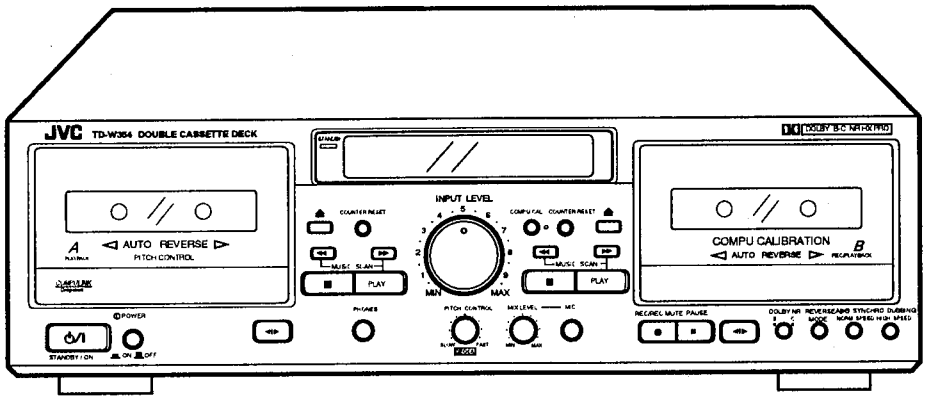
JVC

SERVICE MANUAL

DOUBLE CASSETTE DECK

TD-W354BK B/C/E/EN/G/J/U/UT



COMPU LINK Component

Area Suffix	
B	U.K.
C	Canada
E	Continental europe
EN	North Europe
G	Germany
J	U.S.A.
U	Other Areas
UT	Taiwan

Contents

No. 4362
February 1997

■ Safety Precautios

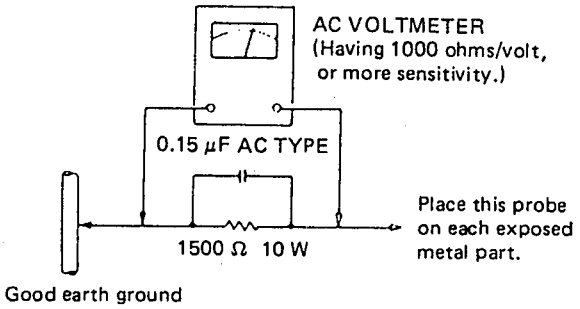
1. The design this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacture's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety — related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of service manual. Electrical components having such features are identified by shading and(⚠)on the schematic diagram and by (⚠) on the parts list in the service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of service manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps , tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after reassembling.
5. Leakage current check (Electrical shock hazard testing)

   After re — assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this check.

   • Plug the AC line cord directly into the AC outlet. using a"Leakage current tester", measure the leakage current from each exposed metal part of the cabinet, particulary any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exposeed 0.5mA AC(r.m.s.)

   • Alternate check method

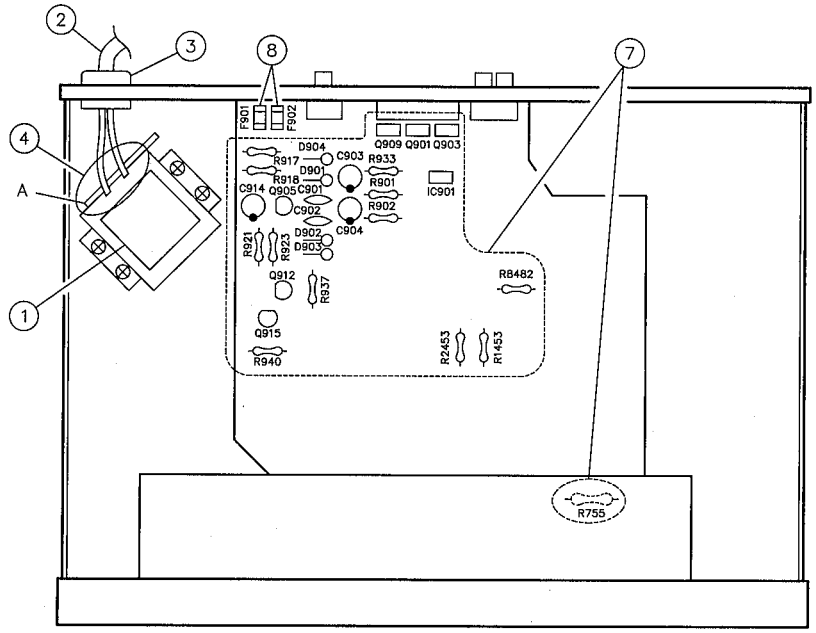
   Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 ohms 10W resistor paralleled by a 0.15 μ F AC type capacitor between an exposed metal part and a known good earth ground. Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC(r.m.s.).This corresponds to 0.5mA AC(r.m.s.).

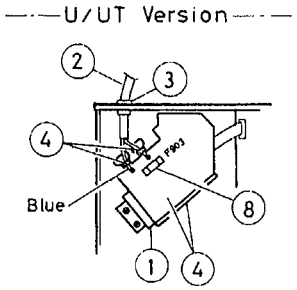


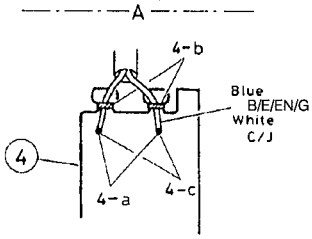
◆ Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintaintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

◆ Important Management Points Regading Safety
(Items Demanding Special Safety Precautions)

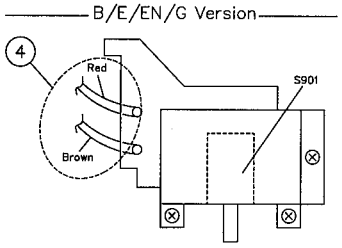






1.Securely fix the power transformer while confirming its marking specified in the following.

Suffix	Marking	Description
J/C	5216507	UL approved No.
B/E/EN/G	VTP52Z5-011F	
U/UT	VTP54G5-001F	



2.Power cord : Make sure of the following markings and inspect exterior scratch anddamage.

	Power cord	Attachment plug
J	SPT-1	KP-10W or SU-1P
C	SPT-1	KP-10W or SU-1P
E/EN/G	◁VDE▷	KP-419C or SE-1
B	BASEC BS6500	KP-610 3A
U/UT	◁VDE▷	KP-8H

3. Install the cord bushing by the specified tool whileconfirming the marking. Bushing : NIFCO 2271

4. Wiring terminal

a)When installing the power cord,wind it around the terminal by the end before soldering.

b)Arrange the wires while binding them nearby the terminal.

c)The end of respective power cords is soldered in the air and the space from others must be 3.2 mm or more in the distance.

7. Since the following parts are hear generation ones, they must no contact with electolytic capacitors, wires, etc.

● Following parts are inflammables. Make sure of their lift – up condition for the purpose.

● Parts in box [ ] must be controlled by JVC.
D901 D902 D903 D904 Q901 Q903 Q905 Q909 Q912 Q915 R755 R901 R902 R917 R918 R921 R923 R933 R937 R940 R1453 R2453 R8482 C901 C902 C903 C904 C914 IC901

Other parts

C903 C904 2200uF/25V C/J virsion (VENT TYPE)

8. All fuses must securely be connected.

In B/ E/EN/G/U/UT version, F901 and F902 must be specified by the rating of 800 mA shown on the surface as well as by the marking of Ⓢ or ⛉. In U/UT version, F903 must be specified by the rating of 315 mA shown on the surface as well as by the marking of Ⓢ .

JVC

VICTOR COMPANY OF JAPAN, LIMITED

Printed in Malaysia
VNN2356-671M

JVC

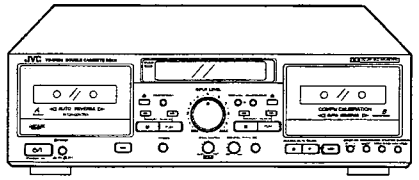
■ Instructions

DOUBLE CASSETTE DECK

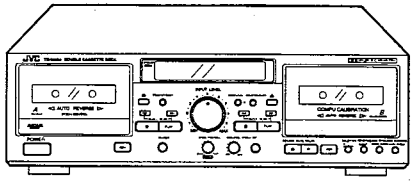
TD-W354 B/J

Area suffix
B ..... U.K.
J ..... U.S.A.

COMPU LINK
Component



(B version)



(J version)

INSTRUCTIONS

For Customer Use:
Enter below the Model No. and Serial No. which are located on the rear of the cabinet. Retain this information for future reference.

Model No. _____

Serial No. _____

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "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 to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT (In the United Kingdom)
Mains Supply (AC 230 V ~, 50 Hz only)

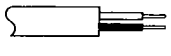
DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer.

BE SURE to replace the fuse only with an identical approved type, as originally fitted and to replace the fuse cover.

If nonetheless the mains plug is cut off ensure to remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

DO NOT make any connection to the terminal which is marked with the letter E or by the safety earth symbol or coloured green or green-and-yellow.

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



Blue to N
(Neutral) or Black
Brown to L
(Live) or Red

As these colours 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.

IF IN DOUBT-CONSULT A COMPETENT ELECTRICIAN.

Please study this instruction manual carefully before starting to operate the unit, in order to use the unit correctly. We take no responsibility for any problems resulting from misuse of this unit by operating this equipment other than instructed in this manual.

WARNING (In the United Kingdom)
Pre-recorded tapes, records or discs should not be re-recorded without the consent of the owners of copyright in the sound recording and in any copyright musical or literary work embodied in that recording as this constitutes an infringement of copyright.

INFORMATION (FOR U.S.A.)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

INTRODUCTION

Thank you for purchasing a JVC product. Read this instruction book carefully before operating to be sure of getting optimum performance and longer service life from the unit.

CONTENTS

FEATURES

1. **Double auto-reverse mechanism for recording/playback in deck B and playback in deck A**
2. **COMPU CAL function which automatically sets the flat characteristics and brings out maximum tape performance.**
3. **Full logic mechanism**
4. **Dolby* HX PRO headroom extension**
5. **Dolby B & C noise reduction system**
6. **DDRP (Dynamics Detection Recording Processor) compatibility**
   The DDRP function is possible only when used with a suitable JVC CD player.
7. **2-color FL peak level indicator**
8. **Digital tape counter respectively for deck A and deck B**
9. **Synchro start (normal-/high-speed) dubbing**
10. **Auto tape select mechanism (decks A and B)**
11. **Multi music scan mechanism for either direction**
    "Under License of Staar S.A., Brussels, Belgium"
12. **PITCH control**
13. **Microphone mixing is possible**
14. **COMPU LINK-3 compatible**

* 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.

COMPU LINK control system is the convenient system using COMPU LINK-3/SYNCHRO terminals on the rear panel. (See page 5 and 11.)

D·D·R·P
DYNAMICS DETECTION RECORDING PROCESSOR

This product can be combinated with a DDRP (DYNAMICS DETECTION RECORDING PROCESSOR) system (compact disc player + cassette deck, etc.) to enable setting the optimum recording level automatically. Refer to these instructions for details.

AUTO REVERSE OPERATION

The auto reverse operation of this unit turns the tape transport over to the reverse of forward direction automatically when the tape reaches its end during recording or playback.

- Because of cassette shell construction, a tape recorded in the forward direction should be played back in the same direction to obtain stable sound reproduction.
- During recording, auto reverse can be activated only from the forward to the reverse direction. For good sound quality and to avoid accidental erasure of previously recorded material, always start recording with the side A of the tape facing out.

CAUTIONS

1. **Prevention of Electric Shocks, Fire Hazards and Damage**
1) Even when the POWER switch is set to STANDBY, a very small current will flow. To save power and for safety when not using the unit for an extended period of time, disconnect the power cord from the household AC outlet. **(For J version)**
2) Do not handle the power cord with wet hands.
3) When unplugging from the wall outlet, always grasp and pull the plug, not the power cord.
4) Consult your nearest dealer when damage, disconnection, or contact failure is found with the cord.
5) Do not bend the cord sharply, or pull or twist it.
6) Do not modify the power cord in any manner.
7) Do not remove screws to disassemble the unit and do not touch anything inside the unit.
8) AC power cord **(For J version only)**
   The AC power cord of this unit has certain one-way direction connections to prevent electric shock. Refer to the illustration for correct connection. (Fig. 1)

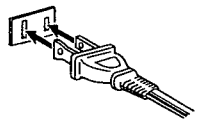


Fig. 1

(For CANADA)
CAUTION
TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

(Pour le CANADA)
ATTENTION
POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

9) Do not insert any metallic objects into the unit.
10) Unplug the power cord when there is a possibility of lightning.
11) If water gets inside the unit, unplug the power cord from the outlet and consult your dealer.
12) Do not block the ventilation holes of the unit so that heat can escape. Do not install the unit in a badly ventilated place.
13) Be sure to unplug the power cord from the outlet when going out or when the unit is not in use for an extended period of time.

2. Installation

1) Avoid placing the unit on or adjacent to an amplifier, to prevent hum from being produced by some types of amplifiers. Move the unit to a place not affected by the amplifier. Keep the unit as far as possible from a TV set.
2) Avoid installing the unit in a location subject to ambient temperatures exceeding 40 °C (104 °F) (e.g. direct sunlight, near heaters, etc.) or less than 0 °C (32 °F), excessive humidity, dust or vibrations.
3) If this set is moved suddenly from a cold place (0 °C) to a warm place, it may not function properly because of moisture generated inside the unit. The unit will function properly 30 minutes after being moved.

3. Cleaning the cabinet

Never use benzine or thinner for cabinet cleaning as they may damage the surface finish.

4. Cassette tape

1) Loose tape may become tangled in the tape transport mechanism. Remove slack by winding the tape with a pencil.
(Fig. 2)

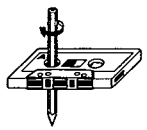


Fig. 2

Turn the pencil to tighten the tape.

2) The use of C-120 (120 minutes turn around) or thinner tape is not recommended, since characteristic deterioration may occur.
3) To prevent recordings from being erased accidentally, remove the tab(s) with a screwdriver. Reseal the slots with adhesive tape to erase and re-record after the tabs have been broken off.

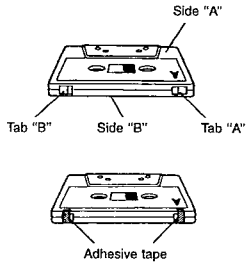


Fig. 3

4) Do not store cassette tapes where there is a magnetic field (e.g. near a TV, etc.) or in a place subject to high temperatures or humidity.

5. Auto tape select mechanism (decks A and B)

This deck has an Auto Tape Select mechanism which distinguishes between different types of tape from holes in the cassette. After the type of tape has been detected, bias and equalization are set to be suitable for the tape.

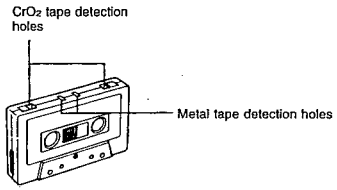
- Cassettes with the detection holes:

  Metal tape (EQ: 70μs) ..... Type IV
  CrO_2 (chrome) tape (EQ: 70μs) ..... Type II

- Cassettes without the detection holes:

  Normal tape (EQ: 120μs) ..... Type I

Some earlier types of metal and CrO_2 (chrome) tapes may not be provided with the detection holes. Avoid using such tapes, since correct equalization characteristics cannot be obtained. Also do not use ferrichrome tapes whose characteristics do not match this unit.



6. Operations

1) Noise may be generated if the power is on or in standby with the deck set to playback or recording mode. Before turning the power on or setting to standby, confirm that the ■ (stop) button has been pressed.
2) Many operations of this unit are performed under the control of a microcomputer. Use the unit only after carefully studying the descriptions and cautions in each item. If operations are done incorrectly, the unit may stop functioning correctly. If this happens, turn off the power once, and then turn it on again, so that the unit can function correctly.

CONNECTIONS

- Do not switch the power on until all the connections are completed.
- Insert the plugs firmly, or poor contact will result, causing noise.
- When the pin-plug cords are employed, always connect the white plug to the left channel terminal. This helps to avoid reversed connections.
- When using the Compu Link Control System version 3, do not connect the power cord to the SWITCHED AC OUTLET of an amplifier or receiver. **In the B version,** turn the deck ⏻ POWER switch ON. Otherwise, the automatic power on/off (STANDBY) function cannot be carried out.

1. Connection to a stereo amplifier

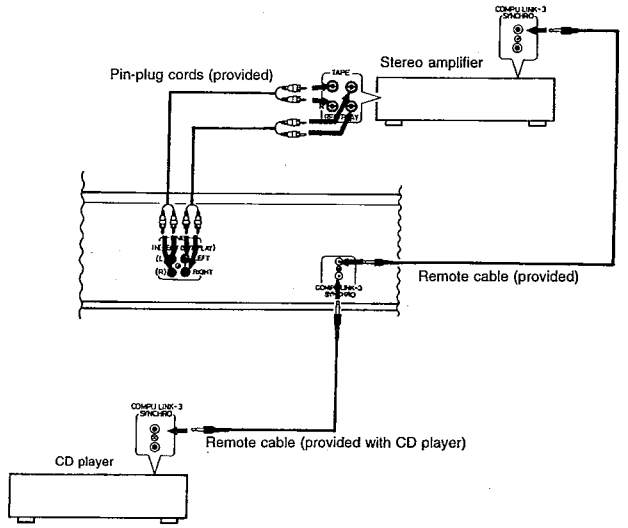
Note:
When installing the deck, be sure to install at a distance from your amplifier. If they are stacked, noise (hum) may occur.

2. Remote cable connection for COMPU LINK

- By connecting a remote cable, COMPU LINK functions (automatic power on/off (STANDBY), automatic source selection, synchronized recording and DDRP recording) can be performed. In this time the provided pin-plug cords must be also connected.
- When making synchronized recording with a CD player, connect the remote cable to the COMPU LINK-1/SYNCHRO or COMPU LINK-3/SYNCHRO jacks.

Notes:

1. When making synchronized recordings, only a single deck should be connected to the amplifier.
2. If a component is not a JVC COMPU LINK component, bypass it when making the remote cable connections.
3. This deck can be connected with an amplifier and a CD player which have the COMPU LINK-1/SYNCHRO jacks for COMPU LINK performance. (See page 11 for details.)

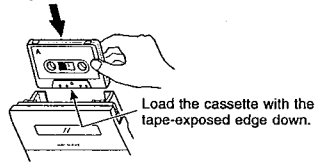


CASSETTE LOADING

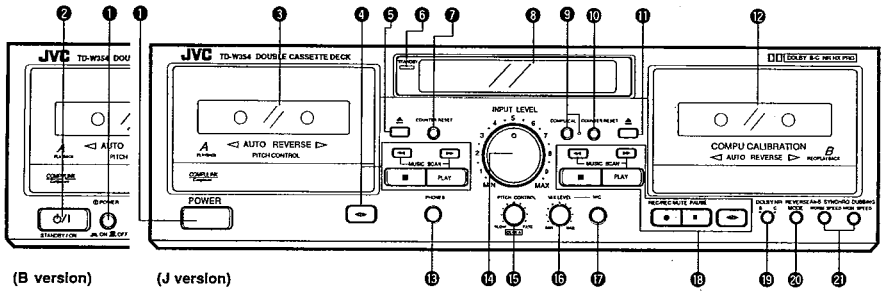
1. Press the ⏏ (eject) button to open the cassette holder.
2. Load a cassette as shown.
3. Press the cassette holder to close it. Be sure to obtain the click sound to close the holder securely.

Notes for B version:

- If the ⏻ POWER switch is set to OFF while the tape is moving, you might not be able to remove the cassette. If this happens, switch the power on again before attempting to remove the cassette.
- Setting the ⏻ POWER switch to OFF during playback may cause a malfunction. Always stop playback before setting the ⏻ POWER switch to OFF.



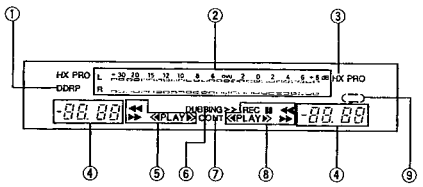
NAMES OF PARTS AND THEIR FUNCTIONS



(B version) (J version)

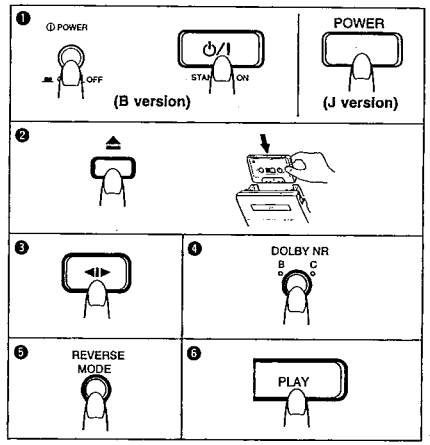
❶ **⏻ POWER switch (ON OFF) (B version)**
POWER switch (On/Standby) (J version)
❷ **⏻/I switch (STANDBY/ON) (B version)**
❸ **Cassette holder (deck A)**
❹ **Cassette operation buttons (deck A)**
◄◄ : Press to wind the tape quickly from right to left.
►► : Press to wind the tape quickly from left to right.
PLAY : Press to play the tape.
■ (stop) : Press to stop the tape.
◄I► (direction) : Press to change the direction of tape travel.
❺ **≙ (eject) button (deck A)**
❻ **Power STANDBY indicator**
Lights when in the power standby mode.
❼ **COUNTER RESET button (deck A)**
Press this button to set the digital counter to "00 00".
Even if the POWER switch is set to STANDBY, the counter value at that time is stored in memory.
❽ **Indicators**
① DDRP indicator
② Peak level indicator
These indicators light according to the level of the signal being recorded or the level of the signal recorded on the tape.
Note:
0 dB : IEC (DIN) STANDARD LEVEL (250 nWb/m)
0 VU : Signal level at 160 nWb/m
③ HX PRO indicator
④ Digital counter
The counter reading increases while the tape is running forward and decreases when it is running in reverse. In the Multi Music Scan mode when the ◄◄ (or ►►) button is pressed, the number of tunes which will be skipped is displayed.
⑤ Mechanism mode indicators (deck A)
►► : This lights when rewinding the tape from left to right.
◄◄ : This lights when rewinding the tape from right to left.
PLAY : This lights when in the playback.
◄ , ► : Indicates the direction of tape travel.
⑥ DUBBING >> : ">" lights when in the normal-speed dubbing mode.
">>" lights when in the high-speed dubbing mode.
⑦ CONT : Lights when the unit is in the continuous play mode.
⑧ Mechanism mode indicators (deck B)
PLAY : Lights when the unit is in the playback and record modes.
◄ , ► : Indicates the direction of tape travel.
REC : Lights when the unit is in the record and record-pause modes; blinks during record muting.
II : Pause indicator
►► : This lights when rewinding the tape from left to right.
◄◄ : This lights when rewinding the tape from right to left.
⑨ ⇄ : Indicates reverse mode.
❾ **COMPU CAL button and indicator**
Press this button to automatically set the recording characteristics with the COMPU CAL function. (See page 9.)
❿ **COUNTER RESET button (deck B)**
⓫ **≙ (eject) button (deck B)**
⓬ **Cassette holder (deck B)**
⓭ **PHONES jack**
Connects headphones (with an impedance of 8 Ω to 1 kΩ).
⓮ **INPUT LEVEL control**
⓯ **PITCH CONTROL (deck A)**
Varies the tape speed in deck A in the range of about ±10%. However, it cannot change the tape speed in the high-speed dubbing.
Turning it counterclockwise toward "SLOW" causes the tape speed to decrease while turning clockwise toward "FAST" causes it to increase. The center click position is for the standard speed. (See page 8.)
⓰ **Mixing microphone level control**
Adjusts the microphone input level.
⓱ **MIX MIC jack**
Connects a microphone (with an impedance of 600 Ω to 10 kΩ) to this jack.
Sounds from the microphone are monaural.

❽



⓲ **Cassette operation buttons (deck B)**
◄◄ : Press to wind the tape quickly from right to left.
►► : Press to wind the tape quickly from left to right.
■ (stop) : Press to stop the tape. Also press to stop both decks simultaneously during dubbing.
PLAY : Press to start playback/recording.
●REC/ REC MUTE : Press the PLAY button while pressing this button to start recording, and press to leave an appropriate non-recorded section. (See page 10.)
IIPAUSE : Press to stop the tape temporarily during recording and playback. Press the PLAY button to release the pause mode.
◄I► (direction) : Press to change the direction of tape travel.
⓳ **DOLBY NR button and indicators**
Set to B or C for recording using the Dolby NR system or for playing back a tape that was recorded using the Dolby NR system. Each time the button is pressed the NR mode changes and the indicator lights. (Dolby B NR -> Dolby C NR -> NR OFF -> Dolby B NR ...)
Set to OFF when the Dolby NR system is not used.
⓴ **REVERSE MODE switch**
Select the single side or full record/playback mode, or the continuous play mode. Each time the button is pressed the mode changes. (⇄ -> ⇉ -> ⇆ -> ⇄ ...) The current mode can be checked with the mechanism mode indicator.
⇄ : For single-side recording or playback.
⇉ : To play or record both sides A and B.
⇆ : To play sides A and B continuously.
㉑ **A ► B SYNCHRO DUBBING buttons**
Press to dub from deck A to deck B.
• NORM SPEED : Press to perform normal-speed dubbing.
• HIGH SPEED : Press to perform high-speed dubbing.

PLAYBACK



Playback of deck A
Operate in the order of the numbers in the illustration.
❶ Turn the power on.
❷ Load a prerecorded cassette with side A facing out.
❸ Select the side to be played back.
Side A... Forward direction (PLAY ►)
Side B... Reverse direction (◄ PLAY)
❹ Set the DOLBY NR switch to the same setting as when the tape was recorded.
❺ Select the REVERSE MODE.
❻ Press the PLAY button of deck A to start playback.
• When the deck contains a tape, the deck is turned on automatically and the tape is played back by only pressing the PLAY button.

Playback of deck B
Perform steps ❷ to ❻ of the above procedure for deck B.

Microphone mixing during playback
By connecting a microphone, microphone mixing with playback sound from deck A or deck B is possible.

Continuous play
First set the REVERSE MODE switch to ⇆.
Load cassette tapes in both decks and press the PLAY button of the deck to be played first for continuous play of both decks.
• At this time, the CONT indicator lights in the multimode display. When the tape in the deck which plays first reaches the end of side B (in the reverse direction), it automatically switches to the forward direction and enters the standby mode. At the same time, the other deck starts playback. These operations continue between decks A and B.
• While one deck is playing back, the cassette in the other one can be replaced. This is convenient for long-time playback of background music.

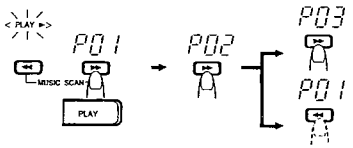
Note:
• Use tapes recorded using the same NR mode in decks A and B.

PITCH control (deck A)
It is possible to vary the tape speed in deck A in the range of about ±10% in the playback mode. The center click position is for the standard tape speed.

MULTI MUSIC SCAN

- The multi music scan mechanism of this unit allows you to quickly locate the beginning of a specific tune (up to 99 tunes before or after the current tune).
- The multi music scan mechanism functions by detecting non-recorded sections between tunes (of more than 4–5 sec.).
- The illustration shows the forward direction.

Example of fast forward scan.



Procedure

1. Press the ▶▶ button during playback.
2. When more than 2 tunes are to be skipped, after procedure 1 press the ▶▶ (or ◀◀) button the number of times you want to skip tunes. The number of tunes to be skipped is displayed in the counter.

- Relation between Multi Music Scan and REVERSE MODE.

⇄ : The multi music scan mechanism operates on one side of the tape only. If the number set is too high (more than there are tunes remaining on that side), the tape stops when the end of the tape is reached.

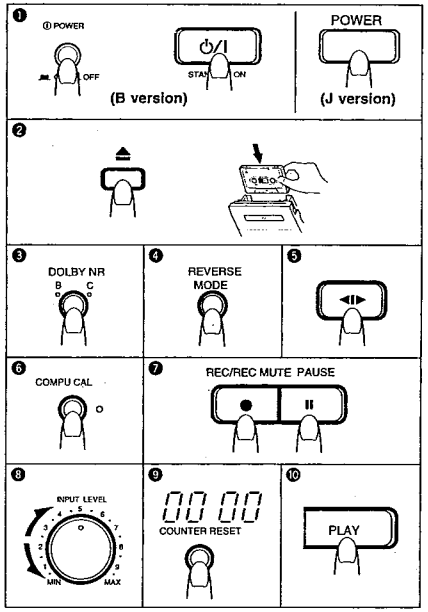
⇄ : It operates continuously through one cycle of the A and B sides of the tape. If the number set has not been reached, the tape stops at the end of the B side. When the head rotates to play side A from B or B from A, this rotation is counted as one non-recorded section. When a recorded tune continues from side A to B, this tune is recorded as two tunes. In such a case, press the ◀◀ (or ▶▶) button one extra time.

Notes:
In the following cases, the mechanism may not operate correctly. This is not a malfunction; use the mechanism according to the type of program.
- Tapes with tunes having long pianissimo passages (very quiet parts) or non-recorded portions during tunes.
- Tapes with short non-recorded sections.

RECORDING

Deck B only
Operate in the order of the numbers in the illustration.
- Make sure the safety tab of the cassette has not been broken off.

It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.



❶ Turn the power on.
❷ Load a cassette for recording.
❸ Set the DOLBY NR switch as required.
❹ Set the REVERSE MODE switch as desired.
❺ Select the side to be recorded.
❻ Press the COMPU CAL button, if required. (See page 9.)
❼ Press the ❚❚PAUSE button and ●REC/REC MUTE button (record-pause mode).
REC and ❚❚ indicators light.
❽ Adjust the recording level. (See page 10.)
❾ Press to "00 00".
❿ Press the PLAY button to start recording.

Notes:
- When the safety tabs are removed from a cassette tape, the tape cannot be recorded even if you try. Make sure that both tabs are still in place when performing full recording.
- When the tape is played or recorded in the reverse direction (side B), only side B is played back or recorded and then the tape stops automatically.

DDRP (Dynamics Detection Recording Processor) recording

DDRP recording is performed with suitable JVC CD players and the recording level adjustment is performed automatically.
Since recording level adjustment is performed automatically for different types of tape (normal, CrO_2 and metal), the adjustment of INPUT LEVEL control is not required.
Read the instruction book of your CD player carefully.

COMPU CALIBRATION (COMPU CAL) FUNCTION

- This unit is equipped with a COMPU CAL function which can automatically set the flat frequency characteristics and optimal tape sensitivity for each tape in approximately 30 seconds. Calibration data is retained for each tape type (Type I, II or IV).
- Calibration data set with COMPU CAL is retained even if the power is turned off (or the power cord is unplugged), and the previous calibration data for the same type of tape as the new tape is recalled each time tapes are changed.
- Performing COMPU CAL operations again replaces existing data with the new data.

COMPU CAL operation

- Insert the tape to be recorded and press the COMPU CAL button. During the operation, "C" -> "CA" -> "CAL" is displayed in the tape counter. When the operation finishes, the tape returns to its starting position, and the COMPU CAL indicator lights. COMPU CALIBRATION is now finished.
- Pressing the ■ (stop) button part-way will interrupt the operations.
- To recalibrate the unit, press the COMPU CAL button and wait for the COMPU CAL indicator to go out. Then, press the COMPU CAL button again.

Note:
If the tape is near its end, it will automatically stop and an error will be generated during operation. Therefore, be sure to check the time remaining on the tape (more than 2 minutes in the play mode) before starting the operations.

COMPU CAL Errors

- When the COMPU CAL indicator flashes, this indicates a COMPU CAL error.
- Press the ■ (stop) button to stop the error indication.

Care should be taken for the following items as they are the cause of errors.

1) Dirty heads -Clean the heads.
2) Scratches on the tape surface -Replace with an undamaged tape.
3) When the tape ends part-way through the operations -Change the tape position.
4) In rare cases, tapes may have characteristics which fall outside the COMPU CAL setting range.

- When an error occurs or when COMPU CAL operations are interrupted, calibration data cannot be stored in the memory. If settings were previously performed, the previous setting values are retained.
- After confirming items 1) to 3) above and stopping the error indication if there are no problems, even tapes which experience errors can be recorded on using either ① the unit's preset values or ② previous setting values. (These are the values obtained by opening and closing the cassette holder one time.)
  * Preset value: a standard value corresponding to each type of tape, which allows normal recording. (The preset value condition is in effect when the COMPU CAL indicator is unlit.)

Notes:
1. Since COMPU CAL operations record a test tone on tapes, previously recorded contents will be erased.
2. Using new tapes and cleaning the heads beforehand are recommended for optimal COMPU CAL operations.
3. Some variance in characteristics exists even with the same type of tape made by the same manufacturer. Therefore, when precise settings are desired, performing COMPU CAL operations for each recording is recommended.
4. To delete contents set with COMPU CAL, simultaneously press the ●REC/REC MUTE and B deck COUNTER RESET buttons. This deletes the calibration data for the type of tape currently inserted in the unit. Calibration data for other tape types is not deleted.

MICROPHONE MIXING DURING RECORDING

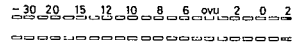
By connecting a microphone, microphone mixing during recording is possible by following the recording procedure. Adjust the microphone input level by setting the record-pause mode and observing the peak level indicators.

- When the record-pause mode is set and the INPUT LEVEL control is set to MIN, sounds are output only from the microphone, and it can be used as a public address system.

RECORDING LEVEL ADJUSTMENT

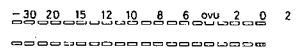
Adjust the recording level while observing the peak level indicator indication.

For example:
With metal tape



Because of metal tape's higher saturation level, it is OK that "+ 2" lights occasionally.

With normal or chrome tape



It is OK that "+ 0" lights occasionally.

- When the recording level is too low, the hiss noise inherent in the tape will be conspicuous.
- When the recording level is too high, exceeding the saturation level, the recording will contain cracking noise and will be distorted.
- If "+ 4" lights too often because the recording level is too high, the recorded sound may be distorted and seem to be breaking up. If only "0" lights infrequently, the level is too low and the recording may contain tape hiss.

It is best to adjust so that the maximum sound level of the source to be recorded reaches the very limit of the saturation level of the tape to be used.
The best level varies depending on the type of music and type of tape so it is better to make a test recording, using FM music, records, etc.

AUTOMATIC RECORD MUTING (DECK B)

This facility is used to eliminate undesired sections and leave an appropriate non-recorded section.

A. To leave non-recorded sections of about 4–5 seconds automatically

1. When the undesired section comes during recording, press the ●REC/REC MUTE button and release it.
2. The REC indicator flashes and a non-recorded section is made during record muting operation. About 4–5 seconds later, the tape automatically stops, and the unit enters the record-pause mode.
3. Press the PLAY button to start recording again.

B. To leave non-recorded sections of more than 4–5 seconds

1. Keep the ●REC/REC MUTE button pressed continuously as long as you want to make a non-recorded section. By releasing the finger from the button after the above operation, the unit enters the record-pause mode.
2. Press the PLAY button to start recording again.

C. To leave non-recorded section of less than 4-seconds
When the undesired section comes during recording....
After the ●REC/REC MUTE button is pressed, press the PLAY button before the unit enters the pause mode to start recording again, or press the ❚❚PAUSE button to enter the record-pause mode.

- The peak level indicator lights even during record muting according to the input level which can be heard from the speakers or headphones so that recording can be resumed at the exact point on the tape.

ERASING
When recording on a prerecorded tape, the previous recording is automatically erased and only the new program is recorded on the tape.
To erase a tape without making a new recording...
Follow the section "RECORDING" but in step ❽, set the INPUT LEVEL control to MIN.

DOLBY NR and DOLBY HX PRO

Dolby NR System
To reduce the hiss inherent in tape recording, use the Dolby NR System when making recordings. When listening to a tape recorded with the Dolby NR System, set the DOLBY NR switch to B or C according to the system selected in the recording mode.

Note:
The sound quality will change if the positions of the DOLBY NR switch are different in recording and playback.

Dolby HX PRO headroom extension
When a source which contains many high-frequency components is recorded, these high-frequency signals have the same function as bias and therefore, the effective bias current changes.
This will result in phenomena such as changes in the level of low-frequency signal and subsequent distortion and reduction of the high-frequency saturation level.
Dolby HX PRO headroom extension system controls the bias current so that the effective bias is constant even when there are fluctuations in the high-frequency components of the input signal.
This greatly improves the high-frequency saturation level while reducing the low-frequency signal level variations and distortion.

- The dynamic sound recorded with this system sounds the same even when the tape is played back in a deck that does not have Dolby HX PRO.
- This system automatically works when in recording; however, Dolby HX PRO is not a noise reduction system.

COMPU LINK CONTROL SYSTEM

The Compu Link Control System controls relative operations between components automatically and facilitates various operations.
This is a system originated and developed by JVC for facilitating various system operations. There are two versions of this system; version 1 and 3. (For version 1 components, "COMPU LINK-1/SYNCHRO" is marked on the rear panel. For version 3 components, "COMPU LINK-3/SYNCHRO" is marked on the rear panel. This unit belongs to version 3.)
The version 3 system controls relative functions between this unit and an amplifier or receiver, in addition to all of the functions of version 1.

Automatic Power On/Off (STANDBY) Function (COMPU LINK-3)
This function is available when an amplifier or receiver having a COMPU LINK-3/SYNCHRO terminal is connected. For example, if a deck contains a tape, the deck is turned on automatically and the tape is played back by only pressing the PLAY button. When the amplifier or receiver is switched STANDBY, the source unit is automatically switched STANDBY. **(In the B version,** it is necessary to turn the deck ⏻ POWER switch ON.)

Automatic Source Selection (COMPU LINK-1, 3)
When the provided remote cables are used for connecting this unit to other components which have COMPU LINK-1 or 3/SYNCHRO terminals, the switch-over of all system components is possible with simple one-touch of the source selector button of JVC's amplifier or receiver.
By doing this, the corresponding component will start playing automatically.
The source select button of the remote control unit or the activation button of the desired component can be also used for this purpose. When the components have been switched over, the previous component will stop playing within five seconds.

Synchronized Recording (COMPU LINK-1, 3)
Synchronized recording refers to the process in which the deck starts recording in synchronism with the CD player. Perform the synchronized recording as follows:

1. Set the cassette deck to the record-pause mode in accordance with the recording procedures on page 8.
2. If you want the programmed recording, program the desired tunes in any order you wish to hear.
3. Press the PLAY/PAUSE button of the CD player. By so doing, the cassette deck is placed in the record mode and synchronized with the CD player for recording. Synchronized recording thus can be made possible.

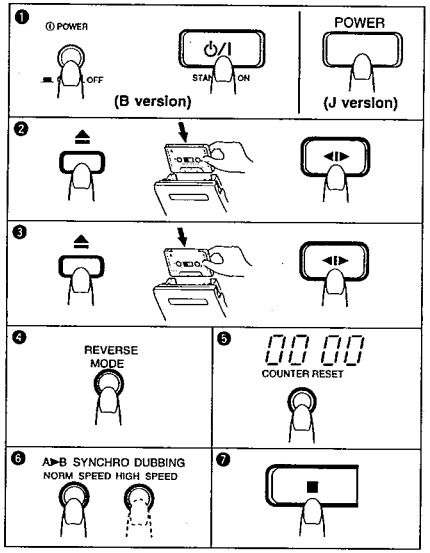
DDRP (Dynamics Detection Recording Processor) recording
The DDRP function makes possible fully automatic recording when used with a suitable JVC CD player. When the DDRP button of a suitable JVC CD player is pressed, the recording level is first adjusted automatically, then recording starts; it is not necessary to start recording by the normal procedure.

Notes:

- Synchronized recording or DDRP recording stops automatically when the CD player stops playing.
- Synchronized recording does not start except when the record-pause mode is set by simultaneously pressing the ●REC/REC MUTE and ❚❚PAUSE buttons in the stop mode.
- To cancel synchronized recording or DDRP recording, press the STOP button of the CD player or cassette deck.
- The source is locked to the CD position during synchronized recording or DDRP recording to avoid accidental stops or switch-over to another component. To switch over the components, cancel synchronized recording or DDRP recording first.
- The INPUT LEVEL control does not function during DDRP recording.

DUBBING

· Synchro dubbing
Operate in the order of the numbers in the illustration.



❶ Turn the power on.
❷ Insert a prerecorded tape with side A facing out into deck A, and press the ◀▮▶ (direction) button to select the travel direction.
❸ Insert the blank tape with side A facing out into deck B, and press the ◀▮▶ (direction) button to select the side to be recorded.
❹ Select the REVERSE MODE.
❺ Press to "00 00". (Deck B)
❻ Press the SYNCHRO DUBBING (NORM or HIGH SPEED) button to start dubbing.
❼ Press the ■ (stop) button of deck B to stop dubbing.

When deck B stops, the dubbing mode is automatically released.

· Synchro record muting
When deck A stops or enters any mode other than the playback mode during dubbing, deck B enters the record mute operation automatically and then enters the record-pause mode.

· Before pressing the SYNCHRO DUBBING button
Confirm that deck B is in the stop mode before starting dubbing.

Dubbing and DOLBY NR switch
During dubbing, the same NR mode selected for the playback cassette is applied to the recording cassette, regardless of the position of the NR switch.

Input level
Recording is performed at the same level as the playback tape during dubbing regardless of the position of the INPUT LEVEL control.

Microphone mixing during dubbing
By connecting a microphone, microphone mixing during dubbing is possible with the playback sounds from deck A. Be sure to perform dubbing at normal speed. When performing microphone mixing during dubbing, use cassettes recorded with NR OFF mode for the deck A.

Tape editing
1. Press the ●REC/REC MUTE button when finished dubbing a tune. Deck B automatically enters the record muting mode and leaves a non-recorded section of about 4-seconds then enters the record-paused mode.
2. Press the ■ (stop) button of deck A and search for the next tune you want by using the ▶▶, ◀◀ or PLAY button. Then stop the cassette just before the beginning of the tune.
3. Press the same SYNCHRO DUBBING button pressed before the pause again, and dubbing will start.

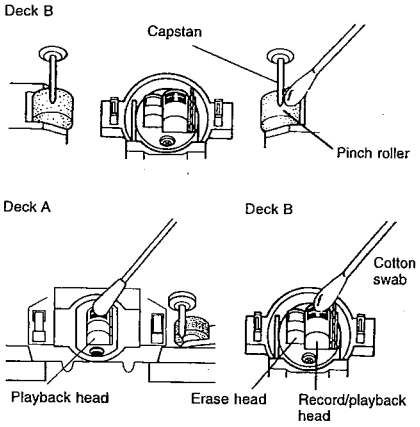
Notes at dubbing
1. Normal-speed dubbing is recommended to obtain good sound quality.
2. Television receivers placed close to the deck may cause interference on the recorded signal when the deck is used in the high-speed dubbing mode. If this happens, either turn off the television receiver or use the normal-speed dubbing mode.

MAINTENANCE

The importance of cleaning
When the tape is moving, magnetic powder and dust naturally accumulate on the heads, capstan and pinch roller. When they become too dirty.
- tone quality deteriorates.
- the output sound level drops.
- the previous sound is not erased satisfactorily.
- recordings are not satisfactory.

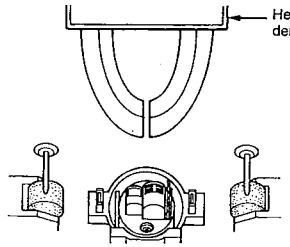
Because of this, clean the heads, etc. every 10 hours of use so that optimum recordings will be made.

Cleaning the heads, pinch roller and capstan
Wipe the heads, the capstan, etc. with a cotton swab with its tip dipped in alcohol. For effective cleaning, use a cleaning kit available from your audio store. After cleaning, be sure that the cleaning fluid has completely dried before loading a cassette.



Demagnetizing the heads
Magnetic objects brought close to the head or using the deck for a long period of time, results in magnetization of the head, thus noise occurs. When the noise is excessive, high frequencies on the recorded tape may be erased.
Demagnetize the heads and other metal parts that come into contact with the tape every 20–30 hours of use with a head demagnetizer (available from your audio store).

Example: Deck B



TROUBLESHOOTING

What appears to be trouble is not always real trouble. Make sure first....

1. **Cassette cannot be loaded.**
   - Is the cassette positioned correctly?
2. **When PLAY button is pressed, tape does not move.**
   - Is the tape too loosely wound?
3. **Tape runs, but no sound is heard.**
   - Are all connections properly and securely made?
   - Is the MONITOR switch of the stereo amplifier set to the TAPE position?
   - Is the VOLUME control of the stereo amplifier set to MIN?
4. **Sound quality is poor.**
   - Is the DOLBY NR switch set to the right position?
   - Is the head section dirty?
   - Is the record/playback head magnetized?
   - Is the tape worn out?
5. **Recording cannot be performed.**
   - Are the safety tabs of cassette tape broken?
   - Are all connections properly and securely made?
   - Is the head section dirty?
6. **Previous recording is not completely erased.**
   - Is the erase head dirty?
7. **Since tape speed is irregular, wow and flutter occur.**
   - Is the pinch roller or capstan dirty?
   - Is the tape rewound too tight?
8. **MUSIC SCAN operation does not function properly.**
   - Are the non-recorded sections too short (3 sec. or less), or do they contain high level noise or hum?

SPECIFICATIONS

Type	: Double cassette deck
Track system	: 4-track, 2-channel
Tape speed	: 4.8 cm/sec (1-7/8 inch/sec) (Normal) 9.5 cm/sec (3-3/4 inch/sec) (High)
Frequency response	: (–20 dB recording) Type IV tape ; 20–17,000 Hz 30–16,00 Hz (±3dB) Type II tape ; 20–16,000 Hz 30–15,000 Hz (±3dB) Type I tape ; 20–16,000 Hz 30–15,000 Hz (±3dB)
S/N ratio	: 58 dB (S = 315 Hz, k3 = 3%, N = A-weighted, Type IV tape) The S/N is improved by about 15 dB at 500 Hz and by max. 20 dB at 1 kHz ~ 10 kHz with Dolby C NR on and improved by 5 dB at 1 kHz and by 10 dB at above 5 kHz with DOLBY B NR on.
Improvement of MOL	: 4 dB at 10 kHz with Dolby C NR on.
Wow and flutter	: 0.08% (WRMS), ±0.2% (DIN/IEC)
Channel separation	: 40 dB (1 kHz)
Crosstalk	: 60 dB (1 kHz)
Harmonic distortion	: k3; 0.8% (Type IV tape, 315 Hz, 0 VU)
Heads	: Deck A; METAPERM head for playback x 1 Deck B; METAPERM head for recording/playback, 2-gap ferrite head for erasure; combination head x 1
Motors	: Electric governed DC motor for capstan x 1 DC motor for reel x 1 DC motor for mechanism drive x 1 (For both decks A and B)
Fast forward/rewind time	: Approx. 110 sec. with C-60 cassette
Input terminals	
LINE IN (x 1 circuit)	: Input sensitivity; 80 mV (0 VU) Input impedance; 50 kΩ
MIC x 1 (Monaural)	: Input sensitivity; 0.4m V (–68dBV) (0 VU) Matching impedance; 600 ~ 10 kΩ
Output terminals	
LINE OUT (x 1 circuit)	: Output level; 300 mV (0 VU) Output impedance; 5 kΩ
PHONES x 1	: Output level; 0.3 mW/8 Ω (0 VU) Matching impedance 8 Ω–1 kΩ
Other terminals	: COMPU LINK-3/SYNCHRO x 2
Power requirement	: AC 230 V, 50 Hz (B version) AC 120 V, 60 Hz (J version)
Power consumption	: With power on 17 W With power standby 4.0 W
Dimensions (W x H x D)	: 435 x 139 x 331 mm (17-3/16" x 5-1/2" x 13-1/16")
Mass	: 5.1 kg (11.3 lbs.) (B version) 5.0 kg (11.1 lbs.) (J version)
Accessories	: Pin plug cord ..... 2 Remote cable 1

Design and specifications are subject to change without notice.

1 Location of Main Parts

■ Top view

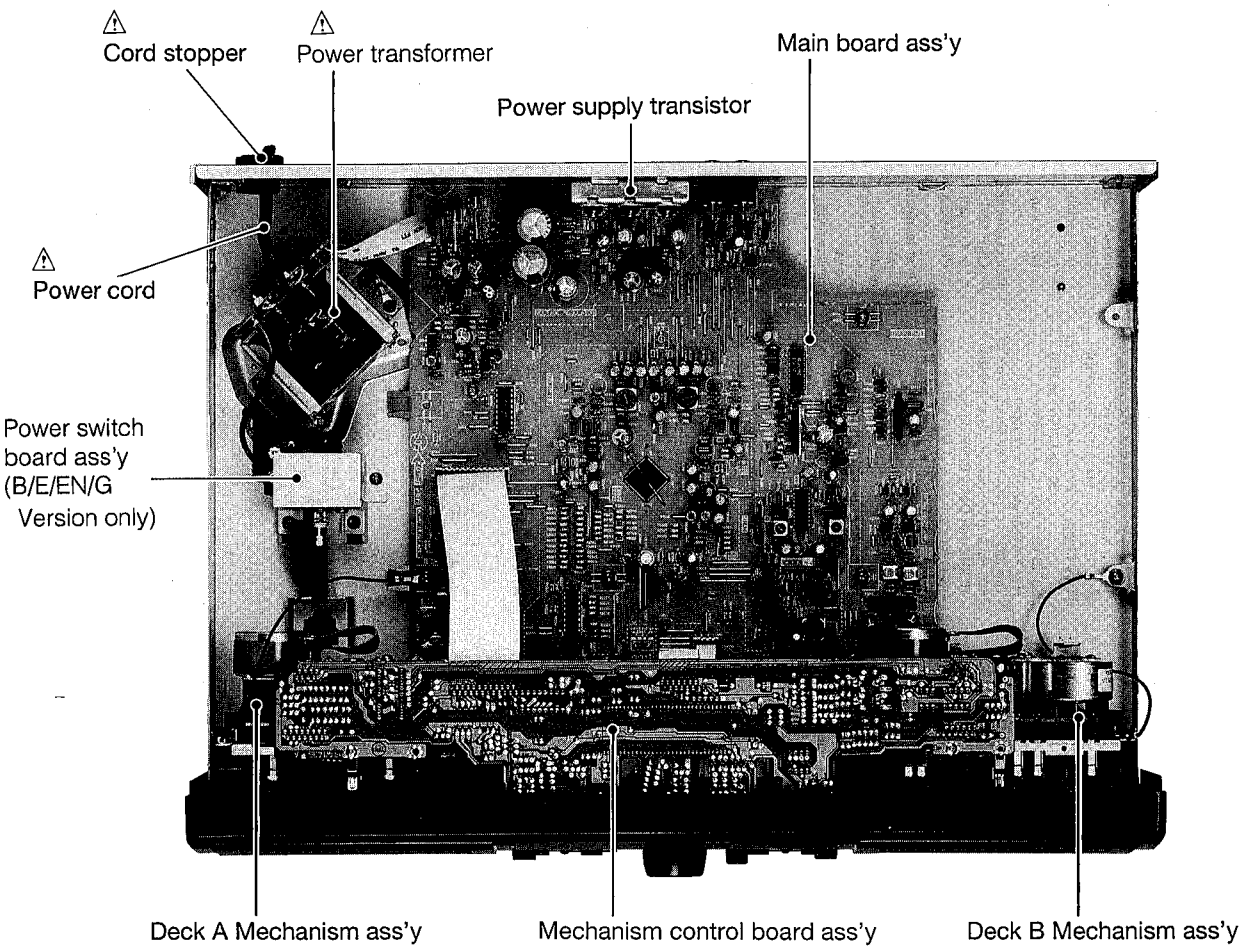


Fig. 1 – 1

■ Mechanism

◆ Top view

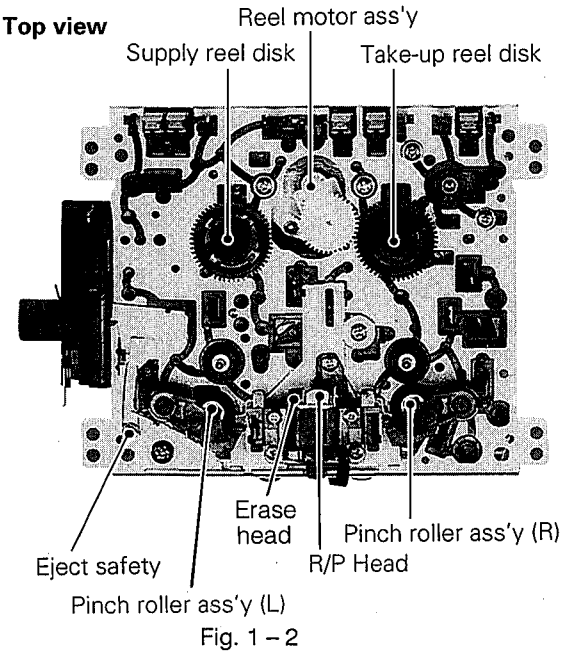


Fig. 1 – 2

◆ Bottom view

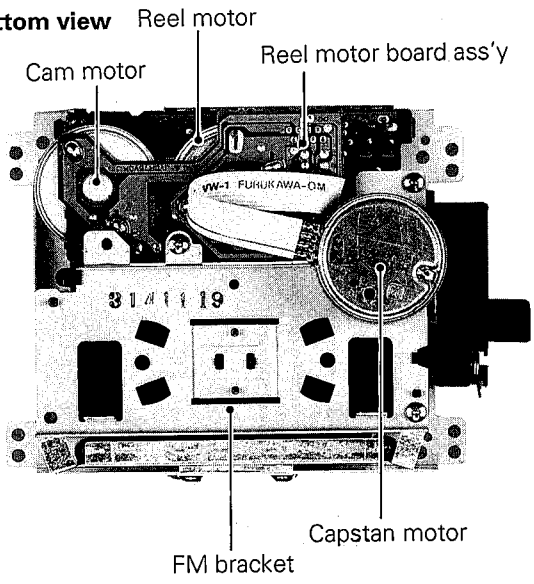


Fig. 1 – 3

2 Removal of main parts

■ Enclosure Section

◆ Top cover (Fig. 2 – 1)

1. Remove four screws ① retaining the top cover from both side.
2. Remove two screws ② retaining the top cover from the back side.
3. To remove the top cover ,slide in direction of allow and lift away (refer to Fig. 2 – 1).

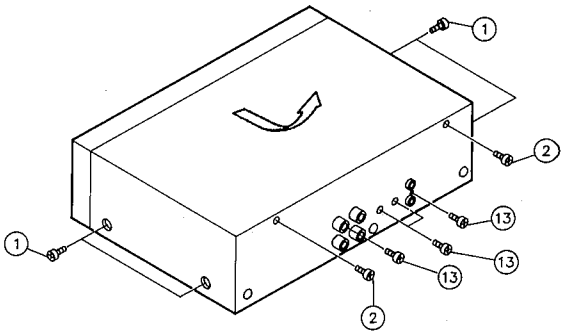
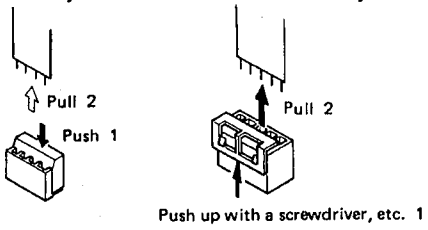


Fig. 2 – 1

◆ Front panel assembly (Fig. 2 – 2)

1. Remove the top cover as described in above.
2. Remove three screws ③ retaining the front panel ass'y from bottom side.
3. Release the front panel ass'y from two pawls in the front and bottom sides and draw it to the front side.
4. Disconnect all connectors between the mechanism ass'y, front panel ass'y and the main board ass'y.



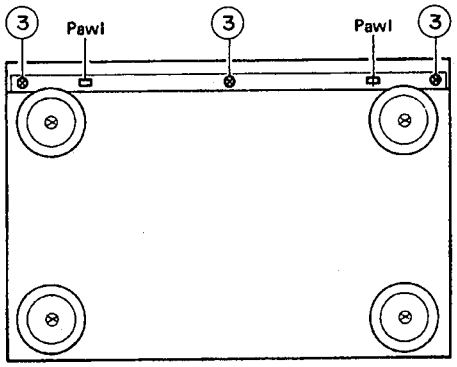


Fig. 2 – 2

◆ Mechanism assembly

★ Although the mechanism assembly can be removed without detaching the front panel ass'y, it is recommended to detach the front panel ass'y to do the work with ease.

1. Remove two screws ④ or two screws ⑤ from the corners of the mechanism. (Fig. 2 – 5)
2. Open the door and remove the mechanism ass'y.
   (At this time, door lock arm spring and door lock arm are removed together with.)
3. For moving the mechanism ass'y only, disconnect the following wirings.
   a) Mechanism ass'y side (Fig. 2 – 4)
      Top side connector of the cam switch board (CN2).
      Connector of the motor board (CN1). (Board to Board connector)
   b) Main board ass'y side (Fig. 2 – 3)
      Disconnects CN802 from Mecha control board, CN801 from Switch & Volume board ass'y, CN871 from Mic board ass'y and CN861 from H. Phone jack board ass'y.
      Disconnect wire coming from the head mount ass'y CN811 at deck A and CN815 at deck B.
      Remove two screws ⑥ and remove the two GND wires from Mechanism ass'y [A] and [B].

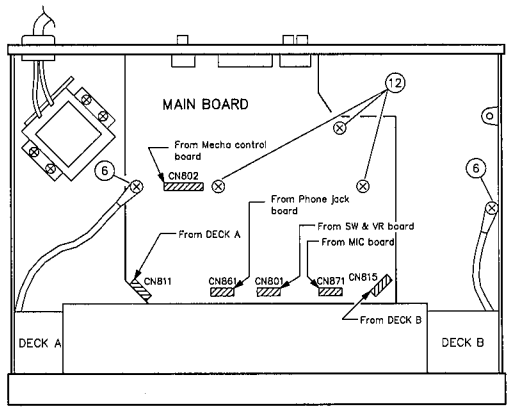


Fig. 2 – 3

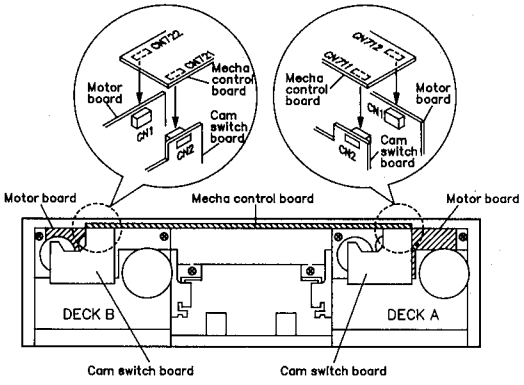


Fig. 2 – 4

◆Eject arm ass'y (Fig. 2 – 5)

1. Remove two screws ⑦ retaining the eject arm ass'y and pull it out.

◆Mechanism holder and door ass'y (Fig. 2 – 8)

1. Remove four screws ⑧ retaining the mechanism holder.
2. Remove the damper ass'y(for easy reassembling work). Insert an originary(–)screwdriver or the like in to the gap between the damper and the front panel to disengage the pawl , and draw the damper ass'y outwards.(see Fig 2 – 6)
3. Remove the arm shaft of the cassette holder (door ass'y)from the mechanism holder.(The door spring is engaged with the door side by the longer side.) (see Fig. 2 - 7)
4. Remove the eject spring from lock lever and mechanism ass'y. (see Fig. 2 - 7)

◆Switch & Volume board ass'y (Fig. 2 – 8)

1. After removing the mechanism holder, proceed to the following steps.
2. Pull out the INPUT volume knob.
3. Remove five screws ⑨ , one screw ⑭ and cap retaining the Switch & Volume P.C. board.
4. Lift the board right upwards to remove it since it is connected to the mechanism control key board with connector pins (CN603/CN604).
5. Disconnect CN602 coming from Mecha control board ass'y (CN702).

◆Headphone jack board ass'y and Mic jack board ass'y (Fig. 2 – 8)

1. After removing the Switch & Volume board ass'y, pull the H. Phone jack board ass'y and Mic jack board ass'y outwards while pushing it down toward the bottom side to remove it.

◆Key switch board ass'y (Fig. 2 – 8)

1. Remove one screw ⑩ (DeckA or B) retaining the board ass'y.
2. Do the same for the other side.

◆Main board ass'y (see Fig2 – 3,Fig 2 – 1)

1. Remove three screws ⑫ retaining the board.
2. Remove four screws ⑬ retaining the board to the rear panel.

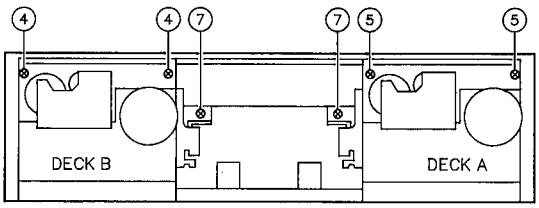


Fig. 2 – 5

How to remove damper

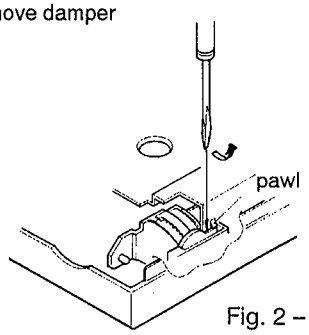


Fig. 2 – 6

How to engage the door and eject spring

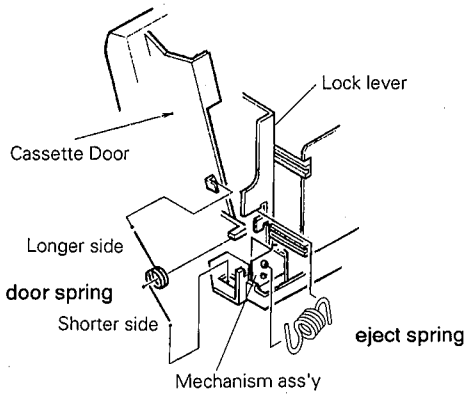


Fig. 2 – 7

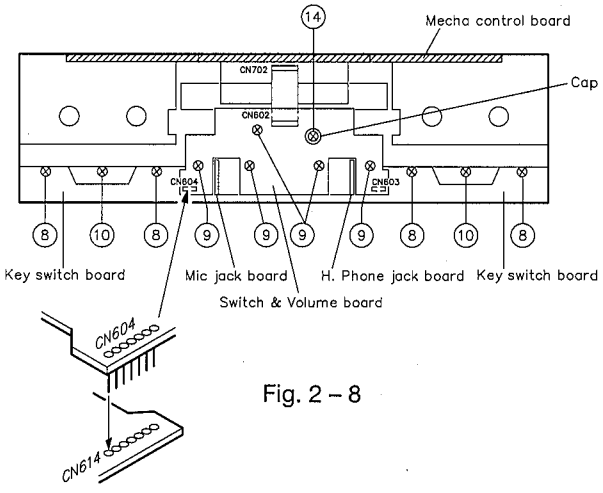


Fig. 2 – 8

● Reassembling procedure of the front panel ass'y

1. Attach the Key switch board ass'y to the panel with two screws.
2. Attach the mechanism holder to the front panel ass'y with four screws.
3. Put the door ass'y on the front panel.
4. Engage the door spring properly.
5. Install the damper. (Push the pawl side last to engage it.)
6. Install the mechanism ass'y.
7. Attach the Mecha control board ass'y to the panel with two screws.
8. Install the eject arm ass'y.
9. Attach the Switch & Volume board ass'y to the panel with five screws.
10. HooK the eject spring between lock lever and mechanism ass'y.

■ Cassette mechanism section

◆ Head mount assembly (Fig2-9,Fig2-10)

1. Remove the FPC holder from the mechanism frame in the direction indicated by the arrow (A).
2. Remove three screws ① retaining the head mount ass'y.

◆ Pinch roller assembly (Fig. 2 – 9, Fig. 2 – 11)

1. Remove the pinch roller and pinch roller spring by disengaging the pawl hooking it.
2. For reengaging the pinch roller and pinch roller spring, refer to Fig. 2 – 11.

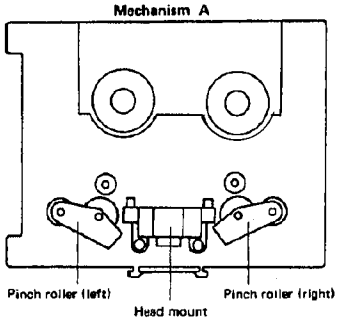


Fig. 2 – 9

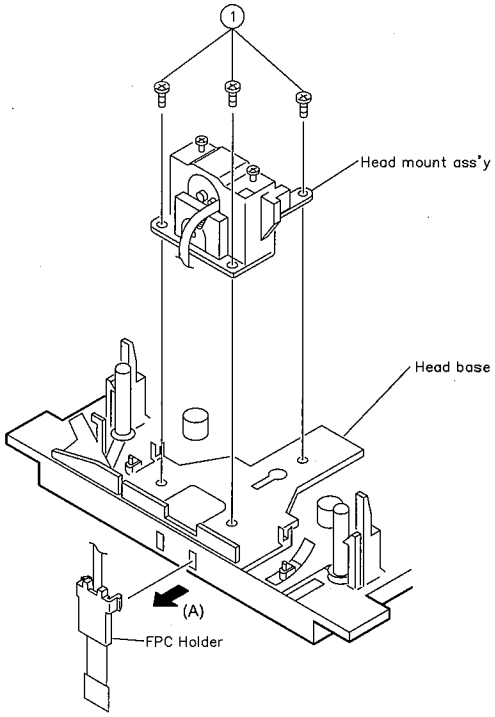


Fig. 2 – 10

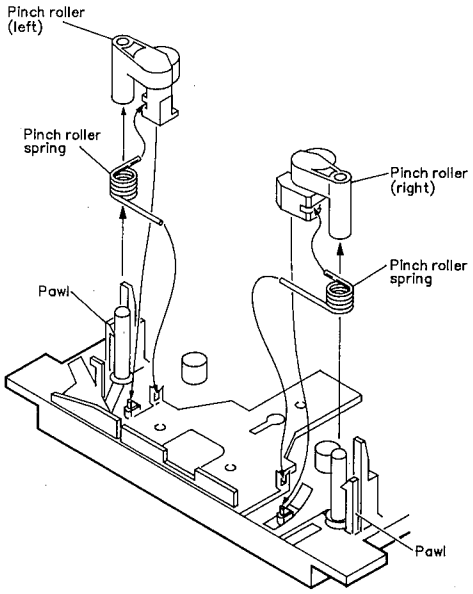


Fig. 2 – 11

◆FM bracket/Capstan motor assembly (Mechanism A and B)

1. Remove soldering of connector FM on Reel motor board. (Fig. 2 – 12)
2. Remove three screws ② and disengage two pawls, and then the FM bracket and the capstan belt can be removed. (Fig. 2 – 12, 2 – 13)
3. Remove two screws ③ retaining the capstan motor from the FM bracket. (Fig. 2 – 12)
4. For reengaging the capstan belt, refer to Fig. 2 – 13.

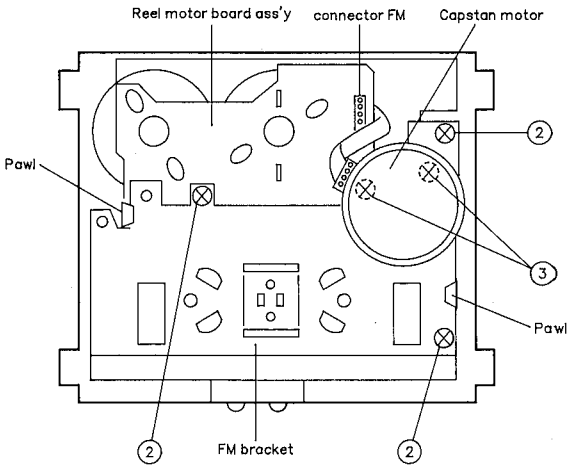


Fig. 2 – 12

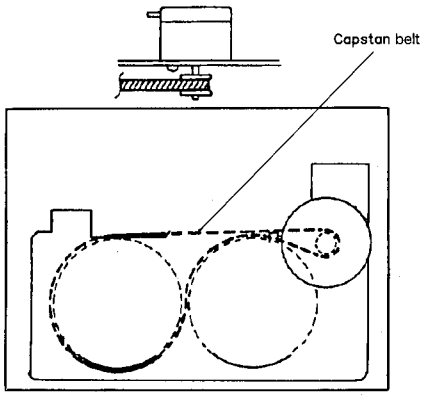


Fig. 2 – 13

◆Flywheel ass'y (Fig. 2 – 14)

1. Remove two screws ④ and remove the shield plate.
2. Pull up the Flywheel (L) and (R) and remove them.

◆Reel motor board (Fig. 2 – 14)

1. Remove four soldering of the Reel motor and Actuator motor and remove the Reel motor board.

◆Reel motor board (Fig. 2 – 15)

1. Remove two screws ⑤ from rear of chassis and remove the Reel motor ass'y toward upward.

◆Actuator motor ass'y (Fig. 2 – 15)

1. Remove two screws ⑥ from rear of chassis and remove the Actuator motor ass'y toward upward.

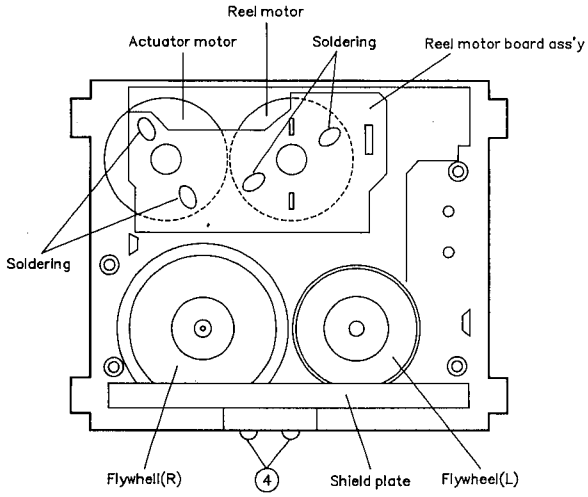


Fig. 2 – 14

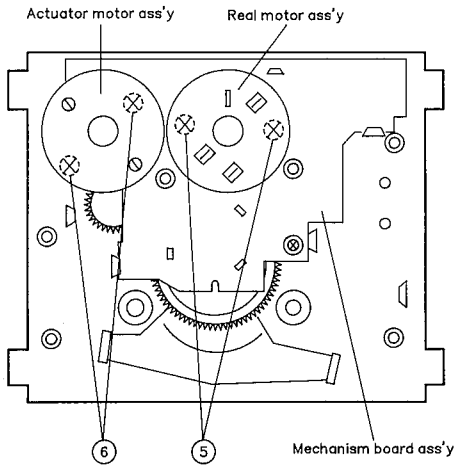


Fig. 2 – 15

◆**Mechanism board ass'y** (Fig. 2 – 16)

1. Remove one screw ⑦ retaining the board.
2. Release the Mechanism board from five pawls.
3. For gearing between the Mechanism board and Control cam, see the magnified illustration in a circle.

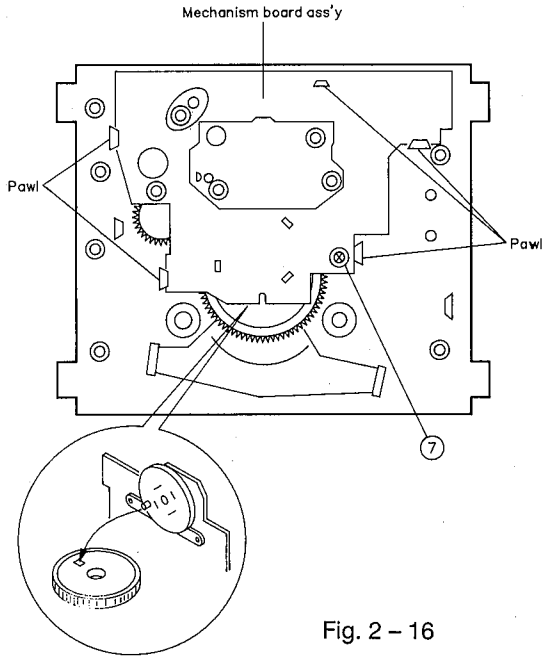


Fig. 2 – 16

◆**Control cam** (Fig. 2 – 17, 2 – 18)

1. Release the control cam from two pawls. (Fig. 2 – 17)
2. For assembling the control cam, fits ⓐ zone (groove) of control cam to ⓐ position of Pinch lever and ⓑ zone (groove) to ⓑ position of Head base shaft. (Fig. 2 – 17, 2 – 18)

◆**Actuator gear A and B (small)** (Fig. 2 – 17)

1. Release the actuator gear A (small) from one pawl and remove it toward upward.
2. Release the actuator gear B (small) from one pawl and remove it toward upward.

◆**Actuator gear (large)** (Fig. 2 – 17)

1. After removing the Control cam, actuator gear A (small) and actuator gear B (small), remove the Actuator gear (large).

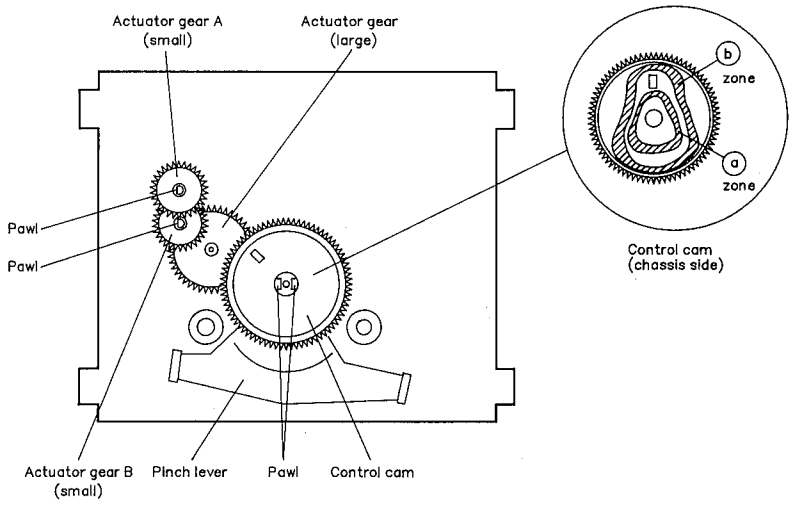


Fig. 2 – 17

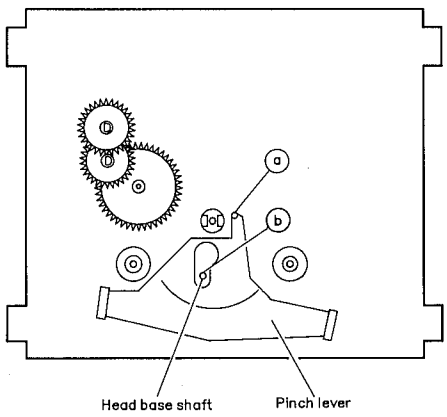


Fig. 2 – 18

3 Main Adjustment

◆Measuring instruments required for adjustment

(1) Low – frequency oscillator(oscillation frequency 50Hz – 20kHz, 0dB output with 600 Ω impedance)

(2) Attenutor(600 Ω impedance)

(3) Electronic voltmeter

(4) Standard tapes

VTT712 or VT712 (tape speed, wow and flutter meure-ment)

VTT727 or VT727 (400Hz reference level)

VT742 (63Hz, 1kHz, 12.5kHz)(play back frequency)

VTT704 or VT705 (12.5kHz)(azimuth)

TMT6447, TMT6448 (music scan)

(5) Recording reference tapes

AC-225 (Normal), AC-514 (TDK SA)(CrO_2)

AC-713 (TDK MA)(Metal)

(6) 600 Ω resistors(for attenuator matching)

(7) Distortion meter(bandpass filter)

(8) Torque gauge (cassette) for CTG-N, TW2111, TW2121, TS2231 and TW2241, mechanism adjustments

(9) Wow & flutter gauge

(10) Freequency counter gauge

(11) M300 gauge

(12) Band pass filter

◆Power supply voltage

Set the line voltage selector switch to 240V/ 230V/ 220V/ 127V/ 120V/ 110V according to ⇄ your local voltage.

AC230V, 50 Hz :B/E/EN/G version

AC120V, 60Hz :C/J version

AC230/127/110V, 50/60Hz:U/UT version

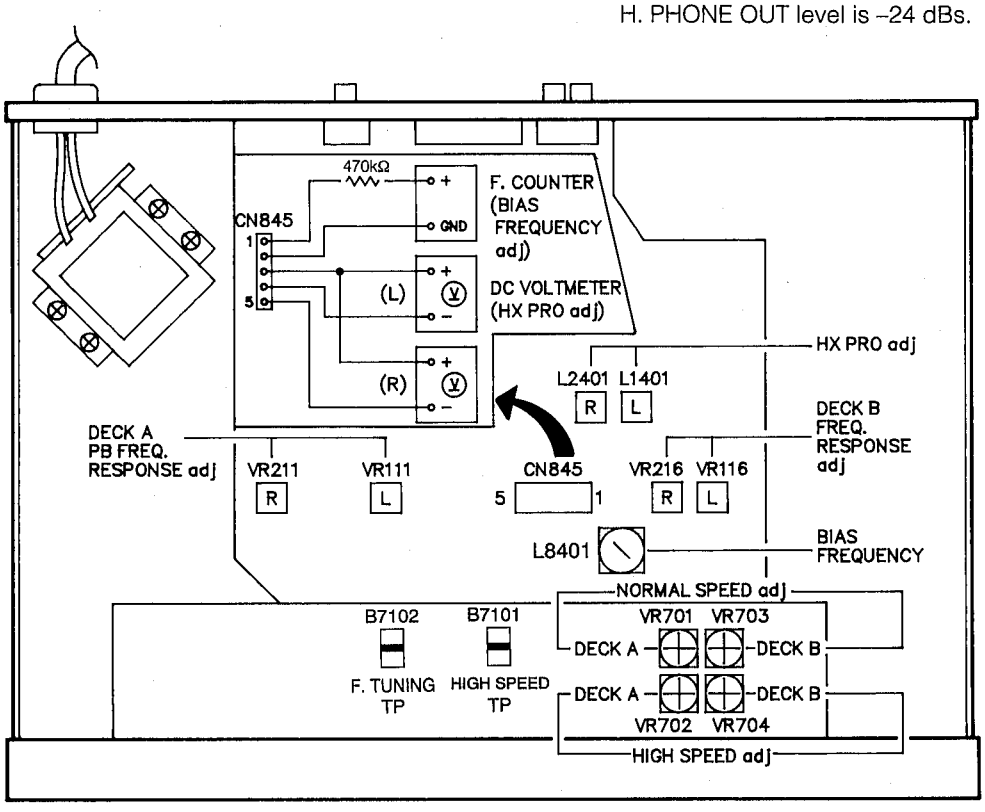
(13) Standard position of the switch and volume knob

Switches and volume knobs	Setting position
INPUT LEVEL	: MAXIMUM
DOLBY NR	: OFF
REVERSE MODE	: ⇄
PITCH CONTROL	: CENTER
MIC MIXING LEVEL	: MAXIMUM
COMPU CAL LED	: OFF
POWER	: ON (B/E/EN/G version)

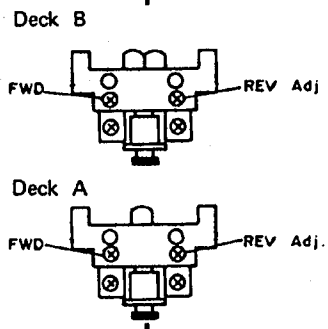
(14) Standerd level (0 dBs) is 0.775 Vunless other wise specified.

(15) The reference value of recording input level is LINE IN level of a signal whose LINE OUT level is –8 dBs and H. PHONE OUT level is –24 dBs.

◆Location of Adjustment



◆ Mechanism Adjstment

Item	Conditions	Adjustment and Confirmation	Standad value	Adjust point
Adjusting Head azimuth	Test tape :VTT704 or VT705 (12.5kHz)	1. Connect an electronic voltmeter to the LINE OUT terminals. 2. Play back the VTT704 (12.5kHz) test tape. 3. Adjust the head angle with the screw (FWD and REV) until the reading of the electronic voltmeter becomes maximum for both channels (phase difference must be "0".) 4. Repeat the adjustment in FWD and REV modes as well as for the decks A and B.	Maximum 	Screws (FWD, REV)
Adjusting tape speed (motor speed)	1. After adjustment of normal speed, then adjust high speed. Test tape: VTT712 or VT712 (3kHz) 2. For high speed adjustment, set the deck for play mode and shortcircuit between B7101 and GND. 3. Do not do anything while B7101 and GND are shortcircuited.	1. Connect a frequency counter to the LINEOUT terminals. 2. Perform normal speed adjustment first, and then do high speed adjust- ment 3. Play back the VTT712 test tape. 4. Adjust for deck [A] : Adjust VR701 for normal speed at 300Hz, and VR702 for high speed at 600Hz Adjust for deck [B] : Adjust VR703 for normal speed at 3000Hz, and VR704 for high speed at 6000Hz. 5. Difference in FWD and REV frequencies must be less than 48Hz.	Normal speed: Deck [A],[B];3000 ± 15Hz High speed : Deck [A],[B];6000 ± 30Hz	Deck [A] : Normal;VR701 High ; VR702 Deck [B]; Normal;VR703 High; VR704
Checking wow and flutter	Test tape: VTT712 or VT712 (3kHz)	Connect a wow and flutter meter to LINE OUT terminals. Play back the VTT712 test tape. Check to see if the reading of the meter is within 0.17% (WRMS).	less than 0.17% (WRMS)	
Checking play back torque	Torque gauge: TW2111 (FWD) TW2121 (REV)	Employ a torque testing cassette tape (TW2111[FWD] / TW2121[REV])for the checking, or remove the cassette cover and use a torque gauge.	27 – 70 g·cm	
Checking back tension	Torque gauge: TW2111 (FWD) TW2121 (REV)	Employ a torque testing cassette tape (TW2111[FWD]/TW2121[REV]) for the checking, play the torque gauge and read the back tension value to confirm that the back tension is 1 – 4 g·cm	1 – 4 g·cm	
Checking FF/REW time	Tape :AC-225	Play back AC-225 tape in FF/REW mode, check that the FF/REW time during tape running from begin to end.	less than 120sec	

◆ Compu-Calibration for F.CAL mode(automatically adjustment)

◆ F.CAL mode setting procedure

1. Short the F.TUNING TP and GND on mecha control board ass'y.
2. Press the POWER key while pressing the FF [►►] key of deck A under the power standby mode.
   At the same time, [F.CAL] mode is displayed on the deck B counter of FL indicator.

NOTE: When Compu-Calibration is finished normally, [COMPU-CAL] LED light up and result number of calibration is displayed on the counter of FL indicator while 2 seconds.
If Compu-Calibration is finished abnormally, [COMPU-CAL] LED blinks and error number of calibration is displayed on the counter of FL indicator.
Then correct the error message and readjust the Compu-Calibration.

Item	Condition	Adjustment
Level meter sensitivity adjustment	Mode:REC/PAUSE at deck B Test signal Line out level: 400Hz or 1kHz,-4dBs Input:LINE IN(L and R)	1. Supply a 400Hz or 1kHz signal to both L and R of LINE IN terminals at –4dBs levels correctly. 2. Confirm that difference level between left and right within 0.3dB. 3. Press the [COMPU-CAL] key of deck B,adjust the level meter sensitivity automatically.
Playback level adjustment at deck B	Direction:FWD (deck B) NR:OFF Test tape:VTT-727 or VT727	1. Load the VTT-727 test tape to deck B. 2. Press the [PLAY] key of deck B and playing back the tape. 3. Press the [COMPU-CAL] key of deck B and adjust the playback level of deck B automatically.
Recording charactor adjustment (Bias and REC/PB sensitivity) at deck B	Direction:FWD(decks A and B) Recrding tape: AC-225 (normal) AC-514 (CrO_2) AC-713 (metal) NR: OFF	1. Load the AC-225 tape to deck B. 2. Press the [COMPU-CAL] key of deck B,start the recording charactor adjustment of deck B automatically. After while about 30 seconds, adjustment is completed automatically. While adjusting, confirm that all segment is displayed on FL indicator. 3. Load the AC-514 tape to deck B and adjusting as the same manner above step2. Afer while about 20 seconds,adjustment is completed automatically. 4. Load the AC-713 tape to deck B and adjusting as the same manner above step2. After while about 20 seconds,adjusting is completed automatically. NOTE; When recording the each tapes, do not use while about 3 minutes range of tape start and end winding positions.

◆ Explanation of Error Message

If following error messages are indicated on the FL indicator when adjusting the Conpu-Calibration,correct these abnormal conditions and readjust the Compu-Calibration.

1. In case the Level meter sensitivity adjustment.

(Error No.)	(Contents of the message)
ER01	No signal
ER02	Over the adjustment range,too much large the input signal level
ER03	Over the adjustment range,too much small the input signal level

2. In case the Playback level adjustment.

ER04	No playback signal
ER05	Over the adjustment range,too much large the playback signal
ER06	Over the adjustment range,too much small the playback signal

3. In case the Recording signal adjustment.

(1) For Lch

ER12	No 400Hz test signal for recording
ER13	No 12.5kHz test signal for recording
ER14	No playback signal (Do not recorded)
ER15	Can not find the recording start position
ER16	Over the adjustment range of 400Hz playback signal level,too much large 400Hz playback signal
ER17	Over the adjustment range of 400Hz playback signal level,too much small 400Hz playback signal
ER18	Too much large 12.5kHz playback signal level compare with 400Hz signal
ER19	Too much small 12.5kHz playback signal level compare with 400Hz signal

(2) For Rch

ER22	No 400Hz test signal for recording
ER23	No 12.5kHz test signal for recording
ER24	No playback signal (Do not recorded)
ER25	Can not find the recording start position
ER26	Over the adjustment range of 400Hz playback signal level,too much large 400Hz playback signal
ER27	Over the adjustment range of 400Hz playback signal level,too much small 400Hz playback signal
ER28	Too much large 12.5kHz playback signal level compare with 400Hz signal
ER29	Too much small 12.5kHz playback signal level compare with 400Hz signal

(3) For Lch and Rch

ER30	Compu-Calibration of AC-514 adjustment is started before adjustment of AC-225 is not complete finished
ER31	Compu-Calibration of AC-713 adjustment is started before adjustment of AC-225 is not complete finished
ER32	During adjustment of recording response, too much large difference level of 400Hz between left and right channels.

◆ Monitor of adjusting values

In F. CAL mode, any adjusting data (DAC data) are indicated by the following key operations during STOP mode.

① DECK A PLAY — During playback the deck A, setting data of input volume DAC at Lch are displayed on the counter to lower 2 digits of deck A FL indicator and at Rch are displayed on the counter to lower 2 digits of deck B FL indicator.

② DECK B PLAY — During playback the deck B, setting data of input volume DAC at Lch are displayed on the counter to lower 2 digits of deck A FL indicator and at Rch are displayed on the counter to lower 2 digits of deck B FL indicator.

③ DECK B REC — During loaded tape type of F. CAL mode, setting data of bias DAC at Lch are displayed on the counter to upper 2 digits of deck A FL indicator and at Rch are displayed on the counter to upper 2 digits of deck B FL indicator. And setting data of equalizer volume DAC at Lch are displayed on the counter to lower 2 digits of deck A FL indicator and at Rch are displayed on the counter to lower 2 digits of deck B FL indicator.

④ DECK B PAUSE — During loaded tape type of user calibrating, setting data of bias DAC at Lch are displayed on the counter to upper 2 digit of deck A FL indicator and at Rch are displayed on the counter to upper 2 digits of deck B FL indicator. And setting data of equalizer volume DAC at Lch are displayed on the counter to lower 2 digits of deck A FL indicator and at Rch are displayed on the counter to lower 2 digits of deck B FL indicator. And more metal tape loading, recording equalizer steps are displayed by using +2(0), +4(1), +6(2) and +8(3) on the Rch level meter.

⑤ DECK B STOP — Adjusting data of level meter sensitivity at Lch are displayed on the counter to lower 2 digits of deck A FL indicator and at Rch are displayed on the counter to lower 2 digits of deck B FL indicator.

◆ Special operation

- In F. CAL mode.

① B. REC +B. COUNTER RESET — Clear the recording character data of user setting data (user tape data) in normal mode.

NOTE: This operation should be doing before shipping the unit.

② B. STOP +B. COUNTER RESET — Clear the all data of F. CAL mode.

NOTE: This operation should be doing in such as head replacement or mechanism replacement.

- In normal mode.

① B. REC +B. COUNTER RESET — Clear the recording character data of user setting data (user tape data) in which loaded tape of normal mode.

◆ Checking

Press the POWER key during normal mode.
In F. CAL mode, press the POWER key once and set the stand by mode and press the POWER key again then set to normal mode.
In normal mode and powered up the unit, if compu-calibration of three items as shown on page 20 is not finished, following error message are displayed on FL indicator.
At this time, adjust the compu-calibration on page 20 in F. CAL mode.

① Error Message — [F CAL] is blink on the counter of deck A FL indicator and [ERR_] is blink on the counter of deck B FL indicator. (_portion is blank)

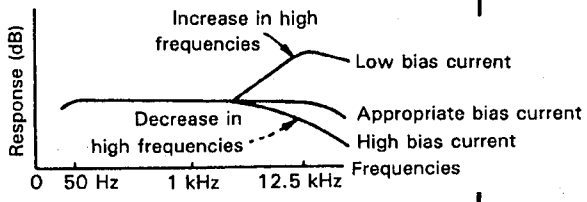
② Unfinished Compu-Calibration — At this time, press COMPU-CAL key and displayed unfinished items with blinking as follows:

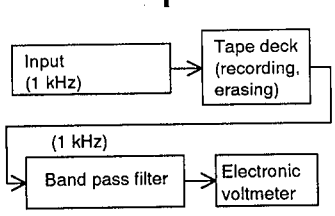
Error Message	Unfinished Item
Blink the 0 dB segment on level meter	Level meter sensitivity adjustment
Blink the –30 dB segment on level meter	Playback level adjustment
ER51 on deck B counter	Recording character adjustment (AC-225)
ER52 on deck B counter	Recording character adjustment (AC-514)
ER53 on deck B counter	Recording character adjustment (AC-713)

◆ Electrical Adjustment Procedure

Item	Check and Adjustment			
1 Cheking DOLBY circuit (Rec.mode) (BIAS-CUT)			Input signal (Frequency, level)	Output raise value,deviation value
	Signal input: LINE IN Cal.level: 400Hz, – 8dBs Output terminal TP : NR IC831 (53) &(8) pin.	DOLBY B (Rec)	1kHz, cal. – 40dB	+5.7 dB ± 2 dB
			5kHz, Cal. – 20dB	+3.5dB ± 1.5 dB
			1kHz, Cal.	0 dB $\pm \frac{0.5}{1.0}$ dB
		DOLBY C (Rec)	1kHz, Cal. – 40	+16.2 dB $\pm \frac{3}{2}$ dB
			5kHz, Cal. – 20	+2.9 dB ± 2.5 dB
			1kHz, Cal.	0 dB ± 1 dB

Item	Conditions	Adjustment and Confirmation	Standard	Adjusting
*2 Play back level check	Test tape VTT727 or VT727 : 400Hz	Play back VTT727 in FWD mode. Check that the level at LINE OUT is –4.5 dBs ± 1 dB. Difference between Lch and Rch must be less than 1 dB at LINE OUT.	LINE OUT –4.5 dBs ± 1dB Phone Out –20.5 dBs ± 2 dB	
*3 Playback frequency response adjustment	Test tape VT742 (63Hz, 1kHz, 12.5kHz)	Play back VT742 test tape, and adjust VR116, VR216 (deck [B]) and VR111, VR211 (deck [A]) so that deviation of 12.5 kHz to that of 1 kHz is 0 ± 0.5 dB (deck [A] and deck [B]). Then, play back VT742 test tape to confirm that deviation of 63 Hz to 1kHz is +2 ± 3 dB.	with 12.5kHz as reference, 0 ± 0.5 dB (deck [A]) and 0 ± 0.5 dB (deck [B]) at 1 kHz 63 Hz (check): +2 ± 3 dB	Deck [B] L: VR116 R: VR216 Deck [A] L: VR111 R: VR211
*4 Bias frequency adjustment NOTE: This adjustment should be doing before Compu-Calibration on page 20.	Frequency counter TP: CN845 pin 1 Tape : Metal Mode: REC Frequency counter Input impedance: more than 470 kΩ (see page 18)	Connect frequency counter to the pin 1 of CN845 and adjust L8401 so that the counter reads 95 kHz.	95 kHz ± 1 kHz	Deck [B] L8401
*5 Slave oscillation (HX PRO) adjustment	DC.Voltmeter TP: CN845 Lch (pin 3 – 4) Rch (pin 3 – 5)	This step must be performed after the bias frequency adjustment. Load a metal tape and set the deck to the recording mode. Adjust L1401 and L2401 to minimize respective DC voltages of CN845 (pin 3 – 4) at Lch and (pin 3 – 5) at Rch.	Minimum	Deck [B] L : L1401 R : L2401

Item	Conditions	Adjustment and Confirmation	Standard	Adjusting
6 Checking recording bias current (Value appering here are just for reference)	Measuring point: Both ends of 100 Ω resistor connected to the R/P head terminal	Connect 100 Ω resistor to the R/P head in series, and measure voltage at both ends of the resistor to check to see if measured voltage meets the following requirements on both channels. • In recording with metal tape, the bias current is 1100 μA (1.1 mA). • In recording with CrO_2 tape, the bias current is 780 μA (0.78 mA). • In recording with normal tape, the bias current is 480 μA (0.48 mA).	Reference values Metal tape: 1100 μA CrO_2 tape: 780 μA Normal tape: 480 μA	
7 Input sensitivity level check		1. Supply a 1kHz signal to the LINE IN terminals at –20dBs, confirm that LINE OUT level is –8dBs. 2. Supply a 1 kHz signal to the MIC input terminals at –66 dBs, confirm that LINE OUT level is –8 dBs. 3. Confirm that difference level between left and right within 2 dB at LINE IN terminals and within 3 dB at MIC terminals.	LINE IN : –20dBs ± 2 dB MIC : –66 dBs ± 3 dB	
*8 REC/PB frequency response check	LINE INPUT level : Ref. –20 dB (–40 dBs ± 2 dB) MIC INPUT level : Ref. –20 dB (–86 dBs ± 2 dB) NR switch : OFF	This step must be performed after the slave oscillation adjustment. Record the 1 kHz and 12.5 kHz signals at the level of – 20 dB (20 dB lower than the reference level). Playing back the recorded signals, check that the level of the 12.5 kHz signal is 0 ± 2 dB to the level of the 1 kHz signal. As the same manner as above, check that the level of 63 Hz signal is 0 ± 3 dB to the level of the 1 kHz signal. 	12.5 kHz level: 0 ± 2 dB 63 Hz level: 0 ±3 dB higher than the 1kHz level.	
9 Recording/ playback sensitivity check	NR switch : OFF	1. Supply a 400Hz signal to the LINE IN terminals record a 400Hz signal at reference level of –20dB. 2. Confirm that REC indicator should turn on when LINE OUT level is –28dBs during recording.	Normal, Chrome, Metal: –28dBs ±1 dB	

Item	Conditions	Adjustment and Confirmation	Standard	Adjusting
10 Maximum output level check		Supply 1 kHz signel to the LINE IN terminal in the Rec. monitoring mode, and read non-clipped signal level at the LINE IN terminal	LINE OUT: more than 5 dBs PHONES OUT: more than – 16dBs	
11 Checking record/ playback distortion		1. Record a 1 kHz, –20 dB signal to LINE IN terminals. 2. Play back the recorded part, Check the output with a distortion meter to see if the value conforms to the standard value.	Nornal: Less than 2% CrO2/Metal: Less than 3%	
12 Checking signal to noise ratio recording playback		1. Record a 1 kHz, –20 dB signel, Stop the input by disconnecting from the terminal to perform non-signal recording. 2. Play back the recorded part.Measure the – 8 dBs recording output and the non-signal recording output for comparison using an electronic voltmeter. Check to see if the value conforms to the standard value.	Normal, More than 40 dB Metal, CrO_2; More than 41 dB	
13 Checking erasing coefficient		1. Apply a 1 kHz, +20 dB signal to the LINE IN terminals. 2. Perform recording with the signal enhaned by 20 dB. 3. Erase a part of the recording. 4. Measure the output difference between the erased part and non- erased part to compare with an electronic voltmeter. For the measurement using a metal tape, connect a band pass filter between the deck and the electronic voltmeter.	More than 55 dB 	
14 Checking MPX filter effect	Signal input: LINE IN Input LEVEL: Maximum	1. Connect an electronic voltmeter and oscilloscope to the LINE OUT terminals. 2. Set the INPUT volume to the maximum position. 3. Set the NR switch to on and supply 1 kHz and 19 kHz signals reference level to the LINE IN terminals respectively and record them. 4. While playing back the 1 kHz and 19 kHz signal respectively, confirm that level difference between 19kHz signal to 1 kHz signal is more than 30 dB.	19 kHz level: –30 dB (including 18.99 ~ 19.01 kHz) lower than 1 kHz signal	

<table>
<tr><th>Item</th><th>Conditions</th><th>Adjustment and Confirmation</th><th>Standard</th><th>Adjusting</th></tr>
<tr><td>15 Checking peak indicator Calibration</td><td>Operation mode:
REC
Input frequency:1 kHz
Signal input:LINE IN
LINE OUT:–4 dBs
(Indicator reads at 0 position)</td><td>1. Connect an electronic voltmeter to the LINE OUT terminals.
2. Supply the 1 kHz reference signal (–4 dBs) to the LINE IN terminals.
3. While rising the input signal level gradually, check the signal level at the LINE OUT so that each peak indicator is turned on with the output level specified on the right.</td><td colspan="2"><table><tr><th>Indicator</th><th>Signal level (LINE OUT)</th></tr><tr><td>– 30</td><td>– 34 dBs ± 5 dB</td></tr><tr><td>– 20</td><td>– 24 dBs ± 4 dB</td></tr><tr><td>– 15</td><td>– 19 dBs ± 3 dB</td></tr><tr><td>– 12</td><td>– 16 dBs ± 3 dB</td></tr><tr><td>– 10</td><td>– 14 dBs ± 2 dB</td></tr><tr><td>– 8</td><td>– 12 dBs ± 2 dB</td></tr><tr><td>– 6</td><td>– 10 dBs ± 2 dB</td></tr><tr><td>– 4</td><td>–8 dBs ± 1 dB</td></tr><tr><td>– 2</td><td>– 6 dBs ± 2 dB</td></tr><tr><td>0</td><td>– 4 dBs ± 2 dB</td></tr><tr><td>+ 2</td><td>– 2 dBs ± 2 dB</td></tr><tr><td>+ 4</td><td>0 dBs ± 2 dB</td></tr><tr><td>+ 6</td><td>+ 2 dBs ± 2 dB</td></tr><tr><td>+ 8</td><td>+ 4 dBs ± 2 dB</td></tr></table></td></tr>
<tr><td>16 Checking music scan in FWD and REV mode</td><td>Test tape:
TMT-6448 (FWD)
TMT-6447 (REV)</td><td>1. Playing back the TMT-6448 test tape by using nearly start winding position of the tape at FWD mode and load the tape at more than 15 seconds.
Confirm that music scan should not works to scan select.
2. Playing back the TMT-6447 test tape by using nearly end winding position of the tape at REV mode.
Confirm that music scan should works to scan select.</td><td></td><td></td></tr>
</table>

4 Wiring Connections

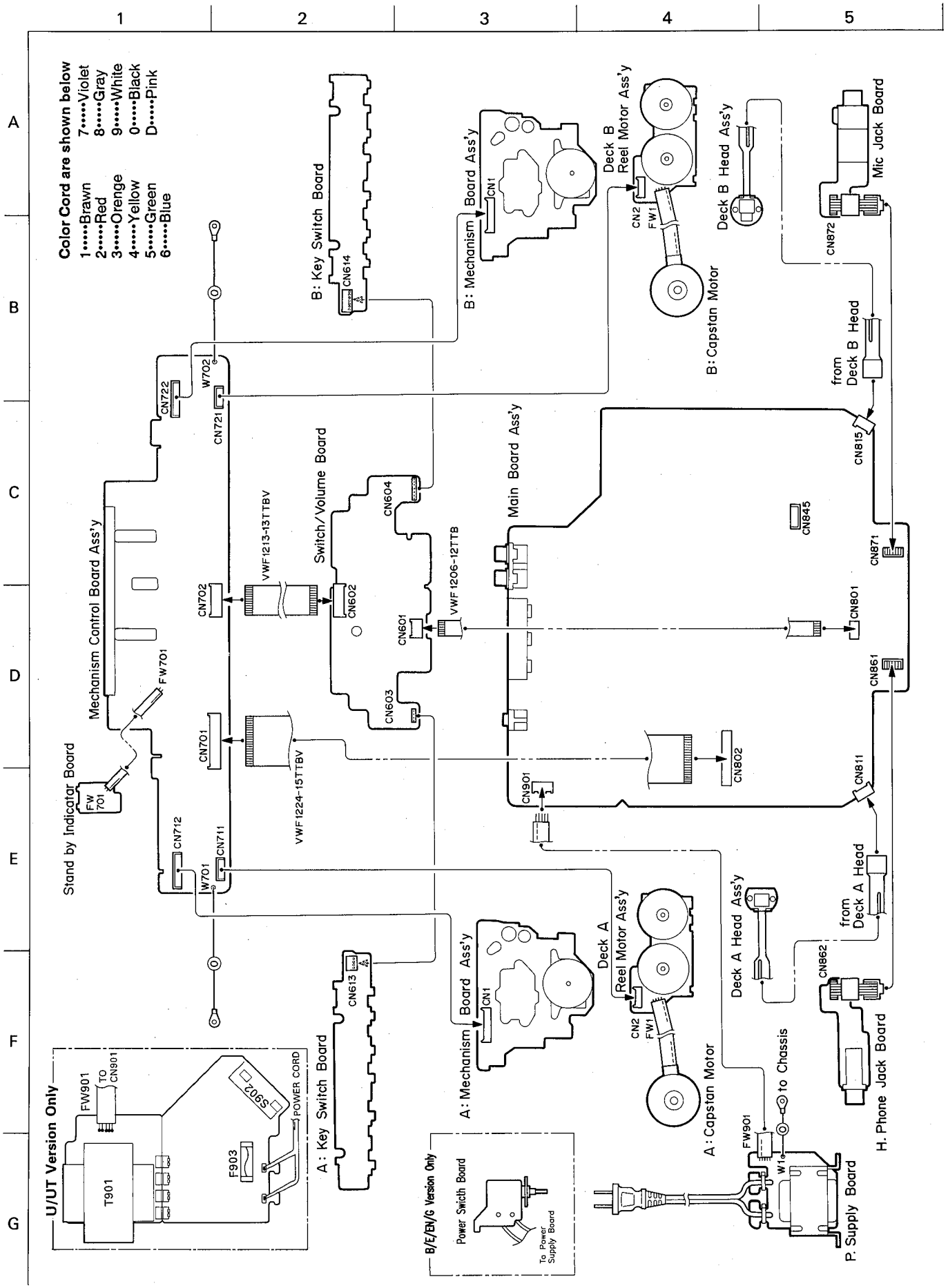


Fig 4 – 1

5 Block Diagram

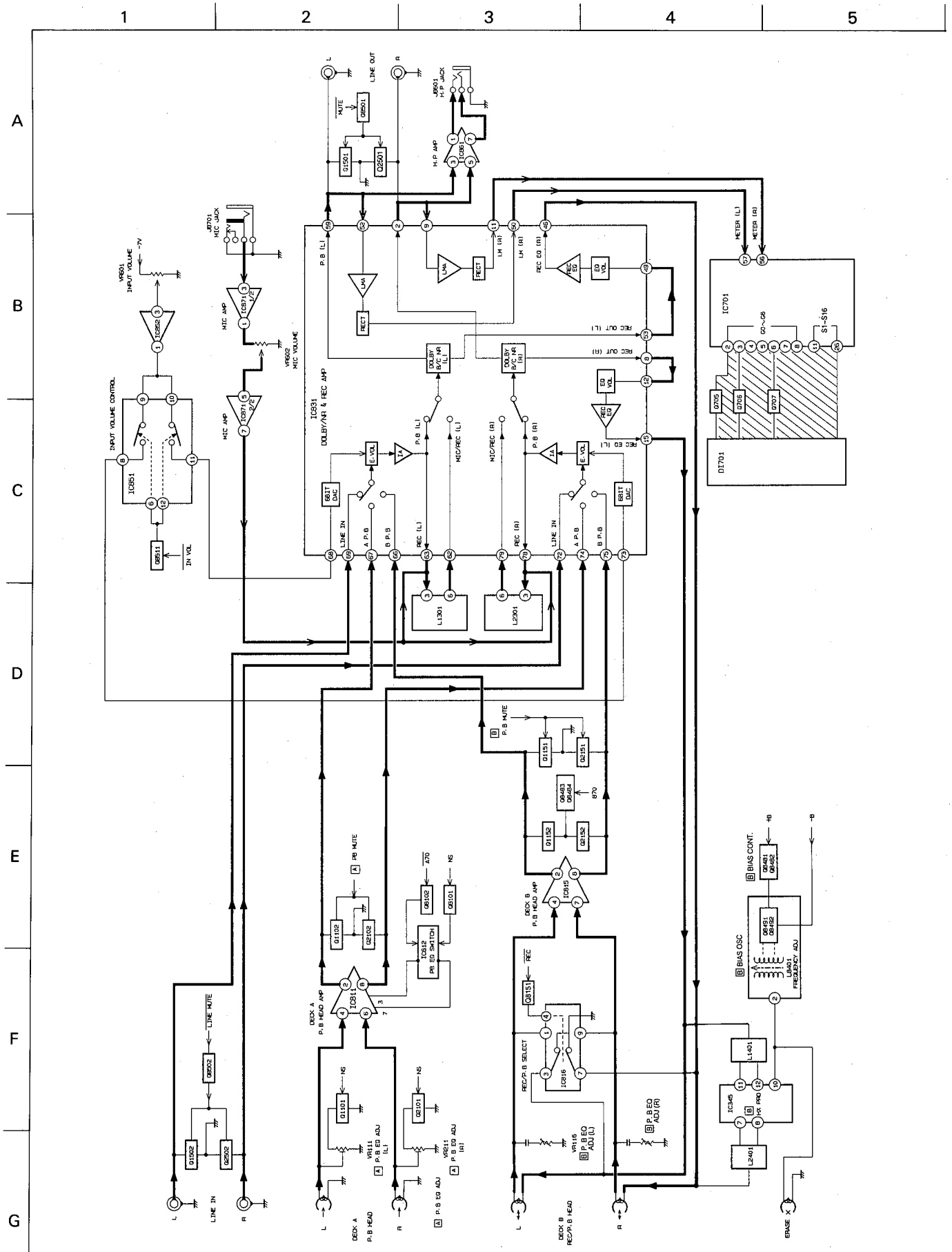
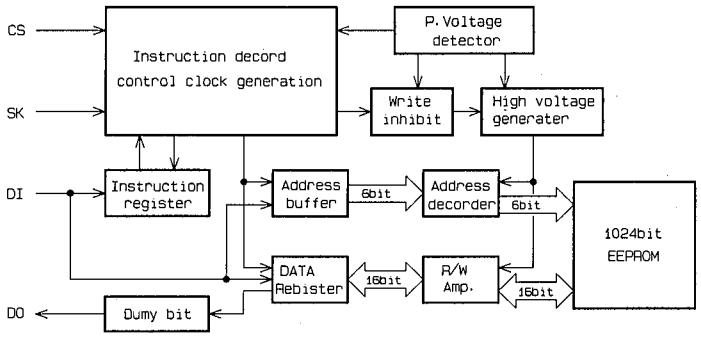


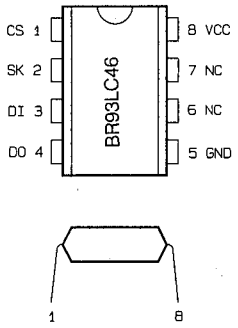
Fig 5 – 1

6 IC Blook Diagrams

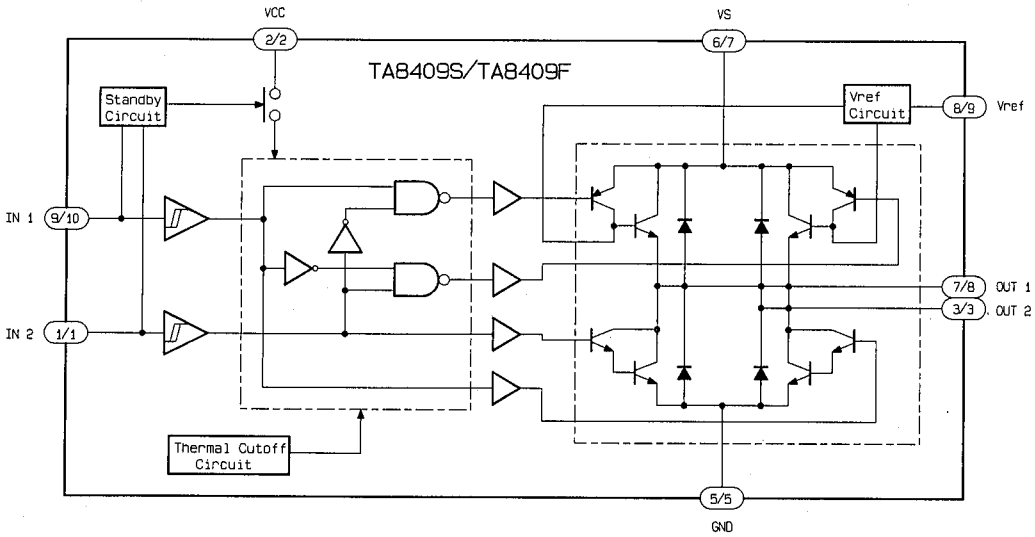
◆ IC703 (BR93LC46)

BR93LC46

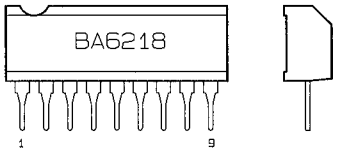


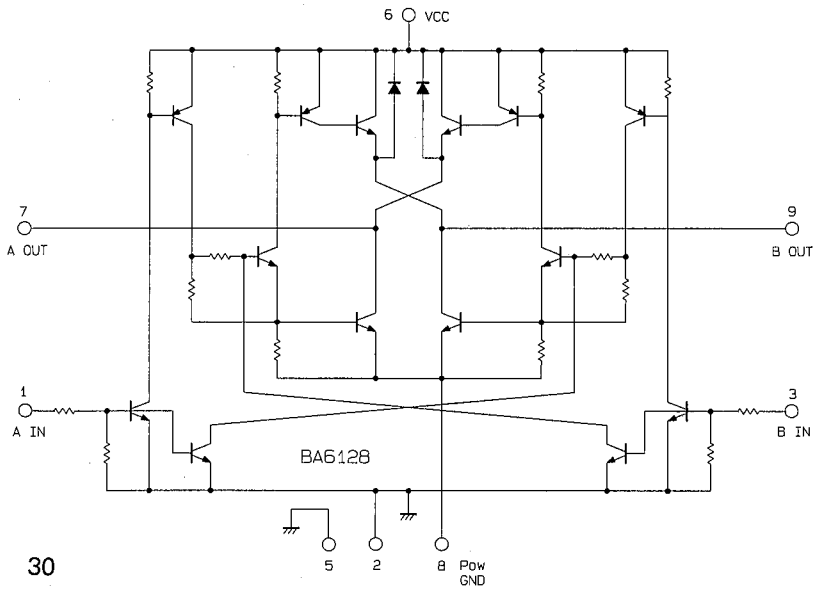


◆ IC733/IC734 (TA8409S)

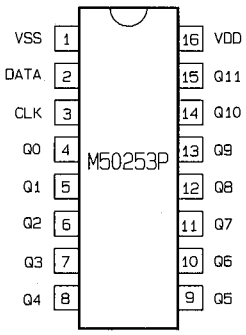


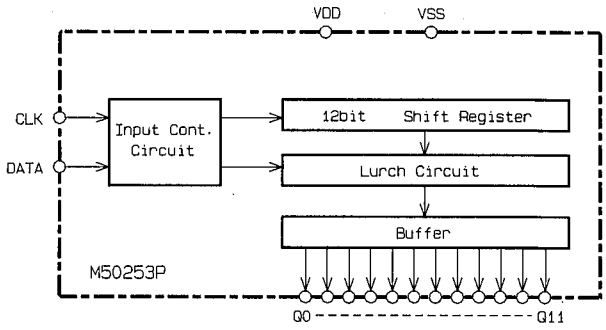
◆ IC731/IC732 (BA6128)





◆ IC891/IC702 (M50253P)





■ IC PIN FUNCTION

◆ IC701 (MB89145V2P-121 OR MB89145V2P-116) : MAIN MICOM

PIN NO.	SIGNAL NAME	IN/OUT	DESCRIPTION	
1	DCS OUT	OUT	DCS SIGNAL OUTPUT	
2 ~ 8	G0 ~ G6	OUT	FL GRID & DYNAMIC SCAN INPUT SELECT OUTPUT	
9	A – RESET	OUT	IC831 IC RESET OUTPUT	
10	VFDP	IN	–24 V (PULL – DOWN RESISTOR VOLTAGE INPUT)	
11~ 26	S16 ~ S1	OUT	FL SEGMENT OUTPUT	
27	1 – CLK	OUT	CLOCK OUTPUT (PORT EXPANDER-1) IC891	
28	$\overline{\text{RESET}}$	IN/OUT	RESET INPUT (L – RESET)	
29	MODA	IN	L LEVEL SETTLE	
30	X0	–	MICOM SYSTEM CLOCK (8MHz)	
31	X1	–	MICOM SYSTEM CLOCK (8MHz)	
32	Vss	–	GND	
33	DATA4	IN	DYNAMIC SCAN SIGNAL INPUT	
34	DATA3	IN	DYNAMIC SCAN SIGNAL INPUT	
35	1 – DATA	OUT	DATA OUTPUT (PORT EXPANDER-1) IC891	
36	A – DATA	OUT	SERIAL DATA OUTPUT (IC831 IC)	
37	A – CLK	OUT	SERIAL DATA TRANSMIT CLOCK OUTPUT (IC831 IC)	
38	A – STB	OUT	SERIAL DATA TRANSMIT STROBE OUTPUT (IC831 IC)	
39	OSC	IN/OUT	OSC WAVE OUTPUT (AUTO TUNING (HIZ, H, L)	
40	CS	OUT	CHIP SELECT OUTPUT (IC703)	
41	DO	OUT	DATA OUTPUT	
42	DI	IN	DATA INPUT	
43	SK	IN	CLOCK INPUT	
44	REMOCON	IN	NC	
45	2 – CLK	OUT	CLOCK OUTPUT (PORT EXPANDER-2) IC702	
46	2 – DATA	OUT	DATA OUTPUT (PORT EXPANDER-2) IC702	
47	DATA2	IN	DYNAMIC SCAN SIGNAL INPUT	
48	DATA1	IN	DYNAMIC SCAN SIGNAL INPUT	
49	DATA0	IN	DYNAMIC SCAN SIGNAL INPUT	
50	A. FCAM	OUT	A MECHA CAM MOTOR OUTPUT (F, S → F, P : H)	*1
51	A. RCAM	OUT	A MECHA CAM MOTOR OUTPUT (R, S → R, P : H)	*2
52	B. FCAM	OUT	B MECHA CAM MOTOR OUTPUT (F, S → F, P : H)	*1
53	B. RCAM	OUT	B MECHA CAM MOTOR OUTPUT (R, S → R, P : H)	*2
54	B. FREEL	OUT	B MECHA REEL MOTOR OUTPUT (L → R : H)	*3
55	B. RREEL	OUT	B MECHA REEL MOTOR OUTPUT (R → L : H)	*3
56	METER-R	IN	R CH LEVEL METER SIGNAL (ANALOG INPUT)	
57	METER-L	IN	L CH LEVEL METER SIGNAL (ANALOG INPUT)	
58	KEY3	IN	B MECHA OP SW INPUT (ANALOG INPUT)	
59	KEY2	IN	B MECHA OP SW INPUT (ANALOG INPUT)	
60	KEY1	IN	A MECHA OP SW INPUT (ANALOG INPUT)	
61	KEY0	IN	A MECHA OP SW INPUT (ANALOG INPUT)	
62	A Vss	–	GND (A/D CONVERTER)	
63	A Vcc	IN	5.2 V (A/D CONVERTER)	
64	Vcc	IN	5.2 V	

NOTE: *1 F. S – F. STOP, F. P – F. PLAY
*2 R. S – R. STOP, R. P – R. PLAY
*3 L – LEFT R – RIGHT

◆ **IC891 (M50253P) : PORT EXPANDER-1**

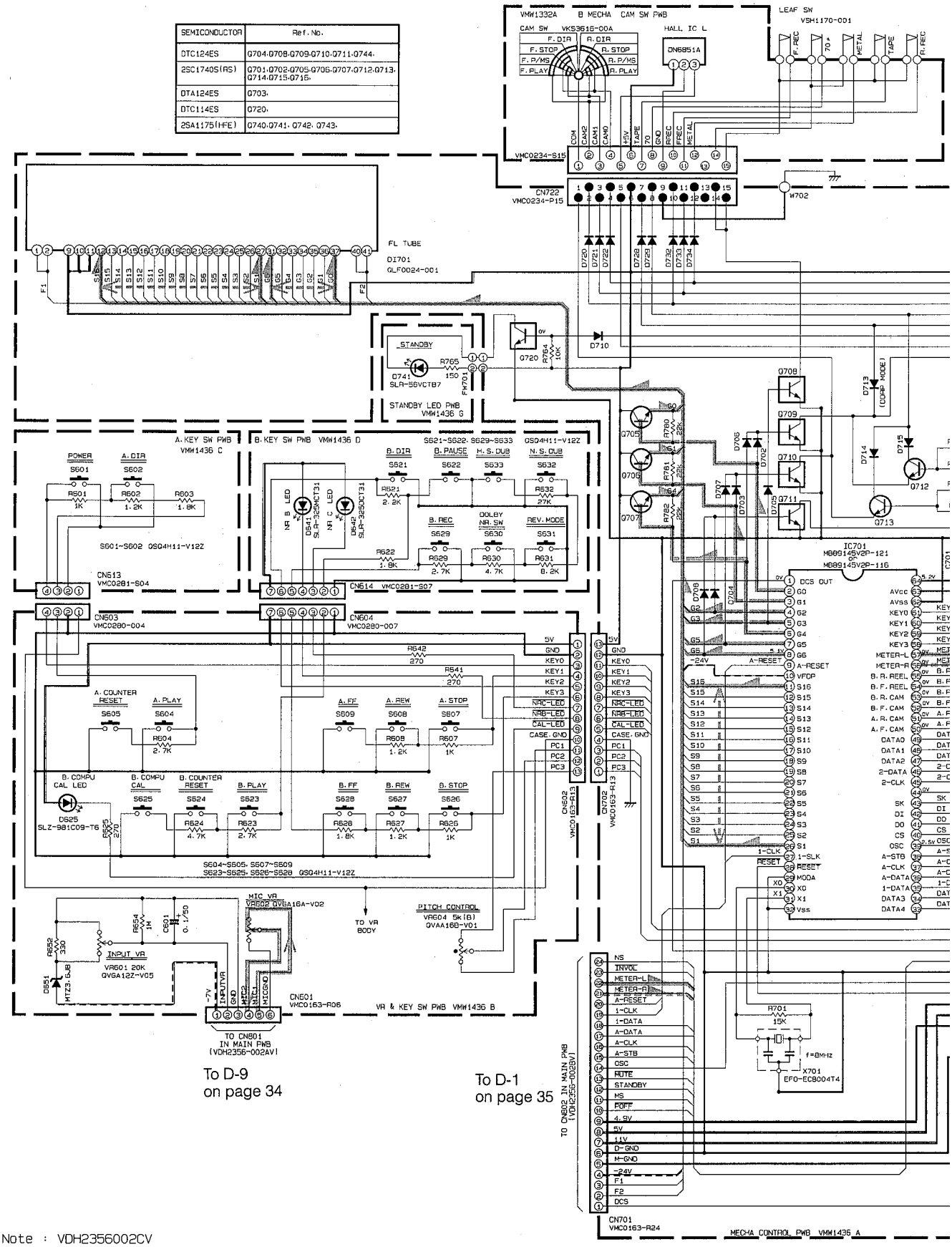
PIN NO.	SIGNAL NAME	IN/OUT	DESCRIPTION
1	Vss	–	GND
2	DATA	IN	SERIAL DATA INPUT (IC701)
3	CLK	IN	SERIAL CLOCK INPUT (IC701)
4	A70	OUT	A MECHA TAPE (70 μ) L (TAPE IN OR NOT)
5	B70	OUT	B MECHA TAPE (70 μ) H (TAPE IN OR NOT)
6	$\overline{\text{REC}}$	OUT	B MECHA HEAD R/P CONTROL OUTPUT (REC MODE: L)
7	APBMUTE	OUT	A MECHA PLAYBACK SIGNAL MUTE CONTROL OUTPUT (MUTE: H) (PB: L, OTHER: H)
8	BPBMUTE	OUT	B MECHA PLAYBACK SIGNAL MUTE CONTROL OUTPUT (MUTE: H) (PB: L, OTHER: H)
9	$\overline{\text{400}}$/12.5 K	OUT	400 Hz OSC WAVE OUTPUT: L (AUTO TUNING MODE)
10	CAL	OUT	LEVEL METER SWITCH (AUTO TUNING MODE: H)
11	MEEQ – A	OUT	SET THE METAL REC EQ TO 4 POSITION AT THIS TWO OUTPUT (FUCTORY SETTING ; MEEQ-A: L, MEEQ-B: H)
12	MEEQ – B	OUT	
13	$\overline{\text{BIAS}}$	OUT	B MECHA BIAS OSC CONTROL OUTPUT (REC MODE: L)
14	$\overline{\text{LINEINMUTE}}$	OUT	LINE IN SIGNAL MUTE CONTROL OUTPUT (REC MODE EXCEPT DUBBING: H, OTHER: L)
15	$\overline{\text{AMS}}$	OUT	A MECHA MS MODE, B MECHA PB MODE; H, OTHER: L
16	VDD	IN	5 V

◆ **IC702 (M50253P) : PORT EXPANDER-2**

PIN NO.	SIGNAL NAME	IN/OUT	DESCRIPTION
1	Vss	–	GND
2	DATA	IN	SERIAL DATA INPUT (IC701)
3	CLK	IN	SERIAL CLOCK INPUT (IC701)
4	$\overline{\text{NRC – LED}}$	OUT	DOLBY C LED LIGHT UP CONTROL OUTPUT (DOLBY C: L)
5	$\overline{\text{NRB – LED}}$	OUT	DOLBY B LED LIGHT UP CONTROL OUTPUT (DOLBY B: L)
6	$\overline{\text{CAL– LED}}$	OUT	AUTO TUNING LED INDICATION
7	$\overline{\text{MUTE}}$	OUT	LINE OUT MUTE CONTROL OUTPUT (MUTE: L)
8	$\overline{\text{INVOL}}$	OUT	IC INPUT ELEC VOL CONTROL. DAC CONTROL: H OUT VOL CONTROL: L, B MECHA REC MODE (EXCEPT DUB DDRP, AUTO TONE): L
9	STANDBY	OUT	STANDBY MODE INDICATE OUTPUT. STANDBY MODE: H
10	NS	OUT	TAPE SPEED CONTROL, HIGH SPEED DUB MODE: L
11	CAPM	OUT	CAPSTAN MOTOR ON/OFF CONTROL OUTPUT. REC/PAUSE, REC/PB, PAUSE, PB: H
12	$\overline{\text{B. PLAY}}$	OUT	B MECHA REEL MOTOR VOLTAGE SWITCH OUTPUT. PB MODE: L
13	$\overline{\text{A. PLAY}}$	OUT	A MECHA REEL MOTOR VOLTAGE SWITCH OUTPUT. PB MODE: L
14	A. F. RELL	OUT	A MECHA REEL MOTOR OUTPUT (L REEL → R REEL: H)
15	A. R. RELL	OUT	A MECHA REEL MOTOR OUTPUT (R REEL → L REEL: H)
16	VDD	IN	5V

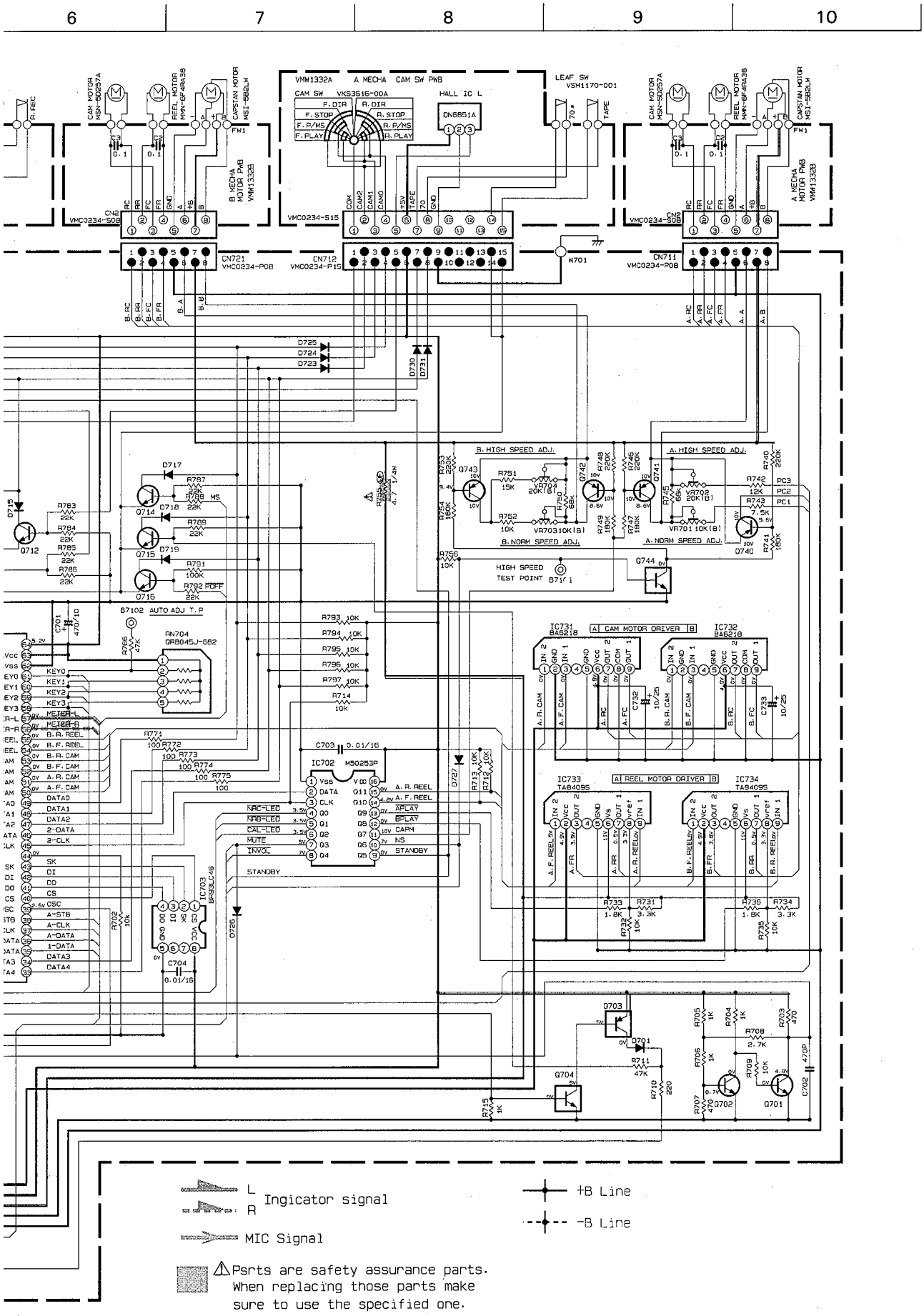
7 Standard Schematic Diagrams

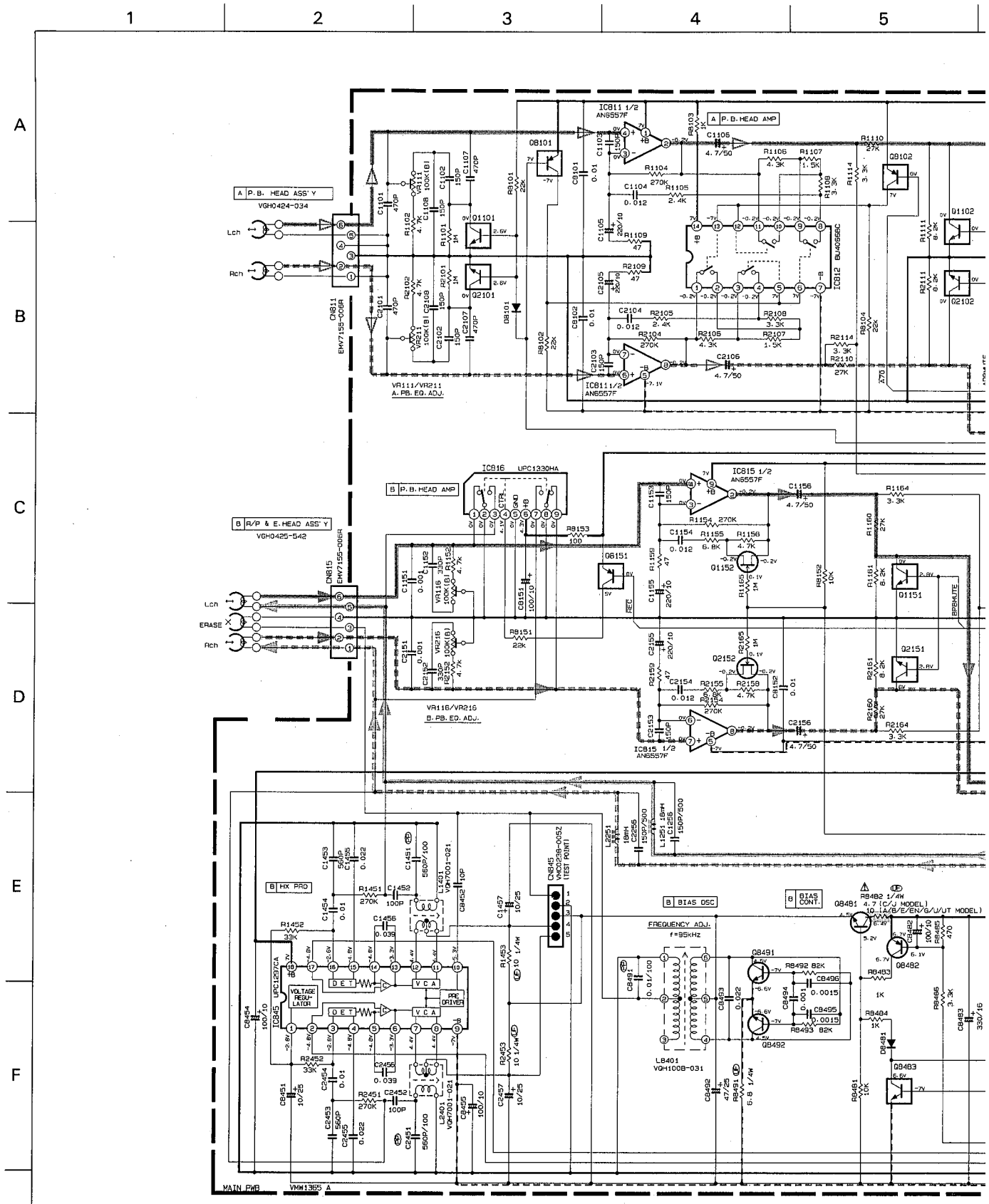
SEMICONDUCTOR	Ref. No.
DTC124ES	Q704, Q708, Q709, Q710, Q711, Q744,
2SC1740S(RS)	Q701, Q702, Q705, Q706, Q707, Q712, Q713, Q714, Q715, Q716,
DTA124ES	Q703,
DTC114ES	Q720,
2SA1175(HFE)	Q740, Q741, Q742, Q743,



Note : VDH2356002CV

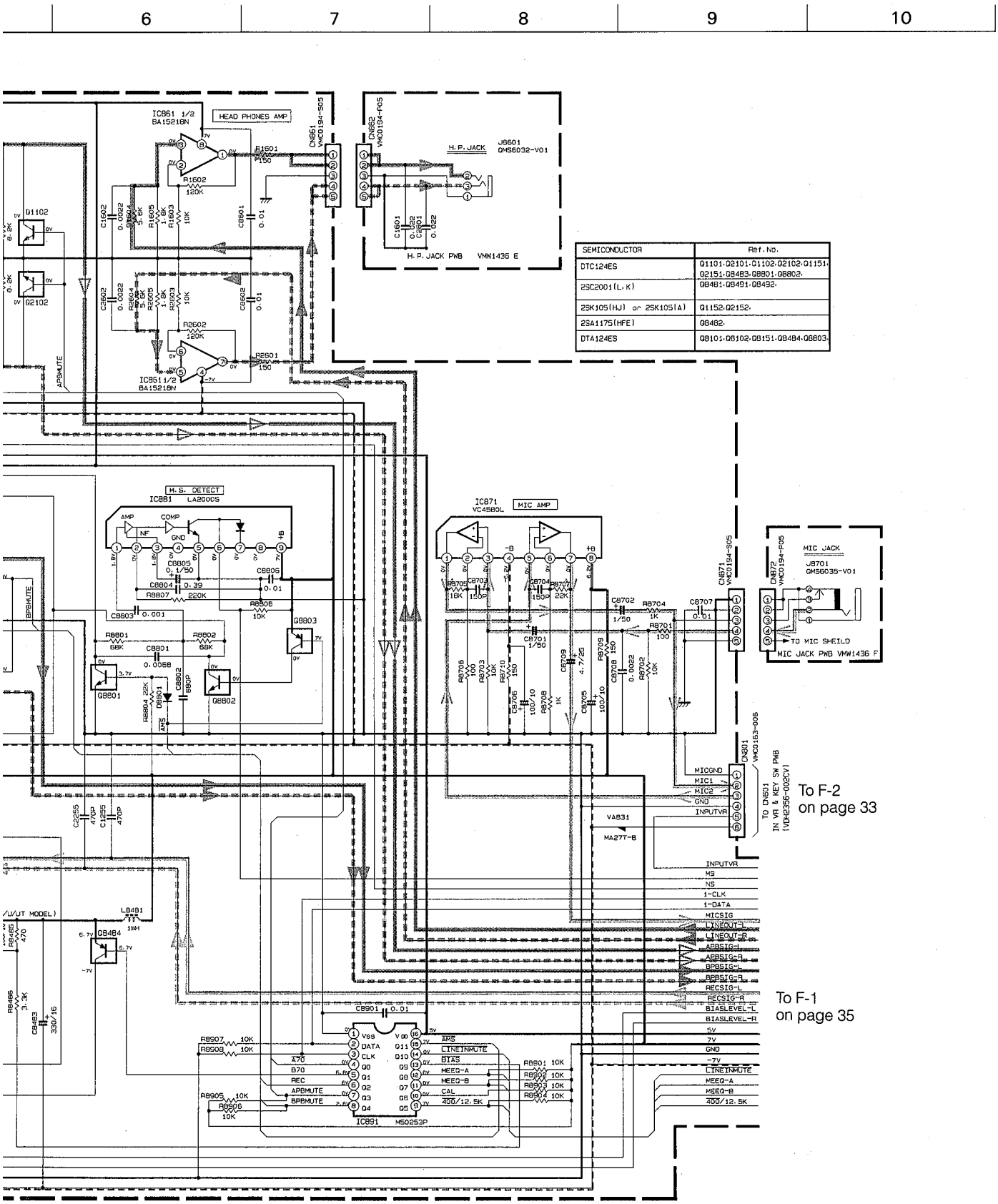
Fig. 7-1


6
7
8
9
10
VMW1332A A MECHA CAM SW PWB
CAM SW VKS3516-00A
F. STOP
R. STOP
F. P/MS
R. P/MS
F. PLAY
R. PLAY
HALL IC L
DN6851A
LEAF SW VSH1170-001
TAPE
CAM MOTOR MSN-502S7A
REEL MOTOR MAN-6F-48A38
CAPSTAN MOTOR MSI-582LW
B. MECHA MOTOR PWB VWM1328
A. MECHA MOTOR PWB VWM1328
CN2 VMC0234-S08
VMC0234-S15
CN721 VMC0234-P08
CN712 VMC0234-P15
CN711 VMC0234-P08
W701
B. HIGH SPEED ADJ.
A. HIGH SPEED ADJ.
B. NORM SPEED ADJ.
A. NORM SPEED ADJ.
HIGH SPEED TEST POINT
B7101
B7102 AUTO ADJ T. P
IC731 BA5218 A CAM MOTOR DRIVER B
IC732 BA6218
IC733 TA8409S A REEL MOTOR DRIVER B
IC734 TA8409S
IC702 M50253P
IC703 BR93LC46
RN704 CRB045J-682
KEY0
KEY1
KEY2
KEY3
METER-L
METER-R
B. R. REEL
B. F. REEL
B. R. CAM
B. F. CAM
A. R. CAM
A. F. CAM
DATA0
DATA1
DATA2
2-DATA
2-CLK
SK
DI
DO
CS
OSC
A-STB
A-CLK
A-DATA
1-DATA
DATA3
DATA4
NRC-CLEO
NRB-CLEO
CAL-CLEO
MUTE
INVOC
STANDBY
APLAY
BPLAY
CAPM
NS
PC3
PC2
PC1
L
R
Ingicator signal
MIC Signal
+B Line
-B Line
⚠Psrts are safety assurance parts.
When replacing those parts make
sure to use the specified one.



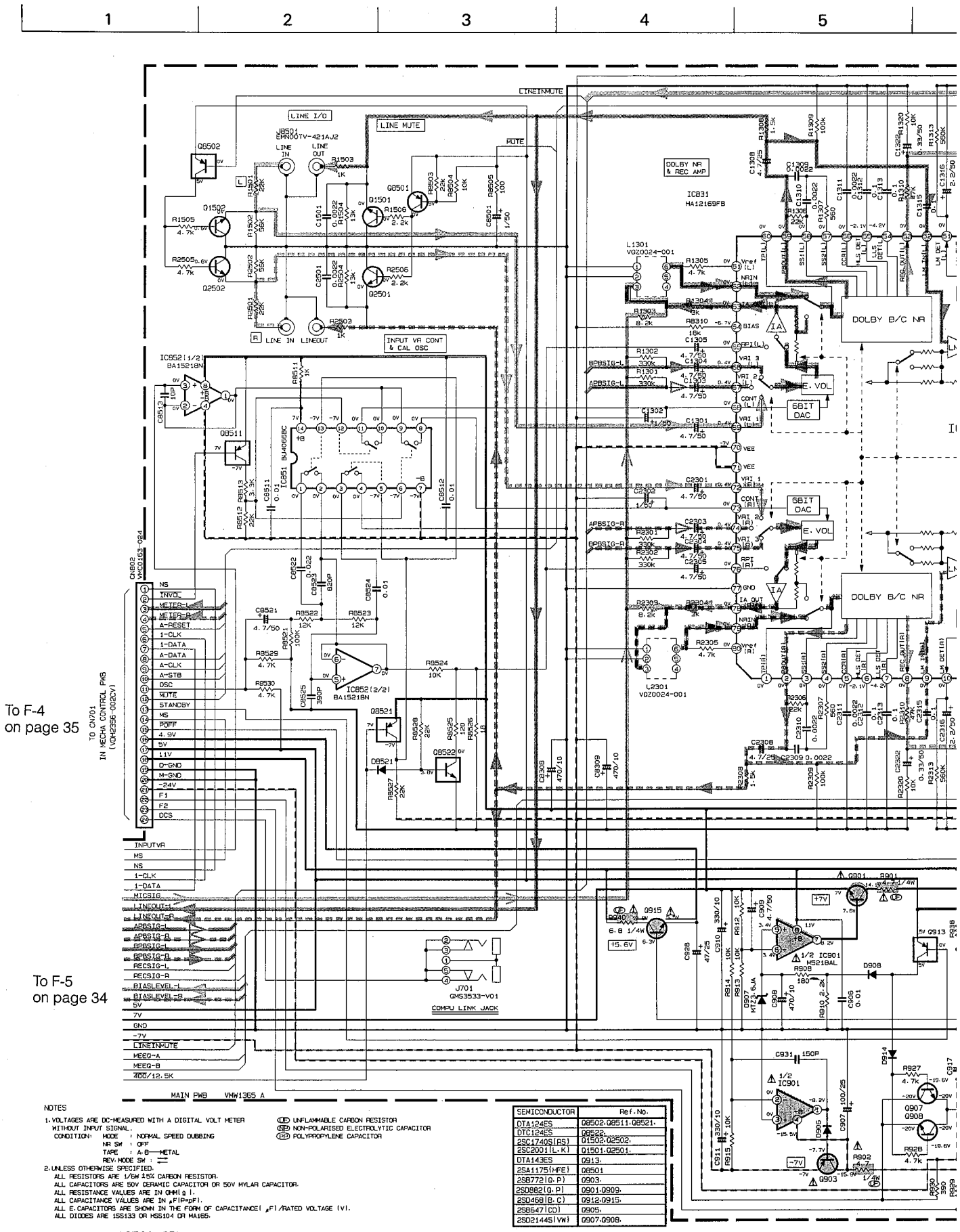
Note : VDH2356002AV

Fig. 7-2



SEMICONDUCTOR	Ref.No.
DTC124ES	Q1101·Q2101·Q1102·Q2102·Q1151·Q2151·Q8483·Q8801·Q8802·
2SC2001(L,K)	Q8481·Q8491·Q8492·
2SK105(HJ) or 2SK105(A)	Q1152·Q2152·
2SA1175(HFE)	Q8482·
DTA124ES	Q8101·Q8102·Q8151·Q8484·Q8803·

⚠Psrts are safety assurance parts. When replacing those parts make sure to use the specified one.



NOTES

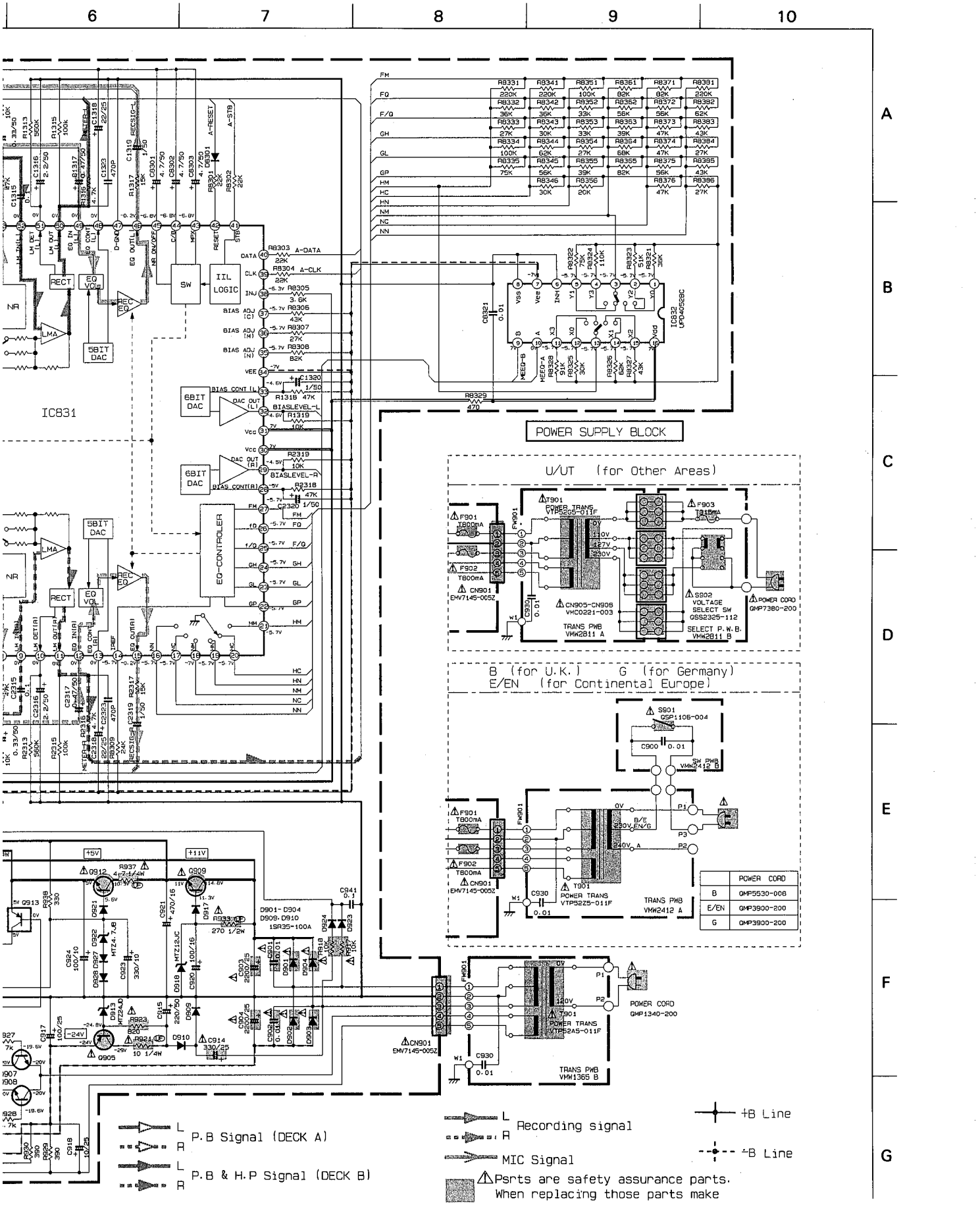
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION: MODE : NORMAL SPEED DUBBING
   NR SW : OFF
   TAPE : A-B—METAL
   REV. MODE SW : ⇉
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE(V).
   ALL DIODES ARE 1SS133 OR HSS104 OR MA165.

(UR) UNFLAMMABLE CARBON RESISTOR
(NP) NON-POLARISED ELECTROLYTIC CAPACITOR
(PP) POLYPROPYLENE CAPACITOR

SEMICONDUCTOR	Ref.No.
DTA124ES	Q8502.Q8511.Q8521.
DTC124ES	Q8522.
2SC1740S(RS)	Q1502.Q2502.
2SC2001(L.K)	Q1501.Q2501.
DTA143ES	Q913.
2SA1175(HFE)	Q8501
2SB772(Q.P)	Q903.
2SD882(Q.P)	Q901.Q909.
2SD468(B.C)	Q912.Q915.
2SB647(CD)	Q905.
2SD2144S(VW)	Q907.Q908.

Note : VDH2356006BV

Fig. 7-3


6
7
8
9
10
A
B
C
D
E
F
G
IC831
POWER SUPPLY BLOCK
U/UT (for Other Areas)
B (for U.K.) G (for Germany)
E/EN (for Continental Europe)
POWER CORD
B QMP5530-006
E/EN QMP3900-200
G QMP3900-200
TRANS PWB VMW2811 A
TRANS PWB VMW2412 A
TRANS PWB VMW1365 B
SW PWB VMW2412 B
SELECT P.W.B. VMW2811 B
POWER CORD QMP7380-200
POWER CORD QMP1340-200
L P.B Signal (DECK A)
R
L P.B & H.P Signal (DECK B)
R
L Recording signal
R
MIC Signal
+B Line
-B Line
⚠Psrts are safety assurance parts.
When replacing those parts make
sure to use the specified one.

8 Location of P. C. Board parts and Parts List

■ Main Board

◆ Main amp. board

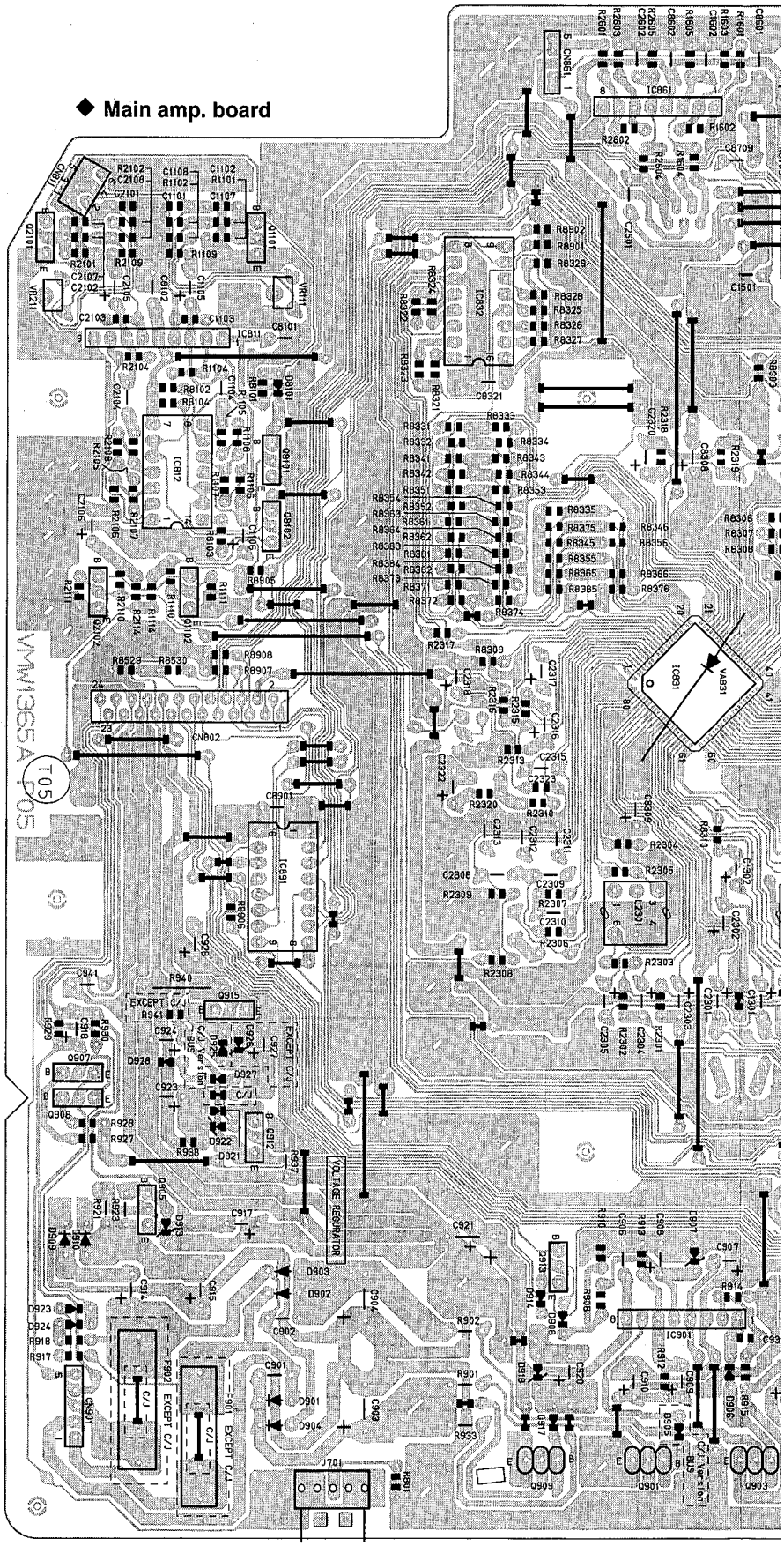
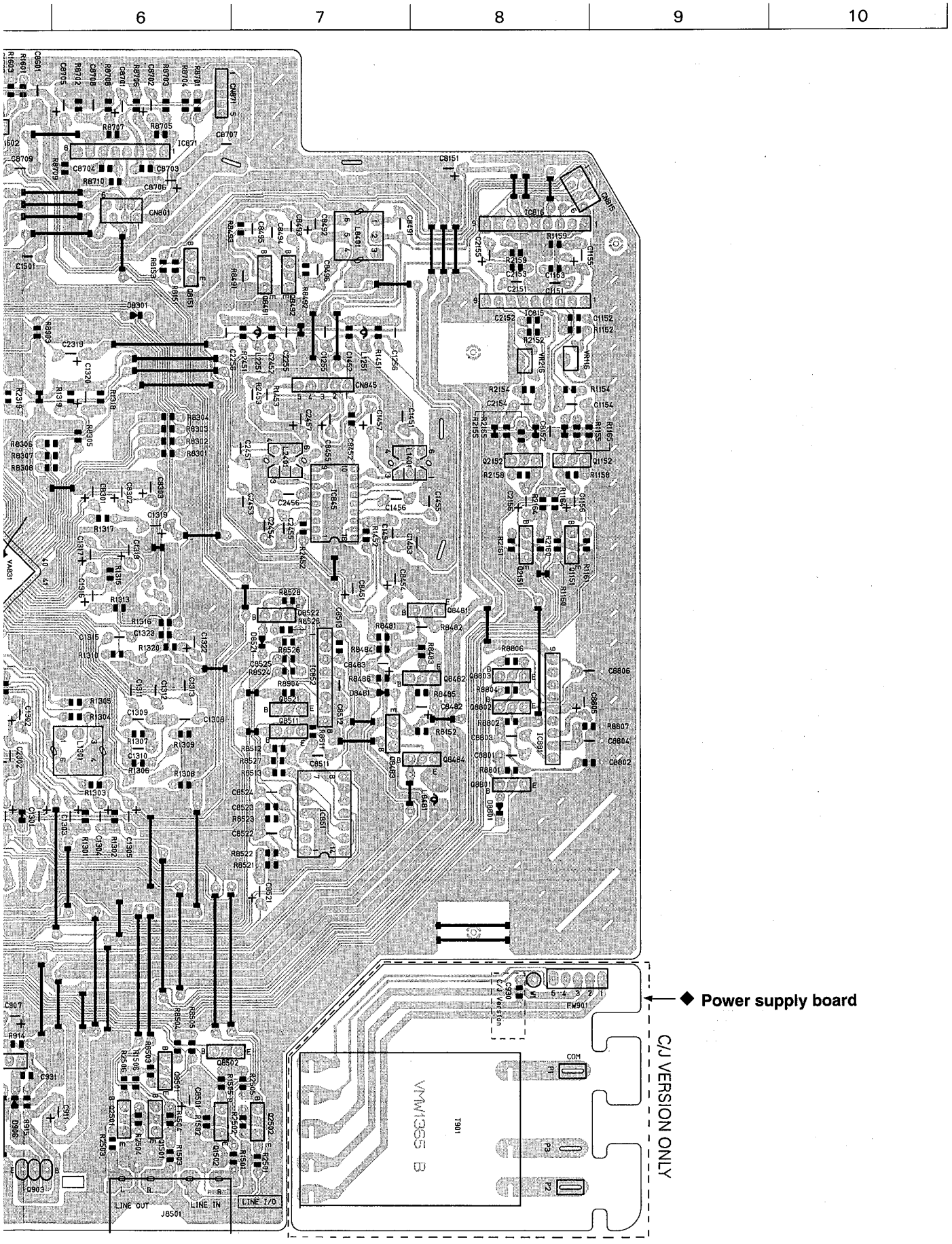


Fig. 8-1


6
7
8
9
10
◆ Power supply board
C/J VERSION ONLY
LINE OUT
LINE IN
LINE I/O
J8501
FW901
T901
VMW1365 B
COM
P1
P2
P3

● Main Board Parts List

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 901	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C 902	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
⚠	C 903	QETB1EM-228N	E.CAPACITOR	2200MF 20% 25V	
⚠	C 904	QETB1EM-228N	E.CAPACITOR	2200MF 20% 25V	
	C 906	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C 907	QET41EM-107	E.CAPACITOR	100MF 20% 25V	
	C 908	QET41AM-477	E.CAPACITOR	470MF 20% 10V	
	C 909	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C 910	QETC1AM-337ZN	E.CAPACITOR	330MF 20% 10V	
	C 911	QETC1AM-337ZN	E.CAPACITOR	330MF 20% 10V	
⚠	C 914	QETC1EM-337ZN	E.CAPACITOR	330MF 20% 25V	
	C 915	QETC1HM-227ZN	E.CAPACITOR	220MF 20% 50V	
	C 917	QET41EM-107	E.CAPACITOR	100MF 20% 25V	
	C 918	QET41EM-106	E.CAPACITOR	10MF 20% 25V	
	C 920	QET41CM-107	E.CAPACITOR	100MF 20% 16V	
	C 921	QET41CM-477	E.CAPACITOR	470MF 20% 16V	
	C 923	QETC1AM-337ZN	E.CAPACITOR	330MF 20% 10V	
	C 924	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 927	QET41AM-107	E.CAPACITOR	100MF 20% 10V	B,E,EN
	C 927	QET41AM-107	AL E.CAPACITOR	100 20% 10V	G,U,UT
	C 928	QET41EM-476	E.CAPACITOR	47MF 20% 25V	
	C 930	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	C,J
	C 931	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C 941	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	CN801	VMC0163-006	CONNECTOR		
	CN802	VMC0163-024	CONNECTOR		
	CN811	EMV7155-006R	CONNECTOR		
	CN815	EMV7155-006R	CONNECTOR		
	CN845	VMC0040-005	CONNECTOR		B,E,EN
	CN845	VMC0040-005	CONNECTOR		G,U,UT
	CN845	VMC0238-005Z	CONNECTOR		C,J
	CN861	VMC0194-S05	CONNECTOR		
	CN862	VMC0194-P05	CONNECTOR		
	CN871	VMC0194-S05	CONNECTOR		
	CN872	VMC0194-P05	CONNECTOR		
	CN901	EMV7145-005Z	SOCKET I.M		
	C1101	QCBB1HK-471Y	C.CAPACITOR	470PF 10% 50V	
	C1102	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C1103	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C1104	QFN41HJ-123	M.CAPACITOR	.012MF 5% 50V	
	C1105	QET41AM-227	E.CAPACITOR	220MF 20% 10V	
	C1106	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C1107	QCBB1HK-471Y	C.CAPACITOR	470PF 10% 50V	
	C1108	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C1151	QFN41HJ-102	M.CAPACITOR	1000PF 5% 50V	
	C1152	QCBB1HK-331Y	C.CAPACITOR	330PF 10% 50V	
	C1153	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C1154	QFN41HJ-123	M.CAPACITOR	.012MF 5% 50V	
	C1155	QET41AM-227	E.CAPACITOR	220MF 20% 10V	
	C1156	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C1255	QCS11HJ-471	C.CAPACITOR	470PF 5% 50V	
	C1256	QCS32HJ-151ZV	C.CAPACITOR	150PF 5% 500V	
	C1301	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C1302	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C1303	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C1304	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C1305	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C1308	QEN41EM-475	NP.E.CAPACITOR	4.7MF 20% 25V	
	C1309	QFN41HJ-222	M.CAPACITOR	2200PF 5% 50V	
	C1310	QFN41HJ-222	M.CAPACITOR	2200PF 5% 50V	
	C1311	QFN41HJ-222	M.CAPACITOR	2200PF 5% 50V	
	C1312	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C1313	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C1315	QFLC1HJ-104ZM	M.CAPACITOR	.10MF 5% 50V	
	C1316	QETC1HM-225ZN	E.CAPACITOR	2.2MF 20% 50V	
	C1317	QET41HM-474	E.CAPACITOR	.47MF 20% 50V	
	C1318	QETC1EM-226ZN	E.CAPACITOR	22MF 20% 25V	
	C1319	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C1320	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C1322	QETC1HM-334ZM	E CAPACITOR	.33MF 20% 50V	
	C1323	QCBB1HK-471Y	C.CAPACITOR	470PF 10% 50V	
	C1451	QFP32AJ-561ZM	PP.CAPACITOR	560PF 5% 100V	
	C1452	QCBB1HK-101Y	C.CAPACITOR	100PF 10% 50V	
	C1453	QCS11HJ-561	C.CAPACITOR	560PF 5% 50V	
	C1454	QFN81HJ-103	M.CAPACITOR	.010MF 5% 50V	
	C1455	QFLC1HJ-223ZM	M.CAPACITOR	.022MF 5% 50V	
	C1456	QFLC1HJ-393ZM	M.CAPACITOR	.039MF 5% 50V	
	C1457	QET41EM-106	E.CAPACITOR	10MF 20% 25V	
	C1501	QCY31HK-222Z	C.CAPACITOR	2200PF 10% 50V	
	C1601	QCF11HP-223	C.CAPACITOR	.022MF +100:-0%	
	C1602	QCY31HK-222Z	C.CAPACITOR	2200PF 10% 50V	
	C2101	QCBB1HK-471Y	C.CAPACITOR	470PF 10% 50V	
	C2102	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C2103	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C2104	QFN41HJ-123	M.CAPACITOR	.012MF 5% 50V	
	C2105	QET41AM-227	E.CAPACITOR	220MF 20% 10V	
	C2106	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C2107	QCBB1HK-471Y	C.CAPACITOR	470PF 10% 50V	
	C2108	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C2151	QFN41HJ-102	M.CAPACITOR	1000PF 5% 50V	
	C2152	QCBB1HK-331Y	C.CAPACITOR	330PF 10% 50V	
	C2153	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C2154	QFN41HJ-123	M.CAPACITOR	.012MF 5% 50V	
	C2155	QET41AM-227	E.CAPACITOR	220MF 20% 10V	
	C2156	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C2255	QCS11HJ-471	C.CAPACITOR	470PF 5% 50V	
	C2256	QCS32HJ-151ZV	C.CAPACITOR	150PF 5% 500V	
	C2301	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C2302	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C2303	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C2304	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C2305	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C2308	QEN41EM-475	NP.E.CAPACITOR	4.7MF 20% 25V	
	C2309	QFN41HJ-222	M.CAPACITOR	2200PF 5% 50V	
	C2310	QFN41HJ-222	M.CAPACITOR	2200PF 5% 50V	
	C2311	QFN41HJ-222	M.CAPACITOR	2200PF 5% 50V	
	C2312	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C2313	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C2315	QFLC1HJ-104ZM	M.CAPACITOR	.10MF 5% 50V	
	C2316	QETC1HM-225ZN	E.CAPACITOR	2.2MF 20% 50V	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C2317	QET41HM-474	E.CAPACITOR	.47MF 20% 50V	
	C2318	QETC1EM-226ZN	E.CAPACITOR	22MF 20% 25V	
	C2319	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C2320	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C2322	QETC1HM-334ZM	E.CAPACITOR	.33MF 20% 50V	
	C2323	QCBB1HK-471Y	C.CAPACITOR	470PF 10% 50V	
	C2451	QFP32AJ-561ZM	PP.CAPACITOR	560PF 5% 100V	
	C2452	QCBB1HK-101Y	C.CAPACITOR	100PF 10% 50V	
	C2453	QCS11HJ-561	C.CAPACITOR	560PF 5% 50V	
	C2454	QFN81HJ-103	M.CAPACITOR	.010MF 5% 50V	
	C2455	QFLC1HJ-223ZM	M.CAPACITOR	.022MF 5% 50V	
	C2456	QFLC1HJ-393ZM	M.CAPACITOR	.039MF 5% 50V	
	C2457	QET41EM-106	E.CAPACITOR	10MF 20% 25V	
	C2501	QCY31HK-222Z	C.CAPACITOR	2200PF 10% 50V	
	C2601	QCF11HP-223	C.CAPACITOR	.022MF +100:-0%	
	C2602	QCY31HK-222Z	C.CAPACITOR	2200PF 10% 50V	
	C8101	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C8102	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C8151	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C8152	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C8301	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C8302	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C8303	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C8308	QET41AM-477	E.CAPACITOR	470MF 20% 10V	
	C8309	QET41AM-477	E.CAPACITOR	470MF 20% 10V	
	C8321	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C8451	QET41EM-106	E.CAPACITOR	10MF 20% 25V	
	C8452	QCS11HJ-100	C.CAPACITOR	10PF 5% 50V	
	C8454	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C8455	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C8482	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C8483	QETC1CM-337ZN	E.CAPACITOR	330MF 20% 16V	
	C8491	QFP32AJ-103ZM	PP.CAPACITOR	.010MF 5% 100V	
	C8492	QET41EM-476	E.CAPACITOR	47MF 20% 25V	
	C8493	QFLC1HJ-223ZM	M.CAPACITOR	.022MF 5% 50V	
	C8494	QFN41HJ-102	M.CAPACITOR	1000PF 5% 50V	
	C8495	QFN81HJ-152	M.CAPACITOR	1500PF 5% 50V	
	C8496	QFN81HJ-152	M.CAPACITOR	1500PF 5% 50V	
	C8501	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C8511	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C8512	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C8513	QCS11HJ-100	C.CAPACITOR	10PF 5% 50V	
	C8521	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C8522	QFLC1HJ-223ZM	M.CAPACITOR	.022MF 5% 50V	
	C8523	QCBB1HK-821Y	C.CAPACITOR	820PF 10% 50V	
	C8524	QFN81HJ-103	M.CAPACITOR	.010MF 5% 50V	
	C8525	QCBB1HK-391Y	C.CAPACITOR	390PF 10% 50V	
	C8601	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C8602	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C8701	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C8702	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C8703	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C8704	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C8705	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C8706	QET41AM-107	E.CAPACITOR	100MF 20% 10V	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C8707	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C8708	QFN41HJ-222	M.CAPACITOR	2200PF 5% 50V	
	C8709	QEN41EM-475	NP.E.CAPACITOR	4.7MF 20% 25V	
	C8801	QFN41HJ-682	M.CAPACITOR	6800PF 5% 50V	
	C8802	QCBB1HK-681Y	C.CAPACITOR	680PF 10% 50V	
	C8803	QFN41HJ-102	M.CAPACITOR	1000PF 5% 50V	
	C8804	QFV71HJ-394ZM	FILM CAPACITOR	.39MF 5% 50V	
	C8805	QETC1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	C8806	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
	C8901	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	
⚠	D 901	1SR35-100A-T2	SI DIODE		
⚠	D 902	1SR35-100A-T2	SI DIODE		
⚠	D 903	1SR35-100A-T2	SI DIODE		
⚠	D 904	1SR35-100A-T2	SI DIODE		
	D 905	MA700	S.B.DIODE		B,E,EN
	D 905	MA700	S.B.DIODE		G,U,UT
	D 906	1SS133	SI DIODE		
⚠	D 907	MTZ3.6JA	ZENER DIODE		
	D 908	1SS133	SI DIODE		
⚠	D 909	1SR35-100A-T2	SI DIODE		
⚠	D 910	1SR35-100A-T2	SI DIODE		
⚠	D 913	MTZ24JD	ZENER DIODE		
	D 914	1SS133	SI DIODE		
	D 917	1SS133	SI DIODE		
⚠	D 918	MTZ12JC	ZENER DIODE		
	D 921	1SS133	SI DIODE		
⚠	D 922	MTZ4.7JB	ZENER DIODE		
	D 923	1SS133	SI DIODE		
	D 924	1SS133	SI DIODE		
	D 925	1SS133	SI DIODE		G,U,UT
	D 925	1SS133	SI DIODE		B,E,EN
	D 926	MTZ6.8JB	ZENER DIODE		G,U,UT
	D 926	MTZ6.8JB	ZENER DIODE		B,E,EN
	D 927	1SS133	SI DIODE		
	D 928	1SS133	SI DIODE		
	D8101	1SS133	SI DIODE		
	D8301	1SS133	SI DIODE		
	D8481	1SS133	SI DIODE		
	D8521	1SS133	SI DIODE		
	D8801	1SS133	SI DIODE		
	IC811	AN6557F	IC		
	IC812	BU4066BC	IC		
	IC815	AN6557F	IC		
	IC816	UPC1330HA	IC		
	IC831	HA12169FB	IC		
	IC832	UPD4052BC	IC		
	IC845	UPC1297CA	IC		
	IC851	BU4066BC	IC		
	IC852	BA15218N	IC		
	IC861	BA15218N	IC		
	IC871	VC4580L	IC		
	IC881	LA2000S	IC		
	IC891	M50253P	IC		
⚠	IC901	M5218AL	IC		
	J 701	QMS3533-V01	JACK		

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	J8501	EMN00TV-421AJ2	PIN JACK		
	J8601	QMS6032-V01	JACK		
	J8701	QMS6035-V01	JACK		
	L1251	VQP0001-183	INDUCTOR		
	L1301	VQZ0024-001	FILTER		
	L1401	VQH7001-021	OSC COIL(BIAS)		
	L2251	VQP0001-183	INDUCTOR		
	L2301	VQZ0024-001	FILTER		
	L2401	VQH7001-021	OSC COIL(BIAS)		
	L8401	VQH1008-031	OSC COIL(BIAS)		
	L8481	VQP0001-102S	INDUCTOR		
⚠	P 1	VMZ0034-001	TAB	FOR POWER CORD	
⚠	P 2	VMZ0034-001	TAB	FOR POWER CORD	
⚠	Q 901	2SD882(P,Q)	TRANSISTOR		
⚠	Q 903	2SB772(Q,P)	TRANSISTOR		
⚠	Q 905	2SB647(CD)	TRANSISTOR		
	Q 907	2SD2144S(VW)	TRANSISTOR		
	Q 908	2SD2144S(VW)	TRANSISTOR		
⚠	Q 909	2SD882(P,Q)	TRANSISTOR		
⚠	Q 912	2SD468(C)	TRANSISTOR		
	Q 913	DTA143ES	TRANSISTOR		
	Q 915	2SD468(C)	TRANSISTOR		
	Q1101	DTC124ES	TRANSISTOR		
	Q1102	DTC124ES	TRANSISTOR		
	Q1151	DTC124ES	TRANSISTOR		
	Q1152	2SK105(E,F,H)	TRANSISTOR		
	Q1501	2SC2001(L,K)	TRANSISTOR		
	Q1502	2SC1740S(R,S)	TRANSISTOR		
	Q2101	DTC124ES	TRANSISTOR		
	Q2102	DTC124ES	TRANSISTOR		
	Q2151	DTC124ES	TRANSISTOR		
	Q2152	2SK105(E,F,H)	TRANSISTOR		
	Q2501	2SC2001(L,K)	TRANSISTOR		
	Q2502	2SC1740S(R,S)	TRANSISTOR		
	Q8101	DTA124ES	TRANSISTOR		
	Q8102	DTA124ES	TRANSISTOR		
	Q8151	DTA124ES	TRANSISTOR		
	Q8481	2SC2001(L,K)	TRANSISTOR		
	Q8482	2SA1175	TRANSISTOR		
	Q8483	DTC124ES	TRANSISTOR		
	Q8484	DTA124ES	TRANSISTOR		
	Q8491	2SC2001(L,K)	TRANSISTOR		
	Q8492	2SC2001(L,K)	TRANSISTOR		
	Q8501	2SA1175	TRANSISTOR		
	Q8502	DTA124ES	TRANSISTOR		
	Q8511	DTA124ES	TRANSISTOR		
	Q8521	DTA124ES	TRANSISTOR		
	Q8522	DTC124ES	TRANSISTOR		
	Q8801	DTC124ES	TRANSISTOR		
	Q8802	DTC124ES	TRANSISTOR		
	Q8803	DTA124ES	TRANSISTOR		
⚠	R 901	QRZ0077-4R7X	CARBON RESISTOR	4.7 5% 1/4W	G,U,UT
⚠	R 901	QRD14CJ-4R7SX	UNF.C.RESISTOR	4.7 5% 1/4W	C,J
⚠	R 901	QRZ0077-4R7X	FUSE RESISTOR	4.7 5% 1/4W	B,E,EN
⚠	R 902	QRZ0077-4R7X	CARBON RESISTOR	4.7 5% 1/4W	G,U,UT

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
⚠	R 902	QRZ0077-4R7X	CARBON RESISTOR	4.7 5% 1/4W	B,E,EN
⚠	R 902	QRD14CJ-4R7SX	CARBON RESISTOR	4.7 5% 1/4W	C,J
	R 908	QRD161J-181	CARBON RESISTOR	180 5% 1/6W	
	R 910	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 912	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 913	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 914	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 915	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 917	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 918	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
⚠	R 921	QRD14CJ-100SX	CARBON RESISTOR	10 5% 1/4W	C,J
⚠	R 921	QRZ0077-100X	FUSI.RESISTOR	10 5% 1/4W	B,E,EN
⚠	R 921	QRZ0077-100X	FUSI.RESISTOR	4.7 5% 1/4W	G,U,UT
	R 923	QRD161J-821	CARBON RESISTOR	820 5% 1/6W	
	R 923	QRD14CJ-821SX	CARBON RESISTOR	820 5% 1/4W	
	R 923	QRD14CJ-821SX	CARBON RESISTOR	820 5% 1/4W	
	R 927	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 928	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 929	QRD161J-391	CARBON RESISTOR	390 5% 1/6W	
	R 930	QRD161J-391	CARBON RESISTOR	390 5% 1/6W	
⚠	R 933	QRD12CJ-271SX	UNF.C.RESISTOR	270 5% 1/2W	
⚠	R 937	QRD14CJ-4R7SX	CARBON RESISTOR	4.7 5% 1/4W	C,J
⚠	R 937	QRZ0077-4R7X	CARBON RESISTOR	4.7 5% 1/4W	G,U,UT
⚠	R 937	QRZ0077-4R7X	CARBON RESISTOR	4.7 5% 1/4W	B,E,EN
	R 938	QRD161J-331	CARBON RESISTOE	330 5% 1/6W	
⚠	R 940	QRH144J-6R8	FUSI.RESISTOR	6.8 5% 1/4W	G,U,UT
⚠	R 940	QRD14CJ-6R8SX	UNF.C.RESISTOR	6.8 5% 1/4W	C,J
⚠	R 940	QRH144J-6R8	FUSI.RESISTOR	6.8 5% 1/4W	B,E,EN
	R 941	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	G,U,UT
	R 941	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	B,E,EN
	R1101	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	R1102	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R1104	QRD161J-274	CARBON RESISTOR	270K 5% 1/6W	
	R1105	QRD161J-242	CARBON RESISTOR	2.4K 5% 1/6W	
	R1106	QRD161J-432	CARBON RESISTOR	4.3K 5% 1/6W	
	R1107	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R1108	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R1109	QRD161J-470	CARBON RESISTOR	47 5% 1/6W	
	R1110	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R1111	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
	R1114	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R1152	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R1154	QRD161J-274	CARBON RESISTOR	270K 5% 1/6W	
	R1155	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	R1158	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R1159	QRD161J-470	CARBON RESISTOR	47 5% 1/6W	
	R1160	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R1161	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
	R1164	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R1165	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	R1301	QRD161J-334	CARBON RESISTOR	330K 5% 1/6W	
	R1302	QRD161J-334	CARBON RESISTOR	330K 5% 1/6W	
	R1303	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
	R1304	QRD161J-302	CARBON RESISTOR	3.0K 5% 1/6W	
	R1305	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R1306	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R1307	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
	R1308	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R1309	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R1310	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R1313	QRD161J-564	CARBON RESISTOR	560K 5% 1/6W	
	R1315	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R1316	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R1317	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	R1318	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R1319	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R1320	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R1451	QRD161J-274	CARBON RESISTOR	270K 5% 1/6W	
	R1452	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
⚠	R1453	QRD14CJ-100SX	CARBON RESISTOR	10 5% 1/4W	
	R1501	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R1502	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
	R1503	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R1504	QRD161J-133	CARBON RESISTOR	13K 5% 1/6W	
	R1505	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R1506	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R1601	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	R1602	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
	R1603	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R1604	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	R1605	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R2101	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	R2102	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R2104	QRD161J-274	CARBON RESISTOR	270K 5% 1/6W	
	R2105	QRD161J-242	CARBON RESISTOR	2.4K 5% 1/6W	
	R2106	QRD161J-432	CARBON RESISTOR	4.3K 5% 1/6W	
	R2107	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R2108	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R2109	QRD161J-470	CARBON RESISTOR	47 5% 1/6W	
	R2110	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R2111	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
	R2114	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R2152	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R2154	QRD161J-274	CARBON RESISTOR	270K 5% 1/6W	
	R2155	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	R2158	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R2159	QRD161J-470	CARBON RESISTOR	47 5% 1/6W	
	R2160	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R2161	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
	R2164	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R2165	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	R2301	QRD161J-334	CARBON RESISTOR	330K 5% 1/6W	
	R2302	QRD161J-334	CARBON RESISTOR	330K 5% 1/6W	
	R2303	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
	R2304	QRD161J-302	CARBON RESISTOR	3.0K 5% 1/6W	
	R2305	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R2306	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R2307	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
	R2308	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R2309	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R2310	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R2313	QRD161J-564	CARBON RESISTOR	560K 5% 1/6W	
	R2315	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R2316	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R2317	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	R2318	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R2319	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R2320	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R2451	QRD161J-274	CARBON RESISTOR	270K 5% 1/6W	
	R2452	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
⚠	R2453	QRD14CJ-100SX	CARBON RESISTOR	10 5% 1/4W	
	R2501	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R2502	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
	R2503	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R2504	QRD161J-133	CARBON RESISTOR	13K 5% 1/6W	
	R2505	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R2506	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R2601	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	R2602	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
	R2603	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R2604	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	R2605	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R8101	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8102	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8103	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R8104	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8151	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8152	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8153	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R8301	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8302	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8303	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8304	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8305	QRD161J-362	CARBON RESISTOR	3.6K 5% 1/6W	
	R8306	QRD161J-433	CARBON RESISTOR	43K 5% 1/6W	
	R8307	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R8308	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
	R8309	QRD161J-243	CARBON RESISTOR	24K 5% 1/6W	
	R8310	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R8321	QRD161J-363	CARBON RESISTOR	36K 5% 1/6W	
	R8322	QRD161J-753	CARBON RESISTOR	75K 5% 1/6W	
	R8323	QRD161J-513	CARBON RESISTOR	51K 5% 1/6W	
	R8324	QRD161J-114	CARBON RESISTOR	110K 5% 1/6W	
	R8325	QRD161J-303Y	CARBON RESISTOR	30K 5% 1/6W	
	R8326	QRD161J-623	CARBON RESISTOR	62K 5% 1/6W	
	R8327	QRD161J-433	CARBON RESISTOR	43K 5% 1/6W	
	R8328	QRD161J-913	CARBON RESISTOR	91K 5% 1/6W	
	R8329	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R8331	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R8332	QRD161J-363	CARBON RESISTOR	36K 5% 1/6W	
	R8333	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R8334	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R8335	QRD161J-753	CARBON RESISTOR	75K 5% 1/6W	
	R8341	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R8342	QRD161J-363	CARBON RESISTOR	36K 5% 1/6W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R8343	QRD161J-303Y	CARBON RESISTOR	30K 5% 1/6W	
	R8344	QRD161J-623	CARBON RESISTOR	62K 5% 1/6W	
	R8345	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
	R8346	QRD161J-303Y	CARBON RESISTOR	30K 5% 1/6W	
	R8351	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R8352	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
	R8353	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
	R8354	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R8355	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
	R8356	QRD161J-203	CARBON RESISTOR	20K 5% 1/6W	
	R8361	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
	R8362	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
	R8363	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
	R8364	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R8365	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
	R8371	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
	R8372	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
	R8373	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R8374	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R8375	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
	R8376	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R8381	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R8382	QRD161J-623	CARBON RESISTOR	62K 5% 1/6W	
	R8383	QRD161J-433	CARBON RESISTOR	43K 5% 1/6W	
	R8384	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R8385	QRD161J-433	CARBON RESISTOR	43K 5% 1/6W	
	R8386	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R8481	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
⚠	R8482	QRD14CJ-4R7SX	CARBON RESISTOR	4.7 5% 1/4W	C,J
⚠	R8482	QRZ0077-100X	FUSI.RESISTOR	10 5% 1/4W	G,U,UT
⚠	R8482	QRZ0077-100X	FUSI.RESISTOR	10 5% 1/4W	B,E,EN
	R8483	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R8484	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R8485	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R8486	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R8491	QRD14CJ-6R8SX	CARBON RESISTOR	6.8 5% 1/4W	
	R8492	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
	R8493	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
	R8503	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8504	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8505	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R8511	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R8512	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8513	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R8521	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R8522	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	R8523	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	R8524	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8525	QRD161J-121	CARBON RESISTOR	120 5% 1/6W	
	R8526	QRD161J-180	CARBON RESISTOR	18 5% 1/6W	
	R8527	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8528	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8529	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R8530	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R8701	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R8702	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8703	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8704	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R8705	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R8706	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R8707	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8708	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R8709	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	R8710	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	R8801	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R8802	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R8804	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8806	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8807	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R8901	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8902	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8903	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8904	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8905	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8906	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8907	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8908	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	VA831	MA27T-B	DIODE		
	VR111	QVPA601-104A	V.RESISTOR		
	VR116	QVPA601-104A	V.RESISTOR		
	VR211	QVPA601-104A	V.RESISTOR		
	VR216	QVPA601-104A	V.RESISTOR		
	Z 702	VMA4633-001	SHIELD		
	Z 831	VYH7237-003	IC HOLDER		
⚠	Z 901	VMZ0087-001Z	FUSE CLIP	FOR F901,F902	B,E,EN
⚠	Z 902	VMZ0087-001Z	FUSE CLIP	FOR F901,F902	
⚠	Z 903	VMZ0087-001Z	FUSE CLIP	FOR F901,F902	G,U,UT
⚠	Z 904	VMZ0087-001Z	FUSE CLIP	FOR F901,F902	

■ Power supply board and Power switch board (B/E/EN/G only)

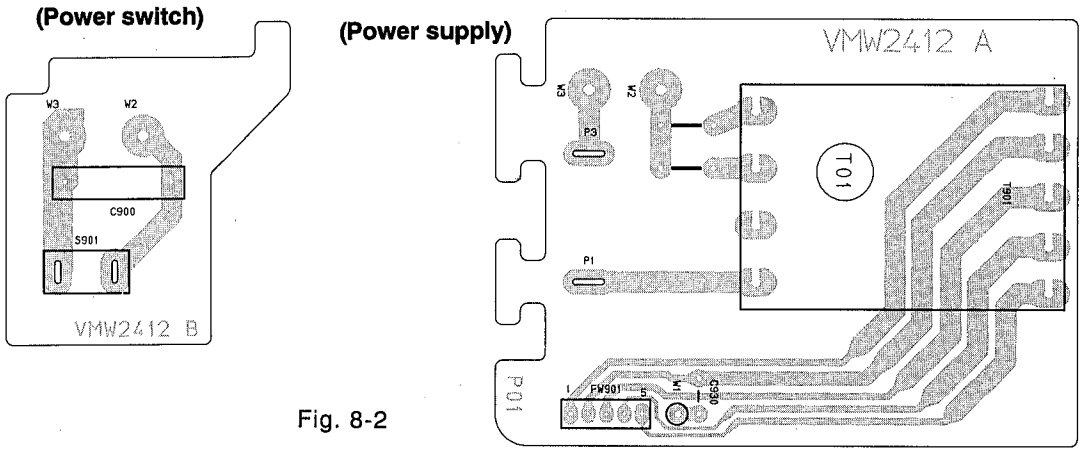


Fig. 8-2

● Power supply board and Power switch board Parts List (B/E/EN/G only)

BLOCK NO. 03

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
⚠	C 900	QFZ9037-103	M.CAPACITOR	.010MF	B,E,EN,G
	C 930	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	B,E,EN,G
⚠	P 1	VMZ0034-001	TAB	FOR POWER CORD	B,E,EN,G
⚠	P 3	VMZ0034-001	TAB	FOR POWER CORD	B,E,EN,G
⚠	S 901	QSP1106-004	PUSH SWITCH		B,E,EN,G

■ Power Supply Board (U/UT only)

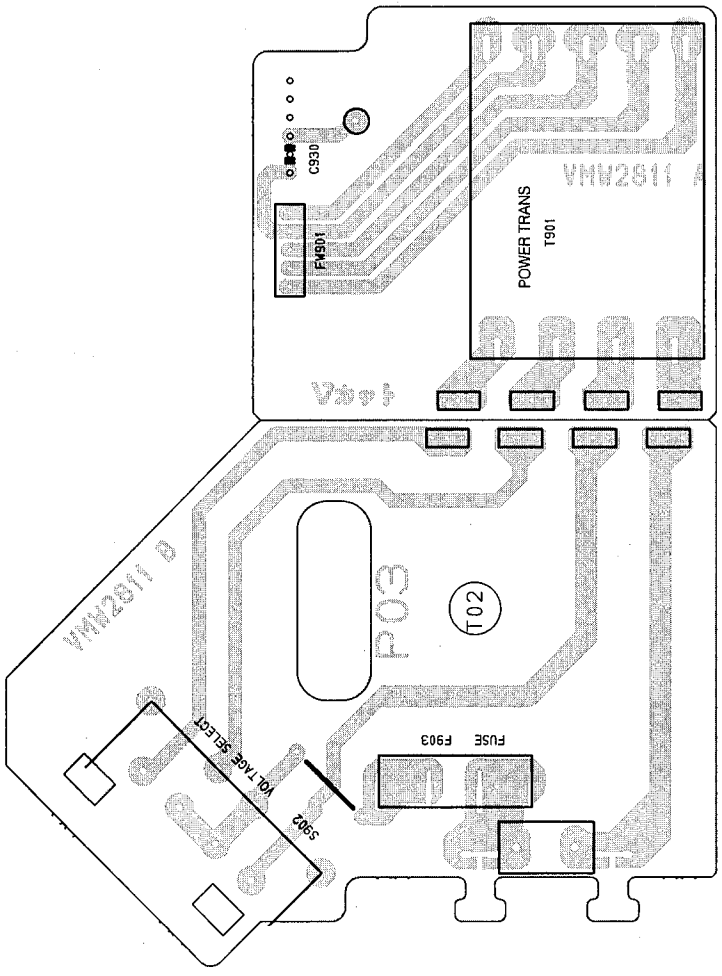


Fig. 8-3

● Power supply Board Parts List (U/UT only)

BLOCK NO. 03

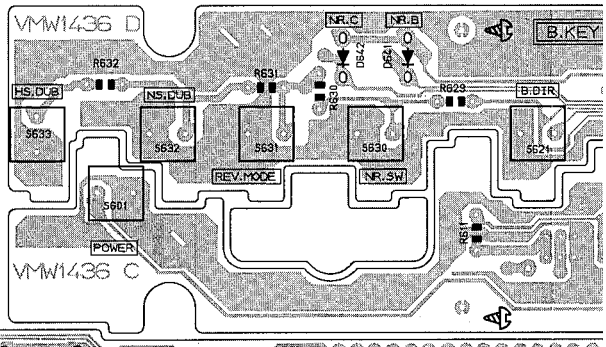
⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 930	QCF11HP-103	C.CAPACITOR	.010MF +100:-0%	U,UT
⚠	CN905	VMC0221-003	CONNECTOR		U,UT
⚠	CN906	VMC0221-003	CONNECTOR		U,UT
⚠	CN907	VMC0221-003	CONNECTOR		U,UT
⚠	CN908	VMC0221-003	CONNECTOR		U,UT
⚠	S 902	QSS2325-112	SLIDE SWITCH		U,UT
⚠	TAB	VMZ0034-002	TAB	FOR POWER CORD	U,UT
⚠	TAB	VMZ0034-002	TAB	FOR POWER CORD	U,UT
⚠	Z 905	VMZ0043-001S	FUSE CLAMP	FOR F903	U,UT
⚠	Z 905	VMZ0043-001S	FUSE CLAMP	FOR F903	U,UT
⚠	Z 906	VMZ0043-001S	FUSE CLAMP	FOR F903	U,UT
⚠	Z 906	VMZ0043-001S	FUSE CLAMP	FOR F903	U,UT

1 2 3 4 5

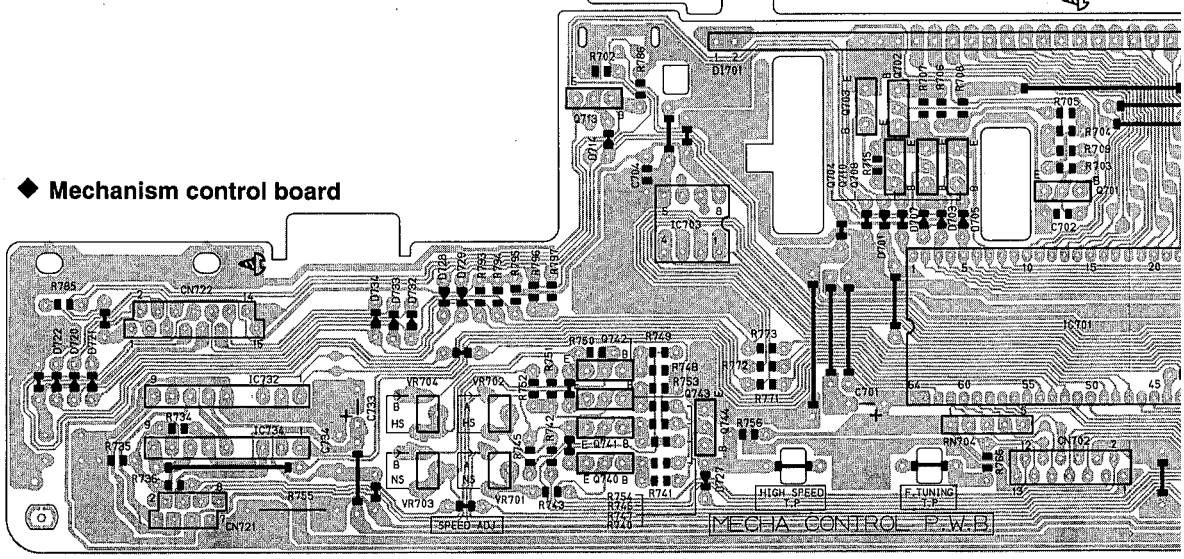
A B C D E F G

■ Sub Board

◆ Key switch board for deck B



◆ Mechanism control board



6	7	8	9	10

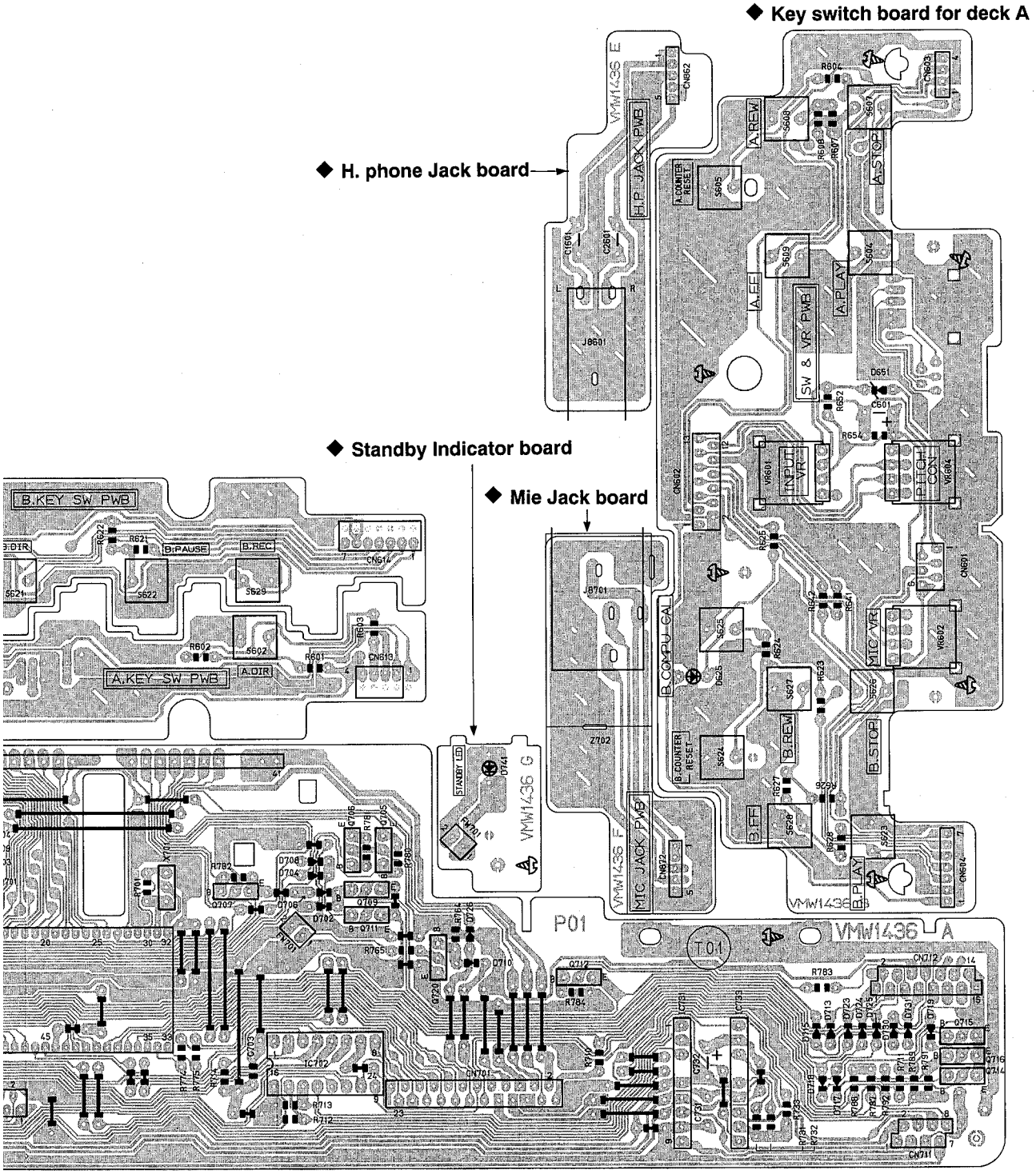


Fig. 8-4

● Sub Board Parts List

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 601	QETC1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	C 701	QET41AM-477	E.CAPACITOR	470MF 20% 10V	
	C 702	QCBB1HK-471Y	C.CAPACITOR	470PF 10% 50V	
	C 703	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C 704	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C 732	QEK41EM-106	E CAPACITOR	10MF 20% 25V	
	C 733	QET41EM-106	E.CAPACITOR	10MF 20% 25V	
	CN601	VMC0163-R06	CONNECTOR		
	CN602	VMC0163-R13	CONNECTOR		
	CN603	VMC0280-004	CONNECTOR		
	CN604	VMC0280-007	CONNECTOR		
	CN613	VMC0281-S04	CONNECTOR		
	CN614	VMC0281-S07	CONNECTOR		
	CN701	VMC0163-R24	CONNECTOR		
	CN702	VMC0163-R13	CONNECTOR		
	CN711	VMC0234-P08	CONNECTOR		
	CN712	VMC0234-P15	CONNECTOR		
	CN721	VMC0234-P08	CONNECTOR		
	CN722	VMC0234-P15	CONNECTOR		
	D 625	SLZ-981C09-T6	LED		
	D 641	SLR-325MCT31	LED		
	D 642	SLR-325DCT31	LED		
	D 651	MTZ3.6JB	ZENER DIODE		
	D 701	1SS133	SI DIODE		
	D 702	1SS133	SI DIODE		
	D 703	1SS133	SI DIODE		
	D 704	1SS133	SI DIODE		
	D 705	1SS133	SI DIODE		
	D 706	1SS133	SI DIODE		
	D 707	1SS133	SI DIODE		
	D 708	1SS133	SI DIODE		
	D 710	1SS133	SI DIODE		
	D 713	1SS133	SI DIODE		
	D 714	1SS133	SI DIODE		
	D 715	1SS133	SI DIODE		
	D 717	1SS133	SI DIODE		
	D 718	1SS133	SI DIODE		
	D 719	1SS133	SI DIODE		
	D 720	1SS133	SI DIODE		
	D 721	1SS133	SI DIODE		
	D 722	1SS133	SI DIODE		
	D 723	1SS133	SI DIODE		
	D 724	1SS133	SI DIODE		
	D 725	1SS133	SI DIODE		
	D 726	1SS133	SI DIODE		
	D 727	1SS133	SI DIODE		
	D 728	1SS133	SI DIODE		
	D 729	1SS133	SI DIODE		
	D 730	1SS133	SI DIODE		
	D 731	1SS133	SI DIODE		
	D 732	1SS133	SI DIODE		
	D 733	1SS133	SI DIODE		
	D 734	1SS133	SI DIODE		
	D 741	SLR-56VCTB7	LED		
	DI701	QLF0024-001	FL TUBE		

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	IC701	MB89145V2P-121	IC		
	IC702	M50253P	IC		
	IC703	BR93LC46	IC		
	IC731	BA6218	IC		
	IC732	BA6218	IC		
	IC733	TA8409S	IC		
	IC734	TA8409S	IC		
	Q 701	2SC1740S(R,S)	TRANSISTOR		
	Q 702	2SC1740S(R,S)	TRANSISTOR		
	Q 703	DTA124ES	TRANSISTOR		
	Q 704	DTC124ES	TRANSISTOR		
	Q 705	2SC1740S(R,S)	TRANSISTOR		
	Q 706	2SC1740S(R,S)	TRANSISTOR		
	Q 707	2SC1740S(R,S)	TRANSISTOR		
	Q 708	DTC124ES	TRANSISTOR		
	Q 709	DTC124ES	TRANSISTOR		
	Q 710	DTC124ES	TRANSISTOR		
	Q 711	DTC124ES	TRANSISTOR		
	Q 712	2SC1740S(R,S)	TRANSISTOR		
	Q 713	2SC1740S(R,S)	TRANSISTOR		
	Q 714	2SC1740S(R,S)	TRANSISTOR		
	Q 715	2SC1740S(R,S)	TRANSISTOR		
	Q 716	2SC1740S(R,S)	TRANSISTOR		
	Q 720	DTC114ESA-T	TRANSISTOR		
	Q 740	2SA1175	TRANSISTOR		
	Q 741	2SA1175	TRANSISTOR		
	Q 742	2SA1175	TRANSISTOR		
	Q 743	2SA1175	TRANSISTOR		
	Q 744	DTC124ES	TRANSISTOR		
	R 601	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 602	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	R 603	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R 604	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 607	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 608	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	R 621	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 622	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R 623	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 624	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 625	QRD161J-271	CARBON RESISTOR	270 5% 1/6W	
	R 626	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 627	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	R 628	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R 629	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 630	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 631	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
	R 632	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R 641	QRD161J-271	CARBON RESISTOR	270 5% 1/6W	
	R 642	QRD161J-271	CARBON RESISTOR	270 5% 1/6W	
	R 652	QRD161J-331	CARBON RESISTOE	330 5% 1/6W	
	R 654	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	R 701	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	R 702	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 703	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 704	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 705	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 706	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 707	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 708	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 709	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 710	QRD161J-221	CARBON RESISTOR	220 5% 1/6W	
	R 711	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 712	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 713	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 714	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 715	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 731	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 732	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 733	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R 734	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 735	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 736	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R 740	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R 741	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
	R 742	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	R 743	QRD161J-752	CARBON RESISTOR	7.5K 5% 1/6W	
	R 745	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R 746	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R 747	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
	R 748	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R 749	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
	R 750	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R 751	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	R 752	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 753	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R 754	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
⚠	R 755	QRH144J-4R7	FUSI.RESISTOR	4.7 5% 1/4W	G,U,UT
⚠	R 755	QRH144J-4R7	FUSI.RESISTOR	4.7 5% 1/4W	B,E,EN
⚠	R 755	QRD14CJ-4R7SX	CARBON RESISTOR	4.7 5% 1/4W	C,J
	R 756	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 764	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 765	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	R 766	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 771	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 772	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 773	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 774	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 775	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 780	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 781	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 782	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 783	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 784	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 785	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 786	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 787	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 788	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 789	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 791	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 792	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 793	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 794	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 795	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 796	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 797	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RN704	QRB045J-682	R.NETWORK	6.8K 5% 1/4W	
	S 601	QSQ4H11-V12Z	TACT SWITCH		
	S 602	QSQ4H11-V12Z	TACT SWITCH		
	S 604	QSQ4H11-V12Z	TACT SWITCH		
	S 605	QSQ4H11-V12Z	TACT SWITCH		
	S 607	QSQ4H11-V12Z	TACT SWITCH		
	S 608	QSQ4H11-V12Z	TACT SWITCH		
	S 609	QSQ4H11-V12Z	TACT SWITCH		
	S 621	QSQ4H11-V12Z	TACT SWITCH		
	S 622	QSQ4H11-V12Z	TACT SWITCH		
	S 623	QSQ4H11-V12Z	TACT SWITCH		
	S 624	QSQ4H11-V12Z	TACT SWITCH		
	S 625	QSQ4H11-V12Z	TACT SWITCH		
	S 626	QSQ4H11-V12Z	TACT SWITCH		
	S 627	QSQ4H11-V12Z	TACT SWITCH		
	S 628	QSQ4H11-V12Z	TACT SWITCH		
	S 629	QSQ4H11-V12Z	TACT SWITCH		
	S 630	QSQ4H11-V12Z	TACT SWITCH		
	S 631	QSQ4H11-V12Z	TACT SWITCH		
	S 632	QSQ4H11-V12Z	TACT SWITCH		
	S 633	QSQ4H11-V12Z	TACT SWITCH		
	VR601	QVGA12Z-V05	V RESISTOR		
	VR602	QVGA16A-V02	V.RESISTOR		
	VR604	QVAA16B-V01	V.RESISTOR		
	VR701	QVPE612-103ZM	SEMI.V.RESISTOR		
	VR702	QVPE612-203ZM	SEMI.V.RESISTOR		
	VR703	QVPE612-103ZM	SEMI.V.RESISTOR		
	VR704	QVPE612-203ZM	SEMI.V.RESISTOR		
	X 701	EFO-EC8004T4	CERAMIC RESONAT		
	Z 701	VYH3844-003	FL HOLDER		

9 Exploded View of Enclosure Component Parts and Part

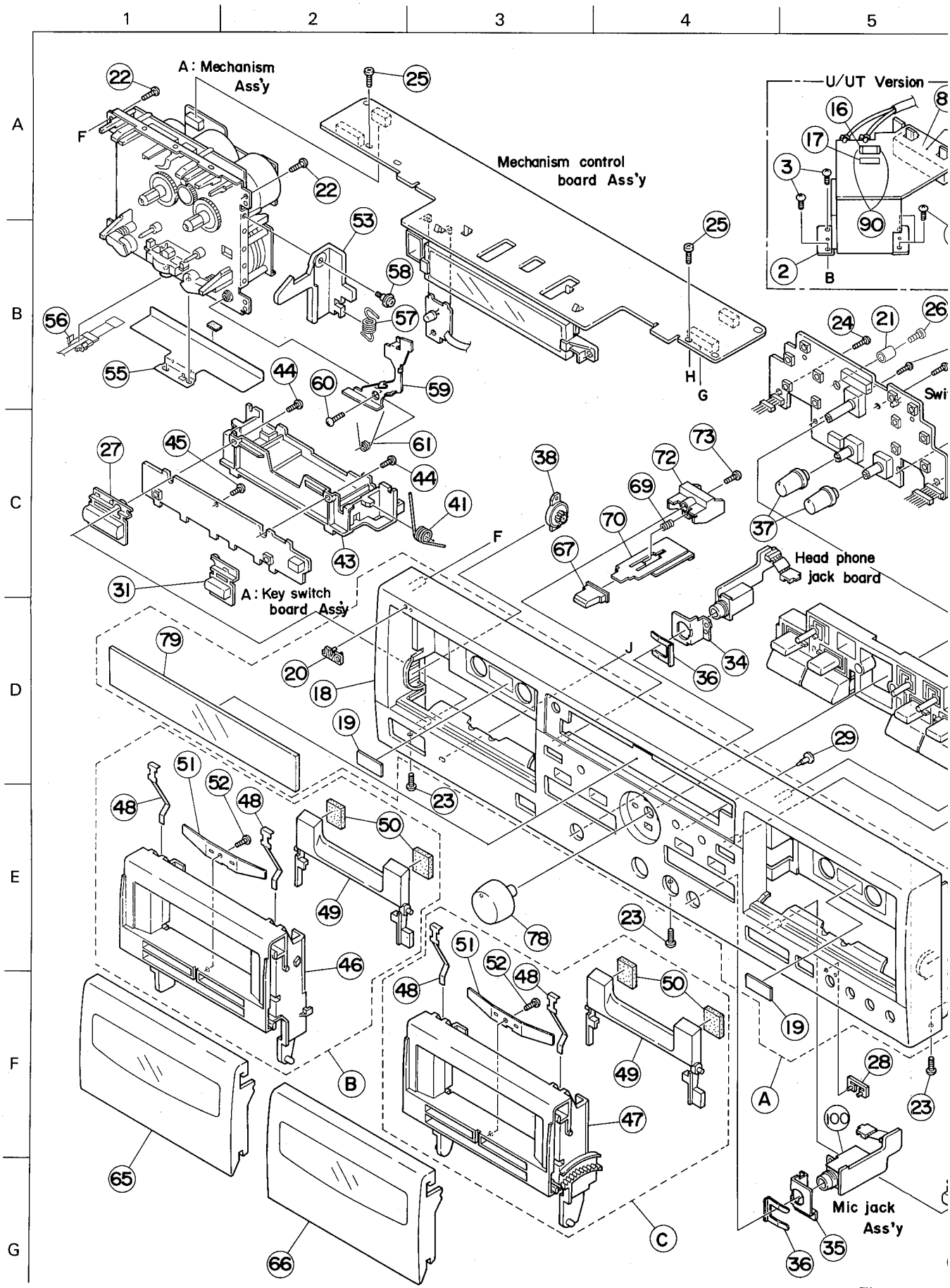
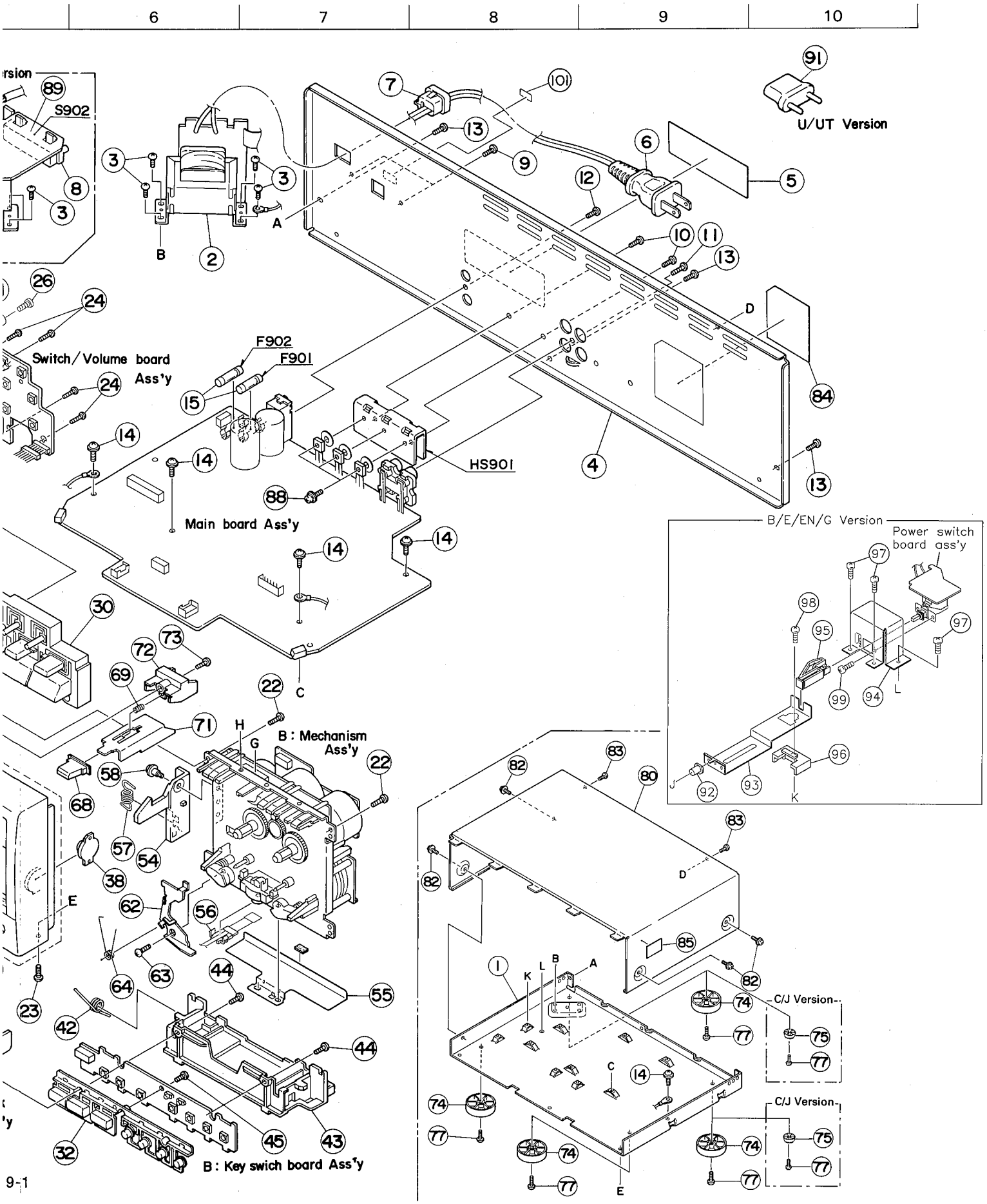


Fig. 9-1

Parts List


6
7
8
9
10
S902
U/UT Version
F902
F901
Switch/ Volume board Ass'y
HS901
Main board Ass'y
B/E/EN/G Version
Power switch board ass'y
B : Mechanism Ass'y
B : Key swich board Ass'y
C/J Version
C/J Version

● Enclosure Component Parts List

BLOCK NO. M1MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A	ZCTDW345J-FB	FRONT PANEL ASS	NO.18-20,79	1	C,J	
		ZCTDW345K-FB	FRONT PANEL ASS	NO.18-20,79	1	B,E,EN,G	
		ZCTDW345U-FB	FRONT PANEL ASS	NO.18-20,79	1	U,UT	
	B	ZCTDW317K-CH-A	CASSETTE HOLDER	NO.46,48-52	1		
	C	ZCTDW317K-CH-B	CASSETTE HOLDER	NO.47-52	1		
	1	VKL1333-013	CHASSIS BASE		1		
⚠	2	VTP52Z5-011F	POWER TRANS.		1	B,E,EN,G	
⚠		VTP52G5-011F	POWER TRANS.		1	U,UT	
⚠		VTP52A5-011F	POWER TRANS.		1	C,J	
	3	SBST3006Z	SCREW	FOR POWER TRANS	4		
	4	VJC2579-001	REAR PANEL		1	B,C,E,EN,G,J	
		VJC2579-002	REAR PANEL		1	U,UT	
	5	VND4999-001	FCC LABEL (3)		1	C,J	
⚠	6	QMP1340-200	POWER CORD		1	C,J	
⚠		QMP3900-200	POWER CORD		1	E,EN,G	
⚠		QMP5530-008BS	POWER CORD		1	B	
⚠		QMP7380-200	POWER CORD		1	U,UT	
	7	QHS3771-108	CORD STOPPER		1		
	8	VKS5011-001	VOLTAGE CONTACT		1	U,UT	
	9	SBSF3008M	SCREW	FOR V.SELECTOR	2	U,UT	
	10	SBSF3008M	SCREW	FOR HEAT SINK	2		
	11	SBSF3008M	SCREW	FOR PIN JACK	1		
	12	SBSF3008M	SCREW	FOR DCS JACK	1		
	13	SBST3006M	SCREW	FOR REAR+CHASSI	3		
	14	GBST3006Z	SCREW	FOR MAIN P.C.BO	5		
⚠	15	QMF51A2-R80	FUSE	FOR F901,F902	2	E,EN,G,U,UT	
⚠		QMF51E2-R80J1	FUSE	FOR F901,F902	2	B	
⚠	16	QMF51A2-R315	FUSE	FOR F903	1	U,UT	
	17	VND4003-074	FUSE LABEL	FOR F903	1	U,UT	
	18	VJG1458-001	FRONT PANEL		1	B,E,EN,G	
		VJG1458-002UL	FRONT PANEL		1	C,J	
		VJG1458-003	FRONT PANEL		1	U,UT	
	19	VJD4024-002	REFLECTION PLATE		2		
	20	VJD5429-001SS	JVC MARK		1		
	21	VYH7979-001MM	CAP		1		
	22	SBSF3010Z	SCREW	FOR MECHANISM	4		
	23	SBST3006M	SCREW	FOR FRONT PANEL	3		
	24	SBSF2610Z	SCREW	FOR SLIDE PCB	5		
	25	SDST2604Z	SCREW	FOR FL.PWB+MECH	2		
	26	SBSF2610Z	SCREW		1		
	27	VXP5345-002	PUSH BUTTON		1	B,E,EN,G	
		VXP5345-001	PUSH BUTTON		1	C,J,U,UT	
	28	VJK4436-001	LENS		1		
	29	VJK4437-001	LENS		1		
	30	VXP2131-001	MECHA BUTTON	AB PLAY/STOP	1		
	31	VXP5350-001	MECHA BUTTON	A DELECTION	1		
	32	VXP3835-001	MECHA BUTTON	B REC/PAUSE/DOL	1		
	34	VKL7856-001	HEAD PHONE BKT	FOR H.P.JACK	1		
	35	VKL7855-001	MIC BRACKET	FOR MIC.JACK	1		
	36	VKL6752-001	SNAP PLATE		2		
	37	VXL4424-002	KNOB	BALANC/H.PHONE/	2		
	38	VYH7779-00B	DUMPER ASS'Y		2		
	41	VKW3006-236	TORSION SPRING	A-HOLDER	1		
	42	VKW3006-237	TORSION SPRING	B-HOLDER	1		
	43	VYH2323-001	MECHA HOLDER	FOR A B MECHA	2		

BLOCK NO. M1MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	44	SBSF2610Z	SCREW	FOR MECHANISM B	4		
	45	SBSF2610Z	SCREW	FOR A B PWB	2		
	46	VJT2317-007	CASSETTE HOLDER	FOR A-MECHA	1		
	47	VJT2317-008	CASSETTE HOLDER	FOR B-MECHA	1		
	48	VKY4180-001	CASSETTE SPRING		4		
	49	VJD3867-002	C. STABILIZER		2		
	50	VYTS491-001	PAD		4		
	51	VKY4635-002	SPRING PLATE		2		
	52	SBSF2608Z	SCREW	FOR S.PLATE	2		
	53	VYH7941-005	LOCK LEVER(L)	FOR A MECHA	1		
	54	VYH7941-006	LOCK LEVER(R)	FOR B MECHA	1		
	55	VMA4718-001	SHIELD	FOR MECHA	2		
	56	VKS3655-002	F.P.C. HOLDER	FOR HEAD WIRE	2		
	57	VKW5199-001	TENSION SPRING		2		
	58	VKZ4749-001	SPECIAL SCREW	FOR LOCK L+MECH	2		
	59	VKL7293-001	EJECT SAFTY(R)	EGC	1		
	60	SBSF3010Z	SCREW	FOR E.SAFTY(R)	1		
	61	VKW5069-002	TORSION SPRING	FOR E.SAFTY(R)	1		
	62	VKL7663-001	EJECT SAFTY(L)	EGC	1		
	63	SBSF3010Z	SCREW	FOR E.SAFTY(L)	1		
	64	VKW5104-003	TORSION SPRING	FOR E.SAFTY(L)	1		
	65	VJT2380-001	CASSETTE LID	FOR A MECHA	1		
	66	VJT2380-002	CASSETTE LID	FOR B MECHA	1		
	67	VXP5289-003	PUSH BUTTON	EJECT	1		
	68	VXP5289-004	PUSH BUTTON		1		
	69	VKW3001-077	C.SPRING		2		
	70	VKL7857-002	REMOTE ARM	FOR A-MECHA	1		
	71	VKL7858-002	REMOTE ARM	FOR B-MECHA	1		
	72	VYH7773-001	BUTTON HOLDER		2		
	73	SBSF2610Z	SCREW	FOR B.H.+F.P.	2		
	74	E406379-008SS	FOOT ASS'Y		4	G,U,UT	
		E406379-008SS	FOOT ASS'Y		4	B,E,EN	
		E406379-008SS	FOOT ASS'Y		2	C,J	
	75	E47227-037	FOOT ASS'Y		2	C,J	
	77	SBST3008Z	SCREW	FOR FOOT	4		
	78	VXL3025-002	KNOB	INPUT VOLUME	1		
	79	VJK3652-003	FINDER		1		
	80	VJG1459-002S	TOP COVER		1		
	82	VKZ4614-001	SPECIAL SCREW		4		
	83	SBST3006M	SCREW	FOR TOP COVER	2		
	84	VYN2356-M005PA	NAME PLATE		1	E,EN,G	
		VYN2356-M002PA	NAME PLATE		1	B	
		VYN2356-M006PA	NAME PLATE		1	C,J	
		VYN2356-M007PA	NAME PLATE		1	U,UT	
	85	VYN2356-010	NAME PLATE		1	UT	
	88	DPSP3008Z	SCREW	Q901,Q903,Q909	3		
⚠	89	QSS2325-112	SLIDE SWITCH	S902	1	U,UT	
⚠	90	VMZ0043-001S	FUSE CLAMP	FOR F903	2	U,UT	
	91	V04062-001	AC PLUG		1	U,UT	
	92	VXP5346-001	PUSH BUTTON		1	B,E,EN,G	
	93	VKL7859-002	REMOTE BRACKET		1	B,E,EN,G	
	94	VYH8119-001	SWITCH BRACKET		1	B,E,EN,G	
	95	VKS5569-001	REMOTE BAR		1	B,E,EN,G	
	96	VKS5570-001	SLIDER		1	B,E,EN,G	

BLOCK NO. M1MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	97	SBST3006Z	SCREW		3	B,E,EN,G	
	98	SSST3008Z	SCREW		1	B,E,EN,G	
	99	SDST3006Z	SCREW		1	B,E,EN,G	
	100	VMA4633-001	SHIELD PLATE	FOR MIC Z702	1		
	101	LE40210-001A	CAUTION LABEL		1	UT	
⚠	HS901	VMH4011-201	HEAT SINK		1		

10 Exploded View of Mechanism Component Parts

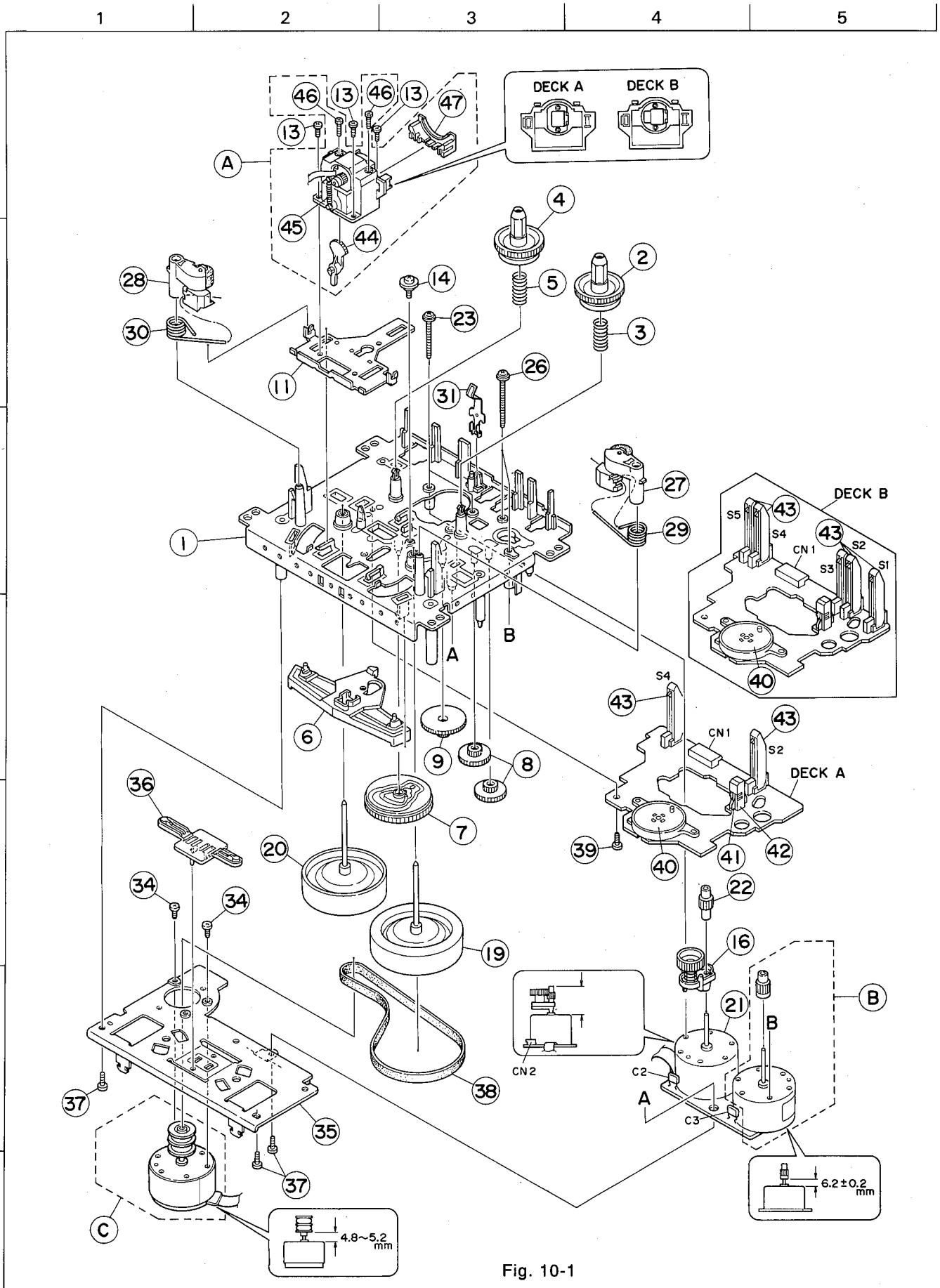


Fig. 10-1

● Mechanism Component Parts List

BLOCK NO. M2MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A	VKS3626-00E	H.MOUNT ASS'Y	A MECHA	1		
		VKS3629-00E	H.MOUNT ASS'Y	B MECHA.	1		
	B	MSN5D257A-SA1	DC MOTOR ASS'Y		1		
	C	MSI5B2LW-SA2	CAPSTAN MOTOR		1		
	1	VKS1126-00B	CHASSIS B ASS'Y		1		
	2	VKS5428-00B	T-UP REEL ASSY		1		
	3	VKW5043-001	B.T. SPRING		1		
	4	VKS3617-002	REEL		1		
	5	VKW5043-001	B.T. SPRING		1		
	6	VKS3627-002	PINCH LEVER		1		
	7	VKS2224-002	CONTROL CAM		1		
	8	VKS5454-001	ACT GEAR(2)		2		
	9	VKS5455-001	ACT GEAR(3)		1		
	11	VKM3632-001	HEAD BASE		1		
	13	SDSR2004Z	SCREW		3		
	14	VKZ4708-001	SPECIAL SCREW		1		
	16	VKS5430-00CMM	FR ARM ASS'Y		1		
	19	VKF3195-00A	FLYWHEEL(R)ASSY		1		
	20	VKF3197-00A	FLYWHEEL(L)ASSY		1		
	21	MMN-6F4RA38	D.C.MOTOR	FOR REEL/MOTOR	1		
	22	VKS5432-001	REEL MOT. GEAR	GEAR KIT S	1		
	23	VKZ4705-001	SCREW		2		
	26	VKZ4705-002	SCREW		2		
	27	VKP4227-00B	PINCH R.(R) ASY		1		
	28	VKP4229-00B	PINCH R.(L) ASY		1		
	29	VKW5045-003	P.R. SP.(R)	FOR PINCH (R)	1		
	30	VKW5046-003	P.R. SP.(L)	FOR PINCH (L)	1		
	31	VKY4670-001	CASSETTE SPRING	PRESS KIT S	1		
	34	SPSP2603Z	SCREW		2		
	35	VKM3636-002	FM. BRACKET		1		
	36	VKS5327-005MM	THRUST PLATE		1		
	37	SBSF2608Z	SCREW		3		
	38	VKB3001-068	BELT		1		
	39	SDST2612Z	SCREW		1		
	40	VKS3616-00A	CAM SW UNIT	S6	1		
	41	DN6851-HI	HALL IC		1		
	42	VKS3630-001MM	IC HOLDER	IC1	1		
	43	MXS00220MVL0	CASSETTE SWITCH	S1,S2,S3,S4,S5	5		
		MXS00220MVL0	CASSETTE SWITCH	A MECHA	2		
	44	VKS3614-001	TURN OVER GEAR		1		
	45	VKW5126-001	HEAD SPRING		1		
	46	VKZ4730-001	SPECIAL SCREW		2		
	47	VKS3654-001	HEAD MT. COVER		1		
C	2	QFV41HJ-104ZM	TF CAPACITOR	C2,C3	2		
CN	1	VMC0234-R15	CONNECTOR	CN1	1		
CN	2	VMC0234-R08	CONNECTOR	CN2	1		

11 Packing Illustration and packing parts list

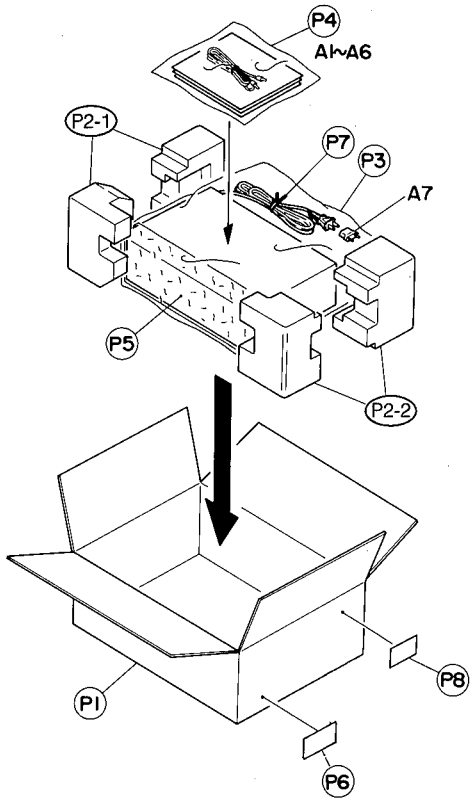


Fig. 11-1

● Packing Parts List

BLOCK NO. M3MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	VPC2356-M002	CARTON		1	C,J	
		VPC2356-M003	CARTON		1	B,E,EN,G,UT	
	P 2-1	VPH2480-001	CUSHION (L)		1		
	P 2-2	VPH2480-002	CUSHION (R)		1		
	P 3	E300196-031B	ENVELOPE		1		
	P 4	VPE3005-007	POLY BAG	FOR INSTRUCTION	1		
	P 5	VPK3001-012	SHEET		1		
	P 6	VYN2356-010	NAME PLATE		1	UT	
	P 7	Q04141H	WIRE CLAMP	FOR POWER CORD	1		
	P 8	----------	CARTON LABEL	FOR OVER SEA	1		

● Accessories

BLOCK NO. M3MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	VMP0039-00D	PIN CORD		1		
	A 2	VNN2356-121M	INST BOOK		1	U	
		VNN2356-271M	INSTRUCTIONS		1	EN	
		VNN2356-661M	INSTRUCTIONS		1	C,E,EN,G,U,UT	
		VNN2356-671M	INSTRUCTIONS		1	B,J	
	A 3	BT-52002-1	WARRANTY CARD		1	C	
		BT-54003-1	WARRANTY CARD		1	B	
		BT-20047F	WARRANTY CARD		1	J	
		BT-20134	WARRANTY CARD		1	G	
	A 4	BT-20137	SERVICE NETWORK		1	J	
		BT-20066A	SERVICE NIT LIS		1	B	
		BT-20071B	SVC CENTER LIST		1	C	
	A 5	BT-20044G	SAFETY INST.		1	C,J	
		E43486-340A	SAFETY I.SHEET		1	B	
	A 6	EWP805-012	REMOTE WIRE		1		
	A 7	V04062-001	CONTI.PLUG		1	U,UT	

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Printed in Japan
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