JVC

SERVICE MANUAL

CASSETTE DECK

MODEL KD-VR5 A/B/C/E/G/J/U

Note:
The Head Assemblies of KD-VR5J # 1 ~ # 2000 are different. (2000 units among those with Serial No. 08040001 ~ 08045000).
Please refer to the Schematic Diagram in the Cautions column, the Wiring Connection and the last part of the Mechanism Assembly parts List.

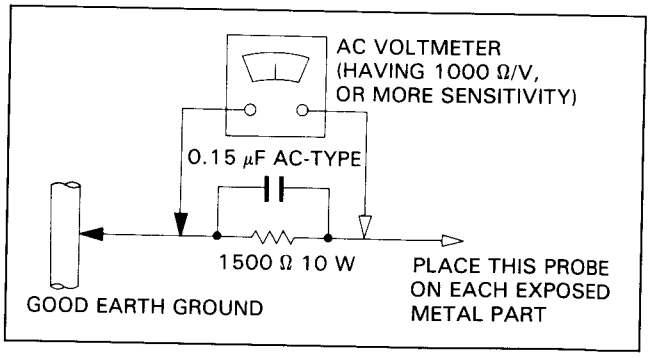
Contents

No. 4252
May 1985

Safety Precautions

1. The design of this product contains special hardware. 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. Repacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. Electrical components having such features are identified by (⚠) on the schematics and parts list in Service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list in 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/or the like to be separated from live parts, high temperature part, 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 they should be confirmed to be returned to normal, after re-assembling.
5. Leakage current check
   (Safety for electrical shock hazard)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the Products (antenna terminals, knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5 mA 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 1500 Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.)
     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.).



Features

1. **FLIP REVERSE SYSTEM**
   - Rotary combination for record/play (SA) and erase head.
   - Quick reverse mechanism using infrared sensor.
2. **Auto fade-in/out for starting and ending recordings.**
3. **2-motor full logic mechanism**
   - Exclusive motor for mechanism drive.
   - Silent mechanism.
4. **DOLBY* B-C NR (Noise Reduction) system**
   - Incorporates MPX (multiplex) filter switch which operates when recording.
5. **Digital counter**
   - Can serve as a stopwatch, showing the elapsed time in recording and playback.
   - Normally serves as a 4-digit tape counter with 2-point memory for block repeat.
6. **Microcomputer-controlled mechanism**
   - Auto record muting
   - Index scan and blank search
   - Blank skip
   - Mechanism mode indicators
7. **2-color FL peak level meter with digital peak indicator**
   - Peak hold facility.
8. **Timer start mechanism (with safety lock)**
9. **Single music scan mechanism for either direction**

"Under license from Staar S.A., Brussels Belgium."

*Noise reduction system manufactured under license from DOLBY Laboratories Licensing Corporation.

*"DOLBY" and the double-D symbol are trademarks of DOLBY Laboratories Licensing Corporation.

Specifications

Type	: Stereo cassette deck
Track system	: 4-track, 2-channel
Tape speed	: 1-7/8 inch/sec (4.8 cm/sec)
Frequency response	: (−20 dB recording) Metal tape: 30−16,000 Hz (±3 dB) 20−17,000 Hz CrO_2 tape: 30−16,000 Hz (±3 dB) 20−17,000 Hz Normal tape: 30−15,000 Hz (±3 dB) 20−16,000 Hz (0 dB recording) Metal tape: 30−12,500 Hz (±3 dB) CrO_2 tape: 30−8,000 Hz (±3 dB) Normal tape: 30−8,000 Hz (±3 dB)
S/N ratio	: 58 dB (S=1 kHz, K3=3%, N=A-weighted, Metal tape) The S/N is improved by about 15 dB at 500 Hz and by max. 20 dB at 1 kHz~10 kHz with DOLBY C NR on and improved by 5 dB at 1 kHz and by 10 dB at above 5 kHz with DOLBY B NR on.
Improvement of MOL	: 4 dB at 10 kHz with DOLBY C NR on.
Wow and flutter	: 0.05% (WRMS)
(Forward direction)	0.16% (DIN 45 500)
Crosstalk	: 55 dB (1 kHz)
Harmonic distortion	: K3; 0.5% THD; 1.0% (Metal tape, 1 kHz 0 dB)
Channel separation	: 40 dB (1 kHz)
Heads	: SA head (for record/playback)/ 2-Gap ferrite head for erasing combination head
Motor	: Electric governed DC motor (for capstan and reel)×1 DC Motor (for FF & Rewind)×1 DC Motor (for Mechanical drive)×1
Fast wind time	: Approx. 95 sec. with C-60 cassette
Input terminals	
Input jack×2	: Min. input level; 80 mV Input impedance; 50 kΩ
Mic jack×2	: Max. sensitivity; 0.4 mV (−68 dBV) Matching impedance; 600 Ω−10 kΩ
Output terminals	
Output jack×2	: Output level; 300 mV Output impedance; 5 kΩ
Phones jack×1	: Output level; 0.3 mV/8 Ω Matching impedance; 8 Ω−1 kΩ
Power requirement	: AC240/220/120 V, 50/60 Hz (KD-VR5 A/B/E/G) AC 120 V, 60 Hz (KD-VR5 C/J) AC240/220/115 V, 50/60 Hz (KD-VR5 U)
Power consumption	: 22 W
Dimensions	: 17-1/8" (435 mm) W 4-3/8" (110 mm) H 11-1/8" (282 mm) D (with feet, buttons, switches)
Weight	: Approx. 10.3 lbs (4.7 kg)
Accessory	: Pin cord 2

Design and specifications subject to change without notice.

Names of Parts and Their Functions

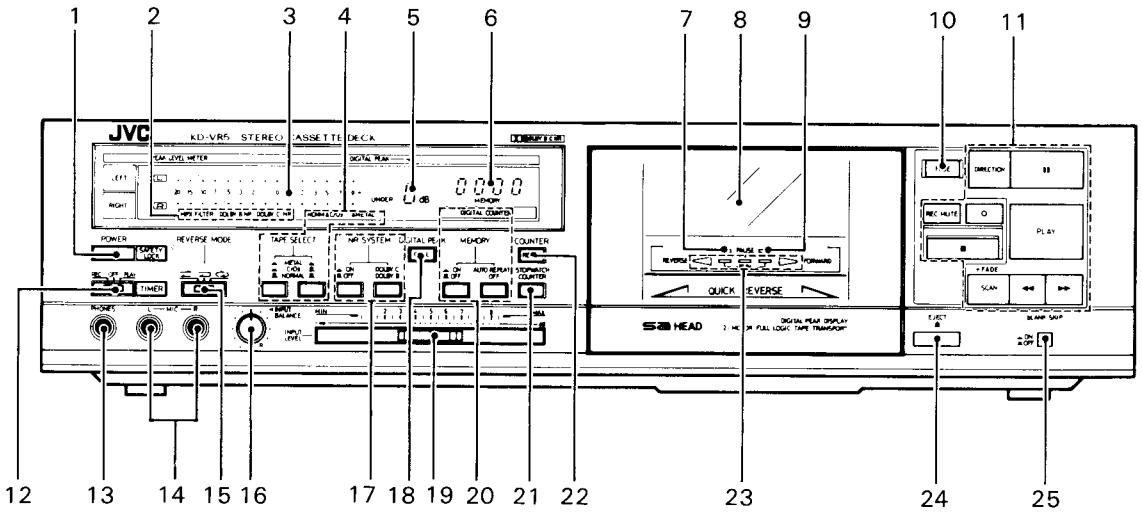


Fig. 1

1. **POWER switchd**
2. **MPX FILTER and NR SYSTEM (DOLBY B NR/DOLBY C NR) indicators**
3. **PEAK LEVEL METER**
   This indicates the record input level when recording and recorded signal level on the tape when playing back. this meter holds the peak level about 2 seconds.
4. **TAPE SELECT switches and indicators**
   Set to match the types of tape used for recording or playing back. The corresponding indicator lights when one of these switches is pressed.
5. **DIGITAL PEAK indicator**
   This is interlocked with the PEAK LEVEL meters and gives a direct digital readout of the peak recording input or playback level.
6. **DIGITAL COUNTER**
   Digitally shows the tape counter reading and tape elapsed time according to the counter mode switch 21.
7. **FADE indicator**
   Lights while fading is performed by pressing the FADE button.
8. **Cassette holder**
9. **REC indicator**
   Lights in the recording and record-pause modes; flashes during the record muting operation.
10. **FADE button**
    Use when performing auto fade-in or fade-out.
11. **Cassette operation buttons**

DIRECTION:
Press to change the direction of tape travel. The direction is shown by the indicator (▷ or ◁).

▮▮ (pause):
Press to stop the tape temporarily. Press the PLAY button to cancel the pause mode. When this button is pressed simultaneously with the SCAN button, the blank search operation is performed.

REC MUTE:
Press to make about a 4-second, non-recorded section between tunes during recording.

○ (record):
Press ○ and PLAY buttons simultaneously for recording. Press the ○ and ▮▮ buttons simultaneously for record pause.

■ (stop):
Press to stop the tape.

PLAY:
Press to start recording/playback. When this button is pressed simultaneously with the SCAN button, the index scan operation is performed.

SCAN (+FADE):
Press to perform music scan, index scan, blank search or auto fade-in/out for approximately 10 seconds.

◀◀ (rewind):
Press to fast wind the tape from right to left. When this button is pressed simultaneously with the SCAN button, the music scan operation is performed.

▶▶ (fast forward):
Press to fast wind the tape from left to right. When this button is pressed simultaneously with the SCAN button, the music scan operation is performed.

12 **TIMER switch**
Set to REC or PLAY for timer recording or timer playback using an audio timer. In other cases, be sure to set to OFF.

13. **Headphone jack (PHONES)**
Connect headphones (with an impedance of 8 Ω—1 kΩ).

14. **MIC jacks (L, R)**
Connect microphones (with an impedance of 600 Ω to 10 kΩ) to these jacks.
With microphones connected to these jacks, the input to the LINE IN (REC) terminals is cut off automatically.

15. **REVERSE MODE switch**
Select a single or full record/playback mode, or continuous play mode.
- ⇆ : To play continuously sides A and B.
- ⇉ : To fully play or record sides A and B.
- → : For a single-side recording or playback.

16. **INPUT BALANCE control**
Adjust the balance between the left and right channels of recording input levels. The center click position is the standard position.

17. **NR SYSTEM switches**
The left button switches the NR SYSTEM ON or OFF. The right button switches to either the DOLBY B or C NR. When this switch is set to ON, either the DOLBY B NR or DOLBY C NR indicator lights to show the noise reduction mode selected.
When this switch is set to ON during recording, the MPX FILTER switch is automatically switched on to prevent misoperation of the DOLBY NR circuit due to the 19 kHz pilot signal and the MPX FILTER indicator lgiths.

18. **DIGITAL REAK button**
Press to call up the stored peak level. When this button is pressed again while the DIGITAL PEAK indicator is flickering, the new value is reset in the indicator and it is held in memory.

19. **INPUT LEVEL control**
This controls the right and left channel recording input levels simultaneously. dB indications are provided between 4 and 9 for approximate level compensation of the DIGITAL PEAK indicator.

20. **MEMORY button and indicators**
ON (▬)/OFF (■):
The memory function operates when the memory switch is set to ON and the tape counter "0000".
When this switch is set to ON (▬), the MEMORY indicator lights and operation is possible; when it is set to OFF (■), memory operation does not take place.
AUTO REPEAT (▬)/OFF (■):
Use in combination with the ON/OFF switch. After setting the memory, when this switch is set to AUTO REPEAT (▬), playback between the points where the tape counter reads "0000" and where the ON/OFF switch was set to ON (▬) is done repeatedly. **(block Repeat)**

21. **Counter mode switch**
Select the mode of the digital counter.
(▬) STOPWATCH
Set to this position to determine the lap time.
(■) COUNTER
Set to this position when using as a normal 4-digit tape counter and using the memory function.

22. **COUNTER RESET button**
Press to reset the digital counter. This button resets the lap time in the stopwatch mode and resets the counter reading in the counter mode.

23. **Mechanism mode indicators**
When the tape starts running, the three LEDs between the direction indicators flash in sequence to show the direction of tape movement and the mode of operation as follows:
- **Direction**
LEDs light in sequence showing the direction of tape travel (forward ► or reverse ◄).
- **Recording/Playback**
LEDs flash in sequence at an interval of about 1 second in the direction of tape travel.
- **Fast Forward/Rewind**
LEDs flash rapidly in sequence in the direction of tape travel.
- **SCAN**
Each LED flashes twice in rapid sequence in the direction of tape travel.
- **PAUSE**
Only the center LED lights.

24. **▲ EJECT button**
Press to open the cassette holder.

25. **BLANK SKIP switch**
When a blank section continues for more than 14 sec. during the playback mode with this switch set to ON (▬), the deck enters the fast forward mode automatically till the tape reaches the beginning of the next tune from which point playback starts again.

Using the FADE button ..... Auto fade-in/out

Two different ways of setting the time for auto fade-in/out

- The auto fade-in/out can be used in two different ways.
  - It can be used immediately with a short time setting. When starting or stopping a recording in the middle of tune during FM recording, etc., the fade-in/fade-out time is set to approx. 5 seconds so that the sound does not start or stop abruptly.

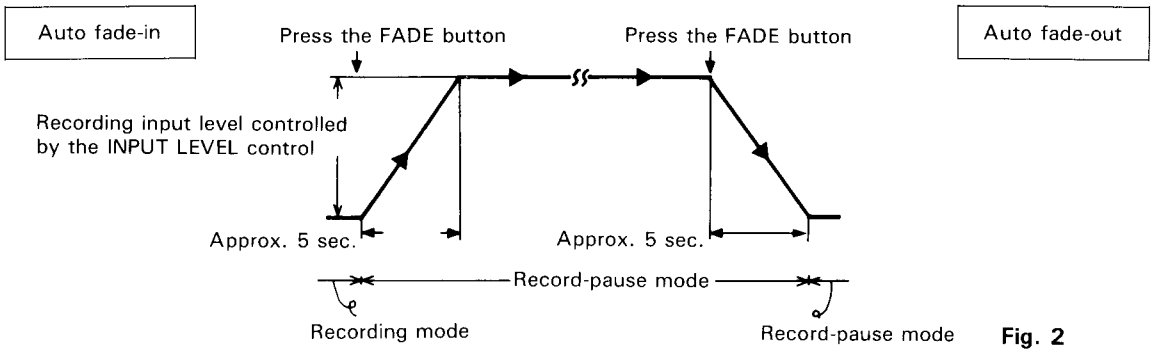


Fig. 2

  - The other is a musical fade. The fade-in/out time is set to approx. 10 seconds so that fade-in/out is performed gradually.

Auto fade-in

- **The recording mode starts after fade-in for approx. 5 or 10 seconds.**

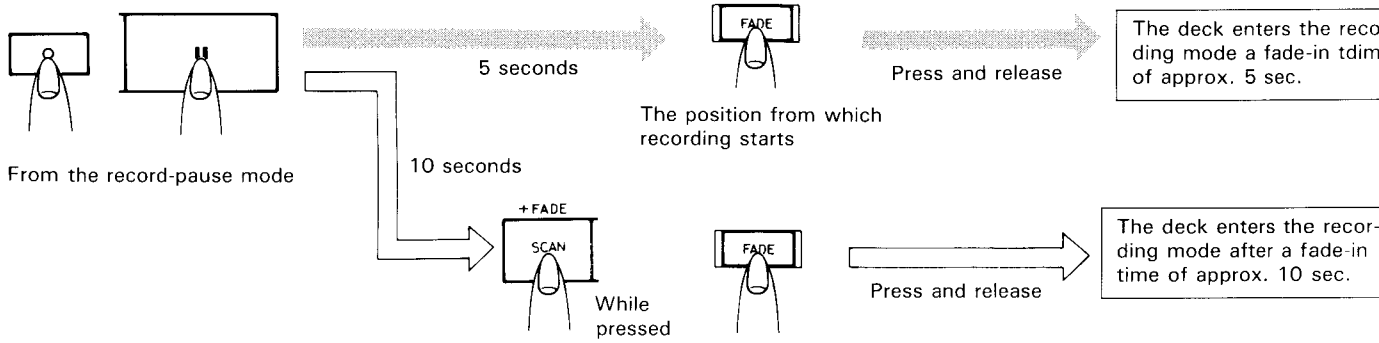


Fig. 3

Auto fade-out

- **The deck enters the record-pause mode after a fade-out time of approx. 5 or 10 seconds.**

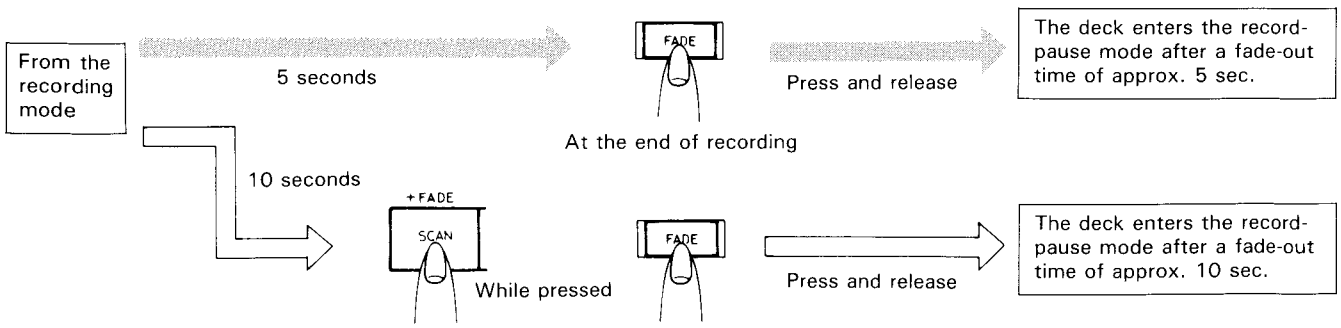


Fig. 4

Notes:

- Manual or auto reverse can be performed during the fade operation and operation can be continued after the tape is reversed.
- When a cassette operation button is pressed during the fade operation, the fade operation will be interrupted and the deck will enter the corresponding mode.
- When the FADE button is pressed again during the fade operation, the fade operation can be switched from the fade-in to fade-out or vice versa even when the deck is in the middle of the fade operation.

Digital Counter Operation

- **Using the electronic counter**

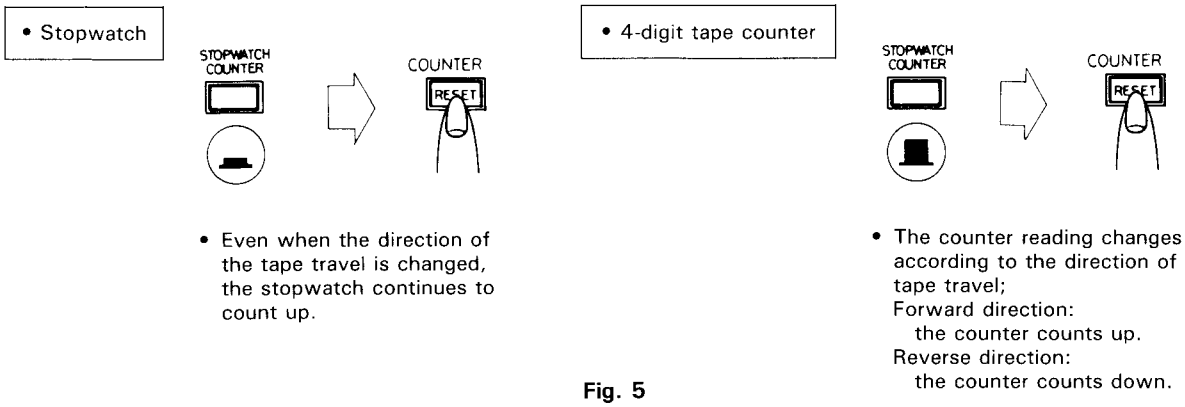


Fig. 5

Note:
Reset the tape counter or stopwatch after switching to the required mode.

- **Using the MEMORY function**

The memory function operates at the points where the MEMORY ON/OFF switch was set to ON (▂) and where the counter reading is "0000". The direction of the tape travel can also be stored in the memory.

The tape stops automatically at any desired position ..... memory stop

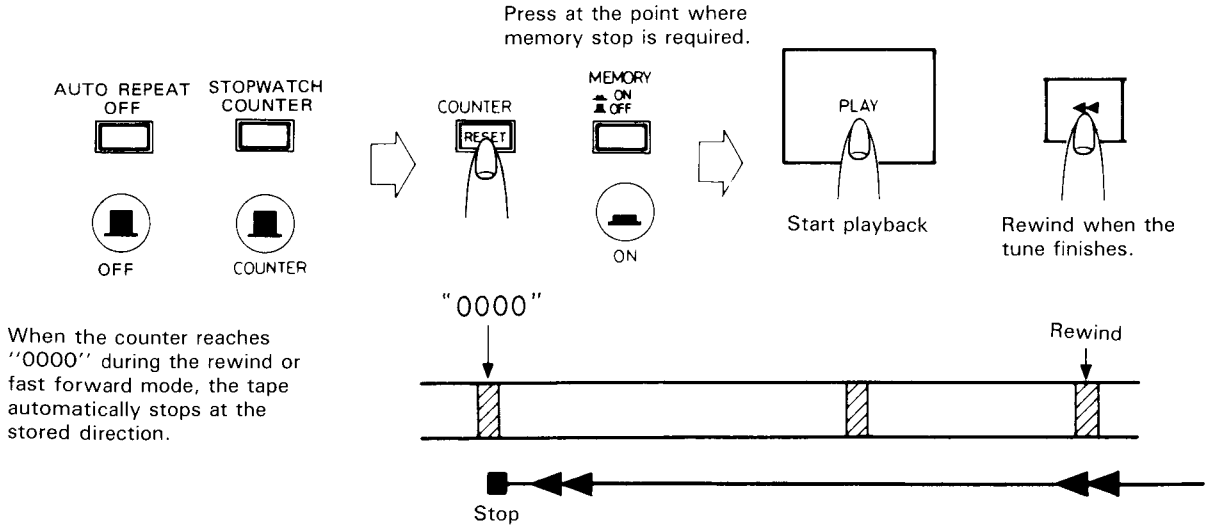


Fig. 6

Notes:

- The preset point can be stored during recording but the memory function does not operate in this mode.
- Memory operation can be performed during the stopwatch mode.
- Let the counter reading reach more than 10 before storing the rewind point in memory.
- In memory operation, the tape may not stop exactly at the counter "0000" reading or the point where the MEMORY ON/OFF switch was pressed to ON (▂).
- Press the ◄◄ (rewind) button again to rewind the tape beyond a counter reading of "0000".

To repeat playback ..... **auto repeat (block repeat)**

- **Procedure**

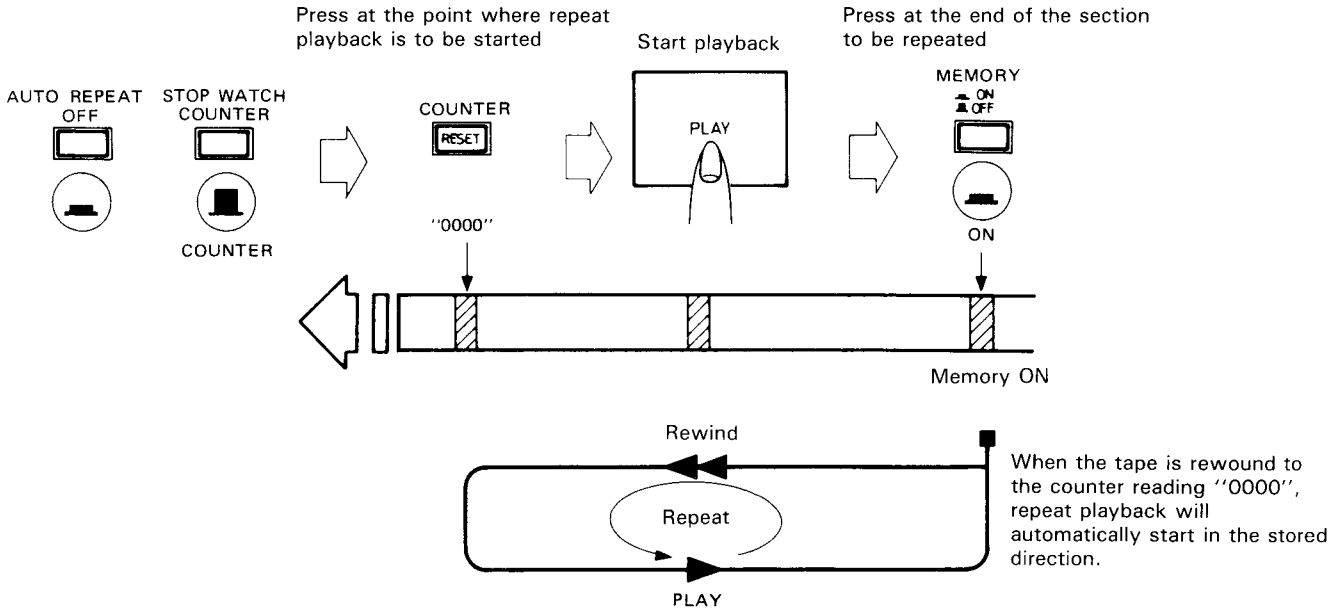


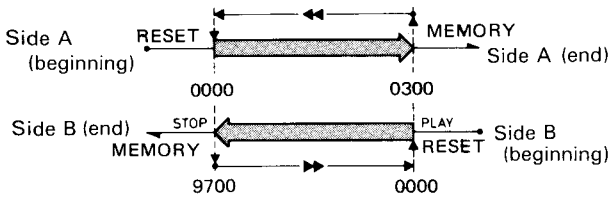
Fig. 7

- COUNTER "0000" and MEMORY ON positions can be set as required. They can be set at the beginning and end of tune of you repeat one tune or at the ends of a tape if you want to repeat one full side of the tape.

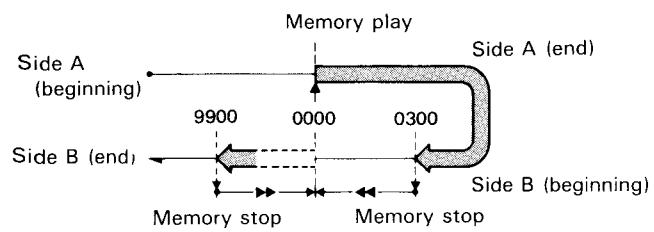
Note:
When the BLANK SKIP switch is set to ON (▬), a malfunction may occur, so set to OFF (▪) for use.

- **Relation between REVERSE MODE switch and block repeat**

When the ⇄ REVERSE MODE is selected....



When the ⇉ REVERSE MODE is selected....



When the ⇆ REVERSE MODE is selected....

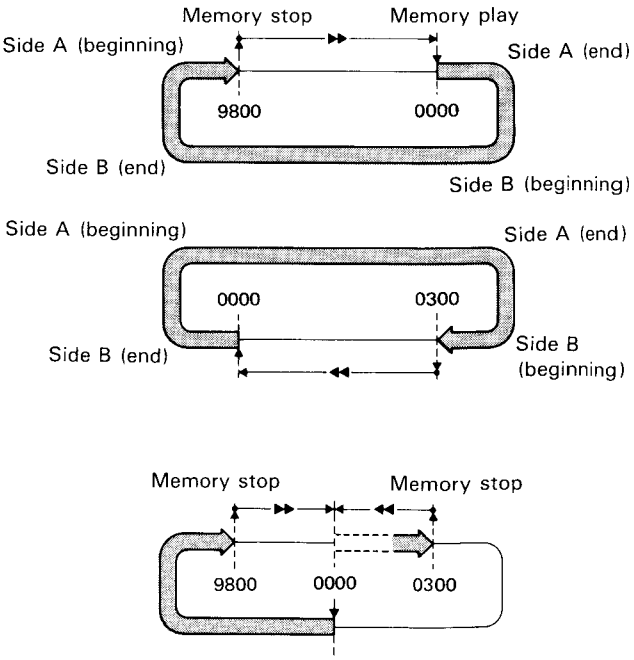


Fig. 8

Location of Main Parts

Top View

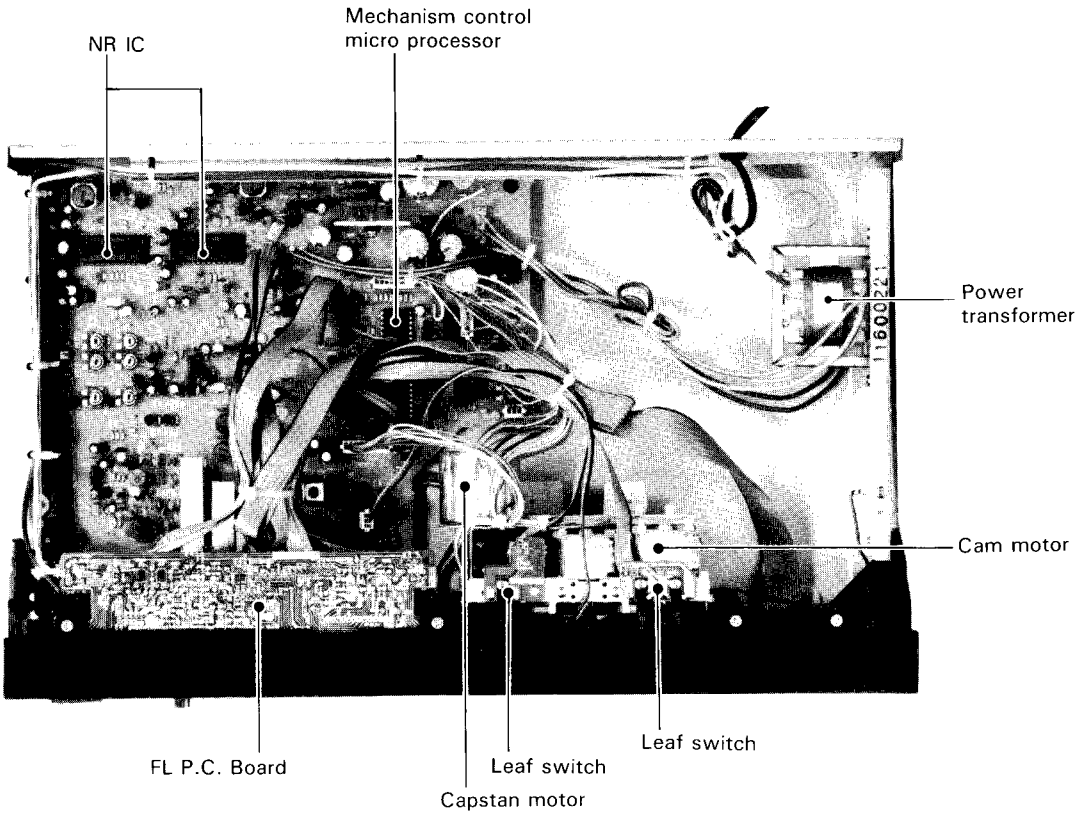


Fig. 9

Bottom View

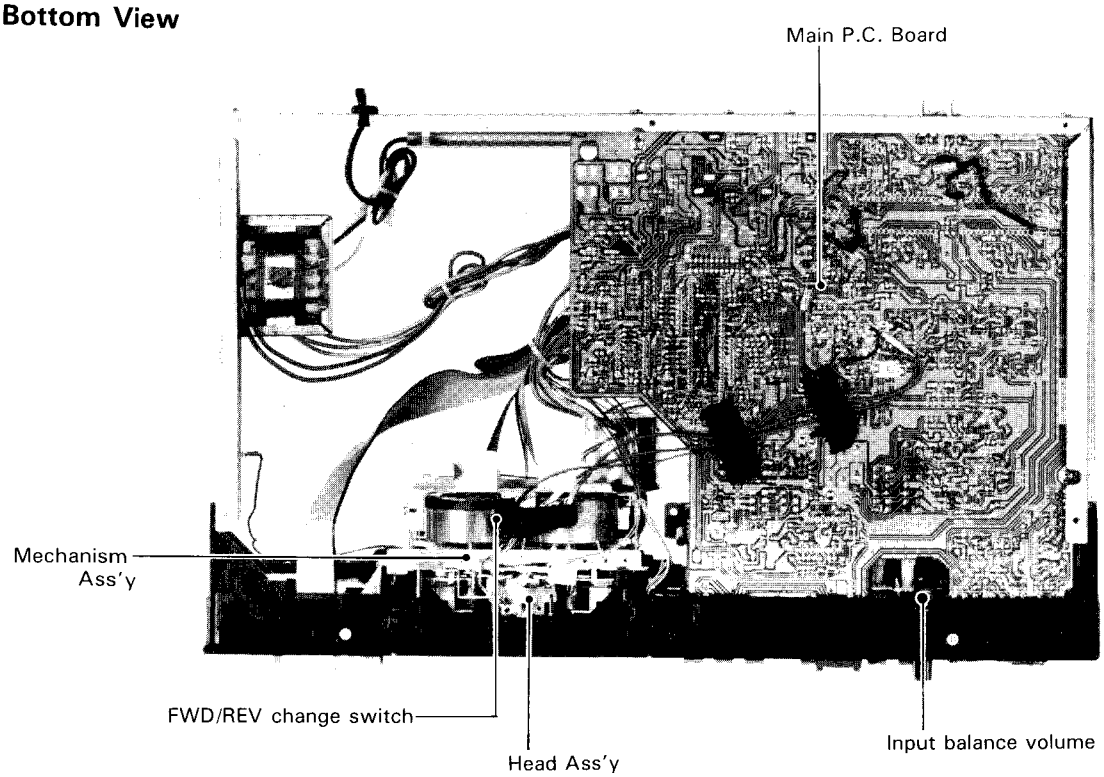


Fig. 10

Removal of Main Parts

1. Top and bottom covers

1) Remove four screws (1) on both the sides.
2) Remove two screws (2) from the back.
3) Remove five screws (3) and (4) from the bottom cover.

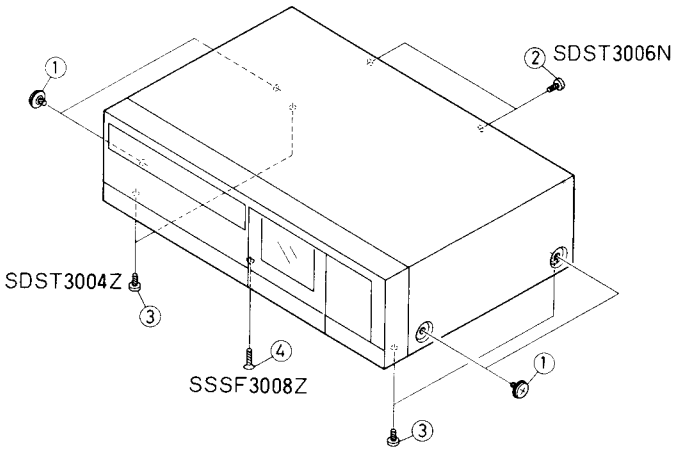


Fig. 11

2. Mechanism Ass'y

1) Remove four connectors (CN701, CN704, CN705 and CN706) connected to the mechanism from the Main P.C. Board. (When removing the mechanism from the set.)
2) Remove three leaf switches (5) fixed to the melchanism Ass'y. (When removing the mechanism from the set.)
3) Remove four screws (6) fixing the mechanism. Open the cassette door and remove the mechanism Ass'y.

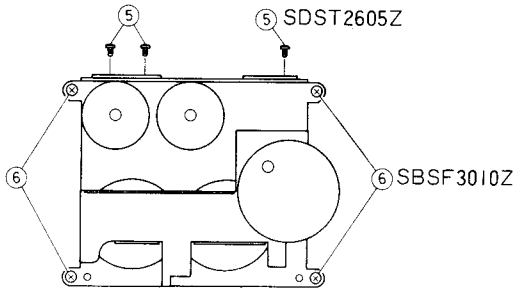


Fig. 12

3. Front plate

1) Remove five screws (7).
2) Pull input balance knob (8) out.
3) Cut the wire band and pull out the front plate.

4. FL board Ass'y

Remove the FL board Ass'y by pulling it forwards.

5. NR and counter switch Ass'y

1) Remove the FL board Ass'y.
2) First remove the knob side of the NR and counter switch Ass'y by pulling it up and then remove by pulling the knobs off.

6. Timer/reverse mode switch

Remove four hooks.

7. Power switch

1) Pull out the power switch
2) Set the timer switch to the play mode and remove the timer switch bracket by sliding it to the right. (Do not lose the spring.)
3) Remove two screws holding the switch.

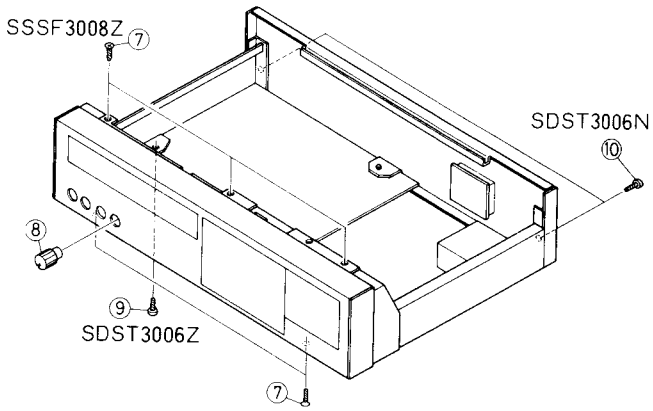


Fig. 13

8. Input level control replacement

1) Remove the front plate and remove the NR and counter switch Ass'y.
2) Remove the slide knob by pushing its knob down.
3) Unsolder the slide control.

9. Balance control

1) Remove the installation nut.
2) Remove the hook holding the control board.
3) Unsolder the control terminal.

10. Main board Ass'y

This can be replaced without removing PCBs other than the microphone jack.

1) Remove screw (9) holding the P.C. Board on the left side bracket.
2) Remove the balance control installation nut.
3) Pull out the tape select switch.
4) Remove the input level control slider by pushing it down.
5) Remove two screws (10) holding the rear panel on both the sides and remove the main board Ass'y by pulling it backward.

Mechanism Section

1. R/P & E head Ass'y

1) Remove two screws (a) from the Head Mount base.
2) Remove two screws (k) fastning R/P & E Head Ass'y.

2. Pinch roller Ass'y

1) Pull out the E ring (b) fastening FWD pinch roller.
2) Pull out the E ring (c) fastening REV pinch roller.

3. Reel Ass'y

1) Pull out the reel sttoper (d).

Note: When replacing the Hall IC, make sure to contact it to the board to secure the space between them.

4. Capstan motor

Remove three screws (e) fastening F/M bracket.

5. Reel motor

Remove two screws (f).

6. Cam motor

Remove two screws (g).

7. Reel base unit

1) Disassembly reel motor and cam motor.
2) Remove one screw (h).

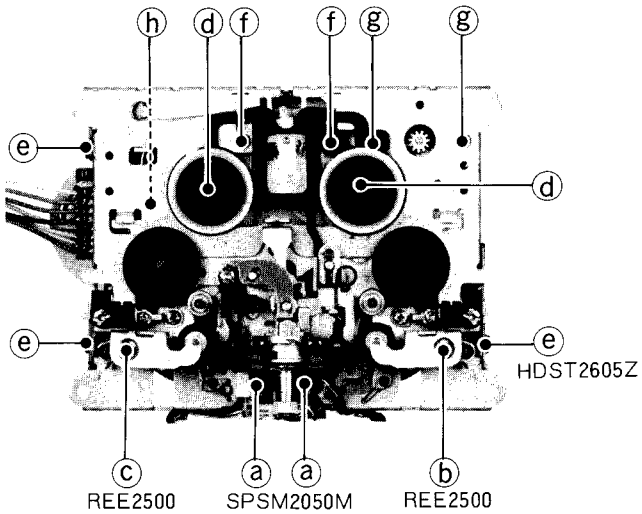


Fig. 14

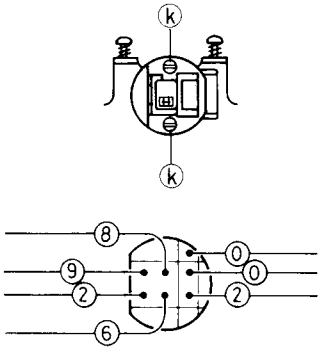
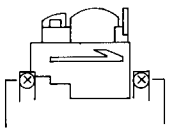
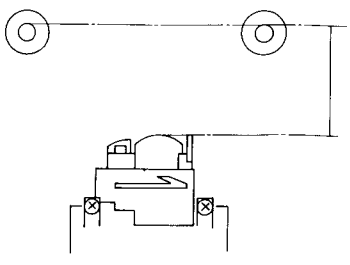
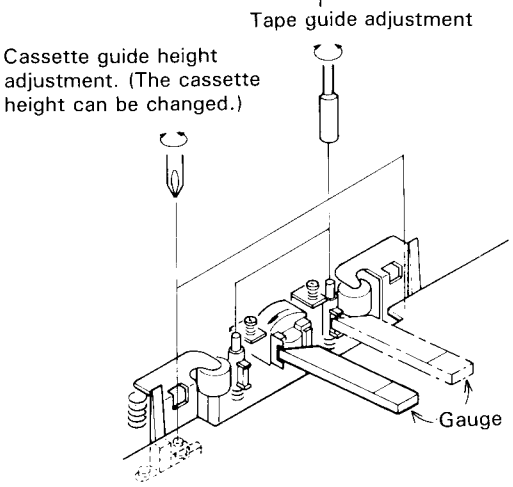


Fig. 15

Wiring connection for R/P & E Head

Main Adjustment

Items	Tape to be used/jig	Standard	Adjustment and checking method	Adjusting points
1. Tape transpsort adjustment	M300 gauge and C-90 tape	The tape should not be curled or stretched during travel. Note: Normally, the tape travel can only be adjusted at tape guide. However, when this adjustment is not sufficient, adjust the cassette guide height.	Adjust the tape guide and cassette guide heights so that the gauge passes through the guide smoothly. Confirm it in both forward and reverse directions.	Refer to the illustration below. (Apply screw locking compound after adjustment.)
2. Tape speed adjustment and wow and flutter checking	Test tape VTT712 (3 kHz)	Within 3,000 Hz±15 Hz, 0.05% (WRMS) 0.16% (DIN 45500)	Perform the tape speed adjustment at the tape end in the FWD side. Check the wow and flutter at the beginning and end of the tape both FWD and REV sides.	Semi-fixed resistor in the capstan motor.
3. Azimuth adjustment (1)	Test tape TMT702 (14 kHz)	Phase deviation should not occur when the output is maximum.	Adjust the FWD side and then the REV side.	
4. Checking the rewind torque	CTG-N for the torque measurement or torque dial	35 ~ 75 g·cm during the PLAY mode 70 ~ 200 g·cm during the FF/REW mode	These standards should be satisfactory for both FWD/REV sides.	—
5. Pinch roller pressure	Tension gauge	350 ~ 500 g	This standard should be satisfactory for both FWD and REV sides.	Pull it to the vertical direction when the pinch roller rotation stops.
6. Head position	M300 gauge	PLAY/REC: 3.15 ~ 3.65 mm MS: 4.4 ~ 5.1 mm	Check that the standards should be in the specified range on the left and top of all parts do not hit the cassette.	
7. Fast wind time	C-60	FF/REW: Less than 95 sec.		



Adjustment and Checking

- NR switch: OFF
- TAPE switch: Normally set to NORMAL
- Measuring position: Normally LINE OUT
- Minimum input level MIN: −66 dBs
  (Ref. level) LINE IN: −20 dBs

Items	Tape to be used	Standards	Adjustment and checking method	Adjusting points
1. Playback level adjustment	VTT724 (1 kHz)	−8 dBs	Adjust in the FWD direction and check in the REV direction. The playback level should be −8 dBs ±1 dB with L and R deviations of 1 dB.	VR102 202
2. Playback equalizer adjustment	VTT739 (63 Hz, 1 kHz, 10 kHz)	The deviation of 1 kHz/10 kHz should be 0 ~ 0.5 dB.	Perform adjustment in the FWD direction.	VR101 201
3. Tape end level detection adjustment (Quick reverse)	Use the leader tape section of TS-5.	0.23 V at TP701	Adjust the voltage of TP701 (−) side of C702) in the STOP mode.	VR701
4. Bias frequency adjustment	——	81 kHz±3 kHz	Set the unit to the FWD mode and measure at pin 1 of CN902 or the front panel side lead of C936 with the tape select switch set to the METAL position. (Dummy resistor should be 1.2 Mohms or more.)	L901
5. Record/play frequency response adjustment	TS-5 (Normal) TS-6 (Chrome) TS-7 (Metal)	Adjust to +0.5 dB ±0.5 dB at the FWD side. Check that it is +0.5 dB ±4 dB. Check that it is +0.5 dB ±3 dB.	Adjust by recording and playing back 1.25 khz and 12.5 kHz signals with the reference level of −20 dB input. (Adjust the balance control so that the L and R input level differences are 0.)	VR104, 204
6. Recording level adjustment	TS-5 (Normal)	−8 dBs	Adjust by recording and playing back the reference level of 1 kHz in the FWD mode. Check that the recording level of chrome tape is −8 dBs ± 1.5 dB. Check that the recording level of metal tape is −8 dBs ±2 dB. The L and R level differences should be 1.5 dB or less.	VR103 203
7. FL meter adjustment	TS-5 (Normal)	[−20] dB should light. Note: Short circuit by soldering between pins ⑬ and ㉓ of IC 502 when adjusting and cut after adjustment.	Adjust the input level so that 1 kHz LINE OUT signal becomes the reference level of −20 dB (−28 dBs) and [−20 dB] in the FL meter light or the FL meter goes out at −29 dBs. [0 dB] should light between −9 dBs and −8 dBs.	VR301 401
8. Checking the record/play distortion	TS-5 TS-6 TS-7	Normal: Less than 2% Chrome: Less than 3% Metal: Less than 2%	Measure by recording and playing back the reference level of 1 kHz.	——
9. Checking record/play S/N ratio	TS-5 (Normal)	42 dB or more	Apply the reference level of 1 kHz and non-signal level to the MIC jacks and measure the difference by recording and playing back.	——

Items	Tape to be used	Standards	Adjustment and checking method	Adjusting points
10. Azimuth adjustment (2)	Test tape TMT702 (14 kHz) TS-5 (Normal)	Minimum phase difference and maximum output	Set the unit to the FWD mode and adjust the left screw to the maximum output position with no phase difference. Check the level difference by recording and playing back the reference level of 12.5 kHz, −20 dB. Next, rewind the tape to the original position and turn the tape over to play it in the REV mode. Adjust the right screw so that the level is the same as in the FWD mode. Repeat the PLAY and STOP operations to check it.	Head azimuth adjustment screw
11. Checking REV response	TS-5 (Normal)	+0.5 dB ±3 dB at 1.25 kHz/12.5 kHz	When 1.25 khz/12.5 kHz signal is recorded and played back in the REV mode, the REV response should be +0.5 dB ± 3 dB and when 1 khz signal is recorded and played back, the REV response should be within ±1.5 dB with respect to the FWD mode.	—
12. Checking the auto stop	Cassette tape (general)	Auto stop should be performed within 5 sec.	Check at the tape's end in PLAY, FF/REW modes when the reverse mode is set to " ⇄ ". (The clearance between the Hall IC and magnet should be 1 ± 0.5 mm.)	—
13. Checking the music scan operation	Test tape TMT6447 (700 Hz) TMM6648 (700 Hz)	—	Check that the unit enters the playback mode after music scan when TMT6447 reaches its near end. Check that the music scan operation is not performed when the beginning of TMT6448 is used.	—
14. Checking the MPX filter response	—	30 dB or more	Measure the LINE OUT output when inputting a 19 kHz signal with the required level and the NR switch set to ON or OFF.	—
15. Checking DOLBY NR response (Encode (REC))	DOLBY B NR	Test point Pin ㉑ of IC101, 201 Measuring reference level 400 Hz, −6 dBs (=Cal level)	Frequency input 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 $^{+0.5}_{-1.0}$ dB	
	DOLBY C NR		1 kHz Cal −40 dB: +16.2 dB $^{+30}_{-2.0}$ dB 5 kHz Cal −20 dB: +2.9 dB ±2.5 dB 1 kHz Cal: 0 dB ± 1 dB	

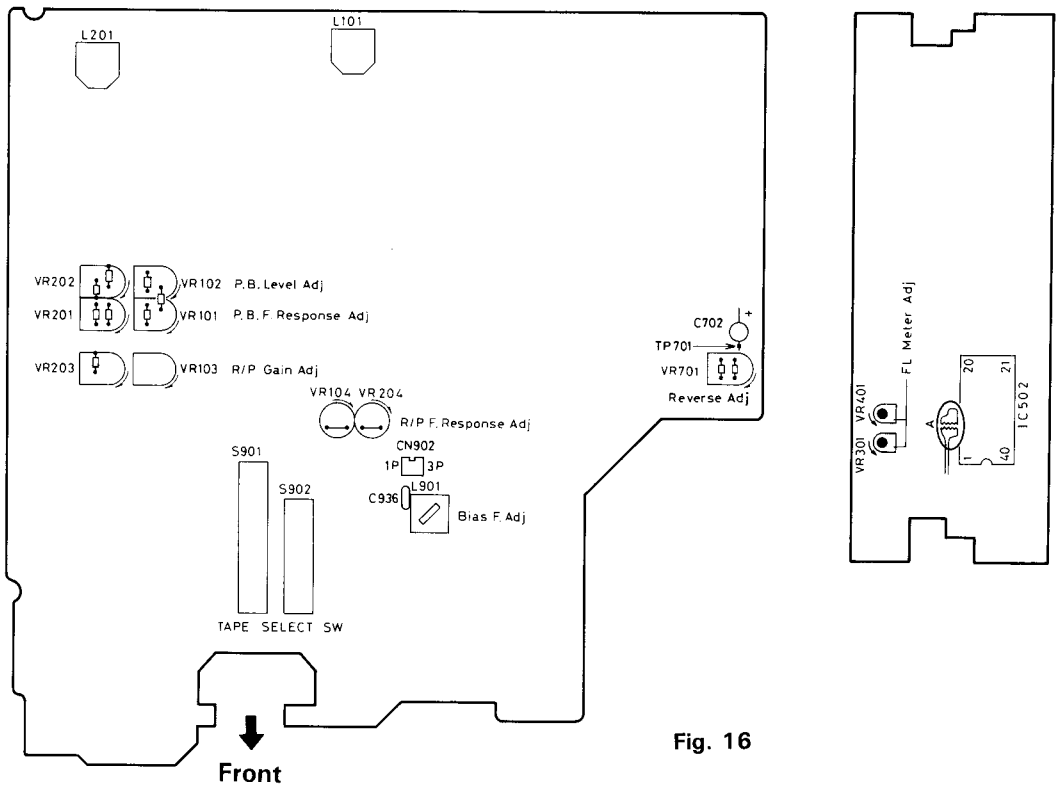


Fig. 16

IC Function Explanation

1. Meter Section

Digital peak block diagram

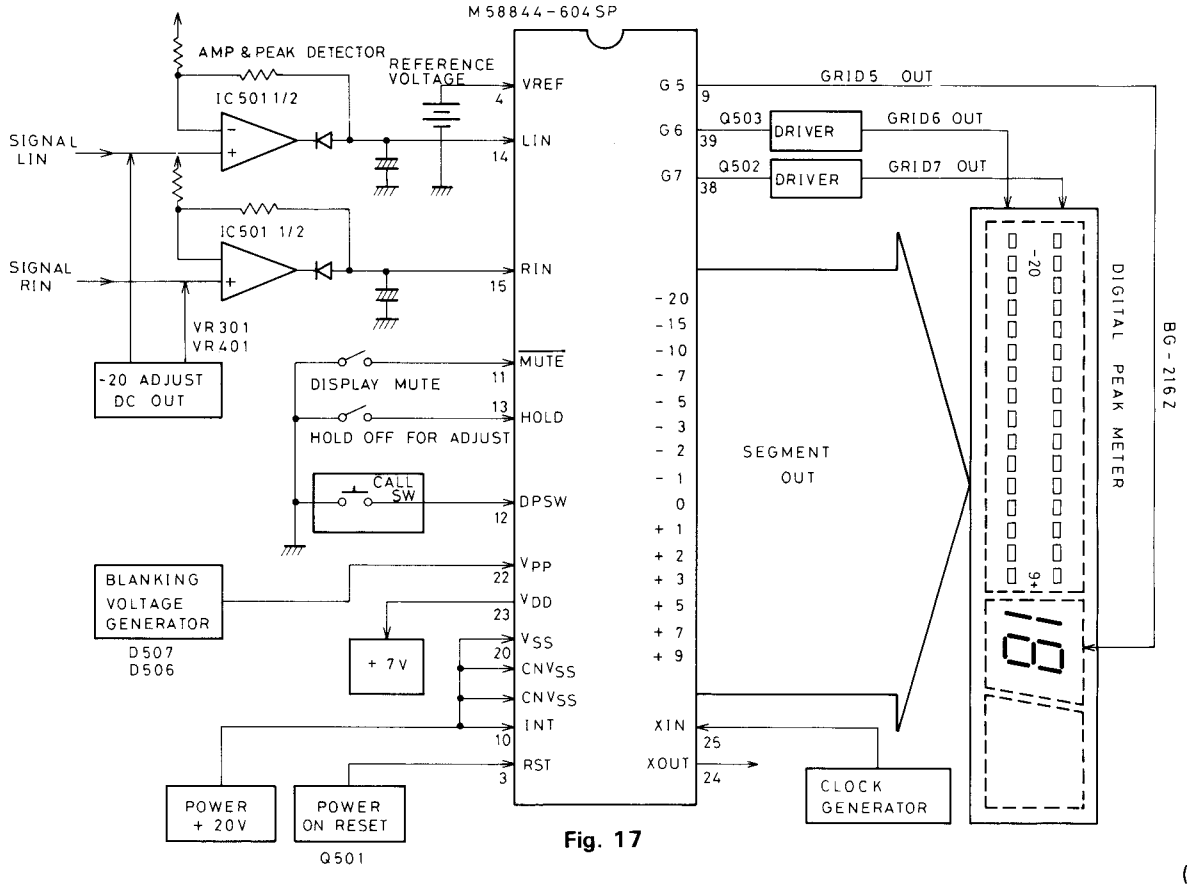


Fig. 17

Digital peak CPU pin function chart

Pin No.	Pin Name	Function
1	NC	Not used.
2	NC	Not used.
3	RST	Power ON Reset input. RESET at "H" level. START at "L" level.
4	VREF	Reference voltage input pin.
5	+3	+3 segment output. Lights at "H" level.
6	+5	+5 segment output. Lights at "H" level.
7	+7	+7 segment output. Lights at "H" level.
8	+9	+9 segment output. Lights at "H" level.
9	G5	DIGITAL PEAK section grid select output. Lights at "H" level.
10	$\overline{\text{INT}}$	Interrupt input pin. Pulled UP at "H" level because not used.
11	$\overline{\text{MUTE}}$	DISPLAY MUTE Input pin. Display at "H" level. Blank at "H" level.
12	DPSW	DIGITAL PEAK CALL SW input pin. MAX VALUE CALL at "L" level input. Displays the PEAK reset when "L" is input again during the MAX VALUE display.
13	HOLD	PEAK HOLD ON/OFF input. HOLD OFF at "H' level. HOLD ON at "L" level.
14	L IN	L CH Peak rectified voltage input pin. Displays by comparting between the A/D converted analog voltage at this pin and reference voltage.
15	R IN	R CH Peak rectified voltage input pin. Displays by comparing between the A/D converted analog voltage at this pin and reference voltage.
16	NC	Not used.
17	NC	Not used.
18	CN Vss	} +20 V connection pin.
19	CN Vss	
20	Vss	
21	NC	Not used.
22	VP	Segment OFF voltage input pin. (Pulled down "L" level for segment output.)
23	VDD	+20 V (reference) −14 V (equivalent to GND of IC.)
24	X OUT	Clock connection pin.
25	X IN	Clock input pin.
26	−1	−1 & h segment output Lights at "H" level.
27	−2	−2 & g segment output. Lights at "B" level.
28	−3	−3 & f segment output. Lights at "H" level.
29	−5	−5 & e segment output. Lights at "H" level.
30	0	0 & under segment output. Lights at "H" level.
31	+1	+1 & over segment output. Lights at "H" level.
32	+2	+2 segment output. Lights at "H" level.
33	−7	−7 & d segment output. Light at "H" level.
34	−10	−10 & c segment output. Light at "H" level.
35	−15	−15 & b segment output Lights at "H" level.
36	−20	−20 & a segment output. Lights at "H" level.
37	NC	Not used.
38	G7	Grid select output for the R CH and each display letter. Lights at "H" level.
39	G6	R CH grid select output. Lights at "H" level.
40	NC	Not used.

2. Counter Section

Counter microprocessor block diagram

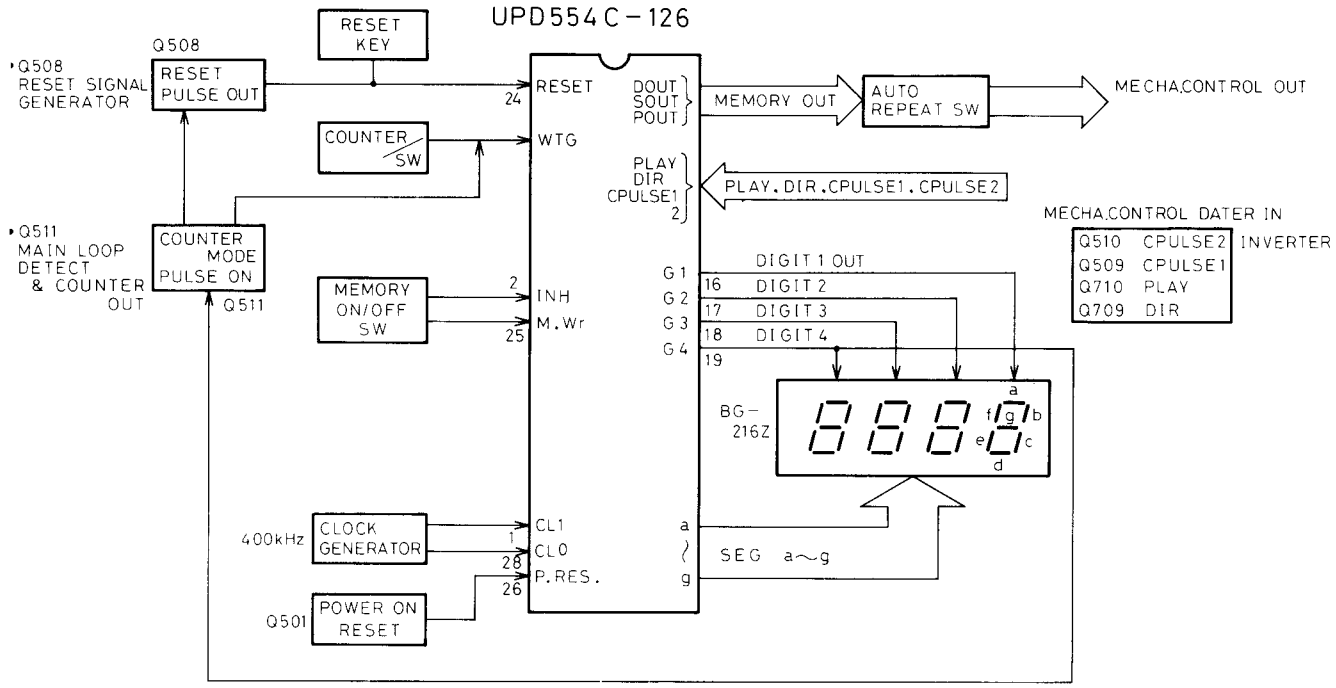


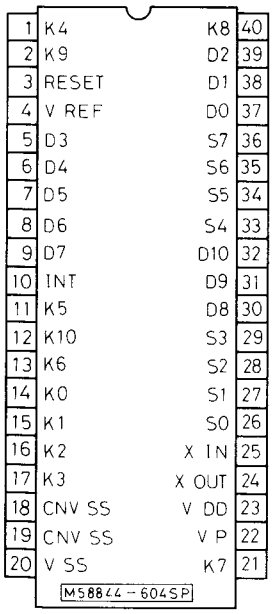
Fig. 18

Counter CPU Pin Function Chart

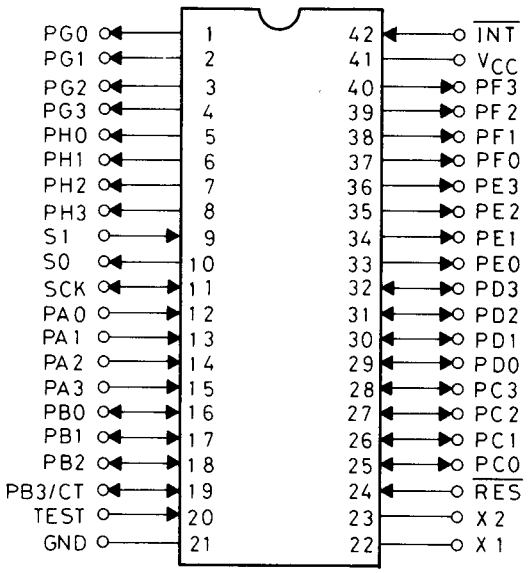
Pin No.	Pin Name	Function	
1	CL1	Clock oscillator connection pin.	Connectecd to 400 kHz oscillator.
2	INH	Input pin of memory output inhibit.	ENABLE at "H" level. INHIBIT at "L" level.
3	DIR	Direction input pin. (Memory point direction check)	Forward direction at "H" level. Reverse direction at "L" level.
4	D OUT	"0" point direction and "M" point tape travel direction output. (Memory output) Forward at "H" level. FF at "H" level. Reverse at "L" level. REW at "H" level.	
5	S OUT	"M" point memory output pin. Normally, it is "L" level and "K" level output (10 msec) at "M" point (display mode).	
6	WTC	Stopwatch/counter select input pin.	Stopwatch mode at "H". Counter mode at "L".
7	g	FL segment g output.	Lights at "H" level.
8	f	FL segment f output.	Lights at "H" level.
9	e	FL segment e output.	Lights at "H" level.
10	d	FL segment d output.	Lights at "H" level.
11	c	FL segment c output.	Lights at "H" level.
12	b	FL segment b output.	Lights at "H" level.
13	a	FL segment a output.	Lights at "H" level.
14	Vss	+20 V connection pin.	
15	20 V	TEST pin (Microprocessor check pin; connected to +20 V when used.)	
16	G1	FL grid 1 output pin.	"H" level when DIGIT 1 is selected.
17	G2	FL grid 2 output pin.	"H" level when DIGIT 2 is selected.
18	G3	FL grid 3 output pin.	"H" level when DIGIT 3 is selected.
19	G4	FL grid 4 output pin.	"H" level when DIGIT 4 is selected.

Pin No.	Pin Name	Function
20	P OUT	"0" point memory output pin. Normally, it is "L" level and "H" level output (10 msec) at "0" point.
21	PLAY	PLAY mode input pin. (STOP WATCH START/STOP input) PLAY mode at "H" level. NOT PLAY mode at "L" level.
22	C PULSE2	Tape pulse input 2 } Since the input signals are out of phase each other by 90
23	C PULSE1	Tape pulse input 1 } degrees, COUNT UP/DOWN can be judged.
24	RESET	Stopwatch/counter reset input. Operates as the stopwatch reset during the stopwatch mode. Operates as the counter reset and "0" point input during the counter mode.
25	M Wr	"M" point memory input pin. "M" point is input by detecting the transition from "M" to "L".
26	P RES	Power ON reset input. Reset at "H" level. Start at "L" level.
27	VGG	+10 V connection pin.
28	CLO	Clock oscillator connection pin.

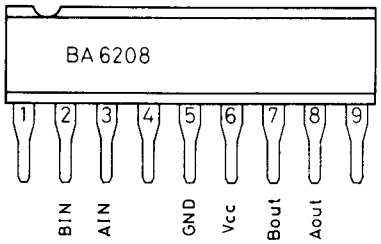
M588411-604SP



UPD1511AC/UPD1512AC



BA6208A



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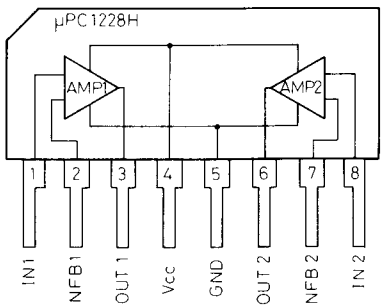
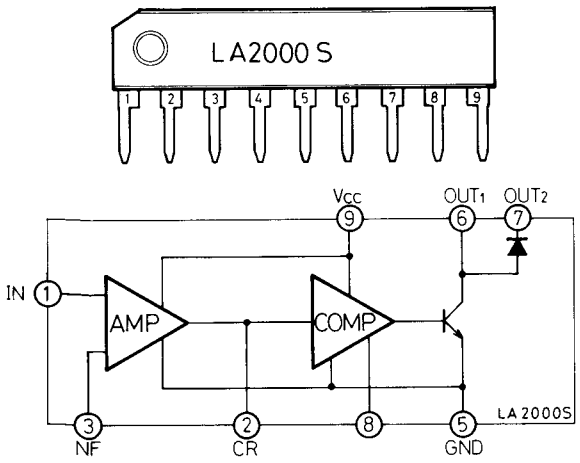
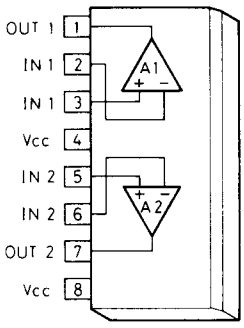


LA2000S



M5222L



M5218L

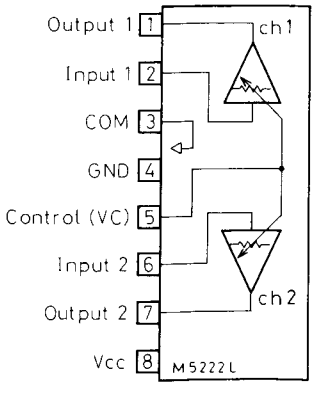


Fig. 19

3. Mechacon Section

Mechacon block diagram

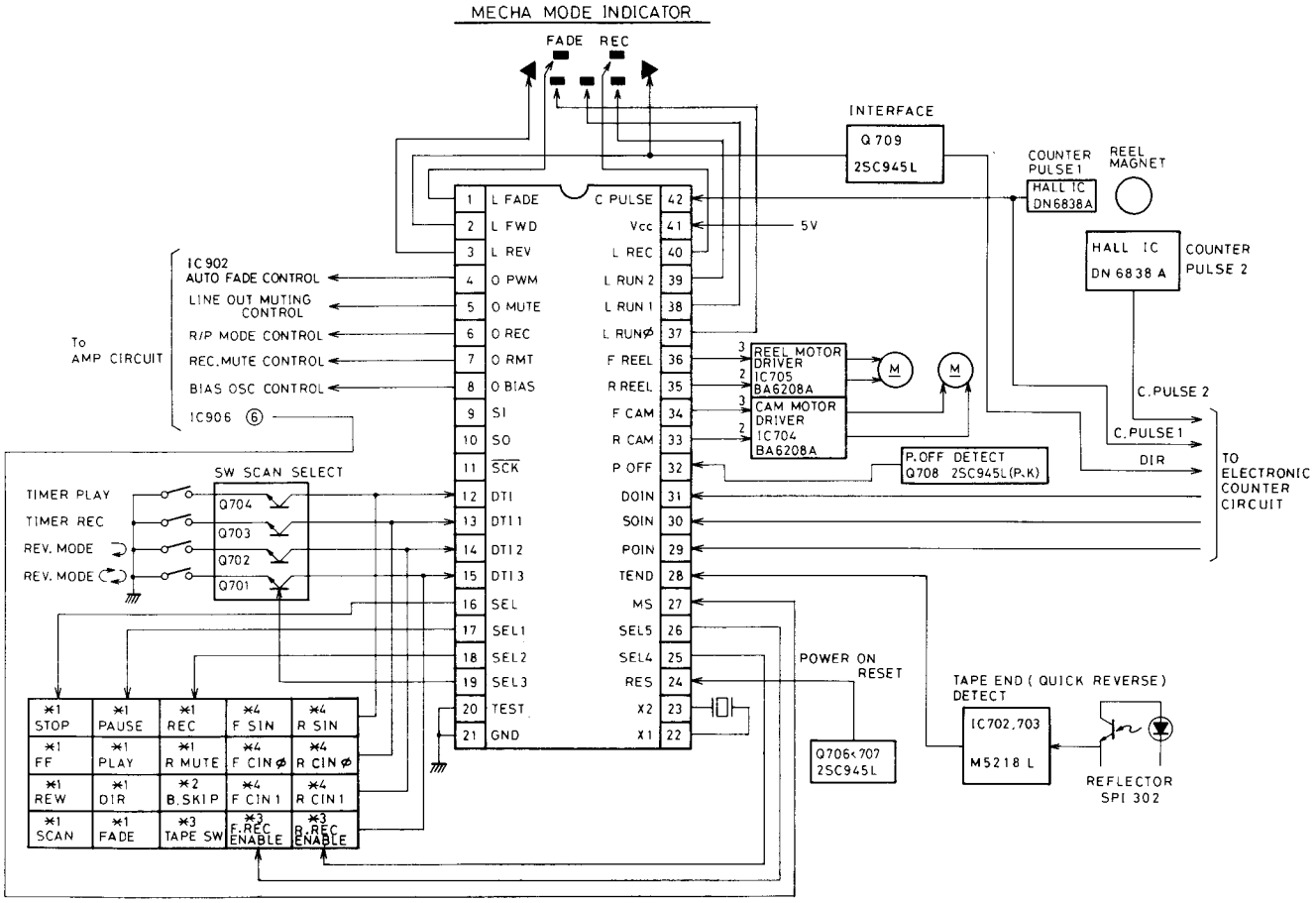


Fig. 20

Pin No. 29, 30, 31 mode chart

Present mode	Mechanism control micro-processor input signal	Input signals and subsequent operation modes									
		Memory SW: ON, Auto repeat SW: OFF					Memory SW: ON, Auto repeat SW: ON				
		Counter "0000" position Reset direction mode				Memory position	Counter "0000" position Reset direction mode				Memory position
FF/REW	SO IN	"H" input	Stops in reverse mode	"H" input	Stops in forward mode		—	Plays in reverse mode	—	Plays in forward mode	
	PO IN	"H" input		"H" input			"H" input		"H" input		
	DO IN			"H" input			—		"H" input		
PLAY	SO IN	"H" input	Stops in present direction mode	"H" input	Stops in present direction mode						"H" input — — Enters the REW mode "H" input — "H" input Enters the FF mode
	PO IN	"H" input		"H" input							
	DO IN	—		—							

Function chart of pins of mechanism control microprocessor (UPD1511AC-075)

Pin No.	Pin Name	Function
1	L FADE	Fade LED control output (Lights at L.)
2	L FWD	▷ (Forward) LED control output (Lights at L.)
3	L REV	◁ (Reverse) LED control output (lights at L.)
4	O PWM	PWM signal output for electronic volume control in auto fade-in or-out (H other than fade operation.)
5	O MUTE	Line out muting control output (Muting operates at H.)
6	O REC	Rec/play switching control output in Amp. circuit (switched to Rec mode at L.)
7	O RMT	Rec mute control output (Rec mute operates at H.)
8	O BIAS	Bias oscillation circuit control output (Bias oscillates at H.)
9	SI	Not used.
10	SO	
11	$\overline{SCK}$	
12	DTI0	Condition input ports for switches (dynamic scan input ports) For scanning sequence, refer to separate table.
13	DTI1	
14	DTI2	
15	DTI3	
16	SEL0	Selection output ports for switches (dynamic scan output ports) For scanning sequence, refer to separate table. Scan cycle is 5 msec. SEL0, 1 and 2 are L when selected; H when not selected. SEL3 is H when selected: L when not selected.
17	SEL1	
18	SEL2	
19	SEL3	
20	TEST	Not used. Connected to GND.
21	GND	Power supply terminal (negative)
22	X1	Internal clock oscillation circuit terminals
23	X2	
24	$\overline{RES}$	Microcomputer reset terminal (L momentarily when the power is switched ON; normally H.)
25	SEL 4	Selection output ports for switched (dynamic scan output ports) L when selected, H when not selected
26	SEL 5	
27	MS	Blank detection input in *1MS (H: not blank, L: blank)
28	TEND	Quick reverse input terminal (tape end) detection circuit output signal (When H is input for more than 80 msec, tape is quick-reversed to the end.)
29	PO IN	*2Counter microcomputer input terminal. Determines the following mechanism operation mode in memory operation.
30	SO IN	
31	DO IN	
32	P OFF	Power off detection signal input (When it continues H more than 10 msec.)
33	R CAM	Cam motor rotation control output (Both ports are H when OFF.)
34	F CAM	
35	R REEL	Reel motor rotation control output (Both ports are L when OFF.)
36	F REEL	
37	L RUN0	Tape running LED control output (Light at L.)
38	L RUN1	
39	L RUN2	
40	L REC	Rec LED control output (Lights at L.)
41	Vcc	Power supply terminal (+5 V)
42	C PULSE	Reel pulse input for auto stop detection

*1) MS: Music scan, index scan, blank search and blank skip
*2) Signals in memory operation and following mode

Microprocessor voltages and waveforms at each pin

① 5.8 V
② 4.8 V at REV and 0 V in FWD mode.
③ 0 V at REV and 4.8 V in FWD mode.
④ 4.8 V
⑤ 0 V in the REC mode only and 4.2 V in the other modes.
⑥ 0 V in the REC mode only and 4.2 V in the other modes.
⑦ 0 V in the REC mode only and 4.2 V in the other modes.
⑧ 4.1 V in the REC mode only and 0 V in the other modes.
⑨ 5.9 V
⑩ 0 V
⑪ 0 V
⑫ STOP. 6 V in the other modes.

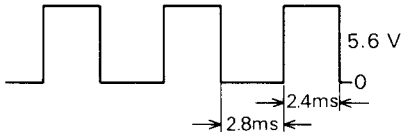


Fig. 21

⑬ Same staircase waveform as ⑫ in the FF/REW mode and 6 V in the other modes.
⑭ Same staircase waveform as ⑫ in the PB/REC mode
⑮

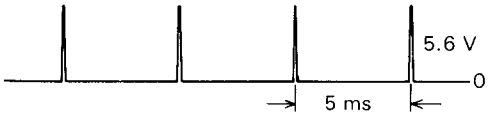


Fig. 22

⑯

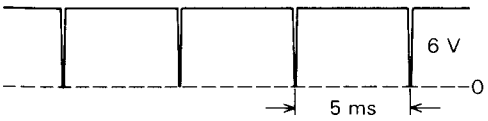


Fig. 23

⑰ Same as ⑯.
⑱ Same as ⑯.
⑲

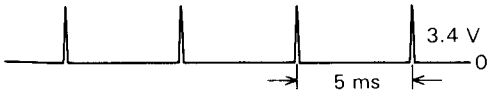


Fig. 24

⑳ 0 V
㉑ 0 V
㉒

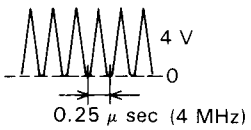


Fig. 25

㉓ Same as ㉒.
㉔ 5.8 V
㉕

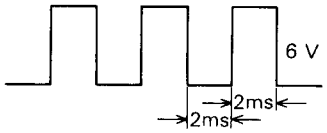


Fig. 26

㉖ Same as ㉕.
㉗ 0 V
㉘ 0 V
㉙ 0 V
㉚ 0 V
㉛ 0 V
㉜

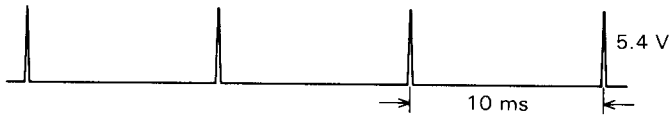


Fig. 27

㉝ 4.6 V
㉞ 4.6 V
During cam rotation only, the either pin is 0 V.
㉟ 4.6 V only during the REW (scan) mode and 0 V during other modes.
㊱ 4.6 V only during the FF (scan) mode and 0 V during other modes.
㊲ PB/REC

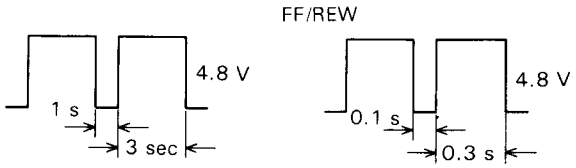


Fig. 28

STOP 4.8 V
㊳ Same as ㊲.
㊴ Same as ㊲.

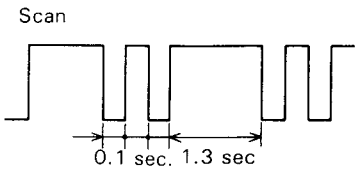


Fig. 29

㊵ 0 V in REC mode and 5 V in other modes.
㊶ 6 V
㊷ PB/REC

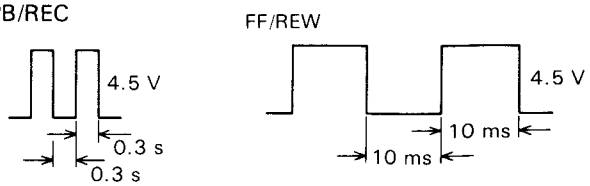


Fig. 30

STOP 0 V

Block Diagram

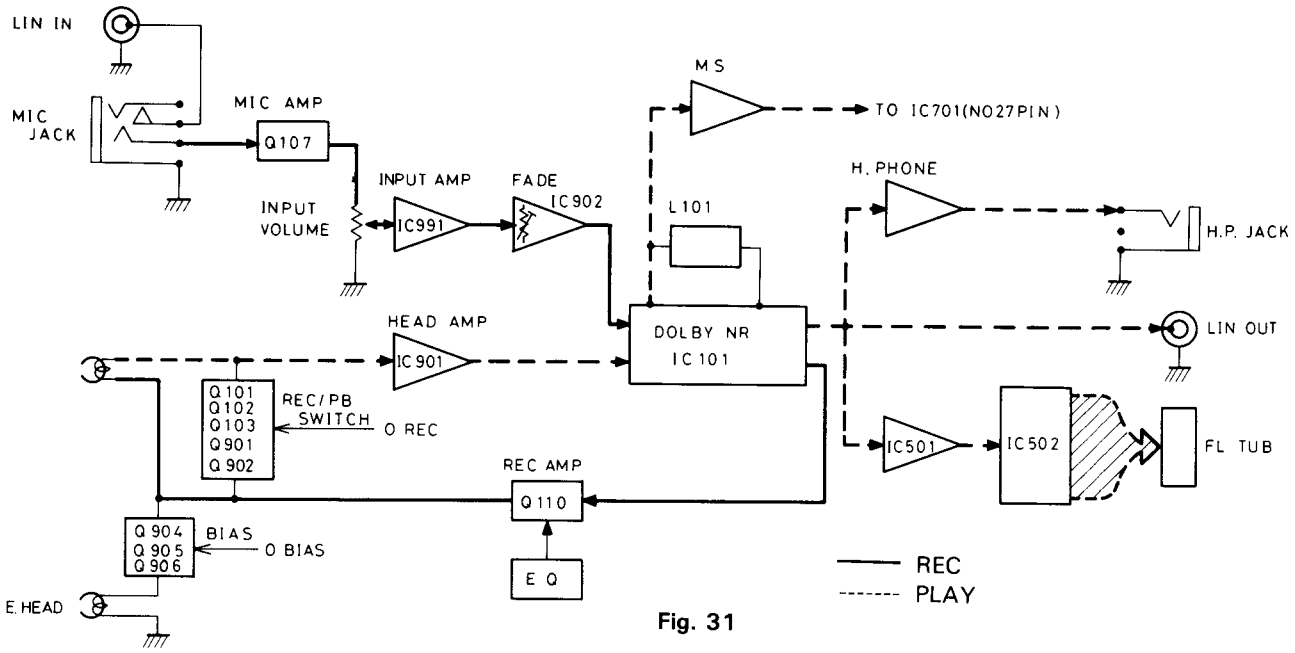


Fig. 31

Wiring Connections (1)

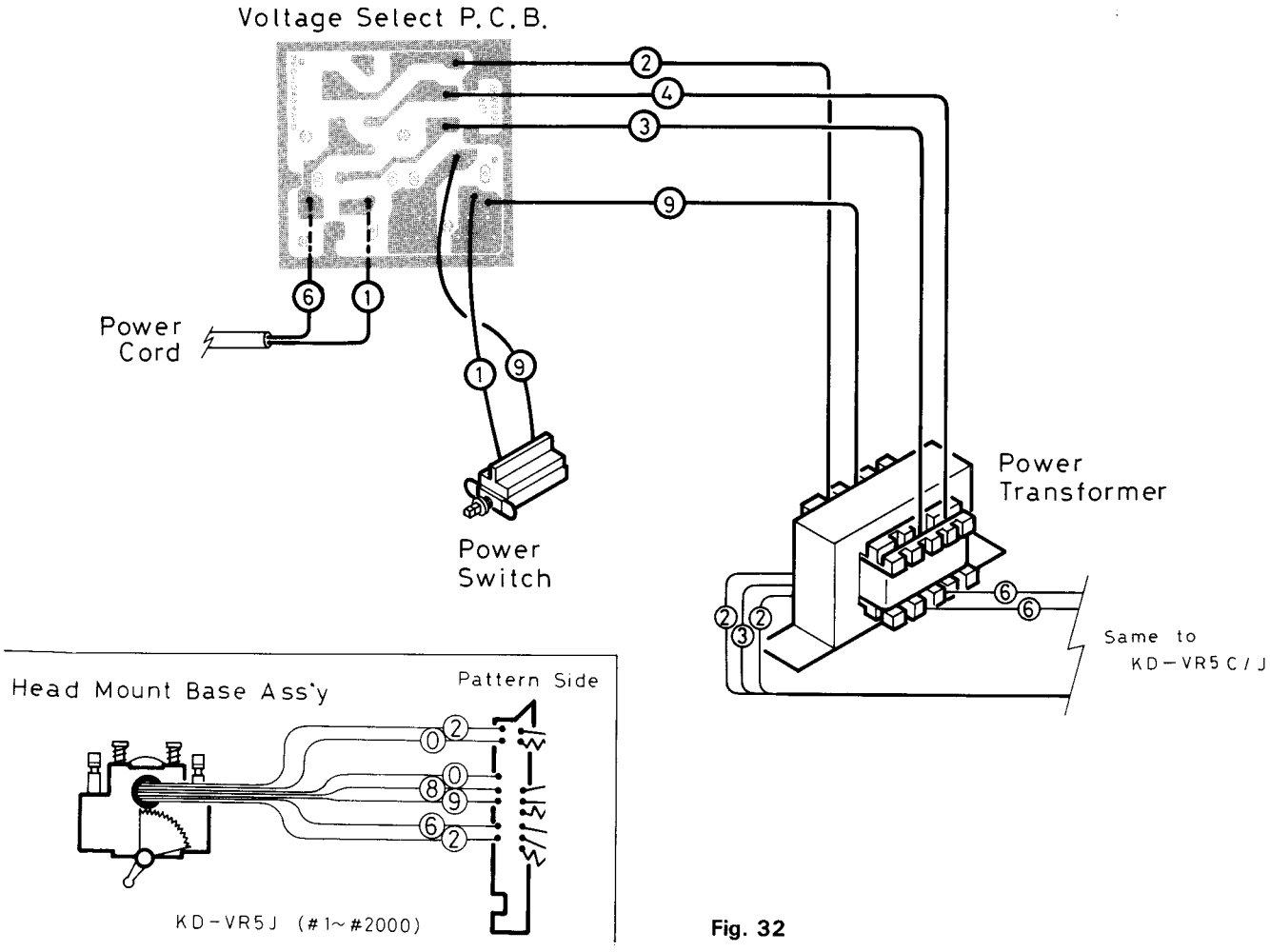


Fig. 32

Wiring Connections (2)

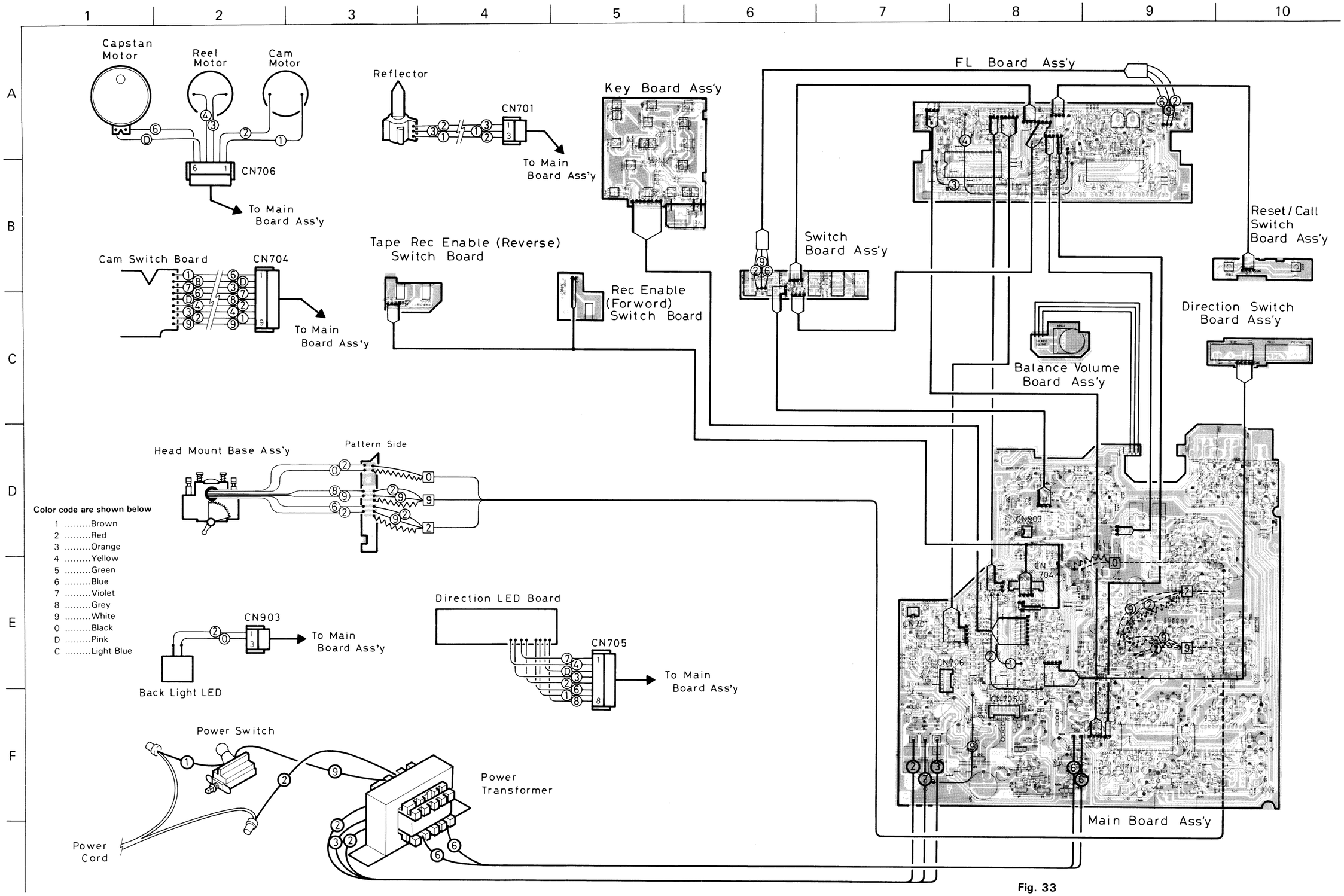
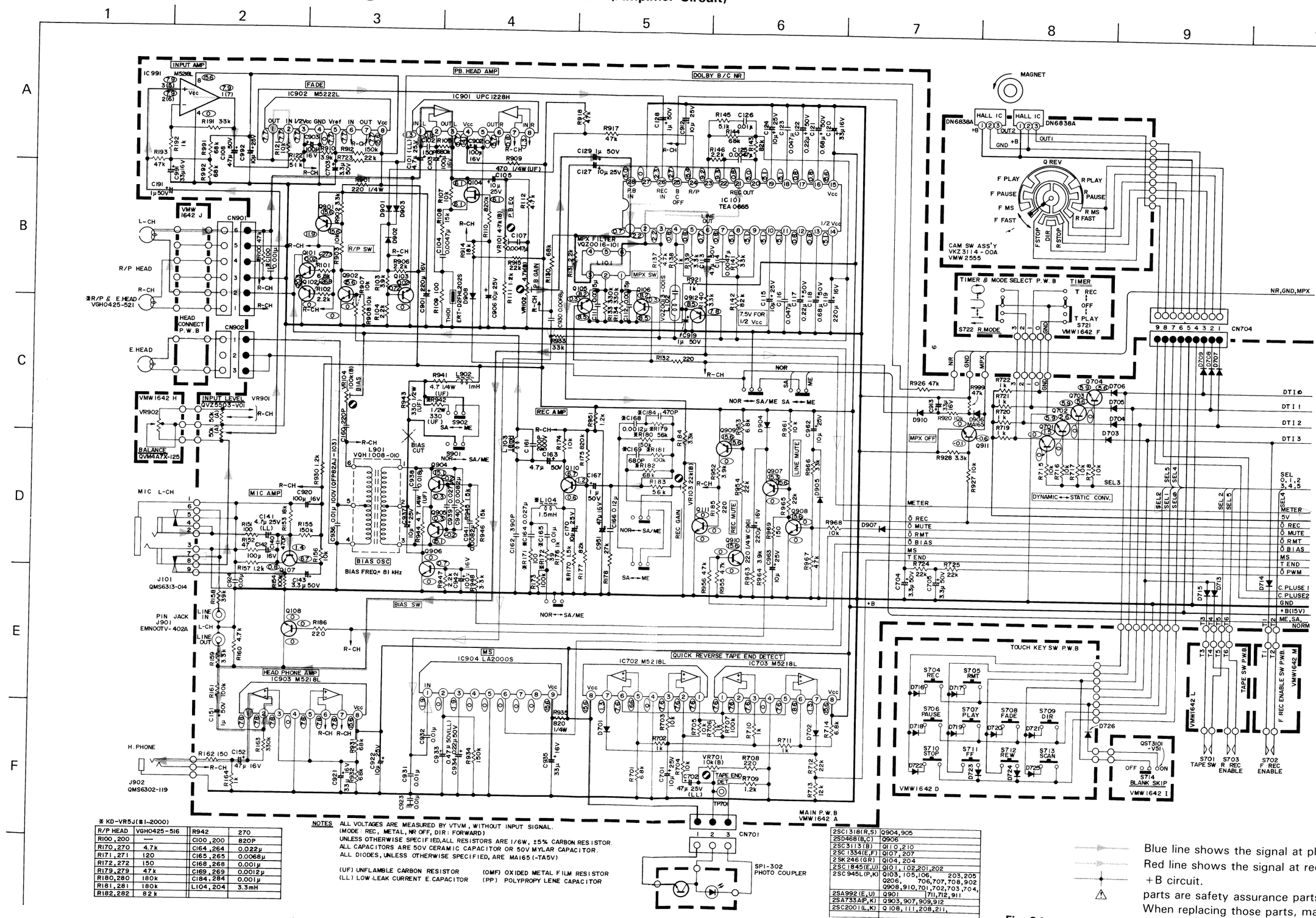


Fig. 33

Standard Schematic Diagram of KD-VR5 (Amplifier Circuit)



※ KD-VR5J(※1-2000)			
R/P HEAD	VGH0425-516	R942	270
R100,200	—	C100,200	820P
R170,270	4.7k	C164,264	0.022μ
R171,271	120	C165,265	0.0068μ
R172,272	150	C168,268	0.001μ
R179,279	47k	C169,269	0.0012μ
R180,280	180k	C184,284	0.001μ
R181,281	180k	L104,204	3.3mH
R182,282	82k		

NOTES ALL VOLTAGES ARE MEASURED BY VTVM, WITHOUT INPUT SIGNAL.
(MODE: REC, METAL, NR OFF, DIR: FORWARD)
UNLESS OTHERWISE SPECIFIED, ALL RESISTORS ARE 1/6W, ±5% CARBON RESISTOR.
ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
ALL DIODES, UNLESS OTHERWISE SPECIFIED, ARE MA165 (-TA5V)

(UF) UNFLAMBLE CARBON RESISTOR (OMF) OXIDED METAL FILM RESISTOR
(LL) LOW-LEAK CURRENT E.CAPACITOR (PP) POLYPROPY LENE CAPACITOR

2SC1318(R,S)	Q904,905
2SD468(B,C)	Q906
2SC3113(B)	Q110,210
2SC1334(E,F)	Q107,207
2SK246(GR)	Q104,204
2SC1845(E,U)	Q101,102,201,202
2SC945L(P,K)	Q103,105,106, 203,205 Q206, 706,707,708,902 Q908,910,701,702,703,704,
2SA992(E,U)	Q901, 711,712,911
2SA733A(P,K)	Q903,907,909,912
2SC2001(L,K)	Q 108,111,208,211,

Blue line shows the signal at playback.
Red line shows the signal at recording.
+B circuit.
⚠ parts are safety assurance parts. When replacing those parts, make sure to use the specified one.

Fig. 34

Standard Schematic Diagram of KD-VR5 (Mecha Control Circuit)

SET. NAME	POWER TRANSFORMER	POWER SW.	POWER CORD	COI	VOLTAGE SELECT SW	FUSE	FIG No.
KD-VR5	VTP54D5-061B	QSPI110-306	QMP0100-183K	QCZ9015-103	———	———	FIG 1
KD-VR5A	VTP54C5-071B	QSPI110-305	QMP2560-200	QFZ9010-103	QSS2325-203	QMF51A2-R80	FIG 2
KD-VR5B	VTP54C5-071BBS	QSPI110-305BS	QMP9017-008BS	QFZ9010-103	QSS2325-203BS	QMF51A2-R80BS	FIG 2
KD-VR5C	VTP54A5-061B	QSPI110-308	QMP1200-200	QCZ9014-103	———	———	FIG 1
KD-VR5E	VTP54C5-071B	QSPI110-305	QMP3900-200	QFZ9010-103	QSS2325-203	QMF51A2-R80	FIG 2
KD-VR5G	VTP54C5-071B	QSPI110-305	QMP3900-200	QFZ9010-103	QSS2325-203	QMF51A2-R80	FIG 2
KD-VR5J	VTP54A5-061B	QSPI110-308	QMP1200-200	QCZ9014-103	———	———	FIG 1
KD-VR5U	VTP54N5-051B	QSPI110-306	QMP7600-200	QFH42BM-103	QSS2325-205	———	FIG 2

Blue line shows the signal at playback.
Red line shows the signal at recording.
+B circuit.
parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Fig. 35

P.C. Board Parts (Pattern Side)

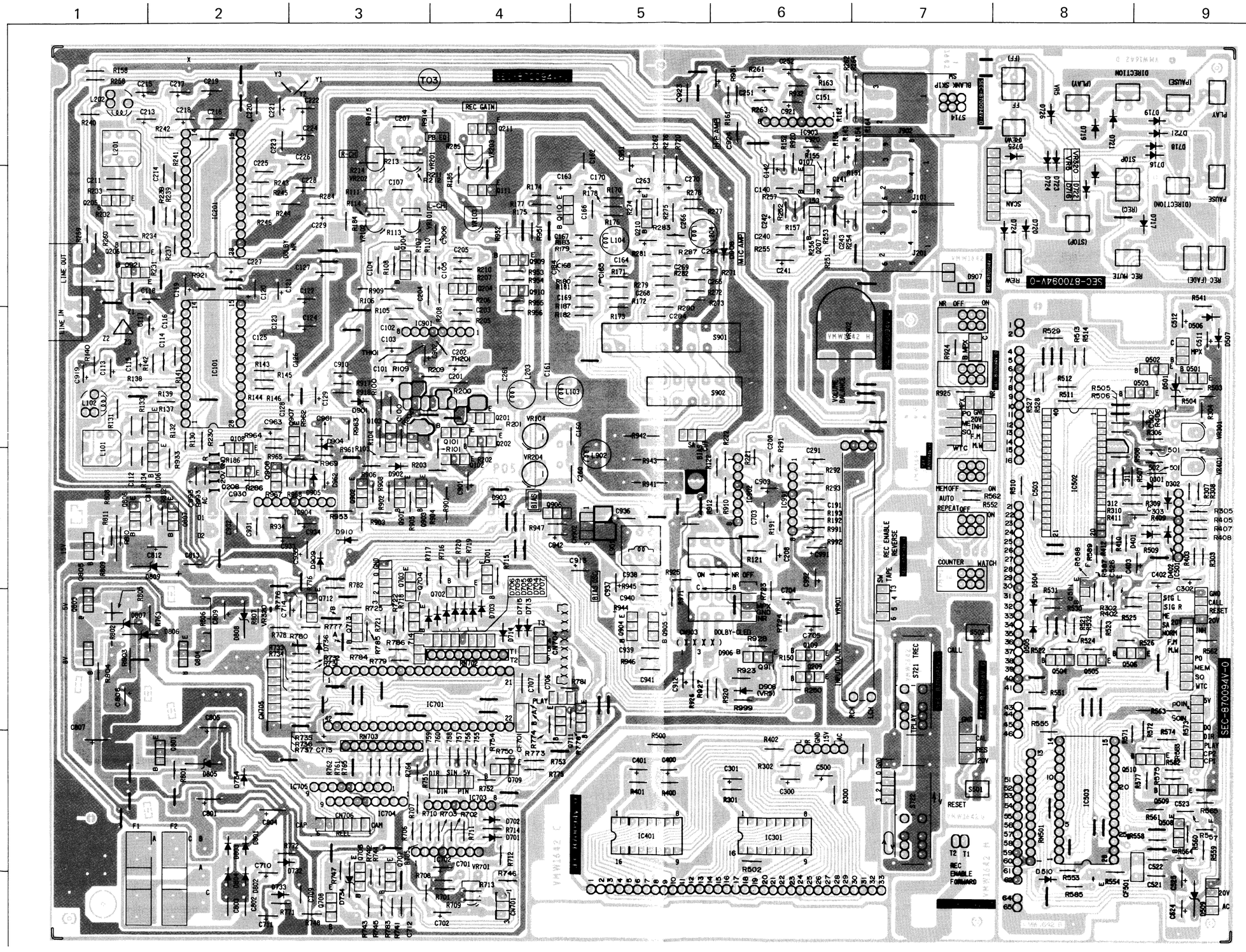


Fig. 36

Exploded View of Enclosure Assembly

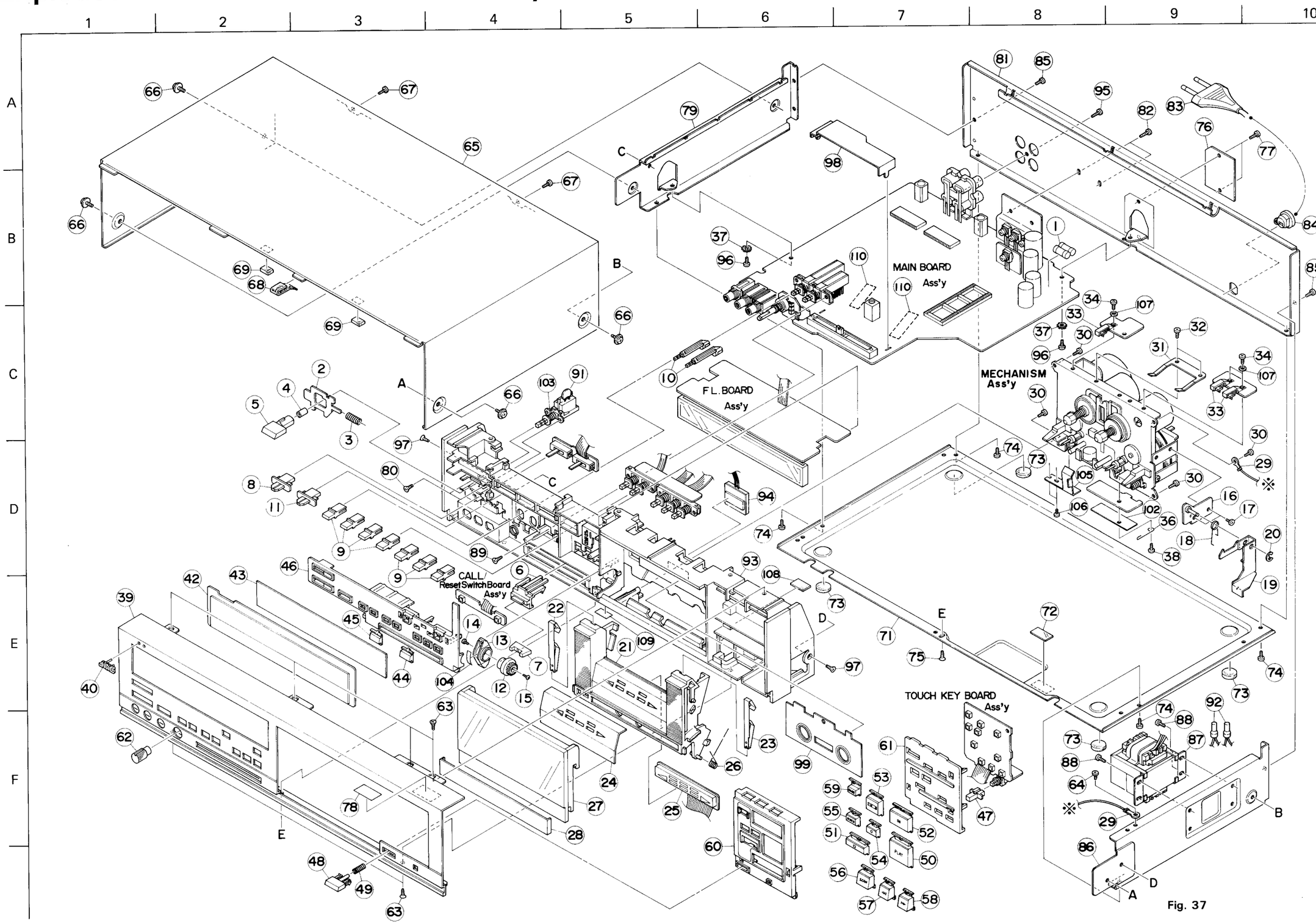


Fig. 37

Exploded View of Mechanism Assembly

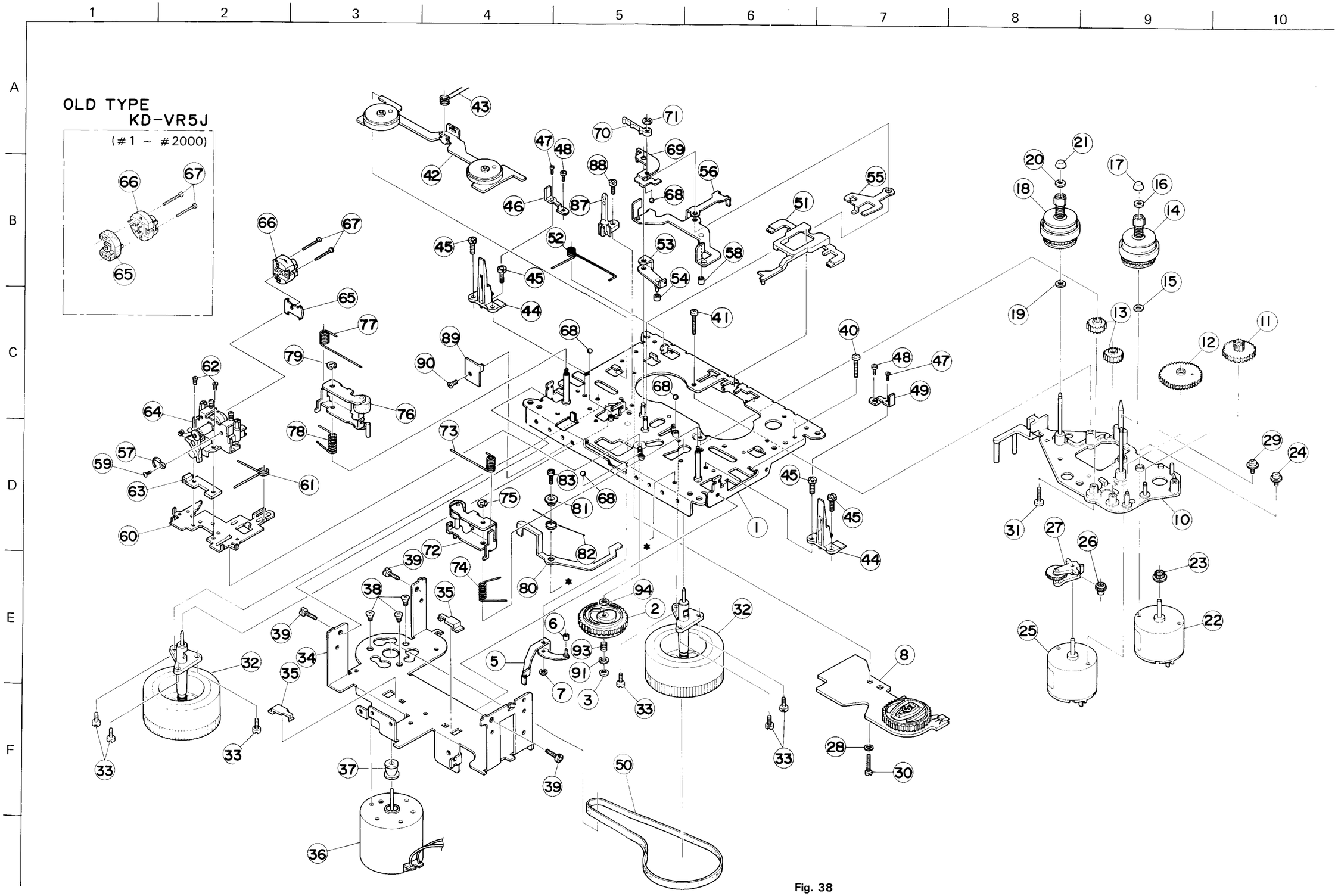


Fig. 38

Enclosure Assembly Parts List

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

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
⚠	1	QMF51A2-R80	FUSE	KD-VR5A/E/G/U	2
		QMF51A2-R80BS	FUSE	KD-VR5B	2
	2	VKL5490-002	BRACKET	TIMER SW	1
	3	VKW3001-077	SPRING		1
	4	VKS4003-014	PIPE		1
	5	VXP4345-001	PUSH BUTTON		1
	6	VKS4783-002	SLIDE LEVER		1
	7	VXS4145-002	SLIDE KNOB	SLIDE VOLUME	1
	8	VXS4041-005	SLIDE KNOB	TIMER	1
	9	VXP4346-001	PUSH BUTTON	TAPE SELECT	7
	10	VKS4634-001	BAR		2
	11	VXS4041-005	SLIDE KNOB	REVERSE	1
	12	VYH5133-002	GEAR		1
	13	VYH5134-002	DAMPER HOLDER		1
	14	SPSK1720M	SCREW		1
	15	SBSB2004Z	SCREW		1
	16	VKL5324-00B	BRACKET		1
	17	SDST2606Z	SCREW	EJECT BKT	2
	18	VKW4396-002	SPRING		1
	19	VKL3534-001	EJECT LEVER		1
	20	REE2500	E.WASHER		1
	21	VJT2100-002	CASSETTE HOLDER		1
	22	VKY4420-001	SPRING		1
	23	VKY4420-002	SPRING		1
	24	VJD4870-003	PLATE		1
	25	SLA-5641-17	L.E.D.		1
	26	VKW3006-091	SPRING		1
	27	VJT3144-001	LID		1
	28	VJT4099-003	LID PLATE		1
	29	VWE350-16NTNT	WIRE WITH LUG		1
	30	SBSF3010Z	SCREW	MECHANISM	4
	31	VKY4279-001	PACK SPRING		1
	32	SDST2606Z	SCREW	PACK SPRING	2
	33	VSH1124-002	LEAF SWITCH		3
	34	SDST2605Z	SCREW		3
	36	VKW4466-002	SPRING		1
	37	WBS3000	WASHER		2
	38	SDST2606Z	SCREW		1
	39	VJC1416-003	FRONT PLATE		1
	40	E70913-001	MARK		1
	42	VJK3217-002	FINDER		1
	43	VJD4615-004	FILTER		1
	44	VXP4347-001	PUSH BUTTON	RESET	1
	45	VXP4347-002	PUSH BUTTON	CALL	1
	46	VJD2255-001	ESCUTCHEON		1
	47	VXP4429-001	PUSH BUTTON	BLANK SKIP	1
	48	VXP4349-00A	PUSH BUTTON	EJECT	1
	49	VKW3001-063	COMP.SPRING		1
	50	VXP3121-001	PUSH BUTTON	PLAY	1
	51	VXP3122-001	PUSH BUTTON	STOP	1
	52	VXP3123-001	PUSH BUTTON	PAUSE	1
	53	VXP3123-002	PUSH BUTTON	DIRECTION	1
	54	VXP3124-001	PUSH BUTTON	REC	1
	55	VXP3124-002	PUSH BUTTON	REC MUTE	1
	56	VXP3125-001	PUSH BUTTON	SCAN	1

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	57	VXP3125-002	PUSH BUTTON	REW	1
	58	VXP3125-003	PUSH BUTTON	FF	1
	59	VXP3126-001	PUSH BUTTON	FADE	1
	60	VJD3539-002	ESCUTCHEON		1
	61	VKS3254-001	P.BUTTON CASE		1
	62	VXL4181-005	KNOB	BALANCE VOLUME	1
	63	SSSF3008Z	SCREW	FRONT PLATE	6
	64	SDST3006Z	SCREW		1
	65	VJC2101-005	TOP COVER		1
	66	VKZ3001-004	SPECIAL SCREW		4
	67	SDST3006N	SCREW		2
	68	VYSA1R8-027	SPACER		1
	69	VYSR103-019	SPACER		2
	71	VJC1195-008	BOTTOM COVER		1
	72	VYSS101-014	SPACER		1
	73	VJF4003-002	FOOT		4
	74	SDST3004Z	SCREW		4
	75	SSSF3008Z	SCREW		1
	76	VYN2150-002KA	NAME PLATE	KD-VR5B	1
		VYN2150-003KA	NAME PLATE	KD-VR5A	1
		VYN2150-004KA	NAME PLATE	KD-VR5C	1
		VYN2150-005KA	NAME PLATE	KD-VR5E	1
		VYN2150-006KA	NAME PLATE	KD-VR5J	1
		VYN2150-007KA	NAME PLATE	KD-VR5U	1
		VYN2150-008KA	NAME PLATE	KD-VR5G	1
	77	SDST3006N	SCREW		2
	78	VND4006-017	CAUTION LABEL		1
	79	VKL3606-001	AMP CHASSIS		1
	80	SSSP3006Z	SCREW	POWER SWITCH	2
	81	VJC2170-001	REAR PANEL	KD-VR5A/B/E/G/U	1
		VJC2170-002	REAR PANEL	KD-VR5C/J	1
	82	SDSF3008N	SCREW		2
⚠	83	QMP1200-200	POWER CORD	KD-VR5C/J	1
⚠		QMP2560-200	POWER CORD	KD-VR5A	1
⚠		QMP3900-200	POWER CORD	KD-VR5E/G	1
⚠		QMP7600-200	POWER CORD	KD-VR5U	1
⚠		QMP9017-008BS	POWER CORD	KD-VR5B	1
⚠	84	QHS3876-162	S.R.BUSHING		1
⚠		QHS3876-162BS	S.R.BUSHING	KD-VR5B	1
	85	SDST3006N	SCREW		2
	86	VKL3607-001	AMP CHASSIS (R)		1
⚠	87	VTP54A5-061B	POWER TRANSF.	KD-VR5C/J T01	1
⚠		VTP54C5-071B	POWER TRANSF.	KD-VR5A/E/G T01	1
⚠		VTP54C5-071BBS	POWER TRANSF.	KD-VR5B T01	1
⚠		VTP54U5-061B	POWER TRANS	KD-VR5U	1
	88	SDST3006Z	SCREW		4
	89	SSST3006Z	SCREW		1
⚠	90	QSS2325-203	SLIDE SWITCH	KD-VR5A/E/G S02	1
⚠		QSS2325-203BS	SLIDE SWITCH	KD-VR5B S02	1
⚠		QSS2325-205	SLIDE SWITCH	KD-VR5U S02	1
⚠	91	QCZ9014-103	C.CAPACITOR	KD-VR5C/J C01	1
⚠		QFH42BM-103N	M.CAPACITOR	KD-VR5U C01	1
	92	VMC0044-001	CONNECTOR	KD-VR5C/J	2
	93	VJC1415-002	FRONT PANEL		1
	94	LD-702YU	L.E.D	D971	1

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	95	SDSF3008N	SCREW	PIN JACK	1
	96	SDST3006Z	SCREW	MAIN BOARD	2
	97	SSST3006Z	SCREW	FRONT PANEL	2
	99	VJD4906-001	SEAL		1
⚠	100	VMW4680-001	PRINTED BOARD	V.SELECT BOARD	1
	102	VYSA1R6-042	SPACER		1
⚠	103	QSP1110-305	PUSH SWITCH	KD-VR5A/E/G S01	1
⚠		QSP1110-305BS	PUSH SWITCH	KD-VR5B S01	1
⚠		QSP1110-306	PUSH-SWITCH	KD-VR5U S01	1
⚠		QSP1110-308	PUSH SWITCH	KD-VR5C/J S01	1
	104	VYSA1R6-034	SPACER		1
	105	VKY4417-001	SPRING		1
	106	SDST2603Z	SCREW		2
	107	Q03093-826	WASHER		3
	108	VYSR104-009	SPACER		1
	109	VYSS101-017	SPACER		1
	110	VYSA1R4-066	SPACER		2

Mechanism Assembly Parts List

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

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	1	VKL2170-00D	CHASSIS BASE		1
	2	VKS2122-001	P.ROLLER CAM		1
	3	VKZ4003-010	FELT	PINCH ROLLER CAM	1
	5	VKL5333-00B	HEAD LEVER ASSY		1
	6	VKH3000-058	COLLAR		1
	7	REE1500	E.RING		1
	8	VKZ3114-00A	CAM SWITCH ASSY		1
	10	VKL2174-002	DISK BASE		1
	11	VKR3001-001	GEAR(2)		1
	12	VKR3001-002	GEAR(2)		1
	13	VKR3000-001	GEAR(1)		2
	14	VKR4312-00C	R.DISK ASS'Y(1)		1
	15	VKZ4003-010	FELT		1
	16	VKR4170-001	RING		1
	17	VKS4131-001	REEL STOPPER		1
	18	VKR4325-00A	R.DISK ASS'Y(5)		1
	19	VKZ4003-010	FELT	BACK TENSION	1
	20	VKR4170-001	RING		1
	21	VKS4131-001	REEL STOPPER		1
⚠	22	MMN-6C2RK	DC MOTOR	FOR CAM	1
	23	VKR4326-001	MOTOR GEAR	FOR CAM	1
	24	DPSP2608Z	SCREW	FOR CAM MOTOR	1
⚠	25	MMN-6C2RK	DC MOTOR	FOR REEL	1
	26	VKR3000-003	GEAR(1)	FOR REEL MOTOR	1
	27	VKS4503-00C	F/R ASS'Y		1
	28	WNS2600N	WASHER		1
	29	DPSP2608Z	SCREW	FOR REEL MOTOR	1
	30	HPST2612Z	SCREW	FOR DISK BASE UNIT	1
	31	HDST2608Z	SCREW	FOR DISK BASE UNIT	1
	32	VKF3123-00E	FLY WHEEL		2
	33	HPST2605Z	SCREW	FOR FLYWEEL METAL	6
	34	VKL3410-008	BRACKET		1
	35	VKS4437-001	THRUST PLATE		2
⚠	36	MMI-6A2HUA	CAPSTAN MOTOR		1
	37	VKR4317-002	MOTOR PULLEY		1
	38	SSSP2604Z	SCREW	FOR CAPSTAN MOTOR	3
	39	HDST2605Z	SCREW	FOR F.M.BRACKET	3
	40	SPSP2615Z	SCREW	FOR CAM MOTOR	1
	41	SPSP2613Z	SCREW	FOR REEL MOTOR	1
	42	VKL3411-00A	TAKE UP IDLER		1
	43	VKW3006-099	TORSION SPRING	FOR TAKE UP IDLER	1
	44	VKS4505-004	GUIDE		2
	45	HDST2606Z	SCREW	FOR CASSETTE GUIDE	4
	46	VKL5627-003	LEVER		1
	47	VKZ4032-001	SCREW		2
	48	SDST2004Z	SCREW		2
	49	VKL5627-004	LEVER		1
	50	VKB3001-017	CAPSTAN BELT	FOR CAPSTAN	1
	51	VKS3162-003	BRAKE BAR		1
	52	VKW4380-001	TORSION SPRING	FOR BRAKE BAR	1
	53	VKL5316-00B	HEAD BASE ARM		1
	54	VKH3000-058	COLLAR		1
	55	VKL5318-001	HEAD ARM		1
	56	VKL3413-00A	P.R.LEVER ASS'Y		1
	57	VKZ4001-013	WIRE HOLDER		1

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	58	VKH3000-058	COLLAR		1
	59	SPSH2018M	SCREW		1
	60	VKL3415-007	BASE		1
	61	VKW4467-001	TORSION SPRING	FOR HEAD BASE	1
	62	SPSM2050M	SCREW		2
	63	VKS4762-002	SPACER		1
	64	VKL3598-00C	H.MOUNT B.ASS'Y		1
	65	VKZ4216-001	STOPPER	NOT USED KD-VR5J #1~#2000	1
	66	VGH0425-521	R/P HEAD	NOT USED KD-VR5J #1~#2000	1
	67	VKZ4291-001	HEAD SCREW		2
	68	T41615-004	STEEL BALL		4
	69	VKY4278-002	PLATE		1
	72	VKP4162-00A	ARM ASS'Y (R)		1
	73	VKW3006-056	TORSION SPRING	FOR PINCH ROLLER	1
	74	VKW3006-057	TORSION SPRING	FOR RETURN	1
	75	REE2500	E.WASHER	FOR PINCH ROLLER	1
	76	VKP4164-00A	ARM ASS'Y (L)		1
	77	VKW3006-059	TORSION SPRING	FOR PINCH ROLLER	1
	78	VKW3006-060	TORSION SPRING	FOR RETURN	1
	79	REE2500	E.WASHER	FOR PINCH ROLLER	1
	80	VKL5320-002	ARM		1
	81	VKH4418-001	COLLAR		1
	82	VKW3006-061	TORSION SPRING	FOR DOOR SAFETY	1
	83	HPST2605Z	SCREW	FOR DOOR SAFETY	1
	87	SPI-302	REFLECTOR		1
	88	HDST2605Z	SCREW	FOR REFLECTOR	1
	89	VKL5398-001	BRACKET		1
	90	SSST2605Z	SCREW		1
	91	VKZ4284-001	WASHER		1
	93	VKW3001-159	SPRING	PINCH ROLLER CAM	1
	94	VKZ4283-001	SPECIAL E RING		1
	95	Q03093-630	WASHER		2
	65	VKS4572-001	HEAD BLOCK	KD-VR5J #1~#2000 ONLY	1
	66	VGH0425-516	R/P HEAD	KD-VR5J #1~#2000 ONLY	1

P.C. Board Parts List

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

⚠	REF. NO	PARTS NO.	PARTS NAME	REMARKS	QTY
	IC704,IC705	BA6208A	I.C.		2
	IC904	LA2000S	I.C		1
	IC501,IC702	M5218L	I.C		5
	IC703,IC903				
	IC991				
	IC902	M5222L	I.C.		1
	IC502	M58844-604SP	I.C.		1
	IC101,IC201	TEA0665	I.C		2
	IC901	UPC1228HA	IC		1
	IC701	UPD1511AC-075	I.C. (M)		1
	IC503	UPD554C-126	I.C.		1
	Q504 -Q506	2SA564(R,S)	TRANSISTOR		3
	Q912	2SA733A(P,K)	TRANSISTOR		1
	Q907 ,Q909	2SA733A(P,K)	TRANSISTOR		9
	Q912				
	Q901	2SA992(E,U)	TRANSISTOR		1
⚠	Q805	2SB772(Q,P)	SI.TRANSISTOR		1
	Q904 ,Q905	2SC1318(R,S)	TRANSISTOR		2
	Q107 ,Q207	2SC1344(E,F)	TRANSISTOR		2
	Q501 -Q503	2SC1684(R,S)	TRANSISTOR		3
	Q101 ,Q102	2SC1845(E,U)	TRANSISTOR		4
	Q201 ,Q202				
	Q108 ,Q111	2SC2001(L,K)	TRANSISTOR		4
	Q208 ,Q211				
	Q110 ,Q210	2SC3113(B)	TRANSISTOR		3
	Q705				
	Q509	2SC945L(P,K)	TTANSISTOR		7
	Q103 ,Q105	2SC945L(P,K)	TRANSISTOR		47
	Q106 ,Q203				
	Q205 ,Q206				
	Q508 -Q511				
	Q701 -Q704				
	Q706 -Q709				
	Q711 -Q714				
	Q806 ,Q807				
	Q902 ,Q908				
	Q910 ,Q911				
⚠	Q801 -Q804	2SD882(Q,P)	SI.TRANSISTOR		4
	Q104 ,Q204	2SK246(GR)	FET		2
⚠	D806	HZ7B2	ZENER DIODE		1
	D301 ,D302	MA165	SI.DIODE		51
	D401 ,D402				
	D504 -D507				
	D510 ,D701				
	D702 -D709				
	D713 -D726				
	D731 -D733				
	D736 ,D901				
	D902 -D908				
	D910				
⚠	D509	RD10E(B3)	Z DIODE		1
⚠	D805	RD12E(B2)	Z.DIODE		1
⚠	D501	RD13E(B3)	Z.DIODE		1
⚠	D809	RD15E(B3)	Z DIODE		1
⚠	D808	RD20E(B3)	ZENER DIODE		1

⚠	REF. NO	PARTS NO.	PARTS NAME	REMARKS	QTY
	D731	RD3.6E(B2)	DIODE		7
⚠	D807	RD5.6E(B3)	Z.DIODE		1
⚠	D734 ,D801	11E1-TB2	SI DIODE		12
	D802 -D804				
	VR902	QVM4A7X-125	V.RESISTOR		1
	VR104,VR204	QVP4A0B-104	V.RESISTOR		2
	VR701	QVZ1802-103M	V RESISTOR		1
	VR103,VR203	QVZ1802-223M	V.RESISTOR		4
	VR301,VR401				
	VR101,VR102	QVZ1802-472M	V RESISTOR		4
	VR201,VR202				
	VR901	QVZ5503-V01	V.RESISTOR		1
	CN701,CN903	QMV5005-003	PLUG		2
	CN706	QMV5005-006	PLUG		1
	CN705	QMV5005-008	CONNECTOR		1
	CN704	QMV5005-009	CONNECTOR		1
	S501 ,S502	QSP0301-002	PUSH SWITCH		12
	S704 -S713				
	S721 ,S722	QSS2301-102	SLIDE SWITCH		2
	S714	QST3101-V51	PUSH SWITCH		1
	S901	QST4243-V01	PUSH SWITCH		1
	S504	QST9241-V01	PUSH SWITCH		1
	S503	QST9341-V01	PUSH SWITCH		1
	L901	VQH1008-010	OSC COIL		1
	L902	VQP0001-102S	INDUCTOR		1
	L104 ,L204	VQP0001-152S	INDUCTOR		14
	L103 ,L203	VQP0001-183	INDUCTOR		2
	L102 ,L202	VQZ0013-001S	FILTER		2
	L101 ,L201	VQZ0016-101	FILTER		2
	R924	QRD121J-152	CARBON RESISTOR		1
⚠	R504 ,R563	QRD129J-101	CARBON RESISTOR		2
⚠	R943	QRD129J-271	C RESISTOR		1
⚠	R942 ,R943	QRD129J-331	C RESISTOR		14
⚠	R802 ,R941	QRD129J-4R7	C RESISTOR		7
⚠	R808	QRD129J-6R8	C RESISTOR		6
⚠	R807	QRD144J-102S	C RESISTOR		1
	R170 ,R270	QRD144J-152S	C RESISTOR		10
	R963	QRD144J-221S	C RESISTOR		7
	R745	QRD144J-331S	CARBON RESISTOR		7
	R972	QRD144J-473S	C RESISTOR		1
	R554	QRD144J-514S	C RESISTOR		1
⚠	R935	QRD144J-821S	CARBON RESISTOR		1
⚠	R901	QRD149J-221S	CARBON RESISTOR		1
⚠	R941 ,R944	QRD149J-4R7S	C RESISTOR		8
⚠	R909	QRD149J-471S	CARBON RESISTOR		1
⚠	R806	QRD149J-5R6S	CARBON RESISTOR		7
	R109 ,R151	QRD161J-101	CARBON RESISTOR		19
	R171 ,R209				
	R251 ,R271				
	R783				
⚠	R138 ,R164	QRD161J-102	CARBON RESISTOR		40
	R176 ,R192				
	R238 ,R264				
	R276 ,R292				
	R310 ,R410				

⚠	REF. NO	PARTS NO.	PARTS NAME	REMARKS	QTY
	R505 ,R552 R702 ,R706 R710 ,R711 R719 -R722 ⚠R742 ,R801				
	R804 ,R805 R921 ,R925 R107 ,R121 R156 ,R174 R207 ,R221	QRD161J-103	CARBON RESISTOR		85
	R256 ,R274 R509 ,R522 R524 ,R526 R571 -R574 R703 -R705				
	R715 -R718 R742 ,R746 R751 ,R752 R754 ,R761 R762 ,R764				
	R765 ,R771 R772 ,R774 R775 ,R779 R784 -R786 R903 ,R907				
	R908 ,R920 R927 ,R928 R961 ,R968 R154 ,R161 R173 ,R181	QRD161J-104	CARBON RESISTOR		21
	R254 ,R261 R273 ,R281 R707 R110 ,R210 R305 ,R405	QRD161J-105	CARBON RESISTOR		4
	R111 ,R157 R211 ,R257 R709 ,R809 R930 ,R951 R971	QRD161J-122	CARBON RESISTOR		27
	R502 ,R510 R565 ,R713	QRD161J-123	CARBON RESISTOR		10
	R311 ,R411 R527 -R529	QRD161J-124	CARBON RESISTOR		5
	R162 ,R262	QRD161J-151	CARBON RESISTOR		11
	R541 ,R969 R170 ,R270 R709 ,R920 R951	QRD161J-152	CARBON RESISTOR		5
	R108 ,R208	QRD161J-153	CARBON RESISTOR		25
	R756 ,R758 R760 ,R945 R946 R155 ,R180 R255 ,R280	QRD161J-154	CARBON RESISTOR		29

⚠	REF. NO	PARTS NO.	PARTS NAME	REMARKS	QTY
	R302 ,R304 R402 ,R404 R745 ,R912 R934 R153 ,R253	QRD161J-183	CARBON RESISTOR		6
	R756 ,R758 R760 ,R914 R132 ,R185 R186 ,R232 R285 ,R286	QRD161J-221	CARBON RESISTOR		10
⚠	R708 ,R812 R963 ,R993 R102 ,R104 R131 ,R146 R202 ,R204	QRD161J-222	CARBON RESISTOR		34
	R231 ,R246 R501 ,R506 R585 ,R741 R743 ,R780 R906 ,R947				
	R306 -R308 R406 -R408 R553 ,R556 R557 -R559 R561 ,R562	QRD161J-223	CARBON RESISTOR		27
	R564 ,R566 R575 ,R577 R587 ,R588 R712 ,R723 R724 ,R725				
	R782 ,R915 R954 ,R965 R312 ,R412 R502 R178 ,R278	QRD161J-224 QRD161J-272 QRD161J-273	CARBON RESISTOR CARBON RESISTOR CARBON RESISTOR		2 1 2
	R139 ,R140 R159 ,R184 R191 ,R239 R240 ,R259 R284 ,R291	QRD161J-332	CARBON RESISTOR		14
	R753 ,R902 R928 ,R948 R141 ,R241 R507 ,R508 R513 ,R514	QRD161J-333	CARBON RESISTOR		20
⚠	R530 -R533 R551 ,R555 R582 ,R583 R741 ,R773 R778 ,R810				
	R933 ,R966 R133 ,R134 R163 ,R233 R234 ,R263 R172 ,R272	QRD161J-334 QRD161J-390	CARBON RESISTOR CARBON RESISTOR		6 14

⚠	REF. NO	PARTS NO.	PARTS NAME	REMARKS	QTY
	R503 ,R732 R733 -R736 R744	QRD161J-391	CARBON RESISTOR		13
	R103 ,R203 R811 ,R910	QRD161J-392	CARBON RESISTOR		12
	R952 ,R964				
	R158 ,R258	QRD161J-393	CARBON RESISTOR		2
	R152 ,R252	QRD161J-470	CARBON RESISTOR		2
	R501 ,R503	QRD161J-471	CARBON RESISTOR		2
	R112 ,R137	QRD161J-472	CARBON RESISTOR		33
	R160 ,R212 R237 ,R260 R560 ,R589 R743 ,R750 R755 ,R757				
	R759 ,R955 R956 R100 ,R193 R200 ,R293 R303 ,R403	QRD161J-473	CARBON RESISTOR		45
	R521 ,R523 R525 ,R747 R917 ,R918 R926 ,R967 R999				
	R776	QRD161J-474	C RESISTOR		1
	R122 ,R145 R222 ,R245	QRD161J-512	CARBON RESISTOR		4
	R511 ,R512 R731 ,R737	QRD161J-561	CARBON RESISTOR		4
	R755 ,R757 R759	QRD161J-562	CARBON RESISTOR		3
	R179 ,R183 R279 ,R283 R748	QRD161J-563	CARBON RESISTOR		17
	R309 ,R409	QRD161J-564	CARBON RESISTOR		2
	R101 ,R201	QRD161J-682	CARBON RESISTOR		5
	R701 ,R714 R953				
	R130 ,R144	QRD161J-683	CARBON RESISTOR		22
	R182 ,R230 R244 ,R282 R931 ,R932 R991 ,R992				
	R105 ,R205	QRD161J-684	CARBON RESISTOR		2
	R142 ,R143 R177 ,R242 R243 ,R277	QRD161J-823	CARBON RESISTOR		6
	R110 ,R175 R210 ,R275	QRD161J-824	CARBON RESISTOR		30
	R305 ,R405				
⚠	R803	QRG029J-680	OMF.RESISTOR		1
⚠	R802	QRH124J-4R7	FUSI.RESISTOR		1
⚠	R806	QRH124J-5R6	FUSI RESISTOR		1
⚠	R808	QRH124J-6R8	FUSI RESISTOR		1

⚠	REF. NO	PARTS NO.	PARTS NAME	REMARKS	QTY
⚠	R802	QRX019J-4R7	M.F.RESISTOR		1
⚠	R808	QRX019J-6R8	M.F.RESISTOR		1
	RN501	VCR0003-001	C.R.BLOCK		1
	RN702,RN703	VCR0003-003	C.R.BLOCK		2
	CF501	CSB400P	LOCK		1
	CF701	EFO-A4R0M02A2	LOCK		1
	C712 ,C802 C803 ,C923 C924	QCF11HP-103	C CAPACITOR		5
	C522	QCS11HJ-111	C.CAPACITOR		1
	C102 ,C202	QCS11HJ-151	C.CAPACITOR		2
	C160 ,C260	QCS11HJ-221	C.CAPACITOR		2
	C706 ,C707	QCS11HJ-330	C.CAPACITOR		2
	C162 ,C262	QCS11HJ-391	C.CAPACITOR		2
	C503	QCS11HJ-470	C.CAPACITOR		1
	C140 ,C184 C240 ,C284 C521	QCS11HJ-471	C.CAPACITOR		17
	C811	QCS11HJ-561	C CAPACITOR		1
	C706	QCS11HJ-680	C.CAPACITOR		7
	C169 ,C269	QCS11HJ-681	C.CAPACITOR		14
	C161 ,C261	QCS12HJ-201V	C.CAPACITOR		2
	C141 ,C241	QEB41EM-335	LLC E CAPACITOR		2
	C702	QEB51EM-476M	E.CAPACITOR		7
	C101 ,C141	QEB61EM-475ZM	LLC E CAPACITOR		16
	C201 ,C241 C933	QEB61HM-474ZM	E.CAPACITOR		1
	C523	QEN61EM-106Z	NP.E.CAPACITOR		1
	C806	QETC1AM-477ZM	E.CAPACITOR		1
	C119 ,C142	QETC1CM-227ZM	E.CAPACITOR		30
	C219 ,C242 C901 ,C961 C993	QET41AR-107	E CAPACITOR		1
	C119 ,C219	QET41AR-227	E CAPACITOR		2
	C702	QET41AR-476	E CAPACITOR		1
	C806	QET41AR-477	E CAPACITOR		7
	C103 ,C142 C203 ,C242 C502 ,C525 C902 ,C903	QET41CR-107	E CAPACITOR		38
	C920 ,C942 C991 C801	QET41CR-228	E.CAPACITOR		1
	C120 ,C220 C713 ,C812	QET41CR-336	E CAPACITOR		50
	C913 ,C921 C935 C152 ,C252 C501 ,C511 C512 ,C708	QET41CR-476	E CAPACITOR		19
	C951 C813	QET41CR-477	E CAPACITOR		1
	C105 ,C115 C124 ,C127 C170 ,C205	QET41ER-106	E CAPACITOR		31

⚠	REF. NO	PARTS NO.	PARTS NAME	REMARKS	QTY
	C215 ,C224 C227 ,C270 C701 ,C906 C912 ,C922 C937 ,C962				
	C963 ,C992 C502 ,C809 C120 ,C220 C713 ,C812 C913 ,C921	QET41ER-107 QET41ER-336	E CAPACITOR E CAPACITOR		9 6
	C511 ,C512 C128 ,C129 C151 ,C167 C191 ,C228 C229 ,C251	QET41ER-476 QET41HR-105	E CAPACITOR E.CAPACITOR		2 22
	C267 ,C291 C302 ,C402 C714 ,C914 C919 ,C934 C117 ,C122	QET41HR-224	E.CAPACITOR		11
	C217 ,C222 C934 C129 ,C143 C191 ,C229 C243 ,C291	QET41HR-335	E.CAPACITOR		69
⚠	C524 ,C526 C703 -C705 C710 ,C711 C108 ,C113 C163 ,C208	QET41HR-475	E CAPACITOR		24
⚠ ⚠	C213 ,C263 C524 ,C710 C711 ,C962 C807 C805	QET51AR-109N QET51CR-338N	E.CAPACITOR E.CAPACITOR		1 1
⚠	C118 ,C121 C218 ,C221 C804 C303 ,C403 C100 ,C200	QET51HR-684N QET51VR-108N QET61HR-225ZM QFN41HJ-102	E CAPACITOR E CAPACITOR E.CAPACITOR M CAPACITOR		4 1 2 14
	C168 ,C268 C166 ,C266 C111 ,C112 C211 ,C212 C104 ,C107	QFN41HJ-122 QFN41HJ-124 QFN41HJ-152 QFN41HJ-472	M.CAPACITOR M CAPACITOR M.CAPACITOR M.CAPACITOR		14 14 4 8
	C114 ,C125 C204 ,C207 C214 ,C225 C930 C940 ,C941	QFN41HJ-682 QFN41HJ-822	M.CAPACITOR M.CAPACITOR		8 2
	C936 C126 ,C165 C226 ,C265 C709 ,C931 C932	QFP82AJ-103 QFV41HJ-103	P.P.CAPACITOR TF CAPACITOR		1 26

⚠	REF. NO	PARTS NO.	PARTS NAME	REMARKS	QTY
	C938	QFV41HJ-183	M.CAPACITOR		8
	C116 ,C123	QFV41HJ-473	TF CAPACITOR		4
	C216 ,C223				
	C939	QFV71HJ-273ZM	TF.CAPACITOR		1
	C164 ,C264	QFV81HJ-273	TF CAPACITOR		21
	C939				
	J901	EMN00TV-402A	PIN JACK		1
	J902	QMS6302-119	HEADPHONE JACK		1
	J101 ,J201	QMS6313-014	JACK		2
	TH101,TH201	ERT-D2FHL202S	THERMISTOR		14
	—	DPSP3008Z	SCREW	FOR Q804	1
	—	VKL5002-001	HEAT SINK	FOR Q804	1
⚠	Q906	2SD468(C)	TRANSISTOR		1

Packing

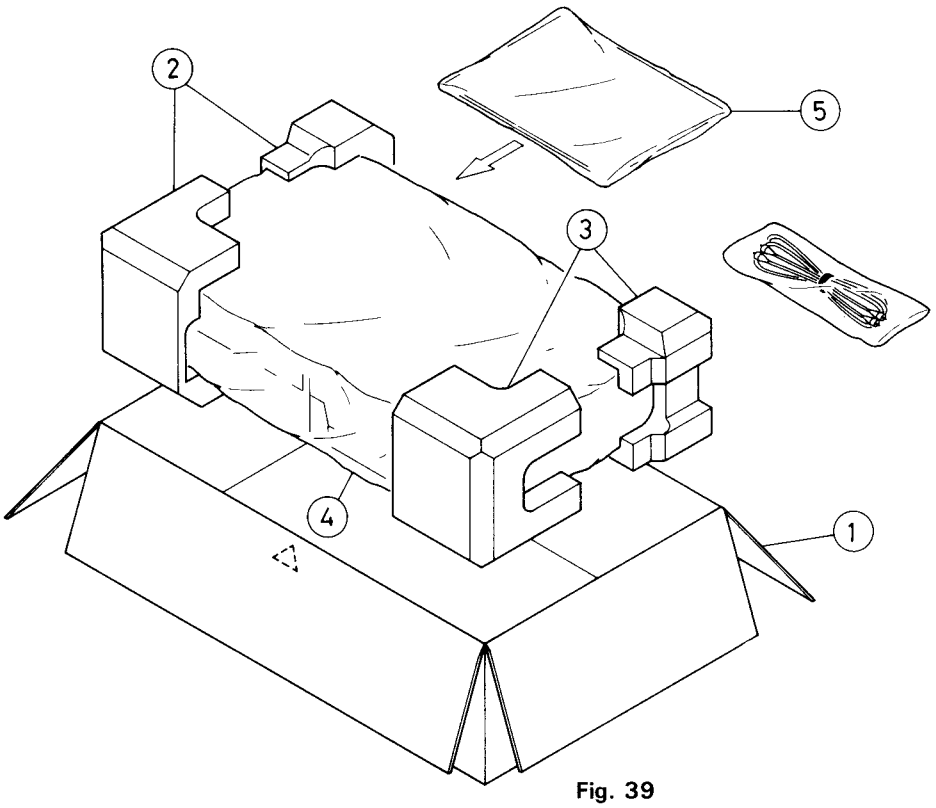


Fig. 39

Packing Parts List

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

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
		VND4006-017	Caution Label		1
		VNF0160-001	Feature Sticker		1
		VND5004-001	Mark Sticker	KD-VR5 B/E/G	1
		VPZ4001-001	Serial Ticket		1
		QZL1002-003	Warning Label	KD-VR5 B	1
		TJL000420-01	Serial	KD-VR5 B	1
	5	VPE3005-007	Poly Bag	for I. Book	1
		Q04141H	Wire Clamp	for Power Cord	1
	4	VPK4002-006	Sheet	for set	1
	〃	VPE3005-026	Poly Bag	〃	1
	1	VPC2150-003	Carton	KD-VR5 A	1
	〃	〃 -004	〃	KD-VR5 C	1
	〃	〃 -005	〃	KD-VR5 E	1
	〃	〃 -006	〃	KD-VR5 J	1
	〃	〃 -007	〃	KD-VR5 U	1
	〃	〃 -002	〃	KD-VR5 B	1
	〃	〃 -008	〃	KD-VR5 G	1
	2	VPH3125-001	Cushion	for Left Side	1
	3	VPH3126-001	〃	for Right Side	1

Accessories

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

⚠	Parts No.	Parts Name	Remarks	Q'ty
	VNN0160-301	Instruction Book	KD-VR5 B/E/G	1
	〃 -901	〃	KD-VR5 A/C/J/U	1
	VMP0039-00A	Pin Cord		1
	BT20060	Warranty Card	KD-VR5 B	1
	BT20066	〃	KD-VR5 B/G	1
	BT20029C	〃	KD-VR5 A	1
	VNC1200-002	Copyright Low Warranty	KD-VR5 C	1
	BT20025H	Warranty Card	〃	1
	T44362-001	CSA Label	〃	1
	BT20071A	SVC Center List	〃	1
	VNC5004-001	Mark Sticker	KD-VR5 B/E/G	1
	BT20047C	Warranty Card	KD-VR5 J/U	1
	BT20046B	Special Reply Cord	〃	1
	BT20044E	Safety Instruction	KD-VR5 J	1
	E66416-003	Envelope	KD-VR5 J/U for warranty	1
	VNC5311-204	Caution Card	for PX KD-VR5 U	1
	〃 -203	〃	for EES KD-VR5 U	1
	V04062-001	Siemens Plug	KD-VR5 U	1
	BT20064	Warranty Card	KD-VR5 G	1
	VND4037-002	F. Mark	〃	1
	VND4113-001	G. Caution	KD-VR5 B/J	1

Dimensions

Unit : mm

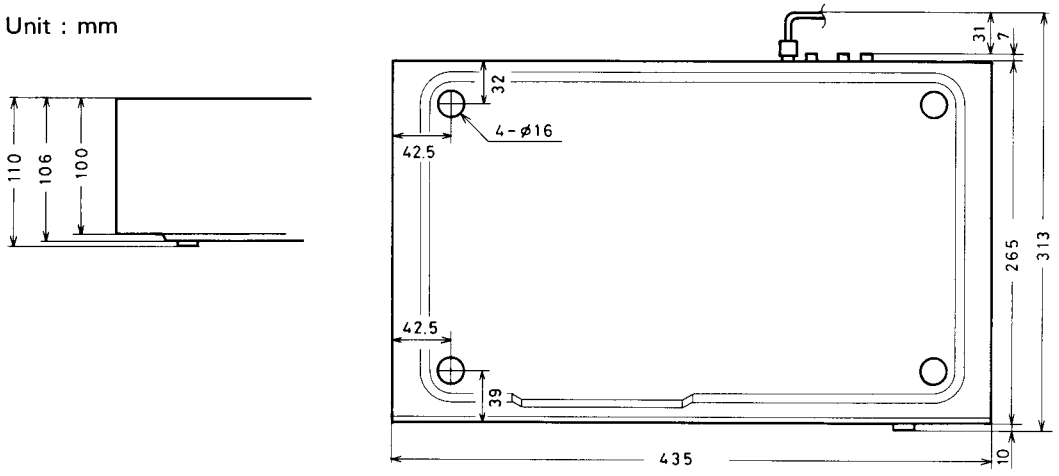


Fig. 40