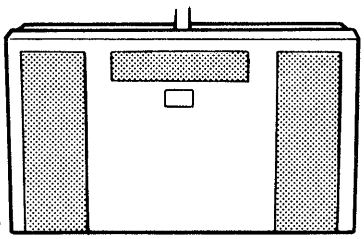
Notes

- When the MA-50 is used, the tape counter does not function properly.
- When the MA-50 is not in use, be sure to remove it from the BM-75.

TRANSCRIPTION

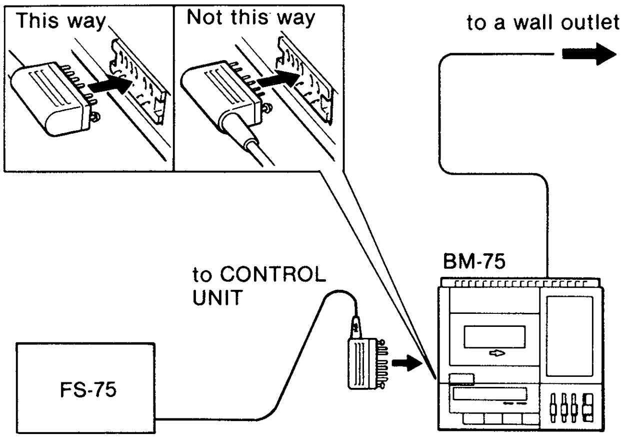
As you read, refer to the photo on page 3.

By connecting the Sony FS-75 foot control unit (optional) the BM-75 can be used as a transcriber.



CONNECTION

1 Place the foot control unit under your foot.
2 Connect the FS-75 to the accessory connector.

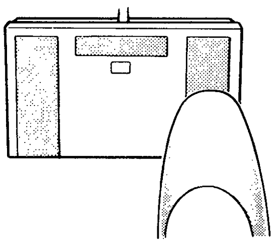


3 Plug the ac power cord into a wall outlet.

OPERATION

Note: Make sure that the SPEAKER selector is set to BUILT-IN.

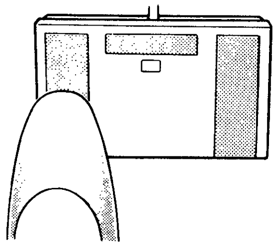
1 Set the power switch to ON.
2 Insert the recorded cassette into the cassette compartment.
See "CASSETTE INSERTION" on page 5.
3 Press the ▶ LISTEN button or step on the right side of the pedal of the FS-75 and keep it depressed to continue listening to the recorded material. Playback will begin.



4 Adjust the volume and tone with the VOLUME and TONE controls. Adjust the SPEED and REVERSE TIME control, if necessary.
5 To stop the tape, release the pedal of the FS-75. Be sure to set the power switch of the BM-75 to STANDBY after use.

- Before starting to transcribe, listen to all secretarial instruction, if present. To reach the desired points with the electronic cue signal previously recorded, use the automatic stop function.
- At the end of the tape, the automatic shut-off mechanism activates and an alarm sound is heard (end alarm). Release the pedal of the FS-75, press the ⏏ EJECT button to take out the cassette, and then repeat the transcribing procedures.

Backspace function
When you step on the left side of the pedal, the tape will be rewound until the pedal is released. The REVERSE TIME control rewinds the tape for only a few seconds (see below), but this pedal backspacing rewinds the tape until the pedal is released, until you reach the end of the tape, or with the AUTO-STOP switch set to ON, an electric index signal recorded on the tape.



Fast forward function
When you step on the top center of the pedal, the tape will advance rapidly until the pedal is released, until you reach the end of the tape, or with the AUTO-STOP switch set to ON, an electronic index signal recorded on the tape.

◀◀ REW and ▶▶ FF buttons
For fast forward or rewind of the tape, press the ▶▶ FF or ◀◀ REW button of the BM-75. To stop the fast forward or rewind mode, press the ■ STOP button.

- At the end of the tape in fast forward or rewind mode, the tape motion stops with an alarm sound.

Speed control
The playback speed can be adjusted to your transcribing speed with the SPEED CONTROL knob.
Slide the knob towards "+" to increase the playback speed up to as much as 50% faster than normal speed; towards "–" to decrease it up to as much as 20% slower than normal speed.

REVERSE TIME control
To review the last few words each time you resume listening, adjust the REVERSE TIME knob. When the knob is slid upwards, the last portion of the tape will be reviewed by using the review/stop function of the FS-75. At "9" position, the BM-75 stops to review the material of about 6 seconds. At "0" position, the BM-75 stops without reviewing. Set the knob so that it clicks into position at each number.
The REVERSE TIME knob operates only in conjunction with the control units.

- When the REVERSE TIME knob is moved one graduation, the length of reviewing changes by about 0.6 seconds.
- The amount of tape which will be reviewed will not be influenced by the position on the tape which is now being played back.

AUTO-STOP switch

When the AUTO-STOP switch on the front panel is set to ON in the fast forward or rewind mode, the tape will automatically stop at each electronic cue signal which has been previously recorded on the tape.

Thus, you can quickly reach any desired part of the dictated material without listening to unwanted portions.

- To cancel a cue signal and reach another point in fast forward or rewind mode, keep the ▶▶ FF or ◀◀ REW button depressed.
- If you do not wish to use this automatic stop function, or when you transcribe materials recorded with an ordinary cassette recorder, set the switch to OFF. Otherwise, the tape without cue signals may stop at a point where a sound signal of the same frequency as the cue signals is recorded on the tape.

Use of earphone

When you wish to listen to the tape contents or the sound to be recorded without being disturbed or disturbing others, the use of the earphone is recommended.
Plug the Sony DE-35 or DE-36 dynamic earphone, or MDR-U5M dynamic monaural headphones (optional) into the EARPHONE jack on the left side. The dictated material will then be heard through both earpieces or an earphone instead of the built-in speaker.
The earphone level can be controlled by the VOLUME control.

ERASING

As with conventional tape recorders, any previous recording on the tape is automatically erased when new dictation is recorded on the same side of the cassette. However, in this machine the recording can be erased rapidly as follows:

1. Set the power switch to ON.
2. Insert the cassette with the side to be erased up.
   If the tab on the cassette has been removed, cover the slot.
3. While depressing the ERASE button, press the ◀◀ REW button. The red REC/ERASE indicator will light and that portion of the tape being wound will be erased at the same time.
4. When the desired erasure is completed, press the ■ STOP button.

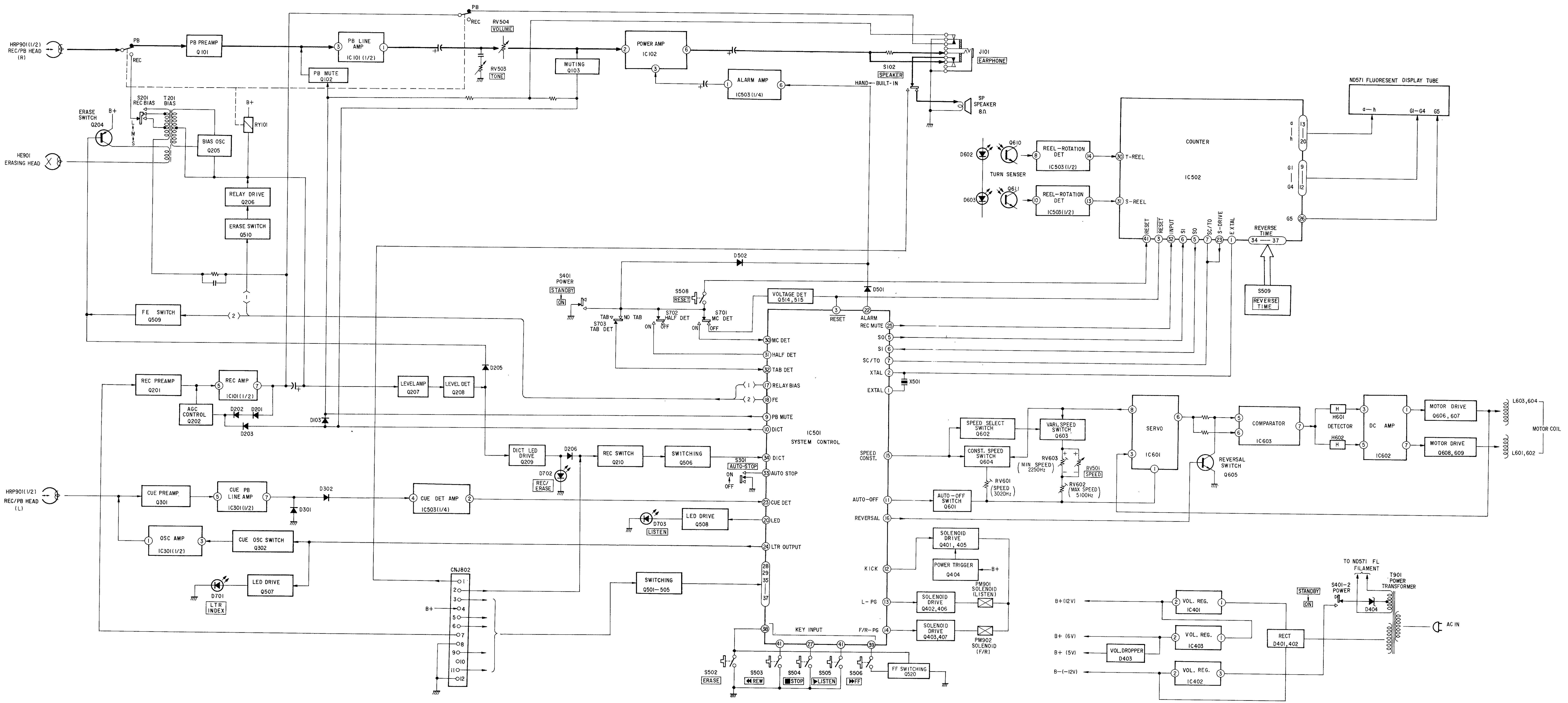
- At the end of the tape, the tape motion stops, and the erase mode will be released automatically and the REC/ERASE indicator will go off.

Note: The ERASE button cannot be operated and alarm sounds in the following cases.

- No cassette in the cassette compartment.
- The cassette inserted has had the safety tab removed.
- The ▶▶ FF, ◀◀ REW or ▶ LISTEN button has been pressed.

For quicker and easier erasure of the entire tape contents, the Sony BE-9H cassette eraser (optional) is recommended.

SECTION 1
BLOCK DIAGRAM



TROUBLESHOOTING GUIDE

Should any problem occur with the unit, make the following simple tests to determine whether or not servicing is required. If the problem persists after you have made these tests, consult the nearest Sony Information Products dealer.

The unit does not operate.
- The ac power cord is not plugged into a wall outlet.
- The power switch is set to STANDBY.

Cassette cannot be inserted.
- Cassette is being inserted improperly. See page 5.
- The function lever of the HU-70 is set to LISTEN.
- The head is popped out. Press the ≜ EJECT button.

An alarm is heard, when the HU-70 function lever is set to DICT.
- No cassette in the cassette compartment.
- The cassette inserted is not firmly locked.
- The cassette inserted has had the safety tabs removed. See page 5.
- The tape has been completely wound onto the right reel.

An alarm is heard, when the FS-75 is set in forward mode.
- No cassette in the cassette compartment.
- The cassette inserted is not firmly locked.
- The tape has been completely wound onto the right reel.

The ▶▶ FF or ◀◀ REW button is released in a few seconds with an alarm.
- The tape has been completely wound onto the right reel (in fast forward mode) or onto the left reel (in rewind mode).
- A tape with a cue signal recorded is used and the AUTO-STOP switch is ON.

Tape motion is not controlled by the HU-70 function lever.
- The plug of the HU-70 is not firmly connected to the accessory connector of the BM-75.
- The ▶▶ FF or ◀◀ REW button is pressed.

The recording cannot be erased when the ◀◀ REW and ERASE buttons are pressed.
- The tape is completely wound onto the left reel.
- No cassette in the cassette compartment.
- The cassette inserted has had the safety tabs removed.

Tape motion is not controlled by the FS-75.
- The plug of the FS-75 is not firmly connected to the accessory connector of the BM-75.

Tape speed is too fast or slow.
- The SPEED control is too much towards "+" or "–" when the SPEED CONTROL switch is set to ON.

No sound from the built-in speaker.
- The SPEAKER selector is set to HAND.
- The VOLUME control is turned down completely.
- An earphone is plugged in.

Sound drop-outs, loss of high frequencies, or excessive noise.
- Dirty head.

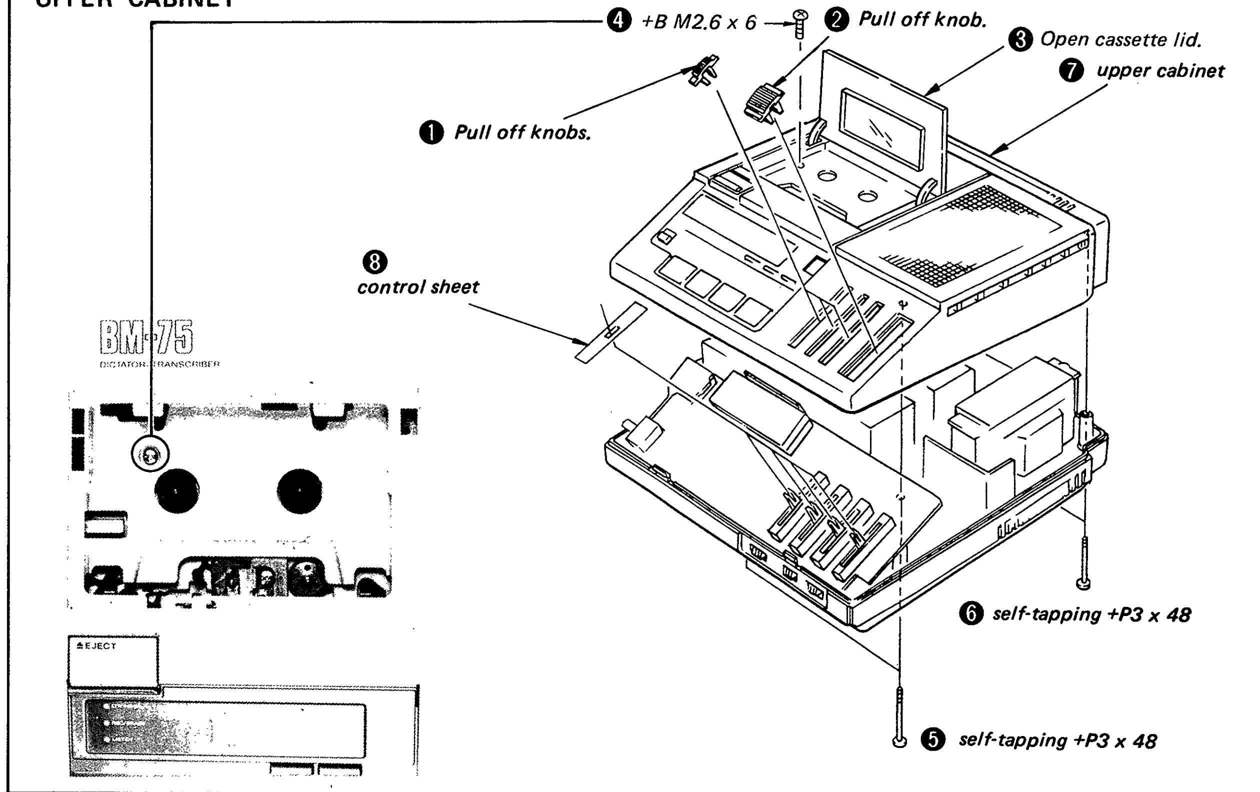
Unsatisfactory erasing.
- Dirty head.

 BM-75

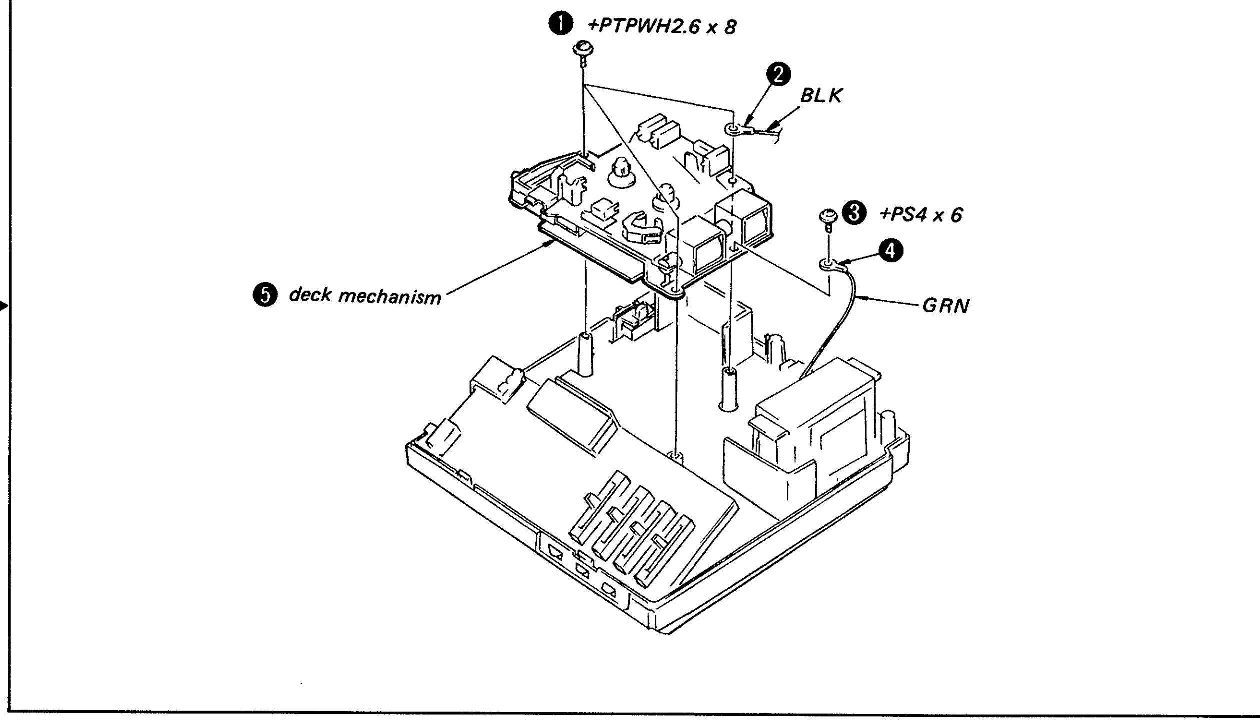
SECTION 2
DISASSEMBLY

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

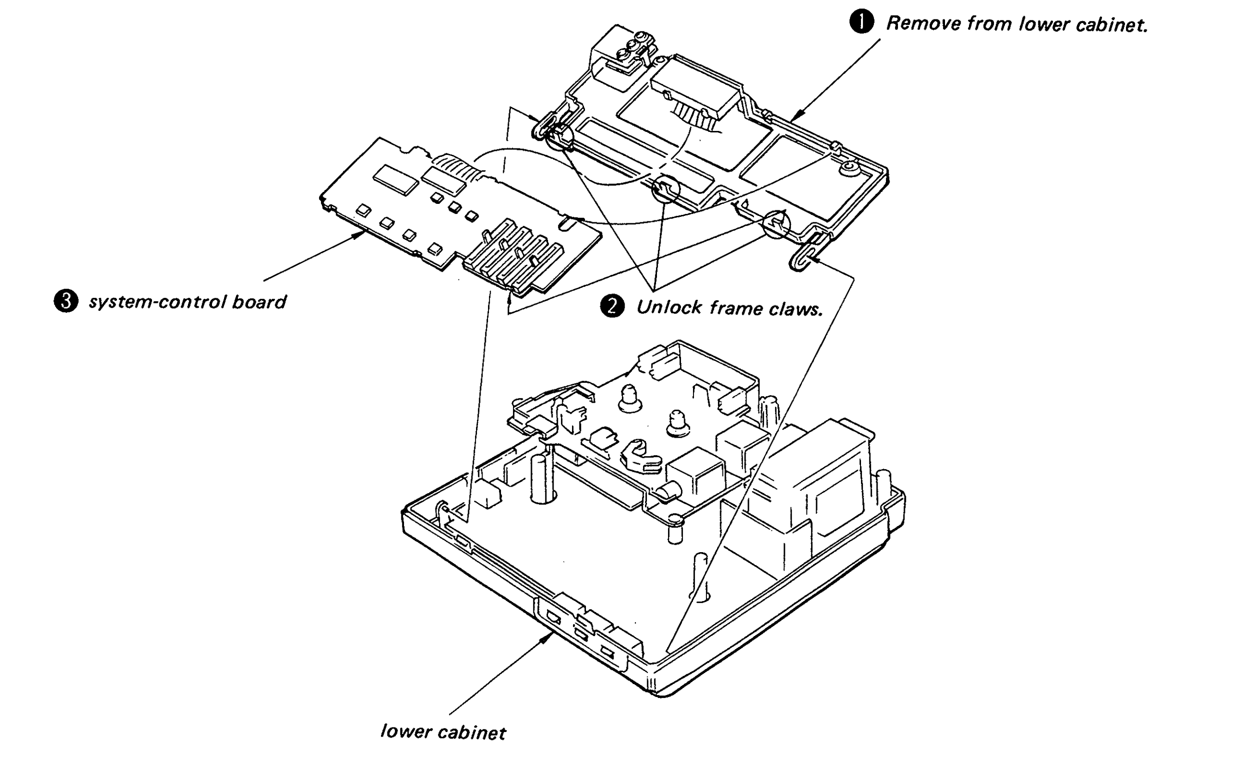
UPPER CABINET



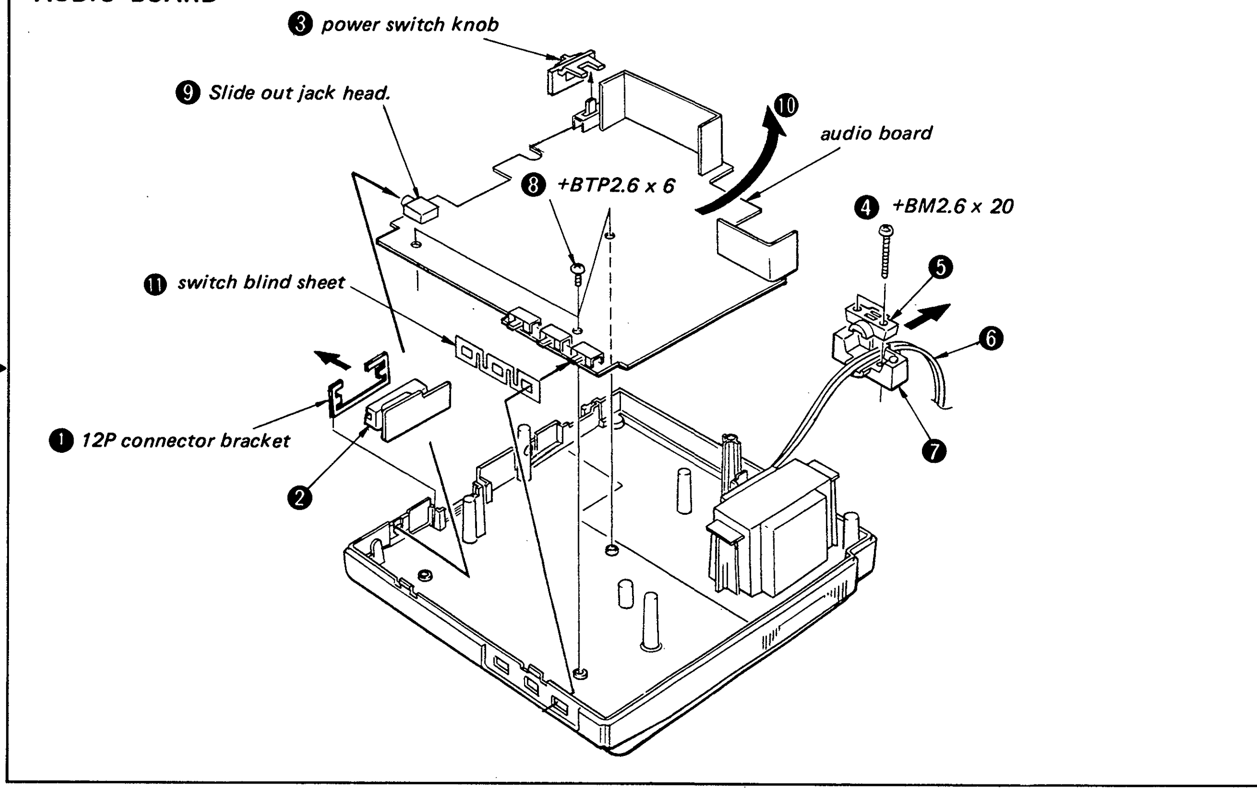
DECK MECHANISM



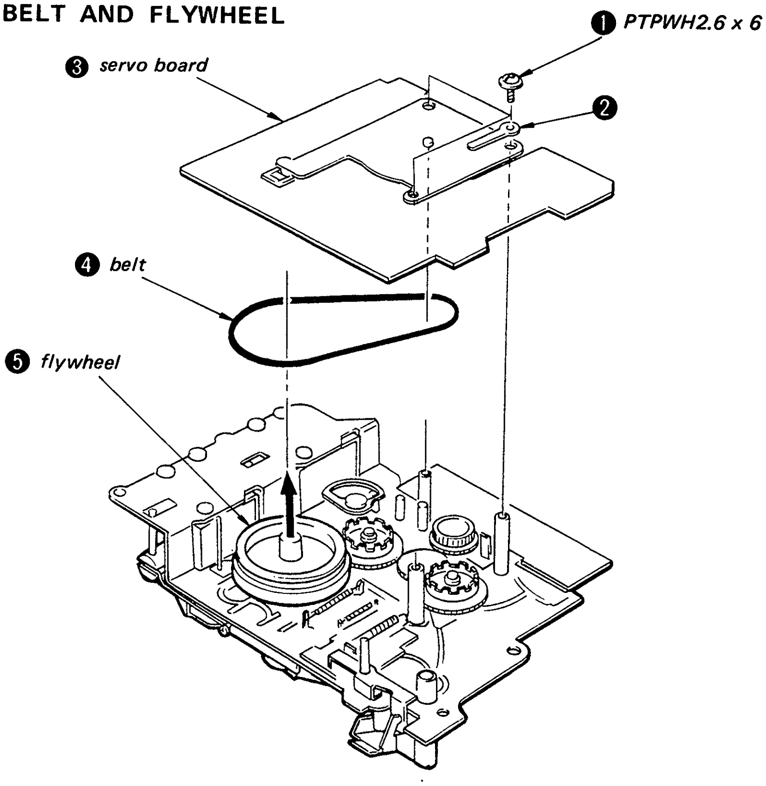
SYSTEM-CONTROL BOARD



AUDIO BOARD

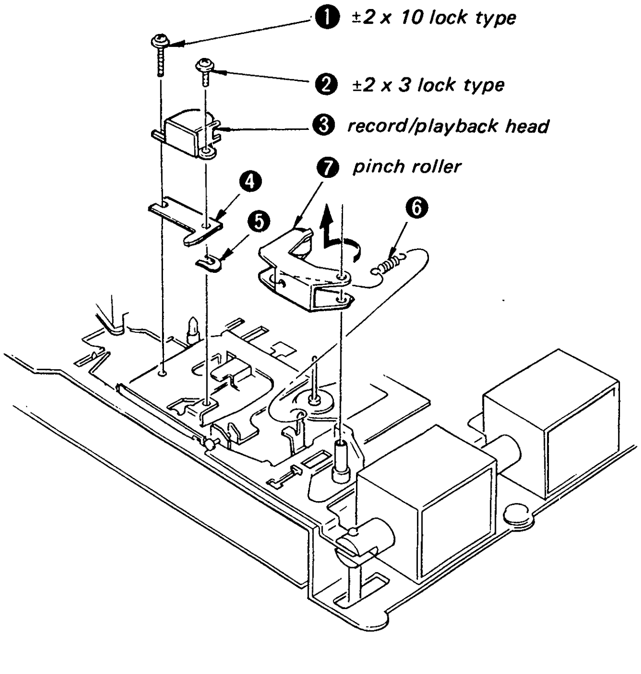


SERVO BOARD, BELT AND FLYWHEEL



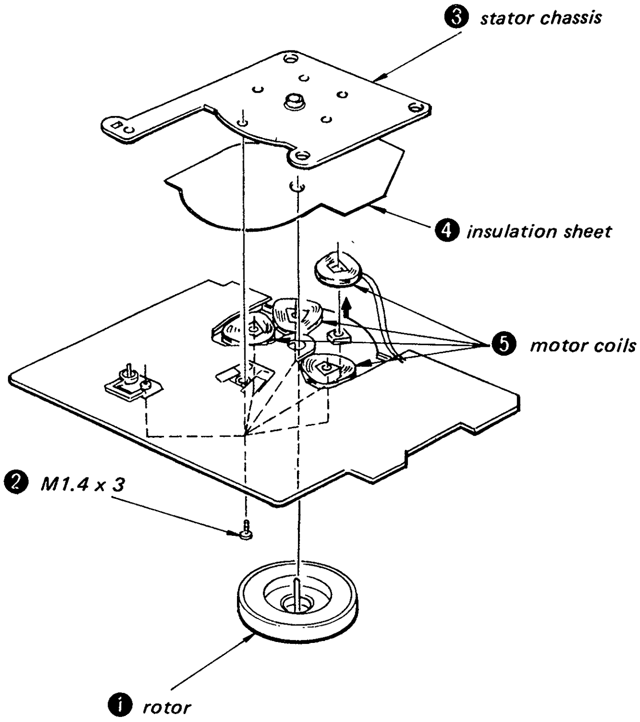
RECORD/PLAYBACK HEAD AND PINCH ROLLER

❶ – ❺: *record/playback head*
❻, ❼: *pinch roller*



MOTOR ROTOR AND MOTOR COILS

Removable and replaceable BSL motor coils are used (new design).



SECTION 3
ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

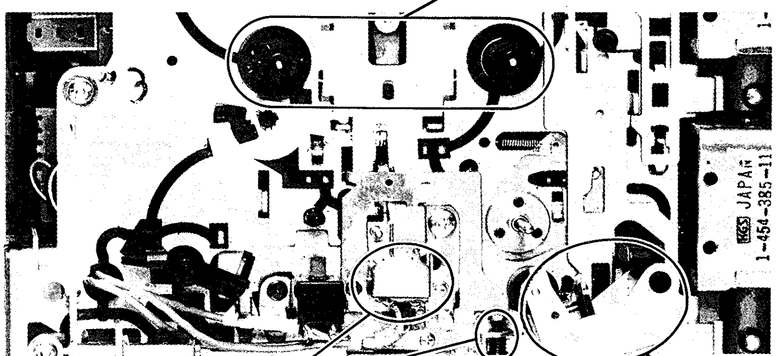
   record/playback head   pinch roller
   erase head   rubber belts
   capstan

2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Cassette type torque meter	Torque
Forward	CQ-102C	31 – 45 g-cm (0.45 – 0.6 oz-inch)
Fast Forward	CQ-201B	80 – 160 g-cm (1.2 – 2.2 oz-inch)
Rewind	CQ-201B	80 – 160 g-cm (1.2 – 2.2 oz-inch)
Back Tension	CQ-102C	1.5 – 4.5 g-cm (0.02 – 0.06 oz-inch)

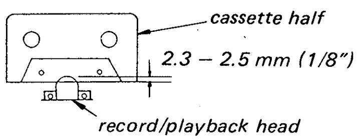
3-1. MECHANICAL ADJUSTMENTS



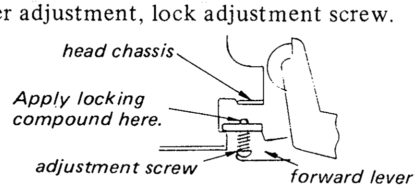
Head Stroke/Position Adjustment

– Fast-forward, stop and LISTEN modes –

1. Fast-forward and stop modes:
   Adjust head position so that head tip positions 2.3 – 2.5 mm (1/8″) inside from the edge of cassette half.



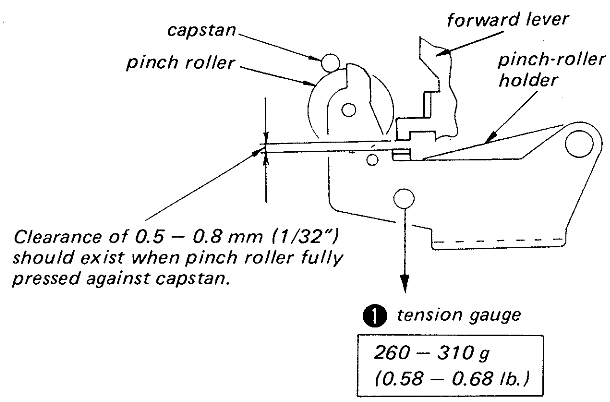
2. LISTEN and stop modes:
   a) In LISTEN mode, adjust the screw so that head tip positions 3.3 – 3.4 mm (5/32″) inside from the edge of cassette half.
   b) Repeat stop and LISTEN modes alternately a few times and finally, in LISTEN mode, check if position of head is not changed from that mode in step a).
   c) After adjustment, lock adjustment screw.



Pinch Roller Pressure Measurement

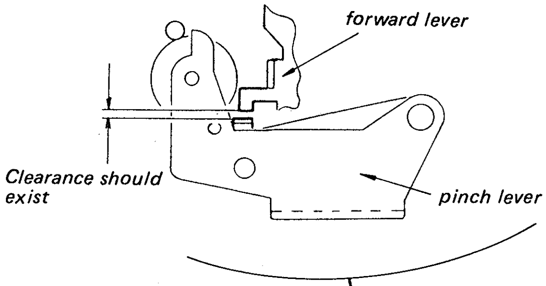
– LISTEN mode –

❷ *Slowly return the pinch roller and read the spring scale just when the pinch roller starts rotating.*

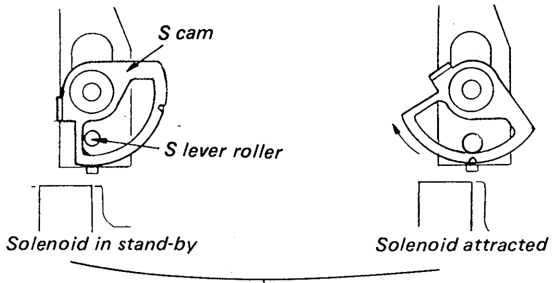


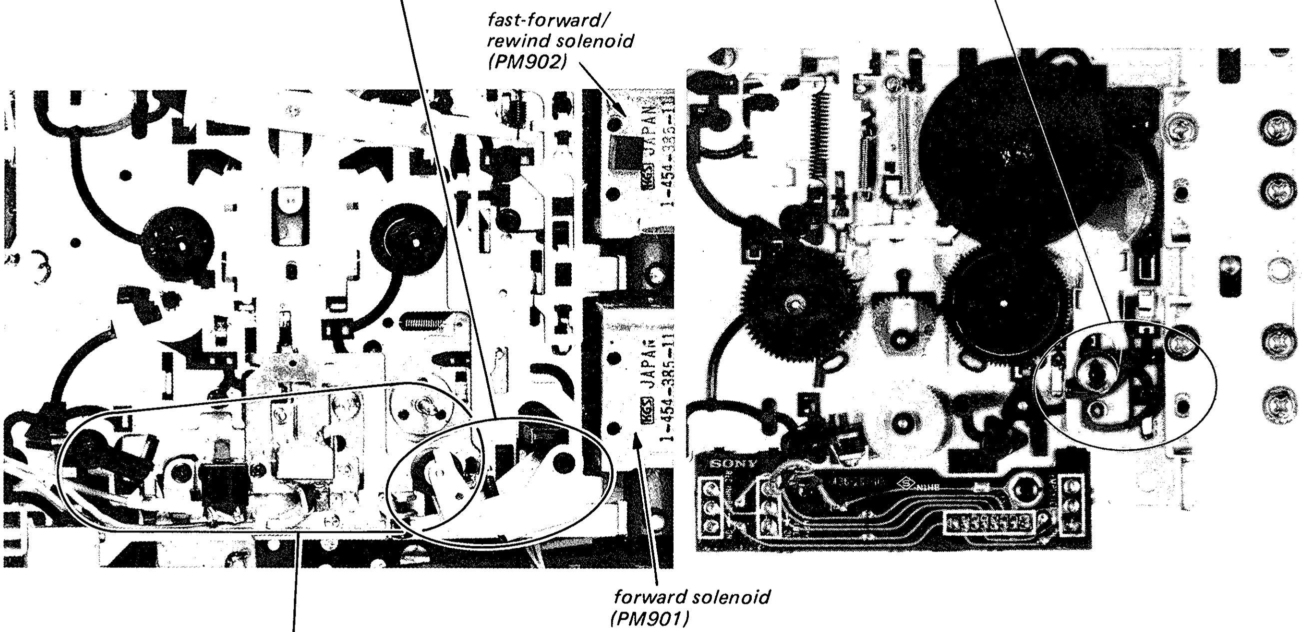
Forward-Solenoid Position Check
– LISTEN mode –

1. Put the unit in LISTEN mode to attract forward solenoid PM901, or push in pole piece of PM901 by hand in stop mode.



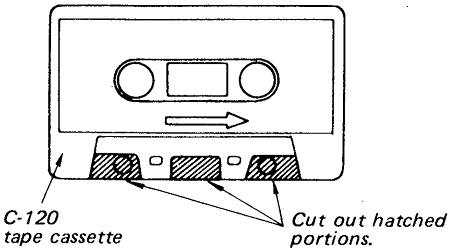
2. Clearance should exist between forward and pinch levers as illustrated.
3. S cam should position as illustrated or moves more.
4. Put the unit in stop mode.
   S cam should position as illustrated.



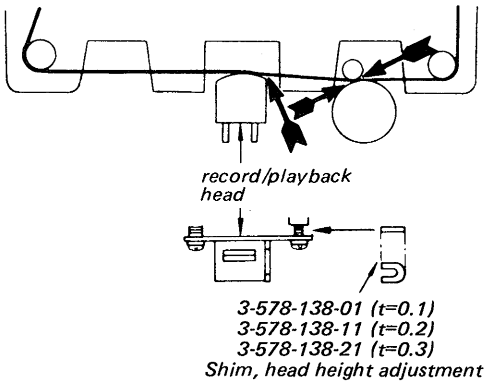


Head Height Adjustment

1. Prepare an adjustment cassette as shown below.



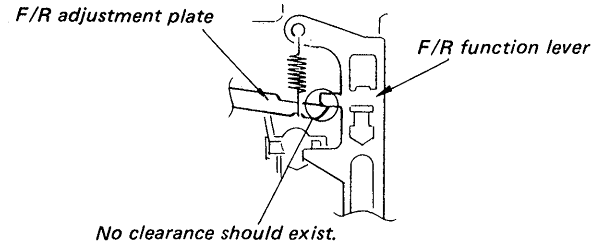
2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at arrowed portions.



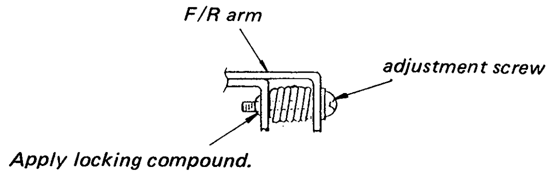
F/R Arm Position Adjustment

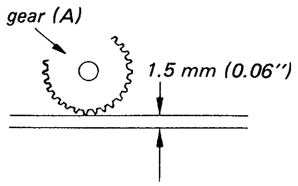
— Fast-forward or rewind mode —

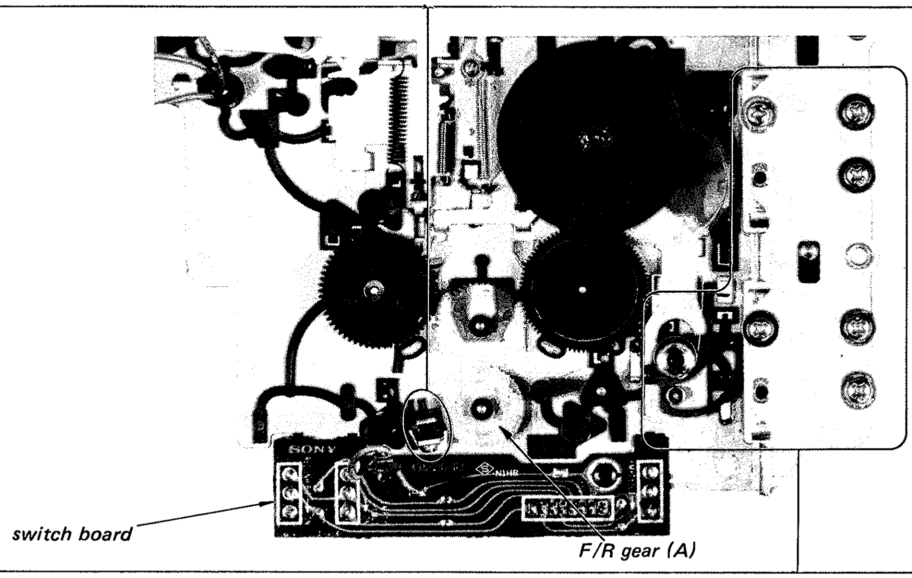
1. Put the unit in fast-forward or rewind mode to attract fast-forward/rewind solenoid PM902.
2. Loosen adjustment screw.
3. Screw in adjustment screw so that F/R gear (A) positions 1.5 mm (0.06″) inside from edge of switch board.



4. Clearance should not exist between F/R adjustment plate and F/R function lever.
5. After adjustment, lock adjustment screw with locking compound.





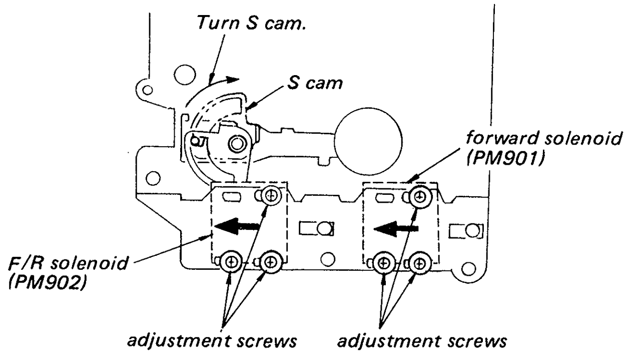


Solenoid Position Adjustment

— Stop mode —

Note: Perform the same procedure for both forward and fast-forward/rewind solenoids, PM901 and PM902.

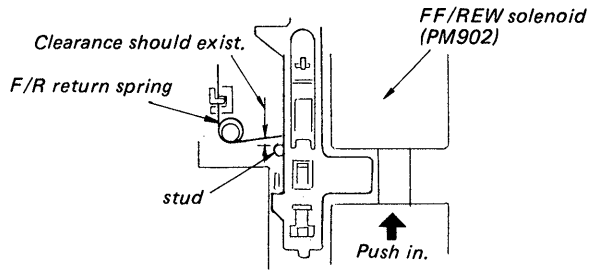
1. Unplug CNJ113 or CNJ114 for PM901 or PM902 respectively at audio board.
2. Apply 15 Vdc voltage to solenoid terminals. Red lead is positive side.
3. Loosen adjustment screws.
4. Turn S cam to the position as shown, and retain this condition.
5. Move solenoid to the arrow-marked direction and tighten adjustment screws retaining the position of S cam as illustrated.
6. After adjustment, lock adjustment screws with locking compound.



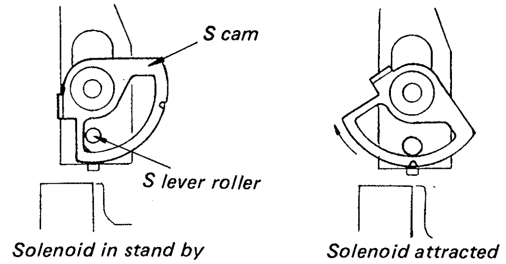
F/R (Fast-Forward/Rewind) Solenoid (PM902) Position Check

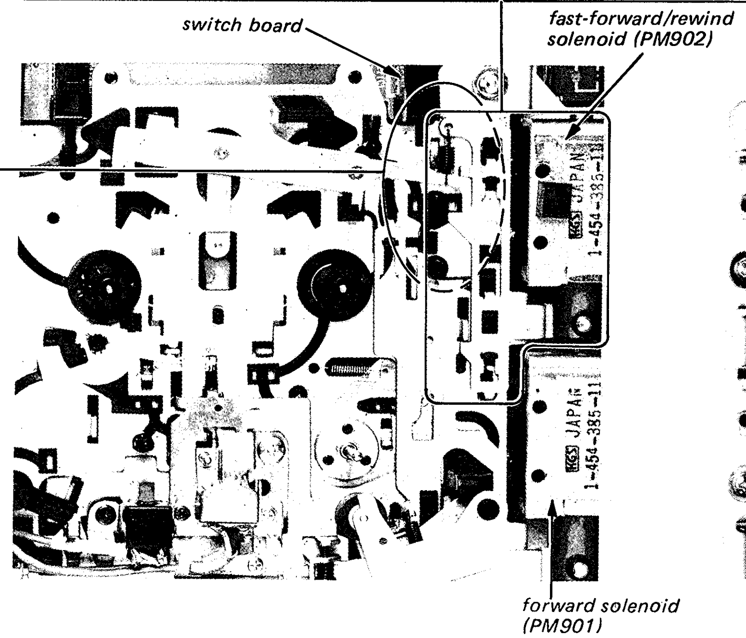
— Fast-forward or rewind mode —

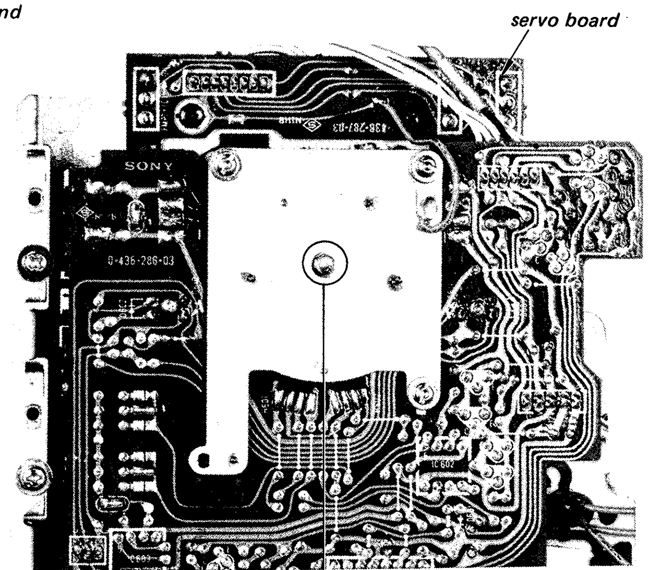
1. Put the unit in fast-forward or rewind mode to attract fast-forward/rewind solenoid PM902.



2. Clearance should exist between F/R return spring and stud as shown.
3. S cam should position as illustrated or moves more.
4. Put the unit in stop mode.
   S cam should position as illustrated.



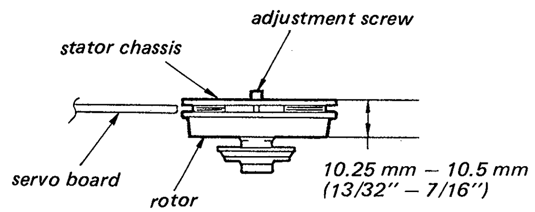




Rotor Thrust Adjustment

— Stop mode —

Adjust thrust screw so that the specified clearance is obtained.



3-2. ELECTRICAL ADJUSTMENTS

Note:

- Switches and controls should be set to the positions as follows unless otherwise specified.

  POWER switch: ON
  SPEED CONTROL switch: OFF
  AUTO STOP switch: ON
  SPEAKER switch: BUILT-IN
  REVERSE TIME switch: 0
  TONE control: max. H
  SPEED CONTROL control: min. (–)
  VOLUME control: mechanical mid

- Standard Output Level:

  Speaker or earphone } 8 Ω 0.775 V (0 dB)

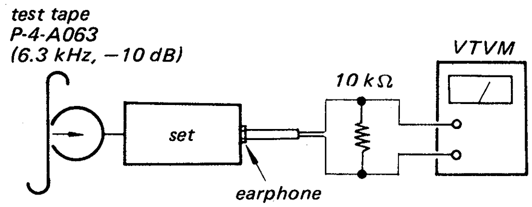
Record/playback Head Azimuth Adjustment

Setting:

VOLUME control: mechanical mid

Procedure:

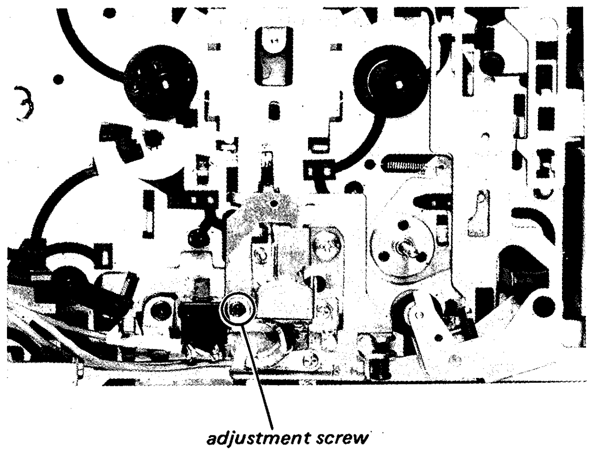
1. Mode: Playback (LISTEN)



2. Turn the adjustment screw to obtain the maximum reading on VTVM.
   Adjustment should be finished with the screw in tightening direction.
3. After the adjustment, lock the adjustment screw with suitable locking compound.

Adjustment Location

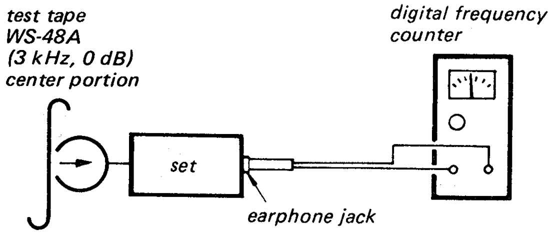
– record/playback head –



Tape Speed Adjustment

Setup:

Mode: Playback (LISTEN)

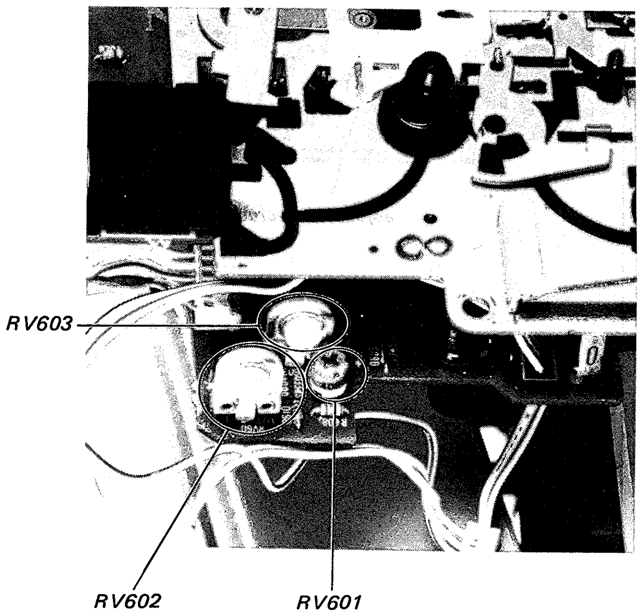


Procedure:

1. SPEED CONTROL switch: OFF
   Adjust RV601 to obtain a 3020 Hz frequency reading.
2. SPEED CONTROL switch: ON
   SPEED CONTROL control: max. (+)
   Adjust RV602 to obtain a 5100 Hz frequency reading.
3. SPEED CONTROL switch: ON
   SPEED CONTROL control: min. (–)
   Adjust RV603 to obtain a 2250 Hz frequency reading.

Adjustment Location

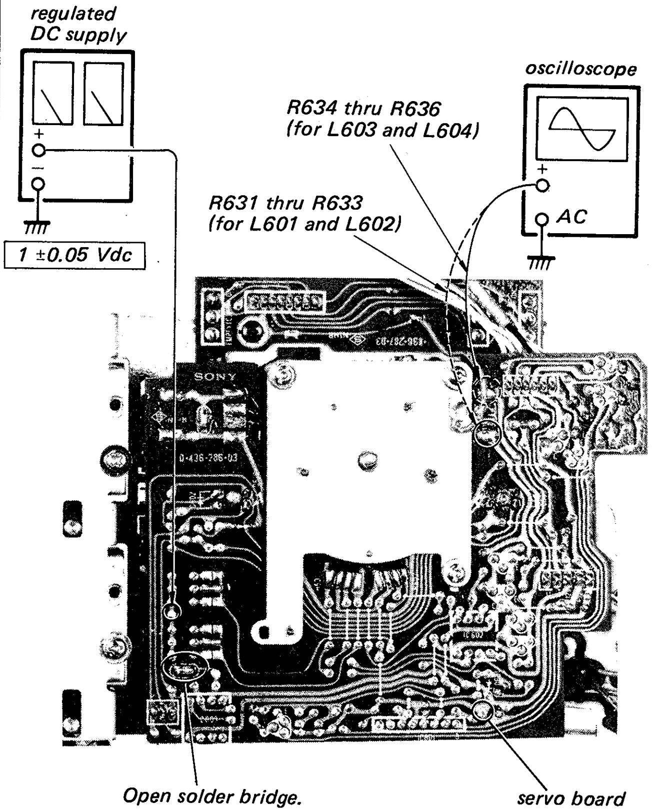
– servo board –



Motor Output Balance Adjustment

Setup:

Mode: playback (LISTEN)

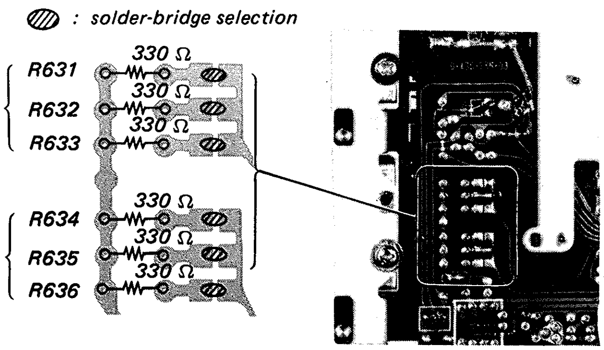


Procedure:

1. Adjust output voltage by selecting solder bridge for R631 through R633 for L601 and L602, and R634 through R636 for L603 and L604, to obtain an 8 ± 1 Vp-p level.
2. After the adjustment, remove external dc supply, and make a solder bridge again to the patterns opened at the setup above.

Adjustment Location

– servo board –



Frequency Responce Check

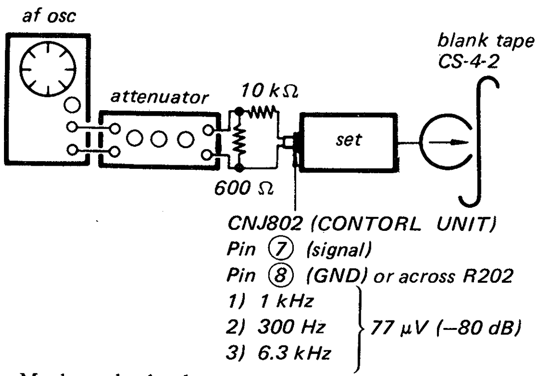
Setting:

TONE control: max. H

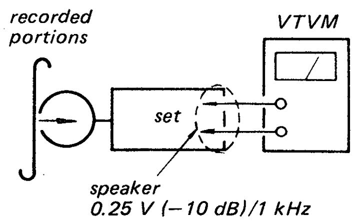
Record Bias switch (S201): S

Procedure:

1. Mode: record

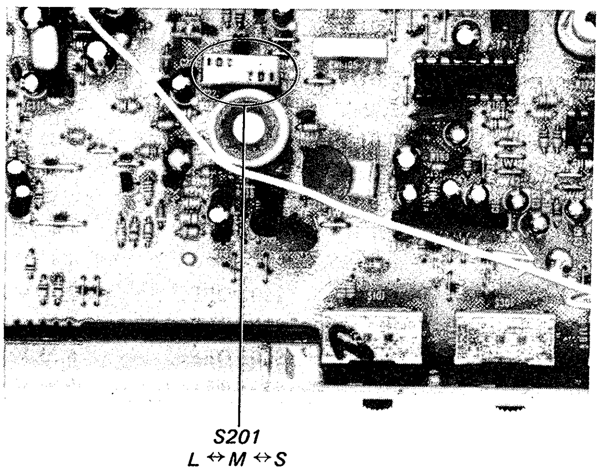


2. Mode: playback (LISTEN)



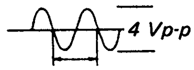
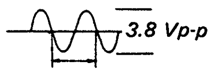
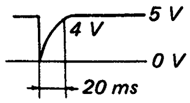
Adjust VOLUME control to obtain a 0.25 V (−10 dB) output level with 1 kHz signal.

3. Play back both 300 Hz and 6.3 kHz signals. Output levels of them should be within 6 dB or ±3 dB with respect to that of 1 kHz signal. If not, set the record-bias switch (S201) to M or L side, and repeat steps above.
   a) When 6.3 kHz output is too high:
      Set S201 to "L".
   b) When 6.3 kHz output is too low:
      Set S201 to "M".



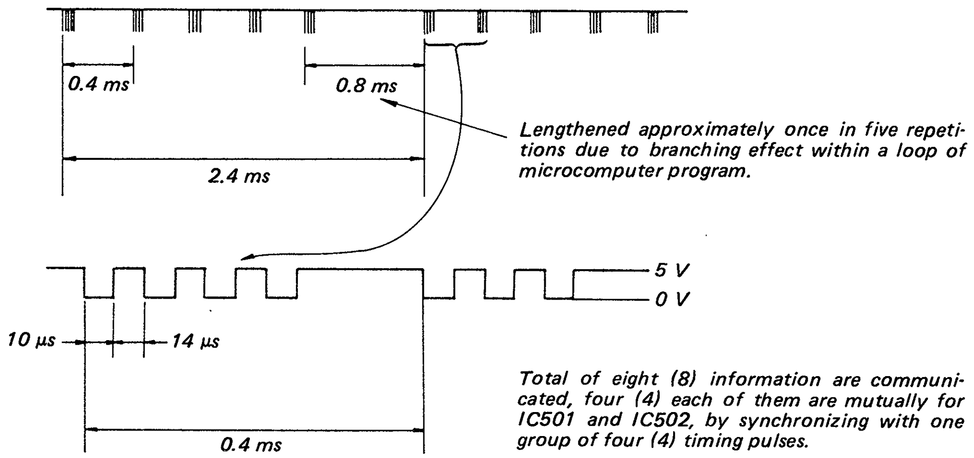
3-3. VOLTAGES AND WAVEFORMS

A. IC501 (Microcomputer for System Control)

Pin	Function	Voltages
1	EXTAL (CRYSTAL OSCILLATOR)	 MICROCOMPUTER CLOCK
2	XTAL (CRYSTAL OSCILLATOR)	
3	RESET	Microcomputer reset signal from S701 at the moment tape cassette is taken out. 
4	(not used)	5.3 V
5	SO SERIAL OUTPUTS	SEE C. THRU E.
6	SI SERIAL INPUTS	SEE C. THRU E.
7	$\overline{SC}/\overline{TO}$ SERIAL-PORT TIMING PULSE	SEE C. THRU E.
8	(not used)	5.3 V
9	PLAYBACK AMP MUTING OUTPUT	MUTING ON: 3.0 V MUTING OFF: 0.04 V
10	RECORD AMP MUTING OUTPUT	MUTING ON: 2.4 V MUTING OFF: 0.03 V
11	MOTOR AUTO-OFF OUTPUT	MOTOR ON: 0.05 V MOTOR STOP: 0.7 V
12	SOLENOID KICK-SIGNAL OUTPUT	SEE F.
13	FORWARD SOLENOID OUTPUT	PM901 ON: 0.01 V PM901 OFF: 5.25 V
14	FAST-FORWARD/REWIND SOLENOID OUTPUT	PM902 ON: 0.02 V PM902 OFF: 5.25 V
15	CONSTANT MOTOR SPEED OUTPUT	CONSTANT SPEED: 0.01 V VARIABLE SPEED: 3.0 V
16	MOTOR REVERSIBLE OUTPUT	FORWARD: 0.03 V REVERSE: 0.7 V
17	RELAY BIAS OUTPUT	RY101 ON: 0.02 V RY101 OFF: 3.0 V
18	FAST-ERASE OUTPUT	FAST-ERASE ON: 0.15 V FAST-ERASE OFF: 5.25 V
19	(not used)	5.3 V
20	LISTEN LAMP OUTPUT	D703 ON: 0.03 V D703 OFF: 5.2 V
21	Vss	0 V
22	ALARM OUTPUT	ALARM ON: 0.01 V ALARM OFF: 4.4 V
23	CUE-DETECTION SIGNAL INPUT	SEE G.
24	LTR LAMP OUTPUT	D701 ON: 0.03 V D701 OFF: 4.5 V

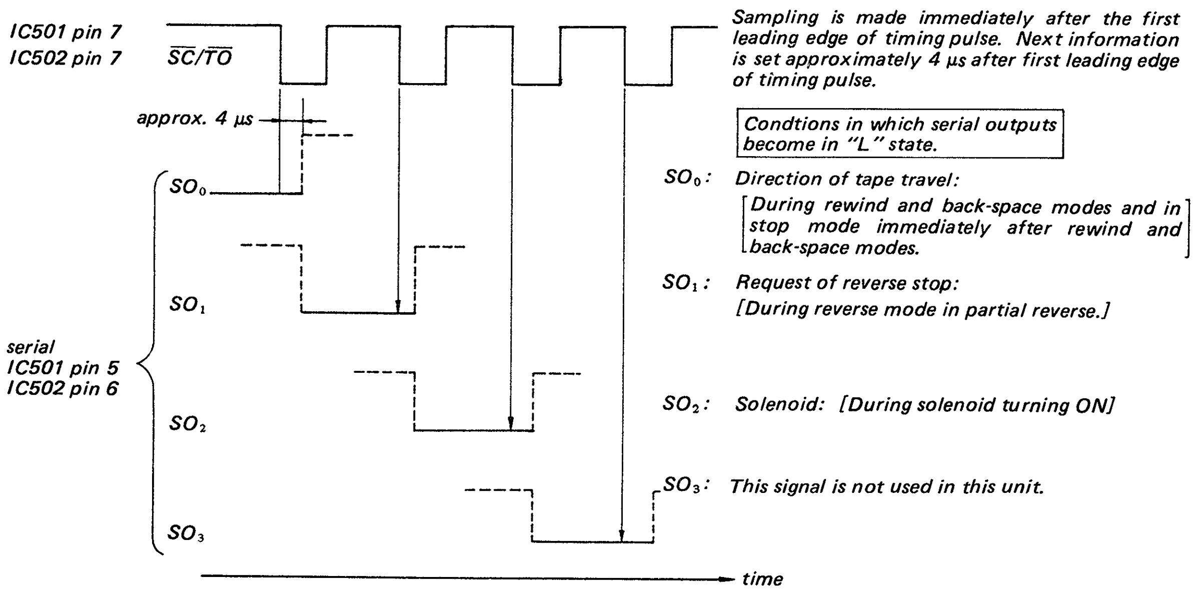
C. Serial-port Timing Pulses

IC501 pin 7	*$\overline{SC}/\overline{TO}$*	*Serial-port timing pulses are sent from pin 23 of IC502 to pins 7 of IC501 and IC502.*
IC502 pin 23	*SERIAL-DRIVE SIGNAL OUTPUT*	
IC502 pin 7	*$\overline{SC}/\overline{TO}$*	



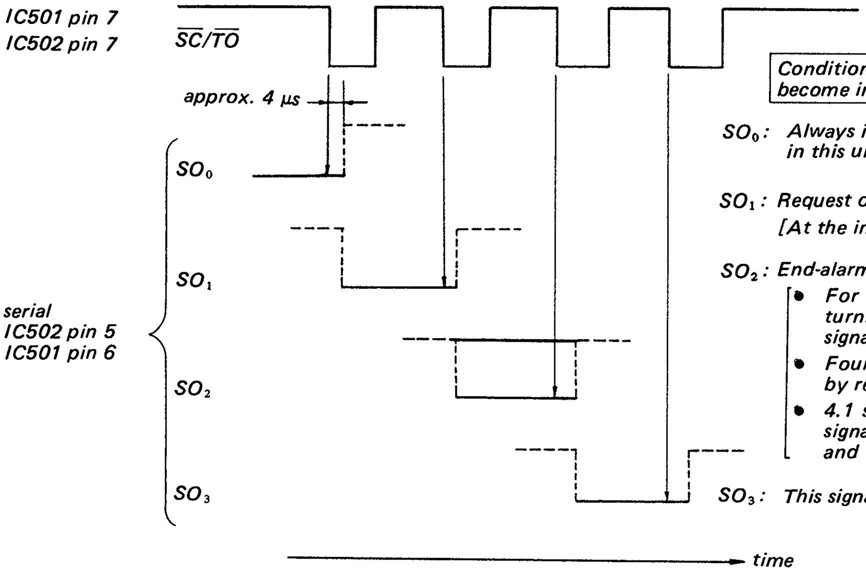
D. Serial-port

IC501 pin 5	*SO*	*SERIAL OUTPUTS*	*Information are transmitted from IC501 to IC502 by synchronizing with serial-port timing pulses.*
IC502 pin 6	*SI*	*SERIAL INPUTS*	



E. Serial Port

IC502 pin 5 SO SERIAL OUTPUTS
IC501 pin 6 SI SERIAL INPUTS
} *Information are transmitted from IC502 to IC501 by synchronizing with serial-port timing pulses.*



Conditions in which serial outputs become in "L" state.

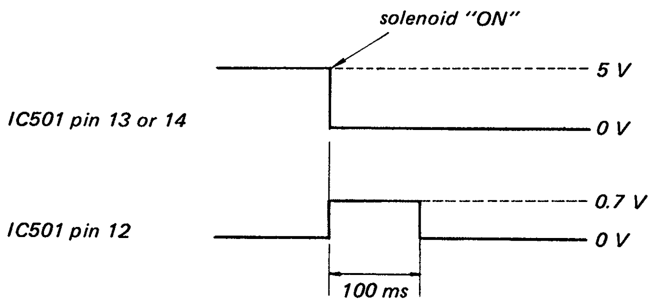
SO_0: Always in "H". This signal is not used in this unit.

SO_1: Request of stop of partial reverse:
[At the instance of stop of partial reverse.]

SO_2: End-alarm timer:
- *For four (4) seconds immediately after turning solenoids on by receiving reel signal of one side.*
- *Four (4) seconds after solenoids turned on by receiving both reel signals.*
- *4.1 seconds after solenoids turned on, this signal is reset to "H" state. After this, "L" and "H" states are repeated.*

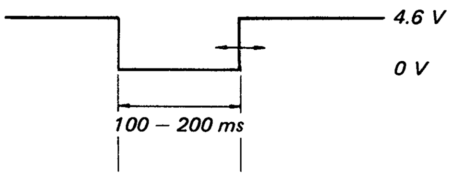
SO_3: This signal is not used in this unit.

F. IC501 Pin 12 Solenoid Kick Output Signal



For about 100 ms, solenoid kick signal turns "ON" immediately after forward or fast-forward/rewind solenoid turned ON.

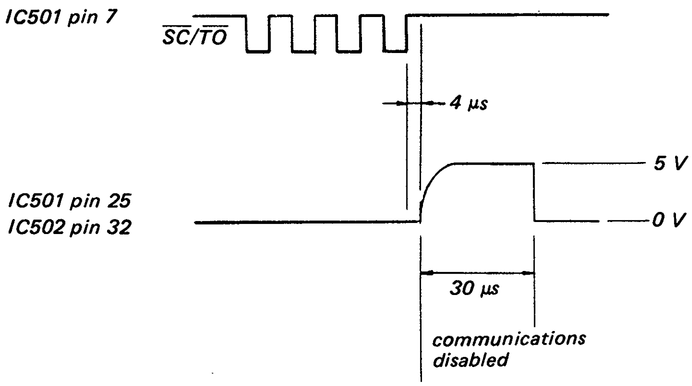
G. IC501 Pin 23 Cue-detection Signal Input



When cue signal on tape is detected in fast-forward or rewind mode, cue-detection signal of 100 msec to 200 msec depending upon tape position is made in cue amp ½ IC503 (pin 2) and then routes to pin 23 of IC501.

H.

IC501 pin 25	*Timing signal output for IC502*	*Disables communications, between IC501 and IC502, made by serial-port timing pulses SC/TO.*
IC502 pin 32	*Timing signal input from IC501*	

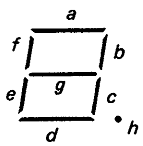


Immediately after completion of communications between IC501 and IC502 by $\overline{SC}/\overline{TO}$, pin 25 of IC501 and pin 32 of IC502 become in "H" state during which communications between them is disabled, and internal data processing is made in IC501. After internal data processing in IC501, this link recovers its "L" state, i.e. release of disabled communications.

I. Fluorescent Display Drive (Dynamic)

I-1) SEGMENTS

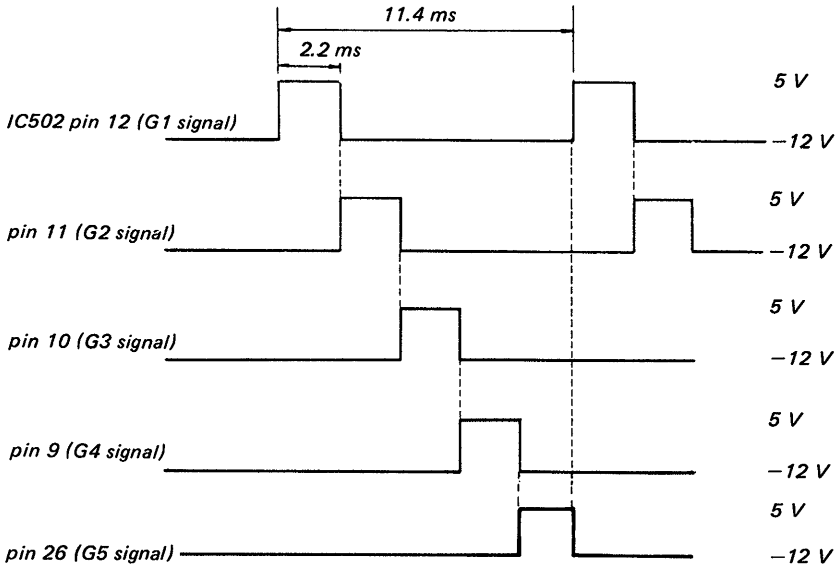
	IC502 Pin No.							
	13	14	15	16	17	18	19	20
Segment	a	b	c	d	e	f	g	h



I-2) GRIDS

	8.	8.	8.	8.	8.
Grid	G5	G4	G3	G2	G1
IC502 Pin No.	26	9	10	11	12

1-3) Relationship of Grid-drive Signals

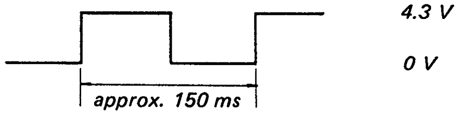


J. Detections of Take-up Reel and Supply Reel Signals

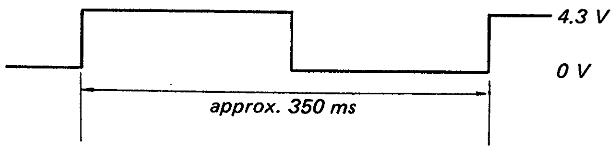
IC502 pin 30 TAKE-UP REEL
IC502 pin 31 SUPPLY REEL

- **Forward**

Take-up reel signal at start of tape and supply reel signal at end of tape, C-90.



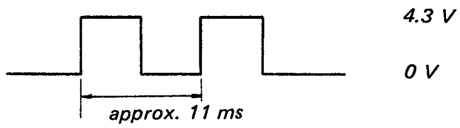
Supply reel signal at start of tape and take-up reel signal at end of tape, C-90.



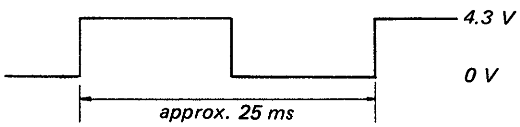
Repetition rate changes according to tape position.

- **Fast-forward and Rewind**

Take-up reel signal at start of tape and supply reel signal at end of tape, C-90.



Supply reel signal at start of tape and take-up reel signal at end of tape, C-90.



Repetition rate changes according to tape position.

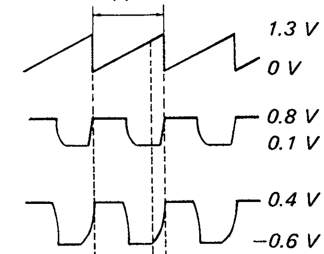
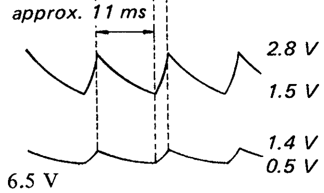
K. Partial-reverse Amount Control-signal Inputs

Pin of IC502	REVERSE TIME (Digital) Switch S509	Position of S509									
		0	1	2	3	4	5	6	7	8	9
34	pin 1	H	L	H	L	H	L	H	L	H	L
35	pin 2	H	H	L	L	H	H	L	L	H	H
36	pin 3	H	H	H	H	L	L	L	L	H	H
37	pin 4	H	H	H	H	H	H	H	H	L	L

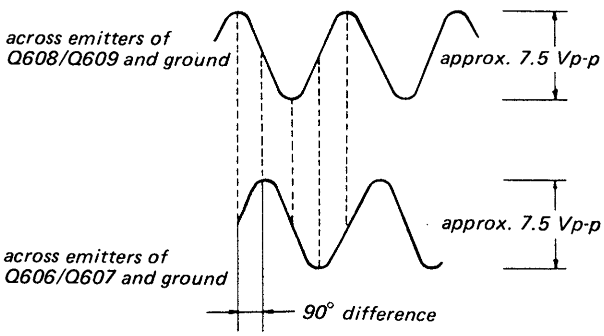
H = 5.25 V
L = 0 V

L. IC601 (Servo Controller)

CONDITIONS: SPEED CONTROL switch: OFF
MODE: FORWARD
TAPE: DC-90 put in

Pin	Function	
1	TIME CONSTANT	 approx. 13 ms 1.3 V 0 V
2	TIME CONSTANT	0.8 V 0.1 V
3	FREQUENCY GENERATOR INPUT	0.4 V −0.6 V
4	GND	0 V
5	TIME CONSTANT	 approx. 11 ms 2.8 V 1.5 V
6	OUTPUT	1.4 V 0.5 V
7	Vcc	6.5 V
8	REGULATED VOLTAGE OUTPUT	2.2 V

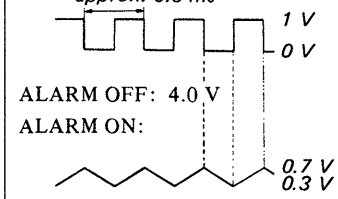
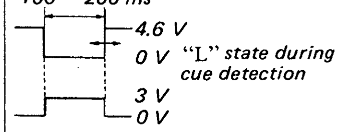
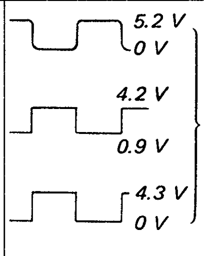
M. Q606 thru Q609 (Servo Output or Motor Driver)



N. IC603 (Comparator)

Pin 7: About the same as pin 6 of IC603.

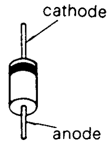
O. IC503 (Alarm Amp/Cue Detector Amp/Reel-rotation Detector)

Pin	Function	
1	ALARM OUTPUT	 approx. 0.6 ms 1 V 0 V
6	ALARM CIRCUIT	ALARM OFF: 4.0 V ALARM ON: 0.7 V 0.3 V
7	ALARM CIRCUIT	ALARM OFF: 0.35 V
2	CUE-DETECTION SIGNAL OUTPUT	Same as pin 23 of IC501  *100 – 200 ms* 4.6 V 0 V "L" state during cue detection
4	CUE DETECTION	3 V 0 V
5	CUE DETECTION	2.3 V
8	TAKE-UP REEL SIGNAL INPUT	 5.2 V 0 V *See J. detections of take-up reel and supply reel signals for repetition rates.*
9	TAKE-UP REEL CIRCUIT	4.2 V 0.9 V
14	TAKE-UP REEL SIGNAL OUTPUT	4.3 V 0 V
10	SUPPLY REEL SIGNAL INPUT	Same as pin 8 of IC503.
11	SUPPLY REEL CIRCUIT	Same as pin 9 of IC503.
13	SUPPLY REEL SIGNAL OUTPUT	Same as pin 14 of IC503.
3	B+	5.3 V
12	GND	0 V

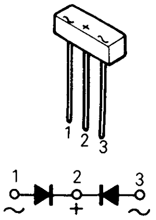
SECTION 4
DIAGRAMS

• Semiconductor Lead Layouts

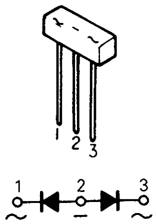
10E-2
1SS106
1SS119
EQA02-09B5
RD3.9E-B
SE304-2K



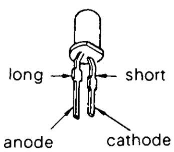
S3VC40



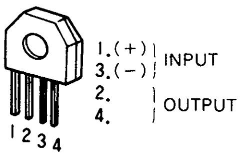
S3VC40R



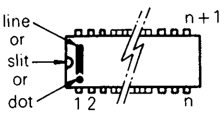
SG205D
SR505D



THS103A

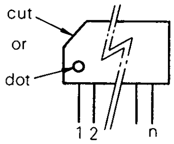


MB8851-587L
MB8851B-588L
µPC339C
µPC4558C

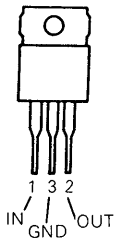


(Top view)

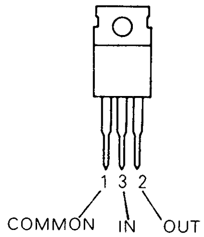
CX-069A
LA4140



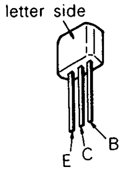
L78M06
µPC7812H



NJM79M12A

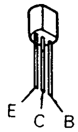


2SA1175
2SD1020-J

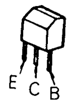


2SC2603F
DTA114ES
DTA124ES
DTC124ES

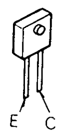
2SB1013
2SD1387



2SB734
2SD774-3



PH104



Note on Schematic Diagram:

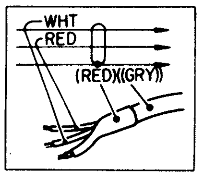
- **All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.**
- **All resistors are in Ω and 1/4 W or less unless otherwise specified.**
- Switch

Ref. No.	Switch	Position
S401	POWER	STANDBY
S502	ERASE	OFF
S503	REW	OFF
S504	STOP	OFF
S505	LISTEN	OFF
S506	FF	OFF
S508	RESET	OFF
S509	REVERSE TIME	0
S701	MC DET.	OFF
S702	HALF DET.	OFF
S703	TAB DET.	NO TAB

- : B+ bus.
- : B− bus.
- : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
- ▶ : LISTEN ◀◀ : REW
  ▶▶ : FF ■ : STOP
- Waveforms are taken to ground in specified mode by using oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- AC voltage readings in the bias oscillator with a VTVM.

Note on Mounting Diagram:

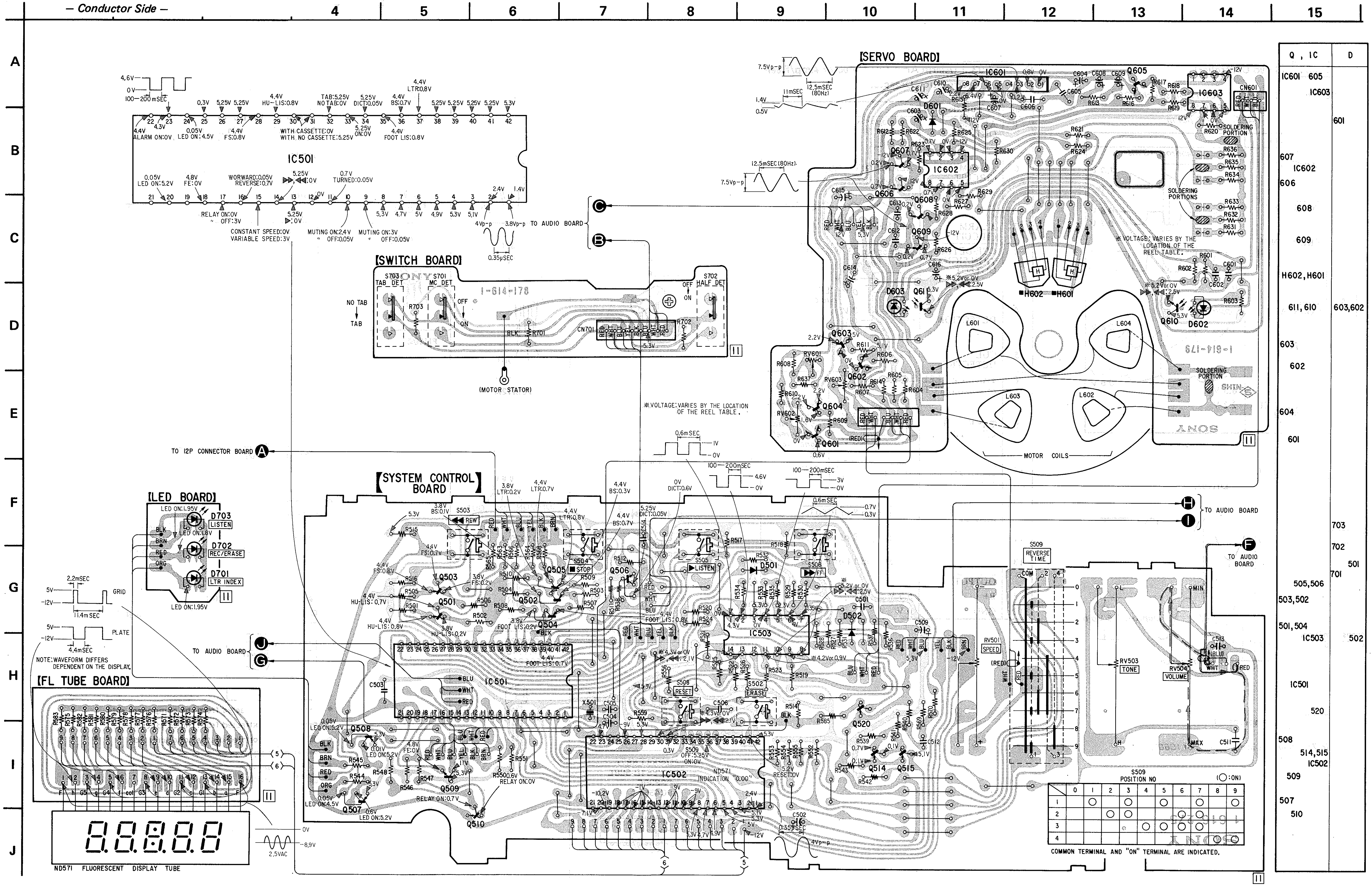
- **Color code of sleeving over the end of the jacket.**



- **: parts extracted from the component side.**
- **: parts extracted from the conductor side.**
- **■ : part mounted on the conductor side.**
- : signal path
- : B + pattern

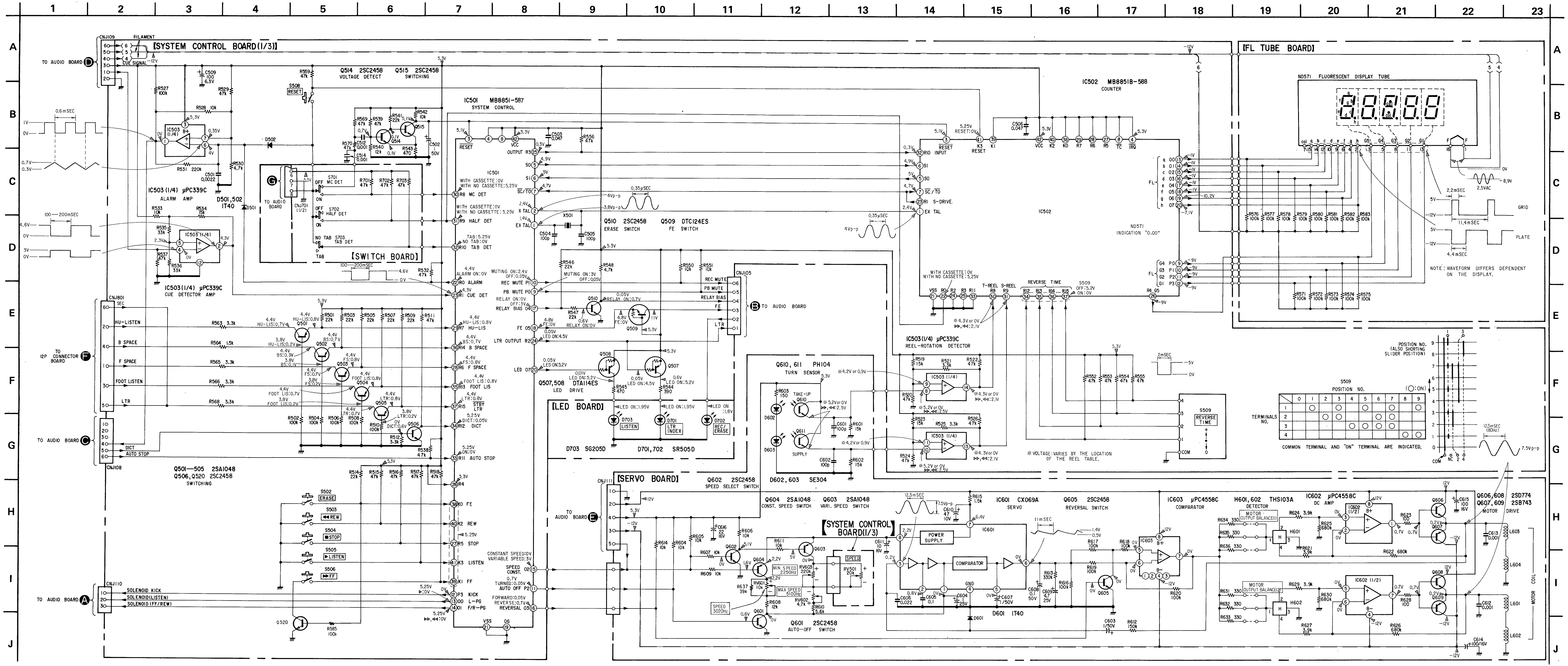
4-1. MOUNTING DIAGRAM (1)
– System-Control and Servo-Amp Section –
– Conductor Side –

- See page 34 for Semiconductor Lead Layouts
- See page 34 for notes.



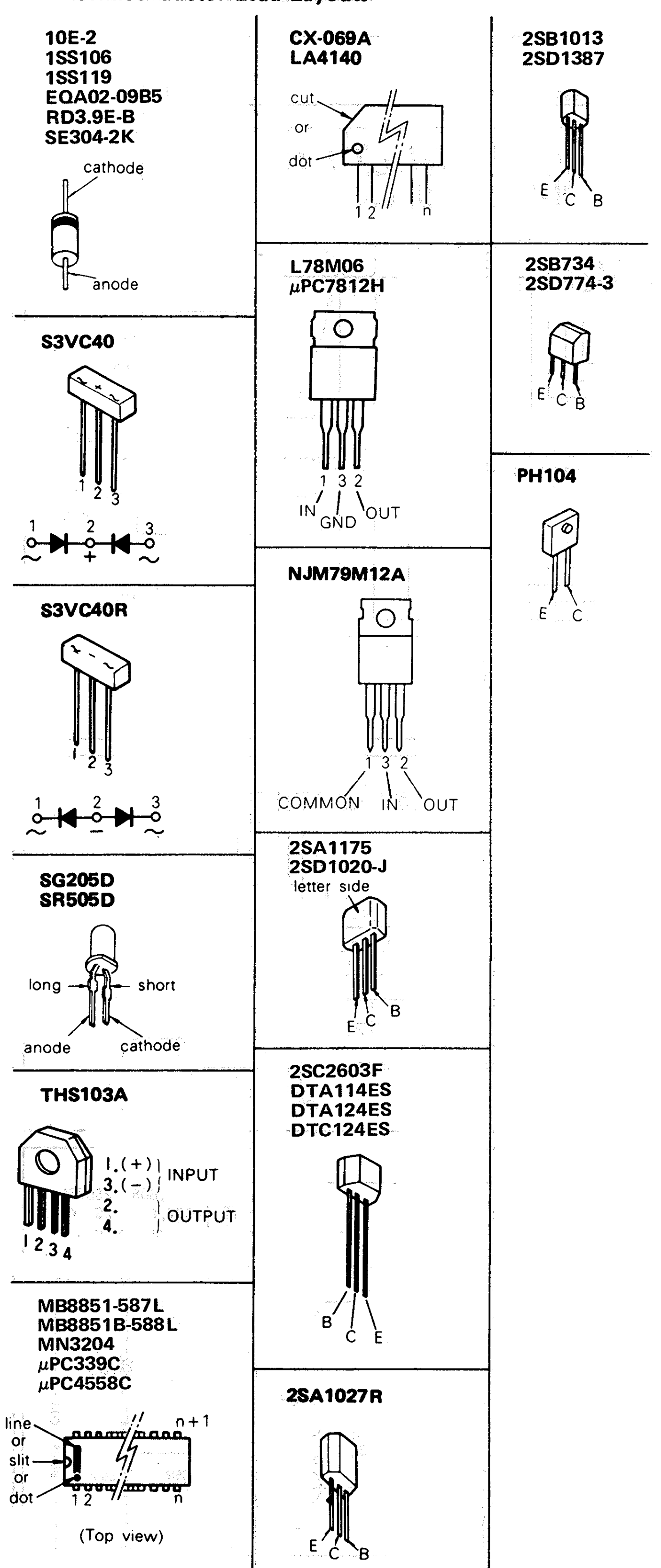
4-2. SCHEMATIC DIAGRAM
— System-Control and Servo-Amp Section —

• See page 34 for notes.



4-3. MOUNTING DIAGRAM (2) – Audio Amp Section –
– Conductor Side –

- **Semiconductor Lead Layouts**



Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ⇨ : signal path.
- : nonflammable resistor.
- Switch

Ref. No.	Switch	Position
S101	SPEED CONTROL	OFF
S102	SPEAKER	BUILT-IN
S201	REC BIAS	M
S301	AUTO-STOP	OFF
S401	POWER	STANDBY

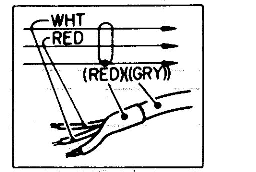
- : B+ bus.
- : B– bus.
- : adjustment for repair.
- AC voltage readings in the bias oscillator with a VTVM.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
  ( ) : RECORD
- ▶ : LISTEN ◀◀ : REW
  ▶▶ : FF ■ : STOP

> Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

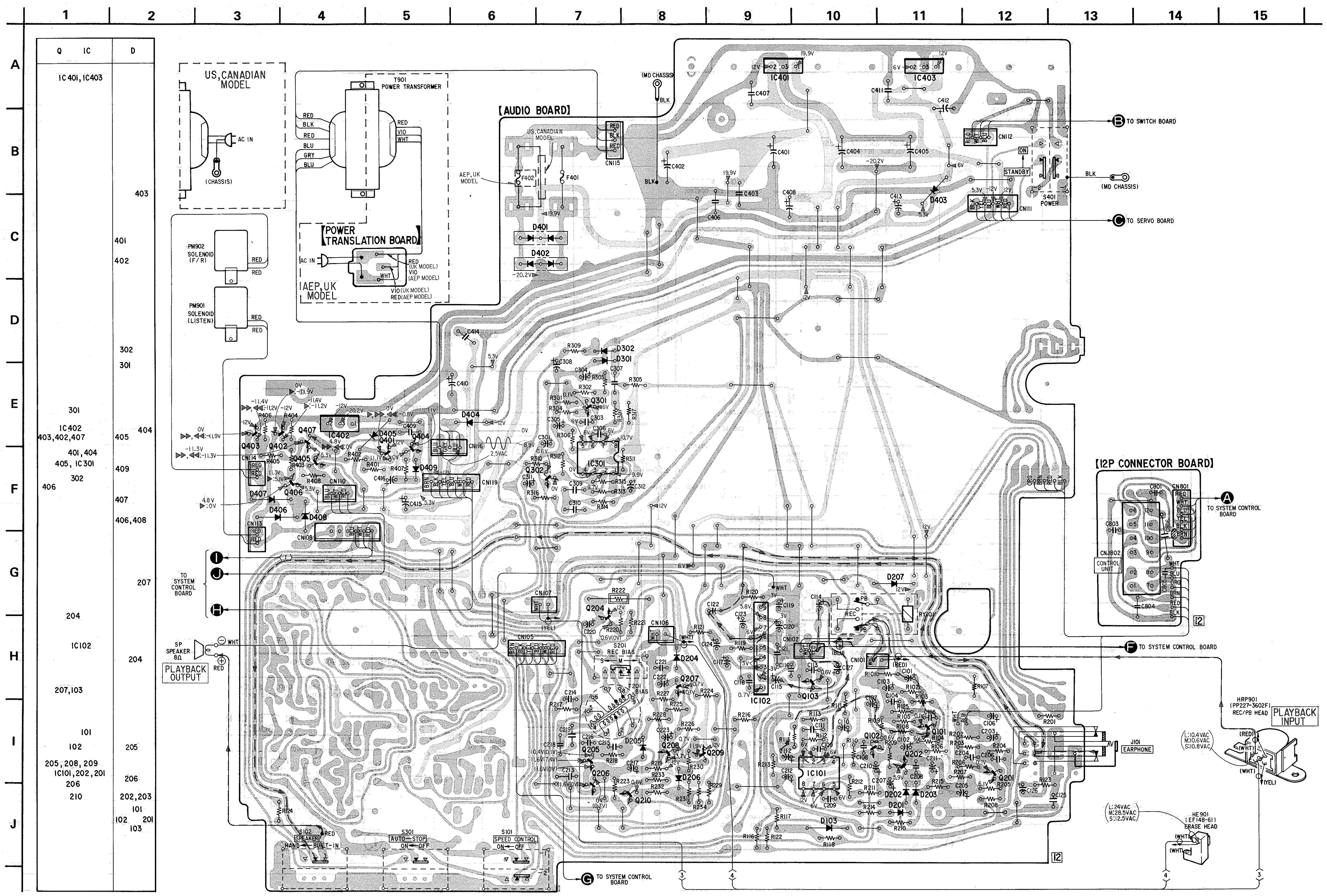
> Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

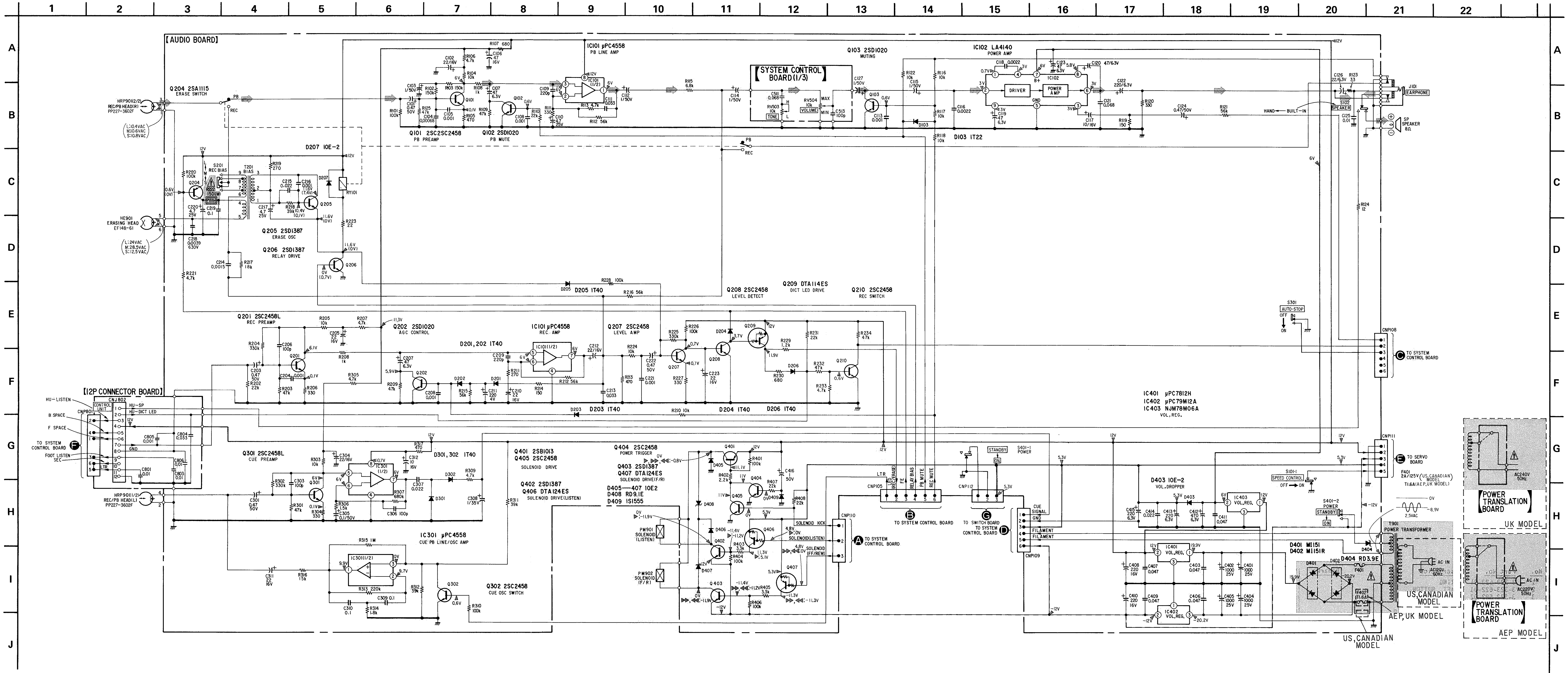
Note on Mounting Diagram:

- Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- —⇨— : signal path
- : B+ pattern
- : B– pattern



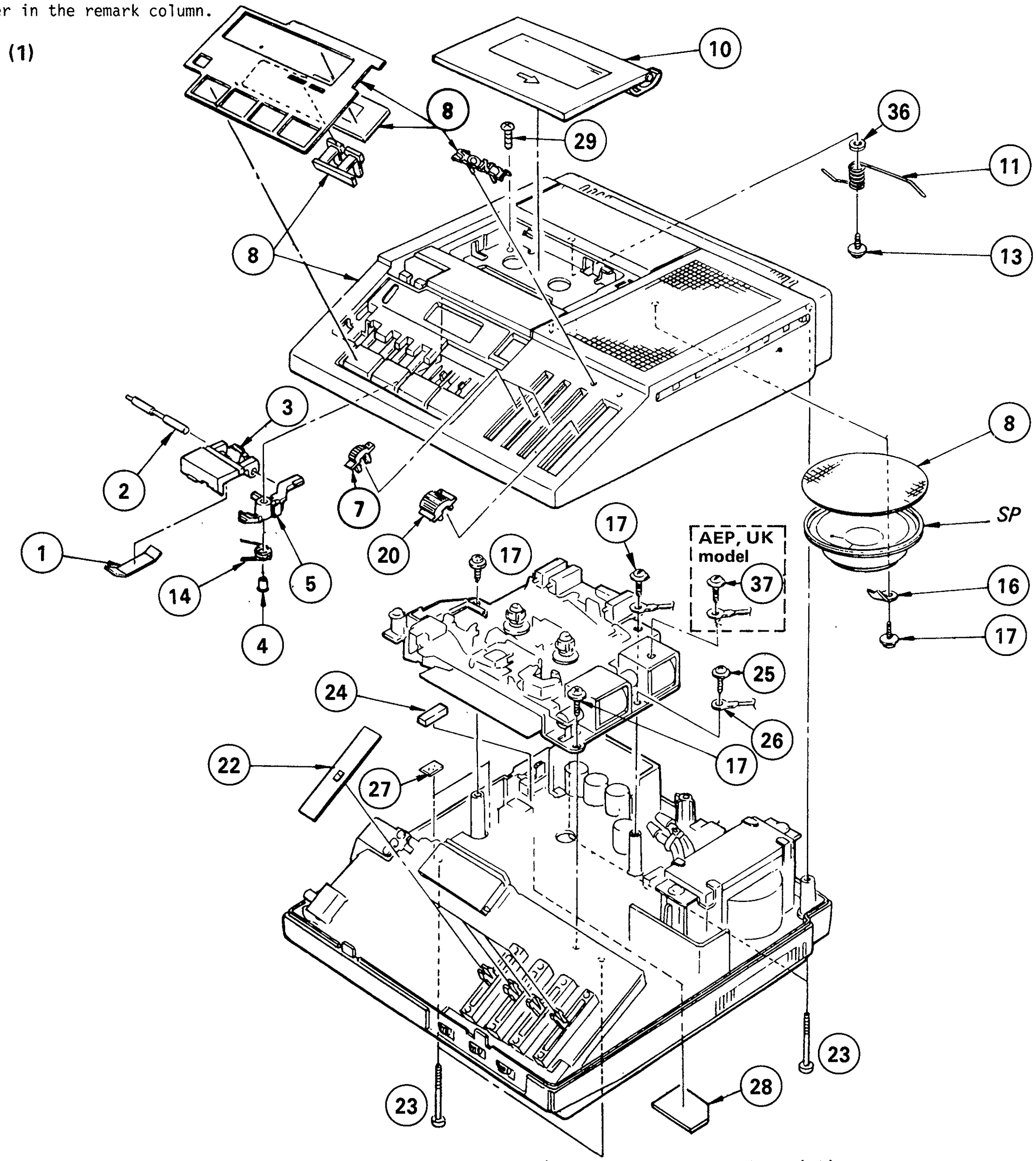

[AUDIO BOARD]
IC101 μPC4558 PB LINE AMP
Q103 2SD1020 MUTING
IC102 LA4140 POWER AMP
SYSTEM CONTROL BOARD (1/3)
Q204 2SA1115 ERASE SWITCH
Q101 2SC2458 PB PREAMP
Q102 2SD1020 PB MUTE
D207 10E-2
D103 1T22
Q205 2SD1387 ERASE OSC
Q206 2SD1387 RELAY DRIVE
D205 1T40
Q208 2SC2458 LEVEL DETECT
Q209 DTA114ES DICT LED DRIVE
Q210 2SC2458 REC SWITCH
Q201 2SC2458L REC PREAMP
Q202 2SD1020 AGC CONTROL
D201,202 1T40
IC101 μPC4558 REC AMP
Q207 2SC2458 LEVEL AMP
[12P CONNECTOR BOARD]
D203 1T40
D204 1T40
D206 1T40
IC401 μPC7812H
IC402 μPC79M12A
IC403 NJM78M06A VOL.REG.
Q301 2SC2458L CUE PREAMP
D301,302 1T40
Q401 2SB1013
Q405 2SC2458 SOLENOID DRIVE
Q402 2SD1387
Q406 DTA124ES SOLENOID DRIVE(LISTEN)
Q404 2SC2458 POWER TRIGGER
Q403 2SD1387
Q407 DTA124ES SOLENOID DRIVE(F/R)
D405–407 10E2
D408 RD9.1E
D409 1S1555
D403 10E-2 VOL.DROPPER
IC301 μPC4558 CUE PB LINE/OSC AMP
Q302 2SC2458 CUE OSC SWITCH
TO SYSTEM CONTROL BOARD
TO SWITCH BOARD TO SYSTEM CONTROL BOARD
TO SERVO BOARD
D401 M1151
D402 M1151R
D404 RD3.9E
T901 POWER TRANSFORMER
POWER TRANSLATION BOARD
UK MODEL
AEP MODEL
US,CANADIAN MODEL
AEP,UK MODEL

SECTION 5
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

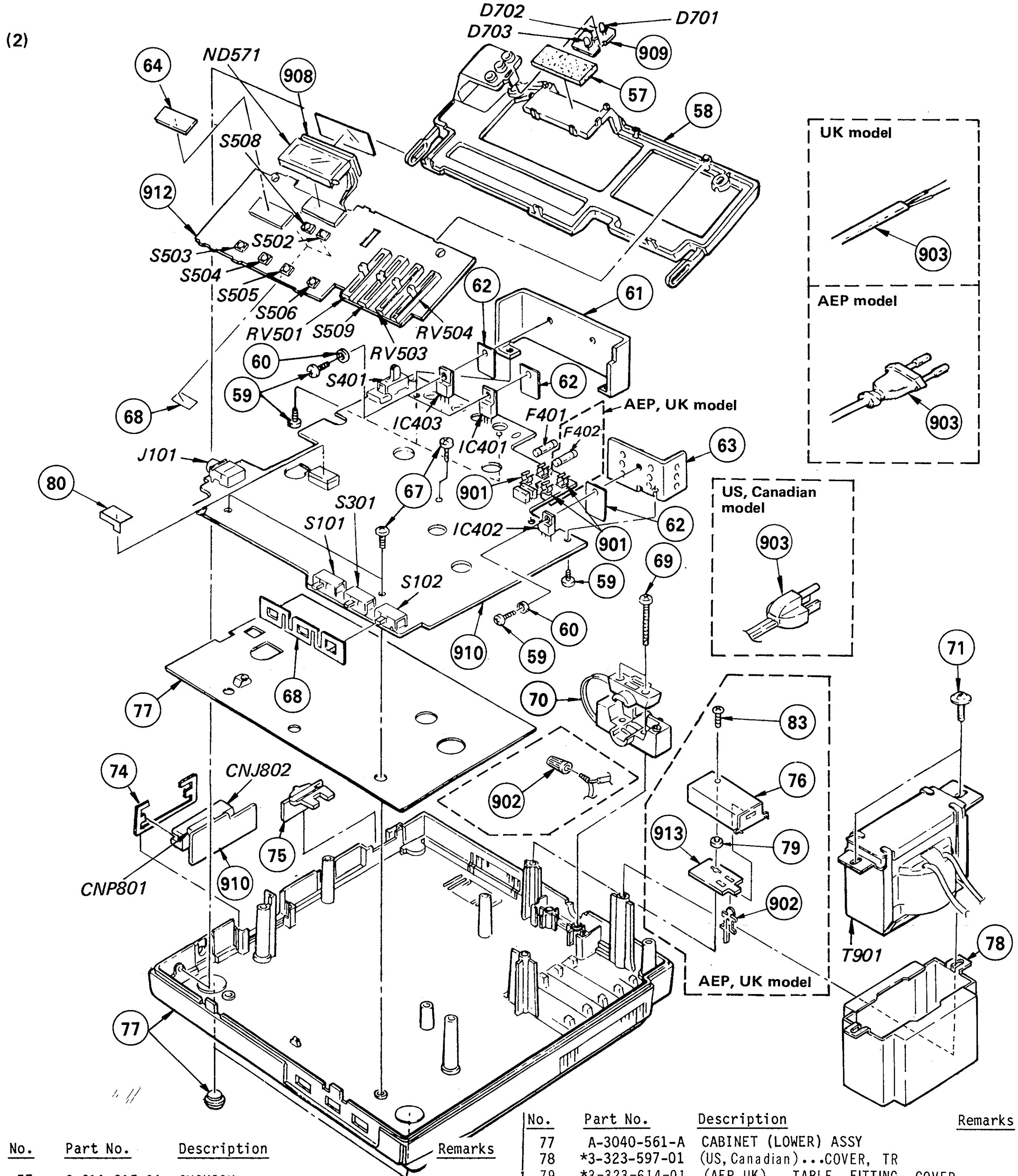
(1)



No.	Part No.	Description	Remarks
1	3-323-623-01	SPRING	
2	*3-323-622-01	SHAFT, BUTTON	
3	3-323-583-02	BUTTON, EJECT	
4	*3-323-598-02	SLEEVE	
5	3-323-607-02	CLAW, CASSETTE LID	
7	3-323-562-01	KNOB (B)	
8	X-3323-518-1	CABINET ASSY (UPPER)	
10	X-3323-513-2	LID ASSY, CASSETTE	
11	3-323-567-03	SPRING	
13	7-687-246-21	SCREW, TOTSU PTPWH 3X8, TYPE2	
14	3-323-605-02	SPRING	
16	3-845-110-00	RETAINER, SPEAKER	
17	7-685-133-14	SCREW +BTP 2.6X6 TYPE2 N-S	
20	3-323-561-01	KNOB (A)	
22	3-323-568-01	SHEET, CONTROL	

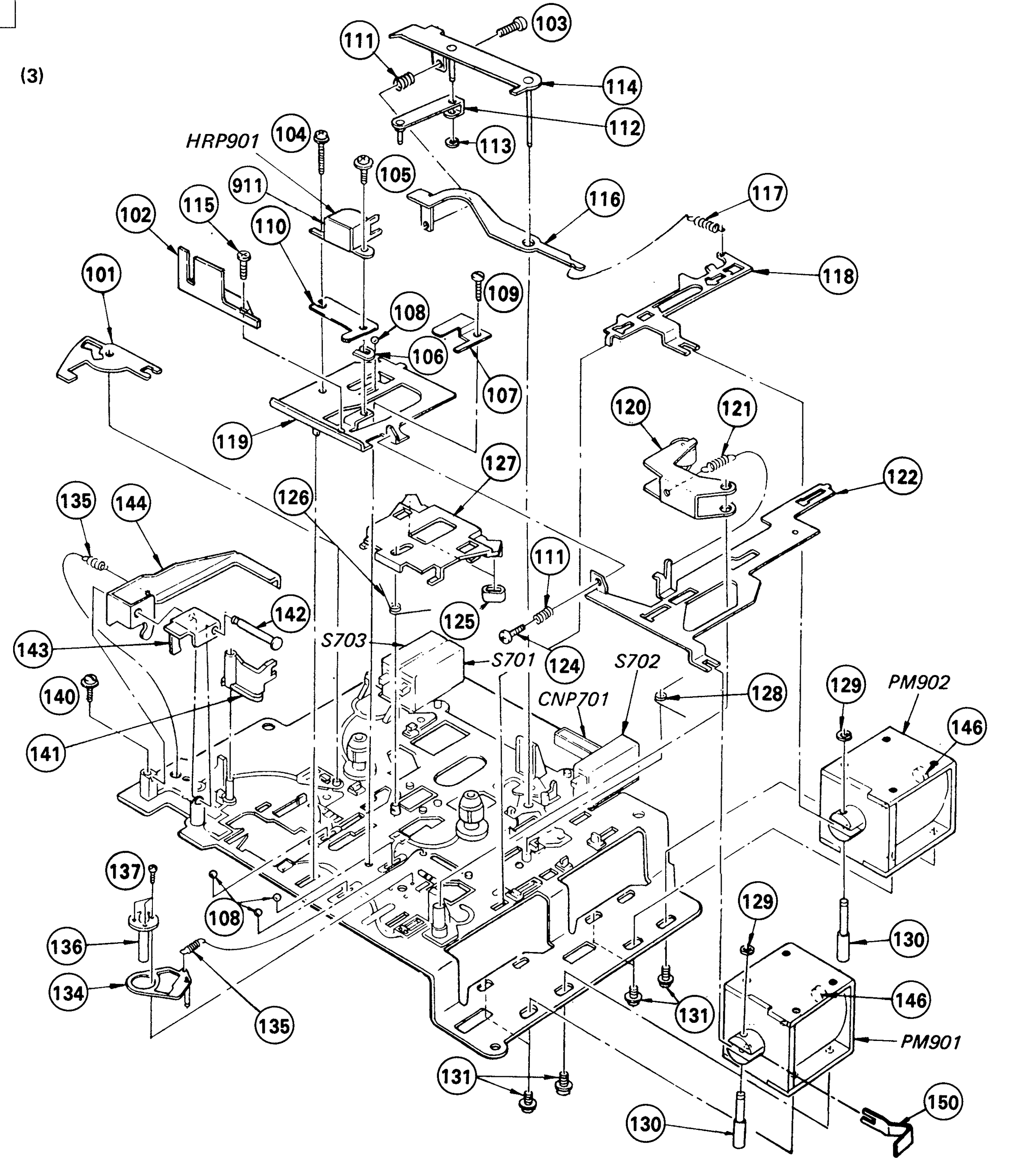
No.	Part No.	Description	Remarks
23	3-846-072-00	SCREW, TAPPING, +P 3X48	
24	3-315-153-00	CUSHION	
25	7-682-660-01	SCREW +PS 4X6	
26	7-623-510-01	LUG, 4	
27	3-485-343-01	CUSHION, CABINET UPPER 10X7X0.5	
28	*3-323-613-01	(US).........LABEL, MODEL NUMBER (U)	
	*3-323-625-01	(Canadian)...LABEL, MODEL NUMBER	
	*3-323-629-01	(AEP)...LABEL, MODEL NUMBER	
	*3-323-630-01	(UK)....LABEL, MODEL NUMBER	
29	7-621-770-67	SCREW +B 2.6X6	
34	3-701-999-00	LABEL, SERIAL NUMBER	
36	*3-669-117-61	SPACER, MOTOR	
37	7-682-545-04	(AEP, UK)...SCREW P3×4	

(2)



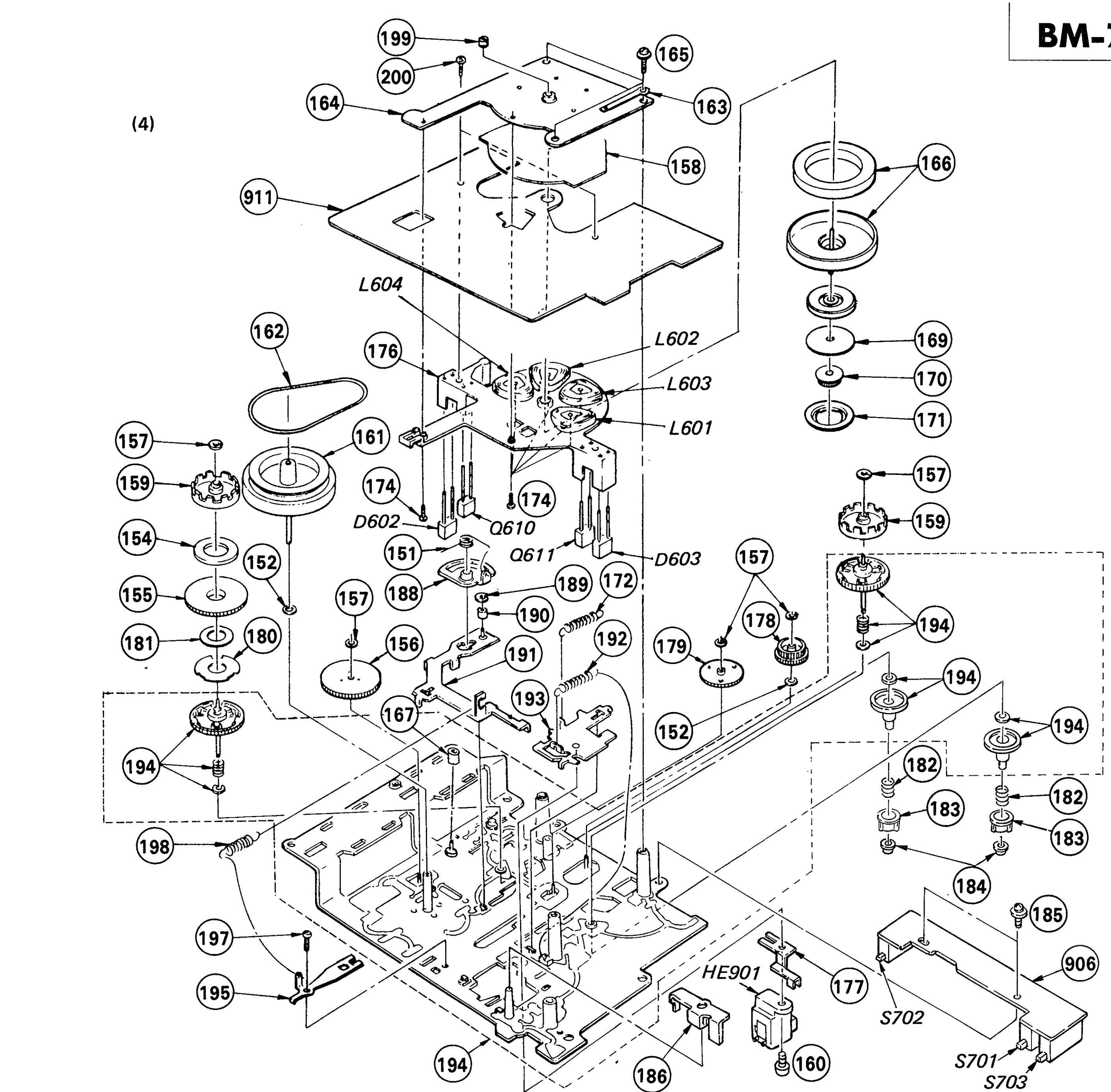
No.	Part No.	Description	Remarks
57	9-911-815-01	CUSHION	
58	3-323-580-02	FRAME	
59	7-621-770-67	SCREW +B 2.6X6	
60	2-832-007-00	BUSHING (K), INSULATING	
61	*3-323-577-02	HEAT SINK (A)	
62	4-875-726-00	SHEET, INSULATING	
63	*3-323-578-02	HEAT SINK (B)	
64	*3-323-576-01	SHEET, PANEL	
67	7-685-133-14	SCREW +BTP 2.6X6 TYPE2 N-S	
68	3-831-441-XX	SHEET, BLIND, SWITCH	
69	3-323-594-01	SCREW, TAPPING, (M2.6X20)	
70	⚠.3-556-081-00	RETAINER (B), CORD	
71	7-687-264-21	SCREW, TOTSU PTPWH 4X10, TYPE2	
74	*3-323-566-01	BRACKET, 12P CONNECTOR	
75	3-323-573-02	KNOB, POWER SWITCH	
76	3-323-615-01	(AEP, UK)...COVER, POWER	
77	A-3040-561-A	CABINET (LOWER) ASSY	
78	*3-323-597-01	(US, Canadian)...COVER, TR	
79	*3-323-614-01	(AEP, UK)...TABLE, FITTING, COVER	
80	*3-323-616-01	PLATE, SHIELD, RELAY	
82	3-701-464-00	SCREW (+- 2×10), LOCK	
83	7-687-238-21	SCREW, PTPWH 2.6×16, TYPE 2	
901	⚠.1-533-037-XX	HOLDER, FUSE	
902	⚠.1-535-507-00	(US, Canadian)...CONNECTOR (TRANSLATION)	
	⚠ 1-535-416-11	(AEP, UK) ....TERMINAL	
903	⚠ 1-534-777-31	(UK) ....CORD, POWER	
903	⚠ 1-551-780-00	(US, Canadian) ...CORD, POWER	
903	⚠ 1-556-410-11	(AEP) ....CORD, POWER	
907	*1-614-184-11	PC BOARD, 12P	
908	*1-616-241-11	PC BOARD, FL TUBE	
909	*1-616-242-11	PC BOARD, LED	
910	*A-3060-021-A	(AEP, UK)...MOUNTED PCB, AUDIO	
	*A-3060-024-A	(AEP, UK)...MOUNTED PCB, AUDIO	
912	*A-3089-135-A	MOUNTED PCB, SYSTEM CONTROL	
913	⚠*1-615-361-11	(AEP, UK)...PC BOARD, POWER TRANSLATION	

(3)



No.	Part No.	Description	Remarks
101	*3-323-518-01	PLATE, PREVENTION, EJECT	
102	*3-323-618-01	CLAMP (R/P)	
103	3-701-464-00	SCREW (+-2X10), LOCK	
104	7-627-553-77	SCREW, PRECISION +P 2X10	
105	7-627-554-17	SCREW, PRECISION +P 2X3.5	
106	3-578-138-01	SHIM (t=0.1)	
	3-578-138-11	SHIM (t=0.2)	
	3-578-138-21	SHIM (t=0.3)	
107	3-323-520-01	SPRING	
108	7-671-111-11	STEEL, BOUL 1.5MM	
109	7-621-775-10	SCREW +B 2.6X4	
110	*3-323-620-01	SPRING	
111	3-308-534-00	SPRING, COMPRESSION	
112	X-3323-507-1	LEVER ASSY, F/R	
113	7-624-102-04	STOP RING 1.5, TYPE -E	
114	*X-3323-509-1	ARM ASSY, F/R	
115	7-627-553-27	SCREW, PRECISION +P 2X2.5	
116	*3-323-512-01	PLATE, ADJUSTMENT, F/R	
117	3-305-652-00	SPRING, TENSION	
118	3-323-542-01	LEVER, FUNCTION, F/R	
119	*3-323-617-01	CHASSIS (R/P), HEAD	
120	X-3323-503-1	PINCH LEVER ASSY	
121	3-527-189-00	SPRING, TENSION	
122	3-323-553-01	LEVER, FWD	
124	7-621-772-30	SCREW +B 2X6	
125	3-323-596-01	RUBBER, BRAKE	
126	3-323-508-01	SPRING, BRAKE	
127	*3-323-511-01	LEVER, BRAKE	
128	3-323-522-01	SPRING	
129	3-307-948-21	WASHER, NYLON	
130	*3-323-535-01	SHAFT, JOINT	
131	7-682-947-01	SCREW +PSW 3X6	
134	X-3323-501-1	LEVER ASSY, F.I	
135	3-509-127-00	SPRING, TENSION	
136	3-323-503-01	BEARING, CAPSTAN	
137	7-627-551-58	SCREW, PRECISION +P 1.4X3	
140	7-687-233-21	SCREW, TOTSU PTPWH 2.6X6, TYPE2	
141	3-323-521-01	GUIDE, TAPE	
142	3-323-551-01	SHAFT, FULCRUM, EJECT	
143	*3-323-550-01	LEVER (C), EJECT	
144	3-323-525-01	LEVER (B), EJECT	
146	4-879-274-41	SPACER	
150	3-323-606-01	SPRING	

(4)



No.	Part No.	Description	Remarks
151	3-323-587-01	SPRING	
152	3-701-437-02	WASHER	
154	3-307-313-00	PLATE, YOKE	
155	3-307-953-00	MAGNET, REEL TABLE	
156	3-323-540-01	IDLER, FWD	
157	3-307-948-01	WASHER, NYLON	
158	3-323-601-01	SHEET, INSULATING, COIL	
159	3-323-541-01	PLATE	
160	7-627-556-48	SCREW +P 2.6X4.5	
161	3-323-504-01	FLYWHEEL	
162	3-323-526-01	BELT	
163	7-623-507-01	LUG, 2.6	
164	*X-3323-502-1	CHASSIS ASSY, STATOR	
165	7-687-233-21	SCREW, TOTSU PTPWH 2.6X6, TYPE2	
166	*X-3323-514-1	MAGNET ASSY, ROTOR	
167	3-319-662-01	RUBBER, BRAKE	
169	3-323-523-01	WASHER	
170	3-323-515-01	GEAR, M	
171	3-323-538-01	PLATE, CLUTCH	
172	3-305-903-00	SPRING, TENSION	
174	3-323-501-01	SCREW (M1.4X3)	
176	*3-323-552-01	BRACKET, COIL	
177	*3-323-619-01	CLAMP (E)	
178	3-323-516-01	GEAR (A), F/R	
179	3-323-539-01	GEAR (B), F/R	
180	3-561-827-11	PLATE (A), HYSTERESIS	
181	3-307-493-01	SPACER	
	3-307-493-11	SPACER	
	3-307-493-21	SPACER	
	3-307-493-31	SPACER	
	3-307-493-41	SPACER	
	3-307-493-51	SPACER	
182	3-307-380-00	SPRING, COMPRESSION	
183	3-307-363-00	CLAW (N), REEL	
184	3-307-362-00	CAP, REEL	
185	7-621-775-10	SCREW +B 2.6X4	
186	3-323-524-02	LEVER (A), EJECT	
188	X-3323-506-1	CAM ASSY, S	
189	3-570-615-00	POLY-WASHER (DIA.1.2)	
190	3-323-534-01	ROLLER (S LEVER)	
191	X-3323-510-1	LEVER ASSY, S	
192	3-701-788-XX	SPRING, TENSION	
193	*3-323-506-02	CHASSIS (E), HEAD	
194	*X-3323-515-1	CHASSIS ASSY, DECK	
195	X-3323-504-1	SPRING ASSY, LOCK	
197	3-703-502-01	SCREW	
198	4-858-478-00	SPRING, TENSION	
199	3-547-625-00	SCREW, THRUST ADJUST	
200	7-685-104-14	SCREW +P 2X6 TYPE2 NON-SLIT	
906	*1-614-178-11	PC BOARD, SWITCH	
911	*A-3065-049-A	MOUNTED PCB, SERVO	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901 ⚠	1-533-037-XX	HOLDER, FUSE			
902 ⚠	1-535-416-11	(AEP, UK).......TERMINAL			
902 ⚠	1-535-507-00	(US, Canadian)...CONNECTOR(TRANSLATION)			
903 ⚠	1-534-777-31	(UK)...........CORD, POWER			
903 ⚠	1-551-780-00	(US, Canadian)...CORD, POWER			
903 ⚠	1-556-410-11	(AEP)..........CORD, POWER			
903	1-558-245-11	(AEP)..........CORD, POWER			
904	*1-562-147-11	HOUSING, CONNECTOR 2P (WHT)			
905	*1-564-026-00	CONTACT, RECEPTACLE			
906	*1-614-178-11	PC BOARD, SWITCH			
907	*1-614-184-11	PC BOARD, 12P			
908	*1-616-241-11	PC BOARD, FL TUBE			
909	*1-616-242-11	PC BOARD, LED			
910	*A-3060-021-A	(US, Canadian)...MOUNTED PCB, AUDIO			
910	*A-3060-024-A	(AEP, UK).......MOUNTED PCB, AUDIO			
911	*A-3065-049-A	MOUNTED PCB, SERVO			
912	*A-3089-135-A	MOUNTED PCB, SYSTEM CONTROL			
913	*1-615-361-11	(AEP, UK).......PC BOARD, POWER TRANSRATION			
C101	1-123-610-00	ELECT	0.47MF	20%	50V
C102	1-123-622-00	ELECT	22MF	20%	16V
C103	1-123-611-00	ELECT	1MF	20%	50V
C104	1-102-116-00	CERAMIC	680PF	10%	50V
C105	1-161-039-00	CERAMIC	0.001MF	20%	25V
C106	1-123-821-00	ELECT	47MF	20%	16V
C107	1-123-647-00	ELECT	47MF	20%	6.3V
C108	1-161-039-00	CERAMIC	0.001MF	20%	25V
C109	1-102-110-00	CERAMIC	220PF	10%	50V
C110	1-123-616-00	ELECT	4.7MF	20%	25V
C111	1-161-057-00	CERAMIC	0.033MF	10%	25V
C112	1-123-611-00	ELECT	1MF	20%	50V
C113	1-161-039-00	CERAMIC	0.001MF	20%	25V
C114	1-123-611-00	ELECT	1MF	20%	50V
C115	1-123-611-00	ELECT	1MF	20%	50V
C116	1-161-043-00	CERAMIC	0.0022MF	20%	25V
C117	1-123-617-00	ELECT	10MF	20%	16V
C118	1-161-043-00	CERAMIC	0.0022MF	20%	25V
C119	1-123-647-00	ELECT	47MF	20%	6.3V
C120	1-123-647-00	ELECT	47MF	20%	6.3V
C121	1-136-163-00	MYLAR	0.068MF	10%	50V
C122	1-123-308-00	ELECT	220MF	20%	6.3V
C123	1-123-647-00	ELECT	47MF	20%	6.3V
C124	1-123-610-00	ELECT	0.47MF	20%	50V
C125	1-161-013-00	CERAMIC	0.01MF	20%	25V
C126	1-124-222-00	ELECT	22MF	20%	6.3V
C127	1-123-611-00	ELECT	1MF	20%	50V
C203	1-123-610-00	ELECT	0.47MF	20%	50V
C204	1-161-039-00	CERAMIC	0.001MF	20%	25V
C205	1-123-622-00	ELECT	22MF	20%	16V
C206	1-102-106-00	CERAMIC	100PF	10%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C207	1-123-647-00	ELECT	47MF	20%	6.3V
C208	1-161-039-00	CERAMIC	0.001MF	20%	25V
C209	1-102-110-00	CERAMIC	220PF	10%	50V
C210	1-123-622-00	ELECT	22MF	20%	16V
C211	1-124-434-00	ELECT	220MF	20%	4V
C212	1-123-622-00	ELECT	22MF	20%	16V
C213	1-161-057-00	CERAMIC	0.033MF	20%	25V
C214	1-161-003-00	CERAMIC	0.0015MF	10%	25V
C215	1-136-157-00	MYLAR	0.022MF	10%	50V
C216	1-161-064-00	CERAMIC	0.001MF	20%	50V
C217	1-123-616-00	ELECT	4.7MF	20%	25V
C218	1-129-709-00	FILM	0.0039MF	10%	630V
C219	1-161-025-00	CERAMIC	0.1MF	10%	25V
C220	1-123-616-00	ELECT	4.7MF	20%	25V
C221	1-161-039-00	CERAMIC	0.001MF	20%	25V
C222	1-123-610-00	ELECT	0.47MF	20%	50V
C223	1-123-622-00	ELECT	22MF	20%	16V
C301	1-123-610-00	ELECT	0.47MF	20%	50V
C303	1-102-106-00	CERAMIC	100PF	10%	50V
C304	1-123-622-00	ELECT	22MF	20%	16V
C305	1-123-607-00	ELECT	0.1MF	20%	50V
C306	1-102-106-00	CERAMIC	100PF	10%	50V
C307	1-161-055-00	CERAMIC	0.022MF	20%	25V
C308	1-131-347-00	TANTALUM	1MF	20%	35V
C309	1-136-165-00	MYLAR	0.1MF	10%	50V
C310	1-136-165-00	MYLAR	0.1MF	10%	50V
C311	1-123-622-00	ELECT	22MF	20%	16V
C312	1-124-233-00	ELECT	10MF	20%	16V
C401	1-123-337-00	ELECT	1000MF	20%	25V
C402	1-123-337-00	ELECT	1000MF	20%	25V
C403	1-108-595-00	MYLAR	0.047MF	10%	50V
C404	1-123-337-00	ELECT	1000MF	20%	25V
C405	1-123-337-00	ELECT	1000MF	20%	25V
C406	1-108-595-00	MYLAR	0.047MF	10%	50V
C407	1-108-595-00	MYLAR	0.047MF	10%	50V
C408	1-123-321-00	ELECT	220MF	20%	16V
C409	1-108-595-00	MYLAR	0.047MF	10%	50V
C410	1-123-321-00	ELECT	220MF	20%	16V
C411	1-108-595-00	MYLAR	0.047MF	10%	50V
C412	1-123-298-00	ELECT	470MF	20%	6.3V
C413	1-123-308-00	ELECT	220MF	20%	6.3V
C414	1-125-333-00	NONPOLAR	0.022MF	10%	5.5V
C415	1-123-308-00	ELECT	220MF	20%	6.3V
C416	1-123-611-00	ELECT	1MF	20%	50V
C501	1-136-145-00	MYLAR	0.0022MF	10%	50V
C502	1-123-611-00	ELECT	1MF	20%	50V
C503	1-161-059-00	CERAMIC	0.047MF	20%	25V
C504	1-102-106-00	CERAMIC	100PF	10%	50V
C505	1-102-106-00	CERAMIC	100PF	10%	50V
C506	1-161-059-00	CERAMIC	0.047MF	20%	25V
C509	1-123-661-00	ELECT	100MF	20%	6.3V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C511	1-161-061-00	CERAMIC	0.068MF	20%	25V
C512	1-161-039-00	CERAMIC	0.001MF	20%	25V
C513	1-102-106-00	CERAMIC	100PF	10%	50V
C514	1-161-039-00	CERAMIC	0.001MF	20%	25V
C601	1-102-106-00	CERAMIC	100PF	10%	50V
C602	1-102-106-00	CERAMIC	100PF	10%	50V
C603	1-123-611-00	ELECT	1MF	20%	50V
C604	1-131-347-00	TANTALUM	1MF	10%	25V
C605	1-136-165-00	MYLAR	0.1MF	10%	50V
C606	1-161-055-00	CERAMIC	0.022MF	20%	25V
C607	1-123-611-00	ELECT	1MF	20%	50V
C608	1-123-607-00	ELECT	0.1MF	20%	50V
C609	1-123-616-00	ELECT	4.7MF	20%	25V
C610	1-124-236-00	ELECT	47MF	20%	10V
C611	1-123-617-00	ELECT	10MF	20%	16V
C612	1-161-039-00	CERAMIC	0.001MF	20%	25V
C613	1-161-039-00	CERAMIC	0.001MF	20%	25V
C614	1-123-333-00	ELECT	100MF	20%	16V
C615	1-123-333-00	ELECT	100MF	20%	16V
C616	1-123-622-00	ELECT	22MF	20%	16V
C801	1-161-013-00	CERAMIC	0.01MF	20%	25V
C803	1-161-013-00	CERAMIC	0.01MF	20%	25V
C804	1-161-057-00	CERAMIC	0.033MF	20%	25V
C805	1-161-039-00	CERAMIC	0.001MF	20%	25V
C806	1-161-013-00	CERAMIC	0.01MF	20%	25V
CNJ102	*1-562-148-11	HOUSING, CONNECTOR 3P			
CNJ105	*1-562-151-11	HOUSING, CONNECTOR 6P			
CNJ108	*1-562-151-11	HOUSING, CONNECTOR 6P			
CNJ109	*1-562-151-11	HOUSING, CONNECTOR 6P			
CNJ110	*1-562-148-11	HOUSING, CONNECTOR 3P			
CNJ111	*1-562-150-11	HOUSING, CONNECTOR 5P			
CNJ112	*1-562-148-11	HOUSING, CONNECTOR 3P			
CNJ601	*1-562-148-11	HOUSING, CONNECTOR 3P			
CNJ602	*1-562-151-11	HOUSING, CONNECTOR 6P			
CNJ701	*1-562-153-11	HOUSING, CONNECTOR 8P			
CNJ801	*1-562-151-11	HOUSING, CONNECTOR 6P			
CNJ802	*1-561-533-00	SOCKET, CONNECTOR 12P			
CNP101	*1-564-001-11	PIN, CONNECTOR 2P			
CNP102	*1-564-002-00	PIN, CONNECTOR 3P			
CNP105	*1-564-005-00	PIN, CONNECTOR 6P			
CNP106	*1-564-001-11	PIN, CONNECTOR 2P			
CNP107	*1-564-001-11	PIN, CONNECTOR 2P			
CNP108	*1-564-005-00	PIN, CONNECTOR 6P			
CNP109	*1-564-005-00	PIN, CONNECTOR 6P			
CNP110	*1-564-002-00	PIN, CONNECTOR 3P			
CNP111	*1-564-015-00	PIN, CONNECTOR 5P			
CNP112	*1-564-002-00	PIN, CONNECTOR 3P			
CNP113	*1-564-001-11	PIN, CONNECTOR 2P			
CNP114	*1-564-001-11	PIN, CONNECTOR 2P			
CNP115	*1-508-742-00	PIN, CONNECTOR 3P			
CNP116	*1-508-742-00	PIN, CONNECTOR 3P			
CNP601	*1-564-013-00	PIN, CONNECTOR 3P			
CNP602	*1-564-016-00	PIN, CONNECTOR 6P			
CNP701	*1-564-007-00	PIN, CONNECTOR 8P			
CNP801	*1-564-005-00	PIN, CONNECTOR 6P			

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D103	8-719-911-06	DIODE 1SS106
D201	8-719-911-19	DIODE 1SS119
D202	8-719-911-19	DIODE 1SS119
D203	8-719-911-19	DIODE 1SS119
D204	8-719-911-19	DIODE 1SS119
D205	8-719-911-19	DIODE 1SS119
D206	8-719-911-19	DIODE 1SS119
D207	8-719-200-02	DIODE 10E-2
D301	8-719-911-19	DIODE 1SS119
D302	8-719-911-19	DIODE 1SS119
D401 ⚠	8-719-500-34	DIODE S3VC40
D402 ⚠	8-719-501-34	DIODE S3VC40R
D403	8-719-200-02	DIODE 10E-2
D404	8-719-139-07	DIODE RD3.9E-B
D405	8-719-200-02	DIODE 10E-2
D406	8-719-200-02	DIODE 10E-2
D407	8-719-200-02	DIODE 10E-2
D408	8-719-904-40	DIODE EQA02-09B5
D409	8-719-911-19	DIODE 1T40
D501	8-719-911-19	DIODE 1SS119
D502	8-719-911-19	DIODE 1SS119
D601	8-719-911-19	DIODE 1SS119
D602	8-719-103-15	DIODE SE304-2L
D603	8-719-103-15	DIODE SE304-2L
D701	8-719-150-53	DIODE SR505D
D702	8-719-150-53	DIODE SR505D
D703	8-719-102-05	DIODE SG205D
F401 ⚠	1-532-259-00	(AEP, UK) ....FUSE, TIME-LAG
F401 ⚠	1-532-578-00	(US, Canadian)...FUSE, GLASS TUBE
F402 ⚠	1-532-259-00	(AEP, UK) ....FUSE, TIME-LAG
H601	8-719-800-18	DIODE THS103A
H602	8-719-800-18	DIODE THS103A
HE901	8-825-604-00	ERASE HEAD EF148-61
HRP901	8-825-507-80	HEAD (PP227-3602F), RECORD/PLAYBACK
IC101	8-759-145-58	IC UPC4558C
IC102	8-759-841-40	IC LA4140
IC301	8-759-145-58	IC UPC4558C
IC401	8-759-700-06	IC UPC7812H
IC402	8-759-700-24	IC NJM79M12A
IC403	8-759-801-26	IC L78M06
IC501	8-759-920-88	IC MB8851-587L
IC502	8-759-920-86	IC MB8851B-588L
IC503	8-759-133-90	IC UPC339C
IC601	8-750-600-69	IC CX-069A
IC602	8-759-145-58	IC UPC4558C
IC603	8-759-145-58	IC UPC4558C
J101	1-507-806-41	JACK
L601	1-462-196-21	COIL, MOTOR (STATOR)
L602	1-462-196-21	COIL, MOTOR (STATOR)
L603	1-462-196-21	COIL, MOTOR (STATOR)
L604	1-462-196-21	COIL, MOTOR (STATOR)
ND571	1-519-328-11	INDICATOR TUBE, FLUORESCENT
PM901	1-454-385-11	SOLENOID, PLUNGER
PM902	1-454-385-11	SOLENOID, PLUNGER

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
Q101	8-729-334-58	TRANSISTOR 2SC1345			
Q102	8-729-102-03	TRANSISTOR 2SD1020			
Q103	8-729-102-03	TRANSISTOR 2SD1020			
Q201	8-729-334-58	TRANSISTOR 2SC1345			
Q202	8-729-102-03	TRANSISTOR 2SD1020			
Q204	8-729-117-54	TRANSISTOR 2SA1115			
Q205	8-729-801-93	TRANSISTOR 2SD1387			
Q206	8-729-801-93	TRANSISTOR 2SD1387			
Q207	8-729-606-33	TRANSISTOR 2SC2603-F			
Q208	8-729-606-33	TRANSISTOR 2SC2603-F			
Q209	8-729-900-61	TRANSISTOR DTA114ES			
Q210	8-729-606-33	TRANSISTOR 2SC2603-F			
Q301	8-729-334-58	TRANSISTOR 2SC1345			
Q302	8-729-606-33	TRANSISTOR 2SC2603-F			
Q401	8-729-801-83	TRANSISTOR 2SB1013			
Q402	8-729-801-93	TRANSISTOR 2SD1387			
Q403	8-729-801-93	TRANSISTOR 2SD1387			
Q404	8-729-245-83	TRANSISTOR 2SC2603-F			
Q405	8-729-245-83	TRANSISTOR 2SC2603-F			
Q406	8-729-900-63	TRANSISTOR DTA124ES			
Q407	8-729-900-63	TRANSISTOR DTA124ES			
Q501	8-729-117-54	TRANSISTOR 2SA1175			
Q502	8-729-117-54	TRANSISTOR 2SA1175			
Q503	8-729-117-54	TRANSISTOR 2SA1175			
Q504	8-729-117-54	TRANSISTOR 2SA1175			
Q505	8-729-117-54	TRANSISTOR 2SA1175			
Q506	8-729-606-33	TRANSISTOR 2SC2603-F			
Q507	8-729-900-61	TRANSISTOR DTA114ES			
Q508	8-729-900-61	TRANSISTOR DTA114ES			
Q509	8-729-900-36	TRANSISTOR DTC124ES			
Q510	8-729-801-73	TRANSISTOR 2SC2603-F			
Q514	8-729-801-73	TRANSISTOR 2SC2603-F			
Q515	8-729-801-73	TRANSISTOR 2SC2603-F			
Q520	8-729-801-73	TRANSISTOR 2SC2603-F			
Q601	8-729-606-33	TRANSISTOR 2SC2603-F			
Q602	8-729-606-33	TRANSISTOR 2SC2603-F			
Q603	8-729-117-54	TRANSISTOR 2SA1175			
Q604	8-729-117-54	TRANSISTOR 2SA1175			
Q605	8-729-606-33	TRANSISTOR 2SC2603-F			
Q606	8-729-177-43	TRANSISTOR 2SD774			
Q607	8-729-103-43	TRANSISTOR 2SB734			
Q608	8-729-177-43	TRANSISTOR 2SD774			
Q609	8-729-103-43	TRANSISTOR 2SB734			
Q610	8-729-102-10	TRANSISTOR PH104			
Q611	8-729-102-10	TRANSISTOR PH104			
R101	1-247-879-00	CARBON	100K	5%	1/6W
R102	1-247-883-00	CARBON	150K	5%	1/6W
R103	1-247-883-00	CARBON	150K	5%	1/6W
R104	1-247-855-00	CARBON	10K	5%	1/6W
R105	1-247-823-00	CARBON	470	5%	1/6W
R106	1-247-847-00	CARBON	4.7K	5%	1/6W
R107	1-247-827-00	CARBON	680	5%	1/6W
R108	1-247-831-00	CARBON	1K	5%	1/6W
R109	1-247-871-00	CARBON	47K	5%	1/6W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R110	1-247-863-00	CARBON	22K	5%	1/6W	
R111	1-247-819-00	CARBON	330	5%	1/6W	
R112	1-247-873-00	CARBON	56K	5%	1/6W	
R113	1-247-847-00	CARBON	4.7K	5%	1/6W	
R115	1-247-851-00	CARBON	6.8K	5%	1/6W	
R116	1-247-855-00	CARBON	10K	5%	1/6W	
R117	1-247-855-00	CARBON	10K	5%	1/6W	
R118	1-247-855-00	CARBON	10K	5%	1/6W	
R119	1-247-811-00	CARBON	150	5%	1/6W	
R120	1-247-819-00	CARBON	330	5%	1/6W	
R121	1-247-873-00	CARBON	56K	5%	1/6W	
R122	1-247-855-00	CARBON	10K	5%	1/6W	
R123	1-247-795-00	CARBON	33	5%	1/6W	
R124	1-247-785-00	CARBON	12	5%	1/6W	
R125	1-247-871-00	CARBON	47K	5%	1/6W	
R202	1-247-863-00	CARBON	22K	5%	1/6W	
R203	1-247-871-00	CARBON	47K	5%	1/6W	
R204	1-247-891-00	CARBON	330K	5%	1/6W	
R205	1-247-855-00	CARBON	10K	5%	1/6W	
R206	1-247-819-00	CARBON	330	5%	1/6W	
R207	1-247-847-00	CARBON	4.7K	5%	1/6W	
R208	1-247-831-00	CARBON	1K	5%	1/6W	
R209	1-247-871-00	CARBON	47K	5%	1/6W	
R210	1-247-855-00	CARBON	10K	5%	1/6W	
R211	1-247-817-00	CARBON	270	5%	1/6W	
R212	1-247-873-00	CARBON	56K	5%	1/6W	
R213	1-247-823-00	CARBON	470	5%	1/6W	
R214	1-247-811-00	CARBON	150	5%	1/6W	
R215	1-247-873-00	CARBON	56K	5%	1/6W	
R216	1-247-873-00	CARBON	56K	5%	1/6W	
R217	1-247-861-00	CARBON	18K	5%	1/6W	
R218	1-247-869-00	CARBON	39K	5%	1/6W	
R219	1-247-817-00	CARBON	270	5%	1/6W	
R220	1-247-879-00	CARBON	100K	5%	1/6W	
R221	1-247-847-00	CARBON	4.7K	5%	1/6W	
R222 ⚠	1-213-133-00	METAL OXIDE	150	5%	1W	F
R223	1-247-791-00	CARBON	22	5%	1/6W	
R224	1-247-855-00	CARBON	10K	5%	1/6W	
R225	1-247-891-00	CARBON	330K	5%	1/6W	
R226	1-247-879-00	CARBON	100K	5%	1/6W	
R227	1-247-819-00	CARBON	330	5%	1/6W	
R228	1-247-879-00	CARBON	100K	5%	1/6W	
R229	1-247-833-00	CARBON	1.2K	5%	1/6W	
R230	1-247-827-00	CARBON	680	5%	1/6W	
R231	1-247-863-00	CARBON	22K	5%	1/6W	
R232	1-247-871-00	CARBON	47K	5%	1/6W	
R233	1-247-847-00	CARBON	4.7K	5%	1/6W	
R234	1-247-871-00	CARBON	47K	5%	1/6W	
R301	1-247-871-00	CARBON	47K	5%	1/6W	
R302	1-247-891-00	CARBON	330K	5%	1/6W	
R303	1-247-855-00	CARBON	10K	5%	1/6W	
R304	1-247-819-00	CARBON	330	5%	1/6W	
R305	1-247-847-00	CARBON	4.7K	5%	1/6W	
R306	1-247-835-00	CARBON	1.5K	5%	1/6W	
R307	1-247-899-00	CARBON	680K	5%	1/6W	
R309	1-247-847-00	CARBON	4.7K	5%	1/6W	
R310	1-247-879-00	CARBON	100K	5%	1/6W	

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R311	1-247-869-00	CARBON	39K	5%	1/6W
R312	1-247-869-00	CARBON	39K	5%	1/6W
R313	1-247-887-00	CARBON	220K	5%	1/6W
R314	1-247-837-00	CARBON	1.8K	5%	1/6W
R315	1-247-903-00	CARBON	1M	5%	1/6W
R316	1-247-859-00	CARBON	15K	5%	1/6W
R317	1-247-823-00	CARBON	470	5%	1/6W
R401	1-247-879-00	CARBON	100K	5%	1/6W
R402	1-249-421-11	CARBON	2.2K	5%	1/6W
R403	1-247-843-00	CARBON	3.3K	5%	1/6W
R404	1-247-879-00	CARBON	100K	5%	1/6W
R405	1-247-843-00	CARBON	3.3K	5%	1/6W
R406	1-247-879-00	CARBON	100K	5%	1/6W
R407	1-247-863-00	CARBON	22K	5%	1/6W
R408	1-247-863-00	CARBON	22K	5%	1/6W
R501	1-247-863-00	CARBON	22K	5%	1/6W
R502	1-247-879-00	CARBON	100K	5%	1/6W
R503	1-247-863-00	CARBON	22K	5%	1/6W
R504	1-247-879-00	CARBON	100K	5%	1/6W
R505	1-247-863-00	CARBON	22K	5%	1/6W
R506	1-247-879-00	CARBON	100K	5%	1/6W
R507	1-247-863-00	CARBON	22K	5%	1/6W
R508	1-247-879-00	CARBON	100K	5%	1/6W
R509	1-247-863-00	CARBON	22K	5%	1/6W
R510	1-247-879-00	CARBON	100K	5%	1/6W
R511	1-247-871-00	CARBON	47K	5%	1/6W
R512	1-247-843-00	CARBON	3.3K	5%	1/6W
R514	1-247-863-00	CARBON	22K	5%	1/6W
R515	1-247-871-00	CARBON	47K	5%	1/6W
R516	1-247-871-00	CARBON	47K	5%	1/6W
R517	1-247-871-00	CARBON	47K	5%	1/6W
R518	1-247-871-00	CARBON	47K	5%	1/6W
R519	1-247-859-00	CARBON	15K	5%	1/6W
R520	1-247-871-00	CARBON	47K	5%	1/6W
R521	1-247-843-00	CARBON	3.3K	5%	1/6W
R522	1-247-871-00	CARBON	47K	5%	1/6W
R523	1-247-859-00	CARBON	15K	5%	1/6W
R524	1-247-871-00	CARBON	47K	5%	1/6W
R525	1-247-843-00	CARBON	3.3K	5%	1/6W
R526	1-247-871-00	CARBON	47K	5%	1/6W
R527	1-247-879-00	CARBON	100K	5%	1/6W
R528	1-249-429-11	CARBON	10K	5%	1/6W
R529	1-249-437-11	CARBON	47K	5%	1/6W
R530	1-247-847-00	CARBON	4.7K	5%	1/6W
R531	1-247-887-00	CARBON	220K	5%	1/6W
R532	1-249-437-11	CARBON	47K	5%	1/6W
R533	1-249-429-11	CARBON	10K	5%	1/6W
R534	1-247-859-00	CARBON	15K	5%	1/6W
R535	1-247-867-00	CARBON	33K	5%	1/6W
R536	1-247-867-00	CARBON	33K	5%	1/6W
R537	1-249-437-11	CARBON	47K	5%	1/6W
R538	1-249-437-11	CARBON	47K	5%	1/6W
R539	1-249-437-11	CARBON	47K	5%	1/6W
R540	1-247-857-00	CARBON	12K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R541	1-247-863-00	CARBON	22K	5%	1/6W
R542	1-249-429-11	CARBON	10K	5%	1/6W
R543	1-247-823-00	CARBON	470	5%	1/6W
R544	1-247-821-00	CARBON	390	5%	1/6W
R545	1-247-823-00	CARBON	470	5%	1/6W
R546	1-247-863-00	CARBON	22K	5%	1/6W
R547	1-247-863-00	CARBON	22K	5%	1/6W
R548	1-247-847-00	CARBON	4.7K	5%	1/6W
R550	1-249-429-11	CARBON	10K	5%	1/6W
R551	1-249-429-11	CARBON	10K	5%	1/6W
R552	1-249-437-11	CARBON	47K	5%	1/6W
R553	1-249-437-11	CARBON	47K	5%	1/6W
R554	1-249-437-11	CARBON	47K	5%	1/6W
R555	1-249-437-11	CARBON	47K	5%	1/6W
R556	1-249-437-11	CARBON	47K	5%	1/6W
R559	1-249-437-11	CARBON	47K	5%	1/6W
R563	1-247-843-00	CARBON	3.3K	5%	1/6W
R564	1-249-419-11	CARBON	1.5K	5%	1/6W
R565	1-247-843-00	CARBON	3.3K	5%	1/6W
R566	1-247-843-00	CARBON	3.3K	5%	1/6W
R568	1-247-843-00	CARBON	3.3K	5%	1/6W
R569	1-249-437-11	CARBON	47K	5%	1/6W
R570	1-249-437-11	CARBON	47K	5%	1/6W
R571	1-247-879-00	CARBON	100K	5%	1/6W
R572	1-247-879-00	CARBON	100K	5%	1/6W
R573	1-247-879-00	CARBON	100K	5%	1/6W
R574	1-247-879-00	CARBON	100K	5%	1/6W
R575	1-247-879-00	CARBON	100K	5%	1/6W
R576	1-247-879-00	CARBON	100K	5%	1/6W
R577	1-247-879-00	CARBON	100K	5%	1/6W
R578	1-247-879-00	CARBON	100K	5%	1/6W
R579	1-247-879-00	CARBON	100K	5%	1/6W
R580	1-247-879-00	CARBON	100K	5%	1/6W
R581	1-247-879-00	CARBON	100K	5%	1/6W
R582	1-247-879-00	CARBON	100K	5%	1/6W
R583	1-247-879-00	CARBON	100K	5%	1/6W
R585	1-247-879-00	CARBON	100K	5%	1/6W
R601	1-247-859-00	CARBON	15K	5%	1/6W
R602	1-247-859-00	CARBON	15K	5%	1/6W
R603	1-247-811-00	CARBON	150	5%	1/6W
R604	1-249-429-11	CARBON	10K	5%	1/6W
R605	1-249-429-11	CARBON	10K	5%	1/6W
R606	1-249-429-11	CARBON	10K	5%	1/6W
R607	1-249-429-11	CARBON	10K	5%	1/6W
R608	1-247-857-00	CARBON	12K	5%	1/6W
R609	1-249-429-11	CARBON	10K	5%	1/6W
R610	1-247-849-00	CARBON	5.6K	5%	1/6W
R611	1-249-429-11	CARBON	10K	5%	1/6W
R612	1-247-883-00	CARBON	150K	5%	1/6W
R613	1-247-891-00	CARBON	330K	5%	1/6W
R614	1-249-429-11	CARBON	10K	5%	1/6W
R615	1-249-419-11	CARBON	1.5K	5%	1/6W
R616	1-247-879-00	CARBON	100K	5%	1/6W
R617	1-247-879-00	CARBON	100K	5%	1/6W
R618	1-247-879-00	CARBON	100K	5%	1/6W
R619	1-247-879-00	CARBON	100K	5%	1/6W
R620	1-247-879-00	CARBON	100K	5%	1/6W
R621	1-247-845-00	CARBON	3.9K	5%	1/6W
R622	1-247-899-00	CARBON	680K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R623	1-247-807-00	CARBON	100	5%	1/6W
R624	1-247-845-00	CARBON	3.9K	5%	1/6W
R625	1-247-899-00	CARBON	680K	5%	1/6W
R626	1-247-899-00	CARBON	680K	5%	1/6W
R627	1-247-845-00	CARBON	3.9K	5%	1/6W
R628	1-247-807-00	CARBON	100	5%	1/6W
R629	1-247-845-00	CARBON	3.9K	5%	1/6W
R630	1-247-899-00	CARBON	680K	5%	1/6W
R631	1-247-819-00	CARBON	330	5%	1/6W
R632	1-247-819-00	CARBON	330	5%	1/6W
R633	1-247-819-00	CARBON	330	5%	1/6W
R634	1-247-819-00	CARBON	330	5%	1/6W
R635	1-247-819-00	CARBON	330	5%	1/6W
R636	1-247-819-00	CARBON	330	5%	1/6W
R637	1-247-869-00	CARBON	39K	5%	1/6W
R701	1-249-437-11	CARBON	47K	5%	1/6W
R702	1-249-437-11	CARBON	47K	5%	1/6W
R703	1-249-437-11	CARBON	47K	5%	1/6W
RV501	1-230-566-11	RES, VAR, SLIDE 20K (SPEED CONTROL)			
RV503	1-230-564-11	RES, VAR, SLIDE 10K (TONE)			
RV504	1-230-564-11	RES, VAR, SLIDE 10K (VOLUME)			
RV601	1-226-703-00	RES, ADJ, METAL GLAZE 10K (TAPE SPEED)			
RV602	1-224-644-XX	RES, ADJ, CARBON 4.7K (TAPE SPEED)			
RV603	1-224-649-XX	RES, ADJ, CARBON 220K (TAPE SPEED)			
RY101	1-515-547-11	RELAY			
S101	1-552-334-00	SWITCH, BAND CHANGER (SPEED CONTROL)			
S102	1-552-334-00	SWITCH, BAND CHANGER (SPEAKER)			
S201	1-554-061-00	SWITCH, SLIDE (RECORD BIAS)			
S301	1-552-334-00	SWITCH, BAND CHANGER (AUTO-STOP)			
S401	1-516-777-XX	SLIDE SWITCH (POWER)			
S502	1-554-303-00	SWITCH, KEY BOARD (ERASE)			
S503	1-554-303-00	SWITCH, KEY BOARD (REW)			
S504	1-554-303-00	SWITCH, KEY BOARD (STOP)			
S505	1-554-303-00	SWITCH, KEY BOARD (LISTEN)			
S506	1-554-303-00	SWITCH, KEY BOARD (FF)			
S508	1-554-303-00	SWITCH, KEY BOARD (RESET)			
S509	1-570-361-11	SWITCH, SLIDE (DIGITAL CORD) (REVERSE TIME)			
S701	1-554-411-00	SWITCH, PUSH (1 KEY)(MC DET.)			
S702	1-554-411-00	SWITCH, PUSH (1 KEY)(HALF DET)			
S703	1-554-411-00	SWITCH, PUSH (1 KEY)(TAB DET.)			
SP	1-503-393-11	SPEAKER			
T201	1-433-164-00	TRANSFORMER, BIAS OSCILLATOR			
T901 ⚠	1-447-918-11	(US, Canadian)...TRANSFORMER, POWER			
T901 ⚠	1-448-116-11	(AEP, UK).......TRANSFORMER, POWER			
X501	1-527-802-00	OSCILLATOR, CERAMIC			

ACCESSORY & PACKING MATERIAL

Part No.	Description
3-323-592-01	CUSHION (LEFT)
3-323-593-01	CUSHION (RIGHT)
3-323-626-01	INDIVIDUAL CARTON
3-701-630-00	BAG, POLYETHYLENE
3-760-602-11	(AEP, UK).......MANUAL, INSTRUCTION
3-760-602-21	(US, Canadian)...MANUAL, INSTRUCTION
3-760-602-31	(Canadian)......MANUAL, INSTRUCTION:FRENCH
3-881-644-00	PEOTECTION BAG
8-890-036-11	DC-60N(S)E
X-3323-511-1	CRADLE (A) ASSY
X-3323-512-1	CRADLE (B) ASSY

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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Sony Corporation

BM-75

SONY

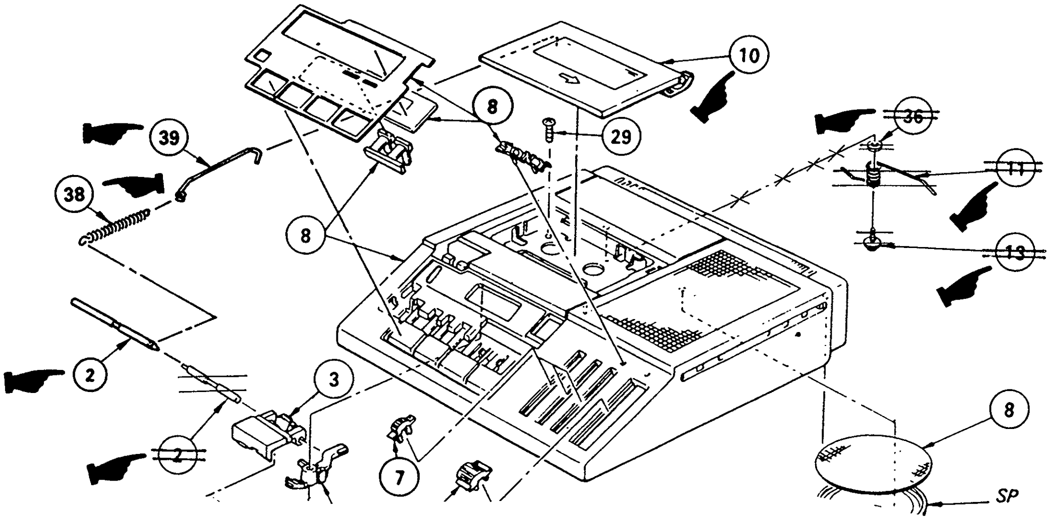
SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model

SUPPLEMENT-1

File this supplement with the service manual.

Subject: Parts changed



: indicates changed portion.

Ref. No.		Part No.	Description	
2	Change	3-359-180-01	SHAFT, BUTTON	
10	Change	X-3323-513-4	LID ASSY CASSETTE	
11 13 36	Delete Delete Delete			X-3362-173-1 LID ASSY CASSETTE
38	Add	3-359-184-01	SPRING TENSION	
39	Add	3-359-183-01	LEVER, CASSETTE	

MICROFILM

9-951-873-81

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