

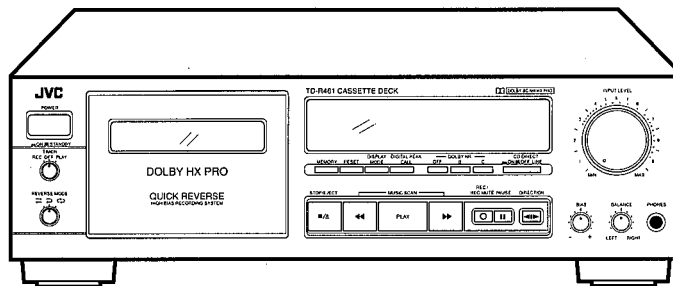
JVC

SERVICE MANUAL

STEREO CASSETTE DECK

TD-R461TN_{C/J}

TD-R472BK_{A/B/E/EN/G/U}



Area Suffix

A	.....	Australia
B	.....	U. K.
C	.....	Canada
E	.....	Continental Europe
EN	.....	Northern Europe
G	.....	Germany
J	.....	U.S.A.
U	.....	Other areas

- TD-R461TN and TD-R472BK are the same in the specifications except the coloring and Mechanism Assembly.
Namely, TD-R461TN is in Titanium color while TD-R472 is in Black color.

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Safety Precautions

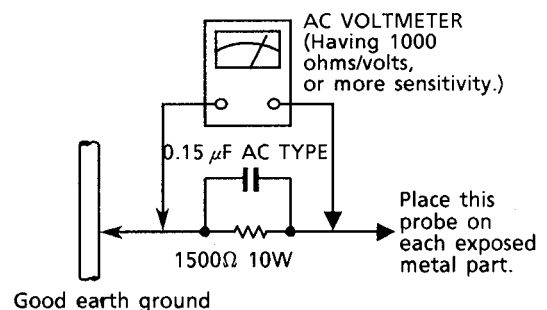
1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services 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 manufacturer'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 products 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 on the schematics and by (Δ) 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 parts 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 re-assembling.
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 parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 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 Ω 10 W 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.

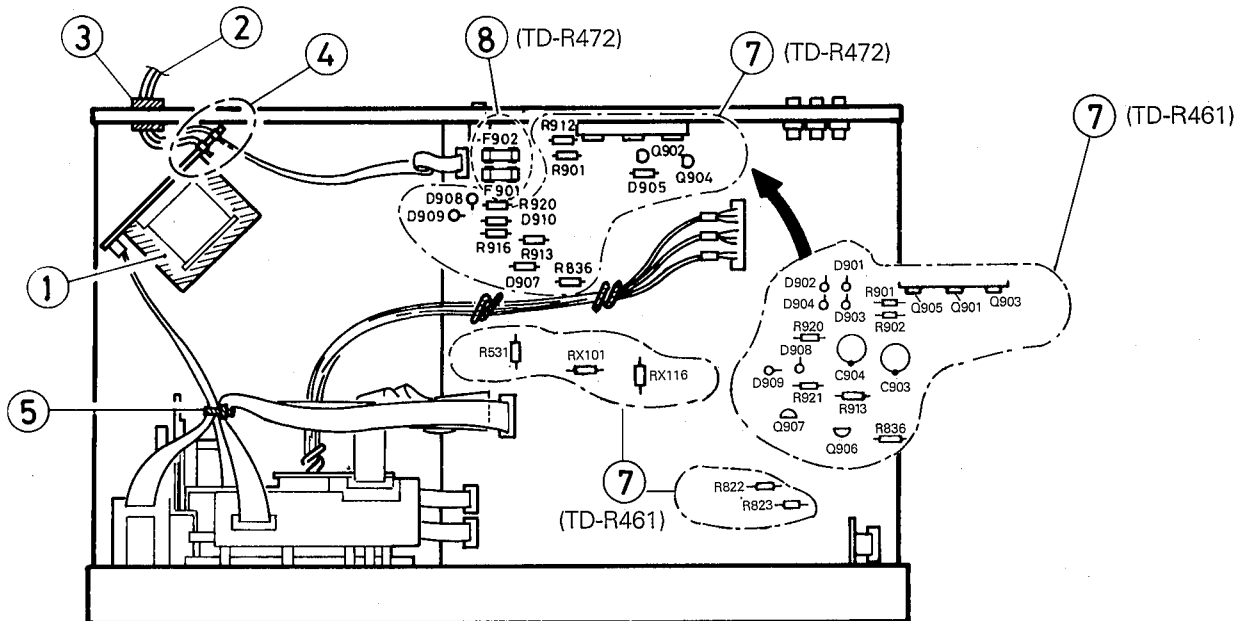
Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



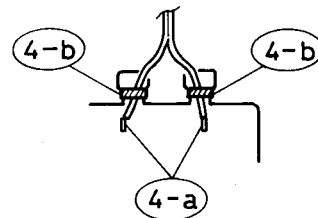
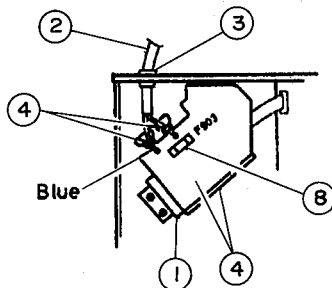
Warning (UK only)

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 maintained.
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.

■ Safety Precautions about TD-R461/-R472



----- U Version -----



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

J version : 5216507 (UL approved No.)
A/B/E/EN/G version : VTP52Z5-011F
C version : VTP52A5-011F
U version : VTP52G5-011F

2. Confirm the marking of the power cord and the plug.

Suffix	B	A
Power cord	BASEC BS6500	LTBS-2F
Power cord plug	KP-610 or SE-5	KP-560

Suffix	E/G/EN	C/J	U
Power cord	◁ VDE ▷	SPT-1	◁ VDE ▷
Power cord plug	KP-419C or SE-1	KP-10W or SU-1P	KP-8K

3. Install the cord bushing by the specified tool while confirming the marking.

Bushing : NIFCO 2271

4. 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.

5. When arranging every wire and cable, avoid the active power parts, mobiles, heat generating parts, sharp-edged parts, etc.

7. Since the following parts are heat generating ones, they must not contact with electrolytic capacitors, wires, etc.

- Parts in parentheses () are inflammables. Make sure of their lift-up condition for this purpose.
- Parts in box are out of JVC's control.

R822

R901	R836	D905	Q902	Q904	R913
R912	D907	D910	R916	D908	D909
R920					

Other parts

C903, C904 2200 μ F/25V C/J version (VENT TYPE)

8. All fuses must securely be connected.

In A/B/E/EN/G/U version, R901 and F902 must be specified by the rating of 800 mA shown on the surface as well as by the marking of S or S , in U version, F903 must be specified by the rating of 200 mA shown on the surface as well as by the marking S or S .

Instructions (Extract) (This Instructions shown pertain to the model TD-R461TN.)

FEATURES

1. Full logic control mechanism
2. Silent quick-reverse mechanism
3. Electrically driven cassette holder
4. Dolby* HX PRO headroom extension
5. Dolby B/C noise reduction systems
6. Centralized Display
 - 2-color fluorescent peak level indicator
 - 4 digit linear counter / digital peak level and level meter display
7. Auto tape select mechanism
8. Adjustable bias
9. Timer start mechanism
10. DDRP (Dynamics Detection Recording Processor)
 - With the DDRP function, the recording level is adjusted automatically so that recording is performed in optimum condition.
11. COMPU LINK-1/SYNCHRO terminal
12. Other features
 - 2 pairs of line input jacks including CD direct input
 - High bias frequency of 170 kHz for improved recording
 - Music Scan
 - “Under license from Staar S.A., Brussels Belgium”

* 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 $\square\square$ and “HX PRO” are trademarks of Dolby Laboratories Licensing Corporation.

SPECIFICATIONS

Type	: Cassette deck
Track system	: 4-track, 2-channel
Tape speed	: 4.8 cm/sec (1-7/8 inch/sec)
Frequency response	: (-20 dB recording)
	TYPE IV tape ; 20 – 18,000 Hz 30 – 17,000 Hz (±3 dB)
	TYPE II tape ; 20 – 17,000 Hz 30 – 16,000 Hz (±3 dB)
	TYPE I tape ; 20 – 17,000 Hz 30 – 16,000 Hz (±3 dB)
SN ratio	: 58 dB (S = 315 Hz, k3 = 3%, N = A.WTD, "Type IV" tape) The S/N is improved by about 15 dB at 500 Hz and by max. 20 dB at 1 kHz to 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)
Channel separation	: 40 dB (1 kHz)
Crosstalk	: 60 dB (1 kHz)
Harmonic distortion	: k3; 0.8% (Type IV tape, 315 Hz, 0 VU)
Heads	: METAPERM head for recording/ playback , 2-gap ferrite head for erasure ; Combination head × 1

COMPU LINK
Control System

COMPU LINK control system is the convenient system using COMPU LINK-1/SYNCHRO terminals on the rear panel. (See pages 4 and 10.)

D·D·R·P
DYNAMICS DETECTION
RECORDING PROCESSOR

This product can be combined 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.

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.

Motors	: Electronic governed DC motor × 1 DC motor for reel × 1 DC motor for mechanism drive × 1 DC motor for cassette holder × 1
Fast forward/ Rewind time	: Approx. 110 sec. with C-60 cassette
Input terminals	
CD DIRECT (× 1 circuit)	: Input sensitivity; 80 mV (0 VU) Input impedance; 50 kΩ
LINE IN (× 1 circuit)	: Input sensitivity; 80 mV (0 VU) Input impedance; 50 kΩ
Output terminals	
LINE OUT (× 1 circuit)	: Output level; 0.3 V (0 VU) Output impedance; 5 kΩ
PHONES × 1	: Output level; 0.3 mW/8 Ω (0 VU) Matching impedance; 8 Ω – 1 kΩ
Other terminals	: COMPU LINK-1/SYNCHRO × 2
Power requirement	: AC 120 V, 60 Hz
Power consumption	: With power switch on 18W With power switch standby 1.6W
Dimensions (W × H × D)	: 435 × 133 × 326 mm (17-3/16" × 5-1/4" × 12-7/8")
Weight	: 4.4 kg (9.7 lbs.)
Accessories	: Pin plug cord .....2 Remote cable .....1

Design and specifications are subject to change without notice.

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.

1. Connection to a stereo amplifier

Note:

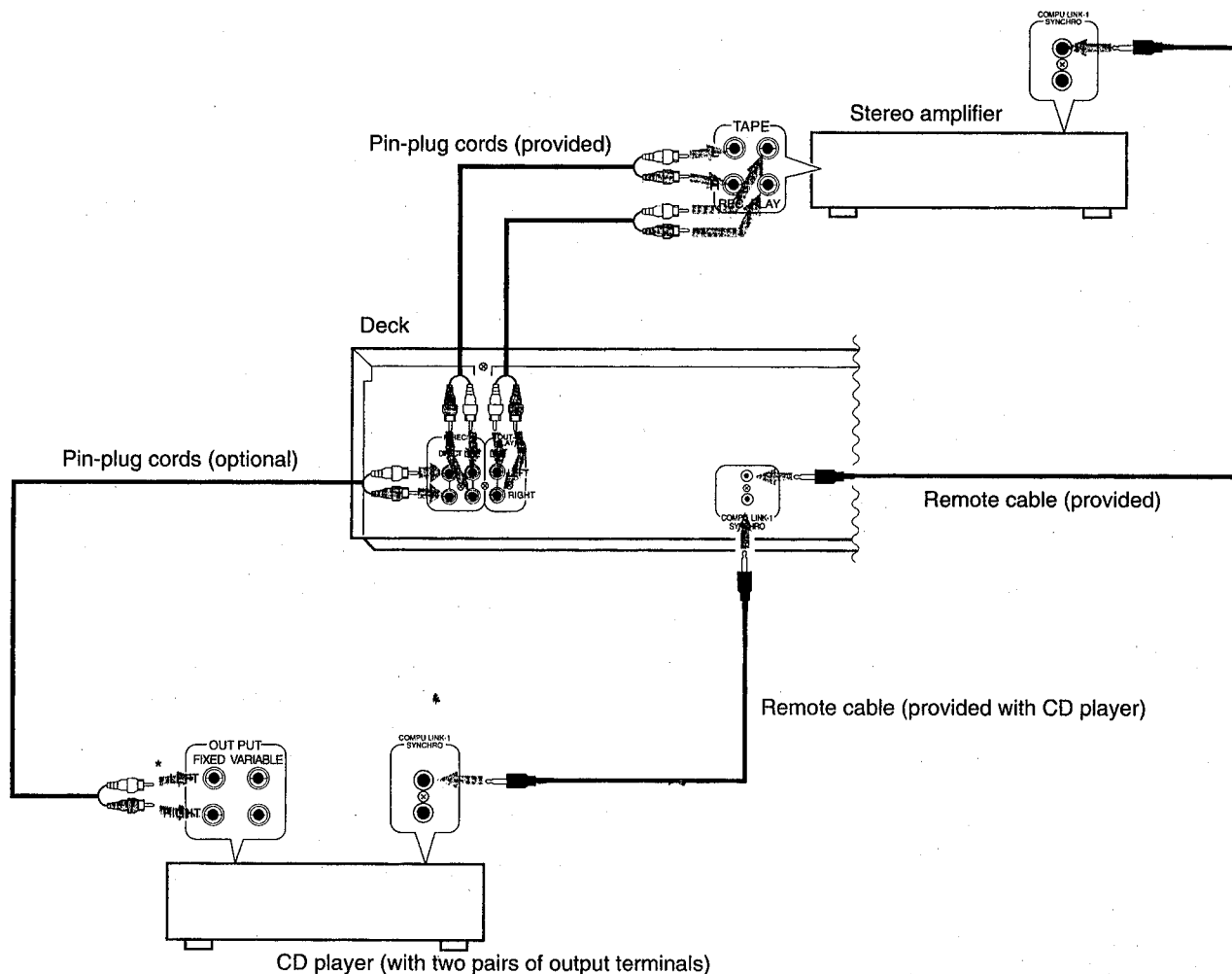
When installing the deck, be sure to install at a distance from your amplifier. If they are stacked, noise (hum) may occur.

2. Remote cable connection for COMPU LINK

- By connecting a remote cable, COMPU LINK functions (Automatic source selection, synchronized recording and DDRP recording) can be performed.
- When making synchronized recording with a CD player, connect the remote cable to the COMPU LINK-1 or 3/SYNCHRO jacks.

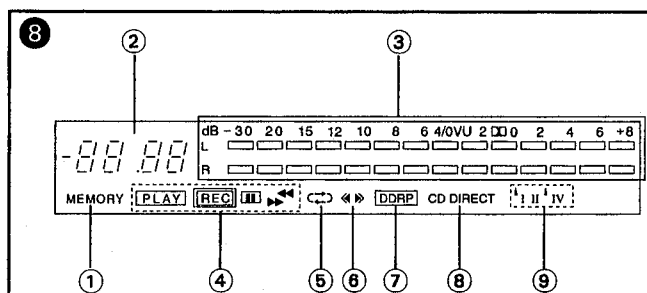
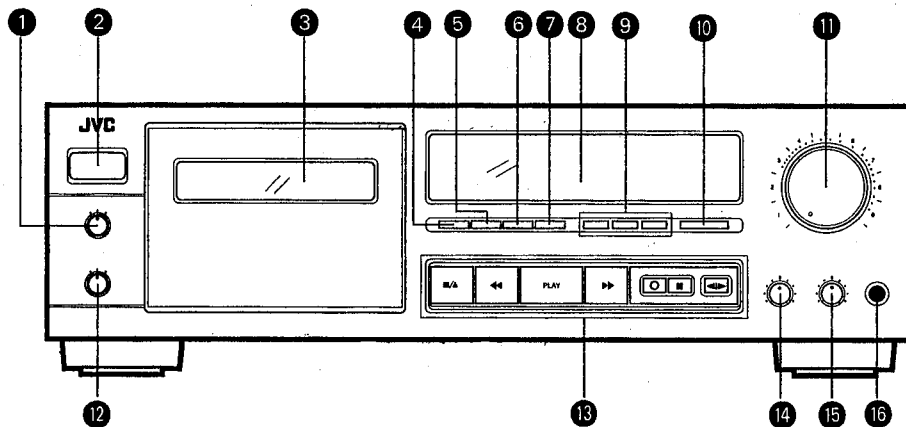
Notes:

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 or 3/SYNCHRO jacks for COMPU LINK performance. (See page 10 for details.)



* When making DDRP recording connect pin-plug cords with the terminals "VARIABLE".

NAMES OF PARTS AND THEIR FUNCTIONS



1 TIMER switch

When an optional timer is used, recording and playback can be performed at any desired time. (See page 11.)

2 POWER switch(ON/STANDBY)

3 Cassette holder

4 MEMORY button

(See page 7.)

5 RESET button

Press to reset the tape counter to "0.00". The memory will be reset also.

6 DISPLAY MODE button

Select the digital counter mode. When the power is turned on, it changes the counter and if pressed this button, it changes digital peak indicator.

7 DIGITAL PEAK CALL button

Press to call up the stored (memorized) maximum value or to reset the memory, in the digital peak indicator mode. (See page 8.)

This function is available when the display is set to the DIGITAL PEAK mode with the DISPLAY MODE button.

8 Multi mode display

① MEMORY indicator

② Tape counter / digital peak indicator

③ Peak level meter

0 dB : IEC (DIN) STANDARD LEVEL (250 nWb/m)

0 VU : Signal level at 160 nWb/m

□ : DOLBY NR STANDARD LEVEL

④ Mechanism mode indicator

⑤ Reverse mode indicator

⑥ Direction indicator

⑦ DDRP indicator

⑧ CD DIRECT input indicator

⑨ Tape types and recording guide indicators

9 DOLBY NR switches

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.

Set to OFF when the Dolby NR system is not used.

10 CD DIRECT switch

ON: Press this switch to set to ON when recording directly from a CD player.

OFF/LINE: Press this switch to set to OFF/LINE when recording from a stereo amplifier.

11 INPUT LEVEL control

Adjust the recording level with this control. (See page 8.)

12 REVERSE MODE switch

13 Cassette operation buttons

■ / ▲ STOP/EJECT: Press to stop the tape.

Pressing this button after the tape stops, opens the cassette holder.

◀◀: Press to wind the tape quickly from right to left.

PLAY: Press to start recording/playback.

Press this button with either the ◀◀ or ▶▶ button for music scanning.

▶▶: Press to wind the tape quickly from left to right.

○ 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 8)

■ PAUSE: Press to stop the tape temporarily during recording and playback. Press the PLAY button to release the pause mode.

◀▶ DIRECTION: Press to change the direction of tape travel.

14 BIAS adjust control

Adjust recording bias according to the characteristics of the tape used for recording. (See page 9.)

15 BALANCE control

Adjusts the balance between the signals input via the left and right LINE IN jacks.

16 PHONES jack

Connect headphones (with an impedance of 8 Ω to 1 kΩ).

AUTO-REVERSE

A quick reverse auto reverse mechanism is provided in this deck. With this system, an infrared sensor detects light reflected from the splicing tape between the coated tape and leader tape to switch the tape travel direction.

In case of a cassette without leader tape, the direction is changed automatically at the end of tape.

- Due to the inevitable variation in cassette shell construction, it is recommended that tapes recorded in the forward direction on one side be played back in the forward direction on the same side to assure stable sound reproduction.
- During recording, auto reverse can be activated only from the forward to the reverse direction.

For satisfactory sound quality and to avoid accidental erasure of previously recorded material, it is recommended to always use cassettes with side A facing you.

Notes:

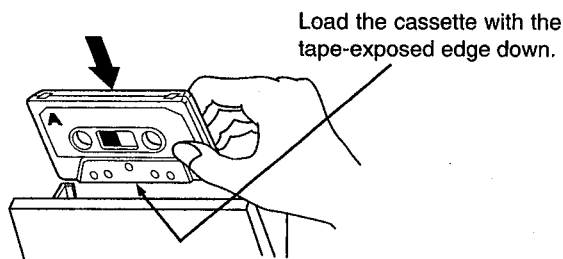
- For about 15 seconds, after entering either the record or playback mode, the auto reverse mechanism will not function since the infrared sensor is designed not to function during this period.
- To avoid malfunctioning of the infrared sensor, do not expose the head section to direct sunlight.
- To avoid malfunctioning of this unit, do not use wrinkled tape.
- Due to the location of the infrared sensor, when the operating mode of the deck switches from the reverse direction to the forward direction at the end of the tape, the leader section of tape passes by the head, resulting in about a 1-second blank interval in the sound being listened to.

CASSETTE LOADING

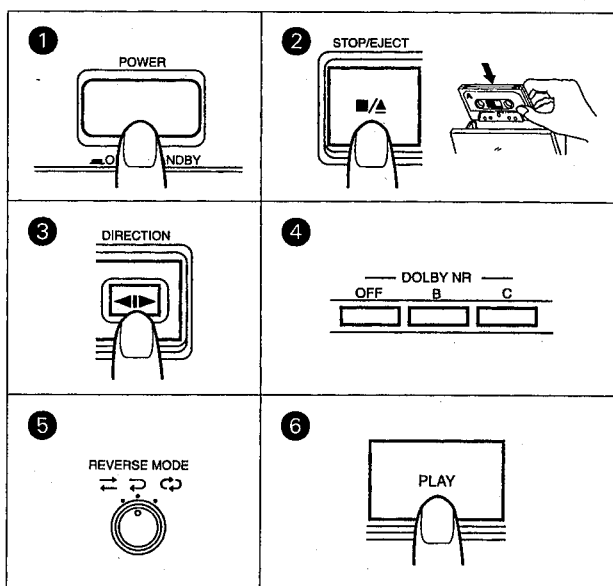
1. Turn the power to on and press the ■/▲ STOP/EJECT button to open the cassette holder.
2. Load a cassette as shown.
3. Press the ■/▲ STOP/EJECT button to close the cassette holder.
 - It can also be closed by pushing the cassette holder.
 - After pressing the PLAY button, closing the cassette holder, playback begins immediately.

Notes:

- If the power is switched STANDBY 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.
- When the PLAY, ►►, ◄◄ or ■■ PAUSE button is pressed instead of pressing the ■/▲ STOP/EJECT button, the cassette holder closes automatically and the operation corresponding to the pressed button is performed.



PLAYBACK



Operate in the order of the numbers in the illustration.

- 1 Press the POWER switch to set to ON (■).
- 2 Load a prerecorded cassette with side A facing out.
- 3 Select the side to be played back.
Side A...Forward direction (►►)
Side B...Reverse direction (◄◄)
- 4 Press the same DOLBY NR switches that were pressed when the tape was recorded.
- 5 Select the REVERSE MODE.
- 6 Press the PLAY button to start playback.
 - To stop playing back midway...Press ■/▲ STOP/EJECT button.

Tape counter display

When the power is turned on, "0.00" appears on the display. When the tape runs, the counter functions as a 4 digit linear tape counter. The running time is displayed in minutes and seconds (countdown function included). Since the counter is not a clock, there may be a discrepancy between the actual recording and playback times. This discrepancy will vary depending on the length of the tape and the hub diameter.

To set the counter to "0.00".

Press the RESET button. (The counter is also reset when the power is switched STANDBY and ON again.)

MEMORY BUTTON

Press the MEMORY button at the point to which you want the tape to be rewound and from which you want to listen to during recording or playback.

The tape stops automatically at the point where the MEMORY button is pressed in either the fast forward or rewind mode.

- The point where the MEMORY button is pressed is stored during any mode (recording, playback or stop), but the memory function (automatic stop) operates only in the fast forward or rewind mode.
- If pressing the MEMORY button again, the memory will be cleared. It will also be cleared if pressed the RESET button and reset the counter to "0.00".

MUSIC SCAN

The music scan mechanism functions by detecting non-recorded sections between tunes. The lengths of non-recorded sections should be more than 4-5 sec for Music Scan to be effective.

1. Press the PLAY and << (or >>) buttons simultaneously.
 - "PLAY" blinks when scanning.
2. When a non-recorded section is detected, playback starts automatically.
 - Since this unit is equipped with an auto reverse mechanism, music scan is performed as follows according to the tape direction.

Direction \ Operation button	When the PLAY and << buttons are pressed	When the PLAY and >> buttons are pressed
>> (Forward direction)	Previous or present tune	Following tune
<< (Reverse direction)	Following tune	Previous or present tune

Notes:

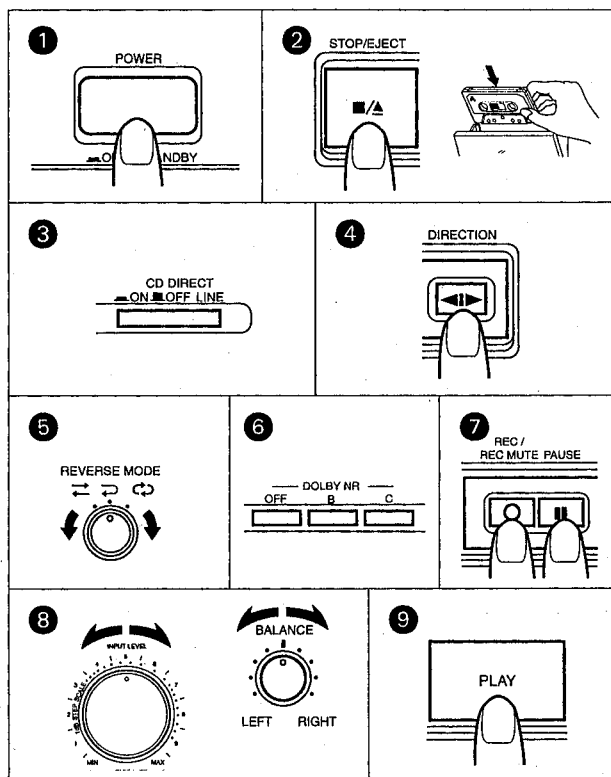
In the following cases, the mechanism may not operate correctly. This is not a malfunction; use the mechanism according to the type of program.

- Tapes with tunes having long pianissimo passages (very quiet parts) or non-recorded portions during tunes
- Tapes with short non-recorded sections
- Tape with noise or hum between tunes

RECORDING

Operate in the order of the numbers in the illustration.

- Set the TIMER switch to OFF before switching the power on.
- Make sure the safety tab of the cassette has not been broken off.



Manual recording

- 1 Press the POWER switch to set to ON (→).
- 2 Load a cassette for recording with side A facing out.
- 3 Select the recording input.
- 4 Select the side to be recorded.
Side A...Forward direction (>>)
Side B...Reverse direction (<<)
- 5 Select the REVERSE MODE.
- 6 Set the DOLBY NR switches as required.
- 7 Press the ■ PAUSE button and O REC/REC MUTE button (record-pause mode).
The REC and ■ indicators light.
- 8 Adjust the recording level and balance. (See page 8.)
The BALANCE control only works with line input.
- 9 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.
- During recording, auto reverse can be activated only from the forward to the reverse direction.

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.

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, CrO₂ and metal), the adjustment of INPUT LEVEL and BALANCE controls are not required.
- Read the instruction book of your CD player carefully.

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.

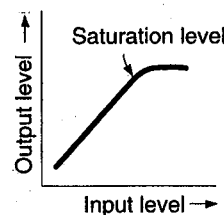
RECORDING LEVEL ADJUSTMENT

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.

- 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.

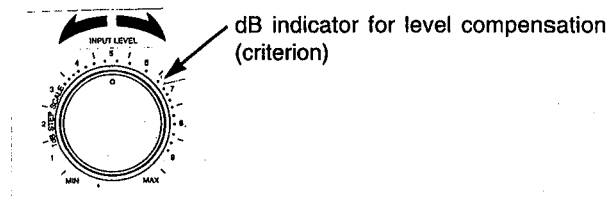
Saturation level means:

When the recording input is increased gradually, the output increases proportionally. However, once it reaches a certain level, the output cannot increase any further. Moreover, the output will be distorted if the input is increased beyond this point. The level at which this occurs is called the tape's "saturation level".



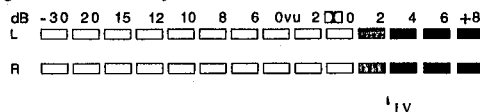
How to adjust the recording level

- ① Set to the record-pause mode.
- ② Adjust the recording level using the INPUT LEVEL control.



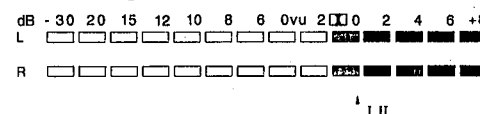
With Type IV (metal) tape

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



With Type I (normal) or Type II (chrome) tape

It is OK that "+ 0" lights occasionally.



Digital Peak Indicator

When the counter mode is set to digital, the counter changes to a digital peak indicator.

This is a digital display that shows the recording/playback level and is interlocked with the peak level meter under the control of the meter microcomputer. A maximum peak level memory function is provided so that the peak level can be checked after as well as during recording.

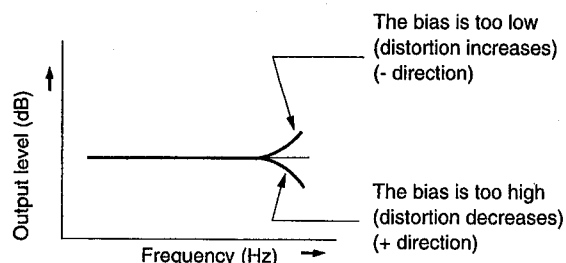


Calling up the maximum level and resetting the memory

When the "DIGITAL PEAK CALL" button is pressed once, the peak level held in memory flickers in the display for approximately 5 seconds. If the DIGITAL PEAK CALL button is pressed again while the peak value is displayed, the previous contents of memory will be cleared and this newly input maximum level will be held in memory as the peak level. In addition, the digital peak function holds the level of whichever of the left or right channels is the higher and displays it.

ADJUSTMENT OF RECORDING BIAS

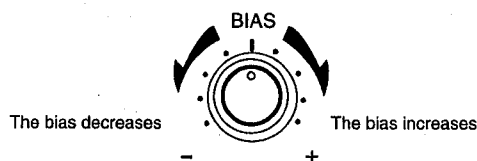
There are various types of cassette tapes, and their characteristics differ slightly even when they are of the same type. Generally, the bias current and equalization characteristics suitable for the type of tape being used can be obtained by the Auto Tape Select system. However, to optimize the response of the tape to be used, it is better to adjust the recording bias so that distortion is minimized and the frequency characteristics are as flat as possible.



- Turn the BIAS adjust control clockwise (in the + direction) to increase the bias current; high frequencies are attenuated and distortion decreases.
- Turn the BIAS adjust control counterclockwise (in the - direction) to decrease the bias current; high frequencies are emphasized and distortion increases.

Notes:

- When adjusting the bias current, we recommend a source which makes it easy to check high frequencies, such as one containing cymbals. When you can hear the noise between tunes in FM broadcasts, be sure to adjust the recording level to below -10 dB.
- Because of the different characteristics of cassette tapes, adjusting the bias with the bias adjust control has more effect on the frequency characteristics of normal and high bias tapes than metal tapes.



AUTOMATIC RECORD MUTING

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 **O** 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 **O** 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 **O** 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.

CD DIRECT INPUT

When a CD player or other component is connected to the CD DIRECT terminals as shown in "CONNECTIONS" on page 4, a direct signal will be input without passing through the stereo amplifier.

Also, since the BALANCE control of the deck is no longer be concerned, the signal path will be shortened and sound quality can be improved. To record with these sources, set the CD DIRECT switch according to the input.

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 3, set the INPUT LEVEL control to MIN.

COMPU LINK CONTROL 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 1.)

The version 3 system has the automatic power on/off (standby) function as well as the following major functions of the version 1 system.

Automatic Source Selection

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 2 seconds.

Synchronized Recording

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 7.
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.

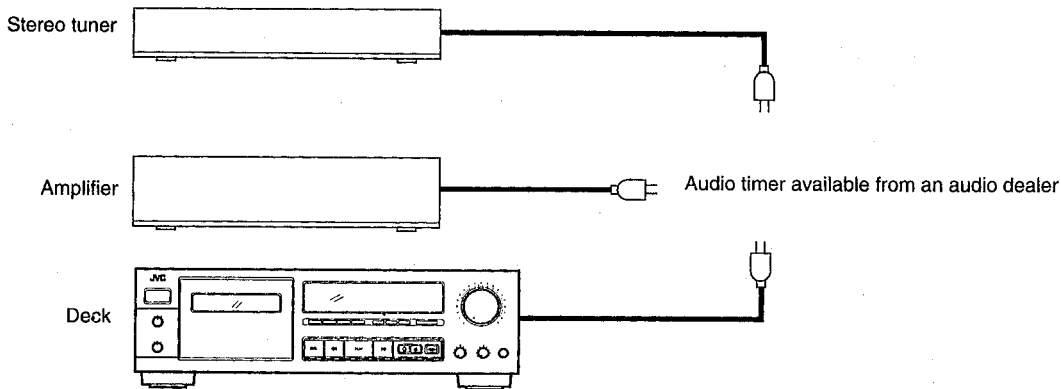
Notes:



- Synchronized recording or DDRP recording stops automatically when the CD player stops playing.
- To cancel synchronized recording or DDRP recording, press the STOP button of the CD player or cassette deck.
- Synchronized recording does not start except when the record-pause mode is set by simultaneously pressing the **O REC/REC MUTE** and **■ PAUSE** buttons in the stop mode.
- 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.

TIMER RECORDING/PLAYBACK

- Recording or playing back at any desired time can be performed using an audio timer.
- Read the instruction manual of the timer carefully before using it.
- Timer recording cannot be performed if the cassette's safety tabs are removed.

In case the amplifier is not provided with AC outlets, use a multi-plug connector for each connection.



Procedure	Timer recording	Timer playback
1. Timer operation	<ul style="list-style-type: none"> • Make sure that the POWER switches of the units connected to the audio timer are set to ON. • Set the timer so that the power of units are switched on. 	
2. Amp and tuner operation	<ul style="list-style-type: none"> • Set the source selector of the amplifier to TUNER. • Tune to the station to be recorded. 	<ul style="list-style-type: none"> • Adjust the volume and tone of the amplifier. • Set to the playback mode.
3. Deck operation	<ul style="list-style-type: none"> • Load a cassette and perform the recording operations. (See page 7.) 	<ul style="list-style-type: none"> • Load a recorded cassette and perform the playback operations. (See page 6.)
4. Timer operation	<ul style="list-style-type: none"> • Set the timer to the desired start and stop times. When you are recording, allow about 1 extra minute at the beginning and end of the program to be sure to record everything. • Confirm that the units connected to the timer are turned off. 	
5. Deck operation	<ul style="list-style-type: none"> • Set the TIMER switch to REC. • Recording will start at the time set on the timer. 	<ul style="list-style-type: none"> • Set the TIMER switch to PLAY. • Playback will start at the time set on the timer. 

- Before starting timer recording, wind the tape beyond the leader section.
- Turn the TIMER switch "OFF" when you finish timer operation.

1 Location of Main Parts

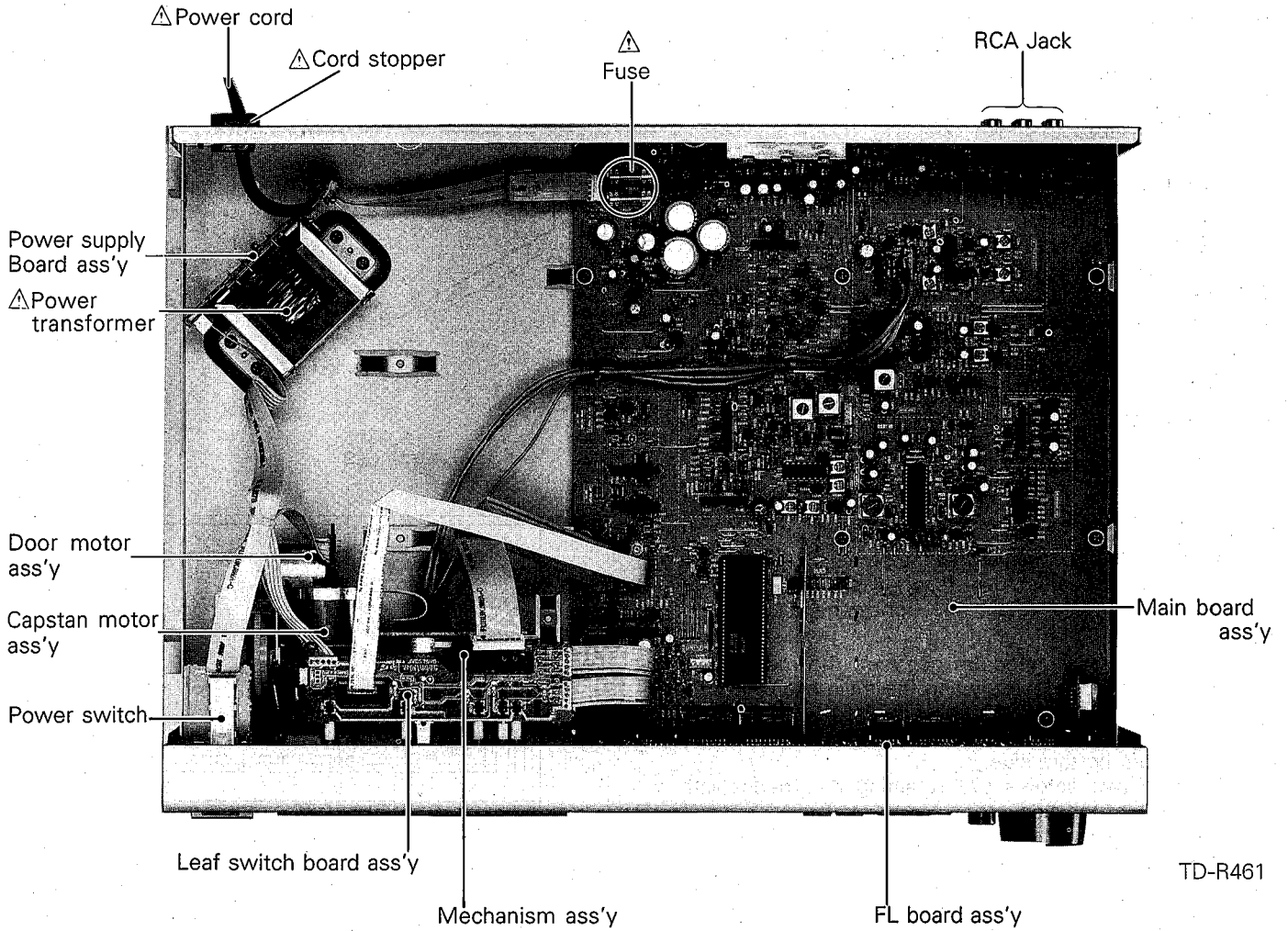


Fig. 1-1

2 Removal of Main Parts

■ Top cover

- 1) Remove four screws ① retaining the top cover from the both side.
- 2) Remove two screws ② retaining the top cover from the backward.

■ Front panel assembly

- 1) Remove the top cover
- 2) Remove three screws ④ retaining the front panel assembly from bottom side.
- 3) Remove two screws ③ retaining the mechanism assembly from bottom side.
- 4) Remove one screw ⑤ retaining the door motor bracket from top side.
- 5) Disconnect connector CN616 in the headphone board ass'y.
- 6) Release the front panel from the pawls of the chassis and draw it to the front side.

■ 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) Disconnect all connectors between the mechanism ass'y or front panel ass'y and the main board.
- 2) Remove one screw ⑥ retaining the door damper.
- 3) Remove two screws ③ retaining the mechanism ass'y from bottom side.
- 4) Remove two screws ⑦ retaining the mechanism assembly at top side.
- 5) Remove one screw ⑤ retaining the door motor bracket.
- 6) Rotate the door motor drive pulley to open the door. Then, pull the cassette lid upward.
- 7) In order to detach the cassette holder, disengage the shafts to the cassette holder arms from the mechanism holder. (Use an ordinary (→) screwdriver as shown in Fig. 2-5A.

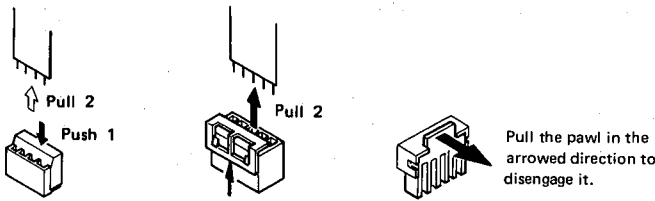


Fig. 2-4

● Reassembling manner of cassette holder

- 1) Insert the cassette holder into the mechanism holder while keeping the stabilizer parallel with the holder, and put together so that the cassette guide and the inner face of the stabilizer contact with each other.
- 2) Engage them together with by ③ shown in the figure. (At that time, press arms lightly toward the cassette holder.)
- 3) Set respective shafts of the cassette holder arms into the holes ② and ① of the mechanism holder by use of a screwdriver, etc.
- 4) Attach the door damper.

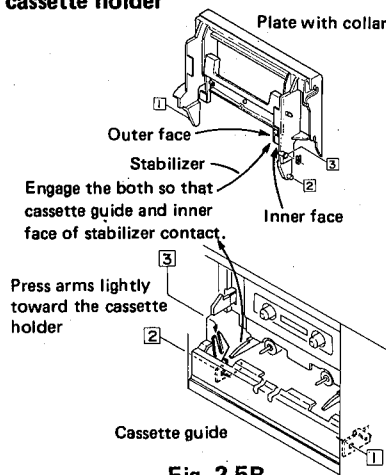


Fig. 2-5B

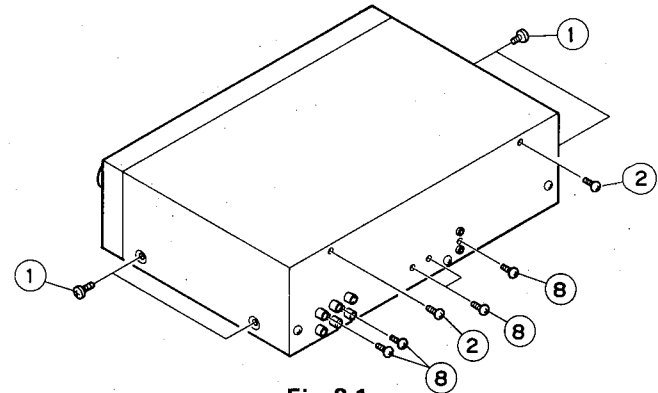


Fig. 2-1

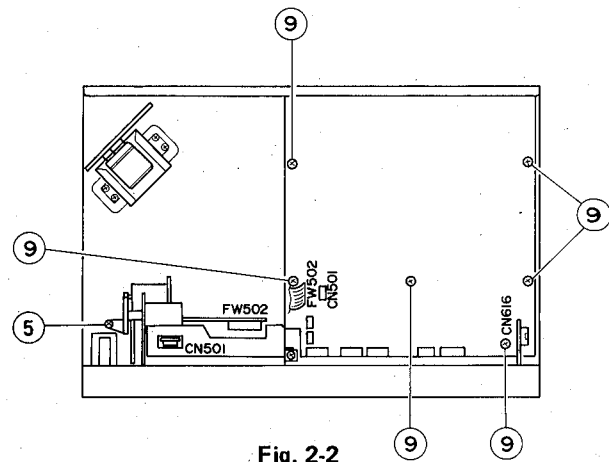


Fig. 2-2

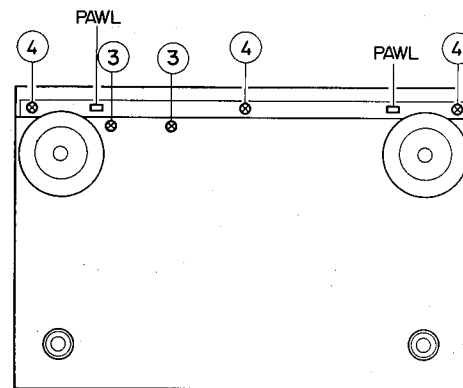


Fig. 2-3

● Removing manner of cassette holder

To disengage respective shafts of door holder arms ① and ③ from the mechanism, insert a screwdriver between them and turn it as illustrated or use it as a lever of fulcrum.

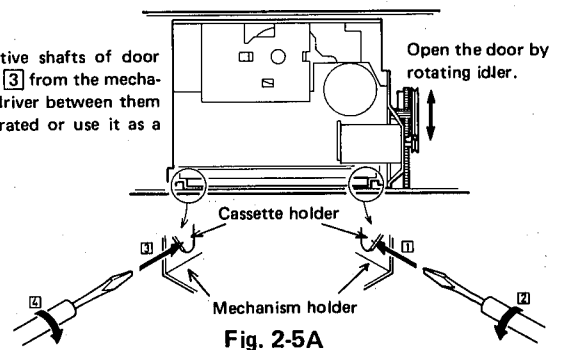


Fig. 2-5A

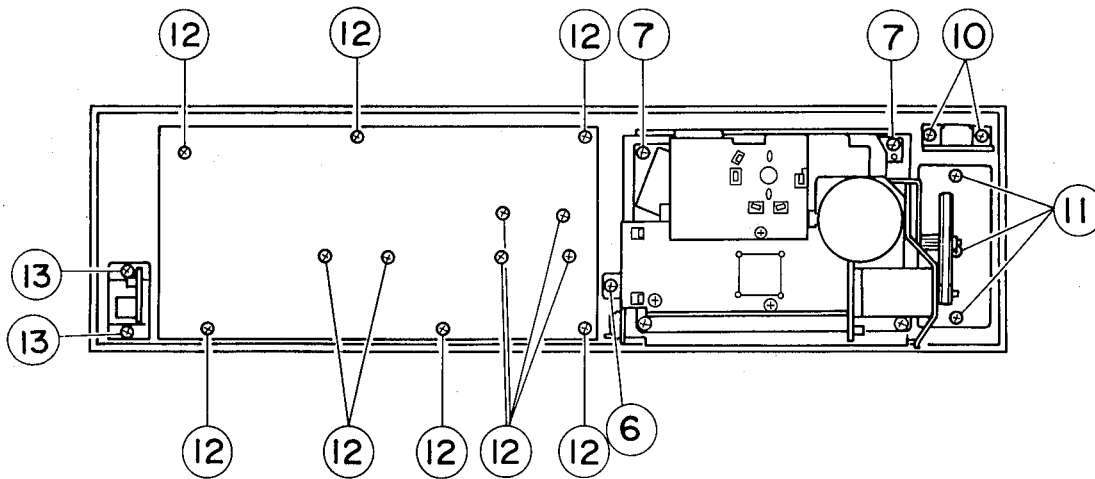


Fig. 2-6

■ **Main board assembly**

- 1) Remove the front panel ass'y.
- 2) Remove five screws (8) retaining the Jacks and heat sink from rearward.
- 3) Remove six screws (9) retaining the Main board ass'y.

■ **Power switch assembly**

- 1) Remove two screws (10) retaining the power switch.

■ **Timer/Reverse mode switch assembly**

- 1) Remove three screws (11) retaining the Timer & Reverse mode switch board ass'y.

■ **Volume/FL indicator/Key switch board**

- 1) Remove the knobs (Input, Bias, Balance)
- 2) Remove twelve screws (12) retaining the volume, FL Indicator and Key switch board ass'y.

■ **Head phone Jack ass'y**

Remove two screws (13) retaining the head phone Jack bracket.

■ **Cassette mechanism section**

■ **Head mount assembly** (Fig. 2-7, Fig. 2-8)

- 1) Release the head wire relay board from two pawls.
- 2) Remove two screws ① retaining the head mount ass'y from the head base.
- 3) Remove the head gear (1) and head spring.

■ **Pinch roller assembly** (Fig. 2-7, Fig. 2-9)

- 1) Remove return spring by disengaging the pawl hooking it.
- 2) Remove the pinch roller spring.
- 3) For reengaging the spring, refer to the figures (A) and (B).

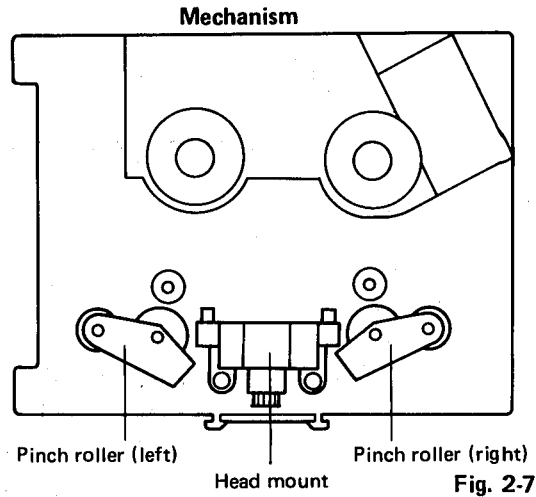


Fig. 2-7

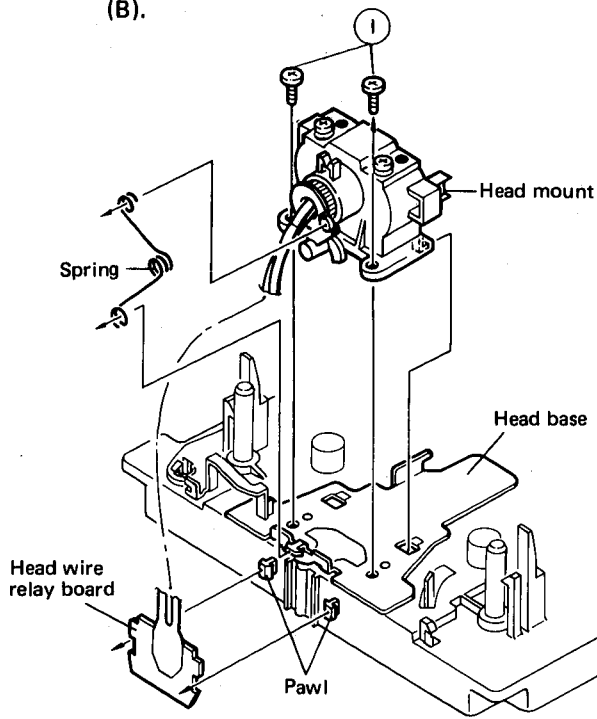


Fig. 2-8

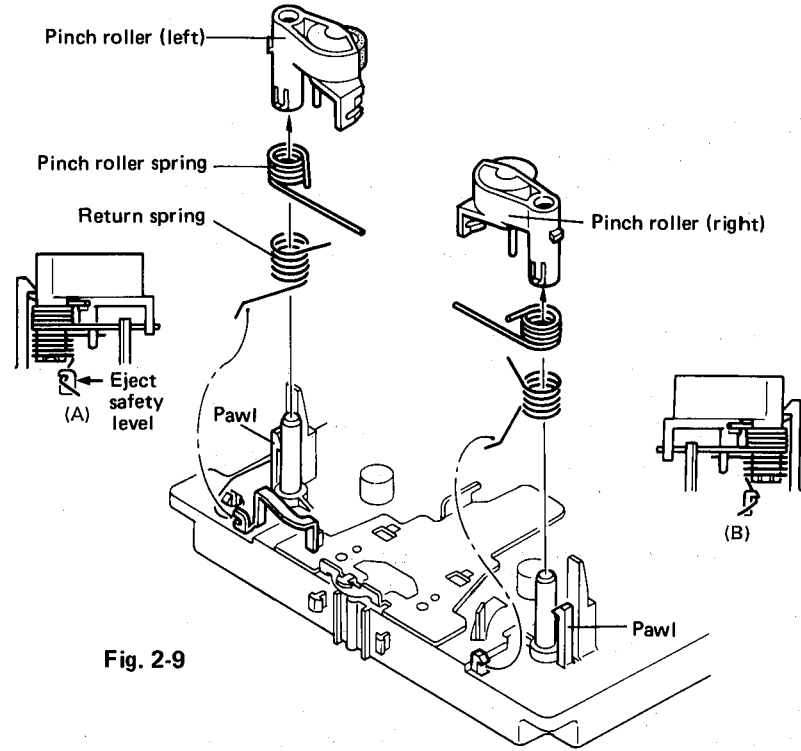


Fig. 2-9

■ **Door motor unit** (Fig. 2-10)

- 1) Remove the mechanism assembly from the front panel assembly.
- 2) Remove two screws ② retaining the mechanism holder and mechanism chassis.
- 3) Disengage the eject lock arm from the shaft, then remove two screws ③ retaining the DD motor bracket (TD-R472) /FM bracket (TD-R461).
- 4) Disengage the pawl retaining the leaf switch board, then remove the reflector CN607.
- 5) Now, there is the mechanism unit left alone.

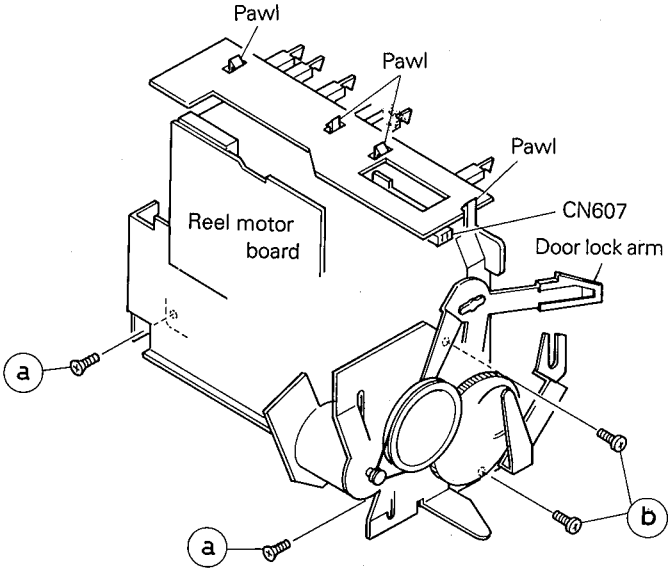


Fig. 2-10

[For TD-R461] (Fig. 2-11, 2-12)

■ Replacement of Capstan motor, FM bracket.

- 1) Unsolder the reel motor terminal at two points.
- 2) Remove one screw ② retaining the FM bracket together.
- 3) Remove two screws ③ and disengage three pawls, and then the FM bracket and the capstan belt can be removed.
- 4) Remove two screws ④ retaining the capstan motor from the FM bracket.

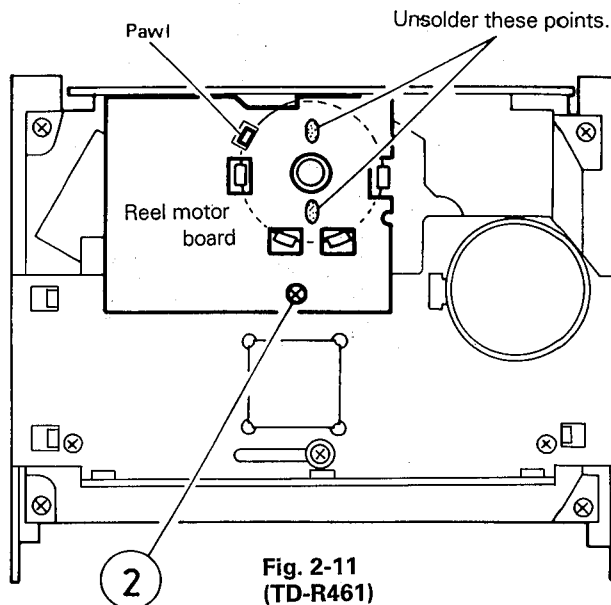


Fig. 2-11
(TD-R461)

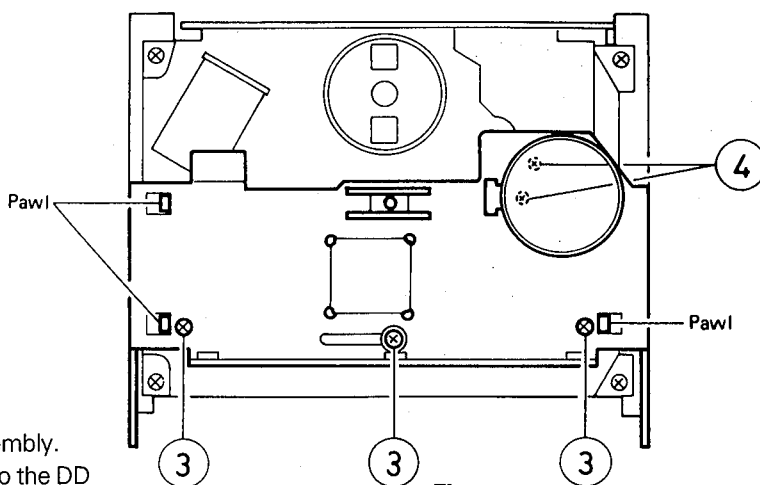


Fig. 2-12
(TD-R461)

[For TD-R472] (Fig. 2-13)

■ Replacement of DD motor, DD motor bracket.

- 1) Unsolder the reel motor terminal at two points.
- 2) Remove one screw ⑤ retaining the reel motor assembly.
- 3) Remove one screw ⑥ retaining the grounding wire to the DD motor bracket.
- 4) Remove two screws ⑦ retaining the DD motor.
- 5) Disengage three pawls retaining the DD motor bracket.

- For reengaging the capstan belt, refer to Fig. 2-14.

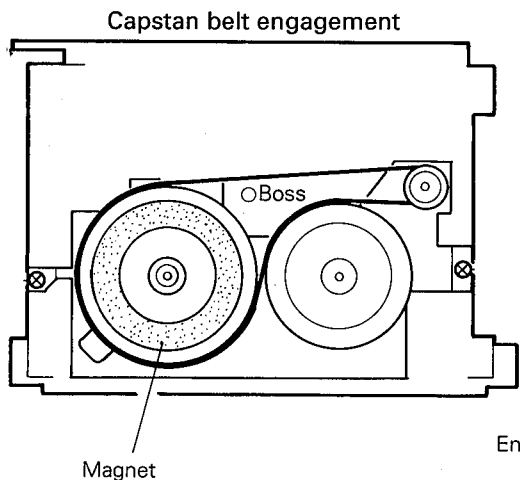


Fig. 2-14
(TD-R461)

Engage the capstan belt

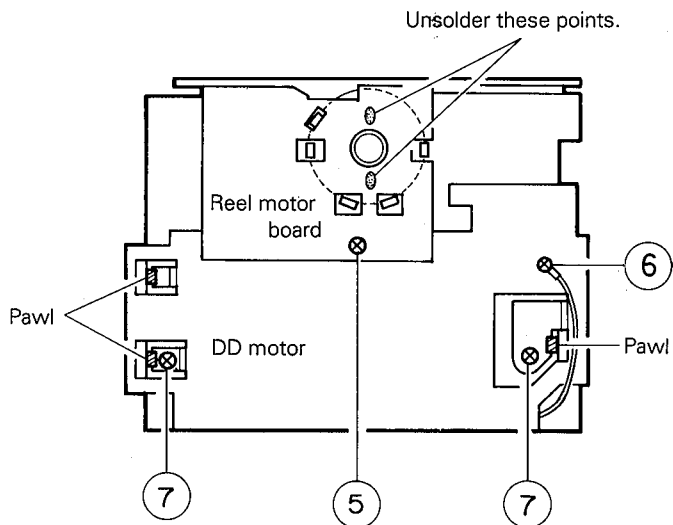
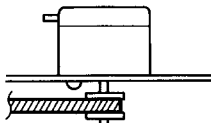


Fig. 2-13
(TD-R472)

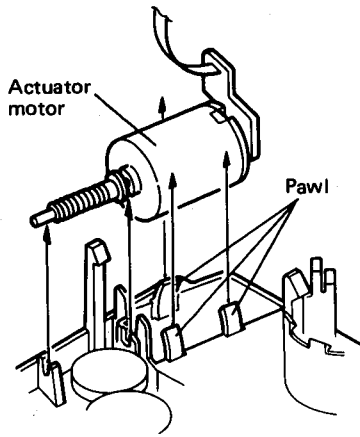


Fig. 2-15

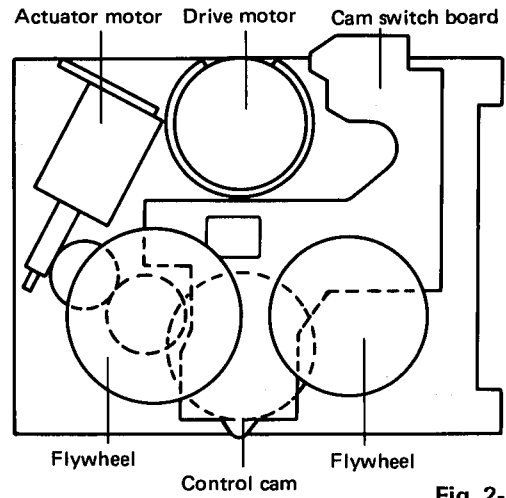


Fig. 2-16

- **Actuator motor assembly** (Fig. 2-15)
 Release the actuator motor ass'y from three pawls.
- **Flywheel assembly** (Fig. 2-16, Fig. 2-17)
 Remove washers from the capstan shaft and draw them out.
- **Drive motor** (Fig. 2-15, Fig. 2-18)
 - 1) Pull out the gear and arm assembly from the drive motor shaft.
 - 2) Remove one screw ⑧ retaining the drive motor.
 - 3) Disengage four pawls to release the drive motor.

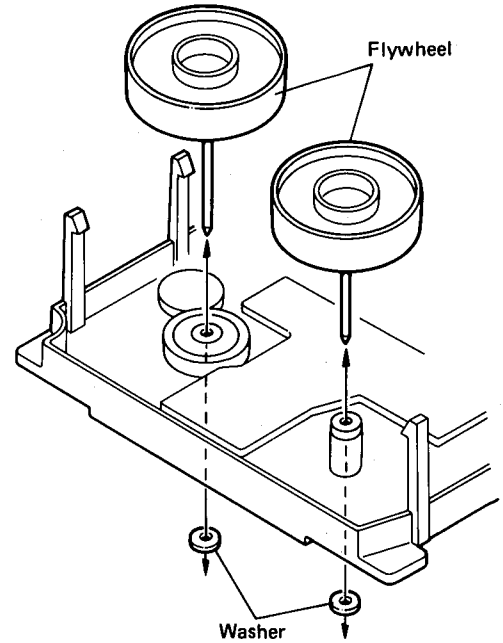


Fig. 2-17

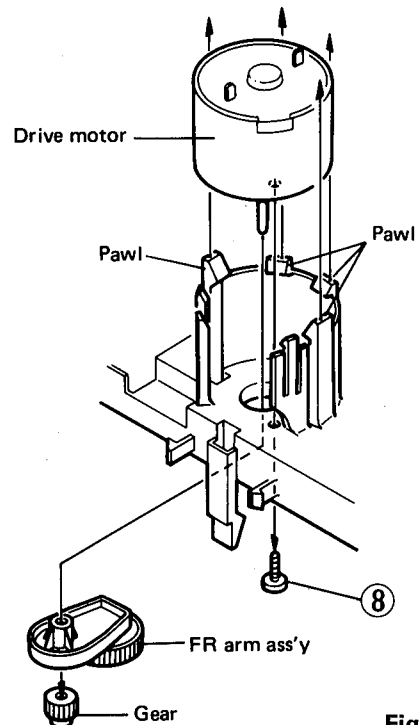


Fig. 2-18

- **Cam switch board** (Fig. 2-16, Fig. 2-19)
 - 1) Release the cam switch board from six pawls.
 - 2) For gearing between the cam switch board and control cam, see the magnified illustration in a circle.
- **Actuator gear (large)** (Fig. 2-16, Fig. 2-20)
 - 1) Release the actuator gear (large) from three pawls.
- **Control cam** (Fig. 2-16, Fig. 2-20)
 - 1) Release the control cam from two pawls.
 - 2) For assembling the control cam, see the magnified illustration in a circle.
- **Actuator gear (small)** (Fig. 2-16, Fig. 2-20)
 - 1) Release the actuator gear (small) from two pawls.

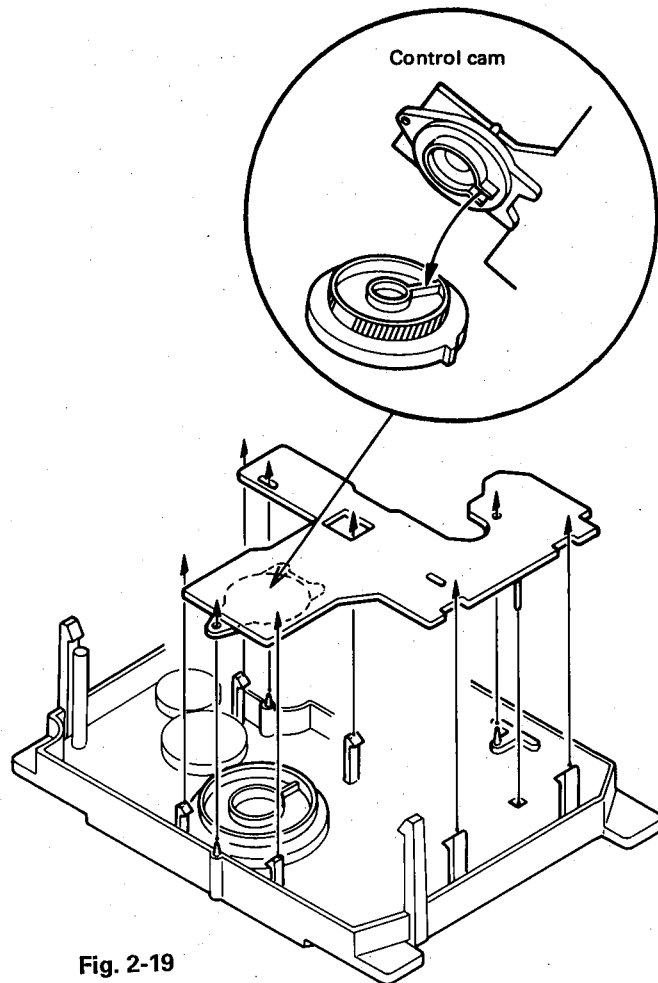


Fig. 2-19

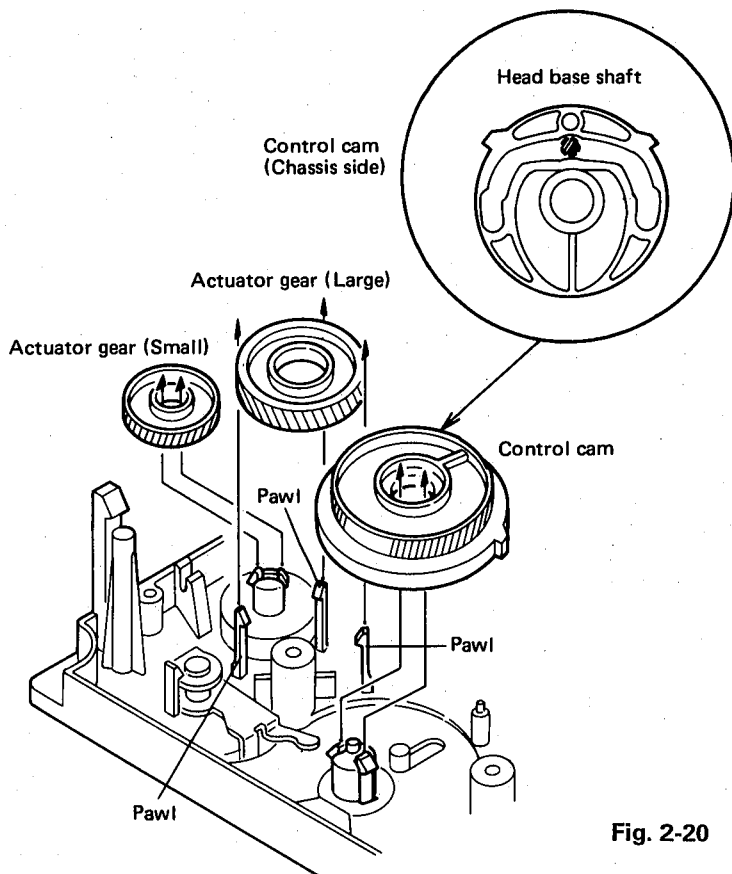


Fig. 2-20

3 Main Adjustments

1. Measuring instruments required for adjustment

- (1) Low-frequency oscillator (oscillation frequency 50 Hz – 20 kHz, 0 dB output with 600 Ω impedance)
- (2) Attenuator (600 Ω impedance)
- (3) Electronic voltmeter
- (4) Standard tapes
VTT712 (tape speed, wow and flutter measurements)
VTT724 (reference level)
TMT735, VTT739 (playback frequency)
TMT704 (12.5 kHz) (Azimuth)
- (5) Recording reference tapes
TS-12 (UD1), TS-10 (SA), TS-11 (MA) or equivalent
(Use the standard tapes specified by this department.)
- (6) 600 Ω resistors (for attenuator matching)
- (7) Distortion meter (bandpass filter)
- (8) Torque gauge (cassette) for CTG-N mechanism adjustments
- (9) Wow & flutter gauge
- (10) Frequency counter gauge

- (11) M300 gauge
 - (12) Band pass filter
 - (13) Standard position of the switch and volume knob
- | | |
|---------------------------|------------------|
| Switches and volume knobs | Setting position |
| INPUT LEVEL | : MAXIMUM |
| BALANCE | : CENTER |
| DOLBY NR | : OFF |
| TIMER | : OFF |
| REVERSE MODE | : ← |
| BIAS ADJUST | : CENTER |
| INPUT SELECT | : LINE |

Tape guide adjustment method

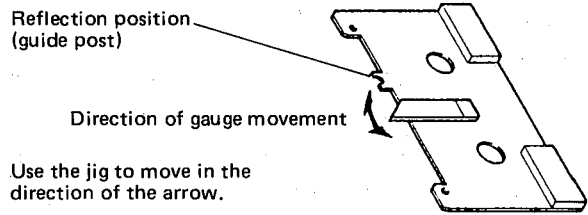


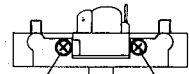
Fig. 3-1

■ Mechanical Adjustments

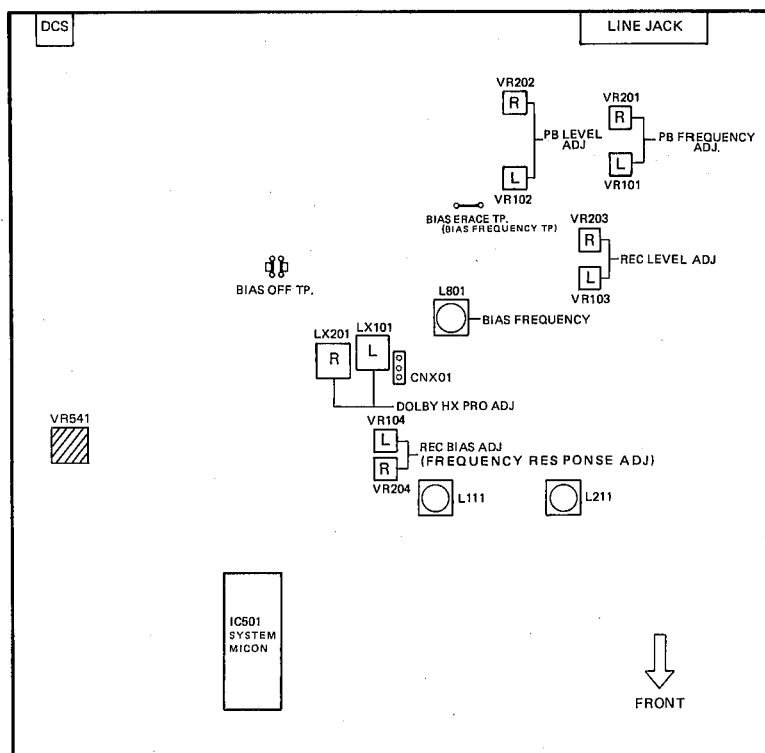
After head replacements, use the following method to check after the height, direction and tilt (rough) of each head have been adjusted.

Tape travel adjustment

Use the M300 gauge. Be sure not to damage the head.

Item	Tape to be used/jig	Standard	Adjustment and checking method	Adjusting points
Azimuth adjustment (1)	Test tape VTT704	Phase deviation should not occur when the output is maximum.	Adjust the FWD side and then the REV side.	 FWD side REV side

Item	Adjustment	Adjusting point	Standard value	Remarks
Adjusting motor speed	Connect an electronic counter to the LINE OUT terminals. Play back the VTT712 test tape. Adjust the normal speed to 3000 Hz with VR541.	NORM: VR541	NORM speed: 3000 ± 15 Hz	Measure near the tape end of the test tape on the side A. * Adjust model TD-R461 only.
Checking wow and flutter	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 0.18% (WTD). [TD-R461], 0.11% (WTD) [TD-R472].		Less than 0.18% (WTD) [TD-R461] Less than 0.11% (WTD) [TD-R472]	If the reading becomes moving value even if conforming to the standard, a reclaim may be raised. Repairs are necessary.
Checking playback torque	Employ a torque testing cassette tape for the checking, or remove the cassette cover and use a torque gauge.		27–60 gr-cm	If the standard torque is not obtained, replace the take-up disc assembly.
Checking fast forward torque	Measure the torque in the fast forward mode in the same manner as in the above.		90–200 gr-cm	
Checking rewind torque	Measure the torque in the rewind mode in the same manner as in the above.		90–200 gr-cm	



Electrical Circuit Adjustment Procedures

Make the following adjustments after the tape travel and head angle adjustments.

- In principle, the adjustments should be made in the order described.
- Adjustments required after head replacement are marked with an asterisk (*).

0 dBs = 0.775 V

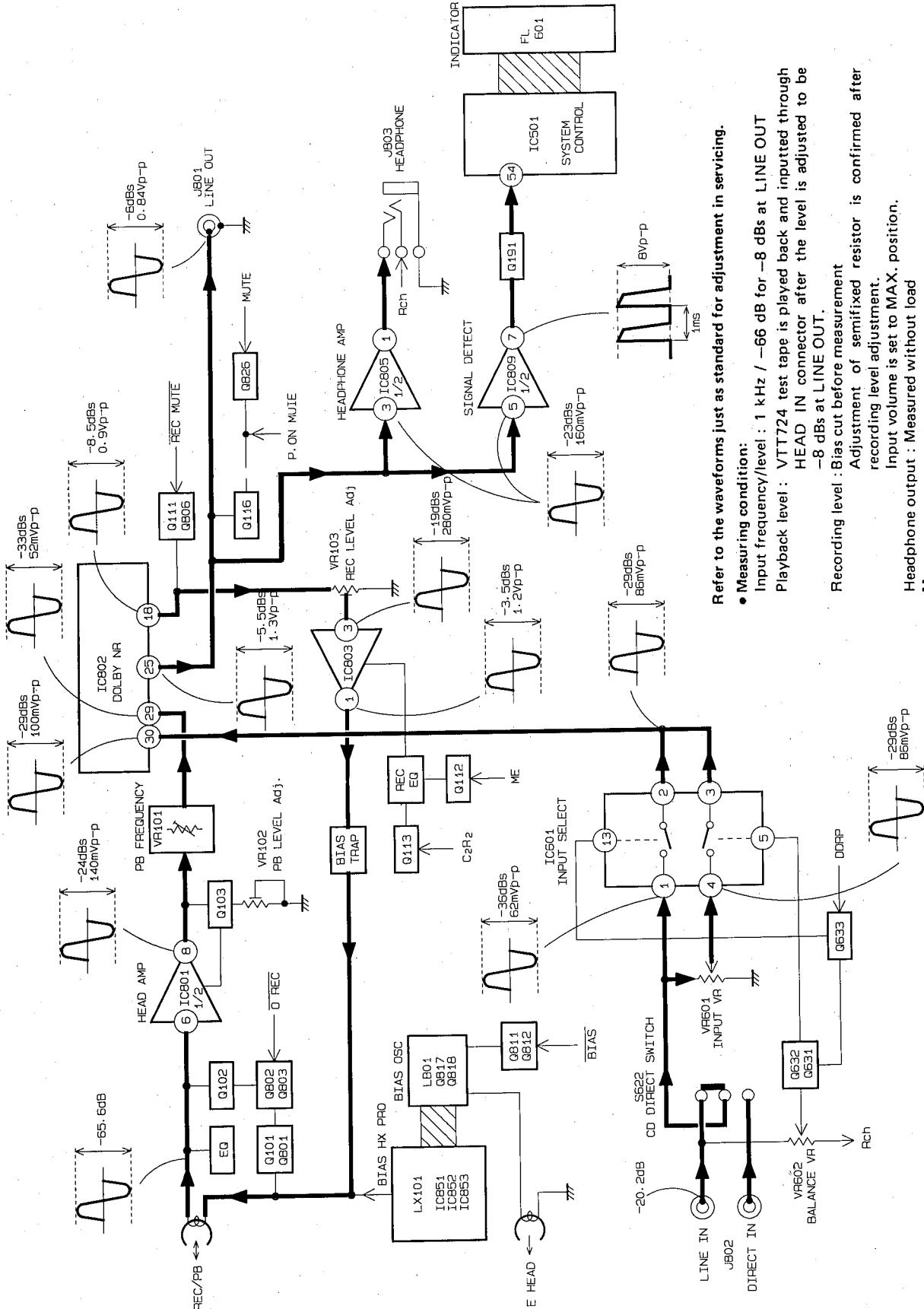
Item	Item	Adjustment and check methods																
		Record Dolby B	Record Dolby C															
1	Dolby circuit recording check (record mode)	INPUT : LINE IN (-8 dBs) Measurement point: IC802, pins ⑬⑭ Measurement point reference level: 400 Hz, -6 dBs (= Cal. level)		<table border="1"> <thead> <tr> <th>Frequency Level</th> <th>Output Value and Deviation</th> </tr> </thead> <tbody> <tr> <td>1 kHz Cal. -40 dB</td> <td>+5.7 dB ± 2 dB</td> </tr> <tr> <td>5 kHz Cal. -20 dB</td> <td>+3.5 dB ± 1.5 dB</td> </tr> <tr> <td>1 kHz Cal.</td> <td>0 dB ± 0.5 dB</td> </tr> <tr> <td>1 kHz Cal. -40 dB</td> <td>+16.2 dB ± 3 dB</td> </tr> <tr> <td>5 kHz Cal. -20 dB</td> <td>+2.9 dB ± 2.5 dB</td> </tr> <tr> <td>1 kHz Cal.</td> <td>0 dB ± 1 dB</td> </tr> </tbody> </table>	Frequency Level	Output Value and Deviation	1 kHz Cal. -40 dB	+5.7 dB ± 2 dB	5 kHz Cal. -20 dB	+3.5 dB ± 1.5 dB	1 kHz Cal.	0 dB ± 0.5 dB	1 kHz Cal. -40 dB	+16.2 dB ± 3 dB	5 kHz Cal. -20 dB	+2.9 dB ± 2.5 dB	1 kHz Cal.	0 dB ± 1 dB
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1 kHz Cal. -40 dB	+16.2 dB ± 3 dB																	
5 kHz Cal. -20 dB	+2.9 dB ± 2.5 dB																	
1 kHz Cal.	0 dB ± 1 dB																	

Item	Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
*2	Reference level	In playback of the VTT724, referring to the LINE OUT level is as -8 dBs, all other input and output levels respectively meet the standard value.		LINE OUT: -8 dBs PHONES OUT: -24 dBs	Input volume: Max. Balance volume: Center Dolby NR: OFF DDRP SW: OFF
*3	Playback level adjustment	1) Play the VTT724 (1 kHz) test tape and adjust VR102 and VR202 so that the LINE OUT output is -7.5 dBs (the L-R channel output difference must be 0.5 dBs or less). 2) Headphone output check: -24 dBs ± 2.5 dB L-R difference: 2 dB or less	VR102, VR202	-7.5 dBs ± 0.5 dB -24 dBs ± 2.5 dB	The playback level changes when the head is replaced and must be adjusted. Use an electronic voltmeter with an impedance of 100 kΩ or more.
*4	Playback frequency response adjustment	Play the VTT735 (1 kHz, 12.5 kHz) test tape and adjust VR101 and VR201 so that the output value is standard at 1 kHz and 12.5 kHz.	VR101, VR201	With 12.5 kHz as reference, 0.5 ± 0.5 dB at 1 kHz 63 Hz : +2 ± 3 dB (check)	NR: OFF VTT739 can be used for TMT-735 tape. However, there is a little difference in their specifications as follows: TMT735 (1 kHz, 12.5 kHz) VTT739 (63 Hz, 1 kHz, 10 kHz)
*5	Bias frequency adjustment	Connect the frequency counter to the C822 lead through a 1.0 MΩ resistor, then adjust L801 so that the counter reads 85 kHz.	L801	85 kHz ± 1 kHz	Tape: METAL (Attach a probe to the measuring instrument lead terminal and plug in the connector plug.)
6	HX PRO coil adjustment	In the METAL position recording mode, adjust LX101 and LX201 so that the CNX01(1-2 PIN) and CNX01(2-3 PIN) voltages are minimum.	LX101, LX201	Minimum output value	DC voltmeter Minimum value

Item	Adjustment Method	Adjustment Location	Standard Value	Remarks	
*7	Recording/playback frequency adjustment	Record 1 kHz at the Ref. -20 dB input, then record 63 Hz and 12.5 kHz and adjust VR104 and VR204 so that the difference between the 63 Hz and 12.5 kHz outputs is the standard value in relation to the 1 kHz output during playback. (Basically, adjust so that the 1 kHz and 12.5 kHz outputs are the standard values.)	VR104 VR204	With 1 kHz as reference, 0.5 ± 0.5 dB at 12.5 kHz 0 dB ± 3 dB at 63 Hz (NR : OFF)	Ref. -20 dB value: -20 dB below the reference input value ≙ -28 dBs. Also adjust for normal tape and the left and right channels. • The bias value is set in accordance with the voltage shift for normal at chrome and metal. • When the bias current is not correctly adjusted, the recording characteristics will become as shown on the left. • Perform the adjustment with the BIAS volume set to the center position.
8	Bias volume variable check (Ext. VR)	In recording of 10 kHz input signal at the Ref. -20 dB level, turn the bias VR in '+' (increase) and '-' (decrease) directions and confirm the following by playing back the recorded section. • When VR turned to '+': 10 kHz signal level decreases, • When VR turned to '-': 10 kHz signal level increases.			
*9	Recording/playback sensitivity adjustment	1) Input to the LINE IN terminal so that the source monitor output is -7.5 dBs. 2) Adjust VR103 and VR203 so that the recording signal current is -8 dBs during recording and playback. • Perform the adjustment with the BIAS volume set to the center position.	VR103 VR203	Normal: -7.5 dBs ± 0.5 dB Chrome, Metal: -8 dBs ± 2 dB	The right and left level difference must be 1 dB or less for both normal and metal. Make adjustment by using normal tape, and make sure that the level fluctuation for chrome and metal tapes is within 1.5 dB, and that the right-left level difference is within 1.0 dB.
10	Maximum output check	Supply 1 kHz signal 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 +8 dBs PHONES OUT: more than -16 dBs	
11	DDRP check	With the DDRP switch set to ON, supply 1 kHz, -20 dBs input signal in the Rec Pause mode and check the signal level at the LINE OUT terminal. With the DDRP switch set to OFF, perform the same check as in the above step.	-	Normal: -20.2 dBs ± 2 dB Metal: -17.2 dBs ± 2 dB Normal: -8 dBs ± 2 dB Metal: -8 dBs ± 2 dB	Input volume: No change even when VR is turned. DDRP indicator: Lights. Input volume: Max. position DDRP indicator: Goes out.
13	Recording/playback distortion check	1) Record a 1 kHz signal so that the LINE OUT output is -8 dBs and the level indicator is +0 dB. 2) Use a distortion meter to check if the output is the standard value during playback.		Normal tape: 2 % or less Chrome tape: 3 % or less Metal tape: 3 % or less	Check after adjusting the bias current and recording level.

	Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
14	Recording/ playback S/N ratio check	1) Record a 1 kHz, 0 dB input and then remove the input and record without a signal. 2) Play back this recording and measure the difference between the 0 dB recording and no-signal recording. The standard values must be satisfied.		Normal: 42 dB or more Chrome: 43 dB or more Metal: 43 dB or more	
15	Erase ratio check	1) Apply a 1 kHz signal from LINE IN and adjust the INPUT LEVEL knob so that the input level is -8 dBs. 2) Increase the signal level to 20 dB and record. 3) Rewind and erase the recorded section of the tape. 4) Measure the output ratio between the signal and no-signal sections of the tape with an electronic voltmeter.		55 dB or more	Connect a B.P.F. (band pass filter) between the deck and the electronic voltmeter. <div style="text-align: center; margin-top: 10px;"> <pre> graph LR A["1 kHz 0 VU +20 dB input"] --> B["Deck record/ erase"] C["1 kHz Band pass filter (B.P.F.)"] --> D["Electronic voltmeter"] </pre> </div>

4 Block Diagram

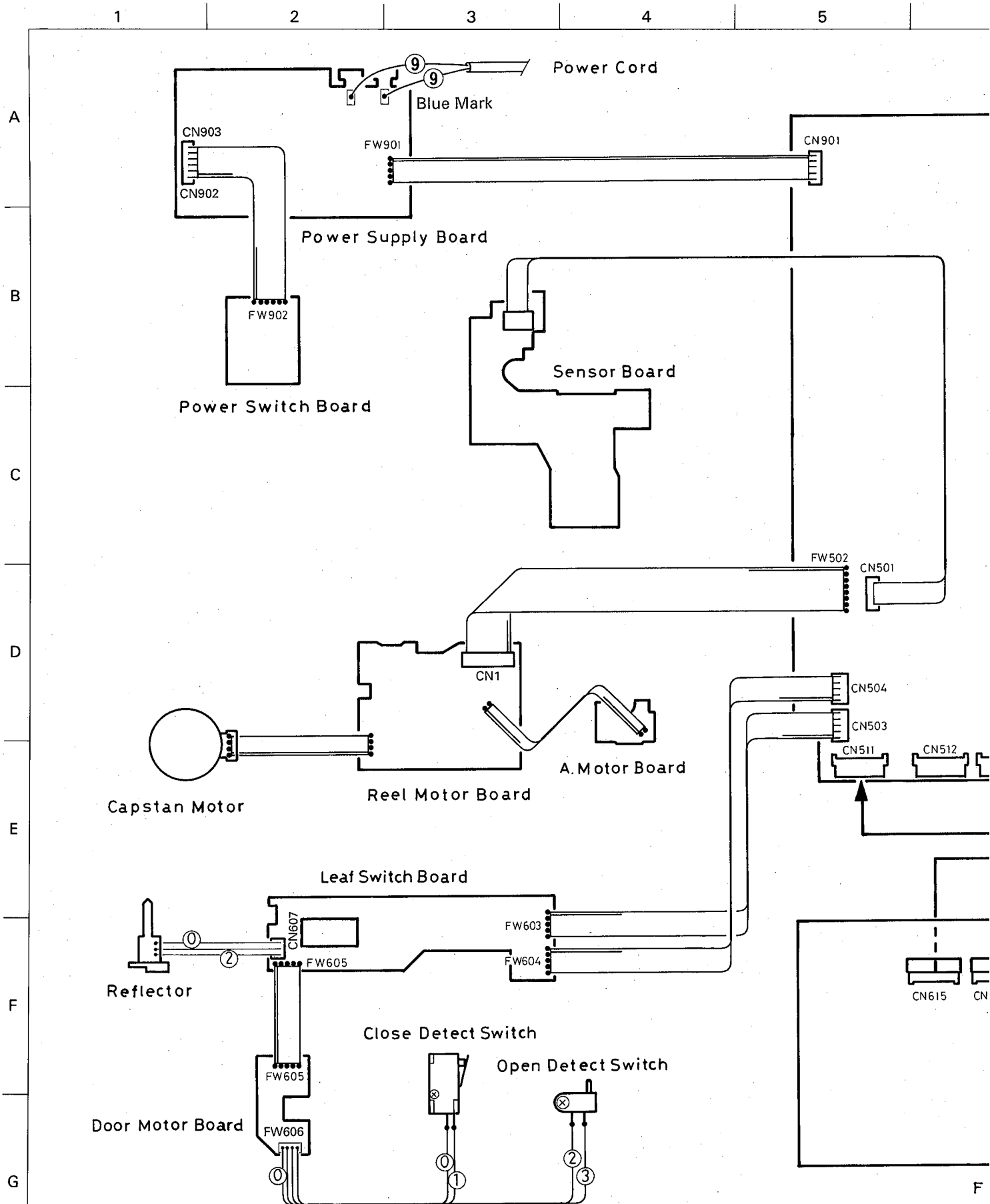


Refer to the waveforms just as standard for adjustment in servicing.

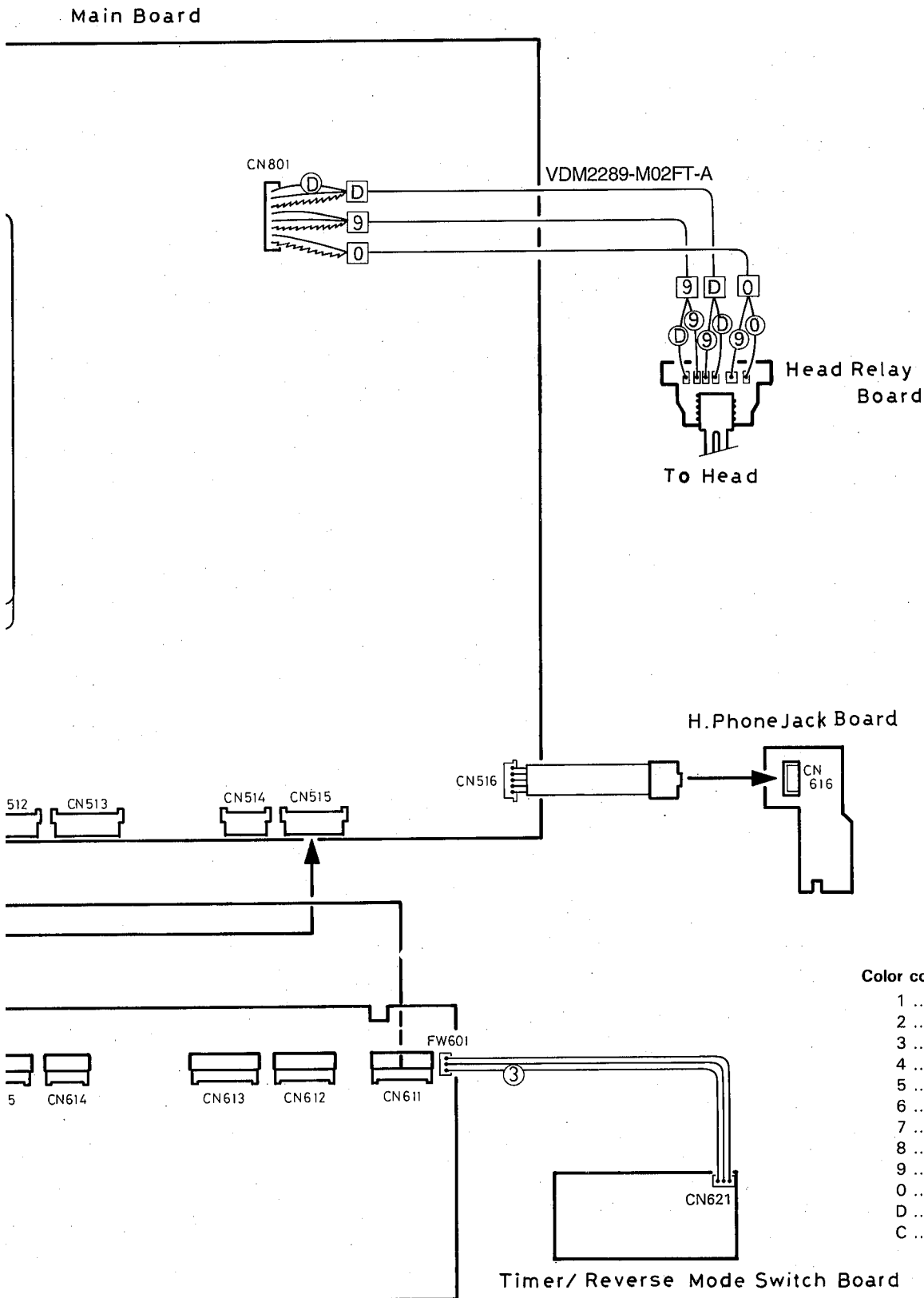
- Measuring condition:
 - Input frequency/level : 1 kHz / -66 dB for -8 dB at LINE OUT
 - Playback level : VTT724 test tape is played back and inputted through HEAD IN connector after the level is adjusted to be -8 dB at LINE OUT.
 - Recording level : Bias cut before measurement
- Adjustment of semifixed resistor is confirmed after recording level adjustment.
 - Input volume is set to MAX. position.
 - Headphone output : Measured without load
- Measurement manner
 - Playback : As standard, HEAD IN signal is measured at test points.
 - Recording : As standard, LINE IN signal is measured at test points.
 - Usage of measured value : For inspection of existence of signal at specified points of each amp. in a mode other than playback or recording.

Fig. 4-1

5 Wiring Connections



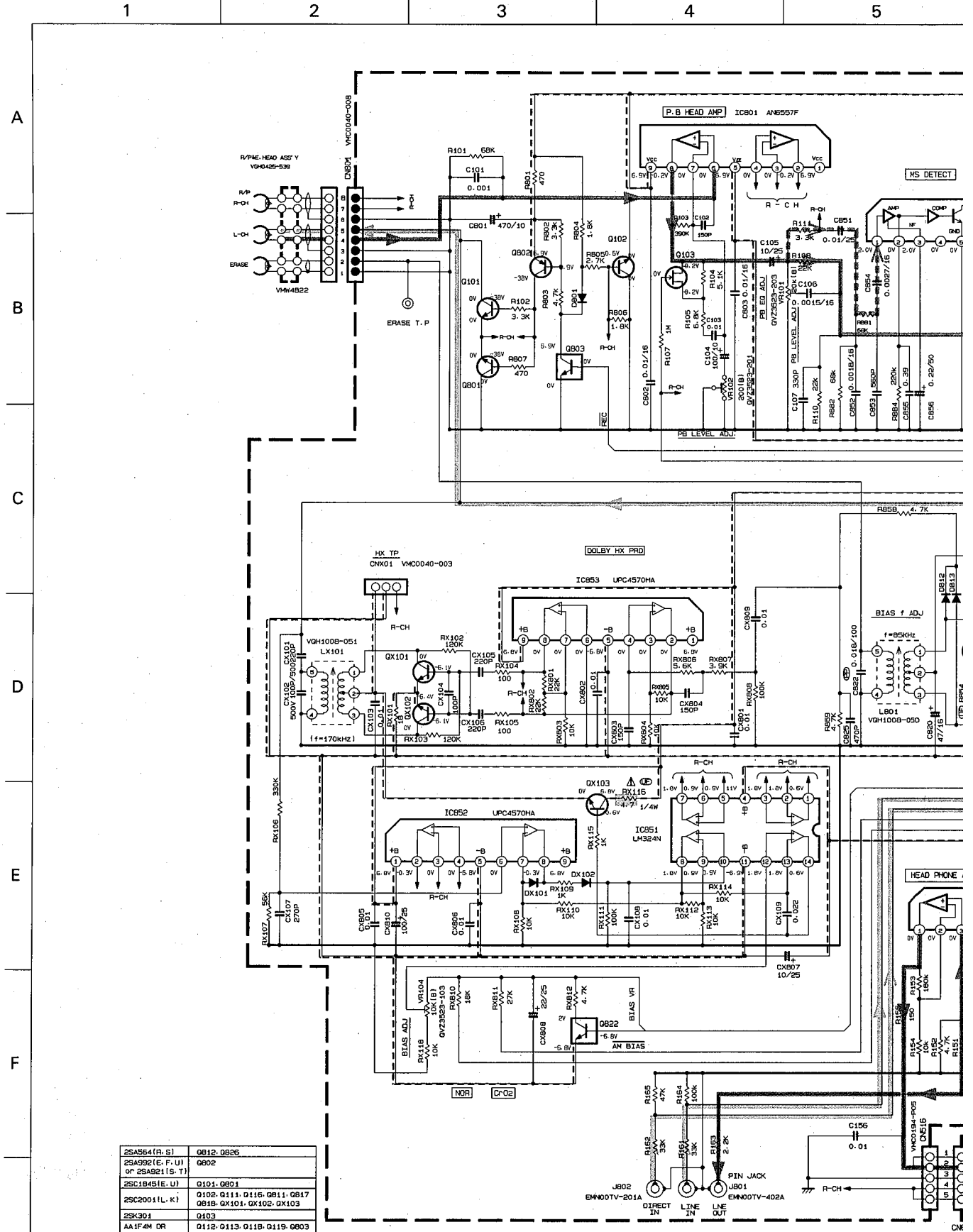
6 | 7 | 8 | 9 | 10



FL Board

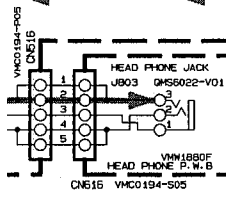
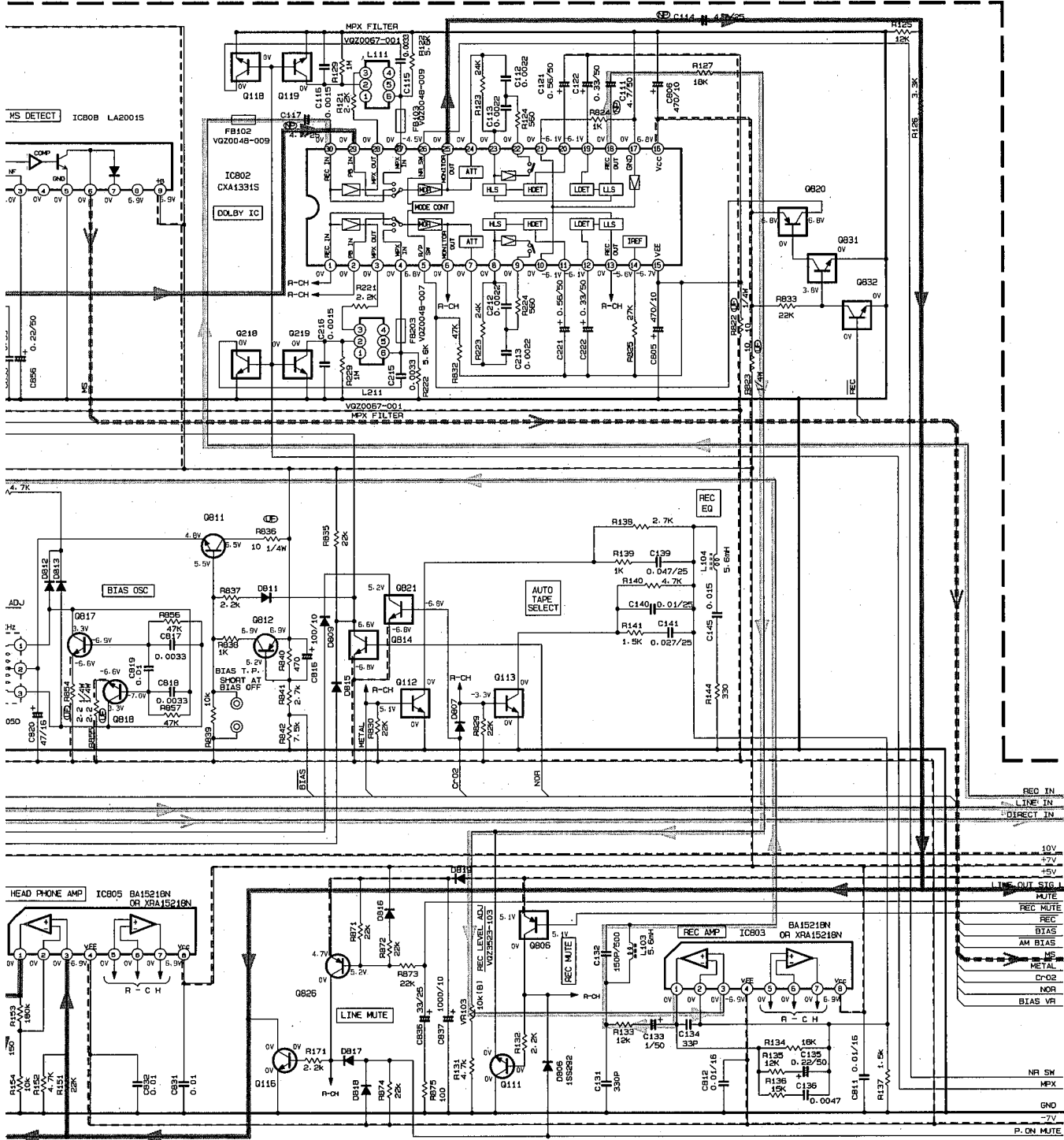
Fig. 5-1

6 Standard Schematic Diagram



2SA564 (R, S)	0812, 0826
2SA992 (E, F, U) or 2SA921 (S, T)	0802
2SC1845 (E, U)	0101, 0801
2SC2001 (L, K)	0102, 0111, 0116, 0811, 0817 0818, 0X101, 0X102, 0X103
2SK301	0103
AA1F4M OR	0112, 0113, 0118, 0119, 0803
0TC124ES	0814, 0821, 0822, 0831, 0832
AN1F4M OR	0805, 0820
DTA124ES	

Fig. 6-1



- NOTES**
- VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
CONDITION: MODE: REC/PLAY = MODE; NR: OFF; TAPE: METAL.
 - UNLESS OTHERWISE SPECIFIED:
ALL RESISTORS ARE 1/8W 1% CARBON RESISTOR.
ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
ALL RESISTANCE VALUES ARE IN OHM Ω.
ALL CAPACITANCE VALUES ARE IN PICO-F (P).
ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE | P | RATED VOLTAGE (V).
ALL DIODES ARE 1SS133 OR 1SS254 OR MA165.
 - THE RESISTORS LISTED BELOW ARE FUSIBLE RESISTOR IN THE MODEL A/B/E/EN/G/U/UT: R901, R902, R913, R921, R936, R923, R920, R922, R952, R9116, R931.

- ⊖ UNFLAMMABLE CARBON RESISTOR
- ⊖ NON-POLARISED ELECTROLYTIC CAPACITOR
- ⊖ POLYPROPYLENE CAPACITOR
- DTC124EB AN14FM
- DTA124ES AN14FM

- ⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.
- Direct Line } Recording signal line
- Line } Playback signal line
- MS Signal line

A

B

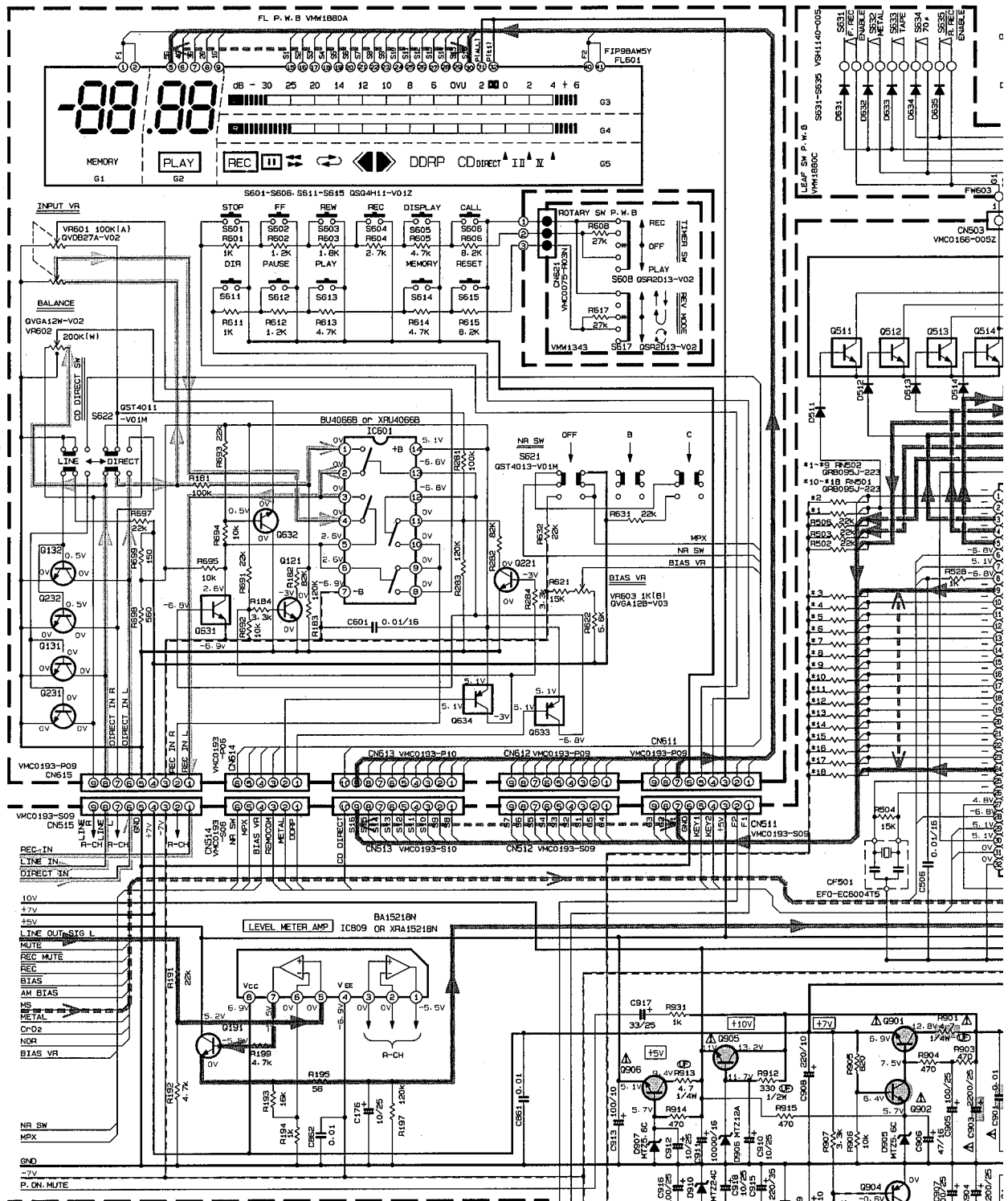
C

D

E

F

G



250882(G.P.)	Q901, Q905	1SR35-100A	D904, D902, D903	POWER TRANS	POWER CORD
258772(G.P.)	Q903		D904, D908, D908	A VTP5225-011F	QMP2550-200
25C945(P.K.)	Q191, Q504, Q502, Q503, Q515	25C2001(L.K.)	Q532, Q902, Q906	B VTP5225-011F	QMP5530-008
25A954(R.S.)	Q904, Q504	AN1F4M OR DTA124ES	Q633, Q634	C VTP5225-011F	QMP1200-200
25A1020(G.V.)	Q907	25A952(L.K.)	Q533	E VTP5225-011F	QMP3900-200
AA1F4M OR DTC124ES	Q511, Q512, Q513, Q514, Q516, Q518, Q519, Q520, Q521, Q534, Q631			F VTP5225-011F	QMP3900-200
				G VTP5225-011F	QMP3900-200
				J VTP5225-011F	QMP1340-200
				L VTP5225-011F	QMP7380-200
				M VTP5225-011F	QMP7380-200

6

7

8

9

10

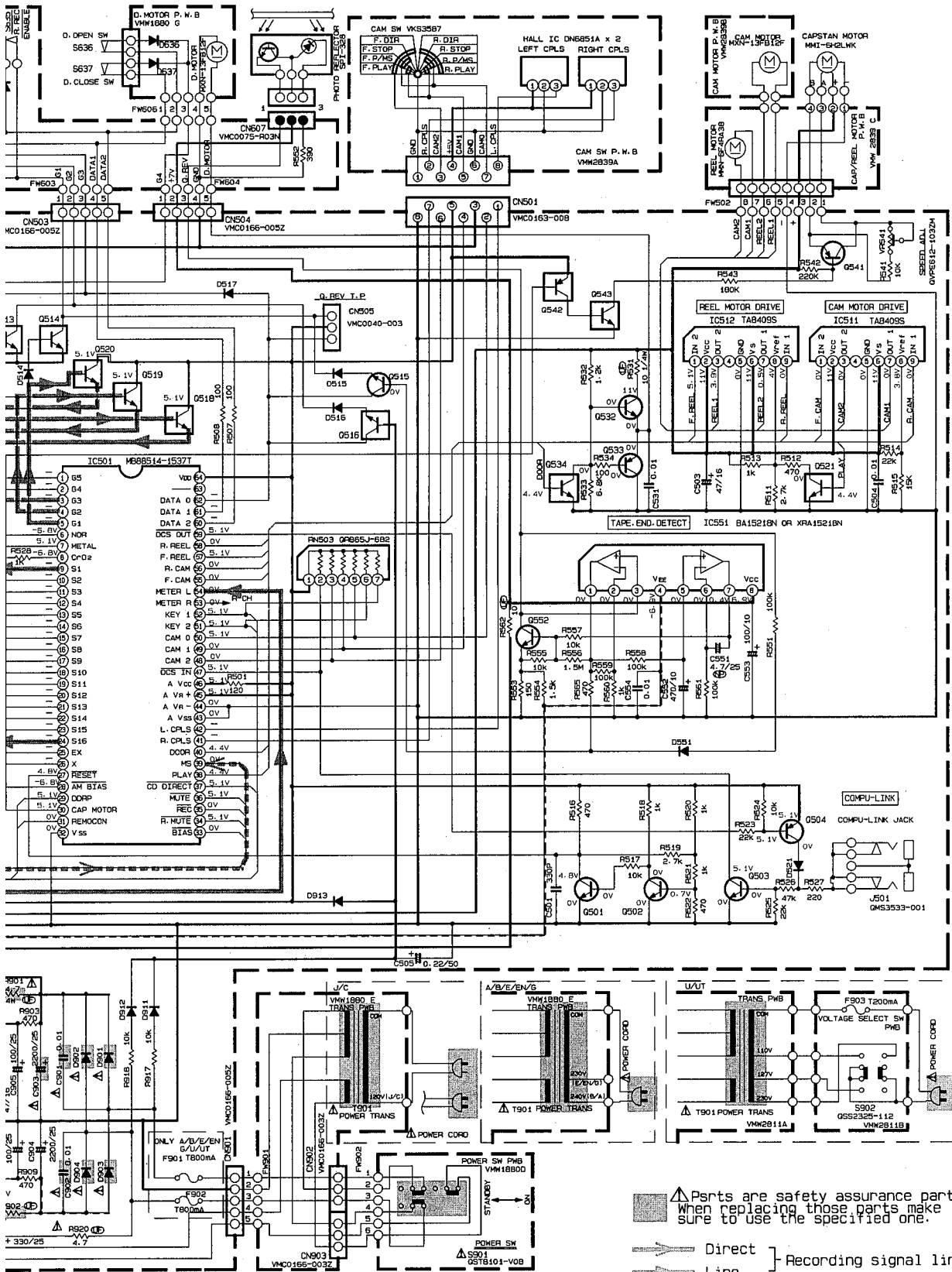


Fig. 6-2

- +B LINE
- - - -B LINE
- ▬ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.
- Direct Line } Recording signal line
- Playback signal line
- - - MS Signal line

7 Location of P.C. Board Parts and Parts List

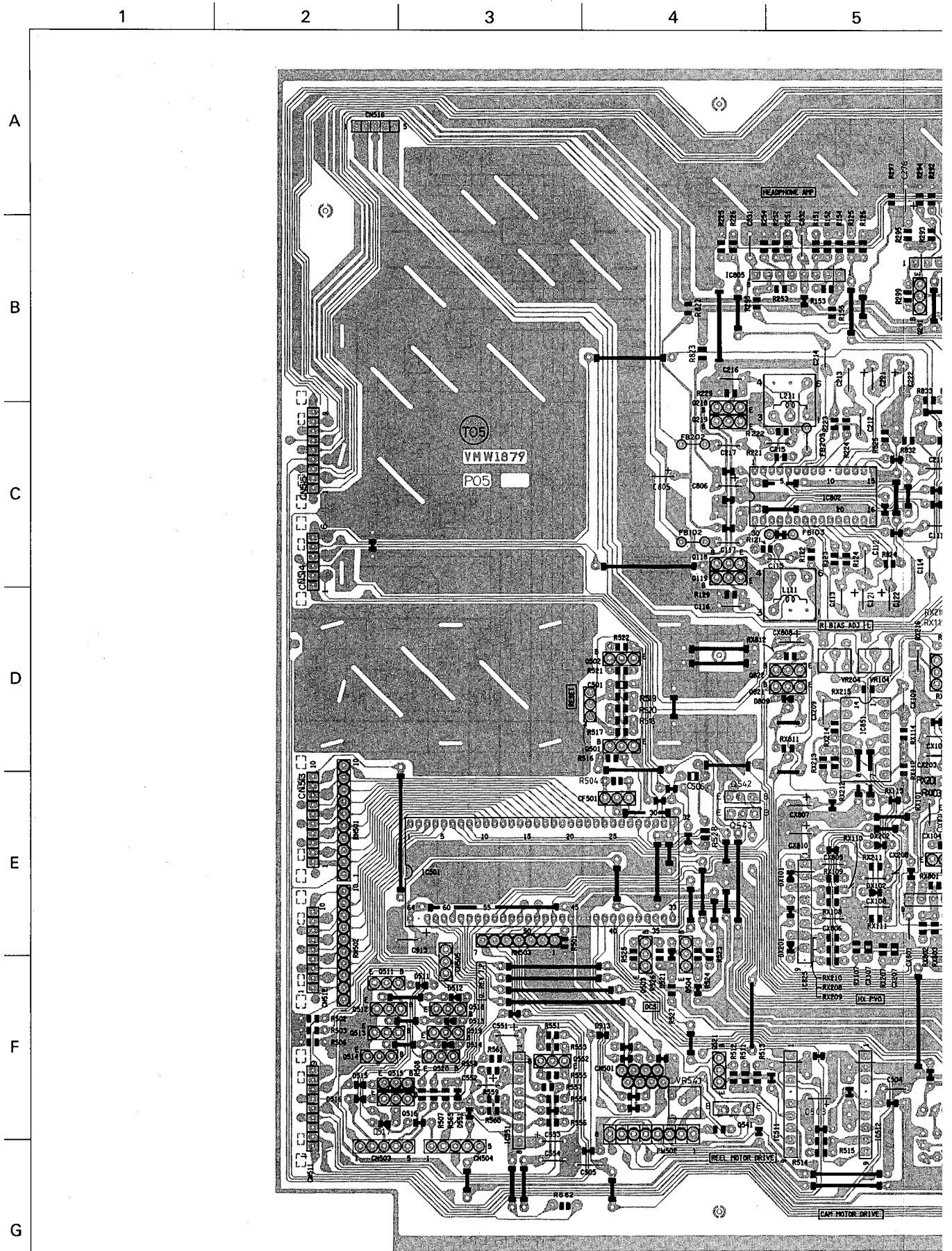


Fig. 7-1

● Main Board Parts List

BLOCK NO. 01111111				
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
C 101	QCBBIHK-102Y	C. CAPACITOR	100PF 10% 50V	
C 102	QCBBIHK-151Y	C. CAPACITOR	150PF 10% 50V	
C 103	QFLC1HJ-103ZM	M. CAPACITOR	.010MF 5% 50V	
C 104	QETCIAM-107ZN	E. CAPACITOR	100MF 20% 10V	
C 105	QETCIEM-106ZN	E. CAPACITOR	10MF 20% 25V	
C 106	QCVB1CM-152Y	C. CAPACITOR	1500PF 20% 16V	
C 107	QCBBIHK-331Y	C. CAPACITOR	330PF 10% 50V	
C 111	QEN41EM-475	NP. E. CAPACITOR	4.7MF 20% 25V	
C 112	QFLC1HJ-222ZM	M. CAPACITOR	2200PF 5% 50V	
C 113	QFLC1HJ-222ZM	M. CAPACITOR	2200PF 5% 50V	
C 114	QEN41EM-475	NP. E. CAPACITOR	4.7MF 20% 25V	
C 115	QFLC1HJ-332ZM	M. CAPACITOR	3300PF 5% 50V	
C 116	QFLC1HJ-152ZM	M. CAPACITOR	1500PF 5% 50V	
C 117	QEN41EM-475	NP. E. CAPACITOR	4.7MF 20% 25V	
C 121	QETCIAM-564ZM	E. CAPACITOR	.56MF 20% 50V	
C 122	QETCIHM-334ZN	E. CAPACITOR	.33MF 20% 50V	
C 131	QCBBIHK-331Y	C. CAPACITOR	330PF 10% 50V	
C 132	QCS32HJ-151ZV	C. CAPACITOR	150PF 5% 500V	
C 133	QETCIHM-105ZN	E. CAPACITOR	1.0MF 20% 50V	
C 134	QCS11HJ-330	C. CAPACITOR	33PF 5% 50V	
C 135	QETCIHM-224ZN	E. CAPACITOR	.22MF 20% 50V	
C 136	QFLC1HJ-472ZM	M. CAPACITOR	4700PF 5% 50V	
C 139	QCC11EM-473V	C. CAPACITOR	.047MF 20% 25V	
C 140	QCC11EM-103V	C. CAPACITOR	.010MF 20% 25V	
C 141	QCC31EM-273ZV	C. CAPACITOR	.027MF 20% 25V	
C 145	QFLC1HJ-153ZM	M. CAPACITOR	.015MF 5% 50V	
C 156	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
C 176	QETCIEM-106ZN	E. CAPACITOR	10MF 20% 25V	
C 201	QCBBIHK-102Y	C. CAPACITOR	1000PF 10% 50V	
C 202	QCBBIHK-151Y	C. CAPACITOR	150PF 10% 50V	
C 203	QFLC1HJ-103ZM	M. CAPACITOR	.010MF 5% 50V	
C 204	QETCIAM-107ZN	E. CAPACITOR	100MF 20% 10V	
C 205	QETCIEM-106ZN	E. CAPACITOR	10MF 20% 25V	
C 206	QCVB1CM-152Y	C. CAPACITOR	1500PF 20% 16V	
C 207	QCBBIHK-331Y	C. CAPACITOR	330PF 10% 50V	
C 211	QEN41EM-475	NP. E. CAPACITOR	4.7MF 20% 25V	
C 212	QFLC1HJ-222ZM	M. CAPACITOR	2200PF 5% 50V	
C 213	QFLC1HJ-222ZM	M. CAPACITOR	2200PF 5% 50V	
C 214	QEN41EM-475	NP. E. CAPACITOR	4.7MF 20% 25V	
C 215	QFLC1HJ-332ZM	M. CAPACITOR	3300PF 5% 50V	
C 216	QFLC1HJ-152ZM	M. CAPACITOR	1500PF 5% 50V	
C 221	QETCIHM-475	NP. E. CAPACITOR	4.7MF 20% 25V	
C 222	QETCIHM-564ZN	E. CAPACITOR	.56MF 20% 50V	
C 223	QETCIAM-334ZN	E. CAPACITOR	.33MF 20% 50V	
C 231	QCBBIHK-331Y	C. CAPACITOR	330PF 10% 50V	
C 232	QCS32HJ-151ZV	C. CAPACITOR	150PF 5% 500V	
C 233	QETCIHM-105ZN	E. CAPACITOR	1.0MF 20% 50V	
C 234	QCS11HJ-330	C. CAPACITOR	33PF 5% 50V	
C 235	QETCIHM-224ZN	E. CAPACITOR	.22MF 20% 50V	
C 236	QFLC1HJ-472ZM	M. CAPACITOR	4700PF 5% 50V	
C 239	QCC11EM-473V	C. CAPACITOR	.047MF 20% 25V	
C 240	QCC11EM-103V	C. CAPACITOR	.010MF 20% 25V	
C 241	QCC31EM-273ZV	C. CAPACITOR	.027MF 20% 25V	
C 245	QFLC1HJ-153ZM	M. CAPACITOR	.015MF 5% 50V	
C 256	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	

BLOCK NO. 01111111				
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
C 276	QETCIEM-106ZN	E. CAPACITOR	10MF 20% 25V	
C 501	QCBBIHK-331Y	C. CAPACITOR	330PF 10% 50V	
C 503	QETCIEM-476Z	E. CAPACITOR	47MF 20% 16V	
C 504	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
C 505	QETCIHM-224ZN	E. CAPACITOR	.22MF 20% 50V	
C 506	QCVB1CM-103Y	C. CAPACITOR	.010MF 20% 16V	
C 511	QETCIAM-107ZN	E. CAPACITOR	100MF 20% 10V	
C 531	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
C 553	QEN41EM-475	NP. E. CAPACITOR	4.7MF 20% 25V	
C 552	QETCIAM-477ZN	E. CAPACITOR	470MF 20% 10V	
C 553	QETCIAM-107ZN	E. CAPACITOR	100MF 20% 10V	
C 554	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
C 801	QETCIAM-477ZN	E. CAPACITOR	470MF 20% 10V	
C 802	QCVB1CM-103Y	C. CAPACITOR	.010MF 20% 16V	
C 803	QCVB1CM-103Y	C. CAPACITOR	.010MF 20% 16V	
C 805	QETCIAM-477ZN	E. CAPACITOR	470MF 20% 10V	
C 806	QETCIAM-477ZN	E. CAPACITOR	470MF 20% 10V	
C 811	QCVB1CM-103Y	C. CAPACITOR	.010MF 20% 16V	
C 812	QCVB1CM-103Y	C. CAPACITOR	.010MF 20% 16V	
C 816	QETCIAM-107ZN	E. CAPACITOR	100MF 20% 10V	
C 817	QFLC1HJ-332ZM	M. CAPACITOR	3300PF 5% 50V	
C 818	QFLC1HJ-332ZM	M. CAPACITOR	3300PF 5% 50V	
C 819	QFLC1HJ-103ZM	M. CAPACITOR	.010MF 5% 50V	
C 820	QETCIEM-476Z	E. CAPACITOR	47MF 20% 16V	
C 822	QFP32AJ-183ZM	PP. CAPACITOR	.018MF 5% 100V	
C 825	QCBBIHK-471Y	C. CAPACITOR	470PF 10% 50V	
C 831	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
C 832	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
C 836	QETCIEM-336ZN	E. CAPACITOR	33MF 20% 25V	
C 837	QETBIAM-108N	E. CAPACITOR	1000MF 20% 10V	
C 851	QCC11EM-103V	C. CAPACITOR	.010MF 20% 25V	
C 852	QCVB1CM-182Y	C. CAPACITOR	1800PF 20% 16V	
C 853	QCBBIHK-561Y	C. CAPACITOR	560PF 10% 50V	
C 854	QCVB1CM-272Y	C. CAPACITOR	2700PF 20% 16V	
C 855	QFV71HJ-394ZM	FILM CAPACITOR	.39MF 5% 50V	
C 856	QETCIAM-224ZN	E. CAPACITOR	.22MF 20% 50V	
C 861	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
C 862	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
C 901	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
C 902	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
C 903	QETBIEM-228N	E. CAPACITOR	2200MF 20% 25V	
C 904	QETBIEM-228N	E. CAPACITOR	2200MF 20% 25V	
C 905	QETCIEM-107ZN	E. CAPACITOR	100MF 20% 25V	
C 906	QETCIEM-476Z	E. CAPACITOR	47MF 20% 16V	
C 907	QETCIEM-107ZN	E. CAPACITOR	100MF 20% 25V	
C 908	QETCIAM-227ZN	E. CAPACITOR	220MF 20% 10V	
C 909	QETCIAM-227ZN	E. CAPACITOR	220MF 20% 10V	
C 910	QETCIEM-106ZN	E. CAPACITOR	10MF 20% 25V	
C 911	QETBIEM-109N	E. CAPACITOR	10000MF 20% 16V	
C 912	QETCIEM-106ZN	E. CAPACITOR	10MF 20% 25V	
C 913	QETCIAM-107ZN	E. CAPACITOR	100MF 20% 10V	
C 914	QETBIEM-337N	E. CAPACITOR	330MF 20% 25V	
C 915	QETBIAM-227N	E. CAPACITOR	220MF 20% 35V	
C 916	QETCIEM-107ZN	E. CAPACITOR	100MF 20% 25V	
C 917	QETCIEM-336ZN	E. CAPACITOR	33MF 20% 25V	

BLOCK NO. 04111111

A REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
D 806	1SR292	SI DIODE		
D 807	1SR133	SI DIODE		
D 809	1SR133	SI DIODE		
D 811	1SR133	SI DIODE		
D 812	1SR133	SI DIODE		
D 813	1SR133	SI DIODE		
D 815	1SR133	SI DIODE		
D 816	1SR133	SI DIODE		
D 817	1SR133	SI DIODE		
D 818	1SR133	SI DIODE		
D 819	1SR133	SI DIODE		
A D 901	1SR35-100	SI DIODE		
A D 902	1SR35-100	SI DIODE		
A D 903	1SR35-100	SI DIODE		
A D 904	1SR35-100	SI DIODE		
D 905	M1Z5.6CT-77	ZENER DIODE		
D 905	MA4056(H)	ZENER DIODE		C, J
D 905	MA4056(H)	ZENER DIODE		G, U, UT
D 906	M1Z12A	ZENER DIODE		A, B, E, EN
D 907	M1Z5.6CT-77	ZENER DIODE		
A D 908	1SR35-100	SI DIODE		
A D 909	1SR35-100	SI DIODE		
D 910	M1Z24JC	ZENER DIODE		
D 911	1SR133	SI DIODE		
D 912	1SR133	SI DIODE		
D 913	1SR133	SI DIODE		
DX101	1SR133	SI DIODE		
DX102	1SR133	SI DIODE		
DX201	1SR133	SI DIODE		
DX202	1SR133	SI DIODE		
FB102	VQZ0048-009	INDUCTOR		
FB103	VQZ0048-009	INDUCTOR		
FB202	VQZ0048-009	INDUCTOR		
FB203	VQZ0048-007	INDUCTOR		
FW502	VMS108-17B3K	EF FLAT WIRE		
IC501	MB88514B-1537T	IC		
IC511	TA8409S	IC		
IC512	TA8409S	IC		
IC551	BA15218N	IC		
IC551	BA15218N	IC		
IC801	AN6557F	IC		
IC802	CXA1331S	DOLBY IC		
IC803	BA15218N	IC		
IC805	BA15218N	IC		
IC808	LA2000S	IC		
IC809	BA15218N	IC		
IC851	LM324N	IC		
IC852	UPC4570HA	IC		
IC853	UPC4570HA	IC		
J 501	GMS3533-001	JACK		DCS JACK
J 801	EMN00TV-402A	PIN JACK		PIN JACK
J 802	EMN00TV-201A	PIN JACK		PIN JACK
J 803	GMS6022-V01	JACK		H. PHONE JACK
L 103	VGP0001-562ZS	INDUCTOR		
L 104	VGP0001-562ZS	INDUCTOR		
L 111	VQZ0067-001	FILTER		

BLOCK NO. 04111111

A REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
C 918	QETCIEM-106ZN	E. CAPACITOR		
CF501	EFO-GC6004A5	CERA LOCK	10MF 20% 25V	
CN501	VMC0040-003	CONNECTOR		
CN501	VMC0163-008	CONNECTOR	MECHA-MAIN	
CN503	VMC0166-005Z	CONNECTOR	MECHA-MAIN	
CN504	VMC0166-005Z	CONNECTOR	MECHA-MAIN	
CN505	VMC0040-003	CONNECTOR		
CN511	VMC0193-509	CONNECTOR	MAIN-FRONT	
CN512	VMC0193-509	CONNECTOR	MAIN-FRONT	
CN513	VMC0193-510	CONNECTOR	MAIN-FRONT	
CN514	VMC0193-506	CONNECTOR	MAIN-FRONT	
CN515	VMC0193-509	CONNECTOR	MAIN-FRONT	
CN516	VMC0194-P05	CONNECTOR	MAIN-H.P	
CN607	VMC0075-R03N	CONNECTOR		
CN801	VMC0040-008	CONNECTOR	HEAD WIRE	
CN901	VMC0166-005Z	CONNECTOR		
CX101	QCBBIHK-221Y	C. CAPACITOR	220PF 10% 50V	
CX102	QCS32HJ-101ZV	C. CAPACITOR	100PF 5% 500V	
CX103	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
CX104	QCBBIHK-101Y	C. CAPACITOR	100PF 10% 50V	
CX105	QCBBIHK-221Y	C. CAPACITOR	220PF 10% 50V	
CX106	QCBBIHK-221Y	C. CAPACITOR	220PF 10% 50V	
CX107	QCBBIHK-271Y	C. CAPACITOR	270PF 10% 50V	
CX108	QFLCIHJ-103ZM	M. CAPACITOR	.010MF 5% 50V	
CX109	QFLCIHJ-223ZM	M. CAPACITOR	.022MF 5% 50V	
CX201	QCBBIHK-221Y	C. CAPACITOR	220PF 10% 50V	
CX202	QCS32HJ-101ZV	C. CAPACITOR	100PF 5% 500V	
CX203	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
CX204	QCBBIHK-101Y	C. CAPACITOR	100PF 10% 50V	
CX205	QCBBIHK-221Y	C. CAPACITOR	220PF 10% 50V	
CX206	QCBBIHK-221Y	C. CAPACITOR	220PF 10% 50V	
CX207	QCBBIHK-271Y	C. CAPACITOR	270PF 10% 50V	
CX208	QFLCIHJ-103ZM	M. CAPACITOR	.010MF 5% 50V	
CX209	QFLCIHJ-223ZM	M. CAPACITOR	.022MF 5% 50V	
CX801	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
CX802	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
CX803	QCBBIHK-151Y	C. CAPACITOR	150PF 10% 50V	
CX804	QCBBIHK-151Y	C. CAPACITOR	150PF 10% 50V	
CX805	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
CX806	QCF11HP-103	C. CAPACITOR	.010MF +100:-0%	
CX807	QETCIEM-106ZN	E. CAPACITOR	10MF 20% 25V	
CX808	QETCIEM-226ZN	E. CAPACITOR	22MF 20% 25V	
CX809	QFLCIHJ-103ZM	M. CAPACITOR	.010MF 5% 50V	
CX810	QETCIEM-107ZN	E. CAPACITOR	100MF 20% 25V	
D 501	M1Z6.8CT-77	ZENER DIODE		
D 511	1SR133	SI DIODE		
D 512	1SR133	SI DIODE		
D 513	1SR133	SI DIODE		
D 514	1SR133	SI DIODE		
D 515	1SR133	SI DIODE		
D 516	1SR133	SI DIODE		
D 517	1SR133	SI DIODE		
D 521	1SR133	SI DIODE		
D 551	1SR133	SI DIODE		
D 801	1SR133	SI DIODE		

BLOCK NO. 04111111

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
Q 822	DTC124ES	TRANSISTOR		
Q 826	2SA733A(P,K)	TRANSISTOR		
Q 831	DTC124ES	TRANSISTOR		
Q 832	DTC124ES	TRANSISTOR		
Q 901	2SD882(P,Q)	TRANSISTOR		
Q 902	2SC945	TRANSISTOR		
Q 903	2SB772(Q,P)	TRANSISTOR		
Q 904	2SA733A(P,K)	TRANSISTOR		
Q 905	2SD882(P,Q)	TRANSISTOR		
Q 906	2SC2001(L,K)	TRANSISTOR		
Q 907	2SA1020(O,Y)	TRANSISTOR		
QX101	2SC2001(L,K)	TRANSISTOR		
QX102	2SC2001(L,K)	TRANSISTOR		
QX103	2SC2001(L,K)	TRANSISTOR		
QX201	2SC2001(L,K)	TRANSISTOR		
QX202	2SC2001(L,K)	TRANSISTOR		
QX203	2SC2001(L,K)	TRANSISTOR		
R 101	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
R 102	QRD161J-332	CARBON RESISTOR	3.3K 5% 1/6W	
R 103	QRD161J-334	CARBON RESISTOR	390K 5% 1/6W	
R 104	QRD161J-512	CARBON RESISTOR	5.1K 5% 1/6W	
R 105	QRD161J-682	CARBON RESISTOR	6.8K 5% 1/6W	
R 107	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
R 108	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 110	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 111	QRD161J-332	CARBON RESISTOR	3.3K 5% 1/6W	
R 121	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 122	QRD161J-562	CARBON RESISTOR	5.6K 5% 1/6W	
R 123	QRD161J-243	CARBON RESISTOR	24K 5% 1/6W	
R 124	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
R 125	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
R 126	QRD161J-332	CARBON RESISTOR	3.3K 5% 1/6W	
R 127	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
R 129	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
R 131	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
R 132	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 133	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
R 134	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
R 135	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
R 136	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
R 137	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
R 138	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
R 139	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 140	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
R 141	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
R 144	QRD161J-331	CARBON RESISTOR	330 5% 1/6W	
R 151	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 152	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
R 153	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
R 154	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 155	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
R 161	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
R 162	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
R 163	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 164	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	

BLOCK NO. 04111111

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
L 203	VQP0001-562ZS	INDUCTOR		
L 204	VQP0001-562ZS	INDUCTOR		
L 211	VQZ0067-001	FILTER		
L 801	VQH1008-050	OSC COIL(BIAS)		
LX101	VQH1008-051	OSC COIL(BIAS)		
LX201	VQH1008-051	OSC COIL(BIAS)		
Q 101	2SC1845	TRANSISTOR		
Q 102	2SC2001(L,K)	TRANSISTOR		
Q 103	2SK105(HJ)	TRANSISTOR (FET)		
Q 111	2SC2001(L,K)	TRANSISTOR		
Q 112	DTC124ES	TRANSISTOR		
Q 113	DTC124ES	TRANSISTOR		
Q 116	2SC2001(L,K)	TRANSISTOR		
Q 118	DTC124ES	TRANSISTOR		
Q 119	DTC124ES	TRANSISTOR		
Q 191	2SC945	TRANSISTOR		
Q 201	2SC1845	TRANSISTOR		
Q 202	2SC2001(L,K)	TRANSISTOR		
Q 203	2SK105(HJ)	TRANSISTOR (FET)		
Q 211	2SC2001(L,K)	TRANSISTOR		
Q 212	DTC124ES	TRANSISTOR		
Q 213	DTC124ES	TRANSISTOR		
Q 216	2SC2001(L,K)	TRANSISTOR		
Q 218	DTC124ES	TRANSISTOR		
Q 219	DTC124ES	TRANSISTOR		
Q 291	2SC945	TRANSISTOR		
Q 501	2SC945	TRANSISTOR		
Q 502	2SC945	TRANSISTOR		
Q 503	2SC945	TRANSISTOR		
Q 504	2SA733A(P,K)	TRANSISTOR		
Q 511	DTC124ES	TRANSISTOR		
Q 512	DTC124ES	TRANSISTOR		
Q 513	DTC124ES	TRANSISTOR		
Q 514	DTC124ES	TRANSISTOR		
Q 515	2SC945	TRANSISTOR		
Q 516	DTC124ES	TRANSISTOR		
Q 518	DTC124ES	TRANSISTOR		
Q 519	DTC124ES	TRANSISTOR		
Q 520	DTC124ES	TRANSISTOR		
Q 521	DTC124ES	TRANSISTOR		
Q 532	2SC2001(L,K)	TRANSISTOR		
Q 533	2SA952(L,K)	TRANSISTOR		
Q 534	DTC124ES	TRANSISTOR		
Q 552	2SC945	TRANSISTOR		
Q 801	2SC1845	TRANSISTOR		
Q 802	2SA952	TRANSISTOR		
Q 803	DTC124ES	TRANSISTOR		
Q 806	DTA124ES	TRANSISTOR		
Q 811	2SC2001(L,K)	TRANSISTOR		
Q 812	2SA733A(P,K)	TRANSISTOR		
Q 814	DTC124ES	TRANSISTOR		
Q 817	2SC2001(L,K)	TRANSISTOR		
Q 818	2SC2001(L,K)	TRANSISTOR		
Q 820	DTA124ES	TRANSISTOR		
Q 821	DTC124ES	TRANSISTOR		
Q 822	DTC124ES	TRANSISTOR		

BLOCK NO. 01111111

A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 299	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 501	QRD167J-121	CARBON RESISTOR	2.0K 5% 1/6W	
	R 502	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 503	QRD161J-223	CARBON RESISTOR	4.7K 5% 1/6W	
	R 504	QRD161J-153	CARBON RESISTOR	22K 5% 1/6W	
	R 506	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 507	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 508	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 511	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 512	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 513	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 514	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 515	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	R 516	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 517	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 518	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 519	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 520	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 521	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 522	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 523	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 524	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 525	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 526	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 527	QRD161J-221	CARBON RESISTOR	220 5% 1/6W	
	R 528	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 531	QRZ0077-100X	FUSI-RESISTOR	10 1/4W	A/B/E,EN
	R 531	QRD14CJ-100SX	CARBON RESISTOR	10 5% 1/4W	C,J
	R 531	QRZ0077-100X	FUSI-RESISTOR	10 1/4W	G,U,UT
	R 532	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	R 533	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	R 534	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 551	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 552	QRD161J-391	CARBON RESISTOR	390 5% 1/6W	
	R 553	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	R 554	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R 555	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 556	QRD161J-155	CARBON RESISTOR	1.5M 5% 1/6W	
	R 557	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 558	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 559	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 561	QRD161J-104	CARBON RESISTOR	1.0K 5% 1/6W	
	R 562	QRZ0077-100X	FUSI-RESISTOR	10 1/4W	G,U,UT
	R 562	QRZ0077-100X	FUSI-RESISTOR	10 1/4W	A/B,E,EN
	R 562	QRD14CJ-100SX	CARBON RESISTOR	10 5% 1/4W	C,J
	R 565	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 801	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 802	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 803	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 804	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R 805	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 806	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R 807	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 822	QRZ0077-100X	FUSI-RESISTOR	10 1/4W	G,U,UT

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A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 165	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 171	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 191	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 192	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 193	QRD161J-163	CARBON RESISTOR	16K 5% 1/6W	
	R 194	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 195	QRD161J-560	CARBON RESISTOR	56 5% 1/6W	
	R 197	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
	R 199	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 201	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R 202	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 203	QRD161J-394	CARBON RESISTOR	390K 5% 1/6W	
	R 204	QRD161J-512	CARBON RESISTOR	5.1K 5% 1/6W	
	R 205	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	R 207	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	R 208	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 210	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 211	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 221	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 222	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	R 223	QRD161J-243	CARBON RESISTOR	24K 5% 1/6W	
	R 224	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
	R 225	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	R 226	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 227	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R 229	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
	R 231	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 232	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 233	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	R 234	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R 235	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	R 236	QRD161J-153	CARBON RESISTOR	15K 5% 1/6W	
	R 237	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R 238	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 239	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 240	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 241	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R 244	QRD161J-331	CARBON RESISTOR	330 5% 1/6W	
	R 251	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 252	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 253	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
	R 254	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 255	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	R 261	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
	R 262	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
	R 263	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 264	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 265	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 271	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 291	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 292	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 293	QRD161J-163	CARBON RESISTOR	16K 5% 1/6W	
	R 294	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 295	QRD161J-560	CARBON RESISTOR	56 5% 1/6W	
	R 297	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	

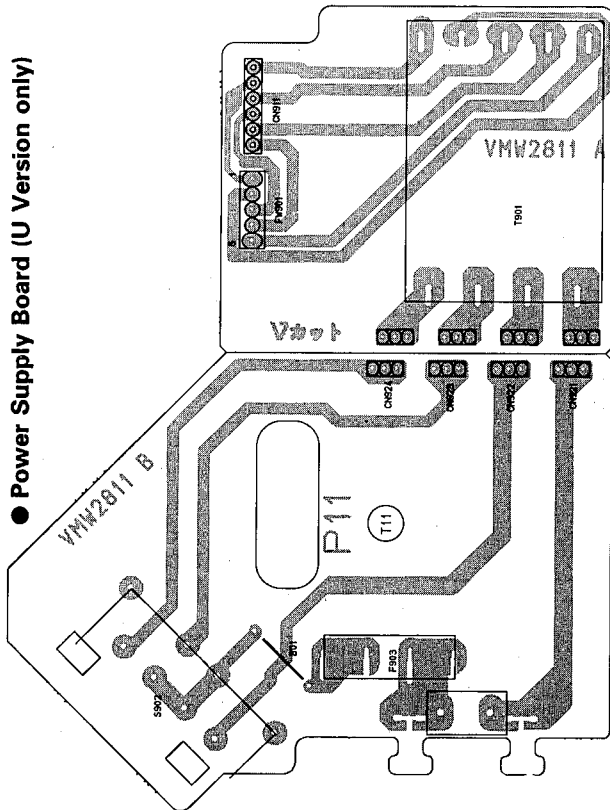
BLOCK NO. 01111111

A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 916	GRD14CJ-821SX	CARBON RESISTOR	820 5% 1/4W	
	R 917	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 918	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 920	GRD14CJ-4R7SX	CARBON RESISTOR	4.7 5% 1/4W	C-J
	R 920	GRH144J-4R7	FUSI.RESISTOR	4.7 1/4W	G-U,UT
	R 920	GRH144J-4R7	FUSI.RESISTOR	4.7 1/4W	A-B,E,EN
	R 921	GRZ0077-4R7X	CARBON RESISTOR	4.7 1/4W	C-J
	R 921	GRZ0077-4R7X	CARBON RESISTOR	4.7 1/4W	G-U,UT
	R 921	GRZ0077-4R7X	FUSE RESISTOR	4.7 1/6W	A-B,E,EN
	R 931	GRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RN501	GRB095J-223	R.NETWORK	22K 5% 1/9W	
	RN502	GRB095J-223	R.NETWORK	22K 5% 1/9W	
	RN503	GRB065J-682	R.NETWORK	6.8K 5% 1/6W	
	RX101	GRD14CJ-180SX	CARBON RESISTOR	18 5% 1/4W	
	RX102	GRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
	RX103	GRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
	RX104	GRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	RX105	GRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	RX106	GRD161J-334	CARBON RESISTOR	330K 5% 1/6W	
	RX107	GRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
	RX108	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX109	GRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RX110	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX111	GRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RX112	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX113	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX114	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX115	GRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RX116	GRD14CJ-4R7SX	CARBON RESISTOR	4.7 5% 1/4W	A-B,E,EN,G
	RX116	GRZ0077-4R7X	CARBON RESISTOR	4.7 1/6W	U,UT
	RX116	GRD14CJ-4R7SX	UNF.C.RESISTOR	4.7 5% 1/4W	C-J
	RX118	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX201	GRD14CJ-180SX	CARBON RESISTOR	18 5% 1/4W	
	RX202	GRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
	RX203	GRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
	RX204	GRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	RX205	GRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	RX206	GRD161J-334	CARBON RESISTOR	330K 5% 1/6W	
	RX207	GRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
	RX208	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX209	GRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RX210	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX211	GRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	RX212	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX213	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX214	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX215	GRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	RX216	GRD14CJ-4R7SX	CARBON RESISTOR	4.7 5% 1/4W	A-B,E,EN,G
	RX216	GRD14CJ-4R7SX	UNF.C.RESISTOR	4.7 5% 1/4W	C-J
	RX218	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX801	GRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RX802	GRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	RX803	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX804	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	RX805	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	

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A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 822	GRD14CJ-100SX	UNF.C.RESISTOR	10 5% 1/4W	
	R 822	GRZ0077-100X	FUSE RESISTOR	10 1/6W	C-J
	R 823	GRZ0077-100X	FUSE.RESISTOR	10 5% 1/4W	A-B,E,EN
	R 823	GRD14CJ-100SX	UNF.C.RESISTOR	10 5% 1/4W	C-J
	R 823	GRZ0077-100X	FUSI.RESISTOR	10 5% 1/4W	G-U,UT
	R 824	GRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 825	GRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R 829	GRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 830	GRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 832	GRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 833	GRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 835	GRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 836	GRZ0077-100X	FUSE RESISTOR	10 5% 1/4W	A-B,E,EN
	R 836	GRZ0077-100X	FUSI.RESISTOR	10 5% 1/4W	G-U,UT
	R 836	GRD14CJ-100SX	UNF.C.RESISTOR	10 5% 1/4W	C-J
	R 837	GRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 838	GRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 839	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 840	GRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 841	GRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 842	GRD161J-752	CARBON RESISTOR	7.5K 5% 1/6W	
	R 854	GRD14CJ-2R2SX	CARBON RESISTOR	2.2 5% 1/4W	
	R 855	GRD14CJ-2R2SX	CARBON RESISTOR	2.2 5% 1/4W	
	R 856	GRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 857	GRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 858	GRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 859	GRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 871	GRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 872	GRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 873	GRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 874	GRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 875	GRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 881	GRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R 882	GRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R 884	GRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R 901	GRD14CJ-4R7SX	UNF.C.RESISTOR	4.7 1/4W	C-J
	R 901	GRZ0077-4R7X	CARBON RESISTOR	4.7 1/4W	G-U,UT
	R 901	GRZ0077-4R7X	FUSE RESISTOR	4.7 1/4W	A-B,E,EN
	R 902	GRZ0077-4R7X	FUSE RESISTOR	4.7 1/4W	G-U,UT
	R 902	GRZ0077-4R7X	FUSE RESISTOR	4.7 1/4W	A-B,E,EN
	R 902	GRD14CJ-4R7SX	CARBON RESISTOR	4.7 5% 1/4W	C-J
	R 903	GRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 904	GRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 905	GRD161J-821	CARBON RESISTOR	820 5% 1/6W	
	R 906	GRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 907	GRD167J-532	CARBON RESISTOR	3.5K 5% 1/6W	
	R 909	GRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 909	GRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 910	GRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 912	GRD121J-531	CARBON RESISTOR	330 5% 1/2W	
	R 913	GRD14CJ-4R7SX	CARBON RESISTOR	4.7 5% 1/4W	C-J
	R 913	GRZ0077-4R7X	CARBON RESISTOR	4.7 1/4W	G-U,UT
	R 913	GRZ0077-4R7X	CARBON RESISTOR	4.7 1/4W	A-B,E,EN
	R 914	GRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 915	GRD161J-471	CARBON RESISTOR	470 5% 1/6W	

● Power Supply Board (U Version only)



● Power Supply board for U/UT only

A REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
A	CN921	VMC0221-003	CONNECTOR	
A	CN922	VMC0221-003	CONNECTOR	
A	CN923	VMC0221-003	CONNECTOR	
A	CN924	VMC0221-003	CONNECTOR	
A	F 903	VMZ0043-001S	FUSE CLAMP	
A	S 902	GSS2325-112	SLIDE SWITCH	
A	F 903	QMF51E2-R20SBS	FUSE	315mA
A	T 901	VTP2G5-011F	POWER TRANS.	
A	TAB	VM0034-002	TAB	
A	SKT	VMC0107-006	SOCKET	x2

} (Refer to page 37)

BLOCK NO. 03111111

A REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
RX806	QRD167J-362	CARBON RESISTOR	5.6K 5% 1/6W	
RX807	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
RX808	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
RX810	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
RX811	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
RX812	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
R216	QRZ0077-4R7X	CARBON RESISTOR	4.7 1/0W	U-UT
VR101	QVZ3523-203AZ	V-RESISTOR	PB EQ ADJ.	
VR102	QVPA601-201	V-RESISTOR	PB LEVEL ADJ.	
VR103	QVZ3523-103AZ	V-RESISTOR	REC LEVEL ADJ.	
VR104	QVZ3523-103AZ	V-RESISTOR	BIAS ADJ.	
VR201	QVZ3523-203AZ	V-RESISTOR	PB EQ ADJ.	
VR202	QVPA601-201	V-RESISTOR	PB LEVEL ADJ.	
VR203	QVZ3523-103AZ	V-RESISTOR	REC LEVEL ADJ.	
VR204	QVZ3523-103AZ	V-RESISTOR	BIAS ADJ.	

1

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5

● Other boards

A

B

C

D

E

F

G

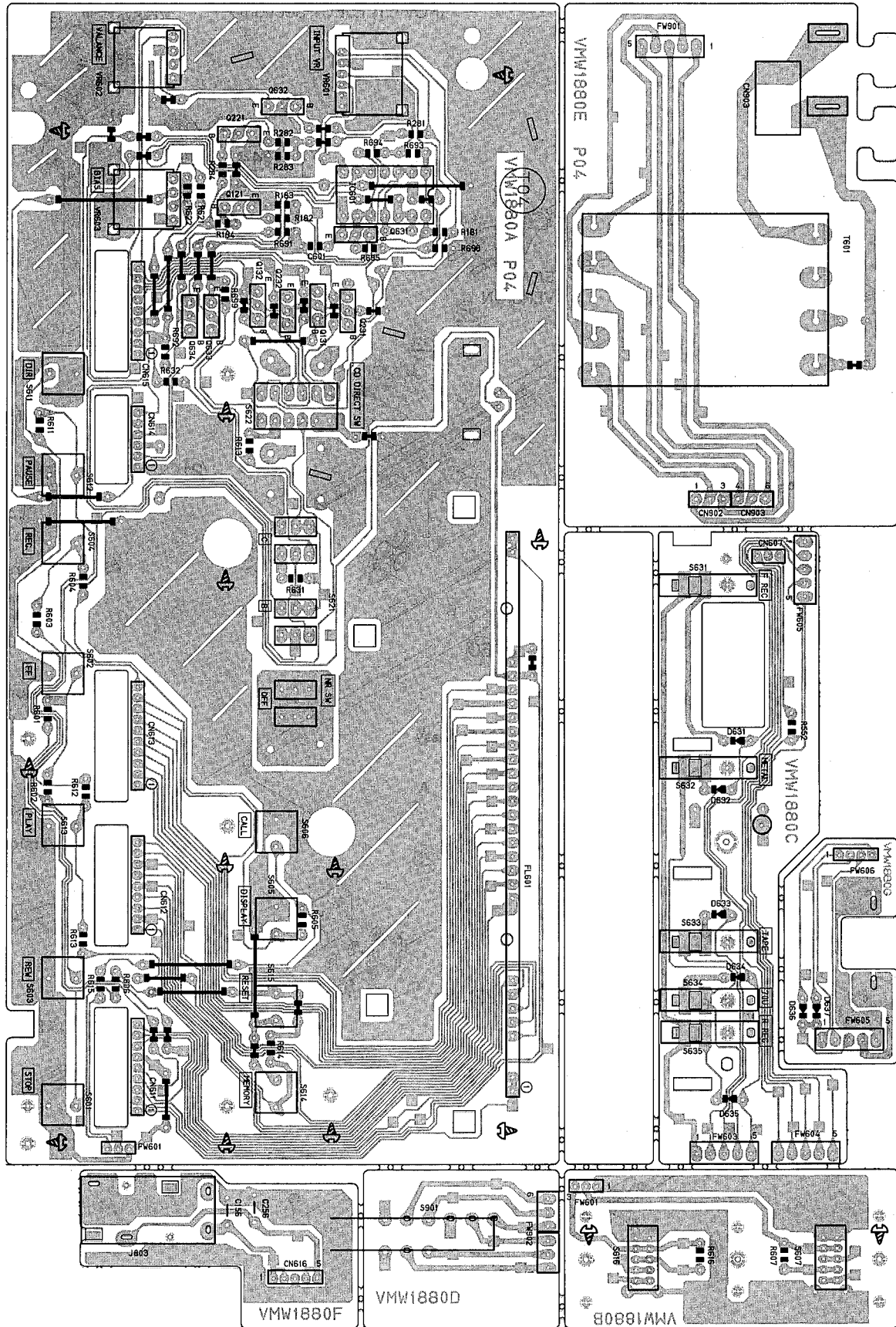


Fig. 7-3

● Front board

● Front board

BLOCK NO. 02

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
C 601	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
CN611	VMC0193-P09	CONNECTOR	MAIN-FRONT	
CN612	VMC0193-P09	CONNECTOR	MAIN-FRONT	
CN613	VMC0193-P10	CONNECTOR	MAIN-FRONT	
CN614	VMC0193-P06	CONNECTOR	MAIN-FRONT	
CN615	VMC0193-P09	CONNECTOR	MAIN-FRONT	
CN616	VMC0194-S05	CONNECTOR		
CN902	VMC0166-003Z	CONNECTOR		
CN903	VMC0166-003Z	CONNECTOR		
D 631	1S8133	SI DIODE		
D 632	1S8133	SI DIODE		
D 633	1S8133	SI DIODE		
D 634	1S8133	SI DIODE		
D 635	1S8133	SI DIODE		
D 636	1S8133	SI DIODE		
D 637	1S8133	SI DIODE		
FL601	F1P98AW5Y	FL TUBE		
FW603	VMS105-12B34K	E F FLAT WIRE		
FW604	VMS105-12B34K	E F FLAT WIRE		
FW605	VMS105-14A4K4K	EF FLAT WIRE		
FW901	VMS103-15B34K	EF FLAT WIRE		
FW901	VMS105-15B34K	EF FLAT WIRE		
FW902	VMS106-24B34K	FLAT WIRE		
IC601	BU40668B	IC		
Q 121	2SC945	TRANSISTOR		
Q 131	2SC945	TRANSISTOR		
Q 132	2SC945	TRANSISTOR		
Q 221	2SC945	TRANSISTOR		
Q 231	2SC945	TRANSISTOR		
Q 232	2SC945	TRANSISTOR		
Q 631	DTA124ES	TRANSISTOR		
Q 632	2SC945	TRANSISTOR		
Q 633	DTA124ES	TRANSISTOR		
Q 634	DTA124ES	TRANSISTOR		
R 181	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R 182	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
R 183	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
R 184	QRD161J-332	CARBON RESISTOR	3.3K 5% 1/6W	
R 281	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R 282	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
R 283	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
R 284	QRD161J-332	CARBON RESISTOR	3.3K 5% 1/6W	
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 605	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
R 606	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
R 611	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 612	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
R 613	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
R 614	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
R 615	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
R 617	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
R 621	QRD161J-133	CARBON RESISTOR	15K 5% 1/6W	

BLOCK NO. 02

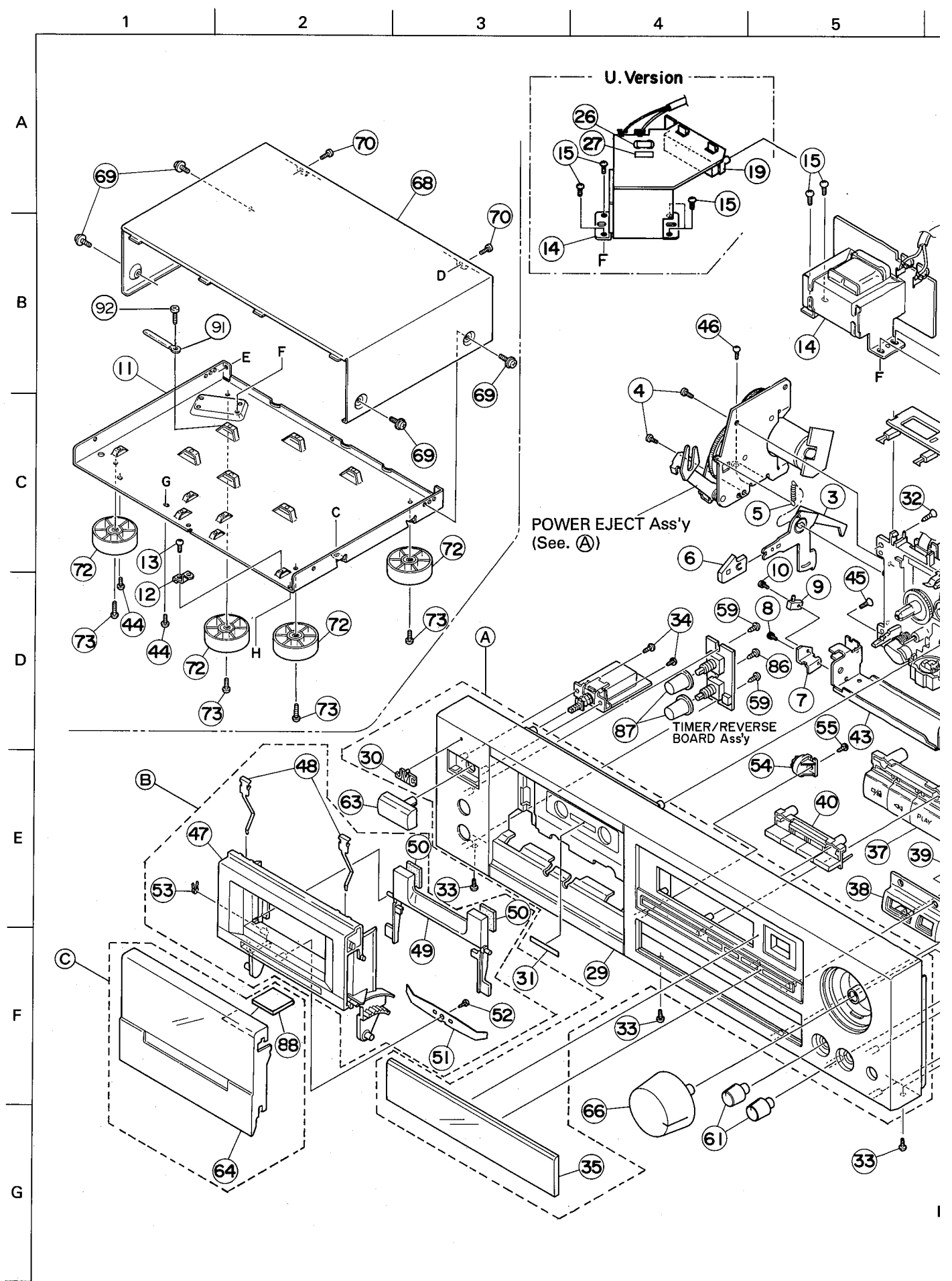
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R 622	QRD161J-562	CARBON RESISTOR	5.6K 5% 1/6W	
R 631	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 632	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 691	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 692	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 693	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 694	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 695	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 697	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 698	QRD161J-541	CARBON RESISTOR	560 5% 1/6W	
R 699	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
S 601	QS04H11-V01	TACT SWITCH	STOP	
S 602	QS04H11-V01	TACT SWITCH	FF	
S 603	QS04H11-V01	TACT SWITCH	REW	
S 604	QS04H11-V01	TACT SWITCH	REC	
S 605	QS04H11-V01	TACT SWITCH	DISPLAY	
S 606	QS04H11-V01	TACT SWITCH	CALL	
S 611	QS04H11-V01	TACT SWITCH	DIR	
S 612	QS04H11-V01	TACT SWITCH	PAUSE	
S 613	QS04H11-V01	TACT SWITCH	PLAY	
S 614	QS04H11-V01	TACT SWITCH	MEMORY	
S 615	QS04H11-V01	TACT SWITCH	RESET	
S 617	QSR2D13-V02	ROTARY SWITCH	REV MODE	
S 621	QST4013-V01M	PUSH SWITCH	NR SW	
S 622	QST4011-V01M	PUSH SWITCH	CD DIRECTSW	
S 631	VSH1140-006	LEAF SWITCH	F-REC	
S 632	VSH1140-006	LEAF SWITCH	METAL	
S 633	VSH1140-006	LEAF SWITCH	TAPE	
S 634	VSH1140-006	LEAF SWITCH	70U	
S 635	VSH1140-006	LEAF SWITCH	R-REC	
S 901	QST8101-V08	PUSH SWITCH	INPUT	
VR601	QVDB27A-V02	V-RESISTOR	BALANCE	
VR602	QVGA12W-V02	V-RESISTOR	BIAS ADJ	
VR603	QVGA12B-V03	V-RESISTOR		

● Rotary Volume and Switch board

BLOCK NO. 04

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
CN621	VMC0075-R03N	CONNECTOR		
R 608	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
S 608	QSR2D13-V02	ROTARY SWITCH	TIMER SW	

8 Exploded View of Enclosure Assembly



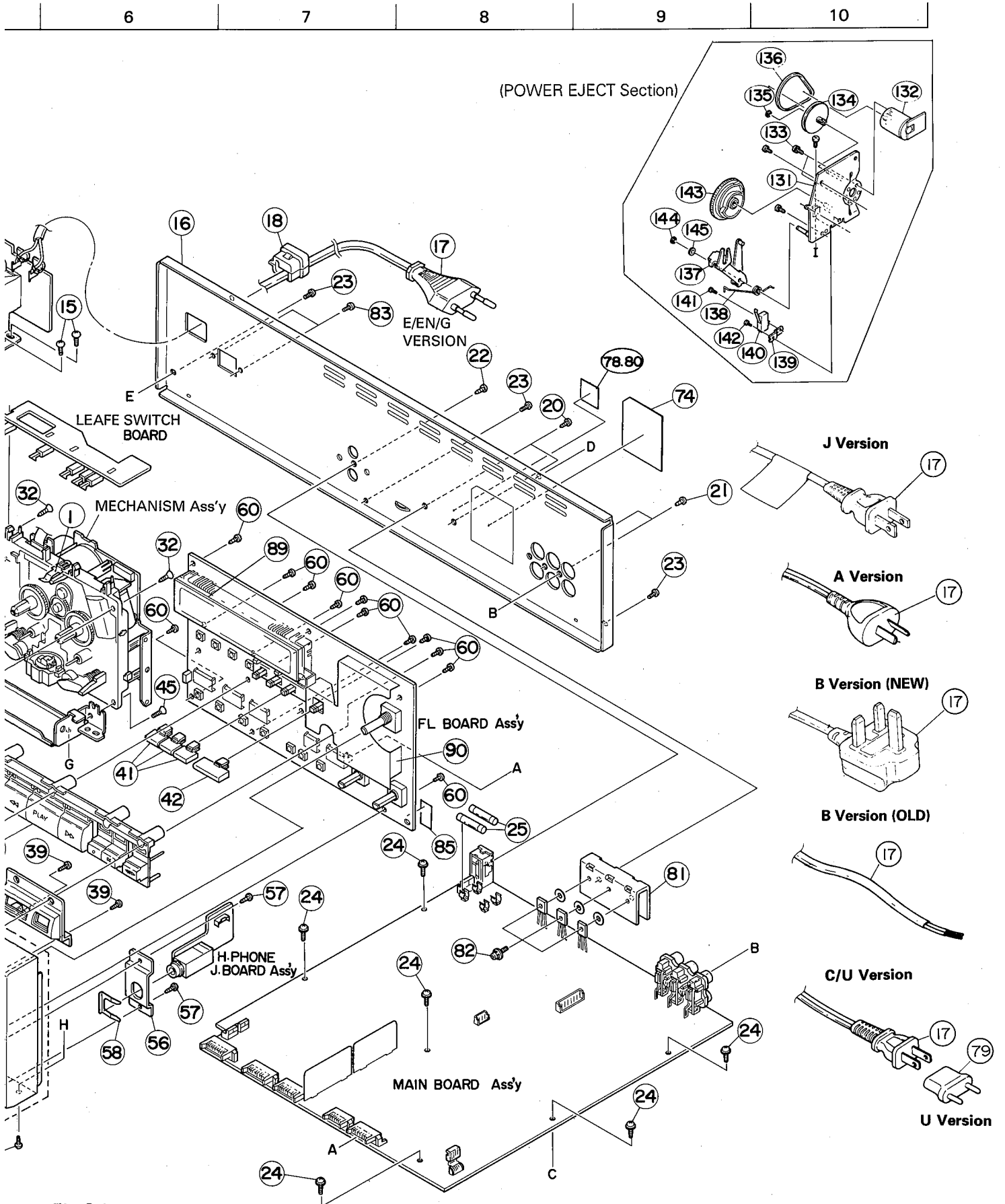


Fig. 8-1

▲ Parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

● Enclosure Parts List

BLOCK NO. M1MM

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
A	ZCTDR472K-FBK	FRONT PANEL		1		BK
	ZCTDR461J-FTN	FRONT PANEL		1		TN
B	ZCTDR461K-CH	CASSETTE HOLDER		1		
C	ZCTDR461K-CL	CASSETTE LID		1		TN
	ZCTDR472K-CL	CASSETTE LID		1		BK
1	VKY4628-002	PACK SPRING		1		
3	VKL7048-003	LOCK LEVER L		1		
4	SDST2605Z	SCREW		2		
5	VKW3002-268	SPRING		1		
6	VYH7424-002	LOCK PLATE		1		
7	VKL7075-001	SWITCH BRACKET		1		
8	LPSP2004Z	SCREW		1		
9	VSH1142-001	SWITCH		1		
10	LPSP2006Z	SCREW		1		
11	VKL1333-011	CHASSIS BASE		1		
12	VKL7023-001	BOARD BRACKET		1		
13	SBST3006Z	SCREW	PWB BKT+CHASSIS	1		
14	VTP52Z5-011F	POWER TRANS.		1	A,B,E,EN,G	
▲	VTP52G5-011F	POWER TRANS.		1	U,UT	
▲	VTP52A5-011F	POWER TRANS.		1	C,J	
15	SBST3006Z	SCREW	FOR POWER TRANS	4		
16	VJC2410-026	REAR PANEL		1	C,J	TN
	VJC2410-030	REAR PANEL		1	A,B,E,EN,G	BK
	VJC2410-031	REAR PANEL		1	U,UT	BK
▲	17	QMP2560-200	POWER CORD	1	A	
▲		QMP1340-200	POWER CORD	1	C,J	
▲		QMP5530-008BS	POWER CORD	1	B	
▲		QMP7380-200	POWER CORD	1	U,UT	
▲		QMP3900-200	POWER CORD	1	E,EN,G	
▲	18	QHS3771-108	CORD STOPPER	1		
19	VKS5011-001	VOLTAGE CONTACT		1	U,UT	
20	SBSF3008M	SCREW	FOR HEAT SINK	2		
21	SBSF3008M	SCREW	PIN JACK	2		
22	SBSF3008M	SCREW	FOR DCS JACK	1		
23	SBST3006M	SCREW	FOR REAR+CHASSI	3		
24	GBST3006Z	SCREW	FOR MAIN P.C.BO	6		
▲	25	QMF51E2-R80SBS	FUSE	2	U,UT	
▲		QMF51E2-R80SBS	FUSE	2	B	
▲		QMF51E2-R80SBS	FUSE	2	A,E,EN,G	
▲	26	QMF51E2-R20SBS	FUSE	1	U,UT	
27	VND4003-032	FUSE LABEL	FOR F903	1	U,UT	
29	VJG1278-002UL	FRONT PANEL		1		TN
	VJG1278-003	FRONT PANEL		1		BK
30	VJD5429-001	JVC MARK		1		
31	VJD4024-001	REFLECTION PLAT		1		
32	SSSF3012Z	SCREW	FOR MECHA+F.P.	2		
33	SBST3006M	SCREW	FOR F.P.+CHASSI	3		
34	SBSF3010Z	SCREW	FOR POWER SW.	2		
35	VJK3638-003	FINDER		1		BK
	VJK3638-001	FINDER LENS		1		TN
37	VXP3650-001	MECHA BUTTON		1		TN
	VXP3650-002	MECHA BUTTON		1		BK
38	VJD5444-002	BUTTON COVER		1		BK
	VJD5444-001	BUTTON COVER		1		TN
39	SBSF2610Z	SCREW	FOR BUTTON COVE	2		

BLOCK NO. M1MM

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
40	VXP5240-002	DISPLAY BUTTON		1		BK
	VXP5240-001	MECHA BUTTON		1		TN
41	VXP5241-002	PUSH BUTTON		3		BK
	VXP5241-001	PUSH BUTTON		3		TN
42	VXP5242-002	PUSH BUTTON		1		BK
	VXP5242-001	PUSH BUTTON		1		TN
43	VKM3498-005	MECHA BRACKET		1		
44	SBST3006M	SCREW	M.BRACKET+F.PAN	2		
45	SSST3010Z	SCREW	FOR M.B.+MECHA	2		
46	SBST3006Z	SCREW		1		
47	VJT2269-002	CASSETTE HOLDER		1		
48	VKY4180-001	CASSETTE SPRING		2		
49	VJD3867-001	C.STABILIZER		1		
50	VYTS491-001	PAD		2		
51	VKY4635-002	SPRING PLATE		1		
52	SBSF2608Z	SCREW		1		
53	VKZ4643-002	PROTECT SPRING		1		
54	E305654-003	DUMPER ASS'Y		1		
55	SBSF3010Z	SCREW	FOR DUMPER	1		
56	VKL7022-002	JACK BRACKET	FOR H.P. JACK	1		
57	SBSF2608Z	SCREW	FOR J.B.+F.P	2		
58	VKL6752-001	SNAP PLATE	FOR H.PHONE	1		
59	SBSF2610Z	SCREW	TIMER PWB+F.P	2		
60	SBSF2610Z	SCREW	FOR FL PWB+F.P	12		
61	VXL4436-002	KNOB	BALANCE/BIAS	2		BK
	VXL4436-001	KNOB	BALANCE/BIAS	2		TN
63	VXP5032-001	POWER BUTTON		1		TN
	VXP5032-002	POWER BUTTON		1		BK
64	VJT2339-001	CASSETTE LID		1		TN
	VJT2339-002	CASSETTE LID		1		BK
66	VXL3022-001	INPUT KNOB		1		TN
	VXL3022-002	INPUT KNOB		1		BK
68	VJC1964-202	TOP COVER		1		BK
	VJC1964-001	TOP COVER		1		TN
69	VKZ4614-001	SPECIAL SCREW	FOR TOP COVER	4		
70	SBST3006M	SCREW	FOR TOP COVER	2		
72	VJF4039-00F	FOOT ASS'Y		4	A,U	BK
	E406379-008SS	FOOT ASS'Y	B.E.EN.G.	4	B,E,EN,G	BK
	VJF4039-00E	FOOT ASS'Y		4	C,J	TN
73	SBST3008Z	SCREW	FOR FOOT	4		
74	VYN2339-M003PA	NAME PLATE		1	A	
	VYN2339-M002PA	NAME PLATE		1	B	
	VYN2338-M004PA	NAME PLATE		1	C	
	VYN2339-M010PA	NAME PLATE		1	UT	
	VYN2339-M007PA	NAME PLATE		1	U	
	VYN2339-M005PA	NAME PLATE		1	E,EN	
	VYN2339-M008PA	NAME PLATE		1	G	
	VYN2338-M006PA	NAME PLATE		1	J	
78	T44362-001	CSA LABEL		1		
80	E407097-001	HYATT L.LABEL		1	J	
81	V04062-001	CONTI.PLUG		1	U,UT	
82	VMH4011-002	HEAT SINK		1		
82	DPSP3008Z	SCREW		3		
83	SBSF3008M	SCREW	FOR V.SELECTOR	2	U,UT	

9 Exploded View of Mechanism Assembly

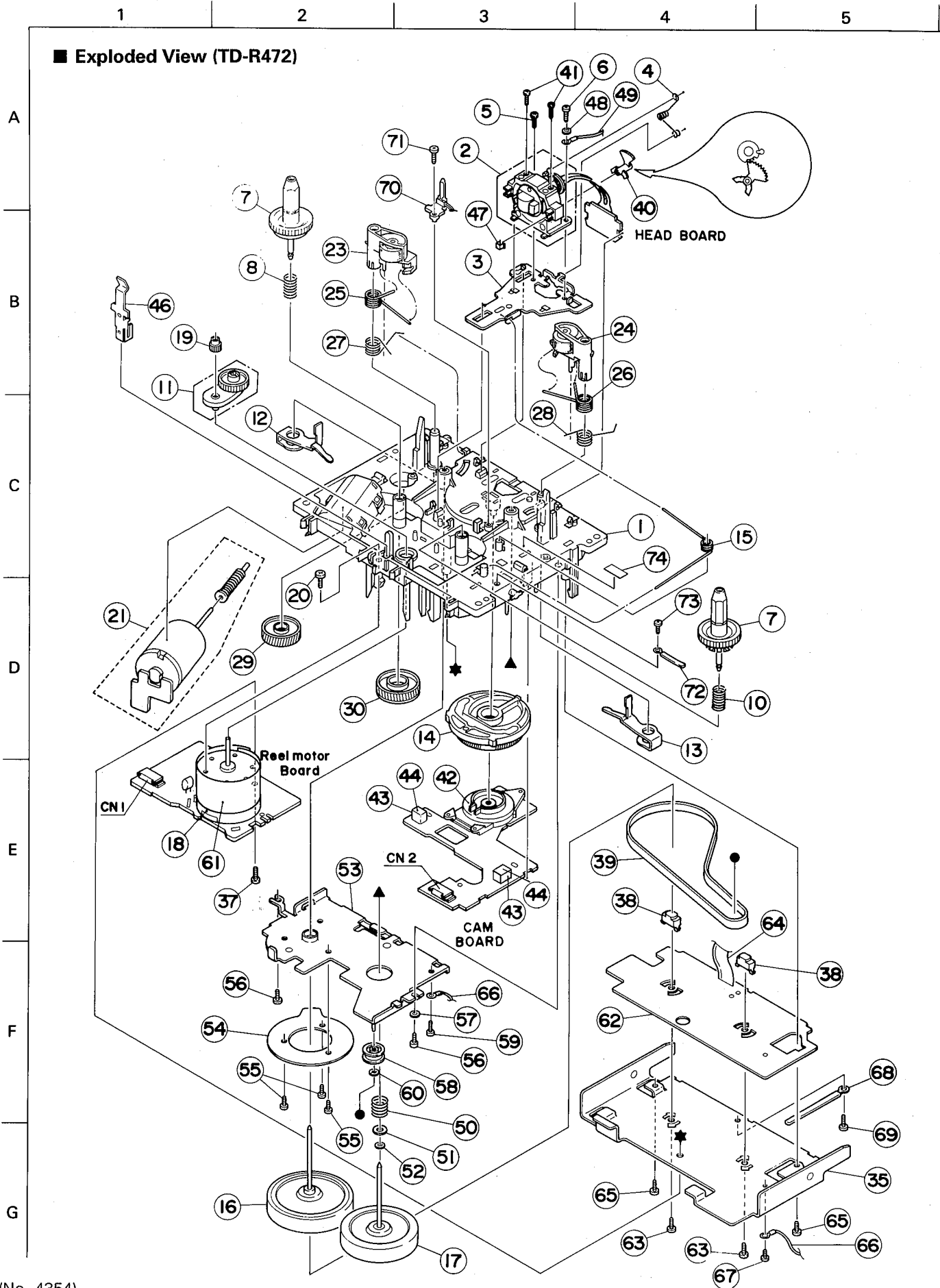


Fig. 9-1

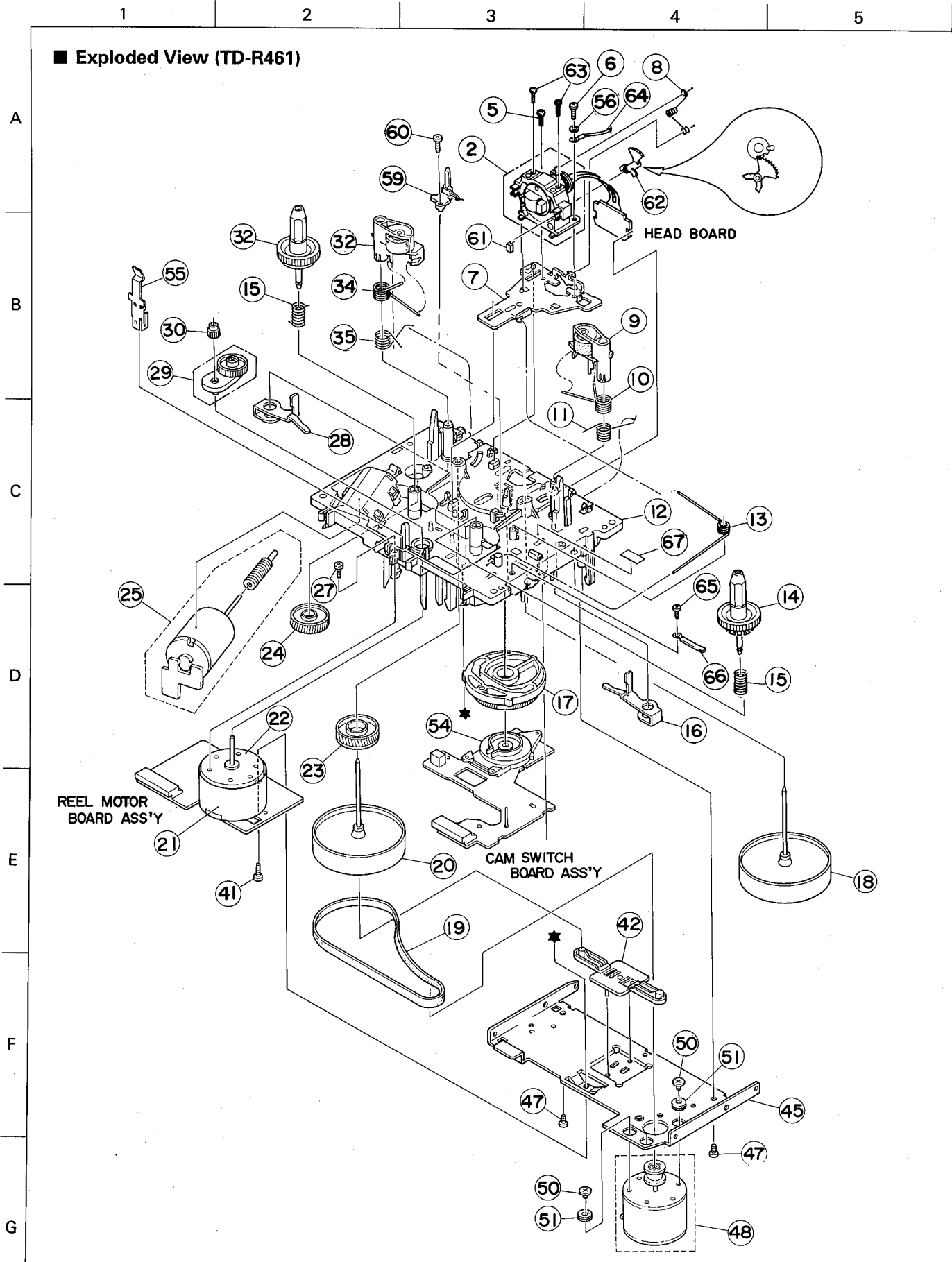


Fig. 9-2

● Mechanism Component Parts List (TD-R461)

BLOCK NO. M3MM

△ REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
2	VKS3551-#0D	HEAD MOUNT ASY		1		
5	SDST2004Z	SCREW	FOR MOUNT BASE	1		
6	SDST2005Z	SCREW		1		
7	VKL6942-00E	HEAD BASE ASSY		1		
8	VKW4994-001	HEAD SPRING	FOR HEAD GEAR	1		
9	VKP4221-00C	PINCH R.(L)ASSY		1		
10	VKW4982-001	SPRING (L)	FOR PINCH (L)	1		
11	VKW4933-004	TORSION SPRING	FOR P. ARM (L)	1		
12	VKS1112-#0I	CHASSIS B ASS'Y		1		
13	VKW4930-002	RETURN SPRING	FOR HEAD BASE	1		
14	VKS5403-00B	T-UP REEL ASS'Y		1		
15	VKW4928-003	B.T. SPRING		1		
	VKW4928-003	B.T. SPRING		1		
16	VKL6940-002	PINCH LEVER (L)		1		
17	VKS2209-006	CONTROL CAM		1		
18	VKF3186-00B	CONTROL CAM		1		
19	VKB3001-049	FLYWHEEL(L)ASS'		1		
20	VKF3184-00B	BELT		1		
21	VKF3184-00B	FLYWHEEL(R)ASS'		1		
21	FE-ZMS514	SHIELD CORE		1		
22	MMN-6F4RA38	D.C.MOTOR	FOR REEL	1		
23	VKS5331-003	ACT. GEAR (6)		1		
24	VKS5330-004	ACT. GEAR (5)		1		
25	MXN13FB12F-SA4	DC MOTOR ASS'Y	FOR ACT.	1		
27	SDSP2605Z	SCREW		1		
28	VKL6939-002	PINCH LEVER (R)		1		
29	VKS5325-00F	FR ARM ASS'Y		1		
30	VKS5328-002	GEAR		1		
32	VKS5403-00B	T-UP REEL ASS'Y		1		
33	VKP4219-00C	PINCH R.(R)ASSY		1		
34	VKW4981-002	P.R.SPRING(R)	FOR PINCH (R)	1		
35	VKW4932-004	TORSION SPRING	FOR P. ARM (R)	1		
41	SDSF2608Z	SCREW		1		
42	VKS5327-004	THRUST PLATE		1		
45	VKM3507-001	FM BKT		1		
47	SDSF2605Z	SCREW	FOR FM BKT	2		
48	MMI6H2LWK-SA5	MOTOR ASS'Y	FOR CAPSTAN	1		
50	18511418T	COLLAR SCREW		3		
51	18211266T	MOTOR RUBBER		3		
56	WNS2000N	WASHER		1		
59	SPI-328-02	REFLECTOR		1		
60	SDSF2608Z	SCREW		1		
61	VKY4547-001	MIRROR		1		
62	VKS3485-002	HEAD GEAR (1)		1		
63	VKZ4629-003	SPECIAL SCREW		2		
64	VVE290-07A1WS	UL V. WIRE		1		
65	VKZ4001-013	WIRE HOLDER		1		
66	SDSF2006Z	SCREW		1		
67	VYSA1R2-033	SPACER		1		

10 Packing

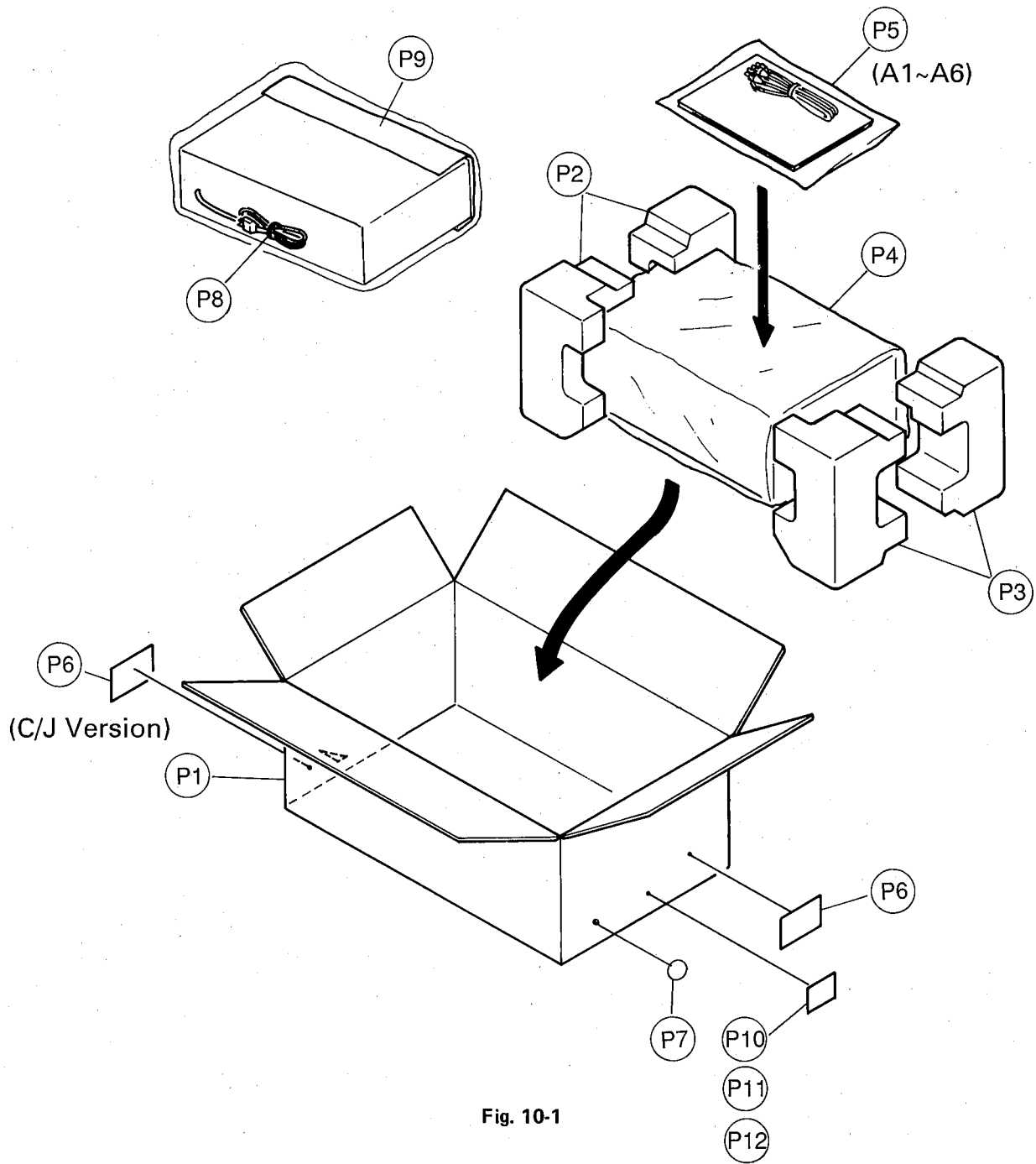


Fig. 10-1

● Packing Parts List

BLOCK NO.

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	VPC2339-M001	CARTON		1		
	P 2	VPH2456-201	CUSHION (L)		1		
	P 3	VPH2457-201	CUSHION (R)		1		
	P 4	E300196-031B	ENVELOPE	FOR SET	1		
	P 5	VPE3005-007	POLY BAG	FOR INSTRUCTION	1		
	P 6	TDR472BKB-LAB	COMPUTER LABEL		1	B	
		TDR472BKA-LAB	COMPUTER LABEL		1	A	
		TDR472BKU-LAB	COMPUTER LABEL		1	U	
		TDR472BKG-LAB	COMPUTER LABEL		1	G	
		TDR472BKEN-LAB	COMPUTER LABEL		1	EN	
		TDR472BKG-LAB	COMPUTER LABEL		1	G	
		TDR472BKE-LAB	COMPUTER LABEL		1	E	
		TDR461TNJ-LAB	COMPUTER LABEL		2	J	
		TDR461TNC-LAB	COMPUTER LABEL		2	C	
		TDR472BKUT-LAB	COMPUTER LABEL		1	UT	
	P 7	QZLA001-011	MARK	E.EN.G	1	E,EN,G	
	P 8	QO4141H	WIRE CLAMP	FOR POWER CORD	1		
	P 9	VPK3001-012	SHEET	FOR SET	1		
	P 10	VYN2339-010PA	NAME PLATE		1	UT	
	P 11	VND4992-001	ORIGN LABEL		1	UT	

● Accessories

BLOCK NO.

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	VMP0039-00D	PIN CORD		1		
	A 2	VNN2338-671M	INSTRUCTIONS		1	A,B,J	
		VNN2338-661M	INSTRUCTIONS		1	G,U,UT	
		VNN2338-661M	INSTRUCTIONS		1	C,E,EN	
		VNN2338-271M	INSTRUCTIONS		1	EN	
	A 3	BT-51006-1	REGISTER CARD		1	J	
		BT-20134	WARRANTY CARD		1	G	
		BT-20025K	WARRANTY CARD		1	C	
		BT-56001-1	WARRANTY CARD		1	A	
		BT-20044G	WARRANTY CARD		1	J	
		BT20060	WARRANTY CARD	B	1	B	
		BT-20066A	WARRANTY CARD	B	1	B	
	A 4	BT-20071B	SVC CENTER LIST		1	C	
		BT-56002-1	SERVIS CENTER L		1		
		BT-20137	SERVICE NETWORK		1		
	A 5	E43486-340A	SAFETY I.SHEET		1	B	
		BT-20044G	SAFETY INST.		1		
	A 7	EWP805-001E	REMOTE WIRE		1		

TD-R461TN_{C/J}
TD-R472BK_{A/B/E/EN/G/U}

JVC

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