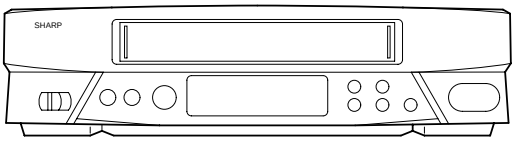
SHARP SERVICE MANUAL

SX0K6VC-V50S/

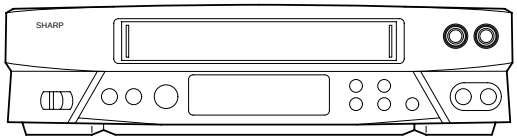
SERVICE MANUAL

VIDEO CASSETTE PLAYER

MODELS VC-V50S/V80T/V91T



VC-V50S/V80T



VC-V91T

VHS VIDEO CASSETTE PLAYER

MODELS VC-V50S VC-V80T VC-V91T

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified be used.

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PRECAUTIONS IN PART REPLACEMENT

When servicing the unit with power on, be careful to the section marked white all over.
This is the primary power circuit which is live.
When checking the soldering side in the tape travel mode, make sure first that the tape has been loaded and then turn over the PWB with due care to the primary power circuit.
Make readjustment, if needed after replacement of part, with the mechanism and its PWB in position in the main frame.

(1) Start and end sensors: D804 and D803
Insert the sensor's projection deep into the upper hole of the holder (LHLDZ1962AJ00). Referring to the PWB, fix the sensors tight enough.

(2) Photocoupler RH-FX0007GEZZ: IC901
Refer to the symbol on the PWB and the anode marking of the part.

(3) Cam switches A and B (RH-PX0253GEZZ): D806 and D807
Adjust the notch of the part to the white marker of the symbol on the PWB. Do not allow any looseness.

(4) Take-up and supply sensors (RH-PX0252GEZZ): D801 and D802
Be careful not to confuse the setting direction of the parts in reference to the symbols on the PWB. Do not allow any looseness.

(5) Diode bridge (RH-DX0083GEZZ): D901
Adjust the + marking of the part to the symbol's cathode marking on the PWB.

1. SPECIFICATIONS

Format:	VHS PAL/MESECAM/NTSC standard
Recording/Playback system:	Rotary, slant azimuth two head LP helical scan system
Video signal system:	PAL/MESECAM 4.43Hz colour or monochrome signals : 625 lines PAL/MESECAM/SECAM colour or monochrome signals : 625 lines NTSC 3.58Hz colour or monochrome signals : 525 lines
Maximum Recording/playback time:	240 min with E-240 tape at SP mode 480 min with E-240 tape at EP mode 480 min with T-160 tape at LP mode
Tape width:	12.7 mm
Tape speed:	23.39 mm/sec. (PAL/MESECAM) 33.35 mm/sec. (NTSC)
Antenna:	75 ohm unbalanced
RF output signal:	UHF channel E30 – E39 (VC-V91T only)
Power requirement:	AC110V–240V, 50/60Hz
Power consumption:	13 W (approx.)
Operating temperature:	5°C to 40°C
Storage temperature:	–20°C to 60°C
Video output:	1.0 Vp-p, 75 ohm
Audio output:	Line: –8 dB, less than 1 kohm
Weight:	2.7 kg (approx.)
Dimensions:	360 (W) x 284.5 (D) x 94 (H) mm
Accessories included:	75 ohm coaxial cable Operation manual Infrared remote control Battery (R6 (UM/SUM–3 or AA)) x 2 Mic (VC-V91T only)

Note: The antenna must correspond to the new standard DIN 45325 (IEC 169 - 2) for combined UHF/VHF antenna with 75 ohm connector.

* Design and specifications are subject to change without notice.

2. DISASSEMBLY AND REASSEMBLY

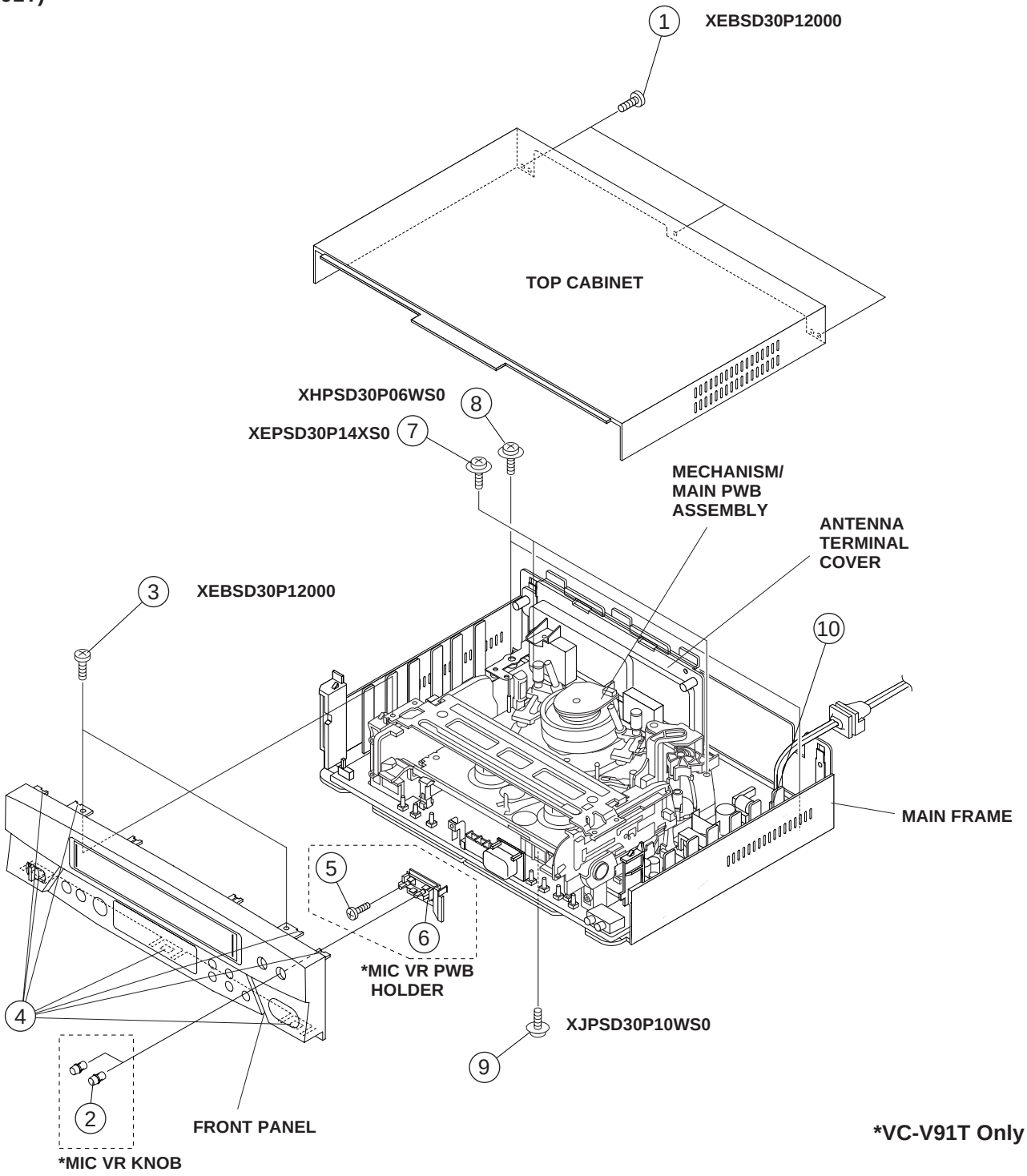
2-1 DISASSEMBLY OF MAJOR BLOCKS

TOP CABINET : Remove 3 screws ①.

FRONT PANEL : Remove 2 VR Knobs ② at first(VC-V91T). Remove 2 screws ③ and 7 clips ④.

MIC VR PWB HOLDER (VC-V91T) : Remove 1 screw ⑤ and 1 FFC ⑥.

MECHANISM/ MAIN PWB ASSEMBLY : Remove 2 screws ⑦ and 2 screws ⑧. Remove 1 screw ⑨ from behind of the main frame. Remove 1 connector ⑩. Lift the antenna terminal cover and take the assembly out of the main frame.



***VC-V91T Only**

2-2 DISASSEMBLING THE MECHANISM/MAIN PWB ASSEMBLY

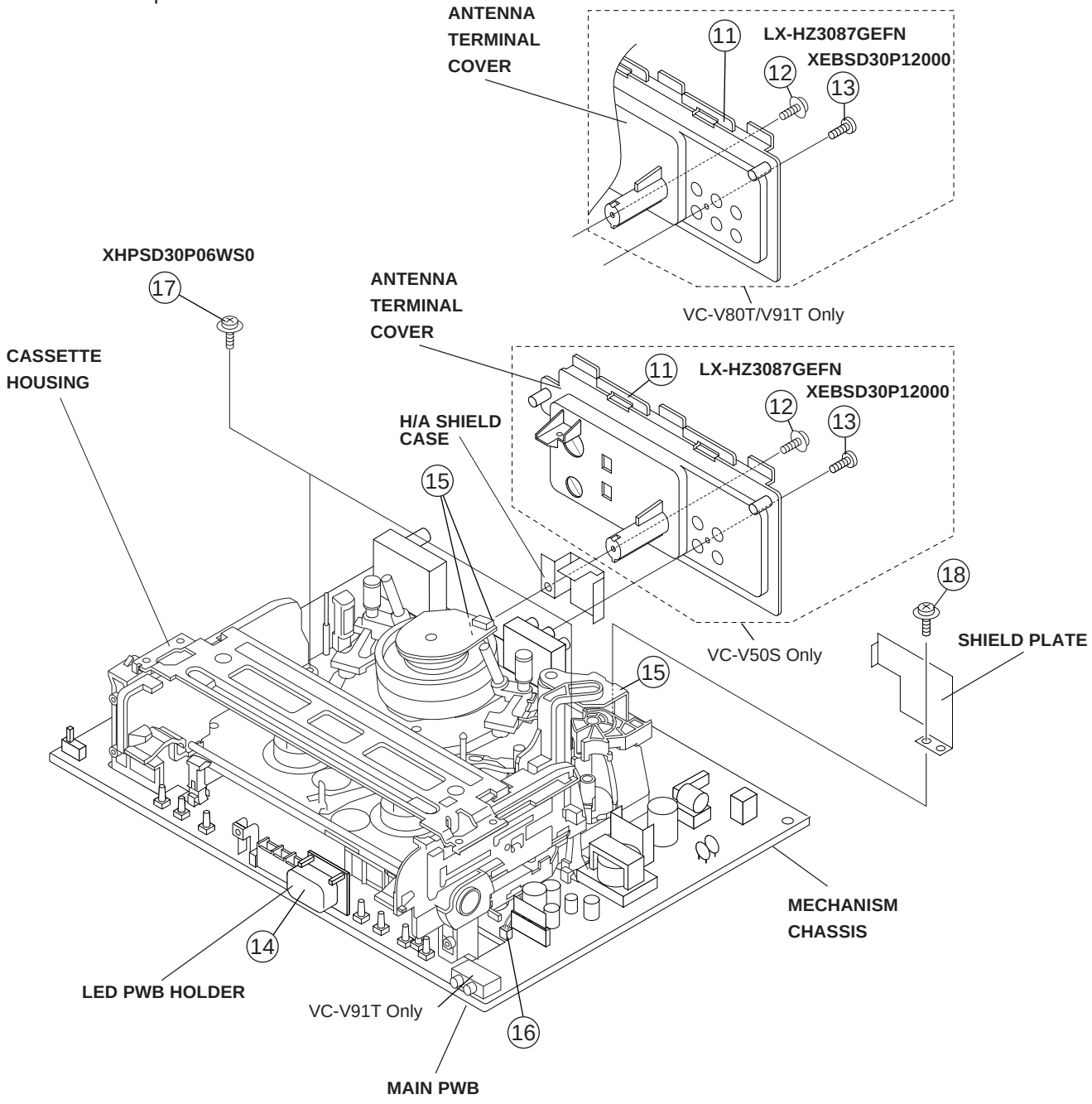
ANTENNA TERMINAL COVER : Remove 1 Hook ⑪, 1 screw ⑫ and 1 screw ⑬.
Remove the H/A shield case.

LED PWB HOLDER : Take it out of connector ⑭.

MECHANISM CHASSIS/ CASSETTE HOUSING ASSEMBLY : Remove 3 FFCs ⑮ and 1 harness ⑯.
Be carefull not to confuse the top and bottom of the FFC.
Remove the mechanism chassis assembly straight up from the main PWB with care not to damage theirs urrounding parts.

CASSETTE HOUSING : Remove 2 screws ⑰.

SHIELD PLATE : Remove 1 screw ⑱.



2-3 CARES WHEN REASSEMBLING

INSTALLING THE CASSETTE HOUSING

When the cassette housing is installed on the mechanism, the initial setting is essential condition.

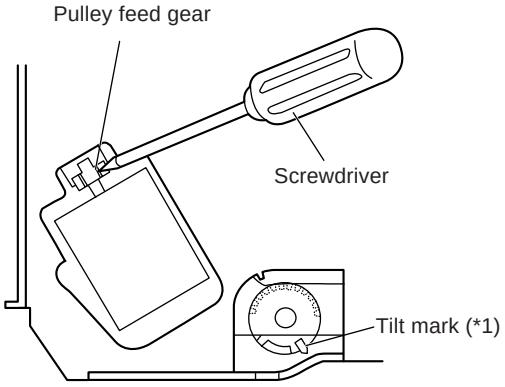
There are two initial setting methods, namely electrical and mechanical.

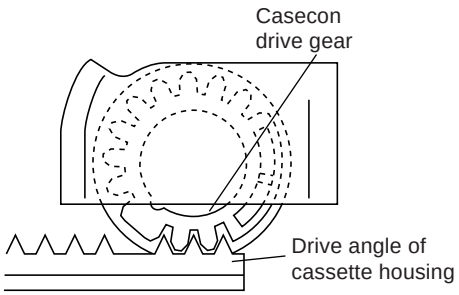
1. Electrical initial setting

So as to perform initial setting of mechanism execute the Step 1 of Installation of cassette housing. After ascertaining the return to the initial setting position (*1) install the cassette housing. (Conditions: When mechanism and PWB have been installed)

2. Mechanical initial setting

Feed the pulley feed gear of loading motor with screw driver. After ascertaining the return to the initial set position (*1) install the cassette housing in the specified position. (This method is applied only for the mechanism.)



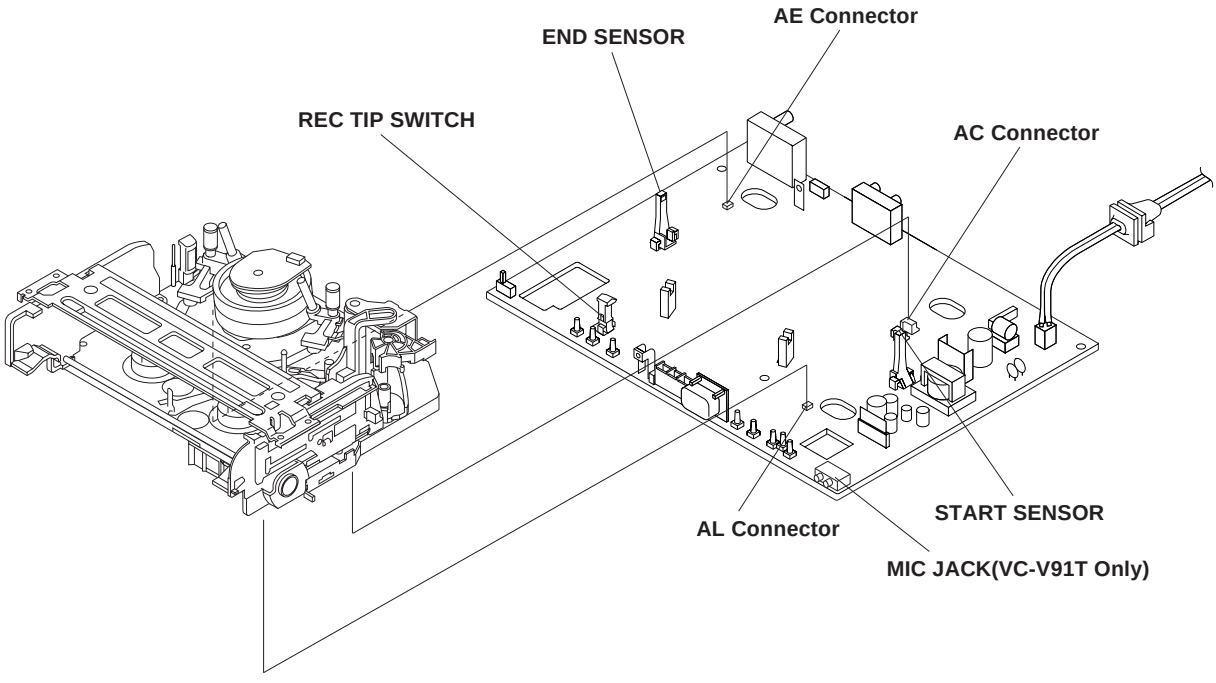


INSTALLING THE MECHANISM ON PWB

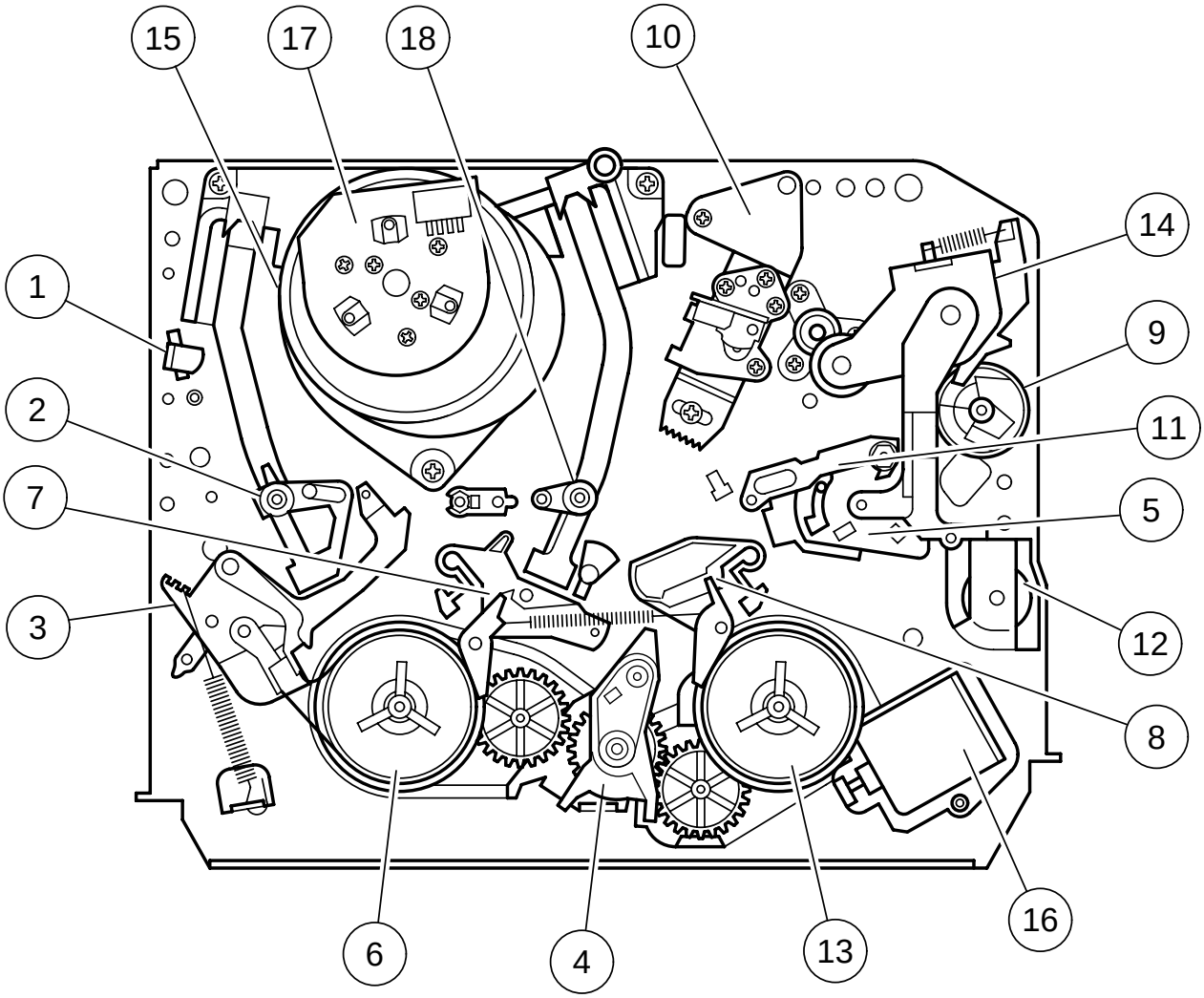
Lower vertically the mechanism, paying attention to the mechanism edge, and install the mechanism with due care so that the parts are not damaged. So as to fix the mechanism to the main PWB install two housings. (Fit the antenna cover to one of them. For other, fix the vicinity of loading motor and solder joint side of main PWB.) Connect again the FFC cable (AA-MH, AD-ME, AH-MH) between the mechanism and the main PWB.

PARTS WHICH NEED PARTICULAR CARE

When installing the mechanism chassis on the PWB unit, take care so as to prevent deformation due to contact of mechanism chassis with REC TIP SW.

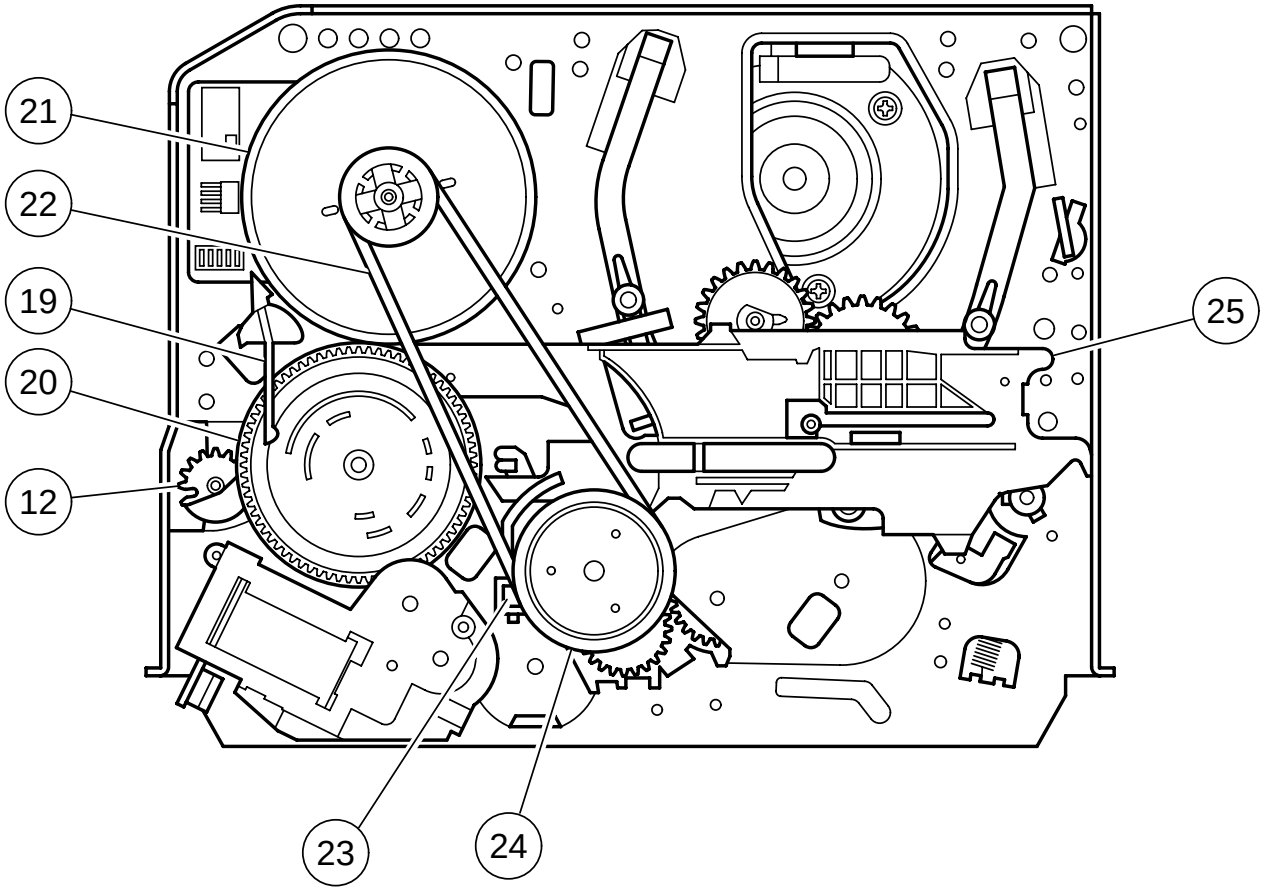


3. FUNCTION OF MAJOR MECHANICAL PARTS (TOP VIEW)



No.	Function	No.	Function
1	Full erase head	8	Take-up main brake
2	Supply pole base ass'y	9	Pinch drive cam
3	Tension arm	10	A/C head ass'y
4	Idler wheel ass'y	11	Reverse guide lever ass'y
5	Pinch drive lever ass'y	12	Casecon drive gear
6	Supply reel disk	13	Take-up reel disk
7	Supply main brake	14	Pinch roller lever ass'y

FUNCTION OF MAJOR MECHANICAL PARTS (BOTTOM VIEW)



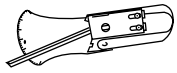
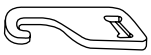
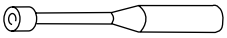
No.	Function	No.	Function
15	Drum ass'y	22	Reel belt
16	Loading motor	23	Clutch lever
17	Drum drive motor	24	Limiter pulley ass'y
18	Take-up pole base ass'y	25	Shifter
19	Slow brake lever		
20	Master cam		
21	Capstan D.D. motor		

4. ADJUSTMENT, REPLACEMENT AND ASSEMBLY OF MECHANICAL UNITS

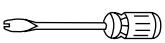
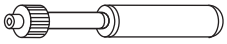
The explanation given below relates to the on-site general service (field service) but it does not relates to the adjustment and replacement which need high-grade equipment, jigs and skill. For example, the drum assembling, replacement and adjustment service must be performed by the person who have finished the technical courses.

4-1 MECHANISM CONFIRMATION ADJUSTMENT JIG

So as to perform completely the mechanism adjustment prepare the following special jigs. So as to maintain the initial performance of the machine the maintenance and check are necessary. Utmost care must be taken so that the tape is not damaged. If adjustment needs any jig, be sure to use the required jig.

No.	Jig Item	Part No.	Code	Configuration	Remarks
1.	Torque Cassette Meter	JiGVHT-063	CZ		This cassette torque meter is used for checking and adjusting the torque of take-up for measuring tape back tension.
2.	Torque Gauge	JiGTG0090	CM		These Jigs are used for checking and adjusting the torque of take-up and supply reel disks.
		JiGTG1200	CN		
3.	Torque Gauge Head	JiGTH0006	AW		
4.	Torque Driver	JiGTD1200	CB		When fixing any part to the threaded hole using resin with screw, use the jig. (Specified torque 5 kg)
5.	Master Plane Jig and Reel Disk Height Adjusting Jig	JiGRH0002	BR		These Jigs are used for checking and adjusting the reel disk height.
		JiGMP0001	BY		
6.	Tension Gauge	JiGSG2000	BS		There are two gauges used for the tension measurements, 300 g and 2.0kg.
		JiGSG0300	BF		
7.	Pinch pressing force measuring jig	JiGADP003	BK		This Jig is used with the tension gauge. Rotary transformer clearance adjusting jig.
8.	Reverse guide height adjustment box driver	JiGDRiVER11055	AR		This Jig is used for height adjustment of the reverse guide (for reverse guide height adjustment).
9.	Alignment Tape	VROCPSV	CK		These tape is especially used for electrical fine adjustment.

Video	Audio	HiFi Audio	Track
625 Monoscope	7k	—	49µm
PAL Color Bar	1k	—	49µm

10.	Guide roller height adjustment driver	JiGDRiVERH-4	AP		This screwdriver is used for adjusting the guide roller height.
11.	X value adjustment gear driver	JiGDRiVER-6	BM		For X value adjustment
12.	Reverse Guide Height Adjusting Jig	JiGRVGH-F18	BU		This Jig is used for height adjustment of the reverse guide.

4-2 MAINTENANCE CHECK ITEMS AND EXECUTION TIME

Perform the maintenance with the regular intervals as follows so as to maintain the quality of machine.

Parts \ Maintained	500 hrs.	1000 hrs.	1500 hrs	2000 hrs	Possible symptom encountered	Remarks
Guide roller ass'y	□	□	□	□	Lateral noises Head occasionally blocked	Abnormal rotation or significant vibration requires replacement.
Sup guide shaft	□	□	□	□		Clean tape contact part with the specified cleaning liquid.
Retaining guide	□	□	□	□		
Slant pole on pole base	□	□	□	□		
Full erase head	□	□	□	○	Color and beating	Clean tape contact area with the specified cleaning liquid.
A/C head	□	□	□	○	Small sound or sound distortion	
Upper and lower drum ass'y	□	○□	○□	○□	Poor S/N ratio, no color Poor flatness of the envelope with alignment tape	
Capstan D.D. motor	□	□	□	□	No tape running, uneven color	
Pinch roller	□	□	□	□	No tape running, tape slack	Clean rubber and rubber contact area with the specified cleaning liquid.
Reel belt		□		○	No tape running, tape slack, no fast forward/ rewind motion	
Tension band ass'y				○	Screen swaying	
Loading motor				○	Cassette not loaded or unloaded	
Idler ass'y				○	No tape running, tape slack	
Limiter pulley		□△		□○		
Supply/take-up main brake levers				○	Tape slack	

NOTE ○ : Part replacement. □ : Cleaning △ : Apply grease
<Specified> Cleaning liquid Industrial ethyl alcohol

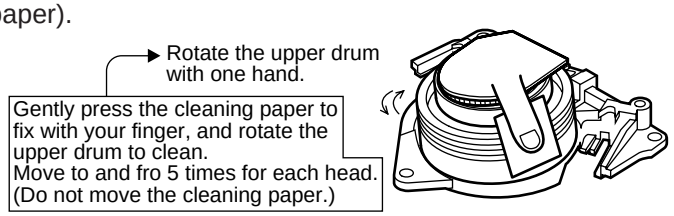
* This mechanism does not need electric adjustment with variable resistor. Check parts. If any deviation is found, clean or replace parts.

Video head cleaning procedure

1. Apply one drop of cleaning liquid to the cleaning paper with the baby oiler.
2. Gently press the cleaning paper against the video head to fix your finger, and move the upper drum so that each head is passed to and fro 5 times (do not move the cleaning paper).
3. Wipe with the dry cleaning paper.

Notes :

- Use the commercially available ethanol of Class 1 as cleaning liquid.
- Since the video head may be damaged, do not move up and down the cleaning paper.
- Whenever the video head is cleaned, replace the cleaning paper.
- Do not apply this procedure for the parts other than the video head.



Parts Code	Description	Code
ZPAPRA56-001E	Cleaning Paper	AW
ZOiLR-02-24TE	Babe Oiler (Spoit)	AH

4-3 REMOVING AND INSTALLING THE CASSETTE HOUSING

• Removal

1. In the cassette removing mode, remove the cassette.
2. Unplug the power cord.
3. Remove in the following numerical order.
   a) Remove two screws ①.
   b) Slide and pull up the cassette housing control.

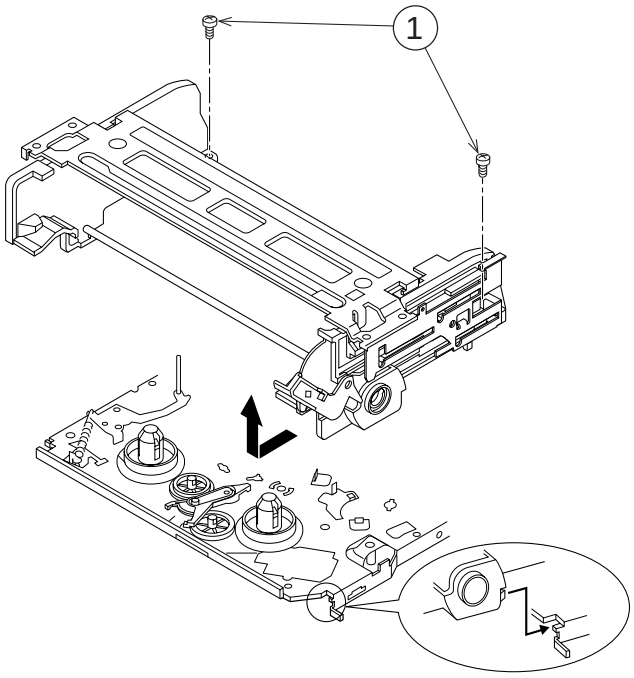


Figure 4-1.

• Reassembly

1. Before installing the cassette housing control, short-circuit TP802 provided at the center (when facing to the main PWB), press the eject button. The casecon drive gear turns and stops when the positioning mark appears. Engage two teeth of casecon drive gear with the three teeth of casecon drive angle gear, and set on the mechanism chassis as shown below.

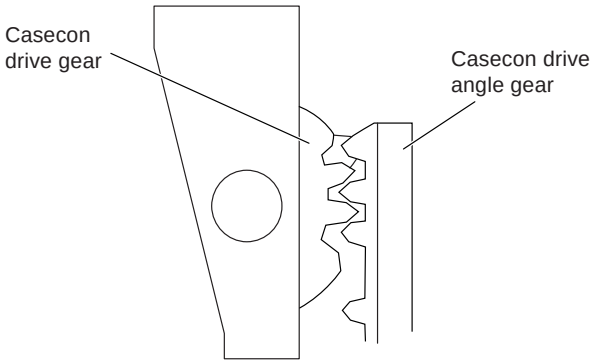


Figure 4-2.

2. Install in the reverse order of removal.

Notes:

1. When fitting the S/E sensor holder to the cassette controller frame L/R, take care.
2. Misengagement of teeth of casecon drive gear and drive angle gear causes malfunction. (The cassette cannot be set, load and ejection are repeated).
3. In the case when you use the magnet screw driver, never approach the magnet driver to the A/C head, FE head, and drum.
4. When installing or removing, take care so that the cassette housing control and tool do not contact the guide pin or drum.
5. After installing the cassette housing control once perform cassette loading operation.

4-4 TO RUN A TAPE WITHOUT THE CASSETTE HOUSING CONTROL ASSEMBLY

1. Remove the full-surface panel.
2. Short-circuit TP802.
3. Plug in the power cord.
4. Turn off the power switch.
   (The pole bases move into U.L.position.)
5. Open the lid of a cassette tape by hand.
6. Hold the lid with two pieces of vinyl tape.
7. Set the cassette tape in the mechanism chassis.
8. Stabilize the cassette tape with a weight (500g) to prevent floating.
9. Turn on the power switch.
10. Perform running test.

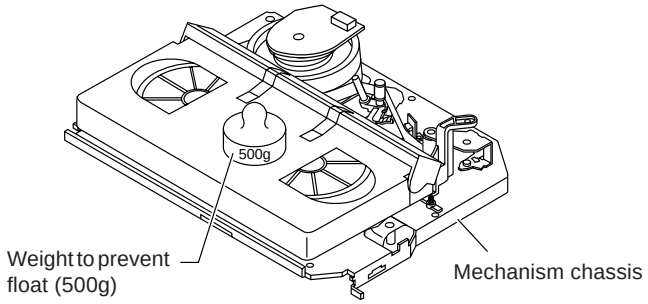


Figure 4-3.

Note:
The weight should not be more than 500g.

To take out the cassette tape.

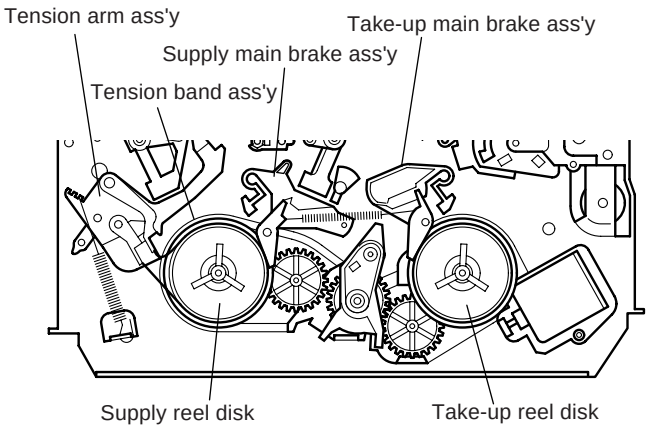
1. Turn off the power switch.
2. Take out the cassette tape.

4-5 REEL DISK REPLACEMENT AND HEIGHT CHECK

- **Removal**

1. Remove the cassette housing control assembly.
2. Pull the tension band out of the tension arm ass'y.
3. Remove the Supply/Take-up main brake ass'y.
4. Open the hook at the top of the reel disk, and remove the reel disk.

Note:
Take care so that the tension band ass'y and main brake ass'y (especially soft brake) are not deformed.



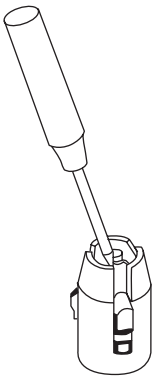


Figure 4-4.

Note:
When the tension band ass'y is pressed in the direction of the arrow for removal, the catch is hard to be deformed.

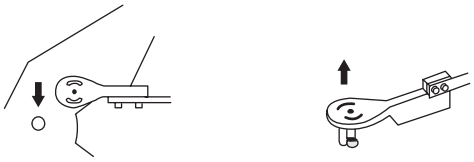


Figure 4-5.

- **Reassembly (Supply reel disk)**

1. Clean the reel disk shaft and apply grease (SC-141) to it.
2. Match the phases of reel disk and reel relay gear, and set the new reel disk.
3. After checking the reel disk height, wind the tension band ass'y around the reel disk, and insert into the hole of tension arm ass'y.
4. Assemble the Supply main brake ass'y.

Notes:

1. When installing the reel disk, take due care so that the tension band ass'y is not deformed and grease does no adhere.
2. Do not damage the Supply main brake ass'y. Be careful so that grease does not adhere to the brake surface.

- **Reassembly (Take-up reel disk)**

1. Clean the reel disk shaft and apply grease (SC-141) to it.
2. Align the phase of the reel disk to that of the reel relay gear and to install a new take-up reel disk onto the shaft.
3. Check the reel disk height and reassemble the take-up main brake ass'y.

Note:

1. Take care so that the Take-up main brake ass'y is not damaged. Take care so that grease does not adhere the brake surface.
2. After reassembly, check the video search rewind back tension (see **4-10**), and check the brake torque (see **4-14**).

- **Height checking and adjustment**

Note:

1. Set the master plane with due care so that it does not contact the drum.
2. When putting the master plane, shift the reverse guide a little in the loading direction. Care must be taken since excessive shift results in damage.

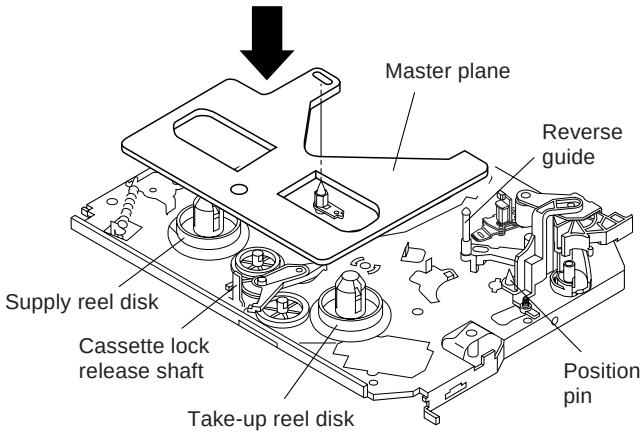


Figure 4-6.

Note:

- Check that the reel disk is lower than part A but higher than part B. If the height is not correct, readjust the reel disk height by changing the poly-slider washer under the reel disk.

Note:
Whenever replacing the reel disk, perform the height checking and adjustment.

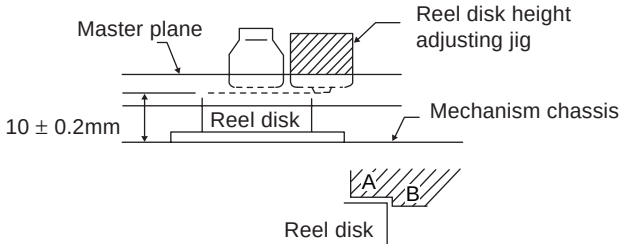


Figure 4-7.

4-6 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN FAST FORWARD MODE

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP802 provided at the center (facing to the main PWB), plug in the power cord.**

- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the take-up reel disk.
2. Press the FF button.
3. To calculate the remaining capacity of the play back mode, slowly rotate the supply reel disk, and then shift it into the forward mode.

- **Checking**

1. Turn the torque gauge slowly (one rotation every 2 to 3 seconds) by hand in the CW direction.
2. Make sure that the indication of torque gauge is not less than 30mN·m (306gf·cm).

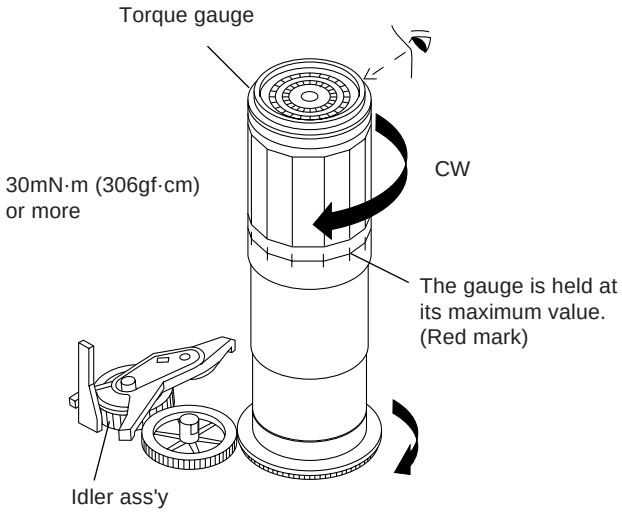


Figure 4-8.

- **Adjustment**

1. If the FF winding-up torque is less than the specified value, clean the capstan D.D. motor pulley, drive belt, and limiter pulley with cleaning liquid, and check again.
2. If the torque is less than the set value, replace the reel belt.

Notes:
1. Hold the torque gauge by hand so that it is not moved.
2. Do not keep the reel disk in lock state. Do not allow long-time measurement.

4-7 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN REWIND MODE

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP802 provided at the center (facing to the main PWB), plug in the power cord.**

- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the supply reel disk.
2. Press the rewind button.
3. To calculate the remaining capacity, slowly rotate the take-up reel disk, and then shift it into the rewind mode.

- **Checking**

1. Turn the torque gauge slowly (one rotation every 2 to 3 seconds) by hand in the CCW direction.
2. Make sure that the indication of torque gauge is not less than 30mN·m (306gf·cm).

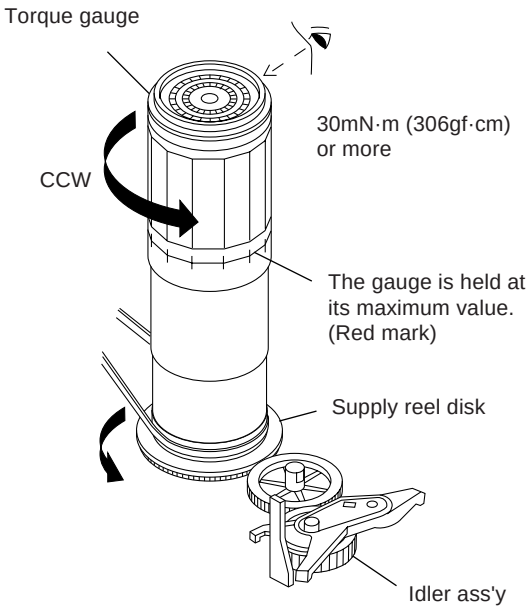


Figure 4-9.

- **Adjustment**

1. If the rewind winding-up torque is less than the specified value, clean the capstan D.D. motor pulley, drive belt, and limiter pulley with cleaning liquid, rewind again, and check the winding-up torque.
2. If the winding-up torque is still out of range, replace the drive belt.

Notes:
1. Hold the torque gauge by hand so that it is not moved.
2. Do not keep the reel disk in lock state. Do not allow long-time measurement.

4-8 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN RECORD/PLAYBACK MODE

- **Remove the cassette housing control assembly.**
- **After short-circuiting TP802 provided at the center (facing to the main PWB), plug in the power cord.**
- **Turn off the power switch.**
- **Open the cassette torque meter lid, and fix it with tape.**
- **Load the cassette torque meter into the unit.**
- **Put the weight (500g) on the cassette torque meter.**
- **Turn on the power switch.**
- **Press the picture record button, and set LP picture record mode (x2).**

Set value LP6.9 ± 2.5mN·m (70 ± 25gf·cm)

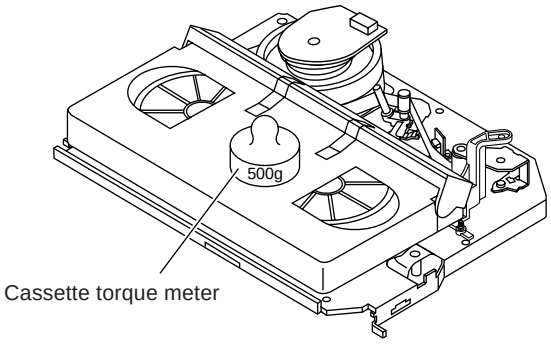


Figure 4-10.

- **Checking**

1. Make sure that value is within the setting 6.9±2.5mN·m (70±25gf·cm).
2. The winding-up torque fluctuates due to variation of rotation torque of limiter pulley ass'y. Read the center value of fluctuation as setting.
3. Set the LP record mode (x2) and make sure that the winding-up torque is within setting.

- **Adjustment**

If the playback winding-up torque is not within the setting, replace the limiter pulley assembly.

Note:
When the torque cassette is set, put a weight (500g) to prevent rise.
When the cassette torque meter is taken out.
Turn off the power switch.

4-9 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN VIDEO SEARCH REWIND MODE

- **Remove the cassette housing control assembly.**
- **After short-circuiting TP802 provided at the center (facing to the main PWB), plug in the power cord.**
- **Setting**

Press the playback button and rewind button to set the video search rewinding mode.

- **Checking**

Place the torque gauge on the supply reel disk, and turn it counterclockwise very slowly (one rotation every 1 to 2 seconds) and check that the torque is within the set value 14.0 ± 3.9mN·m. (144 ± 40gf·cm)

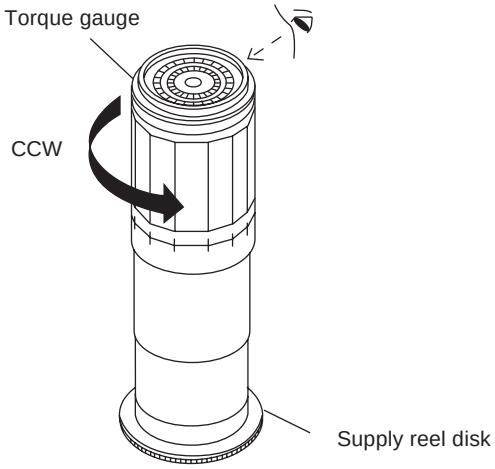


Figure 4-11.

Note:
Surely put the torque gauge on the reel disk to measure. If the torque gauge is raised, accurate measurement is impossible.

- **Adjustment**

If the rewinding playback winding-up torque is not within the setting, replace the limiter pulley assembly.

Note:
The winding-up torque fluctuates due to variation of rotation torque of supply reel disk. Read the center value of fluctuation as setting.

4-10 CHECKING THE VIDEO SEARCH REWIND BACK TENSION

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP802 provided at the center (facing to the main PWB), plug in the power cord.**

- **Checking**

1. After pressing the play button, press the rewind button, and set the video search rewind mode.
2. Place the torque gauge on the take-up reel disk, and turn it counterclockwise very slowly (one rotation every 2 to 3 seconds) and check that the torque is within the set value 3.4±1.5mN·m (35±15gf·cm).

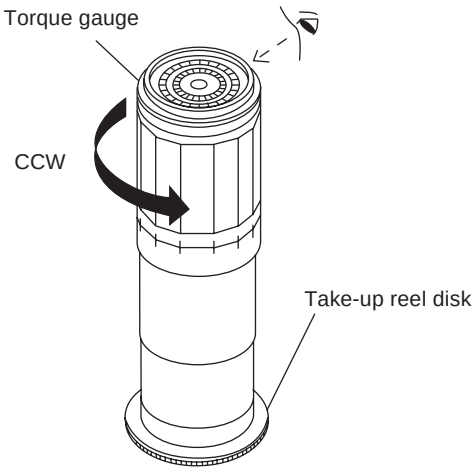


Figure 4-12.

Notes:

Set the torque gauge securely on the take-up reel disk. If it is not secure, the measurement will be incorrect.

4-11 CHECKING THE PINCH ROLLER PRESSURE

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP802 provided at the center (facing to the main PWB), plug in the power cord.**

- **Checking**

Press the play button to set the playback mode.

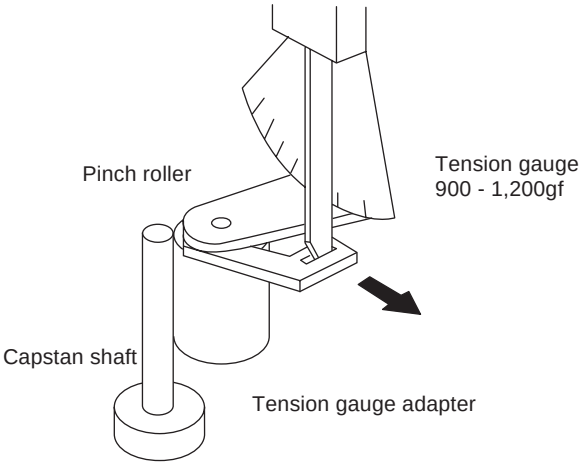


Figure 4-13.

1. Detach the pinch roller from the capstan shaft. Do not separate excessively. Or the pinch lever and pinch double action lever may disengage.
2. Engage the tension gauge adapter with the pinch roller shaft, and pull in the arrow direction.
3. Gradually return the pinch roller, and measure the pulling force when the pinch roller contacts the capstan shaft.
4. Make sure that the measured value is within setting 8.8 to 11.8 N (900 to 1,200gf).

4-12 CHECKING AND ADJUSTMENT OF TENSION POLE POSITION

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP802 provided at the center (facing to the main PWB), plug in the power cord.**

- **Setting**

1. Turn off the power switch.
2. Open the cassette tape (E-180), and fix with tape.
3. Set the cassette tape in loading state.
4. Put the weight (500g) on the cassette tape.
5. Turn on the power switch.
6. Make the adjustment with the beginning of a E-180 tape.

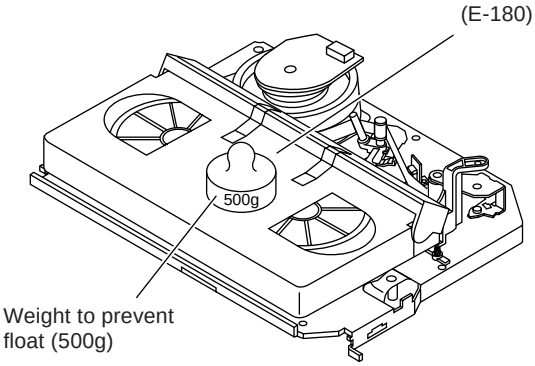
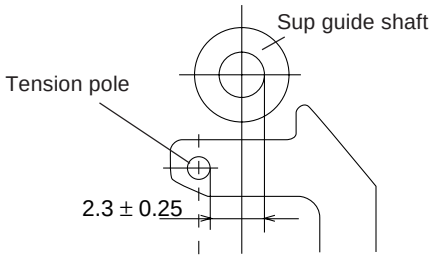


Figure 4-14.

- **Checking**

1. Set a cassette tape, push the REC button to place the unit in the SP record mode. Now check the tension pole position.

2. Visually check to see if the right edge of the tension pole is within the 2.3 ± 0.25 from the right edge of the Sup guide shaft.



Make the adjustment with the beginning of a E-180 tape.

Figure 4-15.

At left side from the center line

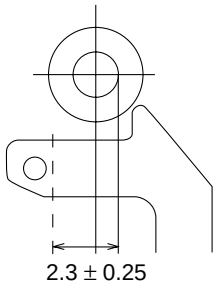


Figure 4-16.

Insert the slotted screwdriver in the tension pole adjuster, and rotate counterclockwise.

At right side from the center line

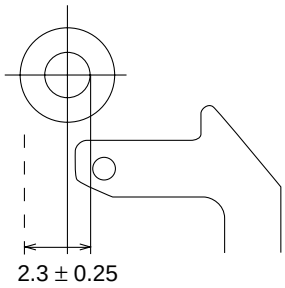


Figure 4-17.

Insert the slotted screwdriver in the tension pole adjuster, and rotate clockwise.

Tension pole adjuster adjusting range

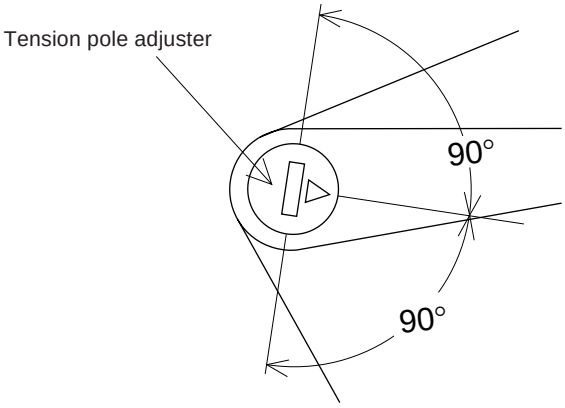


Figure 4-18.

Adjust so that the delta mark of tension pole adjuster is within 90° range (left, right).

4-13 CHECKING AND ADJUSTMENT OF RECORD/PLAYBACK BACK TENSION

- **Remove the cassette housing control assembly.**
- **After short-circuiting TP802 provided at the center (facing to the main PWB), plug in the power cord.**
- **Setting**

1. Turn off the power switch.
2. Open the torque cassette meter and fix with tape.
3. Set the cassette tape in loading state.
4. Put the weight (500g) on the cassette torque meter.
5. Turn on the power switch.

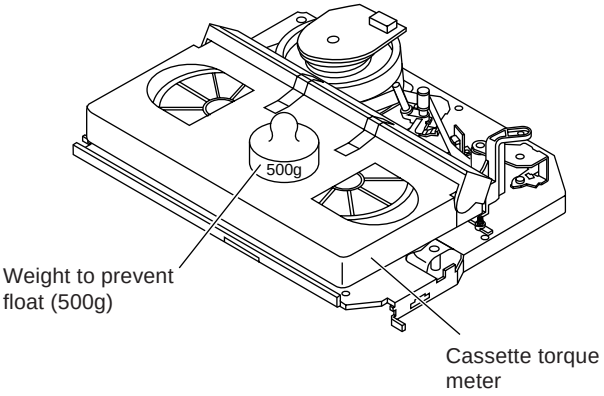


Figure 4-19.

- **Checking**

1. Push the REC button to place the unit in the SP record mode.
2. At this time ascertain that the back tension is within the setting (36.5 to 52g·cm) by seeing the indication of torque cassette meter.

- **Adjustment**

1. If the indication of torque cassette meter is lower than the setting, shift the tension spring engagement to the part A.
2. If the indication of torque cassette meter is higher than the setting, shift the tension spring engagement to the part B.

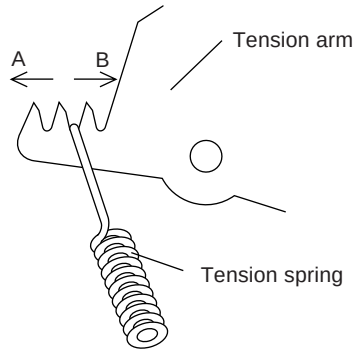
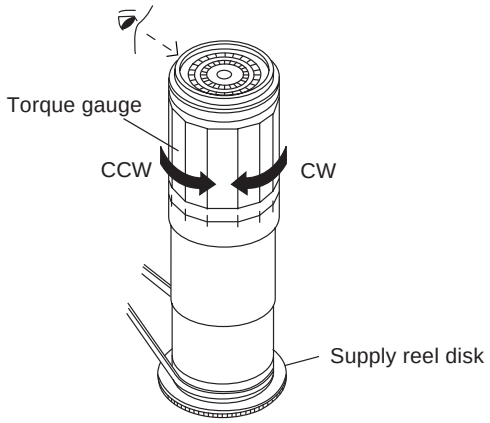


Figure 4-20.

4-14 CHECKING THE BRAKE TORQUE

- **Checking the brake torque at the supply side**



CCW:	2.9~9.8mN·m (30~100gf·cm)
CW:	4.9~13.7mN·m (50~140gf·cm)

Figure 4-21.

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP802 provided at the center (facing to the main PWB), plug in the power cord.**

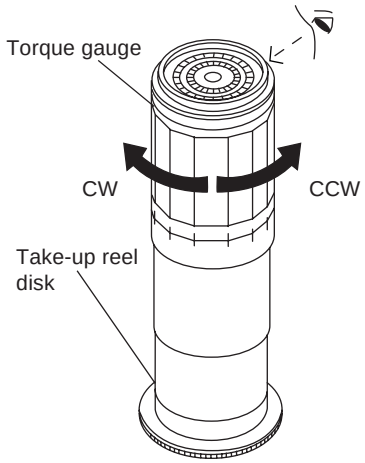
- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the supply reel disk.
2. Switch from the FF mode to the STOP mode.
3. Disconnect the power cord.

- **Checking**

Turn the torque gauge at a rate of about one turn/2 sec in the CW direction/CCW direction with respect to the supply reel disk so that the reel disk and torque gauge pointer rotate at equal speed, and make sure that the value is within the setting (CW direction: 4.9 to 13.7mN·m (50 to 140gf·cm); CCW direction: 2.9 to 9.8mN·m (30 to 100gf·cm).

- **Checking the brake torque at the take-up side**



CCW:	4.9~13.7mN·m (50~140gf·cm)
CW:	3.9~10.8mN·m (40~110gf·cm)

Figure 4-22.

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP802 provided at the center (facing to the main PWB), plug in the power cord.**

- **Setting**

1. Switch from the FF mode to the STOP mode.
2. Disconnect the power cord.
3. Set a torque gauge to zero on the scale. Place it on the take-up reel disk.

- **Checking**

1. Turn the torque gauge at a rate of about one turn/2 sec in the CCW direction/CW direction so that the reel disk and torque gauge pointer rotates at equal speed and make sure that the value is within the setting (CCW direction: 4.9 to 13.7mN·m (50 to 140gf·cm), CW direction: 3.9 to 10.8 mN·m (40 to 110gf·cm).

2. Adjustment of the brake torque at the supply side and the take-up side

- Unless the supply side brake torque or take-up side brake torque is within the setting, clean the felt surface of reel disk (supply, take-up) brake lever, check again the brake torque.
- If value cannot be set within the setting yet, replace the main brake ass'y or main brake spring.

4-15 REPLACEMENT OF A/C (Audio/Control) HEAD

1. Remove the cassette housing control assembly.
2. In unloading state unplug the power cord.

- **Removal**

1. Remove the screws ①②③, Azimuth screw, Tilt screw.
2. Unsolder the PWB fitted to the A/C head.

Notes:

1. When replacing, never touch the head. If you touched, clean with the cleaning liquid.
2. When removing the screw ③, take care so that the spring may out.

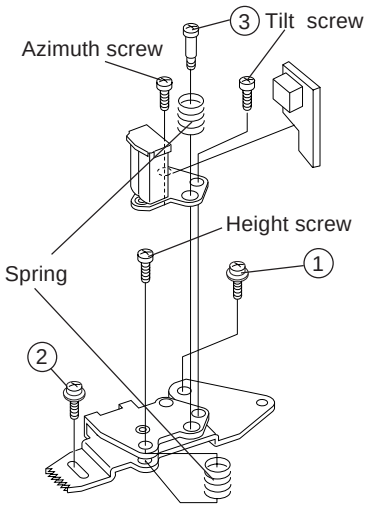


Figure 4-23.

- **Replacement**

1. Solder the removed PWB to the new head assembly.
2. Adjust the height from the A/C head arm (lower surface) to the A/C head plate to 10.8mm with slide calipers. (3 places of azimuth screw section, tilt screw section and A/C head front section) (See the figure below.)

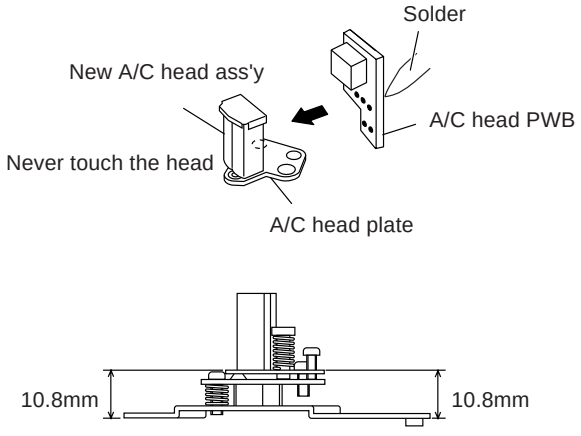


Figure 4-24.

3. Align the left end of gear of A/C head arm with the punched mark of chassis, tentatively tighten the screws ① and ② so as to ensure smooth motion of A/C head arm. Tentative tightening torque must be 0.15 to 0.20 N·m (1.5 to 2.0kgf·cm).

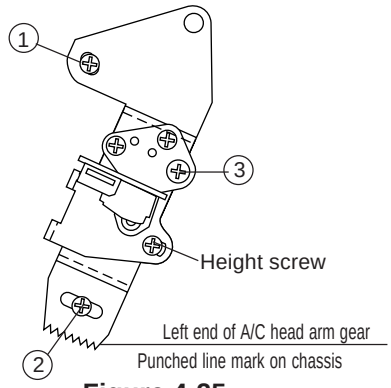


Figure 4-25.

Note:

1. If the screws ① and ② are tighten tentatively too loose, the azimuth and height of A/C head may change when they are finally tightened. Therefore care must be taken.
2. After completion of A/C head be sure to adjust tape running. (Execute the running adjustment by the method described in **4-18**.)

4-16 A/C HEAD HEIGHT ROUGH ADJUSTMENT

- **Setting**

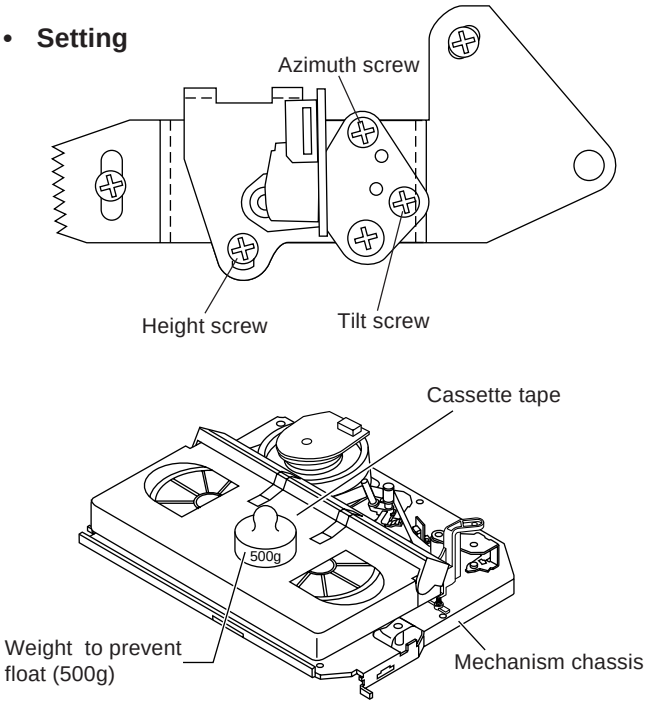


Figure 4-26.

1. Set the cassette tape in the unit.
2. Press the PLAY button to put the unit in the playback mode.
3. Roughly adjust the height of the A/C head by turning the height screw until the tape is in the position shown below.

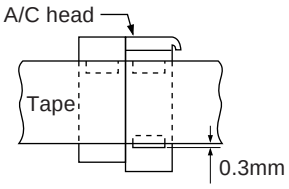


Figure 4-27.

- **Adjustment**

Adjust the height screw visually so that the control head is visible 0.3mm below the bottom of the tape.

4-17 HEIGHT ADJUSTMENT OF REVERSE GUIDE

1. Adjust the height from the mechanism chassis to the reverse guide lower flange to 13.38 mm, using the reverse guide height adjustment jig, in tape loading state. (Refer to Figure 4-28 (a) (b).)

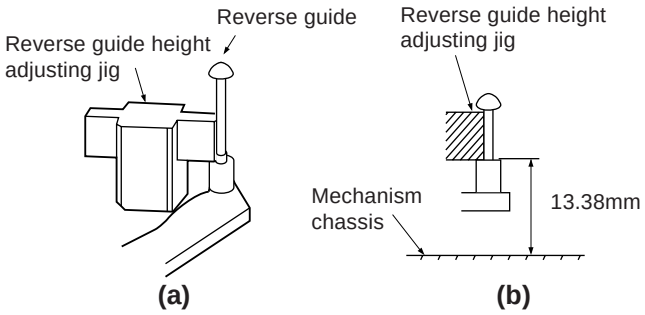


Figure 4-28.

2. Rotate counterclockwise the reverse guide height adjustment nut 1/10 turn. (For height adjustment use the reverse guide height adjustment box driver (JiGDRiVER 11055)).

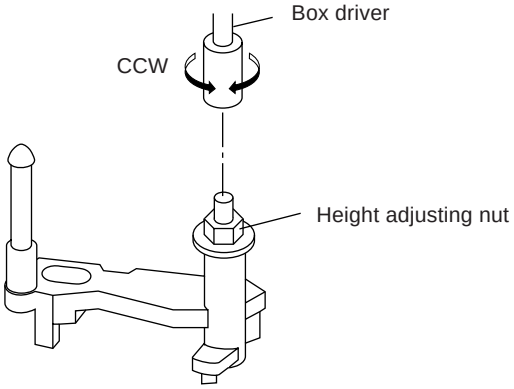
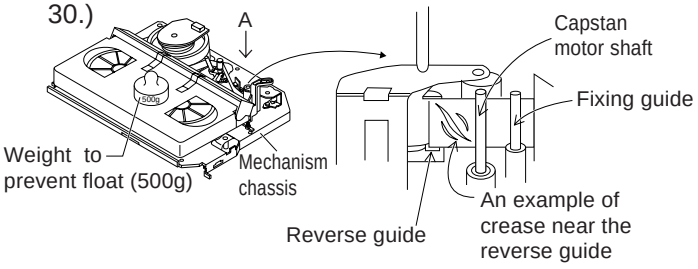


Figure 4-29.

3. Set the tape, and check for tape crease near the reverse guide in the playback mode.
   If crease is found, turn the reverse guide adjustment nut to remove crease. (As for crease check refer to Figure 4-30.)



* Check for crease from the A direction.

Figure 4-30.

4-18 ADJUSTMENT OF TAPE DRIVE TRAIN

1. Tape run rough adjustment
   ① Remove the cassette housing control assembly.
   ② After shortcircuiting TP802 provided at the center (facing to the main PWB), plug in the power cord.
   ③ Check and adjust the position of the tension pole. (See **4-12**.)
   ④ Check and adjust the video search rewind back tension. (See **4-10**.)
   ⑤ Connect the oscilloscope to the test point for PB CHROMA envelope output (TP201). Set the synchronism of the oscilloscope to EXT. The PB CHROMA signal is to be triggered by the head switching pulse (TP202).
   ⑥ Set the alignment tape (VROCPSV) to play. (Put a 500g weight on the cassette tape to prevent lift of cassette tape.)

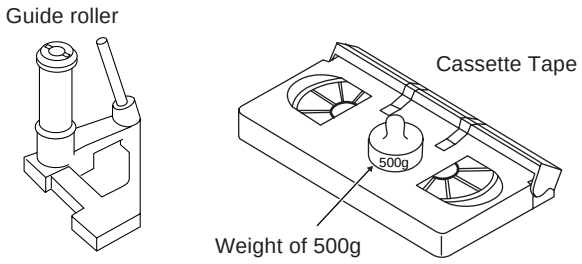


Figure 4-31.

   ⑦ Press the tracking button (+), (–) and change the envelope waveform from max to min and from min to max. At this time make sure that the envelope waveform changes nearly parallel.
   ⑧ Unless the envelope waveform changes nearly parallel, adjust the height of supply side and take-up side guide roller so that the envelope waveform changes nearly parallel. (For envelope adjustment procedure refer to Figure 4-35.)
   ⑨ Turn the tilt screw to remove the tape crease at the fixing guide flange.
   Playback the tape and check for tape crease at the fixing guide flange.
   (1) If there is no tape crease
   Turn the tilt screw clockwise so that tape crease appears once at the flange, and then return the tilt screw so that the crease disappears.
   (2) If there is tape crease
   Turn counterclockwise the tilt screw so that the tape crease disappears.
   (Reference) If the tilt screw is turned clockwise crease appears at the lower flange.

Notes:

1. Previously set the tracking control in the center position, and adjust the envelope waveform to maximum with X value adjustment nut. Thereby the tape run rough adjustment is facilitated.
2. Especially the outlet side envelope waveform must have higher flatness.

Figure 4-32.

2. Adjustment of A/C head height and azimuth
   ① Perform the initial setting of A/C head position by the method stated in "**4-15** Replacement 3".
   ② Connect the oscilloscope to the audio output terminal.
   ③ Using the alignment tape in which 1 kHz linear audio signal has been recorded, adjust the height screw so as to get max audio output.
   ④ Using the alignment tape in which 7 kHz linear audio signal has been recorded, adjust the azimuth screw so as to get max audio output.
   ⑤ The adjustment of ③ and ④ twice or three times repeat, and finally adjust ④.

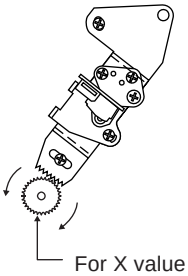
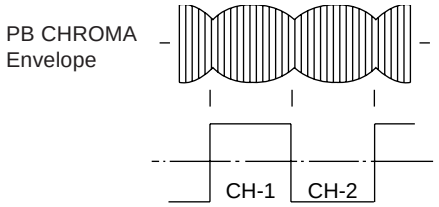


Figure 4-33.

3. Tape run adjustment
   ① Connect the oscilloscope to PB CHROMA envelope output test point, set oscilloscope sync to EXT, trigger-input the PB CHROMA signal (head switching pulse).
   ② Rough adjustment of X value
   Tentatively fix A/C head arm screws ① and ② by the method described in **4-15** "Replacement 3".
   Playback the alignment tape (VROCPSV).
   Move the A/C head with the X value adjustment gear driver (JiGDRiVER-6) by the method shown in Figure 4-33, and adjust the A/C head so as to get the maximum envelope waveform. (Note: When the A/C head is adjusted, adjust so that the maximum envelope waveform is obtained nearest the position of initial setting made in **4-15**.)

③ Next, press the tracking button (+), (–) and change the envelope waveform from max to min and from min to max. At this time adjust the height of supply and take-up side guide roller with the adjustment driver (JiGDRiVERH-4) so that the envelope waveform changes nearly parallel.
④ If the tape is lifted or sunk from the helical lead surface, the PB CHROMA envelope waveform appears as shown in Figure 4-35.
⑤ Press the tracking button (+), (–) and make sure that the envelope waveform changes nearly parallel.
⑥ Finally check tape crease near the reverse guide. If tape crease is found, remove it as stated in **4-17** "HEIGHT ADJUSTMENT OF REVERSE GUIDE" item 3.



Head switching pulse

Figure 4-34.

4. A/C head X value adjustment
① Tentatively fix A/C head arm screws ① and ② by the method described in **4-15** "Replacement 3".
② Playback the alignment tape (VROCPSV).

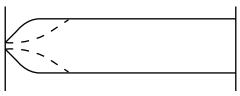
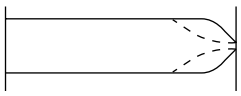
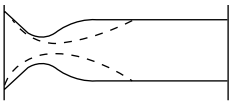
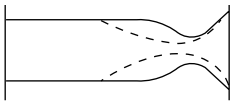
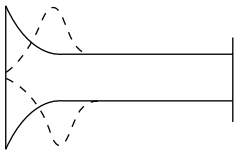
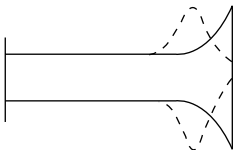
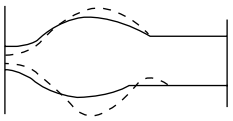
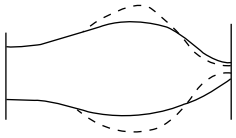
	When the tape is above the helical lead.		When the tape is below the helical lead.	
	Supply side	Take-up side	Supply side	Take-up side
				
				
Adjustment	Supply side guide roller rotated in clockwise direction (lowers guide roller) to flatten envelope.	Take-up side guide roller rotated in clockwise direction (lowers guide roller) to flatten envelope.	Supply side guide roller rotated in counterclockwise direction (raises guide roller) to make the tape float above the helical lead. The supply side guide roller is then rotated in the clockwise direction to flatten the envelope.	Take-up side guide roller rotated in counterclockwise direction (raises guide roller) to make the tape float above the helical lead. The take-up side guide roller is then rotated in the clockwise direction to flatten the envelope.

Figure 4-35.

③ Move the A/C head with the X value adjustment gear driver by the method shown in Figure 4-33, and adjust the A/C head so as to get the maximum envelope waveform. (Note: At this time adjust so as to get the maximum envelope waveform nearest the A/C head position which has been set in case of X value rough adjustment as stated in **4-18**, 3- ②.)
④ Tighten finally the screws ① and ②. Be sure to tighten at first the screw ① and then the screw ②. Final tightening torque is 0.6N·m (If the screw ② is tightened first, the X value may deviate.)
⑤ Adjust the playback switching point (Refer to the electric adjustment method.)
⑥ Playback the self-picture-recorded tape, and check the flatness of envelope waveform and sound.

Notes:
When the A/C head X value adjustment is performed, be sure to perform at first X value rough adjustment (refer to **4-18**, 3-②).

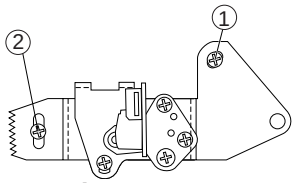


Figure 4-36.

4-19 REPLACEMENT OF THE CAPSTAN D.D. (DIRECT DRIVE) MOTOR

- Remove the mechanism from the main PWB (refer to **2-2** item 1. When removing the mechanism from the main PWB").

- **Removal (Follow the order of indicated numbers.)**

1. Remove the reel belt ①.
2. Remove the show brake lever ②.
3. Remove the three screws ③.

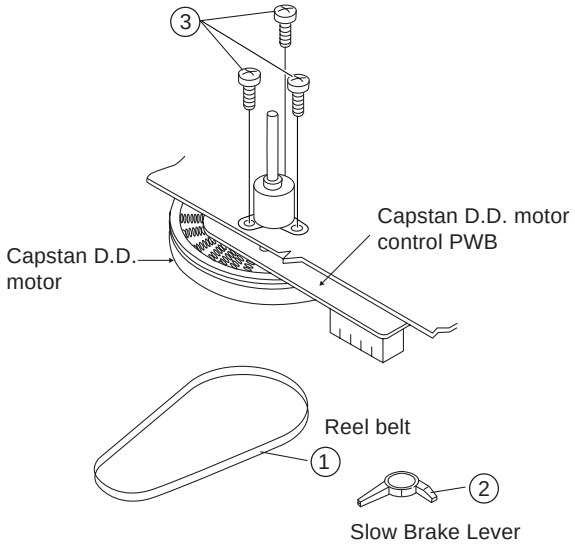


Figure 4-37-1.

- **Reassembly**

1. Taking care so that the capstan shaft does not contact the mechanism chassis, set its position on the mechanism chassis, and then install with the three screws.
2. Install the slow brake lever.
3. Install the reel belt.

Notes:

1. Before installing the capstan D. D. motor, conflrm whether an acetate tape (ZTAPEN1200020E) is drawn on the back of mechanism chassis.

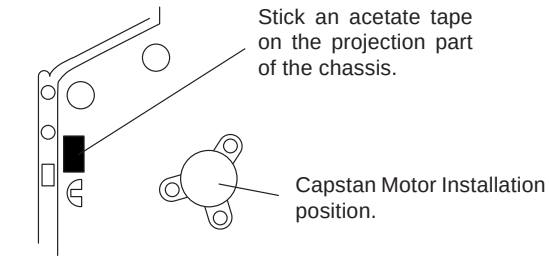


Figure 4-37-2.

2. After installing the capstan D.D. motor, be sure to rotate the capstan D.D. motor and check the movement.
3. Set the tape, and check for the tape crease near the reverse guide in the playback mode. Adjust the A/C head and azimuth as stated in **4-18** item 2. If crease is found, adjust as stated in **4-17** "HEIGHT ADJUSTMENT OF REVERSE GUIDE".

4-20 REPLACEMENT OF DRUM D.D. MOTOR

1. Set the ejection mode.
2. Withdraw the main power plug from the socket.

- **Removal (Perform in numerical order.)**

1. Disconnect the FFC cable ①.
2. Unscrew the D.D. stator assembly fixing screws ②.
3. Take out the D.D. stator assembly ③.
4. Unscrew the D.D. rotor assembly fixing screws ④.
5. Take out the D.D. rotor assembly ⑤.

Notes:

1. In removing the D.D. stator assembly, part of the drum earth spring pops out of the pre-load collar. Be careful not to lose it.
2. Install, so that the D.D. rotor ass'y and upper drum ass'y mounting direction check holes align. (Align the upper drum dent with the rotor hole.)
3. Be careful not to damage the upper drum or the video head.
4. Protect the hole elements from shock due to contact with D.D. stator or D.D. rotor ass'y.
5. After installation adjust the playback switching point for adjustment of servo circuit.

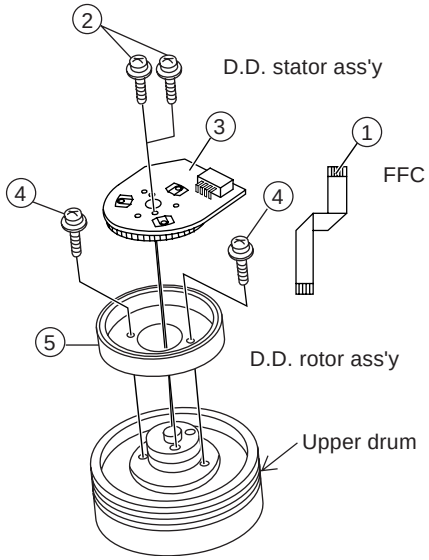


Figure 4-38.

4-21 REPLACING THE UPPER AND LOWER DRUM ASSEMBLY

• Replacement (Perform in the numerical order)
① Remove the motor as stated in **4-20**.
② Remove the drum earth brush ass'y ②.
③ Remove the drum base ③ from the upper and lower drum assembly ①.

[Cares when replacing the drum]

1. Be careful so that the drum earth brush is not lost.
2. Do not touch directly the drum surface.
3. Fit gently the screwdriver to the screws.
4. Since the drum assembly is an extremely precise assembly, it must be handled with utmost care.
5. Make sure that the drum surface is free from dust, dirt and foreign substances.
6. After replacing the drum be sure to perform the tape running adjustment.
   After that, perform also the electrical adjustment.
   • Playback switching point adjustment
   • X-position adjustment and check
   • Standard and x-3 slow tracking adjustment
7. After replacing the drum clean the drum.

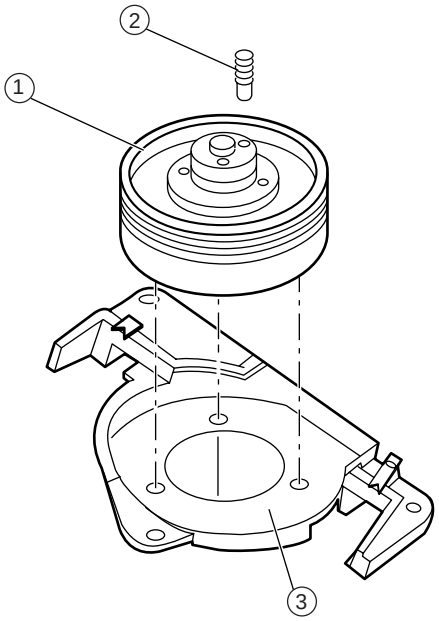


Figure 4-39.

4-22 ASSEMBLING OF PHASE MATCHING MECHANISM COMPONENTS

- **Assemble the phase matching mechanism components in the following order.**

1. Assemble the pinch roller assembly and pinch drive cam.
2. Mounting the shifter (on the back of the mechanism chassis).
3. Mounting the master cam (on the back of the mechanism chassis).
4. Assemble the connection gear, slow brake and loading motor parts.

• Pinch drive cam and pinch roller assembling method.

(Place the following parts in position in numerical order.)
(1)Reverse drive lever ①
(2)Reverse guide spring ②
(3)Reverse guide lever ass'y ③
(4)Reverse guide height adjusting nut ④
(5)Pinch drive cam ⑤
(6)Pinch roller ass'y ⑥
(7)Open lever ⑦

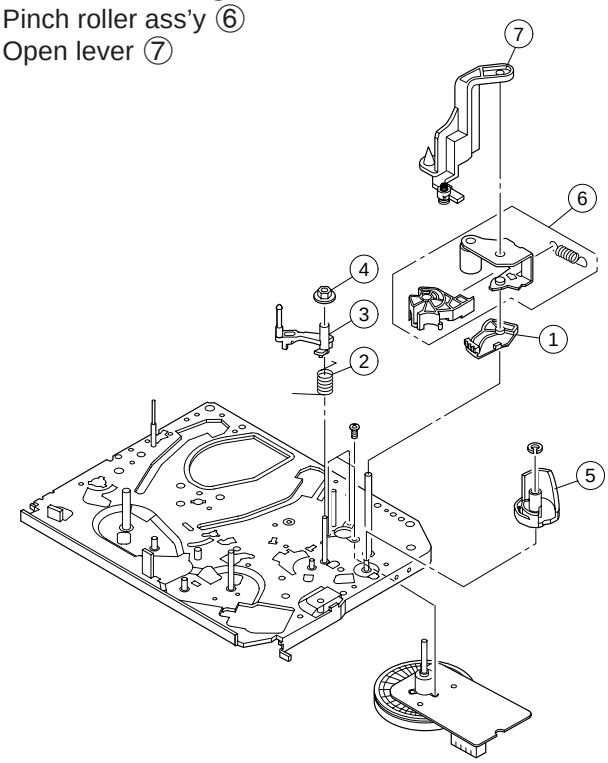


Figure 4-40.

①Insert Reverse Guide Lever Ass'y

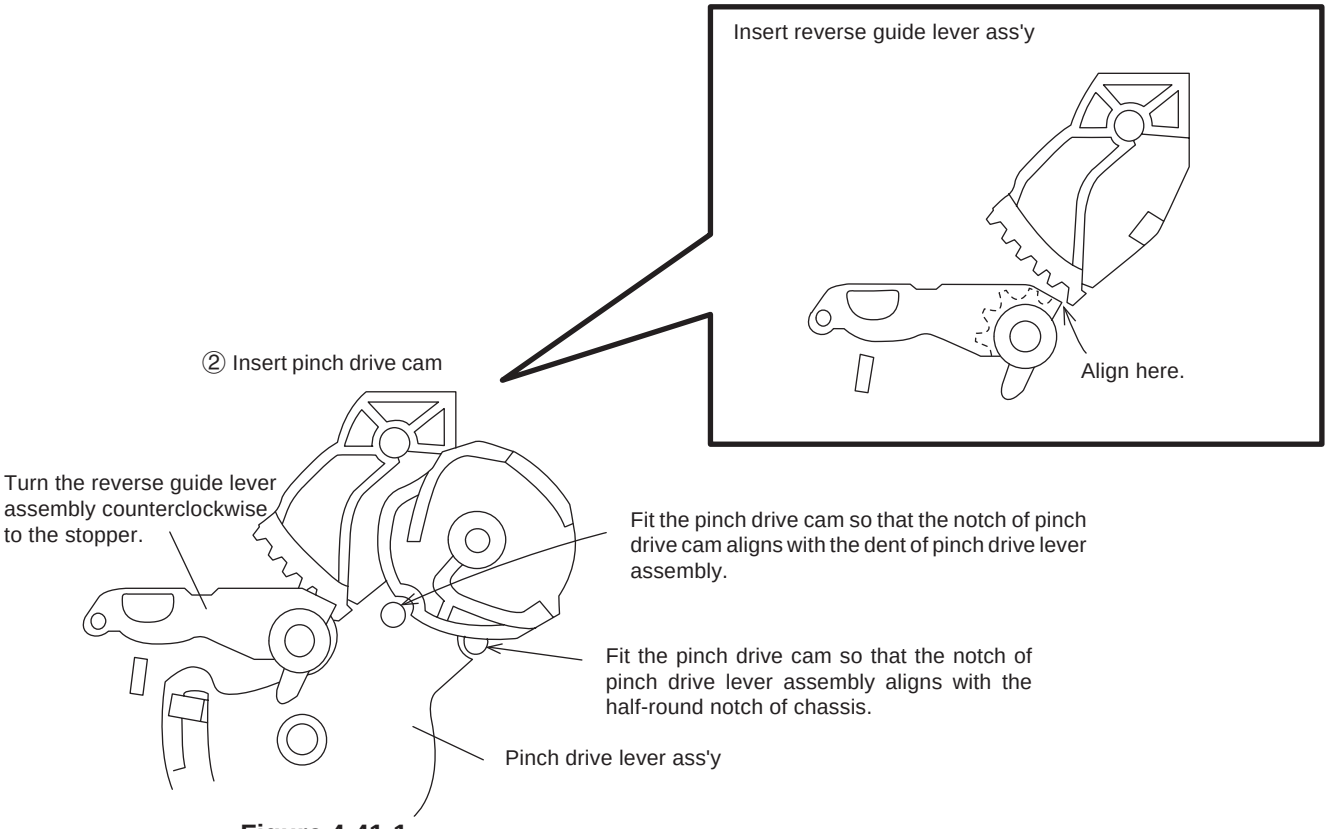


Figure 4-41-1.

②Insert Pinch Roller/Pinch Double Action Lever Ass'y.

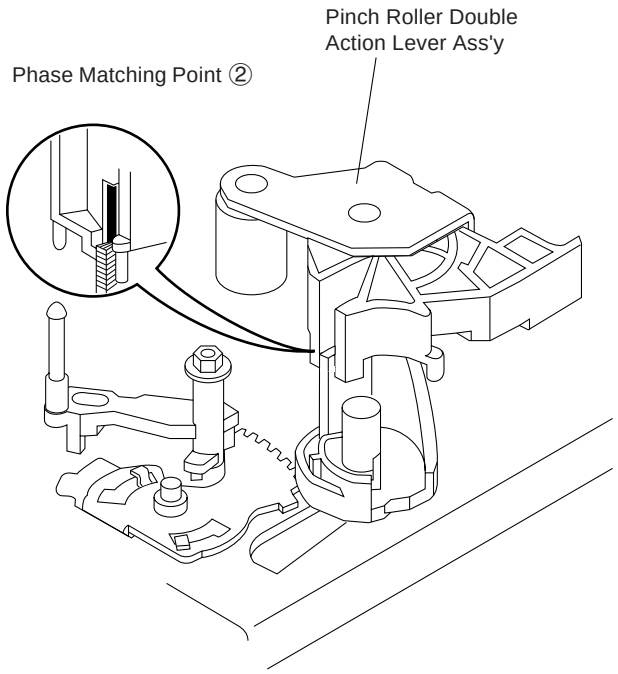


Figure 4-41-2.

③Insert Open Lever.

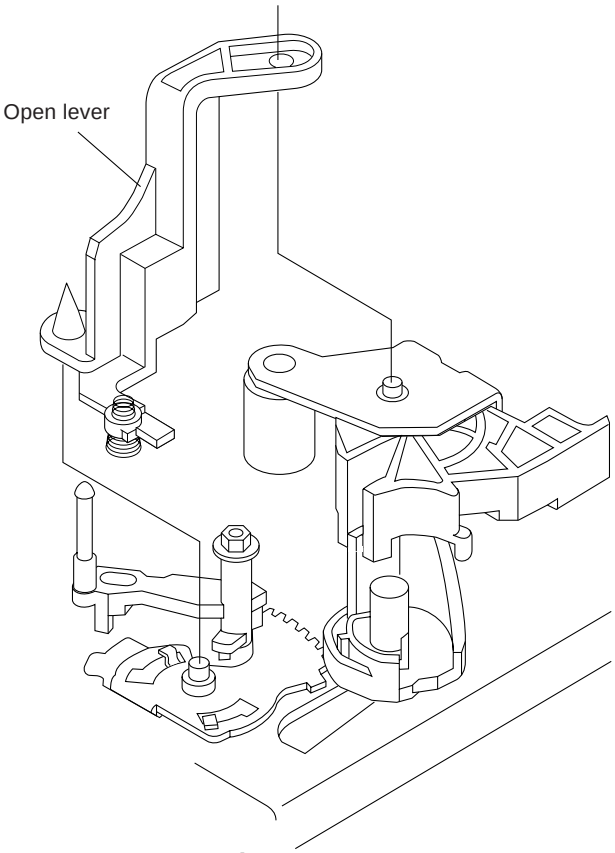
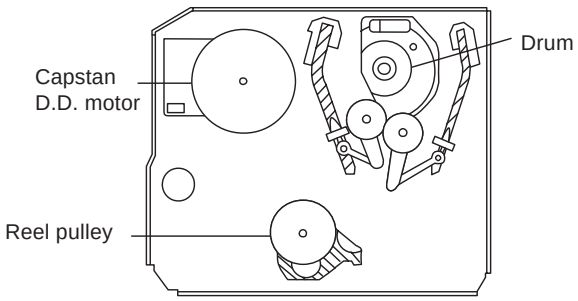


Figure 4-41-3.

4-23 INSTALLING THE SHIFTER



(Bottom side of mechanism chassis)

Figure 4-42.

1. Make sure that the loading gear is at the Phase-Matching point ① as shown below.
2. Install, paying attention to insert point ⑤ and release point ③.
3. For the phase matching at the insert point ①, see the Phase-Matching point ② as shown below.
4. Finally fix the inserts ① and ④.

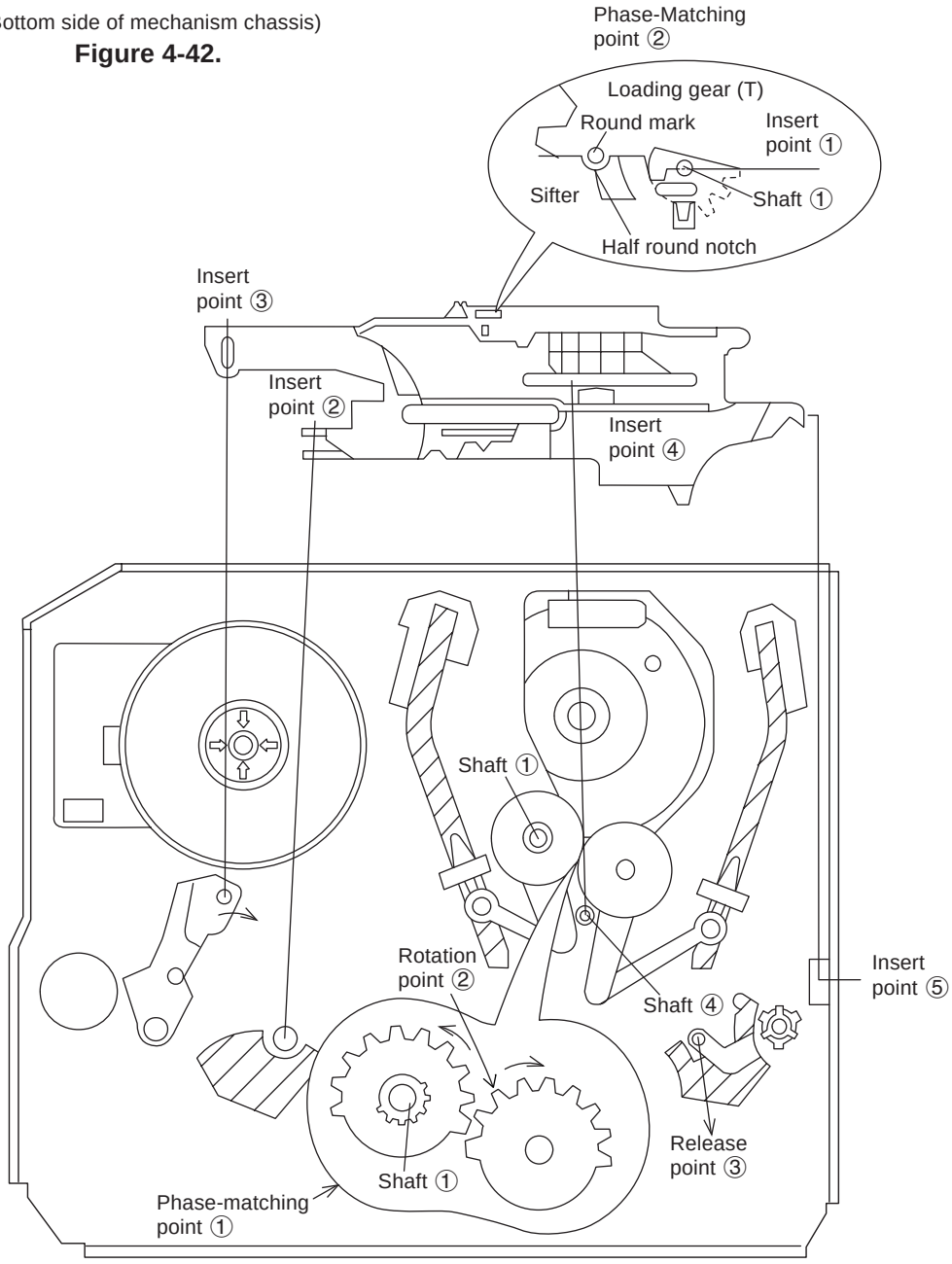


Figure 4-43.

4-24 INSTALLING THE MASTER CAM (AT REAR SIDE OF MECHANISM CHASSIS)

1. Make sure beforehand that the shifter is at the point as shown below.
2. Place the master cam in the position as shown below.

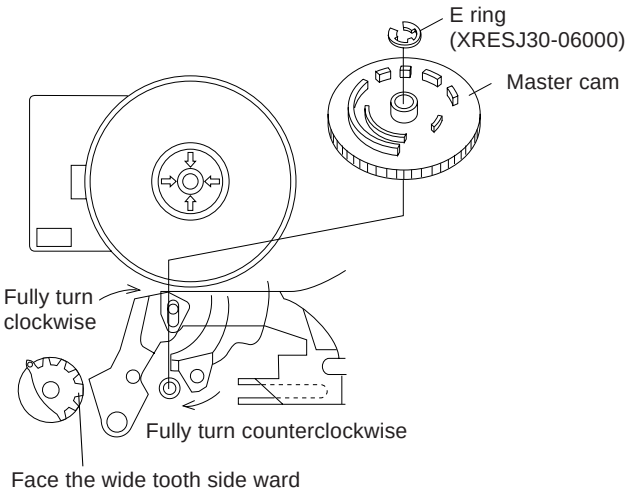


Figure 4-44-1.

Note:
See the figure below for the phase matching between the master cam and the casecon drive gear.

3. Finally fix with the E ring.

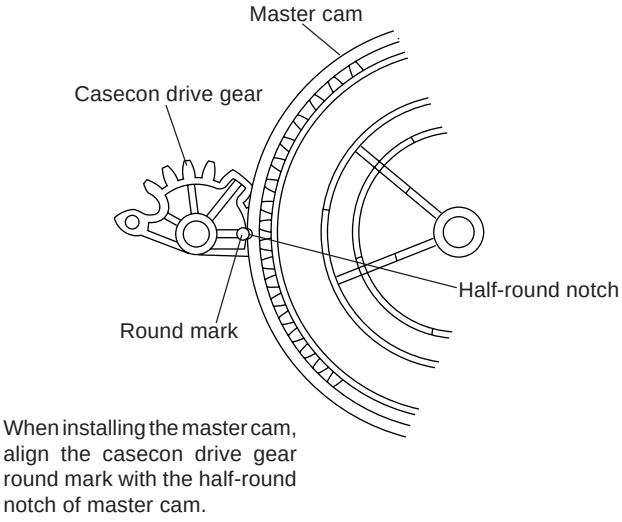


Figure 4-44-2.

4-25 REPLACEMENT OF LOADING MOTOR

- **Removal**

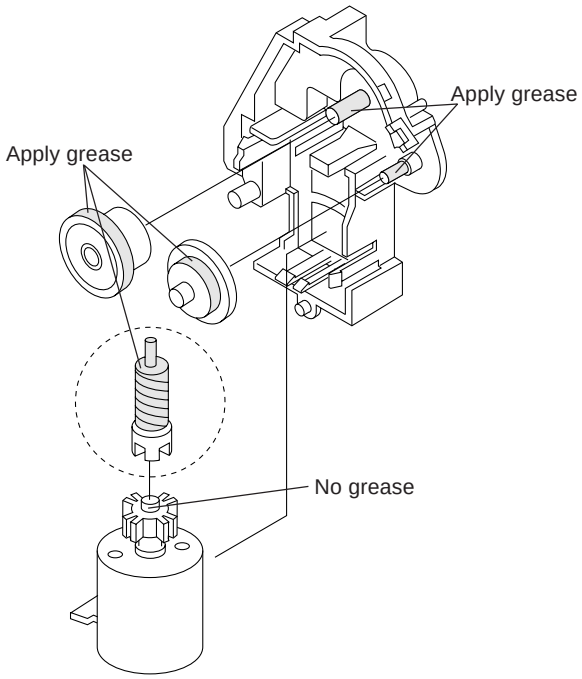


Figure 4-45.

- **Replacement**

Remove the loading motor, and install the replacement loading motor as shown below.

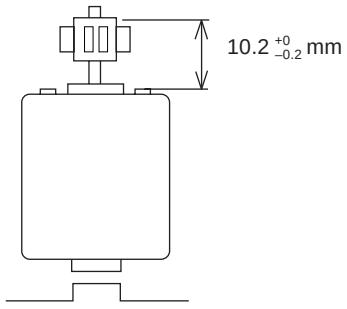


Figure 4-46.

The loading motor pressing-in must be less than 14.7 N (1500 gf).

Adjust the distance between motor and pulley to 10.2 $^{+0}_{-0.2}$ mm).

4-26 ASSEMBLY OF CASSETTE HOUSING

1. Drive Gear and R Drive angle ass'y

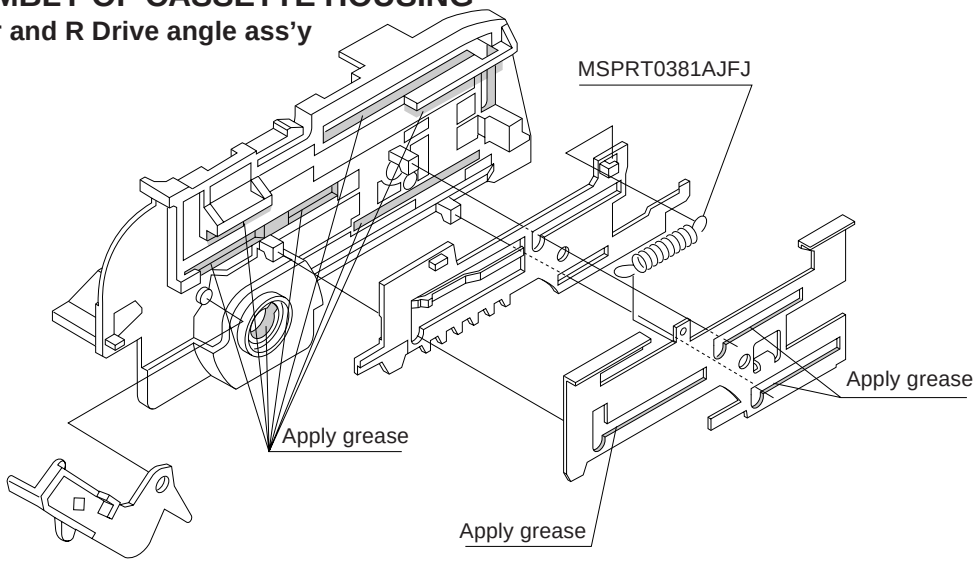
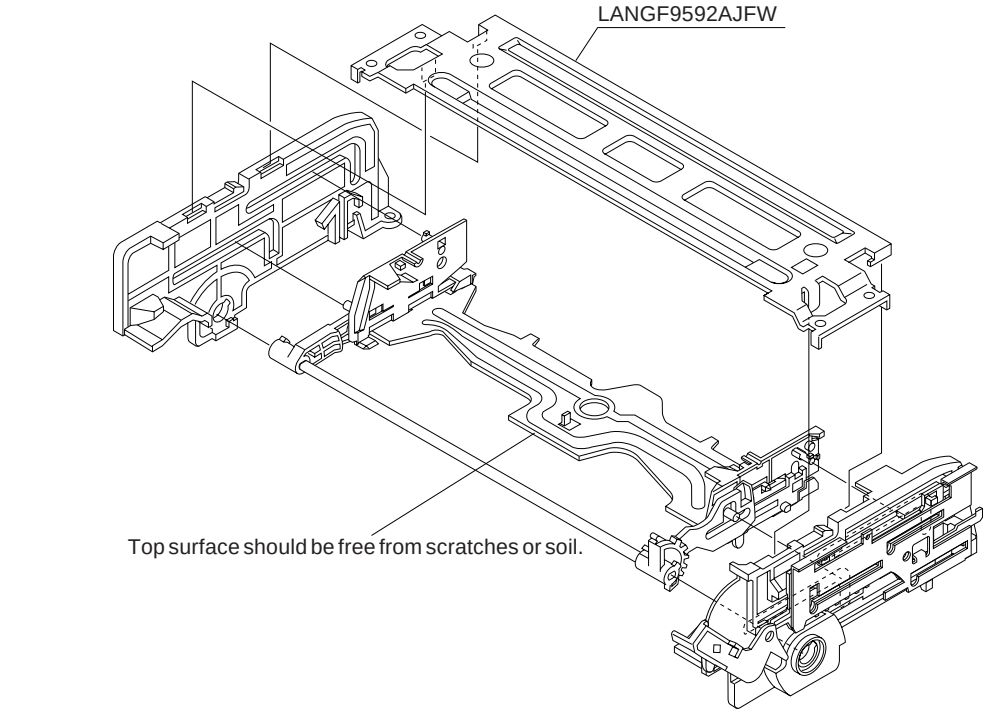


Figure 4-47.

2. Synchro Gear, Drive Gear L and Drive Gear R



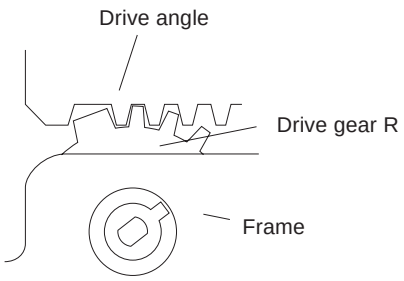


Figure 4-48.

5. ELECTRICAL ADJUSTMENT

Notes:

- Before the adjustment:
  Electrical adjustments discussed here are often required after replacement of electronic components and mechanical parts such as video heads.
  Check that the mechanism and all electric components are in good working condition prior to the adjustments, otherwise adjustments can not be completed.

- Instruments required:
  - ◎Colour TV monitor
  - ◎Audio signal generator
  - ◎Blank video cassette tape
  - ◎Screwdriver for adjustment
  - ◎Colour bar signal generator
  - ◎Dual-trace oscilloscope
  - ◎AC milli-voltmeter
  - ◎Alignment tape (VROCPSV)

- **Location of controls and test points**

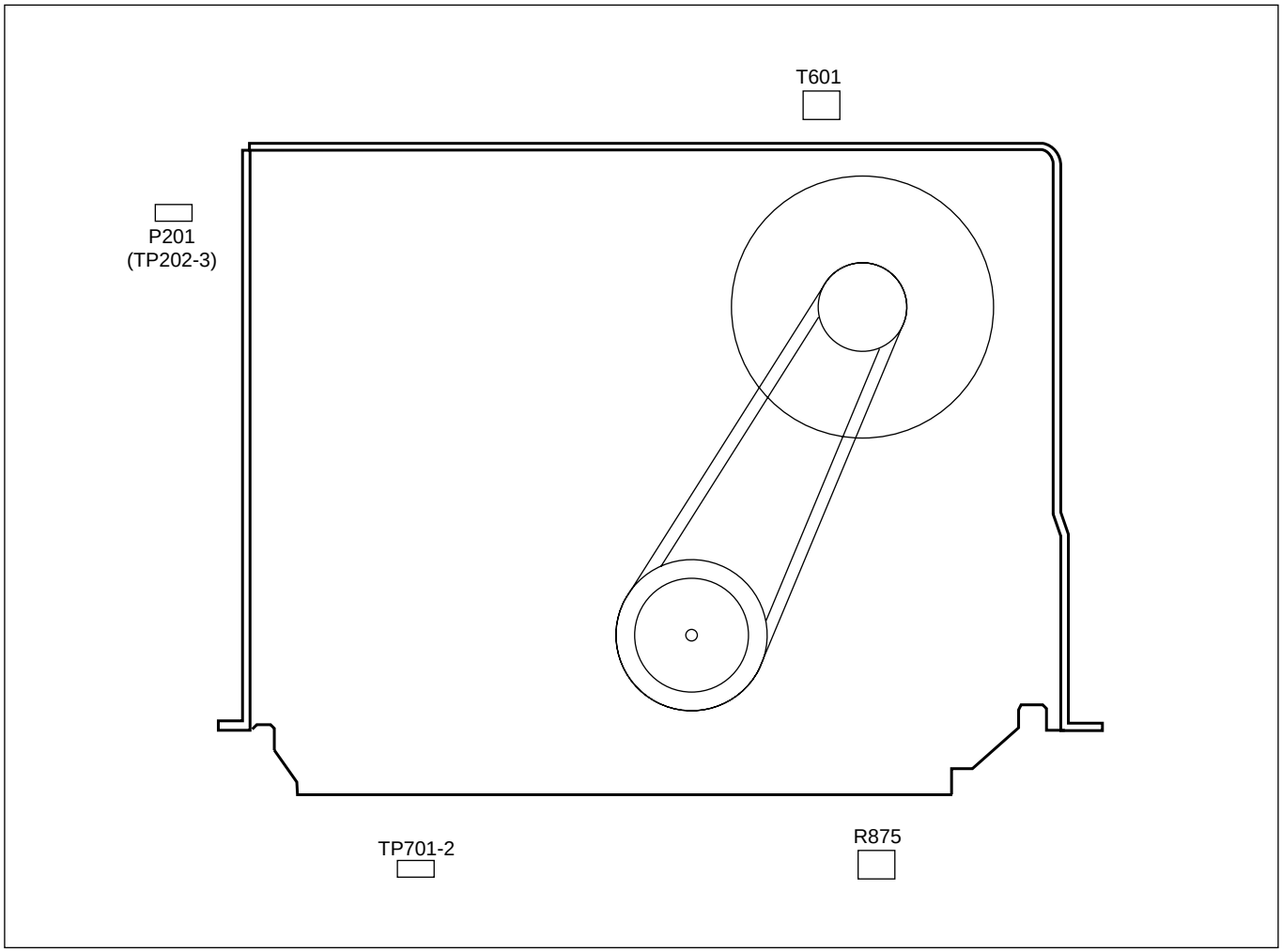


Figure 5-1.

SERVO CIRCUIT ADJUSTMENT

ADJUSTMENT OF HEAD SWITCHING POINT

Measuring instrument	Dual-trace oscilloscope
Mode	Playback
Cassette	Alignment tape(VROCPSV)
Test point	VIDEO OUT jack to CH2 TP202(H.SW.P.)~TP203(GND) to CH1
Control	R875 Head switching point adjustment control
Specification	6.5 ± 0.5H (lines)

1. Remove the front panel.
2. Set the COLOUR MODE switch turn on the PAL AUTO mode, and play the alignment tape.(VROCPSV)
3. Connect a dual-trace oscilloscope to the VIDEO OUT jack and TP202(H.S.P.)~TP203(GND).(Trigger the oscilloscope with the head switching pulse on TP202)
4. Playback the alignment tape, and then short circuit between TP701 and TP702 on the main PWB, and press both TRACKING buttons (+) and (–) on the remote control at same time.
   Be sure that the S.S. Picture LED flashing(about 2Hz) into the TEST mode.
5. Cancel the short circuited of step-4.
6. Adjust R875 so that the leading edge of the head switching pulse is 6.5H (lines) a head of the vertical sync as shown in Figure 5-2.
7. Press the STOP button in the return to normal mode.

Note:
When the models with both of PAL and NTSC function, make of adjustment at PAL mode only.

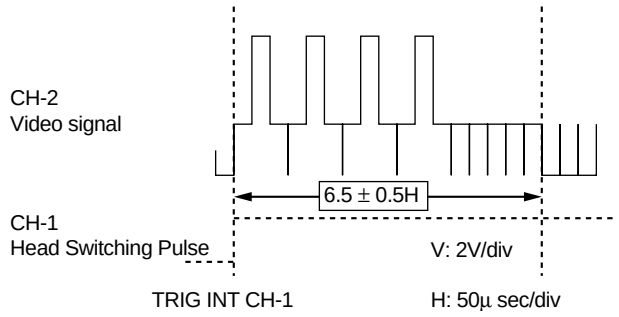


Figure 5-2.

ADJUSTMENT OF FV (False Vertical Sync) OF STILL PICTURE

Measuring instrument	Colour TV monitor
Mode	Playback still
Cassette	Self-recorded tape (PAL) (See Note below ①)
Control	Tracking control buttons (+) or (–)
Specification	No vertical jitter of picture

1. Play an Alignment tape or a self-recorded tape.
2. Press the PAUSE/STILL button to freeze the picture.
3. Adjust (+) or (–) TRACKING buttons on the remote control so that the vertical jitter of the picture is minimized.

Note:
①Self-recorded tape is a tape which program was recorded by the unit being adjusted.
②The FV goes back to the it's initial state when the unit is put into the system controller reset mode due to power failure, etc.
In this case, preset the FV once again.

Y/C CIRCUIT ADJUSTMENT

CHECKING OF VIDEO E-E LEVEL

Measuring instrument	Oscilloscope
Mode	E-E or Record
Input signal	EIA colour bar (1.0Vp-p)
Test point	VIDEO OUT jack
Specification	1.0 ± 0.2 Vp-p

1. Connect a 75 ohm terminating resistor to the VIDEO OUT jack and connect an oscilloscope across this terminating resistor.
   (See Note below.)
2. Feed a colour bar signal to the VIDEO IN jack.
3. Make sure that the E-E signal amplitude is 1.0Vp-p as shown in Figure 5-3.

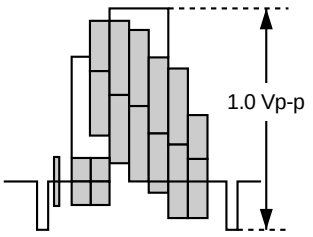


Figure 5-3.

Notes:
If the 75 ohm terminating resistor is missing, the signal amplitude will be doubled.

CHECKING OF PLAYBACK LEVEL

Measuring instrument	Oscilloscope
Mode	Record/Playback
Cassette	Self-recorded tape (PAL) (See Note below ①)
Specification	1.0 ± 0.2 Vp-p

1. Be sure that E-E level has been correctly specificed.
2. Connect a 75 ohm terminating resistor to the VIDEO OUT jack and connect an oscilloscope across this terminating resistor.(See Note below ①)
3. Play an Alighment tape or a self-recorded tape.
4. Make sure that the output signal amplitude is 1.0Vp-p as shown in Figure 5-4.

Note:

① If the 75 ohm terminating resistor is missing, the signal amplitude will be doubled.

② Self-recorded tape is a tape which program was recorded by the unit being adjusted.

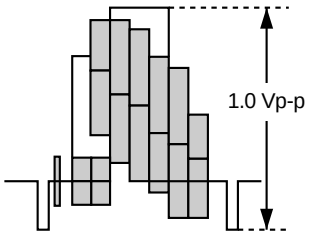


Figure 5-4.

AUDIO CIRCUIT ADJUSTMENT

CHECKING OF E-E LEVEL

Measuring instrument	AC milli-voltmeter
Mode	E-E/Record
Input signal	1kHz, –8.0 dBs (at RCA type jack)
Test point	AUDIO OUT jack
Specification	–8.0 ± 3 dBs

1. Connect an AC milli-voltmeter to the AUDIO OUT jack.
2. Feed the audio signal shown in table to the AUDIO IN jack.
3. Put the unit in E-E or recording mode.
4. Make sure that the output level is value shown in table.

CHECKING OF AUDIO PLAYBACK LEVEL

Measuring instrument	AC milli-voltmeter
Mode	Playback
Input signal	Alignment tape.(VROCPSV) (1kHz level control signal.)
Test point	AUDIO OUT jack
Specification	–12 ± 3 dBs

1. Connect an AC milli-voltmeter to the AUDIO OUT jack.
2. Playback the Alignment tape. (VROCPSV 1kHz level audio signal)
3. Make sure that the output level is value shown in table.

CHECKING OF AUDIO RECORD LEVEL

Measuring instrument	AC milli-voltmeter
Mode	Record/playback
Input signal	1kHz, –8.0 dBs
Test point	AUDIO OUT jack
Specification	–8.0 ± 3 dBs

1. Connect an AC milli-voltmeter to the AUDIO OUT jack.
2. Feed the audio signal shown in table to the AUDIO IN jack.
3. Make the self-recording and playback of the signal.
4. Make sure that the output level is value shown in table.

CHECKING OF ERASE VOLTAGE AND OSCILLATION FREQUENCY

Measuring instrument	Oscilloscope
Mode	Record
Test point	Full erase head
Control	T601
Specification	70 ± 5kHz, 40Vp-p or greater

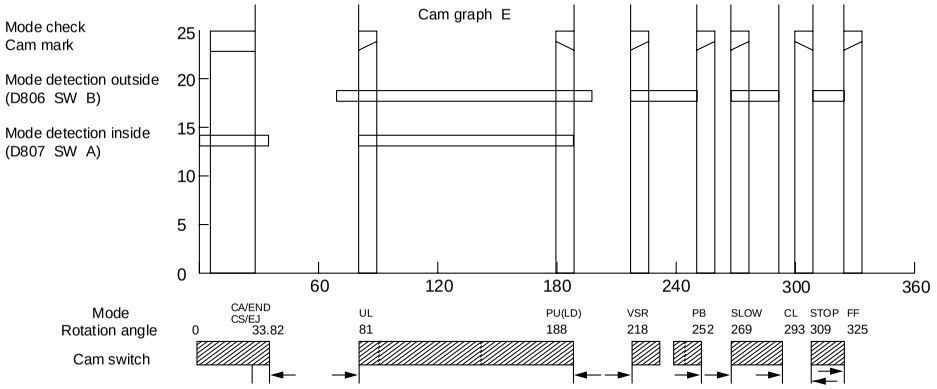
1. Connect an oscilloscope across the full erase head.
2. Put the unit in recording mode.
3. Make sure the erase voltage across the full erase head is approx. 40Vp-p or more and frequency is 70 ± 5kHz.

6. MECHANISM OPERATION FLOWCHART AND TROUBLESHOOTING GUIDE

MECHANISM OPERATION FLOWCHART

* This flowchart describes the outline of the mechanism's operation, but does not give its details.

F mechanical timing

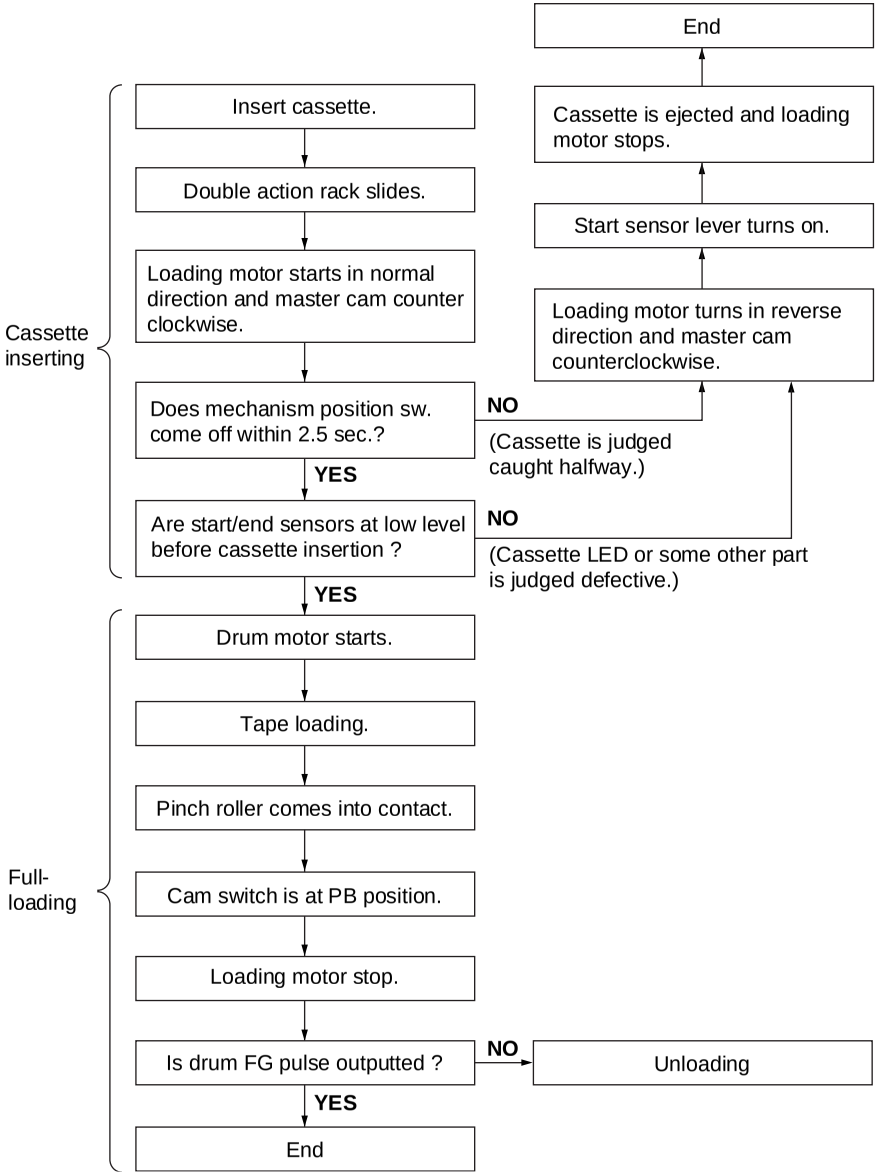


	EJ			UL			PU			VSR		PB	SLW	CL	STP	FF
Mode detection outside	0		0	0	1		1	1	0	1	0	0	1	0	1	0
Mode detection inside	1		0	1	1		1	0								
S sensor	1	1	0	1	1 or 0											

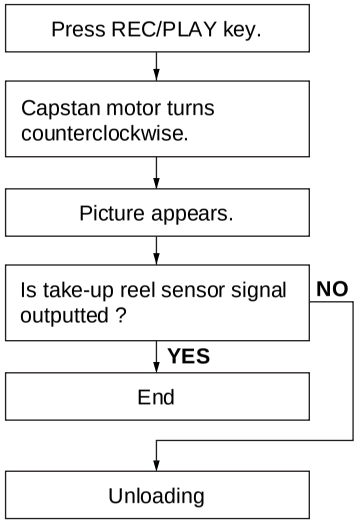
S sensor open 0
close 1

	Mode detection inside Sensor A	Mode detection outside Sensor B
CS/EJ	1	0
ULD	1	1
PU LD	1	1
VSR	0	1
PB	0	0
STILL	0	1
CL	0	0
STOP	0	0
FF	0	0

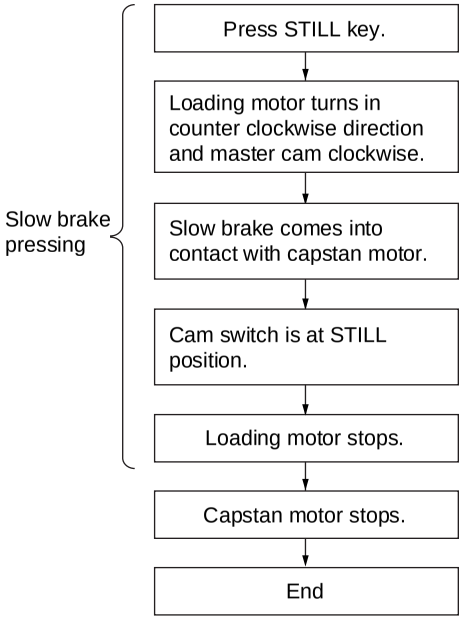
CASSETTE INSERTION → STOP



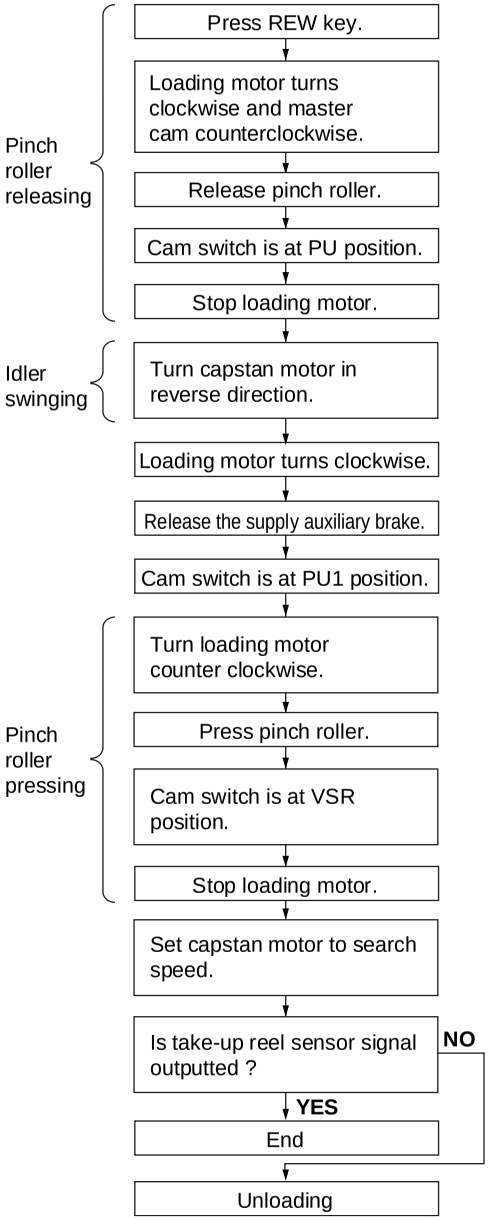
STOP → REC/PLAY



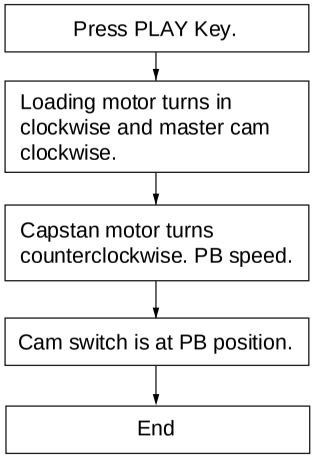
PLAY → STILL



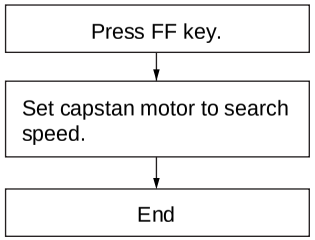
PLAY → VSR



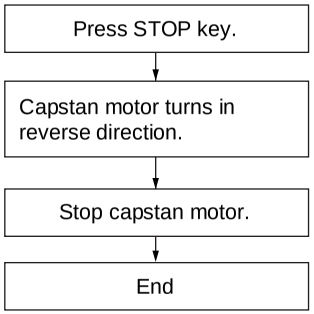
VSR → PLAY



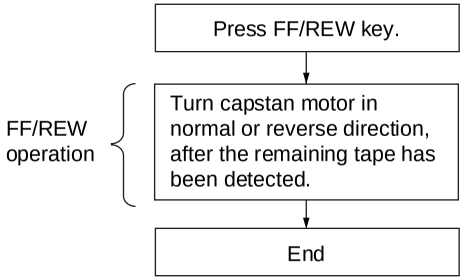
PLAY → VSF



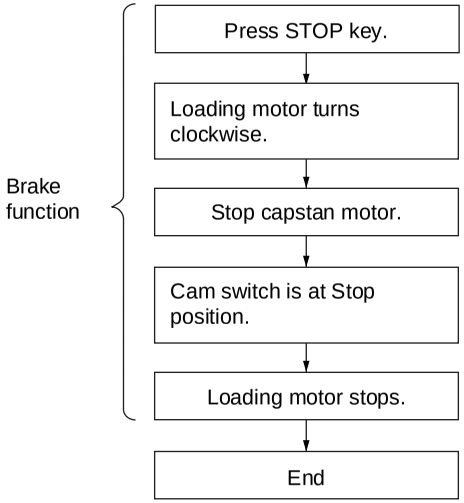
REC/PLAY → STOP



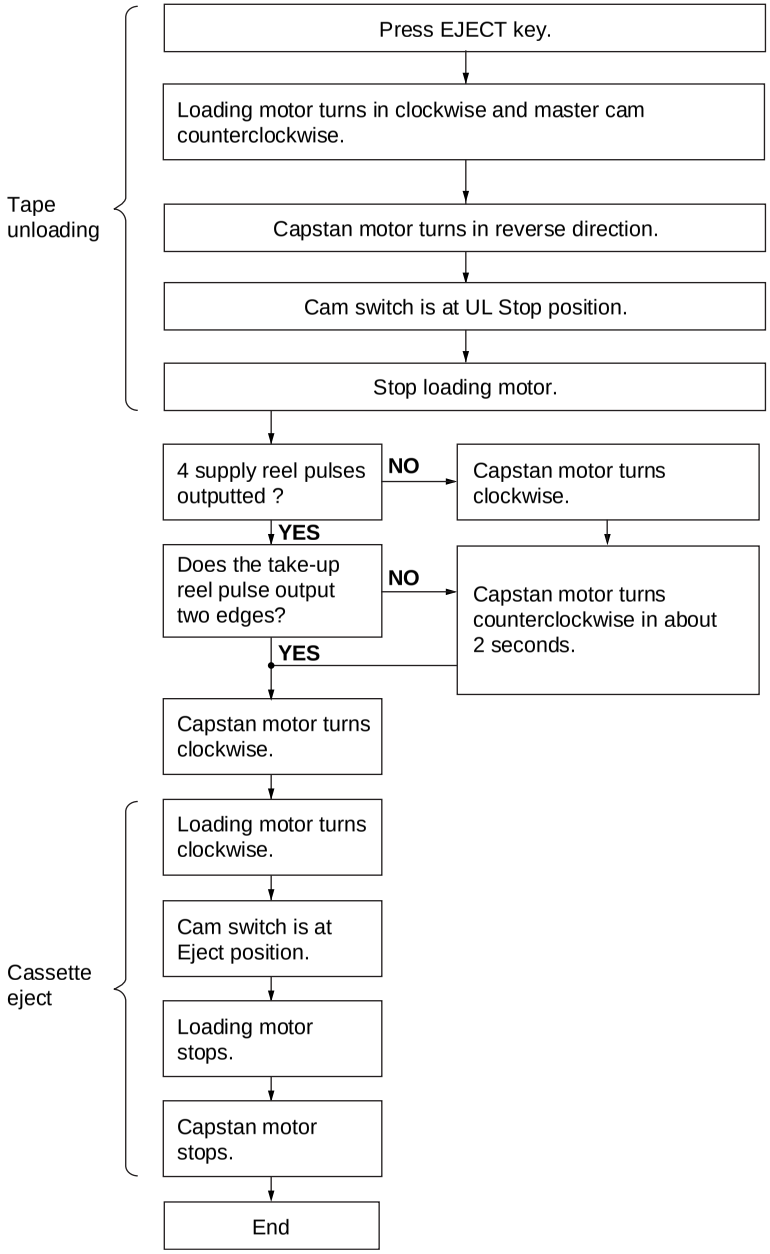
STOP → FF/REW



FF/REW → STOP

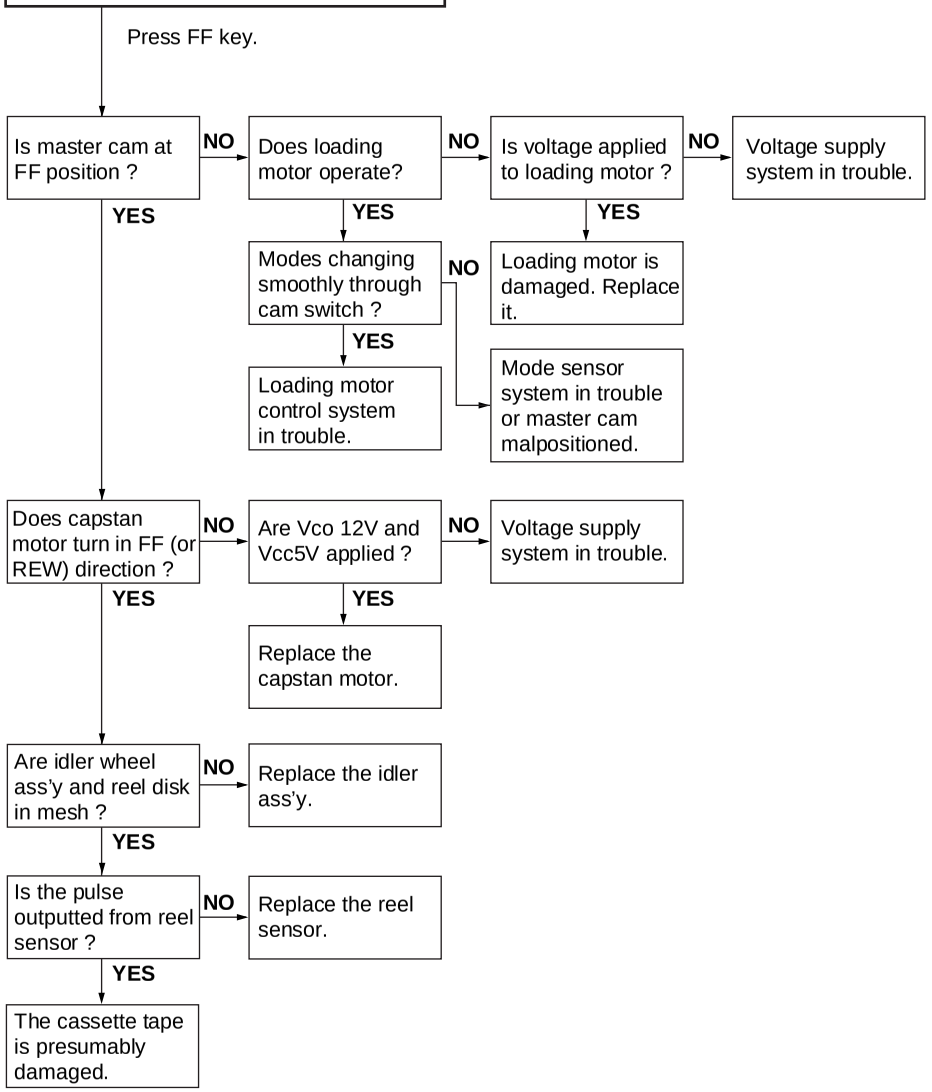


STOP → CASSETTE EJECT

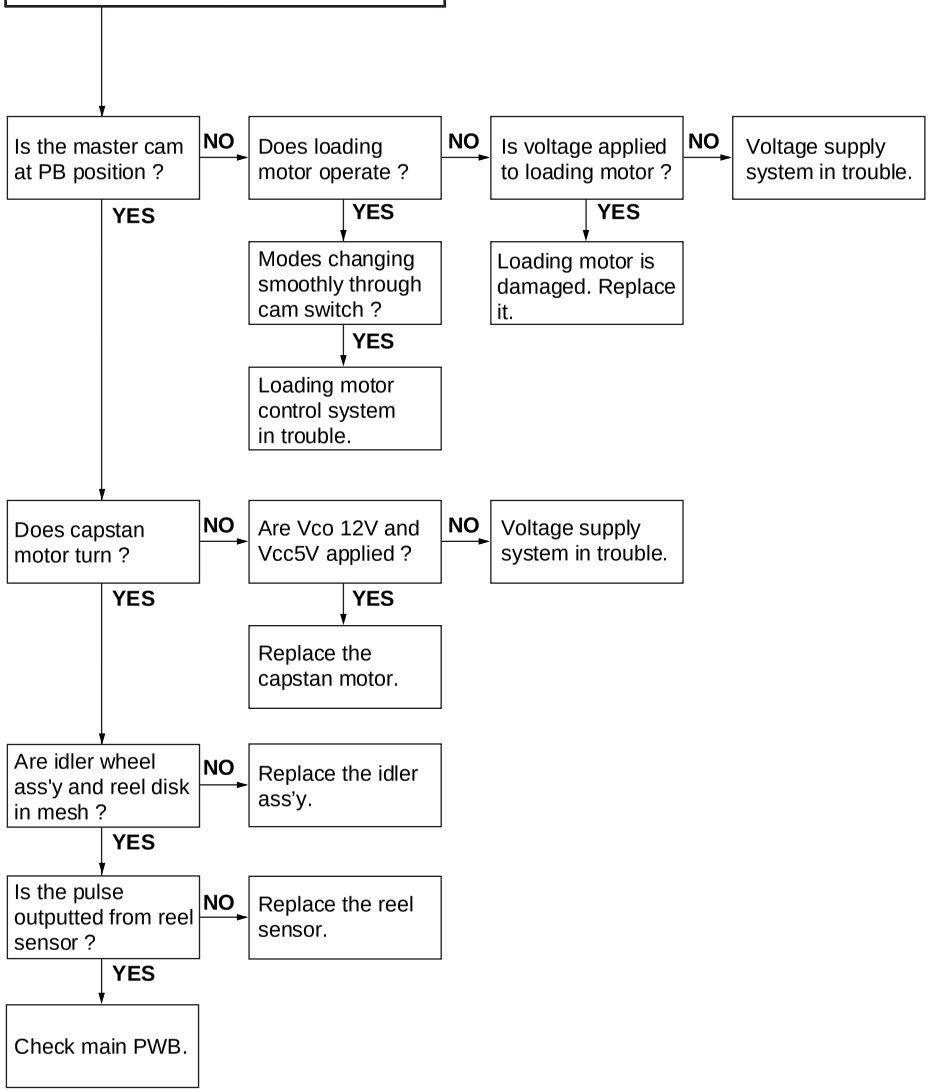


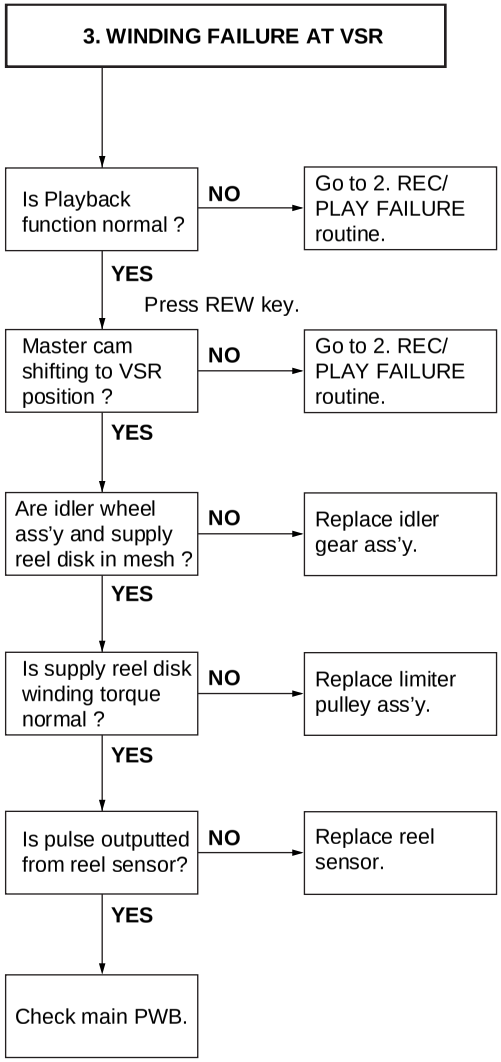
MECHANISM TROUBLESHOOTING

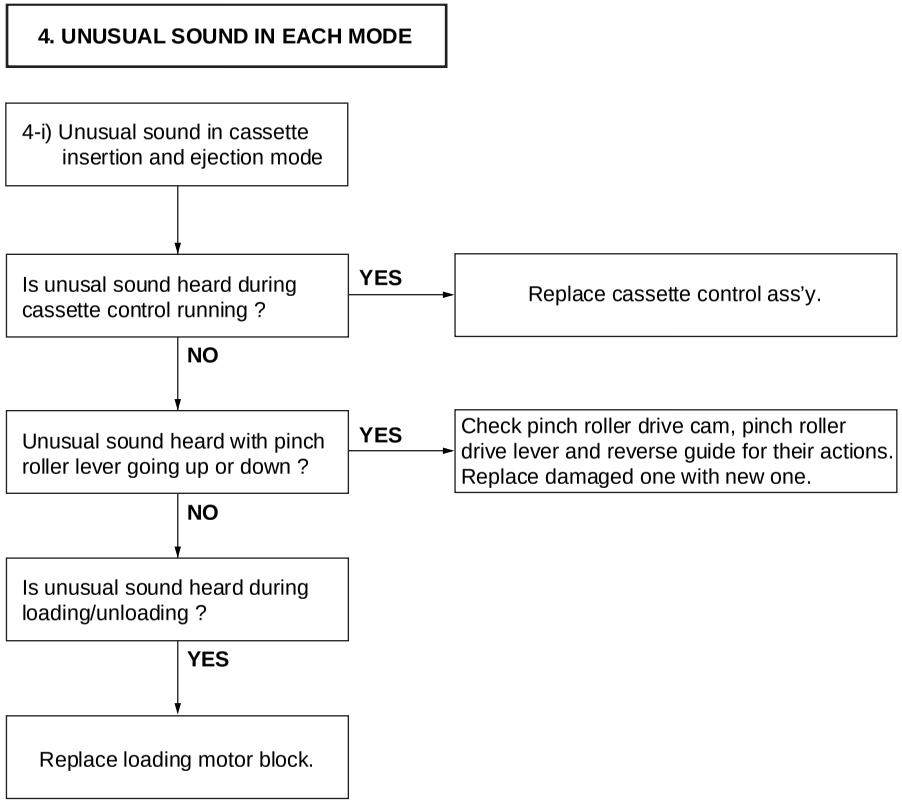
1. FF/REW FAILURE (NO TAPE WINDING)

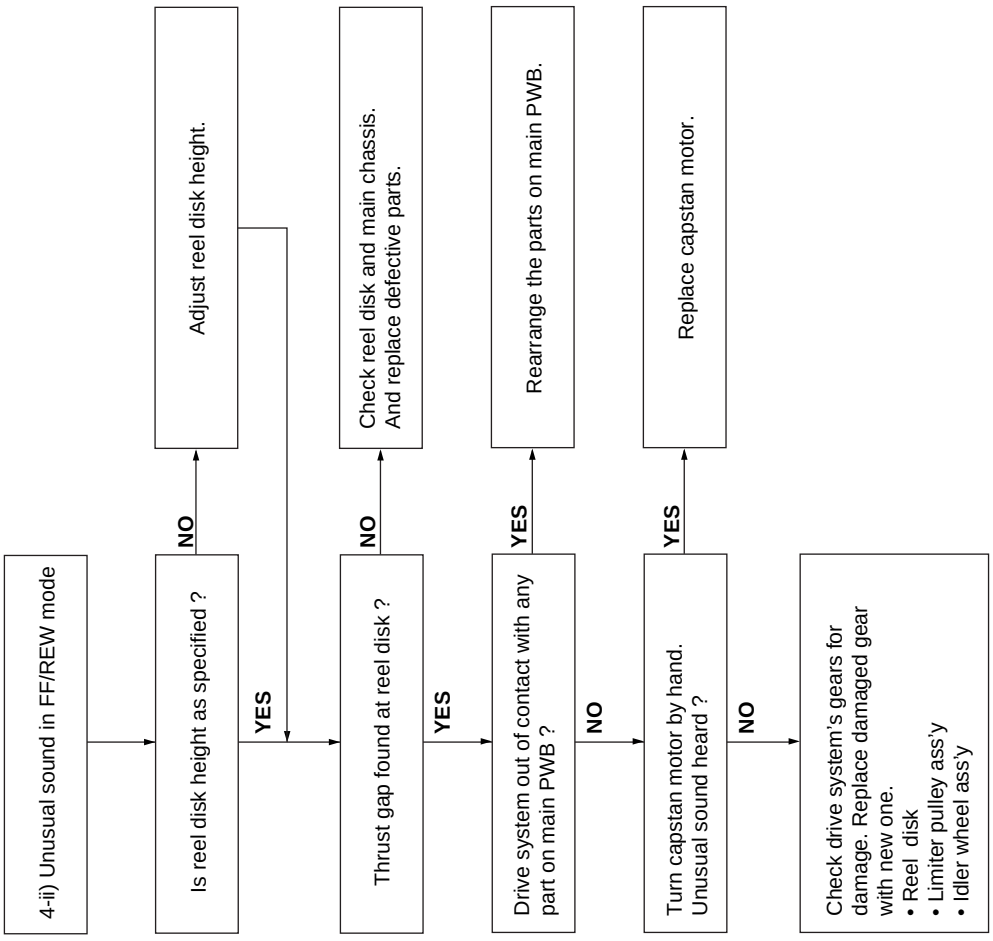


2. REC/PLAY FAILURE (MODE RELEASE)



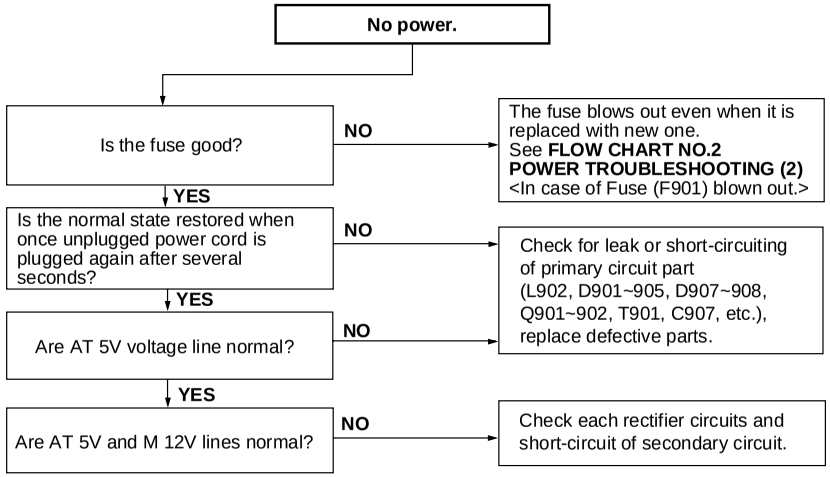

3. WINDING FAILURE AT VSR
Is Playback function normal ?
NO
Go to 2. REC/ PLAY FAILURE routine.
YES
Press REW key.
Master cam shifting to VSR position ?
NO
Go to 2. REC/ PLAY FAILURE routine.
YES
Are idler wheel ass'y and supply reel disk in mesh ?
NO
Replace idler gear ass'y.
YES
Is supply reel disk winding torque normal ?
NO
Replace limiter pulley ass'y.
YES
Is pulse outputted from reel sensor?
NO
Replace reel sensor.
YES
Check main PWB.


4. UNUSUAL SOUND IN EACH MODE
4-i) Unusual sound in cassette insertion and ejection mode
Is unusal sound heard during cassette control running ?
YES
Replace cassette control ass'y.
NO
Unusual sound heard with pinch roller lever going up or down ?
YES
Check pinch roller drive cam, pinch roller drive lever and reverse guide for their actions. Replace damaged one with new one.
NO
Is unusual sound heard during loading/unloading ?
YES
Replace loading motor block.

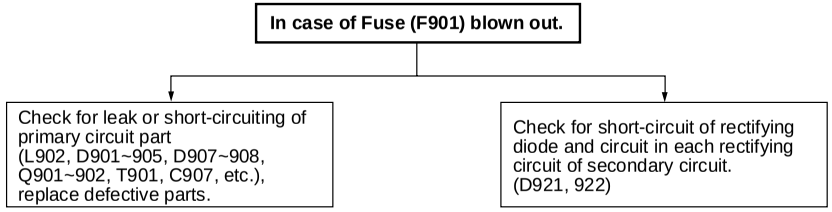

4-ii) Unusual sound in FF/REW mode
Is reel disk height as specified ?
NO
Adjust reel disk height.
YES
Thrust gap found at reel disk ?
NO
Check reel disk and main chassis.
And replace defective parts.
YES
Drive system out of contact with any part on main PWB ?
YES
Rearrange the parts on main PWB.
NO
Turn capstan motor by hand.
Unusual sound heard ?
YES
Replace capstan motor.
NO
Check drive system's gears for damage. Replace damaged gear with new one.
• Reel disk
• Limiter pulley ass'y
• Idler wheel ass'y

7. TROUBLESHOOTING

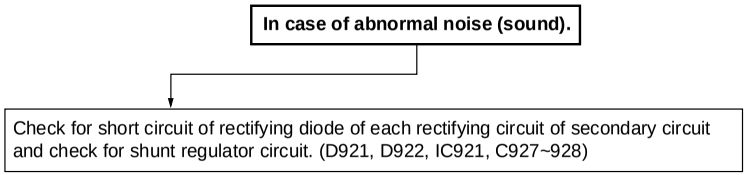
FLOW CHART NO.1 POWER TROUBLESHOOTING(1)



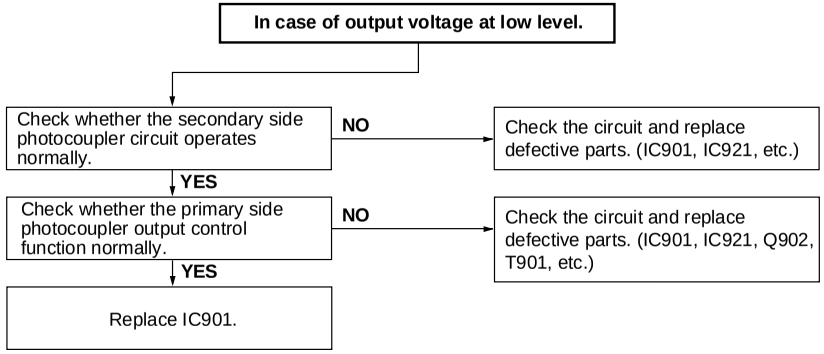
FLOW CHART NO.2 POWER TROUBLESHOOTING(2)



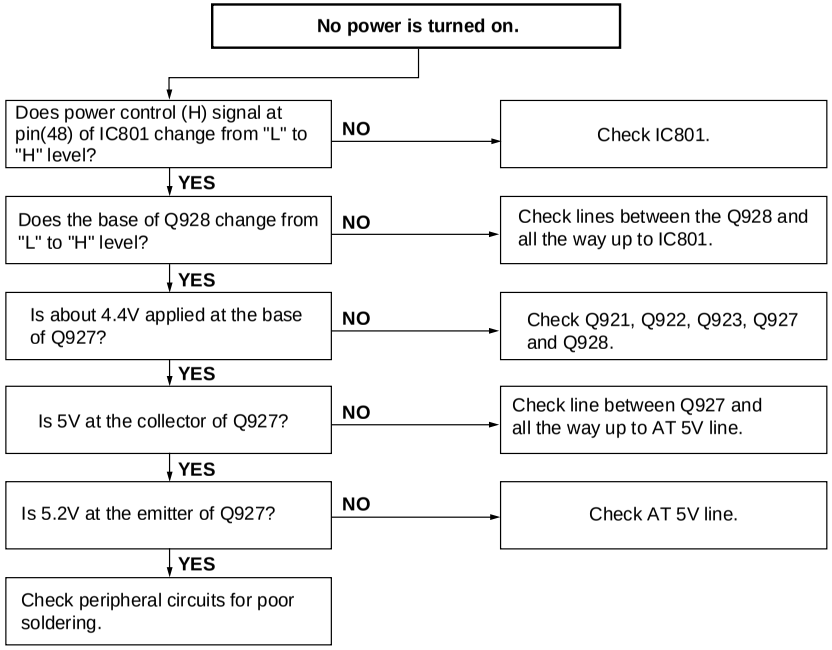
FLOW CHART NO.3 POWER TROUBLESHOOTING(3)



FLOW CHART NO.4 POWER TROUBLESHOOTING(4)



FLOW CHART NO.5 SYSTEM CONTROL TROUBLESHOOTING(1)



FLOW CHART NO.6 SYSTEM CONTROL TROUBLESHOOTING(2)

Key-in input is not received.

Does the key switch make good contact, when the cassette tape is inserted?

NO → Check switch contact.

YES

Is there the function control voltage inputted at the pin(2) of IC801, when the keys are activated?

NO → Check peripheral circuit of pin(2) of IC801, and the function keys.

0.000V ~ 0.325V	OPERATE
0.325V ~ 0.945V	STOP/EJECT
0.945V ~ 1.580V	PLAY
1.580V ~ 2.185V	FF
2.185V ~ 2.810V	REW
2.810V ~ 3.430V	PAUSE/STILL
3.430V ~ 4.045V	REC
4.045V ~ 4.680V	S.S. PICTURE
4.680V ~ 5.000V	no key

YES

Peplace IC801.

FLOW CHART NO.7 INFRARED R/C TROUBLESHOOTING

No operation is possible from the infrared remote control.

Operation is possible from the VCR, but no operation is possible from the infrared remote control.

YES

Is the supply voltage of 5V fed to pin(2) terminal of remote control receiver?

NO → Check AT 5V and GND lines.

YES

Is "L" pulse sent out pin(1) terminal receiver when the infrared remote control is activated?

NO → Replace the remote control receiver or replace the remote control transmitter if necessary.

YES

Is inputted to pin(73) of IC801?

NO → Check between at pin(1) of terminal receiver and all the way up to pin(73) of IC801.

YES

Replace IC801.

FLOW CHART NO.8 CASSETTE CONTROL TROUBLESHOOTING(1)

A cassette tape is not taken in.

Is the cassette housing distorted?

NO → Fix or replace the cassette housing.

YES

Does the start sensor cover go to open when the cassette tape is inserted?

NO → Check start sensor cover.

YES

Does pin(4) of IC801 change from "H" to "L" level when the cassette tape is inserted?

NO → Check line between start sensor and all the way up to pin(4) of IC801.

YES

Does pin(11) of IC706 go to a "H" (about 0.7V) level when the cassette tape is inserted?

NO → Check line between IC801 and all the way up to pin(11) of IC706.

YES

Does pin(13) of IC706 change to about 10V when the cassette tape is inserted?

NO → Check IC706.

YES

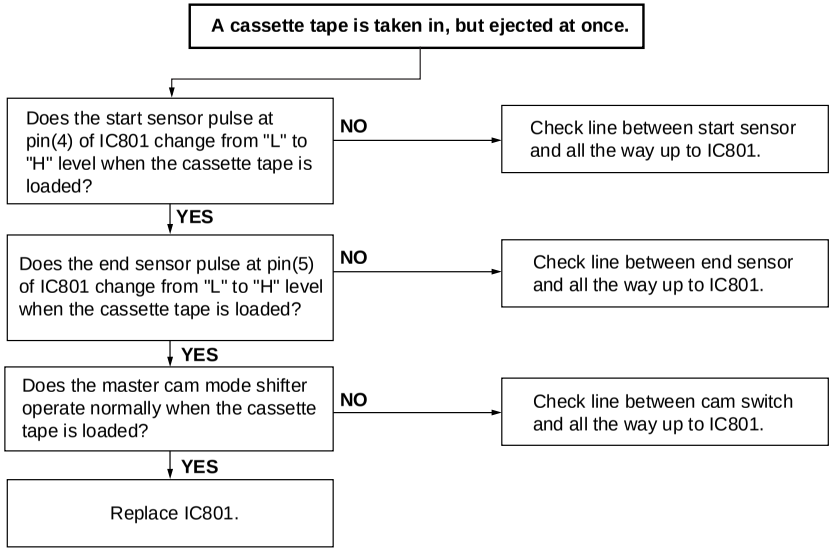
Is the specified voltage, (about 10V) applied at the loading motor terminal when the cassette tape is inserted?

NO → Check line between IC706 and all the way up to loading motor.

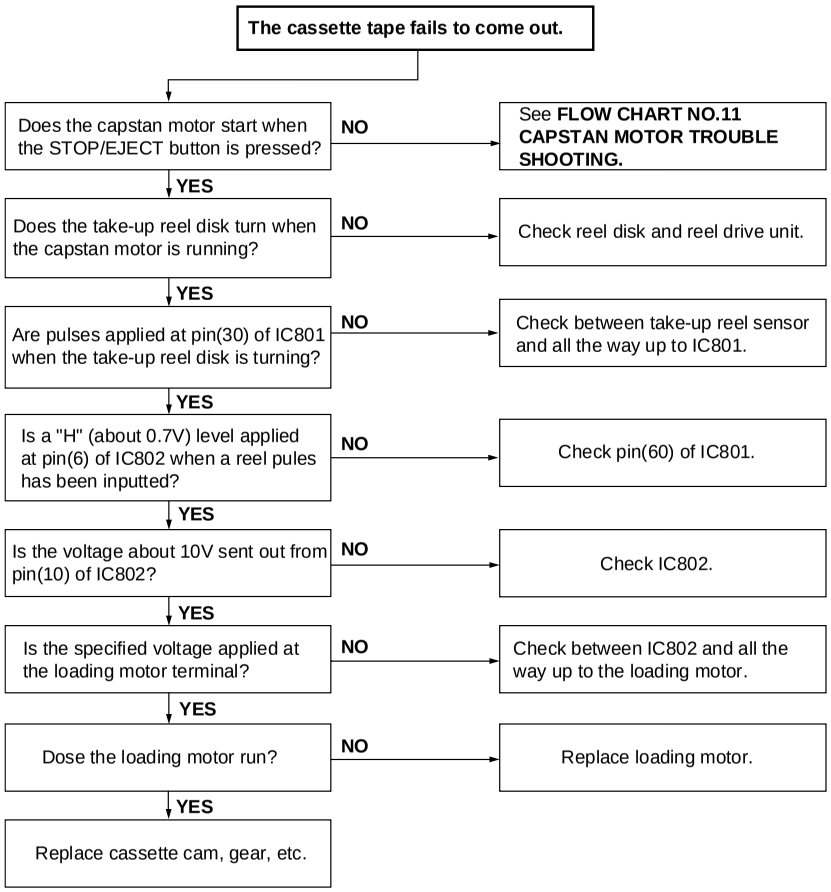
YES

Replace loading motor.

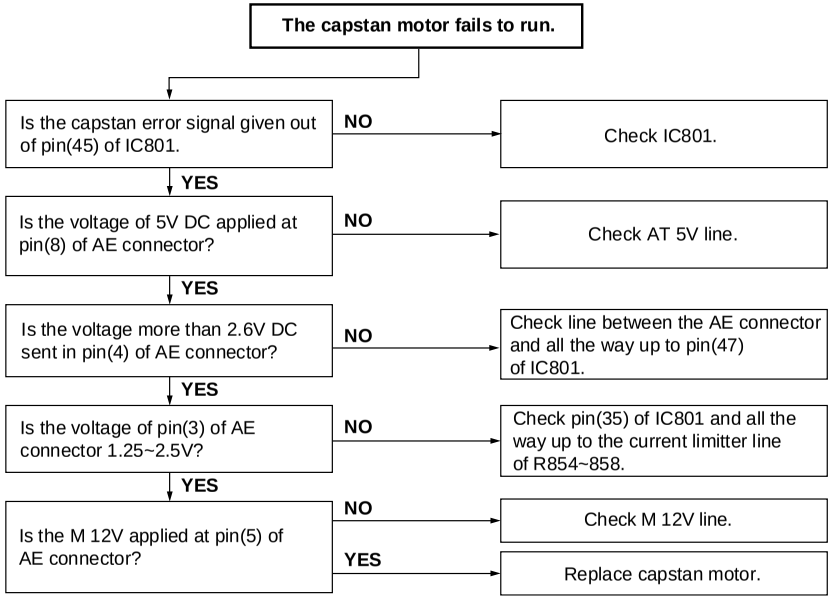
FLOW CHART NO.9 CASSETTE CONTROL TROUBLESHOOTING(2)



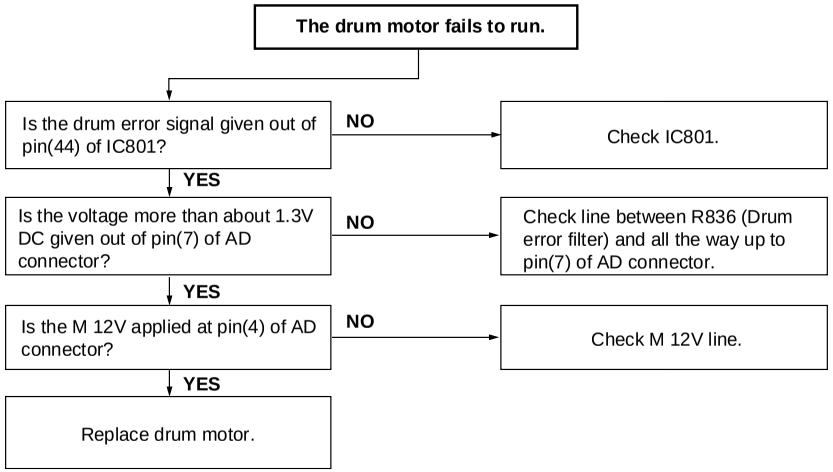
FLOW CHART NO.10 LOADING MOTOR AND EJECT TROUBLESHOOTING



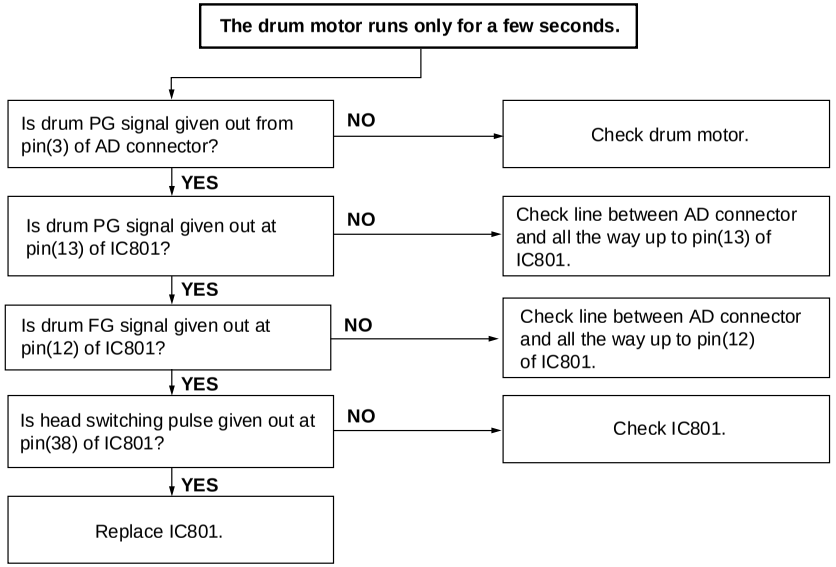
FLOW CHART NO.11 CAPSTAN MOTOR TROUBLESHOOTING



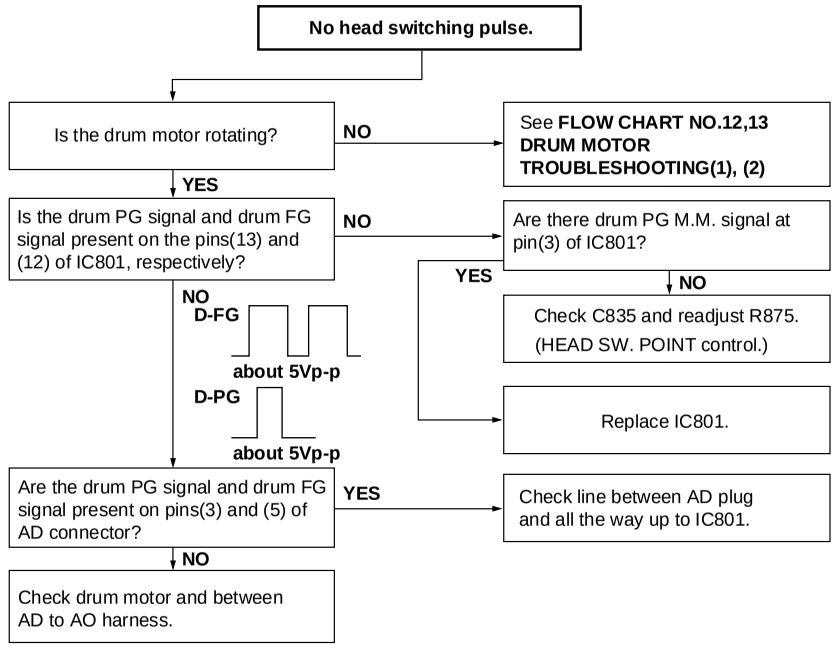
FLOW CHART NO.12 DRUM MOTOR TROUBLESHOOTING(1)



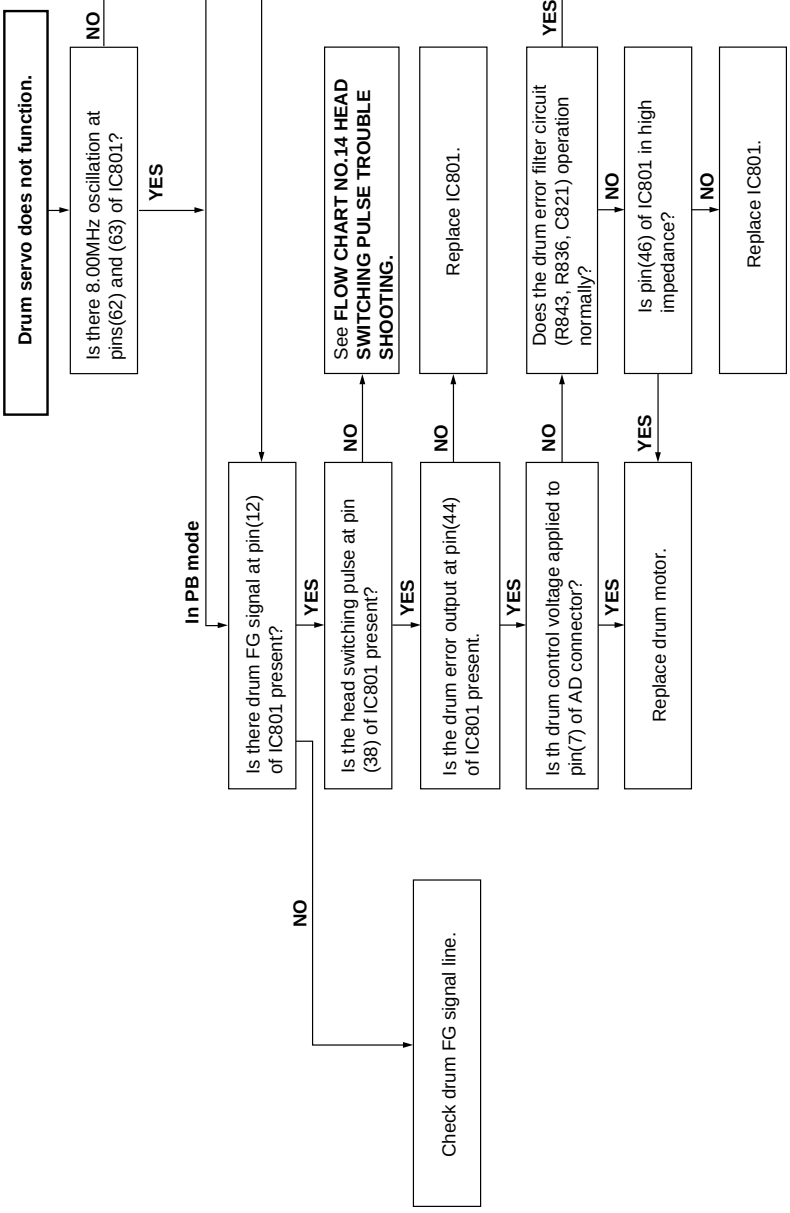
FLOW CHART NO.13 DRUM MOTOR TROUBLESHOOTING(2)



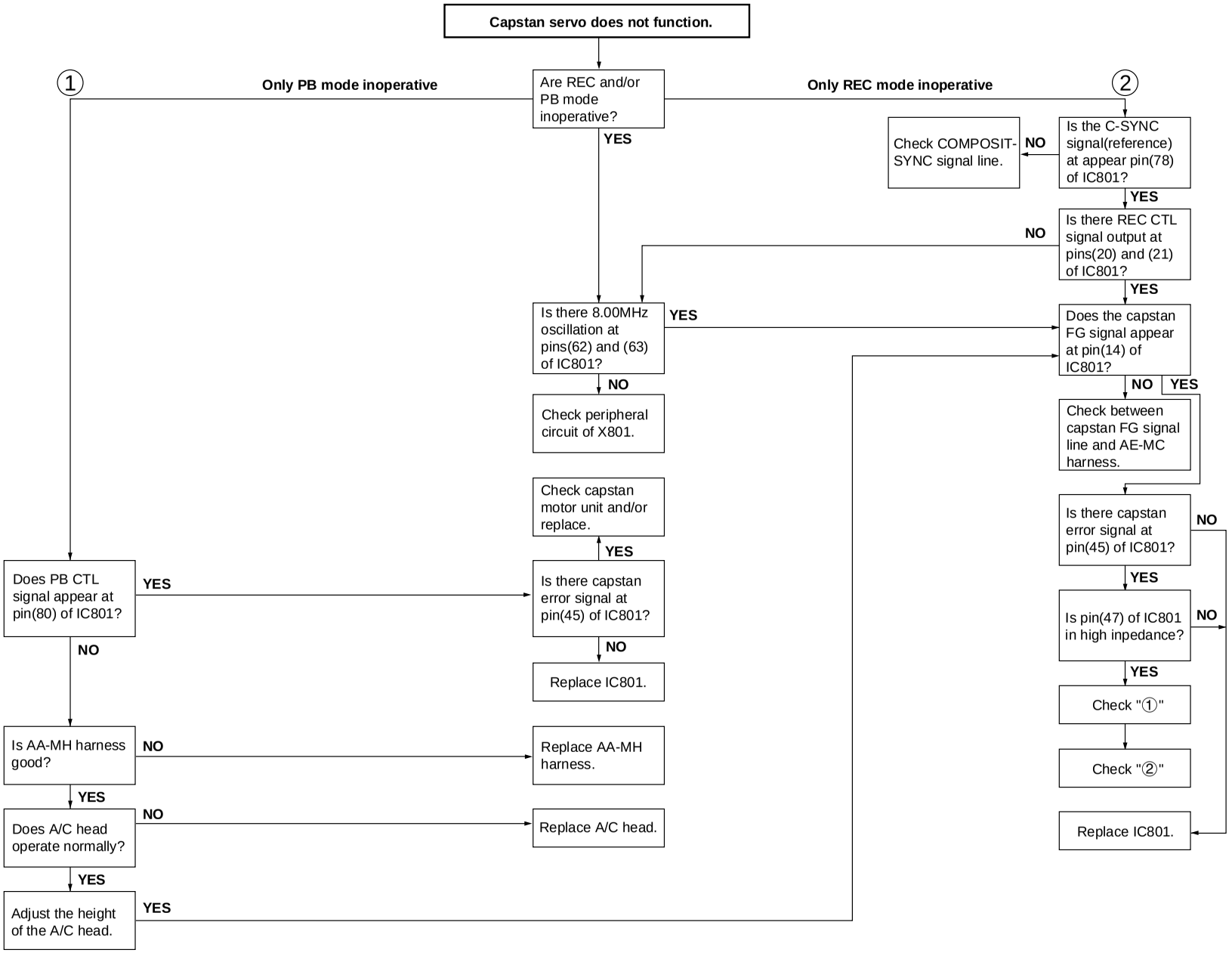
FLOW CHART NO.14 HEAD SWITCHING PULSE TROUBLESHOOTING



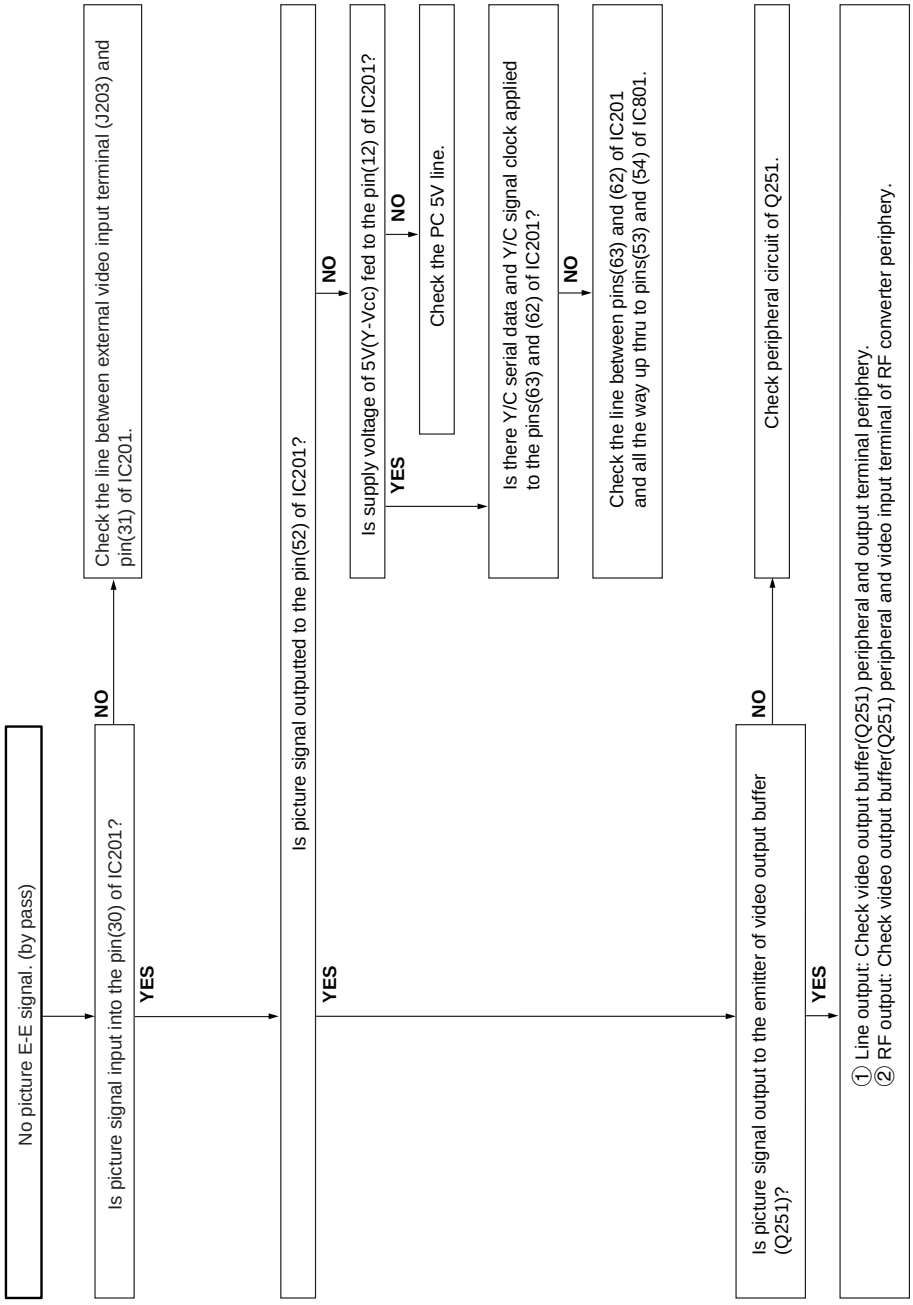
FLOW CHART NO.15 DRUM SERVO TROUBLESHOOTING



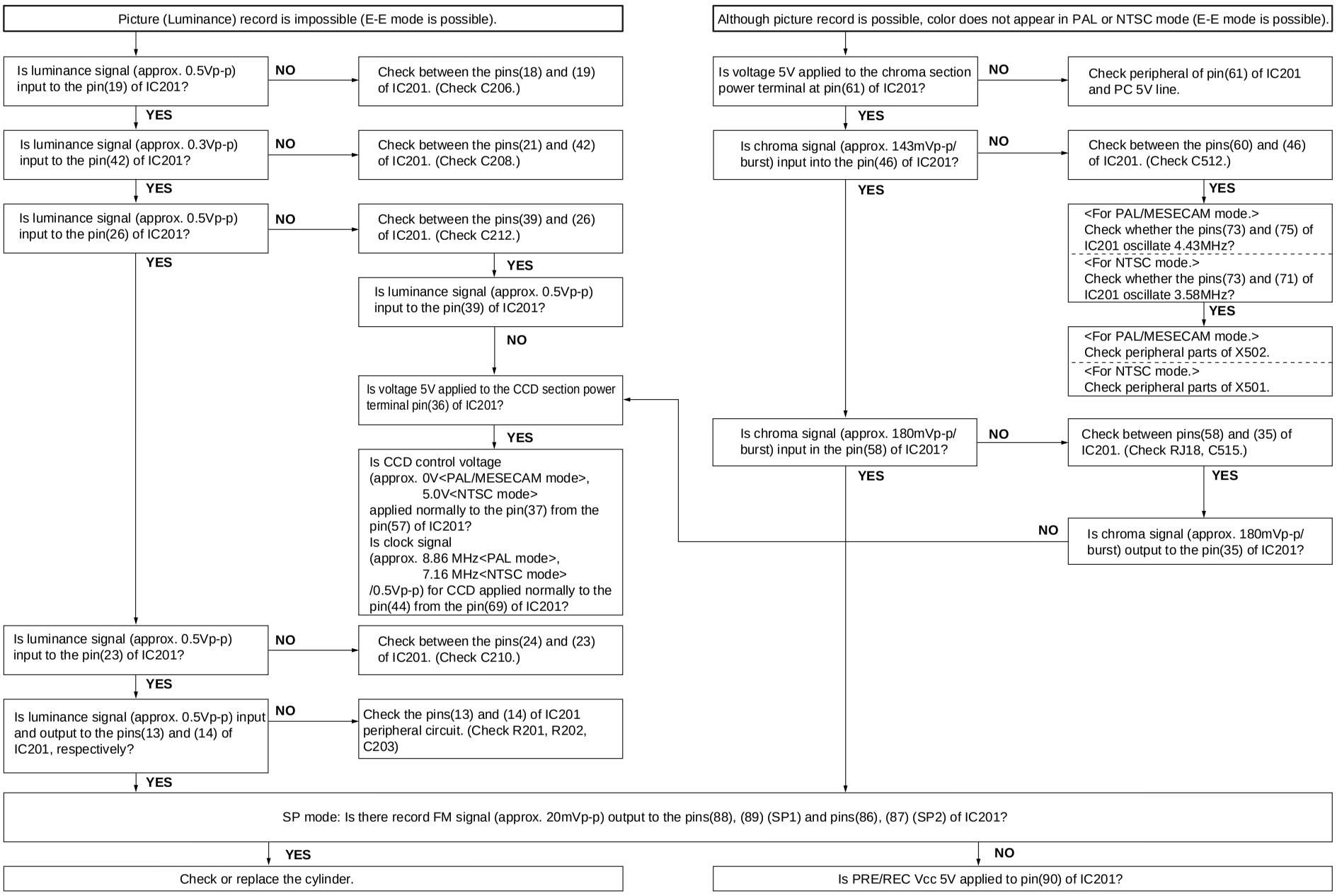
FLOW CHART NO.16 CAPSTAN SERVO TROUBLESHOOTING



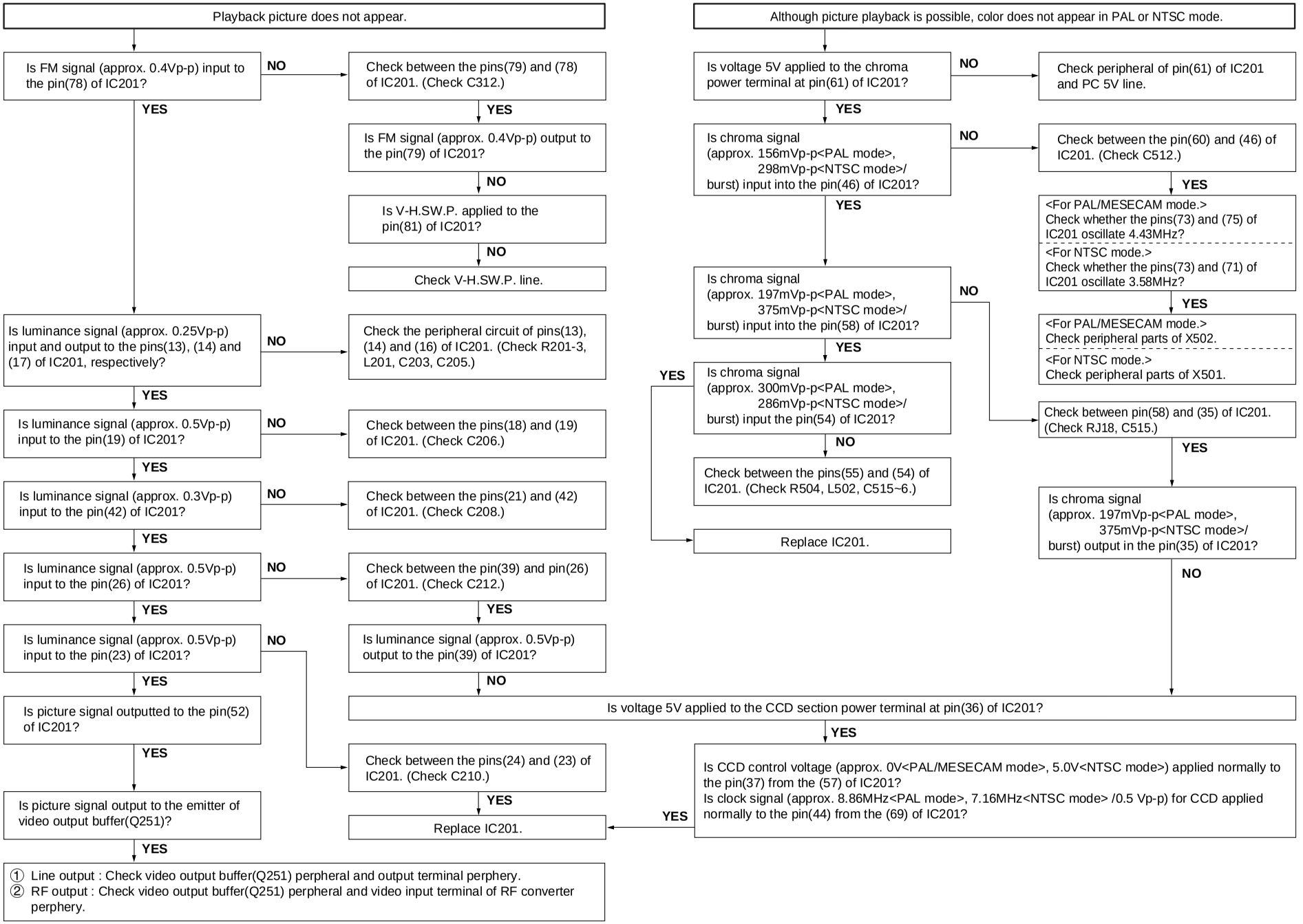
FLOW CHART NO.17 E-E MODE TROUBLESHOOTING



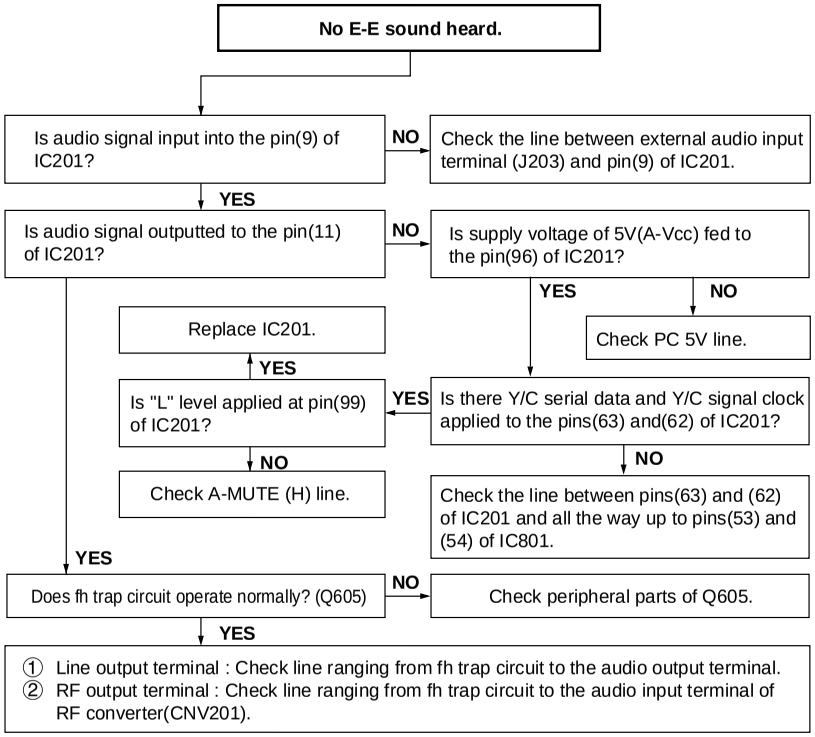
FLOW CHART NO.18 RECORDING MODE TROUBLESHOOTING



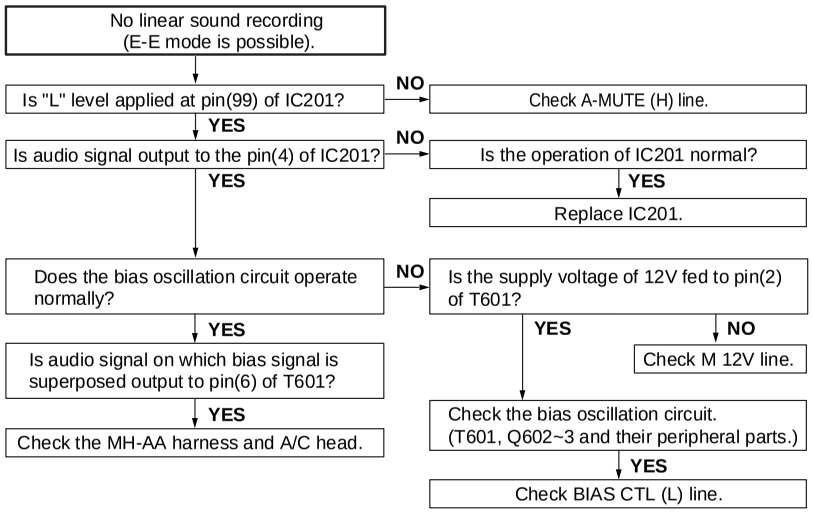
FLOW CHART NO.19 PLAYBACK MODE TROUBLESHOOTING



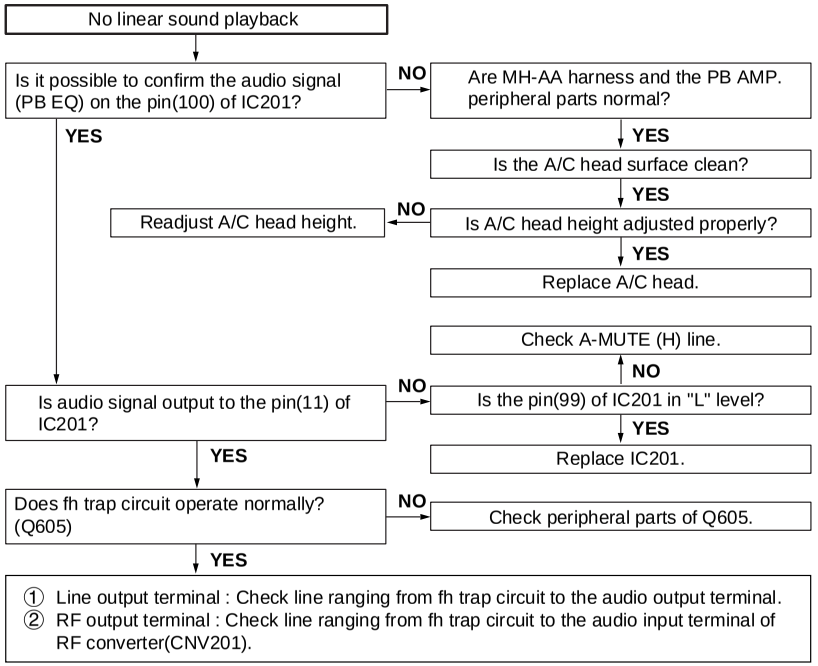
FLOW CHART NO.20 LINEAR SOUND MODE TROUBLESHOOTING(1)



FLOW CHART NO.21 LINEAR SOUND MODE TROUBLESHOOTING(2)

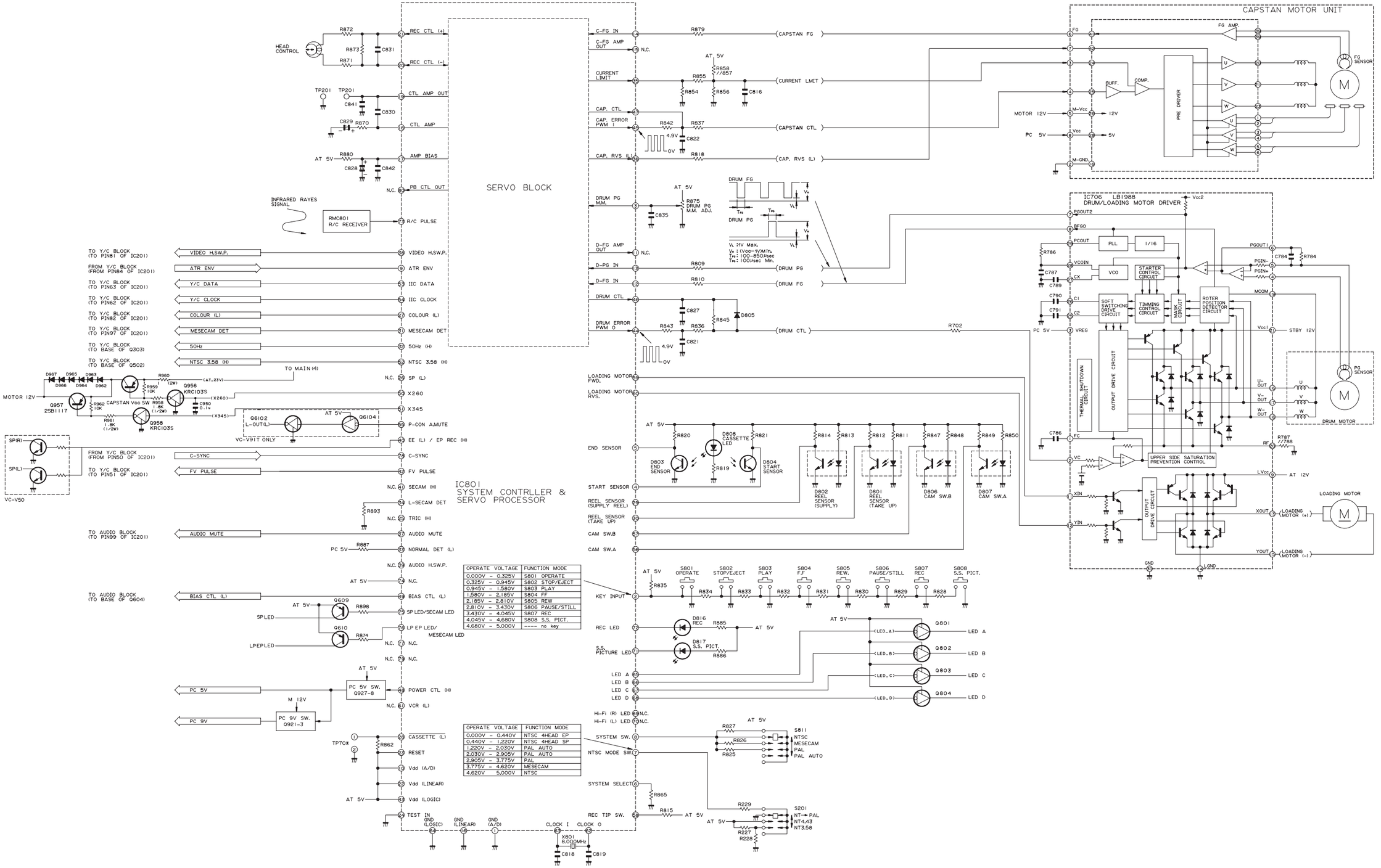


FLOW CHART NO.22 LINEAR SOUND MODE TROUBLESHOOTING(3)

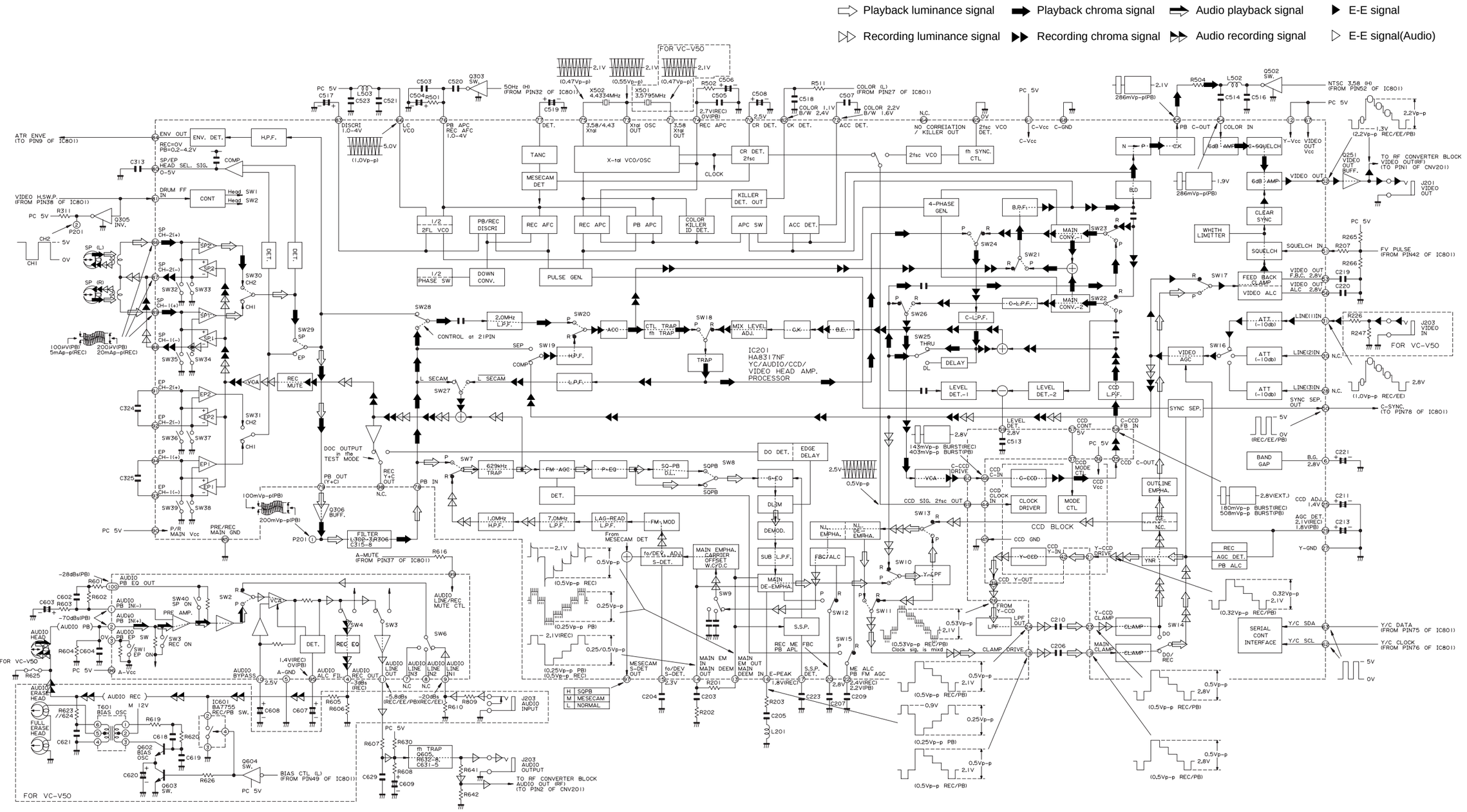


8. BLOCK DIAGRAM

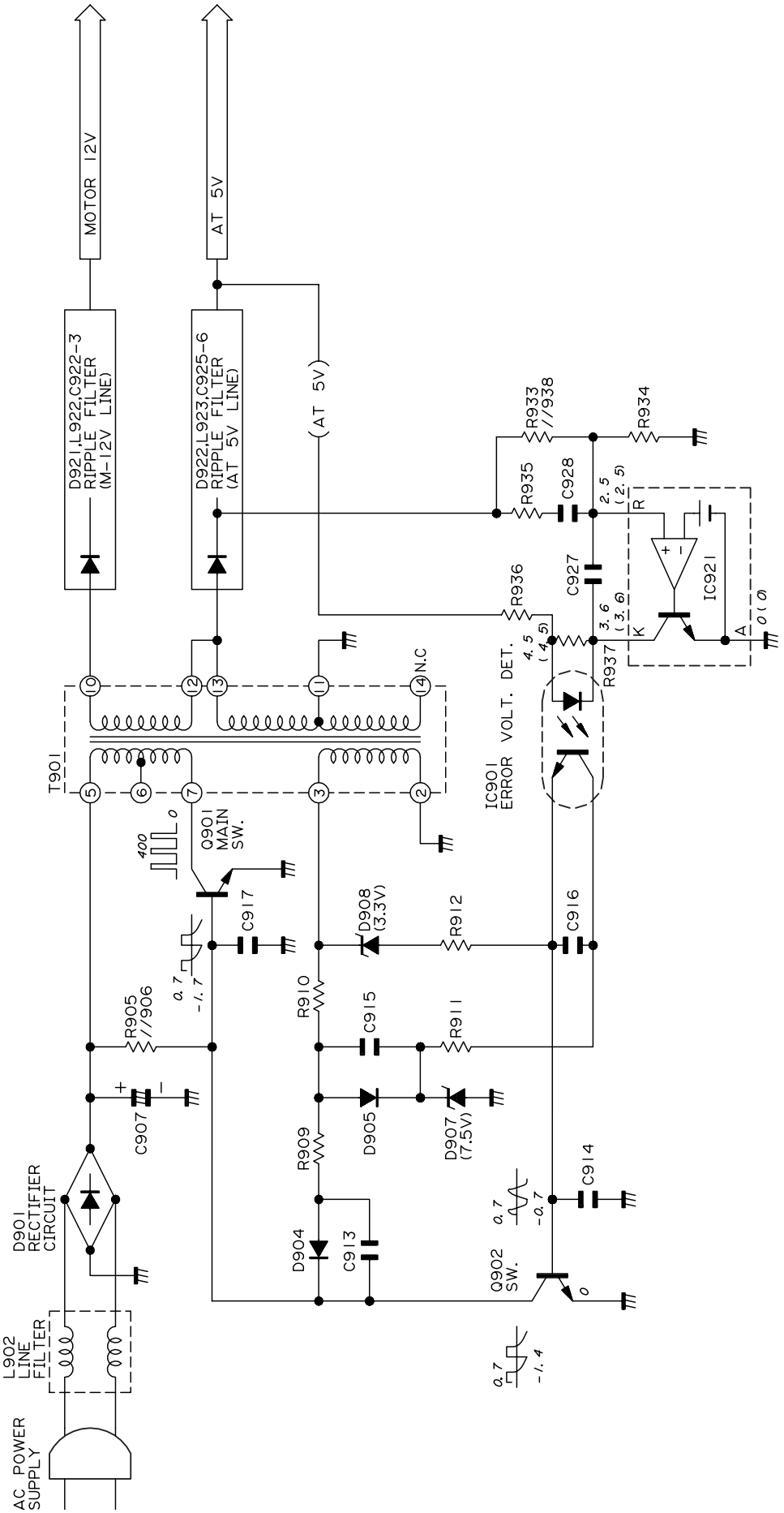
SYSTEM SERVO BLOCK DIAGRAM



SIGNAL FLOW BLOCK DIAGRAM



POWER CIRCUIT BLOCK DIAGRAM



SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE:
BE SURE TO USE GENUINE PARTS FOR SECURING THE SAFETY AND RELIABILITY OF THE SET.
PARTS MARKED WITH " ⚠ " AND PARTS SHADED (IN BLACK) ARE ESPECIALLY IMPORTANT FOR MAINTAINING THE SAFETY AND PROTECTING ABILITY OF THE SET.
BE SURE TO REPLACE THEM WITH PARTS OF SPECIFIED PART NUMBER.

SAFETY NOTES:
1. *DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACING PARTS.*
2. *SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.*

NOTES:
1. *The unit of resistance "ohm" is omitted (k=1000 ohm, M=1 Meg ohm).*
2. *All resistors are 1/8 watt, unless otherwise noted.*
3. *The unit of capacitance "F" is omitted (μ=μF, p=μμF).*
4. *The values in parentheses are the ones in the PB mode; the values without parentheses are the ones in the REC mode.*

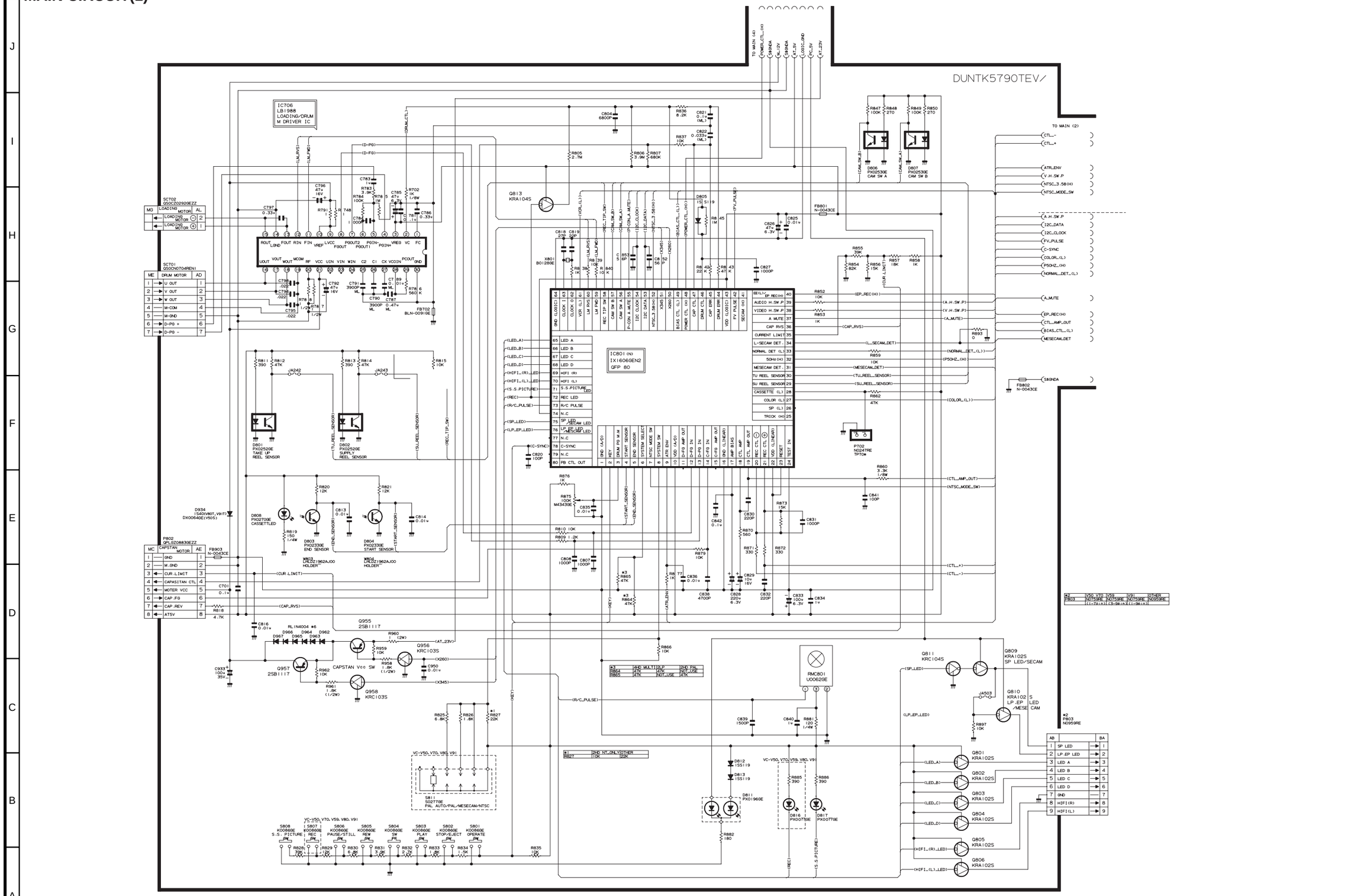
VOLTAGE MEASUREMENT CONDITIONS:
1. *DC voltages are measured between points indicated and chassis ground by VTVM, with AC110~240V, 50/60Hz supplied to unit and all controls are set to normal viewing picture unless otherwise noted.*
2. *Voltages are measured with 10000μV B & W or colour noted.*

WAVEFORM MEASUREMENT CONDITIONS:
10000μV 87.5 percent modulated colour bar signal is fed into tuner.

CAUTION:
This circuit diagram is original one. Therefore there might be a slight difference from yours.

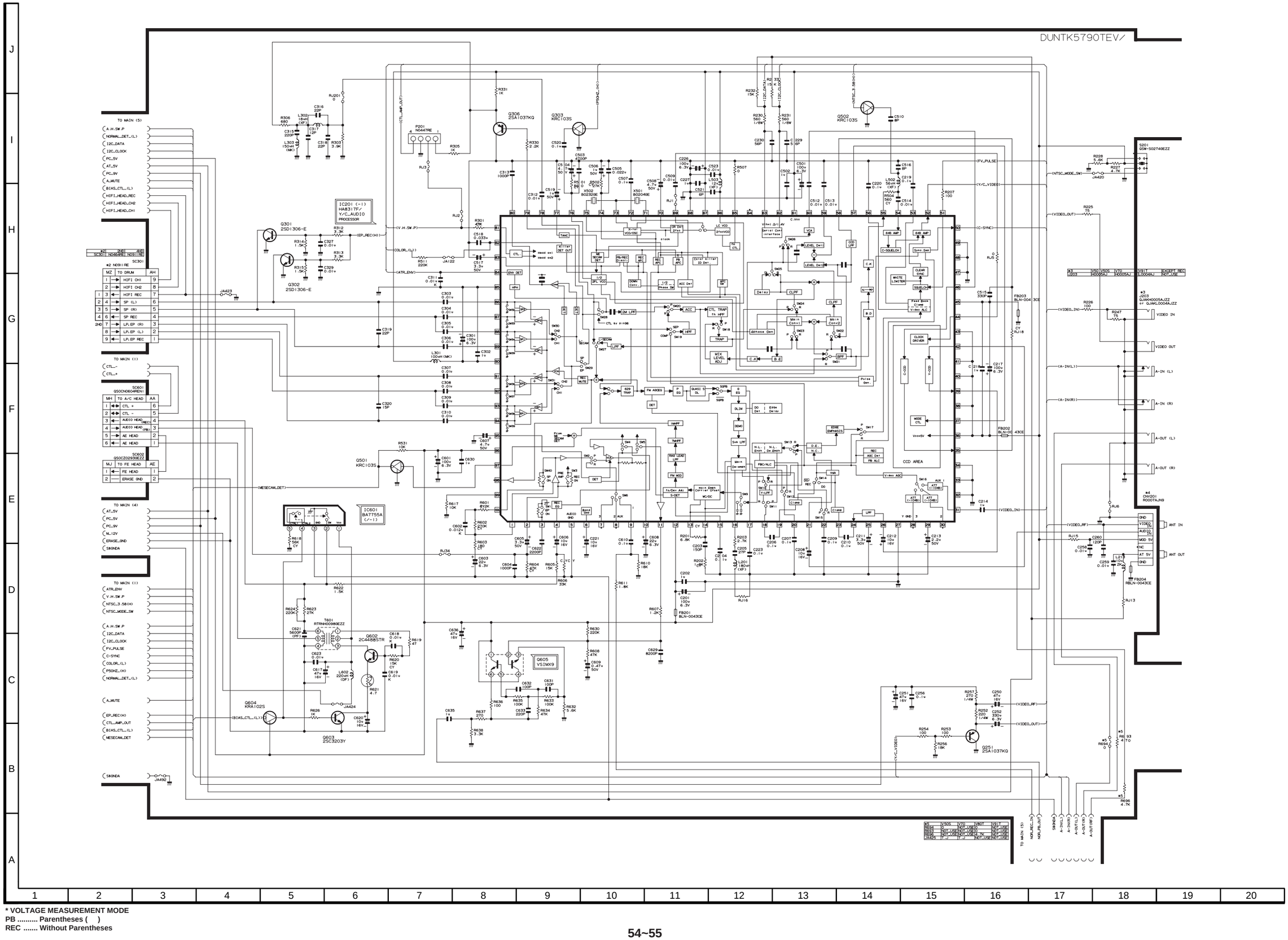
9. SCHEMATIC DIAGRAM AND PWB FOIL PATTERN

MAIN CIRCUIT(1)



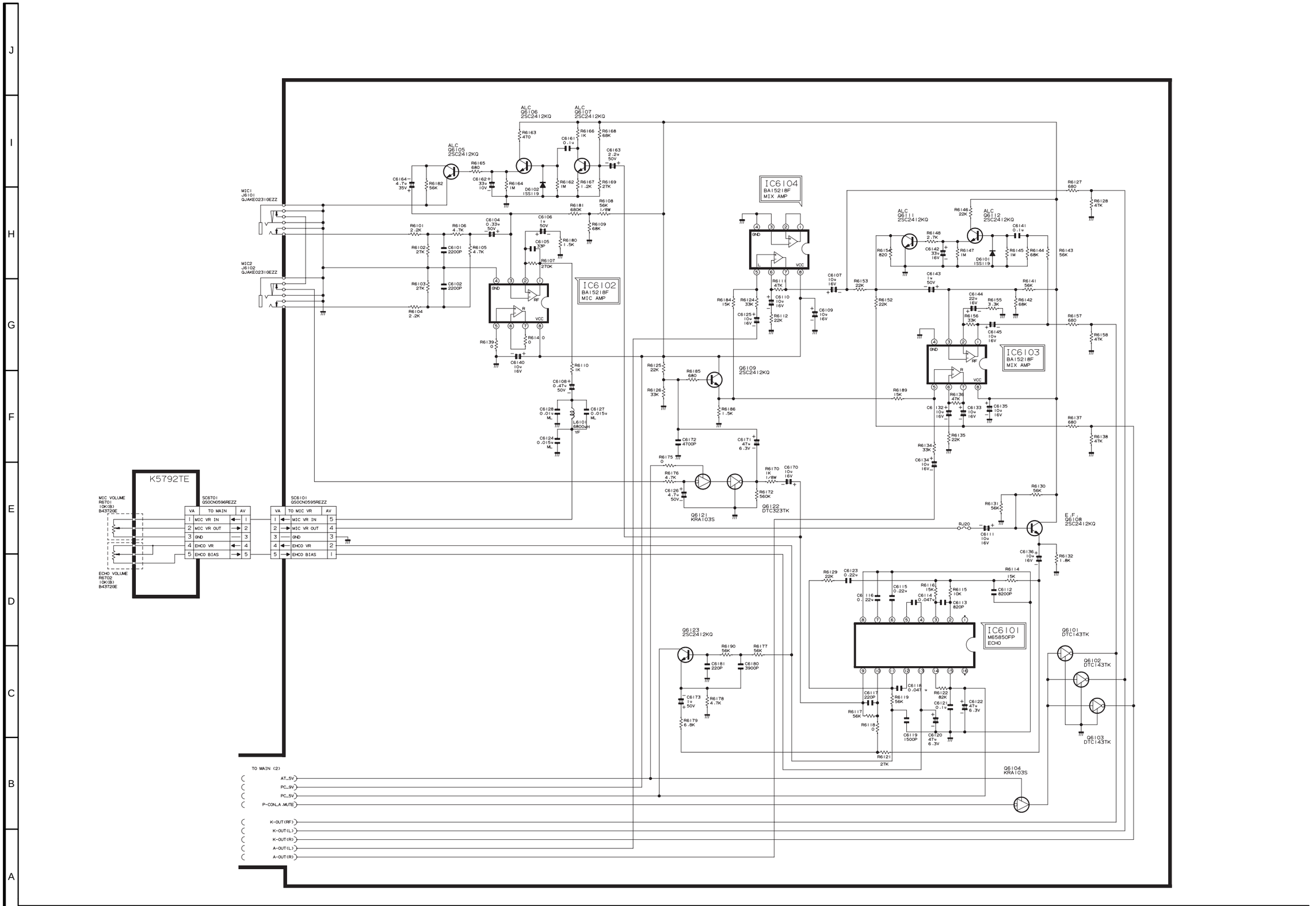
* VOLTAGE MEASUREMENT MODE
PB .... Parentheses ( )
REC .... Without Parentheses

MAIN CIRCUIT(2)



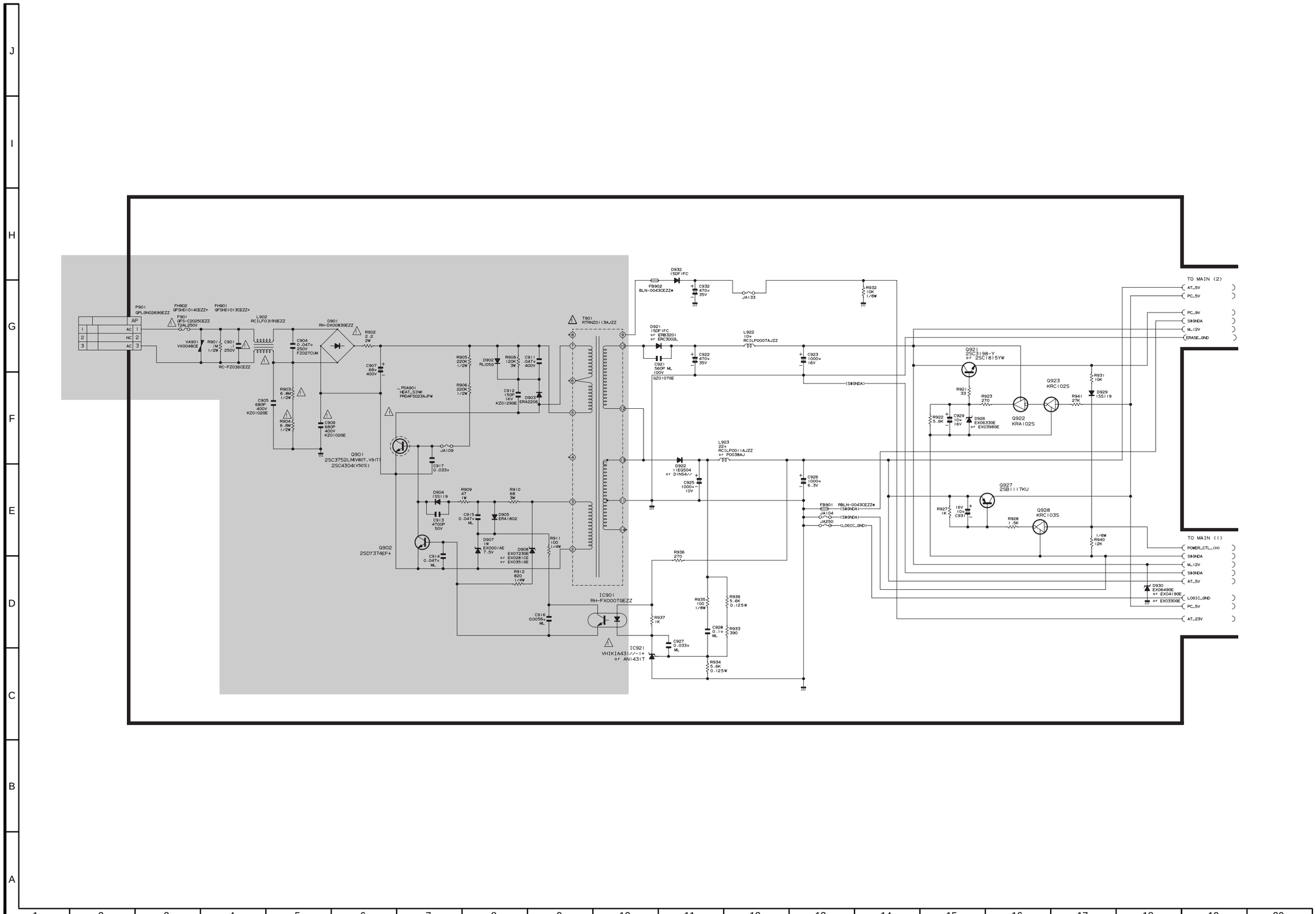
* VOLTAGE MEASUREMENT MODE
PB ..... Parentheses ( )
REC ..... Without Parentheses

MAIN CIRCUIT(3) AND LED CIRCUIT(VC-V91T)



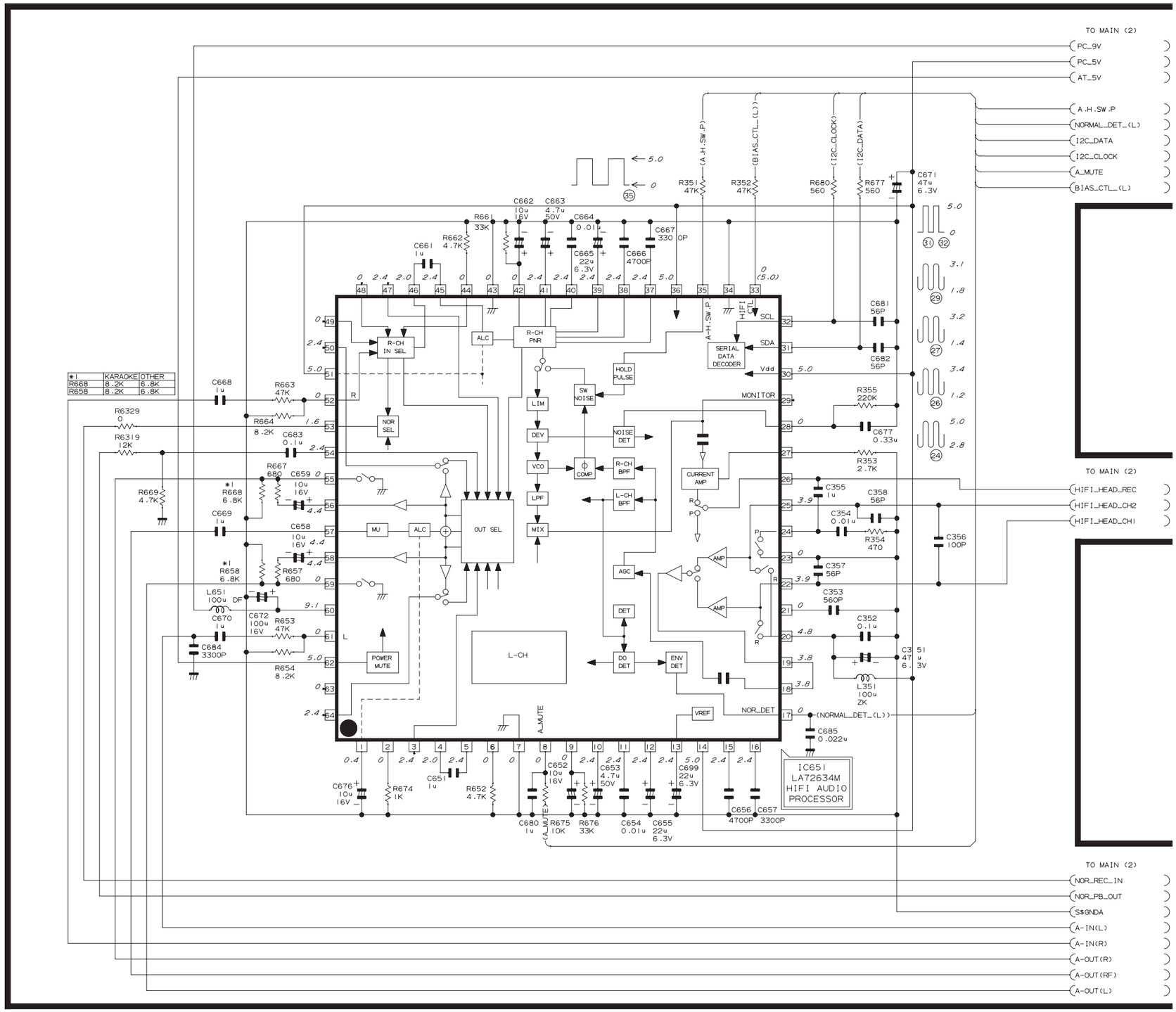
* VOLTAGE MEASUREMENT MODE
PB ..... Parentheses ( )
REC ..... Without Parentheses

MAIN CIRCUIT(4)



* VOLTAGE MEASUREMENT MODE
PB ..... Parentheses ( )
REC ..... Without Parentheses

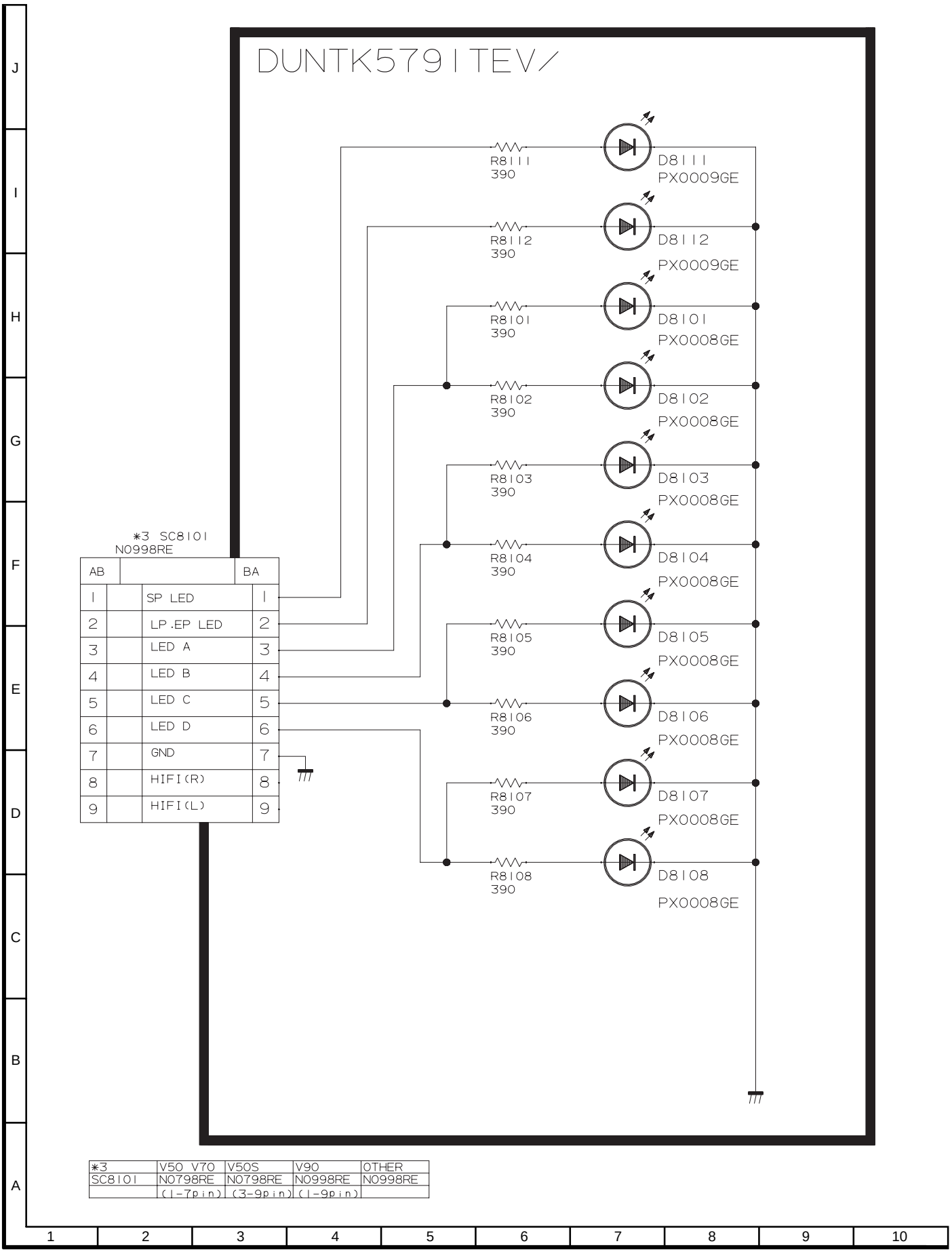
MAIN CIRCUIT(5)



*1	KARAOKE	OTHER
R668	8.2K	6.8K
R658	8.2K	6.8K

*** VOLTAGE MEASUREMENT MODE**
PB ..... Parentheses ( )
REC ..... Without Parentheses

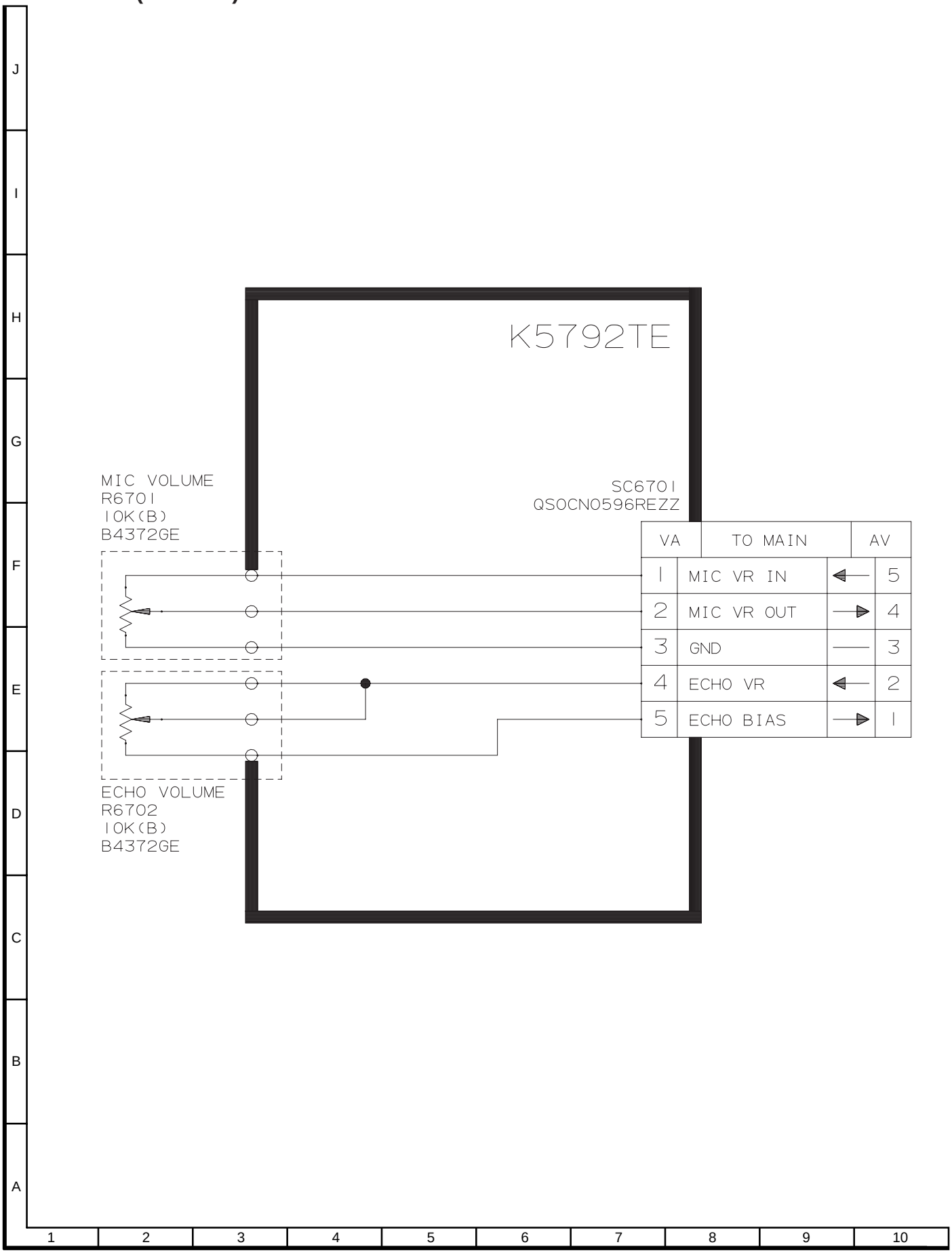
OPEREATION CIRCUIT



*3	V50 V70	V50S	V90	OTHER
SC8101	N0798RE	N0798RE	N0998RE	N0998RE
	(1-7pin)	(3-9pin)	(1-9pin)	

*** VOLTAGE MEASUREMENT MODE**
PB ..... Parentheses ( )
REC ..... Without Parentheses

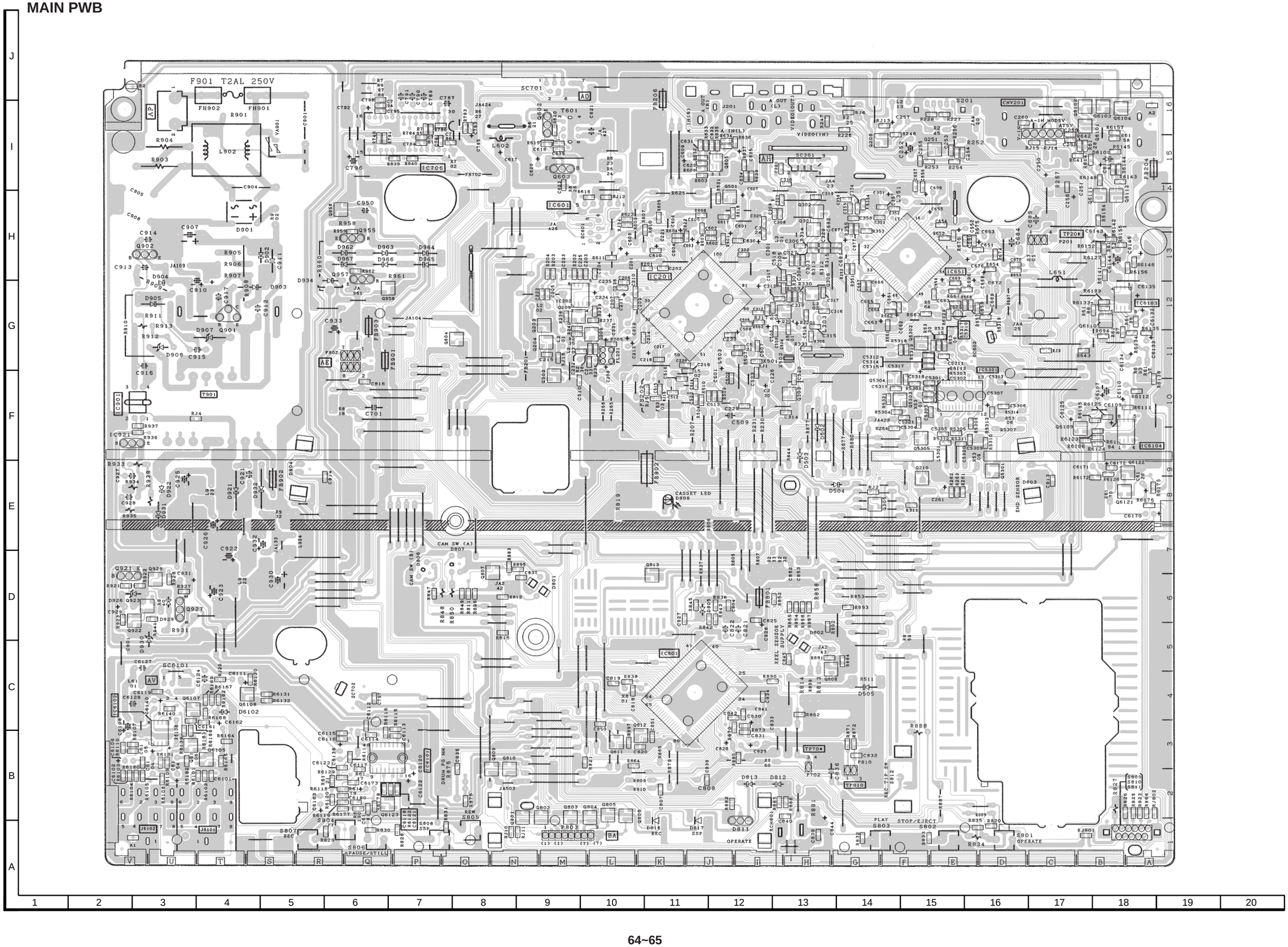
LED CIRCUIT(VC-V91T)

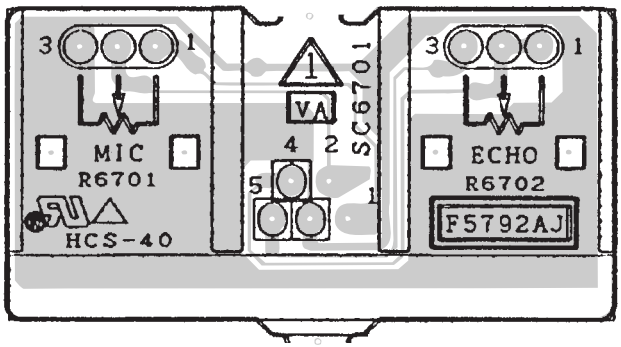


*** VOLTAGE MEASUREMENT MODE**
PB ..... Parentheses ( )
REC ..... Without Parentheses

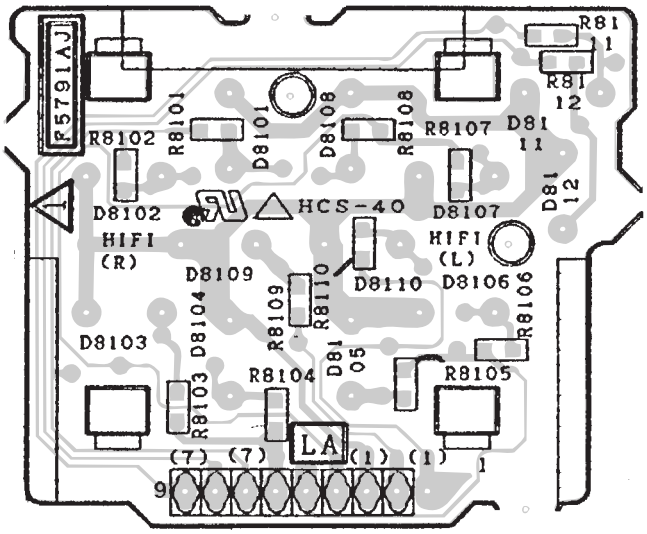
PWB FOIL PATTERN

MAIN PWB





LED PWB(VC-V91T)



OPERATION PWB

10. REPLACEMENT PARTS LIST

PARTS REPLACEMENT

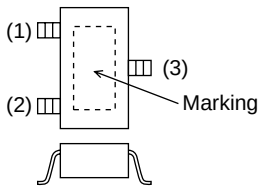
Many electrical and mechanial parts in video cassette recorder have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by " ⚠ " and shaded areas in the Replacement Parts Lists and Schematic Diagrams.
The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER **2. REF. NO.**
3. PART NO. **4. DESCRIPTION**

HOW TO IDENTIFY CHIP TRANSISTORS AND DIODES BY ITS MARKING



(1) Base/Input
(2) Emitter/Ground
(3) Collector/Output

Fig. 1

Package	Marking	Parts No.
Fig. 1	FQ	VS2SA1037KQ-1
Fig. 1	BQ	VS2SC2412KQ-1
Fig. 1	16	VSDTA144EK/-1
Fig. 1	15	VSDTA124EK/-1
Fig. 1	25	VSDTC124EK/-1

MARK★: SPARE PARTS-DELIVERY SECTION

Ref. No.	Part No.	★	Description	Code

PRINTED WIRING BOARD ASSEMBLIES
(NOT REPLACEMENT ITEM)

DUNTK5790TEVN	-	MAIN Unit(VC-V50S)	—
DUNTK5790TEVP	-	MAIN Unit(VC-V80T)	—
DUNTK5790TEVQ	-	MAIN Unit(VC-V91T)	—
DUNTK5791TEV1	-	Operation Unit(VC-V50S)	—
DUNTK5791TEV3	-	Operation Unit (VC-V80T/V91T)	—
DUNTK5792TEV1	-	LED Unit(VC-V91T)	—

Ref. No.	Part No.	★	Description	Code

DUNTK5790TEVN(VC-V50S)
DUNTK5790TEVP(VC-V80T)
DUNTK5790TEVQ(VC-V91T)
MAIN UNIT

CONVERTER

CNV201	RCNVR0007AJN9	V	Converter	BC

INTEGRATED CIRCUITS

IC201	VHiHA8317F/-1	V	HA8317F, Y/C Audio Processor	BA
IC601	VHiBA7755A/-1	V	BA7755A	AE
IC651	VHiLA72634M-1	V	LA72634M, Hifi Audio Processor(V80T/V91T)	AR
IC706	VHiLB1988//-1	V	LB1988, Loading/Drum M Driver IC	AQ
IC801	RH-iX1606GEN2	J	IX1606GE, QFP 80	AX
IC921	VHiKiA431//-1	V	KiA431	AE
IC6101	VHiM65850FP-1	V	M65850FP, Echo (V91T)	AL
IC6102	VHiBA15218F2E	V	BA15218F, Mic Amp (V91T)	AE
IC6103	VHiBA15218F2E	V	BA15218F, Mix Amp (V91T)	AE
IC6104	VHiBA15218F2E	V	BA15218F, Mix Amp (V91T)	AE

TRANSISTORS

	Q251	VS2SA1037KQ-1	V	2SA1037KQ	AA
	Q301	VS2SD1306-E1E	V	2SD1306(V80T/V91T)	AD
	Q302	VS2SD1306-E1E	V	2SD1306(V80T/V91T)	AD
	Q303	VSKRC103S//-1	V	KRC103S	AA
	Q306	VS2SA1037KQ-1	V	2SA1037KQ	AA
	Q501	VSKRC103S//-1	V	KRC103S	AA
	Q502	VSKRC103S//-1	V	KRC103S	AA
	Q602	VS2SC4488ST1E	V	2SC4488ST	AD
	Q603	VS2SC3203Y/-1	V	2SC3203Y	AB
	Q604	VSKRA102S//-1	V	KRA102S	AA
	Q605	VSiMX9/////-1	V	IMX9	AC
	Q801	VSKRA102S//-1	V	KRA102S	AA
	Q802	VSKRA102S//-1	V	KRA102S	AA
	Q803	VSKRA102S//-1	V	KRA102S	AA
	Q804	VSKRA102S//-1	V	KRA102S	AA
	Q805	VSKRA102S//-1	V	KRA102S(V80T/V91T)	AA
	Q806	VSKRA102S//-1	V	KRA102S(V80T/V91T)	AA
	Q809	VSKRA102S//-1	V	KRA102S	AA
	Q810	VSKRA102S//-1	V	KRA102S	AA
	Q811	VSKRC104S//-1	V	KRC104S	AA
	Q813	VSKRA104S//-1	V	KRA104S	AA
⚠	Q901	VS2SC3752LM1E	V	2SC3752LM(V80T/V91T)	AU
⚠	Q901	VS2SC4304//-G	V	2SC4304(V50S)	AK
⚠	Q902	VS2SD734EF+1E+	V	2SD734EF+	AC
	Q921	VS2SC3198-Y-1	V	2SC3198-Y	AA
	Q922	VSKRA102S//-1	V	KRA102S	AA
	Q923	VSKRC102S//-1	V	KRC102S	AA
	Q927	VS2SB1117KU1E	V	2SB1117KU	AE
	Q928	VSKRC103S//-1	V	KRC103S	AA
	Q955	VS2SB1117KU1E	V	2SB1117KU	AE
	Q956	VSKRC103S//-1	V	KRC103S	AA
	Q957	VS2SB1117KU1E	V	2SB1117KU	AE
	Q958	VSKRC103S//-1	V	KRC103S	AA
	Q6101	VSDTC143TK/-1	V	DTC143TK(V91T)	AB
	Q6102	VSDTC143TK/-1	V	DTC143TK(V91T)	AB
	Q6103	VSDTC143TK/-1	V	DTC143TK(V91T)	AB
	Q6104	VSKRA103S//-1	V	KRA103S(V91T)	AA
	Q6105	VS2SC2412KQ-1	V	2SC2412KQ(V91T)	AA
	Q6106	VS2SC2412KQ-1	V	2SC2412KQ(V91T)	AA
	Q6107	VS2SC2412KQ-1	V	2SC2412KQ(V91T)	AA
	Q6108	VS2SC2412KQ-1	V	2SC2412KQ(V91T)	AA
	Q6109	VS2SC2412KQ-1	V	2SC2412KQ(V91T)	AA
	Q6111	VS2SC2412KQ-1	V	2SC2412KQ(V91T)	AA
	Q6112	VS2SC2412KQ-1	V	2SC2412KQ(V91T)	AA
	Q6121	VSKRA103S//-1	V	KRA103S(V91T)	AA
	Q6122	VSDTC323TK/-1	V	DTC323TK(V91T)	AB
	Q6123	VS2SC2412KQ-1	V	2SC2412KQ(V91T)	AA

Ref. No.	Part No.	★	Description	Code
			DIODES AND LED'S	
D801	RH-PX0252GEZZ	J	LED, Take Up Reel Sensor	AF
D802	RH-PX0252GEZZ	J	LED, Supply Reel Sensor	AF
D803	RH-PX0233GEZZ	J	LED, End Sensor	AD
D804	RH-PX0233GEZZ	J	LED, Start Sensor	AD
D805	VHD1SS119//-1	V	1SS119	AB
D806	RH-PX0253GEZZ	J	LED, Cam SW A	AF
D807	RH-PX0253GEZZ	J	LED, Cam SW B	AF
D808	RH-PX0270GEZZ	J	LED, Cassete LED	AC
D811	RH-PX0196GEZZ	J	LED	AC
D812	VHD1SS119//-1	V	1SS119	AB
D813	VHD1SS119//-1	V	1SS119	AB
D816	RH-PX0007AJZZ	V	LED	AC
D817	RH-PX0007AJZZ	V	LED	AC
⚠ D901	RH-DX0083GEZZ	J	DX0083GE	AC
⚠ D902	VHDRL105G//-1	V	RL105G	AB
⚠ D903	VHDERA2206/-1	V	ERA2206	AC
⚠ D904	VHD1SS119//-1	V	1SS119	AB
⚠ D905	VHDERA1802/-1	V	ERA1802	AB
⚠ D907	RH-EX0001AEZZ	V	Zener Diode	AC
⚠ D908	RH-EX0723GEZZ	J	Zener Diode	AB
D921	VHD15DF1FC/1E	V	15DF1FC	AD
D922	VHD11EQS04/1E	V	11EQS04	AD
D926	RH-EX0633GEZZ	J	Zener Diode	AA
D929	VHD1SS119//-1	V	1SS119	AB
D930	RH-EX0649GEZZ	J	Zener Diode	AB
D932	VHD15DF1FC/1E	V	15DF1FC	AD
D962	VHDRL1N4004-1	V	RL1N4004	AD
D963	VHDRL1N4004-1	V	RL1N4004	AD
D964	VHDRL1N4004-1	V	RL1N4004	AD
D965	VHDRL1N4004-1	V	RL1N4004	AD
D966	VHDRL1N4004-1	V	RL1N4004	AD
D967	VHDRL1N4004-1	V	RL1N4004	AD
D6101	VHD1SS119//-1	V	1SS119(V91T)	AB
D6102	VHD1SS119//-1	V	1SS119(V91T)	AB
⚠ IC901	RH-FX0007GEZZ	J	FX0007GE	AD
⚠ VA901	RH-VX0048CEZZ	V	Varistor	AE
			PACKAGED CIRCUITS	
X501	RCRSB0204GEZZ	J	Crystal, CRSB0204GE	AG
X502	RCRSB0232GEZZ	J	Crystal, CRSB0232GE	AG
X801	RCRSB0128GEZZ	J	Crystal, CRSB0128GE	AF
			COILS	
L201	VP-XF181K0000	V	Peaking, 180µH	AB
L213	VP-ZK100K0000	V	Peaking, 10µH	AB
L301	VP-MK101K0000	V	Peaking, 100µH	AB
L302	VP-XF180K0000	V	Peaking, 18µH	AB
L303	VP-MK151K0000	V	Peaking, 150µH	AB
L351	VP-ZK101K0000	V	Peaking, 100µH (V80T/V91T)	AB
L502	VP-XF560K0000	V	Peaking, 56µH	AB
L503	VP-XF120K0000	V	Peaking, 12µH	AB
L602	VP-DF221K0000	V	Peaking, 220µH	AB
L651	VP-DF101K0000	V	Peaking, 100µH (V80T/V91T)	AB
⚠ L902	RCiLF0319AJZZ	V	Coil, CiLF0319AJ	AF
L922	RCiLP0007AJZZ	V	Coil, CiLP0007AJ	AE
L923	RCiLP0011AJZZ	V	Coil, CiLP0011AJ	AE
L6101	VPADK682K0000	V	Peaking, 6800µH(V91T)	AC
			TRANSFORMERS	
T601	RTRNH0098GEZZ	J	OSC. Transformer	AE
⚠ T901	RTRNZ0113AJZZ	V	Transformer	AM
			VARIABLE RESISTOR	
R875	RVR-M4343GEZZ	J	Variable Resistor, 100k	AB
			CAPACITORS	
C201	VCEA9M0JW107M	V	100 6.3V Electrolytic	AB
C202	VCKYCY0JF105Z	V	1 6.3V Ceramic	AB
C203	VCCCCY1HH151J	V	150p 50V Ceramic	AA
C204	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C205	VCCCCY1HH270J	V	27p 50V Ceramic	AA
C206	VCKYCY1CB104K	V	0.1 16V Ceramic	AB
C207	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C208	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C209	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C210	VCKYCY1CB104K	V	0.1 16V Ceramic	AB
C211	VCEA9M1HW335M	V	3.3 50V Electrolytic	AB
C212	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C213	VCEA9M1HW225M	V	2.2 50V Electrolytic	AB
C214	VCKYCY0JF105Z	V	1 6.3V Ceramic	AB
C217	VCEA9M0JW107M	V	100 6.3V Electrolytic	AB
C218	VCKYCY0JF105Z	V	1 6.3V Ceramic	AB
C219	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C220	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C221	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C223	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C226	VCEA9M0JW107M	V	100 6.3V Electrolytic	AB
C227	VCKYCY0JF105Z	V	1 6.3V Ceramic	AB
C229	VCCCCY1HH560J	V	56p 50V Ceramic	AA
C230	VCCSD41HL560J	V	56p 50V Ceramic	AA
C250	VCEA9M1CW476M	V	47 16V Electrolytic	AB
C251	VCEA9M1CW476M	V	47 16V Electrolytic	AB
C252	VCEAGA0JW337M	V	330 6.3V Electrolytic	AB
C256	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C258	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C259	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C260	VCCCCY1HH121J	V	120p 50V Ceramic	AA
C301	VCEA9M0JW107M	V	100 6.3V Electrolytic	AB
C302	VCKYCY0JF105Z	V	1 6.3V Ceramic	AB
C303	VCKYCY1EB103K	V	0.01 25V Ceramic	AA
C304	VCKYCY1EB103K	V	0.01 25V Ceramic	AA
C305	VCKYCY1EB103K	V	0.01 25V Ceramic	AA
C306	VCKYCY1EB103K	V	0.01 25V Ceramic	AA
C307	VCKYCY1EB103K	V	0.01 25V Ceramic (V80T/V91T)	AA
C308	VCKYCY1EB103K	V	0.01 25V Ceramic (V80T/V91T)	AA
C309	VCKYCY1EB103K	V	0.01 25V Ceramic (V80T/V91T)	AA
C310	VCKYCY1EB103K	V	0.01 25V Ceramic (V80T/V91T)	AA
C311	VCKYCY1EB103K	V	0.01 25V Ceramic	AA
C312	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C313	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C315	VCKYCY1HB221K	V	220p 50V Ceramic	AA
C316	VCCCCY1HH220J	V	22p 50V Ceramic	AA
C317	VCCCCY1HH120J	V	12p 50V Ceramic	AA
C318	VCCCCY1HH220J	V	22p 50V Ceramic	AA
C319	VCCCCY1HH220J	V	22p 50V Ceramic	AA
C320	VCCCCY1HH150J	V	15p 50V Ceramic (V80T/V91T)	AA
C327	VCKYCY1HF103Z	V	0.01 50V Ceramic (V80T/V91T)	AA
C329	VCKYCY1HF103Z	V	0.01 50V Ceramic (V80T/V91T)	AA
C351	VCEA9M0JW476M	V	47 6.3V Electrolytic (V80T/V91T)	AB
C352	VCKYCY1CF104Z	V	0.1 16V Ceramic (V80T/V91T)	AA
C353	VCKYCY1HB561K	V	560p 50V Ceramic (V80T/V91T)	AA
C354	VCKYCY1HF103Z	V	0.01 50V Ceramic (V80T/V91T)	AA
C355	VCKYCY0JF105Z	V	1 6.3V Ceramic (V80T/V91T)	AB
C356	VCCCCY1HH101J	V	100p 50V Ceramic (V80T/V91T)	AA
C357	VCCCCY1HH560J	V	56p 50V Ceramic (V80T/V91T)	AA
C358	VCCCCY1HH560J	V	56p 50V Ceramic (V80T/V91T)	AA
C501	VCEA9M0JW107M	V	100 6.3V Electrolytic	AB
C502	VCKYCY0JF105Z	V	1 6.3V Ceramic	AB
C503	VCKYCY1HB472K	V	4700p 50V Ceramic	AA
C504	VCEA9M1HW475M	V	4.7 50V Electrolytic	AB
C505	VCKYCY1HF223Z	V	0.022 50V Ceramic	AB
C506	VCEA9M1HW105M	V	1 50V Electrolytic	AB
C507	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C508	VCEA9M1HW475M	V	4.7 50V Electrolytic	AB
C509	VCKYD41CY103N	V	0.01 16V Ceramic	AA
C510	VCCCCY1HH8R0D	V	8p 50V Ceramic	AA
C512	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA

Ref. No.	Part No.	★	Description	Code
C513	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C514	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C515	VCKYCY1HB331K	V	330p 50V Ceramic	AA
C516	VCCCCY1HH8R0D	V	8p 50V Ceramic	AA
C517	VCEA9M1HW335M	V	3.3 50V Electrolytic	AB
C518	VCKYCY1HF333Z	V	0.033 50V Ceramic	AA
C519	VCEA9M1HW105M	V	1 50V Electrolytic	AB
C520	VCKYCY1CB104K	V	0.1 16V Ceramic	AB
C521	VCCCCY1HH6R0D	V	6p 50V Ceramic	AA
C523	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C601	VCEA9M0JW107M	V	100 6.3V Electrolytic	AB
C602	VCKYCY1EB123K	V	0.012 25V Ceramic	AA
C603	VCEAEA0JW226M	V	22 6.3V Electrolytic	AB
C604	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C605	VCEA9M1HW335M	V	3.3 50V Electrolytic	AB
C606	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C607	VCEA9M1HW475M	V	4.7 50V Electrolytic	AB
C608	VCEA9M0JW226M	V	22 6.3V Electrolytic	AB
C609	VCEA9M1HW474M	V	0.47 50V Electrolytic	AB
C610	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C617	VCEA9M1CW476M	V	47 16V Electrolytic	AB
C618	VCKYCY1EB103K	V	0.01 25V Ceramic	AA
C619	VCKYCY1EB103K	V	0.01 25V Ceramic	AA
C620	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C621	VCQPYA2AA562J	V	5600p 100V Mylar	AC
C622	VCKYCY1HB222K	V	2200p 50V Ceramic (V50S)	AA
C623	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C629	VCKYCY1HB822K	V	8200p 50V Ceramic	AB
C630	VCKYCY0JF105Z	V	1 6.3V Ceramic	AB
C631	VCCCCY1HH101J	V	100p 50V Ceramic	AA
C632	VCCCCY1HH101J	V	100p 50V Ceramic	AA
C633	VCCCCY1HH221J	V	220p 50V Ceramic	AA
C635	VCKYD41CF105Z	V	1 16V Ceramic	AB
C636	VCEA9M1CW476M	V	47 16V Electrolytic	AB
C651	VCKYCY0JF105Z	V	1 6.3V Ceramic (V80T/V91T)	AB
C652	VCEA9M1CW106M	V	10 16V Electrolytic (V80T/V91T)	AB
C653	VCEA9M1HW475M	V	4.7 50V Electrolytic (V80T/V91T)	AB
C654	VCKYCY1EB103K	V	0.01 25V Ceramic (V80T/V91T)	AA
C655	VCEA9M0JW226M	V	22 6.3V Electrolytic (V80T/V91T)	AB
C656	VCKYCY1HB472K	V	4700p 50V Ceramic (V80T/V91T)	AA
C657	VCKYCY1HB332K	V	3300p 50V Ceramic (V80T/V91T)	AA
C658	VCEA9M1CW106M	V	10 16V Electrolytic (V80T/V91T)	AB
C659	VCEA9M1CW106M	V	10 16V Electrolytic (V80T/V91T)	AB
C661	VCKYCY0JF105Z	V	1 6.3V Ceramic (V80T/V91T)	AB
C662	VCEA9M1CW106M	V	10 16V Electrolytic (V80T/V91T)	AB
C663	VCEA9M1HW475M	V	4.7 50V Electrolytic (V80T/V91T)	AB
C664	VCKYCY1EB103K	V	0.01 25V Ceramic (V80T/V91T)	AA
C665	VCEA9M0JW226M	V	22 6.3V Electrolytic (V80T/V91T)	AB
C666	VCKYCY1HB472K	V	4700p 50V Ceramic (V80T/V91T)	AA
C667	VCKYCY1HB332K	V	3300p 50V Ceramic (V80T/V91T)	AA
C668	VCKYCY0JF105Z	V	1 6.3V Ceramic (V80T/V91T)	AB
C669	VCKYCY0JF105Z	V	1 6.3V Ceramic (V80T/V91T)	AB
C670	VCKYCY0JF105Z	V	1 6.3V Ceramic (V80T/V91T)	AB
C671	VCEA9M0JW476M	V	47 6.3V Electrolytic (V80T/V91T)	AB
C672	VCEA9M1CW107M	V	100 16V Electrolytic (V80T/V91T)	AB
C676	VCEA9M1CW106M	V	10 16V Electrolytic (V80T/V91T)	AB
C677	VCKYCY1CF334Z	V	0.33 16V Ceramic (V80T/V91T)	AA
C680	VCKYCY0JF105Z	V	1 6.3V Ceramic (V80T/V91T)	AB
C681	VCCCCY1HH560J	V	56p 50V Ceramic (V80T/V91T)	AA
C682	VCCCCY1HH560J	V	56p 50V Ceramic (V80T/V91T)	AA
C683	VCKYCY1CF104Z	V	0.1 16V Ceramic (V80T/V91T)	AA
C684	VCKYD41HB332K	V	3300p 50V Ceramic (V80T/V91T)	AB
C685	VCKYD41EF223Z	V	0.022 25V Ceramic (V80T/V91T)	AA
C699	VCEA9M0JW226M	V	22 6.3V Electrolytic (V80T/91T)	AB
C701	VCKYD41HF104Z	V	0.1 50V Ceramic	AA
C781	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C783	VCKYCY0JF105Z	V	1 6.3V Ceramic	AB
C784	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C785	VCEA9M0JW476M	V	47 6.3V Electrolytic	AB
C786	VCKYCY1CF334Z	V	0.33 16V Ceramic	AA
C787	VCFYFA1HA474J	V	0.47 50V Mylar	AC
C789	VCQYTA1HM103K	V	0.01 50V Mylar	AB
C790	VCQYTA1HM392J	V	3900p 50V Mylar	AA
C791	VCQYTA1HM392J	V	3900p 50V Mylar	AA
C792	VCEA9M1CW476M	V	47 16V Electrolytic	AB
C794	VCKYCY1EB223K	V	0.022 25V Ceramic	AA
C795	VCKYCY1EB223K	V	0.022 25V Ceramic	AA
C796	VCEA9A1CW476M	V	47 16V Electrolytic	AB
C797	VCKYCY1CF334Z	V	0.33 16V Ceramic	AA
C798	VCKYCY1EB223K	V	0.022 25V Ceramic	AA
C804	VCKYCY1HB682K	V	6800p 50V Ceramic	AA
C807	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C808	VCKYPA1HB102K	V	1000p 50V Ceramic	AA
C813	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C814	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C816	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C818	VCCCCY1HH270J	V	27p 50V Ceramic	AA
C819	VCCCCY1HH220J	V	22p 50V Ceramic	AA
C820	VCCCCY1HH101J	V	100p 50V Ceramic	AA
C821	VCFYSA1HB104J	V	0.1 50V Mylar	AB
C822	VCFYSA1HB333J	V	0.033 50V Mylar	AE
C825	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C826	VCEA9M0JW476M	V	47 6.3V Electrolytic	AB
C827	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C828	VCEA9M0JW227M	V	220 6.3V Electrolytic	AB
C829	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C830	VCKYCY1HB221K	V	220p 50V Ceramic	AA
C831	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C832	VCKYCY1HB221K	V	220p 50V Ceramic	AA
C833	VCEA9M0JW107M	V	100 6.3V Electrolytic	AB
C834	VCKYCY0JF105Z	V	1 6.3V Ceramic	AB
C835	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C836	VCKYD41CY103N	V	0.01 16V Ceramic	AA
C838	VCKYCY1HB472K	V	4700p 50V Ceramic	AA
C839	VCKYCY1HB152K	V	1500p 50V Ceramic	AA
C840	VCKYCY0JF105Z	V	1 6.3V Ceramic	AB
C841	VCKYD41HB101K	V	100p 50V Ceramic	AA
C842	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C852	VCCSD41HL560J	V	56p 50V Ceramic (V80T/V91T)	AA
C853	VCCSD41HL560J	V	56p 50V Ceramic (V80T/V91T)	AA
⚠ C901	RC-FZ036SCEZZ	V	0.1 250V	AC
⚠ C904	RC-FZ027CUMZZ	V	0.047 250V M.Polypro	AE
⚠ C905	RC-KZ0102GEZZ	J	680p 400V Ceramic	AE
⚠ C907	RC-EZ0437GEZZ	J	68 400V Electrolytic	AK
⚠ C908	RC-KZ0102GEZZ	J	680p 400V Ceramic	AE
⚠ C911	VCFYZP2GA473K	V	0.047 400V	AC
⚠ C912	RC-KZ0129GEZZ	J	150p 1kV Ceramic	AC
⚠ C913	VCKYPA1HB472K	V	4700p 50V Ceramic	AA
⚠ C914	VCQYTA1HM473J	V	0.047 50V Mylar	AA
⚠ C915	VCQYTA1HM473J	V	0.047 50V Mylar	AA
⚠ C916	VCQYTA1HM562J	V	0.0056 50V Mylar	AA
⚠ C917	VCQYTA1HM333J	V	0.033 50V Mylar	AA

Ref. No.	Part No.	★	Description	Code
C921	RC-QZ0107GEZZ	J	560p 100V Mylar	AC
C922	VCEAVA1VN477M	V	470 35V Electrolytic	AD
C923	VCEAGA1CW108M	V	1000 16V Electrolytic	AD
C925	VCEAVA1AN108M	V	1000 10V Electrolytic	AD
C926	VCEAGA0JW108M	V	1000 6.3V Electrolytic	AC
C927	VCQYTA1HM333J	V	0.033 50V Mylar	AA
C928	VCQYTA1HM104K	V	0.1 50V Mylar	AC
C929	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C931	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C932	VCEAVA1VN477M	V	470 35V Electrolytic	AD
C933	VCEA2A1VW107M	V	100 35V Electrolytic	AC
C950	VCKYD41CY103N	V	0.01 16V Ceramic	AA
C6101	VCKYCY1HB222K	V	2200p 50V Ceramic (V91T)	AA
C6102	VCKYCY1HB222K	V	2200p 50V Ceramic (V91T)	AA
C6104	VCEAEA1HW334M	V	0.33 50V Electrolytic (V91T)	AB
C6105	VCCCCY1HH330J	V	33p 50V Ceramic (V91T)	AA
C6106	VCEA9M1HW105M	V	1 50V Electrolytic (V91T)	AB
C6107	VCEAEA1CW106M	V	10 16V Electrolytic (V91T)	AB
C6108	VCEAEA1HW474M	V	0.47 50V Electrolytic (V91T)	AB
C6109	VCEA9M1CW106M	V	10 16V Electrolytic (V91T)	AB
C6110	VCEA9M1CW106M	V	10 16V Electrolytic (V91T)	AB
C6111	VCEA9M1CW106M	V	10 16V Electrolytic (V91T)	AB
C6112	VCKYCY1HB822K	V	8200p 50V Ceramic (V91T)	AB
C6113	VCKYCY1HB821K	V	820p 50V Ceramic (V91T)	AA
C6114	VCKYCY1CB473K	V	0.047 16V Ceramic (V91T)	AA
C6115	VCKYCY1CF224Z	V	0.22 16V Ceramic (V91T)	AA
C6116	VCKYCY1CF224Z	V	0.22 16V Ceramic (V91T)	AA
C6117	VCKYCY1HB221K	V	220p 50V Ceramic (V91T)	AA
C6118	VCKYCY1CB473K	V	0.047 16V Ceramic (V91T)	AA
C6119	VCKYCY1HB152K	V	1500p 50V Ceramic (V91T)	AA
C6120	VCEA9M0JW476M	V	47 6.3V Electrolytic (V91T)	AB
C6121	VCKYCY1EF104Z	V	0.1 25V Ceramic (V91T)	AA
C6122	VCEA9M0JW476M	V	47 6.3V Electrolytic (V91T)	AB
C6123	VCKYCY1CF224Z	V	0.22 16V Ceramic (V91T)	AA
C6124	VCQYTA1HM153J	V	0.015 50V Mylar (V91T)	AA
C6125	VCEA9M1CW106M	V	10 16V Electrolytic (V91T)	AB
C6126	VCEAEA1HW475M	V	4.7 50V Electrolytic (V91T)	AB
C6127	VCQYTA1HM153J	V	0.015 50V Mylar(V91T)	AA
C6128	VCQYTA1HM103K	V	0.01 50V Mylar(V91T)	AB
C6132	VCEA9M1CW106M	V	10 16V Electrolytic (V91T)	AB
C6133	VCEA9M1CW106M	V	10 16V Electrolytic (V91T)	AB
C6134	VCEA9M1CW106M	V	10 16V Electrolytic (V91T)	AB
C6135	VCEA9M1CW106M	V	10 16V Electrolytic (V91T)	AB
C6136	VCEA9M1CW106M	V	10 16V Electrolytic (V91T)	AB
C6140	VCEA9M1CW106M	V	10 16V Electrolytic (V91T)	AB
C6141	VCKYCY1EF104Z	V	0.1 25V Ceramic (V91T)	AA
C6142	VCEAEM1CW336M	V	33 16V Electrolytic (V91T)	AB
C6143	VCEA9M1HW105M	V	1 50V Electrolytic (V91T)	AB
C6144	VCEA9A1CW226M	V	22 16V Electrolytic (V91T)	AB
C6145	VCEA9M1CW106M	V	10 16V Electrolytic (V91T)	AB
C6161	VCKYCY1EF104Z	V	0.1 25V Ceramic (V91T)	AA
C6162	VCEA9M1AW336M	V	33 10V Electrolytic (V91T)	AB
C6163	VCEA9M1HW225M	V	2.2 50V Electrolytic (V91T)	AB
C6164	VCEAEA1VW475M	V	4.7 35V Electrolytic (V91T)	AB
C6170	VCEA9M1CW106M	V	10 16V Electrolytic (V91T)	AB
C6171	VCEA9M0JW476M	V	47 6.3V Electrolytic (V91T)	AB
C6172	VCKYCY1HB472K	V	4700p 50V Ceramic (V91T)	AA
C6173	VCEA9M1HW105M	V	1 50V Electrolytic (V91T)	AB
C6180	VCKYCY1HB392K	V	3900p 50V Ceramic (V91T)	AA
C6181	VCKYCY1HB221K	V	220p 50V Ceramic (V91T)	AA

RESISTORS

RJ1	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
RJ2	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
RJ3	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
RJ5	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
RJ6	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
RJ13	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
RJ15	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
RJ16	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
RJ18	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
RJ20	VRS-CY1JF000J	V	0 1/16W Metal Oxide (V91T)	AA
RJ34	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
RJ201	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R201	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide	AA
R202	VRS-CY1JF182J	V	1.8k 1/16W Metal Oxide	AA
R203	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide	AA
R207	VRD-RA2BE101J	V	100 1/8W Carbon	AB
R225	VRD-RA2BE750J	V	75 1/8W Carbon	AA
R226	VRS-CY1JF101J	V	100 1/16W Metal Oxide	AA
R227	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide	AA
R228	VRS-CY1JF562J	V	5.6k 1/16W Metal Oxide	AA
R230	VRD-RA2BE561J	V	560 1/8W Carbon	AA
R231	VRD-RA2BE561J	V	560 1/8W Carbon	AA
R232	VRD-RA2BE153J	V	15k 1/8W Carbon	AA
R233	VRD-RA2BE153J	V	15k 1/8W Carbon	AA
R247	VRS-CY1JF750J	V	75 1/16W Metal Oxide	AA
R252	VRD-RA2EE221J	V	220 1/4W Carbon	AA
R253	VRS-CY1JF101J	V	100 1/16W Metal Oxide	AA
R254	VRS-CY1JF101J	V	100 1/16W Metal Oxide	AA
R256	VRS-CY1JF183J	V	18k 1/16W Metal Oxide	AA
R257	VRD-RA2EE271J	V	270 1/4W Carbon	AA
R301	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R303	VRS-CY1JF392J	V	3.9k 1/16W Metal Oxide	AA
R305	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R306	VRS-CY1JF681J	V	680 1/16W Metal Oxide	AA
R312	VRD-RA2BE332J	V	3.3k 1/8W Carbon	AA
R313	VRD-RA2BE332J	V	3.3k 1/8W Carbon	AA
R314	VRS-CY1JF152J	V	1.5k 1/16W Metal Oxide (V80T/V91T)	AA
R315	VRS-CY1JF152J	V	1.5k 1/16W Metal Oxide (V80T/V91T)	AA
R330	VRS-CY1JF222J	V	2.2k 1/16W Metal Oxide	AA
R331	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
R351	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (V80T/V91T)	AA
R352	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (V80T/V91T)	AA

Ref. No.	Part No.	★	Description	Code
R353	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide (V80T/V91T)	AA
R354	VRS-CY1JF471J	V	470 1/16W Metal Oxide (V80T/V91T)	AA
R355	VRS-CY1JF224J	V	220k 1/16W Metal Oxide (V80T/V91T)	AA
R501	VRS-CY1JF561J	V	560 1/16W Metal Oxide	AA
R502	VRS-CY1JF273J	V	27k 1/16W Metal Oxide	AA
R504	VRS-CY1JF561J	V	560 1/16W Metal Oxide	AA
R507	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R511	VRD-RA2BE224J	V	220k 1/8W Carbon	AA
R531	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R601	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide	AA
R602	VRS-CY1JF274J	V	270k 1/16W Metal Oxide	AA
R603	VRS-CY1JF181J	V	180 1/16W Metal Oxide	AA
R604	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R605	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R606	VRS-CY1JF333J	V	33k 1/16W Metal Oxide	AA
R607	VRD-RA2BE122J	V	1.2k 1/8W Carbon	AA
R608	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R610	VRS-CY1JF183J	V	18k 1/16W Metal Oxide	AA
R611	VRS-CY1JF182J	V	1.8k 1/16W Metal Oxide (V80T/V91T)	AA
R617	VRS-CY1JF103J	V	10k 1/16W Metal Oxide (V80T/V91T)	AA
R618	VRS-CY1JF563J	V	56k 1/16W Metal Oxide	AA
R619	VRS-CY1JF470J	V	47 1/16W Metal Oxide	AA
R620	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R621	VRG-SC2EB4R7J	V	4.7 1/4W Fuse Resistor	AB
R622	VRS-CY1JF152J	V	1.5k 1/16W Metal Oxide	AA
R623	VRD-RA2BE273J	V	27k 1/8W Carbon	AA
R624	VRD-RA2BE224J	V	220k 1/8W Carbon	AA
R626	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R630	VRS-CY1JF224J	V	220k 1/16W Metal Oxide	AA
R632	VRS-CY1JF562J	V	5.6k 1/16W Metal Oxide	AA
R633	VRS-CY1JF104J	V	100k 1/16W Metal Oxide	AA
R634	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R635	VRS-CY1JF104J	V	100k 1/16W Metal Oxide	AA
R636	VRS-CY1JF101J	V	100 1/16W Metal Oxide	AA
R637	VRS-CY1JF271J	V	270 1/16W Metal Oxide	AA
R638	VRS-CY1JF332J	V	3.3k 1/16W Metal Oxide	AA
R652	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide (V80T/V91T)	AA
R653	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (V80T/V91T)	AA
R654	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide (V80T/V91T)	AA
R657	VRS-CY1JF681J	V	680 1/16W Metal Oxide (V80T/V91T)	AA
R658	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide (V80T)	AA
R658	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide (V91T)	AA
R661	VRS-CY1JF333J	V	33k 1/16W Metal Oxide (V80T/V91T)	AA
R662	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide (V80T/V91T)	AA
R663	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (V80T/V91T)	AA
R664	VRD-RA2BE822J	V	8.2k 1/8W Carbon (V80T/V91T)	AA
R667	VRS-CY1JF681J	V	680 1/16W Metal Oxide (V80T/V91T)	AA
R668	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide (V80T)	AA
R668	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide (V91T)	AA
R669	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide (V80T/V91T)	AA
R674	VRS-CY1JF102J	V	1k 1/16W Metal Oxide (V80T/V91T)	AA
R675	VRS-CY1JF103J	V	10k 1/16W Metal Oxide (V80T/V91T)	AA
R676	VRS-CY1JF333J	V	33k 1/16W Metal Oxide (V80T/V91T)	AA
R677	VRD-RA2BE561J	V	560 1/8W Carbon (V80T/V91T)	AA
R680	VRD-RA2BE561J	V	560 1/8W Carbon (V80T/V91T)	AA
R693	VRD-RA2BE471J	V	470 1/8W Carbon (V80T)	AA
R694	VRS-CY1JF000J	V	0 1/16W Metal Oxide (V50S/V80T)	AA
R696	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide (V80T)	AA
R702	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R748	VRS-CY1JF1R0J	V	1 1/16W Metal Oxide	AA
R783	VRS-CY1JF392J	V	3.9k 1/16W Metal Oxide	AA
R784	VRS-CY1JF104J	V	100k 1/16W Metal Oxide	AA
R785	VRS-CY1JF105J	V	1M 1/16W Metal Oxide	AA
R786	VRS-CY1JF564J	V	560k 1/16W Metal Oxide	AA
R787	VRD-RM2HD1R0J	V	1 1/2W Carbon	AA
R788	VRD-RM2HD1R0J	V	1 1/2W Carbon	AA
R791	VRS-CY1JF1R0J	V	1 1/16W Metal Oxide	AA
R805	VRD-RA2BE275J	V	2.7M 1/8W Carbon	AA
R806	VRD-RA2BE395J	V	3.9M 1/8W Carbon	AA
R807	VRD-RA2BE684J	V	680k 1/8W Carbon	AA
R809	VRD-RA2BE122J	V	1.2k 1/8W Carbon	AA
R810	VRD-RA2BE103J	V	10k 1/8W Carbon	AA
R811	VRS-CY1JF391J	V	390 1/16W Metal Oxide	AA
R812	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R813	VRD-RA2BE391J	V	390 1/8W Carbon	AA
R814	VRD-RA2BE473J	V	47k 1/8W Carbon	AA
R815	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R818	VRD-RA2BE472J	V	4.7k 1/8W Carbon	AA
R819	VRD-RA2EE151J	V	150 1/4W Carbon	AA
R820	VRS-CY1JF123J	V	12k 1/16W Metal Oxide	AA
R821	VRS-CY1JF123J	V	12k 1/16W Metal Oxide	AA
R825	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide	AA
R826	VRS-CY1JF182J	V	1.8k 1/16W Metal Oxide	AA
R827	VRD-RA2BE223J	V	22k 1/8W Carbon	AA
R828	VRS-CY1JF393J	V	39k 1/16W Metal Oxide	AA
R829	VRS-CY1JF123J	V	12k 1/16W Metal Oxide	AA
R830	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide	AA
R831	VRS-CY1JF392J	V	3.9k 1/16W Metal Oxide	AA
R832	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide	AA
R833	VRS-CY1JF182J	V	1.8k 1/16W Metal Oxide	AA
R834	VRD-RA2BE152J	V	1.5k 1/8W Carbon	AA
R835	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R836	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide	AA
R837	VRD-RA2BE103J	V	10k 1/8W Carbon	AA
R838	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
R839	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R840	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R842	VRS-CY1JF223J	V	22k 1/16W Metal Oxide	AA
R843	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R845	VRS-CY1JF105J	V	1M 1/16W Metal Oxide	AA
R847	VRS-CY1JF104J	V	100k 1/16W Metal Oxide	AA
R848	VRD-RA2BE271J	V	270 1/8W Carbon	AA
R849	VRS-CY1JF104J	V	100k 1/16W Metal Oxide	AA
R850	VRD-RA2BE271J	V	270 1/8W Carbon	AA
R852	VRS-CY1JF103J	V	10k 1/16W Metal Oxide (V80T/V91T)	AA
R853	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R854	VRS-CY1JF823J	V	82k 1/16W Metal Oxide	AA
R855	VRS-CY1JF393J	V	39k 1/16W Metal Oxide	AA
R856	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R857	VRS-CY1JF183J	V	18k 1/16W Metal Oxide	AA
R858	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R859	VRD-RA2BE103J	V	10k 1/8W Carbon (V80T/V91T)	AA
R860	VRD-RA2BE332J	V	3.3k 1/8W Carbon	AA
R862	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R864	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R865	VRD-RA2BE473J	V	47k 1/8W Carbon (V80T/V91T)	AA
R866	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R870	VRS-CY1JF561J	V	560 1/16W Metal Oxide	AA
R871	VRS-CY1JF331J	V	330 1/16W Metal Oxide	AA
R872	VRS-CY1JF331J	V	330 1/16W Metal Oxide	AA
R873	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R876	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
R877	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R879	VRD-RA2BE103J	V	10k 1/8W Carbon	AA
R881	VRD-RA2EE121J	V	120 1/4W Carbon	AA

Ref. No.	Part No.	★	Description	Code
R882	VRS-CY1JF181J	V	180 1/16W Metal Oxide	AA
R885	VRS-CY1JF391J	V	390 1/16W Metal Oxide	AA
R886	VRS-CY1JF391J	V	390 1/16W Metal Oxide	AA
R893	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R897	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
⚠ R901	VRD-RM2HD105J	V	1M 1/2W Carbon	AA
⚠ R902	RR-WZ0017GEZZ	J	2.2 2W	AD
⚠ R903	VRC-UA2HG685K	V	6.8M 1/2W Solid	AA
⚠ R904	VRC-UA2HG685K	V	6.8M 1/2W Solid	AA
⚠ R905	VRD-RM2HD224J	V	220k 1/2W Carbon	AA
⚠ R906	VRD-RM2HD224J	V	220k 1/2W Carbon	AA
⚠ R908	RR-SZ0019GEZZ	J	120k 3W Metal Oxide	AD
⚠ R909	VRS-VU3AE470J	V	47 1W Metal Oxide	AB
⚠ R910	RR-SZ0020GEZZ	J	68 3W Metal Oxide	AD
⚠ R911	VRD-RA2EE101J	V	100 1/4W Carbon	AA
⚠ R912	VRD-RA2EE821J	V	820 1/4W Carbon	AA
R921	VRS-CY1JF330J	V	33 1/16W Metal Oxide	AA
R922	VRS-CY1JF562J	V	5.6k 1/16W Metal Oxide	AA
R923	VRS-CY1JF271J	V	270 1/16W Metal Oxide	AA
R927	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
R928	VRS-CY1JF152J	V	1.5k 1/16W Metal Oxide	AA
R931	VRD-RA2BE103J	V	10k 1/8W Carbon	AA
R932	VRD-RA2BE103J	V	10k 1/8W Carbon	AA
R933	VRD-RA2BE391J	V	390 1/8W Carbon	AA
R934	VRN-RA2BK562F	V	5.6k 0.125W Metal Film	AA
R935	VRD-RA2BE101J	V	100 1/8W Carbon	AB
R936	VRS-CY1JF271J	V	270 1/16W Metal Oxide	AA
R937	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
R938	VRN-RA2BK562F	V	5.6k 86W Metal Film	AA
R940	VRD-RA2BE123J	V	12k 0.125W Carbon	AA
R941	VRS-CY1JF273J	V	27k 1/16W Metal Oxide	AA
R958	VRD-RM2HD182J	V	1.8k 1/2W Carbon	AA
R959	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R960	VRN-VV3DB1R0J	V	1 2W Metal Film	AB
R961	VRD-RM2HD182J	V	1.8k 1/2W Carbon	AA
R962	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R6101	VRS-CY1JF222J	V	2.2k 1/16W Metal Oxide (V91T)	AA
R6102	VRS-CY1JF273J	V	27k 1/16W Metal Oxide (V91T)	AA
R6103	VRS-CY1JF273J	V	27k 1/16W Metal Oxide (V91T)	AA
R6104	VRS-CY1JF222J	V	2.2k 1/16W Metal Oxide (V91T)	AA
R6105	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide (V91T)	AA
R6106	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide (V91T)	AA
R6107	VRS-CY1JF274J	V	270k 1/16W Metal Oxide (V91T)	AA
R6108	VRD-RA2BE563J	V	56k 1/8W Carbon (V91T)	AA
R6109	VRS-CY1JF683J	V	68k 1/16W Metal Oxide (V91T)	AA
R6110	VRS-CY1JF102J	V	1k 1/16W Metal Oxide (V91T)	AA
R6111	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (V91T)	AA
R6112	VRS-CY1JF223J	V	22k 1/16W Metal Oxide (V91T)	AA
R6114	VRS-CY1JF153J	V	15k 1/16W Metal Oxide (V91T)	AA
R6115	VRS-CY1JF103J	V	10k 1/16W Metal Oxide (V91T)	AA
R6116	VRS-CY1JF153J	V	15k 1/16W Metal Oxide (V91T)	AA
R6117	VRS-CY1JF563J	V	56k 1/16W Metal Oxide (V91T)	AA
R6118	VRS-CY1JF000J	V	0 1/16W Metal Oxide (V91T)	AA
R6119	VRS-CY1JF563J	V	56k 1/16W Metal Oxide (V91T)	AA
R6121	VRS-CY1JF273J	V	27k 1/16W Metal Oxide (V91T)	AA
R6122	VRS-CY1JF823J	V	82k 1/16W Metal Oxide (V91T)	AA
R6124	VRS-CY1JF333J	V	33k 1/16W Metal Oxide (V91T)	AA
R6125	VRS-CY1JF223J	V	22k 1/16W Metal Oxide (V91T)	AA
R6126	VRS-CY1JF333J	V	33k 1/16W Metal Oxide (V91T)	AA
R6127	VRS-CY1JF681J	V	680 1/16W Metal Oxide (V91T)	AA
R6128	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (V91T)	AA
R6129	VRS-CY1JF223J	V	22k 1/16W Metal Oxide (V91T)	AA
R6130	VRS-CY1JF563J	V	56k 1/16W Metal Oxide (V91T)	AA
R6131	VRS-CY1JF563J	V	56k 1/16W Metal Oxide (V91T)	AA
R6132	VRS-CY1JF182J	V	1.8k 1/16W Metal Oxide (V91T)	AA
R6134	VRS-CY1JF333J	V	33k 1/16W Metal Oxide (V91T)	AA
R6135	VRS-CY1JF223J	V	22k 1/16W Metal Oxide (V91T)	AA
R6136	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (V91T)	AA
R6137	VRD-RA2BE681J	V	680 1/8W Carbon (V91T)	AA
R6138	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (V91T)	AA
R6139	VRS-CY1JF000J	V	0 1/16W Metal Oxide (V91T)	AA
R6140	VRS-CY1JF000J	V	0 1/16W Metal Oxide (V91T)	AA
R6141	VRS-CY1JF563J	V	56k 1/16W Metal Oxide (V91T)	AA
R6142	VRS-CY1JF683J	V	68k 1/16W Metal Oxide (V91T)	AA
R6143	VRS-CY1JF563J	V	56k 1/16W Metal Oxide (V91T)	AA
R6144	VRS-CY1JF683J	V	68k 1/16W Metal Oxide (V91T)	AA
R6145	VRS-CY1JF105J	V	1M 1/16W Metal Oxide (V91T)	AA
R6146	VRS-CY1JF223J	V	22k 1/16W Metal Oxide (V91T)	AA
R6147	VRS-CY1JF105J	V	1M 1/16W Metal Oxide (V91T)	AA
R6148	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide (V91T)	AA
R6152	VRS-CY1JF223J	V	22k 1/16W Metal Oxide (V91T)	AA
R6153	VRS-CY1JF223J	V	22k 1/16W Metal Oxide (V91T)	AA
R6154	VRS-CY1JF821J	V	820 1/16W Metal Oxide (V91T)	AA
R6155	VRS-CY1JF332J	V	3.3k 1/16W Metal Oxide (V91T)	AA
R6156	VRS-CY1JF333J	V	33k 1/16W Metal Oxide (V91T)	AA
R6157	VRS-CY1JF681J	V	680 1/16W Metal Oxide (V91T)	AA
R6158	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (V91T)	AA
R6162	VRS-CY1JF105J	V	1M 1/16W Metal Oxide (V91T)	AA
R6163	VRS-CY1JF471J	V	470 1/16W Metal Oxide (V91T)	AA
R6164	VRS-CY1JF105J	V	1M 1/16W Metal Oxide (V91T)	AA
R6165	VRS-CY1JF681J	V	680 1/16W Metal Oxide (V91T)	AA
R6166	VRS-CY1JF102J	V	1k 1/16W Metal Oxide (V91T)	AA
R6167	VRS-CY1JF122J	V	1.2k 1/16W Metal Oxide (V91T)	AA
R6168	VRS-CY1JF683J	V	68k 1/16W Metal Oxide (V91T)	AA
R6169	VRS-CY1JF273J	V	27k 1/16W Metal Oxide (V91T)	AA
R6170	VRD-RA2BE102J	V	1k 1/8W Carbon(V91T)	AA

Ref. No.	Part No.	★	Description	Code
R6172	VRS-CY1JF564J	V	560k 1/16W Metal Oxide (V91T)	AA
R6175	VRS-CY1JF000J	V	0 1/16W Metal Oxide (V91T)	AA
R6176	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide (V91T)	AA
R6177	VRS-CY1JF563J	V	56k 1/16W Metal Oxide (V91T)	AA
R6178	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide (V91T)	AA
R6179	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide (V91T)	AA
R6180	VRS-CY1JF152J	V	1.5k 1/16W Metal Oxide (V91T)	AA
R6181	VRS-CY1JF684J	V	680k 1/16W Metal Oxide (V91T)	AA
R6182	VRS-CY1JF563J	V	56k 1/16W Metal Oxide (V91T)	AA
R6184	VRS-CY1JF153J	V	15k 1/16W Metal Oxide (V91T)	AA
R6185	VRS-CY1JF681J	V	680 1/16W Metal Oxide (V91T)	AA
R6186	VRS-CY1JF152J	V	1.5k 1/16W Metal Oxide (V91T)	AA
R6189	VRS-CY1JF153J	V	15k 1/16W Metal Oxide (V91T)	AA
R6190	VRS-CY1JF563J	V	56k 1/16W Metal Oxide (V91T)	AA
R6319	VRS-CY1JF123J	V	12k 1/16W Metal Oxide (V80T/V91T)	AA
R6329	VRS-CY1JF000J	V	0 1/16W Metal Oxide (V80T/V91T)	AA

BALUNES

FB201	RBLN-0043CEZZ	V	Balun, BLN-0043CE	AB
FB202	RBLN-0043CEZZ	V	Balun, BLN-0043CE	AB
FB203	RBLN-0043CEZZ	V	Balun, BLN-0043CE	AB
FB204	RBLN-0043CEZZ	V	Balun, BLN-0043CE	AB
FB702	RBLN-0091GEZZ∗	J	Balun, BLN-0091GE∗	AB
FB801	RBLN-0043CEZZ	V	Balun, BLN-0043CE	AB
FB802	RBLN-0043CEZZ	V	Balun, BLN-0043CE	AB
FB901	RBLN-0043CEZZ	V	Balun, BLN-0043CE	AB
FB902	RBLN-0043CEZZ	V	Balun, BLN-0043CE	AB
FB903	RBLN-0043CEZZ	V	Balun, BLN-0043CE	AB

SWITCHES

S201	QSW-S0274GEZZ	J	Switch	AE
S801	QSW-K0086GEZZ	J	Switch, Operate	AC
S802	QSW-K0086GEZZ	J	Switch, Stop/Eject	AC
S803	QSW-K0086GEZZ	J	Switch, Play	AC
S804	QSW-K0086GEZZ	J	Switch, FF	AC
S805	QSW-K0086GEZZ	J	Switch, Rew	AC
S806	QSW-K0086GEZZ	J	Switch, Pause/Still	AC
S807	QSW-K0086GEZZ	J	Switch, Rec	AC
S808	QSW-K0086GEZZ	J	Switch, S.S. Picture	AC
S811	QSW-S0277GEZZ	J	Switch, PAL Auto/PAL/ MESECAM/NTSC	AF

MISCELLANEOUS PARTS

⚠ FH901	QFSHD1013CEZZ	V	Fuse Holder	AC
⚠ FH902	QFSHD1014CEZZ	V	Fuse Holder	AC
⚠ F901	QFS-C2025CEZZ	V	Fuse, T2AL 250V	AD
J203	QJAKH0005AJZZ	V	Jack(V50S)	AL
J203	QJAKL0004AJZZ	V	Jack(V80T/V91T)	AM
J6101	QJAKE0231GEZZ	J	Jack, Mic1(V91T)	AG
J6102	QJAKE0231GEZZ	J	Jack, Mic2(V91T)	AG
⚠ PDA901	PRDAF5023AJFW	V	Heat Sink, Q901	AD
P201	QPLGN0447REZZ	V	Plug, 4 Pin	AA
P702	QPLGN0247REZZ	V	Plug, 2 Pin	AA
P802	QPLGZ0883GEZZ	J	Plug, 8 Pin	AD
P803	QPLGN0759REZZ	V	Plug, 7 Pin(V50S)	AC
P803	QPLGN0959REZZ	V	Plug, 9 Pin(V80T/V91T)	AC
⚠ P901	QPLGN0269GEZZ	J	Plug, 3 Pin	AB
RMC801	RRMCU0062GEZZ	J	Remote Receiver	AG
SC301	QSOCN0464REZZ	V	Socket, 4 Pin(V50S)	AC
SC301	QSOCN0911REN1	V	Socket, 9 Pin(V80T/V91T)	AD
SC601	QSOCN0604REN1	V	Socket, 6 Pin	AB
SC602	QSOCZ0293GEZZ	J	Socket, 2 Pin	AC
SC701	QSOCN0704REN1	V	Socket, 7 Pin	AB
SC702	QSOCZ0292GEZZ	J	Socket, 2 Pin	AC
SC6101	QSOCN0595REZZ	V	Socket, 5 Pin(V91T)	AB
W803	LHLDZ1962AJ00	V	Holder	AD
W804	LHLDZ1962AJ00	V	Holder	AD

DUNTK5791TEV1(VC-V50S) DUNTK5791TEV3(VC-V80T/V91T) OPERATION UNIT

LED'S

D8101	RH-PX0008AJZZ	V	LED	AC
D8102	RH-PX0008AJZZ	V	LED	AC
D8103	RH-PX0008AJZZ	V	LED	AC
D8104	RH-PX0008AJZZ	V	LED	AC
D8105	RH-PX0008AJZZ	V	LED	AC
D8106	RH-PX0008AJZZ	V	LED	AC
D8107	RH-PX0008AJZZ	V	LED	AC
D8108	RH-PX0008AJZZ	V	LED	AC
D8111	RH-PX0009AJZZ	V	LED	AC
D8112	RH-PX0009AJZZ	V	LED	AC

RESISTORS

R8101	VRS-CY1JF391J	V	390 1/16W Metal Oxide	AA
R8102	VRS-CY1JF391J	V	390 1/16W Metal Oxide	AA
R8103	VRS-CY1JF391J	V	390 1/16W Metal Oxide	AA
R8104	VRS-CY1JF391J	V	390 1/16W Metal Oxide	AA
R8105	VRS-CY1JF391J	V	390 1/16W Metal Oxide	AA
R8106	VRS-CY1JF391J	V	390 1/16W Metal Oxide	AA
R8107	VRS-CY1JF391J	V	390 1/16W Metal Oxide	AA
R8108	VRS-CY1JF391J	V	390 1/16W Metal Oxide	AA
R8111	VRS-CY1JF391J	V	390 1/16W Metal Oxide	AA
R8112	VRS-CY1JF391J	V	390 1/16W Metal Oxide	AA

MISCELLANEOUS PARTS

SC8101	QSOCN0798REZZ	V	Socket, 7 Pin(V50S)	AF
SC8101	QSOCN0998REZZ	V	Socket, 9 Pin(V80T/V91T)	AD

DUNTK5792TEV1(VC-V91T) LED UNIT

VARIABLE RESISTORS

R6701	RVR-B4372GEZZ	J	Variable Resistor	AD
R6702	RVR-B4372GEZZ	J	Variable Resistor	AD

MISCELLANEOUS PART

SC6701	QSOCN0596REZZ	V	Socket, 5 Pin	AB

MECHANISM CHASSIS PARTS

Ref. No.	Part No.	★	Description	Code
1	LBNDK1011AJZZ	V	Tension Band Ass'y	AH
2	LBOSZ1007AJZZ	V	Tension Arm boss	AD
4	LBOSZ1006AJZZ	V	Cassette Stay L	AD
5	LCHSM0174AJZZ	V	Main Chassis Ass'y	AV
6	LHLDZ2016AJZZ	V	Loading Motor Block	AG
7	LPOLM0070GEZZ	J	Supply Pole Base Ass'y	AK
8	LPOLM0064GEZZ	J	Take-up Pole Base Ass'y	AM
9	MLEVF0518AJZZ	V	Take-up Loading Arm Ass'y	AF
10	MLEVF0519AJZZ	V	Supply Loading Arm Ass'y	AF
11	MLEVF0499AJZZ	V	Pinch Drive Lever Ass'y	AG
12	MLEVF0500GEZZ	J	Pinch Roller Lever Ass'y	AW
15	MLEVF0523AJZZ	V	Tension Arm Ass'y	AH
16	LANGF9620AJFW	V	A/C Head Plate	AG
17	MLEVP0271AJZZ	V	Shifter Drive Lever	AE
18	MLEVP0272AJZZ	V	Pinch Double Action Lever	AD
19	MLEVP0301AJZZ	V	Reverse Guide Lever Ass'y	AL
20	MLEVP0275AJZZ	V	Reverse Drive Lever	AD
21	MLEVP0292AJZZ	V	Slow Brake Lever	AE
22	MLEVP0336AJZZ	V	Open Lever	AD
23	MLEVP0293AJZZ	V	Clutch Lever	AE
24	MLEVP0324AJZZ	V	Supply Main Brake Ass'y	AF
25	MLEVP0325AJZZ	V	Take-up Main Brake Ass'y	AF
27	MSLiP0010AJZZ	V	Shifter	AH
29	MSPRD0175AJFJ	V	Reverse Guide Spring 2	AE
30	MSPRT0402AJFJ	V	Loading Double Action Spring	AE
31	MSPRT0403AJFJ	V	Pinch Double Action Spring	AD
32	MSPRC0213AJFJ	V	Earth Spring	AC
33	MSPRT0416AJFJ	V	Tension Spring	AD
34	NBLTK0067AJ00	V	Reel Belt	AE
35	NDAiV1078AJ00	V	Reel Disk	AE
36	NGERH1293AJZZ	V	Loading Connect Gear	AD
37	NGERH1295AJ00	V	Master Cam	AE
38	NGERH1294AJZZ	V	Casecon Drive Gear	AD
39	NGERH1270AJZZ	V	Take-up Loading Gear	AF
40	NGERH1271AJZZ	V	Supply Loading Gear	AD
41	NGERH1272AJZZ	V	Pinch Drive Cam	AE
43	NGERH1299AJZZ	V	Reel Relay Gear	AE
44	NGERW1070AJZZ	V	Worm Gear	AD
45	NGERW1066AJZZ	V	Worm Wheel Gear	AD
46	NiDR-0018AJZZ	V	Idler Wheel Ass'y	AK
47	NPLYV0162AJZZ	V	Motor Pully	AD
48	NPLYV0163AJZZ	V	Limiter Pulley Ass'y	AM
49	NROLP0131GEZZ	J	Guide Roller	AL
50	NSFTP0032AJZZ	V	Tension Pole Adjuster	AB
51	MSPRC0217AJFJ	V	Guide Roller Spring	AC
52	PREFL1011AJZZ	V	Light Guide	AE
53	QCNW-8022AJZZ	V	FFC for Drum Motor	AD
55	QCNW-8021AJZZ	V	FFC for A/C Head	AD
56	QPWBF5243AJZZ	V	A/C Head PWB	AE
57	QSOCN0696REZZ	V	Socket, 6 pin	AB
58	RHEDT0036AJZZ	V	Full Erase Head	AM
59	RHEDU0088GEZZ	J	A/C Head Ass'y	AV
60	RMOTM1078GEZZ	J	Loading Motor	AP
61	RMOTN2055GEZZ	J	Capstan D.D. Motor	BA
62	RMOTP1139GEZZ	J	Drum Drive Motor	AT
63	DDRMW0028TEX1	V	Upper and lower drum Ass'y(V50S)	BP
63	DDRMW0030TEX4	V	Upper and lower drum Ass'y(V80T/V91T)	BU
65	QBRSK0041GEZZ	J	Drum Earth Brush	AD
66	XBPSD26P05J00	V	Drum Drive Motor Mounting Screw (SW2.6P+5S)	AA
67	PGiDC0056GEFW	J	Drum Base	AL
68	QPWBF5468AJZZ	V	PWB(LDG Motor)	AE
69	QPLGZ0292GEZZ	J	Socket(LDG Motor)	AE
70	MSPRC0223AJFJ	V	Azimuth Spring	AC
71	MSPRC0224AJFJ	V	Height Adjusting spring	AC

SCREW, NUTS AND WASHERS

Ref. No.	Part No.	★	Description	Code
201	XBPSD26P08000	V	Screw 2.6P+8S A/C Head	AA
202	LX-HZ3082GEZZ	J	WSW2.6+6(AC)	AD
203	XHPSD26P06000	V	Screw, 2.6P+6S (For Capstan Motor)	AA
207	XHPSD30P08WS0	V	Screw, C3.0P+8S (For Drum Base)	AA
208	XRESJ30-06000	V	E-Ring, E-3	AA
209	XWHJZ31-03052	V	Washer, W3.1-5.2-0.3	AC
210	XWHJZ31-04052	V	Washer, W3.1-5.2-0.4	AC
211	XWHJZ31-05052	V	Washer, W3.1-5.2-0.5	AC
212	XWHJZ31-06052	V	Washer, W3.1-5.2-0.6	AC
213	XWHJZ31-07052	V	Washer, W3.1-5.2-0.7	AC
214	PSPAP0009AJZZ	V	Reverse Guide Adjusting Nut	AB
216	LX-WZ1041GE00	J	CW 2.6-6-0.5 CAM	AA
218	XBPSD30P08J00	V	Drum Base Mounting Screw(SW 3P+8S)	AA
219	LX-WZ1098GE00	J	CW 2.6-4.7-0.5 RED	AB
220	LX-BZ3096GEFD	J	Tilt Adjusting Screw	AA
221	XBPSD26P06000	V	Azimuth Adjusting Screw 2.6+6S	AA
222	LX-BZ3197GEFD	J	Screw(A/C Head)	AD
223	XWHJZ31-08052	V	Washer, W3.1-5.2-0.8	AC

CASSETTE HOUSING CONTROL PARTS

Ref. No.	Part No.	★	Description	Code
300	CHLDX3081TEV2	V	Cassette Housing Control Ass'y	AX
301	LANGF9592AJFW	V	Upper Plate	AL
302	LHLDX1028AJ00	V	Frame (L)	AH
303	LHLDX1032AJ00	V	Frame (R)	AH
304	LHLDX1030AJZZ	V	Holder (L)	AE
305	LHLDX1031AJZZ	V	Holder (R)	AE
306	MLEVF0469AJFW	V	Proof Lever (R)	AE
307	MLEVP0281AJ00	V	Door Open Lever	AD
308	MSLiF0076AJFW	V	Slider	AK
309	MSPRD0151AJFJ	V	Proof Lever (R) Spring	AB
310	MSPRD0166AJFJ	V	Drive Gear (R) Spring	AE
311	MSPRP0175AJFJ	V	Cassette Spring	AE
312	MSPRT0381AJFJ	V	Double Action Spring	AC
313	NGERH1278AJZZ	V	Drive Gear L	AE
314	NGERH1309AJZZ	V	Drive Gear R	AE
315	NGERR1008AJ00	V	Double Action Rack Gear	AE
316	NGERR3005AJFW	V	Drive Angle Gear	AG
317	NSFTD0041AJFD	V	Main Shaft	AH

CABINET PARTS

Ref. No.	Part No.	★	Description	Code
600	GCABA1090AJSB	V	Top Cabinet	AM
601	GCABB1220AJSB	V	Main Frame	AN
602	GCOVA2052AJZZ	V	Antenna Terminal Cover (V80T/V91T)	AG
602	GCOVA2050AJZZ	V	Antenna Terminal Cover (V50S)	AH
603	LANGQ9067AJFW	V	Earth (Pow. Side)	AD
604	LANGQ9068AJFW	V	Earth (Conv. Side)	AD
605	XHPSD30P06WS0	V	Screw	AA
606	PSLDM4519AJFW	V	Head Amp. Shield	AD
607	XEPSD30P14XS0	V	Screw	AB
608	XEBSD30P12000	V	Screw	AA
609	XHPSD26P06WS0	V	Screw	AA
610	LX-HZ3087GEFN	J	Screw	AB
611	PSLDM4566AJFW	V	Shield Plate	AD
613	TLABM4310AJZZ	V	Model Label(V50S)	AC
613	TLABM4312AJZZ	V	Model Label(V80T)	AC
613	TLABM4313AJZZ	V	Model Label(V91T)	AC
614	PSLDM4536AJFW	V	Shield	AK
615	XJPSD30P10WS0	V	Screw	AA
616	PGUMS0026AJZZ	V	Foot Felt	AB

Ref. No.	Part No.	★	Description	Code
617	LHLDP1170AJZZ	V	LED Holder (A)	AD
618	LHLDP1194AJZZ	V	LED Holder (B)	AE
619	JKNBK1104AJSB	V	Volume Knob(Karaoke Model Only)(V91T)	AE
620	LHLDZ2004AJZZ	V	PWB Holder(Karaoke Model Only)(V91T)	AD

FRONT PANEL PARTS

500	CPNLC2674TEV3	V	Front Panel Ass'y(V50S)	AW
500	CPNLC2664TEV2	V	Front Panel Ass'y(V80T)	AX
500	CPNLC2662TEV2	V	Front Panel Ass'y(V91T)	AX
501	GCOVA2056AJZZ	V	LED Cover	AD
500-1	————	-	Front Panel (Not Replacement Item)	—
502	HBDGB1008AJSA	V	SHARP Badge	AE
506	HiNDP2111AJSA	V	Indication Plate (V80T/V91T)	AG
506	HiNDP2109AJSB	V	Indication Plate(V50S)	AG
511	MSPRD0103AJFJ	V	Cassette Spring	AB
513	HDECQ2107AJSB	V	Window Decoration(V50S)	AK
513	HDECQ2109AJSA	V	Window Decoration(V80T)	AK
513	HDECQ2109AJSB	V	Window Decoration(V91T)	AK
514	HDECQ2114AJSB	V	Cassette Flap(V50S)	AM
514	HDECQ2112AJSA	V	Cassette Flap(V80T)	AK
514	HDECQ2111AJSA	V	Cassette Flap(V91T)	AK
515	JBTN-2999AJSA	V	FF/REW Button(V50S)	AE
515	JBTN-2999AJSB	V	FF/REW Button (V80T/V91T)	AE
516	PSPAZ0544AJZZ	V	Volume Knob Spacer (Karaoke Model Only)(V91T)	AD
517	JKNBP1092AJSB	V	Slide Knob	AE
518	PGiDM0184AJSB	V	Slide Guide	AD
519	HDECP0244AJSA	V	Foot Decoration (V80T/V91T)	AC

SUPPLIED ACCESSORIES

ACCESSORIES

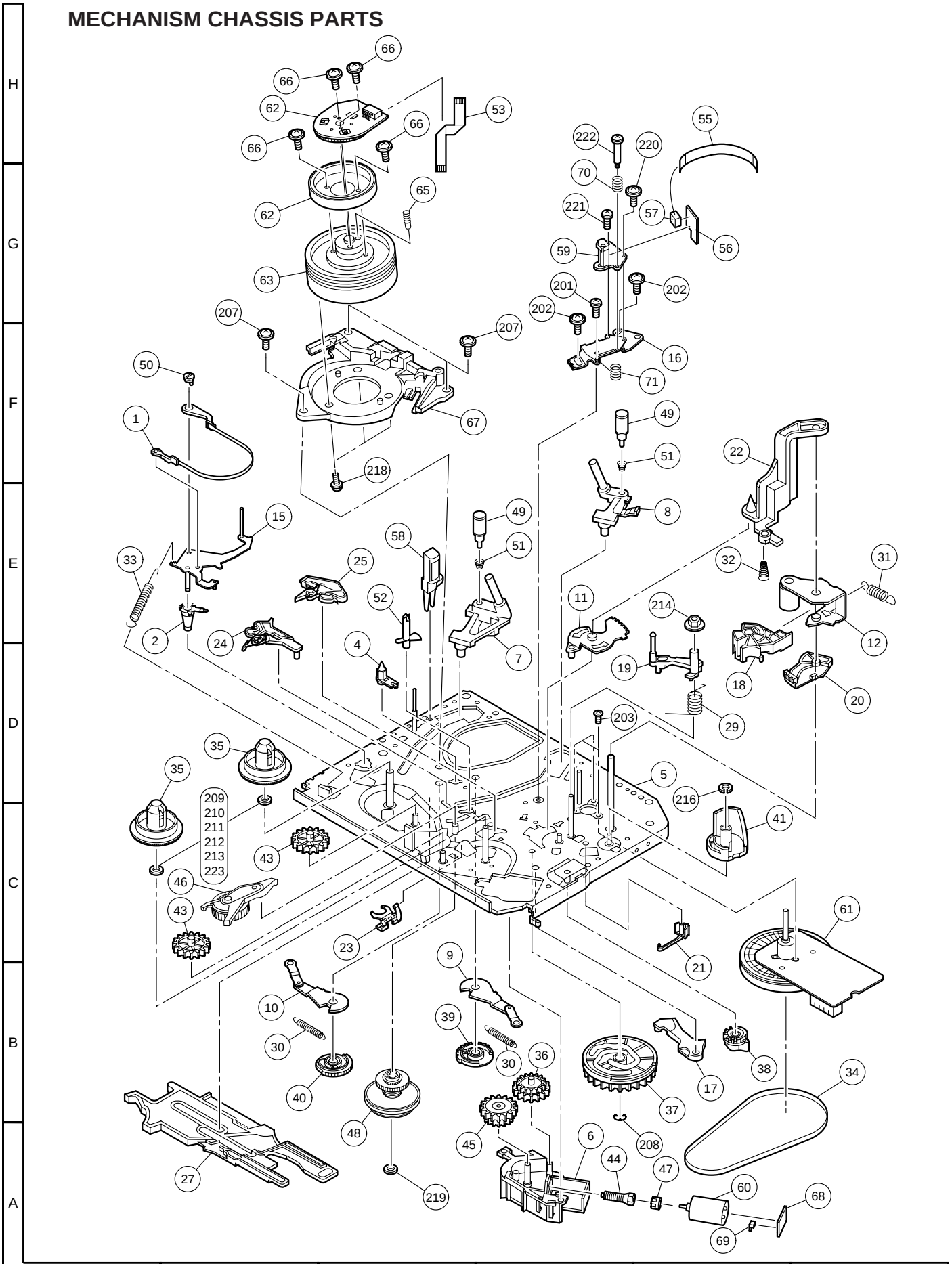
	QACCV2009AJZZ	V	AC Cord	AM
	QCNW-8379AJZZ	V	75 ohm Coaxial Cable	AF
	TiNS-3819AJZZ	V	Operation Manual(V50S)	AE
	TiNS-3820AJZZ	V	Operation Manual (English etc.)(V80T)	AE
	TiNS-3821AJZZ	V	Operation Manual(V91T)	AE
	RRMCG1218AJSA	V	Infrared Remote Control Unit(V80T/V91T)	AQ
	RRMCG1216AJSA	V	Infrared Remote Control Unit(V50S)	AQ
	RMiCD0014GEZZ	J	Microphone(V91T)	AX

PACKING PARTS
(NOT REPLACEMENT ITEM)

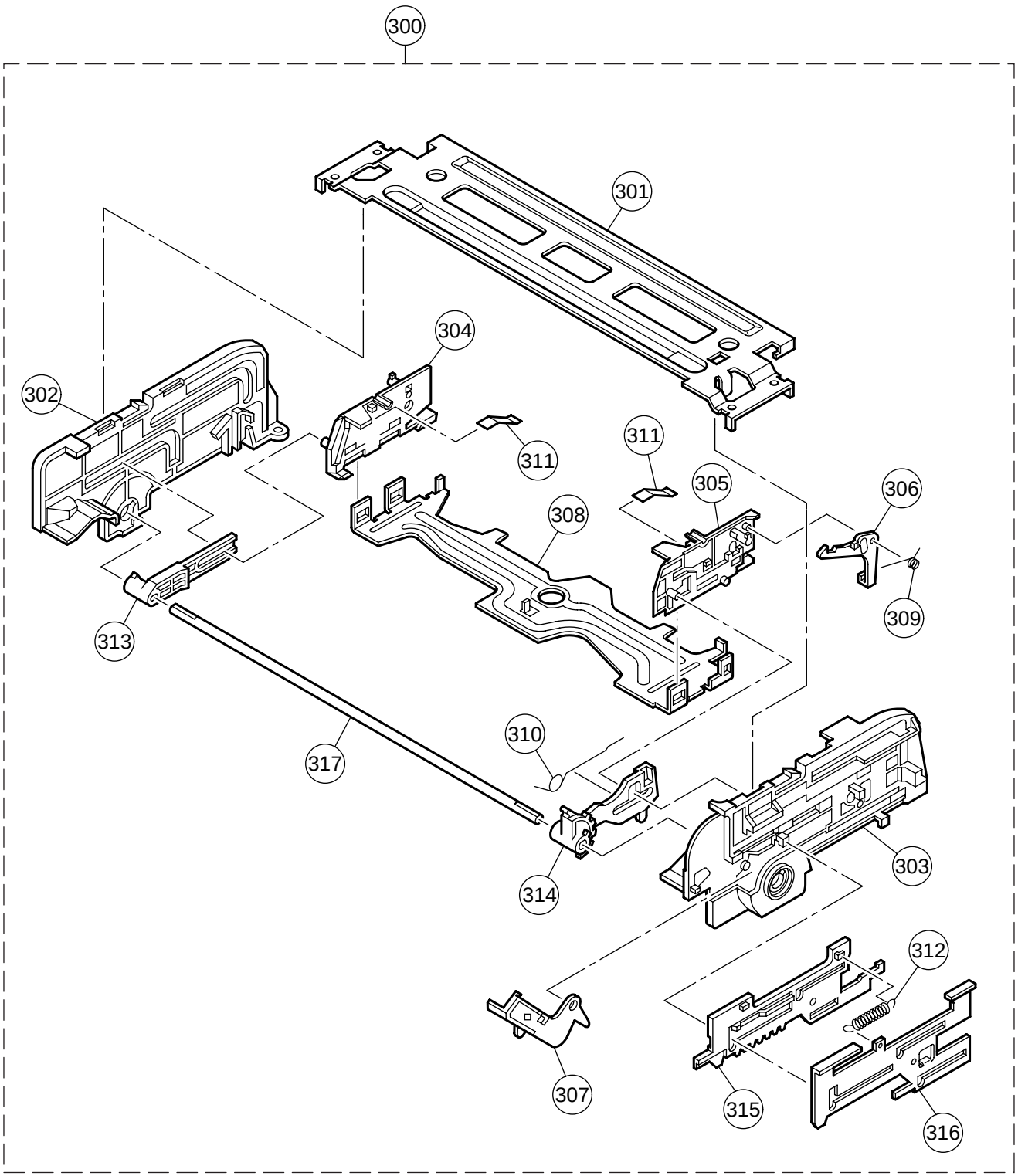
	SPAKC4384AJZZ	-	Packing Case(V50S)	—
	SPAKC4385AJZZ	-	Packing Case(V80T)	—
	SPAKC4387AJZZ	-	Packing Case(V91T)	—
	SPAKX1061AJZZ	-	Packing Add.(V91T)	—
	SPAKX1062AJZZ	-	Packing Add. (V50S/V80T)	—
	SSAKA0001AJZZ	-	Polyethylene Bag	—

11. EXPLODED VIEW OF MECHANICAL PARTS

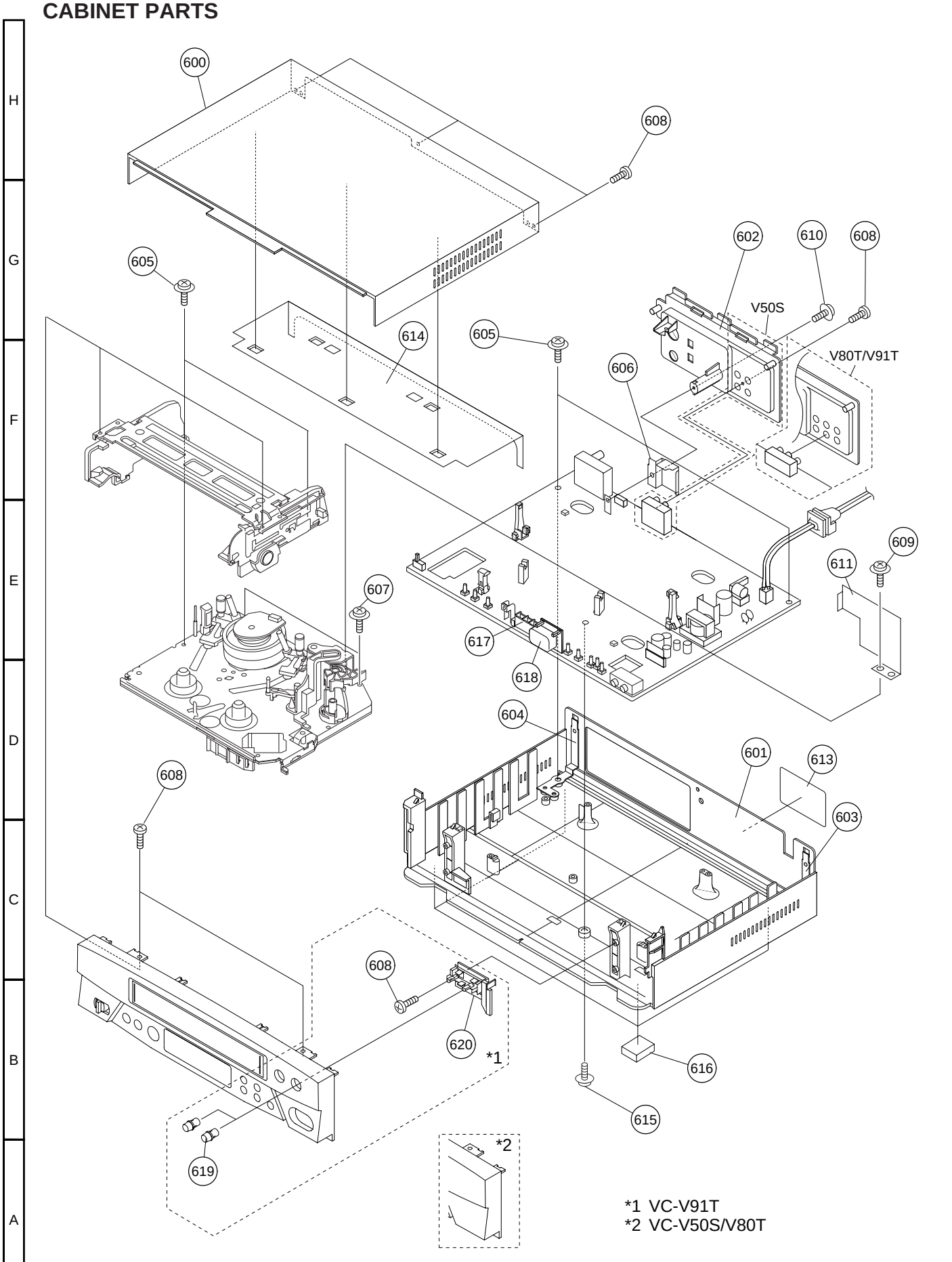
MECHANISM CHASSIS PARTS



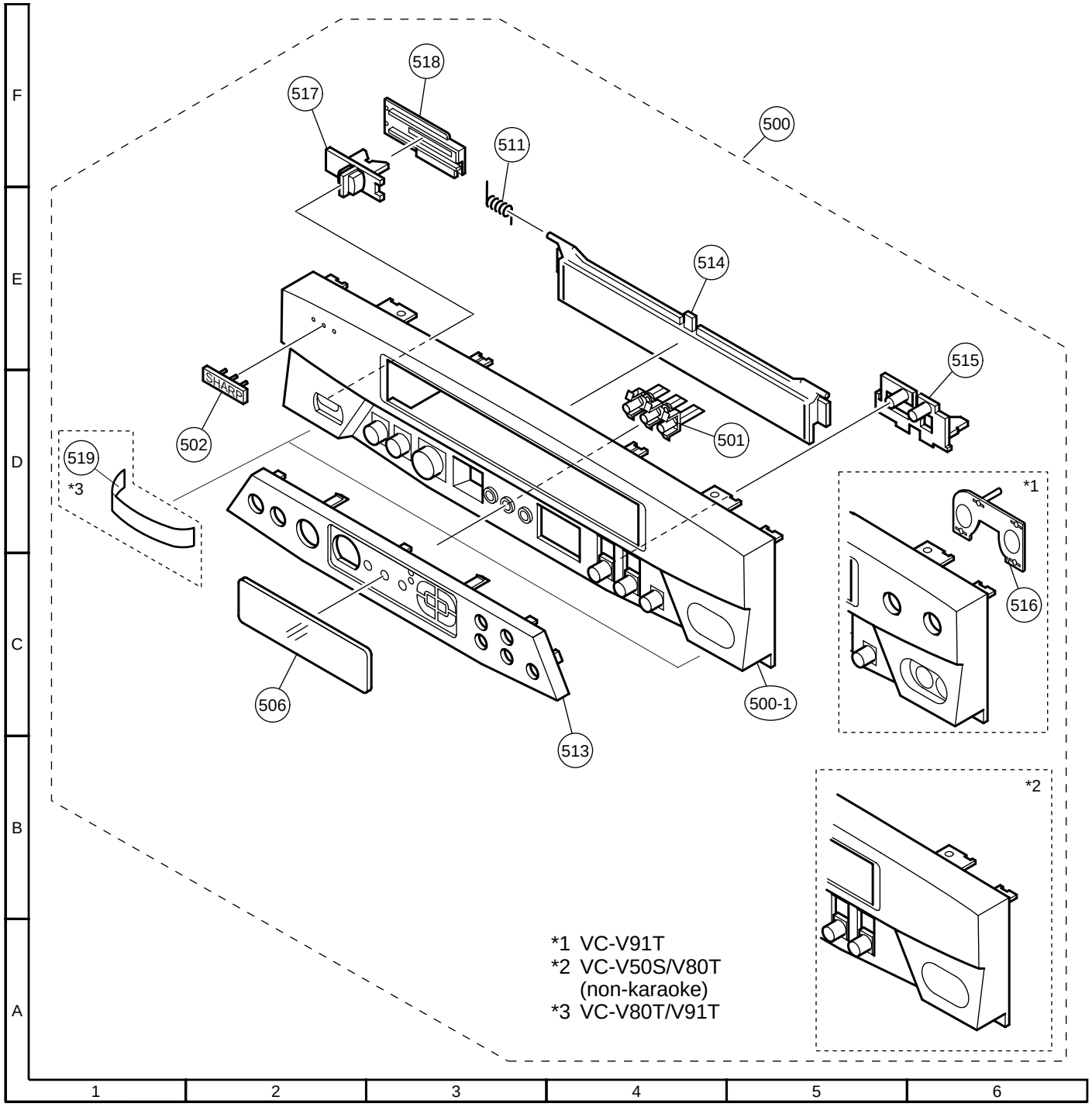
CASSETTE HOUSING CONTROL PARTS



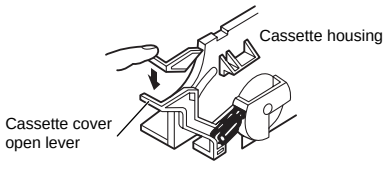
CABINET PARTS



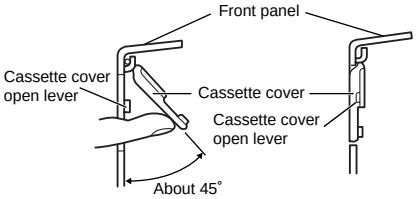
FRONT PANEL PARTS



PRECAUTION ON FRONT PANEL SET-UP

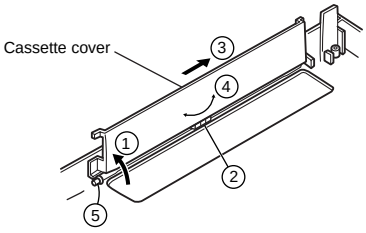


Before attaching the front panel in position, make sure that the cassette cover open lever is in its right place (lower-most). If it is out of position, push it down with a finger.



Keep the cassette over about 45° open and make sure that the cassette cover open lever is between the front panel and the cassette cover. Now fix the front panel in place.

Do not mount the front panel with the cassette cover tilted too open. Otherwise the cassette cover might wrongly run on the cassette housing.



Removing the cassette compartment cover.
① Open the cassette compartment cover fully.
② Remove the center positioner.
③ Slide the cover to the right.
④ Slightly bend the cover.
⑤ Draw out the left-side rod.

12. PACKING OF THE SET

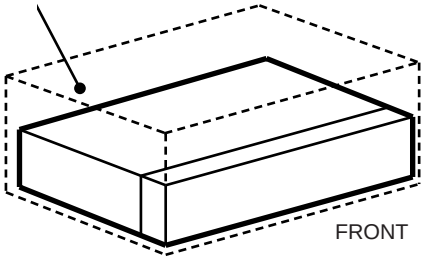
Accessories

TiNS-3819AJZZ	Operation Manual(V5
TiNS-3820AJZZ	Operation Manual(V8
TiNS-3821AJZZ	Operation Manual(V9
RMiCD0014GEZZ	Microphone(V91T)
QCNW-8379AJZZ	75 ohm Coaxial Cabl
★	Battery

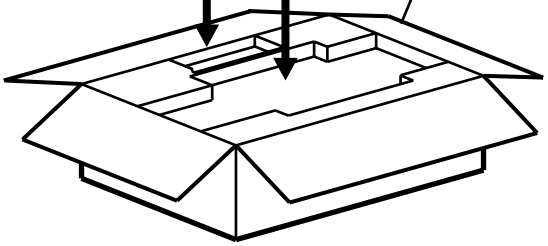
★ SSAKA0001AJZZ
Polyethylene Bag

RRMCG1216AJSA(V50S)
RRMCG1218AJSA(V80T/V91T)
Infrared Remote Control Unit

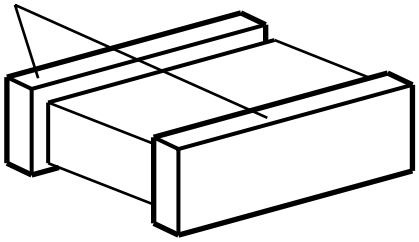
★ SPAKP0114AJZZ
Polystyrene Sack

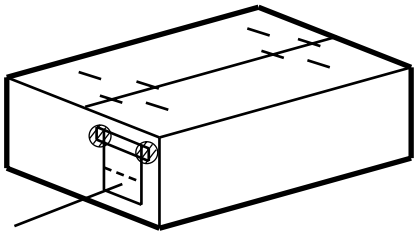


★ SPAKC4384AJZZ(V50S)
★ SPAKC4385AJZZ(V80T)
★ SPAKC4387AJZZ(V91T)
Packing Case



★ SPAKX1061AJZZ(karaoke)(V91T)
★ SPAKX1062AJZZ(non-karaoke)(V50S/V80T)
Packing Add.





★ TLABK0013AJZZ
No. Card

★ Not Replacement Items

SHARP

ⒹSEM ⓅSMM TQ1007-S
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SA. DS

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