

3312

SHARP

OUTSTANDING RECEPTION THE WORLD OVER

SERVICE MANUAL

GF-9696
GF-9696C

ATSMY80205RCS

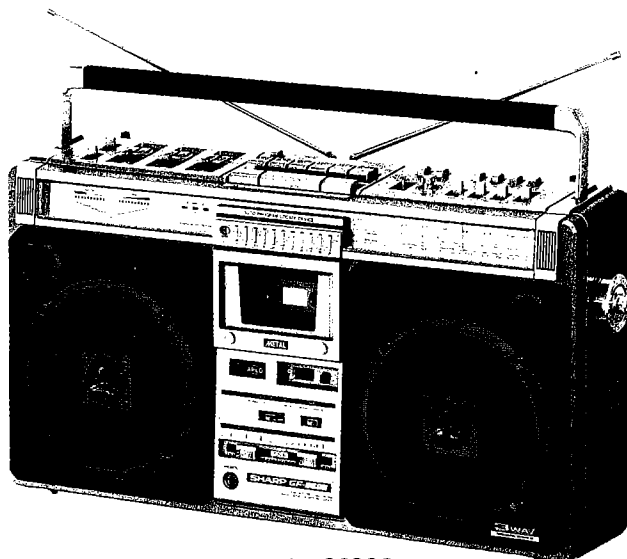


PHOTO : GF-9696C



MODEL
GF-9696
GF-9696C

INDEX TO CONTENTS

1. SPECIFICATIONS	2
2. NAMES OF PARTS	3
3. DISASSEMBLY	4~6
4. SPEAKER NET DETACHMENT AND ATTACHMENT	6
5. VOLTAGE SELECTION	6
6. DIAL CORD STRINGING	6
7. BEHAVIORS OF APLD (AUTO PROGRAM LOCATE DEVICE)	7~9
8. BEHAVIORS OF SNRS (SUPER NOISE REDUCTION SYSTEM)	10~12
9. MECHANICAL ADJUSTMENT	13~14
10. ELECTRICAL MEASUREMENT	15~18
11. GENERAL ALIGNMENT INSTRUCTION	19
12. AM ALIGNMENT CHART	19~20
13. FM ALIGNMENT CHART	21~24
14. SCHEMATIC DIAGRAM	25~27
15. BLOCK DIAGRAM	28
16. WIRING SIDE OF P.W. BOARD	29~34
17. MECHANISM EXPLODED TOP VIEW	35
18. MECHANISM EXPLODED BOTTOM VIEW	36
19. CABINET EXPLODED VIEW (FRONT CABINET)	37~38
20. CABINET EXPLODED VIEW (BACK CABINET)	39~40
21. EQUIVALENT CIRCUIT OF IC	41~43
22. TERMINAL GUIDE OF TRANSISTOR, THYRISTOR AND LED	44
23. REPLACEMENT PARTS LIST	45~54

SHARP CORPORATION
SHARP ELECTRONICS CORPORATION

SPECIFICATIONS

GENERAL

Type: Portable stereophonic cassette tape recorder with built-in AM/SW₁/SW₂/FM 4-band radio

Power source: AC 110/220/240V, 50/60Hz (GF-9696)
AC 120V, 50/60Hz (GF-9696C)
DC 15V (Ten "D" size cells (UM/SUM-1) or External DC supply)

Power consumption: 58W (GF-9696)
40W (GF-9696C)

Speaker: 18cm (7") Woofer x 2 (8 ohms)
5cm (2") Squawker x 2 (8 ohms)
Horn type tweeter x 2

Power output: 7.5 watts per channel, minimum RMS, at 8 ohms, from 100Hz to 20kHz no more than 10% total harmonic distortion } (GF-9696)
MPO 40W (20W+20W) } (GF-9696C)
(AC operation, max.)

Semiconductors: 5-IC (Integrated Circuit), }
7-Aux IC, 20-transistor, } (GF-9696)
25-Aux transistor, 35-diode, }
24-LED and 1-SCR }
12-IC (Integrated Circuit), } (GF-9696C)
45-transistor, 35-diode, }
24-LED and 1-SCR }

Dimensions: 556mm(W) x 143mm(D) x 310mm(H)
[21-7/8"(W)x5-5/8"(D)x12-3/16"(H)]

Weight: 8.9Kg (19.6 lbs) (without batteries)

Input terminals: 1. EXT. MIC. 600 ohms (J101-A, J101-B)
2. Mixing mic. 600 ohms (J401)
3. Remote control (J101-G)
4. EXT. DC power (J901)
5. AC input power (SO901)
6. REC/PB DIN socket, 2.5 mV/10K ohms (SO101)
7. FM EXT. antenna (TB1)
8. PHONO (J101-H, J101-I)

Output terminals:

1. EXT. speaker, 8 ohms (J101-E, J101-F)
2. PHONES, 8~25 ohms (J603)
3. REC/PB DIN socket, 0.7V/50K ohms (SO101)
4. Line out, 0.7V/50K ohms (J101-C, J101-D)

TAPE RECORDER SECTION

Type: 4-track stereo cassette tape recorder

Tape: Philips-type compact cassette tape

Tape speed: 4.8cm/sec.

Recording system: AC bias

Erasing system: AC erasing

Fast forward or rewind time: 120 sec. (with C-60 tape)

Frequency response: 30 ~ 17,000Hz (Metal)
30 ~ 15,000Hz (CrO₂)
30 ~ 14,000Hz (normal)

Wow and flutter: 0.06% (WRMS)

S/N ratio: 56 dB (metal tape, SNRS; ON)

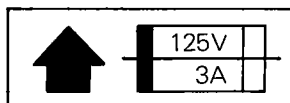
RADIO SECTION

Frequency range: AM 525 ~ 1,605 kHz
SW₁ 2.3 ~ 7.3 MHz
SW₂ 7.3 ~ 22 MHz
FM 87.6 ~ 108 MHz
AM/SW₁/SW₂ 455 kHz
FM 10.7 MHz

Intermediate frequency: 4-band superheterodyne system

Circuit system: AM/SW₁ ferrite core bar antenna
SW₁/SW₂/FM telescopic antenna
FM EXT. antenna

GF-9696C Only



Quick break fuse
fusible instantane

CAUTION:

For continued protection against fire hazard, replace only with same type, 3 ampere, 125 volt fuse.

ATTENTION:

Afin d'assurer une protection permanente contre les risques d'incendie, remplacer uniquement par un fusible de même type, 3 ampères, 125 volts.

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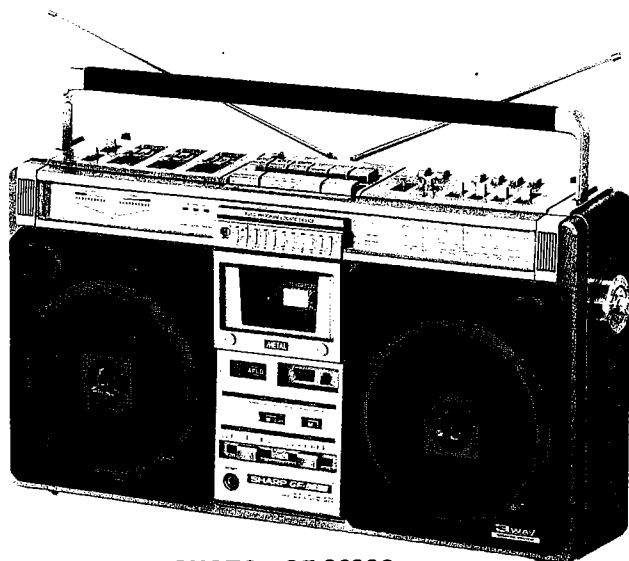


PHOTO : GF-9696C



MODEL
GF-9696
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SHARP CORPORATION
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NAMES OF PARTS (PHOTO : GF-9696C)

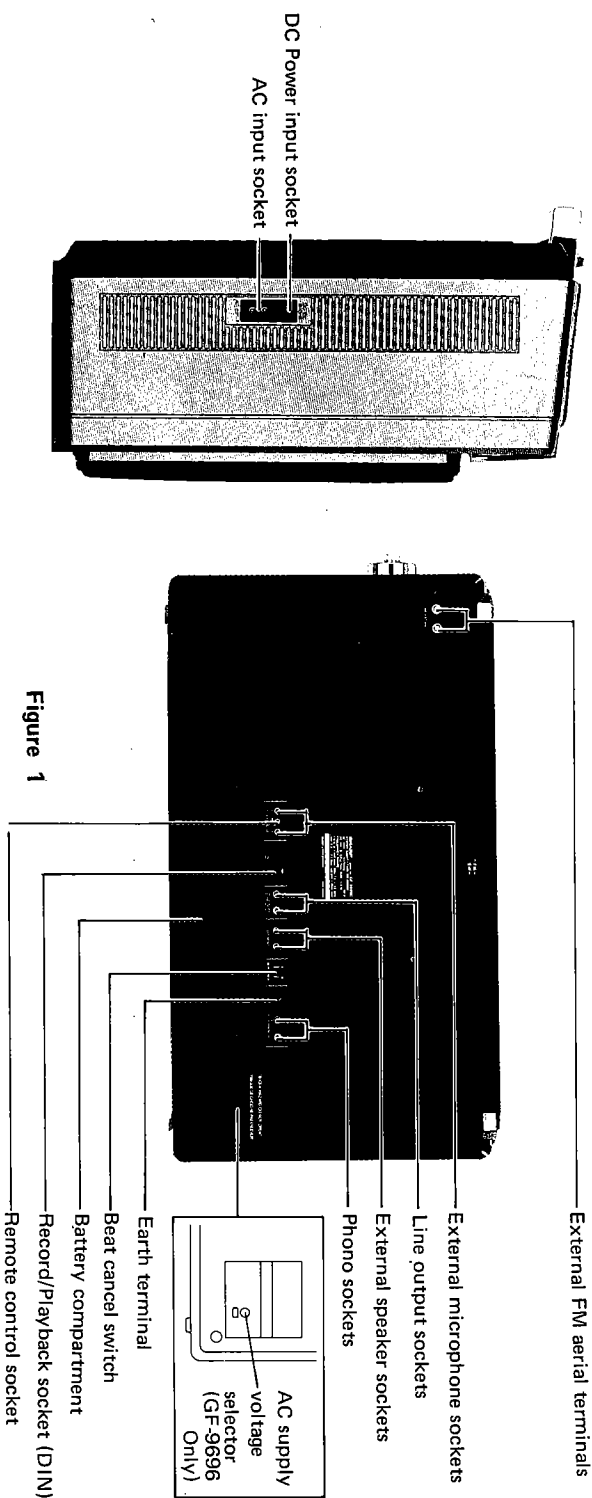
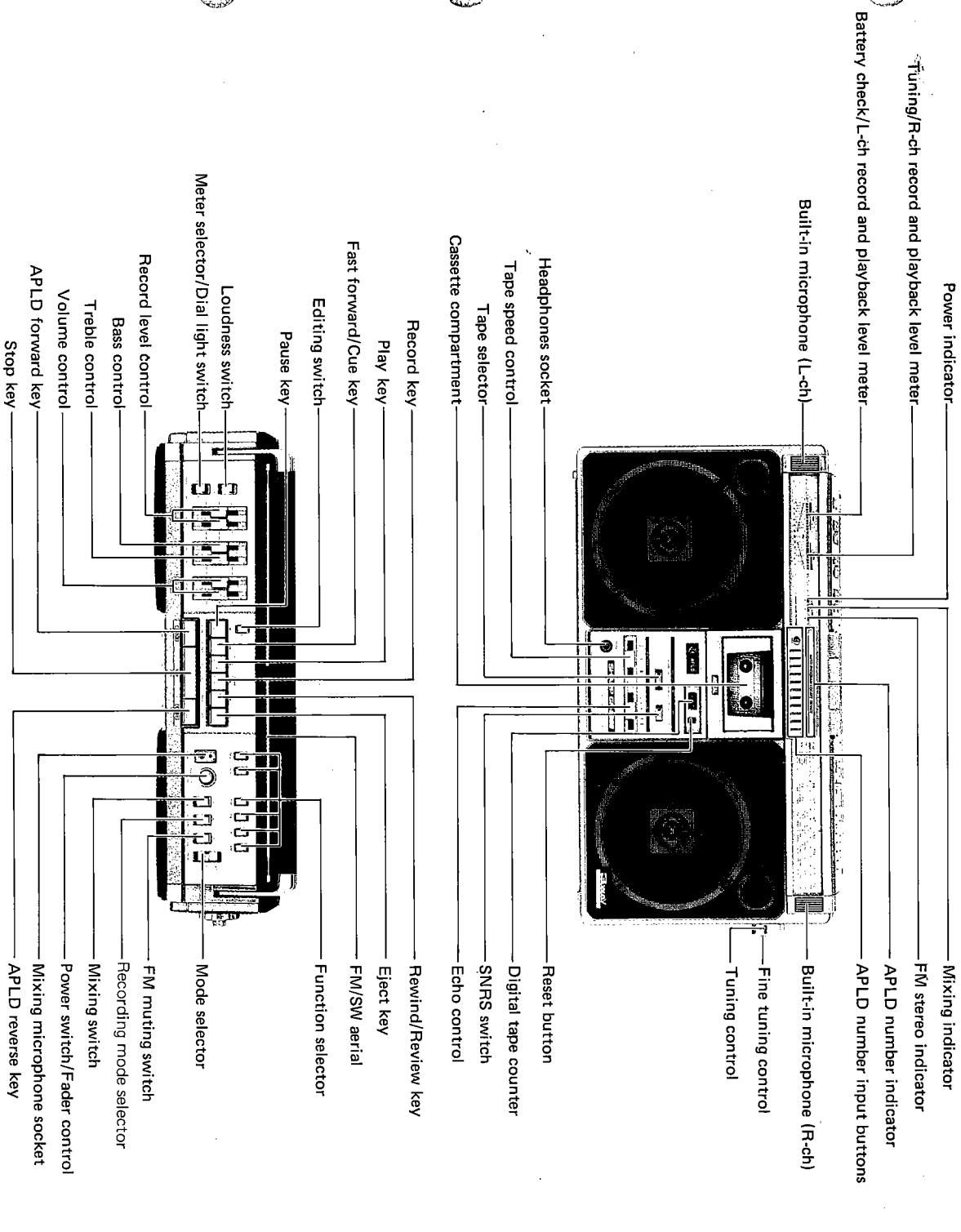


Figure 1

DISASSEMBLY

Notes:

When servicing the GF-9696 and GF-9696C, take into account the following for your safety, as well as keeping its own performance as best it could be.

1. When disassembling the unit, be sure to withdraw the power supply cord from a wall outlet beforehand.
2. A number of nylon holders have been used to facilitate wire arrangements in the unit. If some such holders are removed for servicing the unit, be sure, thereafter, to put them back where they were.
3. Circuitry connection of the unit is made effective by means of a number of connectors. In the servicing, take care not to be wrong in their connection.
4. Keep C-MOS LSIs (in the unit) from static electricity, etc. caused in the servicing.

[A] FRONT CABINET REMOVAL (Refer to Figure 2, 3 and 4)

1. Remove eight (8) screws retaining the front cabinet.
2. Remove six (6) knobs.
3. Open the cassette holder by pushing the eject key.
4. Gently pull out the front cabinet and disconnect four (4) tips (Speaker) and two (2) sockets (SO601 and SO751) connected to the P.W. Board.

[B] OPERATION PANEL REMOVAL (Refer to Figure 3)

1. Remove the front cabinet as described in front cabinet removal.
2. Remove seven (7) knobs.
3. Gently lift up the operation panel from the back cabinet.

[C] DIAL SCALE PLATE REMOVAL (Refer to Figure 4)

1. Remove the operation panel as described in operation panel removal.
2. Remove four (4) screws retaining the dial scale plate.
3. Gently pull out the dial scale plate from the chassis.

[D] INDICATOR P.W. BOARD AND METER P.W. BOARD REMOVAL (Refer to Figure 5)

1. Remove the dial scale plate as described in dial scale plate removal.
 2. Gently pull out the P.W. Board.
- (However, the indicator P.W. Board and the meter P.W. Board are connected to the main P.W. Board by leads.)

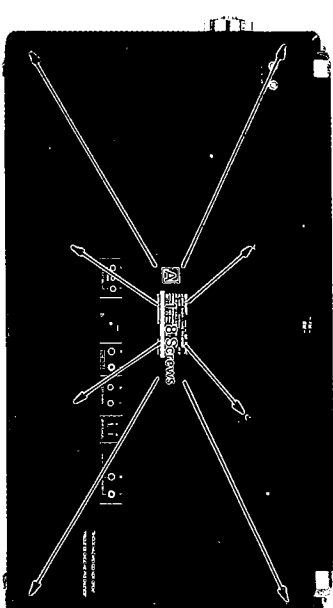


Figure 2

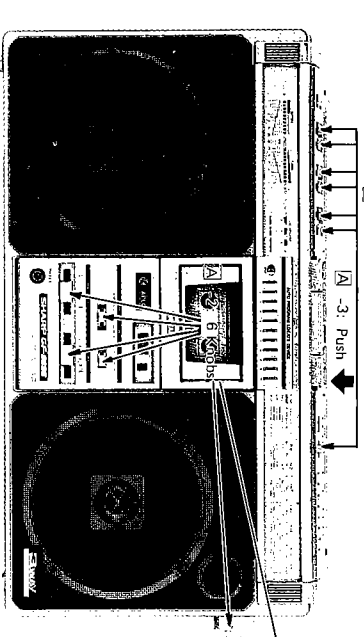


Figure 3

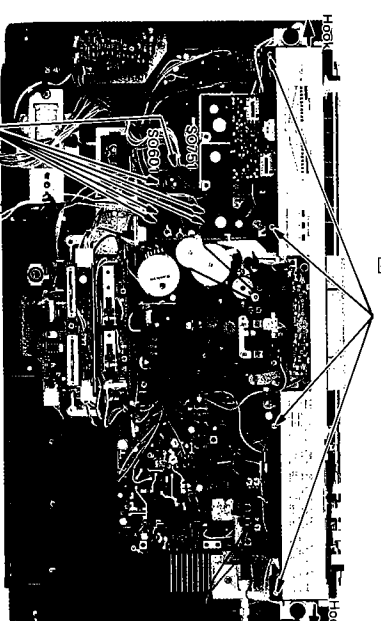


Figure 4

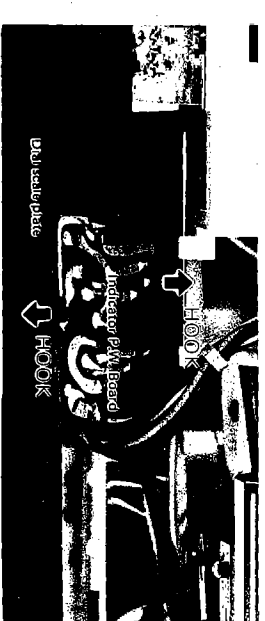


Figure 5

[E] MECHANISM BLOCK REMOVAL (Refer to Figure 6)

1. Remove the dial scale plate as described in dial scale plate removal.
2. Disconnect the tip (Muting) and three (3) sockets (SO1, SO101 and SO401).
3. Remove four (4) screws retaining the mechanism block.
4. Gently pull out the mechanism block from the main P.W. Board holder.

[F] FRONT SWITCH P.W. BOARD REMOVAL (Refer to Figure 7)

1. Remove the front cabinet as described in front cabinet removal.
2. Remove two (2) screws retaining the front switch P.W. Board.
(However, the front switch P.W. Board is connected to the main P.W. Board by leads.)

[G] ECHO P.W. BOARD REMOVAL (Refer to Figure 7)

1. Remove the front cabinet as described in front cabinet removal.
2. Disconnect four (4) sockets (SO401, SO402, SO403 and SO752).
3. Remove two (2) screws retaining the echo P.W. Board.
* ECHO UNIT REMOVAL
 1. Remove the front switch P.W. Board as described in front switch P.W. Board removal.
 2. Remove one (1) screw retaining the echo unit angle.

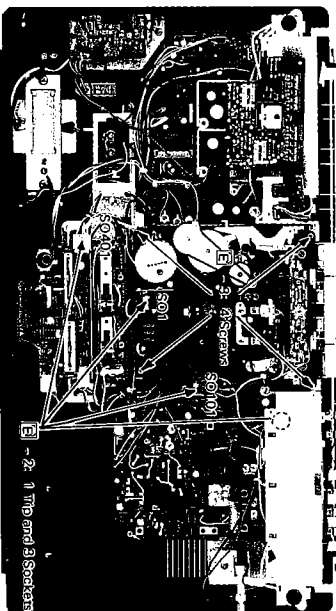


Figure 6

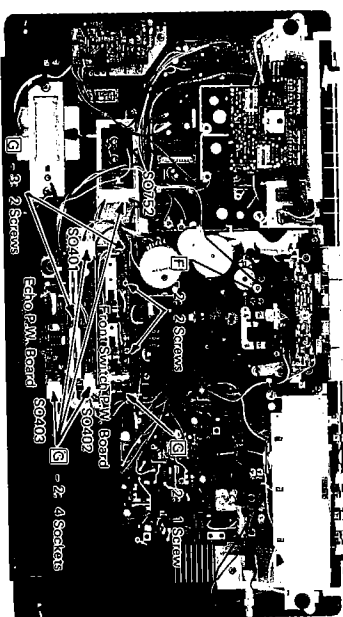


Figure 7

[H] POWER P.W. BOARD REMOVAL (Refer to Figure 8)

1. Remove the front cabinet as described in front cabinet removal.
2. Remove two (2) screws retaining the power P.W. Board.

[I] TOP SWITCH P.W. BOARD REMOVAL (Refer to Figure 9)

1. Remove the operation panel as described in operation panel removal.
2. Remove four (4) screws retaining the top switch P.W. Board.
(However, the top switch P.W. Board is connected to the main P.W. Board by leads.)

[J] VOLUME P.W. BOARD REMOVAL (Refer to Figure 9)

1. Remove the operation panel as described in operation panel removal.
2. Remove four (4) screws retaining the volume P.W. Board.
(However, the volume P.W. Board is connected to the main P.W. Board by leads.)

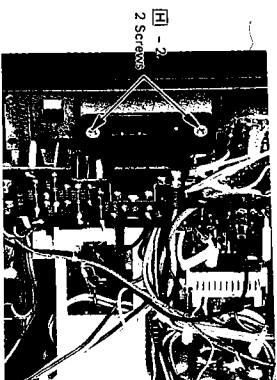


Figure 8

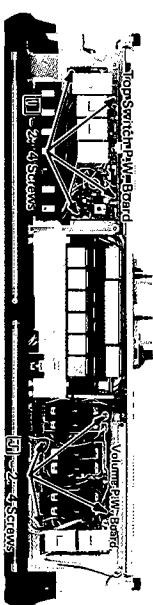


Figure 9

[K] MAIN P.W. BOARD AND AUDIO POWER P.W. BOARD REMOVAL (Refer to Figure 10 and 11)

1. Disassemble according to disassembly chart [A] ~ [G].
2. Disconnect five (5) tips (power supply and F.M./SW antenna).
3. Remove eight (8) screws and gently lift up the P.W. Board blocks from the back cabinet.

* When the operation panel, the dial scale, the mechanism block and the echo P.W. Board are fixed, disassemble as follows.

1. Remove the front cabinet as described in front cabinet removal.
2. Disassemble according to disassembly chart [K]-2 and [K]-3.
3. Remove two (2) screws and lift up the P.W. Board blocks from the back cabinet.

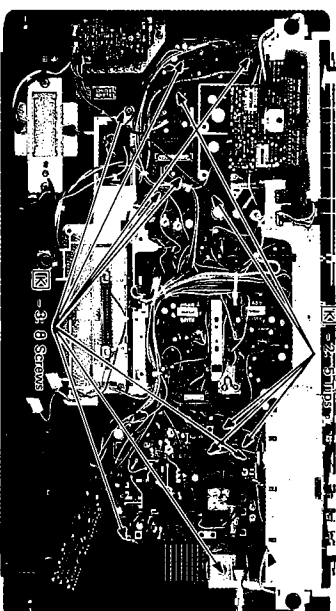


Figure 10

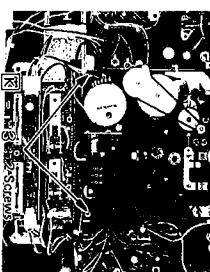


Figure 11

SPEAKER NET DETACHMENT AND ATTACHMENT

- Force the speaker net out by supporting its rubber frame with the fingers. To reset it, fit the four corners of the rubber frame into the unit and straighten them carefully. (Refer to Figure 12)

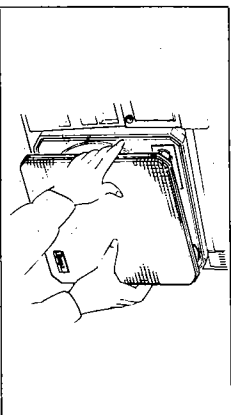


Figure 12

VOLTAGE SELECTION (GF-9696 Only)

- Before operating the unit on mains, check the pre-set voltage. If the voltage is different from your local voltage, adjust the voltage as follows: Rotate the plug of the voltage selector by using a screwdriver so that your local voltage can be seen. (Refer to Figure 13)

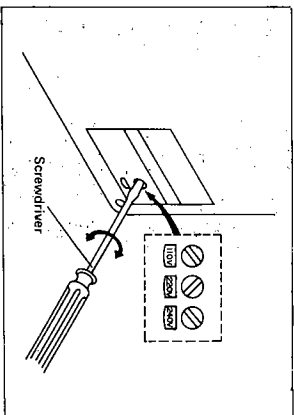


Figure 13

DIAL CORD STRINGING

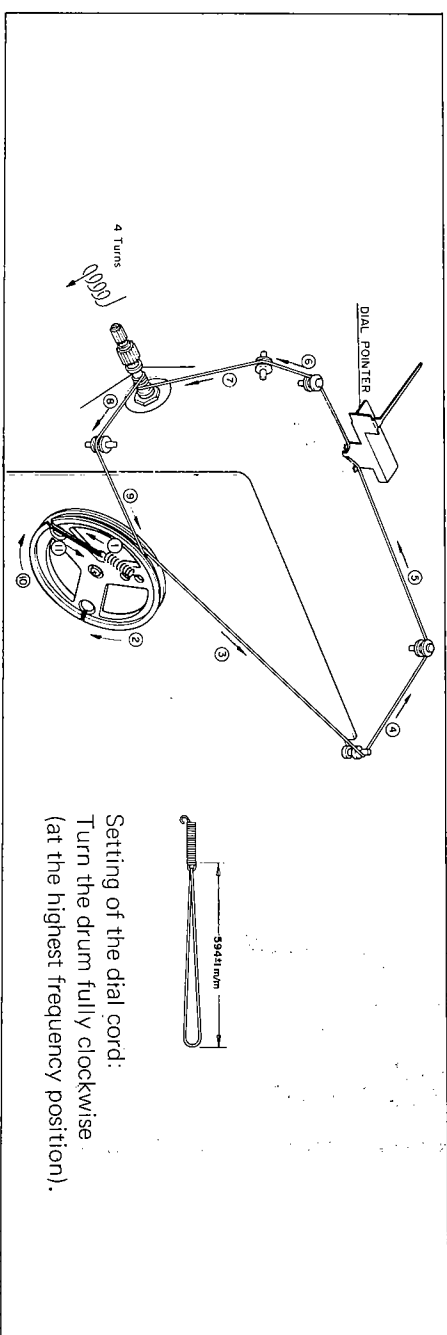


Figure 14

BEHAVIORS OF APLD (AUTO PROGRAM LOCATE DEVICE)

■ APLD

The APLD makes it possible for the operator to easily find the beginning of each program on most cassette tapes and to play it back automatically.

It consists of a preset/power circuit, program spaces detector/pulse generator circuit, program spaces count circuit, plunger drive circuit, programs indicator circuit and muting circuit.

■ PRESET/POWER CIRCUIT (Refer to Figure 15 and 18)

1. In the case the APLD function is to be preset before pushing the forward or rewind APLD key:

The APLD function can be preset even while the radio and/or record player is in operation although it is allowed when the tape is being played, of course. Suppose that one of the APLD numeral buttons (for instance, the button [3]) is now pushed. The output signal of the constant voltage circuit (Q751) passes through pin (4) of the resistor array (R779), APLD switch (SW751-[3]) and diode (D755), then is applied to the gate of the thyristor (SCR751) for it to get turned on. The base potential of the power switching transistor (Q752) decreases, therefore, so that this transistor is turned on. This voltage is then applied to pin (1) of the APLD control integrated circuit (IC751) as well as to the anode of the APLD indicator, while it is being held to constant 6V by zener diode (D752). At the same, since another voltage is applied to pin (4) of that integrated circuit (IC751), the oscillator circuit inside it gets conducted at the frequency (approx. 40 kHz) the value of which is decided by the capacitor (C754) and resistor (R761): the potential of pin (2) of the IC751 goes down to "Low" level, therefore.

Thus the 3rd program is preset and the APLD program indicator (D763) lights up simultaneously.

2. In the case the forward or rewind APLD key is pushed (i.e. without a push of the APLD numeral button):

When the set is placed in the forward or rewind APLD mode, power voltage passes through the forward or rewind APLD switch (SW503 or SW502) and resistors (R714 and R755), then is applied to the base of the power switching transistor (Q753) for it to get turned on. The transistor (Q752) is therefore turned on and this delivers a constant voltage (6V) to pin (1) of the integrated circuit (IC751) and also to the anodes of the APLD indicator and APLD program indicator. At this time, the 1st program "1" is automatically preset even if the APLD numeral button [1] is not pushed and the corresponding APLD program indicator (D761) lights up, too: this is because since the integrated circuit (IC751) has a built-in "1" reset circuit, it is reset to "1" position when given such power supply voltage.

3. Altering a preset program to another:

Suppose that the program "3" has been now preset and it is to be altered to the program "7". This presetting of program "3" means that out of all pins (12) thru (22) of the integrated circuit (IC751), the potential of pin (20) repre-

sents program "3" is kept at "Low" level while others (12) ~ (19), (21) and (22), all at "High" level.

When the APLD numeral button [7] is pushed, voltage is fed to pin (4) of the IC751 via the APLD switch (SW751 - [7]), so that the IC751 starts oscillating the way as we said in the step 1. Then pins (20), (19), (18), (17) and (16) go down to "Low" level in this order and the moment pin (16) gets "Low", the potential of pin (4) is zeroed to stop oscillation of the IC751.

The program "7" is thus preset and the APLD program

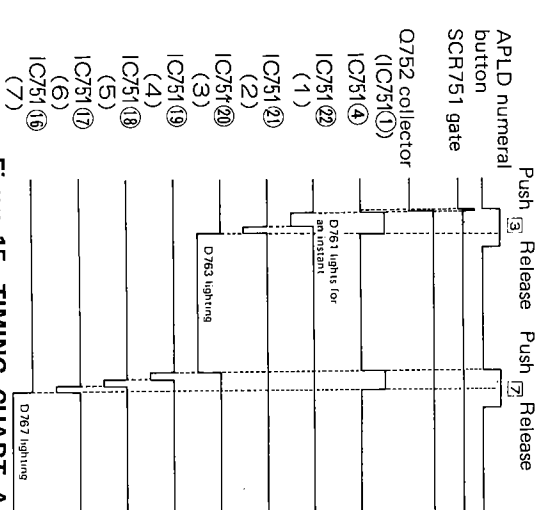


Figure 15 TIMING CHART A

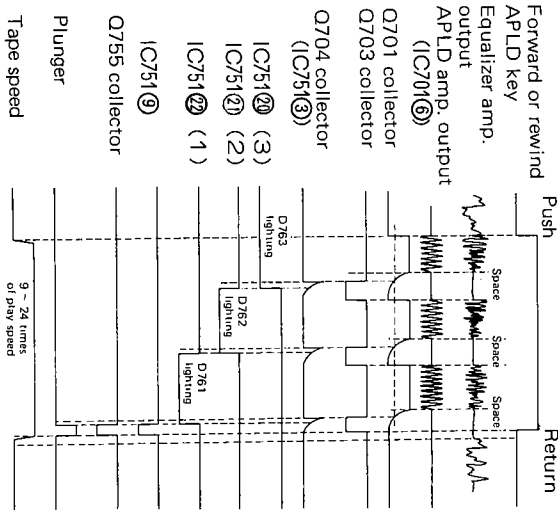
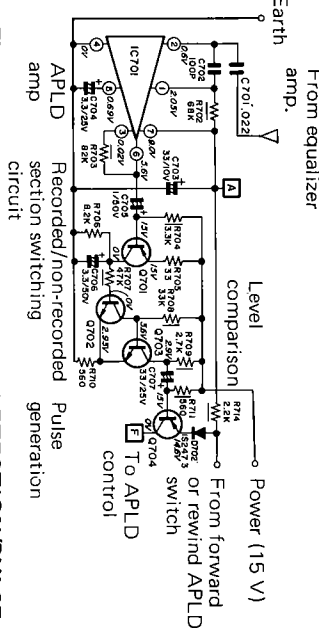


Figure 16 TIMING CHART B



■ INDICATOR CIRCUIT (Refer to Figure 18)

The APLD program indicator comprises eleven red LEDs (D761 to D771) and the relation between the number of programs and the corresponding pins of the IC751 is as follows:

"1" = pin ②②, "2" = pin ②①, "3" = pin ②③, ... "11" = pin ①②. When the potential of each pin is at "Low" level, the respective LED lights up.

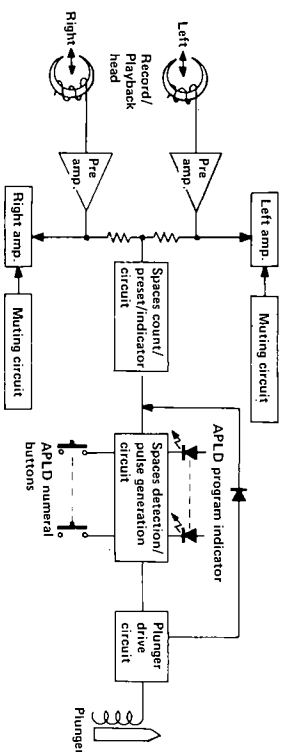


Figure 19 BLOCK DIAGRAM

■ MUTING CIRCUIT (Refer to Figure 18)

When the forward or rewind APLD key is pushed, the forward or rewind APLD switch (SW503 or SW502) gets turned on to feed a power to the bases of the transistors (Q758 and Q759) for them to turn on. Turning on of the two transistors will reduce playback volume during the time the set continues program-to-program spaces detection.

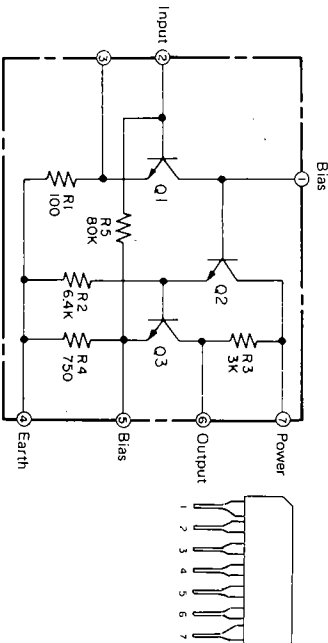
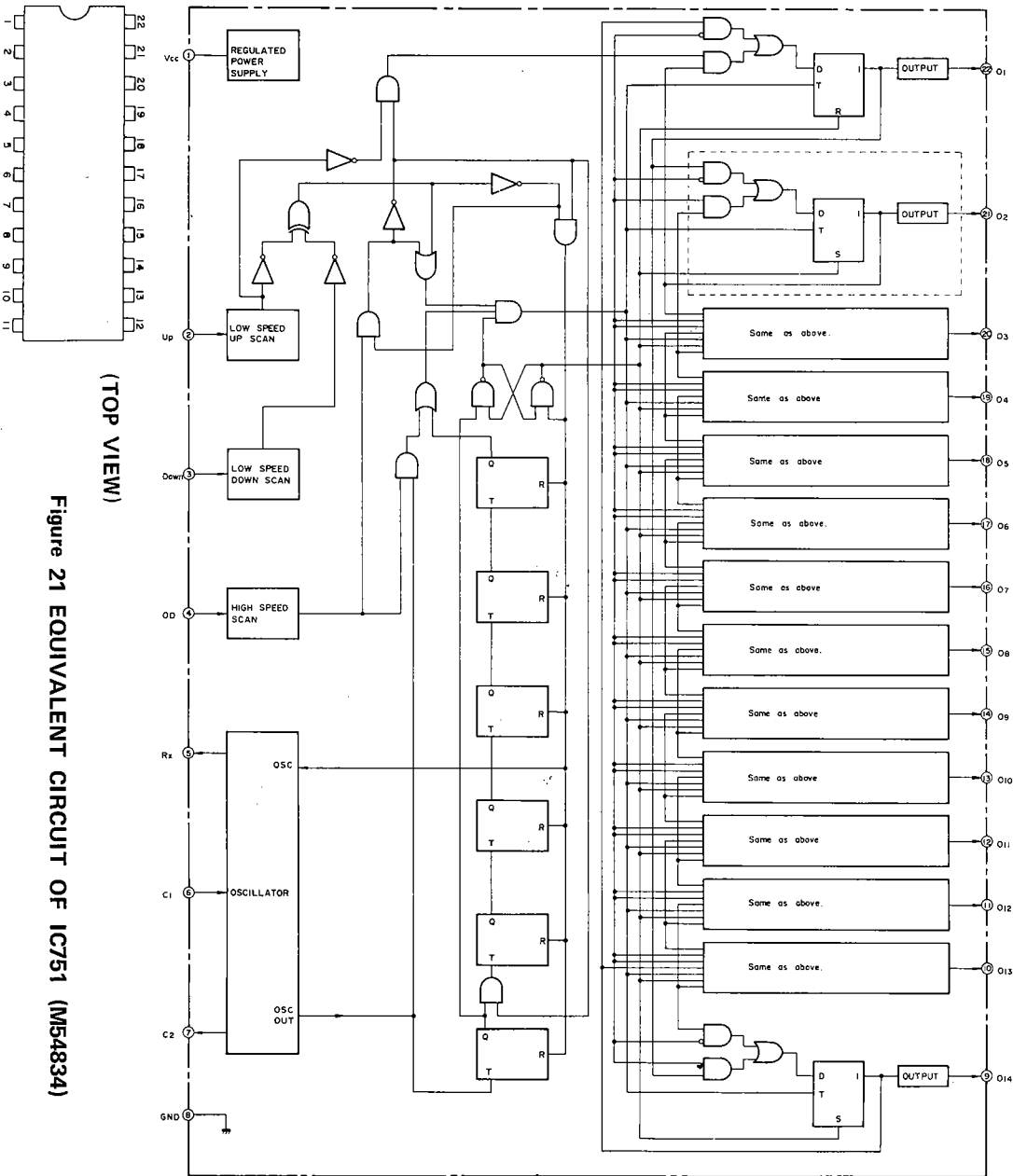


Figure 20 EQUIVALENT CIRCUIT OF IC701 (TA7120P)



(TOP VIEW)

Figure 21 EQUIVALENT CIRCUIT OF IC751 (MS4834)

■ WHAT'S SNRS?

SNRS is short for the Super Noise Reduction System, and is intended to remove noise — even without affecting the high pitch sounds, the characteristic of which is much suited to the human ear sensitivity.

In general, it is for us to become very sensitive to the noise component if mixed in less strong signals but not so much to those in the strong signals. In addition, our sense desires to cut off the noise in listening to the low-frequency tunes — when the frequency grows more and more high, and the reduction of its extra high component is also realized.

Taking this into account, the SNRS is permitted to automatically follow how the input signal (sound source) changes in its intensity and frequency, and hence to compensate for our audible sense.

■ FUNCTION OF THE SNRS:

The SNRS, made of transconductance operational amplifier, changes its conductance via external bias current, the function of which is an equivalent of a low-pass filter. The result is to cut off disagreeable noises by changing the fo (cut-off frequency of the low-pass filter) according to how much the input signal changes intensity and frequency.

BEHAVIORS OF SNRS (SUPER NOISE REDUCTION SYSTEM)

(1) Mixing Amplifier and High-Pass Filter

(Refer to Figure 22 and 23)

The signals coming from the preceding stage are applied to the buffer amplifier made of transistors Q551 and Q552, then they are mixed together via the resistors R559 and R560, and divided by the resistors R559 and R560, resulting in a decision of the output signal level.

The new signal then enters the high-pass filter and the mixing amplifier through which its high-frequency component is amplified; the high-pass filter's frequency characteristic is determined by the capacitors C559, C560 and C565 and the resistors R570 and R576 the fo of the high-pass filter is about 6 kHz; the gain of the mixing amplifier is of 10 kHz, 30 dB. For an overall characteristic of the high-pass filter and the mixing amplifier, refer to Fig. 24.

The integrated circuit IC552, called the dual operational amplifier, has two functions: one channel subject to the mixing amplification and the other to the peak detector amplification. To pin ③ (input) of the IC552 is applied power-supply voltage whose value is reduced to approx. 7V via the resistors R575 and R573.

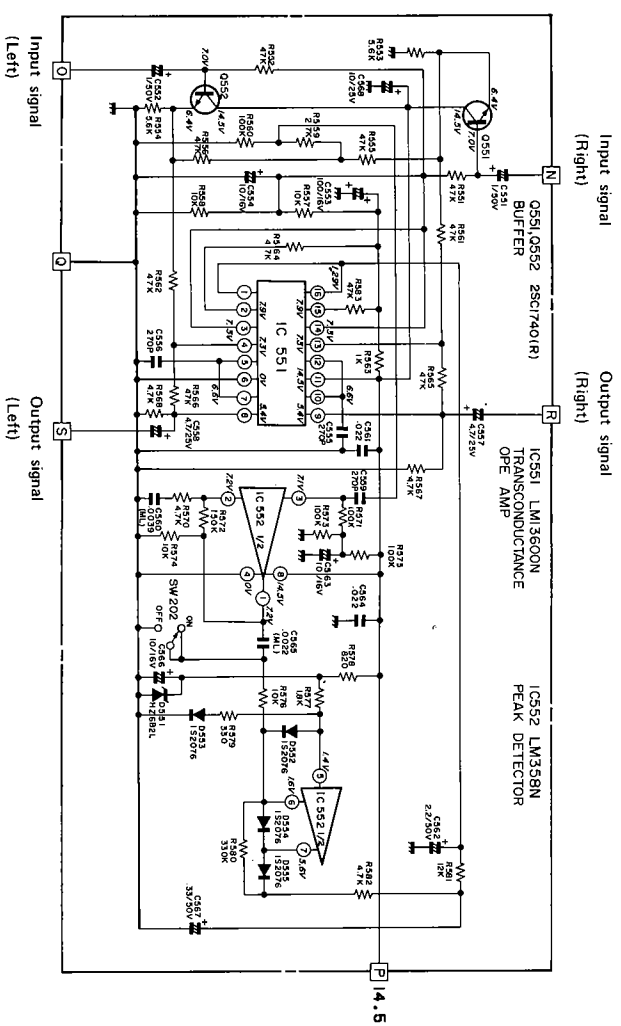


Figure 22 SNRS CIRCUIT

(2) Peak Detector Amplifier

Coming from the mixing amplifier and high-pass filter, the signal is applied via resistor R576 to pin ⑥ of the integrated circuit IC552, (to serve as a peak detector amplifier) where it is amplified by 30 dB, then comes out at its pin ⑦; the output is half-wave rectified by the diode D554 so that its only positive half is allowed to become effective, and it is smoothed by the resistor R582 and the electrolytic capacitor to become D.C. voltage signal — this output increases proportionally to the intensity of the input signal. The function of the diode D554 is that if, if a negative signal is present at pin ⑦, causes the resistor R580 and diode D554 to be shorted to make the gain zero, so that any negative signal does not arise, and only the positive signal is allowed to generate.

* Voltage gain of the peak detector amplifier:

$$20 \log \frac{R580}{R576} \text{ (dB)}$$

The diode D555 is intended to prevent the resultant positive signal from going back to pin ⑦ of the IC552, the diode D552, to protect the peak detector amplifier against an excess of the input; the resistor R577, resistor R579 and diode D553, to keep pin ⑤ at a constant voltage 1.4V.

The following shows how the peak detector amplifier behaves in either the "ON" or "OFF" position of the SNRS switch.

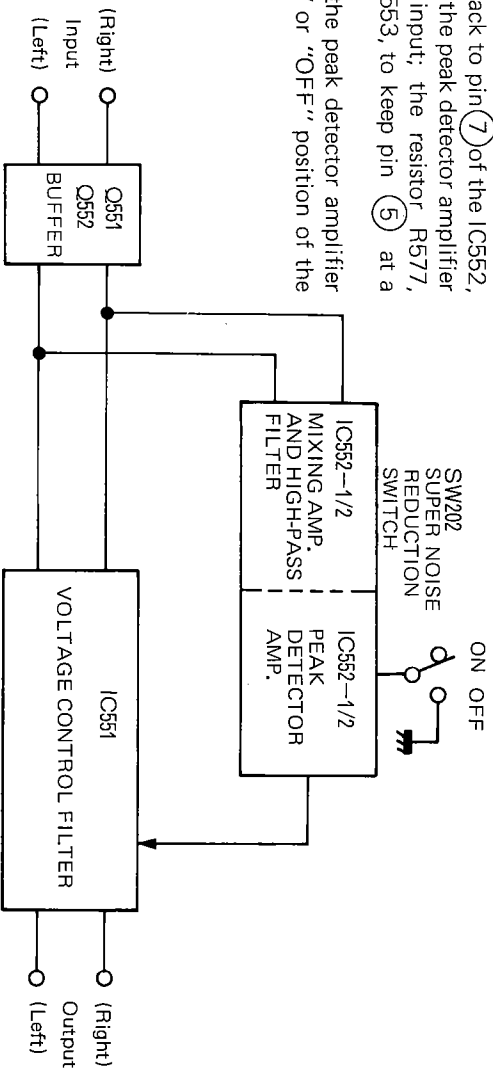


Figure 23 BLOCK DIAGRAM

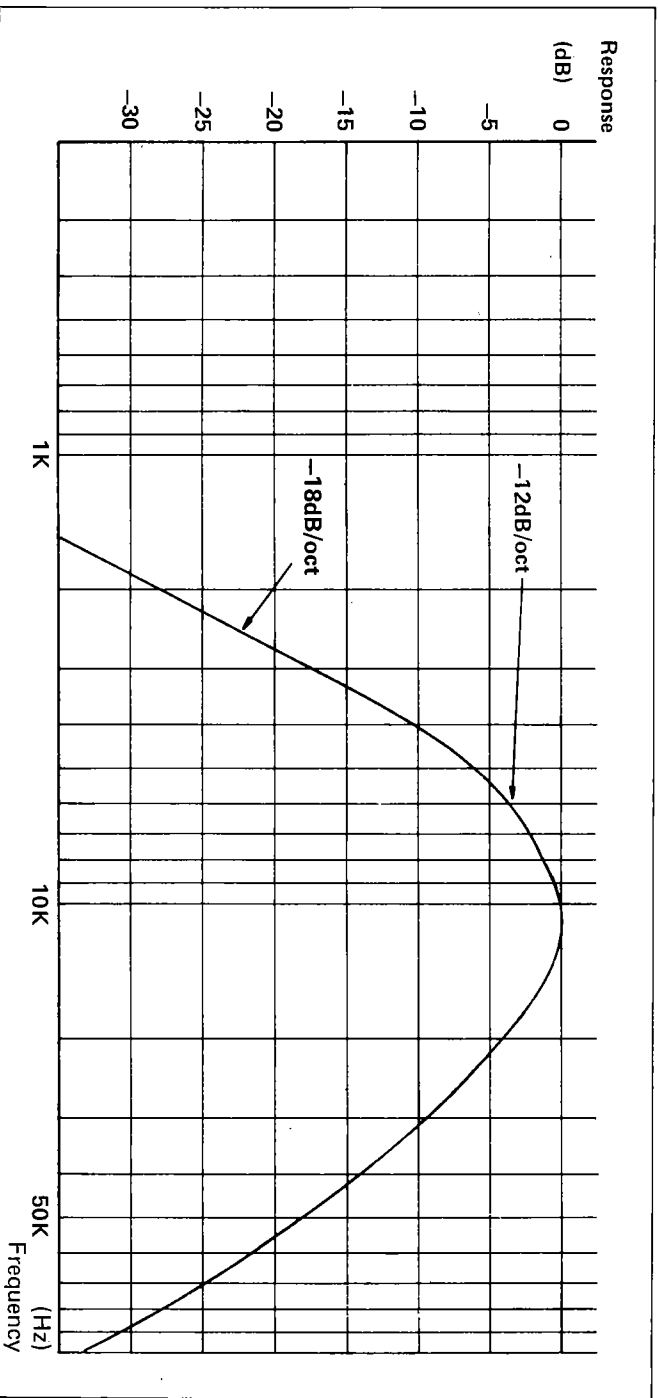


Figure 24 HIGH-PASS FILTER'S FREQUENCY CHARACTERISTIC

(3) Voltage Control Filter

(Refer to Figure 25 and 26)

The bias current (I_{ABC}) coming from the peak detector amplifier is fed to pins ① and ⑩ of the integrated circuit IC551 — to serve as a transconductance operational amplifier, whose conductance varies in proportion to the strength of such I_{ABC} ; the capacitors C555 and C556 that are earthed via pins ⑤ and ⑫ of the IC551 form a -6dB/oct. low-pass filter, the (cut-off frequency) of which is changed according to how much the bias current has occurred so as to cut off undesired, high-frequency noises.

• The f_o of the low-pass filter can be calculated in the following.

Refer to Fig. 25.

$$f_o = \frac{G_m}{2\pi C_1} \quad [G_m: \text{conductance (mho)}]$$

$$G_m = K_1 \cdot I_{ABC} \quad [K_1: \text{coefficient, } I_{ABC}: \text{Amplified bias current}]$$

Then,

$$f_o = \frac{G_m}{2\pi C_1} = \frac{K_1}{2\pi C_1} \cdot I_{ABC} = K_2 \cdot I_{ABC} \quad [K_2: \text{coefficient}]$$

In practice:

In the case the SNRS switch is at OFF;

$I_{ABC} = 300 \mu A$, $f_o \approx 50 \text{ KHz}$

In the case the SNRS switch is at ON;

a. $I_{ABC} = 10 \mu A$, $f_o = 1.6 \text{ KHz}$ — with no signal, the function selector switch at "tape"

b. $I_{ABC} = 150 \mu A$, $f_o \approx 25 \text{ KHz}$ — with signal [10KHz, -20 dB (25 pwb/mm²)], the function selector switch at "tape"

switch at "tape"

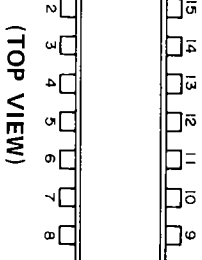
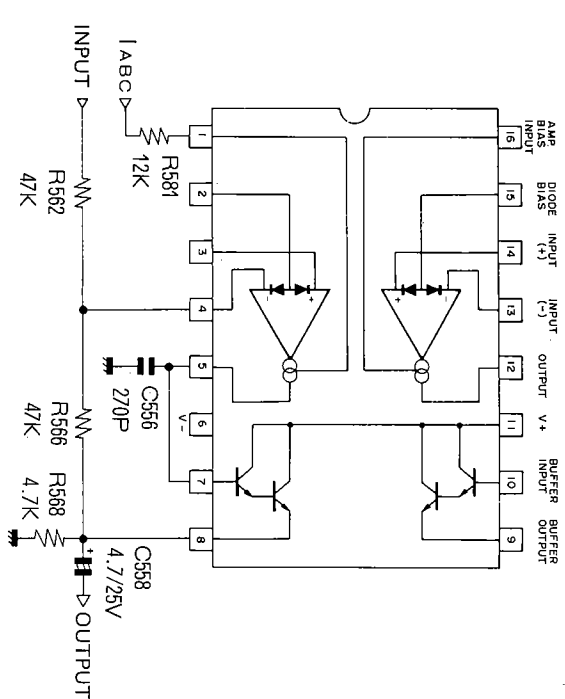


Figure 25 LOW-PASS FILTER'S CIRCUIT OF IC 551 (LM13600N)

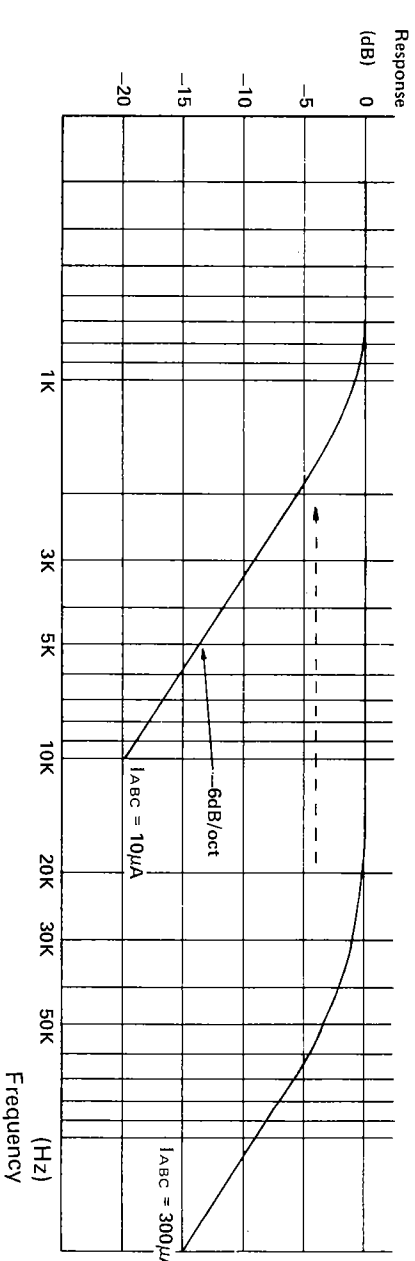


Figure 26 LOW-PASS FILTER'S FREQUENCY CHARACTERISTIC ($I_{ABC} = 10 \mu A$, $300 \mu A$)

MECHANICAL ADJUSTMENT

FLYWHEEL THRUST CLEARANCE ADJUSTMENT

- (Refer to Figure 27)
1. Slowly rotate the flywheel thrust clearance adjusting screw clockwise until there will be no thrust clearance.
 2. Next, rotate the thrust clearance adjusting screw about 1/4 of its full turn counter clockwise. (Since 1 pitch of the adjusting screw refers to 0.8mm, the thrust clearance thus created becomes 0.1mm to 0.3mm.)

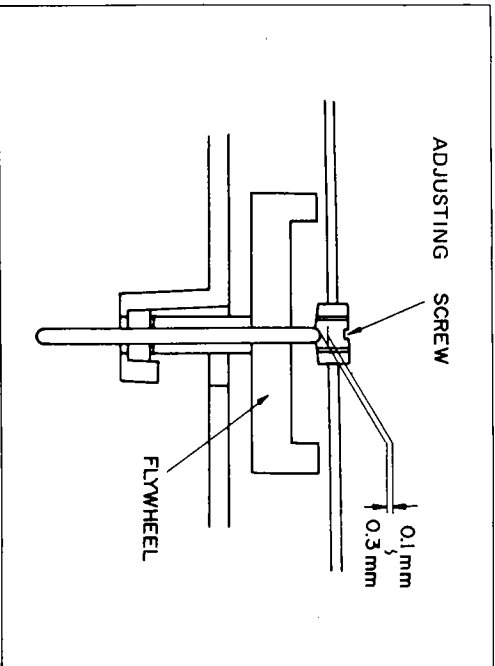


Figure 27

PINCH ROLLER PRESSURE ADJUSTMENT

- (Refer to Figure 28)
1. Set the unit in play mode.
 2. Push the point (A) with a tension gauge (0 gr. to 500 gr.) to make the pinch roller apart from the flywheel shaft. Then, check that the tension gauge will read 300 gr. to 400 gr. When the pinch roller stops to rotate.
 3. As a result of the check in the step 2 above, if the reading is found outside the range of 300 gr. to 400 gr., adjust the pressure spring of pinch roller by bending it or replace.

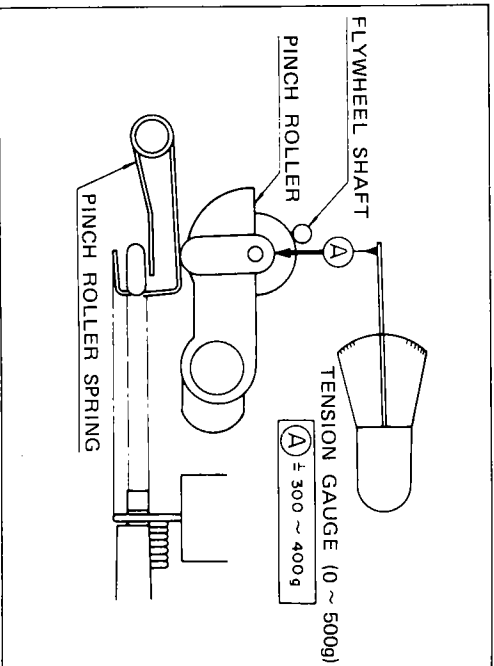


Figure 28

OPERATION CHECK OF FWD-APLD AND REV-APLD MECHANISMS

(Refer to Figure 58 and 59 on Page 35 and 36)

Under play mode, slowly push the FWD-APLD key or REV-APLD key to make sure that the pinch roller (74) and the take-up idler (16) come off respectively from the flywheel shaft and the take-up turntable (65), and simultaneously the sub-chassis (09) moves 1mm to 1.5mm, and further that thereafter, the roller assembly (73) is pressed against the take-up turntable (65) or the supply turntable (66). Moreover, when the FWD-APLD key or REV-APLD key is released by pushing the FF (CUE) key or the REWIND (REVIEW) key, make ascertain that the sub-chassis (09) is reset and the unit gets in play mode.

TORQUE MEASUREMENT AT PLAY, FF AND REWIND MODES

- (Refer to Figure 29)
1. Mount a torque measuring reel on the turntable (that is, it is placed on the take-up turntable at play/fast forward mode while on the supply turntable at rewind mode).
 2. Then gradually release the tension gauge and read it when the rotational speed of the turntable becomes almost constant.
 3. Measured torques at each mode should be as tabulated below.

Note: When the take-up turntable is stopped at play mode, there should be no slip between the take-up turntable and take-up slip roller and/or between the drive belt and take-up slip roller.

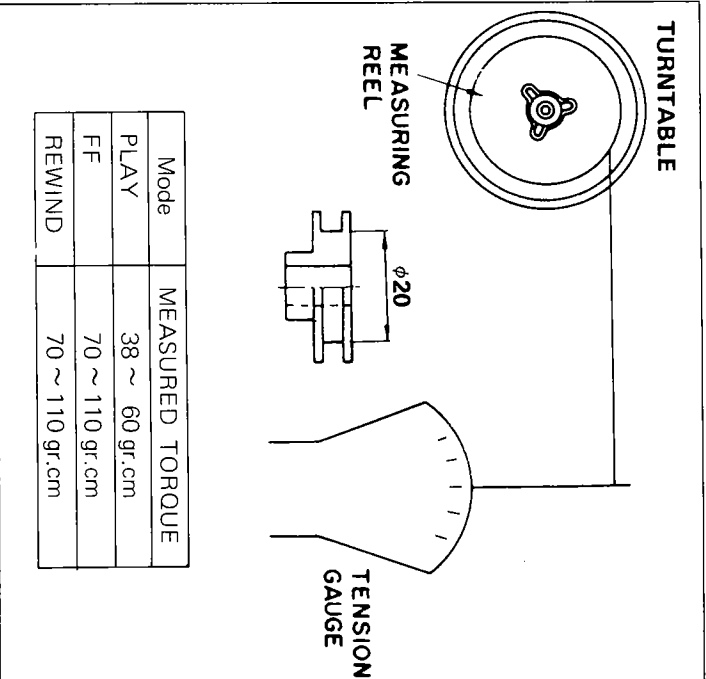


Figure 29

GAP ADJUSTMENT BETWEEN MOTOR SWITCH AND BRAKE LEVER

- (Refer to Figure 30)
1. Under each of play, fast forward and rewind modes, make ascertain that the motor switch (SW501) is turned on without fail.
 2. When the motor is in a stop, check that the gap (A) between the brake lever and the motor switch (SW501) is 2mm to 3mm.
 3. If the steps 1 and 2 above are still insufficient for the adjustment, the gap can be adjusted by positionally changing the two soldered terminals (B) of motor switch (SW501) located at the motor P.W.B.

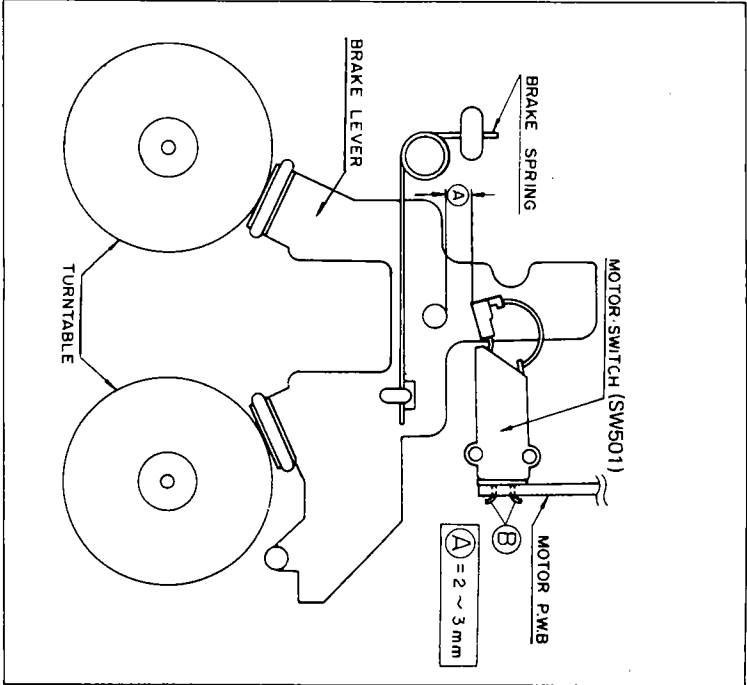


Figure 30

OPERATION CHECK OF PAUSE MECHANISM

(Refer to Figure 58 on Page 35)

Set the unit in play mode by pushing the play key. Then slowly push the pause key and make ascertain that the take-up idler (16) and the pinch roller (74) come off respectively from the take-up turntable (65) and the flywheel shaft almost at the same time and check that each of the two gaps thus produced is about 0.5mm.

ADJUSTMENT OF PLUNGER SETTING POSITION

- (Refer to Figure 31)
1. Under fast forward mode, loosen the plunger retaining screw, hold up the part (A) of the plunger by hand and while keeping the plunger in contact with the lock shaft, retighten the plunger retaining screw.
 2. After the step 1, make sure of the following.
 - Check that each of the PLAY, FF (CUE), REWIND (REVIEW) keys can be locked smoothly.
 - Check that the FWD-APLD key and REV-APLD key can be locked smoothly and they further be released when the plunger operates.
 - Check that the plunger can start to operate smoothly when the STOP key is pushed to release the APLD keys.
 3. After the step 2, the adjustments are not yet sufficient, again carry out the step 1.

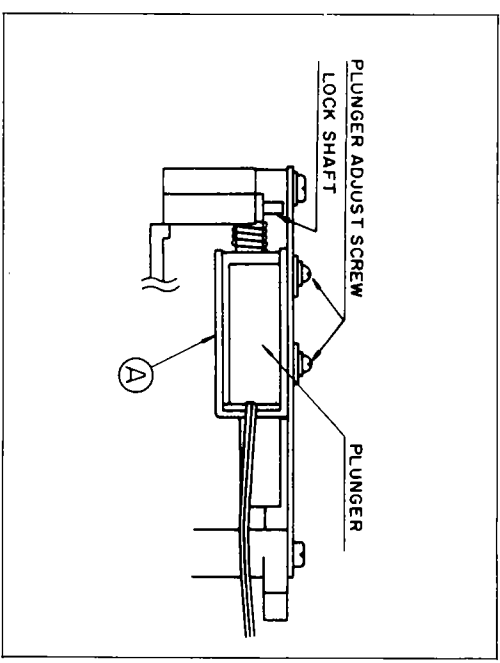


Figure 31

TAPE SPEED ADJUSTMENT

- (Refer to Figure 32)
1. Connect a frequency counter, across a load resistor (8 ohms, 2W), to the EXT. speaker socket (J101-E or J101-F).
 2. Set the Tape Speed Control (VR501) to the center position.
 3. Use a test tape (MTT-111, -10dB, 3kHz), to be played back (at the midpoint but not at the running start or end point).
 4. Adjust the semi-variable resistor so that the frequency counter reads 2970 to 3030Hz — using a bladed screw-driver via the hole at the motor's bottom.

Note: Prior to the adjustment, check that there is no stain and no other impurities on the motor pulley, drive belt, flywheel, take-up pulley, take-up idler and take-up turntable.

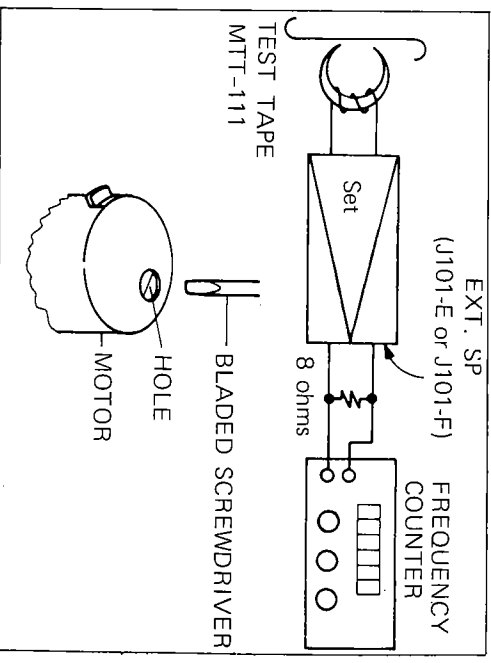


Figure 32

ELECTRICAL MEASUREMENT

- * This unit operates on DC 15V. Check that the power supply is exactly 15V before measurement.
- * Set the power switch (SW702) to on position.
- * Refer to Figure 50.

BIAS CURRENT AND BIAS OSCILLATION FREQUENCY ADJUSTMENT OF RECORD AMPLIFIER

(Refer to Figure 33)

1. Connect V.T.V.M. to the test point TP101 (for right channel) or TP-102 (for left channel) and to the ground (TP-103).
 2. Connect an oscilloscope (vertical input) to the output terminal of V.T.V.M. and a frequency counter thereto.
 3. Set the tape selector switch (SW201) at "normal" or "CrO₂".
 - Bias current
 4. Place the set in record mode, and adjust the semivariable resistor R301 (for right channel) or R302 (for left channel) so that the V.T.V.M. reads 42 mV. Changing the tape selector switch to "metal" position, see that the V.T.V.M. reading becomes 80±3mV.
 5. At the time, see that the frequency counter is reading 53±0.5KHz. If the reading is outside 53±0.5KHz, adjust the bias oscillation coil (L301) and again check the bias current in Step 4.
- Changing the beat cancel switch from "A" to "B" position, see that the frequency counter changes +1.0 to 2.0 kHz from what it was.

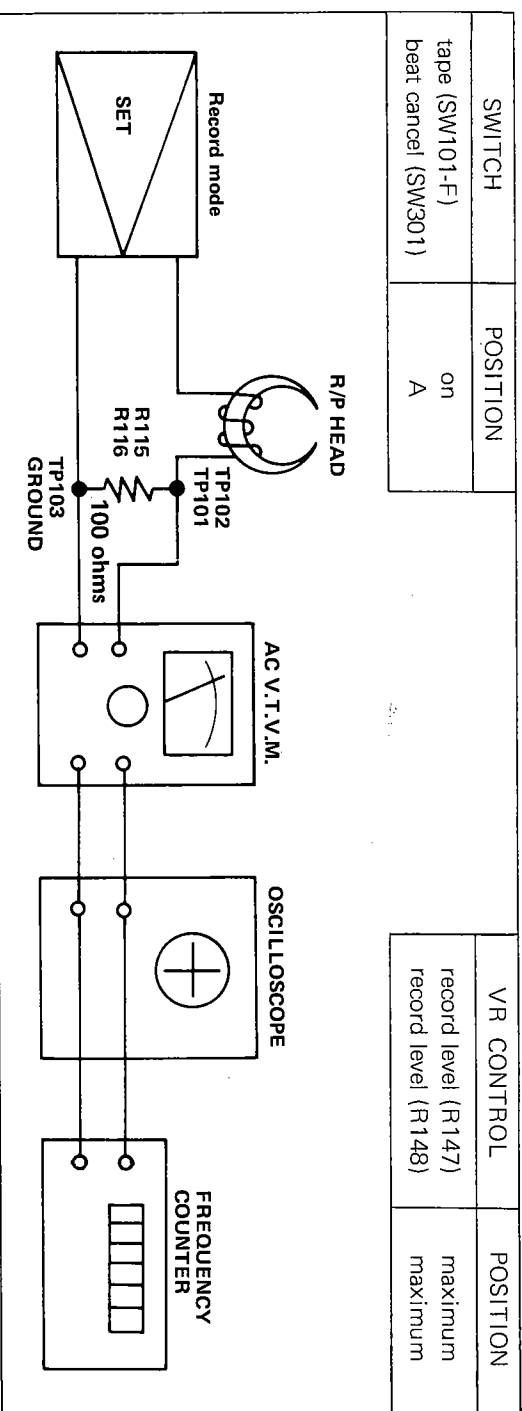


Figure 33

ERASE CURRENT CHECK

(Refer to Figure 34)

1. Connect V.T.V.M. to the test point TP-301 and to the ground (TP-302).
 2. Set the tape selector switch (SW201) at "metal" position.
 3. Place the set in record mode, and see that the V.T.V.M. reads 240±40mV.
- Changing the tape selector switch to "normal" or "CrO₂" position, see that the V.T.V.M. reading becomes 130±20mV.

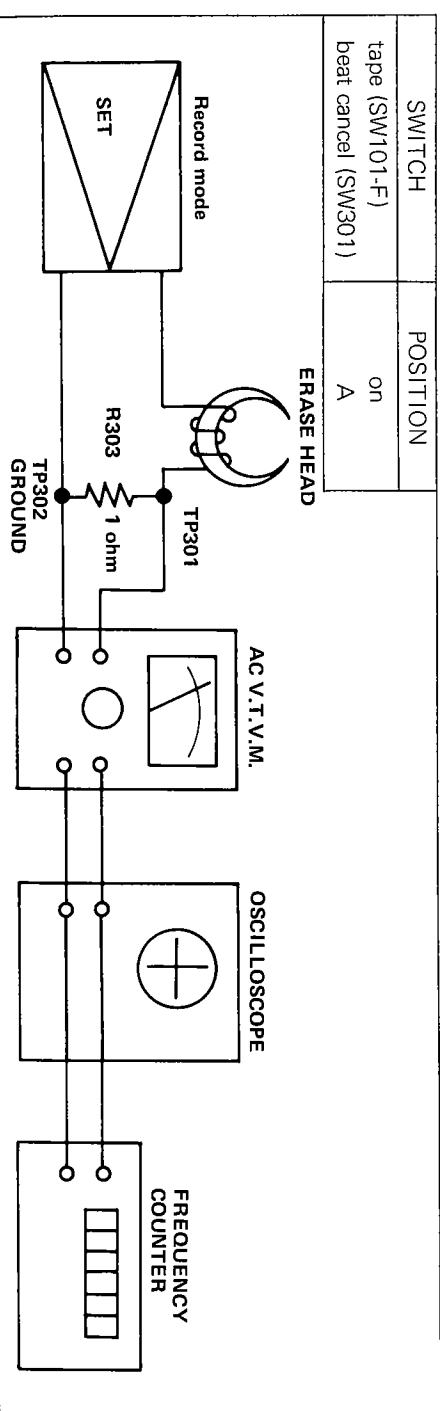


Figure 34

RECORD AMPLIFIER SENSITIVITY CHECK

(Refer to Figure 35)

1. Connect V.T.V.M. to the test point TP-101 (for right channel) or TP-102 (for left channel) and to the ground (TP-103).
2. Shortcircuit the secondary side of the bias oscillation coil (L301) to stop bias oscillation.
3. Connect the signal generator to the EXT MIC sockets J101-A (for right channel) and J101-B (for left channel) at a time, and apply signal (1 kHz oscillation) to the set.
4. Place the set in record mode, and check that the V.T.V.M. reads 1.75 mV accompanied by the input signal whose level is indicated in Table.
5. For the other input sockets shown in Table, follow the instructions in steps 3 and 4.

(1V = 0dB)

INPUT SOCKET	INPUT LEVEL
EXT. MIC	-76±3dB
MIX. MIC	-66±3dB
DIN IN	-56±3dB
PHONO	-62±3dB

Note:

When checking the sensitivity at the MIX. MIC socket, set the mixing switch (SW104) at "on" position and rotate the fader control fully toward "mic" position.

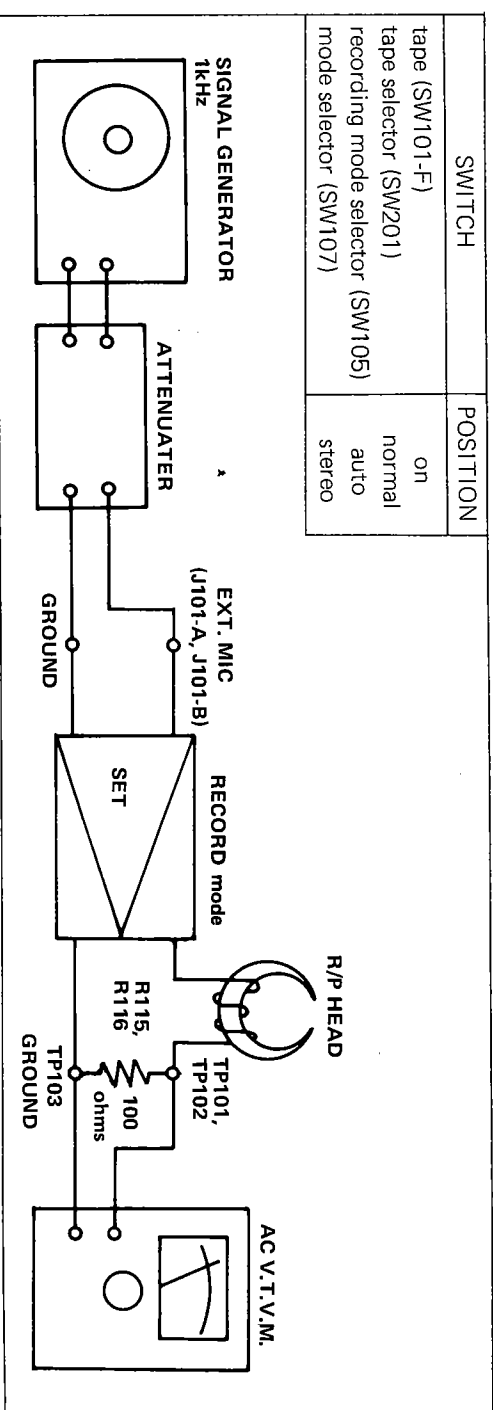


Figure 35

PLAYBACK AMPLIFIER SENSITIVITY CHECK

(Refer to Figure 36)

1. Connect V.T.V.M. across a load resistor (8 ohms, 15W) to the EXT SP sockets J101-E (for right channel) and J101-F (for left channel).
 2. Connect the signal generator to the record/playback head (at the red lead side) and to the ground and apply signal of 1 kHz oscillation (input level: 0.1 V = -20 dB) to the set.
 3. Place the set in play mode, and see that when the V.T.V.M. reads 1.0 V, the input level is -82 ±2 dB.
- Note:
This set is designed to have BTL (balanced transformerless) connection at its output circuit. This disables its common connection with the speaker ground terminal.

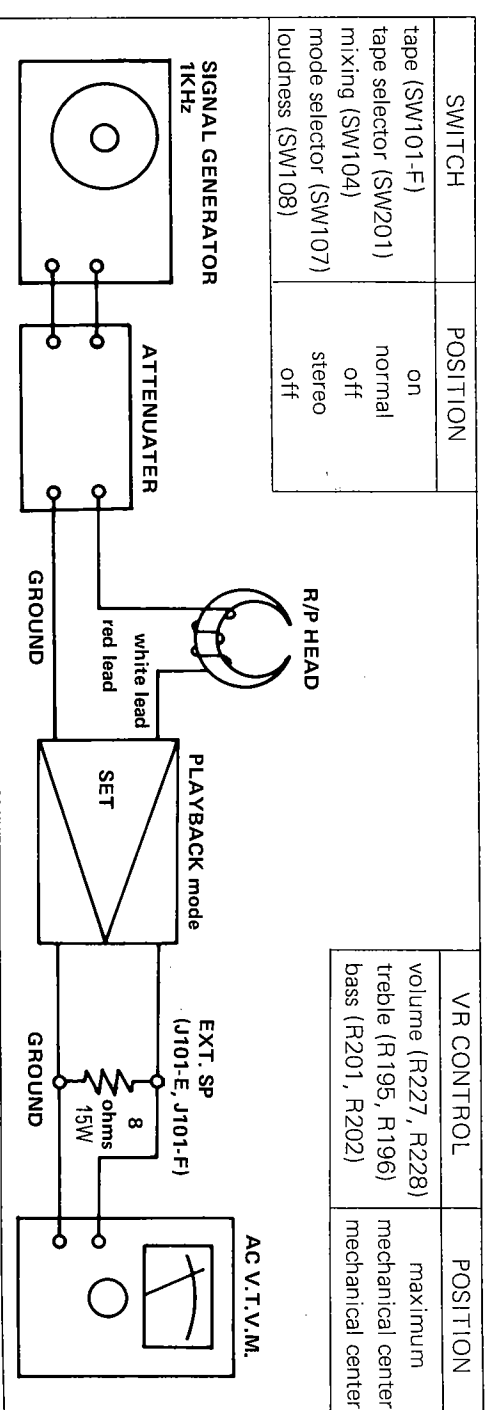


Figure 36

■ PHONO AMPLIFIER SENSITIVITY CHECK

(Refer to Figure 37)

1. Connect a load resistor (8 ohms) to the EXT. SP sockets (J101-E, J101-F) and further connect the V.T.V.M. (J101-E, J101-F) and
2. Connect the signal generator to the phono sockets (J101-H, J101-I) and apply signal (1KHz, -54 dB) to the unit.
3. Place the unit in phono mode.
4. If the phono amplifier sensitivity is normal, the reading on the V.T.V.M. should be approximately 4V.

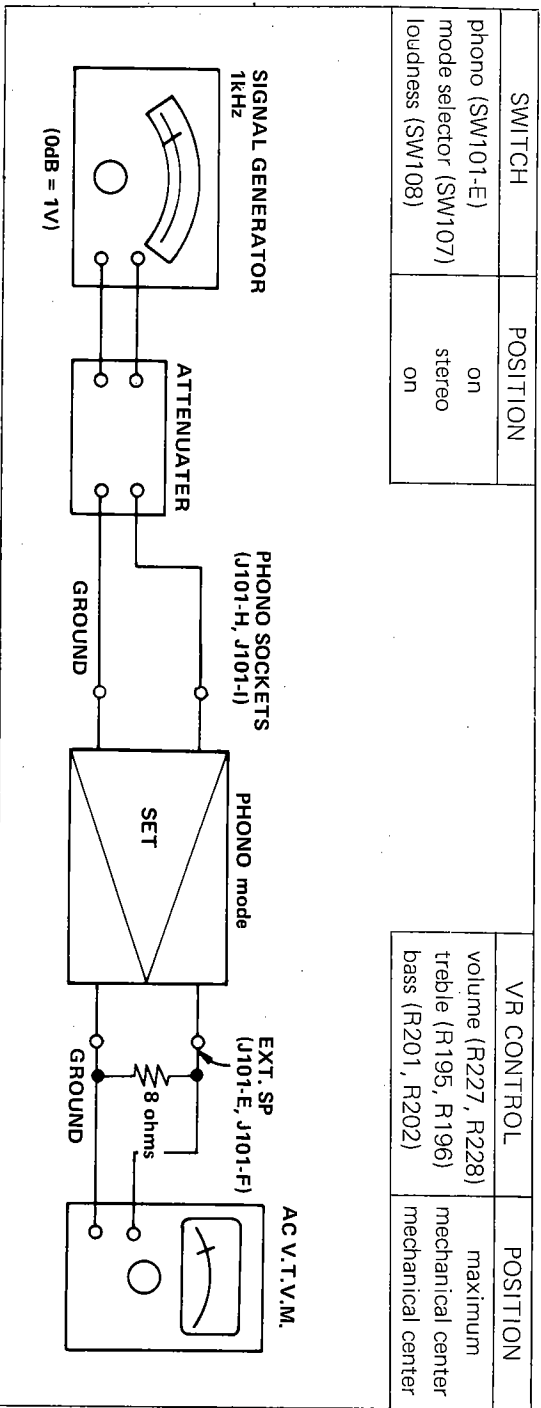


Figure 37

■ LEVEL INDICATOR SENSITIVITY CHECK

(Refer to Figure 38 and 39)

1. Connect V.T.V.M. to the test point TP-101 (for right channel) or TP-102 (for left channel) and to the ground (TP-103).
2. Shortcircuit the secondary side of the bias oscillation coil (L301) to stop bias oscillation.
3. Connect the signal generator to the EXT MIC socket J101-A (for right channel) or J101-B (for left channel) [Input level: -57 dB (0.1V = -20 dB)] to the set.
4. Place the set in record mode, and adjust the record level control R147 (for right channel) or R148 (for left channel) so that the V.T.V.M. reads 3.5 mV.
5. Adjust the semi-variable resistor (R183), the left hand one, so that the right and left LED meters indicate the same value: the right hand resistor is fixed not to be movable.

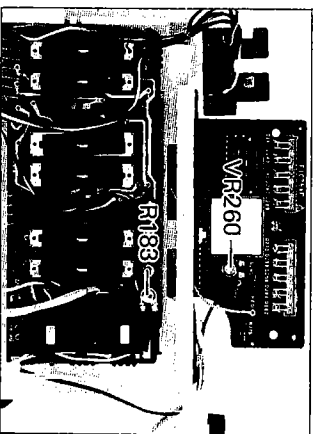


Figure 38

After that, move the record level controls (R147 and R148) to and fro in order to see that the right and left LED meters will have the same indication.

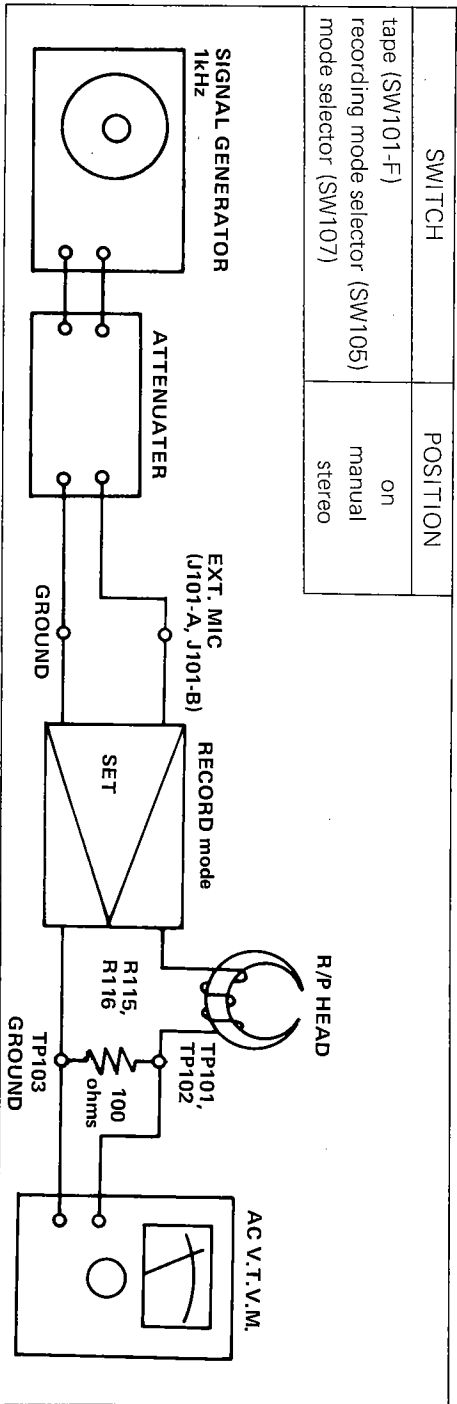


Figure 39

■ BATTERY INDICATOR SENSITIVITY CHECK

(Refer to Figure 38 and 40)

1. Connect a DC power source (regulated at DC 14.8V) to the battery terminal, and turn on the power switch (SW702).
2. Set the meter selector/dial light switch (SW109) at "tune/battery" position, and adjust the semi-variable resistor (VR260) so that the four LEDs (green: D270, D268 and D266, red: D264) light up and the fifth LED (red D262) is about to light up.

Note:

The fifth LED (red D262) must light up if given 15.0 V, and the fourth and fifth LEDs (D264 and red D262) must go off if given $10.6 \pm 0.6V$.

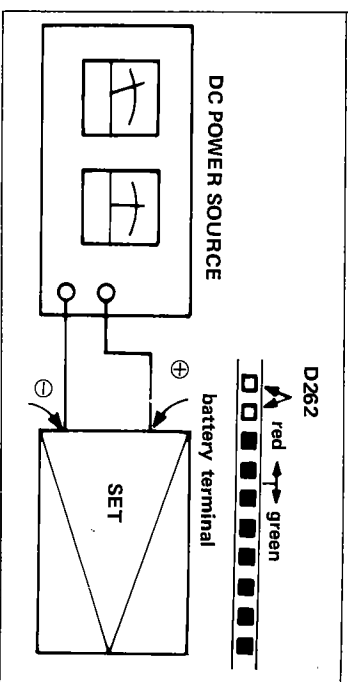


Figure 40

■ RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT

(Refer to Figure 41)

1. Connect output signals from the LINE OUT socket J101-C (for right channel) and J101-D (for left channel), to the input terminals CH-1 and CH-2 of a dual-beam oscilloscope.
2. Play a test tape (MTT-114, 10 KHz -10dB), and adjust the head azimuth adjusting screw so that the output signals from both channels will have maximum waveform with the same phase in right and left.
3. In case of not using the oscilloscope, also adjust the head

azimuth adjusting screw so that the output from either channel will be maximale. Check that the output is not decreased so much even if the mode selector switch (SW107) is set at "mono" position.

Note:

This set is designed to have BTL (balanced transformerless) connection at its output circuit. This disables its common connection with the speaker ground terminal. So the azimuth adjustment must be performed at the LINE OUT sockets.

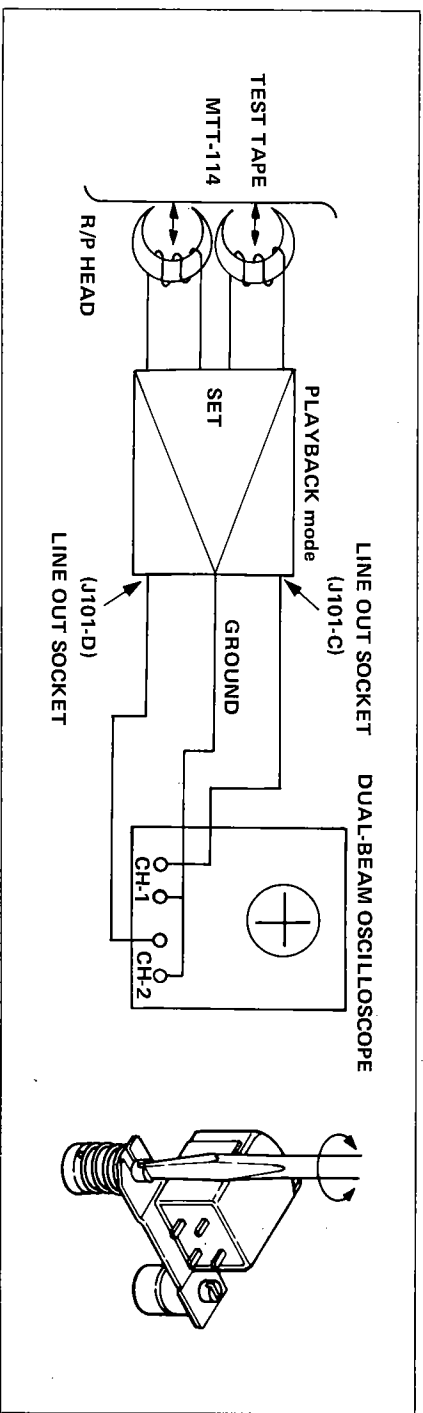


Figure 41

GENERAL ALIGNMENT INSTRUCTION

- Should it become necessary at any time to check the alignment of this receiver, proceed as follows:
1. Set the volume control (R227, R228) to maximum.
 2. Attenuate the signals from the generator enough to swing the most sensitive range of the output meter.
 3. Use a non-metallic alignment tool.
 4. Repeat adjustments to insure good results.
 5. Set the power switch (SW702) to "on" position.

Note:

This set is designed to have BTL (balanced transformerless) connection at its output circuit. This disables its common connection with the speaker ground terminal.

AM ALIGNMENT CHART

(Refer to Figure 50)

STEP	BAND	TEST STAGE	SIGNAL GENERATOR		RECEIVER		ADJUSTMENT
			CONNECTION TO RECEIVER	INPUT SIGNAL FREQUENCY	DIAL SETTING	REMARKS	
1	AM	IF	Refer to Figure 42.	Exactly 455 KHz. (400 Hz, 30%, AM modulated)	High end of dial. (minimum capacity)	Adjust for maximum output.	Adjust the AM IF transformers (T3) (T4)
2	AM	Band Coverage	Refer to Figure 42.	Exactly 510 KHz. (400 Hz, 30%, AM modulated)	Low end of dial. (maximum capacity).	Adjust for maximum output.	Adjust the AM oscillation coil (L10).
3	AM		Same as step 2.	Exactly 1650 KHz. (400 Hz, 30%, AM modulated)	High end of dial. (minimum capacity).	Same as step 2.	Adjust the AM oscillation trimmer (TC8).
4	AM		Same as step 2.	Exactly 600 KHz. (400 Hz, 30%, AM modulated)	600 KHz.	Same as step 2.	Adjust the AM antenna coil (L7). (See Note A)
5	AM	Tracking	Same as step 2.	Exactly 1400 KHz. (400 Hz, 30%, AM modulated)	1400 KHz.	Same as step 2.	Adjust the AM antenna trimmer (TC5). (See Note A)
6	AM	Repeat steps 2, 3, 4, and 5 until no further improvement can be made.					
7	SW ₁	Band Coverage	Same as step 2.	Exactly 2.25 MHz. (400 Hz, 30%, AM modulated)	Low end of dial. (maximum capacity)	Same as step 2.	Adjust the SW ₁ oscillation coil (L9).
8	SW ₁		Same as step 2.	Exactly 7.4 MHz. (400 Hz, 30%, AM modulated)	High end of dial. (minimum capacity)	Same as step 2.	Adjust the SW ₁ oscillation trimmer (TC7).
9	SW ₁		Same as step 2.	Exactly 2.6 MHz. (400 Hz, 30%, AM modulated)	2.6 MHz.	Same as step 2.	Adjust the SW ₁ antenna coil (L7). (See Note A)
10	SW ₁	Tracking	Same as step 2.	Exactly 6 MHz. (400 Hz, 30%, AM modulated)	6 MHz.	Same as step 2.	Adjust the SW ₁ antenna trimmer (TC4).
11	SW ₁	Repeat steps 7, 8, 9 and 10 until no further improvement can be made.					
12	SW ₂	Band Coverage	Refer to Figure 43.	Exactly 7.2 MHz (400 Hz, 30%, AM modulated)	Low end of dial. (maximum capacity)	Same as step 2.	Adjust the SW ₂ oscillation coil (L8).
13	SW ₂		Same as step 12.	Exactly 22.5 MHz. (400 Hz, 30%, AM modulated)	High end of dial. (minimum capacity)	Same as step 2.	Adjust the SW ₂ oscillation trimmer (TC6).
14	SW ₂		Same as step 12.	Exactly 8.5 MHz. (400 Hz, 30%, AM modulated)	8.5 MHz	Same as step 2.	Adjust the SW ₂ antenna coil (L6).
15	SW ₂	Tracking	Same as step 12.	Exactly 19 MHz (400 Hz, 30%, AM modulated)	19 MHz	Same as step 2.	Adjust the SW ₂ antenna trimmer (TC3).
16	SW ₂	Repeat steps 12, 13, 14 and 15 until no further improvement can be made.					

[Note A] Check the alignment of the receiver antenna coil by bringing a piece of ferrite (such as a coil slug) near the antenna loop stick, then a piece of brass. If ferrite increases output, loop requires more inductance. If brass increases output, loop requires less inductance. Change loop inductance by sliding the bobbin toward the center of ferrite core to increase inductance, or away to decrease inductance.

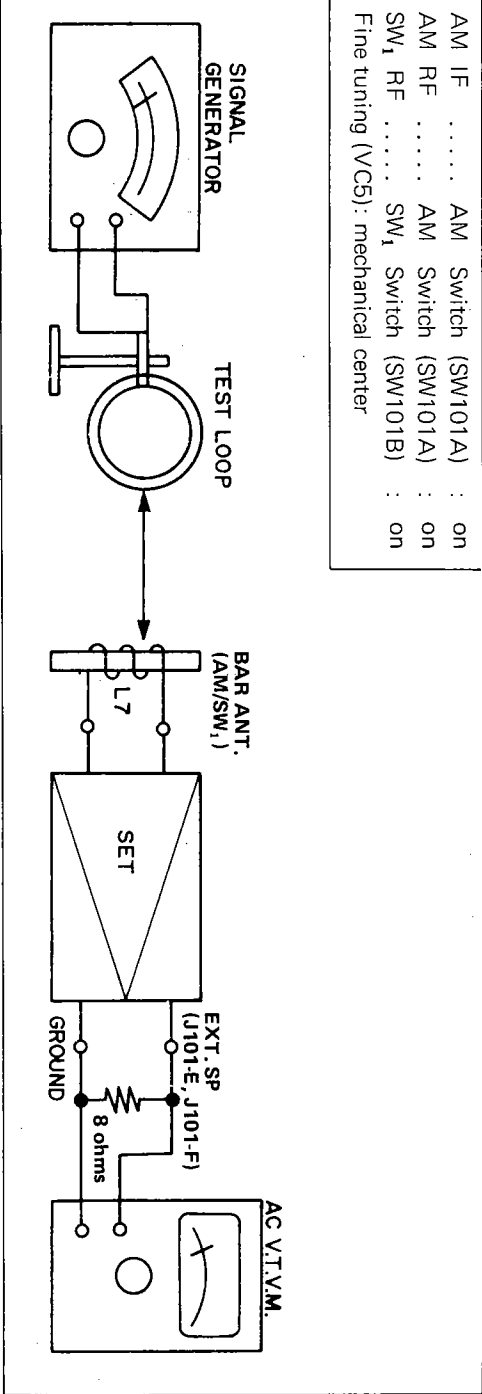


Figure 42 AM IF and AM/SW₁ RF ALIGNMENT EQUIPMENT CONNECTION

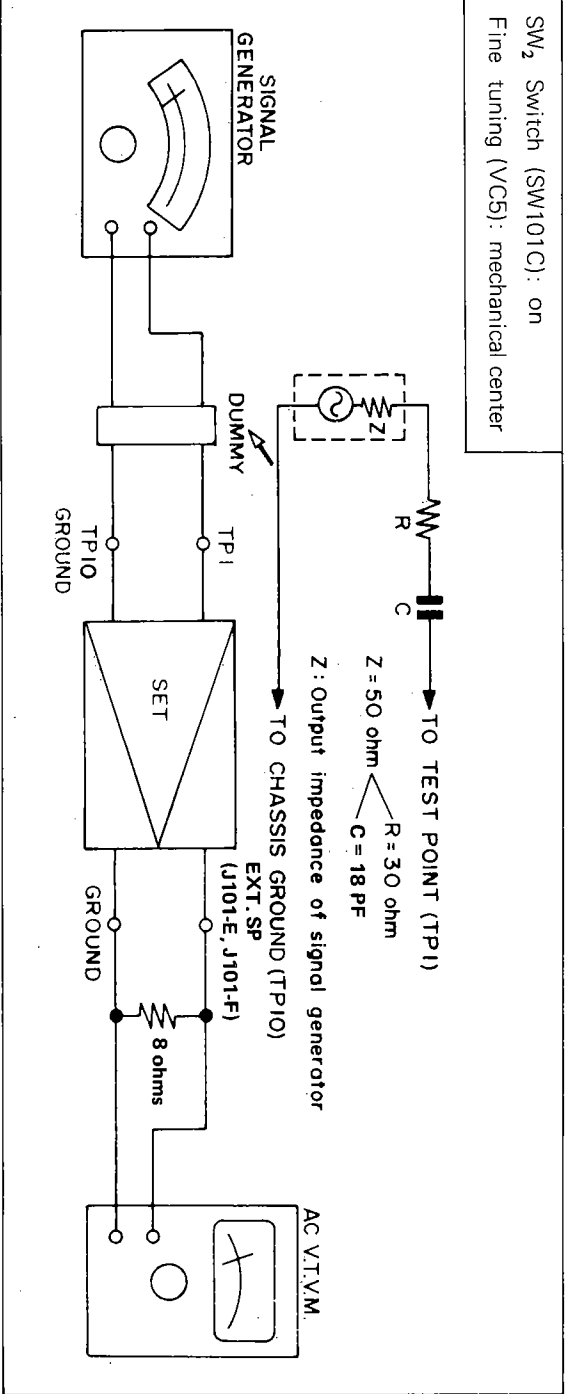


Figure 43 SW₂ RF ALIGNMENT EQUIPMENT CONNECTION

FM ALIGNMENT CHART

(Refer to Figure 50)

STEP	TEST STAGE	SIGNAL GENERATOR		RECEIVER		ADJUSTMENT
		CONNECTION TO RECEIVER	INPUT SIGNAL FREQUENCY	DIAL SETTING	REMARKS	
1	IF	Refer to Figure 44.	Exactly 10.7 MHz. (400 Hz, 30%, FM modulated)	High end of dial. (minimum capacity)	Adjust for maximum output.	Adjust the FM IF transformers 1-(T1) 2-(T2) (See Note B)
2	Band Coverage	Refer to Figures 45 and 49.	Exactly 87.1 MHz (400 Hz, 30%, FM modulated)	Low end of dial. (maximum capacity)	Adjust for maximum output.	Adjust the FM oscillation coils (L3, L4).
3		Same as step 2.	Exactly 108.5 MHz. (400 Hz, 30%, FM modulated)	High end of dial. (minimum capacity)	Same as step 2.	Adjust the FM oscillation trimmer (TC2).
4		Same as step 2.	Exactly 88 MHz. (400 Hz, 30%, FM modulated)	88 MHz	Same as step 2.	Adjust the FM RF coils (L1, L2).
5	Tracking	Same as step 2.	Exactly 108 MHz. (400 Hz, 30%, FM modulated)	108 MHz	Same as step 2.	Adjust the FM RF trimmer (TC1).
6	Repeat steps 2, 3, 4 and 5 until no further improvement can be made.					

FM Switch (SW101D): on
mode selector switch (SW107): mono

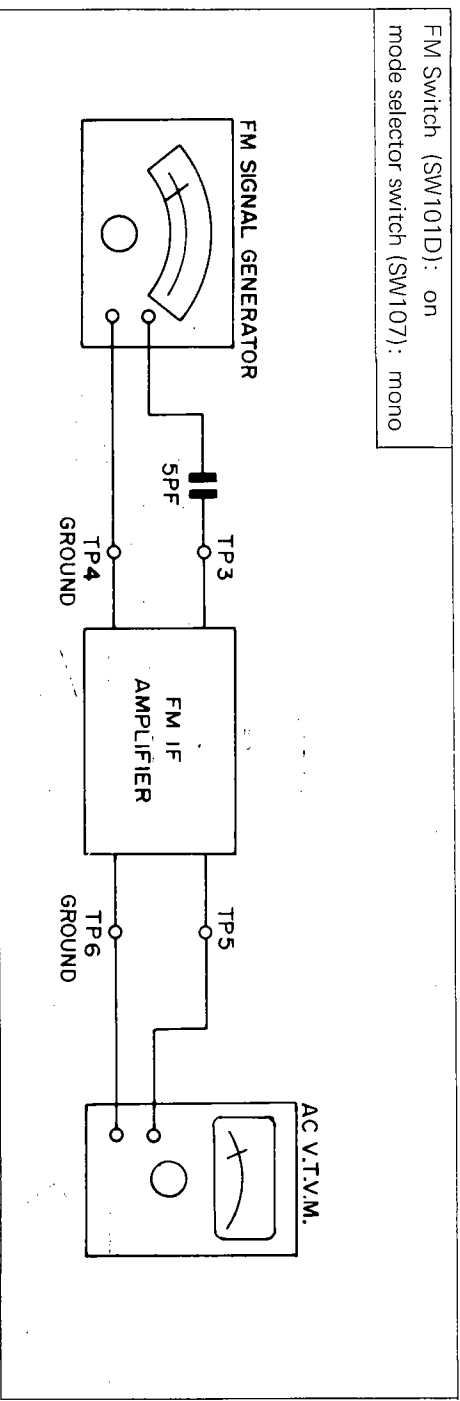


Figure 44 FM IF ALIGNMENT EQUIPMENT CONNECTION

FM Switch (SW101D): on
mode selector switch (SW107): mono

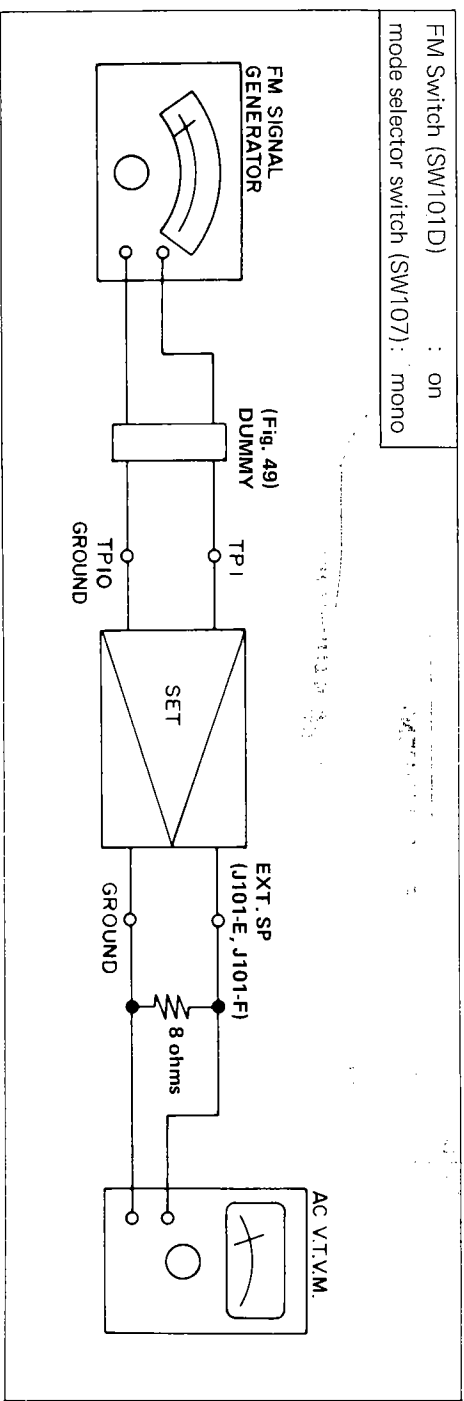


Figure 45 FM RF ALIGNMENT EQUIPMENT CONNECTION

[Note B] (Refer to Figure 46)

There are 5 kinds of ceramic filters (CF101, CF102) available with this unit and they are given color indication as tabulated below to differentiate the central frequency from one to another among them. When using them, be sure to make the two of the same type a pair.

When other ceramic filters than the one (red) having the central frequency of 10.7 MHz are used, note that a marker (10.7 MHz) of FM sweep generator, if used, will be deviated — therefore, adjust the generator by putting off the marker.

Central frequency (fo)		COLOR MARK	
		D	B
	Black:	10.64 MHz ± 30 kHz	10.67 MHz ± 30 kHz
	Blue:	10.70 MHz ± 30 kHz	10.73 MHz ± 30 kHz
	Red:	10.70 MHz ± 30 kHz	10.73 MHz ± 30 kHz
	Orange:	10.73 MHz ± 30 kHz	10.76 MHz ± 30 kHz
		E	White:

Figure 46

FM MPX ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RECEIVER		ADJUSTMENT
	CONNECTION TO RECEIVER	INPUT SIGNAL FREQUENCY	DIAL SETTING	REMARKS	
1	Refer to Figure 47 and 49	Exactly 98 MHz (54 dB un modulated).	98 MHz	Adjust for 19 ± 0.1 kHz.	Adjust the semi-variable resistor (R34).

FM Switch (SW101D): on
mode selector switch (SW107): stereo

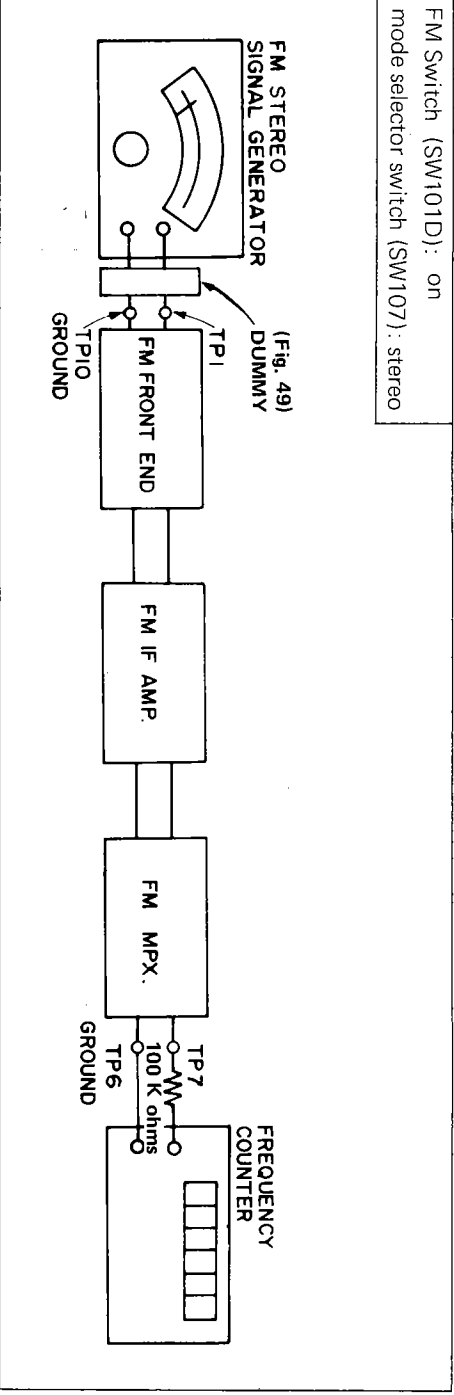


Figure 47 FM MPX ALIGNMENT EQUIPMENT CONNECTION

FM STEREO INDICATOR LIGHTING LEVEL ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RECEIVER		ADJUSTMENT
	CONNECTION TO RECEIVER	INPUT SIGNAL FREQUENCY	DIAL SETTING	REMARKS	
1	Refer to Figure 48 and 49	Exactly 98 MHz (20 dB) (19 KHz, 10%, FM modulated)	98 MHz	Adjust for the indicator starts lighting.	Adjust the semi-variable resistor (R22)

FM Switch (SW101D): ON
mode selector switch (SW107): stereo
muting switch (SW106): ON

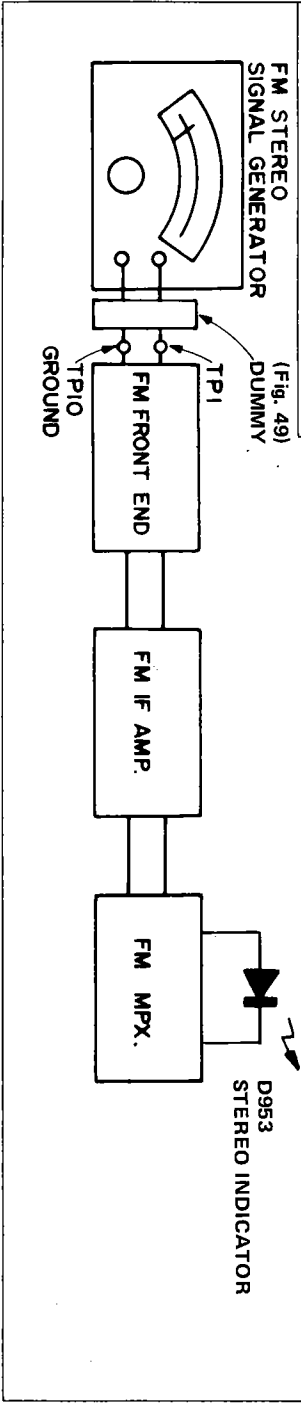


Figure 48 FM STEREO INDICATOR LIGHTING LEVEL ALIGNMENT EQUIPMENT CONNECTION

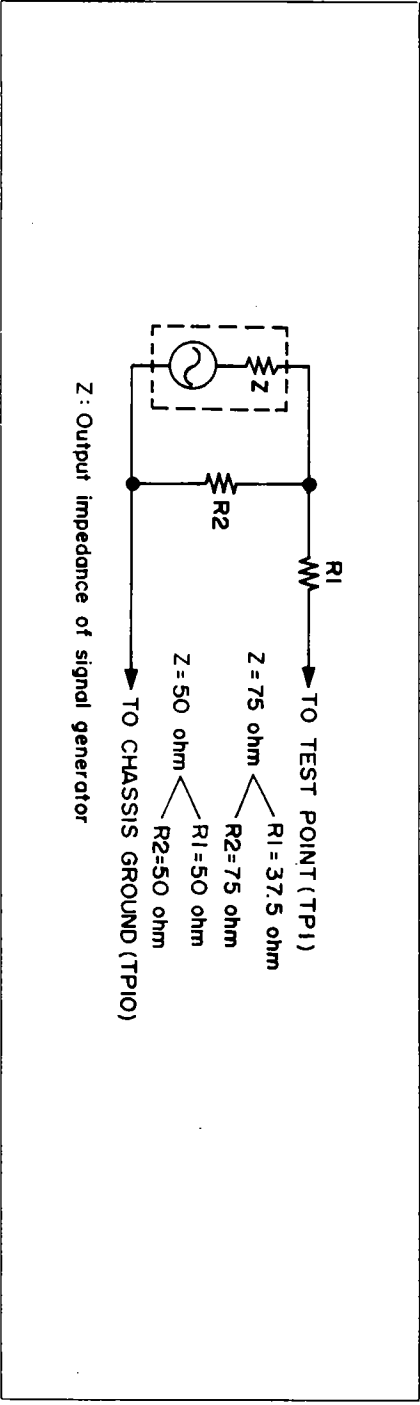


Figure 49 FM DUMMY

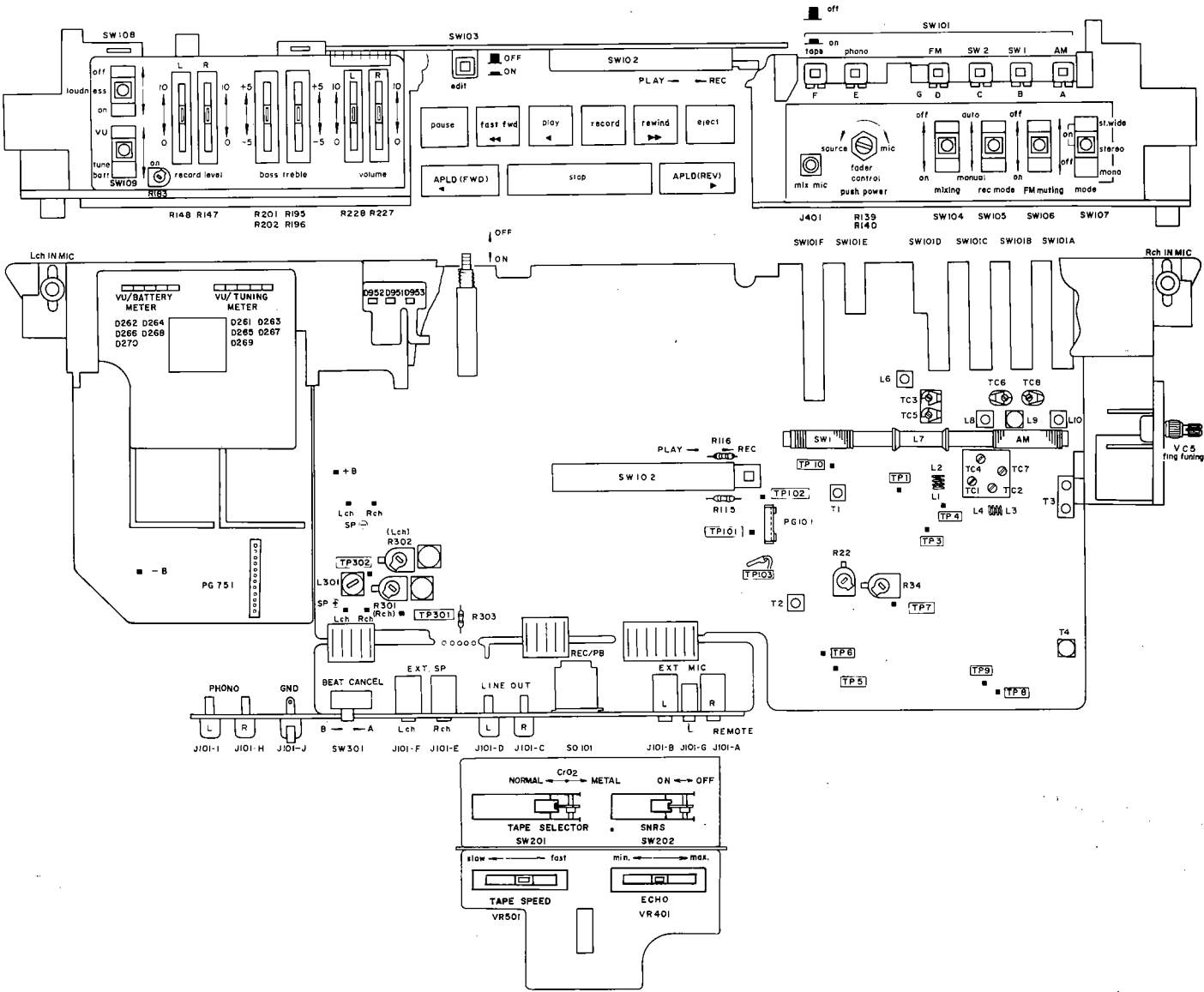
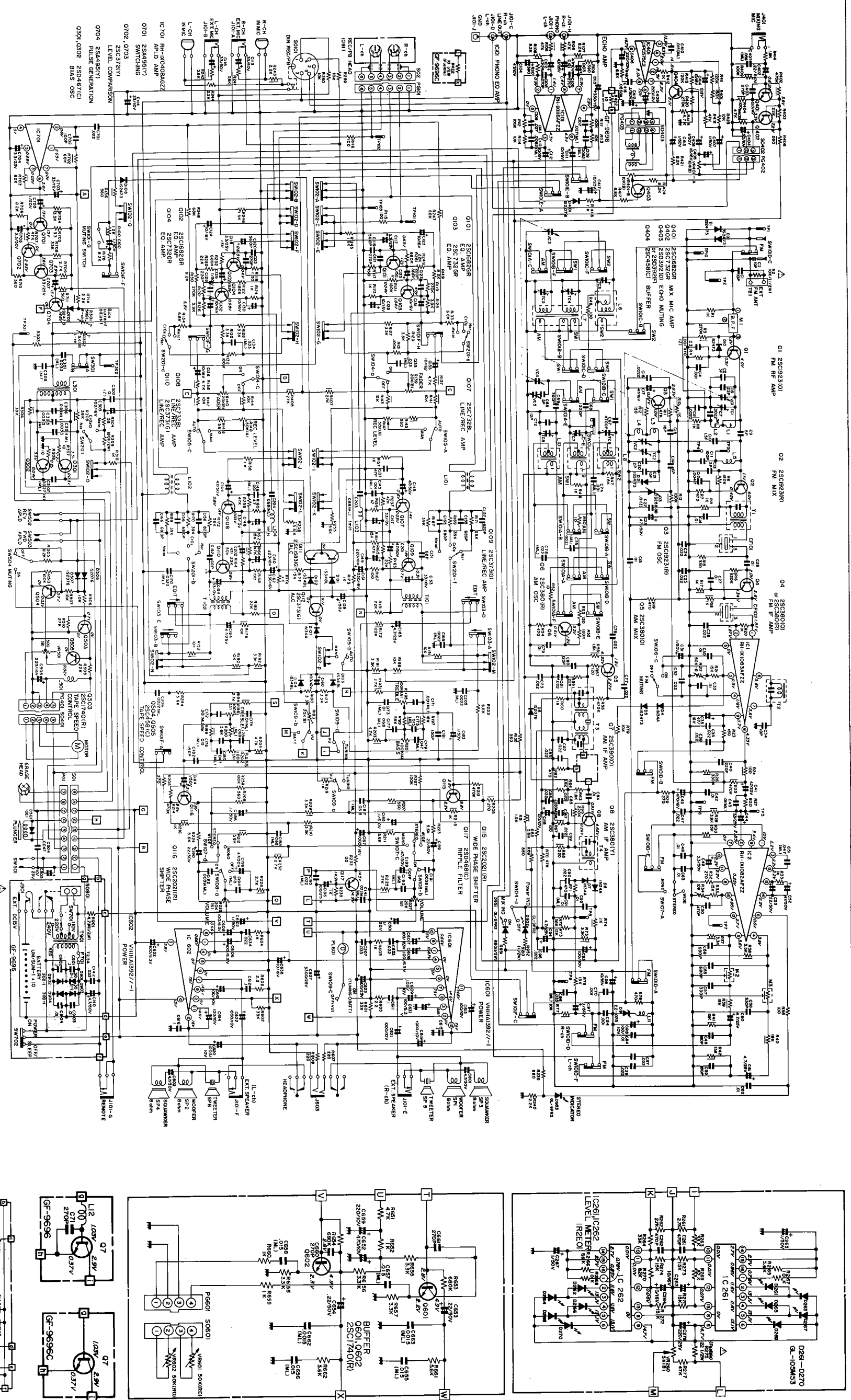


Figure 50 ALIGNMENT POINTS



(Specifications or wiring diagrams of this model are subject to change for the improvement without prior notice.)

Figure 51 SCHEMATIC DIAGRAM (TUNER AND AUDIO SECTION)

Parts marked with "△" () are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

NOTES ON SCHEMATIC DIAGRAM

- Frequency range: FM: 87.6 to 108MHz
SW2: 7.3 to 22MHz
SW1: 2.3 to 7.3MHz
AM: 525 to 1605kHz
FM: 10.7MHz
SW2/SW1/AM: 455kHz
Function selector switch
SW101 (A ~ F) ... Function selector switch ("FM" position)
SW101G ... Muting switch ("OFF" position)
SW101G ... Record/Playback switch (P.B. position)
SW103 (A ~ D): Editing switch ("OFF" position)
SW104 (A ~ D): Mixing switch ("off" position)
SW105 (A ~ D): Recording mode selector switch ("auto" position)
SW106 (A ~ D): FM muting switch ("off" position)
SW107 (A ~ D): Mode selector switch ("stereo" position)
SW108 (A, B): Loudness switch ("on" position)
SW109 (A ~ D): Meter selector/Dial Light switch ("VU"/off position)
SW201 (A ~ F): Tape selector switch ("normal" position)
SW202: SNRS switch ("ON" position)
SW301: Beat cancel switch ("A" position)
SW501: Motor switch (OFF position)
- IF:
- SW101:
- SW102 (A ~ R): Record/Playback switch (P.B. position)
SW103 (A ~ D): Editing switch ("OFF" position)
SW104 (A ~ D): Mixing switch ("off" position)
SW105 (A ~ D): Recording mode selector switch ("auto" position)
SW106 (A ~ D): FM muting switch ("off" position)
SW107 (A ~ D): Mode selector switch ("stereo" position)
SW108 (A, B): Loudness switch ("on" position)
SW109 (A ~ D): Meter selector/Dial Light switch ("VU"/off position)
SW201 (A ~ F): Tape selector switch ("normal" position)
SW202: SNRS switch ("ON" position)
SW301: Beat cancel switch ("A" position)
SW501: Motor switch (OFF position)
- SW502: Forward APD switch (OFF position)
SW503: Reverse APD switch (OFF position)
SW701: AC supply voltage selector switch ("220V" position)
SW702: Power switch (OFF/sleep position)
Unless otherwise specified all resistance in ohms. K = 1000 ohms.
Unless otherwise specified all capacitance in microfarads.
p = micro-microfarads.
Mylar film capacitor
The voltages are measured with VTVM under no signal input and in the following mode.
IC1, IC2, IC101, Q1, Q2, Q3 and Q4: FM mode
Q5, Q6, Q7 and Q8: AM mode
IC261, IC262, IC401, IC551, IC552, IC601, IC602, Q101, Q102, Q103, Q104, Q115, Q116, Q117, Q403, Q404, Q503, Q504, Q505, Q551, Q552, Q601 and Q602 : Playback mode
Q107, Q108, Q109, Q110, Q111, Q112, Q301, Q302, Q401, Q402 : Record mode
IC701, IC751, Q701, Q702, Q703, Q704, Q751, Q752, Q753, Q754, Q755, Q758 and Q759 : APD mode

Figure 52 SCHEMATIC DIAGRAM (APLD SECTION)

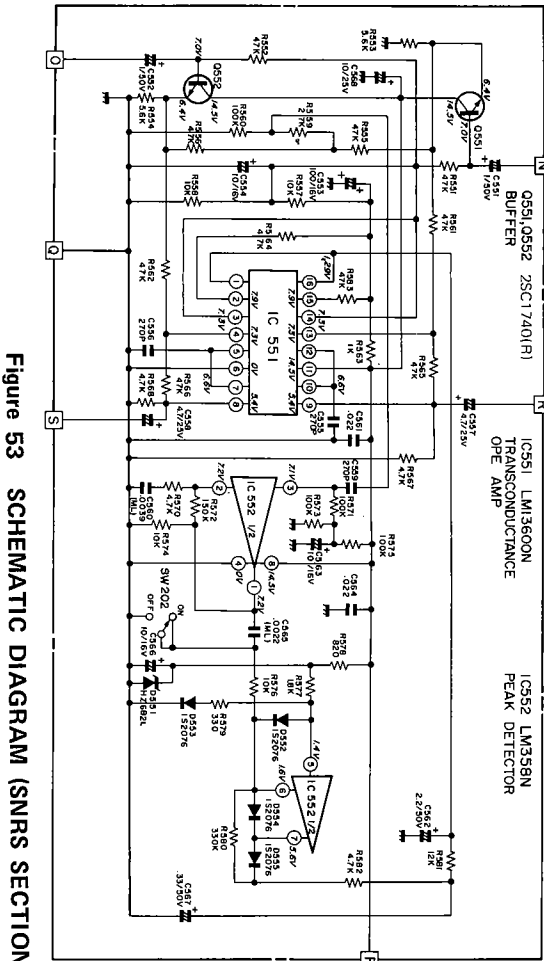
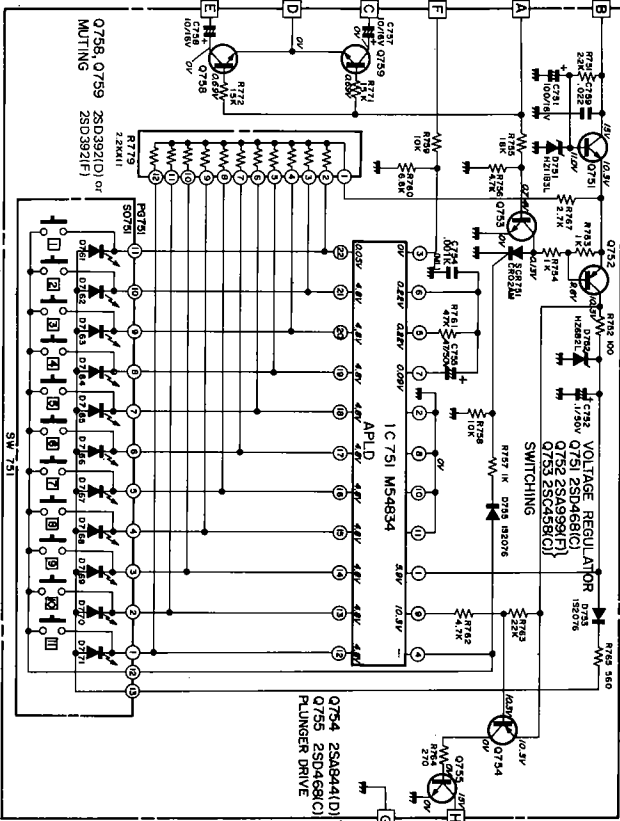


Figure 53 SCHEMATIC DIAGRAM (SNRS SECTION)

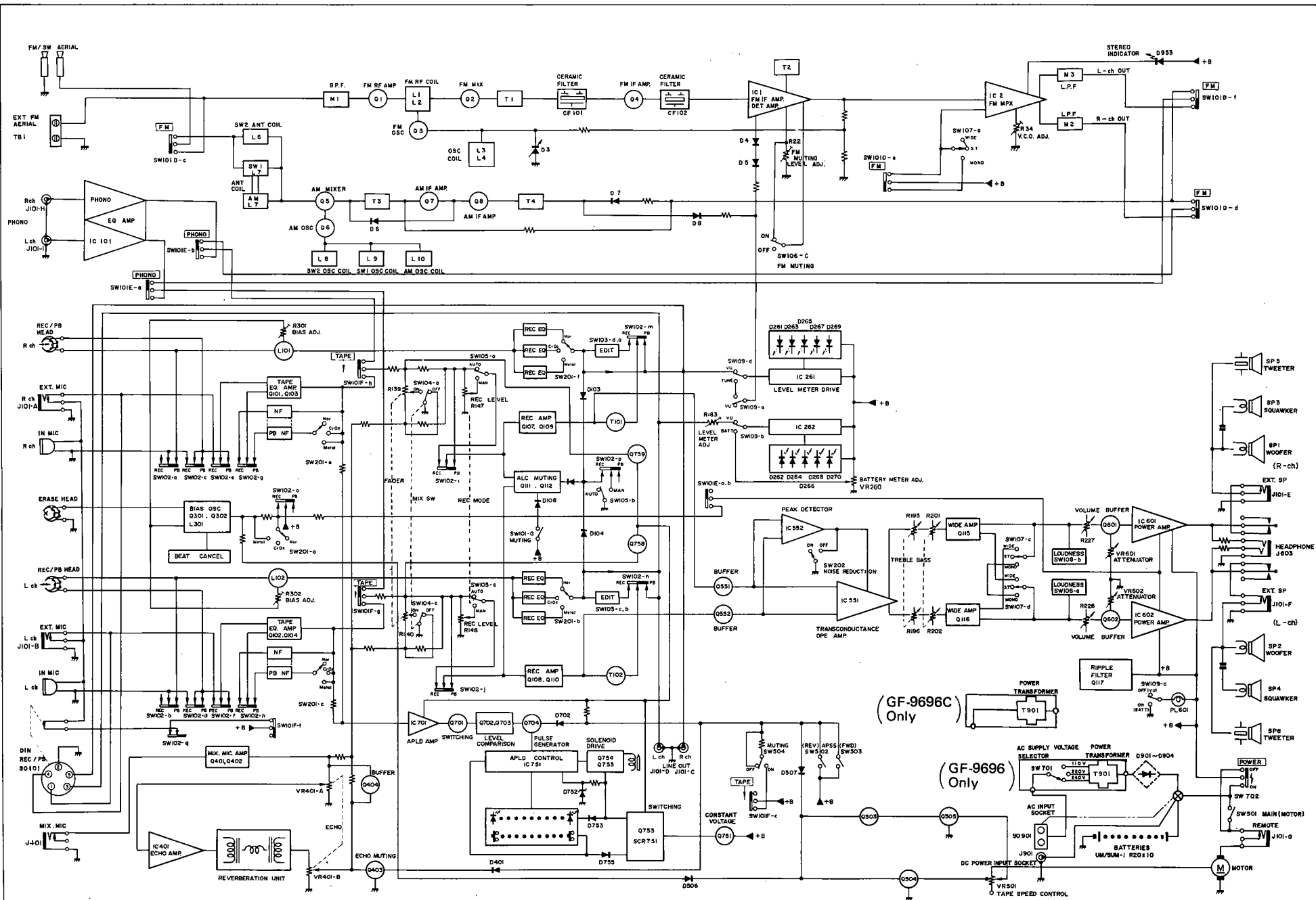


Figure 54 BLOCK DIAGRAM

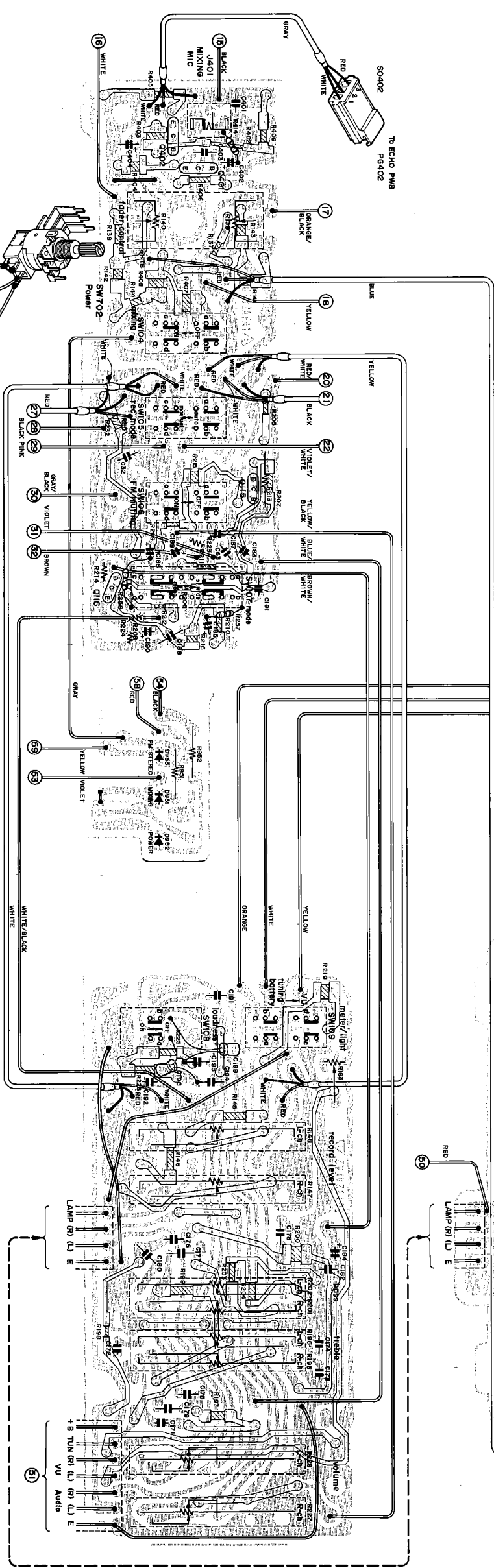
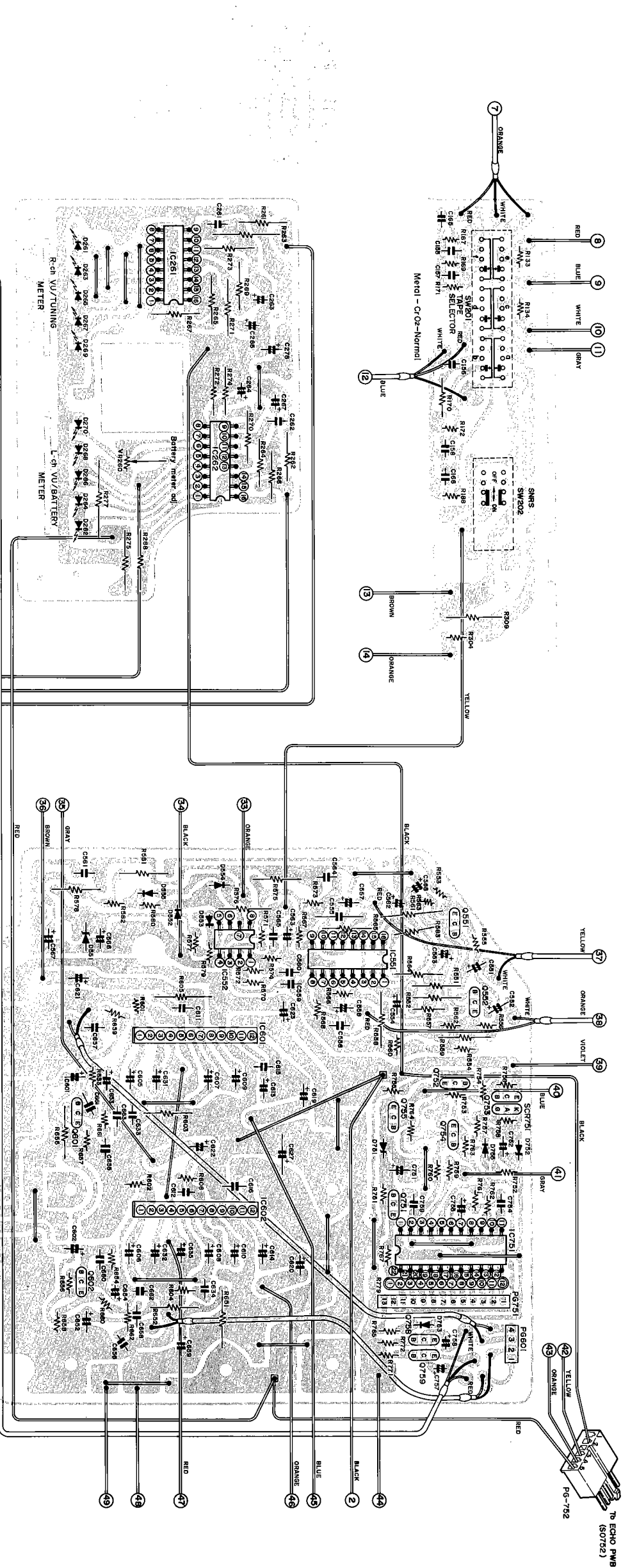


Figure 56 WIRING SIDE OF P.W. BOARD

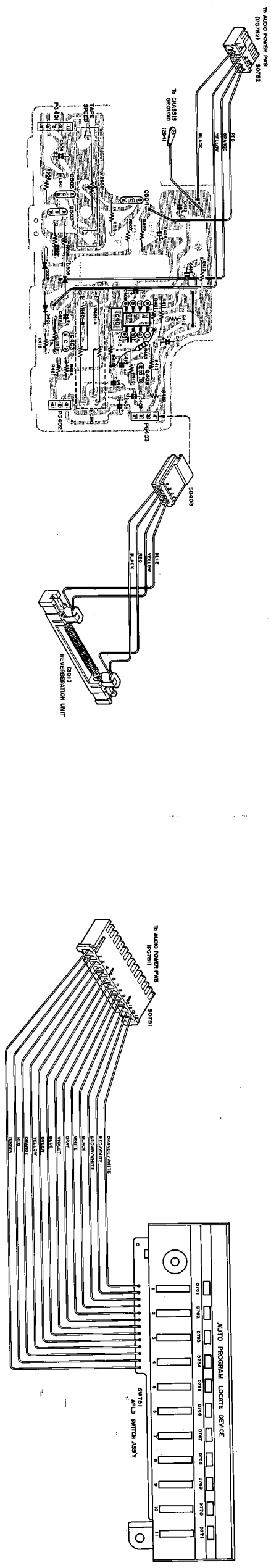
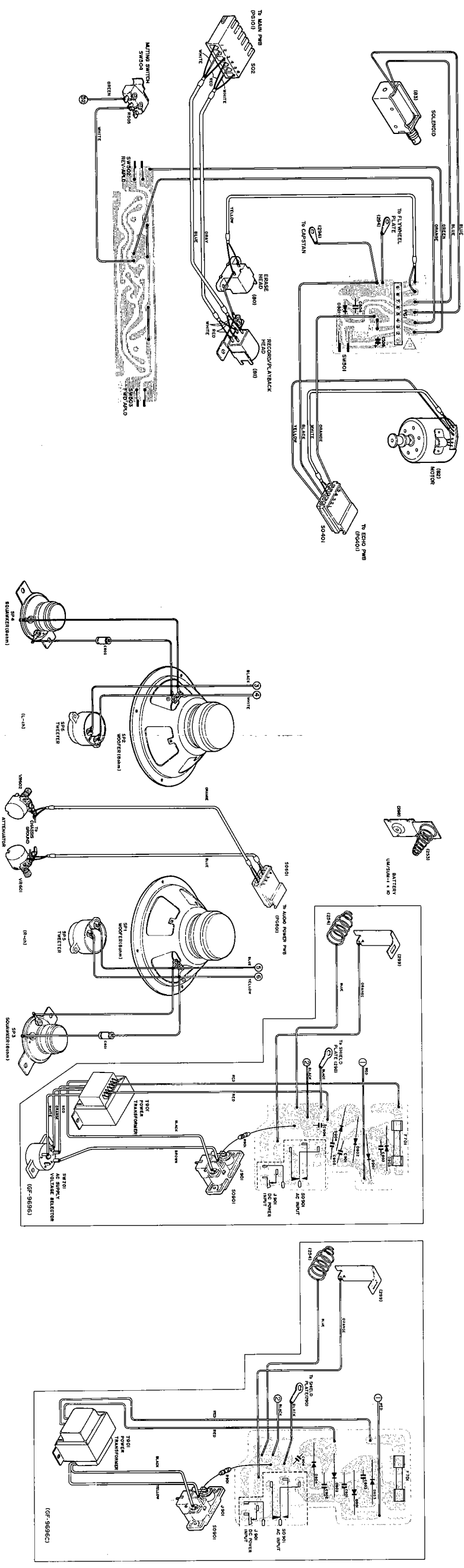


Figure 57 WIRING SIDE OF P.W. BOARD

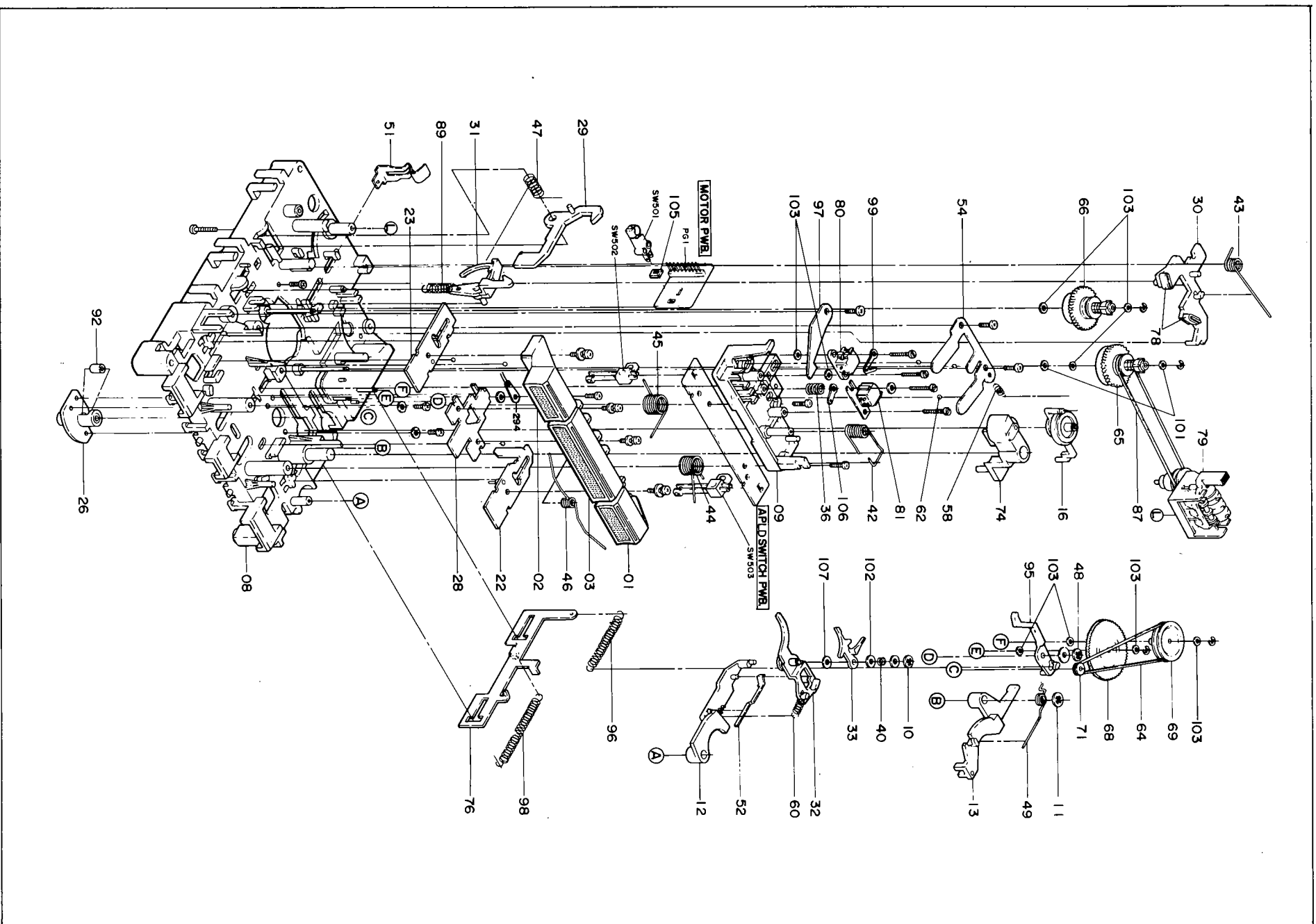


Figure 58 MECHANISM EXPLODED TOP VIEW

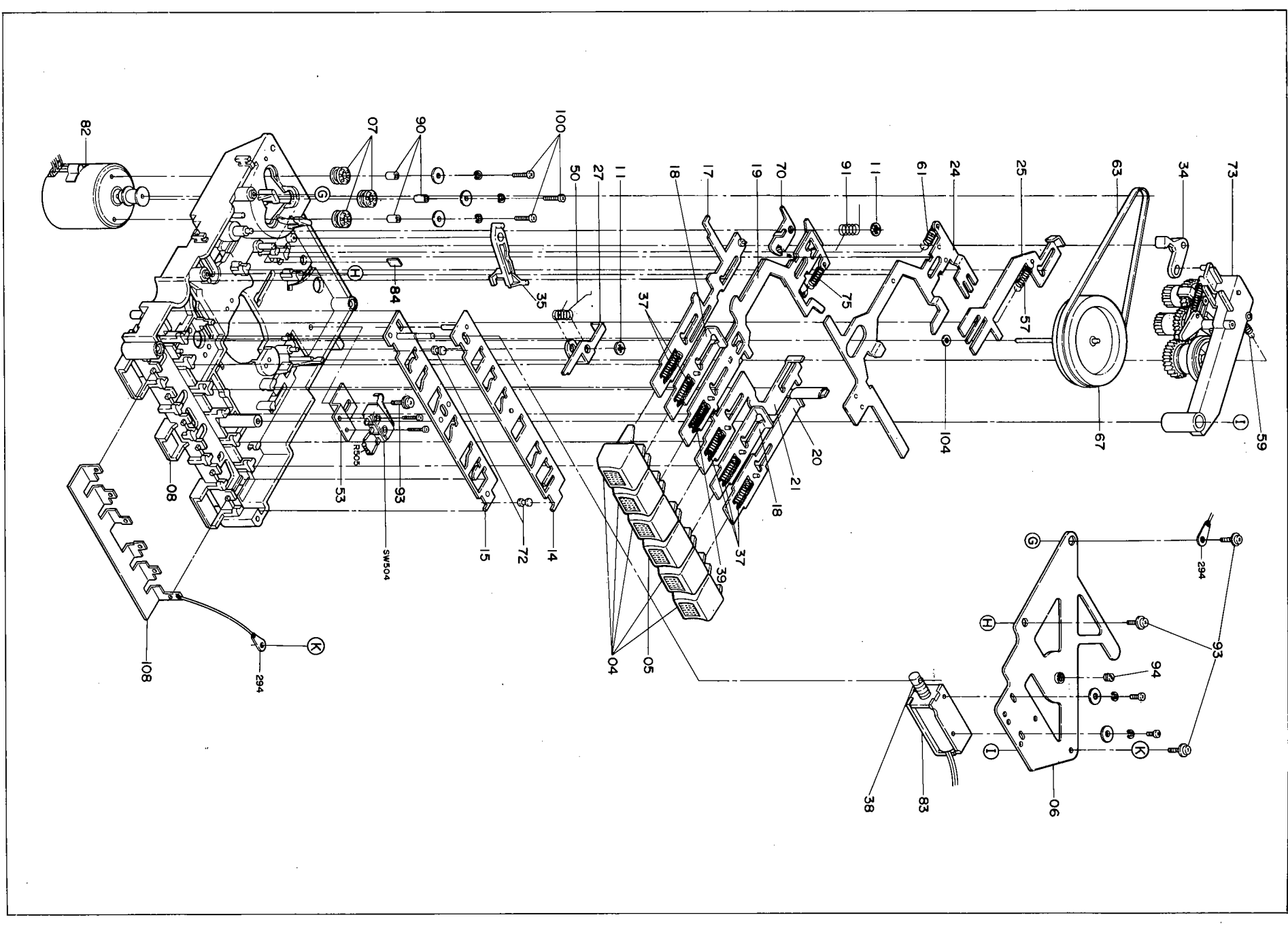
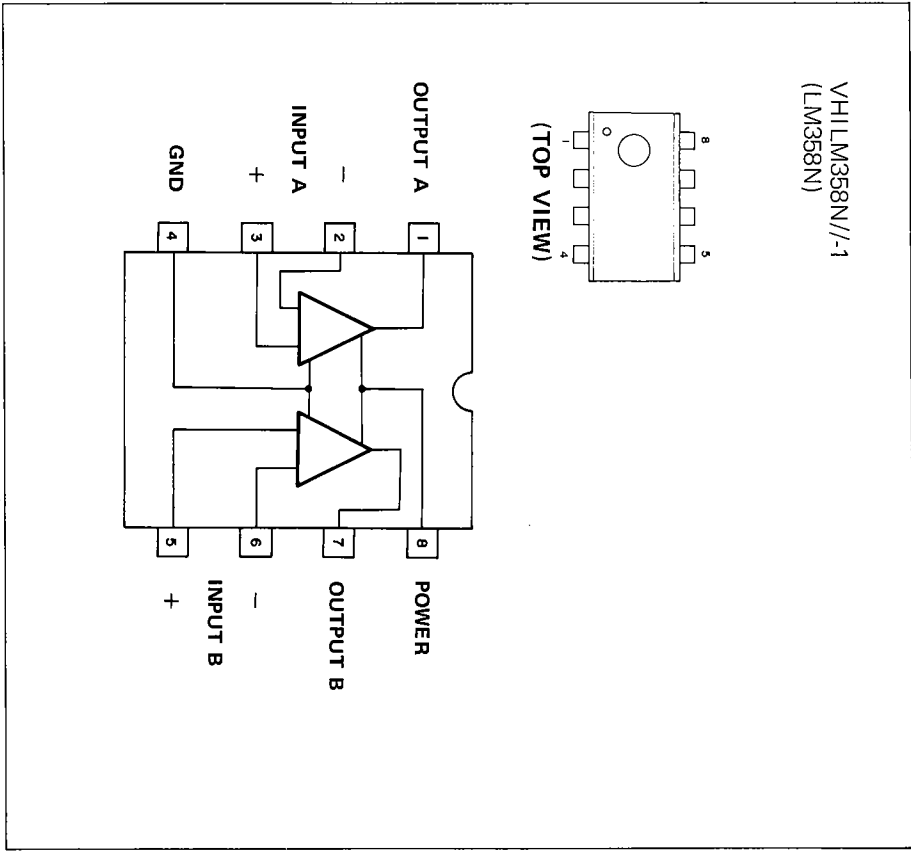
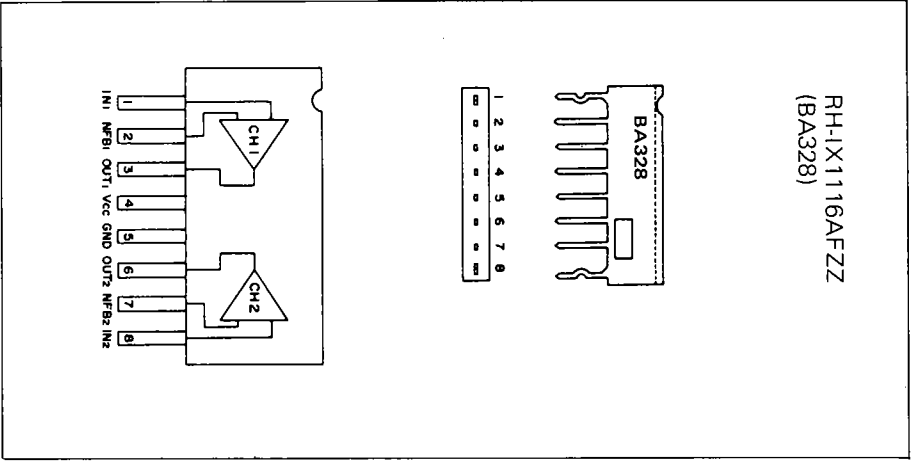
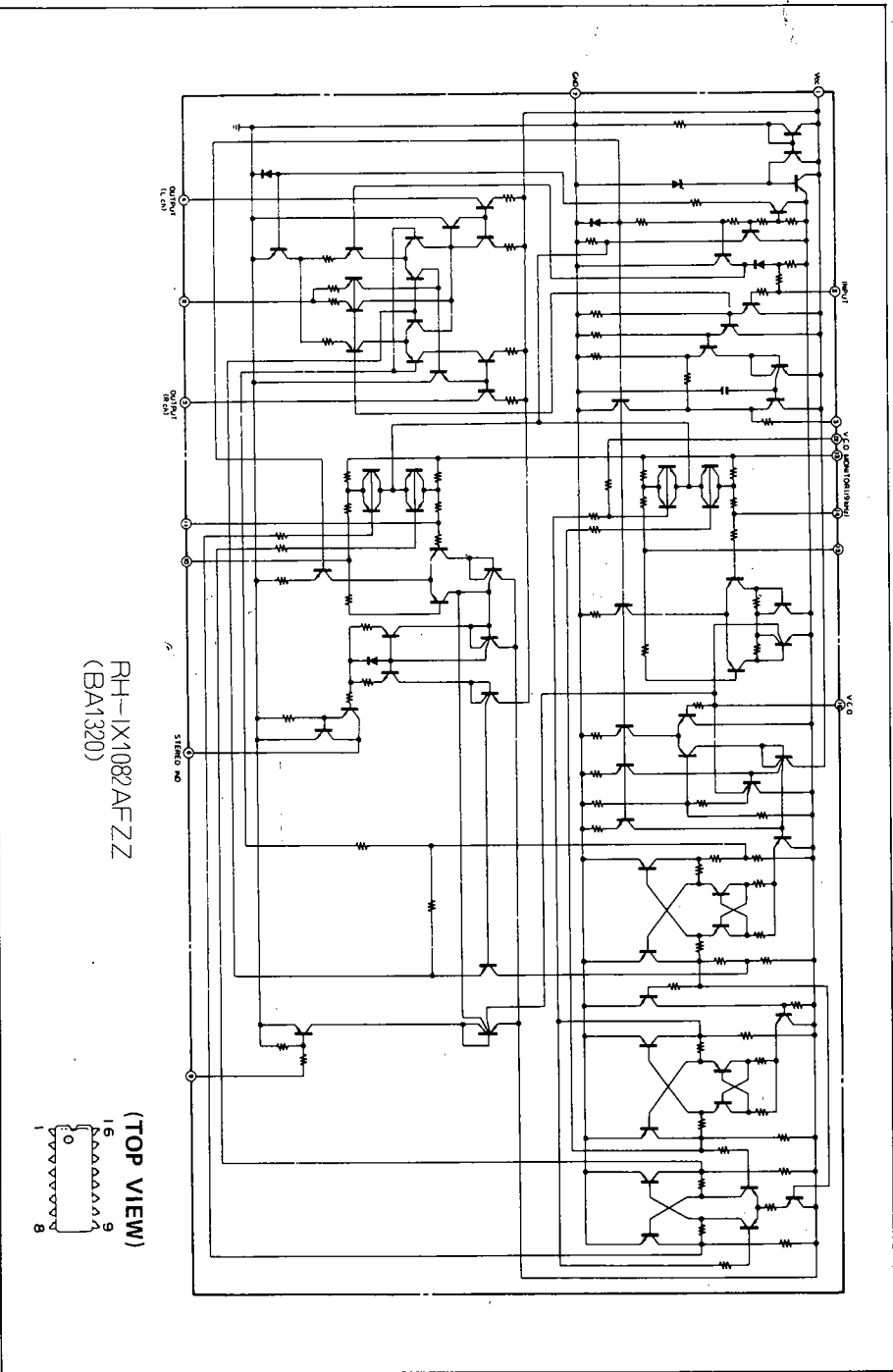
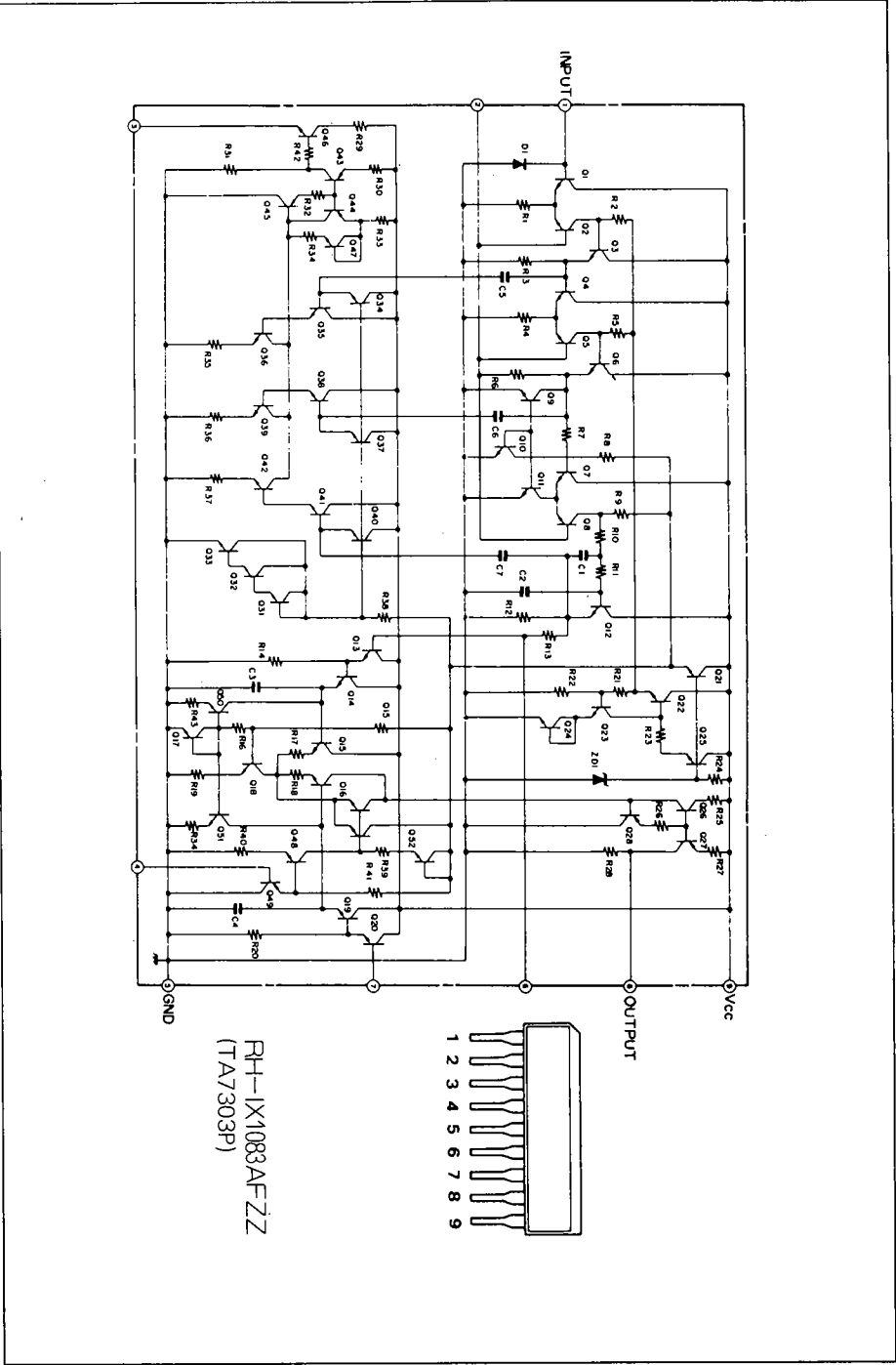


Figure 59 MECHANISM EXPLODED BOTTOM VIEW



Figure 60 CABINET EXPLODED VIEW (FRONT CABINET)





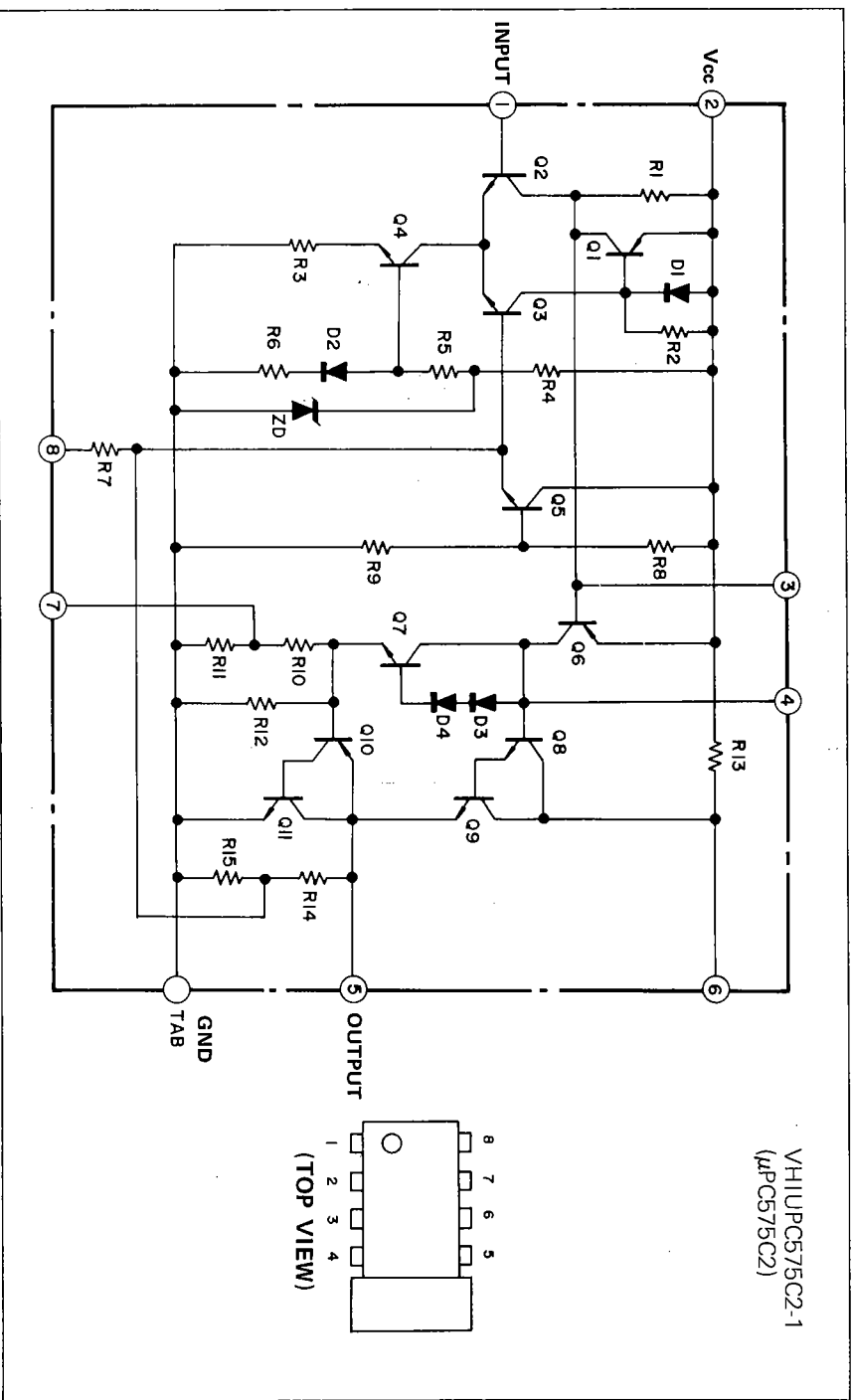


Figure 66 EQUIVALENT CIRCUIT OF IC (IC401)

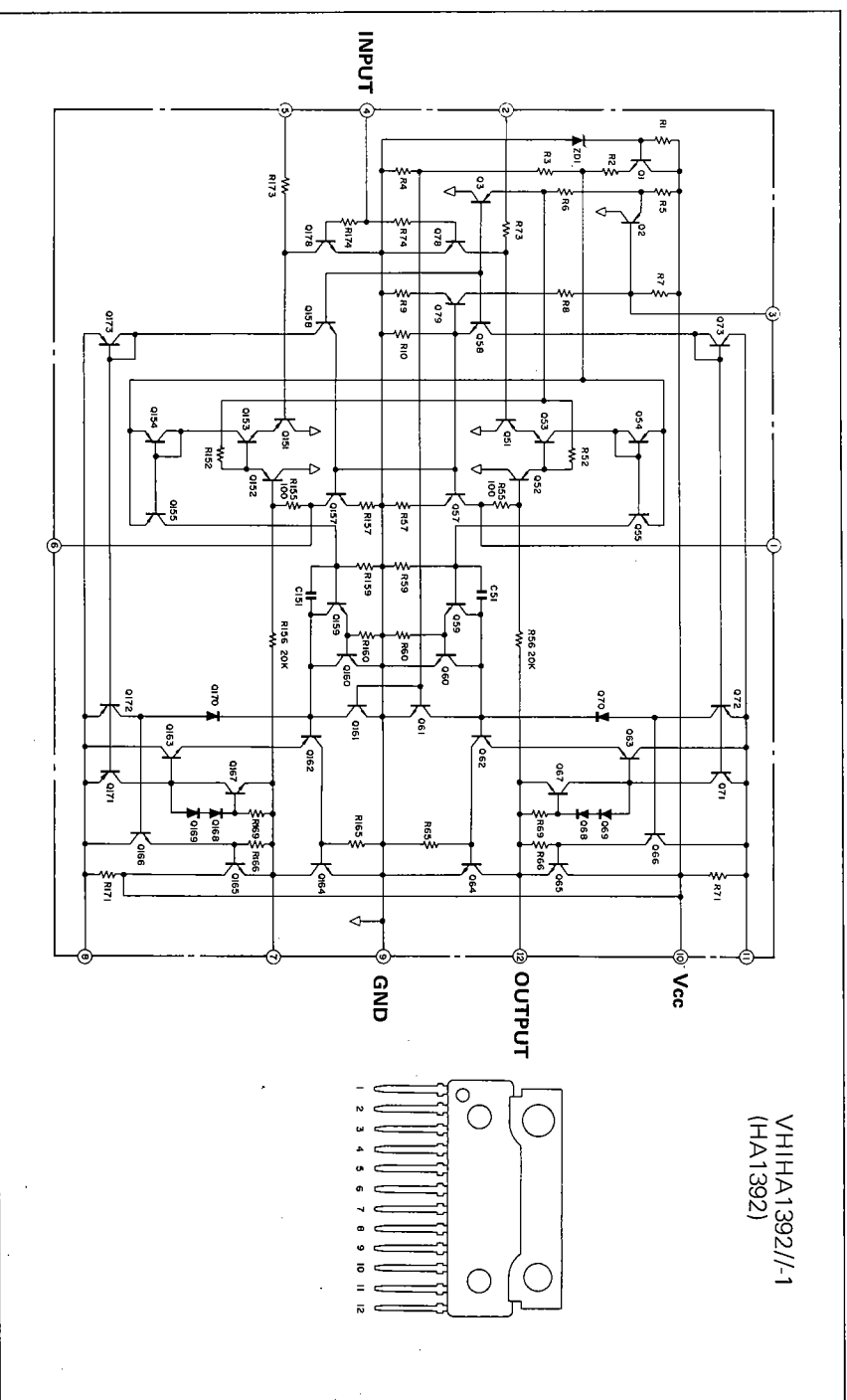


Figure 67 EQUIVALENT CIRCUIT OF IC (IC601, IC602)

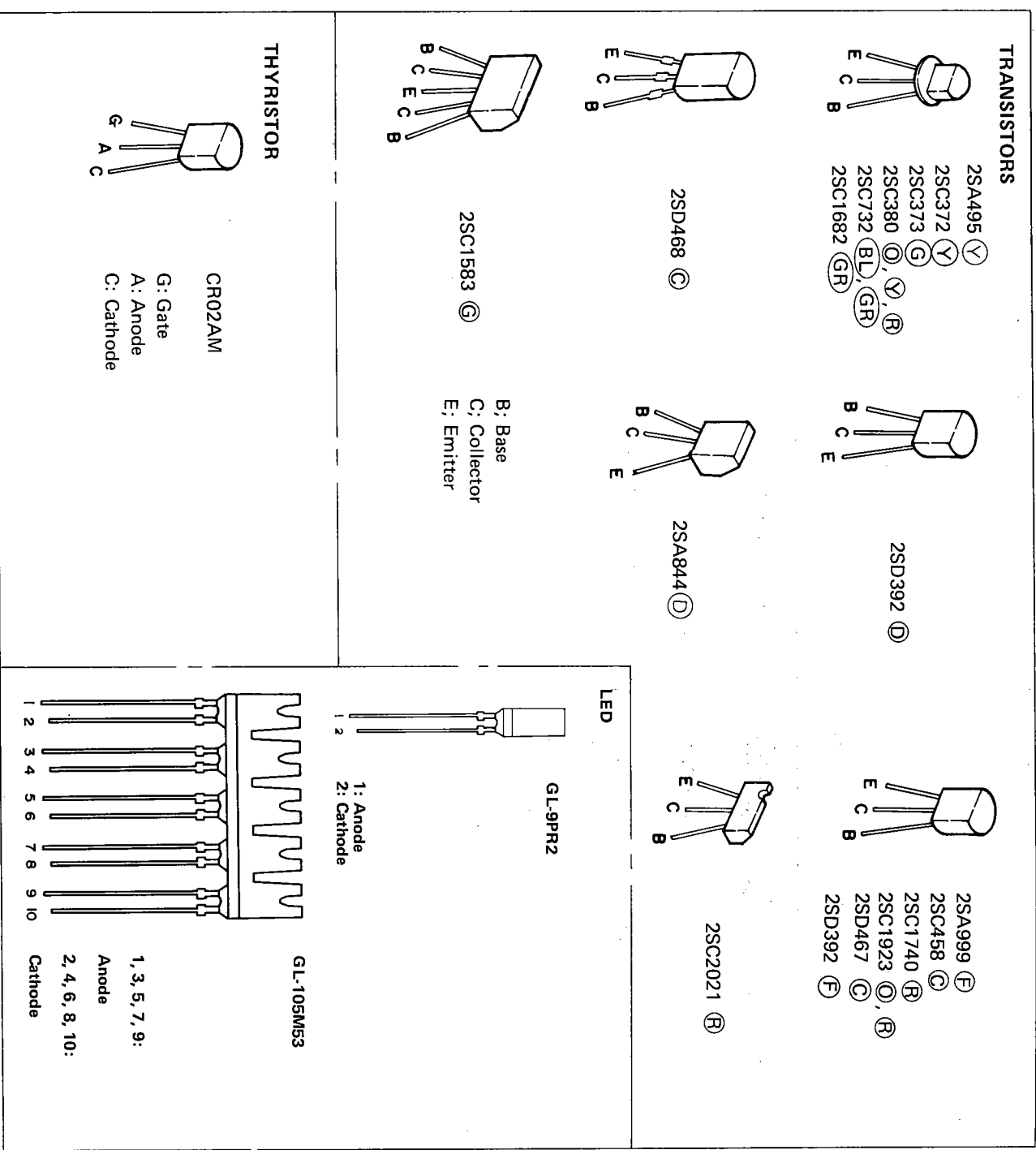


Figure 68 TERMINAL GUIDE OF TRANSISTOR, THYRISTOR AND LED

REPLACEMENT PARTS LIST

PARTS LIST

“HOW TO ORDER REPLACEMENT PARTS”

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

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

Parts marked with “ Δ ” () are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
INTEGRATED CIRCUITS							
IC1	RH-IX1083AFZZ	FM IF Amp. and Detector (TA7303P)	AK	Q503	VS2SC1740R/-1	Tape Speed Control (2SC1740 (R))	AB
IC2	RH-IX1082AFZZ	PLL FM Stereo Demodulator (BA1320)	AL	Q504, Q505, Q551, Q552, Q601, Q602	VS2SC458-C/-1	Tape Speed Control (2SC458 (C))	AB
IC101	RH-IX1116AFZZ	Phono Equalizer Amp. (BA-328)	AG		VS2SC1740R/-1	Buffer (2SC1740 (R))	AB
IC261, IC262	VH1IR2E01/-/1	Level Meter Drive (1R2E01)	AH	Q701	VS2SA495-Y/-1	APLD Switching (2SA495 (Y))	AC
IC401	VH1UPC575C2-1	Echo Amp. (μPC575C2)	AH	Q702, Q703	VS2SC372-Y/-1	APLD Level Comparison (2SC372 (Y))	AC
IC551	VH1LM13600N-1	Voltage Control, Low Pass Filter (LM13600N)	AP	Q704	VS2SA495-Y/-1	Pulse Generation (2SA495 (Y))	AC
IC552	VH1LM358N//1	Mix. Amp., Hi Pass Filter, Peak Detector (LM358N)	AG	Q751	VS2SD468-C/-1	Voltage Regulator Circuit (2SD468 (C))	AD
IC601, IC602	VH1HA1392//1	Audio Power Amp (HA1392)	AR	Q752	VS2SA999-F/-1	Switching (2SA999 (F))	AC
IC701	RH-IX0408AGZZ	APLD Amp. (TA7120P)	AE	Q753	VS2SC458-C/-1	Switching (2SC458 (C))	AB
IC751	VH1M54834//1	APLD Control (M54834)	AQ	Q754	VS2SA844-D/-1	Plunger Drive (2SA844 (D))	AC
				Q755	VS2SD468-C/-1	Plunger Drive (2SD468 (C))	AD
				Q758, Q759	VS2SD392-D/-1 or VS2SD392-F/-1	APLD Muting (2SD392 (D) or 2SD392 (F))	AC
TRANSISTORS							
Q1	VS2SC19230/-1	FM RF Amp. (2SC1923 (C))	AC	D1, D2	VHD1S2473//1	Protector (1S2473)	AA
Q2	VS2SC1923R/-1	FM Mixer (2SC1923 (R))	AC		VHC1S2688-B1F	FM AFC (1S2688 (B))	AC
Q3	VS2SC1923R/-1	FM Oscillator (2SC1923 (R))	AC	D3	VHD1N34A//1	Tuning Meter Bias (1N34A)	AB
Q4 { or	VS2SC380-O/-1 VS2SC380-R/-1	FM IF Amp. (2SC380 (O) or 2SC380 (R))	AC	D4	VHD1S2473/-1	Tuning Meter Bias (1S2473)	AA
Q5	VS2SC380-O/-1	AM Mixer (2SC380 (O))	AC	D5	VHD1S2076//1	AM Overload (1S2076)	AB
Q6	VS2SC380-R/-1	AM Oscillator (2SC380 (R))	AC	D6	VHD1N34A//1	AM Detector (1N34A)	AB
Q7	VS2SC380-O/-1	AM IF Amp. (2SC380 (O))	AC	D7	VHD1N34A//1	AM Tuning Detector (1N34A)	AB
Q8	VS2SC380-Y/-1	AM IF Amp. (2SC380 (Y))	AC	D8	VHEEZ-075//1	Zener, Voltage Regulator (EZ-075)	AB
Q101, Q102	VS2SC1682GR-1	Equalizer Amp. (2SC1682 (GR))	AC	D9	VHD1S2473//1	Protector (1S2473)	AA
Q103	VS2SC732-G/-1	Equalizer Amp. (2SC732 (GR))	AC	D10	VHD1S2473/-1	Protector (1S2473)	AA
Q104	VS2SC732-G/-1	Equalizer Amp. (2SC732 (GR))	AC	D12	VHD1S2473/-1	Protector (1S2473)	AA
Q107, Q108	VS2SC732BL/1F	Record Amp. (2SC732 (BL))	AD	D101, D102, D103, D104	VHD1S34////1	ALC (1S34BL)	AB
Q109, Q110	VS2SC737-G/-1	Record Amp. (2SC737 (G))	AC		VHD1N34A//1	ALC (1N34A)	AB
Q111	VS2SC1583G-1F	ALC Amp. (2SC1583 (G))	AE	D107	VHD1S2473/-1	Muting (1S2473)	AA
Q112	VS2SC737-G/-1	ALC Amp. (2SC737 (G))	AC	D108			
Q115, Q116	VS2SC2021-R-1	Wide Phase Shifter (2SC2021 (R))	AB	D261, D263, D265, D267, D269	VHPL105M53-1	LED, VU/Tuning (GL-105M53)	AK
Q301, Q302	VS2SD468-C/-1 VS2SD467-C/-1	Ripple Filter (2SD468 (C)) Record Bias Oscillator (2SD467 (C))	AD AC				
Q401	VS2SC1682GR-1	Mix. Mic. Amp. (2SC1682 (GB))	AC	D262, D264, D266, D268, D270	VHPL105M53-1	LED, VU/Battery Check (GL-105M53)	AK
Q402	VS2SC732-G/-1	Mix. Mic. Amp. (2SC732 (GB))	AC				
Q403 { or	VS2SD392-D/-1 VS2SD392-F/-1	Echo Muting (2SD392 (D) or 2SD392 (F))	AC				
Q404	VS2SC458-C/-1	Buffer (2SC458 (C))	AB	D401	VHD1S2076//1	Reverse Current Prevent (1S2076)	AB

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
D501, D506, D507	RH-DX1006AFZZ	Protector (10E1)	AB	TRANSFORMERS			
D551	VHEHZ6B2L/-1	Zener, Voltage Regulator (HZ6B2L)	AC	T1	RCILJ0157AFZZ	FM IF	AC
D552	VHDI S2076/-1	Protector, Peak Detector Amplifier (1S2076)	AB	T2	RCILJ0208AFZZ	FM IF	AC
D553	VHDI S2076/-1	Protector, Reverse Voltage (1S2076)	AB	T3	RCILJ0264AFZZ	AM IF	AG
D554	VHDI S2076/-1	Protector, Peak Detector Amplifier (1S2076)	AB	T4	RCILJ0170AFZZ	AM IF	AC
D555	VHDI S2076/-1	Reverse Current Prevent (1S2076)	AB	T101, T102	RTRN10065AFZZ	Recording	AF
D702	VHDI S2473/-1	Protector (1S2473)	AA	Δ T901	RTRN0717AFZZ	Power (GF-9696 Only)	AZ
D751	VHEHZ11B3L/-1	Zener, 11V (HZ11B3L)	AC		RTRN P0733AFZZ	Power (GF-9696C Only)	AY
D752	VHEHZ6B2L/-1	Zener, 6V (HZ6B2L)	AC	FILTERS			
D753, D755	VHDI S2076/-1	Reverse Current Prevent (1S2076)	AB	CF101, CF102	RFILF0009AFZZ	Ceramic, 10.7MHz, FM IF	AD
D761, D762, D763, D764, D765, D766, D767, D768, D769, D770, D771, D772		LED, APLD Program Indicator (Part of SW751) (GL-9PR2)	AD	PACKAGED CIRCUITS			
D902, D903, D904	VHD30D1FAS/-1	Rectifier, Power (30D1)	AD	M1	RFILF0056AFZZ	B.P.F., FM Antenna	AE
D951	RH-PX1008AFZZ	LED, Mixing Indicator (GL-9PR2)	AD	M2, M3	RMPTA0104AFZZ	Low Pass Filter	AD
D952	RH-PX1008AFZZ	LED, Power Indicator (GL-9PR2)	AD	R779	RMPTC0020AFZZ	Resistor Array, 2.2K ohm x 11	AD
D953	RH-PX1008AFZZ	LED, FM Stereo Indicator (GL-9PR2)	AD	CONTROLS			
THYRISTOR				VC1, VC2, VC3, VC4, TC1, TC2, TC3, TC4, TC7	RVC-M0059AFZZ	Variable Capacitor, Tuning with Trimmers	AQ
SCR751	VHSCR02AM1B-1	Switching (CR02AM)	AE	VC5	RVC-M0051AFZZ	Fine Tuning	AH
COILS				TC3, TC5	RTO-H2050AFZZ	Trimmers	AD
L1, L2, L3, L4, L5, L6, L7, L8, L9, L10, L11, L12	RCILR0112AFZZ	FM RF	AA	TC6	RTO-H1007AFZZ	TC5; AM Antenna Trimmer	AC
	RCILR0089AFZZ	FM Oscillator	AA	TC8	RTO-H1007AFZZ	Trimmer, SW ₂ Oscillator	AC
	RCILC0030AFZZ	FM IF Trap	AB	R22	RVR-M0130AFZZ	50K ohm (B), Muting Level Adjust	AC
	RCILLA0495AFZZ	SW ₂ Antenna	AD	R34	RVR-M0127AFZZ	10K ohm (B), PLL VCO Adjust	AC
	RCILLA0414AFZZ	AM/SW ₁ Antenna	AL	R139/ R140	RVR-B0229AFZZ	20K ohm (B), Fader	AL
	RCILB0358AFZZ	SW ₂ Oscillator	AE	R147/ R148	RVR-Z0069AFZZ	50K ohm (A), Record Level	AK
	RCILB0357AFZZ	SW ₁ Oscillator	AD	R183	RVR-M0221AFZZ	20K ohm (B), VU LED Meter Adjust	AB
	RCILB0444AFZZ	AM Oscillator	AC	R195/ R196	RVR-P0065AFZZ	100K ohm (A), Treble	AG
	RCILF0014AGZZ	Choke (L172, GF-9696 Only)	AC	R201/ R202	RVR-P0065AFZZ	100K ohm (A), Bass	AG
	RCILB0468AFZZ	Bias Step-up	AD	R227/ R228	RVR-Z0068AFZZ	20K ohm (B), Volume	AK
	VP-CH102K0000	1mH, Peaking	AB	R301, R302	RVR-M0126AFZZ	5K ohm (B), Bias Current Adjust	AC
	RCILB0465AFZZ	Bias Oscillator	AE	VR260	RVR-M0220AFZZ	5K ohm (B), Battery Check	AB
	RCILF0014AGZZ	Noise Suppressor	AC	VR401	RVR-Q0066AFZZ	LED Meter Adjust	AH
				(A,B)			
				VR501	RVR-Q-00065AFZZ	500 ohm (B), Tape Speed Adjust	AF
				VR601, VR602	RVR-Z0088AFZZ	50K ohm (RD), Attenuator	AE

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
ELECTROLYTIC CAPACITORS			
(Unless otherwise specified electrolytic capacitors are 16V, +50 –10% type.)			
C17	VCEAAU1CW476Y	47MFED	AB
C23	VCEALU1HW474M	47MFED, 50V, ±20%	AB
C31	VCEAAU1HW105A	1MFED, 50V, +75 –10%	AB
C35	VCEAAU1CW476Y	47MFED	AB
C41	VCEAAU1EW475A	4.7MFED, 25V, +75 –10%	AB
C44	VCEAAU1EW358A	3.3MFED, 25V, +75 –10%	AB
C45	VCEAAU1CW477Y	470MFED	AC
C49	VCEALU1HW335M	3.3MFED, 50V, ±20%	AB
C52	VCEALU1HW474M	47MFED, 50V, ±20%	AB
C53	VCEALU1HW224M	22MFED, 50V, ±20%	AB
C60	VCEAAU1EW475A	4.7MFED, 25V, +75 –10%	AB
C61			
C68	VCEAAU1AW107Y	100MFED, 10V, +50 –10%	AB
C93			
C94	VCEAAU1EW475A	4.7MFED, 25V, +75 –10%	AB
C97	VCEALU1HW104M	1MFED, 50V, ±20%	AB
C98	VCEAAU1AW107Y	100MFED, 10V, +50 –10%	AB
C99	VCEAAU1CW106Y	10MFED	AB
C100	VCEALU1HW105M	1MFED, 50V, ±20%	AB
C101			
C102	VCEALU1EC475M	4.7MFED, 25V, ±20%	AB
C103			
C104	VCEAAU1AW476Y	47MFED, 10V, +50 –10%	AB
C111	VCEAAU1CW106Y	10MFED	AB
C112			
C113	RC-EZS337AF1C	330MFED, 16V, ±20%	AC
C114	VCEAAU1AW336Y	33MFED, 10V, +50 –10%	AB
C115	VCEALU1HW334M	33MFED, 50V, ±20%	AB
C116			
C117	VCEALU1EC335M	3.3MFED, 25V, ±20%	AB
C118			
C123	VCEAAU1CW106Y	10MFED	AB
C124			
C125	VCEAAU1HW105A	1MFED, 50V, +75 –10%	AB
C126			
C129			
C130			
C131	VCEAAU1CW106Y	10MFED	AB
C132			
C135			
C136	VCEAAU1HW475A	4.7MFED, 50V, +75 –10%	AB
C143	VCEALU1HW474M	47MFED, 50V, ±20%	AB
C144			
C147	VCEAAU1AW336Y	33MFED, 10V, +50 –10%	AB
C148			
C149	RC-EZS227AF1A	220MFED, 10V, ±20%	AB
C150			
C153	VCEAAU1AW336Y	33MFED, 10V, +50 –10%	AB
C154			
C159	VCEAAU1HW105A	1MFED, 50V, +75 –10%	AB
C160	VCEAAU1AW107Y	100MFED, 10V, +50 –10%	AB
C161	RC-EZS337AF1C	330MFED, 16V, ±20%	AC
C162			
C163	VCEAAU1EW475A	4.7MFED, 25V, +75 –10%	AB
C164			
C183	VCEAAU1HW105A	1MFED, 50V, +75 –10%	AB
C184			
C185	VCEALU1HW104M	1MFED, 50V, ±20%	AB
C186			
C189	VCEALU1HW224M	22MFED, 50V, ±20%	AB
C190			

REF. NO.	PART NO.	DESCRIPTION	CODE
C196	VCEAAU1EW107Y	100MFED, 25V, +50 –10%	AC
C197	VCEAAU1CW108Y	1000MFED	AD
C198			
C199	VCEALU1HW474M	47MFED, 50V, ±20%	AB
C201			
C202	VCEAAU1CW106Y	10MFED	AB
C263			
C264			
C265	VCEAAU1HW105A	1MFED, 50V, +75 –10%	AB
C267			
C278	RC-EZS227AF1E	220MFED, 25V, ±20%	AC
C303	VCEAAU1CW107Y	100MFED	AB
C402	VCEALU1HW224M	22MFED, 50V, ±20%	AB
C404	VCEAAU1AW336Y	33MFED, 10V, +50 –10%	AB
C405	VCEAAU1CW106Y	10MFED	AB
C406	RC-EZS227AF1E	220MFED, 25V, ±20%	AC
C407	VCEAAU1HW105A	1MFED, 50V, +75 –10%	AB
C408			
C409	RC-EZS227AF1A	220MFED, 10V, ±20%	AB
C412	VCEALU1HW104M	1MFED, 50V, ±20%	AB
C414	VCEAAU1CW106Y	10MFED	AB
C415	VCEAAU1HW105A	1MFED, 50V, +75 –10%	AB
C417	VCEAAU1EW106Y	10MFED, 25V, +50 –10%	AB
C505	VCEAAU1EW106Y	10MFED, 25V, +50 –10%	AB
C506	RC-EZS227AF1C	220MFED, 16V, ±20%	AC
C551	VCEAAU1HW105A	1MFED, 50V, +75 –10%	AB
C552			
C553	RC-EZS107AF1C	100MFED, 16V, ±20%	AB
C554	VCEAAU1CW106Y	10MFED	AB
C557	VCEAAU1EW475A	4.7MFED, 25V, +75 –10%	AB
C558			
C562	VCEALU1HW225M	2.2MFED, 50V, ±20%	AB
C563	VCEAAU1CW106Y	10MFED	AB
C566			
C567	VCEALU1HW334M	33MFED, 50V, ±20%	AB
C568	VCEAAU1EW106Y	10MFED, 25V, +50 –10%	AB
C601	VCEAAU1HW105A	1MFED, 50V, +75 –10%	AB
C602			
C605			
C606	RC-EZS107AF0J	100MFED, 6.3V, ±20%	AB
C607			
C608			
C609			
C610	RC-EZS107AF1A	100MFED, 10V, ±20%	AB
C613			
C614			
C619			
C620	RC-EZS108AF1A	1000MFED, 10V, ±20%	AD
C621			
C622			
C623	RC-EZS107AF1E	100MFED, 25V, ±20%	AC
C627	RC-EZS338AF1E	3300MFED, 25V, ±20%	AH
C631	RC-EZS107AF0J	100MFED, 6.3V, ±20%	AB
C632			
C635	VCEAAU1CW106Y	10MFED	AB
C652	RC-EZS477AF1A	470MFED, 10V, ±20%	AC
C653	VCEALU1HW224M	22MFED, 50V, ±20%	AB
C654			
C659	RC-EZS227AF1A	220MFED, 10V, ±20%	AB
C703	VCEAAU1AW336Y	33MFED, 10V, +50 –10%	AB
C704	VCEAAU1EW335A	3.3MFED, 25V, +75 –10%	AB
C705	VCEAAU1HW105A	1MFED, 50V, +75 –10%	AB
C706	VCEALU1HW335M	3.3MFED, 50V, ±20%	AB
C707	VCEAAU1EW336Y	33MFED, 25V, +50 –10%	AB
C751	RC-EZS107AF1C	100MFED, 16V, ±20%	AB

REF. NO.	PART NO.	DESCRIPTION	CODE
C752	VCEALU1HW104M	1MFED, 50V, ±20%	AB
C755	VCEALU1HW474M	47MFED, 50V, ±20%	AB
C757			
C758	VCEAAU1CW106Y	10MFED	AB
C801			
C802	VCE9AT1SD475M	4.7MFED, 30V, ±20%, Non-Polar	AD
CAPACITORS			
(Unless otherwise specified capacitors are 50V, +80 –20%, Ceramic type.)			
C1	VCCSPU1HL100F	10PF, 50V, ±1PF, Ceramic	AA
C2			
C3	VCKZPU1HF102Z	.001MFED	AA
C4			
C5	VCCSPU1HL3R0C	3PF, 50V, ±0.25PF, Ceramic	AA
C6	VCCSPU1HL220J	22PF, 50V, ±5%, Ceramic	AA
C7	VCKYPUIHB222M	.0022MFED, 50V, ±20%, Ceramic	AA
C8			
C9	VCCSPU1HL5R0C	5PF, 50V, ±0.25PF, Ceramic	AA
C10	VCCCPUIHH1R5C	1.5PF, 50V, ±0.25PF, Ceramic	AA
C11	VCCSPU1HL101J	100PF, 50V, ±5%, Ceramic	AA
C12	VCKYPUIHB472M	.0047MFED, 50V, ±20%, Ceramic	AA
C13	VCCSPU1HL3R0C	3PF, 50V, ±0.25PF, Ceramic	AA
C14	VCKZPU1HF103Z	.01MFED	AA
C15	VCKZPU1HF103Z	.01MFED	AA
C16	VCKYPUIHB222M	.0022MFED, 50V, ±20%, Ceramic	AA
C18	VCCUPUIHJ150J	15PF, 50V, ±5%, Ceramic	AA
C19	VCCCPUIHH6R0C	6PF, 50V, ±0.25PF, Ceramic	AA
C20	VCCSPU1HL2R0C	2PF, 50V, ±0.25PF, Ceramic	AA
C21	VCCSPUIHH150J	15PF, 50V, ±5%, Ceramic	AA
C22	VCKZPU1HF103Z	.01MFED	AA
C24	VCKZPU1HF223Z	.022MFED	AA
C25	VCKYPUIHB223M	.022MFED, 50V, ±20%, Ceramic	AB
C26			
C27	VCKZPU1HF103Z	.01MFED	AA
C28	VCKYPUIHB223M	.022MFED, 50V, ±20%, Ceramic	AB
C30	VCKZPU1HF103Z	.01MFED	AA
C32	VCKZPU1HF223Z	.022MFED	AA
C33	VCKZPU1HF103Z	.01MFED	AA
C34	VCCCPUIHH100F	10PF, 50V, ±1PF, Ceramic	AA
C36	VCKYPUIHB223M	.022MFED, 50V, ±20%, Ceramic	AB
C37			
C38	VCKZPU1HF223Z	.022MFED	AA
C39			
C40	VCCSPU1HL221J	220PF, 50V, ±5%, Ceramic	AA
C42	VCKZPU1HF103Z	.01MFED	AA
C43	VCOYKU1HM103M	.01MFED, 50V, ±20%, Mylar	AB
C46	VCCSPU1HL181J	180PF, 50V, ±5%, Ceramic	AA
C48	VCKZPU1HF103Z	.01MFED	AA
C50	VCCSMT1HS471J	470PF, 50V, ±5%, Styrol	AB
C51	VCOYKU1HMA73M	.047MFED, 50V, ±20%, Mylar	AB
C54	VCKZPU1HF102Z	.001MFED	AA
C55			
C56	VCKYPUIHB681K	680PF, 50V, ±10%, Ceramic	AA
C57			
C58	VCCSPU1HL331J	330PF, 50V, ±5%, Ceramic	AA
C59	VCCSPU1HL181J	180PF, 50V, ±5%, Ceramic	AA
C62			
C63	VCKZPU1HF103Z	.01MFED	AA
C64			
C66	VCCCPUIH5R0C	5PF, 50V, ±0.25PF, Ceramic	AA
C67	VCCSMT1HS472J	4700PF, 50V, ±5%, Styrol	AB
C68	VCCSMT1HS152J	1500PF, 50V, ±5%, Styrol	AB
C69	VCCSPU1HL391J	390PF, 50V, ±5%, Ceramic	AA
C70	VCKZPU1HF102Z	.001MFED	AA

REF. NO.	PART NO.	DESCRIPTION	CODE
C71	VCCSPU1HL271J	270PF, 50V, ±5%, Ceramic (GF-9696 Only)	AA
C72	VCCCPUIHH120J	12PF, 50V, ±5%, Ceramic	AA
C73	VCKZPU1HF223Z	.022MFED	AA
C74	VCOYKU1HM102K	.001MFED, 50V, ±10%, Mylar	AA
C75	VCOYKU1HM332K	.0033MFED, 50V, ±10%, Mylar	AA
C76	VCOYKU1HM223M	.022MFED, 50V, ±20%, Mylar	AB
C77	VCKZPU1HF223Z	.022MFED	AA
C78	VCKZPU1HF103Z	.01MFED	AA
C80	VCCSPU1HL121J	120PF, 50V, ±5%, Ceramic	AA
C81			
C82	VCKZPU1HF223Z	.022MFED	AA
C83			
C84	VCKZPU1HF103Z	.01MFED	AA
C85	VCKZPU1HF223Z	.022MFED	AA
C86			
C87	VCOYKU1HM333M	.033MFED, 50V, ±20%, Mylar	AB
C89	VCKZPU1HF223Z	.022MFED	AA
C90	VCOYKU1HM103M	.01MFED, 50V, ±20%, Mylar	AB
C91	VCKZPU1HF103Z	.01MFED	AA
C92	VCKZPU1HF223Z	.022MFED	AA
C95	VCOYKU1HM333K	.033MFED, 50V, ±10%, Mylar	AB
C96			
C105	VCCSPU1HL271J	270PF, 50V, ±5%, Ceramic	AA
C106			
C107	VCOYKU1HM273K	.027MFED, 50V, ±10%, Mylar	AB
C108			
C109	VCOYKU1HM822K	.0082MFED, 50V, ±10%, Mylar	AA
C110			
C119	VCKYPUIHB561K	560PF, 50V, ±10%, Ceramic	AA
C120			
C121	VCCSPU1HL271J	270PF, 50V, ±5%, Ceramic	AA
C122			
C127	VCCSPU1HL221J	220PF, 50V, ±5%, Ceramic	AA
C128			
C133	VCOYKU1HM333J	.033MFED, 50V, ±5%, Mylar	AB
C134			
C137	VCCSPU1HL470J	47PF, 50V, ±5%, Ceramic	AA
C141	VCOYKU1HM223M	.022MFED, 50V, ±20%, Mylar	AB
C142	VCKZPU1HF333P	.033MFED, 50V, +100 –0%, Ceramic	AA
C145	VCOYKU1HM102M	.001MFED, 50V, ±20%, Mylar	AA
C146			
C151	VCCSPU1HL680J	68PF, 50V, ±5%, Ceramic	AA
C152			
C155	VCKYPUIHB681K	680PF, 50V, ±10%, Ceramic	AA
C156			
C157	VCKYPUIHB821K	820PF, 50V, ±10%, Ceramic	AA
C158			
C165	VCKYPUIHB681K	680PF, 50V, ±10%, Ceramic	AA
C166			
C169	VCOYKU1HM222K	.0022MFED, 50V, ±10%, Mylar	AA
C170			
C171	VCOYKU1HM102K	.001MFED, 50V, ±10%, Mylar	AA
C172			
C173	VCOYKU1HM103K	.01MFED, 50V, ±10%, Mylar	AA
C174			
C175	VCOYKU1HM153K	.015MFED, 50V, ±10%, Mylar	AA
C176			
C177	VCOYKU1HM683K	.068MFED, 50V, ±10%, Mylar	AB
C178			
C179	VCOYKU1HM473K	.047MFED, 50V, ±10%, Mylar	AB
C180			
C181	VCCSPU1HL151J	150PF, 50V, ±5%, Ceramic	AA
C182			
C187	VCOYKU1HM683K	.068MFED, 50V, ±10%, Mylar	AB
C188			

PARTS LIST

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
C191, } C192, C193, C194 C195 C203, } C204 C205, } C206 C207	VCOYKU1HM392K VCOYKU1HM683K VCOYKU1HM223M VCOYKU1HM683K VCOYKU1HM222K VCKZPU1HF333P	.0039MFD, 50V, ±10%, Mylar .068MFD, 50V, ±10%, Mylar .022MFD, 50V, ±20%, Mylar .068MFD, 50V, ±10%, Mylar .0022MFD, 50V, ±10%, Mylar .033MFD, 50V, +100 -0%, Ceramic	AA AB AB AB AA AA	R23 R27 R29, } R32 R33 R36 R46 R47 R48 R50, } R52 }	VRD-ST2EE181J VRD-ST2EE821J VRD-ST2EE271J VRD-SU2EE153J VRD-ST2EE101J VRD-SU2EE101J VRD-SU2EE152J VRD-SU2EE102J VRD-SU2EE100J	180 ohm 820 ohm 270 ohm 15K ohm 100 ohm 100 ohm 1.5K ohm 1K ohm 10 ohm	
C261, } C262, C301 C302 C304, } C305 C306 C307 C308	VCKYPU1HB471K VCOYKU1HM332K VCKZPU1HF103Z VCOYKU1HM332K VCOYKU1HM153K VCOYKU1HM272K VCOPSUZ2A473J	470PF, 50V, ±10%, Ceramic .0033MFD, 50V, ±10%, Mylar .01MFD .0033MFD, 50V, ±10%, Mylar .015MFD, 50V, ±10%, Mylar .0027MFD, 50V, ±10%, Mylar .047MFD, 100V, ±5%, Polypropylene	AA AA AA AA AA AA AC	R53 R54 R55 R56 R57 R59 R60 R62 R63 R64 R65 R69 R70 R71 R72 R73 R76 R78 R109 R110 R111, } R112 R113 R114 R115, } R116 R117 R118 R119, } R120 R121 R122 R123 R124 R125 R126 R127, } R128 R129 R130 R131 R132 R133, }	VRD-SU2EE121J VRD-SU2EE471J VRD-ST2EE184J VRD-SU2EE474J VRD-SU2EE121J VRD-SU2EE223J VRD-SU2EE102J VRD-ST2EE471J VRD-ST2EE182J VRD-ST2EE152J VRD-ST2EE562J VRD-ST2EE561J VRD-ST2EE473J VRD-ST2EE471J VRD-ST2EE562J VRD-ST2EE123J VRD-ST2EE153J VRD-ST2EE471J VRD-ST2EE391J VRD-SU2EE391J VRD-ST2EE104J VRD-ST2EE103J VRD-ST2EE101J VRD-ST2EE151J VRD-SU2EE151J VRD-SU2EE274J VRD-ST2EE184J VRD-SU2EE184J VRD-ST2EE102J VRD-SU2EE102J VRD-ST2EE392J VRD-SU2EE392J VRD-ST2EE332J VRD-SU2EE332J VRD-ST2EE332J VRD-SU2EE104J VRD-ST2EE104J VRD-SU2EE682J	120 ohm 470 ohm 180K ohm 470K ohm 120 ohm 22K ohm 1K ohm 470 ohm 1.8K ohm 1.5K ohm 5.6K ohm 560 ohm 47K ohm 470 ohm 5.6K ohm 12K ohm 15K ohm 470 ohm 390 ohm 390 ohm 100K ohm 10K ohm 100 ohm 150 ohm 150 ohm 270K ohm 180K ohm 180K ohm 1K ohm 1K ohm 3.9K ohm 3.9K ohm 3.3K ohm 3.3K ohm 100K ohm 100K ohm 6.8K ohm	
C561, } C564 C565 C611, } C612 C615, } C616 C633, } C634 C655, } C656 C657, } C658 C660, } C661 C662, } C663 C701 C702 C754 C759 C901, } C902 C903 C904	VCKZPU1HF223Z VCOYKU1HM222K VCOYKU1HM392K VCKZPU1HF223Z VCOYKU1HM222K VCOYKU1HM153K VCOYKU1HM153K VCOYKU1HM153K VCOYKU1HM153K VCCSPU1HL271J VCOYKU1HM152K VCKZPU1HF223Z VCCSPU1HL101J VCOYKU1HM102K VCKZPU1HF223Z VCKZPU1HF104Z VCKZPU1HF103Z	.0022MFD .0022MFD, 50V, ±10%, Mylar .0039MFD, 50V, ±10%, Mylar .022MFD .0022MFD, 50V, ±10%, Mylar .015MFD, 50V, ±10%, Mylar .015MFD, 50V, ±10%, Mylar .015MFD, 50V, ±10%, Mylar 270PF, 50V, ±5%, Ceramic 1500PF, 50V, ±10%, Mylar 100PF, 50V, ±5%, Ceramic .001MFD, 50V, ±10%, Mylar .022MFD .1MFD .01MFD	AA AA				

RESISTORS

(Unless otherwise specified resistors are 1/4W, $\pm 5\%$, Carbon type.)

R1	VRD-ST2EE102J	1K ohm	} AA
Δ R2	VRD-ST2HA103J	10K ohm, 1/2W, 5% Carbon	
R7	VRD-SUZEE471J	470 ohm	
R15	VRD-SUZEE331J	330 ohm	
R19	VRD-ST2EE471J	470 ohm	
R20	VRD-SUZEE102J	1K ohm	}
R21	VRD-SUZEE153J	15K ohm	

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE		
R167, } R168 } R169 R170 R171, } R172 } R173, R174 } R177 R179, } R180 } R181, R182 } R187, } R188 } R208 R213 R214 R223, R224 } R233 R238 R239 R240 R241 R244 R245, R246 } R249 R250 R251 R252 R253, } R254, R255, R256 } R257, R258 } R259, R260 } R261, R262 } R263, R264 } R265, R266 } R267, } R268 } R269, R270 } R271, R272, R273, R274 } Δ R275 R277 R303 R304 { R307, } R308 } R309 R310 R401 R410 R411	VRD-ST2EE101J VRD-SUZEE393J VRD-ST2EE393J VRD-SUZEE563J VRD-ST2EE102J VRD-SUZEE153J VRD-ST2EE332J VRD-SUZEE223J VRD-SUZEE393J VRD-SUZEE561J VRD-ST2EE474J VRD-SUZEE474J VRD-SUZEE562J VRD-ST2EE152J VRD-ST2EE223J VRD-SUZEE473J VRD-ST2EE681J VRD-ST2EE222J VRD-ST2EE562J VRD-ST2EE222J VRD-ST2EE152J VRD-ST2EE223J VRD-SUZEE223J VRD-SUZEE884J VRD-ST2EE684J VRD-ST2EE562J VRD-ST2EE104J VRD-ST2EE103J VRD-ST2EE272J VRD-ST2EE333J VRD-ST2EE62J VRD-ST2EE103J VRD-ST2EE823J VRD-ST2EE153J VRG-ST2HA220J VRD-ST2EE473J VRD-ST2EE1R0J VRD-SUZEE560J VRD-ST2EE60J VRD-ST2EE100J VRD-ST2HA181K VRD-ST2EE102J VRD-ST2EE154J VRD-ST2EE682J VRD-ST2EE124J	100 ohm 39K ohm 39K ohm 56K ohm 1K ohm 15K ohm 3.3K ohm 22K ohm 39K ohm 560 ohm 470K ohm 470K ohm 5.6K ohm 120 ohm 47K ohm 680 ohm 2.2K ohm 5.6K ohm 2.2K ohm 1.5K ohm 22K ohm 22K ohm 680K ohm 680K ohm 5.6K ohm 100K ohm 10K ohm 2.7K ohm 33K ohm 5.6K ohm 10K ohm 82K ohm 15K ohm 22 ohm, 1/2W, ±5%, Fusible 47K ohm 1 ohm 56 ohm (GF-9696) 56 ohm (GF-9696C) 10 ohm 180 ohm, 1/2W, ±10%, Carbon 1K ohm 150K ohm 6.8K ohm 120K ohm	AB	R412 R413 R414 R415 R416 R417 R418 R420 R421 R422 R423 R424 R505 R506, R507 } R508 R510 R513 R551, } R552 } R553, R554 } R555, R556 } R557 R558 R559 R560 R561 R562 R563 R564, R565 } R566 R567, R568, } R570 R571 R572 R573 R574 R575 R576 R577 R578 R579 R580 R581 R582 R583 R601 R602 R603 R604 R605 R606 R607, R608 } R651 R652 R653, R654 } R655 R656, R657, } R658	VRD-SUZEE102J VRD-ST2EE124J VRD-ST2EE182J VRD-ST2EE472J VRD-ST2EE473J VRD-ST2EE682J VRD-SUZEE102J VRD-SUZEE274J VRD-SUZEE822J VRD-ST2EE100J VRG-ST2HA100J VRD-SUZEE103J VRD-SUZEE822J VRD-ST2EE822J VRD-ST2EE103J VRD-ST2EE223J VRD-ST2EE273J VRD-ST2EE104J VRD-ST2EE473J VRD-SUZEE102J VRD-ST2EE473J VRD-SUZEE103J VRD-ST2EE103J VRD-SUZEE104J VRD-ST2EE473J VRD-SUZEE102J VRD-ST2EE473J VRD-SUZEE473J VRD-SUZEE103J VRD-ST2EE103J VRD-SUZEE104J VRD-SUZEE154J VRD-SUZEE104J VRD-SUZEE103J VRD-ST2EE104J VRD-ST2EE103J VRD-SUZEE182J VRD-ST2EE821J VRD-SUZEE331J VRD-SUZEE334J VRD-ST2EE123J VRD-SUZEE472J VRD-ST2EE473J VRD-SUZEE333J VRD-SUZEE333J VRD-ST2EE102J VRD-SUZEE102J VRD-ST2EE2R2J VRD-ST2EE221J VRD-ST2EE472J VRD-ST2EE102J VRD-ST2EE102J VRD-SUZEE884J VRD-ST2EE332J VRD-SUZEE332J VRD-SUZEE332J VRD-SUZEE332J	1K ohm 120K ohm 1.8K ohm 4.7K ohm 47K ohm 6.8K ohm 1K ohm 270K ohm 8.2K ohm 10 ohm (GF-9696) 10 ohm, 1/2W, ±5%, Fusible (GF-9696C) 8.2K ohm 8.2K ohm 10K ohm 22K ohm 27K ohm 100K ohm 47K ohm 10K ohm 10K ohm 27K ohm 100K ohm 47K ohm 1K ohm 47K ohm 47K ohm 4.7K ohm 100K ohm 150K ohm 100K ohm 10K ohm 100K ohm 10K ohm 1.3K ohm 820 ohm 330 ohm 330K ohm 12K ohm 4.7K ohm 47 K ohm 33K ohm 33K ohm 1K ohm 1K ohm 2.2 ohm 2.2 ohm 220 ohm 4.7K ohm 1K ohm 680K ohm 3.3K ohm 3.3K ohm 3.3K ohm	AA	AB	AA

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
R659, } R660 } R661, } R662 }	VRD-SUZEE102J	1K ohm	AA	36	MSPRC0031AGMN	Spring, Record/Playback Head Azimuth Adjustment	AA
	VRD-SUZEE562J	5.6K ohm		37	MSPRC0139AFFJ	Spring, Pause/Rewind/Elect/ Fast Forward/Record Lever	AA
R705	VRD-STZEE330J	33 ohm		38	MSPRC0109AFFJ	Spring, Plunger	AA
R706	VRD-STZEE822J	8.2K ohm		39	MSPRC0110AFFJ	Spring, Play Lever	AA
R710	VRD-SUZEE661J	560 ohm		40	MSPRC0111AFFJ	Spring, Tape End Detect Lever	AA
R751	VRD-SUZEE222J	2.2K ohm		42	MSPRD0107AFFJ	Spring, Pinch Roller	AB
R752 {	VRD-SUZEE101J	100 ohm (GF-9696)		43	MSPRD0108AFFJ	Spring, Brake Lever	AA
	VRD-STZEE101J	100 ohm (GF-9696C)		44	MSPRD0109AFFJ	Spring, Forward APLD Lever	AA
R753, } R754 }	VRD-SUZEE102J	1K ohm		45	MSPRD0110AFFJ	Spring, Reverse APLD Lever	AA
R755	VRD-SUZEE183J	18K ohm		46	MSPRD0111AFFJ	Spring, Stop Lever	AB
R756	VRD-SUZEE472J	4.7K ohm	AA	47	MSPRD0112AFFJ	Spring, Erase Proof Lever	AA
R757	VRD-SUZEE102J	1K ohm		48	LSTWC2403AFFZZ	Stop Washer, ϕ 2.4	AA
R758, }	VRD-SUZEE103J	10K ohm		49	MSPRD0116AFFJ	Spring, Auto Stop Lock Release Arm	AA
R759 }	VRD-SUZEE103J	10K ohm		50	MSPRD0117AFFJ	Spring, Record Mistake Proof Lever	AA
R760	VRD-SUZEE682J	6.8K ohm		51	MSPRP0133AFFW	Spring (Plate type) Cassette Retaining	AC
R761	VRD-SUZEE473J	4.7K ohm		52	MSPRP0113AFFJ	Spring (Plate type), Auto Stop Arm	AB
R762	VRD-SUZEE472J	4.7K ohm		53	LANGF0393AFFW	Bracket, Muting Switch	AC
R763	VRD-SUZEE223J	22K ohm		54	MSPRP0115AFFW	Spring (Plate type) Sub-chassis Stopper	AB
R764	VRD-SUZEE271J	270 ohm		57	MSPRT0331AFFJ	Spring, Fast Forward Lever	AA
R765	VRD-SUZEE661J	560 ohm	58	MSPRT0332AFFJ	Spring, Idler	AA	
R771, } R772 }	VRD-SUZEE272J	2.7K ohm	59	MSPRT0333AFFJ	Spring, Roller Assembly	AA	
	VRD-SUZEE153J	15K ohm	60	MSPRT0334AFFJ	Spring, Auto Stop Lever	AA	
R801 R851, } R852 }	VRD-ST2HA475J	4.7M ohm, 1/2W, \pm 5%, Carbon	61	MSPRT0335AFFJ	Spring, Fast Forward/Rewind Lever	AA	
MECHANICAL PARTS							
01	JKNBB0071AFSB	Key, Forward APLD	AE	62	NBALSO004AGFJ	Bell, ϕ 3	AA
02	JKNBB0072AFSB	Key, Reverse APLD	AE	63	NBLTH0064AF00	Belt, Motor	AD
03	JKNBB0070AFSB	Key, Stop	AF	64	NBLTK0053AF00	Belt, Auto Stop	AC
04	JKNBM0291AFSB	Key, Eject/Fast Forward/Rewind/Play/Pause	AD	65	NDAIR0110AFSA	Turntable, Take-up	AF
05	JKNBM0292AFSB	Key, Record	AE	66	NDAIR0129AFSA	Turntable, Supply	AE
06	LANGT0614AFZZ	Bracket, Flywheel	AE	67	NFLYC0053AFZZ	Flywheel	AK
07	LBSSH0001AG00	Bushing, Motor	AE	68	NGERH0050AFZZ	Gear, Slip Roller	AC
08	LCHSM0228AFZZ	Main Chassis Assembly	AA	69	NGERP0050AFZZ	Slip Roller	AB
09	LCHSS0107AF00	Sub-chassis Assembly	AA	70	NLEV/F0617AFZZ	Lever, Quick Stop	AB
10	LSTWC2001AFZZ	Stop Washer, ϕ 2	AA	71	NPLYR0052AFZZ	Pulley, Auto Stop	AB
11	LSTWC3002AFZZ	Stop Washer, ϕ 3	AA	72	NROLM0051AFFW	Roller, Lock Plate	AA
12	MARMP0001AFZZ	Arm, Auto Stop	AC	73	NROLV0004AFZZ	Roller, Assembly	AP
13	MARMP0002AFZZ	Arm, Auto Stop Lock Release	AC	74	NROLV0004AFZZ	Pinch Roller	AE
14	MLEV/F0547AFZZ	Lever, Main Lock Plate	AD	75	MSPRT0330AFFJ	Spring, Play Lever	AA
15	MLEV/F0548AFZZ	Lever, APLD Lock Plate	AD	76	MLEV/F0618AFZZ	Lever, Pause Mistake Proof	AC
16	MLEV/F0549AFZZ	Idler, Take-up	AF	78	PCUSG0026AG00	Rubber, Brake Lever	AA
17	MLEV/F0550AFFW	Lever, Pause	AD	79	KCOUB0061AFZZ	Tape Counter	AK
18	MLEV/F0551AFFW	Lever, Fast Forward/Rewind	AD	80	RHEDA0074AFZZ	Head, Erase	AN
19	MLEV/F0643AFZZ	Lever, Play	AG	81	RHEDH0087AFZZ	Head, Record/Playback	AS
20	MLEV/F0553AFFW	Lever, Eject	AD	82	RMOTV00082AFZZ	Motor	AW
21	MLEV/F0553AFFW	Lever, Eject	AD	83	RPLU-0053AFZZ	Solenoid	AL
22	MLEV/F0702AFZZ	Lever, Record	AD	84	PZETF0123AFZZ	Stopper	AA
23	MLEV/F0555AFZZ	Lever, Forward APLD	AD	87	NBLTK0105AFZZ	Belt, Tape Counter	AC
24	MLEV/F0566AFZZ	Lever, Reverse APLD	AD	88	MSPRT0151AGFJ	Spring, Cassette Lock Lever	AA
25	MLEV/F0557AFFW	Lever, Fast Forward/Rewind	AE	89	MSPRT0151AGFJ	Spring, Cassette Lock Lever	AA
26	MLEV/F0558AFFW	Lever, Fast Forward	AD	90	PSPAA0001AGFJ	Spacer, Motor Bushing	AA
27	NBRGCO054AFZZ	Bearing, Flywheel	AF	91	MSPRD0137AFFJ	Spring, Quick Stop Lever	AA
28	MLEV/F0560AFFW	Lever, Record Mistake Proof	AC	92	NPLYR0050AFZZ	Pulley, Take-up	AB
29	MLEV/F0564AFFW	Lever, Stop	AD	93	LX-HZ0056AFED	Screw, Flywheel Bracket	AA
30	MLEV/P0057AF00	Lever, Erase Prevention	AB	94	LX-BZ0107AGZZ	Screw, Flywheel Thrust Adjust	AB
31	MLEV/P0058AFZZ	Lever, Brake	AC	95	MLEV/P0076AFZZ	Lever, Pause Mistake Proof	AC
32	MLEV/P0077AFZZ	Lever, Cassette Lock	AC	96	MSPRT0390AFFJ	Spring, Pause Mistake Proof	AA
33	MLEV/P0060AFZZ	Lever, Auto Stop	AC	97	LANGF0376AFFW	Plate, Sub-chassis Stopper	AB
34	MLEV/P0061AFZZ	Lever, Tape End Detect	AB	98	MSPRT0389AFFJ	Spring, Pause Mistake Proof	AA
35	MLEV/P0062AFZZ	Lever, Fast Forward/Rewind	AB				
	MLEV/P0063AFZZ	Lever, Sub-chassis Return	AC				

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
99	LHLDW3007AGFD	Wire Holder	AA	231	LANG00638AFZZ	Bracket, Power Supply P.W. Board	AD
100	LX-BZ0148AGFD	Screw, Motor	AA	232	LANGF0500AFFW	Bracket, Power Transformer	AC
101	LX-WZ5013AGZZ	Washer, Turntable	AA	233	LANGT0924AFFW	Bracket, Spring	AA
102	LX-WZ5015AGZZ	Washer, Tape End Detect Lever	AA	234	LANGT0925AFFW	Bracket, Attenuator	AA
103	LX-WZ5018AGZZ	Washer, Turntable	AA	235	LANGZ0076AFFW	Bracket, Echo Unit	AE
104	LX-WZ5037AGZZ	Washer, Flywheel	AA	236	LHLDZ1117AFZZ	Holder, LED	AC
105	LX-WZ7050AFZZ	Spacer, Motor Switch	AA	237	LH LDA1055AFSA	Holder, FM/SW Aerial	AB
106	OHWS-2222AGFN	Lug Terminal, Ground	AA	238	LH LDF1217AFZZ	Frame, P.W. Board	AP
107	PFLT-0313AF00	Felt, Tape End Detect Lever	AA	239	LH LDF1218AFZZ	Frame, Echo Unit	AK
108	LPLTM0101AFFW	Earthing, Button Lever	AD	240	LH LDP3061AFFN	Holder, Dial Illumination Lamp	AC
MISCELLANEOUS							
200	GCAB-1054AFSA	Front Cabinet Assembly	BZ	241	LHLDW1068AFZZ	Band, Wire (100mm)	AA
200-1	GCABA1511AFSA	Cabinet, Front	AZ	242	LHLDW1069AFZZ	Band, Wire (150mm)	AA
200-2	GCOVA1205AFSA	Panel, Front Cabinet (Left)	AR	243	LHLDW1075AFZZ	Band, Wire (60mm)	AA
200-3	GCOVA1206AFSA	Panel, Front Cabinet (Right)	AR	244	LHLDW9003CEZZ	Holder, Lead Wires	AA
200-4	HDECA0415AFSA	Decoration Metal, APLD Switch	AD	245	LHLDZ1106AFZZ	Holder, Dial Scale Plate	AG
200-5	HDECO0091AFSA	Decoration Metal, Handle (Right)	AF	246	LHLDZ8070AFZZ	Holder, Built-in Microphone	AB
200-6	HDECO0092AFSA	Decoration Metal, Handle (Left)	AF	247	LX-BZ0271AFSA	Screw, Cassette Holder	AE
200-7	HDECO0119AFSA	Decoration Ring, Woofer	AL	248	LX-CZ0002AFZZ	Screw, Cabinet Retaining, ϕ 4 x 70 mm	AB
200-8	HDECO0121AFSA	Decoration Ring, Squawker	AD	249	LX-HZ0057AFFD	Screw, Mechanism Block	AA
200-9	HDECO0122AFSA	Decoration Metal, Built-in Microphone (Left)	AH	250	LX-HZ0058AFFD	Retaining, ϕ 3 x 25 mm	AA
200-10	HDECO0123AFSA	Decoration Metal, Built-in Microphone (Right)	AH	251	MLEV/F0897AFZZ	Screw, Mechanism Block	AE
200-11	HPNLD1177AFSA	Plate, Transparent	AG	252	MLIFP0003AFZZ	Damper, Cassette Holder	AD
201	GCABB1497AFSA	Cabinet, Back	AW	253	MSPRC0021AFFN	Spring, Battery, (—) side	AA
202	GCOVA1188AFSA	Cover, Front Cabinet	AH	254	MSPRC0140AFFN	Spring, Battery, (—) side	AB
203	GCOVA1197AFSA	Cover, Squawker	AD	255	MSPRP0008AGFW	Plate Spring, Cassette Holder	AB
204	GFTAB1104AFSA	Lid, Battery Compartment	AE	256	MSPRT0003AGFW	Spring, Dial Cord Stringing	AA
205	GFTAC1093AFSA	Holder, Cassette	AE	257	MSPRT0210AFFW	Spring, Air Damper	AB
206	GFTAC1094AFSB	Cover, Cassette Holder	AF	258	MSPRT0628AFFJ	Spring, Cassette Holder Opening	AA
207	GNETC1036AFSA	Net, Speaker (Left)	AV	259	NDRM-0066AFZZ	Drum, Dial Cord	AD
208	GNETC1037AFSA	Net, Speaker (Right)	AV	260	NPLYB0050AFZZ	Pulley, Dial Cord	AA
209	GNETC1038AFSA	Net, Tweeter	AE	261	NPLYB0051AFZZ	Pulley, Dial Cord with Shaft	AA
210	GWAKP9039AFSA	Panel, Cabinet Top	AU	262	NPLYC0102AFFW	Pulley, Dial Cord	AA
211	HBDGS1051AFSB	Badge, 3 Way	AG	264	PCOVM1053AFSA	Cover, Mode Selector	AB
212	HDALM0303AFSA	Plate, Dial Scale	AN	265	PCOVM1054AFSA	Cover, FM Muting/Recording	AB
213	HDECA0393AFSA	Decoration Metal, Cassette Holder Cover	AG				
214	HDECA0438AFSA	Decoration Metal, Front Cabinet	AM	266	PCOV/P7164AFZZ	Switches	AB
215	HDEC80100AFSA	Decoration Metal, Cassette Holder	AD	267	PCOVW1100AFZZ	Cover, Power Switch	AB
216	HDECO0120AFSA	Decoration Metal, Tweeter	AF	268	PCOVZ7050AF00	Cover, Mains Socket	AC
217	HINDM1336AFSA	Indication Metal, APLD/Stop	AB	269	PCOVZ7057AF00	Cover, Battery Compartment	AA
218	HINDP0185AFSA	Indication Metal, Voltage Selector (GF-9696)	AD	270	PCUSG0084AF00	Cushion, Built-in Microphone	AA
219	HINDP0254AFSA	Indication Metal (GF-9696C)	AD	271	PCUSS0128AF00	Cushion, LED Meter P.W. Board	AA
220	HSSND0253AFSA	Pointer, Dial	AF	272	PCUSU0092AG00	Cushion, Battery Compartment	AA
221	JKNBM0288AFSA	Handle	AV	273	PCUSU0128AFZZ	Lid	AA
222	JKNBM0289AFSA	Knob, Editing Switch	AE	274	PCUSU0229AFZZ	Cushion, FM Coils	AA
223	JKNBM0290AFSA	Knob, Lever Switches	AE	275	PFLT-0095AG00	Felt, Cassette Holder	AA
224	JKNBM0290AFSA	Knob, Lever Switches	AD	276	PFLT-0127AF00	Felt, Battery Compartment	AA
225	JKNBN0300AFSA	Knob, Attenuator	AE	277	PFLT-0324AF00	Felt, Mode Selector/FM	AA
226	JKNBN0339AFSB	Knob, Tuning	AC	278	PFLT-0332AF00	Muting/Recording Mode/	AA
227	JKNBN0365AFSA	Knob, Power Switch/Fader Control	AD	279	PFLT-0335AF00	Felt, Record Level/Bass/	AA
228	JKNBP0090AFSA	Knob, Record Level/Bass/Treble/Volume/Tape Speed/Echo Controls	AD	280	PFLT-0345AF00	Felt, Loudness/Meter Selector (Dial Light) Switches	AA
229	JKNBP0100AFSB	Echo Controls	AD	281	PFLT-0364AF00	Felt, Record level/Bass/Treble/	AA
230	LANGG0067AFZZ	Knob, Tape Selector/SNRS Switches	AB	282	PFLT-0370AF00	Felt, Volume Controls	AA
		Bracket, Mode Selector Switch	AB			Felt, Tape Speed/Echo Adjust	AA
						Felt, Function Selector Switches	AA

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE	REF. NO.	PART NO.	DESCRIPTION	CODE
284	PGUMS0114AF00	Conductive Rubber, Record Level Controls	AA	SP1, SP2	VSP0018PB068A	Speaker, Woofer	AX
286	PGUMS0124AF00	Rubber, Handle Cushion	AA	SP3, SP4	VSP0050TB268A	Speaker, Squawker	AM
287	PGUMS0135AF00	Cushion, Rubber, Front Cabinet Bottom	AA	SP5, SP6	VSP00HNTX16ZC	Speaker, Tweeter	AH
288	PGUMS0144AF00	Cushion, Rubber, Meter P.W. Board	AA	SW101	OSW-P9122AFZZ	Switch, Function Selector	AW
289	PRDAR0209AFZZ	Heat Sink	AG	SW102	OSW-S0214AFZZ	Switch, Record/Playback	AL
290	PSLDM3156AFZZ	Shield Plate	AD	SW103	OSW-P0172AFZZ	Switch, Editing	AF
291	PSPA10140AFZZ	Spacer, Transparent Plate, Fiber	AA	SW104	OSW-B0087AFZZ	Switch, Mixing	AF
292	PTPECC005AG00	Ribbon, Battery Compartment FM/SW Aerial	AN	SW105	OSW-B0095AFZZ	Switch, Recording Mode Selector	AF
293	QANTR0112AFZZ	Lug Terminal	AA	SW106	OSW-B0087AFZZ	Switch, FM Muting	AF
294	QHWS-3001AGFN	Lug Terminal, P.W. Board	AA	SW107	OSW-B0076AFZZ	Switch, Mode Selector	AF
295	QLUGP0111CEFW	Lug Terminal, P.W. Board (13 mm)	AA	SW108	OSW-B0086AFZZ	Switch, Loudness	AF
296	QLUGP0150AFZZ	Lug Terminal, P.W. Board	AA	SW109	OSW-B0091AFZZ	Switch, Meter Selector/Dial Light	AF
297	OLUGP9053AFFW	Lug Terminal, P.W. Board (20 mm)	AA	SW201	OSW-B9085AFZZ	Switch, Tape Selector	AH
298	OTANB9102AFFN	Battery Terminal, (+) side	AC	SW202	OSW-B0128AFZZ	Switch, SNRS	AF
299	OTANB9103AFFN	Battery Terminal, (+) side	AC	SW301	OSW-S0191AFZZ	Switch, Beat Cancel	AD
300	RMICCC0071AFZZ	Microphone	AF	SW501	OSW-F0044AGZZ	Switch, Motor (Main)	AD
301	RREVAA0006AFZZ	Echo Unit	AF	SW502	OSW-F0116AFZZ	Switch, APLD (REV)	AD
302	TLABZ0130AFZZ	Mirror, Cassette Compartment	AO	SW503	OSW-F0116AFZZ	Switch, APLD (FWD)	AD
303	JKNBNO341AFSB	Knob, Fine tuning	AB	SW504	OSW-M0064AFZZ	Switch, Muting	AG
304	TCAUS0115AFZZ	Cauton Label, Fuse (GF-9696)	AC	SW701	OSOCCE051AFZZ	Switch, AC Supply Voltage Selector (GF-9696 Only)	AG
	TCAUA0217AFZZ	Label, Fuse Directions (GF-9696C)	AC	SW702		Switch, Power (Part of R139/R140)	
305	QFSHD1001AGZZ	Holder Fuse	AA	SW751	OSW-Z0087AFZZ	APLD Switch Ass'y	BC
306	OLUGP0105AGZZ	Lug Terminal	AA	TB1	QJAKF0051AFZZ	Terminals, EXT. FM Aerial	AE
307	HINDM1452AFSA	Indication Metal, Model Spec. (GF-9696)	AB		QACCCD0051AF00	Mains Supply Cord	AH
	HINDP0253AFSA	Indication Metal, Model Spec. (GF-9696C)	AC		QCNTZ0072AFZZ	Tip (for PG752)	
308	PGID10002AFZZ	Guide, LED	AA		OCNW-0441AFZZ	Connecting Wire, 4pin	AC
309	TLABH0098AFZZ	Label, Aerial	AA		OCNW-0442AFZZ	Connecting Wire, 7pin	AB
310	LHLDW1052AFZZ	Band, Wire (94mm)	AA		OCNW-0483AFZZ	Connecting Wire, 5pin	AC
					OCNW-0485AFZZ	Connecting Wire, 8pin	AC
					QPLGA0251AFZZ	Adapter, Mains Supply Cord Plug (GF-9696 Only)	AE
Δ F701	{ QFS-C252CAGNI	Fuse, T2.5A (GF-9696)	AE		QTIPIF0001CEYV	Tip (for SO2)	AA
	{ QFS-B302AAAFNI	Fuse, 3A (GF-9696C)	AE		QTIIPZ0055AFZZ	Tip (for SO1,SO401 and SO402)	AA
J101	{ QJAKZ0102AFZZ	Socket Plate Assembly, Ext. Speaker/Line Output/Ext. Mic/Phono/GND/Remote control	AP		QTIIPZ0058AFZZ	Tip (for SO2)	AA
J401	QJAKA0006AFZZ	Socket, Mixing Microphone	AC		QTIIPZ0062AFZZ	Tip (for SO601)	AA
J603	QJAKJ0052AFZZ	Socket, Headphones	AG		QTIIPZ0070AFZZ	Tip (for SO1,SO402 and SO601)	AA
PG1	OCNCM105JAFZZ	Plug, 9pin	AC		SPAKA0672AFZZ	Packing Add. (Left)	AA
PG101	OCNCM175FAFZZ	Plug, 6pin	AC		SPAKA0673AFZZ	Packing Add. (Right)	AG
PG401	OCNCM200EAFZZ	Plug, 5pin	AC		SPAKC1646AFZZ	Individual Carton (GF-9696)	AP
PG402	OCNCM198CAFFZZ	Plug, 3pin	AB		SSAKC1647AFZZ	Individual Carton (GF-9696C)	
PG403	OCNCM199DAFFZZ	Plug, 4pin	AB		SSAKH0024AGZZ	Polyethylene Bag, Operation Manual	AA
PG601	OCNCM100DAFFZZ	Plug, 4pin	AB		SSAKH0116AFZZ	Polyethylene Bag	AC
PG751	OCNCM396NAFFZZ	Plug, 13pin	AD		TCADZ0079AFZZ	Card, Initial.	AG
PG752	OCNCM281EAFZZ	Plug, 5pin (Socket, Housing Only)			TINSE0705AFZZ	Operation Manual (GF-9696)	AO
PL601	RLMPM0089AFZZ	Lamp, Dial Illumination	AE		TINSK0047AFZZ	Operation Manual (GF-9696C)	
SO1	OCNCW096JAFZZ	Socket, 9pin (Housing Only)	AB		TMAPC0734AFZZ	Schematic Diagram (GF-9696)	
SO2	OCNCW146FAFZZ	Socket, 6pin (Housing Only)	AB		TMAPC0735AFZZ	Schematic Diagram (GF-9696C)	
SO101	OSODD2554AFZZ	Socket, Record/Playback	AF				
SO401	OCNCW092EAFZZ	Socket, 5pin (Housing Only)	AA				
SO402	OCNCW090CAFFZZ	Socket, 3pin (Housing Only)					
SO403		Socket, 4pin (Part of 301)					
SO601	OCNCW091DAFFZZ	Socket, 4pin (Housing Only)	AA				
SO751		Socket, 13pin (Part of SW751)					
SO752	OCNCW177EAFZZ	Socket, 5pin (Housing Only)	AB				
SO901/Δ J901	{ OSOCZ2480AFZZ	Socket, AC Input with DC Power Input	AG				

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
	PWB ASSEMBLY (Not Replacement Item)		
PWB1, PWB2	DUNTJ0029AF07	APLD Switch	AO
PWB3	{ DUNT K0061AF04	Motor	
	DUNT K0061AF08	Echo (GF-9696)	BA
PWB4, PWB5, PWB6	DUNT K0075AF01	Echo (GF-9696C)	
	DUNT K0075AF01	Headpnone	BM
	{ DUNT L0121AF02	Switch	
	DUNT L0121AF05	Volume	BX
PWB7	{ DUNT M0059AF02	Main (GF-9696)	
	DUNT M0059AF05	Main (GF-9696C)	BN
PWB8	{ DUNT M0059AF05	Audio Power (GF-9696)	
	DUNT Z0409AF01	Audio Power (GF-9696C)	AX
PWB9	{ DUNT Z0409AF03	Tape Selector, SNRS (GF-9696)	
	DUNT Z0413AF02	Tape Selector, SNRS (GF-9696C)	
PWB10	DUNT Z0411AF02	Indicator	AO
PWB11	{ DUNT Z0413AF02	LED Meter (GF-9696)	
	DUNT Z0413AF04	LED Meter (GF-9696C)	BA

SHARP ELECTRONICS CORPORATION

Executive Office:		Paramus,	New Jersey	07652	(201) 265-5600
10 Keystone Place,					
Regional Offices & Distribution Centers:					
2 Keystone Place,		Paramus,	New Jersey	07652	(201) 262-9000
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