Nakamichi

Service Manual

Nakamichi

ZX-7

Discrete Head Cassette Deck

CONTENTS

1. GENERAL

1.1. Control Functions

The Nakamichi ZX-7 control functions are shown below:

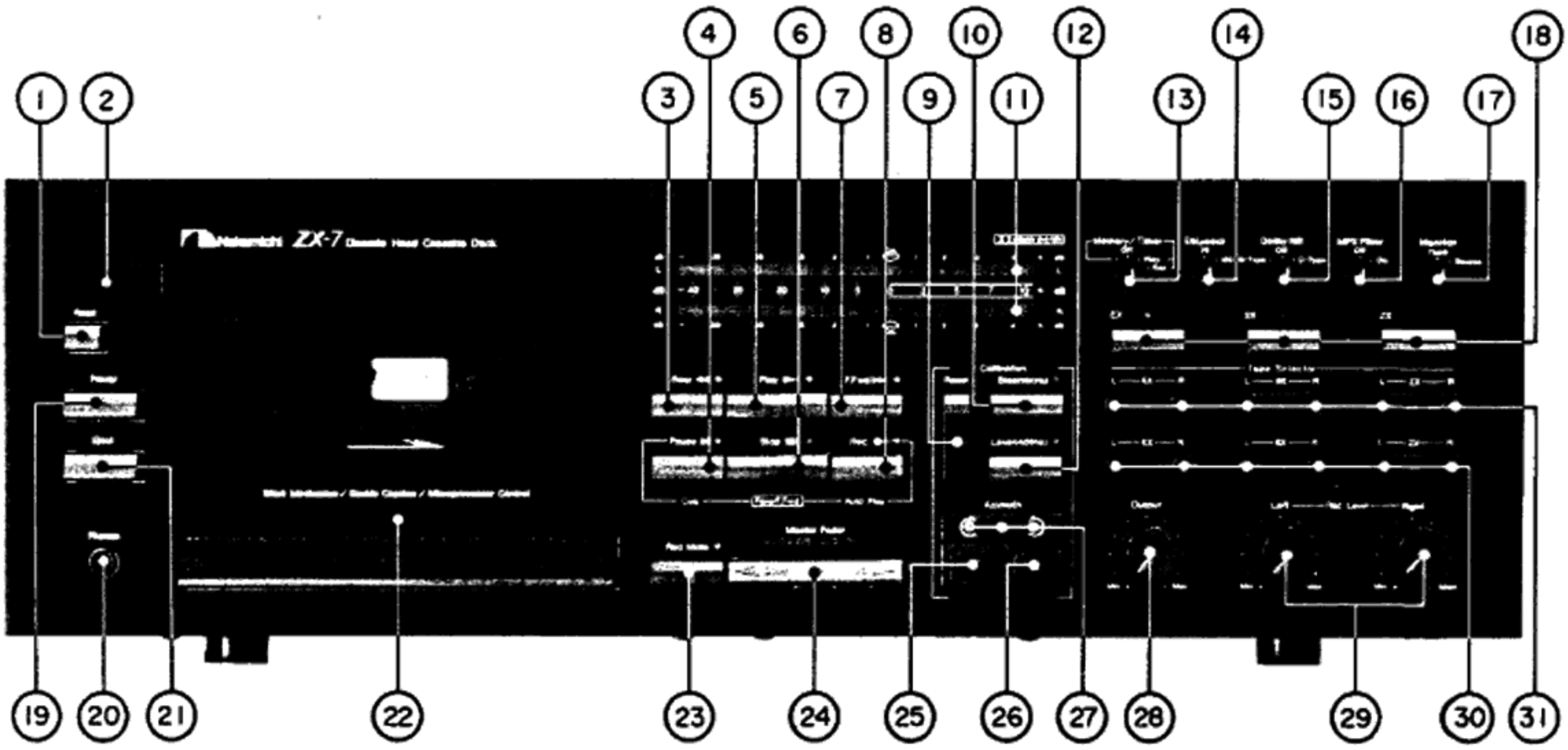


Fig. 1.1 Front View

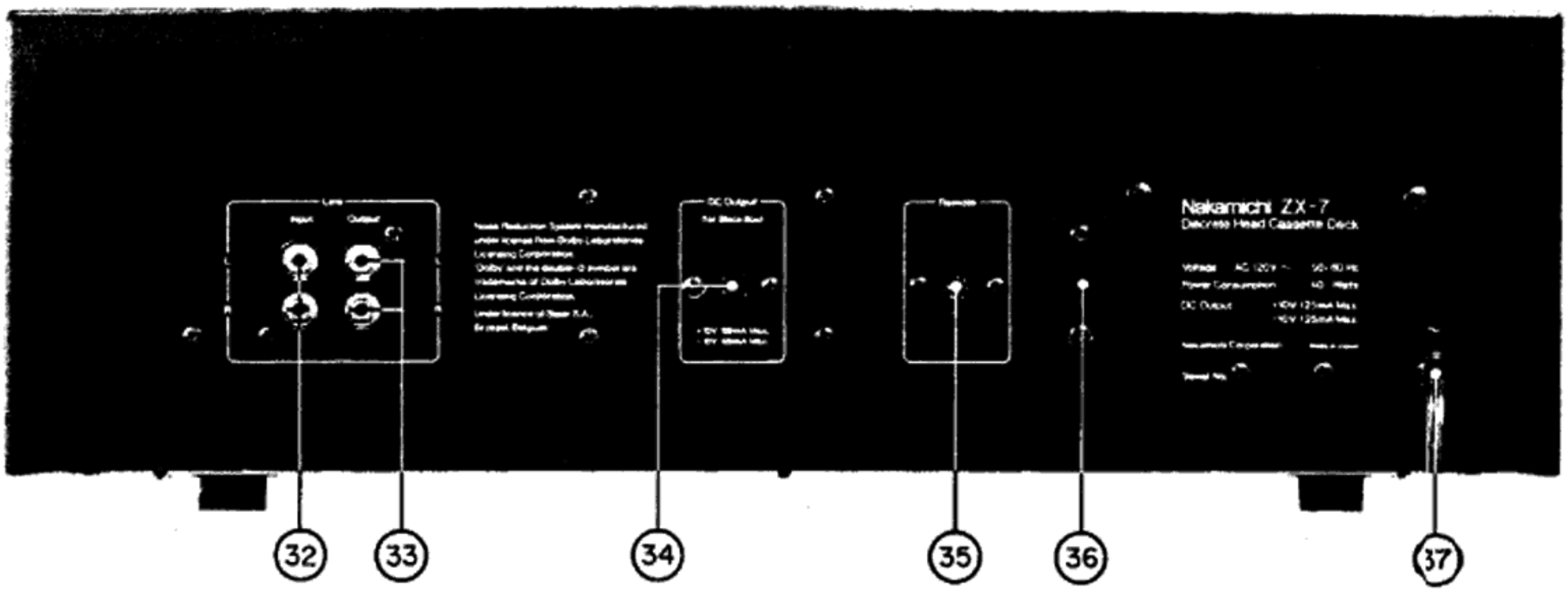


Fig. 1.2 Rear View

1. Counter Reset Button
2. Tape Counter
3. Rewind Button
4. Pause Button
5. Play Button
6. Stop Button
7. Fast-Forward Button
8. Record Button
9. Calibration Reset Button
10. Bias Calibration Start Button
11. Peak Level Meters
12. Level Calibration Start Button
13. Tape Start Memory/Timer Switch
14. Eq. Switch
15. Dolby NR Switch
16. MPX Filter Switch
17. Monitor Switch
18. Tape Selector Buttons
19. Power Switch
20. Headphone Jack
21. Eject Button
22. Cassette Holder
23. Rec. Mute Button
24. Master Fader Control
25. Azimuth Alignment Start Button
26. Azimuth Alignment Knob
27. Azimuth Indicators
28. Output Level Control
29. Input Level Controls
30. Sensitivity Controls
31. Bias Controls
32. Input Jacks
33. Output Jacks
34. DC Output Jack
35. Remote Control Jack
36. Voltage Selector
37. Power Cord

1.2. Voltage Selector

Voltage selector is installed on the rear panel for Other Version of the Nakamichi ZX-7.
This voltage selector can select either 120 V or 220-240 V at customer's disposal.

2. REMOVAL PROCEDURES

2.1. Top Cover Ass'y

Refer to Fig. 2.1.

(1) Remove F01 and F02, then disassemble F03 (Top Cover Ass'y).

2.2. Bottom Cover Ass'y

Refer to Fig. 2.1.

(1) Remove F04, then disassemble F05 (Bottom Cover Ass'y).

2.3. Cassette Case Cover Ass'y

Refer to Fig. 2.1.

(1) Press the Eject Button to open Cassette Case Ass'y.
(2) Pull out F06 (Cassette Case Cover Ass'y) upwardly.
(3) Pull out F07 (Cal. Volume Cap).

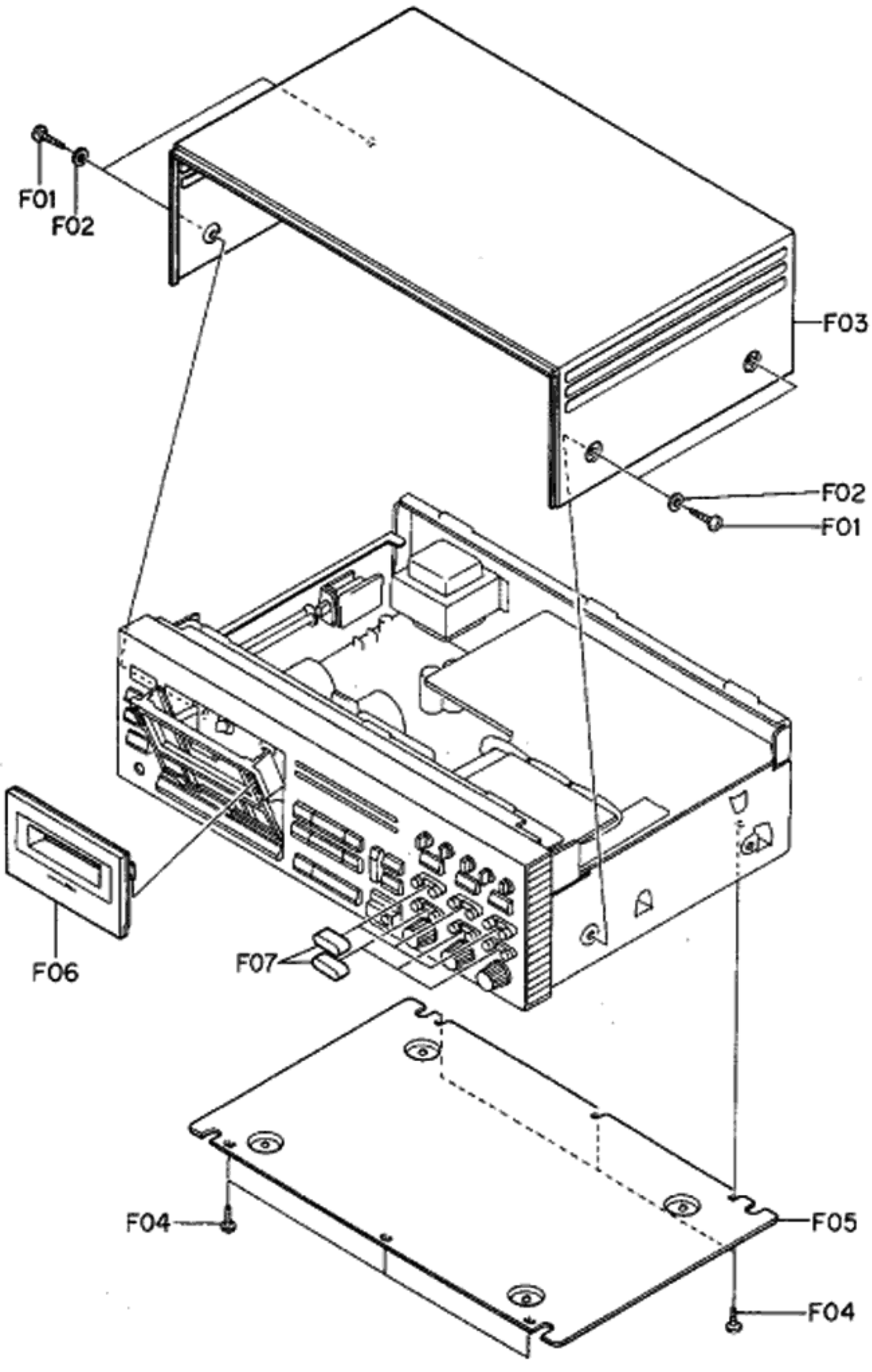


Fig. 2.1

2.4. Front Panel Ass'y

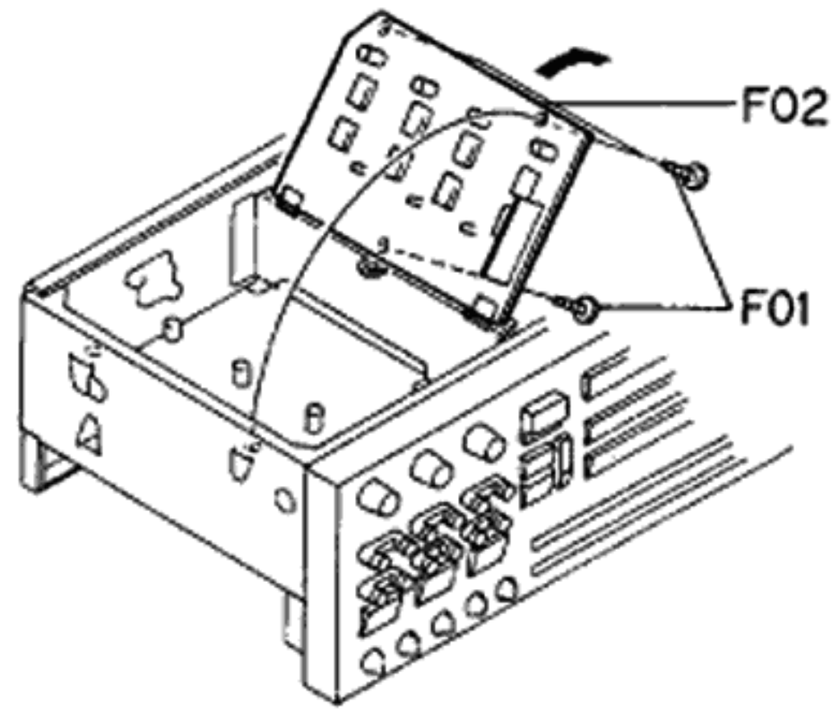
Refer to Fig. 2.2.

(1) Refer to Fig. 2.1. Remove Top Cover Ass'y and Bottom Cover Ass'y referring to items 2.1 and 2.2.
(2) Refer to bottom view (A). Remove F01, then turn F02 (Dolby NR P.C.B. Ass'y) over as an arrow head.
(3) Pull out F03 (Function Switch Knob), F04 (Cal. Volume Knob) and F05 (Volume Knob).
(4) Remove F06 and F07 (Azimuth Wire), then disassemble F08 (Front Panel Ass'y including 11 connectors).

2.5. Mechanism Ass'y

Refer to Fig. 2.2.

(1) Remove Front Panel Ass'y referring to item 2.4.
(2) Remove F09 (Power Switch Joint Bar) by releasing the self-interlocking pin of Power Switch Joint Bar from Power Switch P.C.B. Ass'y.
(3) Remove F10, F11 and F12, then disassemble F13 (Mechanism Ass'y including 5 connectors).



Ⓐ Bottom View

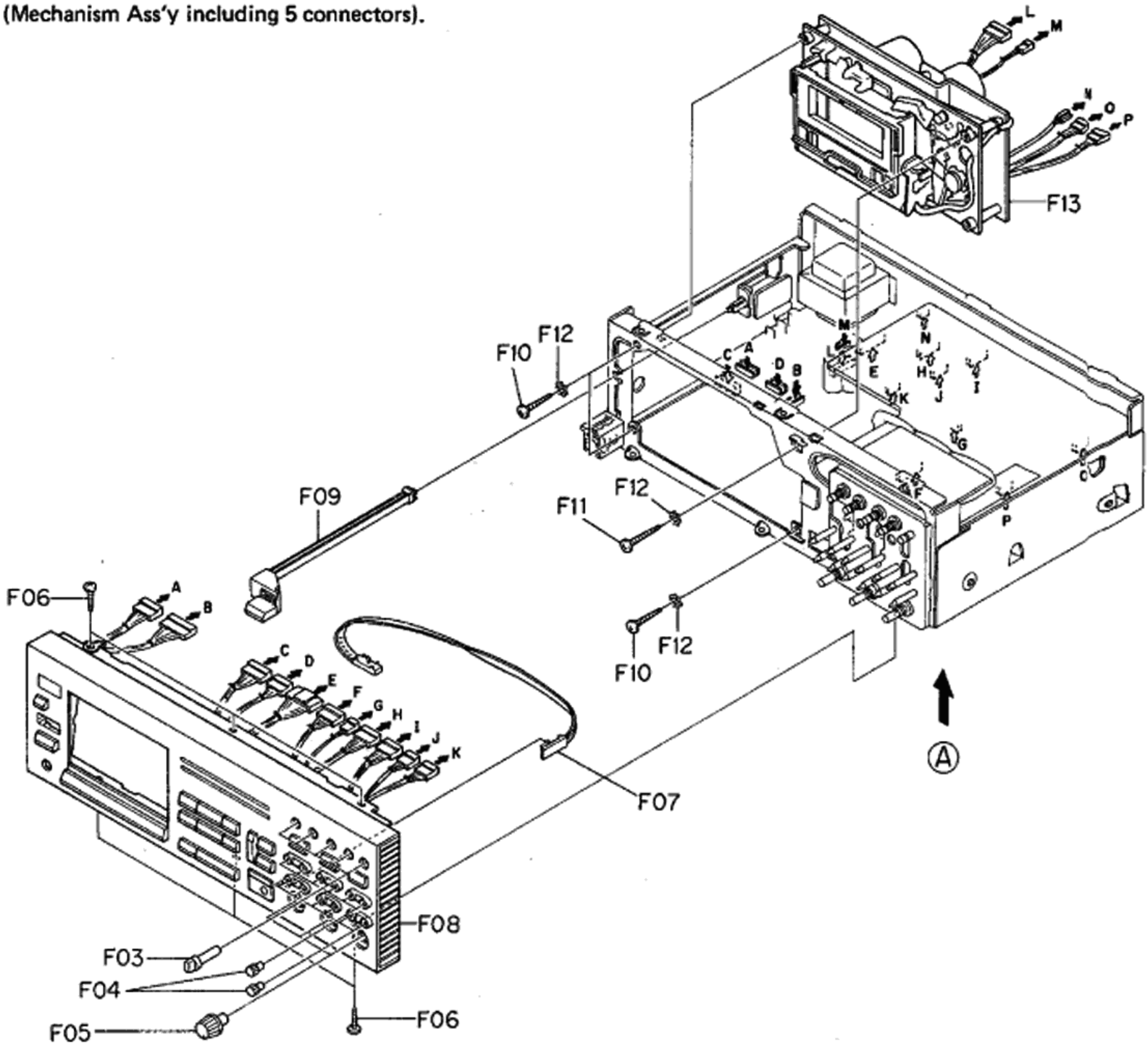


Fig. 2.2

2.6. Logic & Power P.C.B. Ass'y

Refer to Fig. 2.3.

(1) Refer to Fig. 2.1. Remove Top Cover Ass'y and Bottom Cover Ass'y referring to items 2.1 and 2.2.
(2) Remove 6 connectors and the wires connected by wrapping from F03 (Logic & Power P.C.B. Ass'y).
(3) Remove F01 and F02, then disassemble F03 (Logic & Power P.C.B. Ass'y).

2.7. Dolby NR P.C.B. Ass'y

Refer to Fig. 2.3.

(1) Refer to Fig. 2.1. Remove Top Cover Ass'y and Bottom Cover Ass'y referring to items 2.1 and 2.2.
(2) Remove the wires connected by wrapping from F05 (Dolby NR P.C.B. Ass'y).
(3) Remove F04, then disassemble F05 (Dolby NR P.C.B. Ass'y) by releasing the self-interlocking pin of P.C.B. Supporters.

2.8. Azimuth Switch P.C.B. Ass'y

Refer to Fig. 2.3.

(1) Refer to Fig. 2.2. Remove Front Panel Ass'y referring to item 2.4.
(2) Remove F06, then disassemble F07 (Azimuth Switch P.C.B. Ass'y).

2.9. Power Switch P.C.B. Ass'y

Refer to Fig. 2.3.

(1) Refer to Fig. 2.2. Remove Front Panel Ass'y referring to item 2.4.
(2) Remove F08 (Power Switch Joint Bar) by releasing the self-interlocking pin of Power Switch Joint Bar from Power Switch P.C.B. Ass'y.
(3) Remove F09, then disassemble F10 (Power Switch P.C.B. Ass'y).

2.10. Headphone Jack Ass'y

Refer to Fig. 2.3.

(1) Refer to Fig. 2.2. Remove Front Panel Ass'y referring to item 2.4.
(2) Remove F11 and F12, then disassemble F13 (Headphone Jack Ass'y).
(3) Remove F14 and F15, then disassemble F16 (Headphone Jack).

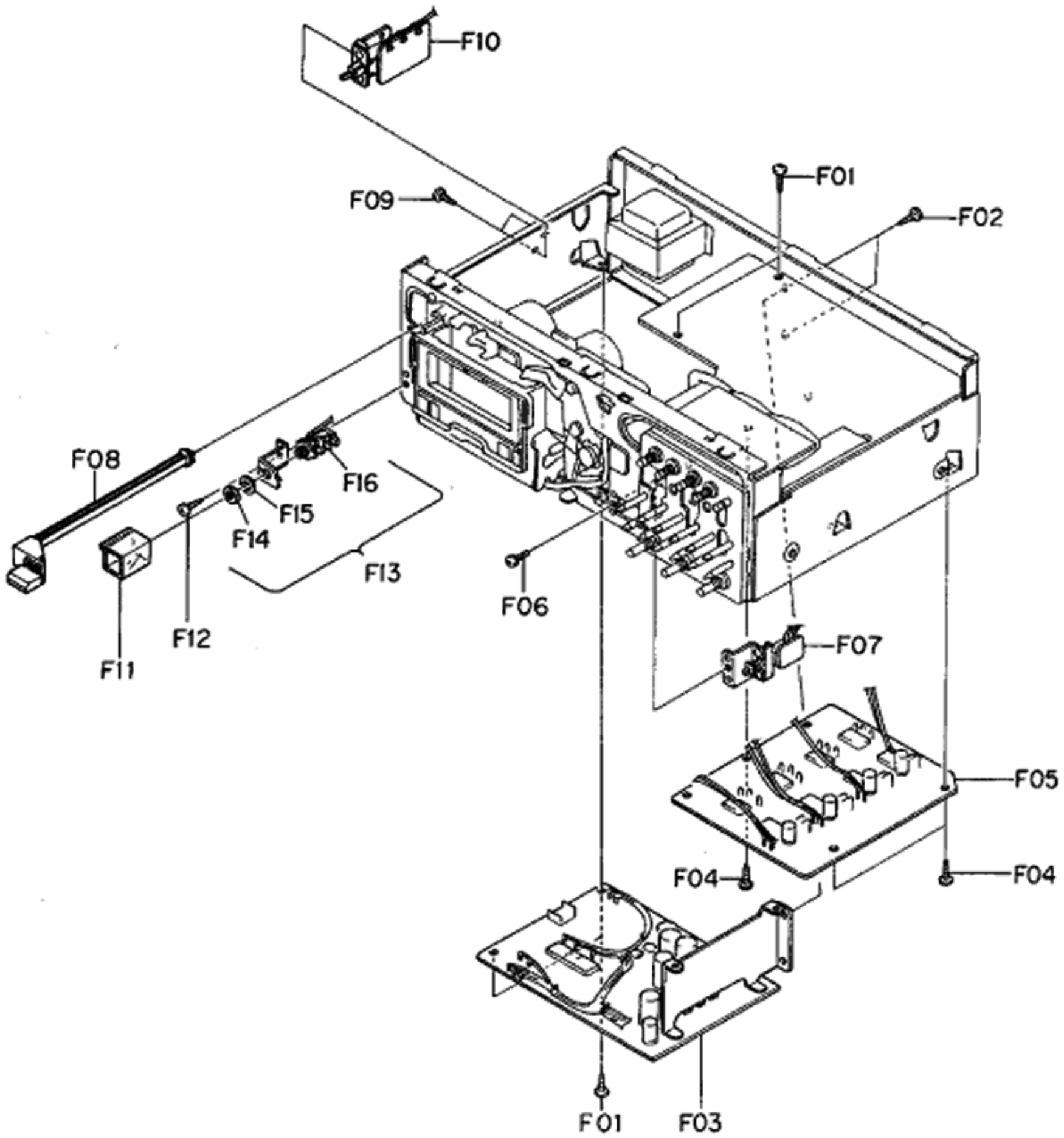


Fig. 2.3

2.11. Record Cal. P.C.B. Ass'y

Refer to Fig. 2.4.

(1) Refer to Fig. 2.2. Remove Front Panel Ass'y referring to item 2.4.
(2) Remove F01 and F02, then disconnect F03 (Record Cal. P.C.B. Ass'y including one connector) from F17 (Main P.C.B. Ass'y).

2.12. Sub Chassis Ass'y

Refer to Fig. 2.4.

(1) Refer to Fig. 2.2. Remove Front Panel Ass'y referring to item 2.4.
(2) Remove F04, then disassemble F05 (Sub Chassis Ass'y).

2.13. Switch P.C.B. Ass'y and Volume P.C.B. Ass'y

Refer to Fig. 2.4.

(1) Remove Sub Chassis Ass'y referring to item 2.12.
(2) Remove F06, F07, F08, F09 and F10, then disassemble F11 (Switch P.C.B. Ass'y).
(3) Remove F12 and F13, then disassemble F14 (Volume P.C.B. Ass'y).

2.14. Main P.C.B. Ass'y

Refer to Fig. 2.4.

(1) Remove Sub Chassis Ass'y referring to item 2.12.
(2) Remove F15 and F16, then disassemble F17 (Main P.C.B. Ass'y).

2.15. Record Cal. LED P.C.B. Ass'y, Control Switch P.C.B. Ass'y, Indicator P.C.B. Ass'y, Counter P.C.B. Ass'y and Counter Control P.C.B. Ass'y

Refer to Fig. 2.5.

(1) Refer to Fig. 2.2. Remove Front Panel Ass'y referring to item 2.4.
(2) Remove F01, then disassemble F02 (Record Cal. LED P.C.B. Ass'y).
(3) Remove F03, then disassemble F04 (Shield Case).
(4) Remove F05 and F06, then disassemble F07 (Indicator P.C.B. Ass'y).
(5) Remove F08, then disassemble F09 (Control Switch P.C.B. Ass'y).

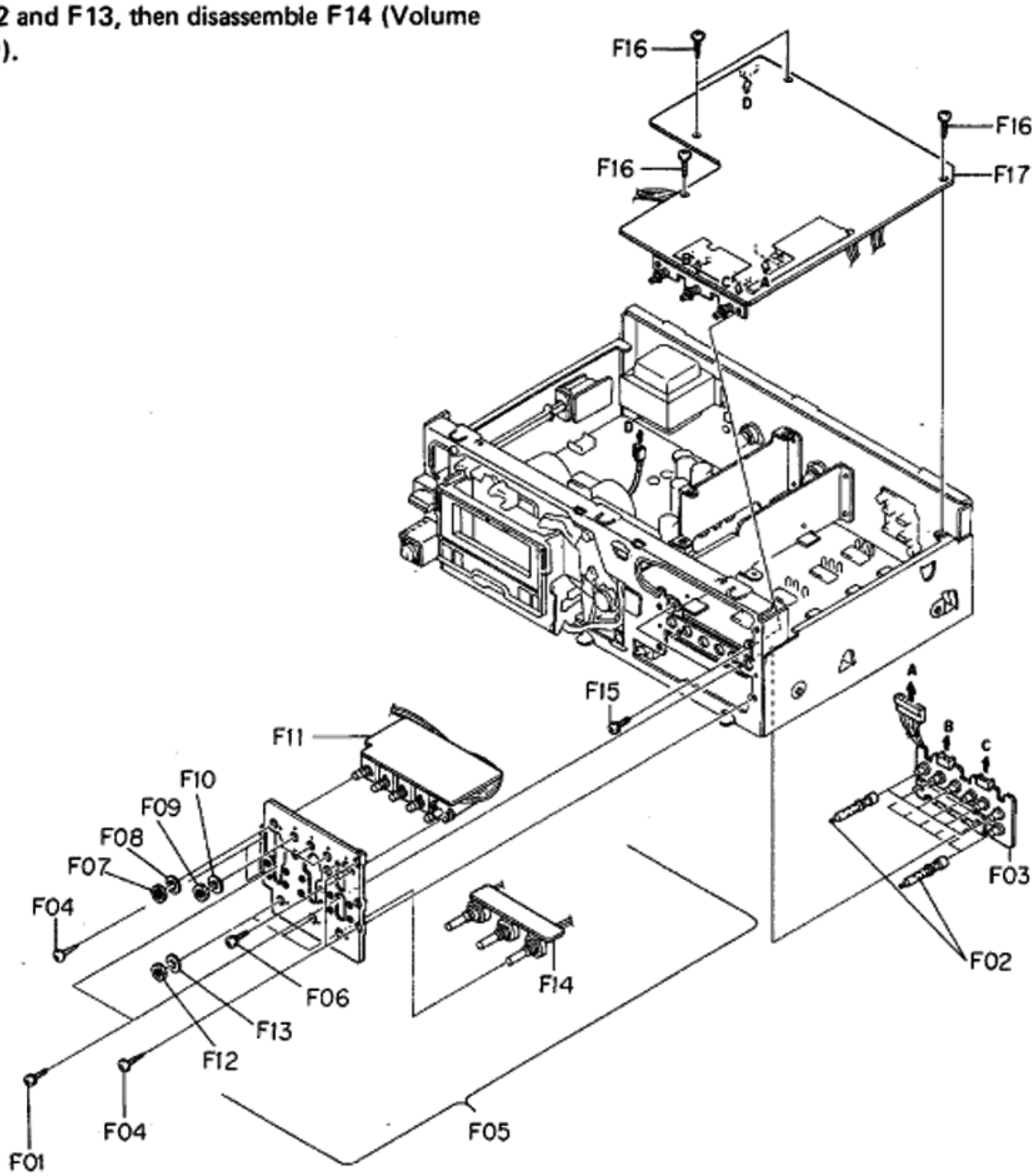


Fig. 2.4

(6) Remove F10, then disassemble F11 (Shield Case).
(7) Remove F12 and F13, then disassemble F14 (Counter P.C.B. Ass'y and Counter Control P.C.B. Ass'y).

2.16. Rear Panel Ass'y and Power Transformer

Refer to Fig. 2.6.

(1) Refer to Fig. 2.1. Remove Top Cover Ass'y and Bottom Cover Ass'y referring to items 2.1 and 2.2.
(2) Remove F01 and F02, then disassemble F03 (Rear Panel Ass'y).
(3) Remove F04 and F05, then disassemble F06 (Power Transformer).

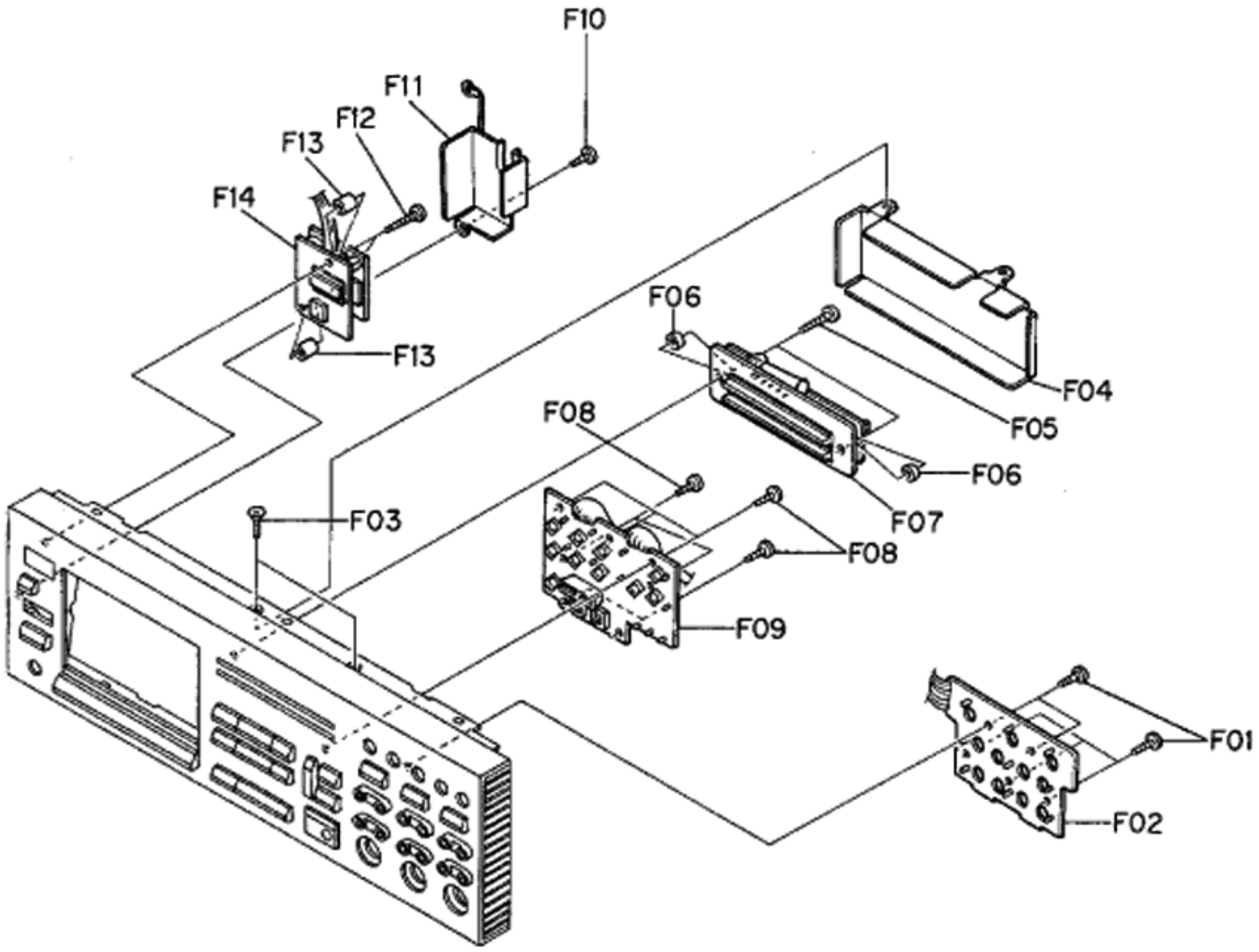


Fig. 2.5

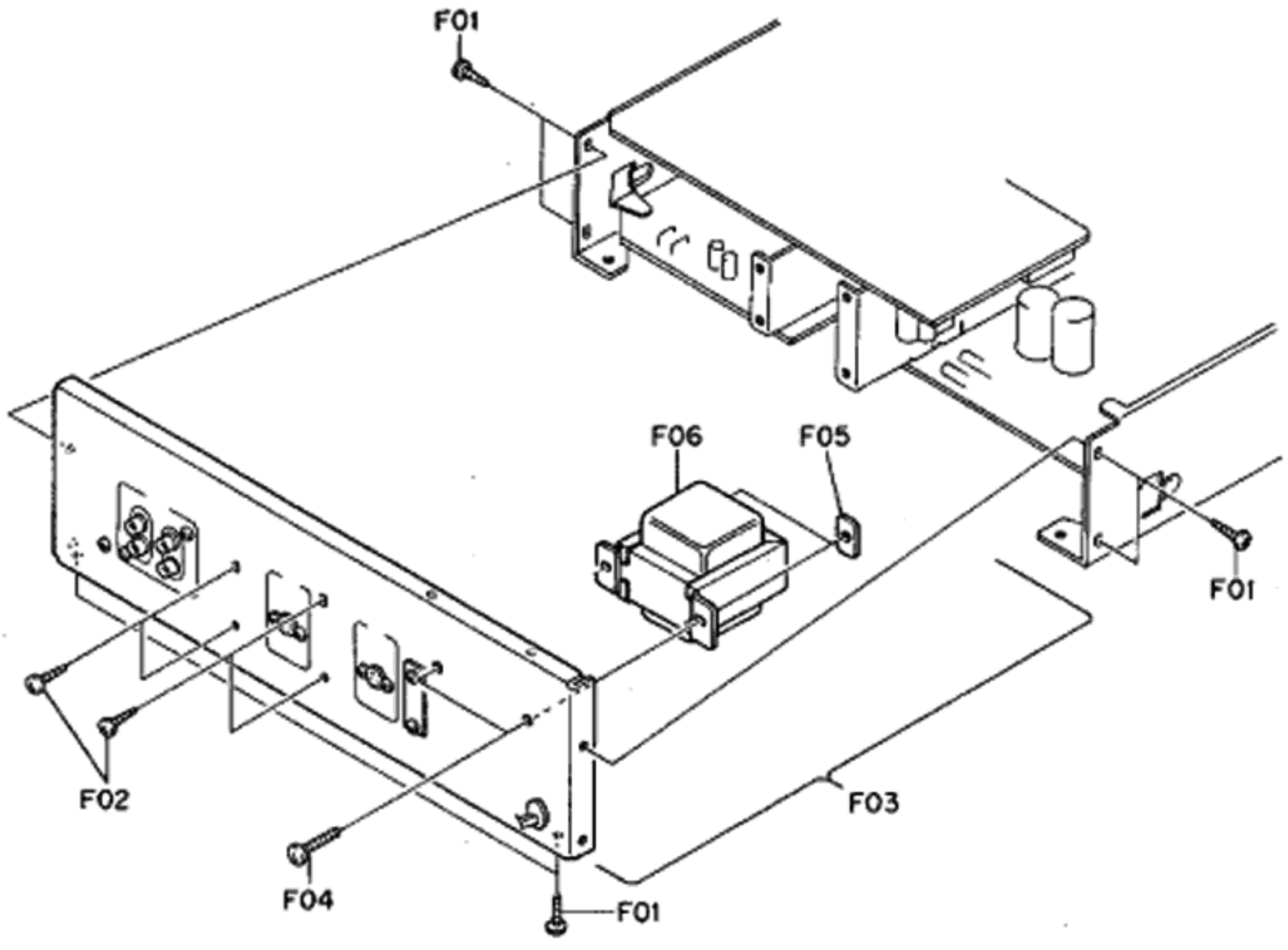


Fig. 2.6

2.17. Cassette Case Plate Ass'y, Cassette Case Ass'y and Cover Plate Ass'y

Refer to Fig. 2.7.

(1) Refer to Fig. 2.2. Remove Mechanism Ass'y referring to item 2.5.
(2) Remove F01, then disassemble F02 (Cassette Case Plate Ass'y).
(3) Remove F03 (Cassette Case Lamp) from Cassette Case Plate, then pull out F04 (Lamp P.C.B.) from F08 (Cassette Case Ass'y).
(4) Remove F05 and F06, then disassemble F07 (Cassette Case Holder L Ass'y) by releasing the self-interlocking pin of Damper Lock Arm and F08 (Cassette Case Ass'y).
(5) Remove F09, then disassemble F10 (Cover Plate Ass'y).

2.18. Capstan Motor Ass'y and Flywheel Ass'y

Refer to Fig. 2.8.

(1) Refer to Fig. 2.2. Remove Mechanism Ass'y referring to item 2.5.
(2) Remove F01, F02 and F03, then disassemble F04 (Flywheel Holder Ass'y) and F05 (Capstan Belt).
(3) Remove F06, then disassemble F07 (Capstan Motor Ass'y).
(4) Remove F08 (Supply Flywheel Ass'y), then disassemble F09 (Take-up Flywheel Ass'y).
(5) After removing both Flywheel Assemblies, disassemble F10 (Thrust Washer 3mm), F11 (Thrust Washer 2.6mm), F12 (Flange Thrust Cap) and F13 (Flange Thrust Spring).

2.19. Sub Mechanism Chassis Ass'y

Refer to Fig. 2.9.

(1) Refer to Fig. 2.8. Remove Flywheel Holder Ass'y referring to item 2.18.
(2) Remove F01, F02 and F03, then disassemble F04 (Sub Mechanism Chassis Ass'y).

2.20. Control Motor Ass'y and Reel Motor Ass'y

Refer to Fig. 2.9.

(1) Remove Sub Mechanism Chassis Ass'y referring to item 2.19.
(2) Remove F05, then disassemble F06 (Control Motor Ass'y).
(3) Remove F07, then disassemble F08 (Reel Motor Ass'y).

2.21. Cam Control Volume

Refer to Fig. 2.9.

(1) Remove Sub Mechanism Chassis Ass'y referring to item 2.19.
(2) Remove F09, then disassemble F10 (Volume Coupler).
(3) Remove F11 and F12, then disassemble F13 (Cam Control Volume).

2.22. Reel Hub Ass'y and Idler Ass'y

Refer to Fig. 2.9.

(1) Remove Sub Mechanism Chassis Ass'y referring to item 2.19.
(2) Remove F14 (Reel Hub Head), then disassemble F15 (Reel Hub B Ass'y), F16 (Reel Hub Take-up Ass'y),

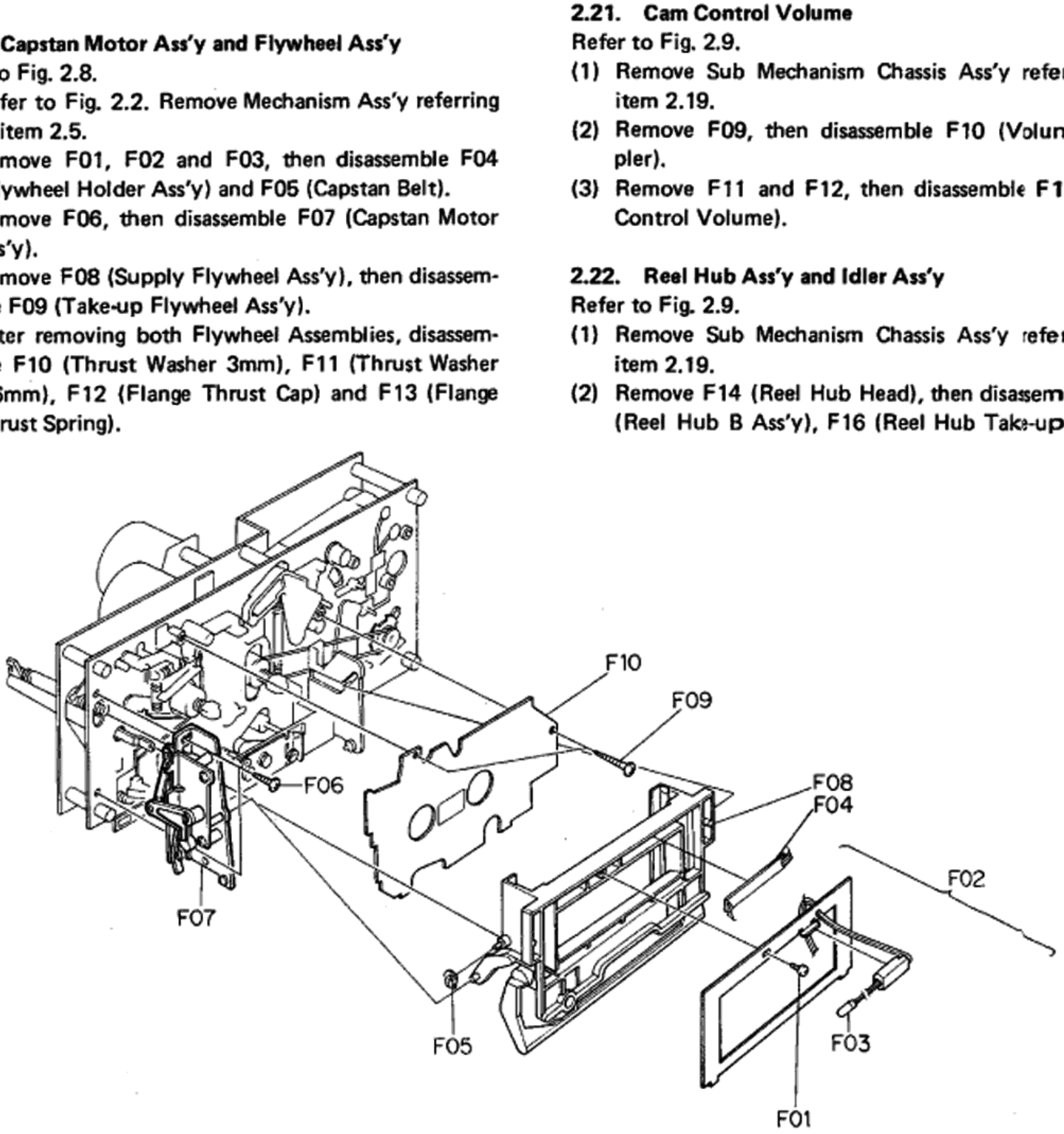


Fig. 2.7

F17 (Reel Hub Supply Ass'y), F18 (Back Tension Ass'y) and F19 (Back Tension Spring).

(3) Remove F20, then disassemble F21 (Idler Ass'y).

2.23. Cam Drive Gear and Control Cam

Refer to Fig. 2.9.

(1) Remove Sub Mechanism Chassis Ass'y referring to item 2.19.

(2) Remove F22, then disassemble F23 (Cam Drive Gear).

(3) Remove F24, then disassemble F25 (Counter-Load Arm Ass'y).

(4) Remove F26, then disassemble F27 (Control Cam).

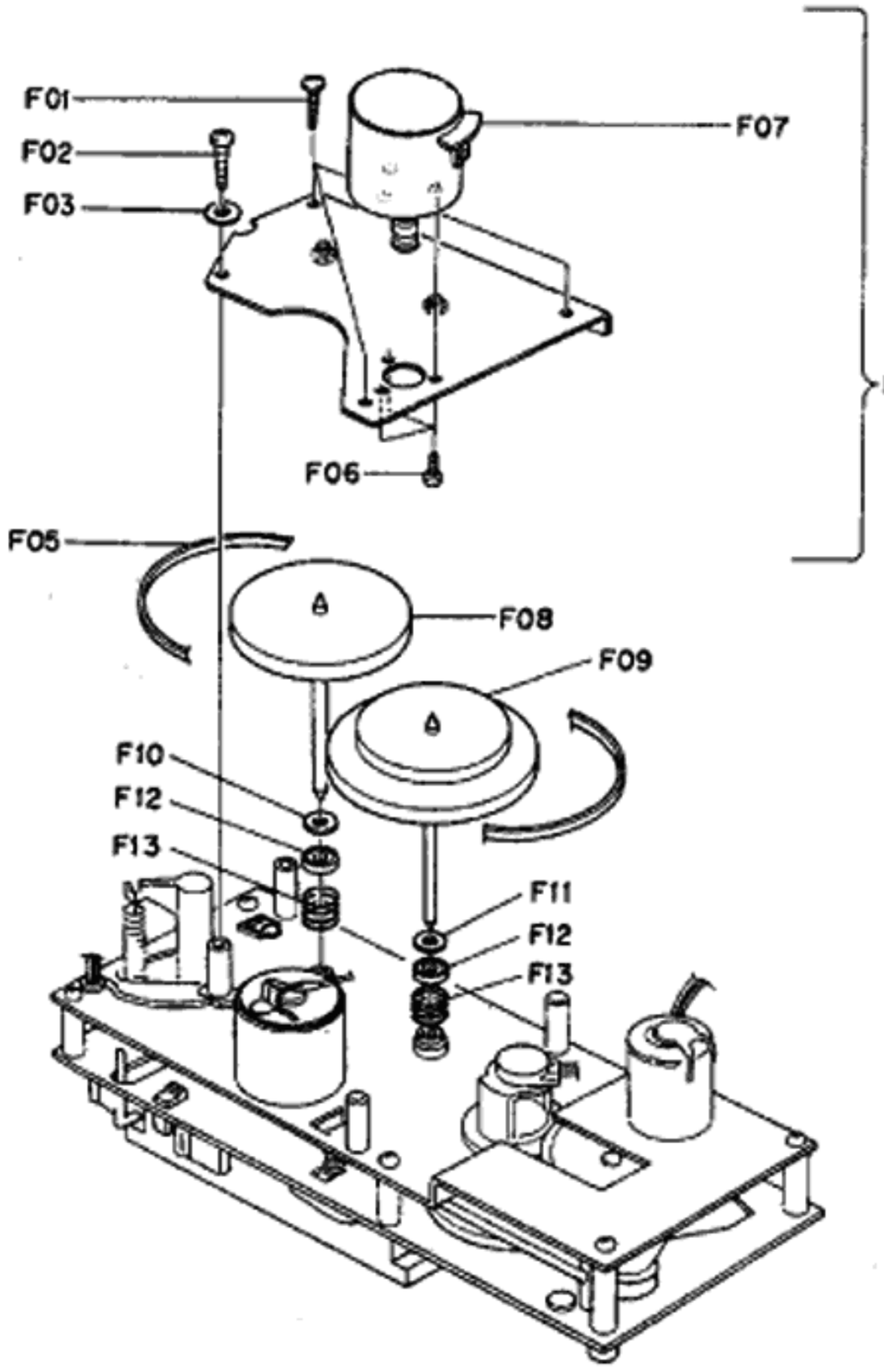


Fig. 2.8

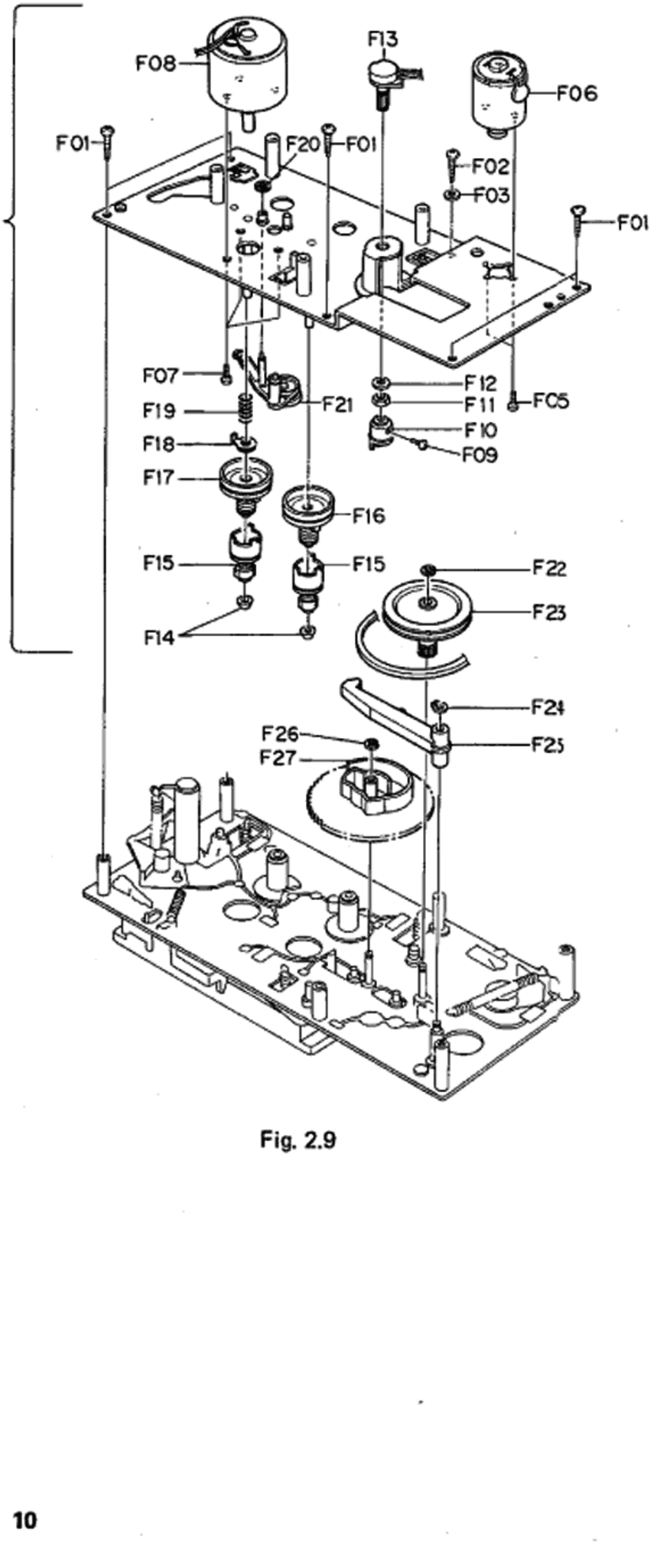


Fig. 2.9

2.24. Head Mount Base Ass'y

Refer to Fig. 2.10.

(1) Refer to Fig. 2.7. Remove Cassette Case Ass'y referring to item 2.17.
(2) Remove F01, then disassemble F02 (Head Mount Base Ass'y).

2.25. Erase Head, Pressure Roller and Tape Guide

Refer to Fig. 2.10.

(1) Remove Head Mount Base Ass'y referring to item 2.24.
(2) Remove F03, then disassemble F04 (Erase Head).
(3) Remove F05, then disassemble F06 (Supply Pressure Roller).
(4) Remove F07, then disassemble F08 (Supply Tape Guide).
(5) Remove F09, then disassemble F10 (Take-up Pressure Roller).
(6) Remove F11, then disassemble F12 (Take-up Tape Guide).

2.26. Playback Head Ass'y and Record Head Ass'y

Refer to Fig. 2.10.

(1) Remove Head Mount Base Ass'y referring to item 2.24.
(2) Turn F13 by 90° by pushing it, then disassemble F14 (Playback Head Ass'y).
(3) Turn F15 by 90° by pushing it, then disassemble F16 (Record Head Ass'y) and F17 (RH Azimuth Alignment Plate).

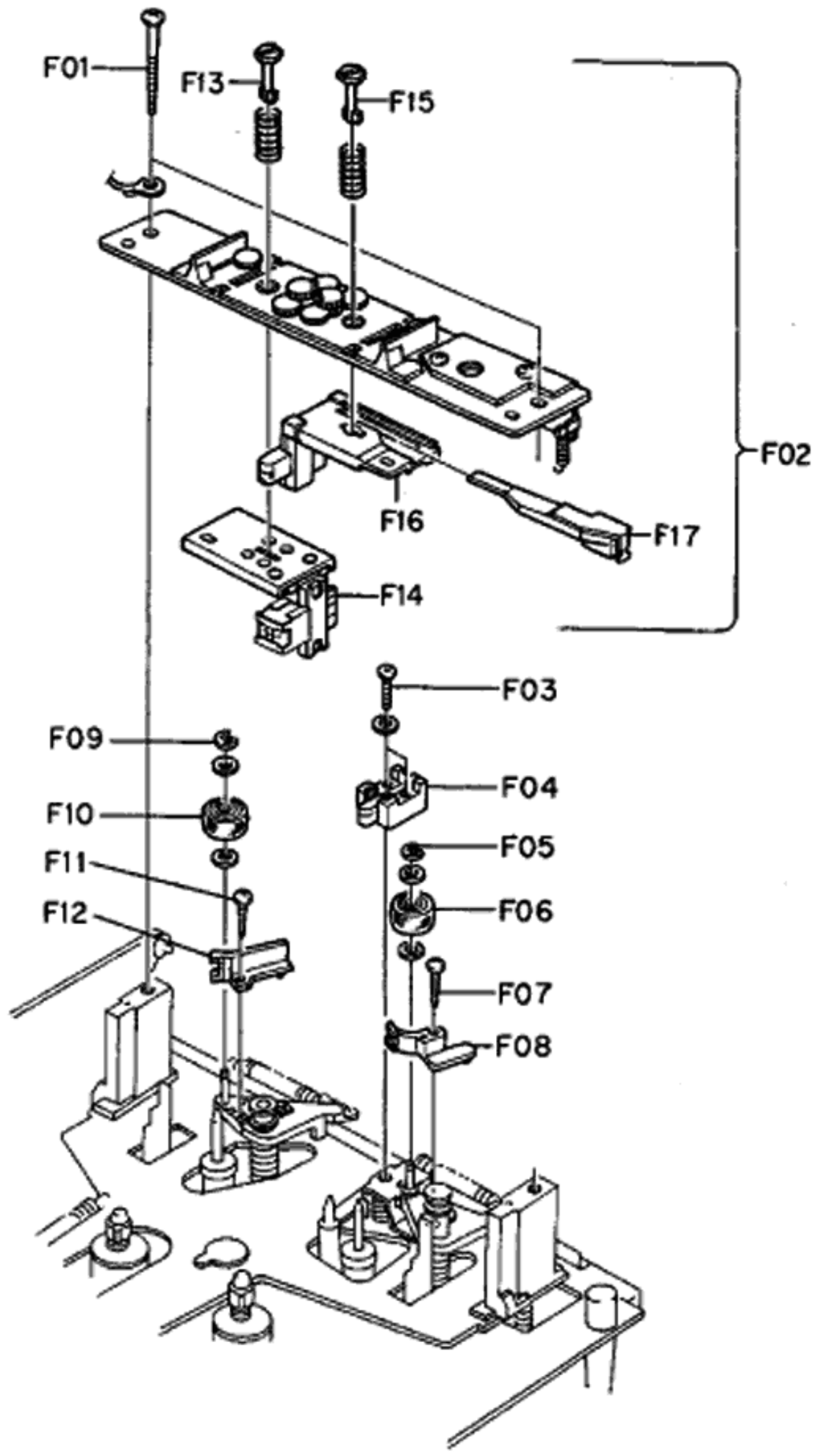


Fig. 2.10

3. MEASUREMENT INSTRUMENTS

(1) Audio Generator (20 Hz – 200 kHz)
(2) AC Millivolt Meter (with dB measures)
(3) Oscilloscope (DC – 5 MHz)
(4) Distortion Meter
(5) Speed & Wow/Flutter Meter
(6) Frequency Counter (DC – 1 MHz)
(7) Ohm Meter
(8) DC Volt Meter
(9) AC Volt Meter
(10) Torque Gauge (DA09013A)
(11) 15 kHz Azimuth Tape (DA09004A)
(12) 3 kHz Speed & Wow/Flutter Tape (DA09006A)
(13) 1 kHz Track Alignment Tape (DA09007A)
(14) 400 Hz Level Tape (DA09005A)
(15) 20 kHz PB Frequency Response Tape (DA09001A)
(16) 15 kHz PB Frequency Response Tape (DA09002A)
(17) 10 kHz PB Frequency Response Tape (DA09003A)
(18) Reference EXII Tape (DA09066A)
(19) Reference SX Tape (DA09025A)
(20) Reference ZX Tape (DA09037A)
(21) Tilt Check Gauge M-9039 (DA09039A)
(22) EH Tilt Check Gauge M-9040 (DA09040A)
(23) EH Stroke Check Gauge M-9051 (DA09051A)
(24) Stroke Check Gauge M-9047 (DA09047B)
(25) Record Head Mounting Gauge M-9048 (DA09048A)
(26) Back Tension Gauge (DA09055A)
(27) Tension Arm Adjustment Cassette (DA09056A)
(28) Audio Analyzer T-100
(including Distortion, Wow/Flutter, Speed, Oscillator and dB meters)

Note: (10) – (28) are the products of Nakamichi Corporation.

4. MECHANICAL ADJUSTMENTS

4.1. Mechanism Control Cam Adjustment

Before adjustment, disassemble the Front Panel Ass'y, then remove the Cover Plate referring to items 2.4 and 2.17.

(1) Offset Adjustment of Control Motor Driver

(a) Refer to Figs. 4.1 and 4.2.
Adjust VR602 and VR603 on the Logic & Power P.C.B. Ass'y to locate approximately at the middle of the variable range. Then turn ON the Power switch.
VR602 (for Cam position stop)
VR603 (for Cam position play)

(b) Press the Stop button to set the ZX-7 in Stop mode. Adjust VR602 (for stop) so that the "S" mark on the Cam corresponds to the pointer on the mechanism chassis.

(c) Press the Play button to set the ZX-7 in Playback mode.
(Cam will rotate, and the position marked with "PY" comes to the pointer.) Adjust VR603 (for play) so that the "PY" mark on the Cam corresponds to the pointer.

(d) Repeat above (b) and (c) 2 – 3 times so that the "S" and "PY" marks on the Cam correspond to the pointer accurately in Stop and Playback modes respectively.
(This adjustment is required because the position adjusted by one volume will be slightly changed when the other volume is adjusted.)

(e) Set the ZX-7 in F.F., Pause, or Cue mode by pressing each button (press F.F. and Pause buttons to set the ZX-7 in Cue mode) and check to insure that the pointer is in a range of "F", "PS", or "CU" mark respectively.

(f) If out of the range, precise adjustment for each position according to "(2) Offset Fine Adjustment of Control Motor Driver" will be required.

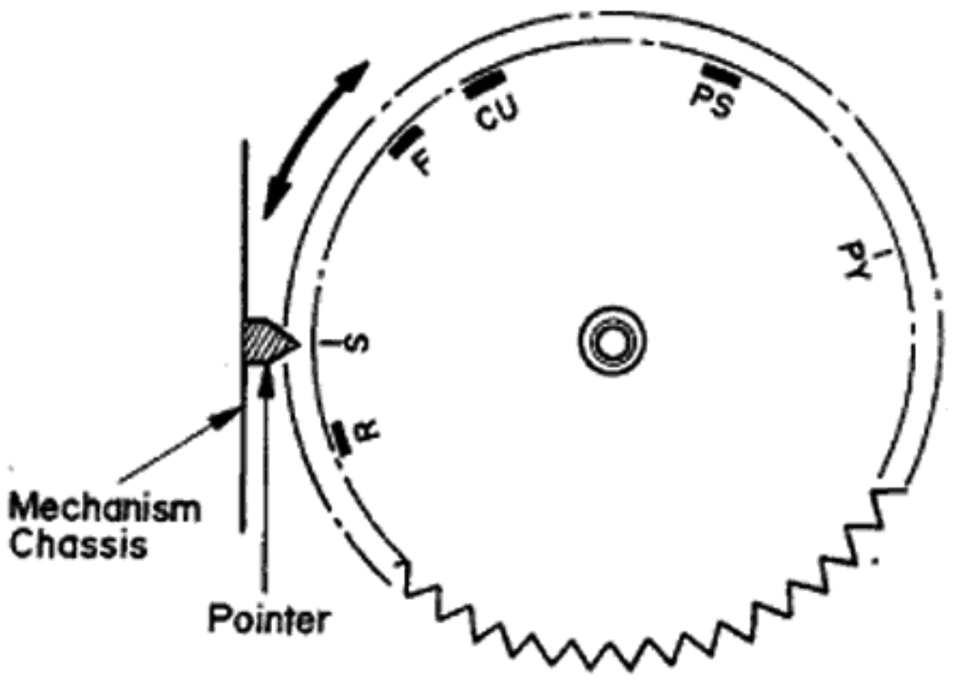


Fig. 4.1

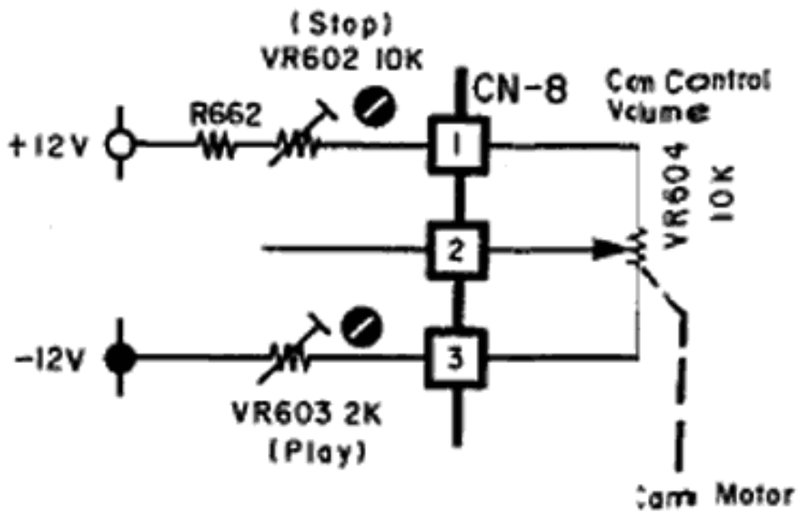


Fig. 4.2

(2) Offset Fine Adjustment of Control Motor Driver

Adjust only if a satisfactory result is not obtained in "(1) Offset Adjustment of Control Motor Driver". This adjustment is made by changing the value of the fixed resistors on the Logic & Power P.C.B. Ass'y.

Note: The value of voltage is typical value.

(a) Observation Point of Reference Voltage

Observe the each voltage at the sliding contact of the Cam Control Volume VR604 (10 kΩ) in Stop, Fast (F.F. or Rew.), Pause and Playback modes.

(b) Reference Voltage

Reference voltage at the sliding contact of VR604 (Cam Control Volume) in each mode is as follows:

Mode	Reference Voltage (Typical Value)	
Stop	0 V	2.0 V ±0.25 V
Fast (F.F./Rew.)	−2.0 V	
Pause	−6.5 V	2.6 V ±0.4 V
Play	−9.1 V	

(c) Resistors for Adjustment

Mode	Ref. No.	Typical Value
Fast (F.F./Rew.)	R647	22 kΩ
Pause	R649	76.8 kΩ (F)
Play	R648	10 kΩ

(d) Adjustment Procedures

1) Set the ZX-7 in Stop mode, then check to insure that the voltage at the sliding contact of VR604 is 0 V (±0.3 V).
2) Set the ZX-7 in F.F. mode, then adjust the value of R647 so that the voltage at the sliding contact of VR604 will become lower by 2.0 V (±0.25 V) than in Stop mode.
3) Press the Pause button to set the ZX-7 in Pause mode.
   Adjust the value of R649 to obtain −6.5 V (+0.4, −0.15 V) at the sliding contact of VR604.
4) Set the ZX-7 in Playback mode, then adjust the value of R648 so that the voltage at the sliding contact of VR604 will become lower by 2.6 V (±0.4 V) than in Pause mode.

4.2 Reel Motor Speed Adjustment in Play Mode

Refer to Fig. 4.3.

(1) Connect a DC voltmeter to TP1 and GND on the Logic & Power P.C.B. Ass'y.
(2) Without loading a cassette tape, set the ZX-7 in Play mode.
(3) Adjust VR601 on the Logic & Power P.C.B. Ass'y to obtain −4 V on the DC voltmeter.

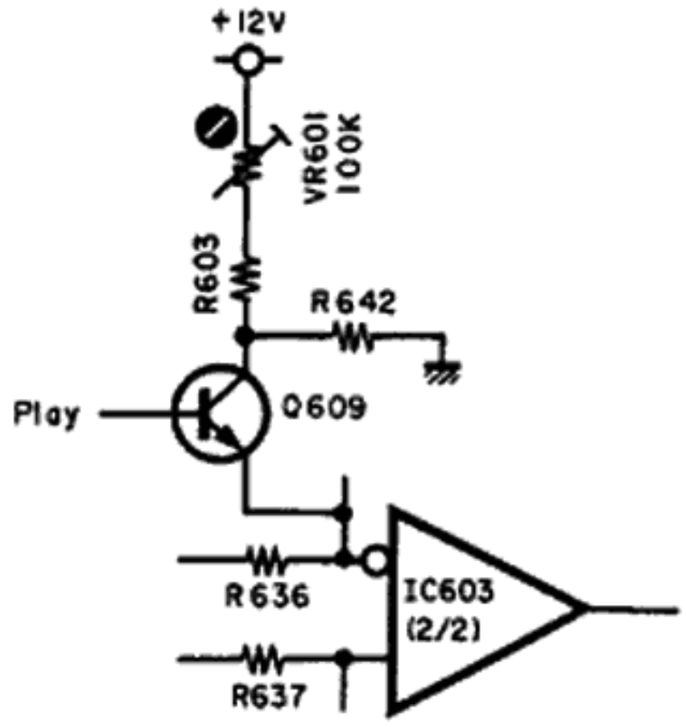


Fig. 4.3

4.3. Record Head and Playback Head Tilt Adjustment

Note: On items 4.3 — 4.9, refer to Fig. 4.4 flow chart.
Refer to Figs. 4.5 and 4.6.

(1) Load a Tilt Check Gauge M-9039 (DA09039A) in the ZX-7.
(2) Clip the grounding terminal of the Tilt Check Gauge with one end of the cord with clip, and the chassis of the ZX-7 with the other end.
(3) Remove both of the Height Gears.
(4) Set the ZX-7 in Play mode. Check to insure whether the Beacons Playback Head "Upper" or "Lower" and Record Head "Upper" or "Lower" are illuminating. In order not to give damages onto the head surfaces, push both of slide knobs of the Gauge to the direction of arrow marks, then return them to the original place to be in contact with record head and playback head surfaces after Play mode is securely locked.
(5) Check to insure freedom from contact between the Gauge and pad lifter.
(6) Beacon Playback Head "Lower" will light on when height adjustment screw (P) turned clockwise but Playback Head "Upper" when counterclockwise. Adjust so that both "Upper" and "Lower" will light on even when you move the slide knob to the direction of an arrow mark and then return them to the original place.
(7) Same procedures will apply to the Beacons Record Head "Upper" and "Lower", except for the height adjustment screw (R).
(8) Set the ZX-7 in Stop mode and fit both of the serrated Height Gears. Then set the ZX-7 again in Play mode and insure all of the 4 Beacons are illuminating. If not, (3) through (7) will have to be repeated till satisfactory results are obtained.

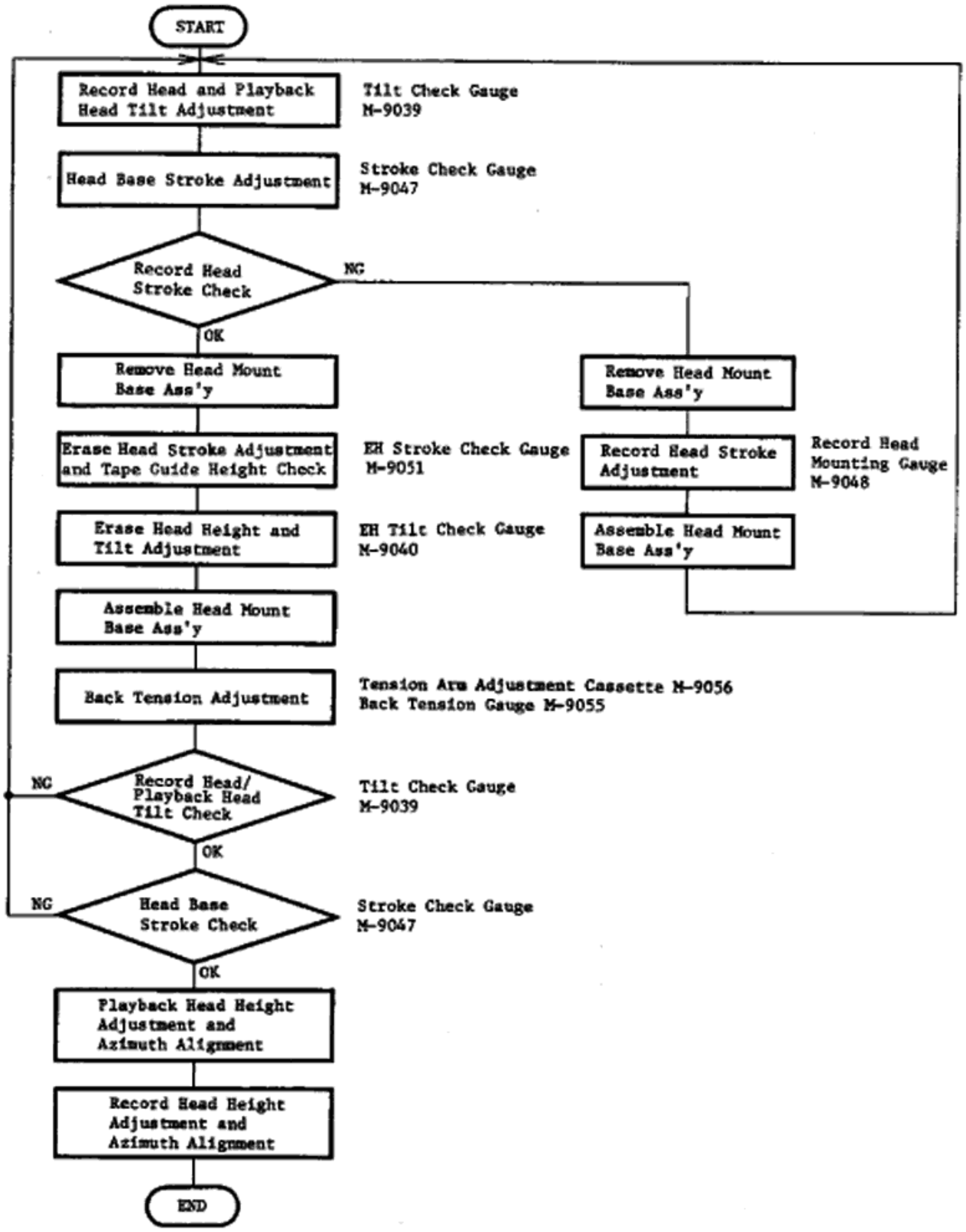


Fig. 4.4

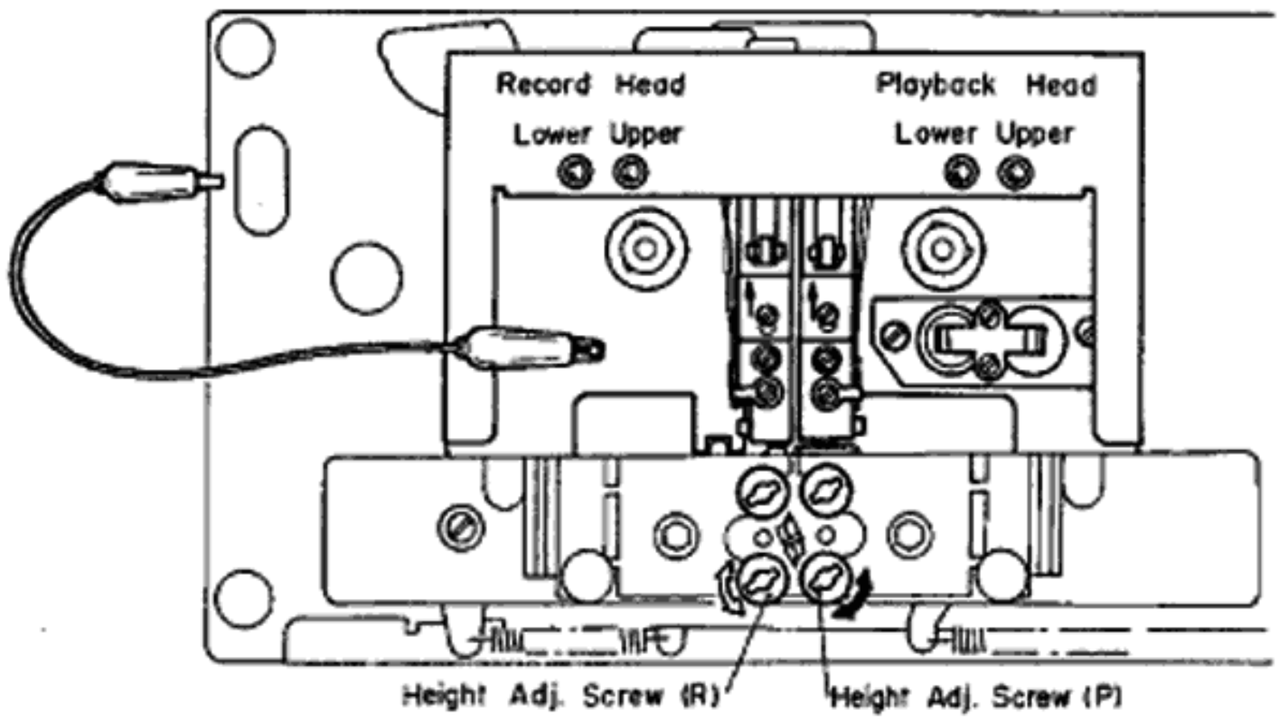


Fig. 4.5

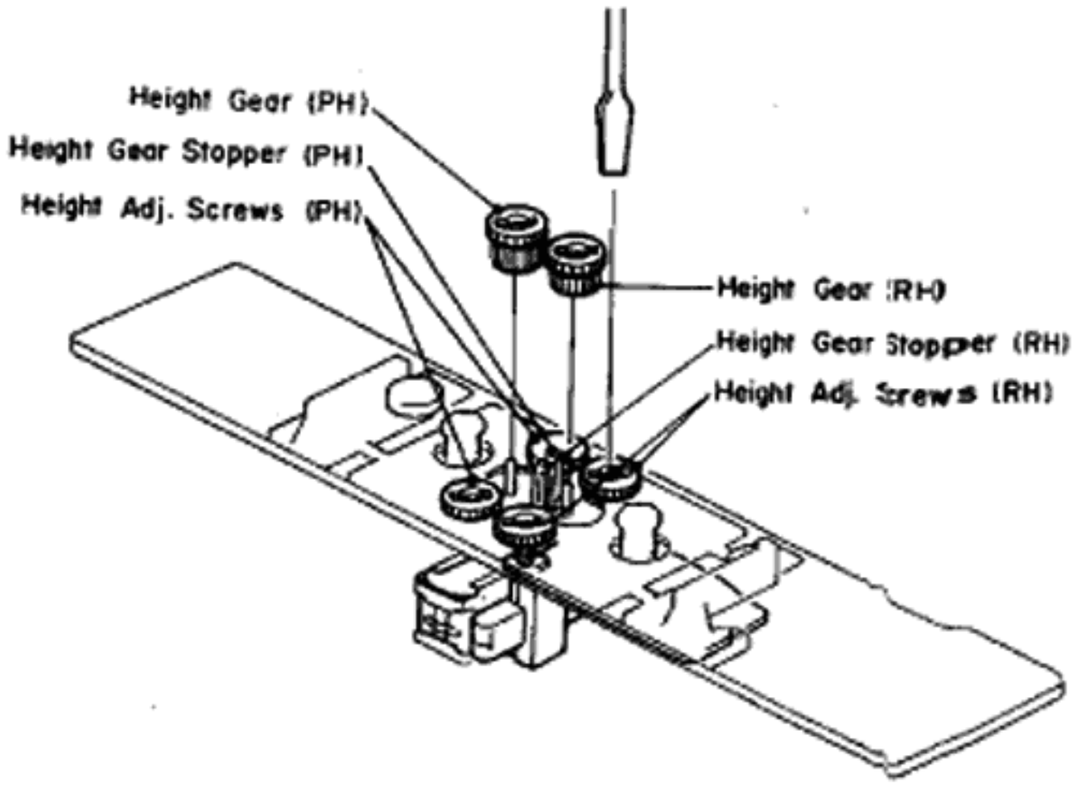


Fig. 4.6

4.4. Head Base Stroke Adjustment

Note: Before you conduct this adjustment, adjust with a "Tilt Check Gauge" to insure freedom from tilt on the playback head and record head.

(1) Head Base Stroke Adjustment in Play Mode

Refer to Fig. 4.7.

(a) Load a Stroke Check Gauge M-9047 (DA09047B) in the ZX-7.

(b) Move Record Head Indicator and Playback Head Indicator to the direction of arrow mark "A" with your finger tip and then set the ZX-7 in Play mode.
Then slowly release the Indicators and insure whether each of the Indicators is in contact with record and playback heads.

(c) Check to isnure whether the "P" pointer on the Playback Head Indicator locates between the 2 lines on the Indicator Plate.

(d) If the playback head stroke is noted to be misaligned, adjustment can be made by moving the stroke adjuster assembled in the head base assembly (either forwardly or backwardly).

(e) Check to insure whether the "P" pointer on the Playback Head Indicator locates between the 2 lines on the Record Head Indicator, thus check can be made on record head stroke.

(f) If the record head stroke is noted to be misaligned, adjustment can be made with a Record Head Mounting Gauge M-9048 (DA09048A).

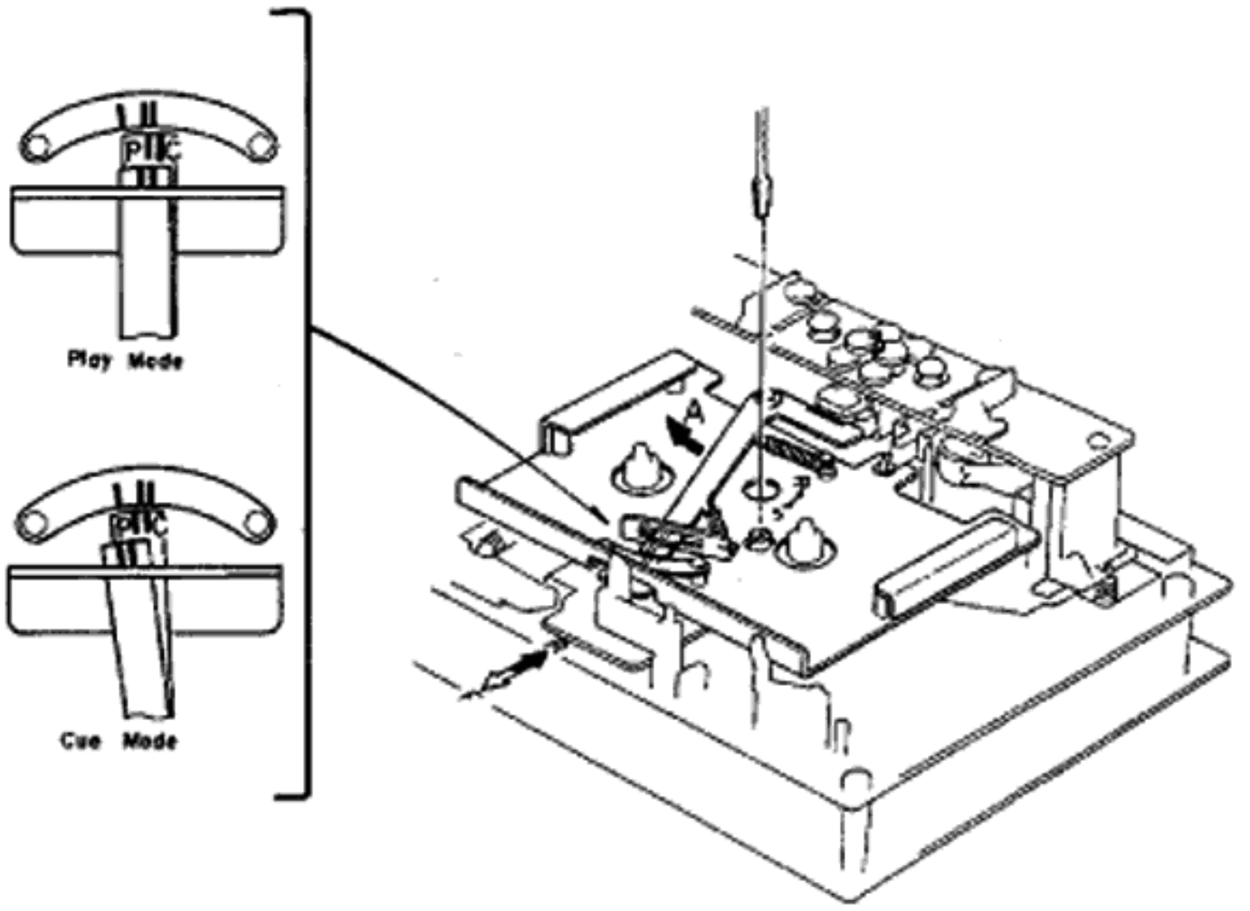


Fig. 4.7

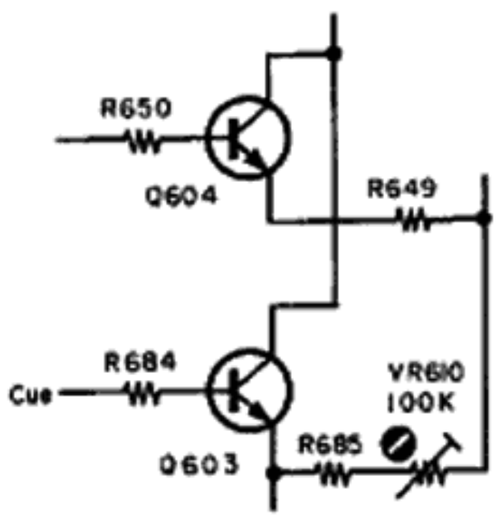


Fig. 4.8

(2) Head Base Stroke Adjustment in Cue Mode

Refer to Figs. 4.7 and 4.8.

(a) Load a Stroke Check Gauge M-9047 (DA09047B) in the ZX-7.

(b) Move Record Head Indicator and Playback Head Indicator to the direction of arrow mark "A" with your finger tip and then set the ZX-7 in Cue (F.F. and Pause) mode.
Then slowly release the Indicators and insure whether each of the Indicators is in contact with record and playback heads.

(c) Check to insure whether the "C" pointer on the Playback Head Indicator locates between the 2 lines on the Indicator Plate.

(d) If the playback head stroke is noted to be misaligned, adjust VR610 on the Logic & Power P.C.B. Ass'y till satisfactory results are obtained.

(e) After completion of the Head Base Stroke Adjustment, check to insure accuracy of the Head Base Stroke Adjustment in Play mode.
If the above are inaccurate, items (1) and (2) will have to be repeated till satisfactory results are obtained.

4.5. Erase Head Stroke Adjustment and Tape Guide Height Check

Remove Head Mount Base Ass'y referring to item 2.24.
Refer to Figs. 4.9 and 4.10.

(1) Erase Head Stroke Adjustment

(a) Load an EH Stroke Check Gauge M-9051 (DA0-9051A) in the ZX-7.

(b) Set the ZX-7 in Play mode, thus check can be made on erase head stroke through the EH Stroke Indicator.

(c) Check to insure whether the erase head surface is aligned with red line on the EH Stroke Indicator. If not, adjust the erase head stroke by loosening 2 screws A that assemble erase head and erase head plate.

(d) After completion of adjustment, 2 pcs. of screws shall be locked with lock tight paint.

(2) Supply Tape Guide Height Check

(a) Load an EH Stroke Check Gauge M-9051 (DA0-9051A) in the ZX-7.

(b) Set the ZX-7 in Play mode.

(c) Slide the Supply Tape Guide Check Bar down against the supply tape guide, and check to insure that the Supply Tape Guide Check Bar is accepted by the supply tape guide.

(3) **Take-up Tape Guide Height Check**

(a) Load an EH Stroke Check Gauge M-9051 (DA0-9051A) in the ZX-7.

(b) Set the ZX-7 in Play mode.

(c) Slide the Take-up Tape Guide Check Bar down against the take-up tape guide, and check to insure that the Take-up Tape Guide Check Bar is accepted by the take-up tape guide.

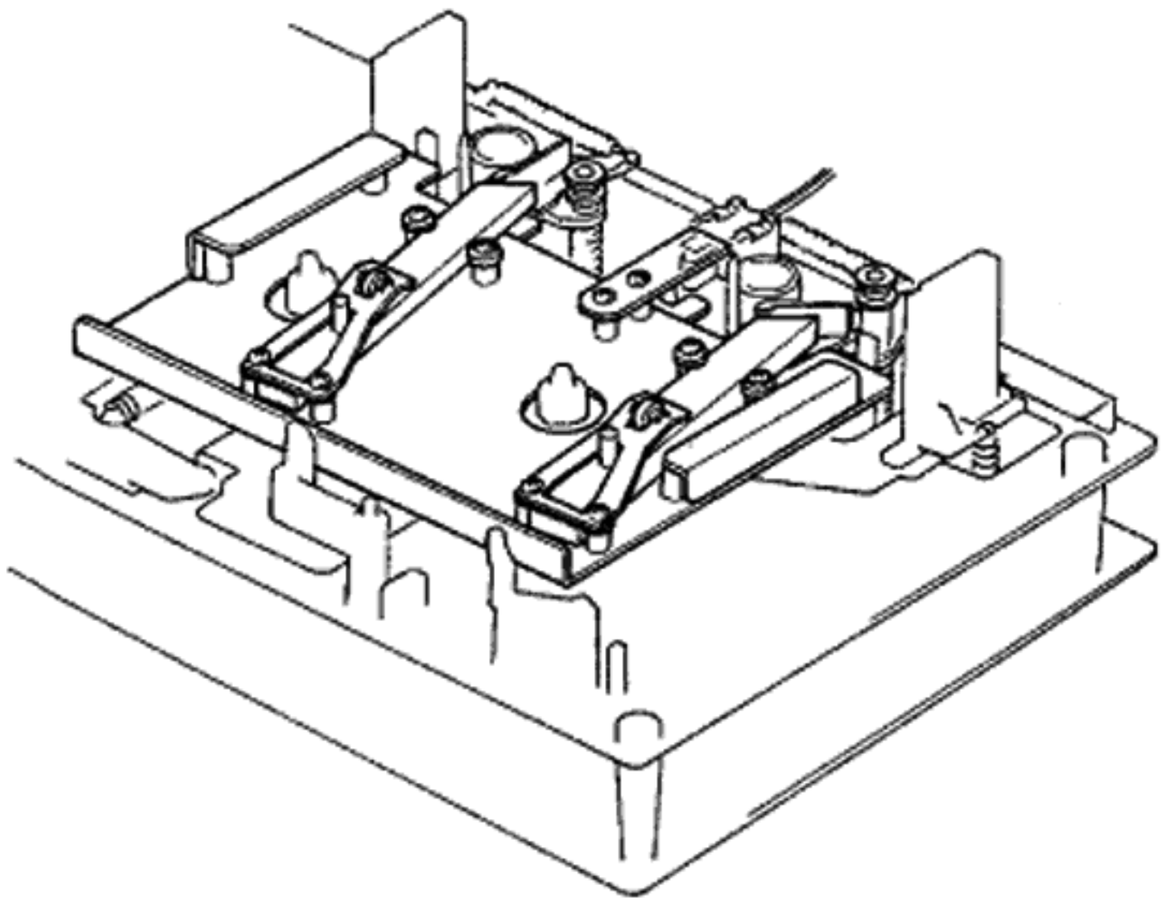


Fig. 4.9

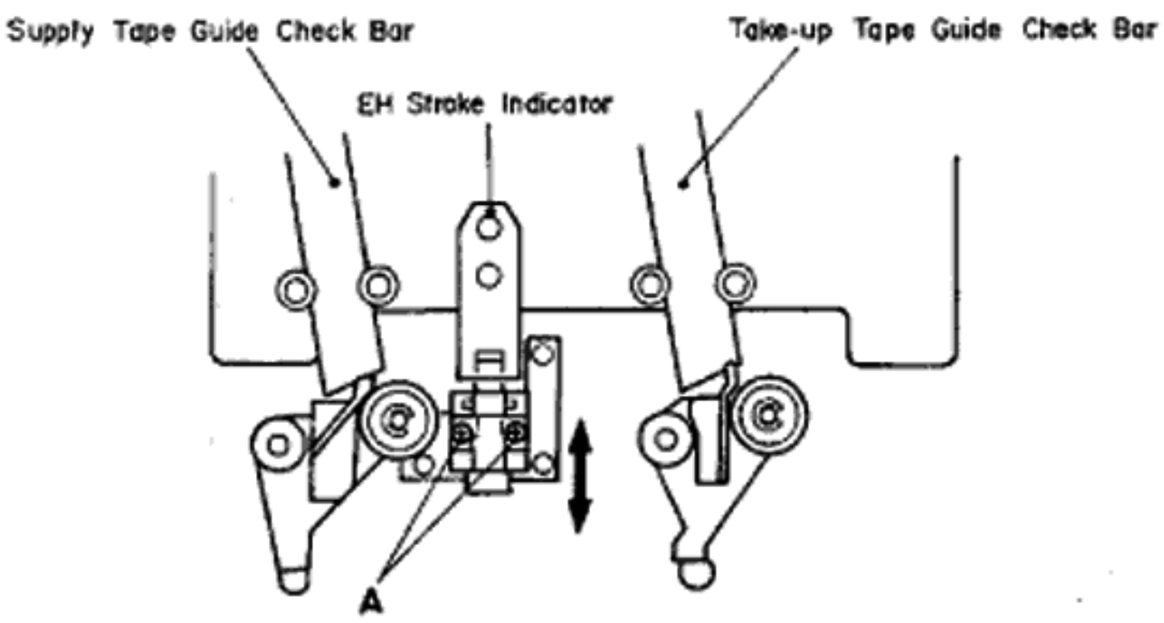


Fig. 4.10

4.6. Erase Head Height and Tilt Adjustment

Refer to Figs. 4.11 and 4.12.

(1) Remove Head Mount Base Ass'y referring to item 2.23.

(2) Load an EH Tilt Check Gauge M-9040 (DA09040A) in the ZX-7.

(3) Set the ZX-7 in Stop mode.

(4) Check to insure whether one of the 3 Beacons is illuminating. Look down the mirror as shown by an arrow mark and slowly turn the Screw "Height" counterclockwise (or clockwise) so that the two horizontal lines on the mirror will become superposed on the line (in different color) of the erase head, and check to insure whether Beacon "1" is illuminating.

(5) Turn Screw "Tilt" counterclockwise (or clockwise) to light on Beacon "2". Excessive turning will cause the Beacon "1" to light off. Adjustments of Screw "Tilt" will therefore be conducted till both of the Beacons "1" and "2" illuminate.

(6) Turn Screw "Azimuth" counterclockwise (or clockwise) to light on Beacon "3". Excessive turning will cause either Beacon "1" or "2" to light off, and therefore adjust Screw "Azimuth" until all of the 3 Beacons "1", "2" and "3" illuminate.

(7) Check to insure whether the horizontal line on the mirror corresponds to that on the erase head. If not, (4) through (7) will have to be repeated till satisfactory results are obtained.

(8) After completion of adjustment, 3 pcs. of screws shall be locked with lock tight paint.

Note: Before use of this gauge, check to insure freedom from dust or dirts, or overflow in the groove of the erase head surface.

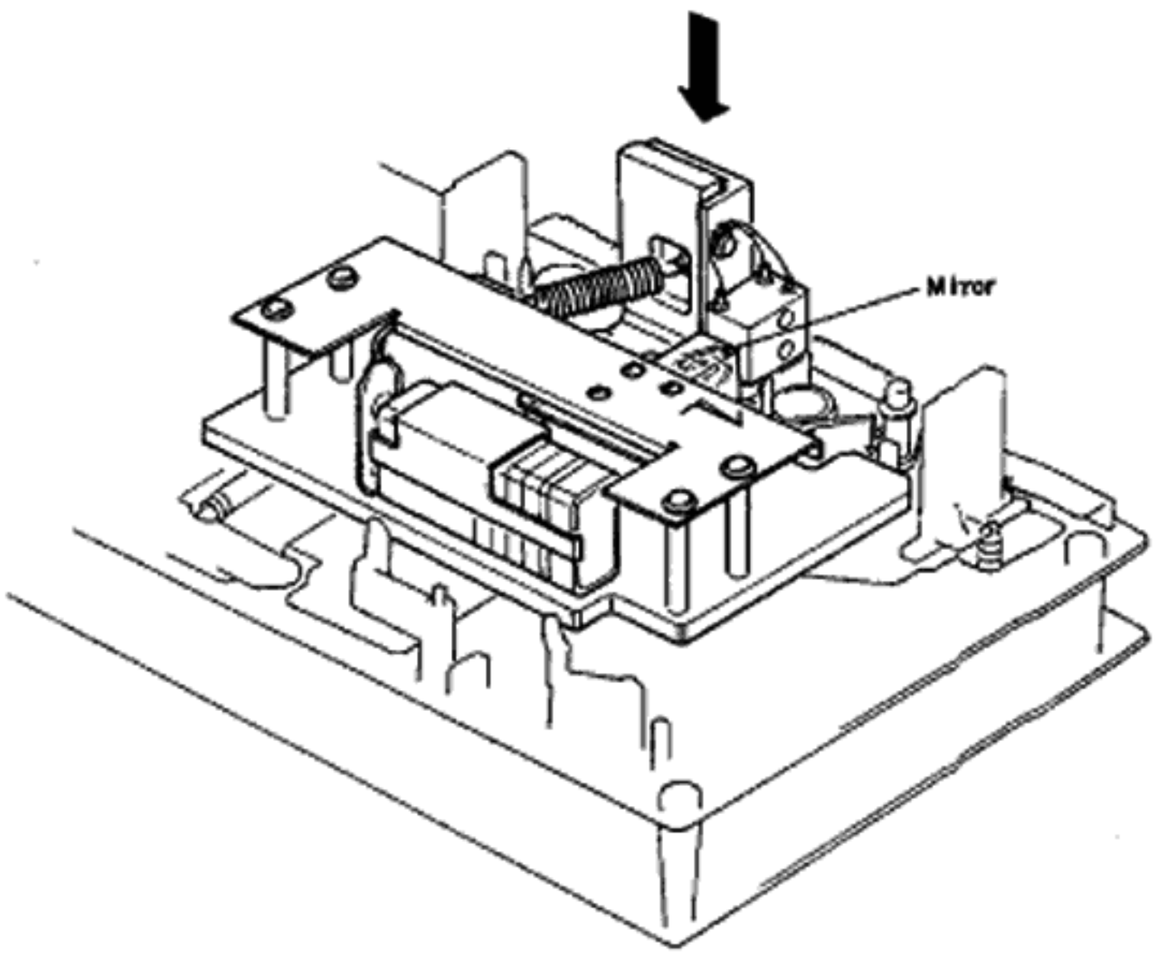


Fig. 4.11

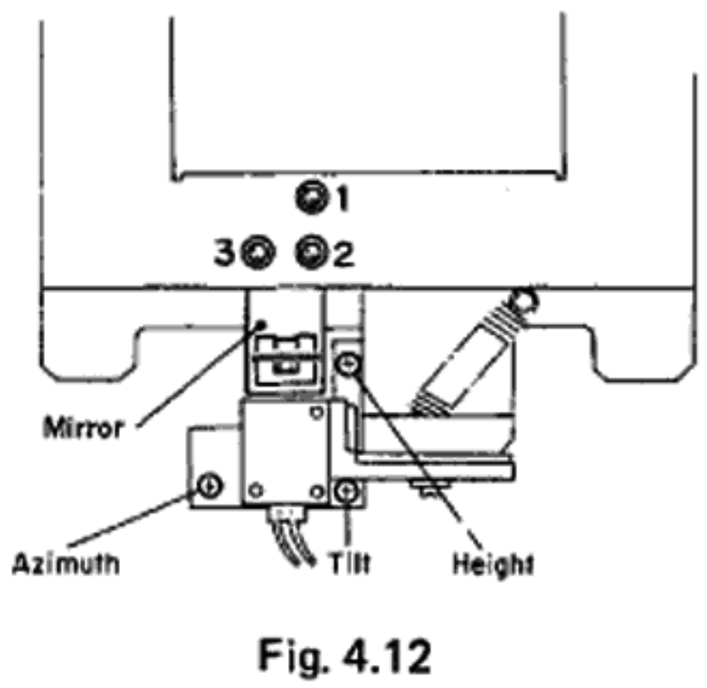


Fig. 4.12

4.7. Back Tension Adjustment

Refer to Figs. 4.13 – 4.16.

(1) Load a Tension Arm Adjustment Cassette (DA09056A) in the ZX-7 referring to Fig. 4.13.

(2) Set the ZX-7 in Play mode.

(3) Bend the Back Tension Arm with pliers so that the gap between the Cassette Holding Spring assembled on the Head Base Ass'y and the Back Tension Arm becomes 0.5 mm as shown in Fig. 4.14. Do not bend the top of the Back Tension Arm.

(4) Set the ZX-7 in Stop mode, and remove the Tension Arm Adjustment Cassette (DA09056A), then set the ZX-7 in Cue mode.
In Cue mode, check to insure that the gap is found between the Supply Reel Hub B Ass'y and the Felt of Back Tension Ass'y as shown in Fig. 4.15.

(5) Load the Back Tension Gauge (DA09055A) in the ZX-7.

(6) Set the ZX-7 in Play mode and read the torque value of Back Tension Gauge.
If the value is in a range of 6 g-cm to 10 g-cm, adjustment is not necessary. If not, change the installation point of the Back Tension Spring as shown in Fig. 4.16, and obtain the torque of 7 g-cm to 9 g-cm range.

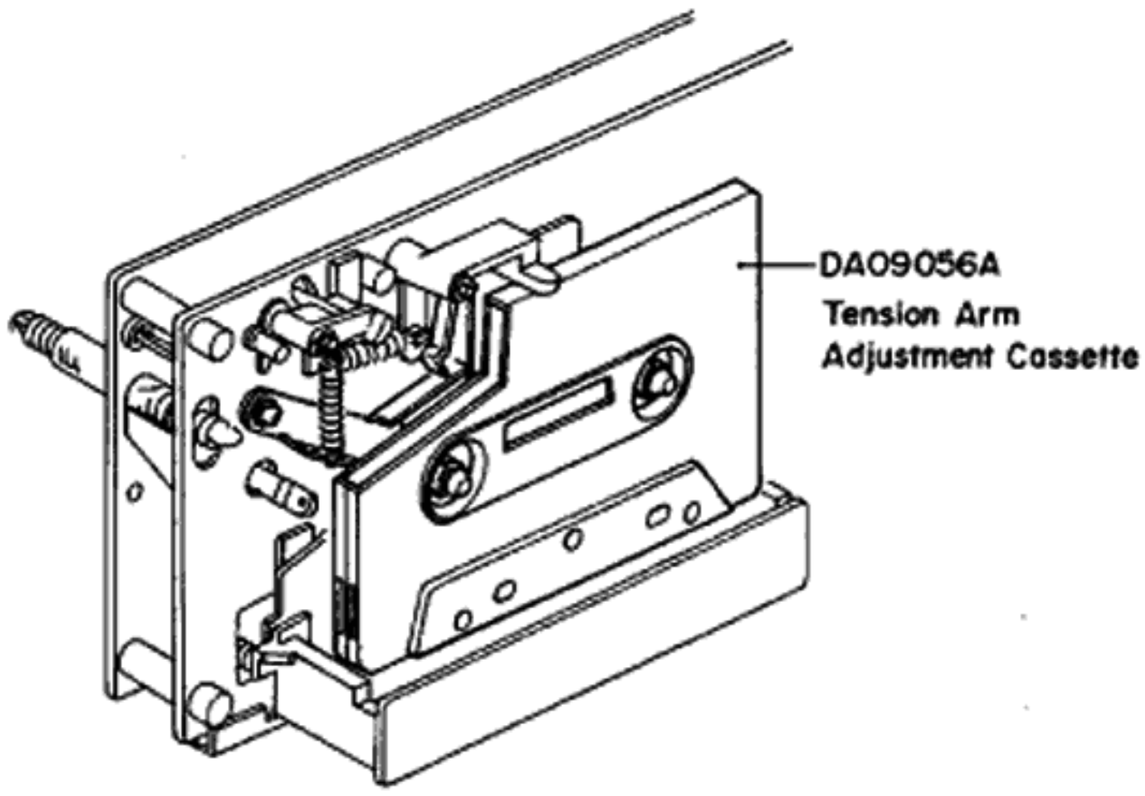


Fig. 4.13

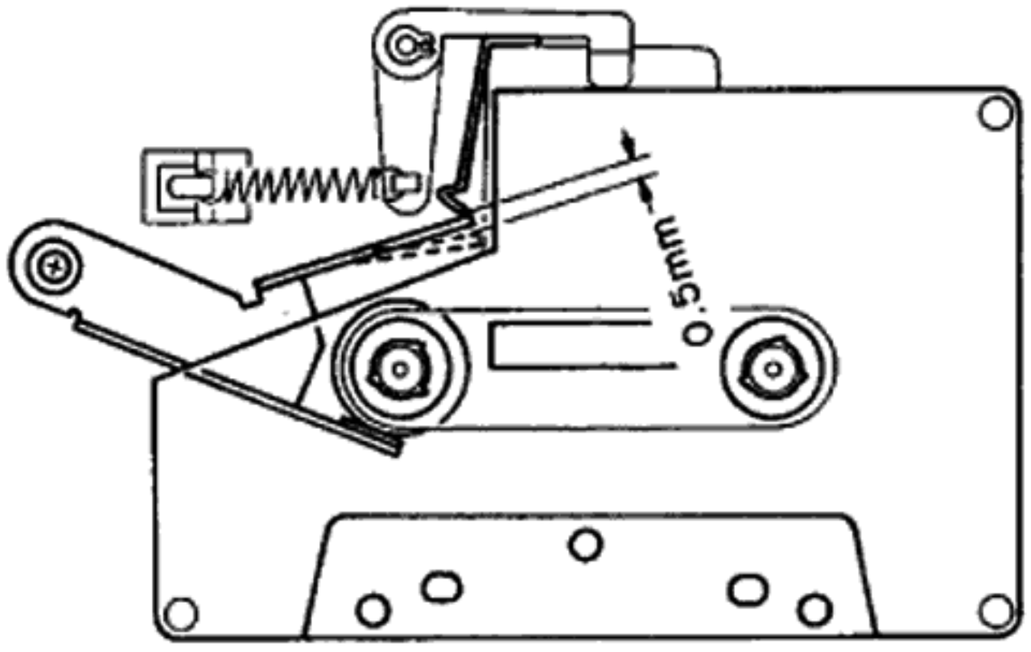


Fig. 4.14

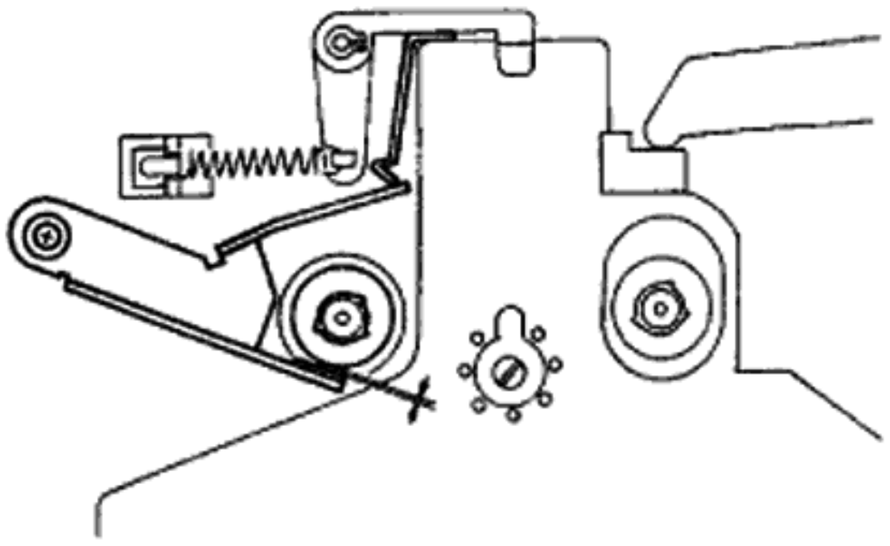


Fig. 4.15

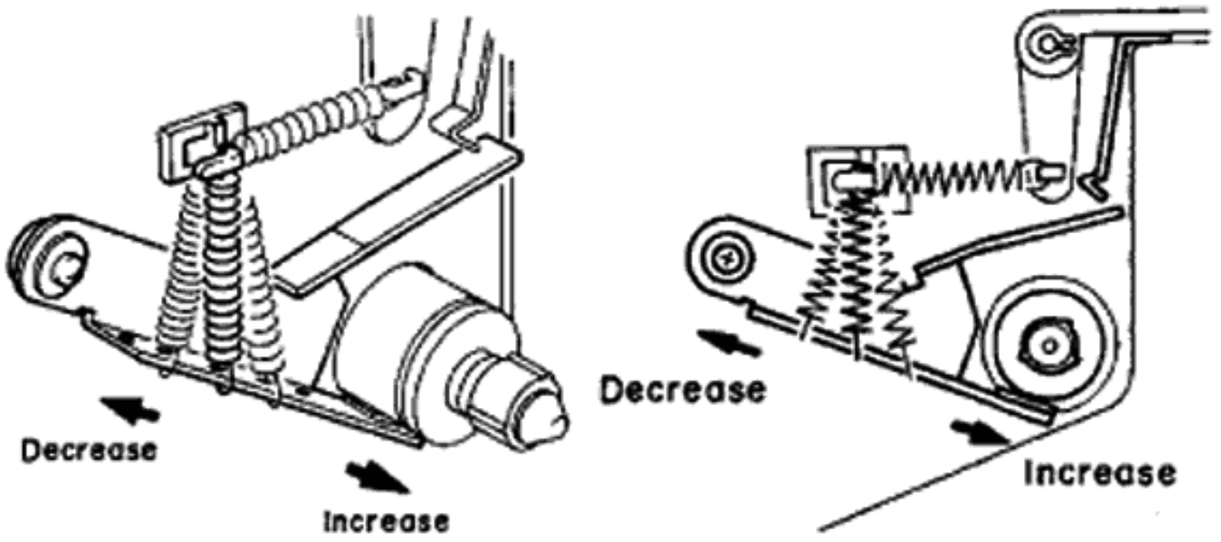


Fig. 4.16

4.8. Playback Head and Record Head Height Adjustment and Azimuth Alignment

(1) Playback Head Height Adjustment and Azimuth Alignment

Refer to Fig. 4.17.

(a) Set the Monitor switch to Tape, then connect a VTVM to the Output Jacks.

(b) Load a 1 kHz Track Alignment Tape (DA09007A), then set the ZX-7 in Play mode.

(c) Turn the PH Height Gear until the outputs of both channels become minimum.

(d) Load a 15 kHz Azimuth Tape (DA09004A), then set the ZX-7 in Play mode.

(e) Turn the PH Azimuth Alignment Screw until the outputs of both channels become maximum.

(f) Repeat above steps (b) through (e) one or two times to obtain optimum performance.

(2) Record Head Height Adjustment and Azimuth Alignment

Refer to Figs. 4.17 – 4.20.

(a) Set the ZX-7 in Stop mode.

(b) Press the Azimuth Alignment Start button to ON.

(c) Adjust the Azimuth Alignment Knob so that the Slide Lever of the Azimuth Alignment Wire is located at the center of the slit of the Azimuth Alignment Wire as shown in Fig. 4.18.

(d) Press the Azimuth Alignment Start button to OFF.

(e) Set the Monitor switch to Tape, Eq. switch to 70μs and Tape Selector button to SX.

(f) Load a reference SX tape (DA09025A) and connect a VTVM to Output Jacks.

(g) Press the Record and Play buttons, then press the Level Calibration Start button to oscillate 400 Hz.
Turn the RH Height Gear until the outputs of both channels become maximum.

(h) Press the Bias Calibration Start button to oscillate 15 kHz, then turn the RH Azimuth Alignment Screw until the outputs of both channels become maximum.

(i) Repeat (g) and (h) one or two times to obtain optimum performance.

(j) Press the Record and Play buttons, then press the Azimuth Alignment Start button to ON.
Adjust VR304 on the Main P.C.B. Ass'y so that the red indicator in the middle of the Azimuth Indicator is lit up.

Note: Use the same side of the tape as used in the above steps.

(k) After completion of the above adjustment, press the Record and Play buttons, then press the Level Calibration Start button to oscillate 400 Hz.
Record 400 Hz tone to the same portion of both sides A and B of the tape.

(l) Immerse the recorded tape in a magnetized developing solution. In turn, check to insure that the recording head tracks across the center are separated with a distance of 0.55 to 0.75 mm (typically 0.65 mm) as illustrated in Fig. 4.20.

Note: Liquid for tape magnetized development solution
"MAGNA-SEE SOUND CRAFT a product of CBS RECORDS a division of Columbia Broadcasting System, Inc., Danbury, Conn. 06810 U.S.A., or equivalent".
After development, clean the tape otherwise pressure rollers and heads will become dirty.

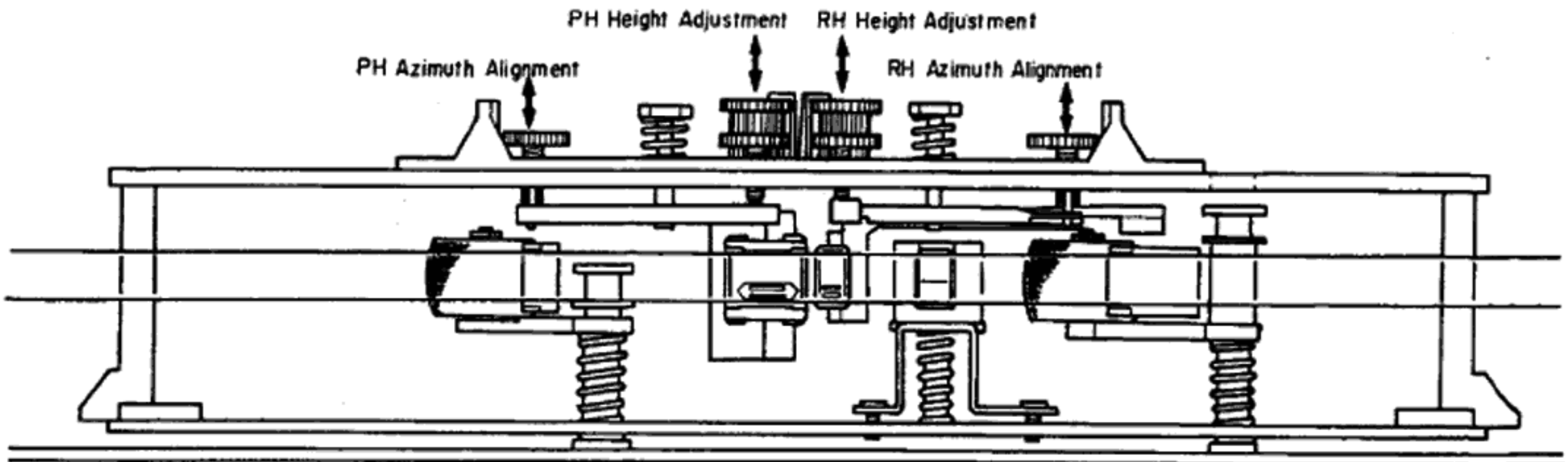


Fig. 4.17

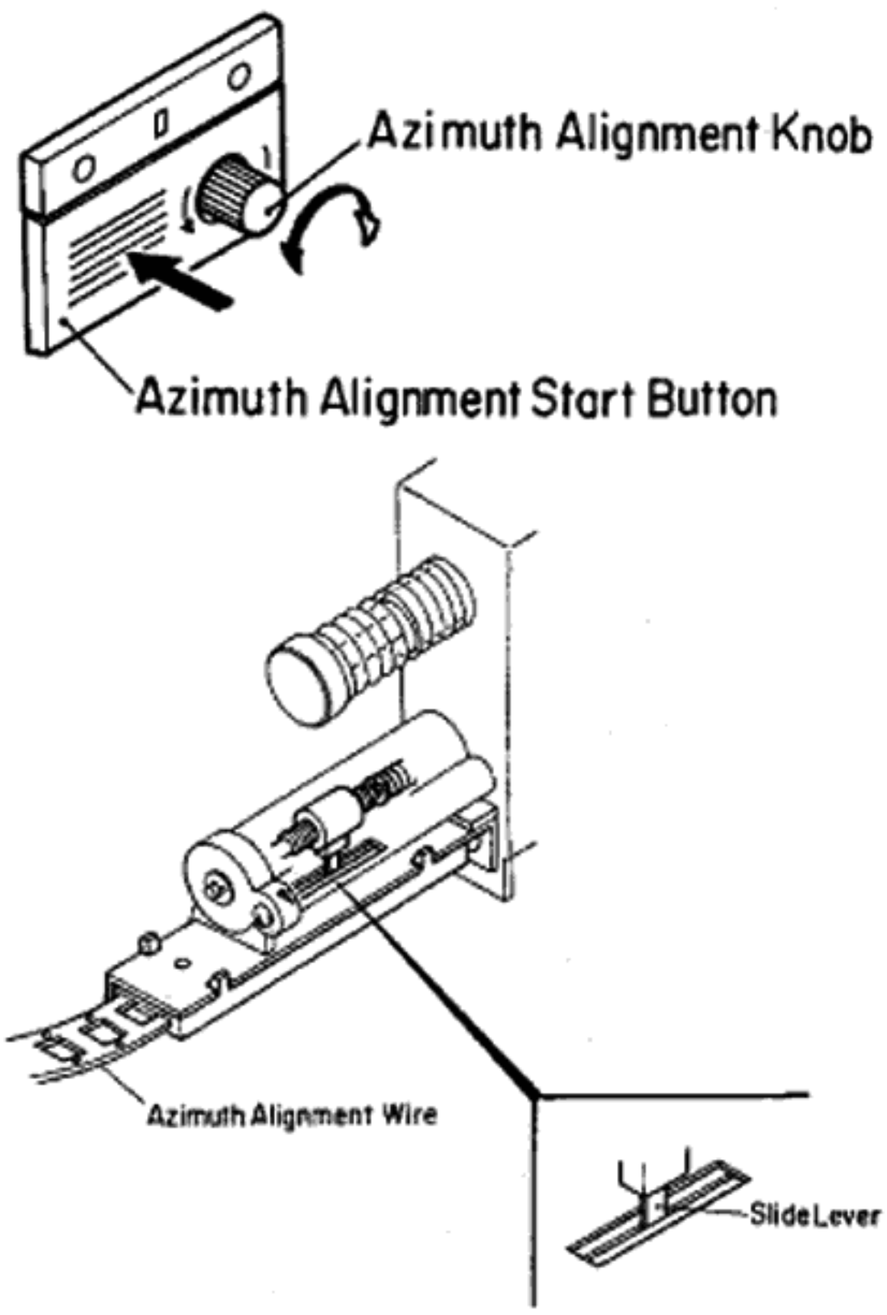


Fig. 4.18

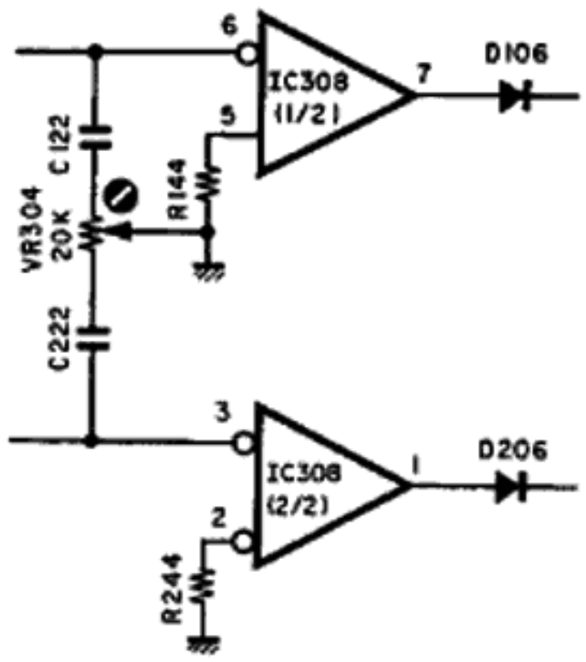


Fig. 4.19

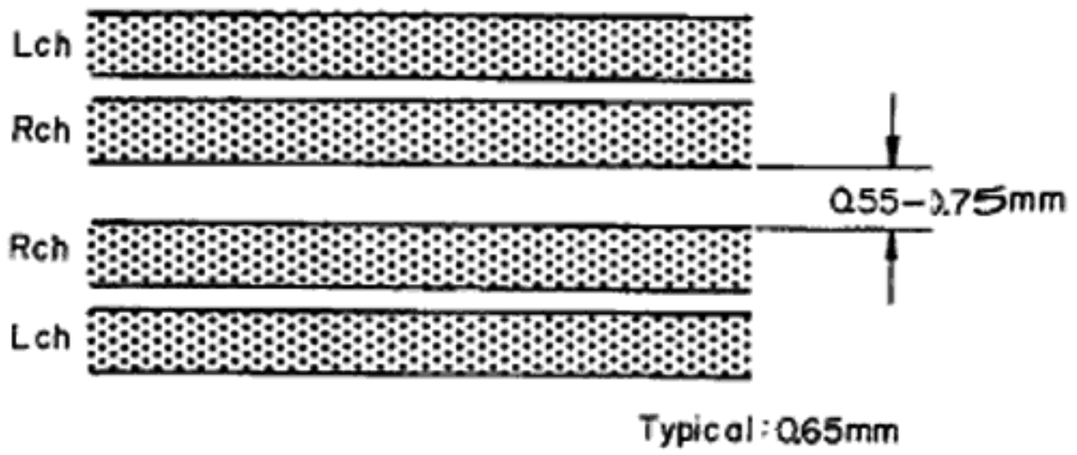


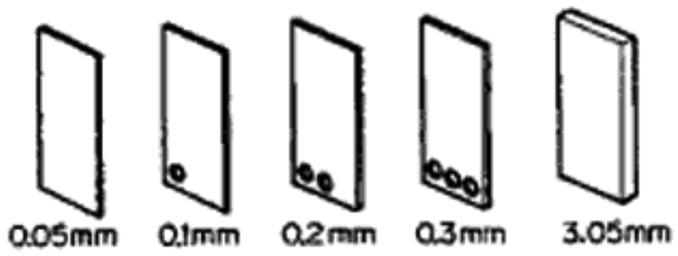
Fig. 4.20

4.9. Record Head Stroke Adjustment

Refer to Figs. 4.21 and 4.22.

Note: This adjustment will be required only to insure freedom from misalignment of the record head stroke in the record head stroke check mode.

(1) Check the accuracy of the record head stroke.
(2) Remove Head Mount Base Ass'y referring to item 2.23.
(3) Remove the record head assembly.
(4) Adjustment of Record Head Mounting Gauge M-9048 (DA09048A)
  (a) Mount the Block B onto the Mounting Gauge Plate.
  (b) Loosen the 2 screws fixing the Block A.
  (c) As shown in Fig. 4.21, hold the Gauges (3.05 mm and 0.1 mm thickness) between the Block A and Block B, and fix the Block A with screws, pushing the Block A to the 2 guide pins.
(5) Remove the Block B from the Mounting Gauge Plate.
(6) As shown in Fig. 4.22, mount the R-8L record head assembly onto the Mounting Gauge Plate, then check the location of the R-8L record head surface. (If record head contacts to the Block C, loosen 2 pcs. of screws that assemble record head and record head plate, then place the R-8L record head assembly onto the Plate.)
(7) Remove the R-8L record head assembly from the Mounting Gauge Plate.
(8) Readjustment of Record Head Mounting Gauge M-9048 (DA09048A)
  (a) Mount the Block B onto the Mounting Gauge Plate.
  (b) Loosen the 2 screws fixing the Block A.
  (c) As shown in Fig. 4.21, hold the Gauges (3.05 mm and either one of 0.05, 0.15, 0.2, 0.25, 0.3 or 0.35 mm thickness) between the Block A and Block B, and fix the Block A with screws, pushing the Block A to the 2 guide pins.
(9) Remove the Block B from the Mounting Gauge Plate.
(10) Mount the R-8L record head assembly onto the Mounting Gauge Plate.
(11) As shown in Fig. 4.22, loosen 2 pcs. of screws that assemble record head and record head plate.
  As the location of the Block A is secured by the item (8)-(c), push the record head to the directions A and B, then tighten 2 pcs. of screws.
(12) Check to insure freedom from gap between the Block C and record head surface, then tighten the 2 pcs. of screws on the record head assembly with lock tight paint.
(13) Remove the R-8L record head assembly from the Mounting Gauge Plate.
(14) Assemble the record head assembly to the head mount base assembly.
(15) Assemble the head mount base assembly to the mechanism assembly.
(16) Check the record head stroke.
  If the above are inaccurate, items (1) through (16) will have to be repeated till satisfactory results are obtained.



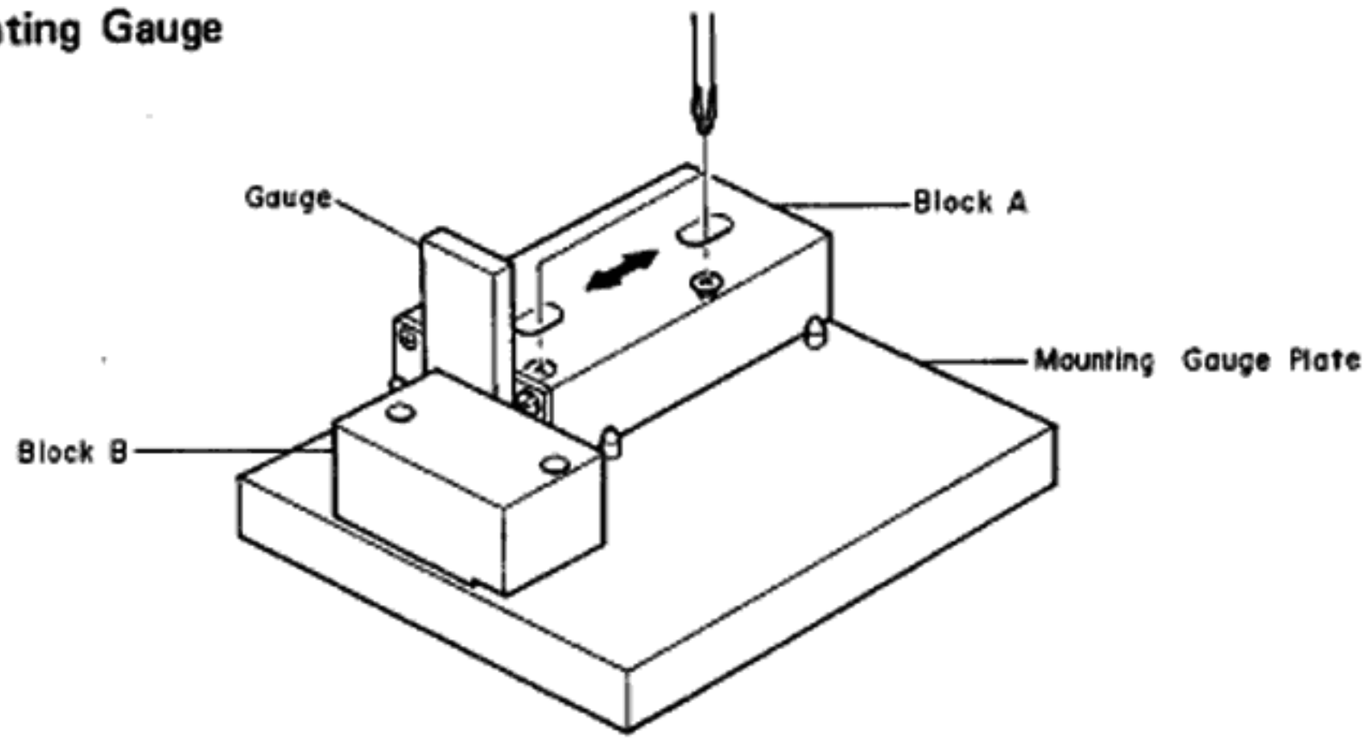


Fig. 4.21

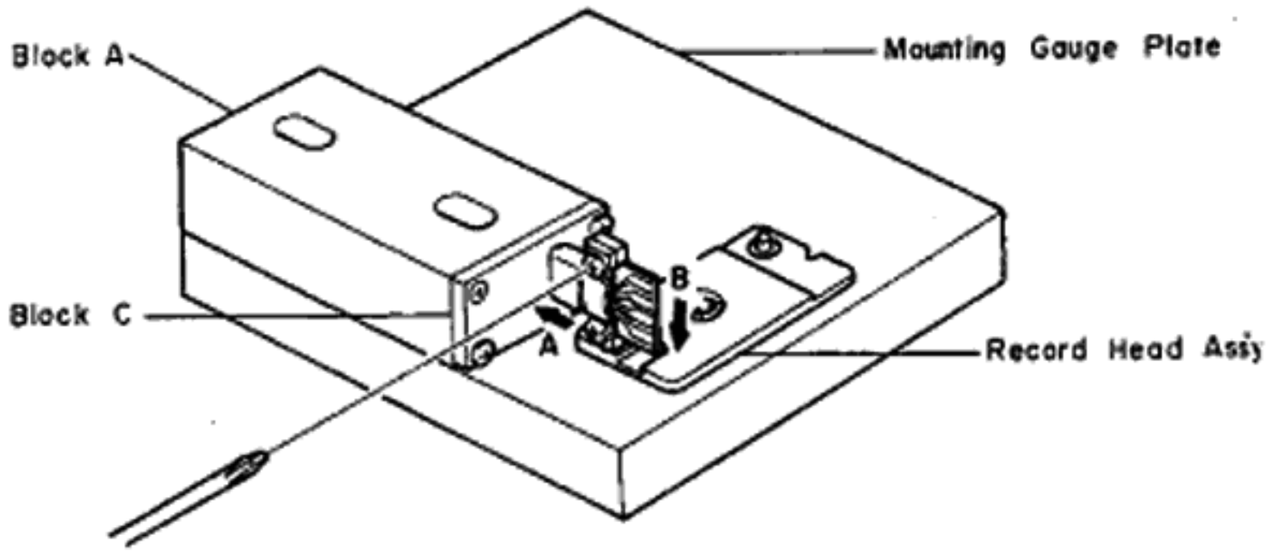


Fig. 4.22

4.10. Tape Travelling Adjustment

The adjustment shall be made with a modified version of the current type EXII C-90 as shown in Fig. 4.23 (error will be made if a current type Tape Travelling Cassette (DA09011A) should be used for this purpose).

While modifying an EXII C-90, the tape guides in the cassette housing shall be kept protected to avoid tilt. Check shall be made in the following procedures:

(1) An EXII C-90 tape thus modified shall be loaded onto the ZX-7.
(2) Release the back-tension (rotate the Supply Reel and feed out some length of tape) and set the ZX-7 in Play mode.
(3) In this juncture, check to insure whether the tape is free from waving or slippage from the tape guide.
(4) When the modified EXII C-90 is played back, check to insure whether the tape is freedom from waving from head surface or at pressure rollers.
(5) If either of waving or slippage from the tape guide should be noted, adjustments of "4.3. Record Head and Playback Head Tilt Adjustment", "4.4. Head Base Stroke Adjustment", "4.5. Erase Head Stroke Adjustment and Tape Guide Height Check", "4.6. Erase Head Height and Tilt Adjustment", "4.7. Back Tension Adjustment", "4.8. Playback Head and Record Head Height Adjustment and Azimuth Alignment", "4.9. Record Head Stroke Adjustment", etc. will be required.

As a case may be, the said waving or slippage may have been caused from defective supply Pressure Roller Ass'y or Take-up Pressure Roller Ass'y without parallel contact with capstans. If such are noted, the Pressure Roller Assemblies will have to be replaced.

Further, excessively weak take-up torque or strong take-up torque may cause defective tape travelling.

The ZX-7 is intended to be an adjustment-free model, however if the similar matters as above should be noted, please replace the Reel Hub Ass'y to obtain appropriate take-up torque.

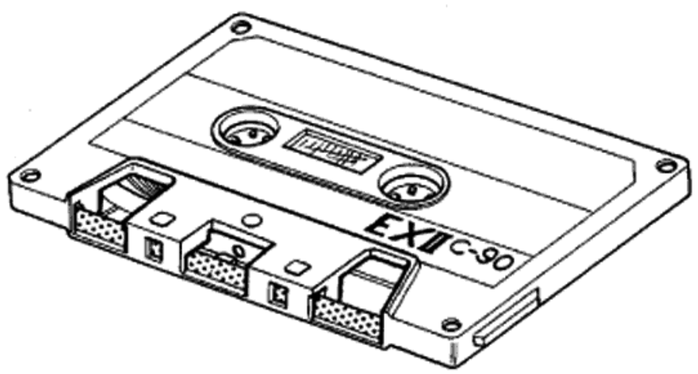


Fig. 4.23

4.11. Flywheel Holder Adjustment

(1) Refer to Fig. 4.24.
Tighten the Thrust Screws until the gap between the Flywheel Assemblies and Thrust Screws becomes minimized when both of the Capstan Shafts are moved backwardly and forwardly (the Thrust Springs between the Capstan Flanges and Flywheel Thrust Caps are in a flat state).
Excessive tightening of the Thrust Screws however will give damages on the Flywheel Assemblies, to which careful attention is invited.
(2) Return the Thrust Screws by 1/2 turn.
(3) Fixing the Thrust Screws with a screwdriver, lock the Lock Nut.
(4) Apply a quantity of lock tight paint to the Thrust Screws.

4.12. Tape Speed Adjustment

Refer to Fig. 4.25.

(1) Remove the Top Cover Ass'y referring to item 2.1.
(2) Connect a Frequency Counter to the Output Jack.
(3) Load a 3 kHz Speed Wow/Flutter Tape (DA09006A) and play it back.
(4) Adjust the Tape Speed Adjustment Volume (VR501) incorporated in the Capstan Motor to obtain 3,000 Hz on the Frequency counter.
CCW: Motor drives slowly.
CW: Motor drives fast.

4.13. Lubrication

ZX-7 is a lubrication-free cassette deck except when parts are replaced. Apply the following lubricant for each replaced part:

(1) LAUNA #100
Capstan Shaft
Pressure Roller Shaft
Thrust Cap
(2) FLOIL GB-TS-1
Reel Hub Shaft
Thrust portion on the Capstan Shaft
FLOIL GB-TS-1, made by Kanto Chemicals Co., Ltd. in Japan.
We suggest that you use the above or equivalent type. If unavailable please contact Kanto Chemicals Co., Ltd., 2-7 Kanda Suda-cho Chiyoda-ku, Tokyo 101 Japan.
(3) Silicon Oil #3000 CST
Air Damper Piston
Note: Excessive lubrication may cause defective damper action as the 0.2^{ϕ} hole at the end of the cylinder may be filled with oil.

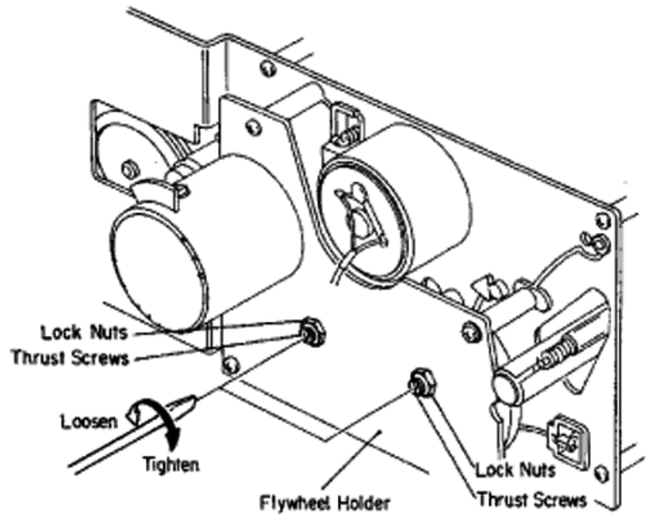


Fig. 4.24

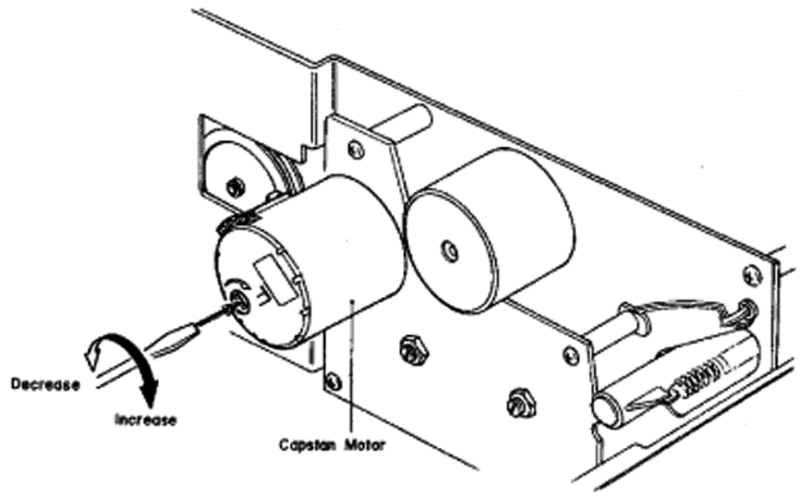
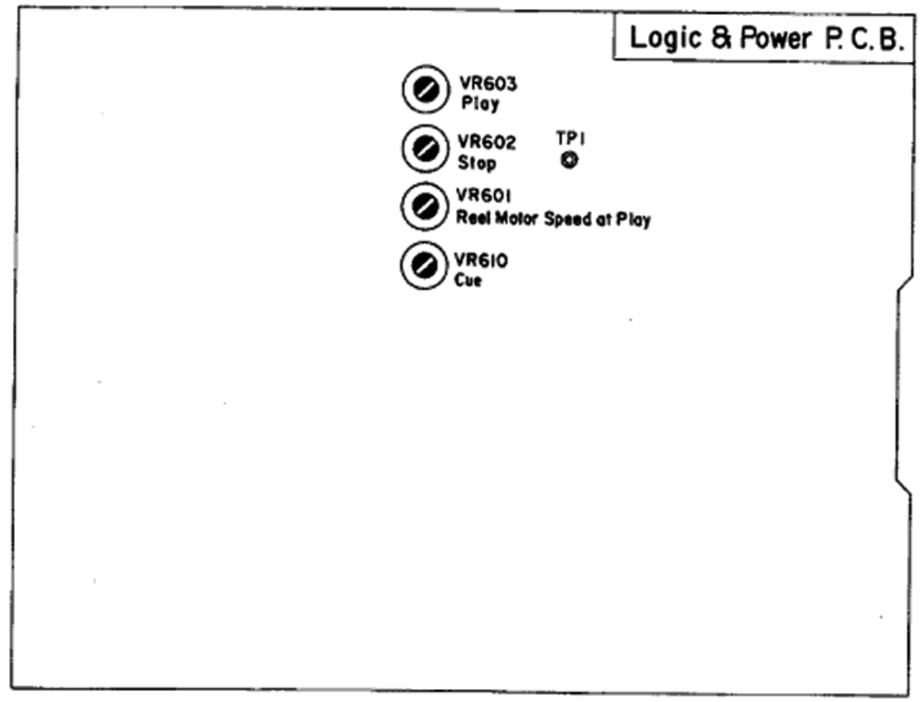
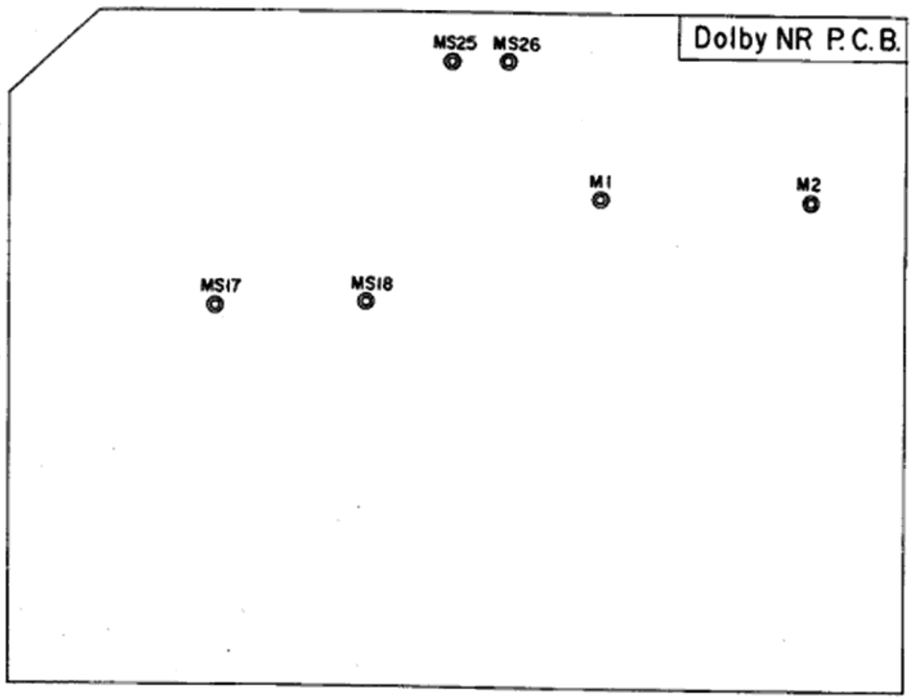
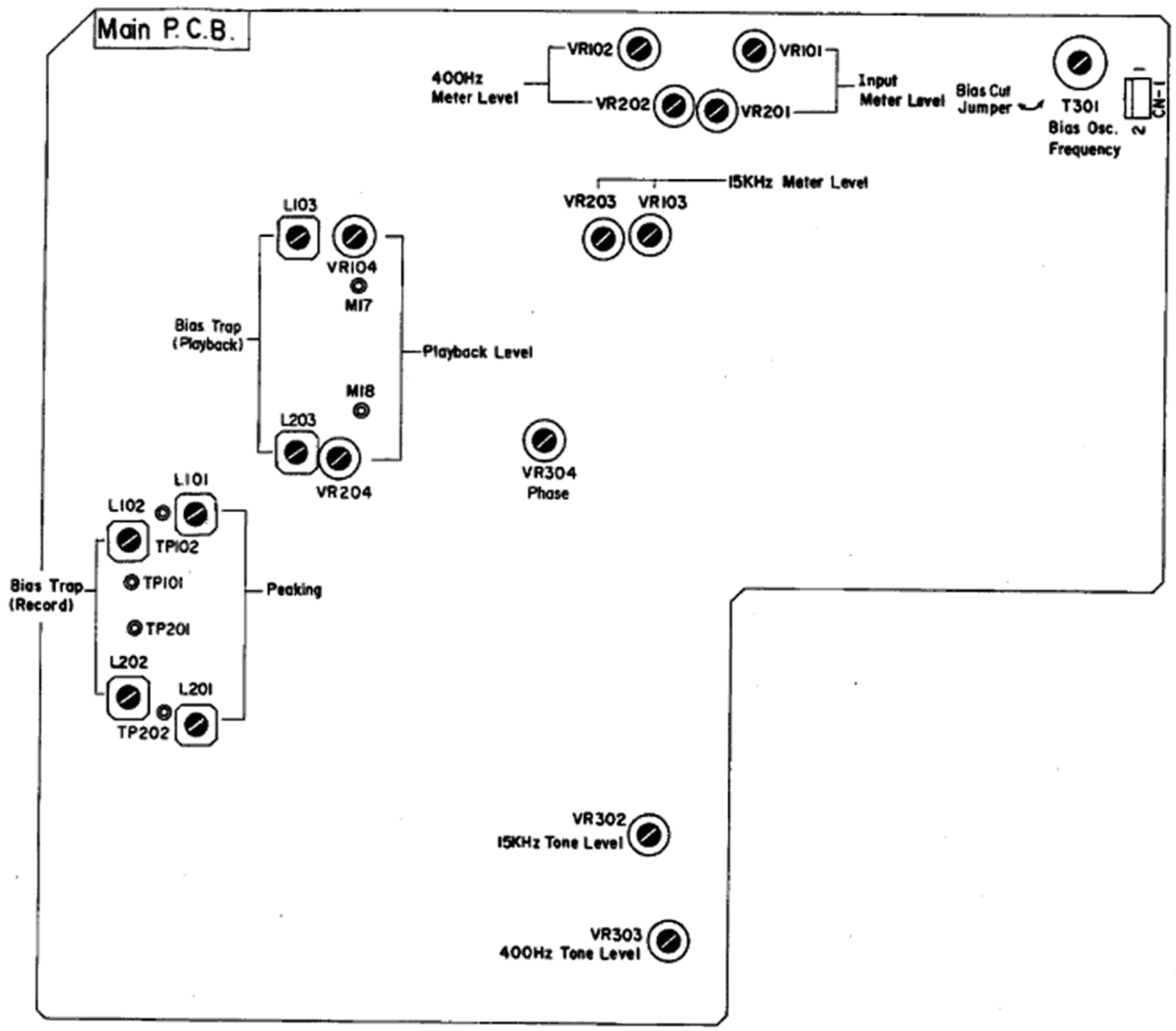


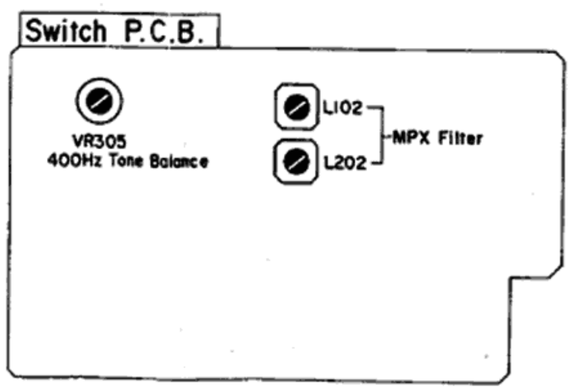
Fig. 4.25

5. PARTS LOCATION FOR ELECTRICAL ADJUSTMENT









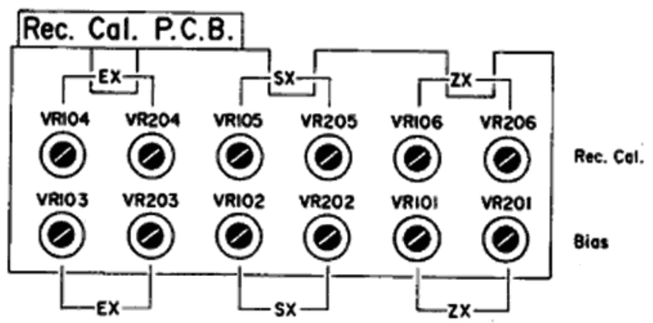


Fig. 5

6. ELECTRICAL ADJUSTMENTS AND MEASUREMENTS

6.1. Adjustment and Measurement Instructions

Note: Electrical adjustment should be performed after mechanical adjustment is completed.

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	MODE	ADJUSTMENT	REMARKS
1	Tape Speed Adjustment	3 kHz Speed and Wow/Flutter Tape (DA09006A)	Frequency Counter to Output Jacks	Playback	Capstan Motor Governor P.C.B. VR501	Adjust VR501 to obtain 3 kHz ±0.5%. (VR501 is incorporated in the Capstan Motor.)
2	Tone Level Calibration	Tone 400 Hz and 15 kHz	VTVM to MS25, MS26 on Dolby NR P.C.B. and Output Jacks	Tone — 400 Hz/15 kHz Monitor SW — Source	Main P.C.B. VR303 (for 400 Hz) VR302 (for 15 kHz) Switch P.C.B. VR305 (400 Hz Balance)	1. Press the Level Calibration Start button to oscillate 400 Hz. 2. Adjust VR303 to obtain 90 mV on the VTVM at MS26 (R ch). 3. Adjust VR305 to obtain the same level as R ch on the VTVM at MS25. 4. Measure the reading on the VTVM at the Output Jacks. 5. Press the Bias Calibration Start button to oscillate 15 kHz. 6. Adjust VR302 to obtain 20 dB lower level than in 4 on the VTVM at the Output Jacks. 7. Press the Calibration Reset button to stop the tone oscillation.
3	Meter Level Calibration	400 Hz to Input Jacks and Tone 400 Hz and 15 kHz	VTVM to MS25, MS26 on Dolby NR P.C.B.	Tone — OFF/400 Hz/15 kHz Monitor SW — Source	Main P.C.B. VR101, VR201 VR102, VR202 VR103, VR203 VR303 (for 400 Hz) VR302 (for 15 kHz)	1. Feed in 400 Hz, then adjust the Input Level controls to obtain 90 mV —1.3 dB on the VTVM. 2. Adjust VR101 (VR201) so that the 0 dB segment of the level meter starts illuminating. 3. Press the Level Calibration Start button to oscillate 400 Hz, then adjust VR303 to obtain 90 mV —0.5 dB on the VTVM. 4. Adjust VR102 (VR202) so that the 0 dB segment of the level meter starts illuminating. 5. Press the Bias Calibration Start button to oscillate 15 kHz, then adjust VR302 to obtain 9 mV —0.5 dB on the VTVM. 6. Adjust VR103 (VR203) so that the 0 dB segment of the level meter starts illuminating. 7. Press the Calibration Reset button. 8. Re-adjust the tone level according to step 2 "Tone Level Calibration".
4	MPX Filter Adjustment	19 kHz ±100 Hz to Input Jacks	VTVM to Output Jacks	Monitor SW — Source Dolby NR SW — OFF MPX Filter SW — IN	Switch P.C.B. L102, L202	1. Turn the Output level control fully clockwise (maximum position). 2. Adjust the Input Level controls to obtain 1 V on the VTVM. 3. Set the MPX Filter switch to IN, then adjust L102 (L202) to obtain the minimum reading on the VTVM (the minimum reading will be less than —30 dB).
5	Playback Head Track Alignment	1 kHz Track Alignment Tape (DA09007A)	VTVM to Output Jacks	Playback Monitor SW — Tape Eq. SW — 70 μs Dolby NR SW — OFF MPX Filter SW — OUT	PH Height Gear	Adjust the PH Height Gear to obtain minimum readings of both channels on the VTVM. Refer to "Playback Head Height Adjustment and Azimuth Alignment" in item 4.8.

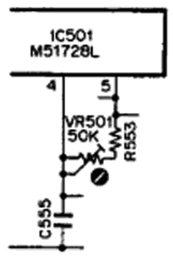


Fig. 6.1
1. Tape Speed

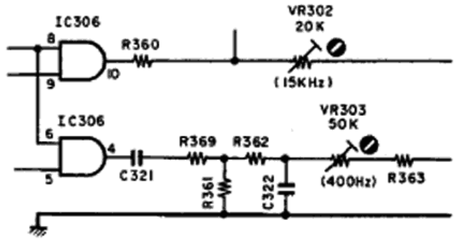


Fig. 6.2
2. Tone Level
3. Meter Level

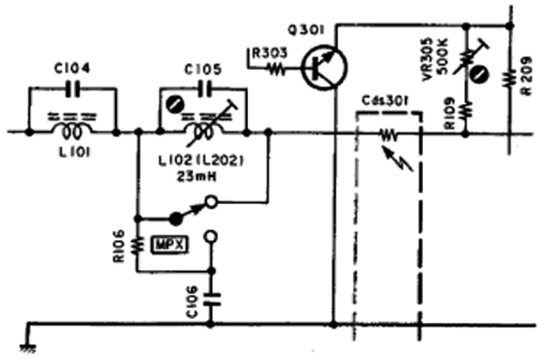


Fig. 6.3
2. Tone Level
4. MPX Filter

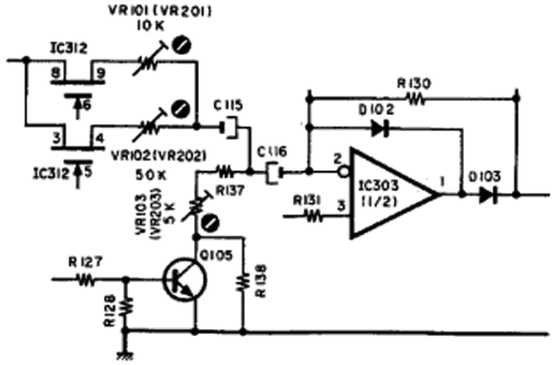


Fig. 6.4
3. Meter Level

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	MODE	ADJUSTMENT	REMARKS
6	Playback Head Azimuth Alignment	15 kHz Azimuth Tape (DA09004A)	VTVM to Output Jacks	Playback Monitor SW – Tape Eq. SW – 70 μs Dolby NR SW – OFF MPX Filter SW – OUT	Playback Head Azimuth Alignment Screw	Adjust the Playback Head Azimuth Alignment Screw to obtain maximum readings of both channels on the VTVM. Refer to "Playback Head Height Adjustment and Azimuth Alignment" in item 4.8. Note: Repeat steps 5 and 6 one or two times to obtain optimum performance.
7	Playback Level Calibration	400 Hz Level Tape (DA09005A)	VTVM to MS25, MS26 on Dolby NR P.C.B.	Same as above	Main P.C.B. VR104, VR204	Adjust VR104 (VR204) to obtain 90 mV on the VTVM.
8	Playback Frequency Response Adjustment	400 Hz Level Tape (DA09005A) 10 kHz PB Frequency Response Tape (DA09003A) 15 kHz PB Frequency Response Tape (DA09002A) 20 kHz PB Frequency Response Tape (DA09001A)	VTVM to Output Jacks	Playback Monitor SW – Tape Tape SW – SX Eq. SW – 70 μs Dolby NR SW – OFF MPX Filter SW – OUT	Main P.C.B. R155, R255 R156, R256	1. Load a 400 Hz level tape and play it back. Adjust the Output level control to a certain level (0 dB for example). 2. Load 10 kHz, 15 kHz and 20 kHz PB frequency response tapes and adjust the playback head azimuth to obtain maximum levels on the VTVM with each tape. Short R155 (R255) or R156 (R256) to obtain the following levels against the level for the 400 Hz level tape. 10 kHz: –20 dB –1 dB to +2 dB 15 kHz: –20 dB –1 dB to +3 dB 20 kHz: –20 dB –1 dB to +4 dB 3. Conduct step 6 "Playback Head Azimuth Alignment". 4. If above is not sufficient, refer to "Playback Frequency Response Adjustment" in item 6.2.
9	Bias Oscillation Frequency and Erase Current Adjustment		VTVM across the additional 0.1 Ω resistor and Frequency Counter to CN1-1 on Main P.C.B.	Record, Pause Monitor SW – Source Tape SW – ZX Eq. SW – 70 μs Dolby NR SW – OFF MPX Filter SW – OUT	Main P.C.B. T301 R309, R310	1. Connect an additional 0.1 Ω resistor in series to the Erase Head, then connect a VTVM across it. 2. Adjust T301 to obtain 105 kHz on the frequency counter. 3. Check the erase current by the VTVM. Erase current will be in a range of 310 mA to 400 mA (tipically approx. 350 mA). If erase current is not sufficient, increase it by shorting R309 or R310. 4. Ater completion of the erase current adjustment, re-check the bias oscillation frequency. 5. Remove the additional 0.1 Ω resistor.
10	Record Amplifier Equalizer Adjustment	23 kHz (–20 dB) to Input Jacks	VTVM to TP101, TP201 on Main P.C.B.	Same as above	Main P.C.B. L101, L201	1. Remove the bias-cut-jumper from the dip side of the Main P.C.B. Ass'y. 2. Adjust L101 (L201) to obtain peak reading at 23 kHz on the VTVM. 3. Re-solder the bias-cut-jumper.
11	Bias Trap Adjustment (Record Amp.)	Remove input signals	VTVM to TP102, TP202 on Main P.C.B.	Same as above	Main P.C.B. L102, L202	Adjust L102 (L202) to obtain minimum reading on the VTVM.

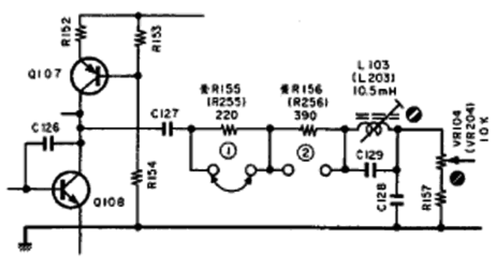


Fig. 6.5
7. Playback Level
8. Playback Frequency Response
12. Bias Trap (Playback Amp.)

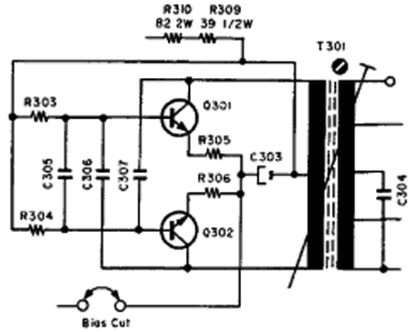


Fig. 6.6
9. Bias Oscillation Frequency and Erase Current

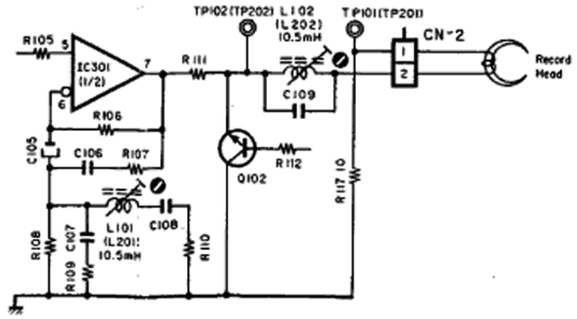


Fig. 6.7
10. Record Amp. Equalizer
11. Bias Trap (Record Amp.)

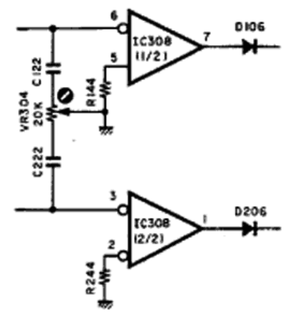


Fig. 6.8
13. Record Head Height and Azimuth

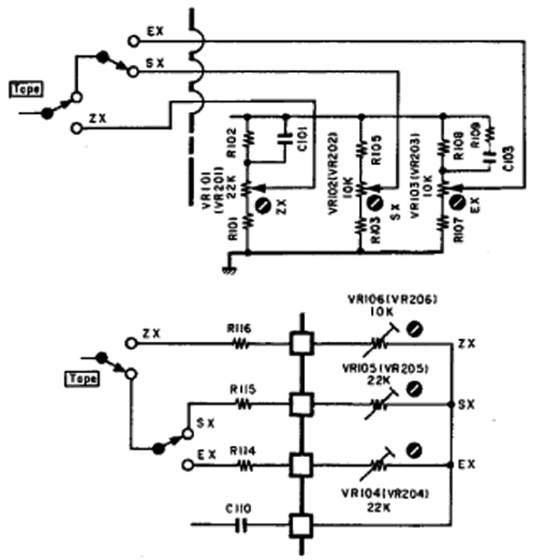


Fig. 6.9
13. Record Head Height and Azimuth
14. Record Level and Recording Bias Current

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	MODE	ADJUSTMENT	REMARKS
12	Bias Trap Adjustment (Playback Amp.)	Remove input signals	VTVM to M17, M18 on Main P.C.B.	Record, Pause Monitor SW – Tape Tape SW – ZX Eq. SW – 70 μs Dolby NR SW – OFF	Main P.C.B. L103, L203	Adjust L103 (L203) to obtain minimum reading on the VTVM.
13	Record Head Height Adjustment and Azimuth Alignment	Tone 400 Hz and 15 kHz	VTVM to Output Jacks	Record, Playback Monitor SW – Tape Tape SW – SX Eq. SW – 70 μs Dolby NR SW – OFF	RH Height Gear Record Head Azimuth Alignment Screw Rec. Cal. P.C.B. (Level) VR105, VR205 (Bias Current) VR102, VR202 Main P.C.B. VR304 (Phase)	1. In Stop mode, press the Azimuth Alignment Start button to ON. Then adjust the Azimuth Alignment knob so that the Slide Lever of the Azimuth Alignment Wire is located at the center of the slit of the Azimuth Alignment Wire as shown in Fig. 4.18. After above adjustment, press the Azimuth Alignment Start button to OFF. 2. Record Head Height Adjustment: a. Load a reference SX tape (DA09025A), then press the Record and Play buttons. b. Press the Level Calibration Start button to oscillate 400 Hz. c. Adjust Sensitivity Control VR105 (VR205) and Bias Control VR102 (VR202) to the center position. d. Adjust the RH Height Gear to obtain maximum readings of both channels on the VTVM. 3. Record Head Azimuth Alignment: a. Load a reference SX tape (DA09025A), then press the Record and Play buttons. b. Press the Bias Calibration Start button to oscillate 15 kHz. c. Adjust the record Head Azimuth Alignment Screw to obtain maximum readings of both channels on the VTVM. d. Repeat 2 and 3 one or two times to obtain optimum performance. 4. Azimuth Phase Adjustment: a. Press the Record and Play buttons. b. Press the Azimuth Alignment Start button to ON, then adjust VR304 on the Main P.C.B. Ass'y so that the red indicator in the middle of the Azimuth Indicator is lit up.
14	Record Level Calibration and Recording Bias Current Adjustment	Tone 400 Hz and 15 kHz and 10 kHz/20 kHz (–20 dB) to Input Jacks	VTVM and Distortion Meter to Output Jacks	Record, Playback Tone – 400 Hz/15 kHz Monitor SW – Tape Tape SW – ZX/SX/EX Eq. SW – 70 μs (ZX/SX) 120 μs (EX) Dolby NR SW – C-Type/B-Type/OFF MPX Filter SW – OUT	Rec. Cal. P.C.B. (Level) ZX: VR106, VR206 SX: VR105, VR205 EX: VR104, VR204 (Bias) ZX: VR101, VR201 SX: VR102, VR202 EX: VR103, VR203	Adjustment should be made in the order of ZX, SX and EX. 1. Set the Dolby NR switch to C-Type. 2. Load a reference ZX tape (DA09037A), reference SX tape (DA09025A) and reference EXII tape (DA09066A). 3. Adjust Sensitivity Controls VR106 (VR206) for ZX, VR105 (VR205) for SX and VR104 (VR204) for EXII to the maximum position. 4. Adjust Bias Controls VR101 (VR201) for ZX, VR102 (VR202) for SX and VR103 (VR203) for EXII to the maximum position. 5. Press the Record and Play buttons, then press the Azimuth Alignment Start button to ON. Turn the Azimuth Alignment Knob so that the red indicator in the middle of the Azimuth Indicator is lit up. After above adjustment, press the Azimuth Alignment Start button to OFF. 6. Press the Record and Play buttons, then press the Level Calibration Start button to oscillate 400 Hz. 7. Adjust Sensitivity Controls VR106 (VR206), VR105 (VR205) and VR104 (VR204) to obtain 0 dB on the level meters. 8. Press the Bias Calibration Start button to oscillate 15 kHz. 9. Adjust Bias Controls VR101 (VR201), VR102 (VR202) and VR103 (VR-203) to obtain 0 dB on the level meters. 10. Repeat 6 to 9 as above two or three times to obtain optimum performance. 11. Set the Dolby NR switch to B-Type/OFF. 12. Feed in 10 kHz (–20 dB) and 20 kHz (–20 dB), then record and play it back. Check to insure that the levels are within –20 dB ±2 dB against the levels in Dolby NR C-Type. 13. Check to insure whether the total harmonic distortion is less than 0.8% for ZX tape and 1.0% for SX and EXII tapes.

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	MODE	ADJUSTMENT	REMARKS
15	Overall Frequency Response Adjustment	400 Hz (0 dB) and 20 Hz to 20 kHz (–20 dB) to Input Jacks	VTVM to Output Jacks	Record, Playback Monitor SW – Source/Tape Tape SW – ZX/SX/EX Eq. SW – 70 μs (ZX/SX) 120 μs (EX) Dolby NR SW – OFF MPX Filter SW – OUT	Main P.C.B. L101, L201	1. Perform the Azimuth Alignment operation as follows: a. Press the Record and Play buttons. b. Press the Azimuth Alignment Start button to ON. c. Turn the Azimuth Alignment Knob so that the red indicator in the middle of the Azimuth Indicator is lit up. d. After above adjustment, press the Azimuth Alignment Start button to OFF. 2. Set the Monitor switch to Source. 3. Feed in 400 Hz (0 dB) and adjust the Input Level controls to obtain 0 dB on the level meters. 4. Switch the Generator output level to –20 dB. 5. Set the Monitor switch to Tape, then record and play it back. 6. Feed in 20 Hz to 20 kHz (–20 dB), and check to insure whether the output levels are within –20 dB ±3 dB. 7. If above is not sufficient, adjust L101 (L201) to obtain approx. –20 dB on the VTVM at 20 kHz. 8. Conduct step 14 "Record Level Calibration and Recording Bias Current Adjustment". 9. If above is not sufficient, precise re-adjustment of step 8 "Playback Frequency Response", replacement of Playback Head or Record Head, check on item 4.10 "Tape Travelling Adjustment" or frequency response adjustment according to item 6.2 will be required.
16	Crosstalk Measurement	1 kHz to Input Jacks	1 kHz Band Pass Filter and VTVM to Output Jacks	Record and Playback Monitor SW – Tape Tape SW – ZX Eq. SW – 70 μ Dolby NR SW – OFF		1. Perform the Azimuth Alignment operation referring to step 15-1. 2. Erase a reference ZX tape with bulk eraser. 3. Adjust the Input Level controls to obtain 0 dB on the level meters, and record the signals on the reference tape. 4. Turn the cassette tape the other way round and play it back. 5. Measure the difference between 3 and 4.
17	Channel Separation Measurement	1 kHz to Input Jacks	Same as above	Same as above		1. Perform the Azimuth Alignment operation referring to step 15-1. 2. Erase a reference ZX tape with bulk eraser. 3. Adjust the L ch (R ch) Input Level control to obtain 0 dB on the level meters, and close the R ch (L ch) Input Level control. 4. Record and play it back, then measure the R ch (L ch) level.
18	Erasure Measurement	1 kHz to Input Jacks	Same as above	Same as above		1. Perform the Azimuth Alignment operation referring to step 15-1. 2. Erase a reference ZX tape with bulk eraser. 3. Adjust the Input Level controls to obtain 0 dB on the level meters, and record the signals on the reference tape. 4. Rewind the tape then close the Input Level controls. 5. Record and play it back, then measure the difference between 3 and 4.
19	Signal to Noise Ratio Measurement	400 Hz to Input Jacks	VTVM and Distortion Meter to Output Jacks	Record and Playback Monitor SW – Tape Tape SW – ZX Eq. SW – 70 μs Dolby NR SW – B-Type/C-Type		1. Perform the Azimuth Alignment operation referring to step15-1. 2. Feed in 400 Hz and record and play it back. 3. Adjust the Input Level controls to obtain 3% total harmonic distortion in Playback mode. 4. Close the Input Level controls, then record. 5. After rewound, play back and check the output level difference between 3 and 4. Note: The filter of IHF-A curve shall be used in the measurements.
20	Total Harmonic Distortion Measurement	400 Hz to Input Jacks	Distortion Meter to Output Jacks	Record and Playback Monitor SW – Tape Tape SW – ZX/SX/EX Eq. SW – 70 μs (ZX/SX) 120 μs (EX) Dolby NR SW – OFF		1. Perform the Azimuth Alignment operation referring to step 15-1. 2. Adjust the Input Level controls to obtain 0 dB on the level meters. 3. Record and play it back. 4. Read the distortion meter and check to insure that the distortion is less than 0.8% for ZX tape and 1.0% for SX and EXII tapes.
21	Wow/Flutter Measurement	3 kHz Speed and Wow/Flutter Tape (DA09006A)	Wow/Flutter Meter to Output Jacks	Playback Monitor SW – Tape Eq. SW – 70 μs		Play back and read the wow/flutter meter.

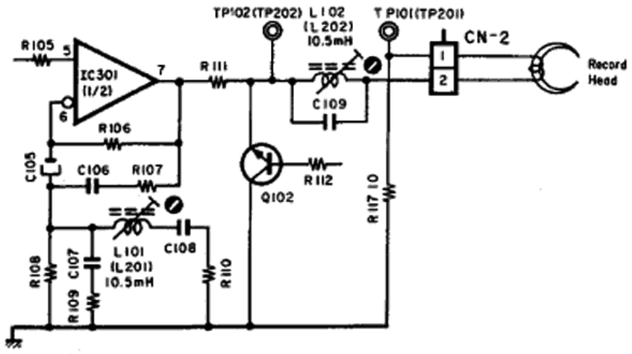


Fig. 6.10
15. Overall Frequency Response

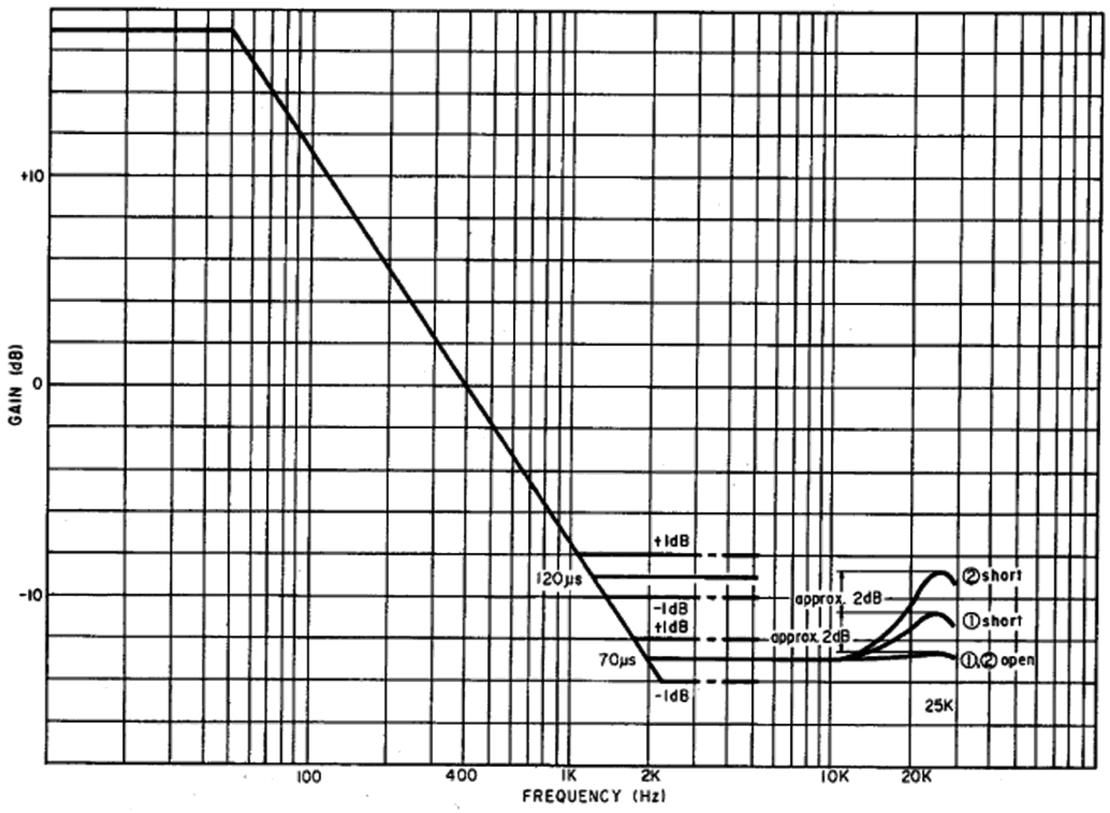


Fig. 6.11 Playback Equalization Curve

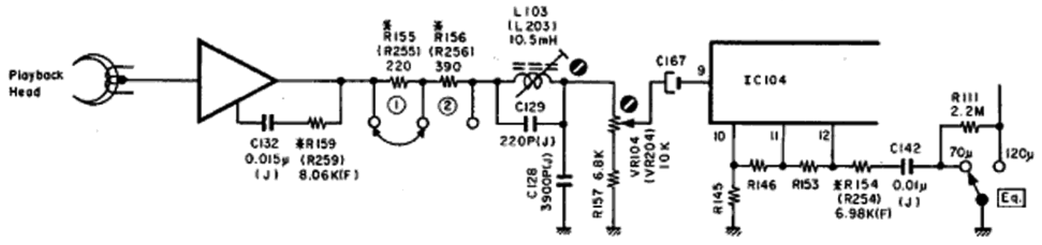


Fig. 6.12 Playback Eq. Amp.

6.2. Frequency Response Adjustment

(1) Playback Frequency Response Adjustment

Refer to Figs. 6.11 and Fig. 6.12.

(a) Level Adjustment (for middle frequency response)

This adjustment will be required if playback level is not sufficient when 10 kHz PB frequency response tape is played back as referred to step 8 in 6.1 "Adjustment and Measurement Instructions".
Playback equalization level is varied by the modification of R159 (R259) on the Main P.C.B. Ass'y and R154 (R254) on the Dolby NR P.C.B. Ass'y.
Following are the details for level modifications:

Approx. +1 dB	R159 (R259):	8.66K
	R154 (R254):	6.49K
0 dB	R159 (R259):	8.06K
	R154 (R254):	6.98K
Approx. −1 dB	R159 (R259):	7.32K
	R154 (R254):	7.87K

(b) Peaking Adjustment (for high frequency response)

This adjustment will be required if playback level is not sufficient when 20 kHz PB frequency response tape is played back as referred to step 8 in 6.1 "Adjustment and Measurement Instructions".
Peaking portion compensates the gap loss of the playback head.
Peaking level is varied by the short circuit of R155 (R255) or R156 (R256) on the Main P.C.B. Ass'y as illustrated in Fig. 6.11.

(2) Record Current Frequency Response Adjustment

Record eq. peaking is adjusted for compensating the overall frequency response when playback frequency response is completed.
Normally however, peaking frequency is pre-adjusted to approx. 23 kHz in Record mode. Refer to Fig. 6.13.

(a) For ZX Tape

1) Feed in 400 Hz (0 dB), then record and play it back.
   Adjust bias current by VR106 (VR206) on the Record Cal. P.C.B. Ass'y to obtain a 0.8% distortion.
2) Feed in 10 kHz and 400 Hz (−20 dB), then record and play them back.
   Check the difference of the levels between 10 kHz and 400 Hz, and mount an additional capacitor in parallel with C101 (C201) on the Main P.C.B. Ass'y from the dip side of the printed circuit board depending upon the difference of the levels against 400 Hz.
   Refer to Fig. 6.14.

Level Difference	Addition	Total
0 dB	0	1000 pF
−1 dB	330 pF	1330 pF
−2 dB	680 pF	1680 pF

3) Feed in 22 kHz (−20 dB), then record and play it back.
   Adjust record peaking coil L101 (L201) to obtain flat overall frequency response.

(b) For SX Tape

1) Feed in 15 kHz and 400 Hz (−20 dB), then record and play them back.
   Adjust bias current by VR105 (VR205) on the Record Cal. P.C.B. Ass'y to obtain flat overall frequency response.
2) Feed in 20 kHz and 400 Hz (−20 dB), then record and play them back.
   And check to insure that the overall frequency response is flat.

(c) For EXII Tape

1) Feed in 15 kHz and 400 Hz (−20 dB), then record and play them back.
   Adjust bias current by VR104 (VR204) on the Record Cal. P.C.B. Ass'y to obtain flat overall frequency response.
2) Feed in 20 kHz and 400 Hz (−20 dB), then record and play them back.
   And check to insure that the overall frequency response is flat.

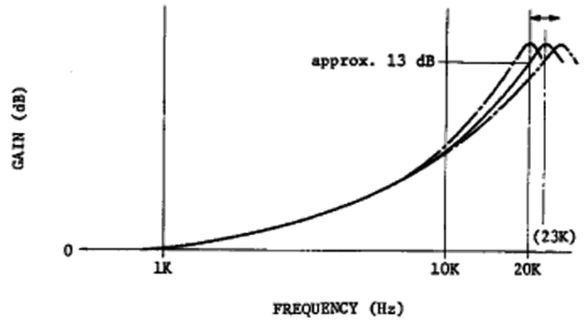


Fig. 6.13

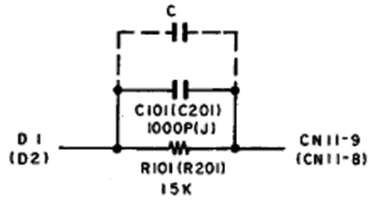


Fig. 6.14

6.3. Dolby NR Circuit Check

Dolby NR circuit incorporates Dolby NR ICs which have no adjustment point.
Perform the following checks and make sure that the IC operates accurately, i.e., accuracy of frequency response through IC.

6.3.1. Dolby NR B-Type Circuit Check

(1) Playback Dolby NR Circuit

Signal Source: 1.4 kHz to pin No. M17 (M18) on Dolby NR P.C.B.
Output Connection: VTVM to MS25 (MS26) on the Dolby NR P.C.B.
Mode: Stop
Monitor SW – Tape
Dolby NR SW – B-Type/OFF

(a) Connect a VTVM to MS25 (MS26) on the Dolby NR P.C.B. Ass'y.
(b) Set the Dolby NR switch to B-Type.
Feed in 1.4 kHz to pin No. M17 (M18) and adjust the generator output control to obtain 9 mV on the VTVM.
(c) Set the Dolby NR switch to OFF.
Check to insure that the reading is +3.2 dB ±1.5 dB on the VTVM.

(2) Record Dolby NR Circuit

Signal Source: 1.4 kHz to Input Jacks
Output Connection: VTVM to MS25 (MS26) and M1 (M2) on the Dolby NR P.C.B.
Mode: Stop
Monitor SW – Source
Dolby NR SW – B-Type/OFF

(a) Connect a VTVM to MS25 (MS26) on the Dolby NR P.C.B. Ass'y.
(b) Feed in 1.4 kHz and adjust the Input Level controls to obtain 9 mV/2.85 mV on the VTVM.
(c) Remove the VTVM from MS25 (MS26) and reconnect it to M1 (M2) on the Dolby NR P.C.B. Ass'y.
(d) Check to insure that the reading at M1 (M2) corresponds to the following with Dolby NR switch OFF and B-Type.

Input Level at MS25, MS26	Level at M1 (IC102-16), M2 (IC202-16)	
	Dolby NR OFF	Dolby NR B-Type
9 mV	0 dB	+3.2 dB ±1.5 dB
2.85 mV	0 dB	+8.2 dB ±1.5 dB

6.3.2. Dolby NR C-Type Circuit Check

(1) Playback Dolby NR Circuit

Signal Source: 1.4 kHz to pin No. M17 (M18) on Dolby NR P.C.B.
Output Connection: VTVM to MS25 (MS26) on the Dolby NR P.C.B.
Mode: Stop
Monitor SW – Tape
Dolby NR SW – C-Type/OFF

(a) Connect a VTVM to MS25 (MS26) on the Dolby NR P.C.B. Ass'y.
(b) Set the Dolby NR switch to C-Type.
Feed in 1.4 kHz to pin No. M17 (M18) and adjust the generator output control to obtain 9 mV on the VTVM.
(c) Set the Dolby NR switch to OFF.
Check to insure that the reading is +6.5 dB ±1.5 dB on the VTVM.

(2) Record Dolby NR Circuit

Signal Source: 1.4 kHz to Input Jacks
Output Connection: VTVM to MS25 (MS26) and M1 (M2) on the Dolby NR P.C.B.
Mode: Stop
Monitor SW – Source
Dolby NR SW – C-Type/OFF

(a) Connect a VTVM to MS25 (MS26) on the Dolby NR P.C.B. Ass'y.
(b) Feed in 1.4 kHz and adjust the Input Level controls to obtain 9 mV/2.85 mV on the VTVM.
(c) Remove the VTVM from MS25 (MS26) and reconnect it to M1 (M2) on the Dolby NR P.C.B. Ass'y.
(d) Check to insure that the reading at M1 (M2) corresponds to the following with Dolby NR switch OFF and C-Type.

Input Level at MS25, MS26	Level at M1 (IC102-16), M2 (IC202-16)	
	Dolby NR OFF	Dolby NR C-Type
9 mV	0 dB	+6.5 dB ±1.5 dB
2.85 mV	0 dB	+11.4 dB ±1.5 dB

Schematic Ref. No.	Part No.	Description
	BA04618A	**Power Switch P.C.B. Ass'y (U.S.A. & Canada)**
	BA04594A	**Power Switch P.C.B. Ass'y (Japan)**
	BA04620A	**Power Switch P.C.B. Ass'y (UK, Australia, 220V Class 2 & Others)**
	0B08956C	Power Switch P.C.B.
SW1	0B07407A	Power Switch (U.S.A. & Canada)
SW1	0B07406A	Power Switch (Japan)
SW1	0B07408A	Power Switch (UK, Australia, 220V Class 2 & Others)
M2	0B08342A	Spark Killer (U.S.A. & Canada)
M2	0B08363A	Spark Killer (Japan)
M2	0B08955A	Spark Killer (UK, Australia, 220V Class 2 & Others)
	0E00622A	Screw M3x5 Philips Pan Head (2A) (2 pcs.)
	0E00752A	Eyelet 2x3 (2 pcs.)
	0J04475A	Power Switch Holder (1 pce.)
	0J04555A	Power Switch Insulator (1 pce.)
	BA04547A	**Azimuth Switch P.C.B. Ass'y**
	0B02511A	Azimuth Switch P.C.B.
	0B07394A	Push Switch (1 pce.)
	0E00622A	Screw M3x5 Philips Pan Head (2A) (1 pce.)
	0J04473A	Adjustment Switch Holder (1 pce.)
	BA04545A	**Record Cal. LED P.C.B. Ass'y**
	0B02509A	Record Cal. LED P.C.B.
LED601-609	0B06333A	LED Red TLR124A (9 pcs.)
CN10	0B08923A	6P-H Connector 410mm
	0M04227A	Label CN-10 (1 pce.)
	BA04546A	**Volume P.C.B. Ass'y**
	0B02510A	Volume P.C.B.
VR001,002	0B07202A	Volume 100K (A)
VR003	0B07204A	Volume 10K (A) x 2
	BA04548A	**Counter P.C.B. Ass'y**
	0B02513B	Counter P.C.B.
Q601,602 603,604	0B06319A	Transistor 2SA608SP
R601,602 603,604	0B05629A	Carbon Resistor 2.7K ERD-25T J
R605-611	0B01933A	Carbon Resistor 220 ERD-25T J (7 pcs.)
LED601	0B06326A	Counter LED SL1405 20
SW601	0B07219A	Switch AKC8S

Schematic Ref. No.	Part No.	Description
	BA04642A	**Counter Control P.C.B. Ass'y**
	0B02514A	Counter Control P.C.B.
IC601	0B06320A	IC LM6402A-048
X601	0B08908A	Crystal 400 kHz KBR400BT
R612	0B09749A	Carbon Resistor 1M ERD-16T J
C601,602	0B05879A	Ceramic Capacitor 220P 50V K
C603	0B01836A	Electrolytic Capacitor 47μ 10V
CN14	0B08939A	7P-H Connector 300mm
CN16	0B08940A	11P-H Connector 300mm
FC601	0B05265A	7P Flat Cable 20mm
FC602	0B05262A	6P Flat Cable 20mm
	0M04223A	Label CN-16 (1 pce.)
	0M04231A	Label CN-14 (1 pce.)
	BA04551A	**Shut-off P.C.B. Ass'y**
	0B07839B	Shut-off P.C.B.
Q405	0B06228A	Photo Transistor PH104
R604	0B05615A	Carbon Resistor 22K ERD-25T J
R605	0B09215A	Fail Safe Type Resistor 100 RDF-25S J
PL407	0B08552A	Lamp 12V 25mA
CN13	0B08943A	9P-H Connector
	0M04230A	Label CN-13 (1 pce.)
	BA04543A	**Indicator P.C.B. Ass'y**
	0B02505B	Indicator P.C.B.
IC901	0B06284A	IC MSL9350RS
Q901	0B06066A	Transistor 2SD471
Q902,903 904,905	0B06202A	Transistor 2SA562 (Y)
D901-903	0B01909A	Silicon Diode 1S1555 (3 pcs.)
R902,903 904,905	0B05576A	Carbon Resistor 470 ERD-25T J
R906-913	0B01704A	Carbon Resistor 68 ERD-25T J (8 pcs.)
R914,915	0B05784A	Carbon Resistor 560K ERD-25T J
R916	0B09378A	Fail Safe Type Resistor 22 RSF-1B J
R917,919	0B09754A	Carbon Resistor 330 ERD-25T J
R918	0B05575A	Carbon Resistor 560 ERD-25T J
R920	0B09263A	Carbon Resistor 12K ERD-25T J
C903	0B05814A	Mylar Capacitor 8200P 50V J
C904	0B01836A	Electrolytic Capacitor 47μ 10V
F901	0B08715A	Thermal Fuse 129
CN6	0B08924B	6P-H Connector 400mm
	0B05236A	8P Flat Cable (1 pce.)
	0B05264A	Flat Cable 110mm (1 pce.)
	0B06336A	Meter Display (1 pce.)
	0M04334A	Label CN-6 (1 pce.)

7. MOUNTING DIAGRAMS AND PARTS LIST

Note: Mounting diagram shows a dip side view of the printed circuit board.

7.1. Power Switch P.C.B. Ass'y

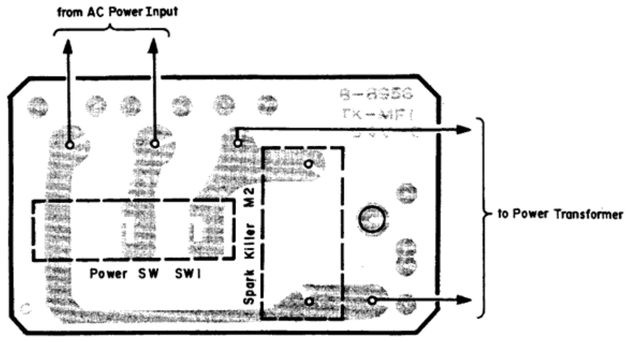


Fig. 7.1

7.2. Azimuth Switch P.C.B. Ass'y

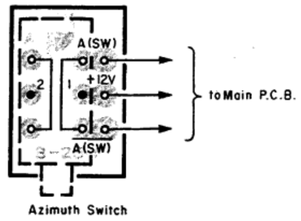


Fig. 7.2

7.3. Record Cal. LED P.C.B. Ass'y

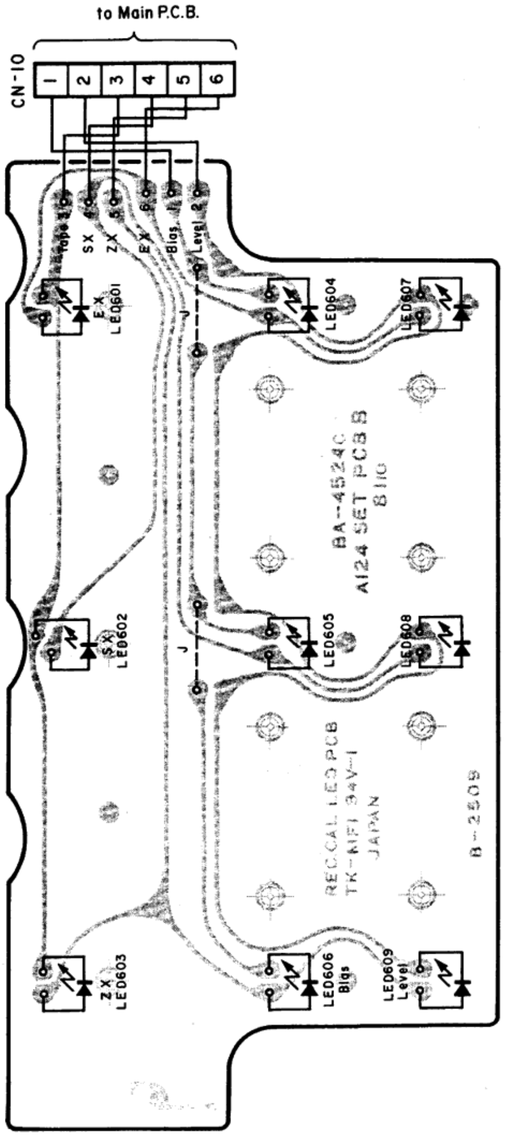


Fig. 7.3

7.4. Volume P.C.B. Ass'y

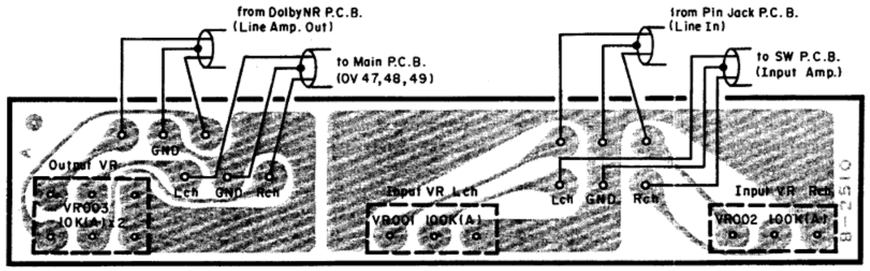


Fig. 7.4

7.5. Counter P.C.B. Ass'y

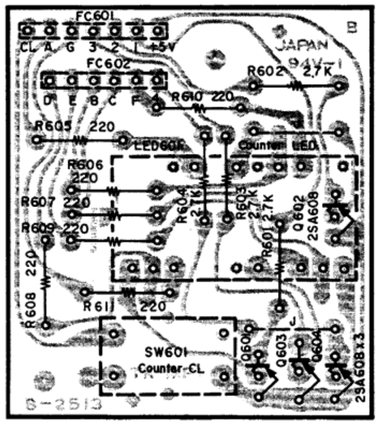


Fig. 7.5

7.6. Counter Control P.C.B. Ass'y

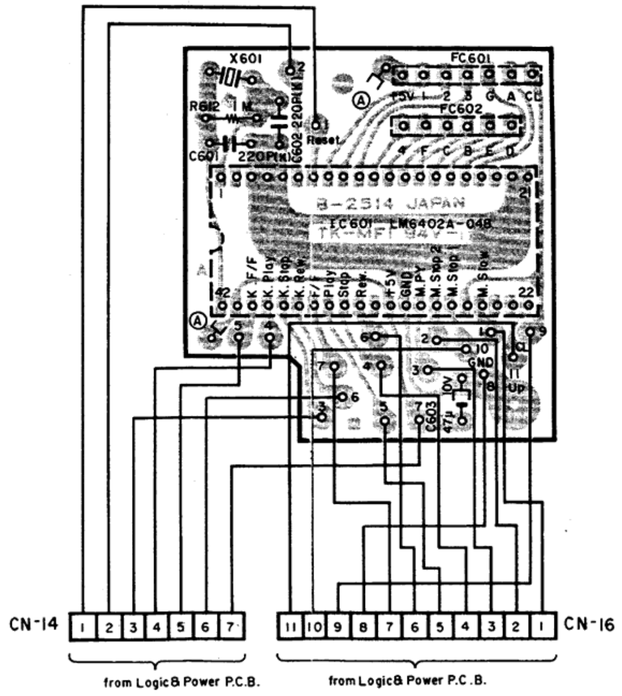


Fig. 7.6

7.7. Shut-off P.C.B. Ass'y

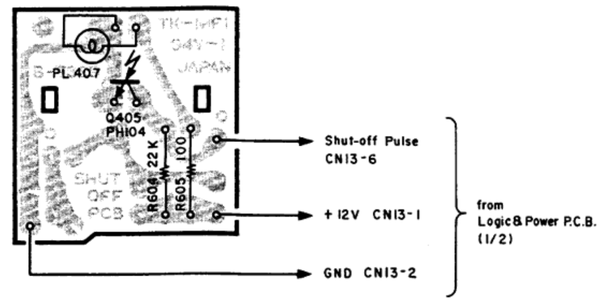


Fig. 7.7

Note: Diode is 1SS53, 1S953, or 1S1555 unless otherwise specified.

7.8. Indicator P.C.B. Ass'y

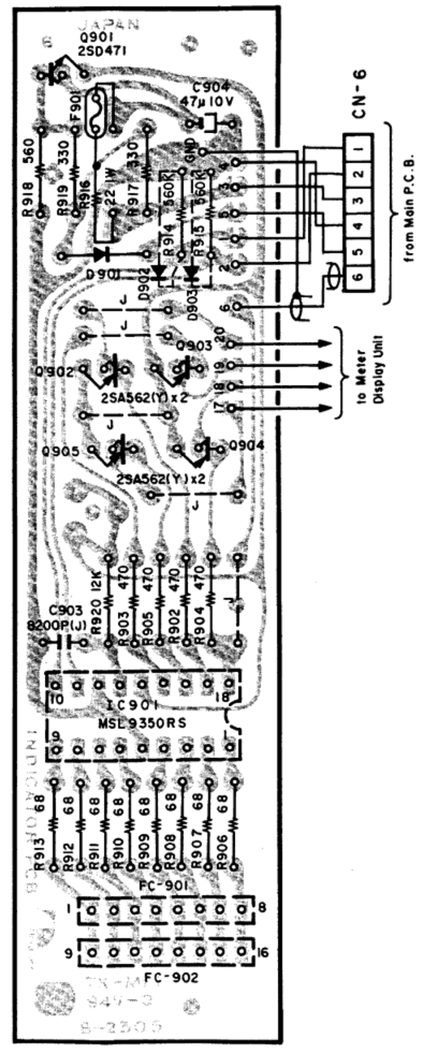


Fig. 7.8

Note: Diode is 1SS53, 1S953, or 1S1555 unless otherwise specified.

7.9. Control Switch P.C.B. Ass'y

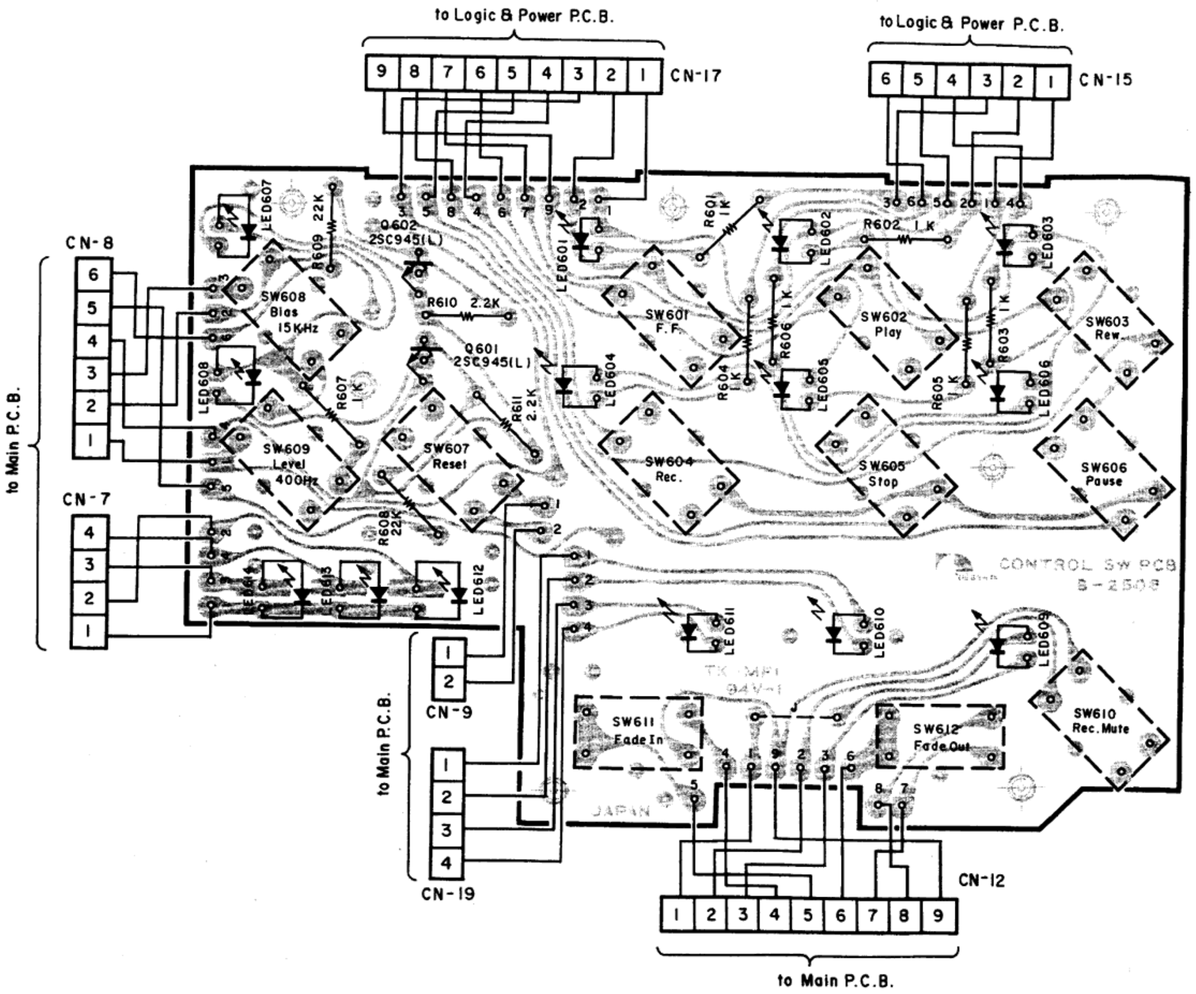


Fig. 7.9

7.10. Record Cal. P.C.B. Ass'y

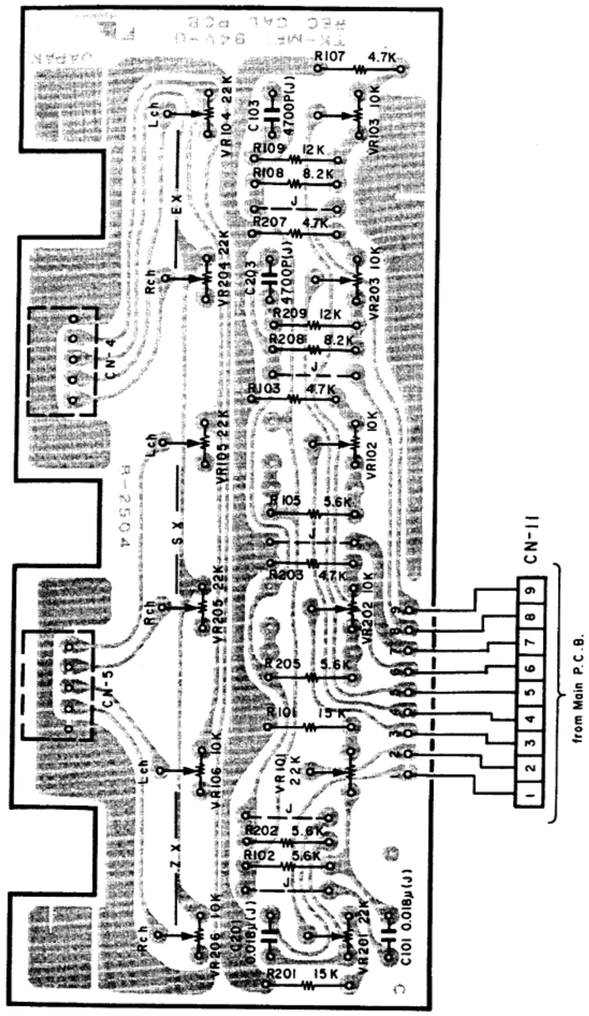


Fig. 7.10

Schematic Ref. No.	Part No.	Description
	BA04544A	**Control Switch P.C.B. Ass'y**
	0B02508C	Control Switch P.C.B.
Q601,602	0B01872A	Transistor 2SC945 (L)
LED601 602,603 605,606 612,614	0B06334A	LED Green TLG124A
LED604 607,608 609,613	0B06333A	LED Red TLR124A
LED610 611	0B06327A	LED
R601-607	0B01857A	Carbon Resistor 1K ERD-25T J (7 pcs.)
R608,609	0B05615A	Carbon Resistor 22K ERD-25T J
R610,611	0B05622A	Carbon Resistor 2.2K ERD-25T J
SW601-610	0B07219A	Switch AKC8S (10 pcs.)
SW611,612	0B07396A	Double Action Switch KHF10901
CN7	0B08926A	4P-H Connector 340mm
CN8	0B08922A	6P-H Connector 350mm
CN9	0B08936A	2P-H Connector 430mm
CN12	0B08937A	9P-H Connector 470mm
CN15	0B08938A	6P-H Connector 450mm
CN17	0B08919A	9P-H Connector 450mm
CN19	0B08935A	4P-H Connector 350mm
	0E00857A	BT Screw M3x6 Philips Binding Head (1 pce.)
	0J04534B	Fader House (1 pce.)
	0M04222A	Label CN-15 (1 pce.)
	0M04224A	Label CN-17 (1 pce.)
	0M04225A	Label CN-19 (1 pce.)
	0M04229A	Label CN-12 (1 pce.)
	0M04335A	Label CN-7 (1 pce.)
	0M04336A	Label CN-8 (1 pce.)
	BA04542A	**Record Cal. P.C.B. Ass'y**
	0B02504C	Record Cal. P.C.B.
VR101,104 105,201 204,205	0B07277A	Semi-fixed Volume 22K
VR102,103 106,202 203,206	0B07404A	Semi-fixed Volume 10K
R101,201	0B01683A	Carbon Resistor 15K ERD-25T J
R102,105 202,205	0B01887A	Carbon Resistor 5.6K ERD-25T J
R103,107 203,207	0B01846A	Carbon Resistor 4.7K ERD-25T J
R108,208	0B01856A	Carbon Resistor 8.2K ERD-25T J
R109,209	0B09263A	Carbon Resistor 12K ERD-25T J
C101,201	0B05832A	Mylar Capacitor 0.018μ 50V J
C103,203	0B05652A	Mylar Capacitor 4700P 50V J
CN4,5	0B08727A	5P-S Connector
CN11	0B08920A	9P-H Connector 80mm
	0E00612A	Screw M3x6 Philips Pan Head (2A) (2 pcs.)
	0J04481B	Shield Case C (1 pce.)
	0M04228A	Label CN-11 (1 pce.)
	0J04483A	Record Cal. P.C.B. Holder (1 pce.)

7.11. Switch P.C.B. Ass'y

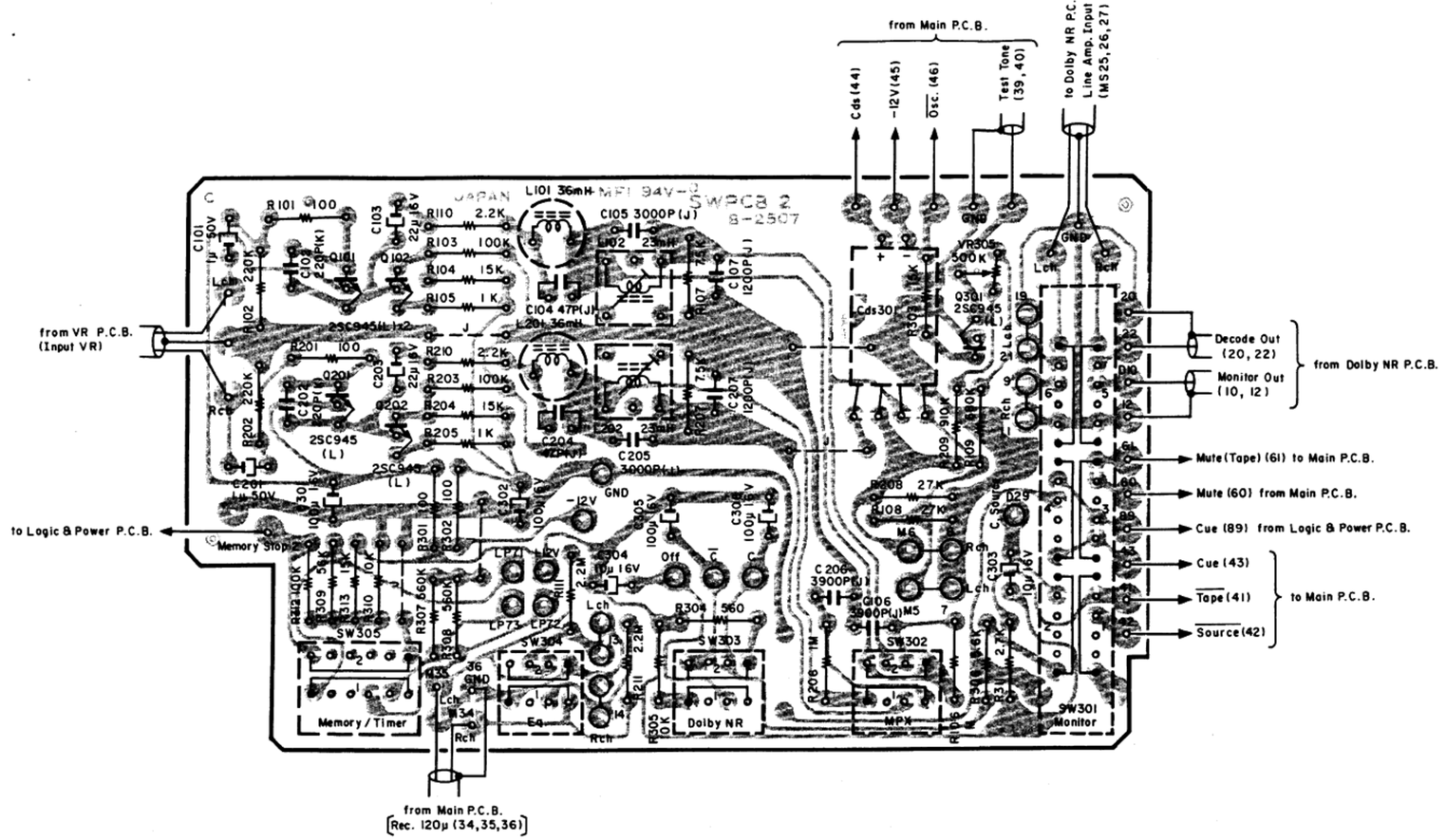


Fig. 7.11

Schematic Ref. No.	Part No.	Description		
	BA04554A	**Switch P.C.B. Ass'y**		
	0B02507C	Switch P.C.B.		
Q101,102 201,202 301	0B01872A	Transistor	2SC945 (L)	
Cds301	0B06325B	Photo Coupler	MCD7214F	
L101,201	0B03919B	Inductor	36mH	
L102,202	0B03563A	19KHz Coil	23mH	
VR305	0B07330A	Semi-fixed Volume	500K	
R101,201	0B01679A	Carbon Resistor	100	ERD-25T J
R102,202	0B05625A	Carbon Resistor	220K	ERD-25T J
R103,203 312	0B01889A	Carbon Resistor	100K	ERD-25T J
R104,204 303,313	0B01683A	Carbon Resistor	15K	ERD-25T J
R105,205	0B01857A	Carbon Resistor	1K	ERD-25T J
R106,206	0B05776A	Carbon Resistor	1M	ERD-25T J
R107,207	0B09183A	Carbon Resistor	7.5K	ERD-25T J
R108,208	0B05743A	Carbon Resistor	27K	ERD-25T J
R109	0B05868A	Carbon Resistor	680K	ERD-25T J
R110,210	0B05622A	Carbon Resistor	2.2K	ERD-25T J
R111,211	0B05671A	Carbon Resistor	2.2M	ERD-25T J
R209	0B05960A	Carbon Resistor	910K	ERD-25T J
R301,302	0B09215A	Fail Safe Type Resistor	100	RDF-25S J
R304	0B05575A	Carbon Resistor	560	ERD-25T J
R305,310	0B01888A	Carbon Resistor	10K	ERD-25T J
R306	0B01887A	Carbon Resistor	5.6K	ERD-25T J
R307,308	0B05784A	Carbon Resistor	560K	ERD-25T J
R309	0B05508A	Carbon Resistor	56K	ERD-25T J
R311	0B05629A	Carbon Resistor	2.7K	ERD-25T J
C101,201	0B01405A	Electrolytic Capacitor	1μ	50V
C102,202	0B09283A	Ceramic Capacitor	220P	50V K
C103,203	0B01862A	Electrolytic Capacitor	22μ	16V
C104,204	0B09242A	Mica Capacitor	47P	50V J
C105,205	0B09262A	PP Capacitor	3000P	100V J
C106,206	0B01804A	Mylar Capacitor	3900P	50V J
C107,207	0B05687A	Mylar Capacitor	1200P	50V J
C301,302 305,306	0B01400A	Electrolytic Capacitor	100μ	16V
C303,304	0B01412A	Electrolytic Capacitor	10μ	16V
SW301	0B07393A	Rotary Switch	6-2NS	
SW302,304	0B07392A	Rotary Switch	2-2S	
SW303	0B07350A	Rotary Switch	2-3	
SW305	0B07391A	Rotary Switch	2-4NS	

7.12. Dolby NR P.C.B. Ass'y

7.12.1. Dolby NR P.C.B. Ass'y (U.S.A. & Canada)

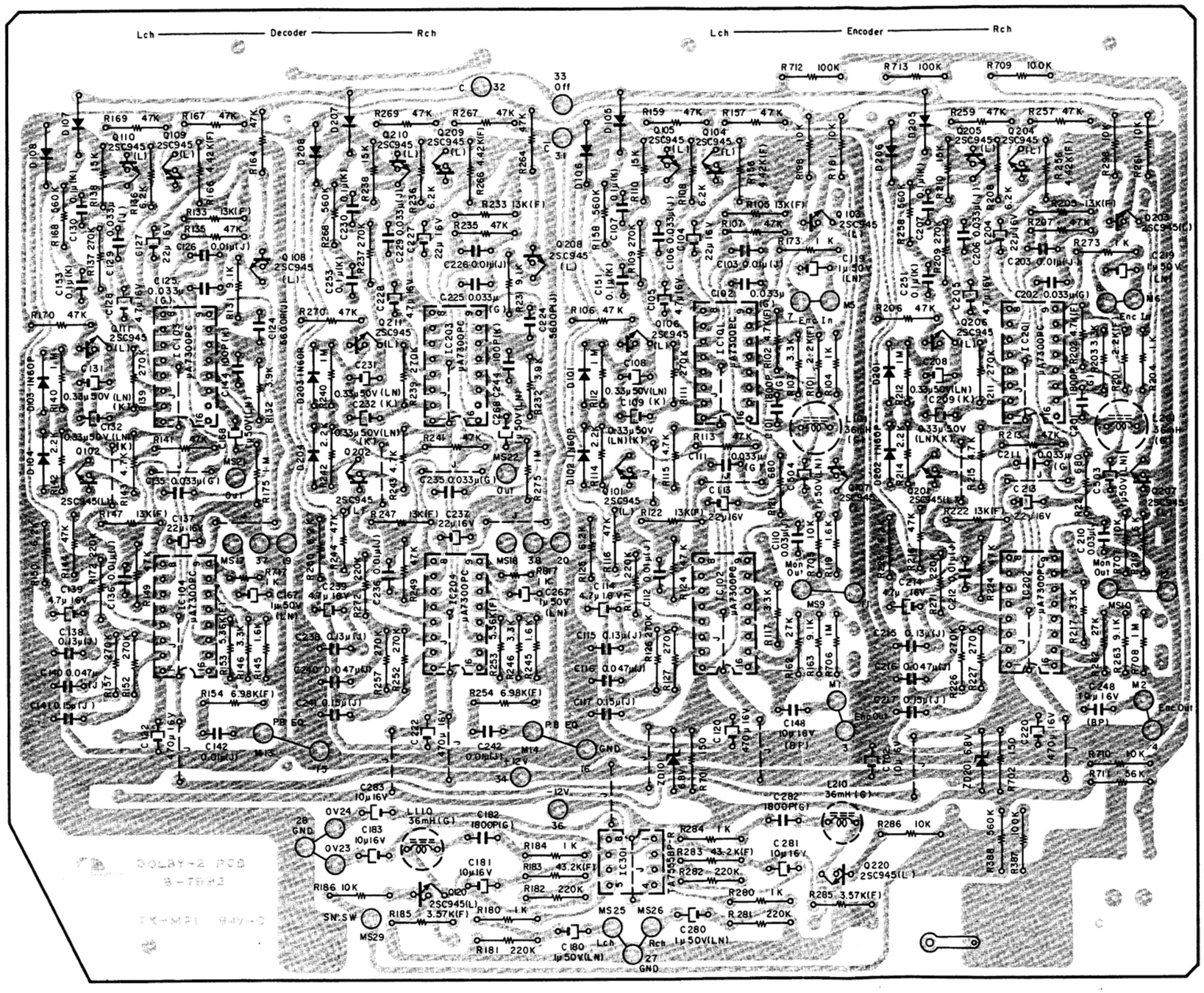


Fig. 7.12.1.1 Serial No.: A12402301 –

Note: Diode is 1SS53, 1S953, or 1S1555 unless otherwise specified.

Schematic Ref. No.	Part No.	Description		
	BA04575A	**Dolby NR P.C.B. Ass'y (U.S.A. & Canada)** Serial No.: A12402301 –		
	– PB Dolby NR –			
IC103,104	0B06200A	IC	μA7300PC	
203,204				
Q102,108	0B01872A	Transistor	2SC945 (L)	
109,110				
111,202				
208,209				
210,211				
D103,203	0B00030A	Germanium Diode	1N60P	
D104,107	0B01909A	Silicon Diode	1S1555	
108,204				
207,208				
R131,231	0B05694A	Carbon Resistor	9.1K	ERD-25T J
R132,232	0B05675A	Carbon Resistor	3.9K	ERD-25T J
R133,147	0B09557A	Metal Film Resistor	13K	SN14K2E F
233,247				
R135,141	0B05641A	Carbon Resistor	47K	ERD-25T J
144,149				
164,167				
169,170				
235,241				
244,249				
264,267				
269,270				
R136,150	0B09271A	Carbon Resistor	6.2K	ERD-25T J
236,250				
R137,139	0B05620A	Carbon Resistor	270K	ERD-25T J
152,157				
237,239				
252,257				
R138,238	0B05591A	Carbon Resistor	15K	ERD-25T J
R140,175	0B05776A	Carbon Resistor	1M	ERD-25T J
240,275				
R142,242	0B05622A	Carbon Resistor	2.2K	ERD-25T J
R143,243	0B01846A	Carbon Resistor	4.7K	ERD-25T J
R145,245	0B09565A	Carbon Resistor	1.6K	ERD-25T J
R146,246	0B01681A	Carbon Resistor	3.3K	ERD-25T J
R153,253	0B09426A	Metal Film Resistor	5.36K	SN14K2E F
R154,254	0B09604A	Metal Film Resistor	6.98K	SN14K2E F
R166,266	0B09558A	Metal Film Resistor	4.42K	SN14K2E F
R168,268	0B05784A	Carbon Resistor	560K	ERD-25T J
R172,272	0B05625A	Carbon Resistor	220K	ERD-25T J
R717,817	0B01857A	Carbon Resistor	1K	ERD-25T J
C122,222	0B01392A	Electrolytic Capacitor	470μ	16V
C124,224	0B05659A	Mylar Capacitor	5600P	50V J
C125,135	0B09240A	PP Capacitor	0.033μ	100V G
225,235				
C126,136	0B05681A	Mylar Capacitor	0.01μ	50V J
142,226				
236,242				
C127,137	0B01862A	Electrolytic Capacitor	22μ	16V
227,237				
C128,139	0B01389A	Electrolytic Capacitor	4.7μ	16V
228,239				
C129,229	0B05583A	Mylar Capacitor	0.033μ	50V J
C130,153	0B01603A	Mylar Capacitor	0.1μ	50V K
230,253				

Schematic Ref. No.	Part No.	Description
C131,132 231,232	0B09567A	Electrolytic Capacitor 0.33μ 50V (LN) K
C138,238	0B09566A	Mylar Capacitor 0.13μ 50V J
C140,240	0B05796A	Mylar Capacitor 0.047μ 50V J
C141,241	0B05914A	Mylar Capacitor 0.15μ 50V J
C144,244	0B09282A	Ceramic Capacitor 100P 50V K
C167,168 267,268	0B09494A	Electrolytic Capacitor 1μ 50V (LN)
	0B08714A	IC Socket 16P (4 pcs.)
	0E00037A	Earth Lug B-5 (1 pce.)
	— Rec. Dolby NR —	
IC101,102 201,202	0B06200A	IC μA7300PC
Q101,103 104,105 106,107 201,203 204,205 206,207	0B01872A	Transistor 2SC945 (L)
ZD101,201	0B06315A	Zener Diode 6.8V XZ068
D101,105 106,201 205,206	0B01909A	Silicon Diode 1S1555
D102,202	0B00030A	Germanium Diode 1N60P
L101,201	0B06676A	Inductor 36mH G
R101,201	0B09201A	Metal Film Resistor 2.2K SN14K2E F
R102,202	0B09356A	Metal Film Resistor 4.7K SN14K2E F
R103,117 203,217	0B01681A	Carbon Resistor 3.3K ERD-25T J
R104,173 204,273	0B01857A	Carbon Resistor 1K ERD-25T J
R105,122 205,222	0B09557A	Metal Film Resistor 13K SN14K2E F
R106,107 113,116 124,157 159,206 207,213 216,224 257,259	0B05641A	Carbon Resistor 47K ERD-25T J
R108,125 208,225	0B09271A	Carbon Resistor 6.2K ERD-25T J
R109,111 126,127 209,211 226,227	0B05620A	Carbon Resistor 270K ERD-25T J
R110,210	0B05591A	Carbon Resistor 15K ERD-25T J
R112,212 706,708	0B05776A	Carbon Resistor 1M ERD-25T J
R114,214	0B05622A	Carbon Resistor 2.2K ERD-25T J
R115,215	0B01846A	Carbon Resistor 4.7K ERD-25T J
R119,219	0B09565A	Carbon Resistor 1.6K ERD-25T J
R121,221	0B05794A	Carbon Resistor 680 ERD-25T J
R156,256	0B09558A	Metal Film Resistor 4.42K SN14K2E F
R158,258	0B05784A	Carbon Resistor 560K ERD-25T J
R161,198 261,298 705,707	0B01888A	Carbon Resistor 10K ERD-25T J
R162,262	0B05743A	Carbon Resistor 27K ERD-25T J
R163,263	0B05694A	Carbon Resistor 9.1K ERD-25T J
R171,271	0B05625A	Carbon Resistor 220K ERD-25T J
R701,702	0B05795A	Carbon Resistor 150 ERD-25T J
C101,201	0B09409A	PP Capacitor 1800P 100V G
C102,111 202,211	0B09240A	PP Capacitor 0.033μ 100V G
C103,112 203,212	0B05681A	Mylar Capacitor 0.01μ 50V J
C104,113 204,213	0B01862A	Electrolytic Capacitor 22μ 16V
C105,114 205,214	0B01389A	Electrolytic Capacitor 4.7μ 16V
C106,206	0B05583A	Mylar Capacitor 0.033μ 50V J
C107,151 207,251	0B01603A	Mylar Capacitor 0.1μ 50V K
C108,109 208,209	0B09567A	Electrolytic Capacitor 0.33μ 50V (LN) K
C110,210	0B09594A	Mylar Capacitor 0.03μ 50V J
C115,215	0B09566A	Mylar Capacitor 0.13μ 50V J
C116,216	0B05796A	Mylar Capacitor 0.047μ 50V J
C117,217	0B05914A	Mylar Capacitor 0.15μ 50V J
C119,219 503,504	0B09223A	Electrolytic Capacitor 1μ 50V (LN)
C120,220	0B01392A	Electrolytic Capacitor 470μ 16V
C148,248	0B09163A	Electrolytic Capacitor 10μ 16V (BP)
	0B08714A	IC Socket 16P (4 pcs.)
	— Line Amp. —	
IC301	0B06287A	IC TA75558P-R
Q120,220	0B01872A	Transistor 2SC945 (L)
L110,210	0B06676A	Inductor 36mH G
R180,184 280,284	0B01857A	Carbon Resistor 1K ERD-25T J
R181,182 281,282	0B05625A	Carbon Resistor 220K ERD-25T J
R183,283	0B09582A	Metal Film Resistor 43.2K SN14K2E F
R185,285	0B09507A	Metal Film Resistor 3.57K SN14K2E F
R186,286 710	0B01888A	Carbon Resistor 10K ERD-25T J
R387,709 712,713	0B01889A	Carbon Resistor 100K ERD-25T J
R388	0B05784A	Carbon Resistor 560K ERD-25T J
R711	0B05508A	Carbon Resistor 56K ERD-25T J
C180,280	0B09223A	Electrolytic Capacitor 1μ 50V (LN)
C181,183 281,283 702	0B01412A	Electrolytic Capacitor 10μ 16V
C182,282	0B09409A	PP Capacitor 1800P 100V G
	— Miscellaneous —	
	0B07992C	Dolby NR P.C.B.

Schematic Ref. No.	Part No.	Description
	BA04575A	**Dolby NR P.C.B. Ass'y (U.S.A. & Canada)**
		Serial Nos.: A12401001 — A12402300
	— PB Dolby NR —	
IC103,104 203,204	0B06200A	IC μA7300PC
Q102,108 109,110 111,202 208,209 210,211	0B01872A	Transistor 2SC945 (L)
D103,203	0B00030A	Germanium Diode 1N60P
D104,107 108,204 207,208	0B01909A	Silicon Diode 1S1555
R131,231	0B05694A	Carbon Resistor 9.1K ERD-25T J
R132,232	0B05675A	Carbon Resistor 3.9K ERD-25T J
R133,147 233,247	0B09557A	Metal Film Resistor 13K SN14K2E F
R135,141 144,149 164,167 169,170 235,241 244,249 264,267 269,270	0B05641A	Carbon Resistor 47K ERD-25T J
R136,150 236,250	0B09271A	Carbon Resistor 6.2K ERD-25T J
R137,139 152,157 237,239 252,257	0B05620A	Carbon Resistor 270K ERD-25T J
R138,238	0B05591A	Carbon Resistor 15K ERD-25T J
R140,175 240,275	0B05776A	Carbon Resistor 1M ERD-25T J
R142,242	0B05622A	Carbon Resistor 2.2K ERD-25T J
R143,243	0B01846A	Carbon Resistor 4.7K ERD-25T J
R145,245	0B09565A	Carbon Resistor 1.6K ERD-25T J
R146,246	0B01681A	Carbon Resistor 3.3K ERD-25T J
R153,253	0B09426A	Metal Film Resistor 5.36K SN14K2E F
R154,254	0B09604A	Metal Film Resistor 6.98K SN14K2E F
R166,266	0B09558A	Metal Film Resistor 4.42K SN14K2E F
R168,268	0B05784A	Carbon Resistor 560K ERD-25T J
R172,272	0B05625A	Carbon Resistor 220K ERD-25T J
R717,817	0B01857A	Carbon Resistor 1K ERD-25T J
C122,222	0B01392A	Electrolytic Capacitor 470μ 16V
C124,224	0B05659A	Mylar Capacitor 5600P 50V J
C125,135 225,235	0B09240A	PP Capacitor 0.033μ 100V G
C126,136 142,226 236,242	0B05681A	Mylar Capacitor 0.01μ 50V J
C127,137 227,237	0B01862A	Electrolytic Capacitor 22μ 16V
C128,139 228,239	0B01389A	Electrolytic Capacitor 4.7μ 16V
C129,229	0B05583A	Mylar Capacitor 0.033μ 50V J
C130,153 230,253	0B01603A	Mylar Capacitor 0.1μ 50V K
C131,132 231,232	0B09567A	Electrolytic Capacitor 0.33μ 50V (LN) K
C138,238	0B09566A	Mylar Capacitor 0.13μ 50V J
C140,240	0B05796A	Mylar Capacitor 0.047μ 50V J
C141,241	0B05914A	Mylar Capacitor 0.15μ 50V J
C144,244	0B09282A	Ceramic Capacitor 100P 50V K
C167,168 267,268	0B09494A	Electrolytic Capacitor 1μ 50V (LN)
	0B08714A	IC Socket 16P (4 pcs.)
	0E00037A	Earth Lug B-5 (1 pce.)
	— Rec. Dolby NR —	
IC101,102 201,202	0B06200A	IC μA7300PC
Q101,103 104,105 106,107 201,203 204,205 206,207	0B01872A	Transistor 2SC945 (L)
ZD101,201	0B06315A	Zener Diode 6.8V XZ068
D101,105 106,201 205,206	0B01909A	Silicon Diode 1S1555
D102,202	0B00030A	Germanium Diode 1N60P
L101,201	0B06676A	Inductor 36mHG
R101,201	0B09201A	Metal Film Resistor 2.2K SN14K2E F
R102,202	0B09356A	Metal Film Resistor 4.7K SN14K2E F
R103,117 203,217	0B01681A	Carbon Resistor 3.3K ERD-25T J
R104,173 204,273	0B01857A	Carbon Resistor 1K ERD-25T J
R105,122 205,222	0B09557A	Metal Film Resistor 13K SN14K2E F
R106,107 113,116 124,157 159,206 207,213 216,224 257,259	0B05641A	Carbon Resistor 47K ERD-25T J
R108,125 208,225	0B09271A	Carbon Resistor 6.2K ERD-25T J
R109,111 126,127 209,211 226,227	0B05620A	Carbon Resistor 270K ERD-25T J
R110,210	0B05591A	Carbon Resistor 15K ERD-25T J
R112,212 706,708	0B05776A	Carbon Resistor 1M ERD-25T J
R114,214	0B05622A	Carbon Resistor 2.2K ERD-25T J
R115,215	0B01846A	Carbon Resistor 4.7K ERD-25T J
R119,219	0B09565A	Carbon Resistor 1.6K ERD-25T J
R121,221	0B05794A	Carbon Resistor 680 ERD-25T J
R156,256	0B09558A	Metal Film Resistor 4.42K SN14K2E F
R158,258	0B05784A	Carbon Resistor 560K ERD-25T J
R161,198 261,298	0B01888A	Carbon Resistor 10K ERD-25T J
705,707		
R162,262	0B05743A	Carbon Resistor 27K ERD-25T J
R163,263	0B05694A	Carbon Resistor 9.1K ERD-25T J

Schematic Ref. No.	Part No.	Description
R171,271	0B05625A	Carbon Resistor 220K ERD-25T J
R701,702	0B05795A	Carbon Resistor 150 ERD-25T J
C101,201	0B09409A	PP Capacitor 1800P 100V G
C102,111 202,211	0B09240A	PP Capacitor 0.033μ 100V G
C103,112 203,212	0B05681A	Mylar Capacitor 0.01μ 50V J
C104,113 204,213	0B01862A	Electrolytic Capacitor 22μ 16V
C105,114 205,214	0B01389A	Electrolytic Capacitor 4.7μ 16V
C106,206	0B05583A	Mylar Capacitor 0.033μ 50V J
C107,151 207,251	0B01603A	Mylar Capacitor 0.1μ 50V K
C108,109 208,209	0B09567A	Electrolytic Capacitor 0.33μ 50V (LN) K
C110,210	0B09594A	Mylar Capacitor 0.03μ 50V J
C115,215	0B09566A	Mylar Capacitor 0.13μ 50V J
C116,216	0B05796A	Mylar Capacitor 0.047μ 50V J
C117,217	0B05914A	Mylar Capacitor 0.15μ 50V J
C119,219 503,504	0B09223A	Electrolytic Capacitor 1μ 50V (LN)
C120,220	0B01392A	Electrolytic Capacitor 470μ 16V
C148,248	0B09163A	Electrolytic Capacitor 10μ 16V (BP)
	0B08714A	IC Socket 16P (4 pcs.)
	— Line Amp. —	
IC301	0B06287A	IC TA75558P-R
Q120,220	0B01872A	Transistor 2SC945 (L)
L110,210	0B06676A	Inductor 36mH G
R180,184 280,284	0B01857A	Carbon Resistor 1K ERD-25T J
R181,182 281,282	0B05625A	Carbon Resistor 220K ERD-25T J
R183,283	0B09582A	Metal Film Resistor 43.2K SN14K2E F
R185,285	0B09507A	Metal Film Resistor 3.57K SN14K2E F
R186,286 710	0B01888A	Carbon Resistor 10K ERD-25T J
R387,709 712,713	0B01889A	Carbon Resistor 100K ERD-25T J
R388	0B05784A	Carbon Resistor 560K ERD-25T J
R711	0B05508A	Carbon Resistor 56K ERD-25T J
C180,280	0B09223A	Electrolytic Capacitor 1μ 50V (LN)
C181,183 281,283 702	0B01412A	Electrolytic Capacitor 10μ 16V
C182,282	0B09409A	PP Capacitor 1800P 100V G
	— Miscellaneous —	
	0B07992A	Dolby NR P.C.B.

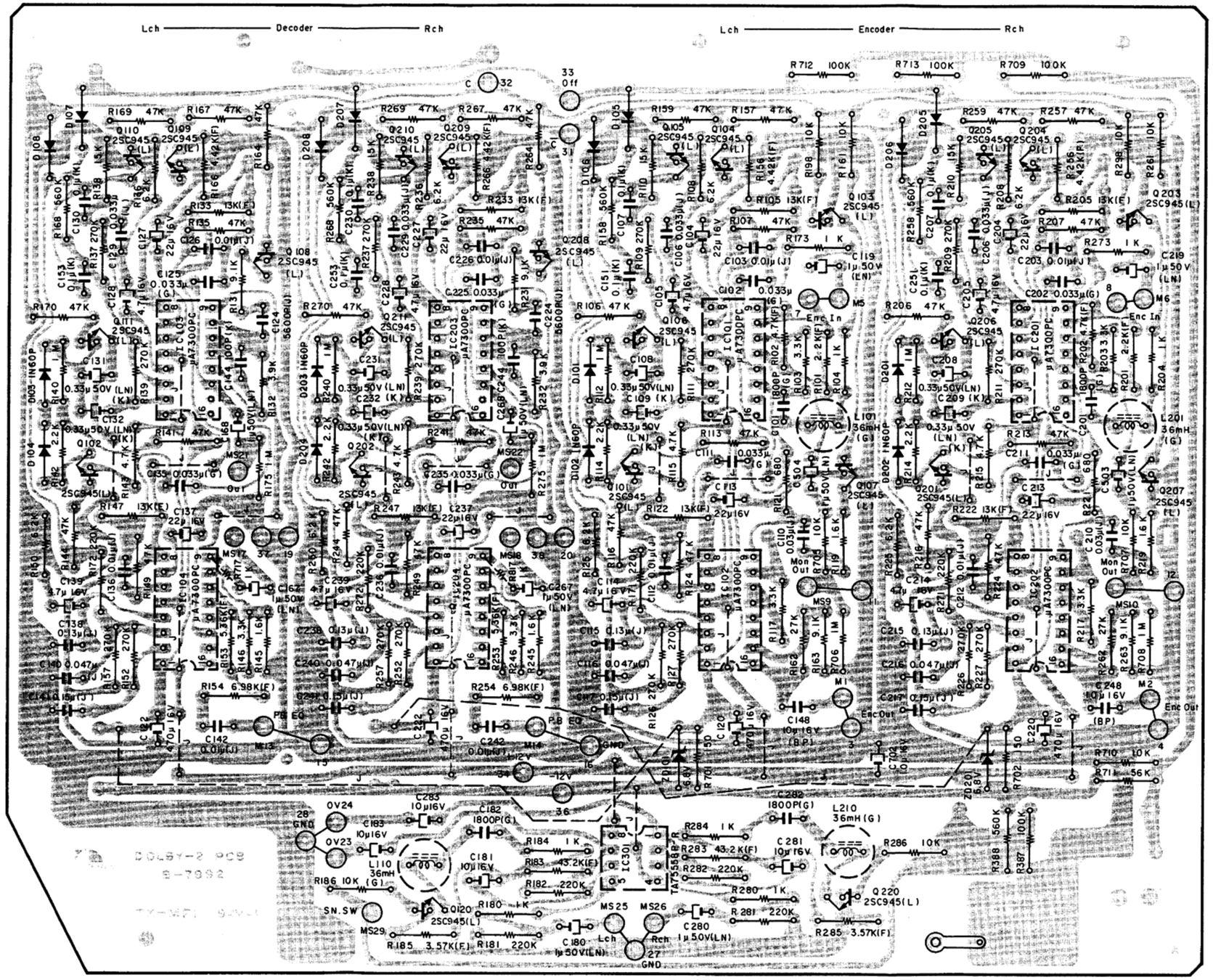


Fig. 7.12.1.2 Serial Nos.: A12401001 – A12402300

Note: Diode is 1SS53, 1S953, or 1S1555 unless otherwise specified.

7.12.2. Dolby NR P.C.B. Ass'y (UK, Australia, 220V Class 2, Others & Japan)

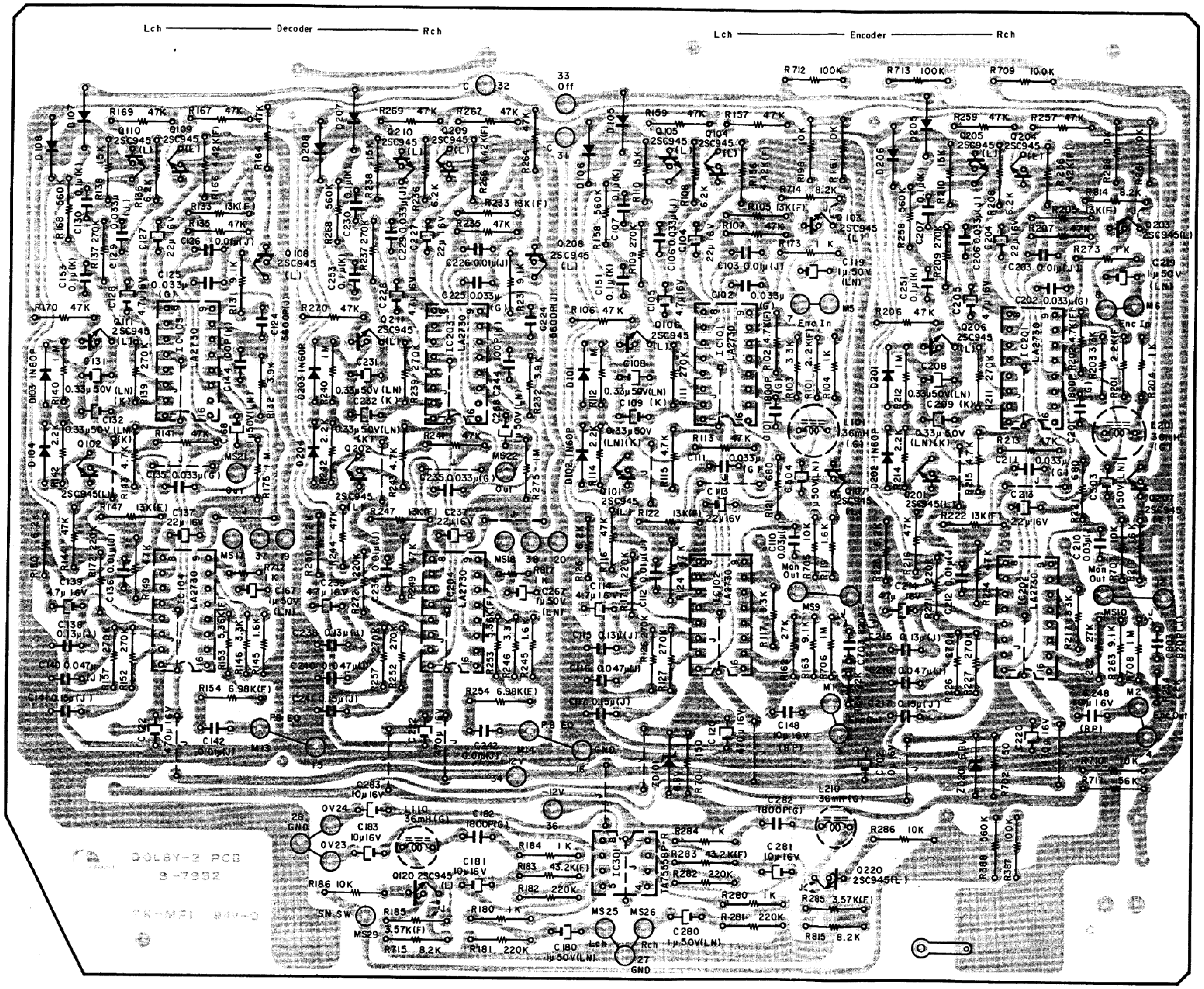


Fig. 7.12.2.1 Serial No.: A12402301 –

Schematic Ref. No.	Part No.	Description		
	BA04646A	Dolby NR P.C.B. Ass'y (UK, Australia, 220V Class 2, Others & Japan) Serial No.: A12402301 –		
	– PB Dolby NR –			
IC103,104 203,204	0B06338A	IC	LA2730	
Q102,108 109,110 111,202 208,209 210,211	0B01872A	Transistor	2SC945 (L)	
D103,203	0B00030A	Germanium Diode	1N60P	
D104,107 108,204 207,208	0B01909A	Silicon Diode	1S1555	
R131,231	0B05694A	Carbon Resistor	9.1K	ERD-25T J
R132,232	0B05675A	Carbon Resistor	3.9K	ERD-25T J
R133,147 233,247	0B09557A	Metal Film Resistor	13K	SN14K2E F
R135,141 144,149 164,167 169,170 235,241 244,249 264,267 269,270	0B05641A	Carbon Resistor	47K	ERD-25T J
R136,150 236,250	0B09271A	Carbon Resistor	6.2K	ERD-25T J
R137,139 152,157 237,239 252,257	0B05620A	Carbon Resistor	270K	ERD-25T J
R138,238	0B05591A	Carbon Resistor	15K	ERD-25T J
R140,175 240,275	0B05776A	Carbon Resistor	1M	ERD-25T J
R142,242	0B05622A	Carbon Resistor	2.2K	ERD-25T J
R143,243	0B01846A	Carbon Resistor	4.7K	ERD-25T J
R145,245	0B09565A	Carbon Resistor	1.6K	ERD-25T J
R146,246	0B01681A	Carbon Resistor	3.3K	ERD-25T J
R153,253	0B09426A	Metal Film Resistor	5.36K	SN14K2E F
R154,254	0B09604A	Metal Film Resistor	6.98K	SN14K2E F
R166,266	0B09558A	Metal Film Resistor	4.42K	SN14K2E F
R168,268	0B05784A	Carbon Resistor	560K	ERD-25T J
R172,272	0B05625A	Carbon Resistor	220K	ERD-25T J
R717,817	0B01857A	Carbon Resistor	1K	ERD-25T J
C122,222	0B01392A	Electrolytic Capacitor	470μ	16V
C124,224	0B05659A	Mylar Capacitor	5600P	50V J
C125,135 225,235	0B09240A	PP Capacitor	0.033μ	100V G
C126,136 142,226 236,242	0B05681A	Mylar Capacitor	0.01μ	50V J
C127,137 227,237	0B01862A	Electrolytic Capacitor	22μ	16V
C128,139 228,239	0B01389A	Electrolytic Capacitor	4.7μ	16V
C129,229	0B05583A	Mylar Capacitor	0.033μ	50V J
C130,153 230,253	0B01603A	Mylar Capacitor	0.1 μ	50V K

Schematic Ref. No.	Part No.	Description
C131,132 231,232	0B09567A	Electrolytic Capacitor 0.33μ 50V (LN) K
C138,238	0B09566A	Mylar Capacitor 0.13μ 50V J
C140,240	0B05796A	Mylar Capacitor 0.047μ 50V J
C141,241	0B05914A	Mylar Capacitor 0.15μ 50V J
C144,244	0B09282A	Ceramic Capacitor 100P 50V K
C167,168 267,268	0B09494A	Electrolytic Capacitor 1μ 50V (LN)
	0B08714A	IC Socket 16P (4 pcs.)
	0E00037A	Earth Lug B-5 (1 pce.)
	— Rec. Dolby NR —	
IC101,102 201,202	0B06338A	IC LA2730
Q101,103 104,105 106,107 201,203 204,205 206,207	0B01872A	Transistor 2SC945 (L)
ZD101,201	0B06315A	Zener Diode 6.8V XZ068
D101,105 106,201 205,206	0B01909A	Silicon Diode 1S1555
D102,202	0B00030A	Germanium Diode 1N60P
L101,201	0B06676A	Inductor 36mH G
R101,201	0B09201A	Metal Film Resistor 2.2K SN14K2E F
R102,202	0B09356A	Metal Film Resistor 4.7K SN14K2E F
R103,117 203,217	0B01681A	Carbon Resistor 3.3K ERD-25T J
R104,173 204,273	0B01857A	Carbon Resistor 1K ERD-25T J
R105,122 205,222	0B09557A	Metal Film Resistor 13K SN14K2E F
R106,107 113,116 124,157 159,206 207,213 216,224 257,259	0B05641A	Carbon Resistor 47K ERD-25T J
R108,125 208,225	0B09271A	Carbon Resistor 6.2K ERD-25T J
R109,111 126,127 209,211 226,227	0B05620A	Carbon Resistor 270K ERD-25T J
R110,210	0B05591A	Carbon Resistor 15K ERD-25T J
R112,212 706,708	0B05776A	Carbon Resistor 1M ERD-25T J
R114,214	0B05622A	Carbon Resistor 2.2K ERD-25T J
R115,215	0B01846A	Carbon Resistor 4.7K ERD-25T J
R119,219	0B09565A	Carbon Resistor 1.6K ERD-25T J
R121,221	0B05794A	Carbon Resistor 680 ERD-25T J
R154,254	0B05615A	Carbon Resistor 22K ERD-25T J
R156,256	0B09558A	Metal Film Resistor 4.42K SN14K2E F
R158,258	0B05784A	Carbon Resistor 560K ERD-25T J
R161,198 261,298 705,707	0B01888A	Carbon Resistor 10K ERD-25T J
R162,262	0B05743A	Carbon Resistor 27K ERD-25T J
R163,263	0B05694A	Carbon Resistor 9.1K ERD-25T J
R171,271	0B05625A	Carbon Resistor 220K ERD-25T J
R701,702	0B09213A	Fail Safe Type Resistor 150 RDF-25S J
R714,814	0B01856A	Carbon Resistor 8.2K ERD-25T J
C101,201	0B09409A	PP Capacitor 1800P 100V G
C102,111 202,211	0B09240A	PP Capacitor 0.033μ 100V G
C103,112 203,212	0B05681A	Mylar Capacitor 0.01μ 50V J
C104,113 204,213	0B01862A	Electrolytic Capacitor 22μ 16V
C105,114 205,214	0B01389A	Electrolytic Capacitor 4.7μ 16V
C106,206	0B05583A	Mylar Capacitor 0.033μ 50V J
C107,151 207,251	0B01603A	Mylar Capacitor 0.1μ 50V K
C108,109 208,209	0B09567A	Electrolytic Capacitor 0.33μ 50V (LN) K
C110,210	0B09594A	Mylar Capacitor 0.03μ 50V J
C115,215	0B09566A	Mylar Capacitor 0.13μ 50V J
C116,216	0B05796A	Mylar Capacitor 0.047μ 50V J
C117,217	0B05914A	Mylar Capacitor 0.15μ 50V J
C119,219 503,504	0B09223A	Electrolytic Capacitor 1μ 50V (LN)
C120,220	0B01392A	Electrolytic Capacitor 470μ 16V
C148,248	0B09163A	Electrolytic Capacitor 10μ 16V (BP)
C703,803	0B09783A	PP Capacitor 820P 100V J
	0B08714A	IC Socket 16P (4 pcs.)
	— Line Amp. —	
IC301	0B06287A	IC TA75558P-R
Q120,220	0B01872A	Transistor 2SC945 (L)
L110,210	0B06676A	Inductor 36mH G
R180,184 280,284	0B01857A	Carbon Resistor 1K ERD-25T J
R181,182 281,282	0B05625A	Carbon Resistor 220K ERD-25T J
R183,283	0B09582A	Metal Film Resistor 43.2K SN14K2E F
R185,285	0B09507A	Metal Film Resistor 3.57K SN14K2E F
R186,286 710	0B01888A	Carbon Resistor 10K ERD-25T J
R387,709 712,713	0B01889A	Carbon Resistor 100K ERD-25T J
R388	0B05784A	Carbon Resistor 560K ERD-25T J
R711	0B05508A	Carbon Resistor 56K ERD-25T J
R715,815	0B01856A	Carbon Resistor 8.2K ERD-25T J
C180,280	0B09223A	Electrolytic Capacitor 1μ 50V (LN)
C181,183 281,283 702	0B01412A	Electrolytic Capacitor 10μ 16V
C182,282	0B09409A	PP Capacitor 1800P 100V G
	— Miscellaneous —	
	0B07992C	Dolby NR P.C.B.

Schematic Ref. No.	Part No.	Description
	BA04646A	**Dolby NR P.C.B. Ass'y (UK, Australia, 220V Class 2, Others & Japan)**
		Serial Nos.: A12401001 — A12402300
	— PB Dolby NR —	
IC103,104	0B06338A	IC LA2730
203,204		
Q102,108	0B01872A	Transistor 2SC945 (L)
109,110		
111,202		
208,209		
210,211		
D103,203	0B00030A	Germanium Diode 1N60P
D104,107	0B01909A	Silicon Diode 1S1555
108,204		
207,208		
R131,231	0B05694A	Carbon Resistor 9.1K ERD-25T J
R132,232	0B05675A	Carbon Resistor 3.9K ERD-25T J
R133,147	0B09557A	Metal Film Resistor 13K SN14K2E F
233,247		
R135,141	0B05641A	Carbon Resistor 47K ERD-25T J
144,149		
164,167		
169,170		
235,241		
244,249		
264,267		
269,270		
R136,150	0B09271A	Carbon Resistor 6.2K ERD-25T J
236,250		
R137,139	0B05620A	Carbon Resistor 270K ERD-25T J
152,157		
237,239		
252,257		
R138,238	0B05591A	Carbon Resistor 15K ERD-25T J
R140,175	0B05776A	Carbon Resistor 1M ERD-25T J
240,275		
R142,242	0B05622A	Carbon Resistor 2.2K ERD-25T J
R143,243	0B01846A	Carbon Resistor 4.7K ERD-25T J
R145,245	0B09565A	Carbon Resistor 1.6K ERD-25T J
R146,246	0B01681A	Carbon Resistor 3.3K ERD-25T J
R153,253	0B09426A	Metal Film Resistor 5.36K SN14K2E F
R154,254	0B09604A	Metal Film Resistor 6.98K SN14K2E F
R166,266	0B09558A	Metal Film Resistor 4.42K SN14K2E F
R168,268	0B05784A	Carbon Resistor 560K ERD-25T J
R172,272	0B05625A	Carbon Resistor 220K ERD-25T J
R717,817	0B01857A	Carbon Resistor 1K ERD-25T J
C122,222	0B01392A	Electrolytic Capacitor 470μ 16V
C124,224	0B05659A	Mylar Capacitor 5600P 50V J
C125,135	0B09240A	PP Capacitor 0.033μ 100V G
225,235		
C126,136	0B05681A	Mylar Capacitor 0.01μ 50V J
142,226		
236,242		
C127,137	0B01862A	Electrolytic Capacitor 22μ 16V
227,237		
C128,139	0B01389A	Electrolytic Capacitor 4.7μ 16V
228,239		
C129,229	0B05583A	Mylar Capacitor 0.033μ 50V J
C130,153	0B01603A	Mylar Capacitor 0.1μ 50V K
230,253		

Schematic Ref. No.	Part No.	Description
C131,132	0B09567A	Electrolytic Capacitor 0.33μ 50V (LN) K
231,232		
C138,238	0B09566A	Mylar Capacitor 0.13μ 50V J
C140,240	0B05796A	Mylar Capacitor 0.047μ 50V J
C141,241	0B05914A	Mylar Capacitor 0.15μ 50V J
C144,244	0B09282A	Ceramic Capacitor 100P 50V K
C167,168	0B09494A	Electrolytic Capacitor 1μ 50V (LN)
267,268		
	0B08714A	IC Socket 16P (4 pcs.)
	0E00037A	Earth Lug B-5 (1 pce.)
	— Rec. Dolby NR —	
IC101,102	0B06338A	IC LA2730
201,202		
Q101,103	0B01872A	Transistor 2SC945 (L)
104,105		
106,107		
201,203		
204,205		
206,207		
ZD101,201	0B06315A	Zener Diode 6.8V XZ068
D101,105	0B01909A	Silicon Diode 1S1555
106,201		
205,206		
D102,202	0B00030A	Germanium Diode 1N60P
L101,201	0B06676A	Inductor 36mH G
R101,201	0B09201A	Metal Film Resistor 2.2K SN14K2E F
R102,202	0B09356A	Metal Film Resistor 4.7K SN14K2E F
R103,117	0B01681A	Carbon Resistor 3.3K ERD-25T J
203,217		
R104,173	0B01857A	Carbon Resistor 1K ERD-25T J
204,273		
R105,122	0B09557A	Metal Film Resistor 13K SN14K2E F
205,222		
R106,107	0B05641A	Carbon Resistor 47K ERD-25T J
113,116		
124,157		
159,206		
207,213		
216,224		
257,259		
R108,125	0B09271A	Carbon Resistor 6.2K ERD-25T J
208,225		
R109,111	0B05620A	Carbon Resistor 270K ERD-25T J
126,127		
209,211		
226,227		
R110,210	0B05591A	Carbon Resistor 15K ERD-25T J
R112,212	0B05776A	Carbon Resistor 1M ERD-25T J
706,708		
R114,214	0B05622A	Carbon Resistor 2.2K ERD-25T J
R115,215	0B01846A	Carbon Resistor 4.7K ERD-25T J
R119,219	0B09565A	Carbon Resistor 1.6K ERD-25T J
R121,221	0B05794A	Carbon Resistor 680 ERD-25T J
R154,254	0B05615A	Carbon Resistor 22K ERD-25T J
R156,256	0B09558A	Metal Film Resistor 4.42K SN14K2E F
R158,258	0B05784A	Carbon Resistor 560K ERD-25T J
R161,198	0B01888A	Carbon Resistor 10K ERD-25T J
261,298		
705,707		
R162,262	0B05743A	Carbon Resistor 27K ERD-25T J

Schematic Ref. No.	Part No.	Description
R163,263	0B05694A	Carbon Resistor 9.1K ERD-25T J
R171,271	0B05625A	Carbon Resistor 220K ERD-25T J
R701,702	0B09213A	Fail Safe Type Resistor 150 RDF-25S J
R714,814	0B01856A	Carbon Resistor 8.2K ERD-25T J
C101,201	0B09409A	PP Capacitor 1800P 100V G
C102,111 202,211	0B09240A	PP Capacitor 0.033μ 100V G
C103,112 203,212	0B05681A	Mylar Capacitor 0.01μ 50V J
C104,113 204,213	0B01862A	Electrolytic Capacitor 22μ 16V
C105,114 205,214	0B01389A	Electrolytic Capacitor 4.7μ 16V
C106,206	0B05583A	Mylar Capacitor 0.033μ 50V J
C107,151 207,251	0B01603A	Mylar Capacitor 0.1μ 50V K
C108,109 208,209	0B09567A	Electrolytic Capacitor 0.33μ 50V (LN) K
C110,210	0B09594A	Mylar Capacitor 0.03μ 50V J
C115,215	0B09566A	Mylar Capacitor 0.13μ 50V J
C116,216	0B05796A	Mylar Capacitor 0.047μ 50V J
C117,217	0B05914A	Mylar Capacitor 0.15μ 50V J
C119,219 503,504	0B09223A	Electrolytic Capacitor 1μ 50V (LN)
C120,220	0B01392A	Electrolytic Capacitor 470μ 16V
C148,248	0B09163A	Electrolytic Capacitor 10μ 16V (BP)
C703,803	0B09783A	PP Capacitor 820P 100V J
	0B08714A	IC Socket 16P (4 pcs.)
	— Line Amp. —	
IC301	0B06287A	IC TA75558P-R
Q120,220	0B01872A	Transistor 2SC945 (L)
L110,210	0B06676A	Inductor 36mH G
R180,184 280,284	0B01857A	Carbon Resistor 1K ERD-25T J
R181,182 281,282	0B05625A	Carbon Resistor 220K ERD-25T J
R183,283	0B09582A	Metal Film Resistor 43.2K SN14K2E F
R185,285	0B09507A	Metal Film Resistor 3.57K SN14K2E F
R186,286 710	0B01888A	Carbon Resistor 10K ERD-25T J
R387,709 712,713	0B01889A	Carbon Resistor 100K ERD-25T J
R388	0B05784A	Carbon Resistor 560K ERD-25T J
R711	0B05508A	Carbon Resistor 56K ERD-25T J
R715,815	0B01856A	Carbon Resistor 8.2K ERD-25T J
C180,280	0B09223A	Electrolytic Capacitor 1μ 50V (LN)
C181,183 281,283 702	0B01412A	Electrolytic Capacitor 10μ 16V
C182,282	0B09409A	PP Capacitor 1800P 100V G
	— Miscellaneous —	
	0B07992A	Dolby NR P.C.B.

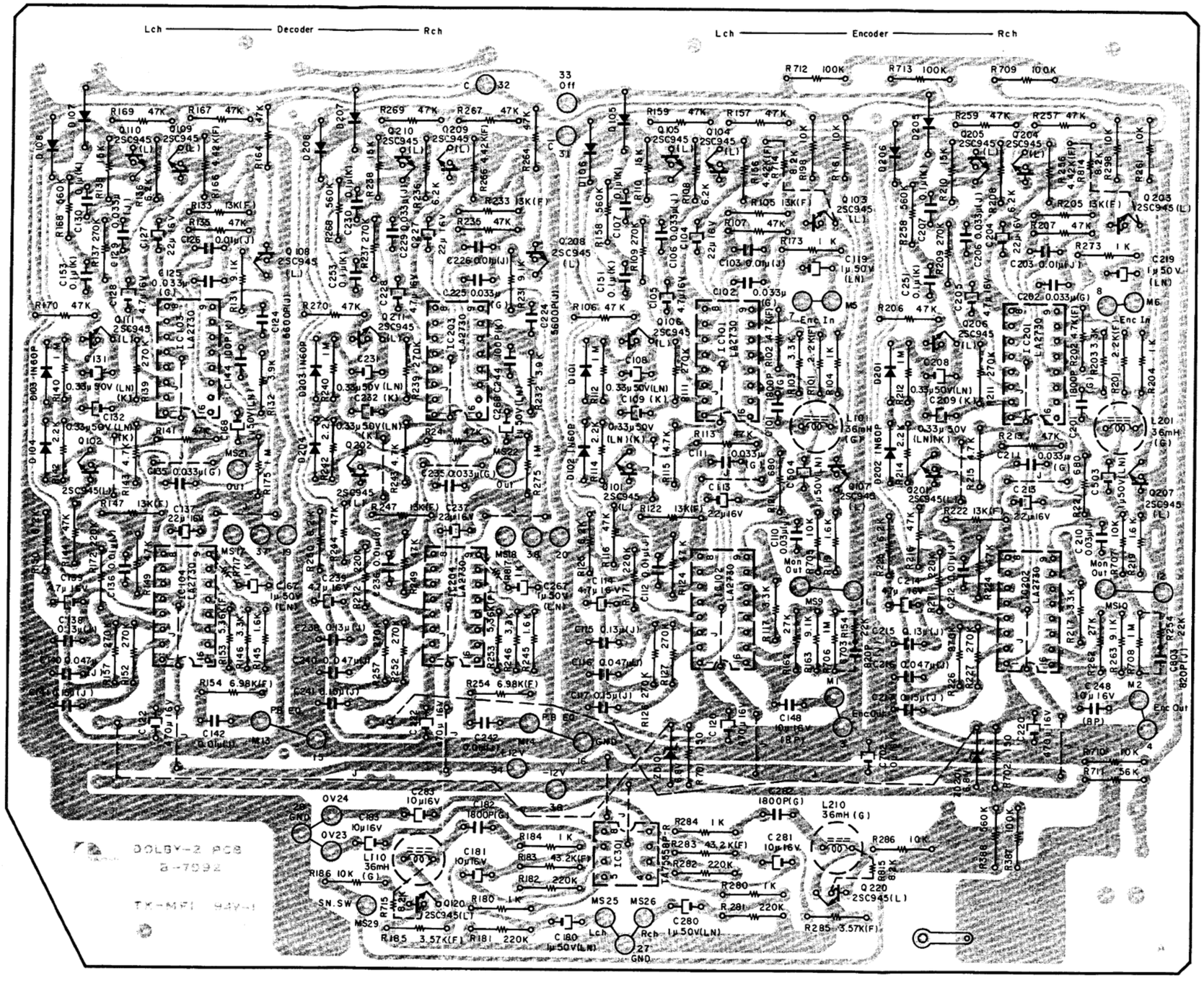


Fig. 7.12.2.2 Serial Nos.: A12401001 – A12402300

Note: Diode is 1SS53, 1S953, or 1S1555 unless otherwise specified.

7.13. Logic & Power P.C.B. Ass'y

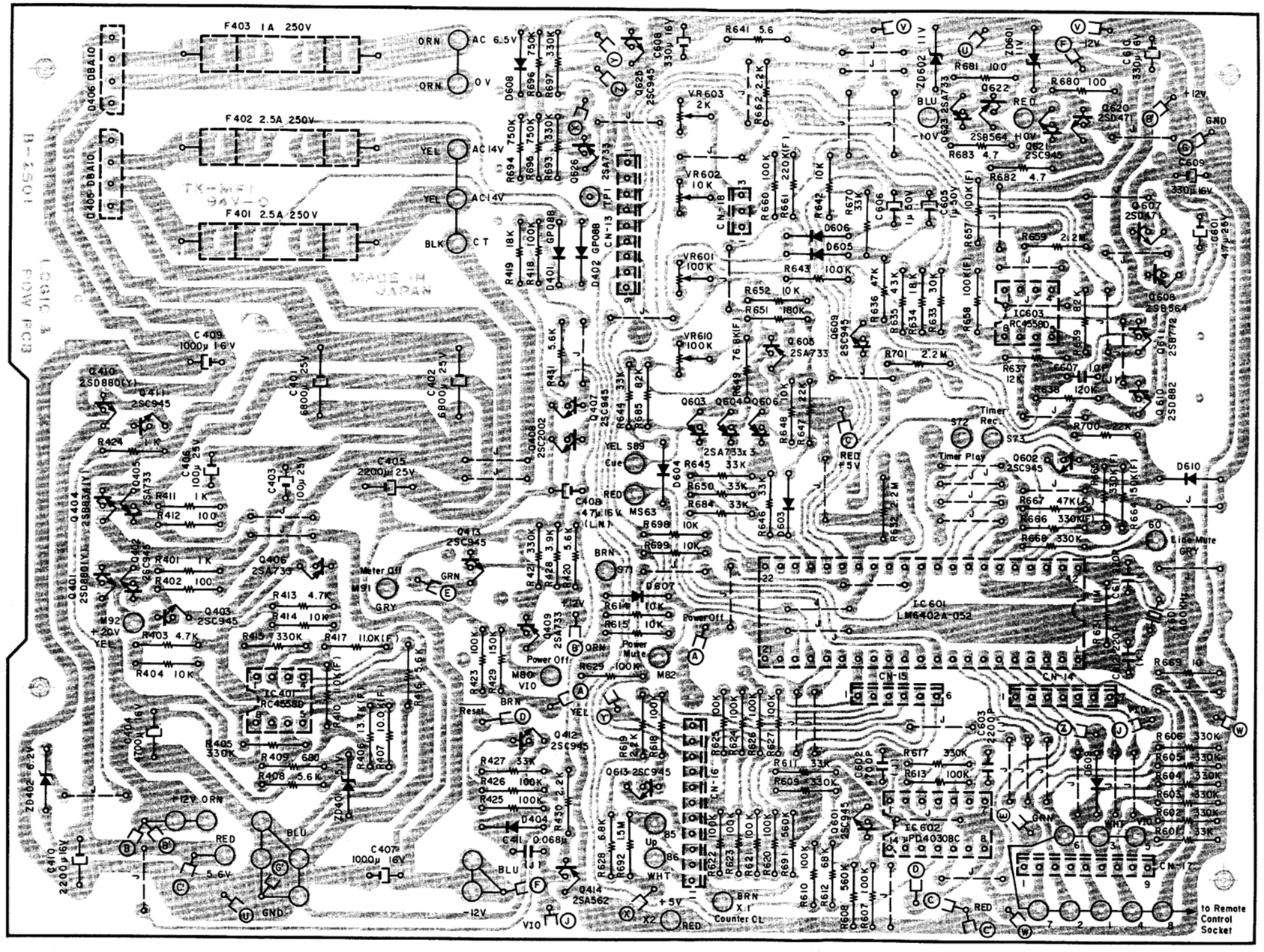


Fig. 7.13.1 Serial No.: A12402301 — Note: Diode is 1SS53, 1S953, or 1S1555 unless otherwise specified.

Schematic Ref. No.	Part No.	Description	
	BA04622A	**Logic & Power P.C.B. Ass'y (U.S.A., Canada & Others)**	
	BA04621A	**Logic & Power P.C.B. Ass'y (Japan)**	
	BA04623A	**Logic & Power P.C.B. Ass'y (UK, Australia & 220V Class 2)**	
		Serial No.: A12402301 —	
	— DC Supply —		
IC401	0B06124B	IC	RC4558D
Q402,403 407,411 412,413	0B06100A	Transistor	2SC945 (A)
Q405,406 409	0B06013A	Transistor	2SA733
Q408	0B06322A	Transistor	2SC2002
Q414	0B01426A	Transistor	2SA562
ZD401	0B06058A	Zener Diode 5.1V	YZ051
ZD402	0B06314A	Zener Diode 6.2V	YZ062
D401,402	0B06109A	Silicon Diode	GP08B
D404	0B01909A	Silicon Diode	1S1555
D405,406	0B06282A	Diode Bridge	DBA10
R401,411 424	0B01857A	Carbon Resistor	1K ERD-25T J
R402,412	0B01679A	Carbon Resistor	100 ERD-25T J
R403,413	0B01846A	Carbon Resistor	4.7K ERD-25T J
R404,414	0B01888A	Carbon Resistor	10K ERD-25T J
R405,415 421	0B05627A	Carbon Resistor	330K ERD-25T J
R406	0B09528A	Metal Film Resistor	13.7K SN14K2E F
R407	0B09203A	Metal Film Resistor	10K SN14K2E F
R408,416 420,431	0B01887A	Carbon Resistor	5.6K ERD-25T J
R409	0B05794A	Carbon Resistor	680 ERD-25T J
R410,417	0B09128A	Metal Film Resistor	11K SN14K2E F
R418,423 425,426	0B01889A	Carbon Resistor	100K ERD-25T J
R419	0B05560A	Carbon Resistor	18K ERD-25T J
R427	0B05509A	Carbon Resistor	33K ERD-25T J
R428	0B05675A	Carbon Resistor	3.9K ERD-25T J
R429	0B05626A	Carbon Resistor	150K ERD-25T J
R430	0B05622A	Carbon Resistor	2.2K ERD-25T J
C401,402	0B09374A	Electrolytic Capacitor	6800μ 25V
C403,406	0B01272A	Electrolytic Capacitor	100μ 25V
C404	0B09377A	Electrolytic Capacitor	4700μ 16V
C405	0B05654A	Electrolytic Capacitor	2200μ 25V
C407,409	0B01397A	Electrolytic Capacitor	1000μ 16V
C408	0B09218A	Electrolytic Capacitor	47μ 16V (LN)
C410	0B01406A	Electrolytic Capacitor	2200μ 16V
C411	0B05682A	Mylar Capacitor	0.068μ 50V J
	— Logic —		
IC601	0B06324A	IC	LM6402A-052
IC602	0B06317A	IC	μPD4030BC
IC603	0B06124B	IC	RC4558D
Q601,602 609,613 621,625	0B06100A	Transistor	2SC945 (A)
Q603,604 605,606 623,626	0B06013A	Transistor	2SA733
Q607,620	0B06066A	Transistor	2SD471

Schematic Ref. No.	Part No.	Description
Q608,622	0B06069A	Transistor 2SB564
Q610	0B06316A	Transistor 2SD882
Q611	0B06303A	Transistor 2SB772
ZD601,602	0B06231A	Zener Diode 11V RD11EB2
D603-610	0B01909A	Silicon Diode 1S1555 (8 pcs.)
X601	0B08908A	Crystal 400KHz KBR400BT
VR601,610	0B07257A	Semi-fixed Volume 100K
VR602	0B07256A	Semi-fixed Volume 10K
VR603	0B07329A	Semi-fixed Volume 2K
R601,611	0B05509A	Carbon Resistor 33K ERD-25T J
644,645		
646,650		
670,684		
R602-606	0B05627A	Carbon Resistor 330K ERD-25T J
609,617		(10 pcs.)
668,693		
697		
R607,610	0B01889A	Carbon Resistor 100K ERD-25T J
613,618		(15 pcs.)
620-627		
629,643		
660		
R608,691	0B05784A	Carbon Resistor 560K ERD-25T J
R612	0B05692A	Carbon Resistor 68K ERD-25T J
R614,615	0B01888A	Carbon Resistor 10K ERD-25T J
642,648		
652,698		
699		
R619,662	0B05622A	Carbon Resistor 2.2K ERD-25T J
R628	0B01682A	Carbon Resistor 6.8K ERD-25T J
R631	0B05776A	Carbon Resistor 1M ERD-25T J
R632,659	0B05671A	Carbon Resistor 2.2M ERD-25T J
701		
R633	0B09075A	Carbon Resistor 30K ERD-25T J
R634	0B05560A	Carbon Resistor 18K ERD-25T J
R635	0B09750A	Carbon Resistor 43K ERD-25T J
R636	0B05641A	Carbon Resistor 47K ERD-25T J
R637	0B09263A	Carbon Resistor 12K ERD-25T J
R638	0B05621A	Carbon Resistor 120K ERD-25T J
R639,685	0B05668A	Carbon Resistor 82K ERD-25T J
R641	0B09217A	Fail Safe Type Resistor 5.6 RDF-25S J
R647,700	0B05615A	Carbon Resistor 22K ERD-25T J
R649	0B09751A	Metal Film Resistor 76.8K SN14K2E F
R651	0B05640A	Carbon Resistor 180K ERD-25T J
R657,658	0B09269A	Metal Film Resistor 100K SN14K2E F
R661	0B09472A	Metal Film Resistor 220K SN14K2E F
R664	0B09300A	Metal Film Resistor 150K SN14K2E F
R665,666	0B09756A	Metal Film Resistor 330K SN14K2E F
R667	0B09451A	Metal Film Resistor 47K SN14K2E F
R669	0B09216A	Fail Safe Type Resistor 10 RDF-25S J
R680,681	0B09215A	Fail Safe Type Resistor 100 RDF-25S J
R682,683	0B09321A	Fail Safe Type Resistor 4.7 RDF-25S J
R692	0B09380A	Carbon Resistor 1.5M ERD-25T J
R694,695	0B09755A	Carbon Resistor 750K ERD-25T J
696		
C601	0B01402A	Electrolytic Capacitor 4.7μ 25V
C602	0B05652A	Mylar Capacitor 4700P 50V J
C603	0B01802A	Mylar Capacitor 2200P 50V J
C605,606	0B01405A	Electrolytic Capacitor 1μ 50V
C607	0B09277A	Ceramic Capacitor 10P 50V J
C608,609	0B01502A	Electrolytic Capacitor 330μ 16V
610		
C611,612	0B09283A	Ceramic Capacitor 220P 50V K

Schematic Ref. No.	Part No.	Description
CN13,17	0B08645A	9P-T Post
CN14	0B08643A	7P-T Post
CN15	0B08642A	6P-T Post
CN16	0B08655A	11P-T Post
CN18	0B08653A	3P-T Post
	0B08964A	Transistor Mica TO-126 (2 pcs.)
	0E00507A	Nut Hex. M3 (2 pcs.)
	0E00624A	Screw M3x10 Philips Pan Head (2A) (2 pcs.)
	0J04485A	Heat Sink B (1 pce.)
	0M04222A	Label CN-15 (1 pce.)
	0M04223A	Label CN-16 (1 pce.)
	0M04224A	Label CN-17 (1 pce.)
	0M04230A	Label CN-13 (1 pce.)
	0M04231A	Label CN-14 (1 pce.)
	— Miscellaneous —	
	0B02501C	Logic & Power P.C.B.
F401,402	0B08962A	Fuse 2.5A 250V (U.S.A., Canada & Others)
F401,402	0B08961A	Fuse 2.5A 250V (Japan)
F401,402	0B08347U	Fuse T1A 250V (UK, Australia & 220V Class 2)
F403	0B08374A	Fuse 1A 250V (U.S.A., Canada & Others)
F403	0B08686A	Fuse 1A 250V (Japan)
F403	0B08960A	Fuse T500mA 250V (UK, Australia & 220V Class 2)
	0E00857A	BT Screw M3x6 Philips Binding Head (2 pcs.)
	0B08349A	Fuse Clip (6 pcs.) (UK, Australia & 220V Class 2)
	0M04096C	Fuse Label T500mA (1 pce.) (UK, Australia & 220V Class 2)
	0M03782A	Fuse Label 1A 250V (1 pce.) (U.S.A., Canada, Others & Japan)
	0M04191A	Fuse Label T1A 250V (2 pcs.) (UK, Australia & 220V Class 2)
Q401,410	0B06255A	Transistor 2SD880 (Y)
Q404	0B06256A	Transistor 2SB834 (Y, GR)
	0B08601A	Transistor Mica TO-220 (3 pcs.)
	0B08602A	Transistor Bushing TO-220 (3 pcs.)
	0E00037A	Earth Lug B-5 (1 pce.)
	0E00172A	Washer 3mm Toothed Lock (1 pce.)
	0E00507A	Nut Hex. M3 (3 pcs.)
	0E00608A	Screw M3x10 Philips Pan Head (3A) (3 pcs.)
	0E00857A	BT Screw M3x6 Philips Binding Head (1 pce.)
	0J04484B	Heat Sink (1 pce.)

Schematic Ref. No.	Part No.	Description
	BA04622A	**Logic & Power P.C.B. Ass'y (U.S.A., Canada & Others)**
	BA04621A	**Logic & Power P.C.B. Ass'y (Japan)**
	BA04623A	**Logic & Power P.C.B. Ass'y (UK, Australia & 220V Class 2)**
		Serial Nos.: A12401001 — A12402300
	— DC Supply —	
IC401	0B06124B	IC RC4558D
Q402,403 407,411 412,413	0B06100A	Transistor 2SC945 (A)
Q405,406 409	0B06013A	Transistor 2SA733
Q408	0B06322A	Transistor 2SC2002
Q414	0B01426A	Transistor 2SA562
ZD401	0B06058A	Zener Diode 5.1V YZ051
ZD402	0B06314A	Zener Diode 6.2V YZ062
D401,402	0B06109A	Silicon Diode GP08B
D404	0B01909A	Silicon Diode 1S1555
D405,406	0B06282A	Diode Bridge DBA10
R401,411 424	0B01857A	Carbon Resistor 1K ERD-25T J
R402,412	0B01679A	Carbon Resistor 100 ERD-25T J
R403,413	0B01846A	Carbon Resistor 4.7K ERD-25T J
R404,414	0B01888A	Carbon Resistor 10K ERD-25T J
R405,415 421	0B05627A	Carbon Resistor 330K ERD-25T J
R406	0B09528A	Metal Film Resistor 13.7K SN14K2E F
R407	0B09203A	Metal Film Resistor 10K SN14K2E F
R408,416 420,431	0B01887A	Carbon Resistor 5.6K ERD-25T J
R409	0B05794A	Carbon Resistor 680 ERD-25T J
R410,417	0B09128A	Metal Film Resistor 11K SN14K2E F
R418,423 425,426	0B01889A	Carbon Resistor 100K ERD-25T J
R419	0B05560A	Carbon Resistor 18K ERD-25T J
R427	0B05509A	Carbon Resistor 33K ERD-25T J
R428	0B05675A	Carbon Resistor 3.9K ERD-25T J
R429	0B05626A	Carbon Resistor 150K ERD-25T J
R430	0B05622A	Carbon Resistor 2.2K ERD-25T J
C401,402	0B09374A	Electrolytic Capacitor 6800μ 25V
C403,406	0B01272A	Electrolytic Capacitor 100μ 25V
C404	0B09377A	Electrolytic Capacitor 4700μ 16V
C405	0B05654A	Electrolytic Capacitor 2200μ 25V
C407,409	0B01397A	Electrolytic Capacitor 1000μ 16V
C408	0B09251A	Electrolytic Capacitor 33μ 25V
C410	0B01406A	Electrolytic Capacitor 2200μ 16V
C411	0B05682A	Mylar Capacitor 0.068μ 50V J
	— Logic —	
IC601	0B06324A	IC LM6402A-052
IC602	0B06317A	IC μPD4030BC
IC603	0B06124B	IC RC4558D
Q601,602 609,613 621,625	0B06100A	Transistor 2SC945 (A)
Q603,604 605,606 623,626	0B06013A	Transistor 2SA733
Q607,620	0B06066A	Transistor 2SD471
Q608,622	0B06069A	Transistor 2SB564
Q610	0B06316A	Transistor 2SD882
Q611	0B06303A	Transistor 2SB772
ZD601,602	0B06231A	Zener Diode 11V RD11EB2
D603-610	0B01909A	Silicon Diode 1S1555 (8 pcs.)
X601	0B08908A	Crystal 400KHz KBR400BT
VR601,610	0B07257A	Semi-fixed Volume 100K
VR602	0B07256A	Semi-fixed Volume 10K
VR603	0B07329A	Semi-fixed Volume 2K
R601,611 644,645 646,650 670,684	0B05509A	Carbon Resistor 33K ERD-25T J
R602-606 609,617 668,693 697	0B05627A	Carbon Resistor 330K ERD-25T J (10 pcs.)
R607,610 613,618 620-627 629,643 660	0B01889A	Carbon Resistor 100K ERD-25T J (15 pcs.)
R608,691	0B05784A	Carbon Resistor 560K ERD-25T J
R612	0B05692A	Carbon Resistor 68K ERD-25T J
R614,615 642,648 652,698 699	0B01888A	Carbon Resistor 10K ERD-25T J
R619,662	0B05622A	Carbon Resistor 2.2K ERD-25T J
R628	0B01682A	Carbon Resistor 6.8K ERD-25T J
R631	0B05776A	Carbon Resistor 1M ERD-25T J
R632,659 701	0B05671A	Carbon Resistor 2.2M ERD-25T J
R633	0B09075A	Carbon Resistor 30K ERD-25T J
R634	0B05560A	Carbon Resistor 18K ERD-25T J
R635	0B09750A	Carbon Resistor 43K ERD-25T J
R636	0B05641A	Carbon Resistor 47K ERD-25T J
R637	0B09263A	Carbon Resistor 12K ERD-25T J
R638	0B05621A	Carbon Resistor 120K ERD-25T J
R639,685	0B05668A	Carbon Resistor 82K ERD-25T J
R641	0B09217A	Fail Safe Type Resistor 5.6 RDF-25S J
R647,700	0B05615A	Carbon Resistor 22K ERD-25T J
R649	0B09751A	Metal Film Resistor 76.8K SN14K2E F
R651	0B05640A	Carbon Resistor 180K ERD-25T J
R657,658	0B09269A	Metal Film Resistor 100K SN14K2E F
R661	0B09472A	Metal Film Resistor 220K SN14K2E F
R664	0B09300A	Metal Film Resistor 150K SN14K2E F
R665,666	0B09756A	Metal Film Resistor 330K SN14K2E F
R667	0B09451A	Metal Film Resistor 47K SN14K2E F
R669	0B09216A	Fail Safe Type Resistor 10 RDF-25S J
R680,681	0B09215A	Fail Safe Type Resistor 100 RDF-25S J
R682,683	0B09321A	Fail Safe Type Resistor 4.7 RDF-25S J
R692	0B09380A	Carbon Resistor 1.5M ERD-25T J
R694,695 696	0B09755A	Carbon Resistor 750K ERD-25T J
C601	0B01402A	Electrolytic Capacitor 4.7μ 25V
C602	0B05652A	Mylar Capacitor 4700P 50V J
C603	0B01802A	Mylar Capacitor 2200P 50V J
C605,606	0B01405A	Electrolytic Capacitor 1μ 50V
C607	0B09277A	Ceramic Capacitor 10P 50V J
C608,609 610	0B01502A	Electrolytic Capacitor 330μ 16V
C611,612	0B09283A	Ceramic Capacitor 220P 50V K

Schematic Ref. No.	Part No.	Description
CN13,17	0B08645A	9P-T Post
CN14	0B08643A	7P-T Post
CN15	0B08642A	6P-T Post
CN16	0B08655A	11P-T Post
CN18	0B08653A	3P-T Post
	0B08964A	Transistor Mica TO-126 (2 pcs.)
	0E00507A	Nut Hex. M3 (2 pcs.)
	0E00624A	Screw M3x10 Philips Pan Head (2A) (2 pcs.)
	0J04485A	Heat Sink B (1 pce.)
	0M04222A	Label CN-15 (1 pce.)
	0M04223A	Label CN-16 (1 pce.)
	0M04224A	Label CN-17 (1 pce.)
	0M04230A	Label CN-13 (1 pce.)
	0M04231A	Label CN-14 (1 pce.)
	— Miscellaneous —	
	0B02501A	Logic & Power P.C.B.
F401,402	0B08962A	Fuse 2.5A 250V (U.S.A., Canada & Others)
F401,402	0B08961A	Fuse 2.5A 250V (Japan)
F401,402	0B08347U	Fuse T1A 250V (UK, Australia & 220V Class 2)
F403	0B08374A	Fuse 1A 250V (U.S.A., Canada & Others)
F403	0B08686A	Fuse 1A 250V (Japan)
F403	0B08960A	Fuse T500mA 250V (UK, Australia & 220V Class 2)
	0E00857A	BT Screw M3x6 Philips Binding Head (2 pcs.)
	0B08349A	Fuse Clip (6 pcs.) (UK, Australia & 220V Class 2)
	0M04096C	Fuse Label T500mA (1 pce.) (UK, Australia & 220V Class 2)
	0M03782A	Fuse Label 1A 250V (1 pce.) (U.S.A., Canada, Others & Japan)
	0M04191A	Fuse Label T1A 250V (2 pcs.) (UK, Australia & 220V Class 2)
Q401,410	0B06255A	Transistor 2SD880 (Y)
Q404	0B06256A	Transistor 2SB834 (Y, GR)
	0B08601A	Transistor Mica TO-220 (3 pcs.)
	0B08602A	Transistor Bushing TO-220 (3 pcs.)
	0E00037A	Earth Lug B-5 (1 pce.)
	0E00172A	Washer 3mm Toothed Lock (1 pce.)
	0E00507A	Nut Hex. M3 (3 pcs.)
	0E00608A	Screw M3x10 Philips Pan Head (3A) (3 pcs.)
	0E00857A	BT Screw M3x6 Philips Binding Head (1 pce.)
	0J04484B	Heat Sink (1 pce.)

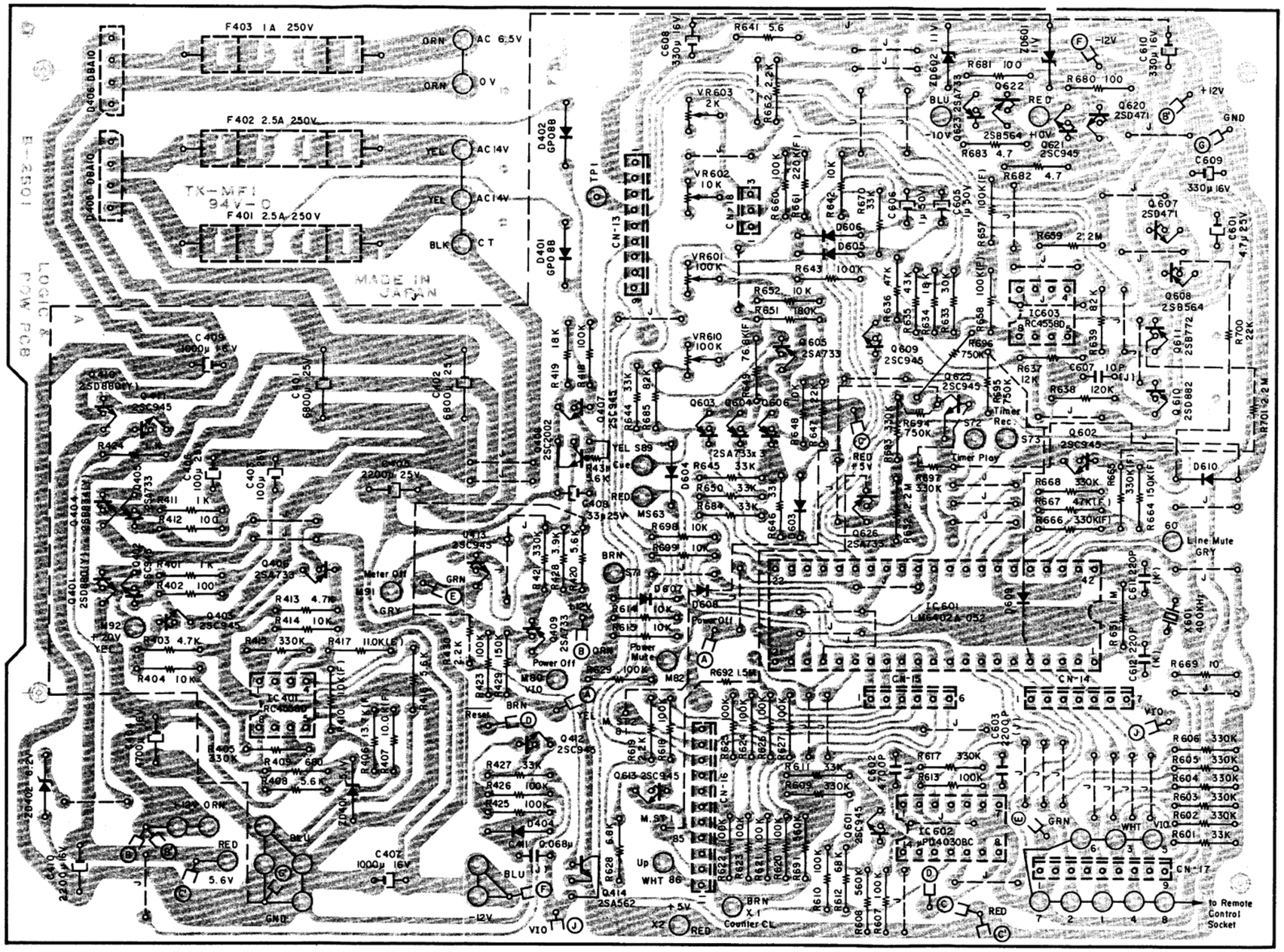


Fig. 7.13.2 Serial Nos.: A12401001 — A12402300

Note: Diode is 1SS53, 1S953, or 1S1555 unless otherwise specified.

7.14. Main P.C.B. Ass'y

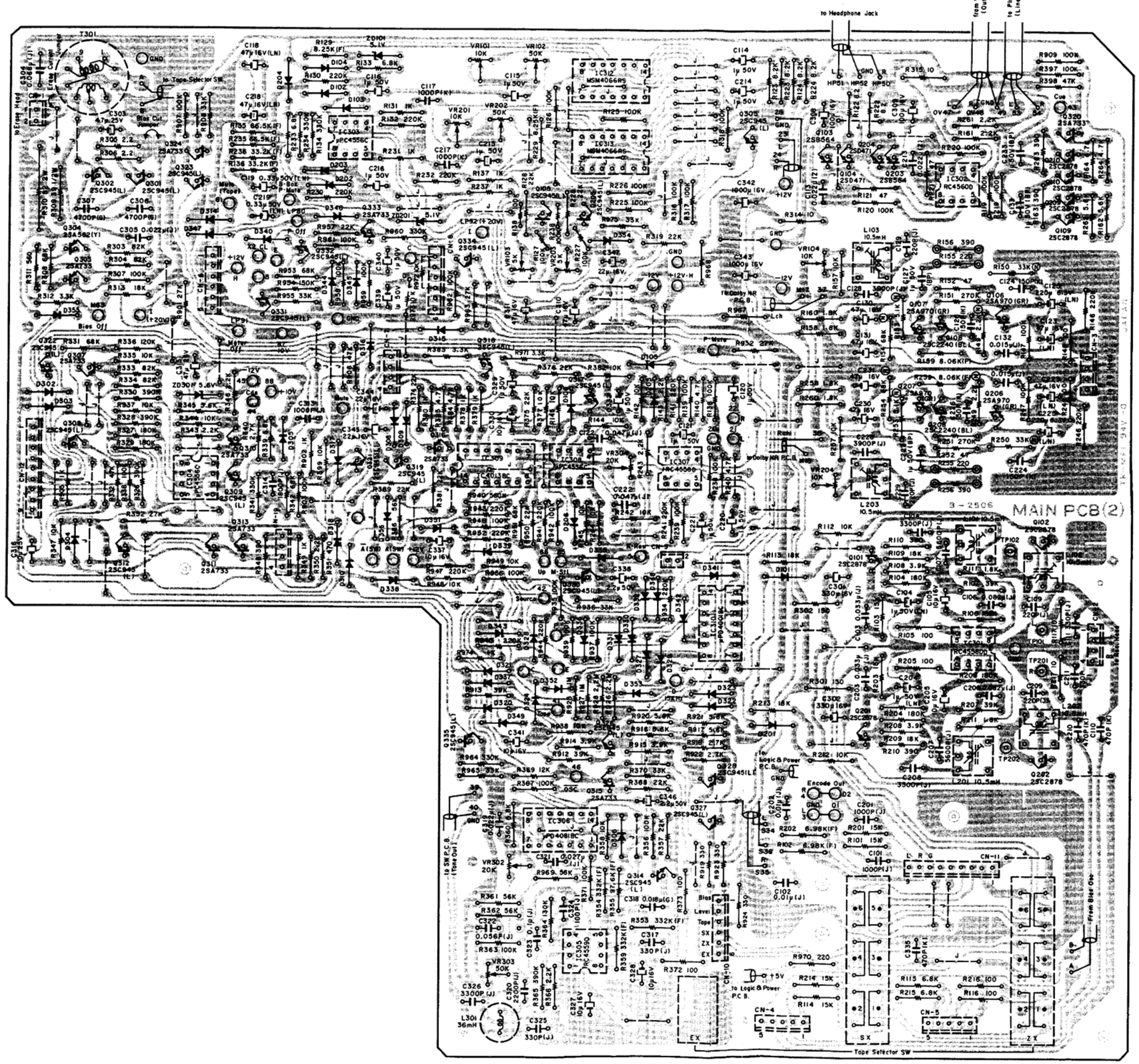


Fig. 7.14.1 Serial No.: A12404901 –

Note: Diode is 1SS53, 1S953, or 1S1555 unless otherwise specified.

Schematic Ref. No.	Part No.	Description		
	BA04535A	**Main P.C.B. Ass'y** Serial No.: A12404901 –		
	– PB Eq. Amp. –			
Q106,107 206,207	0B06180A	Transistor	2SA970 (GR)	
Q108,208	0B06142A	Transistor	2SC2240 (BL)	
L103,203	0B00068A	Trap Coil	10.5mH	
VR104,204	0B07233A	Semi-fixed Volume	10K	
R146,246	0B05625A	Carbon Resistor	220K	ERD-25T J
R147,247	0B01889A	Carbon Resistor	100K	ERD-25T J
R148,248	0B01679A	Carbon Resistor	100	ERD-25T J
R149,249	0B09309A	Carbon Resistor (Noiseless)	2.2K	ERD-25TS J
R150,250	0B09310A	Carbon Resistor (Noiseless)	33K	ERD-25TS J
R151,251	0B05620A	Carbon Resistor	270K	ERD-25T J
R152,252	0B01706A	Carbon Resistor	47	ERD-25T J
R153,253	0B09388A	Carbon Resistor (Noiseless)	5.1K	ERD-25TS J
R154,254	0B09311A	Carbon Resistor (Noiseless)	68K	ERD-25TS J
R155,255	0B01933A	Carbon Resistor	220	ERD-25T J
R156,256	0B05691A	Carbon Resistor	390	ERD-25T J
R157,257	0B01888A	Carbon Resistor	10K	ERD-25T J
R158,160 258,260	0B05614A	Carbon Resistor	1.8K	ERD-25T J
R159,259	0B09431A	Metal Film Resistor	8.06K	SN14K2E F
C123,223	0B09218A	Electrolytic Capacitor	47μ	16V (LN)
C124,126 224,226	0B09281A	Ceramic Capacitor	150P	50V K
C125,225	0B09151A	Electrolytic Capacitor	220μ	6.3V (LN)
C127,227	0B09187A	Electrolytic Capacitor	1μ	50V (BP)
C128,228	0B01804A	Mylar Capacitor	3900P	50V J
C129.229	0B09247A	Mica Capacitor	220P	50V J
C130,131 230,231	0B01403A	Electrolytic Capacitor	47μ	16V
C132,232	0B05557A	Mylar Capacitor	0.015μ	50V J
	– Rec. Amp. –			
IC301	0B06146A	IC	RC4558DD	
Q101,102 201,202	0B06299A	Transistor	2SC2878	
D101,201	0B06181A	Silicon Diode	1SS53	
L101,102 201,202	0B00068A	Trap Coil	10.5mH	
R101,103 201,203	0B01683A	Carbon Resistor	15K	ERD-25T J
R102,202	0B09604A	Metal Film Resistor	6.98K	SN14K2E F
R104,106 204,206	0B05640A	Carbon Resistor	180K	ERD-25T J
R105,116 205,216	0B01679A	Carbon Resistor	100	ERD-25T J
R107,207	0B01854A	Carbon Resistor	39K	ERD-25T J
R108,208	0B05675A	Carbon Resistor	3.9K	ERD-25T J
R109,113 209,213	0B05560A	Carbon Resistor	18K	ERD-25T J
R110,210	0B05691A	Carbon Resistor	390	ERD-25T J
R111,211	0B05614A	Carbon Resistor	1.8K	ERD-25T J
R112,212	0B01888A	Carbon Resistor	10K	ERD-25T J
R114,214	0B01683A	Carbon Resistor	15K	ERD-25T J

Schematic Ref. No.	Part No.	Description
R115,215	0B01682A	Carbon Resistor 6.8K ERD-25T J
R117,217	0B05936A	Carbon Resistor 10 ERD-25T J
R301,302	0B09213A	Fail Safe Type Resistor 150 RDF-25S J
R970	0B01933A	Carbon Resistor 220 ERD-25T J
C101,201	0B05550A	Mylar Capacitor 1000P 50V J
C102,202	0B05681A	Mylar Capacitor 0.01μ 50V J
C103,203	0B05583A	Mylar Capacitor 0.033μ 50V J
C104,204	0B09223A	Electrolytic Capacitor 1μ 50V (LN)
C105,205	0B01412A	Electrolytic Capacitor 10μ 16V
C106,206	0B05685A	Mylar Capacitor 0.082μ 50V J
C107,207	0B05659A	Mylar Capacitor 5600P 50V J
C108,208	0B01914A	Mylar Capacitor 3300P 50V J
C109,209	0B09247A	Mica Capacitor 220P 50V J
C110,210	0B09286A	Ceramic Capacitor 470P 50V K
C111,211	0B09322A	PP Capacitor 330P 100V J
C301,302	0B01502A	Electrolytic Capacitor 330μ 16V
	— Bias Osc. —	
Q301,302	0B01872A	Transistor 2SC945 (L)
Q303	0B06013A	Transistor 2SA733
Q304	0B06202A	Transistor 2SA562 (Y)
D355	0B06181A	Silicon Diode 1SS53
T301	0B06613A	Osc. Coil
R303,304	0B05668A	Carbon Resistor 82K ERD-25T J
R305,306	0B09212A	Fail Safe Type Resistor 2.2 RDF-25S J
R307	0B01889A	Carbon Resistor 100K ERD-25T J
R308	0B05692A	Carbon Resistor 68K ERD-25T J
R309	0B09296A	Fail Safe Type Resistor 39 RSF-1/2B J
R310	0B09295A	Fail Safe Type Resistor 82 RSF-2B J
R311	0B05575A	Carbon Resistor 560 ERD-25T J
R312	0B01681A	Carbon Resistor 3.3K ERD-25T J
R313	0B05560A	Carbon Resistor 18K ERD-25T J
R905	0B01857A	Carbon Resistor 1K ERD-25T J
C303	0B01402A	Electrolytic Capacitor 4.7μ 25V
C304	0B09254A	PP Capacitor 0.068μ 100V J
C305	0B09405A	PP Capacitor 0.022μ 100V J
C306,307	0B09191A	PP Capacitor 4700P 100V G
	0J04450A	Osc. Coil Cap (1 pce.)
	— Meter Amp. —	
IC303	0B06216A	IC μPC4556C
IC312,313	0B06280A	IC MSM4066RS
Q105,205 305	0B01872A	Transistor 2SC945 (L)
ZD101,201	0B06058A	Zener Diode 5.1V YZ051
D102,103 104,202 203,204 354	0B06181A	Silicon Diode 1SS53
VR101,201	0B07256A	Semi-fixed Volume 10K
VR102,202	0B07269A	Semi-fixed Volume 50K
VR103,203	0B07341A	Semi-fixed Volume 5K
R123,124 223,224	0B01856A	Carbon Resistor 8.2K ERD-25T J
R125,126 127,138 225,226 227,238 316,317 318	0B01889A	Carbon Resistor 100K ERD-25T J

Schematic Ref. No.	Part No.	Description
R128,228 319	0B05615A	Carbon Resistor 22K ERD-25T J
R129,229	0B09432A	Metal Film Resistor 8.25K SN14K2E F
R130,132 230,232	0B05625A	Carbon Resistor 220K ERD-25T J
R131,137 231,237	0B01857A	Carbon Resistor 1K ERD-25T J
R133,233	0B01682A	Carbon Resistor 6.8K ERD-25T J
R134,234	0B05627A	Carbon Resistor 330K ERD-25T J
R135,235	0B09510A	Metal Film Resistor 66.5K SN14K2E F
R136,236	0B09446A	Metal Film Resistor 33.2K SN14K2E F
R975	0B05509A	Carbon Resistor 33K ERD-25T J
C114,115 116,214 215,216	0B01405A	Electrolytic Capacitor 1μ 50V
C117,217	0B09288A	Ceramic Capacitor 1000P 50V K
C118,218	0B09218A	Electrolytic Capacitor 47μ 16V (LN)
C119,219	0B09385A	Electrolytic Capacitor 0.33μ 50V (LN)
C310,311	0B01403A	Electrolytic Capacitor 47μ 16V
C347	0B01862A	Electrolytic Capacitor 22μ 16V
	— Headphone Amp. —	
IC302	0B06217A	IC RC4560D
Q103,203	0B06069A	Transistor 2SB564
Q104,204	0B06066A	Transistor 2SD471
R119,120 219,220	0B01889A	Carbon Resistor 100K ERD-25T
R121,221	0B01706A	Carbon Resistor 47 ERD-25T J
R122,222	0B09331A	Fail Safe Type Resistor 8.2 RDF-25S J
R314,315	0B09216A	Fail Safe Type Resistor 10 RDF-25S J
C113,213	0B09291A	Ceramic Capacitor 0.022μ 50V Z
C308,309	0B01400A	Electrolytic Capacitor 100μ 16V
	— Tone Osc. —	
IC305	0B06127A	IC RC4559D
IC306	0B06219A	IC μPD4081BC
Q314	0B01872A	Transistor 2SC945 (L)
Q315	0B06013A	Transistor 2SA733
D306	0B06181A	Silicon Diode 1SS53
L301	0B03919B	Inductor 36mH
VR302	0B07270A	Semi-fixed Volume 20K
VR303	0B07269A	Semi-fixed Volume 50K
R353,354 359	0B09315A	Metal Film Resistor 332K SN14K2E F
R355	0B09583A	Metal Film Resistor 97.6K SN14K2E F
R356,363 367,371	0B01889A	Carbon Resistor 100K ERD-25T J
R357,368	0B05615A	Carbon Resistor 22K ERD-25T J
R358	0B01888A	Carbon Resistor 10K ERD-25T J
R360	0B01682A	Carbon Resistor 6.8K ERD-25T J
R361,362 969	0B05508A	Carbon Resistor 56K ERD-25T J
R364	0B09527A	Carbon Resistor 130K ERD-25T J
R365	0B05676A	Carbon Resistor 390K ERD-25T J
R366	0B05622A	Carbon Resistor 2.2K ERD-25T J
R369	0B09346A	Carbon Resistor 12K ERD-25T J
R370	0B05509A	Carbon Resistor 33K ERD-25T J
R372,373	0B09215A	Fail Safe Type Resistor 100 RDF-25S J
C317,325	0B09545A	Mica Capacitor 330P 50V J
C318	0B09538A	PP Capacitor 0.018μ 100V G
C319	0B05582A	Mylar Capacitor 0.022μ 50V J

Schematic Ref. No.	Part No.	Description
C320	0B01802A	Mylar Capacitor 2200P 50V J
C321	0B09045A	Mylar Capacitor 0.027μ 50V J
C322	0B05813A	Mylar Capacitor 0.056μ 50V J
C323	0B01780A	Mylar Capacitor 0.1μ 50V J
C324	0B09302A	Mica Capacitor 100P 100V J
C326	0B01914A	Mylar Capacitor 3300P 50V J
C327,328	0B01412A	Electrolytic Capacitor 10μ 16V
	— Azimuth —	
IC307	0B06124B	IC RC4558D
IC308	0B06216A	IC μPC4556C
IC309	0B06213A	IC TC4013BP
Q316,333	0B06013A	Transistor 2SA733
Q317,318 319,330	0B01872A	Transistor 2SC945 (L)
331,332		
334,335		
D105,106 205,206 308,309 310 335-349 351,352 353,356	0B06181A	Silicon Diode 1SS53 (26 pcs.)
VR304	0B07270A	Semi-fixed Volume 20K
R138,139 238,239	0B01889A	Carbon Resistor 100K ERD-25T J
935,937		
939,942		
946,956		
958,959 961		
R140,240 384,385	0B01846A	Carbon Resistor 4.7K ERD-25T J
R141,241 934,941	0B05625A	Carbon Resistor 220K ERD-25T J
943,944		
945,947		
952		
R142,144 145,242 244,245 377,382 938,948 949	0B01888A	Carbon Resistor 10K ERD-25T J
R143,243	0B05622A	Carbon Resistor 2.2K ERD-25T J
R374,375 376,381	0B05615A	Carbon Resistor 22K ERD-25T J
389,950		
957		
R378,379 380,974	0B01857A	Carbon Resistor 1K ERD-25T J
R383,971	0B01681A	Carbon Resistor 3.3K ERD-25T J
R386	0B05508A	Carbon Resistor 56K ERD-25T J
R936,955 965	0B05509A	Carbon Resistor 33K ERD-25T J
R940	0B05784A	Carbon Resistor 560K ERD-25T J
R951,953	0B09311A	Carbon Resistor 68K ERD-25T J
R954	0B05626A	Carbon Resistor 150K ERD-25T J
R960,964	0B05627A	Carbon Resistor 330K ERD-25T J
R963	0B05743A	Carbon Resistor 27K ERD-25T J

Schematic Ref. No.	Part No.	Description
C120,121 220,221 329,332	0B01405A	Electrolytic Capacitor 1μ 50V
C122,222	0B05796A	Mylar Capacitor 0.047μ 50V J
C330,337 341	0B01412A	Electrolytic Capacitor 10μ 16V
C338,346	0B09372A	Electrolytic Capacitor 2.2μ 50V
C344,345	0B01862A	Electrolytic Capacitor 22μ 16V
	— Fader —	
IC304	0B06216A	IC μPC4556C
Q307,310 311,313	0B06013A	Transistor 2SA733
Q308,309 312	0B01872A	Transistor 2SC945 (L)
ZD301	0B06290A	Zener Diode 5.6V RD5.6EB2
D302,303 304,305	0B06181A	Silicon Diode 1SS53
R326,328 330	0B05676A	Carbon Resistor 390K ERD-25T J
R327,329	0B05640A	Carbon Resistor 180K ERD-25T J
R331,342	0B05692A	Carbon Resistor 68K ERD-25T J
R332	0B05641A	Carbon Resistor 47K ERD-25T J
R333,334	0B05668A	Carbon Resistor 82K ERD-25T J
R335,337 344,347	0B01888A	Carbon Resistor 10K ERD-25T J
R336	0B05621A	Carbon Resistor 120K ERD-25T J
R338	0B01889A	Carbon Resistor 100K ERD-25T J
R339,345	0B01887A	Carbon Resistor 5.6K ERD-25T J
R340	0B05629A	Carbon Resistor 2.7K ERD-25T J
R341	0B05627A	Carbon Resistor 330K ERD-25T J
R343,346 350	0B05622A	Carbon Resistor 2.2K ERD-25T J
R348	0B05691A	Carbon Resistor 390 ERD-25T J
R349	0B01857A	Carbon Resistor 1K ERD-25T J
R351	0B05576A	Carbon Resistor 470 ERD-25T J
R352	0B05743A	Carbon Resistor 27K ERD-25T J
C313	0B05550A	Mylar Capacitor 1000P 50V J
C314	0B01913A	Mylar Capacitor 1800P 50V J
C315	0B01409A	Electrolytic Capacitor 47μ 25V
C316	0B01674A	Electrolytic Capacitor 10μ 25V
	— Miscellaneous —	
	0B02506D	Main P.C.B.
IC310	0B06143A	IC μPD4001BC
Q109,110 209,210	0B06299A	Transistor 2SC2878
Q320,324	0B06013A	Transistor 2SA733
Q321,322 323,326 327,328	0B01872A	Transistor 2SC945 (L)
D314-318 320-324 327-332	0B06181A	Silicon Diode 1SS53 (16 pcs.)
R161,261	0B05622A	Carbon Resistor 2.2K ERD-25T J
R162,262 916,917 920,921	0B01887A	Carbon Resistor 5.6K ERD-25T J
R163,263	0B05691A	Carbon Resistor 390 ERD-25T J
R164,264	0B01846A	Carbon Resistor 4.7K ERD-25T J

Schematic Ref. No.	Part No.	Description
R397,903 907,909 962	0B01889A	Carbon Resistor 100K ERD-25T J
R398,906	0B05641A	Carbon Resistor 47K ERD-25T J
R399,972 973	0B01888A	Carbon Resistor 10K ERD-25T J
R901,932	0B05743A	Carbon Resistor 27K ERD-25T J
R902	0B01857A	Carbon Resistor 1K ERD-25T J
R908	0B05509A	Carbon Resistor 33K ERD-25T J
R912,913	0B01854A	Carbon Resistor 39K ERD-25T J
R914,915	0B05675A	Carbon Resistor 3.9K ERD-25T J
R918,922	0B05629A	Carbon Resistor 2.7K ERD-25T J
R919,923 924	0B05577A	Carbon Resistor 330 ERD-25T J
R925,927	0B05776A	Carbon Resistor 1M ERD-25T J
R926,928	0B05671A	Carbon Resistor 2.2M ERD-25T J
R967,968	0B09214A	Fail Safe Type Resistor 1 RDF-25S J
C133,233	0B09187A	Electrolytic Capacitor 1μ 50V (BP)
C335	0B09286A	Ceramic Capacitor 470P 50V K
C339,340	0B01405A	Electrolytic Capacitor 1μ 50V
C342,343	0B01397A	Electrolytic Capacitor 1000μ 16V
CN1,9	0B08656A	2P-T Post
CN2,3,7 19	0B08654A	4P-T Post
CN4,5	0B08183A	5P-T Post
CN6,8,10	0B08642A	6P-T Post
CN11,12	0B08645A	9P-T Post
	0B07395A	Push Switch 6-6-0SUF34 (1 pce.)
	0E00507A	Nut Hex. M3 (2 pcs.)
	0E00510A	Screw M3x8 Philips Pan Head (2A) (2 pcs.)
	0J04479A	Shield Case A (1 pce.)
	0J04480A	Shield Case B (1 pce.)
	0M04221A	Label CN-3 (1 pce.)
	0M04225A	Label CN-19 (1 pce.)
	0M04227A	Label CN-10 (1 pce.)
	0M04228A	Label CN-11 (1 pce.)
	0M04229A	Label CN-12 (1 pce.)
	0M04334A	Label CN-6 (1 pce.)
	0M04335A	Label CN-7 (1 pce.)
	0M04336A	Label CN-8 (1 pce.)

Schematic Ref. No.	Part No.	Description
	BA04535A	Main P.C.B. Ass'y
		Serial Nos.: A12403401 – A12404900
	– PB Eq. Amp. –	
Q106,107	0B06180A	Transistor 2SA970 (GR)
206,207		
Q108,208	0B06142A	Transistor 2SC2240 (BL)
L103,203	0B00068A	Trap Coil 10.5mH
VR104,204	0B07233A	Semi-fixed Volume 10K
R146,246	0B05625A	Carbon Resistor 220K ERD-25T J
R147,247	0B01889A	Carbon Resistor 100K ERD-25T J
R148,248	0B01679A	Carbon Resistor 100 ERD-25T J
R149,249	0B09309A	Carbon Resistor 2.2K ERD-25TS J (Noiseless)
R150,250	0B09310A	Carbon Resistor 33K ERD-25TS J (Noiseless)
R151,251	0B05620A	Carbon Resistor 270K ERD-25T J
R152,252	0B01706A	Carbon Resistor 47 ERD-25T J
R153,253	0B09388A	Carbon Resistor 5.1K ERD-25TS J (Noiseless)
R154,254	0B09311A	Carbon Resistor 68K ERD-25TS J (Noiseless)
R155,255	0B01933A	Carbon Resistor 220 ERD-25T J
R156,256	0B05691A	Carbon Resistor 390 ERD-25T J
R157,257	0B01888A	Carbon Resistor 10K ERD-25T J
R158,160	0B05614A	Carbon Resistor 1.8K ERD-25T J
258,260		
R159,259	0B09431A	Metal Film Resistor 8.06K SN14K2E F
C123,223	0B09218A	Electrolytic Capacitor 47μ 16V (LN)
C124,126	0B09281A	Ceramic Capacitor 150P 50V K
224,226		
C125,225	0B09151A	Electrolytic Capacitor 220μ 6.3V (LN)
C127,227	0B09187A	Electrolytic Capacitor 1μ 50V (BP)
C128,228	0B01804A	Mylar Capacitor 3900P 50V J
C129,229	0B09247A	Mica Capacitor 220P 50V J
C130,131	0B01403A	Electrolytic Capacitor 47μ 16V
230,231		
C132,232	0B05557A	Mylar Capacitor 0.015μ 50V J
	– Rec. Amp. –	
IC301	0B06146A	IC RC4558DD
Q101,102	0B06299A	Transistor 2SC2878
201,202		
D101,201	0B06181A	Silicon Diode 1SS53
L101,102	0B00068A	Trap Coil 10.5mH
201,202		
R101,103	0B01683A	Carbon Resistor 15K ERD-25T J
201,203		
R102,202	0B09604A	Metal Film Resistor 6.98K SN14K2E F
R104,106	0B05640A	Carbon Resistor 180K ERD-25T J
204,206		
R105,116	0B01679A	Carbon Resistor 100 ERD-25T J
205,216		
R107,207	0B01854A	Carbon Resistor 39K ERD-25T J
R108,208	0B05675A	Carbon Resistor 3.9K ERD-25T J
R109,113	0B05560A	Carbon Resistor 18K ERD-25T J
209,213		
R110,210	0B05691A	Carbon Resistor 390 ERD-25T J
R111,211	0B05614A	Carbon Resistor 1.8K ERD-25T J
R112,212	0B01888A	Carbon Resistor 10K ERD-25T J
R114,214	0B01683A	Carbon Resistor 15K ERD-25T J
R115,215	0B01682A	Carbon Resistor 6.8K ERD-25T J
R117,217	0B05936A	Carbon Resistor 10 ERD-25T J
R301,302	0B09213A	Fail Safe Type Resistor 150 RDF-25S J
R970	0B01933A	Carbon Resistor 220 ERD-25T J
C101,201	0B05550A	Mylar Capacitor 1000P 50V J
C102,202	0B05681A	Mylar Capacitor 0.01μ 50V J
C103,203	0B05583A	Mylar Capacitor 0.033μ 50V J
C104,204	0B09223A	Electrolytic Capacitor 1μ 50V (LN)
C105,205	0B01412A	Electrolytic Capacitor 10μ 16V
C106,206	0B05685A	Mylar Capacitor 0.082μ 50V J
C107,207	0B05659A	Mylar Capacitor 5600P 50V J
C108,208	0B01914A	Mylar Capacitor 3300P 50V J
C109,209	0B09247A	Mica Capacitor 220P 50V J
C110,210	0B09286A	Ceramic Capacitor 470P 50V K
C111,211	0B09322A	PP Capacitor 330P 100V J
C301,302	0B01502A	Electrolytic Capacitor 330μ 16V
	– Bias Osc. –	
Q301,302	0B01872A	Transistor 2SC945 (L)
Q303	0B06013A	Transistor 2SA733
Q304	0B06202A	Transistor 2SA562 (Y)
D355	0B06181A	Silicon Diode 1SS53
T301	0B06613A	Osc. Coil
R303,304	0B05668A	Carbon Resistor 82K ERD-25T J
R305,306	0B09212A	Fail Safe Type Resistor 2.2 RDF-25S J
R307	0B01889A	Carbon Resistor 100K ERD-25T J
R308	0B05692A	Carbon Resistor 68K ERD-25T J
R309	0B09296A	Fail Safe Type Resistor 39 RSF-1/2B J
R310	0B09295A	Fail Safe Type Resistor 82 RSF-2B J
R311	0B05575A	Carbon Resistor 560 ERD-25T J
R312	0B01681A	Carbon Resistor 3.3K ERD-25T J
R313	0B05560A	Carbon Resistor 18K ERD-25T J
R905	0B01857A	Carbon Resistor 1K ERD-25T J
C303	0B01402A	Electrolytic Capacitor 4.7μ 25V
C304	0B09254A	PP Capacitor 0.068μ 100V J
C305	0B09405A	PP Capacitor 0.022μ 100V J
C306,307	0B09191A	PP Capacitor 4700P 100V G
	0J04450A	Osc. Coil Cap (1 pce.)
	– Meter Amp. –	
IC303	0B06216A	IC μPC4556C
IC312,313	0B06280A	IC MSM4066RS
Q105,205	0B01872A	Transistor 2SC945 (L)
305		
ZD101,201	0B06058A	Zener Diode 5.1V YZ051
D102,103	0B06181A	Silicon Diode 1SS53
104,202		
203,204		
354		
VR101,201	0B07256A	Semi-fixed Volume 10K
VR102,202	0B07269A	Semi-fixed Volume 50K
VR103,203	0B07341A	Semi-fixed Volume 5K
R123,124	0B01856A	Carbon Resistor 8.2K ERD-25T J
223,224		
R125,126	0B01889A	Carbon Resistor 100K ERD-25T J
127,138		
225,226		
227,238		
316,317		
318		
R128,228	0B05615A	Carbon Resistor 22K ERD-25T J
319		
R129,229	0B09432A	Metal Film Resistor 8.25K SN14K2E F
R130,132	0B05625A	Carbon Resistor 220K ERD-25T J
230,232		
R131,137	0B01857A	Carbon Resistor 1K ERD-25T J
231,237		
R133,233	0B01682A	Carbon Resistor 6.8K ERD-25T J
R134,234	0B05627A	Carbon Resistor 330K ERD-25T J
R135,235	0B09510A	Metal Film Resistor 66.5K SN14K2E F
R136,236	0B09446A	Metal Film Resistor 33.2K SN14K2E F
R975	0B05509A	Carbon Resistor 33K ERD-25T J
C114,115	0B01405A	Electrolytic Capacitor 1μ 50V
116,214		
215,216		
C117,217	0B09288A	Ceramic Capacitor 1000P 50V K
C118,218	0B09218A	Electrolytic Capacitor 47μ 16V (LN)
C119,219	0B09385A	Electrolytic Capacitor 0.33μ 50V (LN)
C310,311	0B01403A	Electrolytic Capacitor 47μ 16V
C347	0B01862A	Electrolytic Capacitor 22μ 16V
	– Headphone Amp. –	
IC302	0B06217A	IC RC4560D
Q103,203	0B06069A	Transistor 2SB564
Q104,204	0B06066A	Transistor 2SD471
R119,120	0B01889A	Carbon Resistor 100K ERD-25T
219,220		
R121,221	0B01706A	Carbon Resistor 47 ERD-25T J
R122,222	0B09331A	Fail Safe Type Resistor 8.2 RDF-25S J
R314,315	0B09216A	Fail Safe Type Resistor 10 RDF-25S J
C113,213	0B09291A	Ceramic Capacitor 0.022μ 50V Z
C308,309	0B01400A	Electrolytic Capacitor 100μ 16V
	– Tone Osc. –	
IC305	0B06127A	IC RC4559D
IC306	0B06219A	IC μPD4081BC
Q314	0B01872A	Transistor 2SC945 (L)
Q315	0B06013A	Transistor 2SA733
D306	0B06181A	Silicon Diode 1SS53
L301	0B03919B	Inductor 36mH
VR302	0B07270A	Semi-fixed Volume 20K
VR303	0B07269A	Semi-fixed Volume 50K
R353,354	0B09315A	Metal Film Resistor 332K SN14K2E F
359		
R355	0B09583A	Metal Film Resistor 97.6K SN14K2E F
R356,363	0B01889A	Carbon Resistor 100K ERD-25T J
367,371		
R357,368	0B05615A	Carbon Resistor 22K ERD-25T J
R358	0B01888A	Carbon Resistor 10K ERD-25T J
R360	0B01682A	Carbon Resistor 6.8K ERD-25T J
R361,362	0B05508A	Carbon Resistor 56K ERD-25T J
969		
R364	0B09527A	Carbon Resistor 130K ERD-25T J
R365	0B05676A	Carbon Resistor 390K ERD-25T J
R366	0B05622A	Carbon Resistor 2.2K ERD-25T J
R369	0B09346A	Carbon Resistor 12K ERD-25T J
R370	0B05509A	Carbon Resistor 33K ERD-25T J
R372,373	0B09215A	Fail Safe Type Resistor 100 RDF-25S J
C317,325	0B09545A	Mica Capacitor 330P 50V J
C318	0B09538A	PP Capacitor 0.018μ 100V G
C319	0B05582A	Mylar Capacitor 0.022μ 50V J
C320	0B01802A	Mylar Capacitor 2200P 50V J
C321	0B09045A	Mylar Capacitor 0.027μ 50V J
C322	0B05813A	Mylar Capacitor 0.056μ 50V J
C323	0B01780A	Mylar Capacitor 0.1μ 50V J
C324	0B09302A	Mica Capacitor 100P 100V J
C326	0B01914A	Mylar Capacitor 3300P 50V J
C327,328	0B01412A	Electrolytic Capacitor 10μ 16V
	– Azimuth –	
IC307	0B06124B	IC RC4558D
IC308	0B06216A	IC μPC4556C
IC309	0B06213A	IC TC4013BP
Q316,333	0B06013A	Transistor 2SA733
Q317,318	0B01872A	Transistor 2SC945 (L)
319,330		
331,332		
334,335		
D105,106	0B06181A	Silicon Diode 1SS53 (26 pcs.)
205,206		
308,309		
310		
335-349		
351,352		
353,356		
VR304	0B07270A	Semi-fixed Volume 20K
R138,139	0B01889A	Carbon Resistor 100K ERD-25T J
238,239		
935,937		
939,942		
946,956		
958,959		
961		
R140,240	0B01846A	Carbon Resistor 4.7K ERD-25T J
384,385		
R141,241	0B05625A	Carbon Resistor 220K ERD-25T J
934,941		
943,944		
945,947		
952		
R142,144	0B01888A	Carbon Resistor 10K ERD-25T J
145,242		
244,245		
377,382		
938,948		
949		
R143,243	0B05622A	Carbon Resistor 2.2K ERD-25T J
R374,375	0B05615A	Carbon Resistor 22K ERD-25T J
376,381		
389,950		
957		
R378,379	0B01857A	Carbon Resistor 1K ERD-25T J
380,974		
R383,971	0B01681A	Carbon Resistor 3.3K ERD-25T J
R386	0B05508A	Carbon Resistor 56K ERD-25T J
R936,955	0B05509A	Carbon Resistor 33K ERD-25T J
965		
R940	0B05784A	Carbon Resistor 560K ERD-25T J
R951,953	0B09311A	Carbon Resistor 68K ERD-25T J
R954	0B05626A	Carbon Resistor 150K ERD-25T J
R960,964	0B05627A	Carbon Resistor 330K ERD-25T J
R963	0B05743A	Carbon Resistor 27K ERD-25T J
C120,121	0B01405A	Electrolytic Capacitor 1μ 50V
220,221		
329,332		
C122,222	0B05796A	Mylar Capacitor 0.047μ 50V J
C330,337	0B01412A	Electrolytic Capacitor 10μ 16V
341		
C338,346	0B09372A	Electrolytic Capacitor 2.2μ 50V
C344,345	0B01862A	Electrolytic Capacitor 22μ 16V
	– Fader –	
IC304	0B06216A	IC μPC4556C
Q307,310	0B06013A	Transistor 2SA733
311,313		
Q308,309	0B01872A	Transistor 2SC945 (L)
312		
ZD301	0B06290A	Zener Diode 5.6V RD5.6EB2
D302,303	0B06181A	Silicon Diode 1SS53
304,305		
R326,328	0B05676A	Carbon Resistor 390K ERD-25T J
330		
R327,329	0B05640A	Carbon Resistor 180K ERD-25T J
R331,342	0B05692A	Carbon Resistor 68K ERD-25T J
R332	0B05641A	Carbon Resistor 47K ERD-25T J
R333,334	0B05668A	Carbon Resistor 82K ERD-25T J
R335,337	0B01888A	Carbon Resistor 10K ERD-25T J
344,347		
R336	0B05621A	Carbon Resistor 120K ERD-25T J
R338	0B01889A	Carbon Resistor 100K ERD-25T J
R339,345	0B01887A	Carbon Resistor 5.6K ERD-25T J
R340	0B05629A	Carbon Resistor 2.7K ERD-25T J
R341	0B05627A	Carbon Resistor 330K ERD-25T J
R343,346	0B05622A	Carbon Resistor 2.2K ERD-25T J
350		
R348	0B05691A	Carbon Resistor 390 ERD-25T J
R349	0B01857A	Carbon Resistor 1K ERD-25T J
R351	0B05576A	Carbon Resistor 470 ERD-25T J
R352	0B05743A	Carbon Resistor 27K ERD-25T J
C313	0B05550A	Mylar Capacitor 1000P 50V J
C314	0B01913A	Mylar Capacitor 1800P 50V J
C315	0B01409A	Electrolytic Capacitor 47μ 25V
C316	0B01674A	Electrolytic Capacitor 10μ 25V
	– Miscellaneous –	
	0B02506C	Main P.C.B.
IC310	0B06143A	IC μPD4001BC
Q109,110	0B06299A	Transistor 2SC2878
209,210		
Q320,324	0B06013A	Transistor 2SA733
Q321,322	0B01872A	Transistor 2SC945 (L)
323,326		
327,328		
D314-318	0B06181A	Silicon Diode 1SS53 (16 pcs.)
320-324		
327-332		
R161,261	0B05622A	Carbon Resistor 2.2K ERD-25T J
R162,262	0B01887A	Carbon Resistor 5.6K ERD-25T J
916,917		
920,921		
R163,263	0B05691A	Carbon Resistor 390 ERD-25T J
R164,264	0B01846A	Carbon Resistor 4.7K ERD-25T J

Schematic Ref. No.	Part No.	Description
R397,903 907,909 962	0B01889A	Carbon Resistor 100K ERD-25T J
R398,906	0B05641A	Carbon Resistor 47K ERD-25T J
R399,972 973	0B01888A	Carbon Resistor 10K ERD-25T J
R901,932	0B05743A	Carbon Resistor 27K ERD-25T J
R902	0B01857A	Carbon Resistor 1K ERD-25T J
R908	0B05509A	Carbon Resistor 33K ERD-25T J
R912,913	0B01854A	Carbon Resistor 39K ERD-25T J
R914,915	0B05675A	Carbon Resistor 3.9K ERD-25T J
R918,922	0B05629A	Carbon Resistor 2.7K ERD-25T J
R919,923 924	0B05577A	Carbon Resistor 330 ERD-25T J
R925,927	0B05776A	Carbon Resistor 1M ERD-25T J
R926,928	0B05671A	Carbon Resistor 2.2M ERD-25T J
R967,968	0B09214A	Fail Safe Type Resistor 1 RDF-25S J
C133,233	0B09187A	Electrolytic Capacitor 1μ 50V (BP)
C335	0B09286A	Ceramic Capacitor 470P 50V K
C339,340	0B01405A	Electrolytic Capacitor 1μ 50V
C342,343	0B01397A	Electrolytic Capacitor 1000μ 16V
CN1,9	0B08656A	2P-T Post
CN2,3,7 19	0B08654A	4P-T Post
CN4,5	0B08183A	5P-T Post
CN6,8,10	0B08642A	6P-T Post
CN11,12	0B08645A	9P-T Post
	0B07395A	Push Switch 6-6-0SUF34 (1 pce.)
	0E00507A	Nut Hex. M3 (2 pcs.)
	0E00510A	Screw M3x8 Philips Pan Head (2A) (2 pcs.)
	0J04479A	Shield Case A (1 pce.)
	0J04480A	Shield Case B (1 pce.)
	0M04221A	Label CN-3 (1 pce.)
	0M04225A	Label CN-19 (1 pce.)
	0M04227A	Label CN-10 (1 pce.)
	0M04228A	Label CN-11 (1 pce.)
	0M04229A	Label CN-12 (1 pce.)
	0M04334A	Label CN-6 (1 pce.)
	0M04335A	Label CN-7 (1 pce.)
	0M04336A	Label CN-8 (1 pce.)

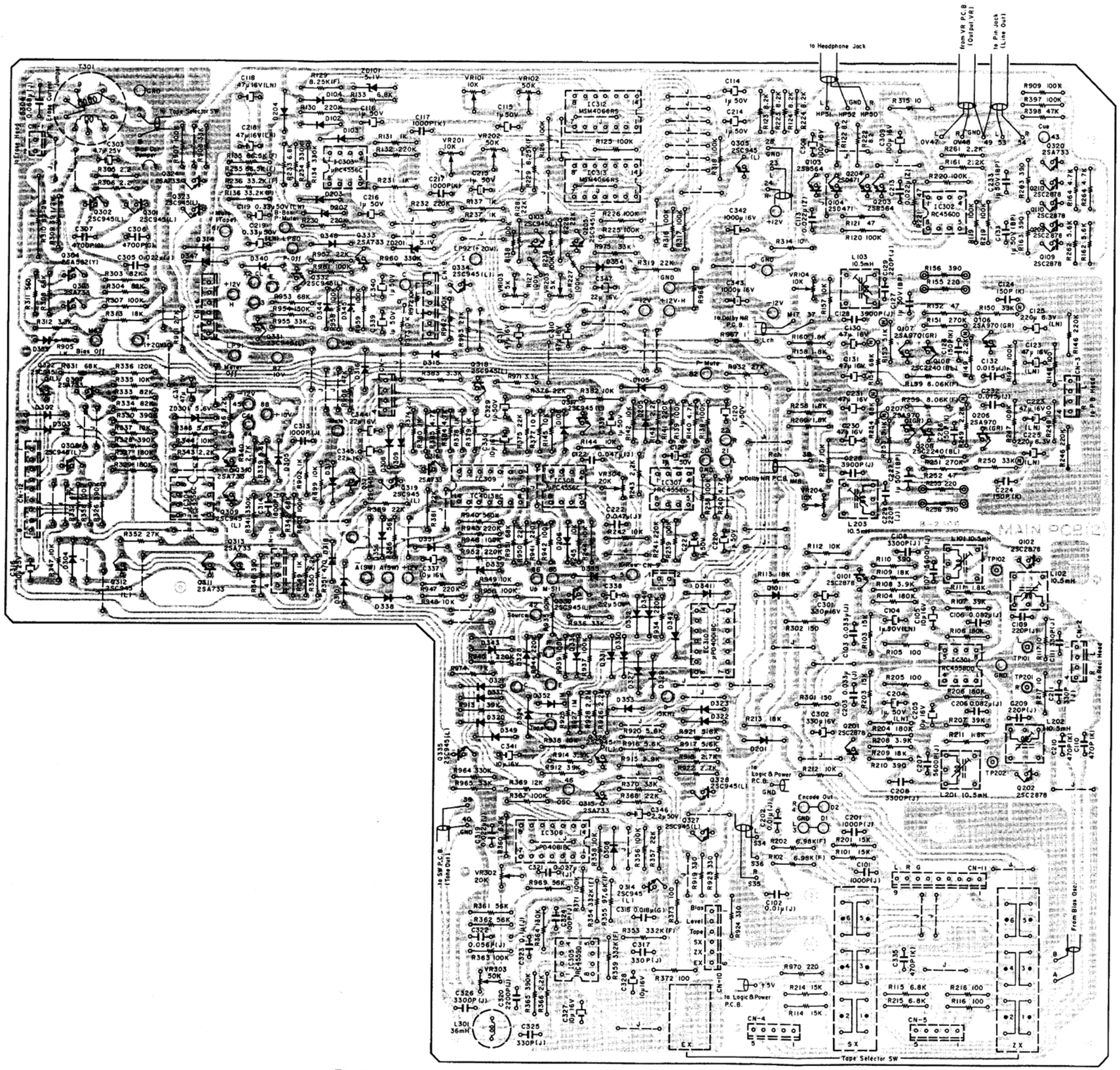


Fig. 7.14.2 Serial Nos.: A12403401 – A12404900 Note: Diode is 1SS53, 1S953, or 1S1555 unless otherwise specified.

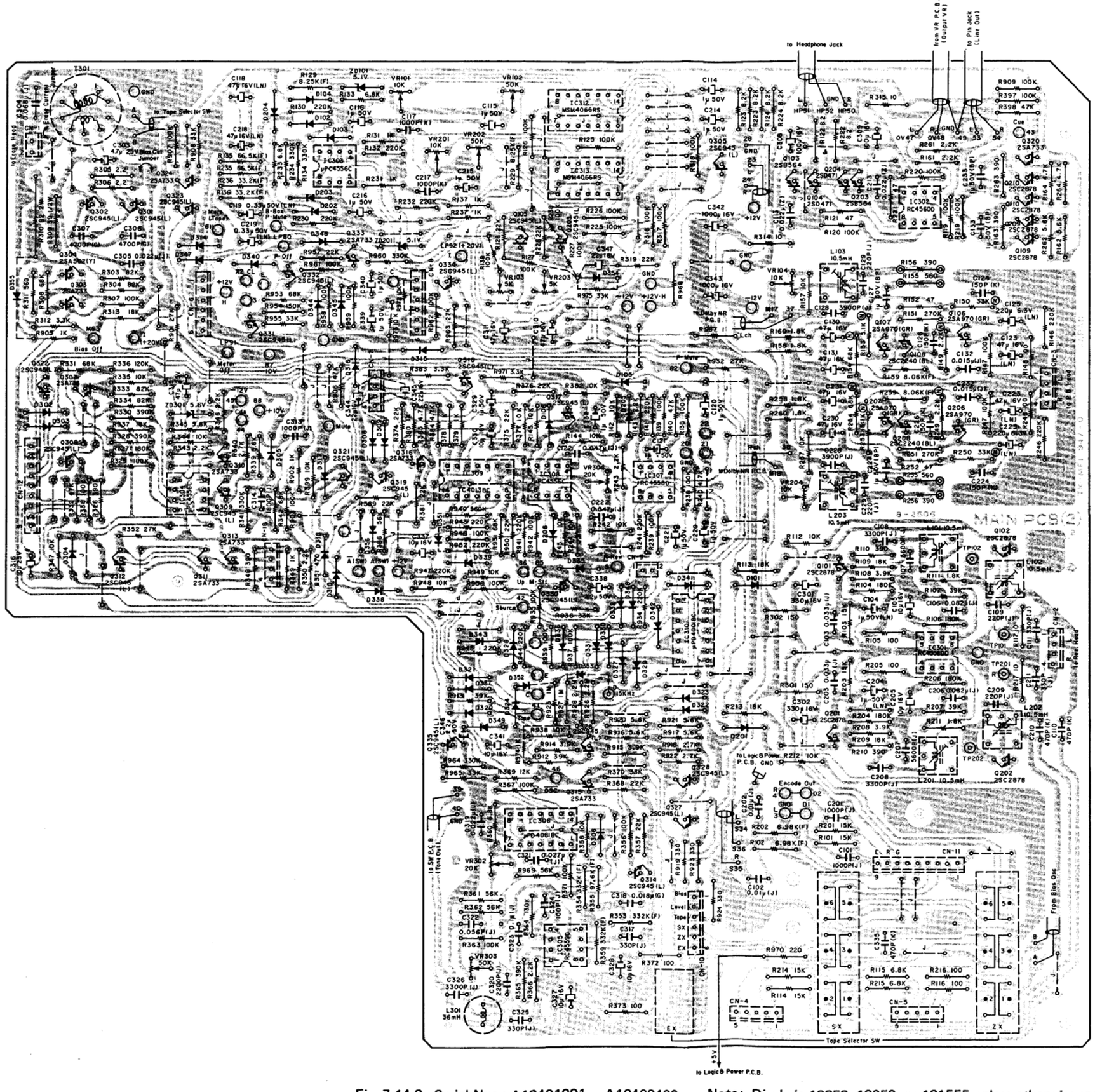


Fig. 7.14.3 Serial Nos.: A12401001 – A12403400 Note: Diode is 1SS53, 1S953, or 1S1555 unless otherwise specified.

Schematic Ref. No.	Part No.	Description		
	BA04535A	**Main P.C.B. Ass'y** Serial Nos.: A12401001 – A12403400		
	– PB Eq. Amp. –			
Q106,107 206,207	0B06180A	Transistor	2SA970 (GR)	
Q108,208	0B06142A	Transistor	2SC2240 (BL)	
L103,203	0B00068A	Trap Coil	10.5mH	
VR104,204	0B07233A	Semi-fixed Volume	10K	
R146,246	0B05625A	Carbon Resistor	220K	ERD-25T J
R147,247	0B01889A	Carbon Resistor	100K	ERD-25T J
R148,248	0B01679A	Carbon Resistor	100	ERD-25T J
R149,249	0B09309A	Carbon Resistor (Noiseless)	2.2K	ERD-25TS J
R150,250	0B09310A	Carbon Resistor (Noiseless)	33K	ERD-25TS J
R151,251	0B05620A	Carbon Resistor	270K	ERD-25T J
R152,252	0B01706A	Carbon Resistor	47	ERD-25T J
R153,253	0B09388A	Carbon Resistor (Noiseless)	5.1K	ERD-25TS J
R154,254	0B09311A	Carbon Resistor (Noiseless)	68K	ERD-25TS J
R155,255	0B05575A	Carbon Resistor	560	ERD-25T J
R156,256	0B05691A	Carbon Resistor	390	ERD-25T J
R157,257	0B01888A	Carbon Resistor	10K	ERD-25T J
R158,160 258,260	0B05614A	Carbon Resistor	1.8K	ERD-25T J
R159,259	0B09431A	Metal Film Resistor	8.06K	SN14K2E F
C123,223	0B09218A	Electrolytic Capacitor	47μ	16V (LN)
C124,126 224,226	0B09281A	Ceramic Capacitor	150P	50V K
C125,225	0B09151A	Electrolytic Capacitor	220μ	6.3V (LN)
C127,227	0B09187A	Electrolytic Capacitor	1μ	50V (BP)
C128,228	0B01804A	Mylar Capacitor	3900P	50V J
C129,229	0B09247A	Mica Capacitor	220P	50V J
C130,131 230,231	0B01403A	Electrolytic Capacitor	47μ	16V
C132,232	0B05557A	Mylar Capacitor	0.015μ	50V J
	– Rec. Amp. –			
IC301	0B06146A	IC	RC4558DD	
Q101,102 201,202	0B06299A	Transistor	2SC2878	
D101,201	0B06181A	Silicon Diode	1SS53	
L101,102 201,202	0B00068A	Trap Coil	10.5mH	
R101,103 201,203	0B01683A	Carbon Resistor	15K	ERD-25T J
R102,202	0B09604A	Metal Film Resistor	6.98K	SN14K2E F
R104,106 204,206	0B05640A	Carbon Resistor	180K	ERD-25T J
R105,116 205,216	0B01679A	Carbon Resistor	100	ERD-25T J
R107,207	0B01854A	Carbon Resistor	39K	ERD-25T J
R108,208	0B05675A	Carbon Resistor	3.9K	ERD-25T J
R109,113 209,213	0B05560A	Carbon Resistor	18K	ERD-25T J
R110,210	0B05691A	Carbon Resistor	390	ERD-25T J
R111,211	0B05614A	Carbon Resistor	1.8K	ERD-25T J
R112,212	0B01888A	Carbon Resistor	10K	ERD-25T J
R114,214	0B01683A	Carbon Resistor	15K	ERD-25T J

Schematic Ref. No.	Part No.	Description
R115,215	0B01682A	Carbon Resistor 6.8K ERD-25T J
R117,217	0B05936A	Carbon Resistor 10 ERD-25T J
R301,302	0B09213A	Fail Safe Type Resistor 150 RDF-25S J
R970	0B01933A	Carbon Resistor 220 ERD-25T J
C101,201	0B05550A	Mylar Capacitor 1000P 50V J
C102,202	0B05681A	Mylar Capacitor 0.01μ 50V J
C103,203	0B05583A	Mylar Capacitor 0.033μ 50V J
C104,204	0B09223A	Electrolytic Capacitor 1μ 50V (LN)
C105,205	0B01412A	Electrolytic Capacitor 10μ 16V
C106,206	0B05685A	Mylar Capacitor 0.082μ 50V J
C107,207	0B05659A	Mylar Capacitor 5600P 50V J
C108,208	0B01914A	Mylar Capacitor 3300P 50V J
C109,209	0B09247A	Mica Capacitor 220P 50V J
C110,210	0B09286A	Ceramic Capacitor 470P 50V K
C111,211	0B09322A	PP Capacitor 330P 100V J
C301,302	0B01502A	Electrolytic Capacitor 330μ 16V
	— Bias Osc. —	
Q301,302	0B01872A	Transistor 2SC945 (L)
Q303	0B06013A	Transistor 2SA733
Q304	0B06202A	Transistor 2SA562 (Y)
D355	0B06181A	Silicon Diode 1SS53
T301	0B06613A	Osc. Coil
R303,304	0B05668A	Carbon Resistor 82K ERD-25T J
R305,306	0B09212A	Fail Safe Type Resistor 2.2 RDF-25S J
R307	0B01889A	Carbon Resistor 100K ERD-25T J
R308	0B05692A	Carbon Resistor 68K ERD-25T J
R309	0B09296A	Fail Safe Type Resistor 39 RSF-1/2B J
R310	0B09295A	Fail Safe Type Resistor 82 RSF-2B J
R311	0B05575A	Carbon Resistor 560 ERD-25T J
R312	0B01681A	Carbon Resistor 3.3K ERD-25T J
R313	0B05560A	Carbon Resistor 18K ERD-25T J
R905	0B01857A	Carbon Resistor 1K ERD-25T J
C303	0B01402A	Electrolytic Capacitor 4.7μ 25V
C304	0B09254A	PP Capacitor 0.068μ 100V J
C305	0B09405A	PP Capacitor 0.022μ 100V J
C306,307	0B09191A	PP Capacitor 4700P 100V G
	0J04450A	Osc. Coil Cap (1 pce.)
	— Meter Amp. —	
IC303	0B06216A	IC μPC4556C
IC312,313	0B06280A	IC MSM4066RS
Q105,205 305	0B01872A	Transistor 2SC945 (L)
ZD101,201	0B06058A	Zener Diode 5.1V YZ051
D102,103 104,202 203,204 354	0B06181A	Silicon Diode 1SS53
VR101,201	0B07256A	Semi-fixed Volume 10K
VR102,202	0B07269A	Semi-fixed Volume 50K
VR103,203	0B07341A	Semi-fixed Volume 5K
R123,124 223,224	0B01856A	Carbon Resistor 8.2K ERD-25T J
R125,126 127,138 225,226 227,238 316,317 318	0B01889A	Carbon Resistor 100K ERD-25T J

Schematic Ref. No.	Part No.	Description
R128,228 319	0B05615A	Carbon Resistor 22K ERD-25T J
R129,229	0B09432A	Metal Film Resistor 8.25K SN14K2E F
R130,132 230,232	0B05625A	Carbon Resistor 220K ERD-25T J
R131,137 231,237	0B01857A	Carbon Resistor 1K ERD-25T J
R133,233	0B01682A	Carbon Resistor 6.8K ERD-25T J
R134,234	0B05627A	Carbon Resistor 330K ERD-25T J
R135,235	0B09510A	Metal Film Resistor 66.5K SN14K2E F
R136,236	0B09446A	Metal Film Resistor 33.2K SN14K2E F
R975	0B05509A	Carbon Resistor 33K ERD-25T J
C114,115 116,214 215,216	0B01405A	Electrolytic Capacitor 1μ 50V
C117,217	0B09288A	Ceramic Capacitor 1000P 50V K
C118,218	0B09218A	Electrolytic Capacitor 47μ 16V (LN)
C119,219	0B09385A	Electrolytic Capacitor 0.33μ 50V (LN)
C310,311	0B01403A	Electrolytic Capacitor 47μ 16V
C347	0B01862A	Electrolytic Capacitor 22μ 16V
	— Headphone Amp. —	
IC302	0B06217A	IC RC4560D
Q103,203	0B06069A	Transistor 2SB564
Q104,204	0B06066A	Transistor 2SD471
R119,120 219,220	0B01889A	Carbon Resistor 100K ERD-25T
R121,221	0B01706A	Carbon Resistor 47 ERD-25T J
R122,222	0B09331A	Fail Safe Type Resistor 8.2 RDF-25S J
R314,315	0B09216A	Fail Safe Type Resistor 10 RDF-25S J
C113,213	0B09291A	Ceramic Capacitor 0.022μ 50V Z
C308,309	0B01400A	Electrolytic Capacitor 100μ 16V
	— Tone Osc. —	
IC305	0B06127A	IC RC4559D
IC306	0B06219A	IC μPD4081BC
Q314	0B01872A	Transistor 2SC945 (L)
Q315	0B06013A	Transistor 2SA733
D306	0B06181A	Silicon Diode 1SS53
L301	0B03919B	Inductor 36mH
VR302	0B07270A	Semi-fixed Volume 20K
VR303	0B07269A	Semi-fixed Volume 50K
R353,354 359	0B09315A	Metal Film Resistor 332K SN14K2E F
R355	0B09583A	Metal Film Resistor 97.6K SN14K2E F
R356,363 367,371	0B01889A	Carbon Resistor 100K ERD-25T J
R357,368	0B05615A	Carbon Resistor 22K ERD-25T J
R358	0B01888A	Carbon Resistor 10K ERD-25T J
R360	0B01682A	Carbon Resistor 6.8K ERD-25T J
R361,362 969	0B05508A	Carbon Resistor 56K ERD-25T J
R364	0B09527A	Carbon Resistor 130K ERD-25T J
R365	0B05676A	Carbon Resistor 390K ERD-25T J
R366	0B05622A	Carbon Resistor 2.2K ERD-25T J
R369	0B09346A	Carbon Resistor 12K ERD-25T J
R370	0B05509A	Carbon Resistor 33K ERD-25T J
R372,373	0B09215A	Fail Safe Type Resistor 100 RDF-25S J
C317,325	0B09545A	Mica Capacitor 330P 50V J
C318	0B09538A	PP Capacitor 0.018μ 100V G
C319	0B05582A	Mylar Capacitor 0.022μ 50V J

Schematic Ref. No.	Part No.	Description
C320	0B01802A	Mylar Capacitor 2200P 50V J
C321	0B09045A	Mylar Capacitor 0.027μ 50V J
C322	0B05813A	Mylar Capacitor 0.056μ 50V J
C323	0B01780A	Mylar Capacitor 0.1μ 50V J
C324	0B09302A	Mica Capacitor 100P 100V J
C326	0B01914A	Mylar Capacitor 3300P 50V J
C327,328	0B01412A	Electrolytic Capacitor 10μ 16V
	— Azimuth —	
IC307	0B06124B	IC RC4558D
IC308	0B06216A	IC μPC4556C
IC309	0B06213A	IC TC4013BP
Q316,333	0B06013A	Transistor 2SA733
Q317,318	0B01872A	Transistor 2SC945 (L)
319,330		
331,332		
334,335		
D105,106	0B06181A	Silicon Diode 1SS53 (26 pcs.)
205,206 308,309 310		
335-349		
351,352		
353,356		
VR304	0B07270A	Semi-fixed Volume 20K
R138,139 238,239	0B01889A	Carbon Resistor 100K ERD-25T J
935,937		
939,942		
946,956		
958,959		
961		
R140,240 384,385	0B01846A	Carbon Resistor 4.7K ERD-25T J
R141,241	0B05625A	Carbon Resistor 220K ERD-25T J
934,941		
943,944		
945,947		
952		
R142,144	0B01888A	Carbon Resistor 10K ERD-25T J
145,242		
244,245		
377,382		
938,948 949		
R143,243	0B05622A	Carbon Resistor 2.2K ERD-25T J
R374,375 376,381	0B05615A	Carbon Resistor 22K ERD-25T J
389,950		
957		
R378,379 380,974	0B01857A	Carbon Resistor 1K ERD-25T J
R383,971	0B01681A	Carbon Resistor 3.3K ERD-25T J
R386	0B05508A	Carbon Resistor 56K ERD-25T J
R936,955 965	0B05509A	Carbon Resistor 33K ERD-25T J
R940	0B05784A	Carbon Resistor 560K ERD-25T J
R951,953	0B09311A	Carbon Resistor 68K ERD-25T J
R954	0B05626A	Carbon Resistor 150K ERD-25T J
R960,964	0B05627A	Carbon Resistor 330K ERD-25T J
R963	0B05743A	Carbon Resistor 27K ERD-25T J

Schematic Ref. No.	Part No.	Description
C120,121 220,221	0B01405A	Electrolytic Capacitor 1μ 50V
C122,222	0B05796A	Mylar Capacitor 0.047μ 50V J
C330,337 341	0B01412A	Electrolytic Capacitor 10μ 16V
C338,346	0B09372A	Electrolytic Capacitor 2.2μ 50V
C344,345	0B01862A	Electrolytic Capacitor 22μ 16V
	— Fader —	
IC304	0B06216A	IC μPC4556C
Q307,310 311,313	0B06013A	Transistor 2SA733
Q308,309 312	0B01872A	Transistor 2SC945 (L)
ZD301	0B06290A	Zener Diode 5.6V RD5.6EB2
D302,303 304,305	0B06181A	Silicon Diode 1SS53
R326,328 330	0B05676A	Carbon Resistor 390K ERD-25T J
R327,329	0B05640A	Carbon Resistor 180K ERD-25T J
R331,342	0B05692A	Carbon Resistor 68K ERD-25T J
R332	0B05641A	Carbon Resistor 47K ERD-25T J
R333,334	0B05668A	Carbon Resistor 82K ERD-25T J
R335,337 344,347	0B01888A	Carbon Resistor 10K ERD-25T J
R336	0B05621A	Carbon Resistor 120K ERD-25T J
R338	0B01889A	Carbon Resistor 100K ERD-25T J
R339,345	0B01887A	Carbon Resistor 5.6K ERD-25T J
R340	0B05629A	Carbon Resistor 2.7K ERD-25T J
R341	0B05627A	Carbon Resistor 330K ERD-25T J
R343,346 350	0B05622A	Carbon Resistor 2.2K ERD-25T J
R348	0B05691A	Carbon Resistor 390 ERD-25T J
R349	0B01857A	Carbon Resistor 1K ERD-25T J
R351	0B05576A	Carbon Resistor 470 ERD-25T J
R352	0B05743A	Carbon Resistor 27K ERD-25T J
C313	0B05550A	Mylar Capacitor 1000P 50V J
C314	0B01913A	Mylar Capacitor 1800P 50V J
C315	0B01409A	Electrolytic Capacitor 47μ 25V
C316	0B01674A	Electrolytic Capacitor 10μ 25V
	— Miscellaneous —	
	0B02506B	Main P.C.B.
IC310	0B06143A	IC μPD4001BC
Q109,110 209,210	0B06299A	Transistor 2SC2878
Q320,324	0B06013A	Transistor 2SA733
Q321,322 323,326 327,328	0B01872A	Transistor 2SC945 (L)
D314-318 320-324 327-332	0B06181A	Silicon Diode 1SS53 (16 pcs.)
R161,261	0B05622A	Carbon Resistor 2.2K ERD-25T J
R162,262 916,917 920,921	0B01887A	Carbon Resistor 5.6K ERD-25T J
R163,263	0B05691A	Carbon Resistor 390 ERD-25T J
R164,264	0B01846A	Carbon Resistor 4.7K ERD-25T J

Schematic Ref. No.	Part No.	Description
R397,903 907,909 962	0B01889A	Carbon Resistor 100K ERD-25T J
R398,906	0B05641A	Carbon Resistor 47K ERD-25T J
R399,972 973	0B01888A	Carbon Resistor 10K ERD-25T J
R901,932	0B05743A	Carbon Resistor 27K ERD-25T J
R902	0B01857A	Carbon Resistor 1K ERD-25T J
R908	0B05509A	Carbon Resistor 33K ERD-25T J
R912,913	0B01854A	Carbon Resistor 39K ERD-25T J
R914,915	0B05675A	Carbon Resistor 3.9K ERD-25T J
R918,922	0B05629A	Carbon Resistor 2.7K ERD-25T J
R919,923 924	0B05577A	Carbon Resistor 330 ERD-25T J
R925,927	0B05776A	Carbon Resistor 1M ERD-25T J
R926,928	0B05671A	Carbon Resistor 2.2M ERD-25T J
R967,968	0B09214A	Fail Safe Type Resistor 1 RDF-25S J
C133,233	0B09187A	Electrolytic Capacitor 1μ 50V (BP)
C335	0B09286A	Ceramic Capacitor 470P 50V K
C339,340	0B01405A	Electrolytic Capacitor 1μ 50V
C342,343	0B01397A	Electrolytic Capacitor 1000μ 16V
CN1,9	0B08656A	2P-T Post
CN2,3,7 19	0B08654A	4P-T Post
CN4,5	0B08183A	5P-T Post
CN6,8,10	0B08642A	6P-T Post
CN11,12	0B08645A	9P-T Post
	0B07395A	Push Switch 6-6-0SUF34 (1 pce.)
	0E00507A	Nut Hex. M3 (2 pcs.)
	0E00510A	Screw M3x8 Philips Pan Head (2A) (2 pcs.)
	0J04479A	Shield Case A (1 pce.)
	0J04480A	Shield Case B (1 pce.)
	0M04221A	Label CN-3 (1 pce.)
	0M04225A	Label CN-19 (1 pce.)
	0M04227A	Label CN-10 (1 pce.)
	0M04228A	Label CN-11 (1 pce.)
	0M04229A	Label CN-12 (1 pce.)
	0M04334A	Label CN-6 (1 pce.)
	0M04335A	Label CN-7 (1 pce.)
	0M04336A	Label CN-8 (1 pce.)

8. MECHANISM ASS'Y AND PARTS LIST

8.1. Synthesis

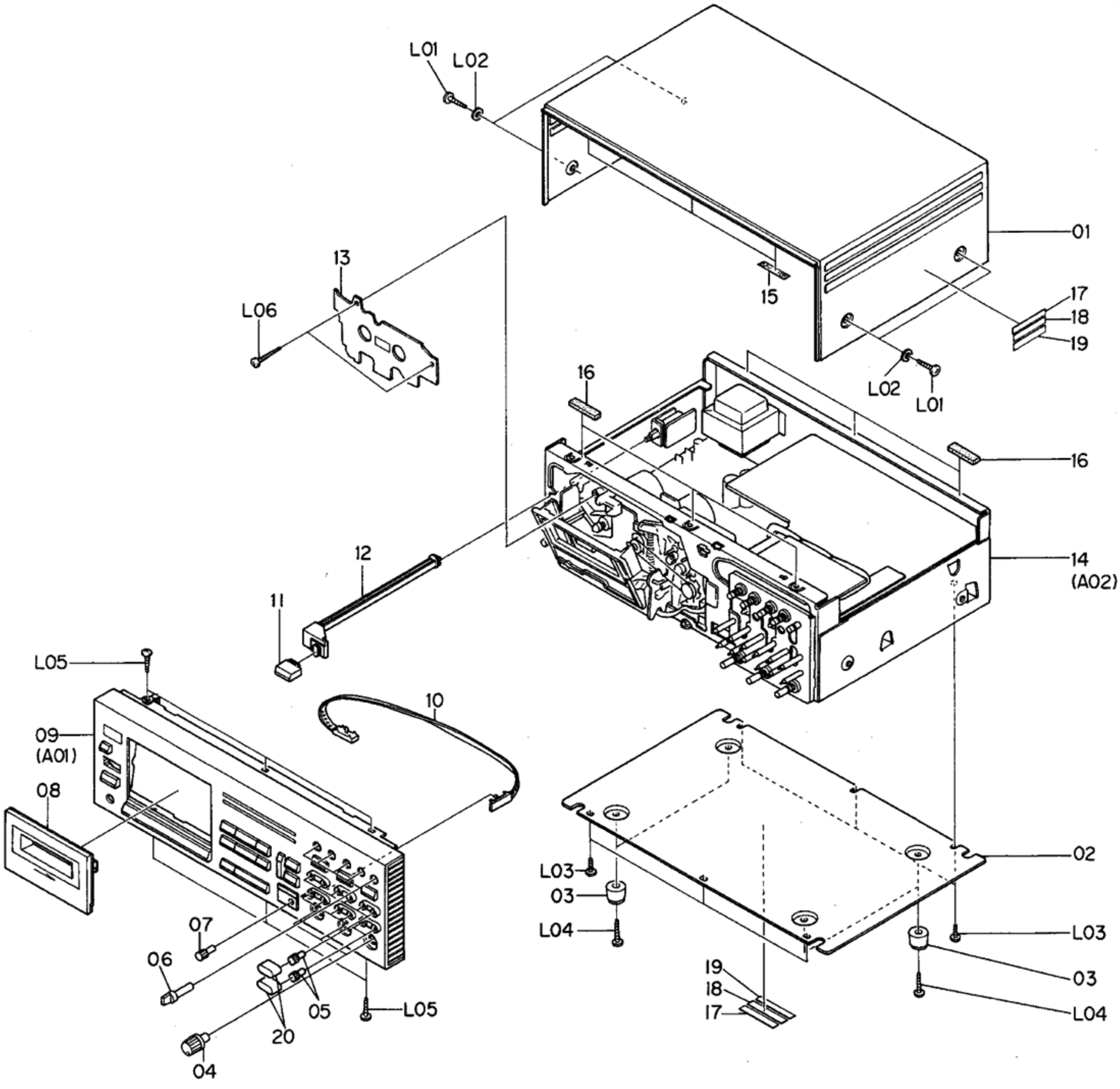


Fig. 8.1

8.2. Front Panel Ass'y (A01)

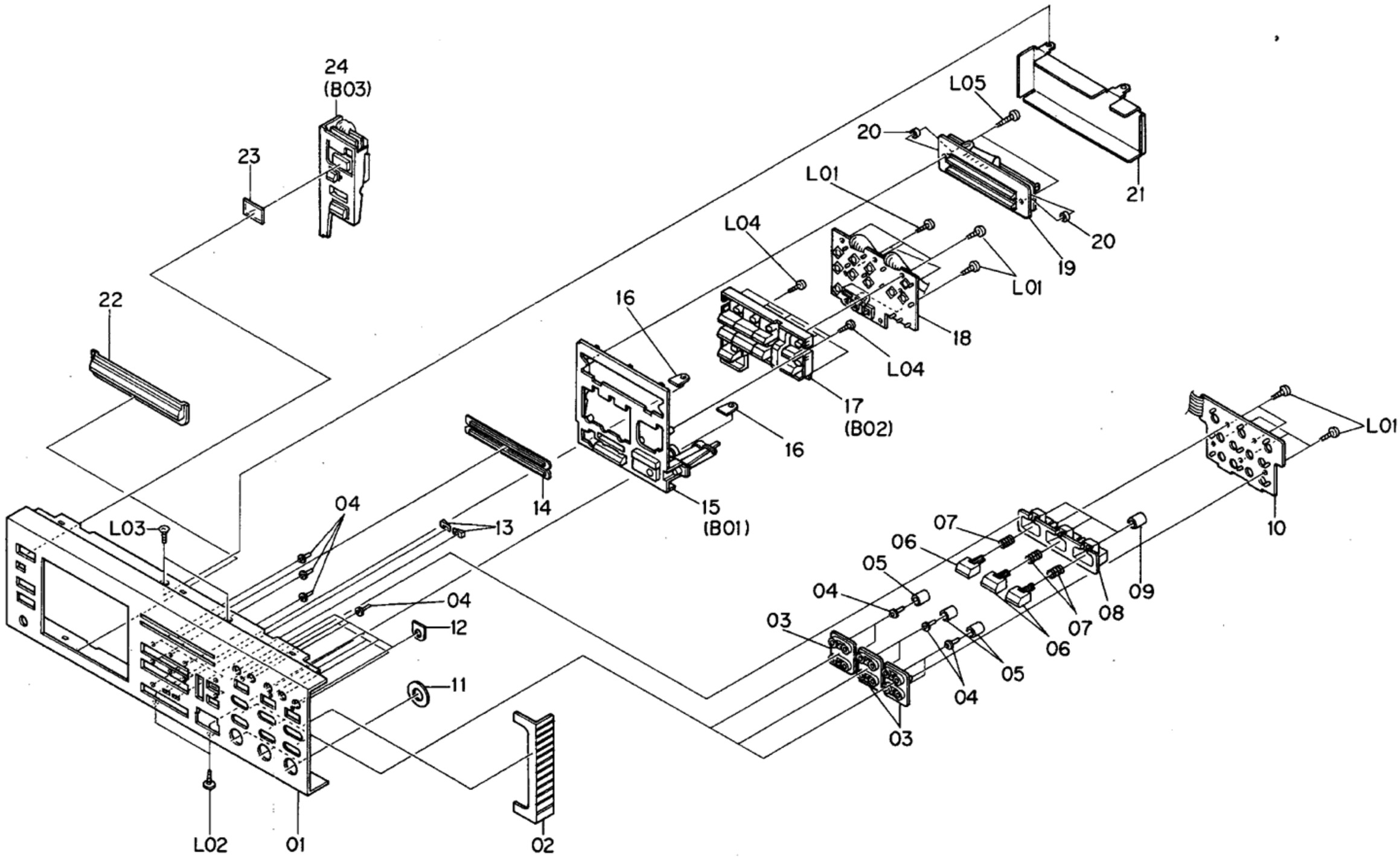


Fig. 8.2

Schematic Ref. No.	Part No.	Description	Q'ty
	HA04210A	**Synthesis (Japan)**	**1**
	HA04211A	**Synthesis (U.S.A. & Canada)**	**1**
	HA04212A	**Synthesis (220V Class 2)**	**1**
	HA04213A	**Synthesis (UK)**	**1**
	HA04214A	**Synthesis (Australia)**	**1**
	HA04215A	**Synthesis (Others)**	**1**
		Serial No.:	
		A12401001 —	
01	0H04010A	Top Cover	1
02	0J04477A	Bottom Cover	1
03	0J03564A	Leg T-H	4
04	0H04028A	Control Volume Knob	3
05	0H04027A	Calibration Volume Knob	12
06	0H04025B	Function Knob	5
07	0H04058A	Azimuth Alignment Knob	1
08	HA04229A	Cassette Case Ass'y	1
09	HA04216A	Front Panel Ass'y	1
10	0C08311A	Azimuth Wire	1
11	0H04014A	Power Switch Knob	1
12	0J04490B	Power Switch Joint	1
13	0C08019I	Cover Plate	1
14	JA03883A	Synthesis Mechanism Ass'y (Japan)	1
	JA03884A	Synthesis Mechanism Ass'y (U.S.A. & Canada)	1
	JA03885A	Synthesis Mechanism Ass'y (220V Class 2)	1
	JA03886A	Synthesis Mechanism Ass'y (UK)	1
	JA03887A	Synthesis Mechanism Ass'y (Australia)	1
	JA03888A	Synthesis Mechanism Ass'y (Others)	1
15	0J04080A	Top Cover Himelon	3
16	0J04550A	Top Cover Cushion	6
17	0M03883B	Lamp Caution Label (U.S.A. & Canada)	1
18	0M03800A	Caution Label H (U.S.A. & Canada)	1
19	0M04314A	UL Caution Label (U.S.A. & Canada)	1 1
	0M04101B	Caution Label (UK, 220V Class 2, Australia, Japan & Others)	1
L01	0E00915A	BT Screw M4x8 Philips Binding Head (Black Chromate)	4
L02	0E00736A	Washer 4mm	4
L03	0E00857A	BT Screw M3x6 Philips Binding Head	9
L04	0E008654	BT Screw M3x10 Philips Binding Head	4
L05	0E00921A	BT Screw M3x8 Philips Binding Head (Black Chromate)	6
L06	0E00950A	BT Screw M3x14 Philips Pan Head (Black Chromate)	2

Schematic Ref. No.	Part No.	Description	Q'ty
A01	**HA04216A**	**Front Panel Ass'y**	**1**
		Serial No.:	
		A12401001 —	
01	0H04020B	Front Panel	1
02	0H04001B	Side Cover	1
03	0H04056A	Cal. Volume Flange	3
04	0H03999A	LED Lens	18
05	0J04496A	Cal. Volume Reflector	6
06	0H04021B	Selector Knob	3
07	0J04497A	Selector Spring	3
08	0H04055A	Selector Flange	1
09	0J04541A	Selector Reflector	3
10	BA04545A	Record Cal. LED P.C.B. Ass'y	1
11	0H04002A	Volume Flange	3
12	0H04029A	Function Flange	5
13	0H04031A	Fader Lens	2
14	0H04000A	Meter Cover	1
15	HA04230A	Front Escutcheon A Ass'y	1
16	0J04486A	Panel Holder	2
17	HA04226A	Control House Ass'y	1
18	BA04544A	Control Switch P.C.B. Ass'y	1
19	BA04543A	Indicator P.C.B. Ass'y	1
20	0J04454A	Indicator P.C.B. Stud	2
21	0J04458A	Meter Shield Case	1
22	0H04023B	Cover Escutcheon	1
23	0H04030A	Counter Lens	1
24	HA04225A	Front Escutcheon B Ass'y	1
L01	0E00862A	BT Screw M3x6 Philips Pan Head	12
L02	0E00593A	Screw M3x6 Philips Binding Head (Bronze)	2
L03	0E00505A	Screw M3x6 Philips Countersunk	2
L04	0E00859A	BT Screw M2.6x6 Philips Binding Head	6
L05	0E00831A	BT Screw M3x10 Philips Pan Head	2

Schematic Ref. No.	Part No.	Description	Q'ty
A02	JA03883A	Chassis Ass'y (Japan)	1
	JA03884A	Chassis Ass'y (U.S.A. & Canada)	1
	JA03885A	Chassis Ass'y (220V Class 2)	1
	JA03886A	Chassis Ass'y (UK)	1
	JA03887A	Chassis Ass'y (Australia)	1
	JA03888A	Chassis Ass'y (Others)	1
		Serial No.: A12401001 –	
01	JA03893A	Headphone Holder Ass'y	1
02	0J04135C	Mechanism Bracket	1
03	0J04478A	Sub Chassis	1
04	BA04546A	Volume P.C.B. Ass'y	1
05	BA04554A	Switch P.C.B. Ass'y	1
06	0J04476B	Front Chassis	1
07	BA04547A	Azimuth Switch P.C.B. Ass'y	1
08	0J04502B	Cal. Volume Joint	12
09	BA04542A	Record Cal. P.C.B. Ass'y	1
10	0B02228B	Cassette Case Lamp	1
11	0J04506A	Lamp Holder	1
12	0J04469A	Cassette Case Plate	1
13	CA08344A	Mechanism Ass'y ZX-7	1
14	BA04618A	Power Switch P.C.B. Ass'y (U.S.A. & Canada)	1
	BA04620A	Power Switch P.C.B. Ass'y (UK, 220V Class 2, Australia & Others)	1
	BA04594A	Power Switch P.C.B. Ass'y (Japan)	1
15	BA04535A	Main P.C.B. Ass'y	1
16	0J04470A	Side Chassis L	1
17	0J04472A	Center Chassis	1
18	0J04471A	Side Chassis R	1
19	BA04575A	Dolby NR P.C.B. Ass'y (U.S.A. & Canada)	1
	BA04646A	Dolby NR P.C.B. Ass'y (UK, 220V Class 2, Australia, Japan & Others)	1
20	0B08771A	Hinge	2
21	BA04621A	Logic & Power P.C.B. Ass'y (Japan)	1
	BA04622A	Logic & Power P.C.B. Ass'y (U.S.A., Canada & Others)	1
	BA04623A	Logic & Power P.C.B. Ass'y (UK, 220V Class 2 & Australia)	1
22	HA04219A	Rear Panel Ass'y (Japan)	1
	HA04220A	Rear Panel Ass'y (U.S.A.& Canada)	1
	HA04221A	Rear Panel Ass'y (220V Class 2)	1
	HA04222A	Rear Panel Ass'y (UK)	1
	HA04223A	Rear Panel Ass'y (Australia)	1
	HA04224A	Rear Panel Ass'y (Others)	1
23	0J04537B	Free Bushing 180mm	1
24	0J04543A	Free Bushing 60mm	1
25	0J04540A	Free Bushing 28mm	1
26	0B08515A	Insh-Lock	30
27	0B02542A	Cassette Case Lamp P.C.B.	1
28	0J04561A	Headphone Jack Cover	1
L01	0E00857A	BT Screw M3x6 Philips Binding Head	31
L02	0E00944A	BT Screw M4X15 Philips Binding Head (Black Chromate)	3
L03	0E00924A	BT Screw M4x16 Philips Binding Head (Chromate)	1
L04	0E00078A	Washer 4mm Toothed Lock	4
L05	0E00612A	BT Screw M3x6 Philips Pan Head (2A)	5
L06	0E00962A	BT Screw M2x6 Philips Binding Head (Black Chromate)	1
L07	0E00860A	BT Screw M3x6 Philips Binding Head (Black Chromate)	4
L08	–	Switch Nut A	(6)
L09	–	Switch Washer A	(6)
L10	–	Switch Nut B	(1)
L11	–	Switch Washer B	(1)

8.3. Chassis Ass'y (A02)

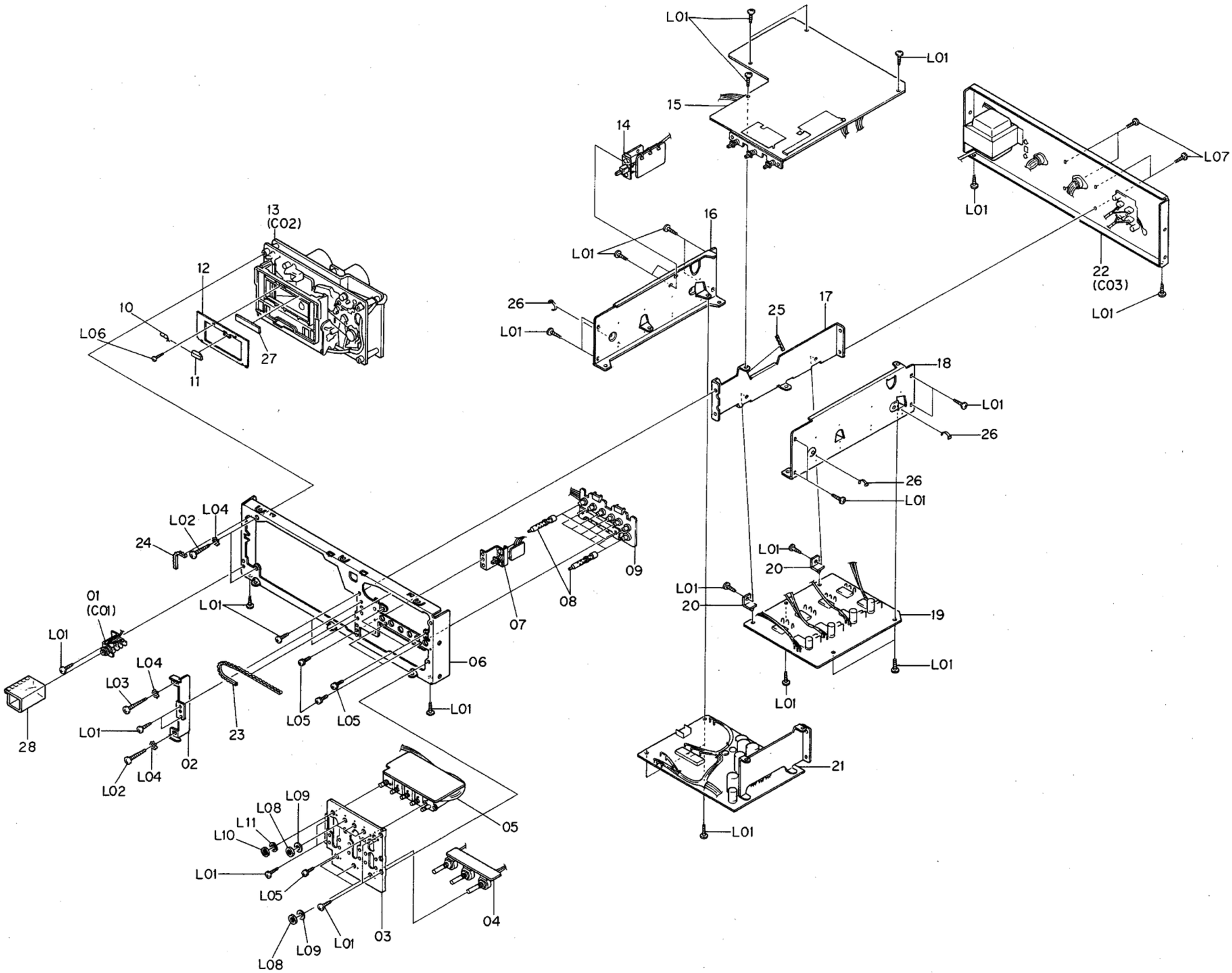


Fig. 8.3

8.4. Front Escutcheon A Ass'y (B01)

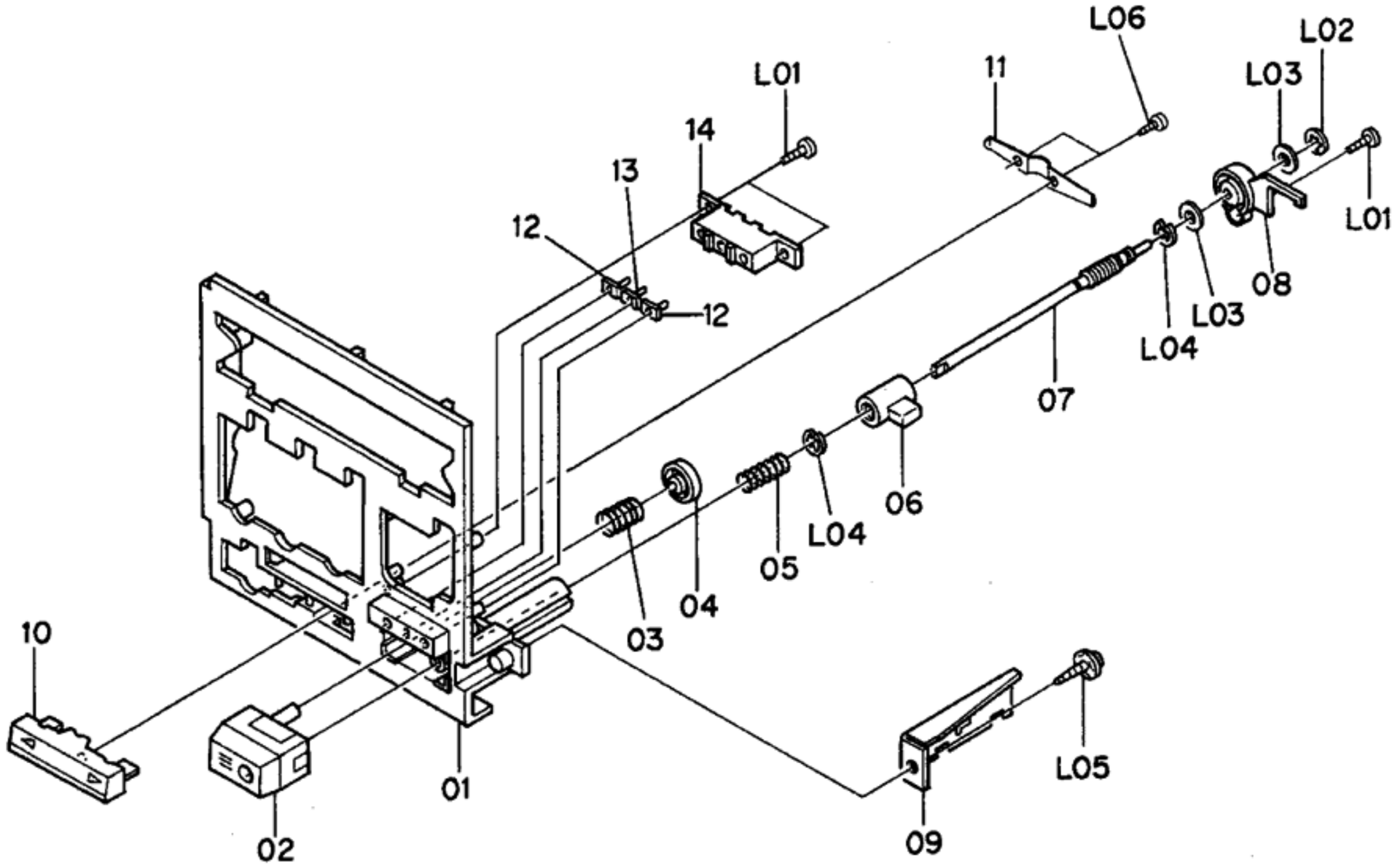


Fig. 8.4

Schematic Ref. No.	Part No.	Description	Q'ty
B01	**HA04230A**	**Front Escutcheon A Ass'y**	**1**
		Serial No.:	
		A12401001 —	
01	0H04003B	Front Escutcheon A	1
02	HA04232A	Adjustment Cover Ass'y	1
03	0J04459A	Adjustment Knob Spring	1
04	0J04460B	Adjustment Flange Stopper	1
05	0J04464A	Adjustment Bar Spring	1
06	0J04462B	Adjustment Slide Joint	1
07	0J04463A	Adjustment Rod	1
08	0J04461B	Adjustment Rod Stopper	1
09	0J04465A	Adjustment Wire Holder	1
10	0H04004B	Fader Knob	1
11	0J04467B	Fader Spring	1
12	0H04005A	Adjustment Lens A	2
13	0H04006A	Adjustment Lens B	1
14	0J04466A	Adjustment Lamp House	1
L01	0E00961A	BT Screw M2x5 Philips Binding Head (Chromate)	3
L02	0E00874A	Stopper Ring CS 2mm	1
L03	0J04061A	Washer FT20	2
L04	0E00222A	E-Ring 2mm	2
L05	0E00920A	Screw M3x6 Philips Pan Head Polywave	1
L06	0E00853A	BT Screw M2x3 Philips Pan Head	2
B02	**HA04226A**	**Control House Ass'y**	**1**
		Serial No.:	
		A12401001 —	
01	0H04016A	Control House	1
02	0H04017B	Control Knob A	7
03	0H04018B	Control Knob B	2
04	0H04019B	Control Knob C	1

Schematic Ref. No.	Part No.	Description	Q'ty
05	0J04493A	Shaft A	2
06	0J04494A	Shaft B	1
07	0J04495A	Control Cushion	10
B03	**HA04225A**	**Front Escutcheon B Ass'y**	**1**
		Serial No.:	
		A12401001 —	
01	0H04012B	Front Escutcheon B	1
02	0H04015A	Eject Knob	1
03	0J04488A	Eject Spring	1
04	0J04554B	Eject Cushion	1
05	0J04487B	Eject Stopper	1
06	0H04013A	Reset Switch Knob	1
07	0J04489B	Reset Cushion	2
08	BA04548A	Counter P.C.B. Ass'y	1
09	BA04642A	Counter Control P.C.B. Ass'y	1
10	0J04491A	Counter P.C.B. Stud	2
11	0J04492B	Counter Shield Case	1
12	0J04327A	Counter Himelon	1
13	0J04563B	Counter P.C.B. Insulator	1
L01	0E00862A	BT Screw M3x6 Philips Pan Head	1
L02	0E00883A	BT Screw M3x18 Philips Pan Head	2
L03	0E00037A	Earth Lug B-5	1
C01	**JA03893A**	**Headphone Holder Ass'y**	**1**
		Serial No.:	
		A12401001 —	
01	0B08511A	Headphone Jack	1
02	0J04474A	Headphone Jack Holder	1
L01	—	Headphone Jack Washer	(1)
L02	—	Headphone Jack Nut	(1)

8.5. Control House Ass'y (B02)

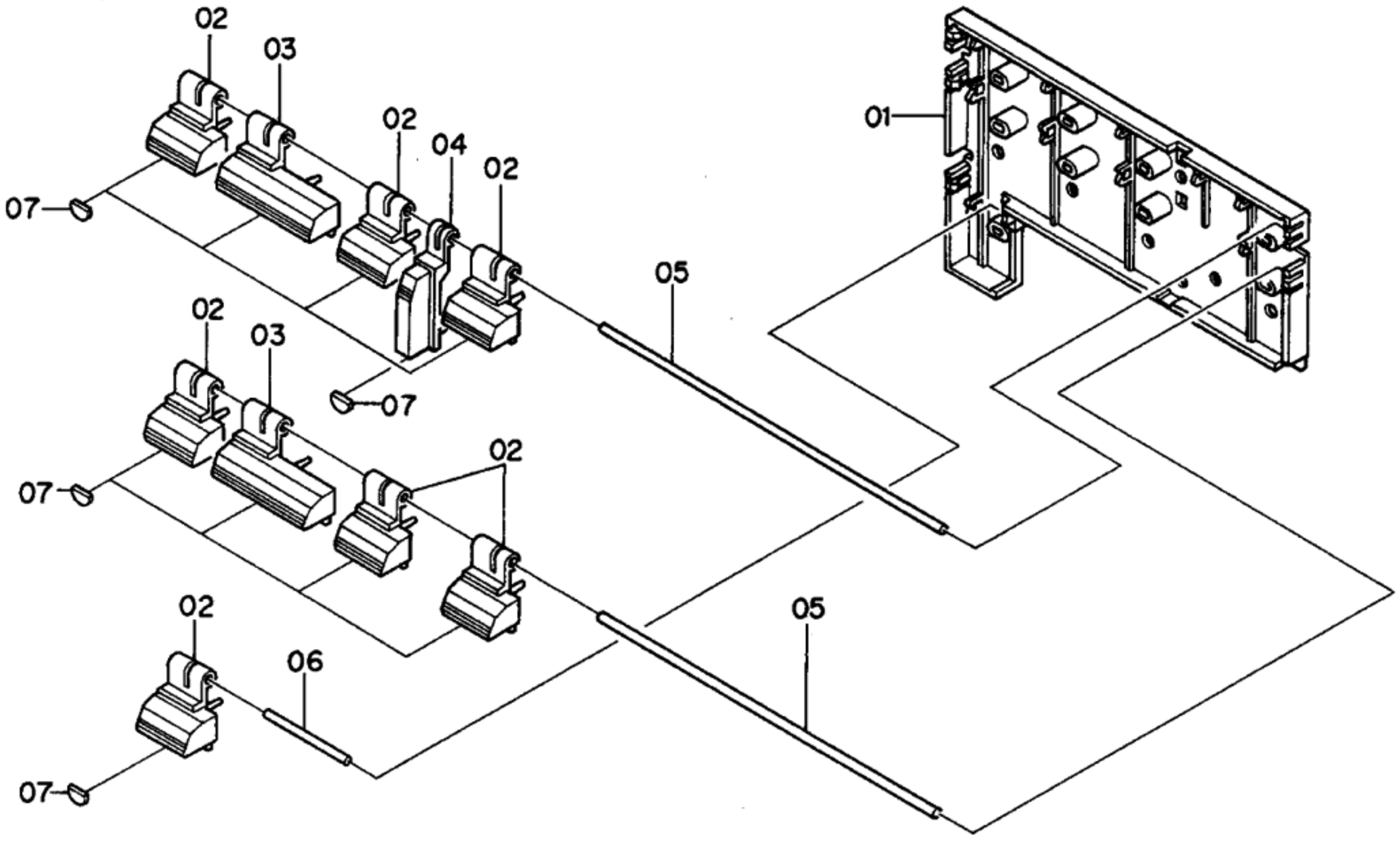


Fig. 8.5

8.6. Front Escutcheon B Ass'y (B03)

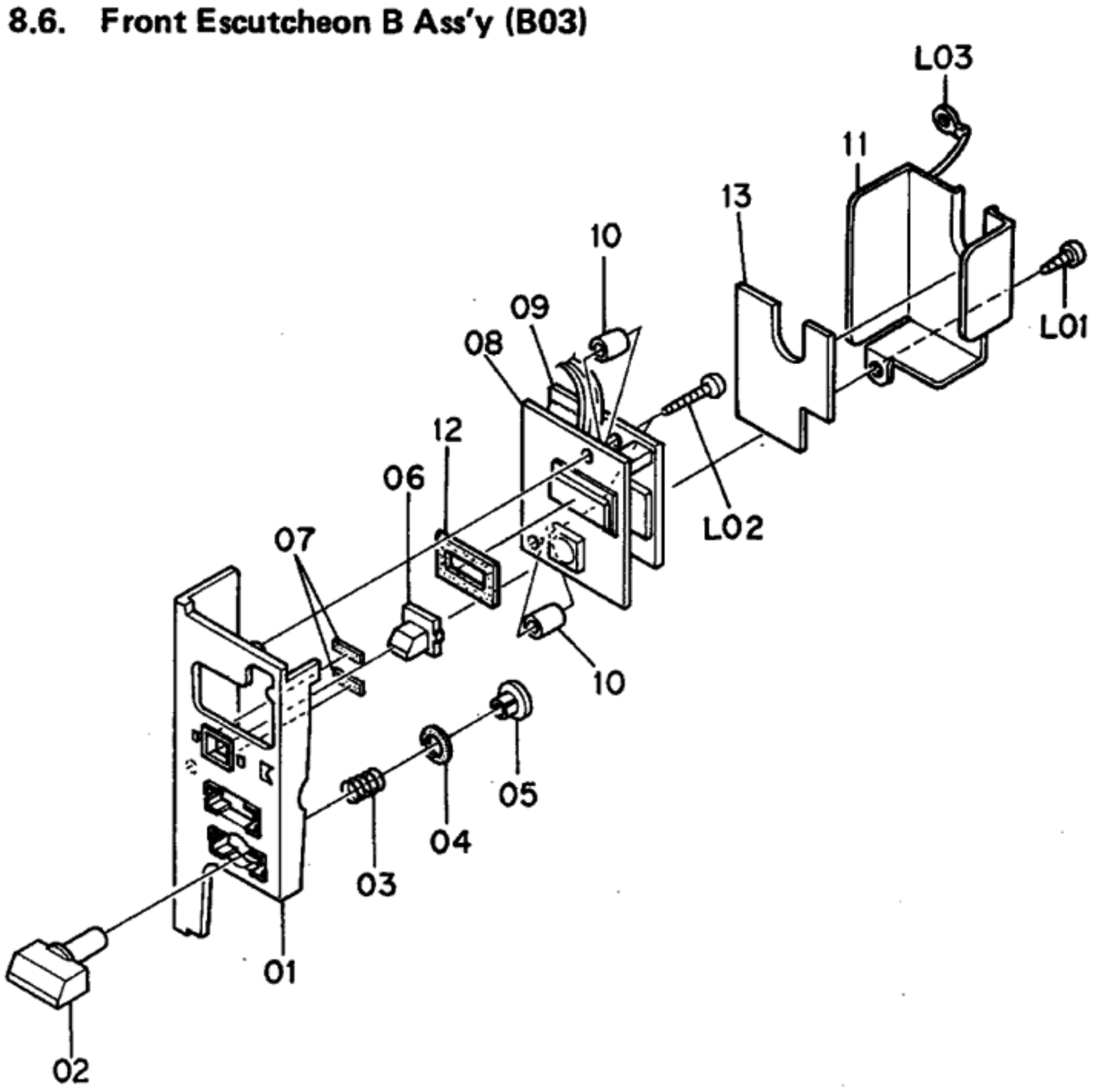


Fig. 8.6

8.7. Headphone Holder Ass'y (C01)

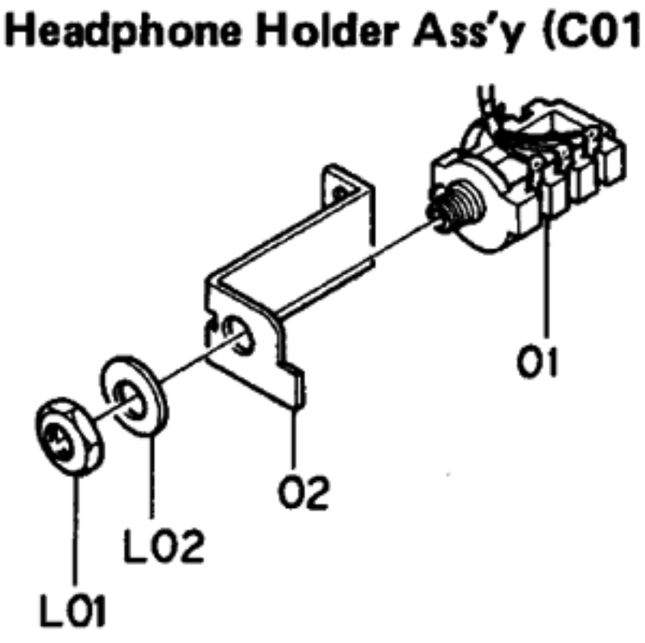


Fig. 8.7

8.8. Mechanism Ass'y ZX-7 (C02)

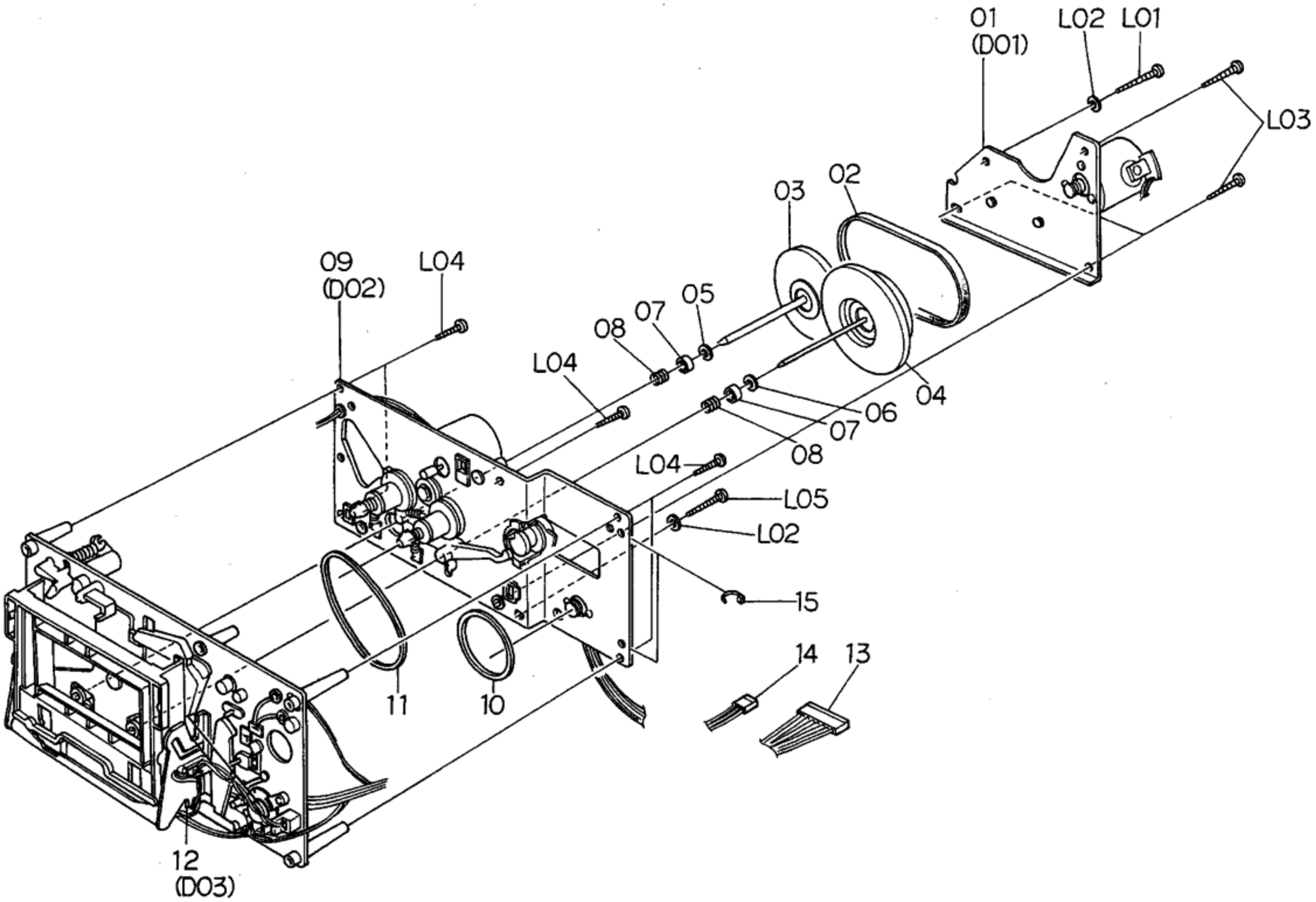


Fig. 8.8

Schematic Ref. No.	Part No.	Description	Q'ty
C02	**CA08344A**	**Mechanism Ass'y ZX-7** Serial No.: A12401001 —	**1**
01	CA08017B	Flywheel Holder Ass'y	1
02	0C08096C	Capstan Belt	1
03	CA08173A	Supply Flywheel Ass'y D	1
04	CA08015A	Take-up Flywheel Ass'y	1
05	0C08021B	Thrust Washer 3.1mm	1
06	0C08020B	Thrust Washer 2.6mm	1
07	0C08243A	Flange Thrust Cap	2
08	0C08244A	Flange Thrust Spring	2
09	CA08343A	Sub Mechanism Chassis Ass'y	1
10	0C08099B	Control Motor Belt	1
11	0C08098B	Counter Belt B	1
12	CA08342A	Main Mechanism Chassis Ass'y	1
13	0B08943A	9P-H Connector	1
14	0B08672A	3P-H Connector	1
15	0B08515A	Insh-Lock	10
—	0M04326A	Mechanism Serial No. Seal	1
L01	0E00834A	BT Screw M3x30 Philips Pan Head	1
L02	0E00178A	Washer 3mm	2
L03	0E00833A	BT Screw M3x20 Philips Pan Head	3
L04	0E00883A	BT Screw M3x18 Philips Pan Head	5
L05	0E00835A	BT Screw M3x25 Philips Pan Head	1

Schematic Ref. No.	Part No.	Description	Q'ty
C03	HA04220A	Rear Panel Ass'y (U.S.A. & Canada)	1
	HA04219A	Rear Panel Ass'y (Japan)	1
	HA04224A	Rear Panel Ass'y (Others)	1
	HA04222A	Rear Panel Ass'y (UK)	1
	HA04221A	Rear Panel Ass'y (220V Class 2)	1
	HA04223A	Rear Panel Ass'y (Australia)	1
		Serial No.: A12401001 –	
01	0H04009B	Rear Panel	1
02	BA04624A	Pin Jack P.C.B. Ass'y	1
03	BA04595A	4P DIN Socket Ass'y	1
04	BA04596A	8P DIN Socket Ass'y	1
05	0B06669A	Power Transformer (U.S.A. & Canada)	1
	0B06668A	Power Transformer (Japan)	1
	0B06670A	Power Transformer (Others)	1
	0B06671A	Power Transformer (UK, Australia & 220V Class 2)	1
06	0C01162B	Bolt Receptacle Plate	2
07	0B08037U	Cord Bushing C (U.S.A., Canada, Japan, 220V Class 2, Australia & Others)	1
	0B08351A	Cord Bushing 4K-4 (UK)	1
08	0B08533A	Power Cord (U.S.A., Canada & Others)	1
	0B08219B	Power Cord (Japan)	1
	0B08348A	Power Cord (UK)	1
	0B08093U	Power Cord (220V Class 2)	1
	0B05241A	Power Cord (Australia)	1
09	0J03663C	Switch Cover (U.S.A., Canada, Japan, 220V Class 2, UK & Australia)	1
	0M03946A	Voltage Selector Lock Plate C (Others)	1
10	0M03551B	Pass Label	1
11	0M03797A	Voltage Label 240V (UK & Australia)	1
	0M03796A	Voltage Label 220V (220V Class 2)	1
	0M04293A	Voltage Label 120V/220V-240V (Others)	1
12	0B07092U	Voltage Selector (Others)	1
L01	0E00921A	BT Screw M3x8 Philips Binding Head (Black Chromate)	2
L02	0E00594A	Screw M3x8 Philips Binding Head (Bronze)	3
L03	0E00172A	Washer 3mm Toothed Lock	1
L04	0E00507A	Nut Hex. M3	3
L05	0E00714A	Screw M2.6x6 Philips Binding Head (Bronze)	4
L06	0E00953A	Screw M4x10 Philips Binding Head (Black Chromate)	2
–	0J03644A	Chobert Rivet	2
–	0M04316A	Serial Number Plate	1
–	0F01071A	Free-up Belt	1

Schematic Ref. No.	Part No.	Description	Q'ty
D01	CA08017B	Flywheel Holder Ass'y Serial No.: A12401001 –	1
01	0C08013I	Flywheel Holder	1
02	CA08106B	Capstan Motor Ass'y	1
L01	0E00226A	Screw M2.6x4 Philips Pan Head	3
L02	0C08068C	Thrust Screw	2
L03	0C03857A	Lock Nut	2
D02	CA08343A	Sub Mechanism Chassis Ass'y Serial No.: A12401001 –	1
01	0C08039B	Reel Hub Head	2
02	CA08038B	Reel Hub B Supply Ass'y	2
03	CA08037A	Reel Hub Take-up Ass'y	1
04	CA08064A	Reel Hub Supply Ass'y	1
05	CA08039A	Back Tension Ass'y	1
06	0C08269A	Back Tension Spring C	1
07	CA08193A	Idler Ass'y	1
08	CA08042A	Brake Ass'y	2
09	0C08030C	Brake Drive Arm	1
10	0C08129A	Brake Arm Spring	1
11	0C08128A	Brake Drive Arm Spring	1
12	CA08242A	Reel Motor Ass'y	1
13	CA08034A	Control Motor Ass'y	1
14	0C08053B	Volume Coupler	1
15	0B07240A	Volume Control 10K (B)	1
16	CA08194A	Sub Chassis Ass'y	1
L01	0E00698A	E-Ring 2.5mm	1
L02	0E00837A	Stopper Ring 3mm	2
L03	0E00838A	Stopper Ring 4mm	1
L04	0E00859A	BT Screw M2.6x6 Philips Binding Head	1
L05	0E00226A	Screw M2.6x4 Philips Pan Head	5
L06	–	Volume Nut	(1)
L07	–	Volume Washer	(1)

8.9. Rear Panel Ass'y (C03)

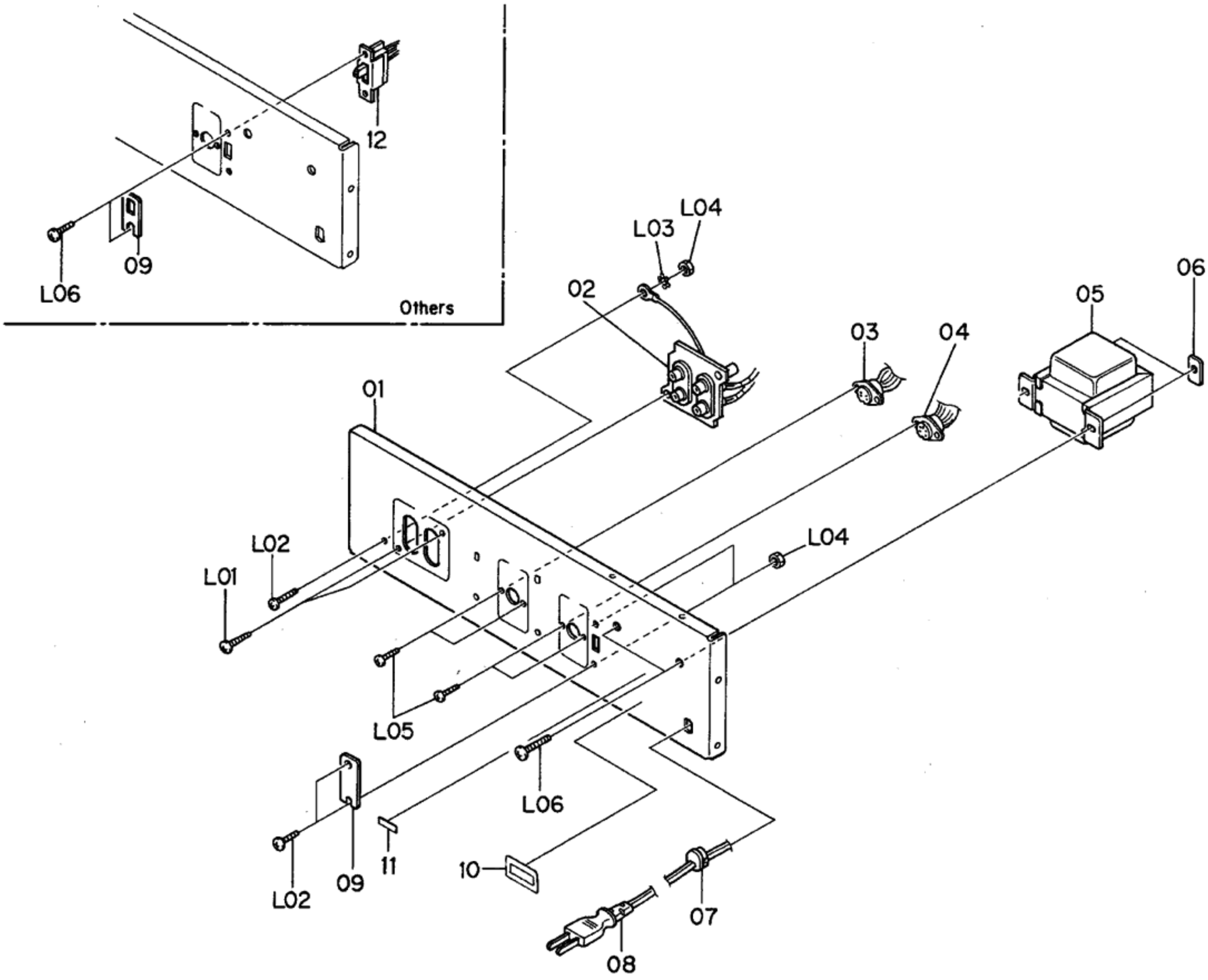


Fig. 8.9

8.10. Flywheel Holder Ass'y (D01)

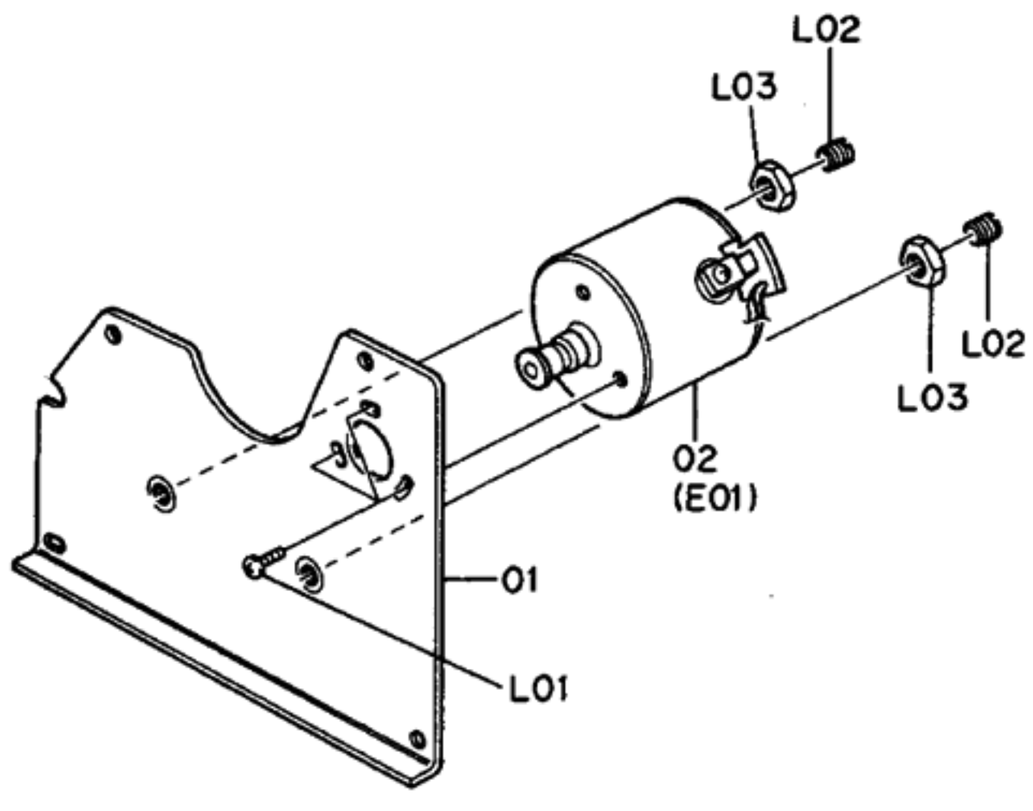


Fig. 8.10

8.11. Sub Mechanism Chassis Ass'y (D02)

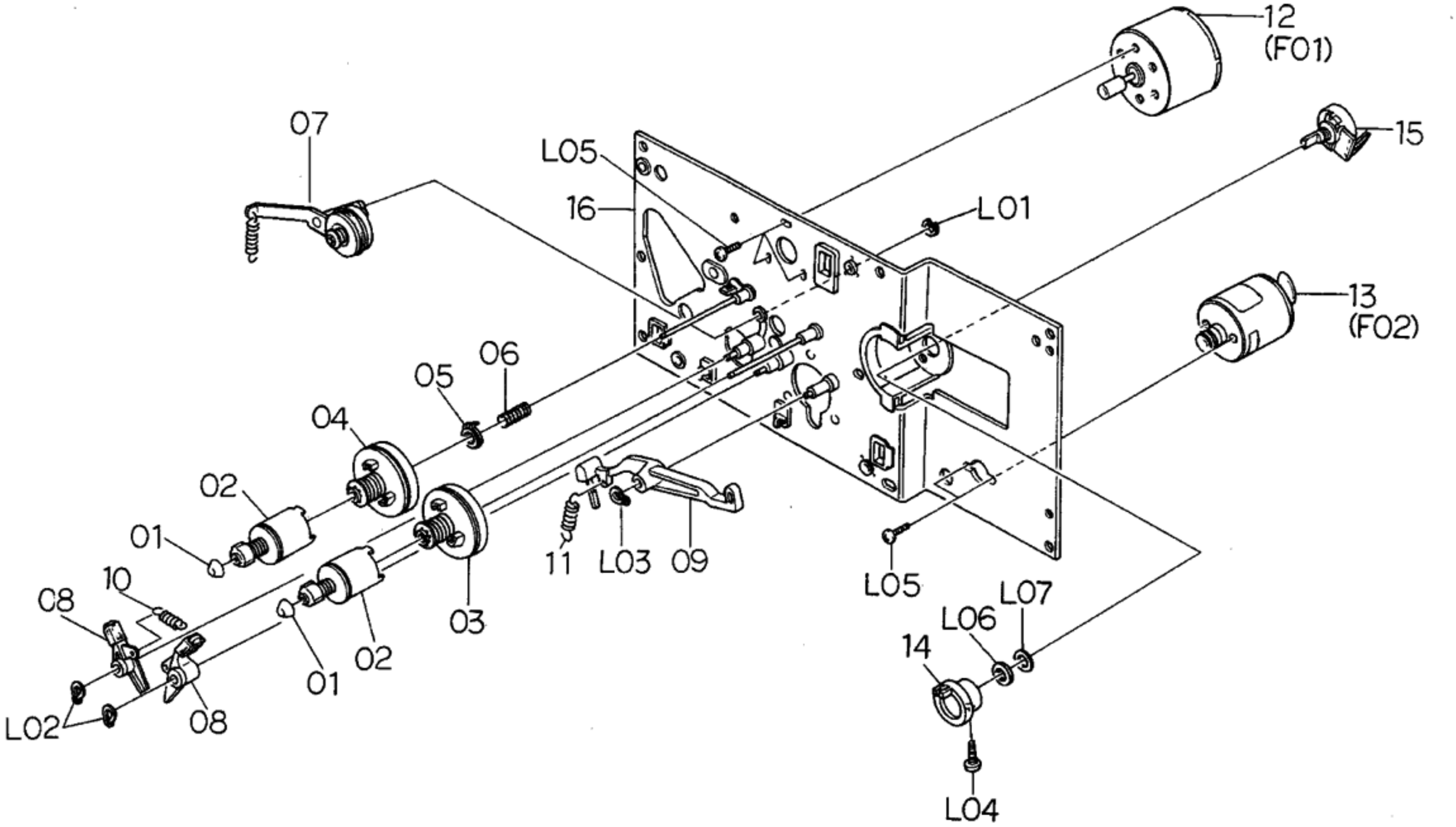


Fig. 8.11

8.12. Main Mechanism Chassis Ass'y (D03)

Schematic Ref. No.	Part No.	Description	Q'ty
D03	**CA08342A**	**Main Mechanism Chassis Ass'y** Serial No.: A12401001 –	**1**
01	CA08350A	Cassette Case Holder L Ass'y	1
02	0C08151A	Lid Arm Spring Tube	1
03	CA08022A	Cassette Case Holder R Ass'y	1
04	CA08349A	Cassette Case Ass'y	1
05	CA08345A	Head Mount Base Ass'y	1
06	0C08121A	Supply Pressure Roller Spring	1
07	0C08250A	Supply Pressure Roller Spring B	1
08	0C08313A	Pressure Roller Arm Bushing	2
09	CA08053B	Supply Pressure Roller Ass'y	1
10	0C08122B	Supply Pressure Roller Thrust Spring	1
11	CA08079B	Take-up Pressure Roller Ass'y	1
12	0C08183B	Take-up Pressure Roller Thrust Spring	1
13	CA08339A	Head Base Ass'y	1
14	0C08182A	Pressure Roller Drive Bar B	1
15	0C08086B	Head Base Roller	1
16	0C08050B	Record Sensor	1
17	0C08051E	Cassette Hold Arm	1
18	0C08120A	Cassette Hold Arm Spring	1
19	CA08196A	Back Tension Ass'y	1
20	0C08254A	Back Tension Arm Collar	1
21	CA08027A	Head Base Drive Arm Ass'y	1
22	0C08143C	Head Base Drive Arm Spring	1
23	CA08026A	Pressure Roller Drive Arm Ass'y	1
24	CA08351A	Auto Shut-off Ass'y	1
25	0C08119A	Record Protector	1
26	0C08194C	Damper Lock Arm	1
27	0C08153A	Damper Lock Arm Spring Tube	1
28	0C08116A	Record Arm Spring	1
29	CA08030A	Pneumatic Damper Ass'y	1
30	CA08023A	Supply Capstan Flange Ass'y	1
31	CA08024A	Take-up Capstan Flange Ass'y	1
32	0C08186A	Cam Drive Gear	1
33	0C08029H	Control Cam	1
34	0C08117A	Counter-Load Arm Spring	1
35	0C08152A	Counter-Load Arm Spring Tube	1
36	CA08028A	Counter-Load Arm Ass'y	1
37	CA08347A	Main Chassis Ass'y	1
L01	0E00837A	Stopper Ring 3mm	9
L02	0E00834A	BT Screw M3x30 Philips Pan Head	2
L03	0E00831A	BT Screw M3x10 Philips Pan Head	3
L04	0E00254A	Washer 3.1mm	2
L05	0E00222A	E-Ring 2mm	2
L06	0E00876A	BT Screw M2.6x8 Philips Pan Head	8
L07	0E00178A	Washer 3mm	2
L08	0E00879A	BT Screw M2x15 Philips Pan Head	1
L09	0E00838A	Stopper Ring 4mm	3
L10	0E00846A	BT Screw M3x8 Philips Pan Head	3
L11	0E00895A	Earth Lug 3mm	2
L12	0E00859A	BT Screw M2.6x6 Philips Binding Head	1
L13	0C08255A	Washer 2.6mm	1

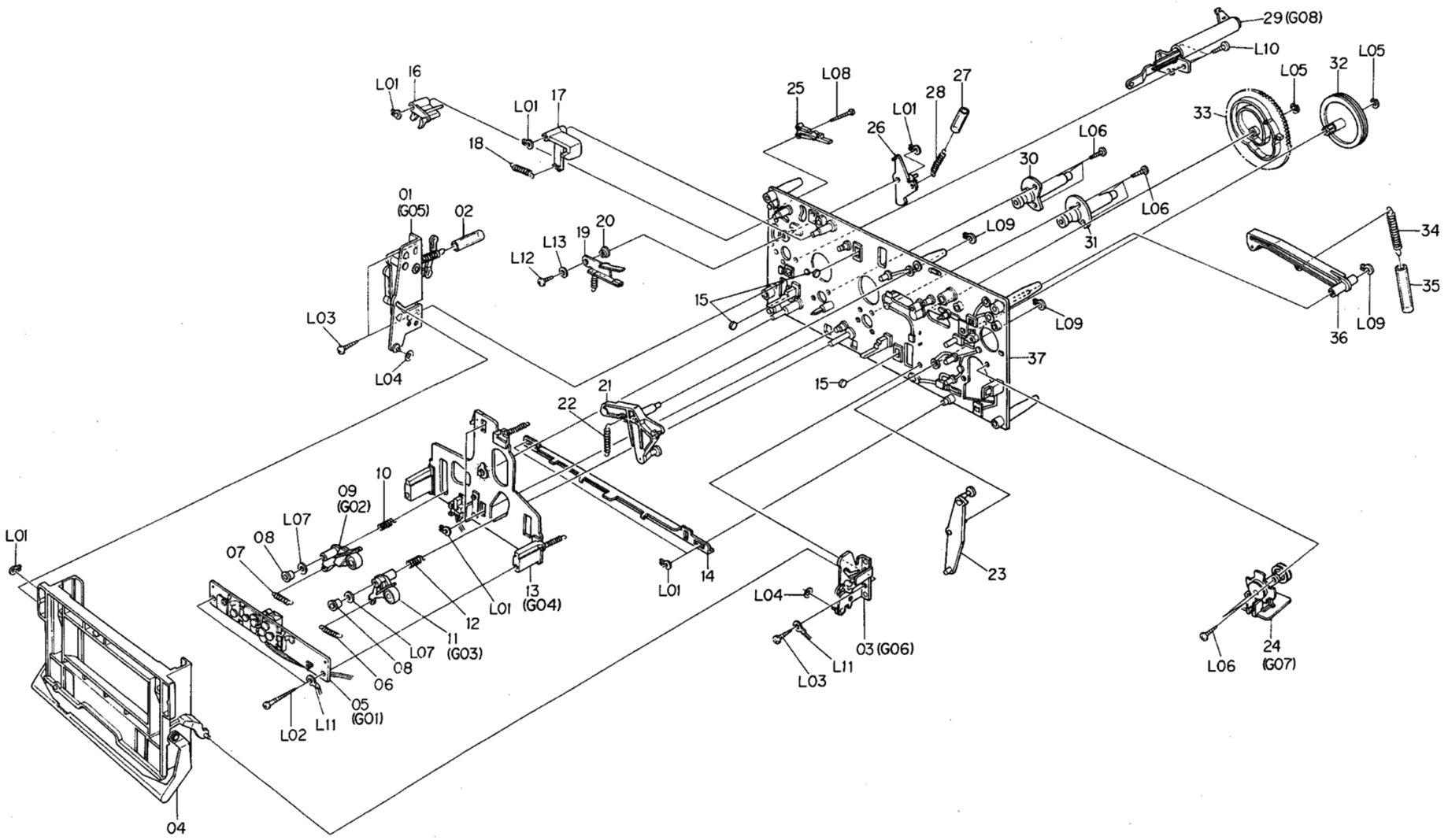


Fig. 8.12

8.13. Capstan Motor Ass'y (E01)

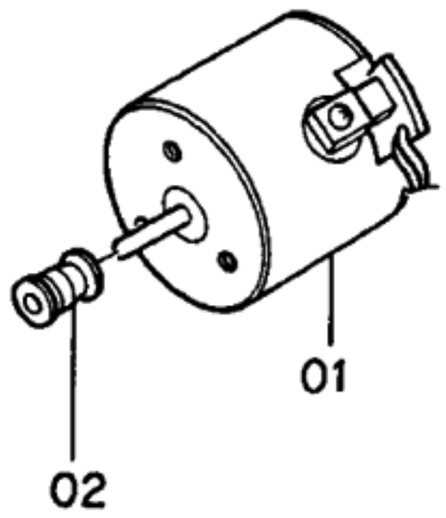


Fig. 8.13

8.14. Reel Motor Ass'y (F01)

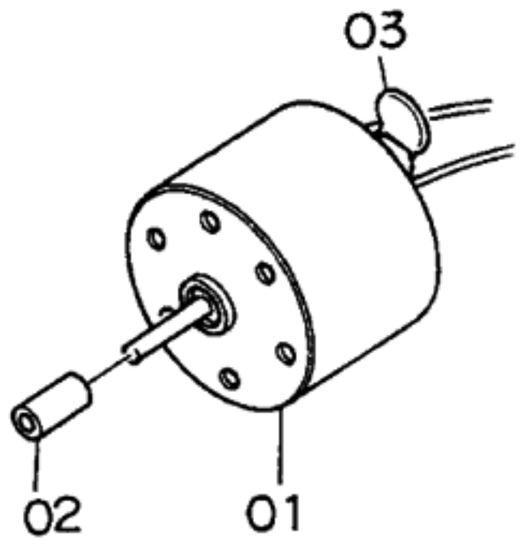


Fig. 8.14

8.15. Control Motor Ass'y (F02)

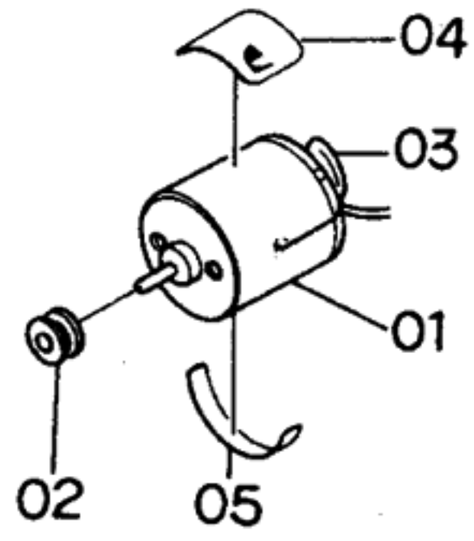


Fig. 8.15

8.16. Head Mount Base Ass'y (G01)

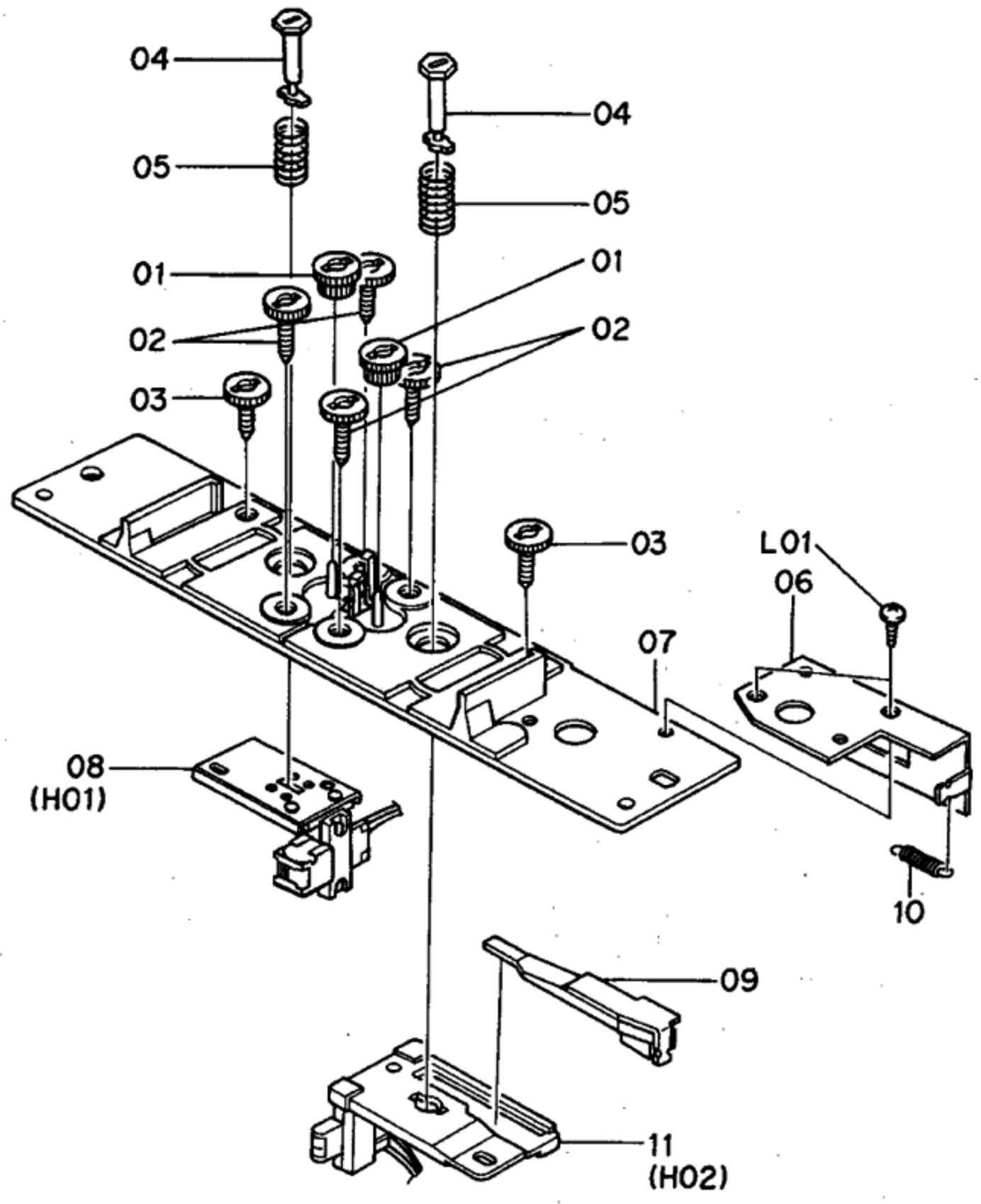


Fig. 8.16

8.17. Supply Pressure Roller Ass'y (G02)

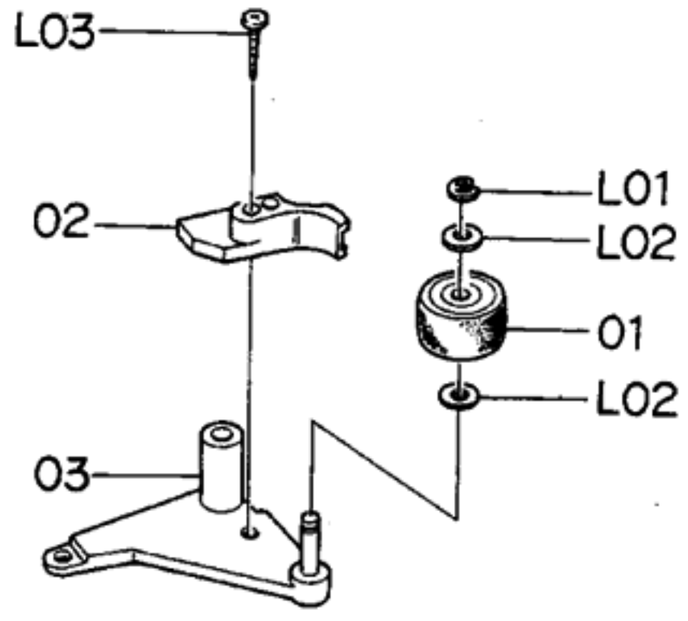


Fig. 8.17

8.18. Take-up Pressure Roller Ass'y (G03)

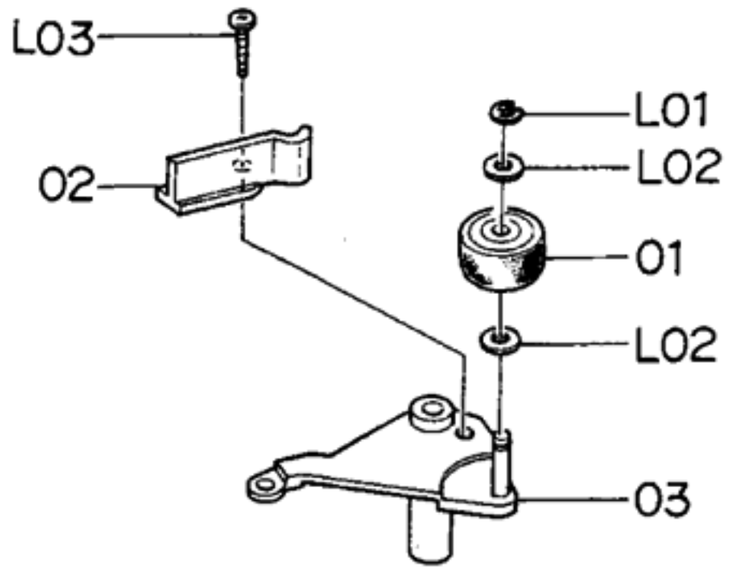


Fig. 8.18

Schematic Ref. No.	Part No.	Description	Q'ty
E01	**CA08106B**	**Capstan Motor Ass'y** Serial No.: A12401001 —	**1**
01	0C08135A	Capstan Motor	1
02	0C08079G	Capstan Motor Pulley	1
F01	**CA08242A**	**Reel Motor Ass'y** Serial No.: A12401001 —	**1**
01	0C08272A	Reel Motor	1
02	0C08063F	Reel Motor Pulley	1
03	0B09290A	Ceramic Capacitor 0.01μ 50V Z	1
F02	**CA08034A**	**Control Motor Ass'y** Serial No.: A12401001 —	**1**
01	0C08137A	Control Motor	1
02	0C08064A	Control Motor Pulley	1
03	0B09292A	Ceramic Capacitor 0.1μ 50V Z	1
04	0M03985A	Control Motor Label	1
05	0M03988A	Motor Seal B	1
G01	**CA08345A**	**Head Mount Base Ass'y** Serial No.: A12401001 —	**1**
01	0C08028C	Head Height Adjustment Gear	2
02	0C08027F	Head Height Adjustment Screw	4
03	0C08026D	Azimuth Alignment Screw	2
04	0C08161B	Spring Stopper	2
05	0C08187B	Head Plate Spring	2
06	0C08315A	Azimuth Alignment Wire Hold Plate	1
07	CA08083C	Head Mount Base Sub Ass'y	1
08	CA08341A	P-8L Playback Head Ass'y	1
09	0C08316A	Azimuth Alignment Plate	1
10	0C08317A	Azimuth Spring	1
11	CA08340A	R-8L Record Head Ass'y	1
L01	0E00917A	BT Screw M2.6x5 Philips Pan Head	2

Schematic Ref. No.	Part No.	Description	Q'ty
G02	**CA08053B**	**Supply Pressure Roller Ass'y** Serial No.: A12401001 —	**1**
01	0C08164G	Pressure Roller	1
02	0C08189C	Supply Tape Guide	1
03	CA08061A	Supply Pressure Roller Arm Ass'y	1
L01	0E00042A	E-Ring 1.5mm	1
L02	0C08024A	Washer 2mm	2
L03	0E00788A	BT Screw M2x8 Philips Pan Head (Black Chromate)	1
G03	**CA08079B**	**Take-up Pressure Roller Ass'y** Serial No.: A12401001 —	**1**
01	0C08164G	Pressure Roller	1
02	0C08181C	Take-up Tape Guide	1
03	CA08073B	Take-up Pressure Roller Arm Ass'y	1
L01	0E00042A	E-Ring 1.5mm	1
L02	0C08024A	Washer 2mm	2
L03	0E00788A	BT Screw M2x8 Philips Pan Head (Black Chromate)	1

8.19. Head Base Ass'y (G04)

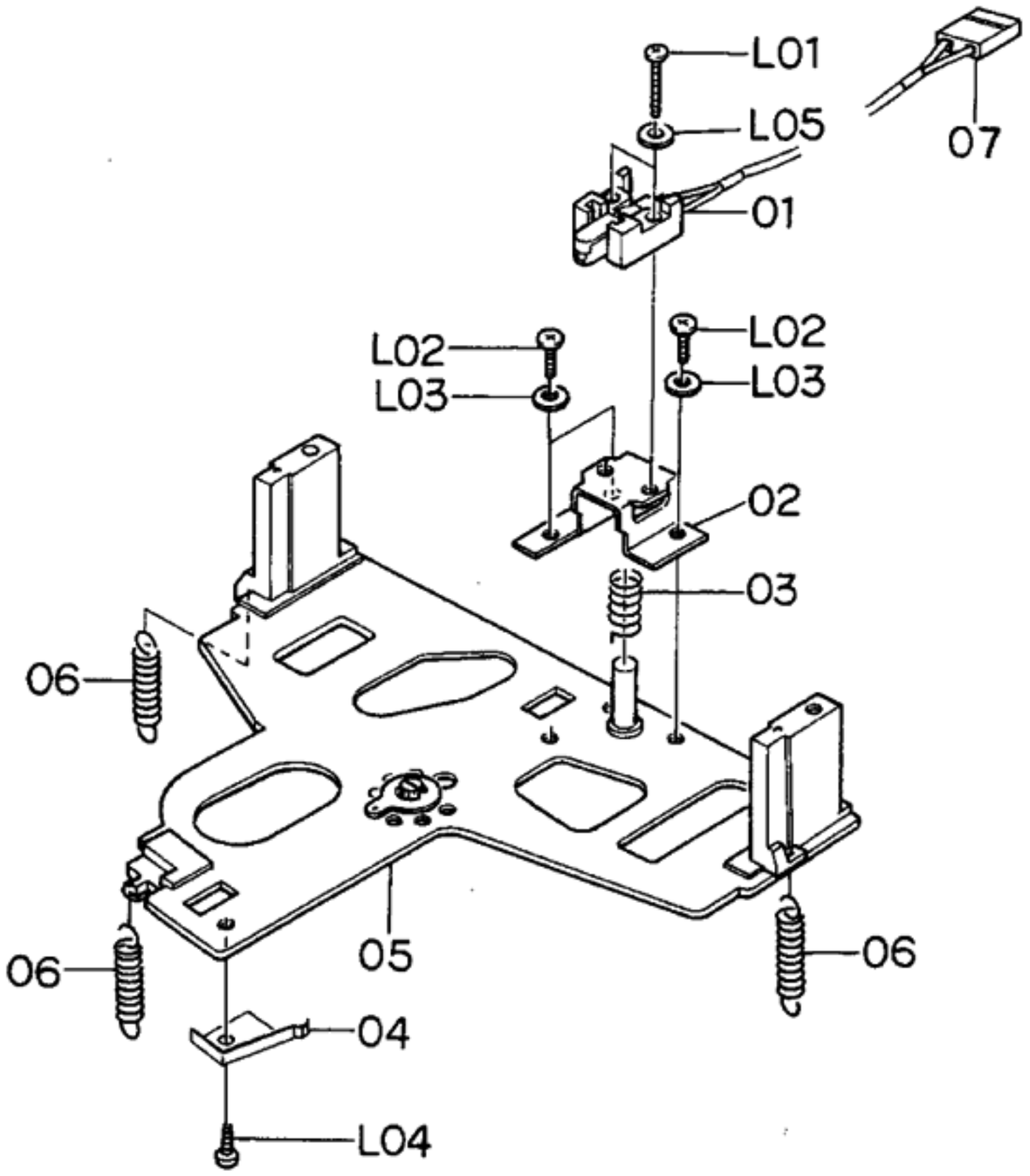


Fig. 8.19

8.20. Cassette Case Holder L Ass'y (G05)

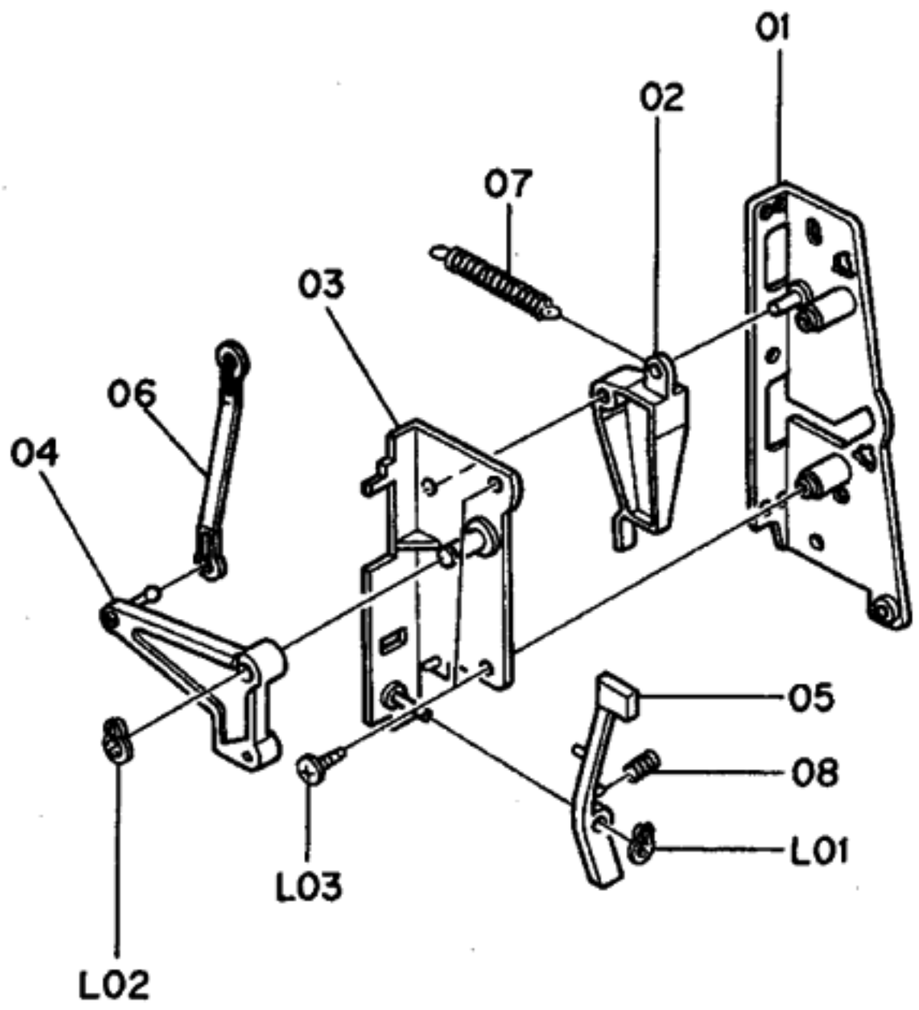


Fig. 8.20

8.21. Cassette Case Holder R Ass'y (G06)

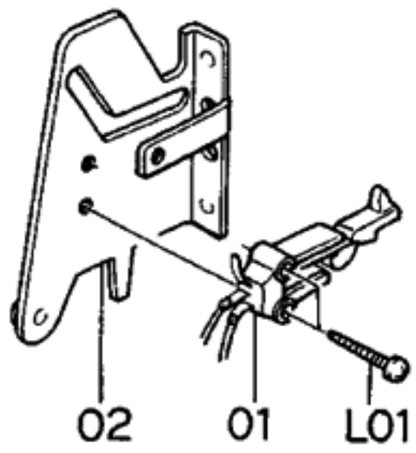


Fig. 8.21

8.22. Auto Shut-off Ass'y (G07)

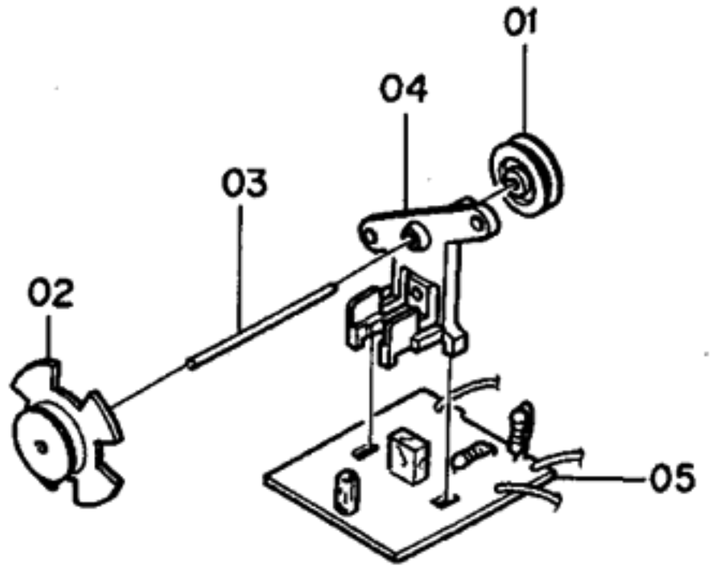


Fig. 8.22

8.23. Pneumatic Damper Ass'y (G08)

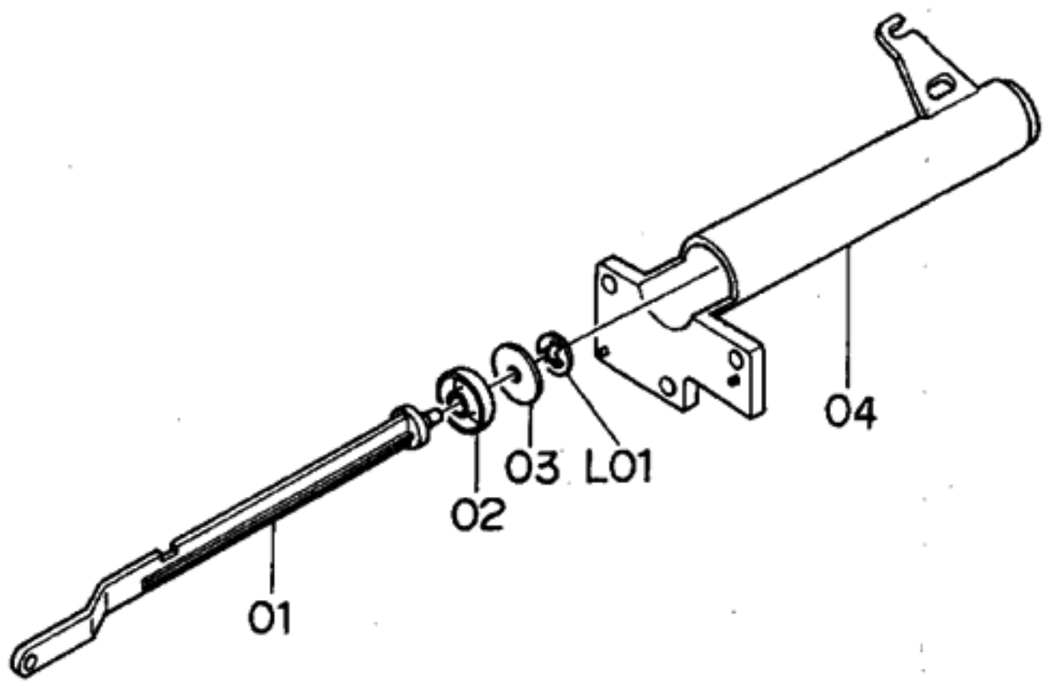


Fig. 8.23

8.24. P-8L Playback Head Ass'y (H01)

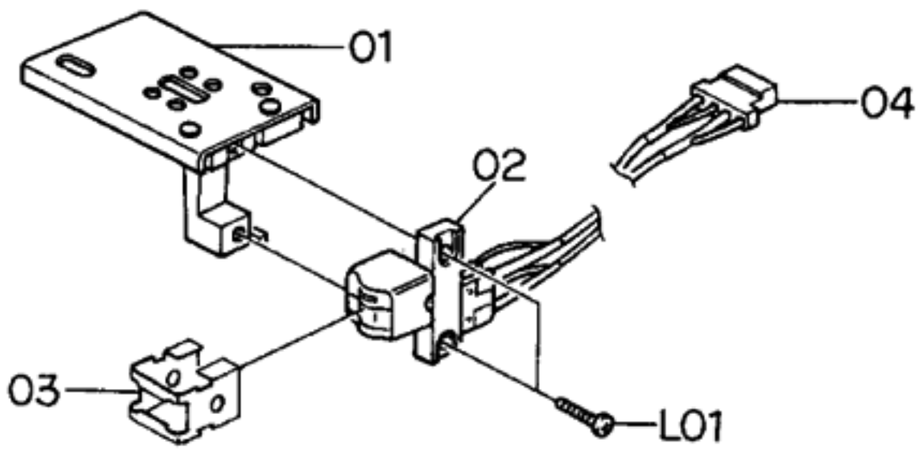


Fig. 8.24

8.25. R-8L Record Head Ass'y (H02)

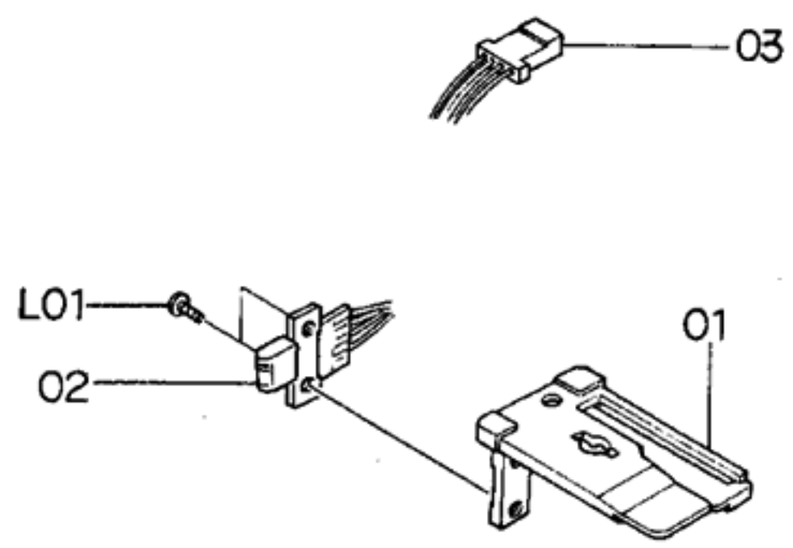


Fig. 8.25

Schematic Ref. No.	Part No.	Description	Q'ty
G04	**CA08339A**	**Head Base Ass'y** Serial No.: A12401001 –	**1**
01	GA02103A	E0K Erase Head	1
02	0C08158D	Erase Head Hold Plate	1
03	0C08166A	Erase Head Hold Plate Spring	1
04	0C08174D	Cassette Hold Spring	1
05	CA08003Q	Head Base Ass'y	1
06	0C08175A	Head Base L Spring	3
07	0B08944A	2P-H Connector	1
L01	0E00951A	Screw M1.7x7 Philips Pan Head (Black Chromate)	2
L02	0E00909A	Screw M2x6 Philips Pan Head	3
L03	0E00117A	Washer 2mm	3
L04	0E00853A	BT Screw M2x3 Philips Pan Head	1
L05	0E00952A	Washer 1.7mm	2
G05	**CA08350A**	**Cassette Case Holder L Ass'y** Serial No.: A12401001 –	**1**
01	CA08326A	Cassette Case Holder L Sub Ass'y	1
02	0C08073C	Lid Arm A	1
03	0C08306A	Eject Arm Holder	1
04	0C08307A	Eject Arm A	1
05	0C08197C	Eject Arm B	1
06	0C08199B	Eject Arm Joint	1
07	0C08114A	Lid Arm Spring	1
08	0C08211C	Eject Arm Spring	1
L01	0E00837A	Stopper Ring 3mm	1
L02	0E00838A	Stopper Ring 4mm	1
L03	0E00865A	BT Screw M3x10 Philips Binding Head	2
G06	**CA08022A**	**Cassette Case Holder R Ass'y** Serial No.: A12401001 –	**1**
01	0C08133A	Eject Sensor	1
02	CA08044A	Cassette Case Holder R Sub Ass'y	1
L01	0E00840A	BT Screw M2x8 Philips Pan Head	2
G07	**CA08351A**	**Auto Shut-off Ass'y** Serial No.: A12401001 –	**1**
01	0C08047A	Shut-off Pulley A	2
02	0C08309A	Shut-off Pulley B	1
03	0C08088B	Shut-off Pulley Shaft	1
04	0C08207B	Shut-off Pulley Holder	1
05	BA04551A	Shut-off P.C.B. Ass'y	1
G08	**CA08030A**	**Pneumatic Damper Ass'y** Serial No.: A12401001 –	**1**
01	0C08058C	Damper Piston	1
02	0C08102C	Damper Ring	1
03	0C08010C	Damper Plate	1
04	0C08059D	Sylinder	1
L01	0E00874A	Stopper Ring CS 2mm	1
H01	**CA08341A**	**P-8L Playback Head Ass'y** Serial No.: A12401001 –	**1**
01	CA08307A	Playback Head Plate Ass'y	1
02	GA02034A	P-8LH Playback Head	1
03	0C08169D	Pad Lifter 54	1
04	0B08946A	4P-H Connector	1
L01	0E00886A	Screw M1.7x6.5 Philips Pan Head	2
H02	**CA08340A**	**R-8L Record Head Ass'y** Serial No.: A12401001 –	**1**
01	0C08234B	Record Head Plate	1
02	GA01050A	R-8LH Record Head	1
03	0B08945A	4P-H Connector	1
L01	0E00887A	Screw M1.7x4 Philips Pan Head	2

9. OVERALL TIMING CHART

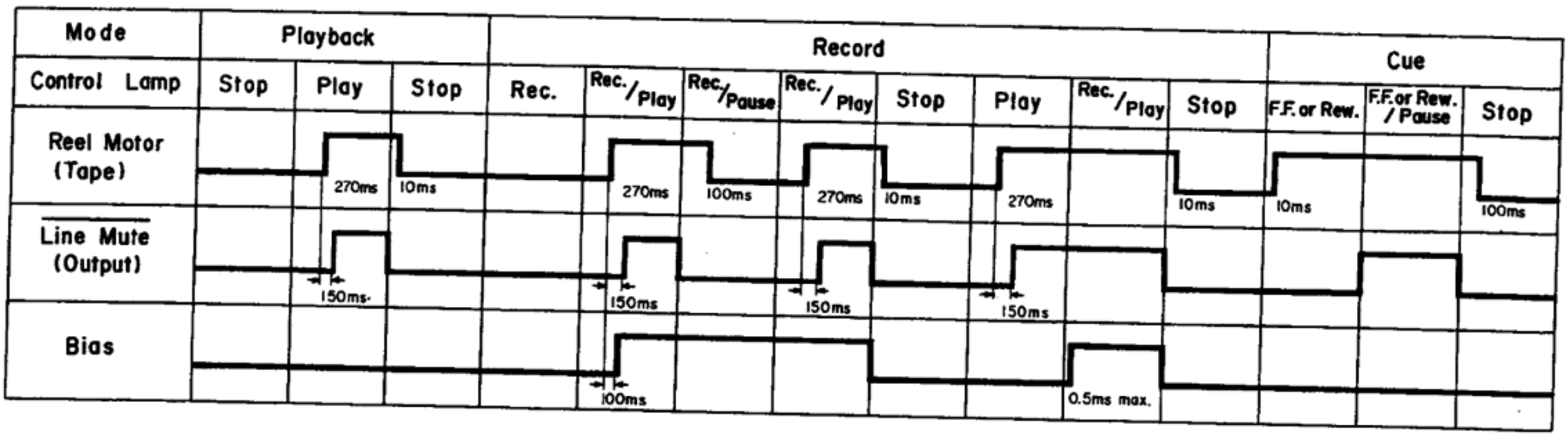


Fig. 9

10. EQ. AMP. FREQUENCY RESPONSE

10.1. Playback Frequency Response

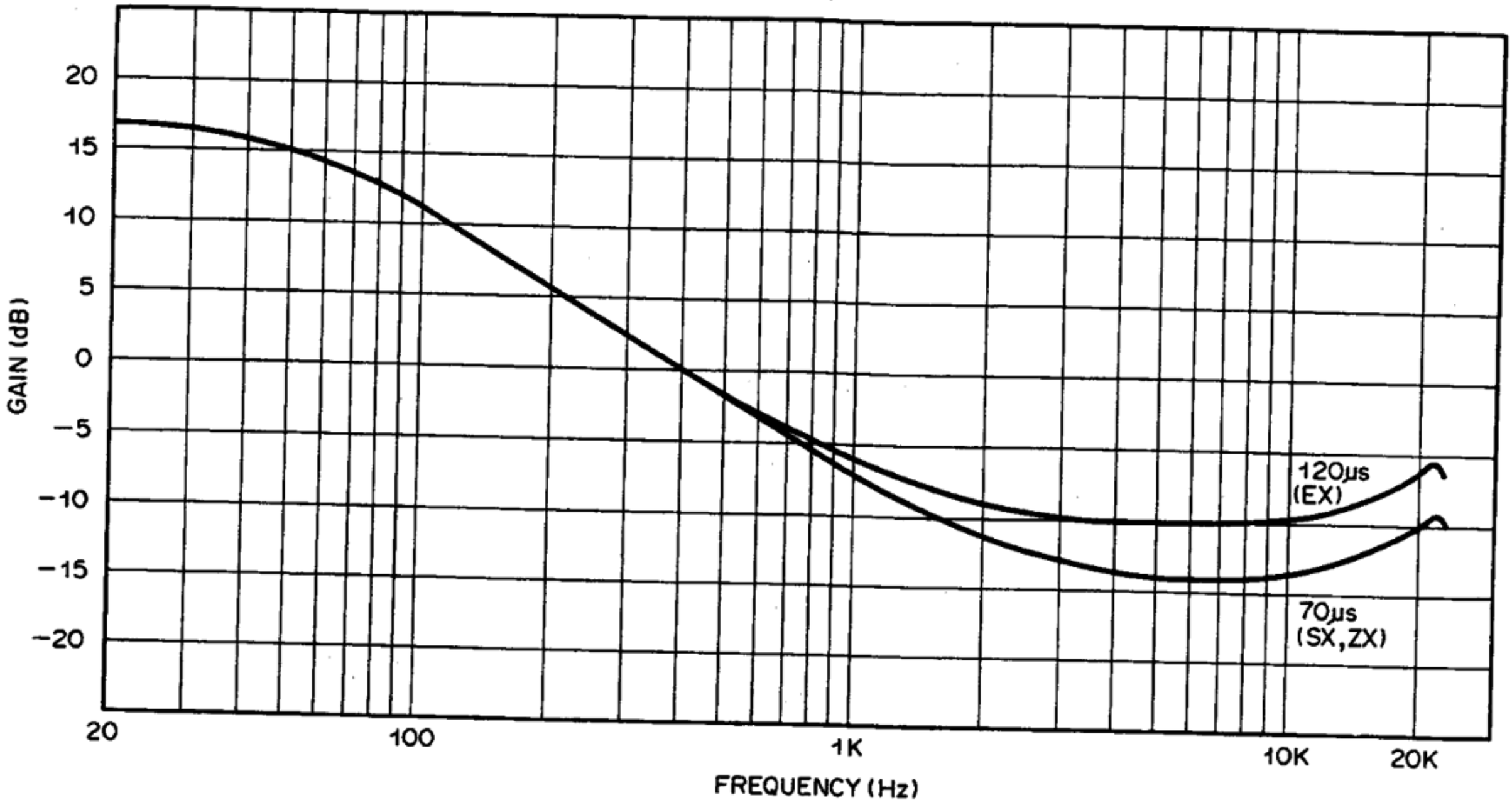


Fig. 10.1

10.2. Record Current Frequency Response

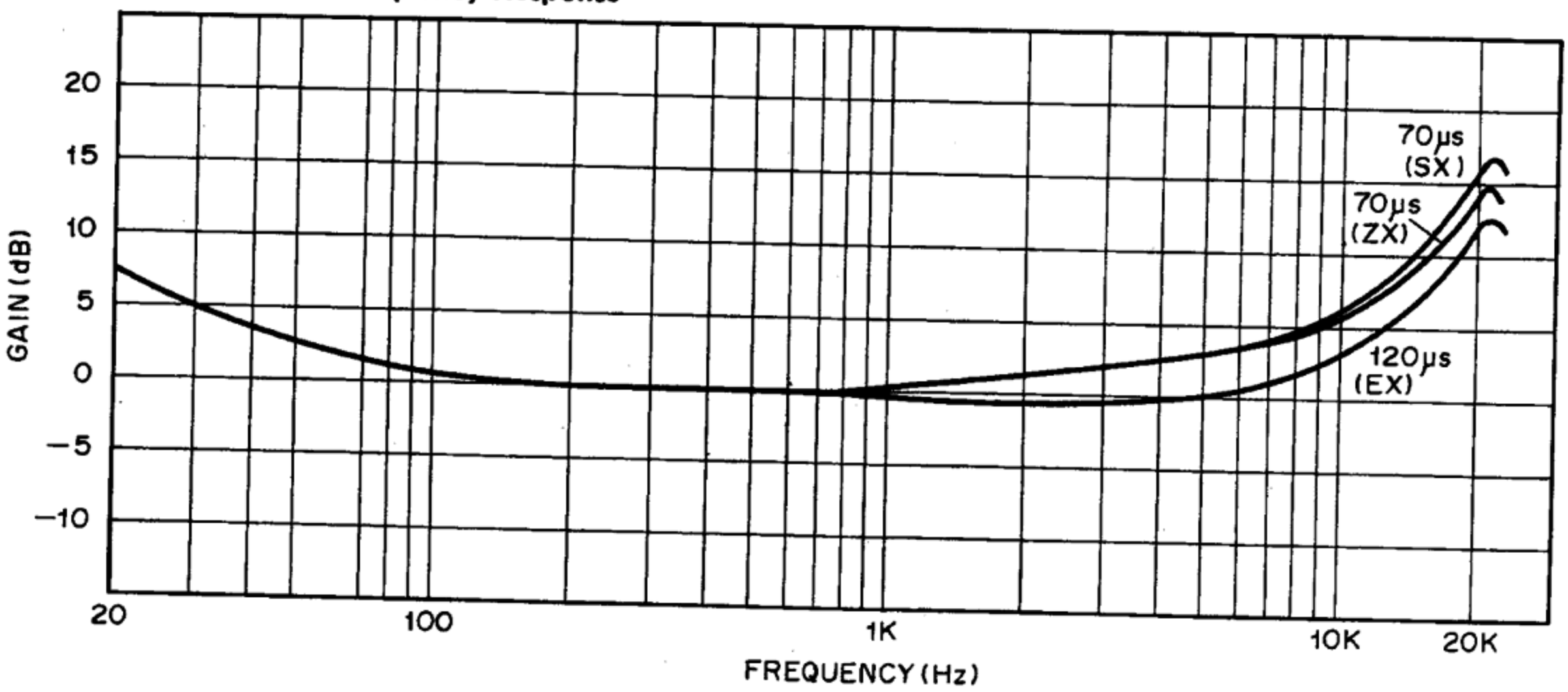


Fig. 10.2

11. BLOCK DIAGRAMS

11.1. Amplifier Section

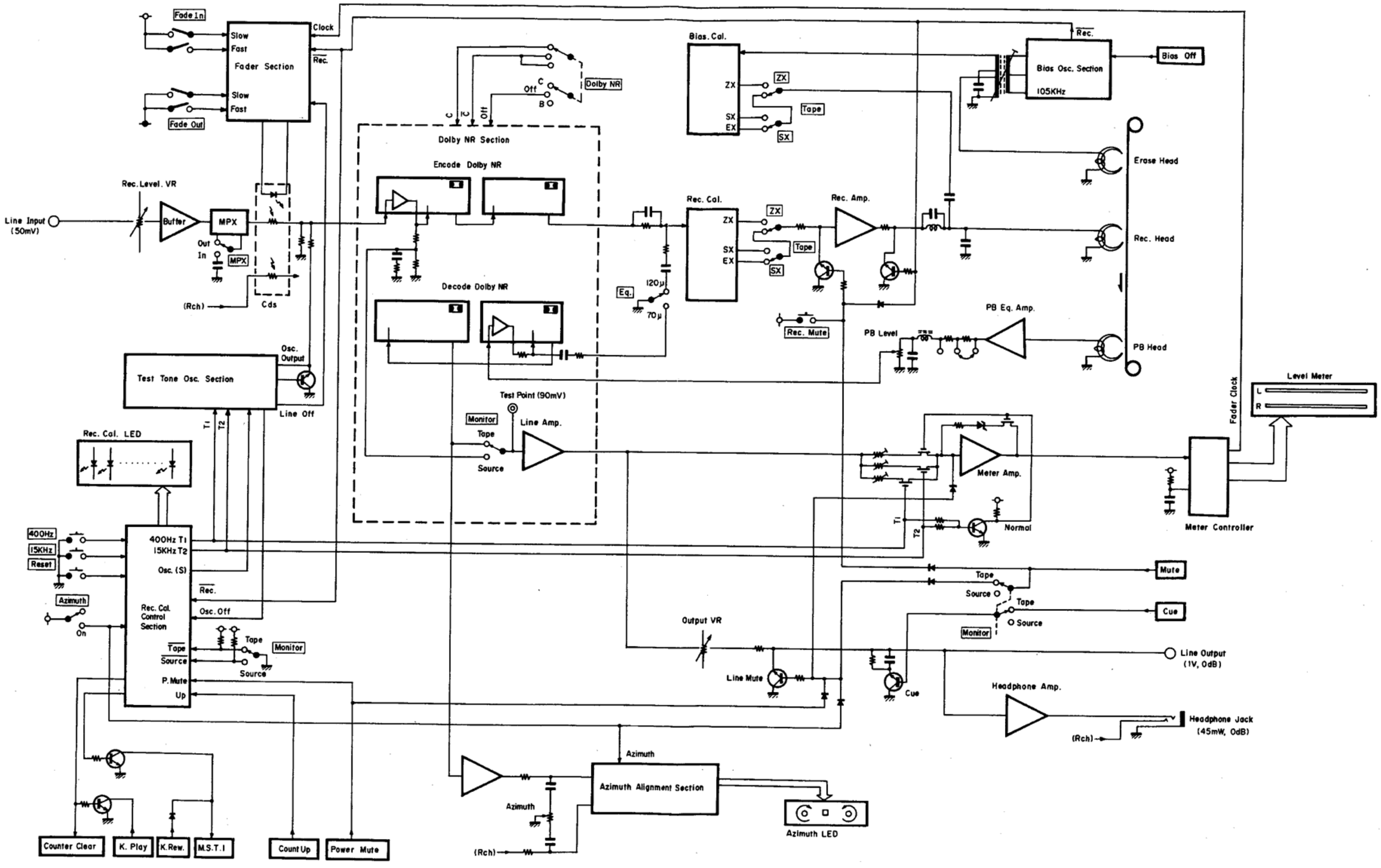


Fig. 11.1

11.2. Mechanism Control Section

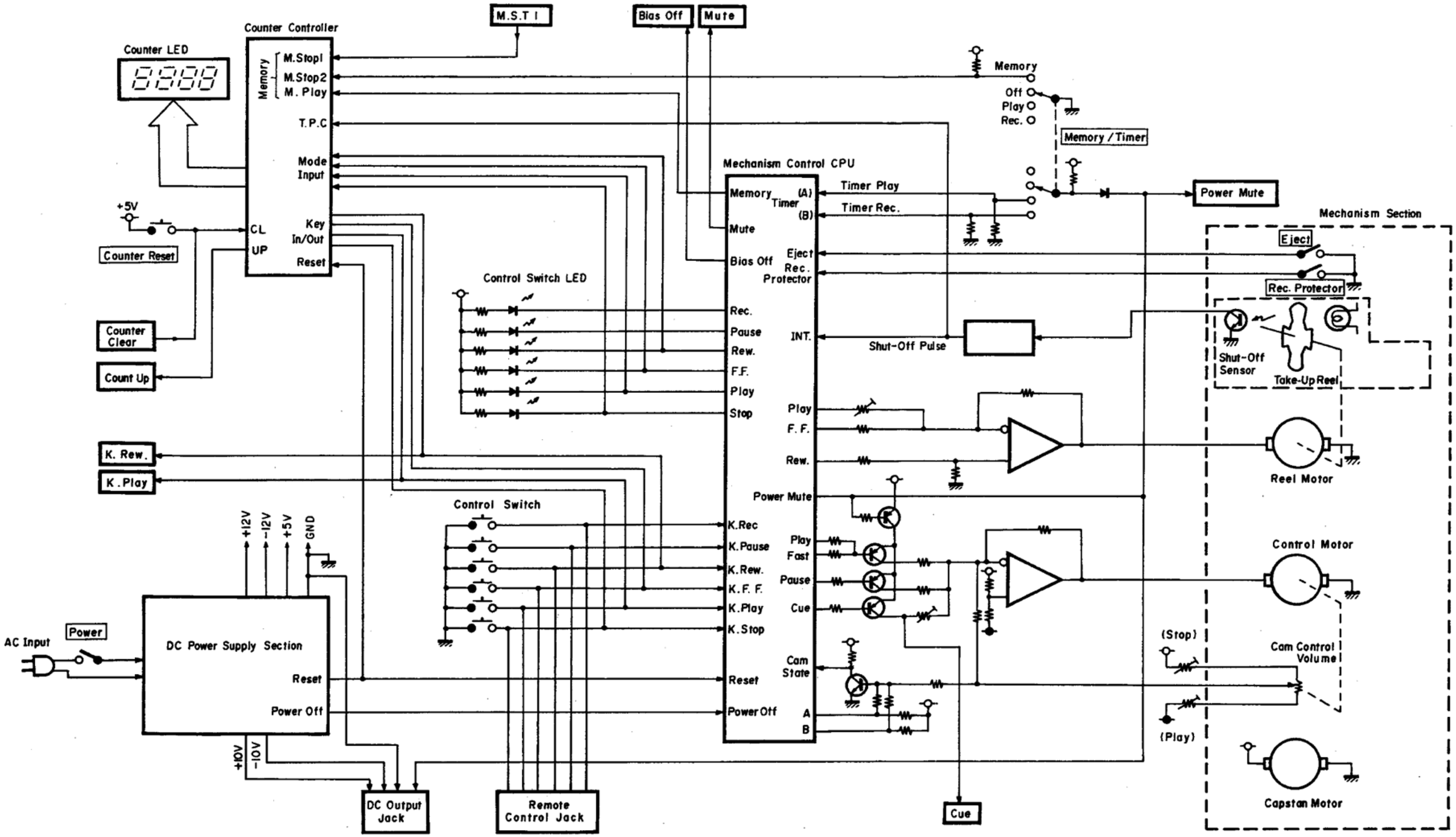
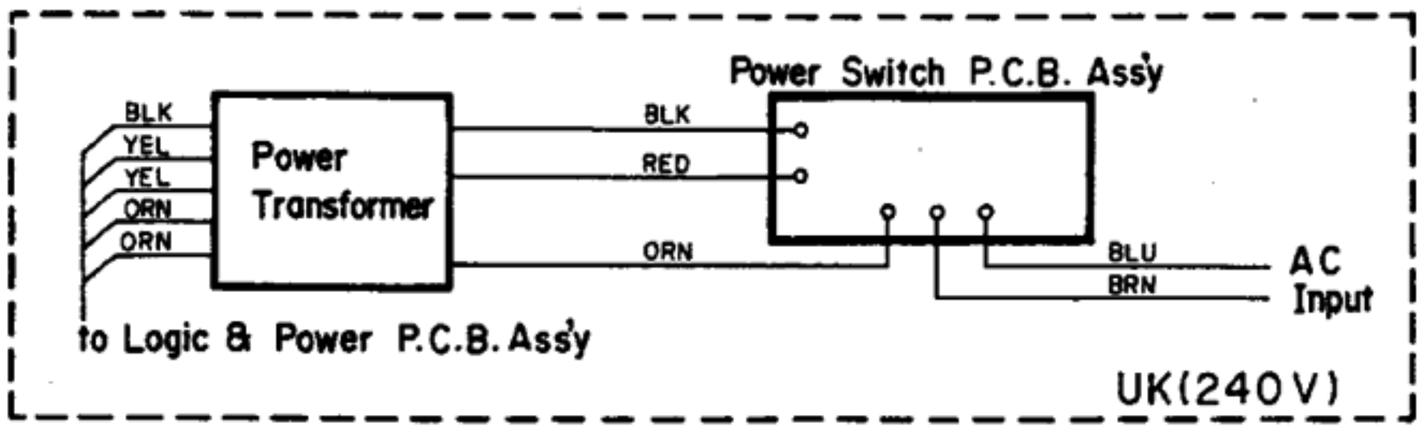
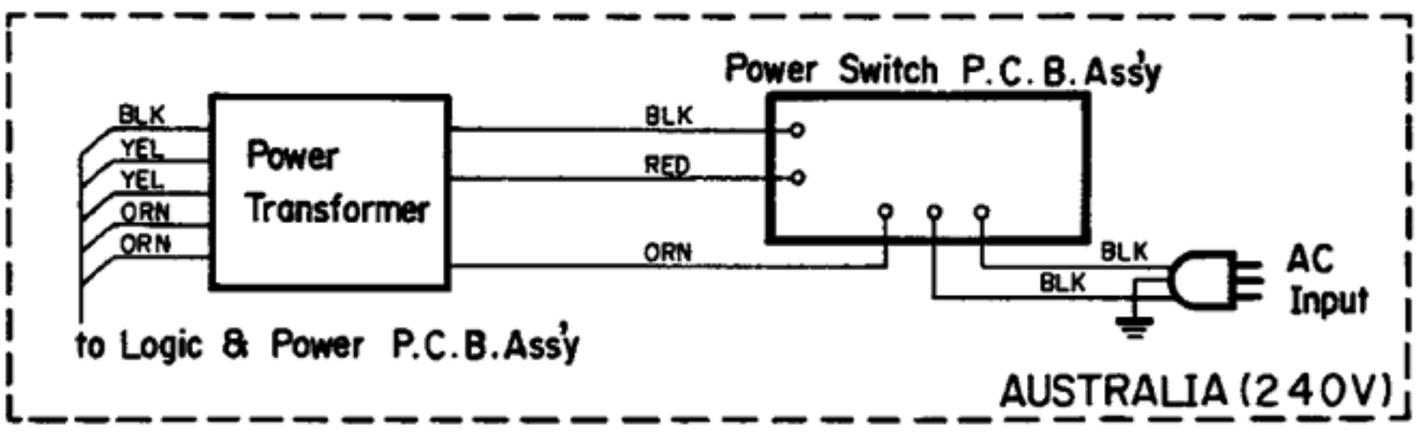
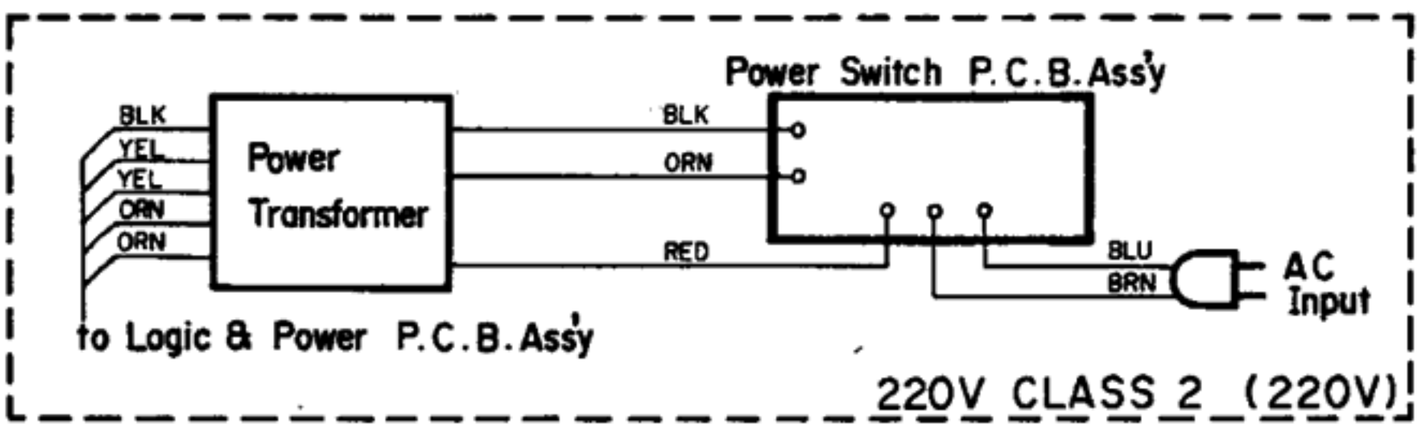


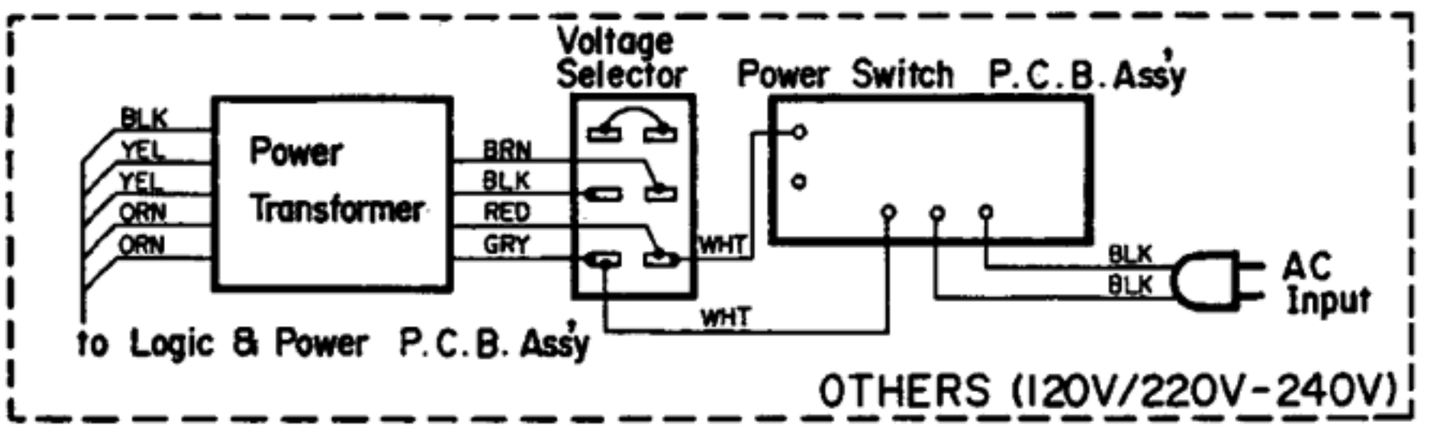
Fig. 11.2

12. WIRING DIAGRAM









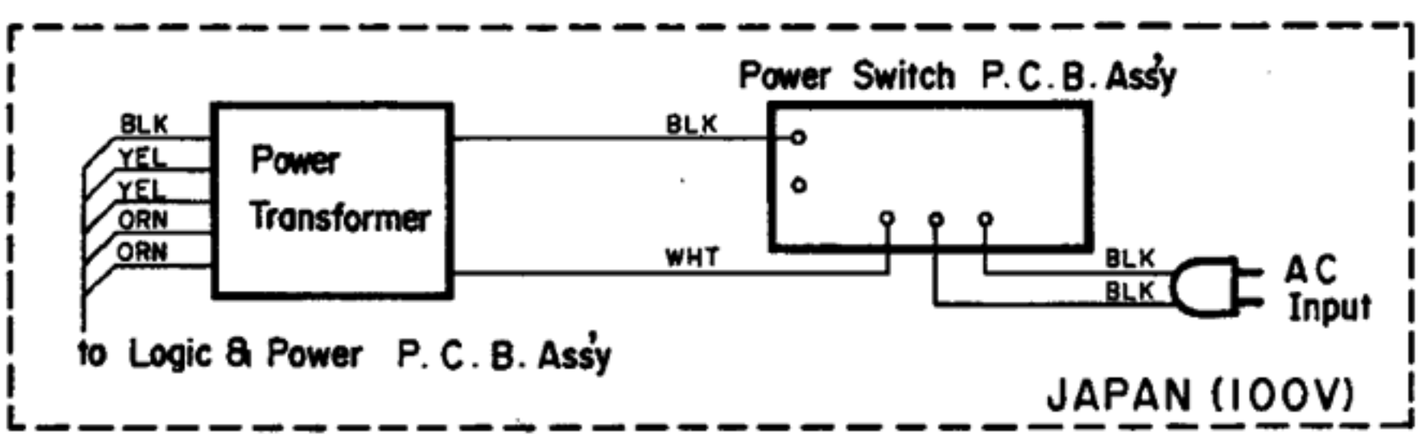


Fig. 12.1

13.4. Attention to Servicemen

(1) Parts Replacement

Following parts shall be replaced with the specified ones. Refer to the parts list.

(a) Power Supply Circuit
- Power Cord
- Power Transformer: T1

(b) Power Switch P.C.B. Ass'y
- Power Switch: SW1
- Spark Killer: M2

(c) Logic & Power P.C.B. Ass'y
- Fuses: F401, 402, 403
- Power Transistors: Q401, 404, 408, 410, 414, 607, 608, 610, 611, 620, 622
- Diode Bridges: D405, 406
- Fail Safe Type Resistors: R641, 669, 680, 681, 682 683

(d) Main P.C.B. Ass'y
- Power Transistors: Q103, 104, 203, 204, 304
- Fail Safe Type Resistors: R122, 222, 301, 302, 305, 306, 309, 310, 314, 315, 372, 373, 967, 968

(e) Dolby NR P.C.B. Ass'y
- Fail Safe Type Resistors: R701, 702

(f) Shut-off P.C.B. Ass'y
- Fail Safe Type Resistor: R605
- Lamp: PL407

(g) Indicator P.C.B. Ass'y
- Power Transistors: Q901, 902, 903, 904, 905
- Fail Safe Type Resistor: R916
- Thermal Fuse: F901

(h) Switch P.C.B. Ass'y
- Fail Safe Type Resistors: R301, 302

(i) Cassette Case Lamp

(2) Insulation Check

Before returning the repaired ZX-7 to a customer, check to insure that the exposed part is accurately insulated from the AC line by measuring the leakage current or the insulation resistance between them.

13.5. IC Block Diagrams

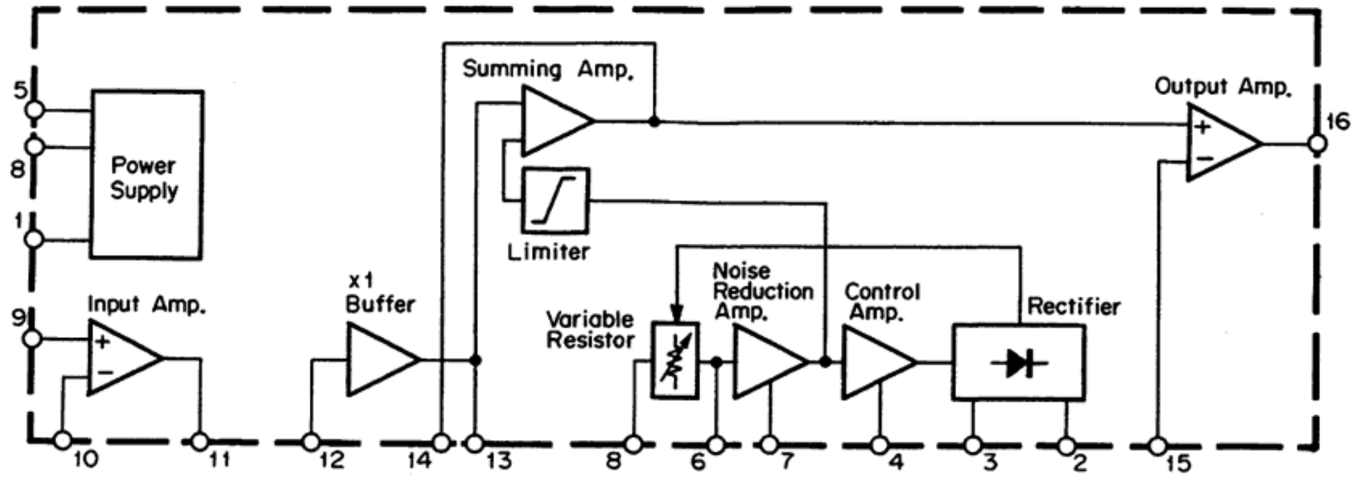


Fig. 13.4 Dolby NR IC μA7300PC, LA2730

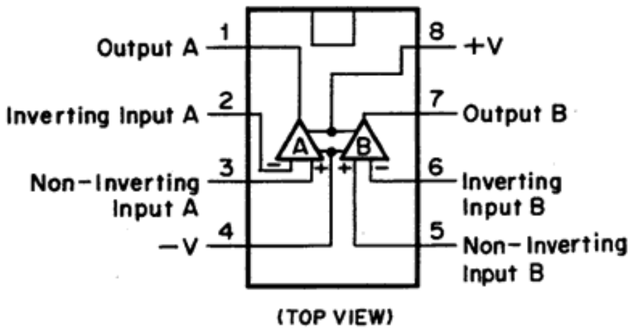


Fig. 13.5 Operational Amp. IC RC4558D, RC4558DD, μPC4556C, RC4560D, RC4559D, TA75558P-R

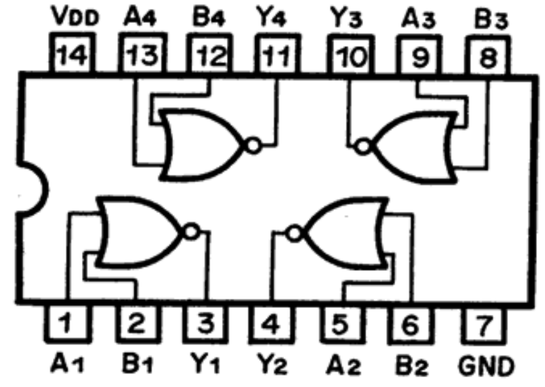


Fig. 13.7 NOR Gate C-MOS IC μPD4001BC

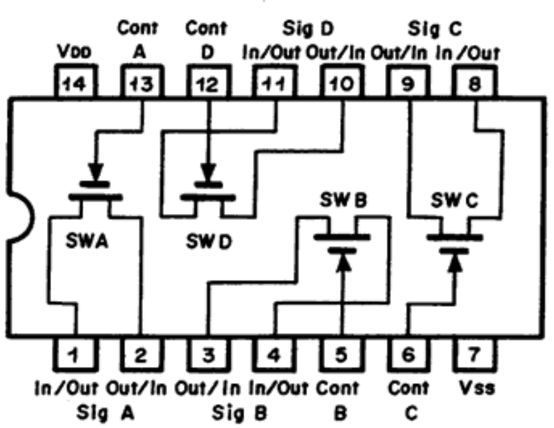


Fig. 13.6 Bilateral Switch C-MOS IC MSM4066RS

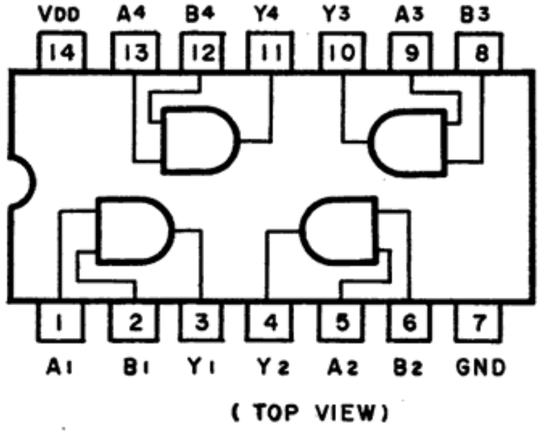


Fig. 13.8 AND Gate C-MOS IC μPD4081BC

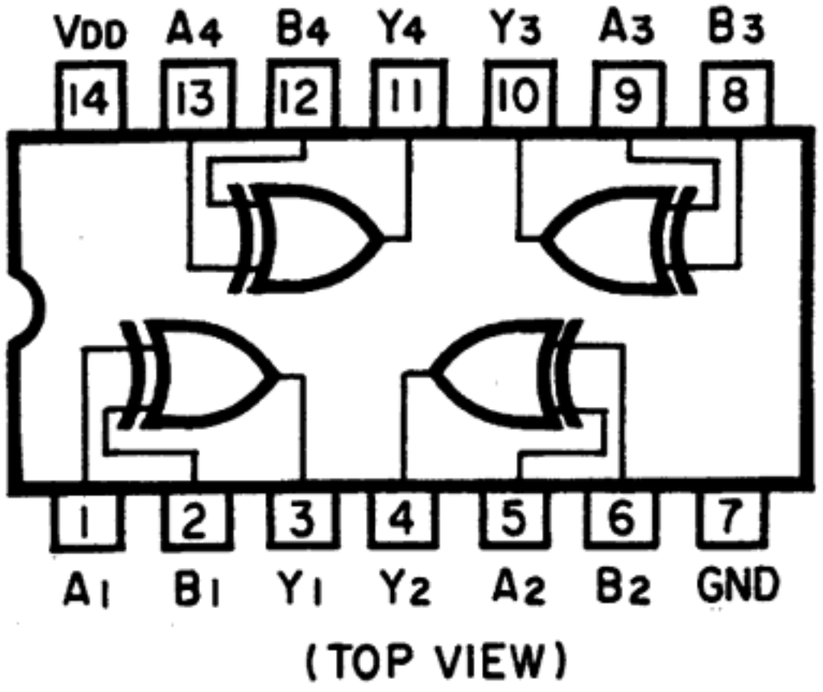


Fig. 13.9 Exclusive OR Gate C-MOS IC μPD4030BC

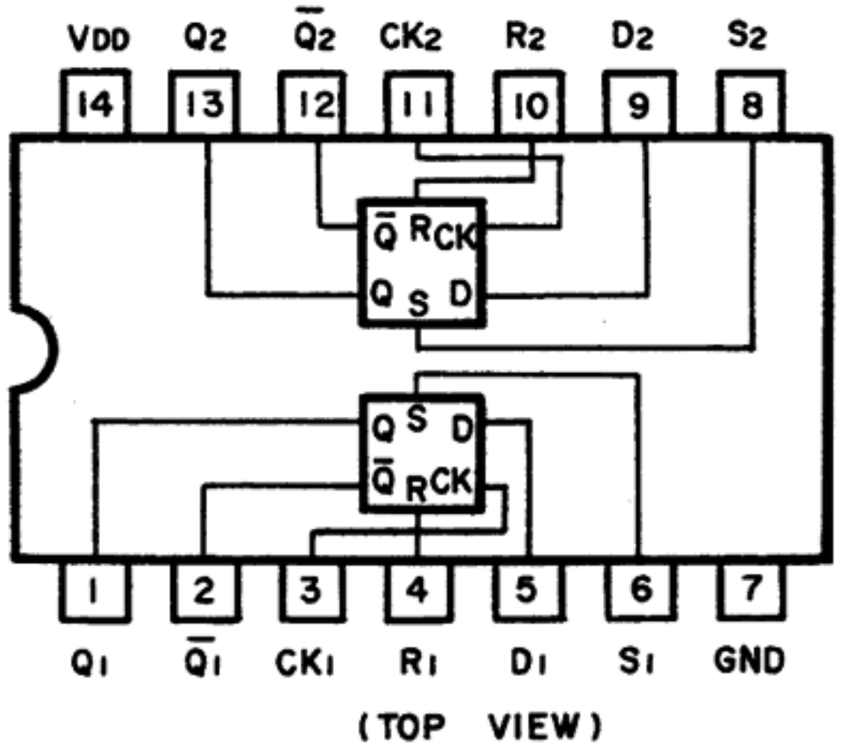


Fig. 13.10 D-Type Flip-Flop C-MOS IC TC4013BP

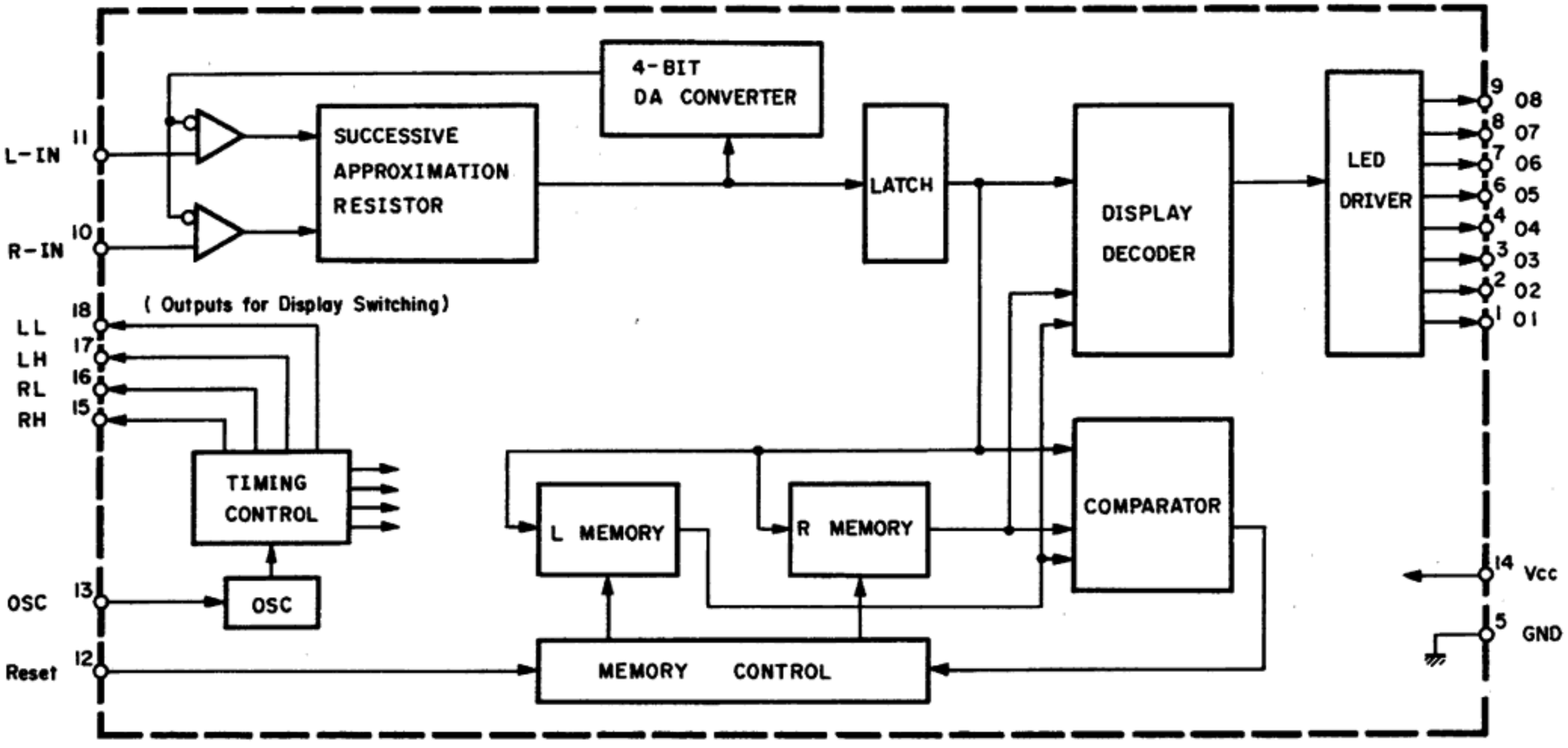
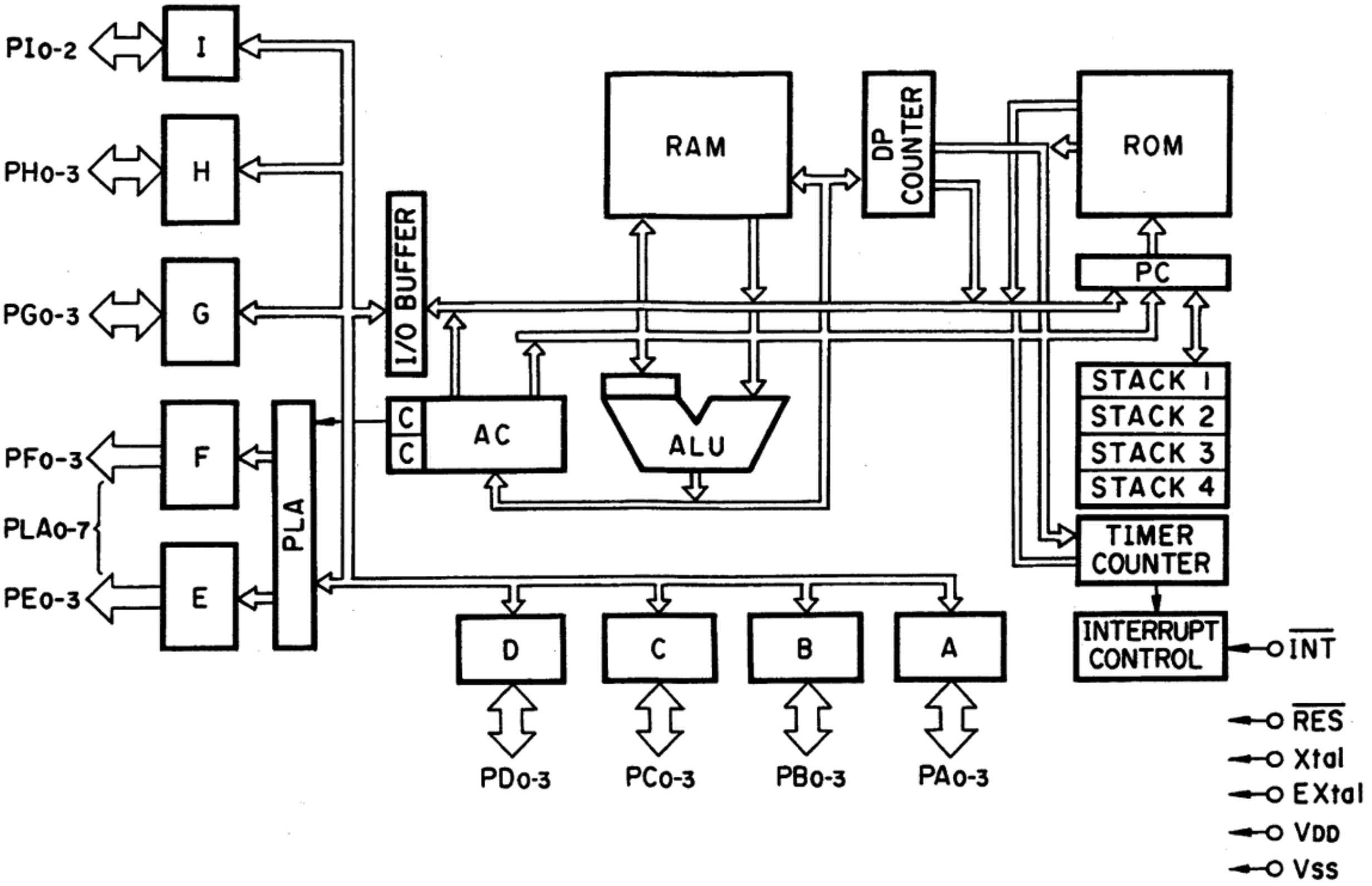
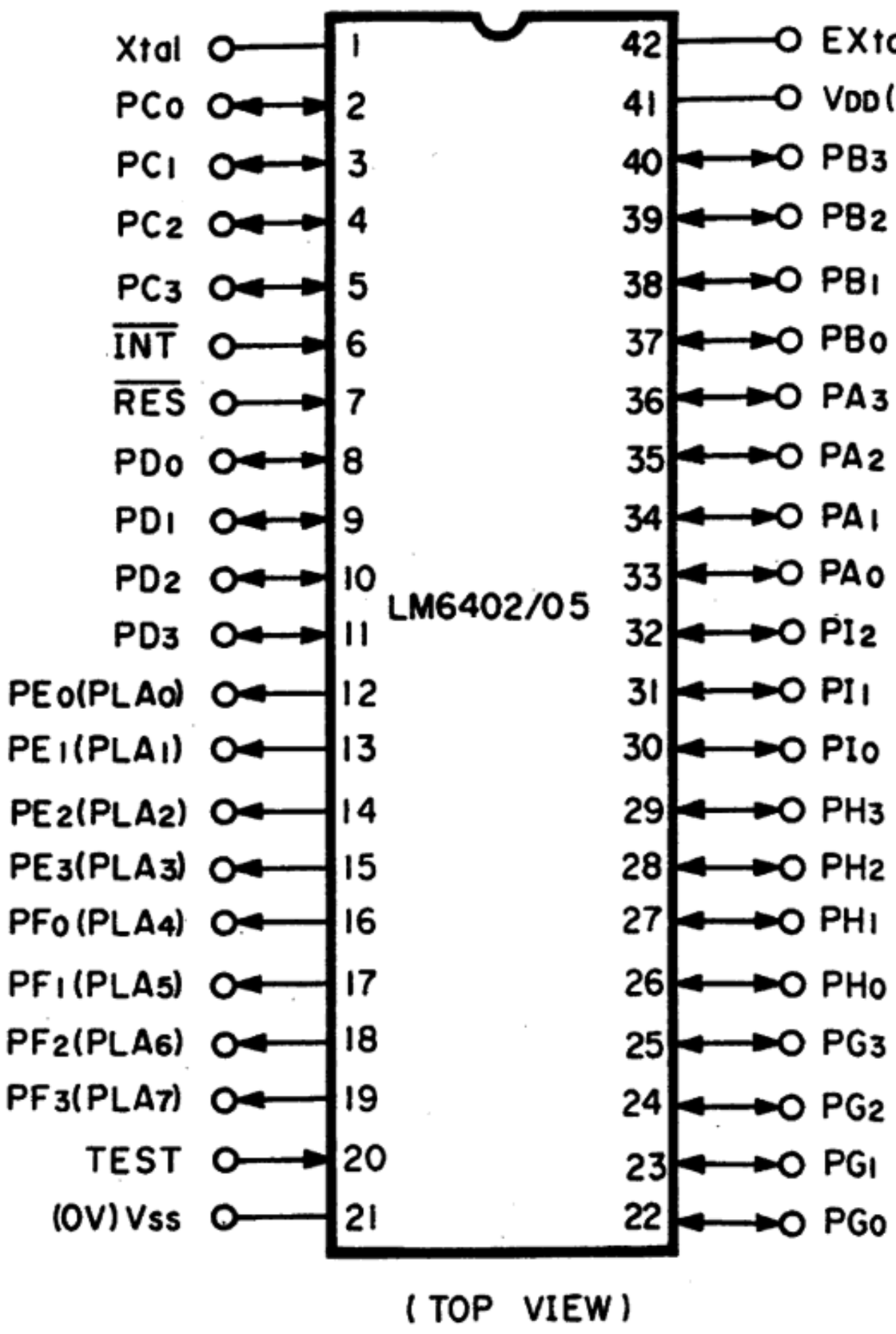


Fig. 13.11 Level Meter Control IC MSL9350RS





Xtal , EXtal	: Crystal input for internal oscillator
$\overline{INT}$	: Interrupt
$\overline{RES}$	: Reset
PA0-3	: Bidirectional Port A0-3
PB0-3	: Bidirectional Port B0-3
PC0-3	: Bidirectional Port C0-3
PD0-3	: Bidirectional Port D0-3
PE0-3 (PLA0-3)	: Output Port E0-3(PLA Output 0-3)
PF0-3 (PLA4-7)	: Output Port F0-3(PLA Output 4-7)
PG0-3	: Bidirectional Port G0-3
PH0-3	: Bidirectional Port H0-3
PI0-2	: Bidirectional Port I 0-2
TEST	: Test

Fig. 13.12 4-Bit Micro-processor LM6402A-052/048

14. SPECIFICATIONS

Track Configuration	4 Tracks/2-Channel Stereo
Heads	3 (Erase Head x 1, Record Head x1, Playback Head x 1)
Motors (Tape Transport)	PLL Servo Motor (Capstan Drive) x 1
	DC Motor (Reel Drive) x 1
Power Source	100, 120, 120/220-240, 220 or 240 V AC; 50/60 Hz
	(According to country of sale)
Power Consumption	40 W max.
Tape Speed	1-7/8 ips (4.8 cm/sec) ±0.5%
Wow and Flutter	Less than 0.08% Wtd peak
	Less than 0.04% Wtd rms
Frequency Response	20 Hz–21,000 Hz ±3 dB (recording level –20 dB, ZX Tape)
	20 Hz–20,000 Hz ±3 dB (recording level –20 dB, SX, EXII Tape)
Signal to Noise Ratio	**Dolby C-Type NR on** <70 μs, ZX Tape>
	Better than 72 dB (400 Hz, 3% THD, IHF A-Wtd rms)
	Dolby B-Type NR on <70 μs, ZX Tape>
	Better than 66 dB (400 Hz, 3% THD, IHF A-Wtd rms)
Total Harmonic Distortion	Less than 0.8% (400 Hz, 0 dB, ZX Tape)
	Less than 1.0% (400 Hz, 0 dB, SX, EXII Tape)
Erasure	Better than 60 dB (100 Hz, 0 dB)
Separation	Better than 37 dB (1 kHz, 0 dB)
Crosstalk	Better than 60 dB (1 kHz, 0 dB)
Bias Frequency	105 kHz
Input (Line)	50 mV, 70 k ohms
Output (Line)	1 V (400 Hz, 0 dB, Output Level Control at max.), 2.2 k ohms
(Headphones)	45 mW (400 Hz, 0 dB, Output Level Control at max.), 8-ohm load
BlackBox Series DC Output	±10 V, 125 mA max.
Dimensions	450 (W) x 135 (H) x 300 (D) millimeters
	17-3/4 (W) x 5-5/16 (H) x 11-13/16 (D) inches
Approximate Weight	9.5 kg
	21 lb.

- Specifications and appearance design are subject to change for further improvement without notice.
- Dolby NR under license from Dolby Laboratories Licensing Corporation.
- The word "DOLBY" and the Double-D-Symbol are trademarks of Dolby Laboratories Licensing Corporation.