

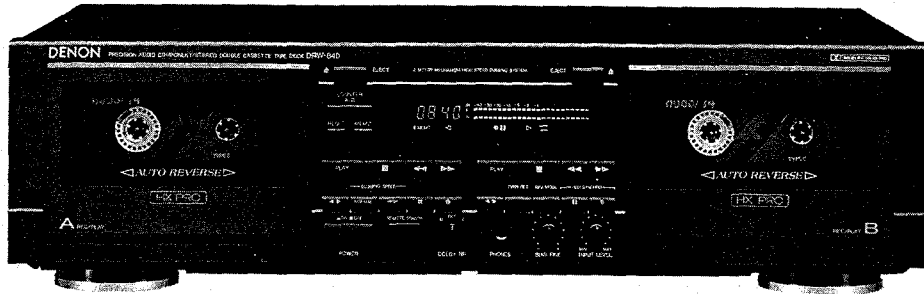
# DENON

Hi-Fi Component

## SERVICE MANUAL

# MODEL DRW-840

## STEREO CASSETTE TAPE DECK



### — TABLE OF CONTENTS —

OPERATING INSTRUCTIONS .....	2~8
SPECIFICATIONS .....	9
BLOCK DIAGRAM .....	10
LEVEL DIAGRAM .....	11
DISASSEMBLY INSTRUCTIONS .....	12~13
ADJUSTING AND CHECKING THE MECHANISM SECTION .....	14
ADJUSTING THE ELECTRICAL SECTIONS .....	15~17
PARTS LIST OF EXPLODED VIEW .....	18
EXPLODED VIEW .....	19
EXPLODED VIEW OF CASSETTE MECHANISM UNIT (A) .....	20
PARTS LIST OF CASSETTE MECHANISM (A) EXPLODED VIEW .....	21
PARTS LIST OF CASSETTE MECHANISM (B) EXPLODED VIEW .....	22
EXPLODED VIEW OF CASSETTE MECHANISM UNIT (B) .....	23
PARTS LIST OF 3U-2527 AUDIO UNIT .....	24~26
PARTS LIST OF 3U-2526 CONTROL UNIT .....	27
PARTS LIST OF 3U-2525 POWER SUPPLY UNIT .....	28
PARTS LIST OF PACKING & ACCESSORIES .....	28
P.W.BOARD OF 3U-2527 AUDIO UNIT .....	29
P.W.BOARD OF 3U-2526 CONTROL UNIT .....	30
P.W.BOARD OF 3U-2525 POWER SUPPLY UNIT .....	30
SEMICONDUCTORS .....	31
WIRING DIAGRAM .....	32
BUNDLE DIAGRAM .....	32
SCHEMATIC DIAGRAM .....	33~34

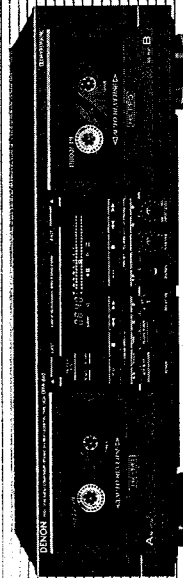
# NIPPON COLUMBIA CO., LTD.

# DENON

## STEREO CASSETTE TAPE DECK

# DRW-840

## OPERATING INSTRUCTIONS



### IMPORTANT TO SAFETY

#### WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

#### CAUTION:

1. Handle the power supply cord carefully. Do not damage or deform the power supply cord. If it is damaged or deformed, it may cause electric shock or malfunction when used. When removing it from wall outlet, be sure to remove by holding the plug attachment and not by pulling the cord.
2. Do not open the top cover. In order to prevent electric shock, do not open the top cover. If problems occur, contact your DENON DEALER.
3. Do not place anything inside. Do not place metal objects or spill liquid inside the cassette tape deck. Electric shock or malfunction may result.

Please, record and retain the Model name and serial number of your set shown on the rating label.

Model No. DRW-840

Serial No. \_\_\_\_\_



**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



**CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of unshielded "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

• FOR U.S.A. & CANADA MODEL ONLY

#### CAUTION

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS POLARIZED PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

• POUR LES MODELES AMERICAINS ET CANADIENS UNIQUEMENT

#### ATTENTION

POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

#### IMPORTANT (BRITISH MODEL ONLY)

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral Brown: Live

The colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows.

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

#### FOR YOUR SAFETY (AUSTRALIAN MODEL ONLY)

To ensure safe operation, the three-pin plug supplied must be connected only with a standard three-pin power point which is effectively earthed through the normal household wiring. Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, contact a qualified electrician.

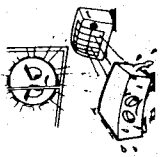

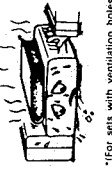
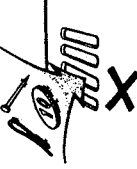
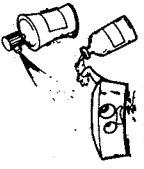

• NUR FÜR EUROPÄISCHE MODELLE

#### Konformitätsklärung

Die DENON Electronic GmbH  
Hickmühle 21  
4030 Ratingen 1

Erklärt als Hersteller/Importeur, daß das in dieser Bedienungsanleitung beschriebene Gerät den Technischen Vorschriften für Ton- und Fernseh-Rundfunkempfänger nach der Amtsblattverfügung 868/1989 (Amtsblatt des Bundesministers für Post und Telekommunikation vom 31. 8. 1989) entspricht.

**NOTE ON USE/HINWIJSE ZUM GEBRAUCH/OBSERVATIONS RELATIVES A L'UTILISATION  
NOTE SULL'USO/NOTAS SOBRE EL USO/ALVORENS TE GEBRUIKEN/OBSERVERA  
OBSERVAÇÕES QUANTO AO USO**

 <ul style="list-style-type: none"> <li>• Avoid high temperatures</li> <li>• Allow for sufficient heat dispersion when installed on a rack.</li> <li>• Vermijden Sie hoge temperaturen</li> <li>• Verzekern voldoende warmteafvoer bij installatie op een rek.</li> <li>• Evitar altas temperaturas</li> <li>• Evitar des temperaturas elevadas</li> <li>• Ne pas laisser l'appareil sans une suffisante dispersion de chaleur</li> <li>• Ne pas laisser l'appareil sans une suffisante dispersion de chaleur</li> <li>• Evitare di esporre l'unità a temperature elevate</li> <li>• Assicurarsi che ci sia un'adeguata dispersione del calore quando installate l'unità in un mobile per componenti audio.</li> <li>• Evite altas temperaturas</li> <li>• Quando está instalado en el rack, asegure una adecuada dispersión del calor cuando está instalado en la consola.</li> <li>• Vermijd hoge temperaturen.</li> <li>• Zorg voor een degelijk warmteafvoer indien de apparatuur wordt geïnstalleerd op een rek.</li> <li>• Evite altas temperaturas</li> <li>• Quando o equipamento for instalado numa prateleira.</li> </ul>	 <ul style="list-style-type: none"> <li>• Unplug the power cord when not using the set for long periods of time.</li> <li>• Wenn das Gerät eine längere Zeit nicht benutzt werden soll, ziehen Sie das Netzsteck vom Netzstecker.</li> <li>• Debrancher le cordon d'alimentation lorsqu'on ne va pas utiliser pendant de longues périodes.</li> <li>• Disinnestare il filo di alimentazione quando avete l'intenzione di non usare il filo di alimentazione per un lungo periodo di tempo.</li> <li>• Desconecte el cordón de energía cuando no utilice el equipo por mucho tiempo.</li> <li>• Neem altijd het netsteek uit het stopcontact als u het apparaat niet gebruikt een lange periode niet wordt gebruikt.</li> <li>• Koppla ur nätbålen om apparaten inte kommer att användas i lång tid.</li> <li>• Desligge o fio condutor de força quando o aparelho não for usado por um longo período.</li> </ul>	 <ul style="list-style-type: none"> <li>• Do not obstruct the ventilation holes</li> <li>• Die Belüftungslöcher dürfen nicht verdeckt werden.</li> <li>• Ne pas obstruer les trous d'aération.</li> <li>• Non coprire i fori di ventilazione.</li> <li>• De ventilatieopeningen mogen niet worden beblokkeerd.</li> <li>• Tapo inte illi ventilationsopinnarna.</li> <li>• Não obstrua os orifícios de ventilação.</li> </ul>
 <ul style="list-style-type: none"> <li>• Do not let foreign objects in the set.</li> <li>• Keine fremden Gegenstände in das Gerät lassen.</li> <li>• Ne pas laisser des objets étrangers dans l'appareil.</li> <li>• È importante che nessun oggetto si inserisca nell'unità.</li> <li>• No darf nichts in das Gerät hineingeworfen werden.</li> <li>• Laat geen vreemde voorwerpen in dit apparaat vallen.</li> <li>• Ne laissez pas d'objets étrangers tomber dans l'appareil.</li> <li>• Não deixe objetos estranhos no aparelho.</li> </ul>	 <ul style="list-style-type: none"> <li>• Do not let insecticides, benzene, and thinner come in contact with the set.</li> <li>• Lassen Sie das Gerät nicht mit Insektiziden, Benzin oder Lösungsmitteln in Kontakt kommen.</li> <li>• Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.</li> <li>• Assicurarsi che l'unità non venga in contatto con insetticidi, benzina o diluente.</li> <li>• No permita el contacto de insecticidas, gasolina y diluyentes con el equipo.</li> <li>• Laat geen insectenverdelgende middelen, benzine of oplosmiddel in contact met dit apparaat.</li> <li>• Se till att inte insektmedel på sprayflask, bensin och thinner kommer i kontakt med apparaten.</li> <li>• Não permita que inseticidas, benzina e dissolvente entrem em contacto com o aparelho.</li> </ul>	 <ul style="list-style-type: none"> <li>• Never disassemble or modify the set in any way.</li> <li>• Versuchen Sie niemals das Gerät auseinander zu nehmen oder auf jegliche Art zu modifizieren.</li> <li>• Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.</li> <li>• Non smontare mai, né modificare l'unità in nessun modo.</li> <li>• Nunca desmonte o modifique o aparelho de alguma forma.</li> </ul>

Thank you very much for purchasing the DENON component stereo cassette tape deck. DENON proudly presents this advanced tape deck to audiophiles and music lovers as a further proof of DENON's non-compromising pursuit of the ultimate in sound quality. The high quality performance and easy operation are certain to provide you with many hours of outstanding listening pleasure.

**— TABLE OF CONTENTS —**

**FEATURES**

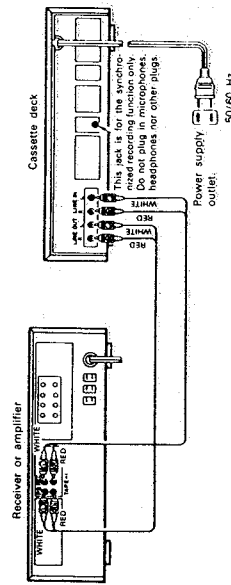
- Computer Controlled Mechanism
- Dual Power Supply
- Dolby HX-Pro Headroom Extension System
- Dolby B & C Noise Reduction Systems
- Manual Bias Adjustment Control
- Computing Tape Counter with 4-Digit Readout and Memory Stop
- Music Search System
- FL Peak Level Meters
- Auto Tape Selector
- 2-Speed Dubbing
- Relay Playback
- Synchronized Recording
- Optional Remote Controllable
- Twin Recording and Relay Recording

**CONNECTION**

- 1 Receiver or Amplifier
- 2 Cassettes
- 3 Power supply (50/60 Hz outlet)
- 4 Headphones
- 5 Headphones (induced hum)
- 6 Headphones (induced hum)
- 7 Headphones (induced hum)
- 8 Headphones (induced hum)
- 9 Headphones (induced hum)
- 10 Headphones (induced hum)
- 11 Headphones (induced hum)
- 12 Headphones (induced hum)
- 13 Headphones (induced hum)

**CONNECTION**

Leave your entire system (including this cassette deck) turned off until all connections between the deck and other components have been completed.

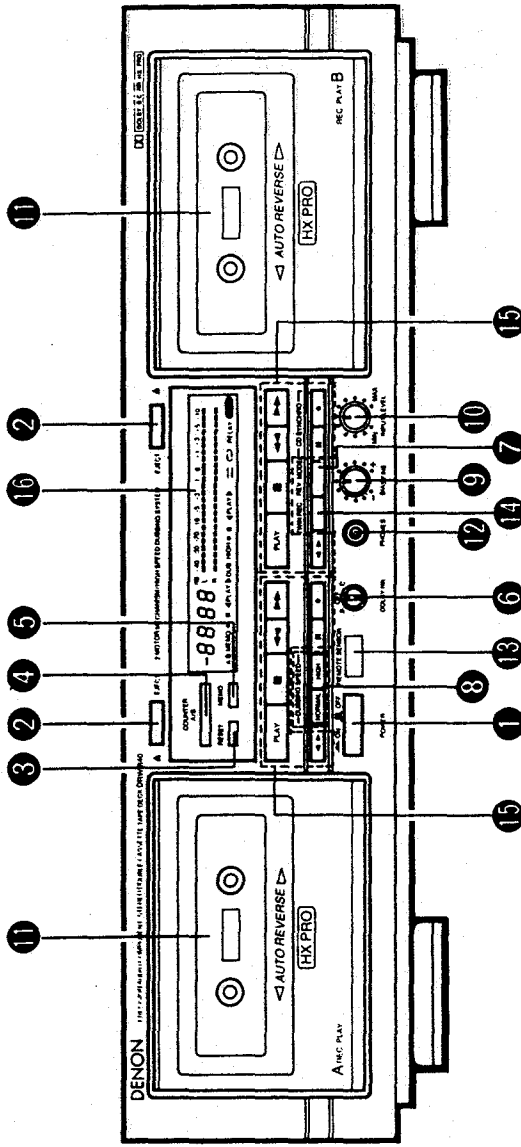


- **Connecting the Deck to an Amplifier**
  - Before connecting the deck to your amplifier, please review your amplifier's instruction manual.
  - Use the white plugs for the left channel and red plugs for the right channel.
- **Tape Dubbing**
  - Many stereo amplifiers and receivers have tape dubbing circuitry so that tape duplication can be performed between two or more tape decks. Review your amplifier's instruction manual for a full explanation of this mode of operation.

- **Connecting Headphones**
  - To listen through headphones, plug your headphones into the PHONES jack.
  - If the deck is placed near an amplifier, TV or tuner, noise (induced hum) or beat interference may result, especially during FM or AM reception. If this occurs, place the deck further away from other components or reorient its position.
- **Installation Precautions**

FRONT PANEL  
 FRONTPLATTE  
 PANNEAU AVANT  
 PANNELLO ANTERIORE

PANEL FRONTAL  
 VOORPANEEL  
 FRAMSIDA  
 PAINEL FRONTAL





**PLAYBACK**

- The operations described below apply to deck A and deck B alike.
- Switch on your amplifier or receiver.
- Set the Tape Monitor switch on your amplifier or receiver to the TAPE position.
- The numbers in the illustration below depict the order in which operation steps are carried out.

- Press the POWER switch (1) to the ON (I) position.
- Press the EJECT (E) button (2) to open the cassette compartment cover.
- Insert the cassette tape and close the cassette compartment cover (3).
- When listening to the tape, the REC MUTE indicator (4) will be illuminated as the tape is recorded.
- When listening to the tape, the DOLBY NR switch (5) to match the system used at the time of recording.

Dolby NR System	Switch Setting
B	
C	
OFF	

- Press the Direction (D) button (6) to select the direction of tape transport.

Transport Direction	Indicator
Forward	
Reverse	

- Select the type of tape transport with the REVERSE MODE button (7).

Mode	Indicator
To listen to one side only	
To listen to repeat playback of both sides	
To listen to continuous playback of both sides and both decks	RELAY

- Press the PLAY button (8) to begin playback. The PLAY (P) or (I) indicator will light during playback.
- Press the stop (S) button (9) to stop the playback.
- In the continuous playback mode (REVERSE MODE set to C), playback of both tape sides will be repeated 5 times and then stop.
- If different types of Dolby noise reduction are used for record and playback, playback response will be adversely affected.
- When power is turned off during tape transport, it may not be possible to remove the cassette by pressing the EJECT (E) button. In this case, turn on power again before you press the EJECT (E) button.

**RECORDING**

- The operations described below apply to deck A and deck B alike.
- Switch on your amplifier or receiver and the source component.
- Set the Tape Monitor switch on your amplifier or receiver to the TAPE position.
- Press the POWER switch (1) to the ON (I) position.
- Load the cassette tape (2).
- Check that the erasure prevention tabs of the cassette housing have not been broken off.
- Set the DOLBY NR switch (3) to the appropriate position.

Recording with Dolby NR type	Switch Setting
B	
C	
OFF	

- Press the Direction (D) button (4) to select the direction of tape transport.
- Select the type of tape transport with the REVERSE MODE button (5).

Mode	Indicator
To record on only one side	
To continuously record on both sides	
	RELAY

- Press the REC/REC MUTE (R) button (6) to set the recording pause mode. The indicator will light up.
- Adjust the recording level with the INPUT LEVEL control (7) while the REC/REC MUTE (R) button is lit.
- Press the PLAY button (8) to start the recording.
- To stop recording, press the stop (S) button (9).
- To pause the recording, press the REC PAUSE (III) button (10). Press the PLAY button (8) to resume recording.

**Caution:**

- Be careful not to erase important recordings by mistake. Inadvertent start of recording will happen in the following cases:
  - If the PLAY button is pressed while the indicator lights, recording will start.
  - If the PLAY and REC/REC MUTE (R) buttons are pressed at the same time, recording starts.
 The best way to avoid accidental erasure is to break off the two erasure prevention tabs on the cassette housing.

**PROPER RECORDING LEVEL**

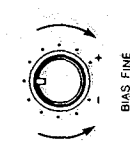
A too high recording level can saturate the tape and cause distortion. On the other hand, if the recording level is set too low, soft passages will be masked by residual noise. A proper recording level is the single most important factor for making well balanced recordings.

Guideline for maximum recording level

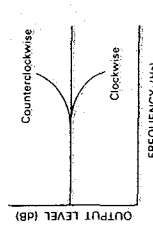
TYPE I (Normal)	0 dB level on peaks
TYPE II (CrO <sub>2</sub> )	+1 dB level on peaks
TYPE IV (Metal)	+3 dB level on peaks

Note: The optimum recording level differs depending on the program source and the type of tape used.

- RECORDING BIAS ADJUSTMENT**
- For best recording results, monitoring during recording and comparing different recordings using your own judgement are essential.
- The DENON cassette deck is equipped with a BIAS FINE control to assist you in setting the proper bias for different types and brands of tapes. In the BIAS FINE control, the bias is set to the reference bias level for Normal CrO<sub>2</sub> tapes. If the bias is too high for recording in this position, has too much or too little high frequency, adjusting the BIAS FINE control can be useful to achieve better results.



If the high frequencies (treble sounds) are to be boosted, turn the BIAS FINE control counter-clockwise to decrease the bias current. Turn the control clockwise to increase bias current. By the use of this control, you can record tapes with a frequency response that will perfectly match your listening taste.



**REC/REC MUTE AND REC PAUSE Button**

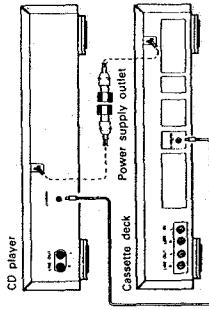
- To record a 5-second blank section during recording: Press the REC/REC MUTE (R) button. A 5-second blank will be recorded and the deck will enter the recording standby mode. Press the REC/REC MUTE (R) button from the recording standby recording mode again.
- To record a 5-second blank section during the recording standby mode: Press the REC/REC MUTE (R) button from the recording standby recording mode again.
- To cancel recording of blank space: Press the REC PAUSE (III) button. Blank space recording will be cancelled and the deck enters the recording standby mode. Press the REC/REC MUTE (R) button and the light will enter the standby mode again.
- Similarly, the REC MUTE (M) button and the light will enter the standby mode with another 5 seconds.

**SYNCHRONIZED RECORDING FUNCTION**

- Convenient synchronized recording can be performed when used in combination with a DENON CD player equipped for the synchronized recording function.
- SYNCHRO Jack Connection Connect the SYNCHRO Jack with a DENON CD player which is equipped with a SYNCHRO Jack and make a synchronized recording. Use the connection cord supplied with this CD player.
- Switch on your amplifier or receiver and the CD player.
- Set the Tape Monitor switch on your amplifier or receiver to the source position.

- TWIN SYNCHRONIZED RECORDING**  
This is a convenient feature for synchronized recording the same program source onto two tapes at the same time.
  - Load cassette tapes into both deck A and deck B. Set the Dolby NR, the direction, the reverse mode and the input level.
- Set the CD player to the stop or pause mode.
- Press the TWIN REC button. The **▲TSD** indicator will light up and both decks will enter the recording pause mode.
- Press the REC/REC MUTE (●) button (●) and REC PAUSE (III) button (●) of deck B simultaneously. The cassette deck and CD player are automatically set to the twin synchronized recording mode. The **■** indicator lights on the cassette deck and the synchronized recording mode is indicated on the CD player.
- Stop synchronized recording, press the STOP button on both deck A and B.
- To stop twin synchronized recording temporarily, press the stop button on the CD player. A 5-second blank space is created on the tape, after which the recording pause mode is set. The **■** indicator flashes. To resume twin synchronized recording, press the PLAY button on the CD player.

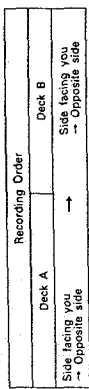
- Load the tape onto which you want to record into Deck B, the disc you want to record into the CD player.
- Following the recording instructions on page 9, set the Dolby NR mode, the direction, the reverse mode and the input level.
- Set the CD player to the stop or pause mode.
- Press the REC/REC MUTE (●) button (●) and REC PAUSE (II) button (●) simultaneously. The cassette deck and CD player are automatically set to the synchronized recording mode. The **■** indicator lights on the cassette deck and the synchronized recording mode is indicated on the CD player.
- For details, refer to the CD player's operating instructions.
- To stop synchronized recording, press the stop button on Deck B. The synchronized recording mode is cancelled for both the cassette deck and CD player.
- To stop synchronized recording temporarily, press the stop button on the CD player. A 5-second blank space is created on the tape, after which the recording pause mode is set. The **■** indicator flashes. To resume synchronized recording, press the PLAY button on the CD player.



- Note:**
- If synchronized recording is started when the CD player is in a mode other than the stop or pause mode or when no disc is set, the **■** indicator on the cassette deck flashes and the recording pause mode is set until synchronized recording is possible on the CD player.
  - In the synchronized recording mode, only the STOP button on Deck B and the STOP, FF and REW buttons on Deck A will function.
- Caution:**
- Do not set the cassette deck to the synchronized recording mode when the CD player is in the play mode. Also, do not turn off the power of the cassette deck or the CD player during synchronized recording. Doing so can result in malfunction.
  - When using the editing functions on the CD player, be sure to select a tape with a sufficiently long recording time.
- For the CD player's editing functions, refer to the CD player's operating instructions.

**RELAY RECORDING (continues recording from deck A to deck B)**

- To record a long program, start recording on deck A, and when both sides of the tape in deck A have been recorded, the relay recording feature continues to record on the tape in deck B.
- Load cassette tapes into decks A and B, and set the Dolby NR switch.
- REVERSE MODE set to "RELAY".



- Press the REC/REC MUTE (●) button (●) of deck A to set the recording pause mode.
- Adjust the INPUT LEVEL control (●) for the best recording input level while watching the Peak Level Meter.
- Press the PLAY button (●) of deck A to start relay recording.
- To stop relay recording, press the STOP (■) button (●) of the deck that is recording.

**TWIN RECORDING (simultaneous recording on deck A and deck B)**

- This is a convenient feature for recording the same program source onto two tapes at the same time.
- Load cassette tapes into both deck A and B. Set the Dolby NR switch and the REVERSE MODE button (●).

- Press the TWIN REC button (●). The **▲TSD** indicator will light up and both decks will enter the recording pause mode.
- Adjust the INPUT LEVEL control (●) for the best recording input level while watching the Peak Level Meter.
- Press the PLAY (●) button (●) of deck B to start twin recording.
- To stop twin recording, press the STOP (■) button (●) of each deck.
- By pressing the deck B REC PAUSE (III) button or the REC/REC MUTE (●) button (●), the recording pause or recording mute mode on both decks is cancelled automatically.
- The deck A (III) and (●) buttons cannot be used.
- To set the twin recording mute mode from the twin recording pause mode, press the REC/REC MUTE button (●) on deck B for at least 0.5 seconds.
- The relay mode cannot be set with the REVERSE MODE button when in the twin recording mode.

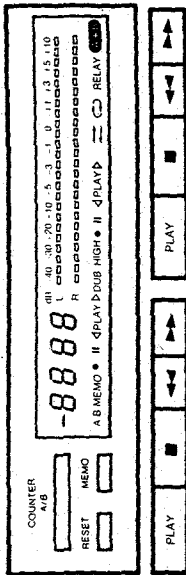
**DUBBING (from deck A to deck B)**

- Switch on the amplifier or receiver.
- Set the Tape Monitor switch on your amplifier or receiver to the TAPE position.
- Press the POWER switch (●) to the ON (I) position.
- Load the cassette tape to be played in deck A and the one to be recorded in deck B (●).
- Select the type of tape transport with the REVERSE MODE button (●).

Reverse mode	Operation
II	Dubbing is performed only for one side. The deck stop when either deck A or B reaches the end of the tape.
CD	The tape direction is reversed on each tape. (This is convenient for dubbing to a tape with a different length.)
RELAY	During dubbing of the side facing you, the deck that first reaches the end of the tape will stand by on the other deck. After the tape direction of the other deck will reverse the tape direction together. (Depending on the manufacturer, the length of the tape may differ. In such a case, somewhat setting this mode permits the arrangement of the beginning portion of the opposite side of the tape.)

- To begin normal speed dubbing, press the DUBBING SPEED NORMAL button (●). The DUB indicator will light at this time.
- To high speed dubbing, press the DUBBING SPEED HIGH button (●).
- The HIGH indicator will light at this time.
- To stop dubbing, press the stop (■) button (●) of deck A or deck B.
- When deck A is in a play mode and deck B is in the stop condition, set dubbing pause mode. Dubbing is then started by pressing the PLAY button.
- When dubbing, the recording level and the Dolby NR coding will be the same as those of the playback tape, regardless of the positions of the INPUT LEVEL control and the DOLBY NR switch.
- When listening to the playback sound during normal speed dubbing, set the DOLBY NR switch to match the Dolby NR system with which the playback tape was recorded. This will assure correct sound reproduction, but does not affect the recording.
- The playback sound will be during high speed dubbing.
- deck B is permitted during normal speed dubbing.
- Buttons other than the stop (■) button cannot be used during high speed dubbing.

**TAPE COUNTER AND MEMORY STOP**



- 1) Operation of the Tape Counter**
- Press the **RESET** button to reset the counter to "0000".
  - Press the **PLAY** button. The counter will change to indicate the reading of the counter when recording or playback operations, the counter is useful for noting the location of existing programs or positions where recording is to be started.
  - Deck A and Deck B have the memory of their own counter. Operate COUNTER A/B to change Deck A or B to display its counter.

- 2) MEMORY STOP Operations**
- When recording or playback, the **Memory Stop** feature can be used to locate a particular point on the tape. Press the **COUNTER MEMO** button at the desired point.
  - When the **MEMO** indicator lights, the **MEMO** button is pressed during forward tape travel (▶), or the **Fast Forward** (▶▶) button is pressed during reverse tape travel (◀), the tape is rapidly rewound (or advanced) until the counter indication of "0000" is reached.
  - The **Memory Stop** feature will rewind or forward the tape to within ±5 counts in the forward (▶) direction from "0000" to "0005" and to within ±5 counts in the reverse (◀) direction from "0000" to "0005". After this, several seconds are required for corrective operations.
  - The **Memory Stop** function operates independently in both directions for deck A and deck B. The **MEMO** indicator will switch over with the use of the **COUNTER A/B** button.

**Caution:**  
If the memory stop operation is performed after repeated fast-forwarding or rewinding, the tape may not stop at the proper position.

**DOLBY B AND C NOISE REDUCTION SYSTEM**

- The **Dolby B** noise reduction system substantially reduces the tape background noise (hiss) inherent in the cassette medium. **Dolby B NR** is most widely in use. However, **Dolby C NR** is a much more recent development and represents significant improvements over **Dolby B NR**.
- Tape background noise consists primarily of high frequency information, which is particularly annoying during soft passages. The **Dolby NR** system increases the level of low volume mid- and high-frequency signals during recording and playback. As the level of the playback signal is identical to the original source, but the level of background noise generated by the tape is greatly reduced.

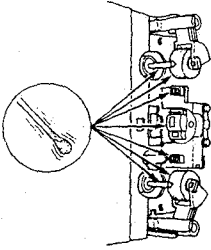
**DOLBY HX-PRO HEADROOM EXTENSION SYSTEM**

This deck is equipped with the **Dolby HX-PRO** headroom extension system. Since the system functions automatically during recording, no switching operation or adjustment is required. The system is effective with any type of Normal, C/D, and Metal tape.

The **Dolby HX-PRO** headroom extension system functions during recording and playback in the treble range. Therefore, most of the treble range components distorted or lost during recording on conventional cassette decks are more faithfully recorded on the new **DENON** cassette deck.

**MAINTENANCE**

- Head Cleaning**  
After long usage, tape coating or dust may adhere to the heads, causing deterioration of sound. Therefore, the parts depicted in the illustration should be cleaned regularly. Use a cotton swab moistened with a tape head cleaning solution (such as alcohol).
- Some cleaning cassettes on the market have strongly abrasive effects and may scratch the heads. Always use cotton swabs instead of cleaning cassettes.
- Spinning the pre-recorded tape is apt to collect more dust on the heads, the heads should be cleaned more often to enjoy the best possible sound.



- Cleaning the Pinch Rollers and Capstans**  
If the pinch rollers or capstans accumulate dust, tape transport may become unstable, as a result from slippage, during recording or playback. The tape can also be damaged if it gets entrained in the capstan.  
Clean these parts with a cotton swab in a soft, light impregnated with a tape head cleaning solution (such as alcohol).
- Demagnetizing the Heads**  
After long usage, the heads may be magnetized after long usage of a strongly magnetized object are brought near them. The result is a generation of noise, loss of the high frequency range, and in extreme cases erasure of treble components on pre-recorded tapes in combination with aperiod noise.
- Thus, the heads should be demagnetized at regular intervals. Head demagnetizers are separately available from your dealer.
- How to Demagnetize the Tape Heads**
  - Turn off the power.
  - Bring the demagnetizer near the heads and slowly move it across the heads, but do not touch them.
  - Slowly move the demagnetizer away and turn it off when it is at least 30 cm away from the heads.

**TROUBLESHOOTING**

Check the following before you draw the conclusion that your Stereo Cassette Deck is malfunctioning.

- Are all the connections correct?
- Are all system components being operated correctly in accordance with the operating instructions?
- Are the speakers and amplifier/receiver functioning correctly?

If the tape deck still does not function properly, check the symptom against the list below. If the symptom does not correspond to the check list, please contact your DENON dealer.

Problem	Cause	Remedy
Tape does not run	<ul style="list-style-type: none"> <li>Power cord is disconnected.</li> <li>Tape is loose.</li> <li>Cassette is not loaded properly.</li> <li>Defective cassette.</li> </ul>	<ul style="list-style-type: none"> <li>Check power cord.</li> <li>Lighten tape with a pencil tip.</li> <li>Load cassette properly.</li> <li>Replace cassette.</li> </ul>
Tape is not recorded when REC/REC.MUTE (●) button is pressed.	<ul style="list-style-type: none"> <li>No cassette is inserted.</li> <li>Frise prevention tabs are broken off.</li> <li>Heads, capstan or pinch roller are dirty.</li> <li>Tape is wound too tight.</li> </ul>	<ul style="list-style-type: none"> <li>Load cassette.</li> <li>Cover heads with adhesive tape.</li> <li>Clean them.</li> <li>Fast forward or rewind to loosen tape winding.</li> <li>Adjust recording input level.</li> <li>Replace tape.</li> </ul>
Sound is warbled and distorted.	<ul style="list-style-type: none"> <li>Recording input level is too high.</li> <li>Tape is worn out and has "drop-outs".</li> </ul>	<ul style="list-style-type: none"> <li>Adjust recording input level.</li> <li>Replace tape.</li> </ul>
Excessive noise	<ul style="list-style-type: none"> <li>Tape is worn.</li> <li>Heads, capstan or pinch roller are dirty.</li> <li>Heads are magnetized.</li> <li>Recording input level is too low.</li> </ul>	<ul style="list-style-type: none"> <li>Replace them.</li> <li>Clean them.</li> <li>Demagnetize heads.</li> <li>Adjust recording input level.</li> </ul>
High frequency range (treble) is emphasized.	<ul style="list-style-type: none"> <li>Dolby NR switch is set improperly.</li> </ul>	<ul style="list-style-type: none"> <li>Set Dolby NR Switch properly.</li> </ul>
High frequency range (treble) is lost.	<ul style="list-style-type: none"> <li>Heads are dirty.</li> <li>Tape is worn.</li> </ul>	<ul style="list-style-type: none"> <li>Clean them.</li> <li>Replace tape.</li> </ul>
The cassette tape cannot be removed.	<ul style="list-style-type: none"> <li>If the POWER switch is turned off either during recording or playback and the unit is stopped, there may be cases when the cassette cannot be removed, even if the EJECT (▲) button is pressed.</li> </ul>	<ul style="list-style-type: none"> <li>Turn the POWER switch ON (▲) again, and then press the STOP (■) button.</li> <li>Now, press the EJECT (▲) button to remove the cassette tape.</li> </ul>




## SPECIFICATIONS

<b>Type</b>	Vertical tape loading; 4-track 2-channel stereo double cassette deck
<b>Heads</b>	Recording/playback head × 2 Erase head (Double-gap ferrite) × 2
<b>Motors</b>	Capstan (DC servo motor) × 2 Real (DC motor) × 2
<b>Tape Speed</b>	4.8 cm/sec.
<b>Fast Forward, Rewind Time</b>	Approx. 110 sec. with a C-60 cassette
<b>Recording Bias</b>	Approx 105 kHz
<b>Overall S/N Ratio (at 3% THD level)</b>	Dolby C NR on: more than 74 dB (CCIR/ARM)
<b>Overall Frequency Response</b>	20 ~ 18,000 Hz ±3 dB (at -20 dB, Metal tape)
<b>Channel Separation</b>	More than 40 dB (at 1 kHz)
<b>Wow &amp; Flutter</b>	0.06% WRMS, ±0.14% w. peak
<b>Input</b>	
<b>LINE</b>	80 mV (-20 dBm) input level at maximum Input impedance: 50 kohm unbalanced
<b>Output</b>	
<b>LINE</b>	775 mV (0 dB) output level at maximum (with 47 kohm load, recorded level of 200 pwb/mm)
<b>PHONES</b>	1.2 mW output level at maximum (optimum load impedance 8 ohm ~ 1.2 kohm)
<b>Power Supply</b>	50 Hz/60 Hz, voltage is shown on rating label
<b>Power Consumption</b>	27 W
<b>Dimensions</b>	434 (W) × 124 (H) × 275 (D) mm (17-3/32" × 4-57/64" × 10-53/64")
<b>Weight</b>	4.4 kg (9 lbs 11 oz)

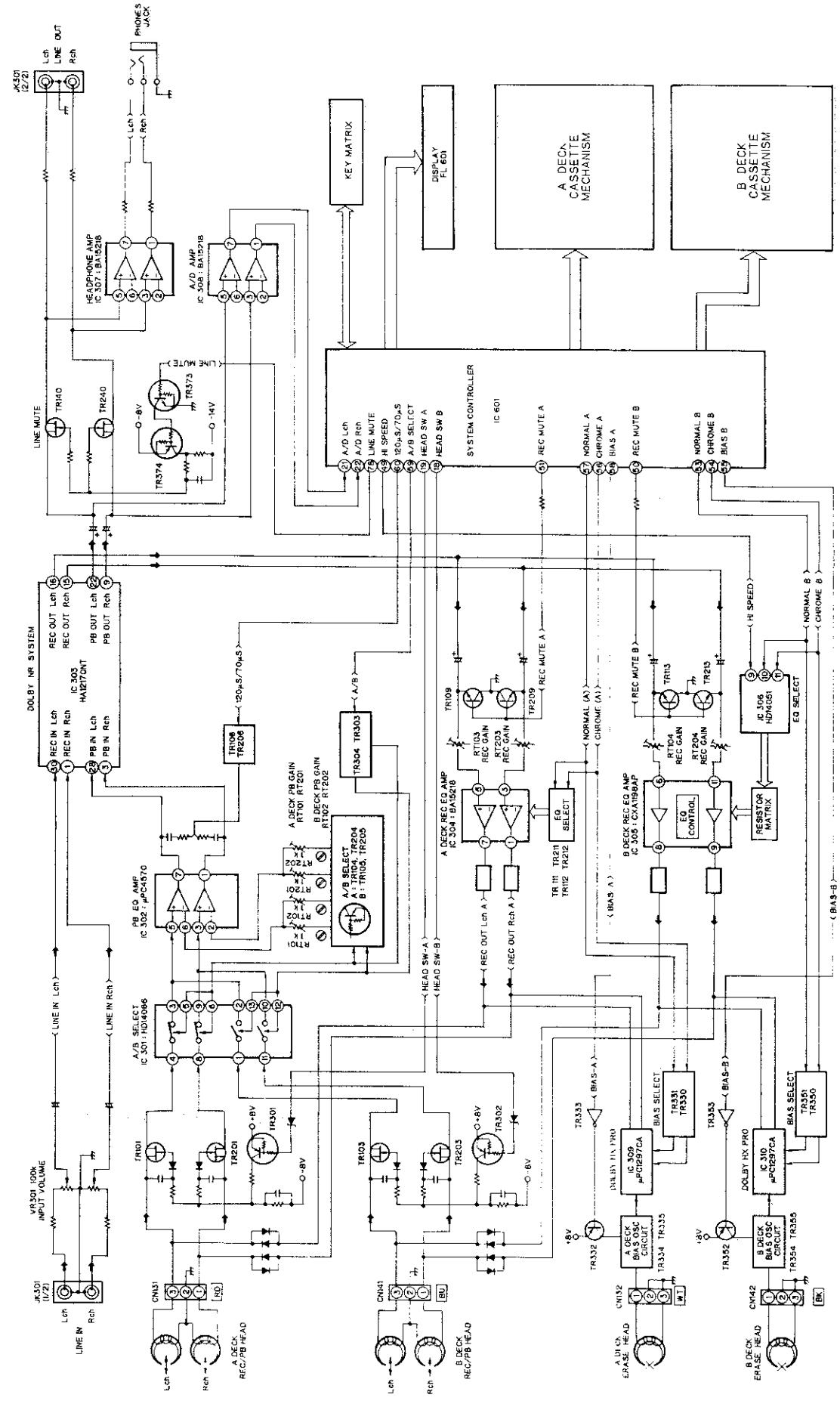
\* Above specifications and design are subject to change without prior notice.

Best results will be obtained with use of DENON DX and HD Series cassette tapes.

Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

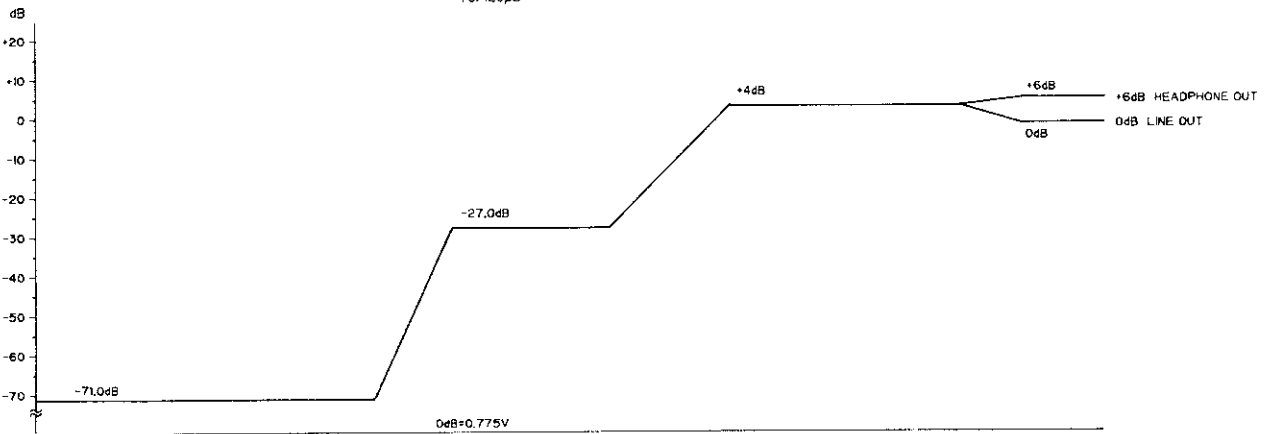
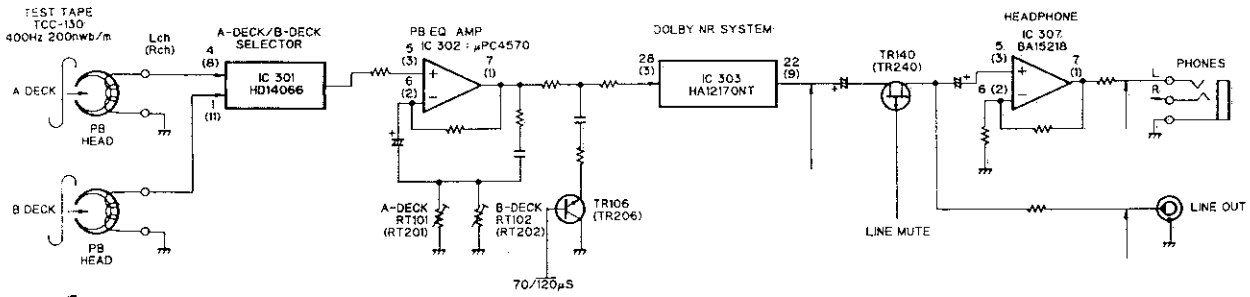
"DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

BLOCK DIAGRAM

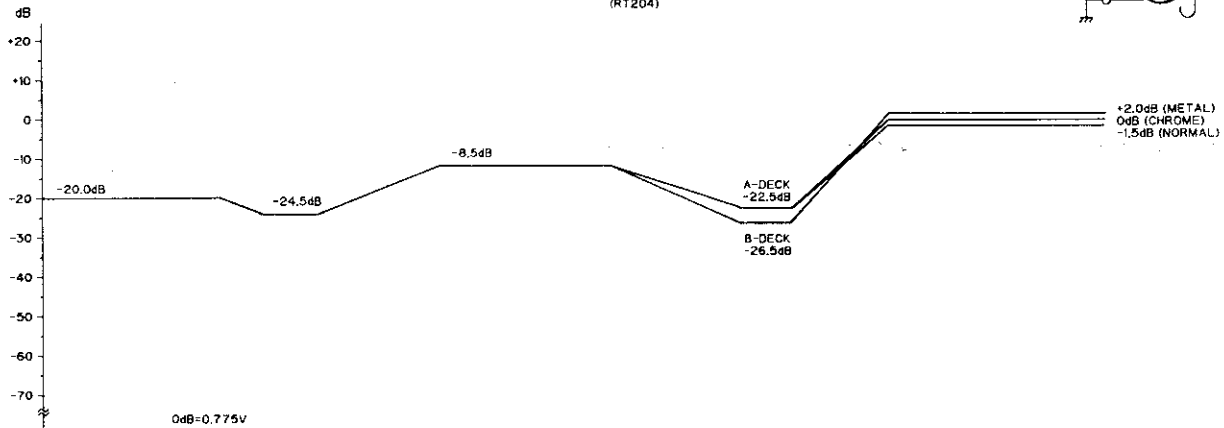
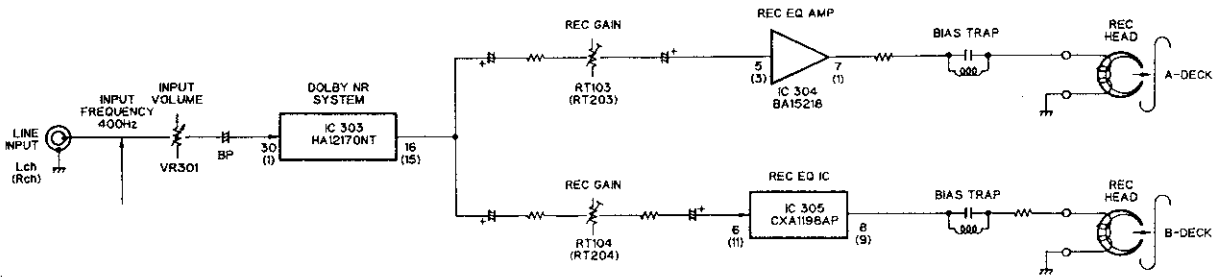


**LEVEL DIAGRAM**

**PLAYBACK SYSTEM**  
TCC-130 DOLBY B-TYPE  
400 Hz 200 nwb/m



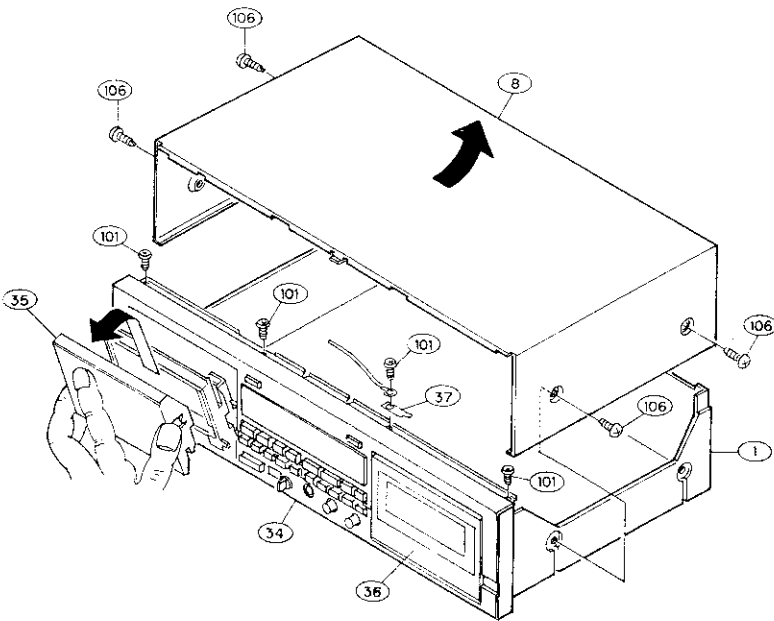
**RECORDING SYSTEM**  
INPUT FREQUENCY  
400 Hz



**DISASSEMBLY INSTRUCTIONS**

**1. How to Remove the Front Panel**

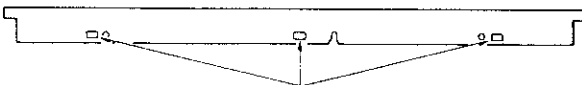
- (1) Remove the four screws (4 × 10 CTTS-P) (106) in the side of the top cover (8). Move the top cover to the rear and rise it to remove it.
- (2) Press the eject knob (25), open the cassette window (35) (36) and remove the cassette window as shown in the figure.  
**Note:** Handle the cassette window with care because it can be scratched easily.
- (3) Remove the four screws (3 × 10 CBTS-P) (101) on top of the front panel (34), the two hooks on the top, the three hooks on the bottom and pull the unit forward to detach it.



2 hooks on the top of the front panel



3 hooks on the bottom of front panel

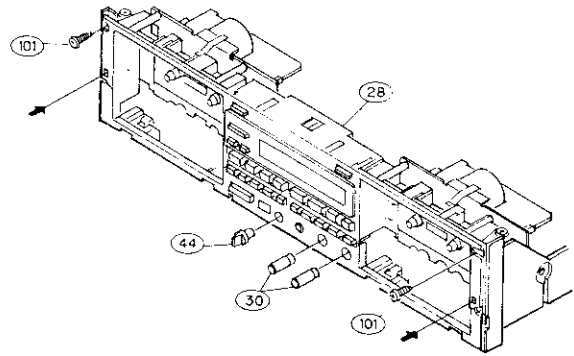


**2. How to Remove the Front Escutcheon Ass'y**

- (1) Remove the top cover (8) and front panel (34). (Refer to Step 1.)
- (2) Remove the two retaining screws 3 × 10 CBTS-(P)-B (101) holding the Front Escutcheon at the front.

- (3) Disconnect all lead connectors.
 

C. Mechanism (A)	Erase Head wire → CN132	}	Audio circuit board
	P.B. REC Head wire → CN131		
C. Mechanism (B)	P.B. REC Head wire → CN141		
	Erase Head wire → CN142		
Meter circuit board	CN121 (35P) → CN121		
- (4) Remove Volume Knob (B) (30), (44).
- (5) Remove the Hooks at the left and right of the front face of the Front Esc. Ass'y, and the two hooks on the bottom, Front Ass'y can be removed towards the front.



Hooks at left and right of front Ass'y

**3. How to Remove the Mechanisms**

Remove the four Mechanism retaining screws 3×10 CBTS(P)-B (101) and take out C Mechanism (A) (26) and C. Mechanism (B) (27).

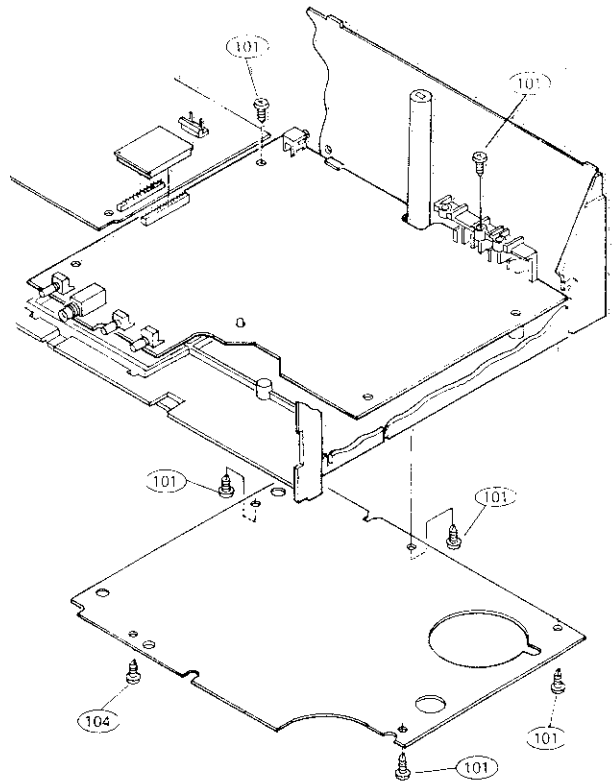
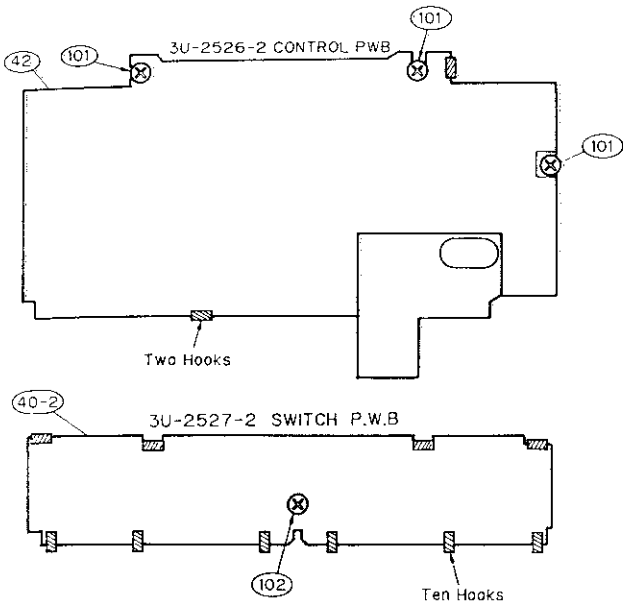
**4. How to Remove the Meter Circuit Board**

- (1) Disconnect lead connectors.
 

C. Mechanism (A) →	CN501	Meter circuit
C. Mechanism (B) →	CN551	board
- (2) Remove the 3 Meter Circuit Board retaining screws 3×8 CBTS(P)-B (102) and take out the Meter Circuit Board.

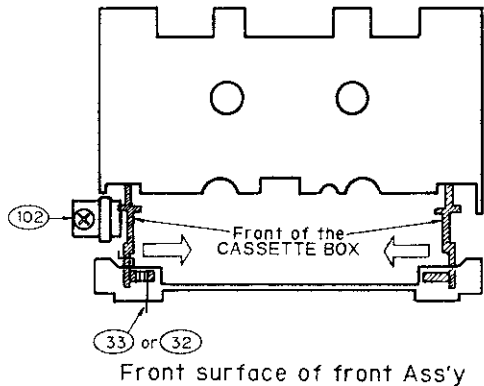
**Note:** When replacing the tact switch, check to make sure that it is not floating above the circuit board. If it is floating, the switch will be in the on condition when the set is assembled.





**5. How to Remove the Cassette Door**

- (1) Remove the MINI DAMPER retaining screw 3×8 CBTS(P)-B (102) and take out the MINI DAMPER (29).
- (2) Hold the legs of the CASSETTE BOX folded inwards and pull up to remove the CASSETTE BOX (31) and BOX SPRING (32) (33).

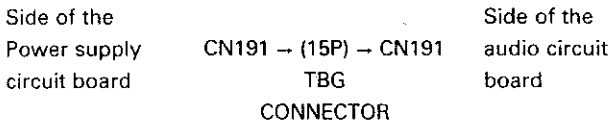


**Note:**

- Almost all of the service repairs to the audio circuit board can be performed by removing the bottom cover on the rear side of the chassis. Only when it is unavoidable should you refer to the removal method mentioned above.
- When reassembling, follow the procedures in the reverse order. However, if each of the various parts are not assembled properly in their respective position, the set cannot be assembled in some cases. Therefore, check the work of each step carefully when assembling.

**6. How to Remove the Audio Circuit Board**

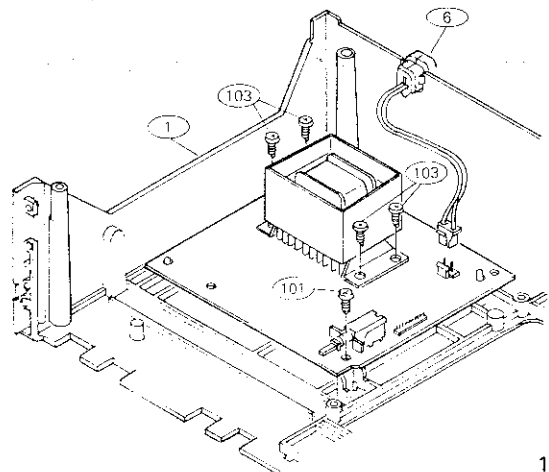
- (1) Remove the top cover (8) and the front panel (34). (Refer to section 1.)
- (2) Remove the front esc. ass'y. (Refer to section 2.)
- (3) Remove the connectors from the audio circuit board and power supply circuit board.



- (4) Remove the screw (3×10 CBTS · P tight) (101) (3×8 CBTS · S tight) (104) that is holding down the 4P pin jack (13) and circuit board (40-1). By removing the two catches (left and right) of the chassis holding down the circuit board in the directions of the arrows shown below, the audio circuit board can be pulled forward.

**7. How to Remove the Power Supply Circuit Board**

- (1) Remove the top cover (8) and the front panel (34). (Refer to section 1.)
- (2) Remove the bushing (6) that is fixing the power supply cord from the chassis (1).
- (3) When the four screws (4 × 10 CBTS · P tight) (103) (3 × 10 CBTS · P tight) (101) that are holding the power transformer and circuit board are removed, the power supply circuit board can be removed by raising it.



## ADJUSTING AND CHECKING THE MECHANISM SECTION

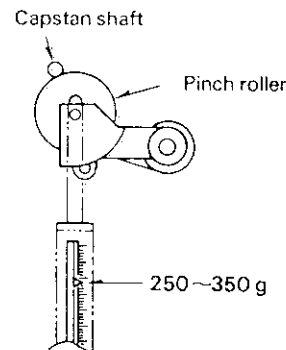
### 1. Replacement of the pinch roller

Before replacing the pinch roller, clean the tape contact surface of the pinch roller and the tape contact surface of the capstan shaft. After replacement, run a C-90 tape without a pad and check for the presence of tape curl at the tape guide portion of the head.

### 2. Checking the pinch roller pressure

Set to the playback condition and hook a bar-type spring scale to the bracket above the center line of the pinch roller. Pull the pinch roller away from the capstan shaft, then allow the pinch roller to come into contact with the capstan shaft and check that the reading of the bar-type spring scale is between 250 g and 350 g when the pinch roller starts to rotate.

Replace the pinch roller when the value falls outside of the specified range.



### 3. Replacement of the recording/playback head assembly

Perform this procedure after removing the front panel.

#### 3-1 Removal of the head assembly

- (1) Remove the 2 head base fastening screws.
- (2) Remove the head base from the reed holder and the wire connector.

3-2 Mounting the recording/playback head assembly Perform by following the steps of Section 3-1 Removal of the head assembly in reverse.

### 4. Checking the winding torque

Load a cassette type torque meter (Sony TW2111A at the FWD side, and Sony TW2121A at the REW side) and check that the reading of the torque meter during playback is 30 to 70 g-cm at the center value.

When outside of the specified value range, check the voltage of the reel motor (approx. 4V). When the voltage value is low, the torque is weak, and when high, the torque is strong.

### 5. Checking the back tension torque at the time of recording and playback

Load a cassette type torque meter (Sony W2111A at the FWD side, and Sony TWG121A at the REW side) and check that the reading of the torque meter during playback is 2 to 6 g-cm and that there is no unevenness.

### 6. Checking the FF and REW torque

Load a cassette type torque meter (Sony TW2231) and check that the value indicated by the torque meter for winding and rewinding is between 90 and 180 g-cm.

### 7. Checking the FF and REW time

Load a DENON HD-X/60 cassette tape, and check that the time for FF and REW is between 80 and 110 seconds. When outside of the specified range, check Steps 5 and 6.

### 8. Checking the erroneous erasure prevention, and the metal and chrome switch operations

Check that the detection lever is operating the switch properly depending upon the presence or absence of a hole.

**ADJUSTING THE ELECTRICAL SECTIONS**

● **Measuring instruments necessary for adjustments**

- (1) Audio signal generator
- (2) Variable resistance attenuator
- (3) Electronic voltmeter
- (4) Oscilloscope
- (5) Frequency counter
- (6) Adjustment screwdriver
- (7) Trap coil adjustment square stick
- (8) Test tapes (SONY TY-224)  
(A-BEX TCC-130, TCC-153, TCC-262B/162B)  
(DENON HD7E/60)
- (9) Transport Check cassette tape (A-BEX TCC-902)
- (10) Lead line with alligator clip

● **Caution on adjusting**

- (1) Before adjusting, clean the head surface, capstan and the pinch roller with a gauze or a cotton swab moistened with alcohol.
- (2) Demagnetize the R/P HEAD and the E. HEAD with a head eraser.
- (3) Completely demagnetize the adjustment screwdriver.
- (4) Unless instructed otherwise, set the various controls as follows:
  - INPUT volume ..... maximum
  - DOLBY NR switch ..... OFF
  - BIAS volume ..... Center click position

**1. Tape Transport Check**

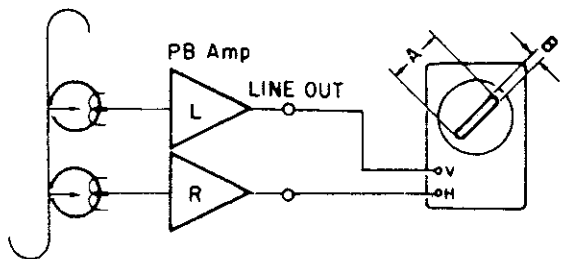
Load the transport check cassette. In the operational mode, illuminate the fixing guides of the R/P HEAD with a lamp and check to make sure the tape edge does not come in contact with the tape guide section.

The tape transport is the most important element in determining the performance of a cassette deck.

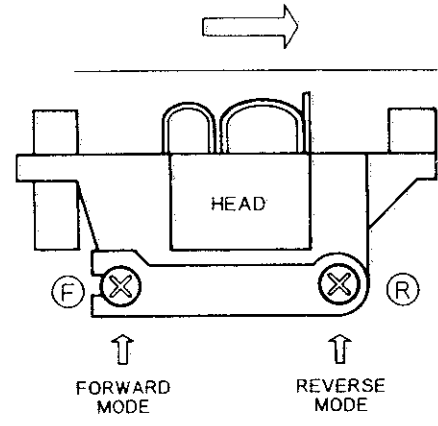
Avoid moving the various adjustment screws, nuts, etc., as much as possible. Refer to the pages on "Adjusting and Checking the Mechanism Section" when replacing or adjusting the R/P HEAD.

**2. Adjusting the Azimuth**

- (1) After completing the tape transport check, load the test tape (A-BEX TCC-153).
- (2) Playback the test tape; adjust the azimuth screw so that section A of the resurge wave form is maximum and section B is minimum.

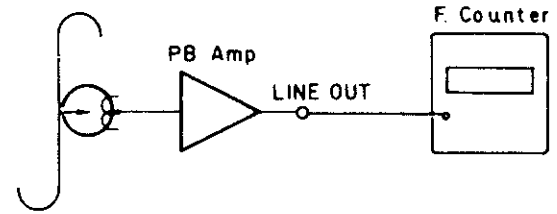


A-BEX TCC-153



**3. Checking and Adjusting the Tape Speed**

- (1) Connect the frequency counter to the LINE OUT terminal and load test tape (SONY TY-224).
- (2) Load cassette tapes on both cassette decks A and B. Next, on the deck (A or B) whose speed is to be adjusted, while holding down the PLAY, FF and REW buttons together, press the POWER switch. After the power has been on for about two seconds, the Remote Control Indicator "■" in Display will light up and the cassette deck will begin to play in speed adjustment mode.  
(Speed adjustments can not be made, unless this mode is first selected.)
- (3) For normal speed adjustments, use Meter Unit RT502 for Cassette Deck A and RT552 for Cassette Deck B.  
When making high speed adjustments, first press the DUBBING SPEED "HIGH" Button and use RT501 for Cassette Deck A and RT551 for Cassette Deck B.  
(Note that speed adjustment mode is cancelled when the tape is ejected.)

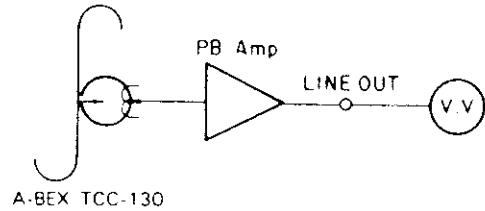
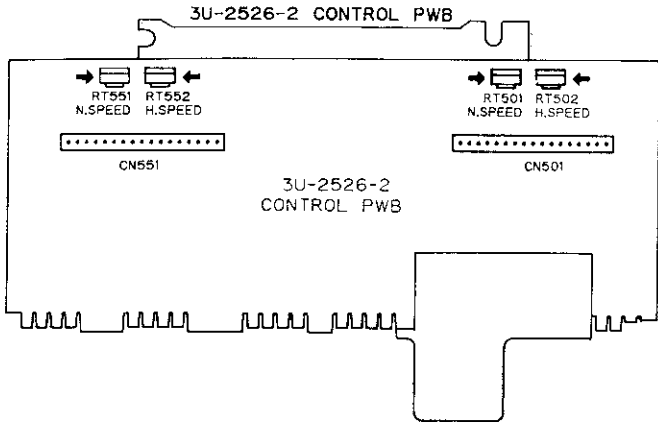


SONY TY-224

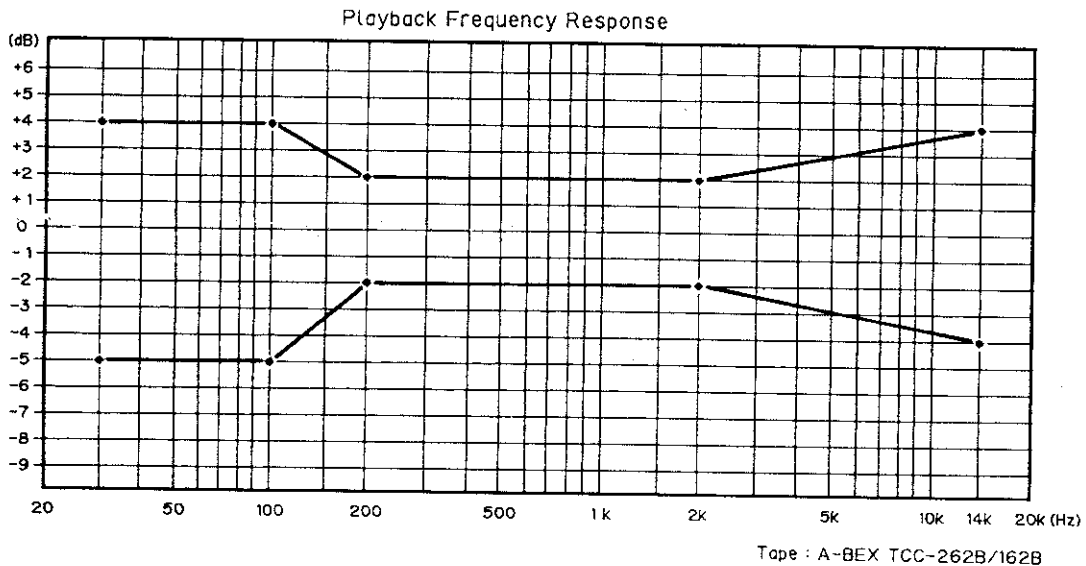
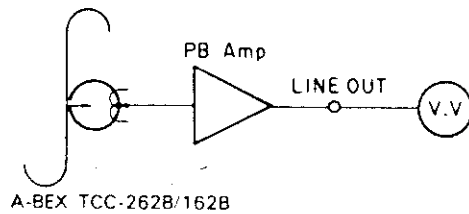
Mode	A/B	Adjusting volume number	F. counter (Hz)
Normal speed	A	RT-501	3020±10
	B	RT-551	3010±10
High speed	A	RT-502	6030±20
	B	RT-552	6020±20

#### 4. Adjusting the Playback Section

- Adjusting the playback level  
 Playback the Dolby standard level test tape (A-BEX TCC-130) and adjust RT-101 (L ch: Deck A), RT-201 (R ch: Deck A), RT-102 (L ch: Deck B), RT-202 (R ch: Deck B) so that the LINE OUT voltage becomes 0 dB (775 mV).



- Adjusting the playback frequency response  
 Playback the test tape (A-BEX TCC-262B/162B) and check to make sure that the frequency response meets the specifications in the diagram.

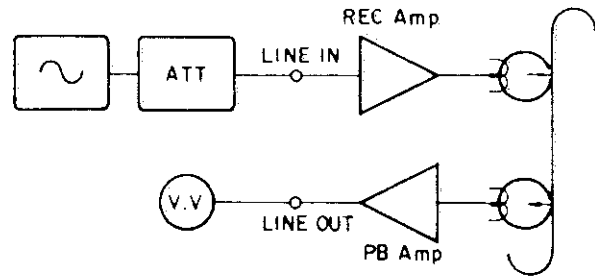




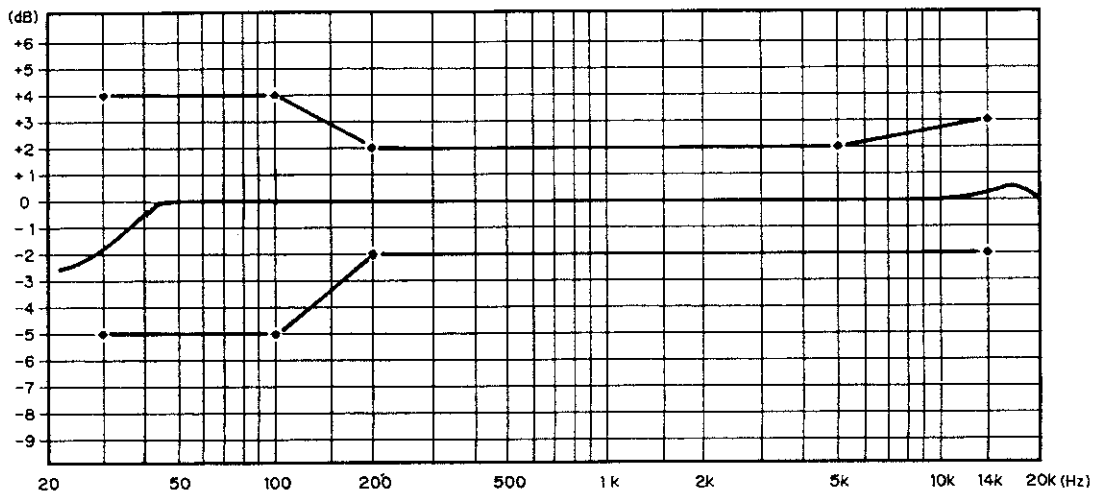
### 5. Adjusting the Recording Section

(1) Adjusting the record/playback overall frequency response (CrO<sub>2</sub>)

- 1) Load the test tape HD7E/60, record a signal with an input level of -40 dB, 1 kHz at the LINE IN terminal; playback this recording.
- 2) Change the frequency of the input signal to 10 kHz, record and playback; adjust RT-105 (L ch: Deck A), RT-205 (R ch: Deck A), RT-106 (L ch: Deck B), RT-206 (R ch: Deck B) so that the characteristic standards meet the following diagram when compared to the 1 kHz signal output level.  
(The other TAPE POSITIONS will automatically be adjusted by finishing of the foregoing adjustments.)



Record/ Playback Overall Frequency Response



Tape : HD-7E/60  
 Dolby NR : Off  
 Level : -20dB From Dolby Level

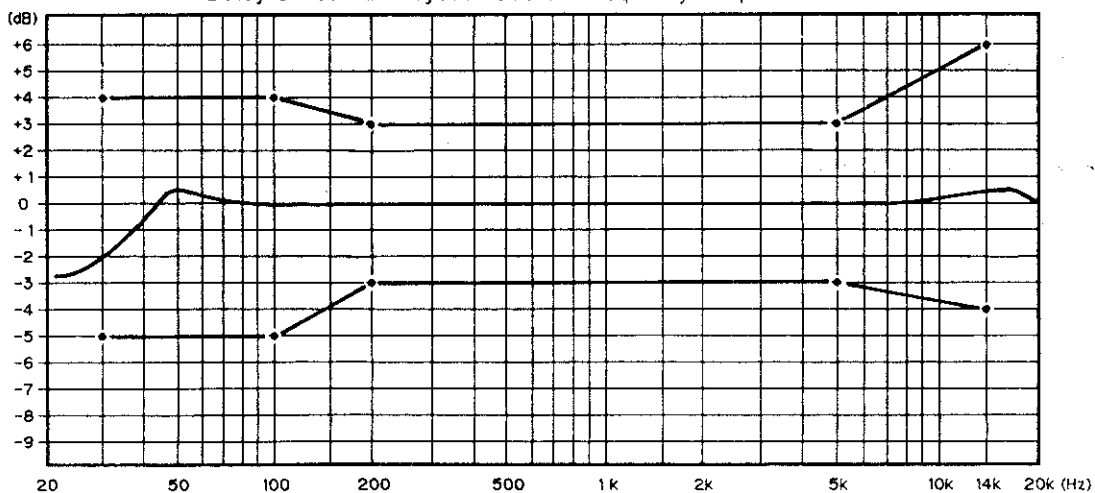
(2) Adjusting the record/playback levels (CrO<sub>2</sub>)

- 1) Load a HD7E/60 tape and after having recorded a signal of 1 kHz (-20 dB), play it back.
- 2) Adjust RT-105 (L ch: Deck A), RT-205 (R ch: Deck A), RT-106 (L ch: Deck B), RT-206 (R ch: Deck B) so that the output from the line out terminal has the same value as the output when monitoring the recording.

(3) Checking the Dolby C record/playback overall frequency response

- 1) Set the DOLBY NR switch to the "C" position.
- 2) Using the test tapes HD7E/60, perform record/playback in the same manner as 5-(1).
- 3) Check to make sure that the record/playback overall frequency response meets the specifications in the diagram.

Dolby C Record/Playback Overall Frequency Response



Tape : HD-7E/60  
 Dolby NR : On C  
 Level : -20dB From Dolby Level

PARTS LIST OF EXPLODED VIEW

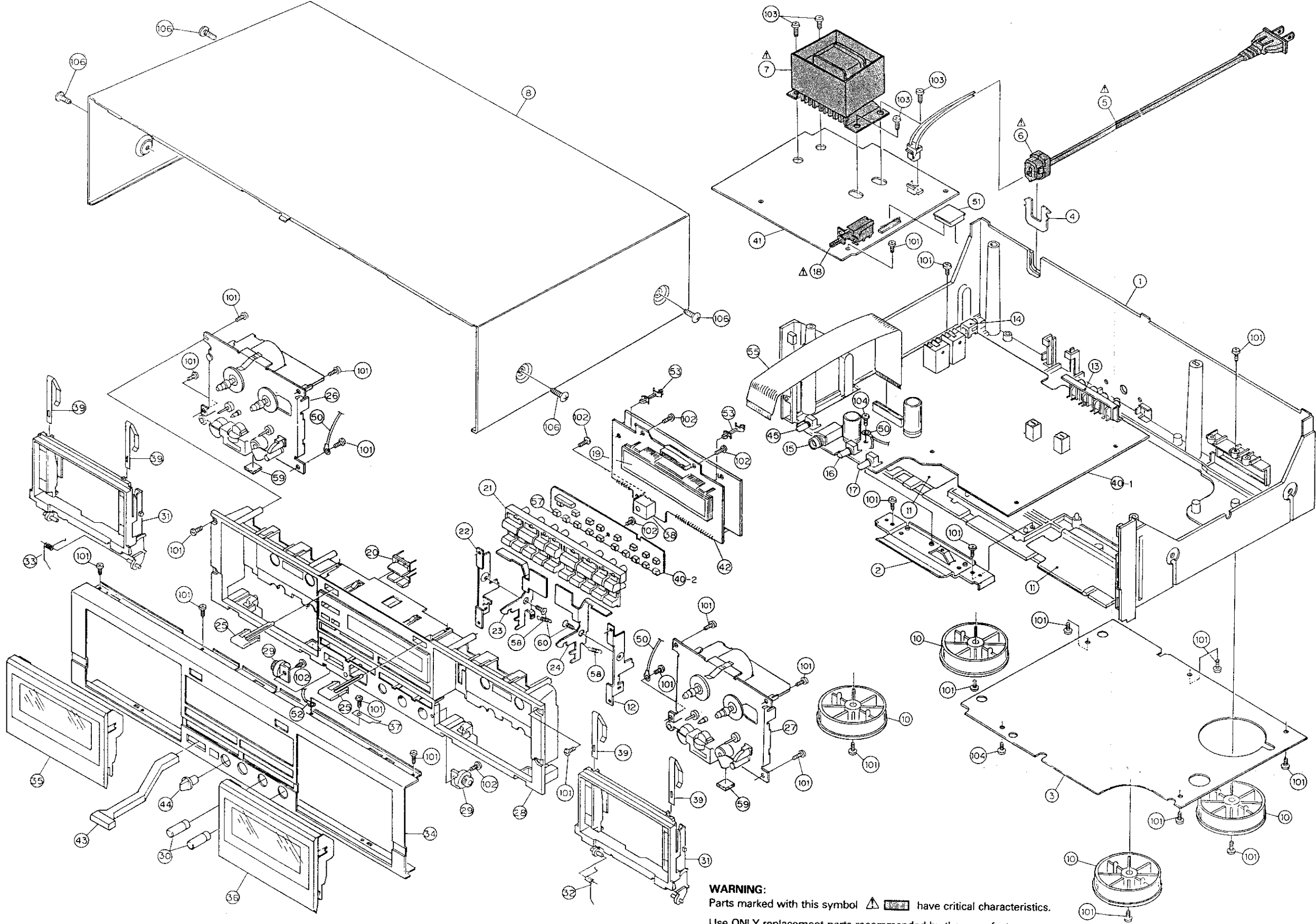
Ref. No.	Part No.	Part Name	Remarks
● 1	411 1150 146	CHASSIS	Europe, Australia
● 1	411 1150 175	CHASSIS	U.S.A., Canada
● 1	411 1150 159	CHASSIS	Multi-Voltage (Asia)
● 1	411 1150 162	CHASSIS	(Gold)
● 2	412 2523 102	EARTH BRACKET	
● 3	105 0787 000	BOTTOM COVER	
● 4	412 2008 012	BUSHING PLATE	
▲ 5	206 2089 106	AC CORD WITH PLUG	Europe
▲ 5	206 2087 108	AC CORD	Australia
▲ 5	206 2100 001	AC CORD	U.S.A., Canada
▲ 5	206 2088 000	AC CORD	Multi-Voltage (Asia)
▲ 6	445 0056 008	CORD BUSH	
▲ 7	233 6015 000	POWER TRANSFORMER	Europe, Australia
▲ 7	233 5815 007	POWER TRANSFORMER	U.S.A., Canada
▲ 7	233 5816 006	POWER TRANSFORMER	Multi-Voltage (Asia)
● 8	102 0434 309	TOP COVER	
● 8	102 0434 312	TOP COVER	(Gold)
● 10	104 0208 201	FOOT ASS'Y	
● 11	414 0625 008	SHIELD LABEL	
● 12	412 3628 006	LEVER STAY (B)	
● 13	204 8261 003	4P PIN JACK	
● 14	204 8416 007	MINI JACK	
● 15	204 8264 026	HEAD PHONE JACK	
● 16	211 0787 004	VOLUME CONT. (BIAS)	V0920V30FB102K (VR302)
● 17	211 0786 005	VOLUME CONT. (INPUT)	V0920V25FA104 (VR301)
▲ 18	212 0286 003	POWER SWITCH	(SW901)
● 19	393 4151 006	FL TUBE	FP78AM6 (FL601)
● 20	113 1569 008	PUSH BUTTON	
● 20	113 1569 011	PUSH BUTTON	U.S.A., Canada
● 20	113 1569 024	PUSH BUTTON	(Gold)
● 21	113 1557 230	FUNCTION BUTTON	
● 21	113 1557 243	FUNCTION BUTTON	U.S.A., Canada
● 21	113 1557 256	FUNCTION BUTTON	(Gold)
● 22	412 3599 009	LEVER STAY (A)	
● 23	412 3597 108	EJECT LEVER (A)	
● 24	412 3598 107	EJECT LEVER (B)	
● 25	113 1556 008	EJECT BUTTON	
● 25	113 1556 011	EJECT BUTTON	U.S.A., Canada
● 25	113 1556 024	EJECT BUTTON	(Gold)
● 26	338 0161 006	CASSETTE MECHA. (A)	
● 27	338 0162 005	CASSETTE MECHA. (B)	
● 28	103 1584 109	FRONT ESC. ASS'Y	
● 28	103 1584 112	FRONT ESC. ASS'Y	U.S.A., Canada
● 28	103 1584 125	FRONT ESC. ASS'Y	(Gold)
● 29	421 9007 007	MINI DAMPER	
● 30	112 0720 007	VOLUME KNOB (B)	
● 30	112 0720 010	VOLUME KNOB (B)	(Gold)
● 31	103 1372 502	CASSETTE BOX	
● 31	103 1372 515	CASSETTE BOX	U.S.A., Canada
● 32	463 0728 004	BOX SPRING (R)	
● 33	463 0727 005	BOX SPRING (L)	
● 34	144 2264 005	FRONT PANEL ASS'Y	
● 34	144 2264 018	FRONT PANEL ASS'Y	(Gold)
● 35	103 1585 001	CASSETTE WINDOW (A) ASS'Y	
● 35	103 1585 014	CASSETTE WINDOW (A) ASS'Y	U.S.A., Canada
● 35	103 1585 027	CASSETTE WINDOW (A) ASS'Y	(Gold)
● 36	103 1452 309	CASSETTE WINDOW (B) ASS'Y	


Ref. No.	Part No.	Part Name	Remarks
● 36	103 1452 312	CASSETTE WINDOW (B) ASS'Y	U.S.A., Canada
● 36	103 1452 325	CASSETTE WINDOW (B) ASS'Y	(Gold)
● 37	414 0595 015	EARTH PLATE	
● 38	499 0150 008	REMOTE UNIT	SBX1610-52 (IC602)
● 39	463 0655 009	CASSETTE SPRING	
● 40	3U-2527 Z	AUDIO P.W.B. UNIT	
40-1		AUDIO UNIT	
40-2		SWITCH UNIT	
● 41	3U-2525 Z	POWER SUPPLY P.W.B. UNIT	Europe
● 41	3U-2525 A	POWER SUPPLY P.W.B. UNIT	Australia
● 41	3U-2525 E3	POWER SUPPLY P.W.B. UNIT	U.S.A., Canada
● 41	3U-2525 M	POWER SUPPLY P.W.B. UNIT	Multi-Voltage (Asia)
● 42	3U-2526 Z	CONTROL P.W.B. UNIT	
● 43	431 0308 100	POWER SW. LEVER ASS'Y	
● 43	431 0308 113	POWER SW. LEVER ASS'Y	U.S.A., Canada
● 43	431 0308 126	POWER SW. LEVER ASS'Y	(Gold)
● 44	112 0485 151	VOLUME KNOB (B)	
● 44	112 0485 164	VOLUME KNOB (B)	(Gold)
● 45	212 0345 009	ROTARY SWITCH (RK09K)	DOLBY (SW701)
▲ 47	205 0581 001	2P VH CONNECTOR BASE	
● 50	203 2279 014	2C TERMINAL WIRE 3T	
● 51	205 0712 090	15P TBG-S CONNECTOR	
● 52	203 0440 036	1P CONTACT ASS'Y	
● 53	415 0335 003	PCB SUPPORT	
● 55	009 0043 022	35P FFC CABLE	
● 57	212 4388 907	TACT SWITCH	
● 58	463 8238 004	SPRING	
● 59	461 0206 009	RUBBER SHEET	
● 60	473 8047 001	SPECIAL SCREW	
● 101	473 7508 017	3×10 CBTS (P)-B SCREW	
● 102	473 7500 044	3×8 CBTS (P)-B SCREW	
● 103	473 7502 013	4×10 CBTS (P)-Z SCREW	
● 104	473 7002 018	3×8 CBTS (S)-Z SCREW	
● 106	473 7503 038	4×10 CTTs (P) BK SCREW	
● 106	473 7503 041	4×10 CTTs (P) NI SCREW	(Gold)
★ ▲	212 4698 008	VOLTAGE SELECTOR (D)	Multi-Voltage (Asia) Only

WARNING:

- Parts marked with ▲ and/shading have special characteristics important to safety. Be sure to use the specified parts for replacement.
- Part indicated with the mark ● are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- (Gold) in the Remarks column refers with gold front panels.
- Part indicated with the mark ★ is not illustrated in the exploded view.

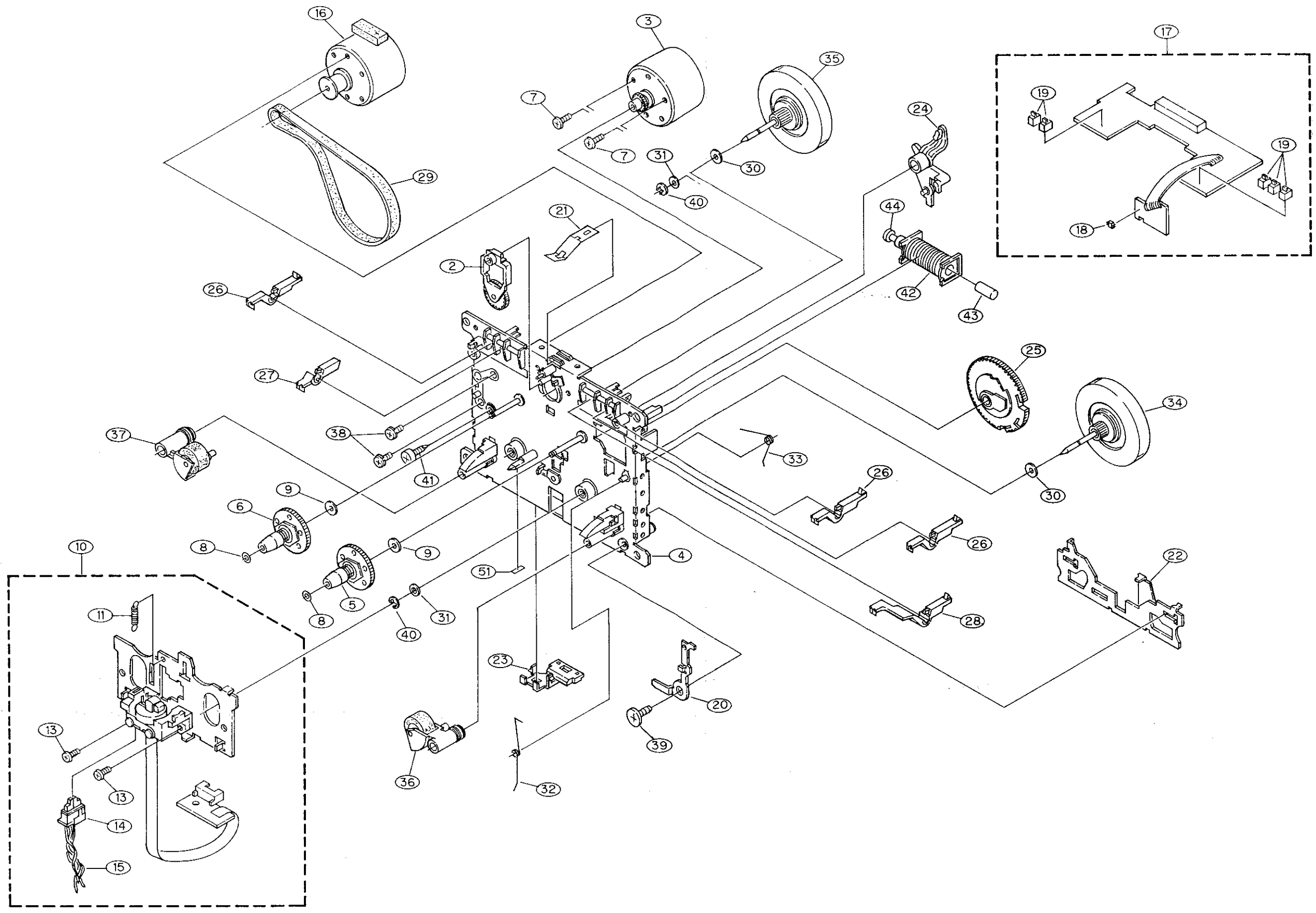
EXPLODED VIEW



**WARNING:**  
 Parts marked with this symbol  have critical characteristics.  
 Use ONLY replacement parts recommended by the manufacturer.

A  
 B  
 C  
 D  
 E

EXPLODED VIEW OF CASSETTE MECHNISM (A)



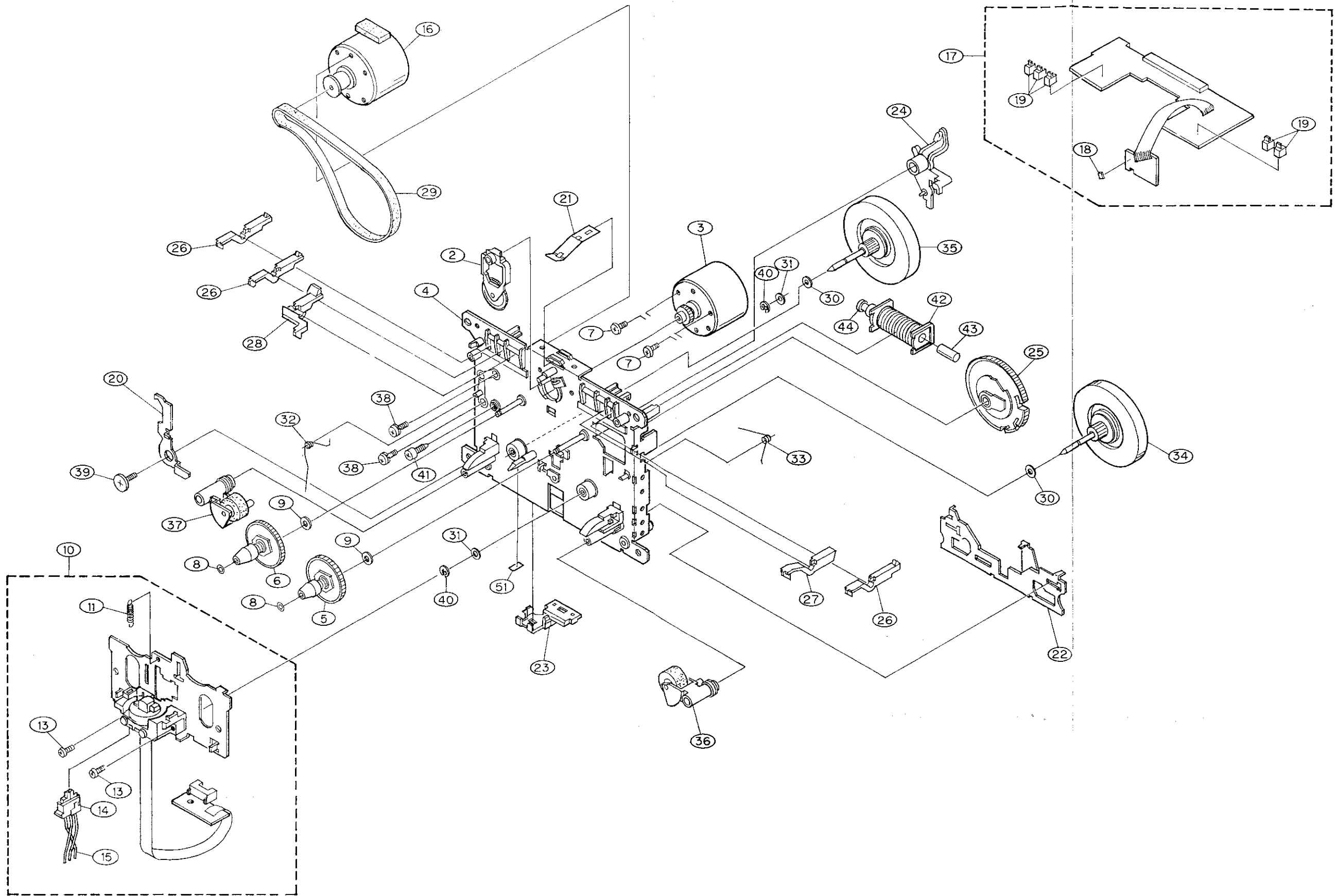
## PARTS LIST OF CASSETTE MECHANISM (A) EXPLODED VIEW

Ref. No.	Part No.	Part Name	Remarks
2	9DF 5170 49	IDLER ASS'Y	
3	9DF 5642 80	REEL MOTOR ASS'Y	
4	9DF 6121 82	CAHSSIS BASE ASS'Y	
5	9DF 6230 37	REEL BASE ASS'Y	
6	9DF 6231 27	REEL BASE ASS'Y	
7	9DF G156 11A	SCREW 2.6×6.0	
8	9DF J111 17	POLY. WASHER 1.7×0.25	
9	9DU J12V 11	POLY. WASHER 2.1×0.25	
10	9DF 5136 82	PLATE HD ASS'Y	
11	9DF K26N 14	HB SPRING	
13	9DU G19D 11	SCREW TT 2.0×5	
14	9DA Z13P 00	SPI-320BC	
15	9DW G50M 03A	QS READ WIRE	
16	9DF 5252 56	MAIN MOTOR ASS'Y	
17	9DF 5674 97	CONTROL P.W.B. ASS'Y	
18	9DA W13G 00	SG-107F3	
19	9DU E16E 11	PUSH SWITCH	
20	9DF C39M 68	EJECT PREVENT ARM (R)	
21	9DF C52H 13	CASSETTE HOLD SPRING	
22	9DF C52F 15	SLIDE PLATE	
23	9DF D45H 15	READ HOLDER	
24	9DF D45G 13	PLAY ARM	
25	9DF D45B 16	CAM GEAR	
26	9DF D44T 14	REC DETECT LEVER	
27	9DF D44W 12	PACK DETECT LEVER (L)	
28	9DF D44U 12	METAL DETECT LEVER (R)	
29	9DF F17G 31	MAIN BELT	
30	9DF J111 30	POLY. WASHER 2.6×0.25	
31	9DF J111 14	POLY. WASHER 2.6×0.5	
32	9DF K28L 17	EJECT PREVENT SPRING (R)	
33	9DF K28R 11	SLIDE SPLING	
34	9DF R22D 11	FLY WHEEL ASS'Y (D2.2)	
35	9DF R22E 13	FLY WHEEL ASS'Y (D2.0)	
36	9DF R20L 21A	PINCH ROLLER ASS'Y (R)	
37	9DF R20M 22	PINCH ROLLER ASS'Y (L)	
38	9DF G114 14	SCREW 2.6×5 ZN	
39	9DU G15S 11A	SCREW WITH STAIR (7.7)	
40	9DU G13U 15	E RING	
41	9DU G20B 11	WAVE SCREW 3.0×8	
42	9DF 7652 63	SOLENOID BLK	
43	9DF L39H 12A	IRON CORE	
44	9DF L39K 12	PLUNGER	
51	9DU T11R 11	REFLECTOR	

## PARTS LIST OF CASSETTE MECHANISM (B) EXPLODED VIEW

Ref. No.	Part No.	Part Name	Remarks
2	9DF 5170 49	IDLER ASS'Y	
3	9DF 5642 80	REEL MOTOR ASS'Y	
4	9DF 6121 82	CHASSIS BASE ASS'Y	
5	9DF 6230 37	REEL BASE ASS'Y	
6	9DF 6231 27	REEL BASE ASS'Y	
7	9DF G156 11A	SCREW 2.6×6.4	
8	9DF J111 17	POLY. WASHER 1.7×0.25	
9	9DU J12V 11	POLY. WASHER 2.1×0.25	
10	9DF 5136 82	PLATE HD ASS'Y	
11	9DF K26N 14	HB SPRING	
13	9DU G19D 11	SCREW TT 2.0×5	
14	9DA Z13P 00	SPI-320BC	
15	9DW G50M 030A	QS READ WIRE	
16	9DF 5252 56	MAIN MOTOR ASS'Y	
17	9DF 5675 01	CONTROL P.W.B ASS'Y	
18	9DA W13G 00	SG-107F3	
19	9DU E16E 11	PUSH SWITCH	
20	9DF C39L 70	EJECT PREVENT ARM (L)	
21	9DF C52H 13	CASSETTE HOLD SPRING	
22	9DF C52F 15	SLIDE PLATE	
23	9DF D45H 15	READ HOLDER	
24	9DF D45G 13	PLAY ARM	
25	9DF D45B 16	CAM GEAR	
26	9DF D44T 14	REC DETECT LEVER	
27	9DF D44Y 12	PACK DETECT LEVER (R)	
28	9DF D44V 12	METAL DETECT LEVER (L)	
29	9DF F17G 31	MAIN BELT	
30	9DF J111 30	POLY. WASHER 2.6×0.25	
31	9DF J111 14	POLY. WASHER 2.6×0.5	
32	9DF K28M 16	EJECT PREVENT SPRING (L)	
33	9DF K28R 11	SLIDE SPLING	
34	9DF R22D 11	FLY WHEEL ASS'Y (D2.2)	
35	9DF R22E 13	FLY WHEEL ASS'Y (D2.0)	
36	9DF R20L 21A	PINCH ROLLER ASS'Y (R)	
37	9DF R20M 22	PINCH POLLER ASS'Y (L)	
38	9DF G114 14	SCREW 2.6×5 ZN	
39	9DU G15S 11A	SCREW WITH STAIR (7.7)	
40	9DU G13U 15	E RING	
41	9DU G20B 11	WAVE SCREW 3.0×8	
42	9DF 7652 63	SOLENOID BLK	
43	9DF L39H 12A	IRON CORE	
44	9DF L39K 12	PLUNGER	
51	9DU T11R 11	REFLECTOR	

EXPLODED VIEW OF CASSETTE MECHANISM (B)







Ref. No.	Part No.	Part Name	Remarks
R243	247 0011 902	Chip 33K ohm	RM73B-333JT
R244	247 0011 902	Chip 33K ohm	RM73B-333JT
R245	247 0005 905	Chip 100 ohm	RM73B-101JT
R246	247 0006 962	Chip 470 ohm	RM73B-471JT
R247	247 0010 987	Chip 27K ohm	RM73B-273JT
R248	247 0009 985	Chip 10K ohm	RM73B-103JT
R251	247 0010 987	Chip 27K ohm	RM73B-273JT
R252	247 0012 927	Chip 68K ohm	RM73B-683JT
R255	247 0005 905	Chip 100 ohm	RM73B-101JT
R256	247 0014 967	Chip 1M ohm	RM73B-105JT
▲R261	241 2315 912	Carbon Film 10 ohm 1/4W (Fusible)	RD14B2E100GFRST
R262	247 0012 969	Chip 150K ohm	RM73B-154JT
▲R264	241 2315 912	Carbon Film 10 ohm 1/4W (Fusible)	RD14B2E100GFRST
R265	247 0012 969	Chip 150K ohm	RM73B-154JT
R266	247 0009 956	Chip 7.5K ohm	RM73B-752JT
R301	247 0009 985	Chip 10K ohm	RM73B-103JT
R302	247 0012 927	Chip 100K ohm	RM73B-104JT
R303	247 0007 945	Chip 1K ohm	RM73B-102JT
R304	247 0009 985	Chip 10K ohm	RM73B-103JT
R305	247 0012 927	Chip 100K ohm	RM73B-104JT
R306	247 0007 945	Chip 1K ohm	RM73B-102JT
R309, 310	247 0006 920	Chip 330 ohm	RM73B-331JT
R313	247 0012 927	Chip 100K ohm	RM73B-104JT
R314	247 0010 961	Chip 22K ohm	RM73B-223JT
R315	247 0010 945	Chip 18K ohm	RM73B-183JT
R316	247 0012 927	Chip 100K ohm	RM73B-104JT
R317	247 0010 961	Chip 22K ohm	RM73B-223JT
R319	247 0008 986	Chip 3.9K ohm	RM73B-392JT
R320	247 0015 940	Chip 2.2M ohm	RM73B-225JT
R323	247 0009 901	Chip 4.7K ohm	RM73B-472JT
R324	247 0010 974	Chip 24K ohm	RM73B-243JT
R325	247 0009 901	Chip 4.7K ohm	RM73B-472JT
R326	247 1009 900	Chip 4.7K ohm	RM73B2B472JT
R328, 329	247 0007 958	Chip 1.1K ohm	RM73B-112JT
R330	247 0008 931	Chip 2.4K ohm	RM73B-242JT
R332	247 0007 974	Chip 1.3K ohm	RM73B-132JT
R333	247 0007 903	Chip 680 ohm	RM73B-681JT
R335	247 0009 901	Chip 4.7K ohm	RM73B-472JT
R336	247 0012 927	Chip 100K ohm	RM73B-104JT
R337	247 0012 927	Chip 100K ohm	RM73B-104JT
R338, 339	247 0001 983	Chip 4.7 ohm	RM73B-4R7KT
▲R340, 341	241 2315 925	Carbon Film 22 ohm 1/4W (Fusible)	RD14B2E220GFRST
R350	247 0008 931	Chip 2.4K ohm	RM73B-242JT
R352	247 0007 974	Chip 1.3K ohm	RM73B-132JT
R353	247 0007 903	Chip 680 ohm	RM73B-681JT
R355	247 0009 901	Chip 4.7K ohm	RM73B-472JT
R356	247 0012 927	Chip 100K ohm	RM73B-104JT
R357	247 0012 927	Chip 100K ohm	RM73B-104JT
R358	247 0001 983	Chip 4.7 ohm	RM73B-4R7KT
R359			
▲R360, 361	241 2315 925	Carbon Film 22 ohm 1/4W (Fusible)	RD14B2E220GFRST
R370	247 0015 940	Chip 2.2M ohm	RM73B-225JT
R371	247 0011 944	Chip 47K ohm	RM73B-473JT
R372	247 1007 944	Chip 1K ohm	RM73B2B102JT
R628	247 1009 984	Chip 10K ohm	RM73B2B103JT
R629	247 0009 985	Chip 10K ohm	RM73B-103JT
R630	247 0009 985	Chip 10K ohm	RM73B-103JT
R631	247 1009 900	Chip 4.7K ohm	RM73B2B472JT
R650	247 1005 946	Chip 150 ohm	RM73B2B151JT
R652	247 0005 963	Chip 180 ohm	RM73B-181JT
R654	247 0006 917	Chip 300 ohm	RM73B-301JT

Ref. No.	Part No.	Part Name	Remarks
R656	247 0006 959	Chip 430 ohm	RM73B-431JT
R658	247 0007 903	Chip 680 ohm	RM73B-681JT
R660	247 0007 974	Chip 1.3K ohm	RM73B-132JT
R662	247 0005 947	Chip 150 ohm	RM73B-151JT
R664	247 0005 963	Chip 180 ohm	RM73B-181JT
R666	247 0006 917	Chip 300 ohm	RM73B-301JT
R668	247 0006 959	Chip 430 ohm	RM73B-431JT
R670	247 0007 903	Chip 680 ohm	RM73B-681JT
R672	247 0007 974	Chip 1.3K ohm	RM73B-132JT
R674	247 1005 946	Chip 150 ohm	RM73B2B151JT
R676	247 0005 963	Chip 180 ohm	RM73B-181JT
R678	247 0006 917	Chip 300 ohm	RM73B-301JT
R680	247 0006 959	Chip 430 ohm	RM73B-431JT
R682	247 0007 903	Chip 680 ohm	RM73B-681JT
R684	247 0007 974	Chip 1.3K ohm	RM73B-132JT
R704	247 0009 985	Chip 10K ohm	RM73B-103JT
R705	247 0010 961	Chip 22K ohm	RM73B-223JT
R710	247 1009 900	Chip 4.7K ohm	RM73B2B472JT
R711	247 0009 985	Chip 10K ohm	RM73B-103JT
R712	247 0009 985	Chip 10K ohm	RM73B-103JT
R715	247 0009 985	Chip 10K ohm	RM73B-103JT
R716	247 1009 900	Chip 4.7K ohm	RM73B2B472JT
R717	247 1009 984	Chip 10K ohm	RM73B2B103JT
R718	247 0009 985	Chip 10K ohm	RM73B-103JT

CAPACITORS GROUP

C101	257 0008 967	Chip(Ceramic)680p/50V	CK73B1H681KT
C103	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C104	257 0008 967	Chip(Ceramic)680p/50V	CK73B1H681KT
C105	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C106	257 0004 961	Chip(Ceramic)100p/50V	CC73SL1H101JT
C107	254 4250 929	Electrolytic 100μ/6.3V	CE04W0J101MT
C108	255 1256 903	Film 0.0075μ/50V	CQ92M1H752JT
C109	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C110	257 0005 902	Chip(Ceramic)150p/50V	CC73SL1H151JT
C111	255 1213 904	Film 0.012μ/50V	CQ93M1H123JT
C113	257 0009 937	Chip(Ceramic)0.0027μ/50V	CK73B1H272KT
C114	255 1204 900	Film 0.0022μ/50V	CQ93M1H222JT
~116			
C117, 118	254 4260 906	Electrolytic 0.1μ/50V	CE04W1H0R1MT
C119	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C120	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
C121	253 9031 988	Ceramic 0.0056μ/25V	CK45-1E562KT
C122	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C123	254 4252 927	Electrolytic 47μ/10V	CE04W1A470MT
C124	256 1034 979	Metallized 0.1μ/50V	CF93A1H104JT
C125	257 0005 902	Chip(Ceramic)150p/50V	CC73SL1H151JT
C126	257 0009 982	Chip(Ceramic)0.0068μ/50V	CK73B1H682KT
C127	253 9031 988	Ceramic 0.0056μ/25V	CK45-1E562KT
C129	253 9031 975	Ceramic 0.0039μ/25V	CK45-1E392KT
C131	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
C132	254 4260 935	Electrolytic 0.47μ/50V	CE04W1HR47MT
C133	254 4260 964	Electrolytic 3.3μ/50V	CE04W1H3R3MT
C134	254 3056 933	Electrolytic 3.3μ/50V(BP)	CE04D1H3R3BPT
C135	257 0005 902	Chip(Ceramic)150p/50V	CC73SL1H151JT
C137	254 3056 917	Electrolytic 1μ/50V(BP)	CE04D1H010BPT
C140	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C141	257 0008 909	Chip(Ceramic)220p/50V	CK73B1H221KT
C150	254 4260 951	Electrolytic 2.2μ/50V	CE04W1H2R2MT
C151	254 4260 948	Electrolytic 1μ/50V	CE04W1H010MT
C160	257 0011 941	Chip(Ceramic)0.022μ/25V	CK73B1E223KT
C161	257 0011 967	Chip(Ceramic)0.033μ/25V	CK73B1E333KT
C162	253 1131 909	Ceramic 390p/500V	CK45B2H391KT
C163	257 0004 961	Chip(Ceramic)100p/50V	CC73SL1H101JT
C164	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C165	257 0008 996	Chip(Ceramic)0.0012μ/50V	CK73B1H122KT
C166	257 0011 941	Chip(Ceramic)0.022μ/25V	CK73B1E223KT
C167	257 0011 967	Chip(Ceramic)0.033μ/25V	CK73B1E333KT

Ref. No.	Part No.	Part Name	Remarks
C168	253 1131 909	Ceramic 390p/500V	CK45B2H391KT
C169	257 0004 961	Chip(Ceramic)100p/50V	CC73SL1H101JT
C170	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C171	257 0008 996	Chip(Ceramic)0.0012μ/50V	CK73B1H122KT
C201	257 0008 967	Chip(Ceramic)680p/50V	CK73B1H681KT
C203	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C204	257 0008 967	Chip(Ceramic)680p/50V	CK73B1H681KT
C205	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C206	257 0004 961	Chip(Ceramic)100p/50V	CC73SL1H101JT
C207	254 4250 929	Electrolytic 100μ/6.3V	CE04W0J101MT
C208	255 1256 903	Film 0.0075μ/50V	CO92M1H752JT
C209	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C210	257 0005 902	Chip(Ceramic)150p/50V	CC73SL1H151JT
C211	255 1213 904	Film 0.012μ/50V	CO93M1H123JT
C213	257 0009 937	Chip(Ceramic)0.0027μ/50V	CK73B1H272KT
C214	255 1204 900	Film 0.0022μ/50V	CO93M1H222JT
~216			
C217, 218	254 4260 906	Electrolytic 0.1μ/50V	CE04W1H0R1MT
C219	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C220	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
C221	253 9031 988	Ceramic 0.0056μ/25V	CK45-1E562KT
C222	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C223	254 4252 927	Electrolytic 47μ/10V	CE04W1A470MT
C224	256 1034 979	Metallized 0.1μ/50V	CF93A1H104JT
C225	257 0005 902	Chip(Ceramic)150p/50V	CC73SL1H151JT
C226	257 0009 982	Chip(Ceramic)0.0068μ/50V	CK73B1H682KT
C227	253 9031 988	Ceramic 0.0056μ/25V	CK45-1E562KT
C229	253 9031 975	Ceramic 0.0039μ/25V	CK45-1E392KT
C231	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
C232	254 4260 935	Electrolytic 0.47μ/50V	CE04W1HR47MT
C233	254 4260 964	Electrolytic 3.3μ/50V	CE04W1H3R3MT
C234	254 3056 933	Electrolytic 3.3μ/50V(BP)	CE04D1H3R3MBPT
C235	257 0005 902	Chip(Ceramic)150p/50V	CC73SL1H151JT
C237	254 3056 917	Electrolytic 1μ/50V(BP)	CE04D1H010MBPT
C240	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C241	257 0008 909	Chip(Ceramic)220p/50V	CK73B1H221KT
C250	254 4260 951	Electrolytic 2.2μ/50V	CE04W1H2R2MT
C251	254 4260 948	Electrolytic 1μ/50V	CE04W1H010MT
C260	257 0011 941	Chip(Ceramic)0.022μ/25V	CK73B1E223KT
C261	257 0011 967	Chip(Ceramic)0.033μ/25V	CK73B1E333KT
C262	253 1131 909	Ceramic 390p/500V	CK45B2H391KT
C263	257 0004 961	Chip(Ceramic)100p/50V	CC73SL1H101JT
C264	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C265	257 0008 996	Chip(Ceramic)0.0012μ/50V	CK73B1H122KT
C266	257 0011 941	Chip(Ceramic)0.022μ/25V	CK73B1E223KT
C267	257 0011 967	Chip(Ceramic)0.033μ/25V	CK73B1E333KT
C268	253 1131 909	Ceramic 390p/500V	CK45B2H391KT
C269	257 0004 961	Chip(Ceramic)100p/50V	CC73SL1H101JT
C270	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C271	257 0008 996	Chip(Ceramic)0.0012μ/50V	CK73B1H122KT
C301	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C302	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C303	254 4252 930	Electrolytic 100μ/10V	CE04W1A101MT
C304	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C305	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C306	254 4252 930	Electrolytic 100μ/10V	CE04W1A101MT
C307, 308	254 4252 927	Electrolytic 47μ/10V	CE04W1A470MT
C309	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
~311			
C313	254 4260 935	Electrolytic 0.47μ/50V	CE04W1HR47MT
C314	254 4260 906	Electrolytic 0.1μ/50V	CE04W1H0R1MT
C330	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
~333			
C334	257 0009 924	Chip(Ceramic)0.0022μ/50V	CK73B1H222KT
C335	257 0009 924	Chip(Ceramic)0.0022μ/50V	CK73B1H222KT
C336	257 0009 982	Chip(Ceramic)0.0068μ/50V	CK73B1H682KT
C337	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT


Ref. No.	Part No.	Part Name	Remarks
C338	254 4256 949	Electrolytic 100μ/25V	CE04W1E101MT
C339	255 4120 900	Film 0.0068μ/100V	CO93P2A682JT
C340	257 0002 921	Chip(Ceramic)10p/50V	CC73SL1H100DT
C341	257 1011 982	Chip(Ceramic)0.047μ/50V	CK73B1H473KT
C350, 351	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
C354, 355	257 0009 924	Chip(Ceramic)0.0022μ/50V	CK73B1H222KT
C356	257 0009 982	Chip(Ceramic)0.0068μ/50V	CK73B1H682KT
C357	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C358	254 4256 949	Electrolytic 100μ/25V	CE04W1E101MT
C359	255 4120 900	Film 0.0068μ/100V	CO93P2A682JT
C360	257 0002 921	Chip(Ceramic)920p/50V	CC73SL1H921JT
C361	257 1011 982	Chip(Ceramic)0.047μ/50V	CK73B1H473KT
C370	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C380	253 9031 917	Ceramic 0.068μ/25V	CK45-1E683KT
C390	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C702	259 0007 715	Electrolytic 4700μ	SB CAP==472=C
C713, 714	254 4260 935	Electrolytic 0.47μ/50V	CE04W1HR47MT
C914	254 4261 730	Electrolytic 220μ/50V	CE04W1H221MC

OTHER PARTS

L101	235 0020 945	INDUCTOR 153JT	
L102	232 0109 003	MPX FILTER	
L103	235 0020 916	INDUCTOR 822JT	
L104, 105	235 0020 945	INDUCTOR 153JT	
L106, 107	239 0010 009	HX STEP UP COIL	
L201	235 0020 945	INDUCTOR 153JT	
L202	232 0109 003	MPX FILTER	
L203	235 0020 916	INDUCTOR 822JT	
L204, 205	235 0020 945	INDUCTOR 153JT	
L206, 207	239 0010 009	HX STEP UP COIL	
L330, 350	232 0153 004	OSC COIL	
SW604 ~620	212 4388 907	TACT SWITCH	
SW701	212 0345 009	ROTARY SWITCH	
JK301	204 8261 003	4P PIN JACK	
JK302	204 8264 026	HEAD PHONE JACK	
JK303	204 8416 007	MINI JACK	
CN121	205 0549 014	35P FFC CONNECTOR BASE	
CN131	205 0321 038	3P CONNECTOR BASE(RED)	
CN132	205 0343 032	3P CONNECTOR BASE(KR-PH)	
CN141	205 0406 034	3P CONNECTOR BASE(KR-PH)	
CN142	205 0323 036	3P CONNECTOR BASE(BLK)	
CN191	205 0711 091	15P TBG CONNECTOR BASE	

DOLBY  
LINE IN, OUT  
HEAD PHONE  
CD SYNCRO.

WARNING:

- Parts marked with  and/shading have special characteristics important to safety.
- Be sure to use the specified parts for replacement.


PARTS LIST OF 3U-2526 CONTROL P.W.B. UNIT

Ref. No.	Part No.	Part Name	Remarks
<b>SEMICONDUCTORS GROUP</b>			
IC501	262 0447 009	IC BA6109U1	
IC551	262 0447 009	IC BA6109U1	
IC601	262 1752 007	IC UPD78042-012-3B9	RA601, 602 not necessary
	or	IC UPD78P042-3BE	RA601, 602 necessary
IC602	499 0150 008	REMOTE SENSOR SBX1610-52	
TR501	269 0040 902	Digital Tr. DTC144ES(47K-47K)T	
TR502, 503	269 0099 908	Digital Tr. DTC143TS(4.7K)T	
TR504	271 0183 927	Transistor 2SA933(R/S)T-93	
TR505	274 0036 905	Transistor 2SD468(C)TF	
-507			
TR508	269 0015 908	Digital Tr. DTC124XS(22K-47K)T	
TR551	269 0040 902	Digital Tr. DTC144ES(47K-47K)T	
TR552, 553	269 0099 908	Digital Tr. DTC143TS(4.7K)T	
TR554	271 0183 927	Transistor 2SA933(R/S)T-93	
TR555	274 0036 905	Transistor 2SD468(C)TF	
-557			
TR558	269 0015 908	Digital Tr. DTC124XS(22K-47K)T	
TR601	269 0046 906	Digital Tr. DTA114ES(10K-10K)T	
TR602	269 0015 908	Digital Tr. DTC124XS(22K-47K)T	
TR603,	269 0020 906	Digital Tr. DTC114ES(10K-10K)T	
TR604	269 0046 906	Digital Tr. DTA114ES(10K-10K)T	
D501	276 0432 903	Diode 1SS270ATE	
-504			
D551	276 0432 903	Diode 1SS270ATE	
-554			
D601	276 0432 903	Diode 1SS270ATE	
D602	276 0553 905	Diode 1SR35-200A(T93X)	
D603	276 0432 903	Diode 1SS270ATE	
ZD501	276 0465 909	Zener Diode HZS7B-1TD	
ZD502	276 0457 904	Zener Diode HZS4C-1TD	
ZD551	276 0465 909	Zener Diode HZS7B-1TD	
ZD552	276 0457 904	Zener Diode HZS4C-1TD	
<b>RESISTORS GROUP</b>			
(not included Carbon Film $\pm 5\%$ 1/4W type)			
RT501	211 6070 032	Adjust 22K ohm	V06QB223
RT502	211 6070 029	Adjust 10K ohm	V06QB103
RT551	211 6070 032	Adjust 22K ohm	V06QB223
RT552	211 6070 029	Adjust 10K ohm	V06QB103
R501	247 0008 957	Chip 3K ohm	RM73B--302JT
R502	247 0008 902	Chip 1.8K ohm	RM73B--182JT
R503	247 0008 957	Chip 3K ohm	RM73B--302JT
R504	247 0008 902	Chip 1.8K ohm	RM73B--182JT
R505, 506	247 0007 945	Chip 1K ohm	RM73B--102JT
R507	247 0009 901	Chip 4.7K ohm	RM73B--472JT
R508	247 0010 961	Chip 22K ohm	RM73B--223JT
R509, 510	247 0009 985	Chip 10K ohm	RM73B--103JT
R511	247 0012 927	Chip 100K ohm	RM73B--104JT
R512	247 0009 985	Chip 10K ohm	RM73B--103JT
R513	247 0010 974	Chip 24K ohm	RM73B--243JT
R514	247 0010 961	Chip 22K ohm	RM73B--223JT
R516	247 0007 945	Chip 1K ohm	RM73B--102JT
⚠ R517	241 2315 912	Carbon Film 10 ohm 1/4W (Fusible)	RD14B2E100GFRST
R519	247 0007 945	Chip 1K ohm	RM73B--102JT
R520	247 0012 927	Chip 100K ohm	RM73B--104JT
-522			
R523	247 0012 927	Chip 100K ohm	RM73B--104JT
R525	244 2055 970	Metallic film 56 ohm $\pm 5\%$ 1W	RS14B3A560JST

Ref. No.	Part No.	Part Name	Remarks
R551	247 0008 957	Chip 3K ohm	RM73B--302JT
R552	247 0008 902	Chip 1.8K ohm	RM73B--182JT
R553	247 0008 957	Chip 3K ohm	RM73B--302JT
R554	247 0008 902	Chip 1.8K ohm	RM73B--182JT
R555, 556	247 0007 945	Chip 1K ohm	RM73B--102JT
R557	247 0009 901	Chip 4.7K ohm	RM73B--472JT
R558	247 0010 961	Chip 22K ohm	RM73B--223JT
R559, 560	247 0009 985	Chip 10K ohm	RM73B--103JT
R561	247 0012 927	Chip 100K ohm	RM73B--104JT
R562	247 0009 985	Chip 10K ohm	RM73B--103JT
R563	247 0010 974	Chip 24K ohm	RM73B--243JT
R564	247 0010 961	Chip 22K ohm	RM73B--223JT
R566	247 1007 944	Chip 1K ohmk	RM73B2B102JT
⚠ R567	241 2315 912	Carbon Film 10 ohm 1/4W (Fusible)	RD14B2E100GFRST
R569	247 1007 944	Chip 1K ohm	RM73B2B102JT
R570	247 1007 944	Chip 1K ohm	RM73B2B102JT
R571, 572	247 0007 945	Chip 1K ohm	RM73B--102JT
R573	247 0012 927	Chip 100K ohm	RM73B--104JT
R575	244 2055 970	Metallic film 56 ohm $\pm 5\%$ 1W	RS14B3A560JST
R576	247 1018 904	Chip 0 ohm	RM73B20R0KT
-579			
R580	247 0018 905	Chip 0 ohm	RM73B--0R0KT
-587			
R590	247 1007 944	Chip 1K ohm	RM73B2B102JT
R591, 592	247 0007 945	Chip 1K ohm	RM73B--102JT
R593	247 1018 904	Chip 0 ohm	RM73B20R0KT
R603	247 0005 976	Chip 200 ohm	RM73B--201JT
R607	247 0010 961	Chip 22K ohm	RM73B--223JT
R610	247 0012 927	Chip 100K ohm	RM73B--104JT
R611	247 1012 926	Chip 100K ohm	RM73B2B104JT
R612	247 0005 963	Chip 180 ohm	RM73B--181JT
R613	247 0005 947	Chip 150 ohm	RM73B--151JT
R614	247 0007 945	Chip 1K ohm	RM73B--102JT
R618	247 1018 904	Chip 0 ohm	RM73B20R0KT
R620, 621	247 0012 927	Chip 100K ohm	RM73B--104JT
R685	247 0008 915	Chip 2K ohm	RM73B--202JT
R686	247 0018 904	Chip 0 ohm	RM73B20R0KT
R687	247 0012 927	Chip 100K ohm	RM73B--104JT
R688	247 1018 904	Chip 0 ohm	RM73B20R0KT
-690			
R691	247 0009 985	Chip 10K ohm	RM73B--103JT
R696, 697	247 0009 985	Chip 10K ohm	RM73B--103JT
R698	247 0012 927	Chip 100K ohm	RM73B--104JT
<b>CAPACITORS GROUP</b>			
C501, 502	257 0010 900	Chip (Ceramic) 0.01 $\mu$ /50V	CK73B1H103KT
C503	257 0011 941	Chip (Ceramic) 0.022 $\mu$ /25V	CK73B1E223KT
C504	257 0010 900	Chip (Ceramic) 0.01 $\mu$ /50V	CK73B1H103KT
C505	254 4260 948	Electrolytic 1 $\mu$ /50V	CE04W1H010MT
C506	254 4258 905	Electrolytic 4.7 $\mu$ /35V	CE04W1V4R7MT
C551, 552	257 0010 900	Chip (Ceramic) 0.01 $\mu$ /50V	CK73B1H103KT
C553	257 0011 941	Chip (Ceramic) 0.022 $\mu$ /25V	CK73B1E223KT
C554	257 0010 900	Chip (Ceramic) 0.01 $\mu$ /50V	CK73B1H103KT
C555	254 4260 948	Electrolytic 1 $\mu$ /50V	CE04W1H010MT
C556	254 4258 905	Electrolytic 4.7 $\mu$ /35V	CE04W1V4R7MT
C601	257 0008 983	Chip (Ceramic) 0.001 $\mu$ /50V	CK73B1H102KT
-603			
C606	257 1013 977	Chip (Ceramic) 0.068 $\mu$ /25V	CK73B1E683KT
C609	254 4305 984	Electrolytic 2.2 $\mu$ /50V	CE04W1H2R2MT
C610	254 4305 997	Electrolytic 3.3 $\mu$ /50V	CE04W1H3R3MT
C612	254 4403 718	Electrolytic 1000 $\mu$ /25V	CE04W1E102MC

Ref. No.	Part No.	Part Name	Remarks
<b>OTHER PARTS</b>			
XT501	399 0107 007	CRYSTAL OSCILLATOR	CST4.19MGW. FIP7BAM6
FL601	393 4151 006	FL TUBE	
SW601	212 5604 910	TACT SWITCH	
	~603		
CN121	205 0549 014	35P FFC CONNECTOR BASE	
CN501	205 0801 008	17P TRAP CONNECTOR BASE	
CN551	205 0801 008	17P TRAP CONNECTOR BASE	
CN602	205 0800 009	6P PWB-PWB PIN	
CN603	205 0694 066	6P PWB-PWB SOCKET	


**WARNING:**

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Be sure to use the specified parts for replacement.

**PARTS LIST OF 3U-2525 POWER SUPPLY P.W.B. UNIT**

Ref. No.	Part No.	Part Name	Remarks
<b>SEMICONDUCTORS GROUP</b>			
IC901	263 0656 000	IC MC7808	
IC902	263 0657 009	IC MC7908	
IC903	263 0648 005	IC MC7806CT	
TR901	272 0025 907	Transistor 2SB562 (C) TF	
D901	276 0553 905	Diode 1SR35-200A (T93X)	
	~906		
D908	276 0553 905	Diode 1SR35-200A (T93X)	
	~911		
D912	276 0432 903	Diode 1SS270ATE	
ZD912	276 0482 908	Zener Diode HZS27-1TD	
ZD913	276 0467 907	Zener Diode HZS9A-1TD	
ZD914	276 0460 904	Zener Diode HZS5C-1TD	


**CAPACITORS GROUP**

 C901	253 8014 702	Ceramic 0.01 $\mu$ /400VAC	CK45F2GAC103MC
C901, 902	254 4403 718	Electrolytic 1000 $\mu$ /25V	CE04W1E102MC
C903, 904	253 9031 917	Ceramic 0.068 $\mu$ /25V	CK45-1E683KT
C905, 906	254 4252 930	Electrolytic 100 $\mu$ /10V	CE04W1A101MT
C907	254 4257 715	Electrolytic 4700 $\mu$ /25V	CE04W1E472MC
C909	253 9031 917	Ceramic 0.068 $\mu$ /25V	CK45-1E683KT
C910	254 4250 796	Electrolytic 4700 $\mu$ /6.3V	CE04W0J472MC
C911	254 4260 951	Electrolytic 2.2 $\mu$ /50V	CE04W1H2R2MT
C912	254 4414 707	Electrolytic 470 $\mu$ /50V	CE04W1H471MC
C913	254 4258 947	Electrolytic 47 $\mu$ /35V	CE04W1V470MT
C916	254 4256 907	Electrolytic 10 $\mu$ /25V	CE04W1E100MT

**OTHER PARTS**

SW901	212 0286 003	POWER SWITCH	
F901	206 1031 045	FUSE (0.25) A	
CN191	205 0711 091	15P TBG CONNECTOR BASE	
CN901	205 0581 001	2P VH CONNECTOR BASE	


**WARNING:**

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Be sure to use the specified parts for replacement.

**PARTS LIST OF PACKING & ACCESSORIES**

Ref. No.	Part No.	Part Name	Remarks
	504 0092 060	STYLEN PAPER	FOR AC CORD
	505 0131 050	CABINET COVER	
	505 0038 030	POLY COVER	
	503 0704 106	PACKING ASS'Y	
	501 1630 011	CARTON CASE	
	511 2430 000	INST. MANUAL (8)	
	511 2431 009	INST. MANUAL (3)	
	203 2223 002	2P PIN CORD	Europe U.S.A., Canada, Australia, Multi. Voltage (Asia)
	203 4880 003	3P MINI PLUG CORD	
	515 0455 005	TAPE CATALOG	Europe Only
	515 0623 002	DAI WARRANTY HOME	
	 203 3667 007	PLUG ADAPTER	U.S.A. Only
	499 0154 101	REMOTE CONTROLLER (RC-410)	Multi. Voltage Only
	511 2451 005	INST. MANUAL (REMOTE CONTROLLER)	Multi Voltage Only
	515 0522 006	CAUTION SHEET	Multi. Voltage Only

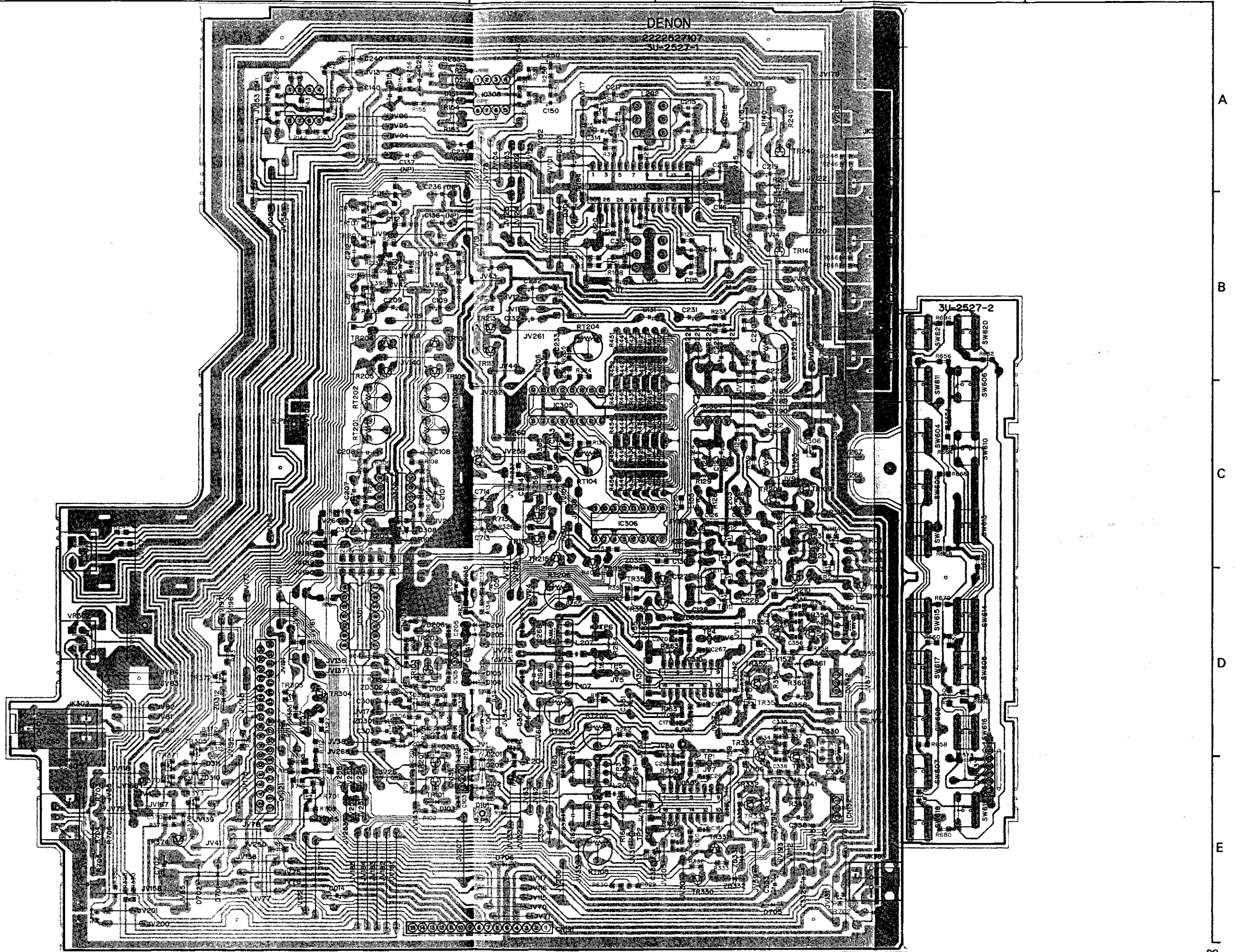
**WARNING:**

- Parts marked with  and/shading have special characteristics important to safety.  
Be sure to use the specified Parts for replacement.



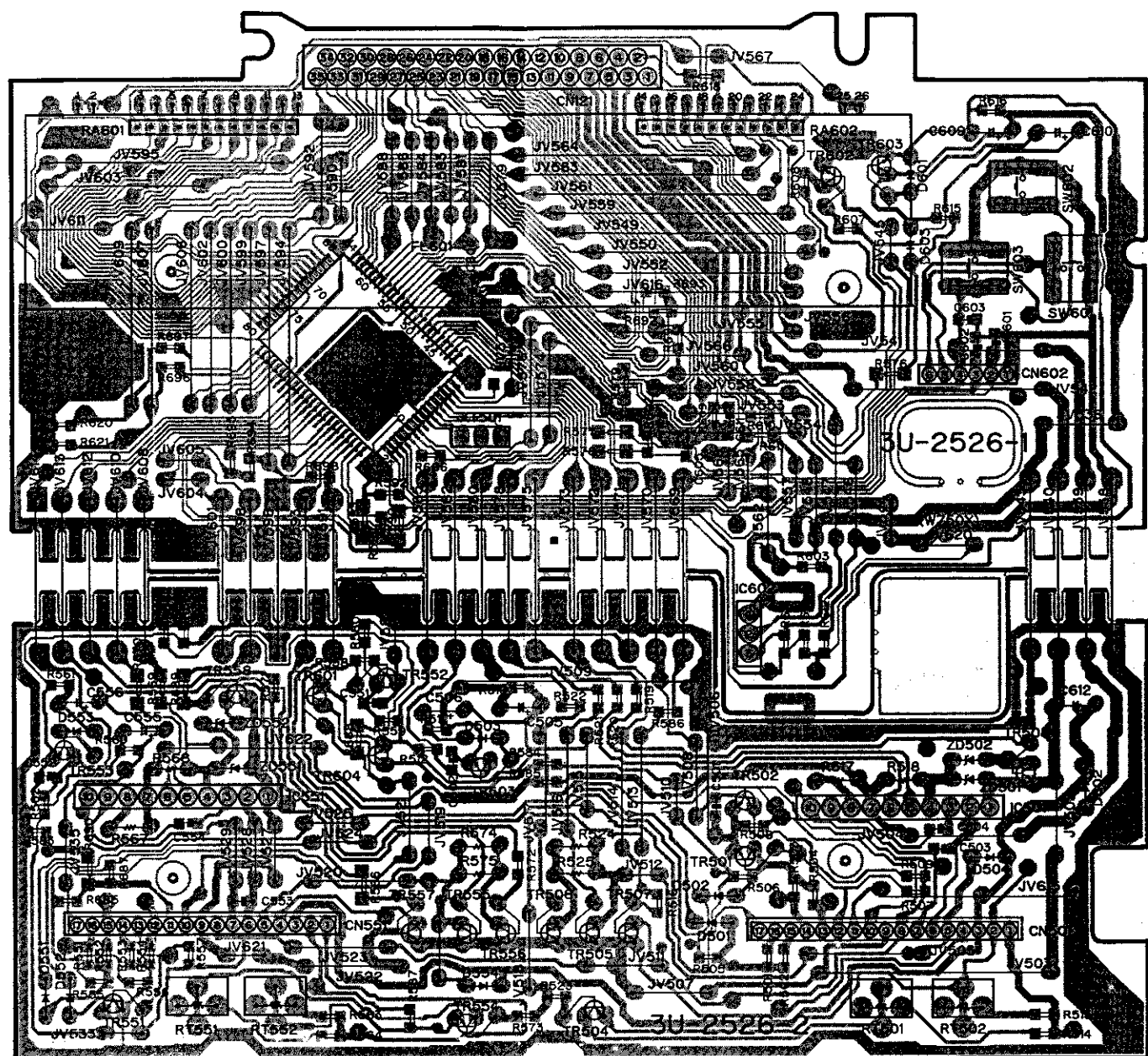
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P.W. BOARD OF 3U-2527 AUDIO UNIT

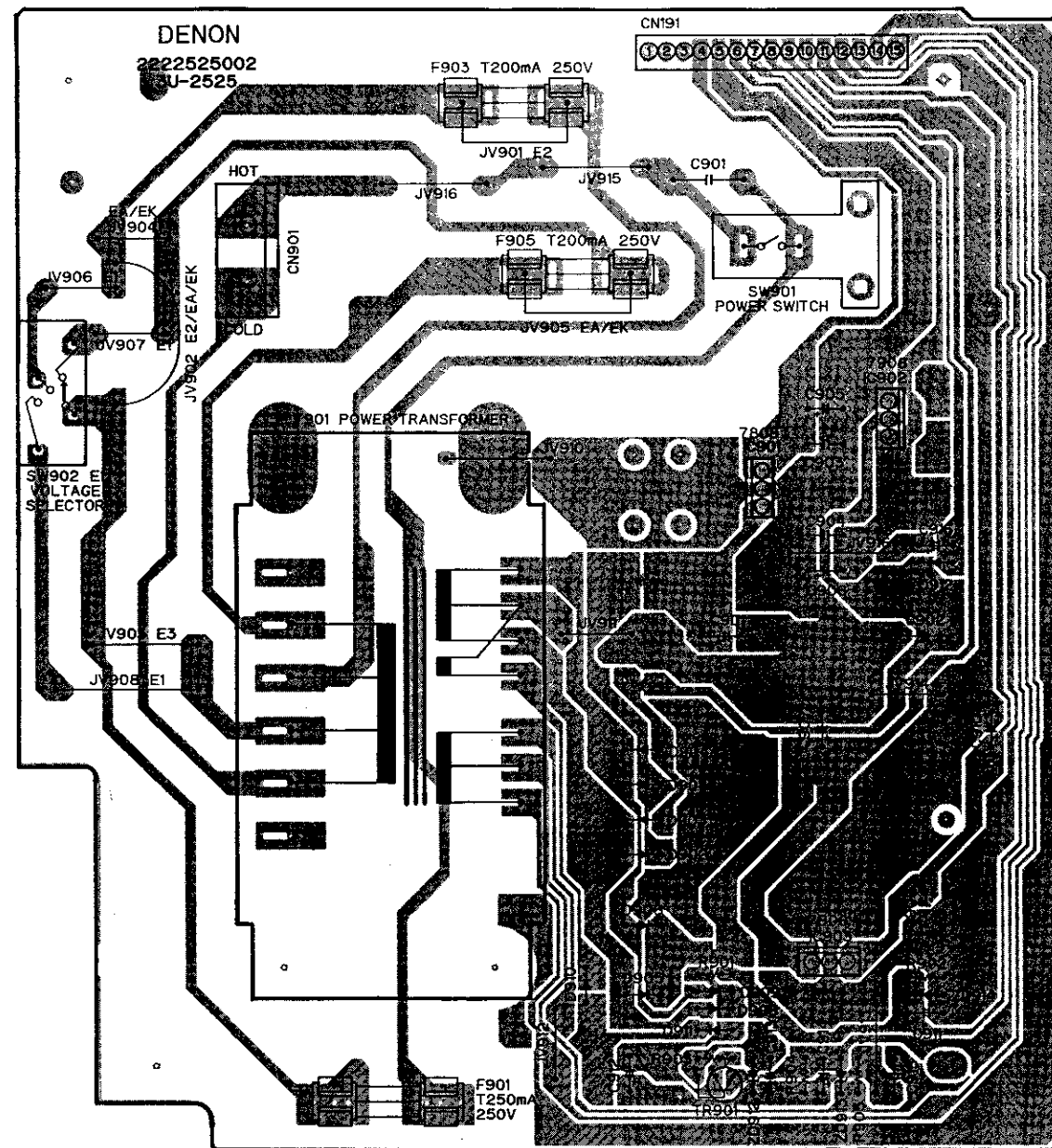


A  
B  
C  
D  
E

P.W.BOARD OF 3U-2526 CONTROL UNIT



P.W.BOARD OF 3U-2525 POWER SUPPLY UNIT



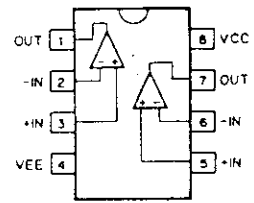
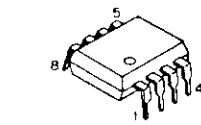
NOTES

Parts used marked-----○  
Parts not used marked--X

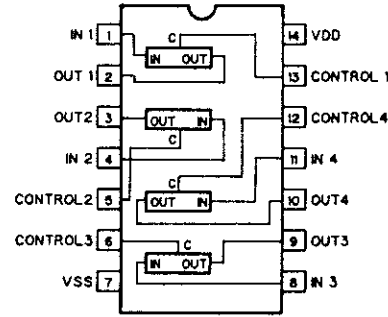
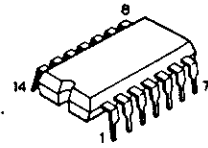
PARTS	AREA	U.K. Australia	Europe	U.S.A. Canada	Multi Voltage (Asia)
JV901		X	○	X	X
JV902		○	○	X	X
JV903		X	X	○	X
JV904		○	X	X	X
JV905		○	X	X	X
JV906		X	X	X	○
JV907		X	X	X	○
JV908		X	X	X	○
F903		X	X	X	○
F905		X	X	X	○
Voltage Selector		X	X	X	○

SEMICONDUCTORS

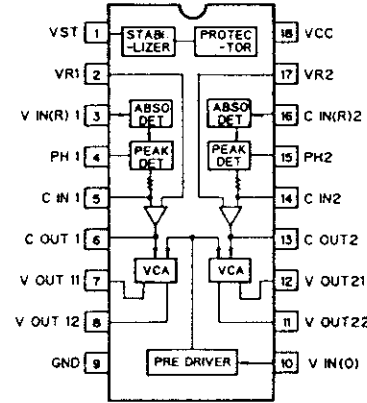
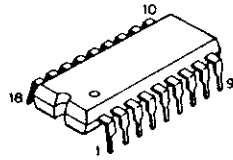
• IC



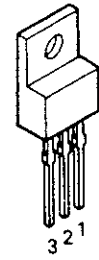
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- UPC4570C



- HD14066BP

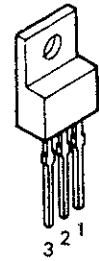


- $\mu$ PC1297CA



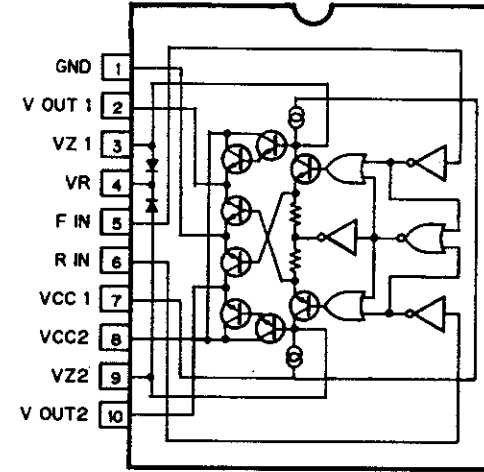
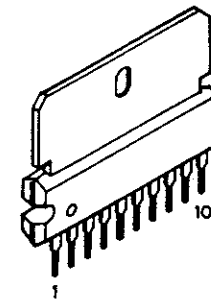
3 GND  
2 INPUT  
1 OUTPUT

- MC7908

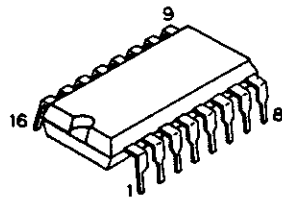


3 INPUT  
2 GND  
1 OUTPUT

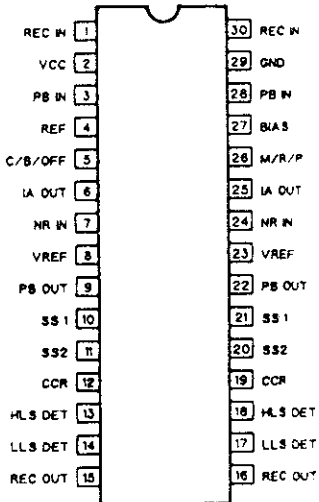
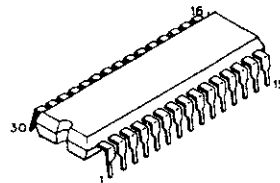
- MC7808
- MC7806CT



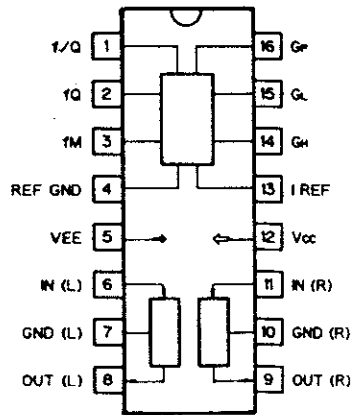
- BA6109U1



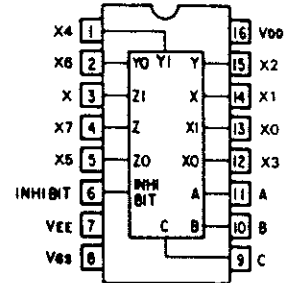
- CXA1198AP
- HD14051BP



- HA1217ONT

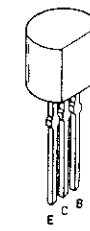


- CXA1198AP



- HD14051BP

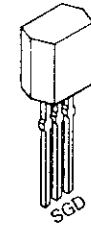
• Transistors



- 2SA933
- 2SC2603
- 2SK373

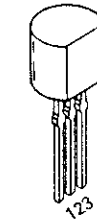


- 2SB562

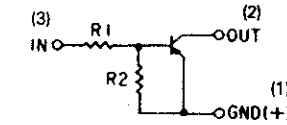


- 2SK184

S (Source)  
G (Gate)  
D (Drain)

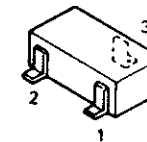


- 1: GND/Emitter
- 2: OUT/Collector
- 3: IN/Base

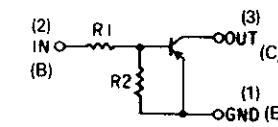


- DTA114TS
- DTA144ES
- DTA144WS

- DTC114ES
- DTC124XS
- DTC143TS
- DTC144ES



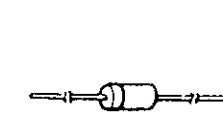
- 1: GND/Emitter
- 2: In/Base
- 3: Out/Collector



- DTA114EK
- DTA124EK

- DTC114EK
- DTC124EK
- DTC143EK
- DTC144EK

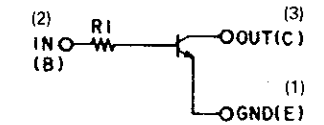
• Diodes



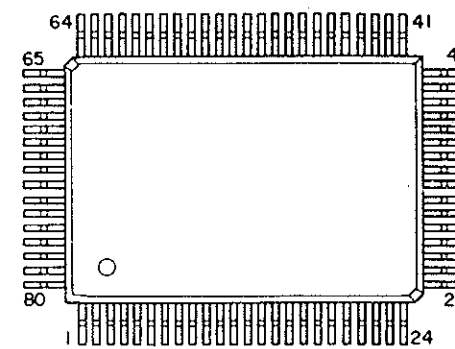
- IS2076A
- ISS270A
- ISR35-200A

- HZS4C-1
- HZS5C-1
- HZS7B-1
- HZS6A-1
- HZS9B-1

- HZS9A-1
- HZS27-1

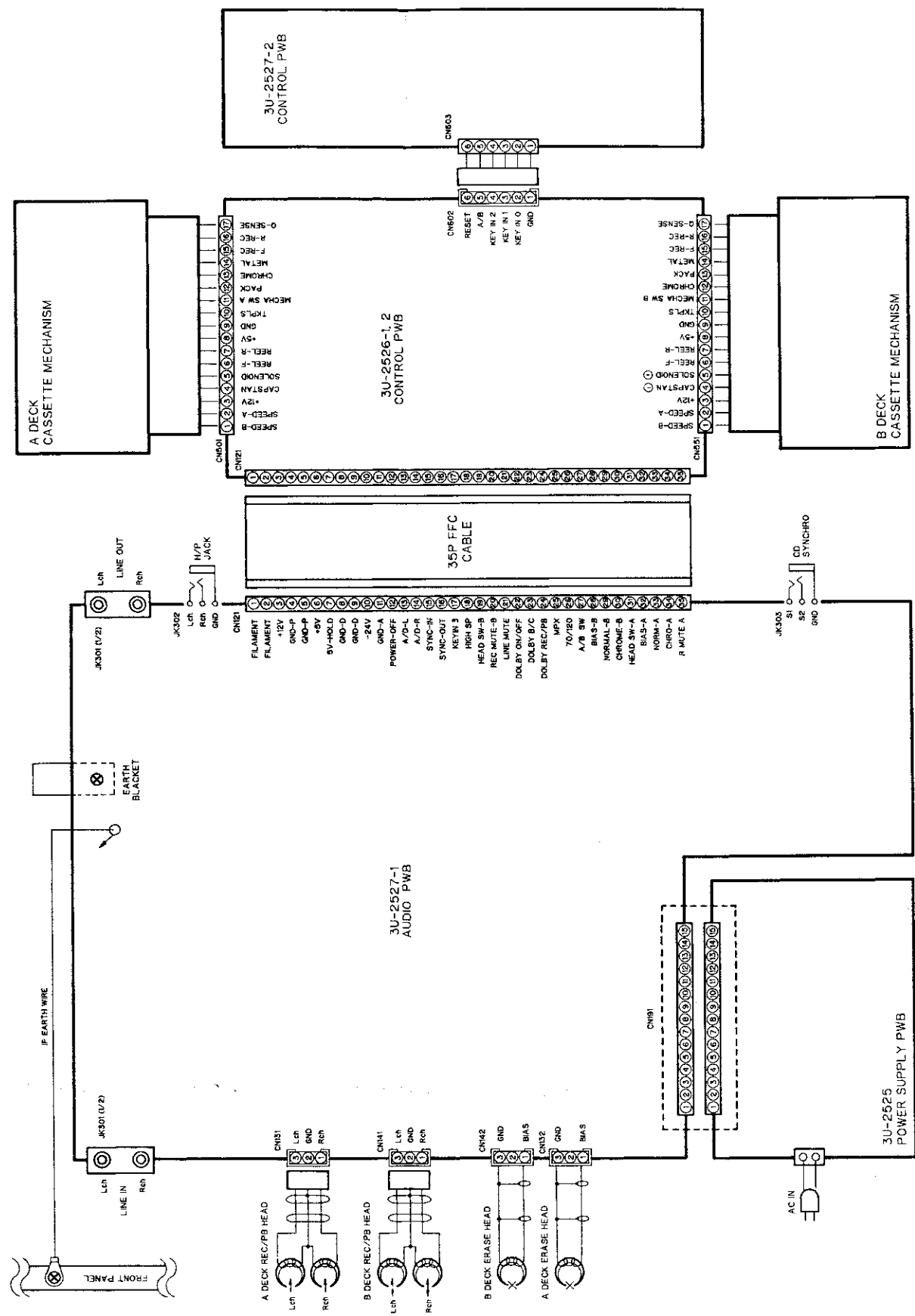


- DTC114TK

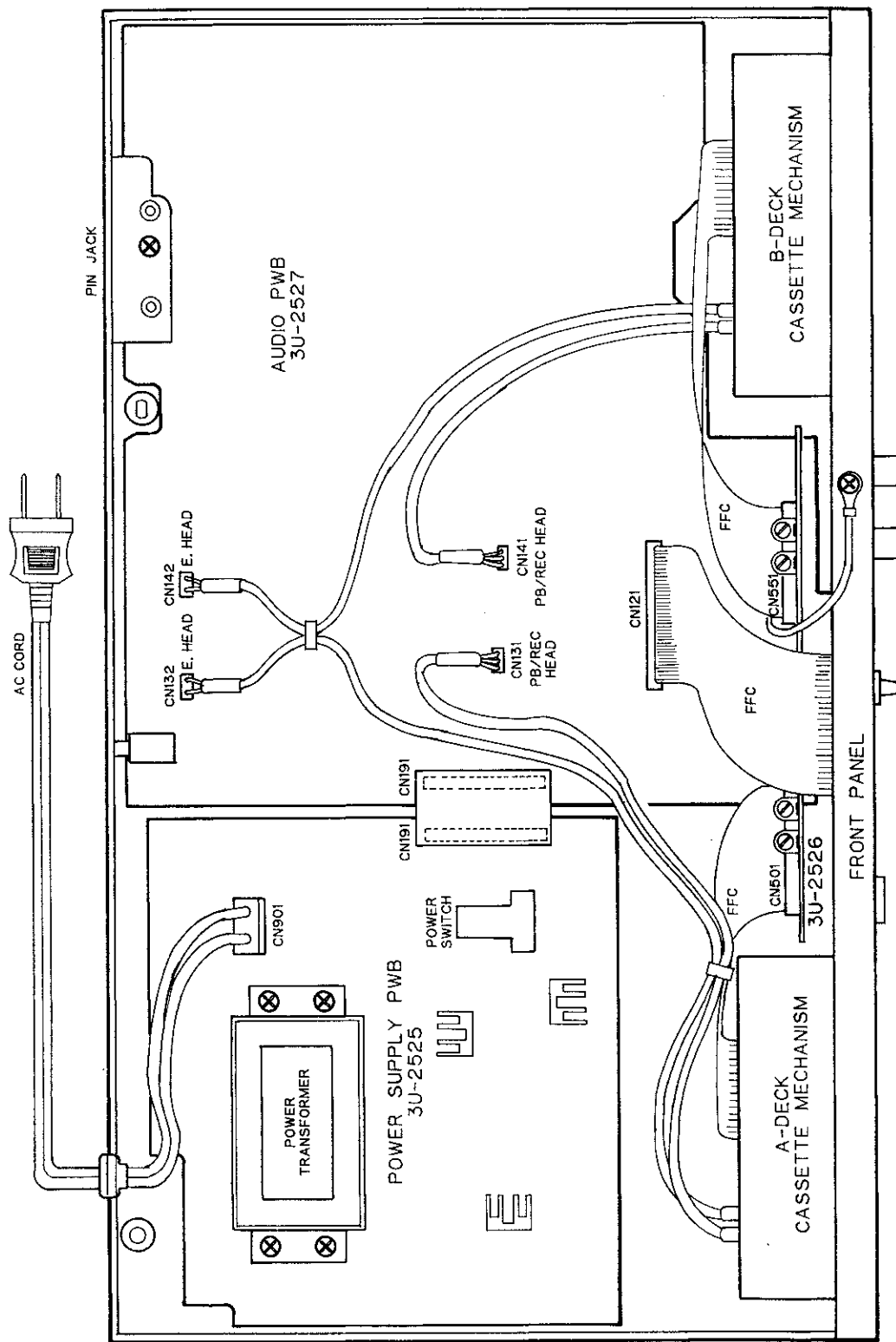


- $\mu$ PD7842-3BE-012 ( $\mu$ COM)

WIRING DIAGRAM

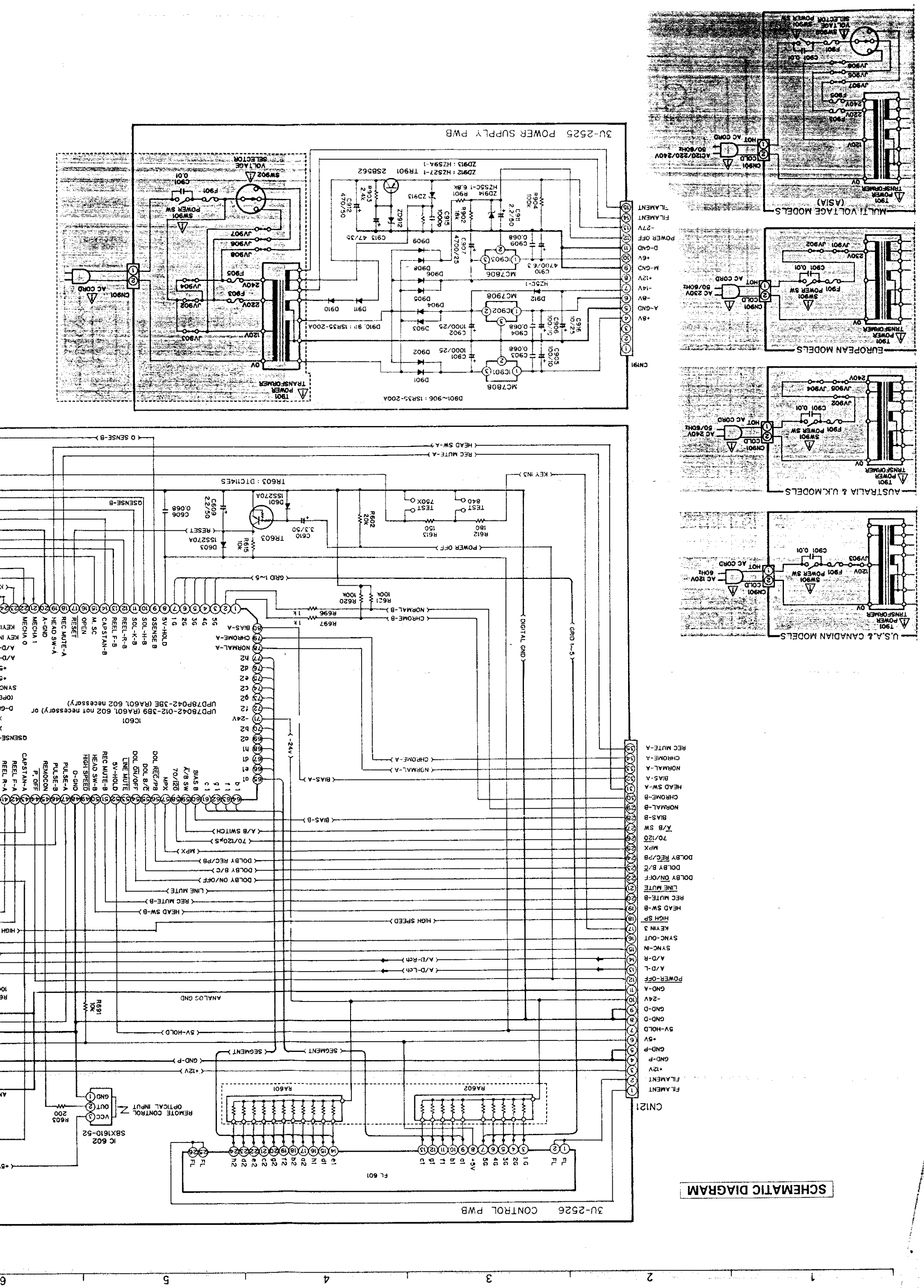


BUNDLE DIAGRAM






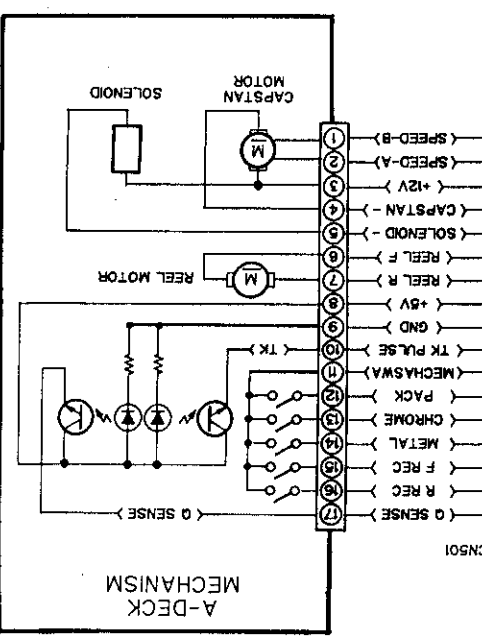
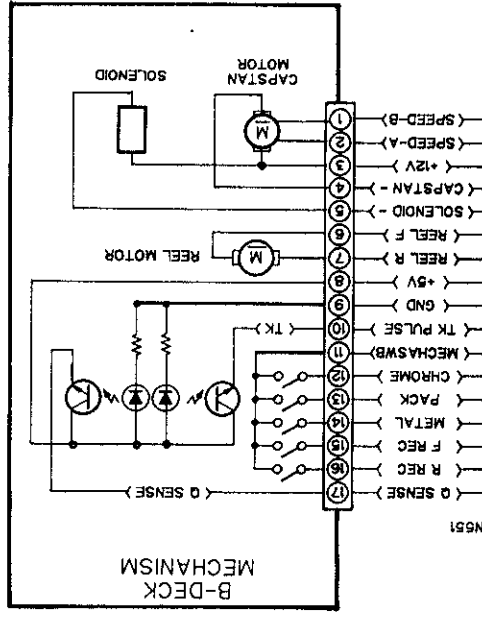
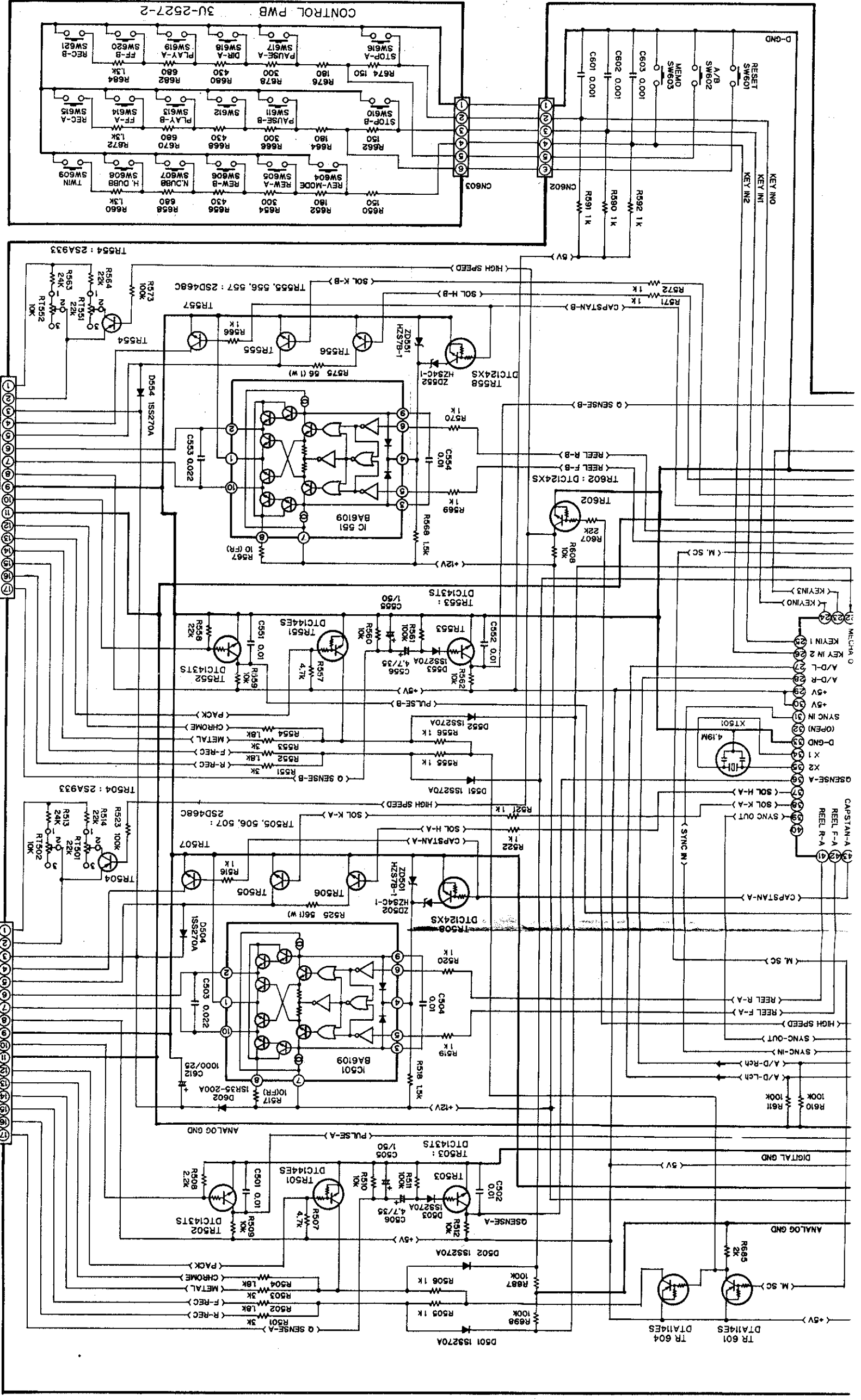
**SCHEMATIC DIAGRAM**



H G F E D C B A

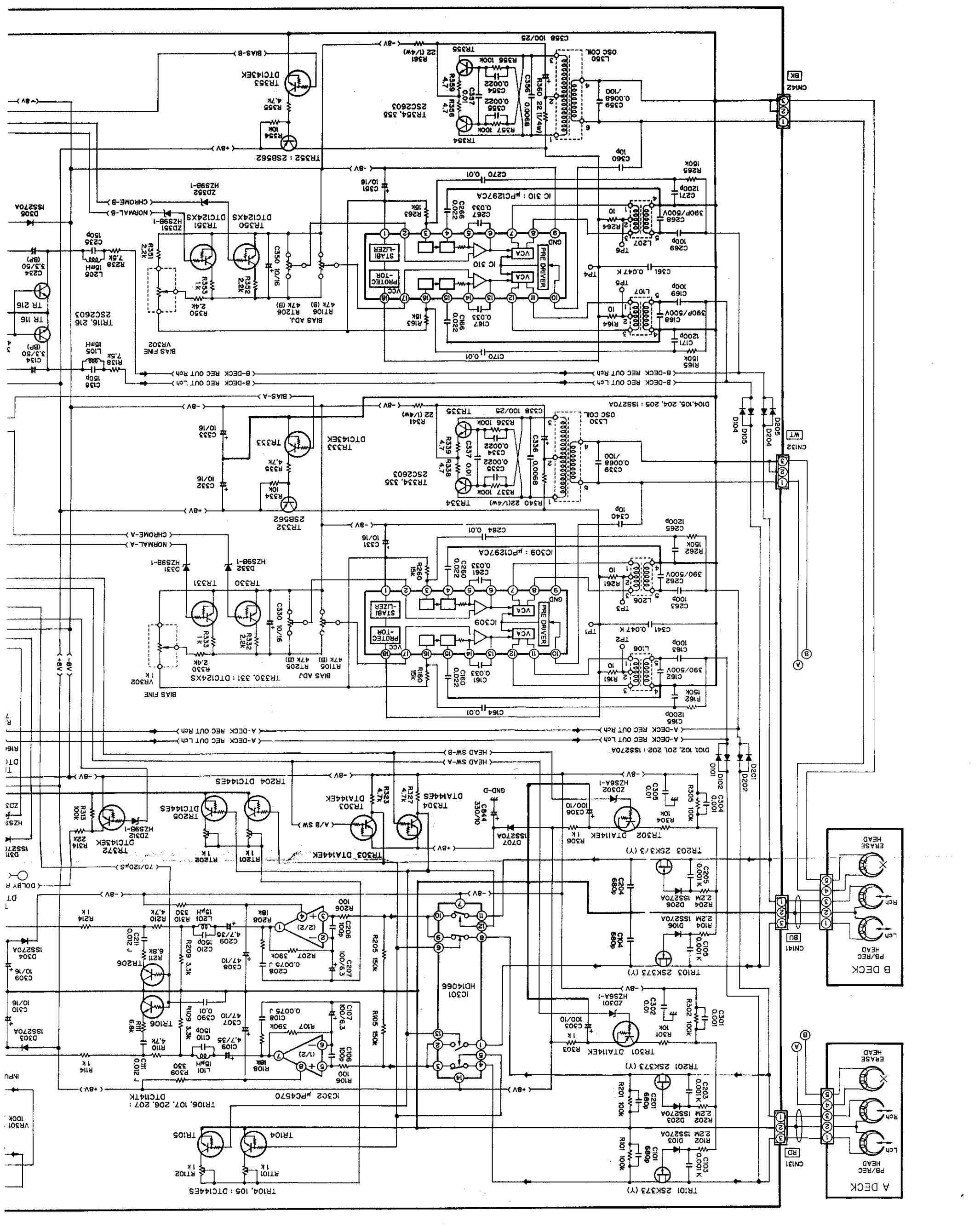
11 10 9 8 7 6

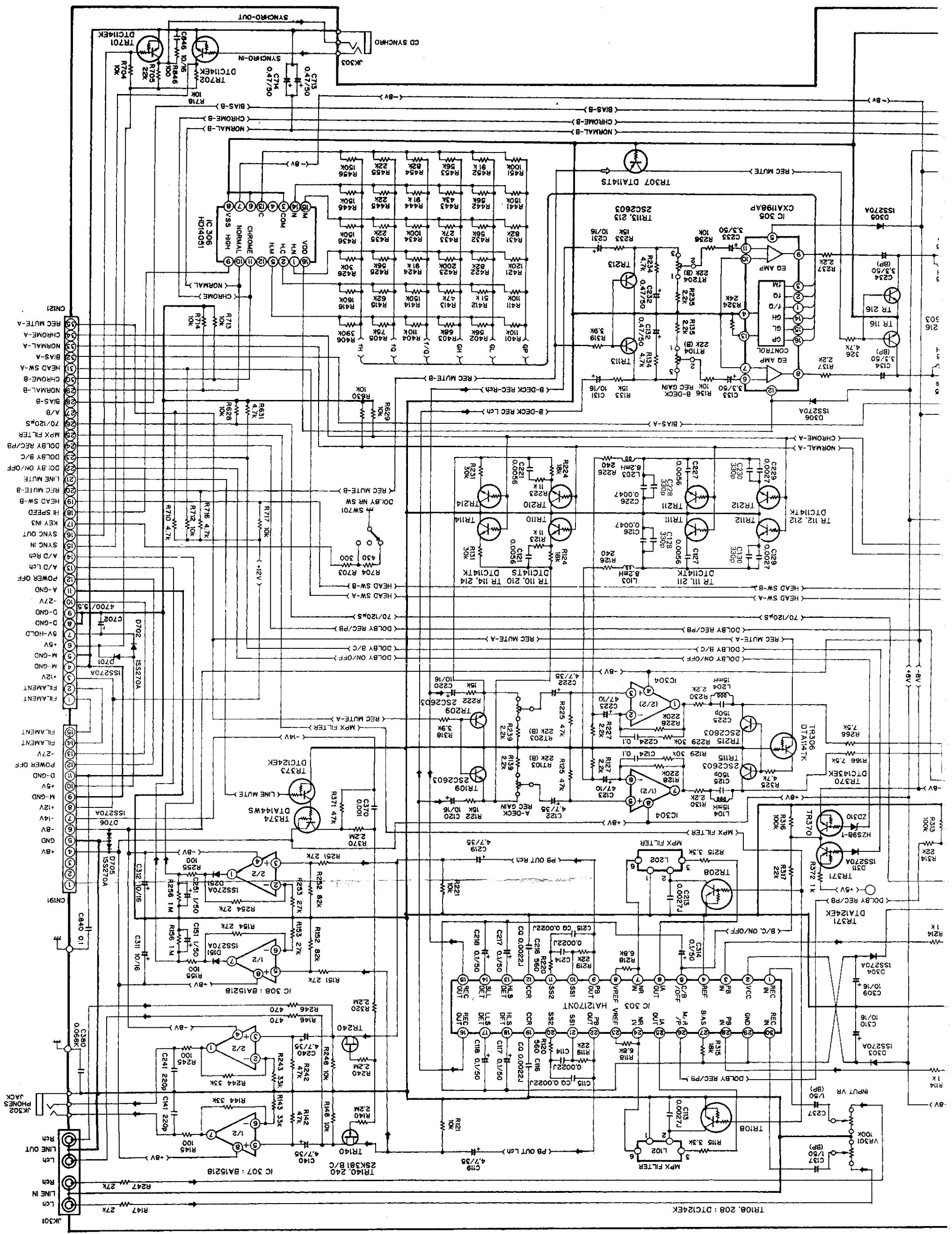
Note: ● Resistance shall be 1/4 W unless otherwise specified and the unit is Ω.  
 ● The unit of capacitor is μF, P is pF unless otherwise specified.  
 ● This circuit diagram shows the basic circuit. It is subject to change for the purpose of improvement.  
 Parts marked with this symbol  have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.



H  
G  
F  
E  
D  
C  
B  
A

SCHMATIC DIAGRAM





JK301

LINE IN

LINE OUT

PHONES JACK

POWER OFF

D-GND

M-GND

+5V

-27V

FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

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FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

FLAMENT

11

10

9

8

7

6

5

4

3

2

1

0