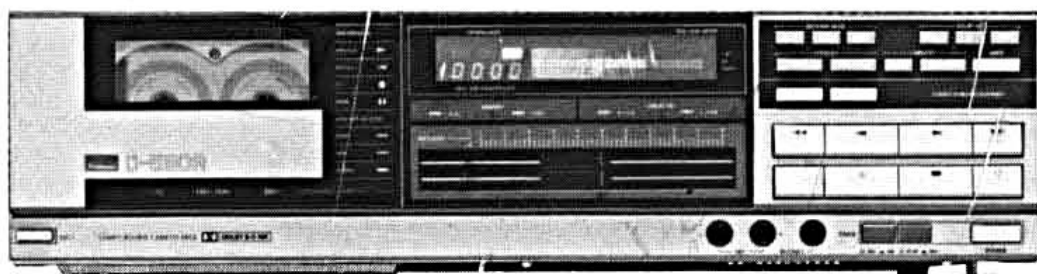


SERVICE MANUAL

COMPU REVERSE CASSETTE DECK

SANSUI D-590R (Silver & Black Model)



CAUTION

1. Parts identified by the ! symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

Sansui

SANSUI ELECTRIC CO., LTD.

•SPECIFICATIONS

| | |
|--|---|
| Track format | 4-track/2-channel system |
| Tape speed | 4.8 cm/sec. |
| Heads (2-head configuration) | |
| Rec/pb head | HIGH-Bs hard permalloy |
| Erase head | Double-gap HIGH-Bs ferrite |
| Motor | Capstan: Electronically Controlled DC Motor |
| | Reels: DC Motor |
| | Mechanism: DC Motor |
| Wow/flutter | 0.04% max (WRMS) |
| Fast forwarding (rewinding) time | Approx. 85 sec. (for C-60 tape) |
| Frequency response (-20 VU recording/playback) | |
| Normal tape (LH) | 20 to 17,000 Hz (20 to 16,000 Hz ± 3 dB) |
| Chrome tape | 20 to 18,000 Hz (20 to 17,000 Hz ± 3 dB) |
| Metal tape | 20 to 19,000 Hz (20 to 18,000 Hz ± 3 dB) |
| Signal-to-noise ratio (recording/playback with metal tape) | |
| DOLBY NR OFF | Better than 58 dB |
| DOLBY-B NR ON | Better than 68 dB (above 5 kHz) |
| DOLBY-C NR ON | Better than 78 dB (above 1 kHz) |
| Erase rate (metal tape) | 70 dB min (1 kHz) |
| Recording bias frequency | 85 kHz |
| Input sensitivity/Impedance | |
| LINE IN (REC) | 70 mV/100 kohms |
| MIC | 0.5 mV/200 ~ 5,000 ohms |
| Power requirements | 120/220/240V 50/60 Hz |
| | For U.S.A. and Canada 120V (60 Hz) |
| Power consumption | 20W |
| Dimensions | 430 mm (16-15/16") W 111 mm (4-7/16") H 312 mm (12-5/16") D |
| Weight | 5.7 kg (12.6 lbs) net 6.9 kg (15.2 lbs) packed |

- * Design and specifications subject to change without notice for improvements.
- * Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double D symbol are trade marks of Dolby Laboratories Licensing Corporation.

CAUTION

1. The symbols, UL, CSA, BS, UK, EU, AS and XX on the parts list and the schematic diagram mean followings respectively.

- UL..... Manufactured for U.S.A market
(Underwriters Laboratories approved model.)
- CSA..... Manufactured for Canadian market.
- BS, UK Manufactured for United Kingdom market.
- EU Manufactured for European market.
- AS..... Manufactured for Australian market.
- XX..... Standard Version.
- NON MARK Common Parts.

2. Some printed circuit boards are not supplied as the assembled. To separate these in this service manual, the stock No's are not indicated at the ends of the board names. However, the individual parts on the circuit boards are provided by orders.

3. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors, which was issued on February 1983.

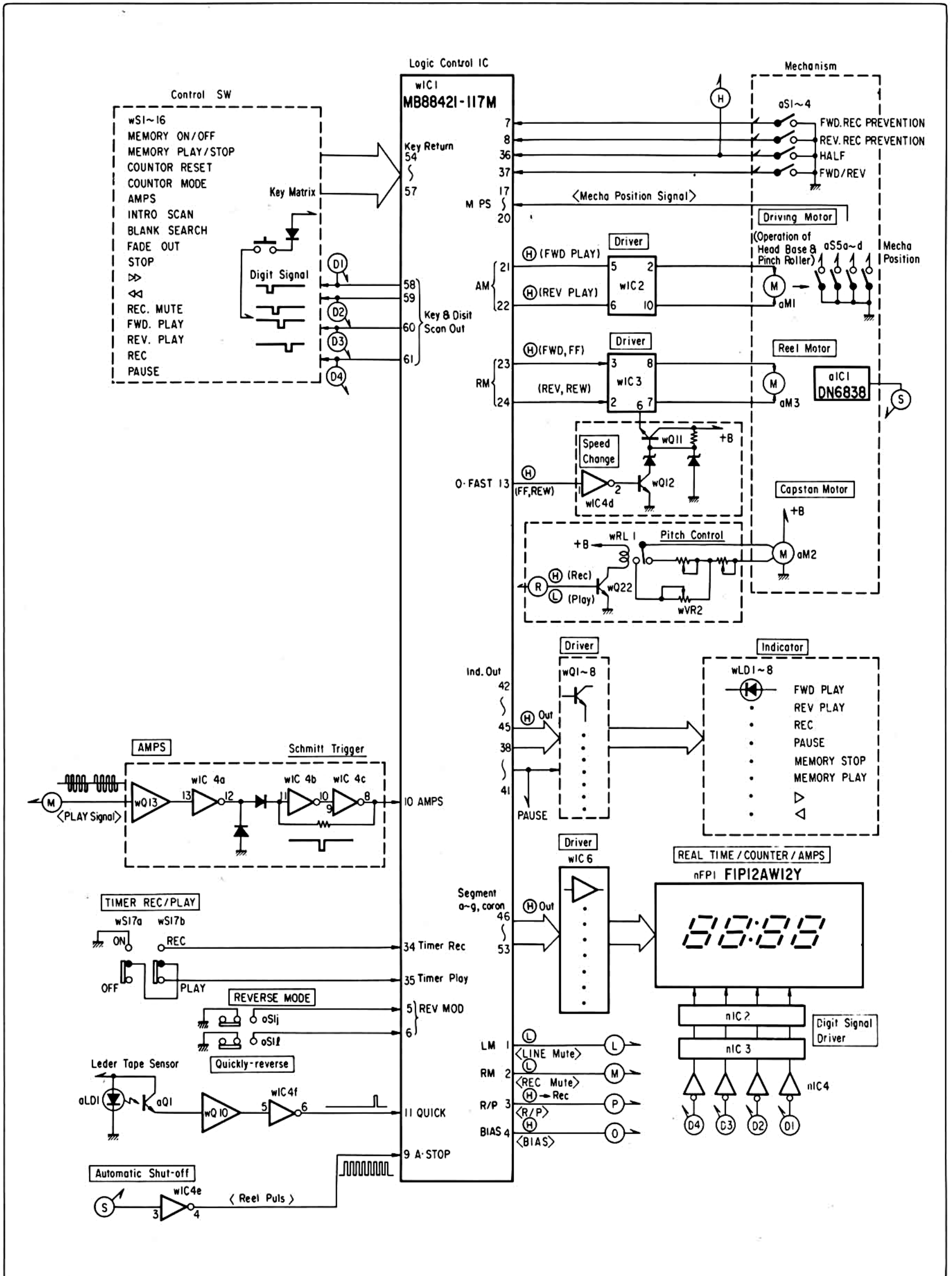
4. Abbreviations in this service manual are as follows.

•Abbreviations List

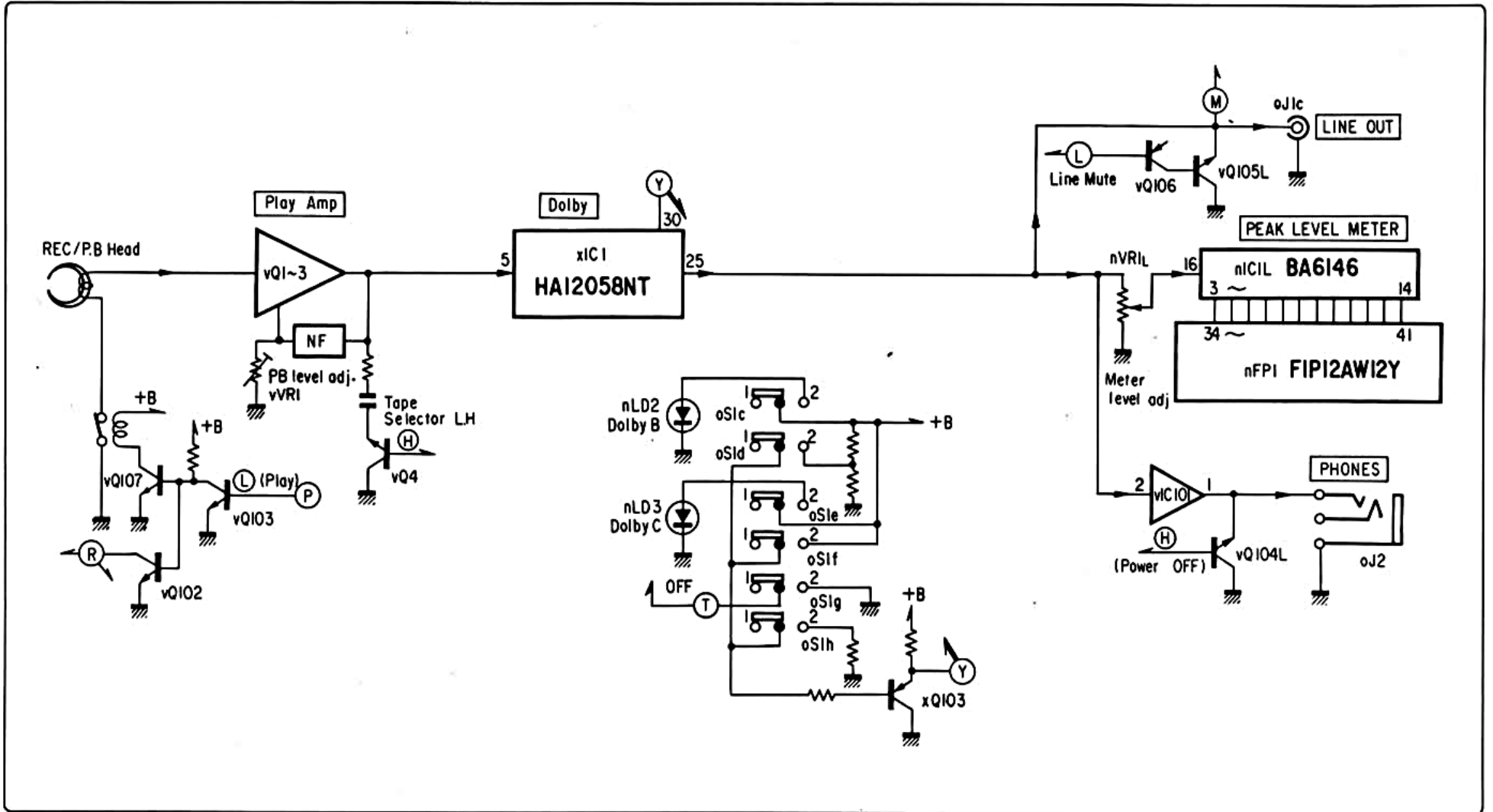
| | | | |
|--------|--|--------|--|
| C.R. | : Carbon Resistor | E.B. | : Bi-Polar Electrolytic Capacitor |
| S.R. | : Solid Resistor | E.B.L. | : Low Leak Bi-Polar Electrolytic Capacitor |
| Ce.R. | : Cement Resistor | Ta.C. | : Tantalum Capacitor |
| M.R. | : Metal Film Resistor | F.C. | : Film Capacitor |
| F.R. | : Fusing Resistor | M.P. | : Metalized Paper Capacitor |
| N.I.R. | : Non-Inflammable Resistor | P.C. | : Polystyrene Capacitor |
| A.R. | : Array Resistor | G.C. | : Gimmic Capacitor |
| C.C. | : Ceramic Capacitor | A.C. | : Array Capacitor |
| C.T. | : Ceramic Capacitor, Temoerature Compensation | V.R. | : Variable Resistor |
| E.C. | : Electrolytic Capacitor | S.V.R. | : Semi Variable Resistor |
| E.L. | : Low Leak Electrolytic Capacitor | SW. | : Switch |

1. BLOCK DIAGRAM

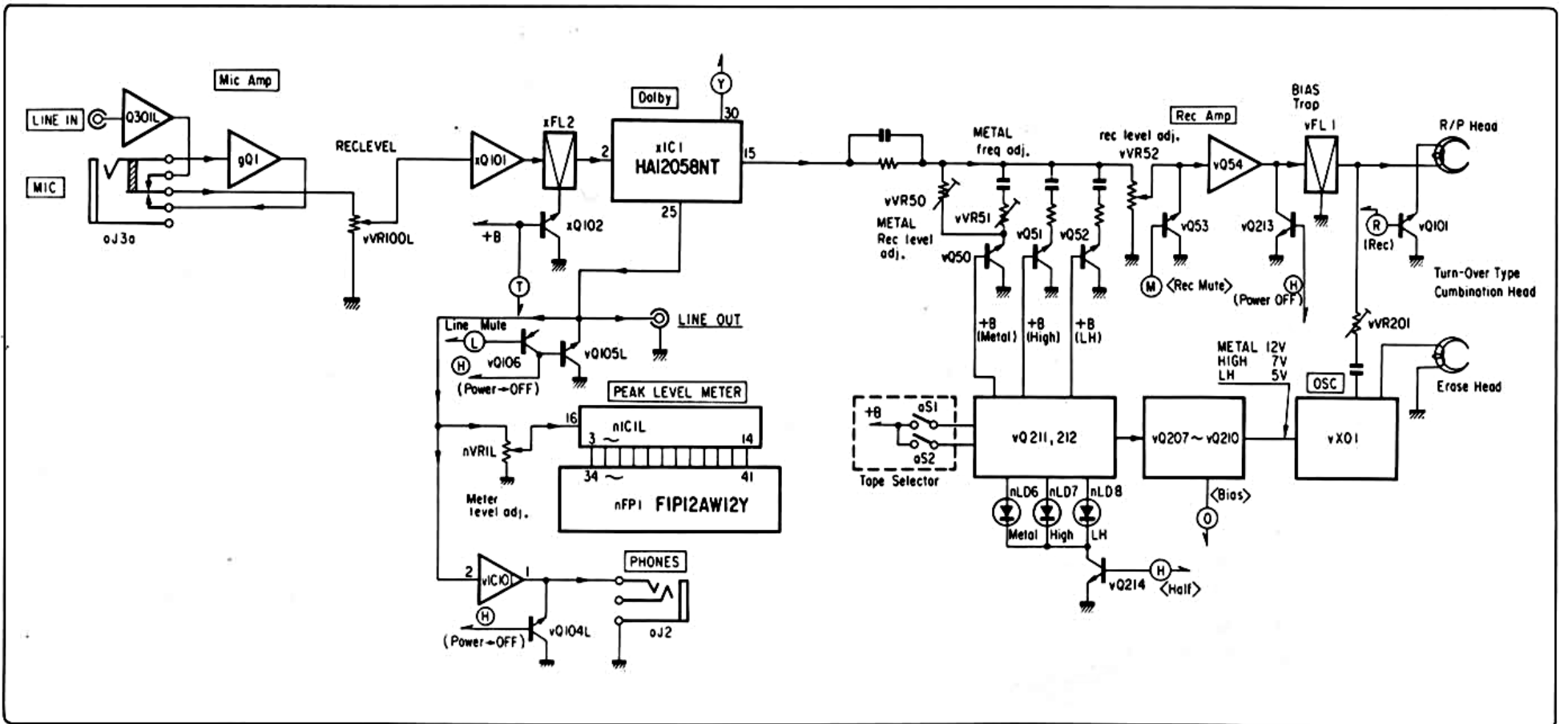
1-1. Logic Control Section



1-2. Playback Section <L-ch>

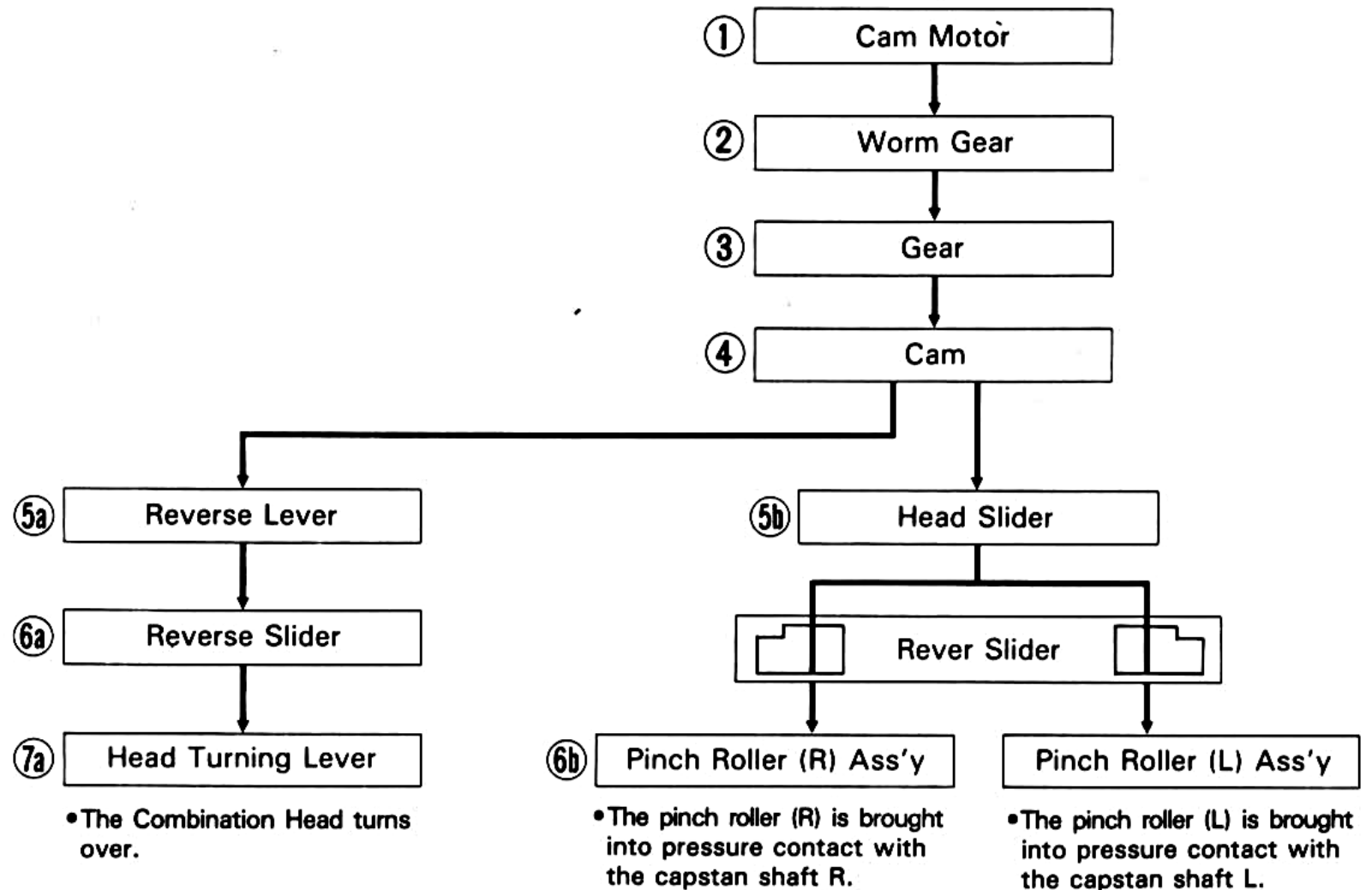


1-3. Recording Section <L-ch>

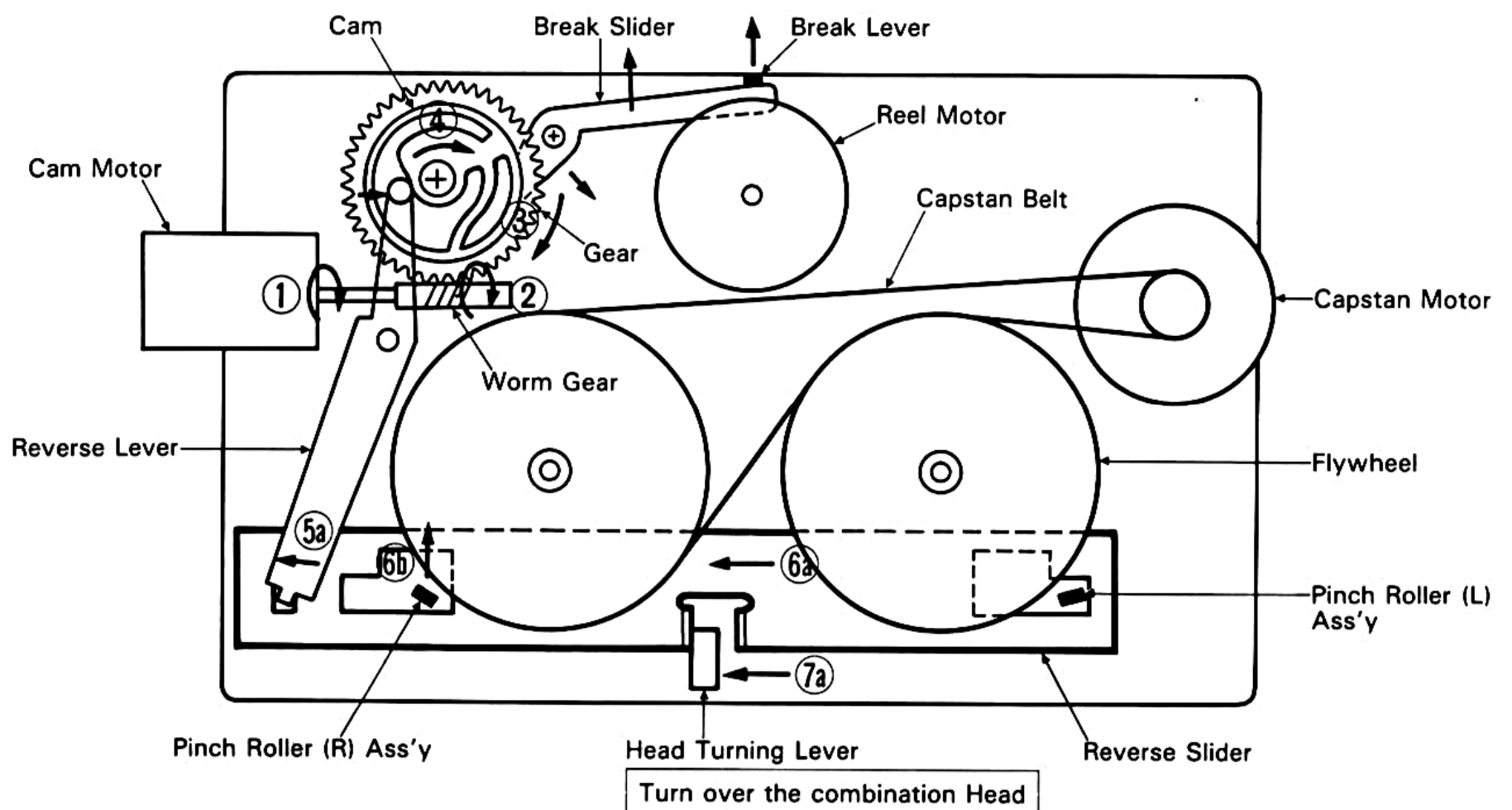


2. OPERATIONS OF PINCH ROLLER & COMBINATION HEAD

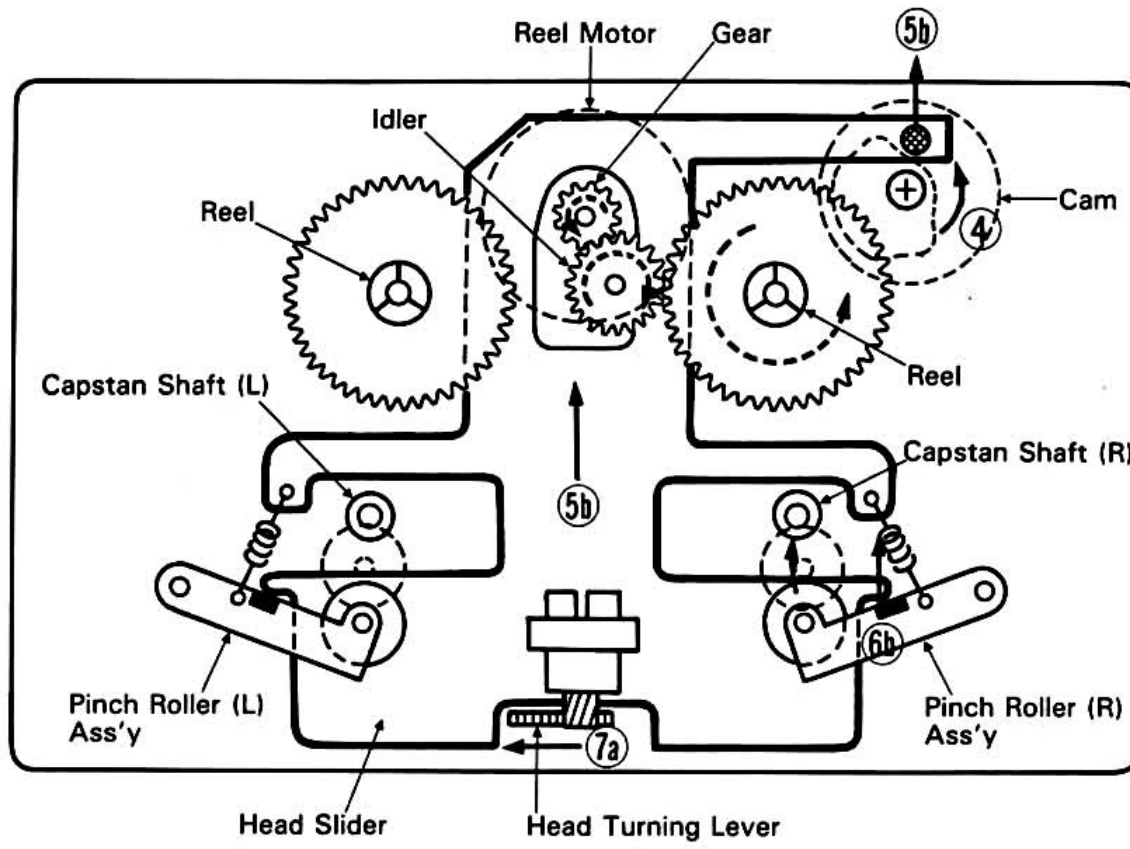
2-1. Torque Transportation Flowchart



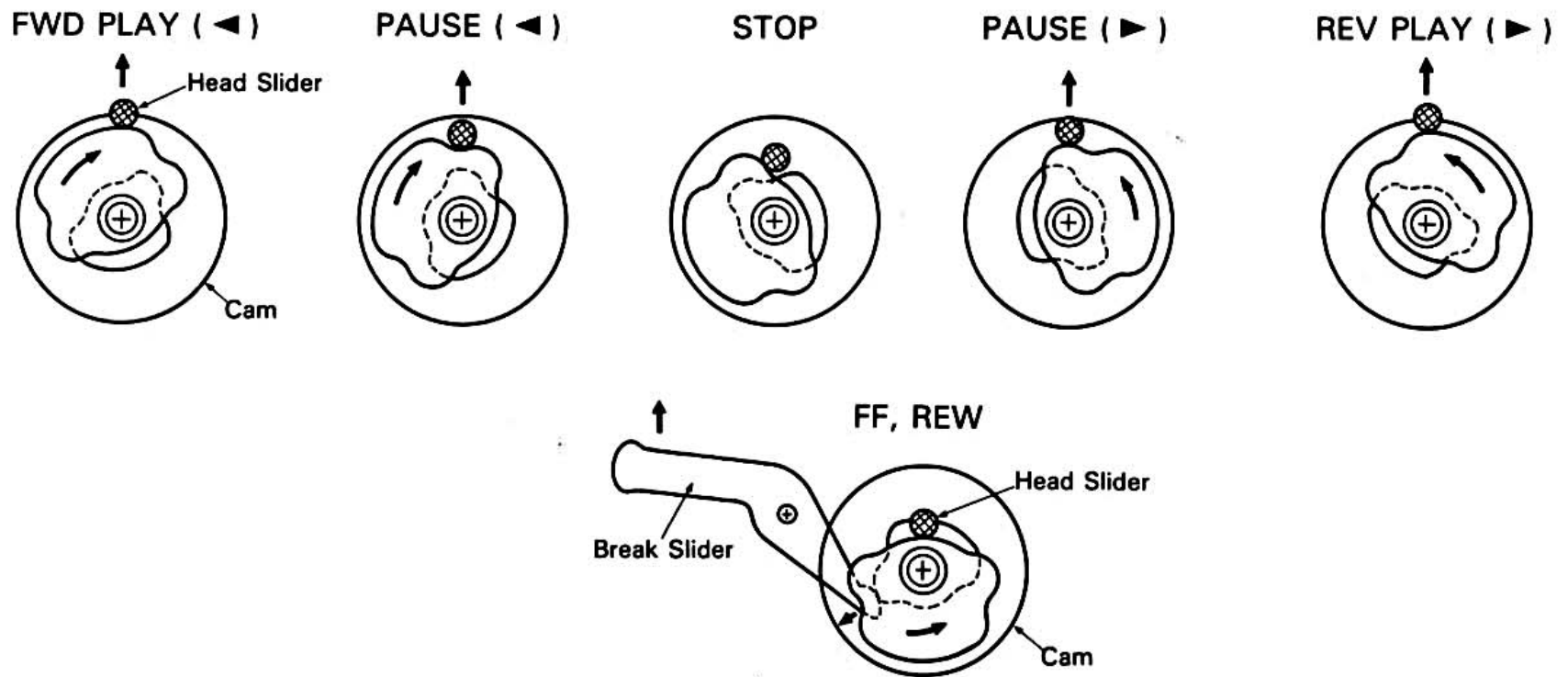
2-2. Rear View of Mechanism Chasis



2-3. Front View of Mechanism Chasis



2-4. Cam Positions in the Modes of PLAY, FF, REW & STOP



3. ADJUSTMENTS

3-1. Tape Speed Adjustment

- Note:** 1. Use Sansui Test Tape, SCT-S3K (3 kHz signal is recorded on the tape).
2. Connections are shown in Fig. 3-1.

Fig. 3-1

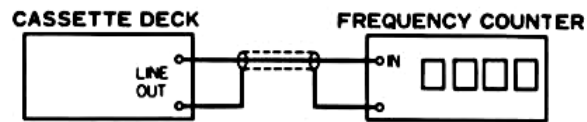
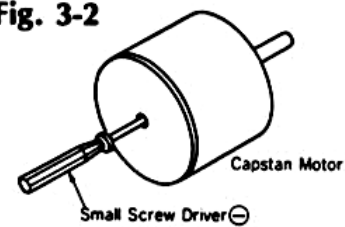


Fig. 3-2



| STEP | SUBJECT | MEASURE OUTPUT | SETTING | ADJUSTMENT | ADJUST FOR | REMARKS |
|------|-----------------|----------------------------|---------------------------------------|--|---------------|-------------------------|
| 1. | Tape Speed Adj. | LINE OUT Frequency counter | Playback (FWD) the Test Tape SCT-S3K. | Turn semi-variable resistor as Fig. 3-2. | 3000Hz ± 45Hz | Use small screw driver. |

3-2. Playback Adjustment

- Note:** 1. Before this adjustment, clean REC/P.B. head surface.
2. For this adjustment, use Sansui Test Tape, SCT-F10K & SCT-L400N.
3. Set the Dolby NR switch to be OFF.
4. Connections are shown in Fig. 3-3.

Fig. 3-3

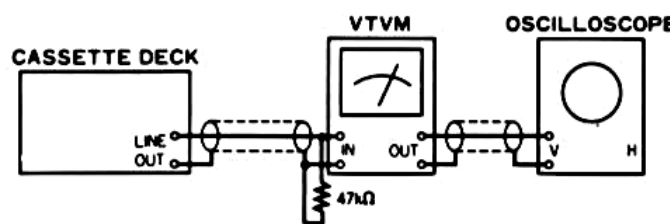
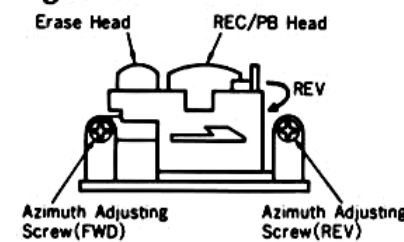


Fig. 3-4



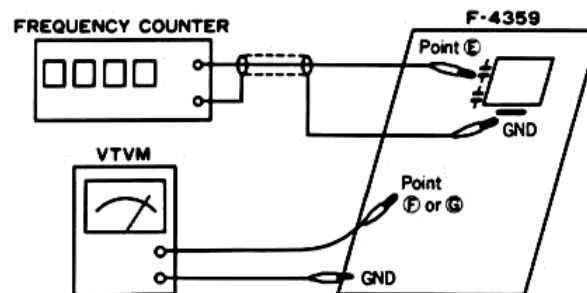
| STEP | SUBJECT | MEASURE OUTPUT | SETTING | ADJUSTMENT | ADJUST FOR | REMARKS |
|------|---------------------|-------------------------|----------------------------------|---|--|---|
| 1. | REC/P.B. Head Adj. | LINE OUT VTVM and Scope | Playback the TEST TAPE SCT-F10K | Turn the azimuth adjusting screw in Fig. 3-4. | Maximum output from L and R-ch on both FWD and REV PLAY. | Refer to "G. Lid Ass'y" on page 12. After this adjustment, lock the screw with paint. |
| 2. | Playback Level Adj. | Same as above | Playback the TEST TAPE SCT-L400N | Turn each vVR1 of L-CH and R-CH on both FWD and REV PLAY. | 500mV ± 1dB | vVR1 are shown in Top View on page 12. |

3-3. Recording Adjustment

1) Bias Frequency & Bias Trap Adjustment

- * Perform this adjustment when bias pot or REC/P.B. head replaced.
Note: 1. For this adjustment, use Sansui Test Tape, SCT-MA.
2. Connections are shown in Fig. 3-5.
3. DOLBY NR Switch..... OFF

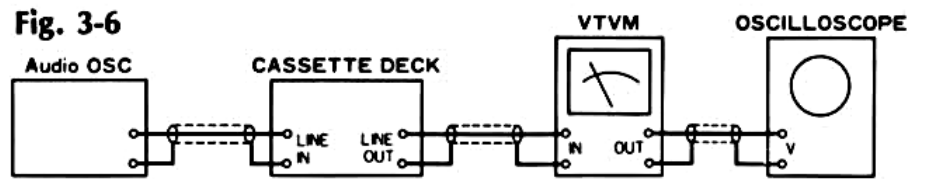
Fig. 3-5



| STEP | SUBJECT | MEASURE OUTPUT | SETTING | ADJUSTMENT | ADJUST FOR | REMARKS |
|------|---------------------|---|---|-------------------------------|----------------|---|
| 1. | Bias Frequency Adj. | Between Point (E) (vC204) & GND Frequency counter | Load Test Tape SCT-MA Push on REC & PLAY buttons. | Turn core of OSC block (vXO1) | 85kHz ± 5kHz | vXO1 and vFL1 are shown in Top View on page 12. |
| 2. | Bias Trap Adj. | L-CH Between Point (E) (vQ213L) & GND R-CH Between Point (G) (vQ213R) & GND VTVM and Scope | Same as above | Turn core of vFL1 (F-4359) | Minimum Output | |

2) REC Level & Frequency Response Adjustment

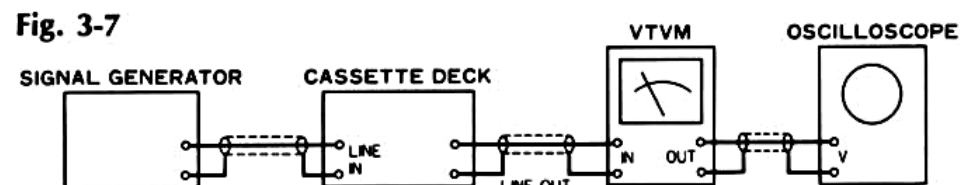
Note: 1. Connections are shown in Fig. 3-6.
2. DOLBY NR Switch..... C



| STEP | SUBJECT | INPUT SIGNAL | MEASURE OUTPUT | SETTING | ADJUSTMENT | REMARKS |
|------|-------------------------------|---|--------------------------|---|---|--|
| 1. | HIGH REC Level Adj. | Feed 1kHz, 15mV from S.G. into LINE IN. | LINE OUT, VTVM and Scope | Load the Test Tape SCT-SA. 1. Push on PAUSE, REC and FWD PLAY button. 2. Adjust the Rec Level Volume for obtaining 40mV on VTVM. 3. Push off the PAUSE button. then record the 1kHz signal. 4. Play back the 1kHz signal. 5. Confirm that the output levels on both channels are 40mV \pm 2dB on VTVM. | 1. If not, turn vVR52 (REC, L-CH, F-4350) and vVR52 (REC, R-CH, F-4350) until output level 40mV \pm 2dB on both channels are obtained. | vVR52 are shown in Top View on page 12. |
| 2. | Frequency Response Adj. | Feed 1kHz 7mV (-20dB) and 10kHz 7mV (-20dB) from S.G. into LINE IN. | Same as above | Load the Test Tape SCT-SA. 1. Record (FWD) the 1kHz and 10kHz signals from S.G. 2. Play back (FWD) the 1kHz and 10kHz signals, then confirm that both output levels equal. | 1. If not, turn vVR201 (F-4359) for L-CH and vVR201 (F-4359) for R-CH slightly until the output levels will be equal. | vVR201 are shown in Top View on page 12. |
| 3. | Metal REC Level Adj. | Feed 1kHz, 15mV from S.G. into LINE IN | LINE OUT, VTVM and Scope | Load the Test Tape SCT-MA. 1. Push on PAUSE, REC and FWD PLAY button. 2. Adjust the Rec Level Volume for obtaining 40mV on VTVM. 3. Push off the PAUSE button, then record the 1kHz signal. 4. Play back the 1kHz signal. 5. Confirm that the output levels on both channels are 40mV \pm 2dB on VTVM. | 1. If not, turn vVR50 (F-4350) (REC, L-CH, F-3818) and vVR50 (F-4350) (REC, R-CH, F-3818) until output level 230mV \pm 2dB on both channels are obtained. | vVR50 are shown in Top View on page 12. |
| 4. | Metal Frequency Response Adj. | Feed 1kHz 7mV (-20dB) and 10kHz 7mV (-20dB) from S.G. into LINE IN. | Same as above | Load the Test Tape SCT-MA. 1. Record (FWD) the 1kHz and 10kHz signals from S.G. 2. Play back (FWD) the 1kHz and 10kHz signals, then confirm that both output levels equal. | 1. If not, turn vVR51 (F-4350) for L-CH and vVR51 (F-4350) for R-CH slightly until the output levels will be equal. | vVR51 are shown in Top View on page 12. |

3-4. Peak Level Indicator Adjustment

Note: 1. Connections are shown in Fig. 3-7.



| STEP | SUBJECT | INPUT SIGNAL | MEASURE OUTPUT | SETTING | ADJUSTMENT | REMARKS |
|------|---------------------------------|--|----------------------|---|---|--|
| 1. | Peak Level Indicator Adjustment | Feed 1kHz, 100mV from S.G. into LINE IN. | LINE OUT, VTVM Scope | Load the Test Tape SCT-SA. 1. Push on PAUSE, REC and FWD PLAY button. 2. Adjust the REC Level Volume for obtaining 470mV on VTVM. | 1. Light the 0dB point on level indicator to adjust nVR1 (F-4359). 2. Adjust the REC LEVEL Volume for obtaining 460mV on VTVM, then confirm the 0dB point on level indicator go out. 3. If not, adjust nVR1, until SETTING 1 ~ ADJUSTMENT 2 will be obtain: | nVR1 are shown in Top View on page 12. |

◆ List of Sansui Test Tape

| Name of TEST TAPE | Recorded Frequency | Description | Equivalent To |
|-------------------|--------------------|---|---------------|
| SCT-F40 | 40 Hz | Playback Frequency Response Check | — |
| SCT-F1K | 1 kHz | High Frequency Equalization Check | — |
| SCT-F10K | 10 kHz | REC/PB Head Adjustment | — |
| SCT-L400N | 400 Hz | Playback Level and Indicator Level Adjustment | — |
| SCT-S3K | 3 kHz | Speed Check and Wow & Flutter Check | — |

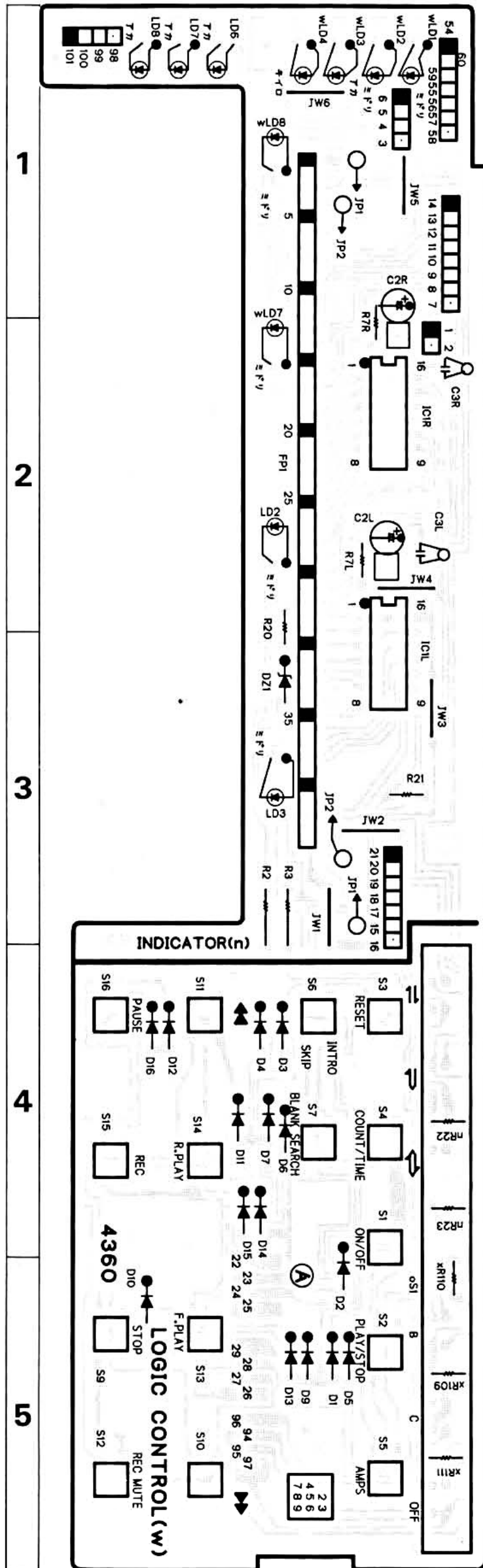
| | | | |
|-----------------|---|---------------------------|--------|
| *SCT-AD NORMAL | — | Recording Bias Adjustment | TDK AD |
| *SCT-SA HIGH | — | REC/PB Level Adjustment | TDK SA |
| *SCT-MA (METAL) | — | Frequency Response Check | TDK MA |

*Note: Some reference tapes marked * are not supplied.
As these are equivalent to ones indicated above, please obtain these blank tapes on your side as possible.

4. PARTS LOCATION & PARTS LIST

4-1. F-4360 Control SW. & Display Circuit Board (Stock NO. 00758501)

Component Side

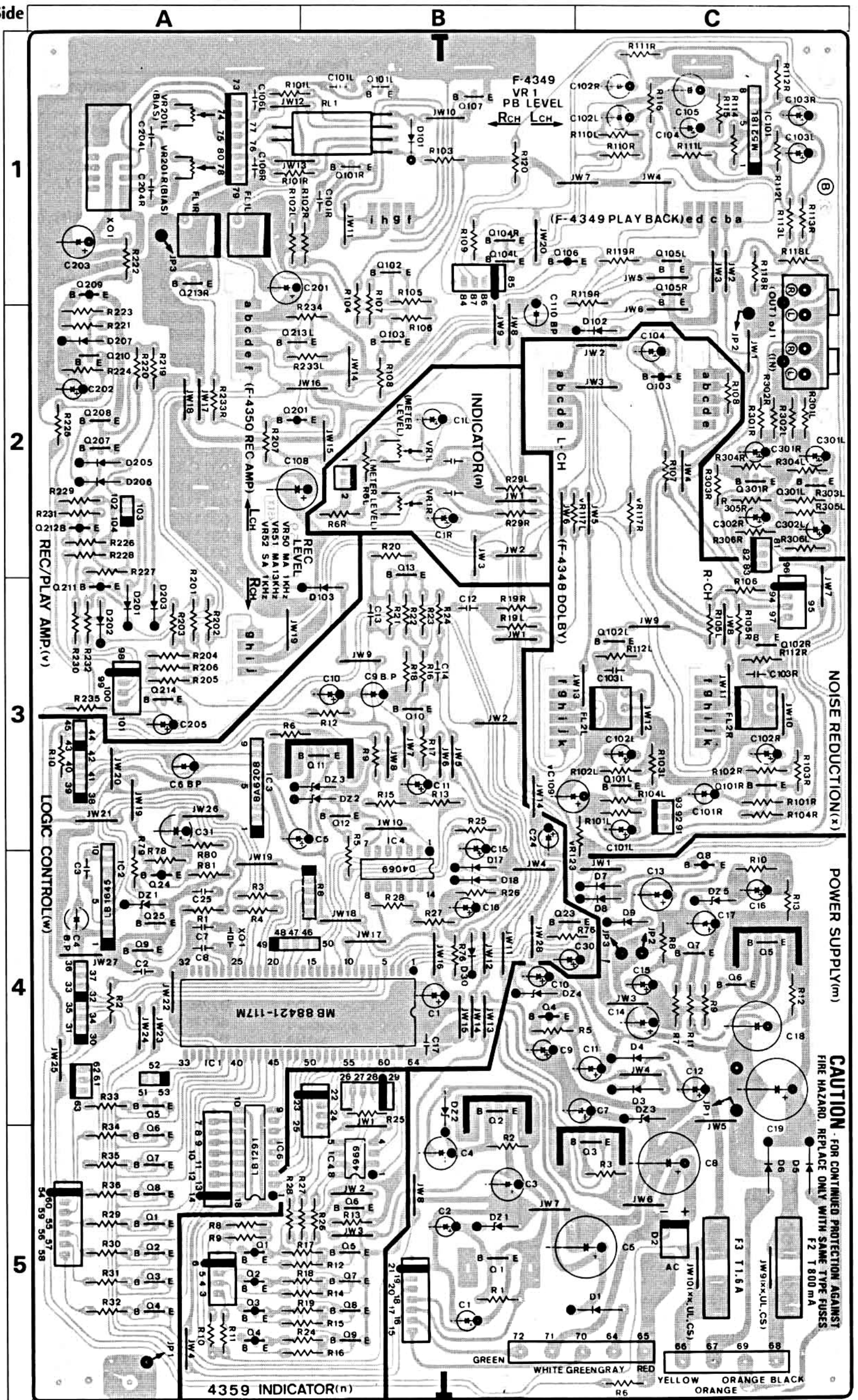


Parts List

| Parts No. | Stock No. | Description |
|--------------|-------------|-----------------------------|
| •IC | | |
| nIC1 | 46671100 | BA6146 |
| •Zener Diode | | |
| nDZ1 | 46102500 | 05Z8.2-Y |
| nFP1 | 46638900 | FL. Display Tube FIP12AW12Y |
| •LED | | |
| nLD2 | 07250900 | TLG-123A |
| nLD3 | 07250900 | TLG-123A |
| nLD6 | 46176900 | TLS-123 |
| nLD7 | 46176900 | TLS-123 |
| nLD8 | 46176900 | TLS-123 |
| nC2 | 46709400 | 22μF 6.3V E.L. |
| oS1 | 46726900 | Push SW., DOLBY NR |
| •Diode | | |
| wD1 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD2 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD3 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD4 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD5 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD6 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD7 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD9 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD10 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD11 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD12 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD13 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD14 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD15 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| wD16 | 03111600 | 1S2473 |
| | or 03111800 | 1S1588 |
| •LED | | |
| wLD1 | 07250900 | TLG-123A |
| wLD2 | 07250900 | TLG-123A |
| wLD3 | 46176900 | TLS-123 |
| wLD4 | 07251000 | TLY-123 |
| wLD7 | 07250900 | TLG-123A |
| wLD8 | 07250900 | TLG-123A |
| wS1 | 46708100 | Push SW., MEMORY ON/OFF |
| wS2 | 46708100 | Push SW., MEMORY PLAY/STOP |
| wS3 | 46708100 | Push SW., RESET |
| wS4 | 46708100 | Push SW., MODE |
| wS5 | 46708100 | Push SW., AMPS |
| wS6 | 46708100 | Push SW., INTRO SCAN |
| wS7 | 46708100 | Push SW., BLANK SEARCH |
| wS9 | 46549500 | Push SW., STOP |
| wS10 | 46549500 | Push SW., ▷ ▷ |
| wS11 | 46549500 | Push SW., ◁ ◁ |
| wS12 | 46549500 | Push SW., REC MUTE |
| wS13 | 46549500 | Push SW., FWD PLAY |
| wS14 | 46549500 | Push SW., REV PLAY |
| wS15 | 46549500 | Push SW., REC |
| wS16 | 46549500 | Push SW., PAUSE |
| wS17 | 46159500 | Push SW., TIMER |

4-2. F-4359 Control, BIAS OSC & Phone Amp. Circuit Board (Stock No. 00758401)

Component Side

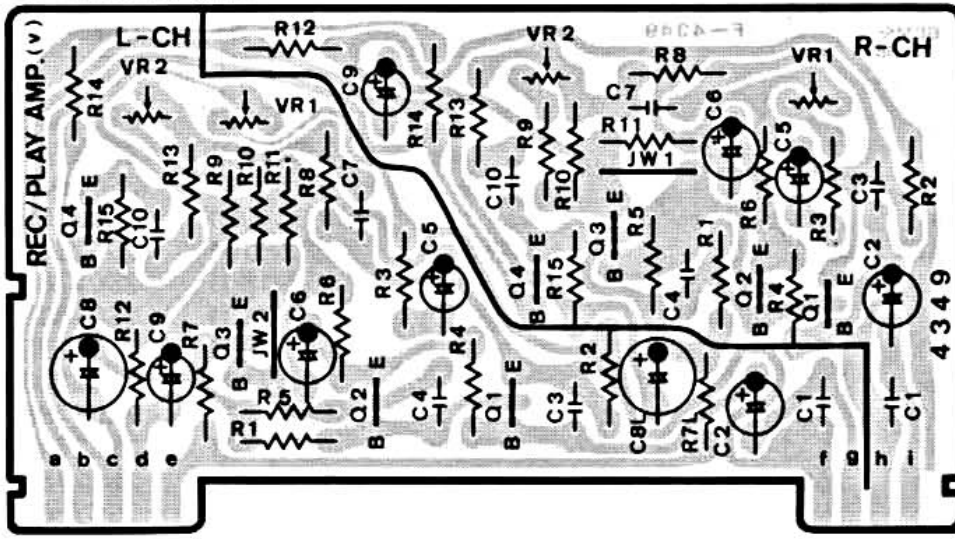


Parts List

| Parts No. | Stock No. | Description | Parts No. | Stock No. | Description | Parts No. | Stock No. | Description |
|--------------------|-------------|-------------|--------------------|-----------|-------------------------------|---------------------|--------------|------------------------------|
| •Transistor | | | •Transistor | | | •Transistor | | |
| △ mQ1 | 03085201 | 2SD438 | vQ101 | 46359801 | 2SC2001 | wQ1 | 46367101 | 2SC2603 |
| △ mQ2 | 03086101 | 2SD357 | vQ102 | 46367101 | 2SC2603 | or 46391901 | 2SC2785 | 2SC2785 |
| △ mQ3 | 03086101 | 2SD357 | or 46391901 | 2SC2785 | 2SC2785 | wQ2 | 46367101 | 2SC2603 |
| △ mQ4 | 46367001 | 2SA1115 | vQ103 | 46367101 | 2SC2603 | or 46391901 | 2SC2785 | 2SC2785 |
| △ | or 46392001 | 2SA1175 | or 46391901 | 2SC2785 | 2SC2785 | wQ3 | 46367101 | 2SC2603 |
| △ mQ5 | 03086101 | 2SD357 | vQ104 | 46367101 | 2SC2603 | or 46391901 | 2SC2785 | 2SC2785 |
| mQ6 | 46367101 | 2SC2603 | or 46391901 | 2SC2785 | 2SC2785 | wQ4 | 46367101 | 2SC2603 |
| or 46391901 | 2SC2785 | 2SC2785 | vQ105 | 46367101 | 2SC2603 | or 46391901 | 2SC2785 | 2SC2785 |
| mQ7 | 46367101 | 2SC2603 | or 46391901 | 2SC2785 | 2SC2785 | wQ5 | 46367101 | 2SC2603 |
| or 46391901 | 2SC2785 | 2SC2785 | vQ106 | 46367001 | 2SA1115 | or 46391901 | 2SC2785 | 2SC2785 |
| mQ8 | 46367001 | 2SA1115 | or 46392001 | 2SA1175 | 2SA1175 | wQ6 | 46367101 | 2SC2603 |
| or 46392001 | 2SA1175 | 2SA1175 | vQ107 | 46367101 | 2SC2603 | or 46391901 | 2SC2785 | 2SC2785 |
| | | | or 46391901 | 2SC2785 | 2SC2785 | wQ7 | 46367101 | 2SC2603 |
| | | | vQ201 | 46367001 | 2SA1115 | or 46391901 | 2SC2785 | 2SC2785 |
| | | | or 46392001 | 2SA1175 | 2SA1175 | wQ8 | 46367101 | 2SC2603 |
| | | | vQ207 | 46367101 | 2SC2603 | or 46391901 | 2SC2785 | 2SC2785 |
| | | | or 46391901 | 2SC2785 | 2SC2785 | wQ9 | 46367101 | 2SC2603 |
| | | | vQ208 | 46367101 | 2SC2603 | or 46391901 | 2SC2785 | 2SC2785 |
| | | | or 46391901 | 2SC2785 | 2SC2785 | wQ10 | 46367101 | 2SC2603 |
| | | | vQ209 | 46367001 | 2SA1115 | or 46391901 | 2SC2785 | 2SC2785 |
| | | | or 46392001 | 2SA1175 | 2SA1175 | wQ11 | 03086101 | 2SD357 |
| | | | vQ210 | 46367101 | 2SC2603 | wQ12 | 46367101 | 2SC2603 |
| | | | or 46391901 | 2SC2785 | 2SC2785 | or 46391901 | 2SC2785 | 2SC2785 |
| | | | vQ211 | 46367001 | 2SA1115 | wQ13 | 46367101 | 2SC2603 |
| | | | or 46392001 | 2SA1175 | 2SA1175 | or 46391901 | 2SC2785 | 2SC2785 |
| | | | vQ212 | 46367001 | 2SA1115 | wQ23 | 46367101 | 2SC2603 |
| | | | or 46392001 | 2SA1175 | 2SA1175 | or 46391901 | 2SC2785 | 2SC2785 |
| | | | vQ213 | 46367101 | 2SC2603 | | | |
| | | | or 46391901 | 2SC2785 | 2SC2785 | | | |
| | | | vQ214 | 46367101 | 2SC2603 | | | |
| | | | or 46391901 | 2SC2785 | 2SC2785 | | | |
| | | | vQ301 | 46577801 | 2SC2320L | | | |
| | | | | | | | | |
| | | | •IC | | | •IC | | |
| | | | vIC101 | 46147700 | M5218L | wIC1 | 46684600 | MB88421-117M |
| | | | | | | wIC2 | 46671200 | LB1645 |
| | | | | | | wIC3 | 46149600 | BA6208 |
| | | | | | | wIC4 | 46427000 | μPD4069UBC |
| | | | | | | wIC6 | 46671500 | LB1291 |
| | | | | | | wXO1 | 46505500 | Ceramic Element KBR-3.58M |
| | | | | | | | | |
| | | | •Diode | | | •Diode | | |
| | | | vD101 | 03117600 | 1S2473 | wD17 | 03117600 | 1S2473T77 |
| | | | or 46086000 | 1S1588 | 1S1588 | or 46086000 | 1S1588TP-3 | 1S1588TP-3 |
| | | | vD102 | 03117600 | 1S2473 | wD18 | 03117600 | 1S2473T77 |
| | | | or 46086000 | 1S1588 | 1S1588 | or 46086000 | 1S1588TP-3 | 1S1588TP-3 |
| | | | vD103 | 03117600 | 1S2473 | wD30 | 03111600 | 1S2473 |
| | | | or 46086000 | 1S1588 | 1S1588 | or 03111800 | 1S1588 | 1S1588 |
| | | | vD201 | 03117600 | 1S2473 | | | |
| | | | or 46086000 | 1S1588 | 1S1588 | | | |
| | | | vD202 | 03117600 | 1S2473 | | | |
| | | | or 46086000 | 1S1588 | 1S1588 | | | |
| | | | vD203 | 03117600 | 1S2473 | •Zener Diode | | |
| | | | or 46086000 | 1S1588 | 1S1588 | wDZ1 | 46113300 | 05Z10-Y |
| | | | vD205 | 03117600 | 1S2473 | wDZ2 | 46111400 | 05Z5.6-X |
| | | | or 46086000 | 1S1588 | 1S1588 | wDZ3 | 46112100 | 05Z6.8-Y |
| | | | vD206 | 03117600 | 1S2473 | | | |
| | | | or 46086000 | 1S1588 | 1S1588 | wR8 | 46038100 | 4.7kΩ × 4 1/8W A.R. |
| | | | vD207 | 03117600 | 1S2473 | | | |
| | | | or 46086000 | 1S1588 | 1S1588 | wC4 | 08450800 | 3.3μF 16V E.B. |
| | | | | | | wC6 | 08451000 | 10μF 16V E.B. |
| | | | | | | wC9 | 08451000 | 10μF 16V E.B. |
| | | | vC110 | 08451000 | 10μF 16V E.B. | | | |
| | | | | | | | | |
| | | | vXO1 | 46671000 | OSC Block | •Transistor | | |
| | | | vFL1 | 07237900 | FILTER | xQ101 | 46577801 | 2SC2320L |
| | | | | | | xQ102 | 46367101 | 2SC2603 |
| | | | | | | or 46391901 | 2SC2785 | 2SC2785 |
| | | | vVR201 | 10371000 | 100KΩ(B) S.V.R., bias adj. | xQ103 | 46367001 | 2SA1115 |
| | | | | | | or 46392001 | 2SA1175 | 2SA1175 |
| | | | | | | | | |
| | | | vRL1 | 11504701 | Relay (LR2A-12B) | xFL2 | 46177500 | DOLBY Filter |
| | | | | | | or 46177501 | DOLBY Filter | DOLBY Filter |

4-3. F-4349 EQ. Amp. Circuit Board (Stock No. 00758101)

Component Side

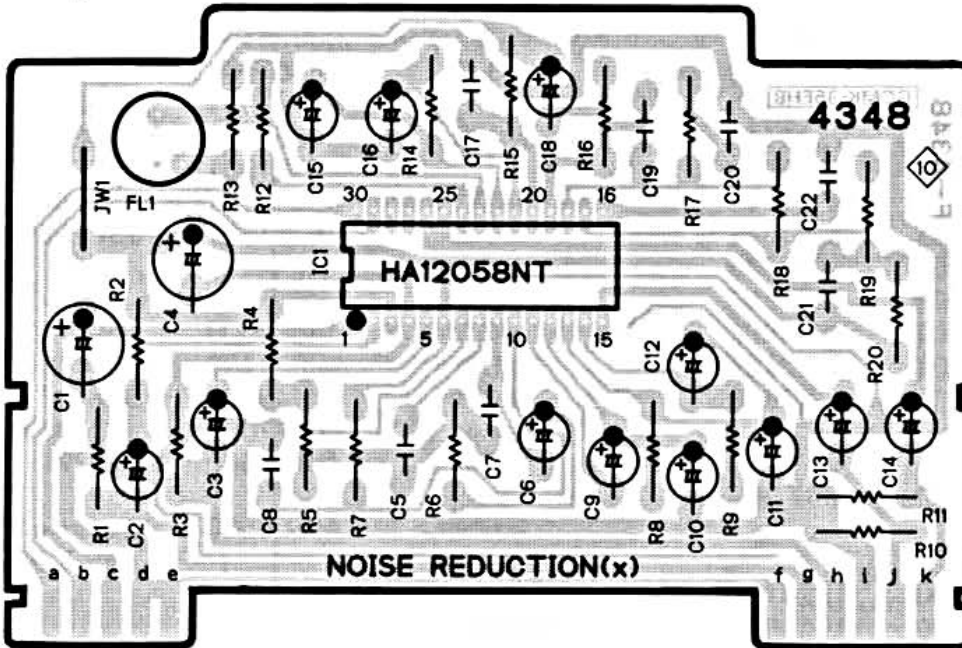


Parts List

| Parts No. | Stock No. | Description |
|--------------|-------------------------|-------------------------------|
| • Transistor | | |
| vQ1 | 46577801 | 2SC2320L |
| vQ2 | 46577801 | 2SC2320L |
| vQ3 | 46577801 | 2SC2320L |
| vQ4 | 46367101 or 46391901 | 2SC2603 2SC2785 |
| vVR1 | 46336900 | 2.2kΩ S.V.R., P.B. level adj. |

4-4. F-4348 DOLBY NR Circuit Board (Stock NO. 00756801)

Component Side

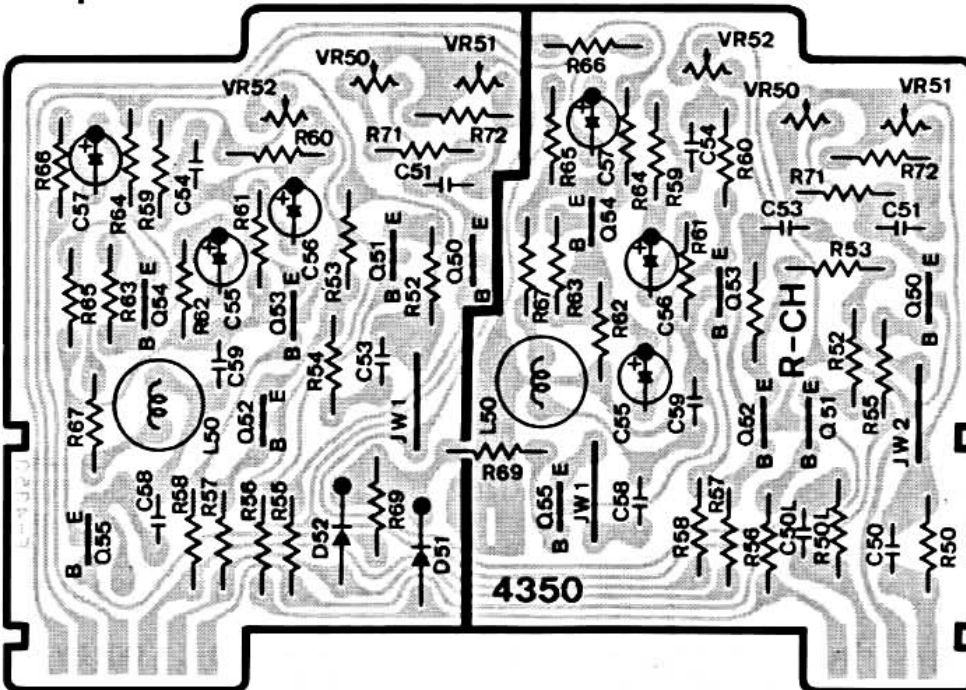


Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|----------------------|
| • IC | | |
| xIC1 | 46671900 | HA12058NT |
| xFL1 | 46177600 | Trap Filter, 19.8kHz |

4-5. F-4350 Rec Amp. Circuit Board (Stock NO. 00758201)

Component Side

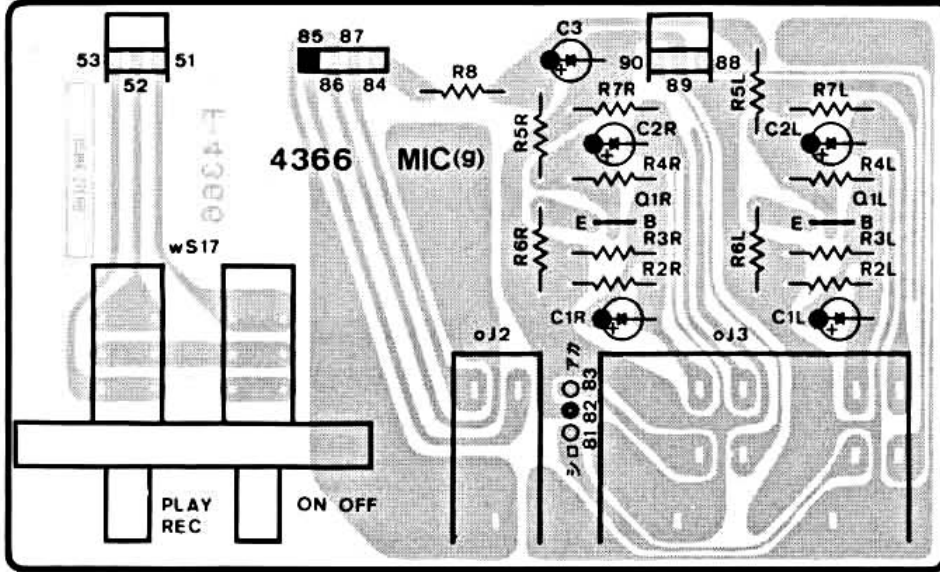


Parts List

| Parts No. | Stock No. | Description |
|--------------|-------------------------|--|
| • Transistor | | |
| vQ50 | 46367101 or 46391901 | 2SC2603 2SC2785 |
| vQ51 | 46367101 or 46391901 | 2SC2603 2SC2785 |
| vQ52 | 46367101 or 46391901 | 2SC2603 2SC2785 |
| vQ53 | 46367101 or 46391901 | 2SC2603 2SC2785 |
| vQ54 | 46367101 or 46391901 | 2SC2603 2SC2785 |
| vQ55 | 46367101 or 46391901 | 2SC2603 2SC2785 |
| vL50 | 46313900 | Inductor 2.7MH |
| vVR50 | 07262100 | 50kΩ(B) S.V.R., rec level adj. (MA) |
| vVR51 | 07262200 | 100kΩ(B) S.V.R., rec frequency adj. (MA) |
| vVR52 | 07262000 | 20kΩ S.V.R., rec level adj. (HIGH) |

4-6. F-4366 Mic Amp. Circuit Board

Component Side

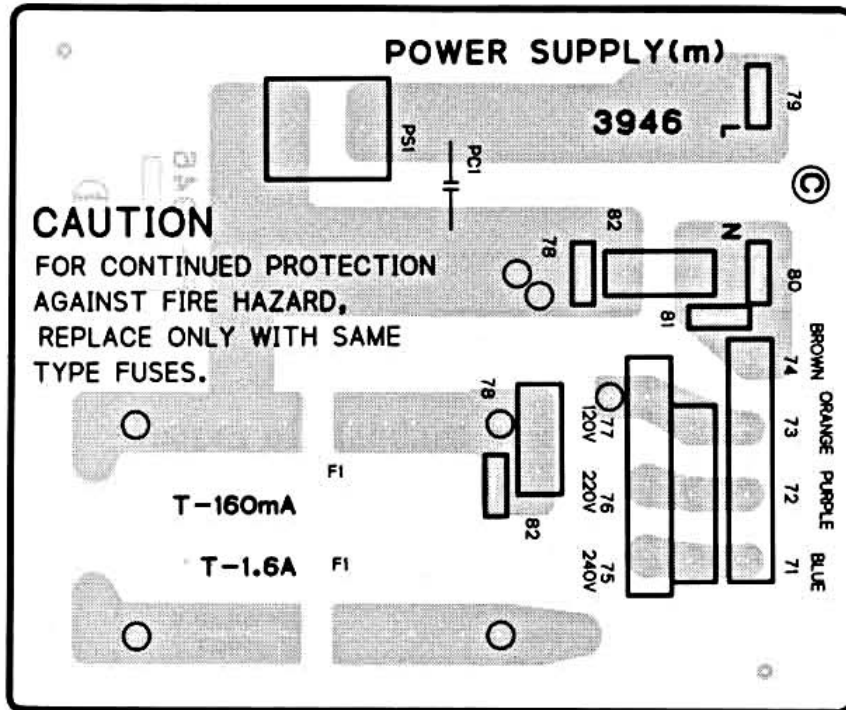


Parts List

| Parts No. | Stock No. | Description |
|---------------------|-----------|--------------|
| • Transistor gQ1 | 46577801 | 2SC2320L |
| oJ2 | 46265700 | Jack, PHONES |
| oJ3 | 46212000 | Jack, MIC |

4-7. F-3946 Power SW. Circuit Board

Component Side

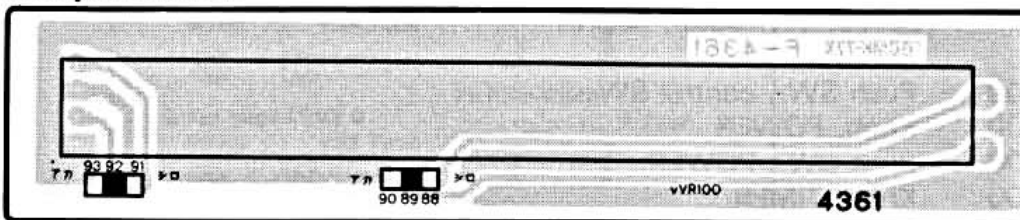


Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|------------------|
| ⚠ pC1 | 46425800 | 0.01μF 400V C.C. |
| ⚠ pS1 | 46360300 | Push SW. |

4-8. F-4361 Rec V.R. Circuit Board

Component Side



Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|--------------------------|
| vVR100 | 46672000 | 50KΩ (B) V.R., REC LEVEL |

4-9. F-4353 FWD/REV Indicator Circuit Board

Component Side

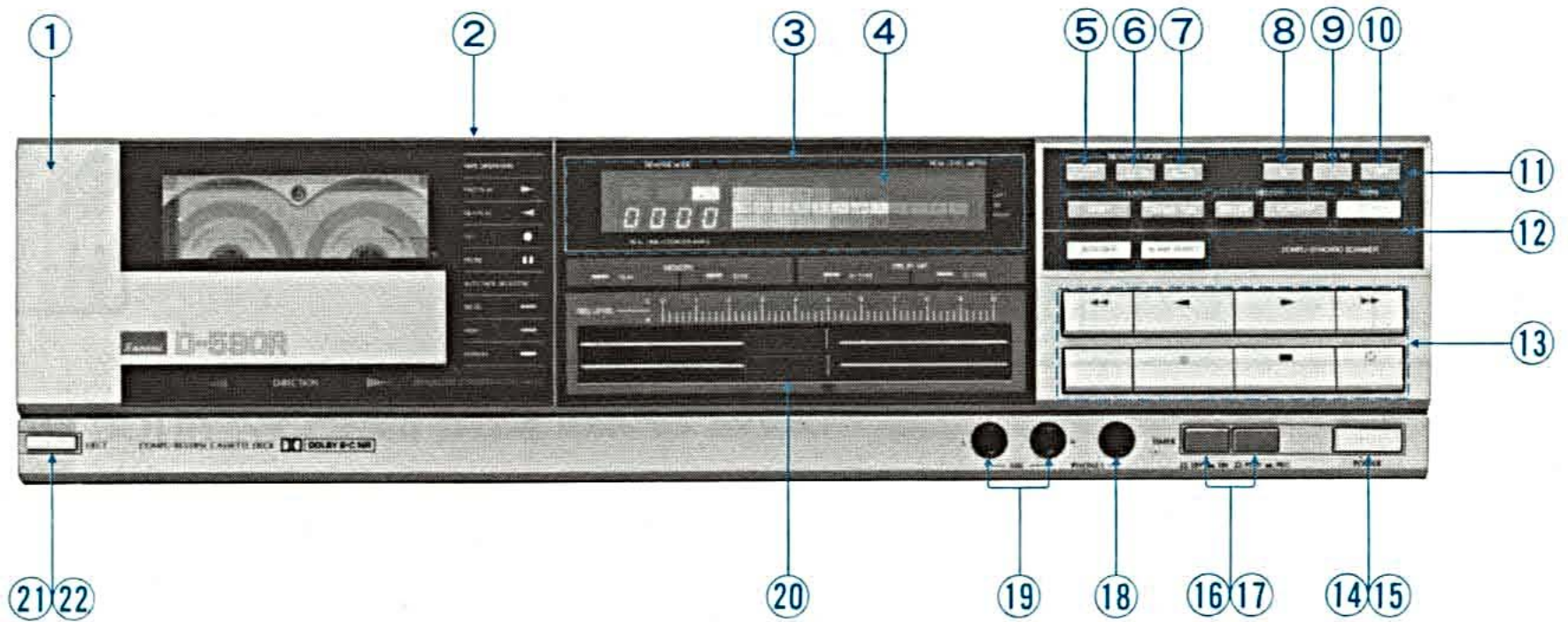


Parts List

| Parts No. | Stock No. | Description |
|---------------|-----------|-------------|
| • LED wLD5 | 46672100 | LD-602PG |
| wLD6 | 46672100 | LD-602PG |

5. OTHER PARTS

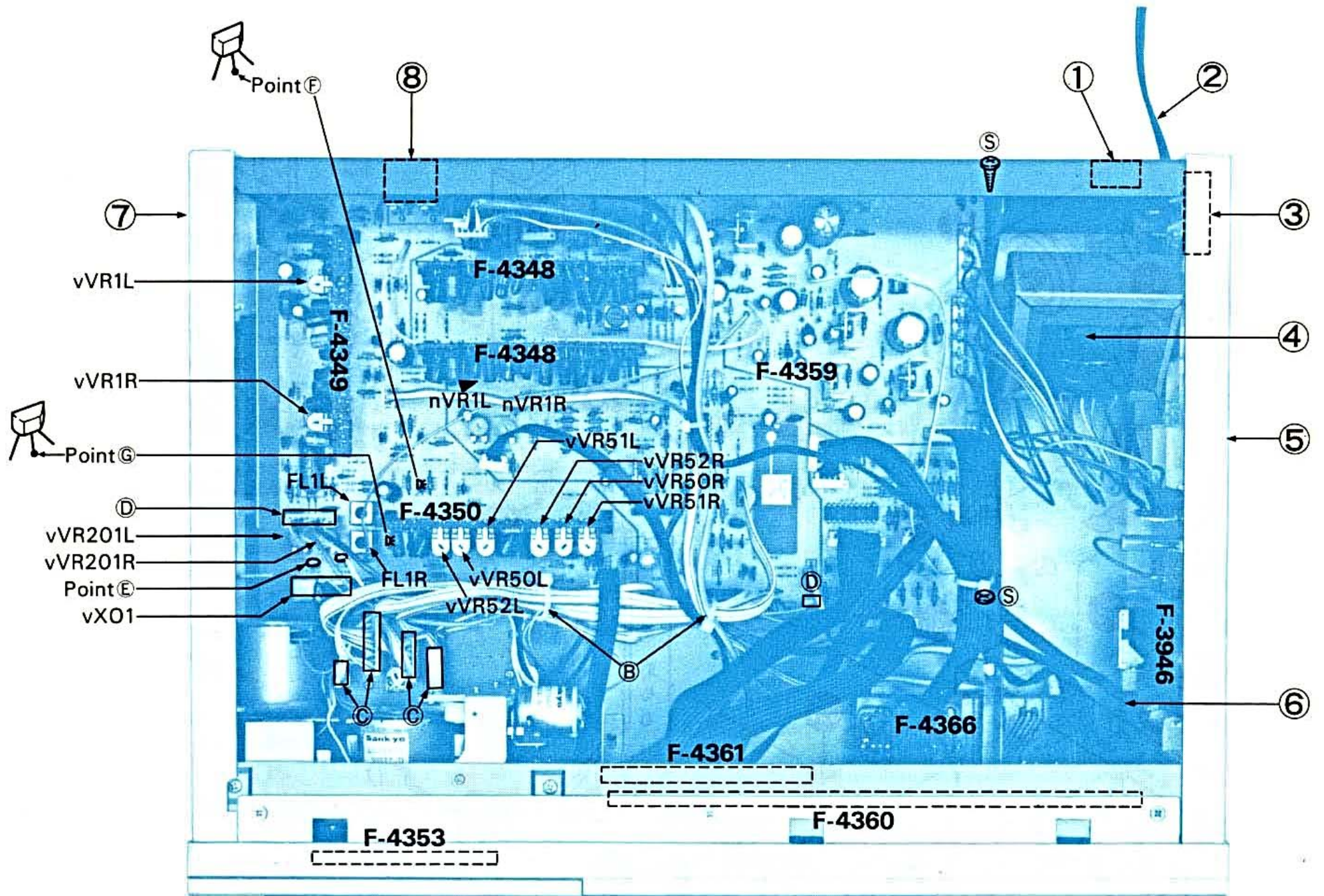
5-1. Front View



Parts List < Front View >

| Parts No. | Stock No. | Description |
|-----------|-----------|--|
| 1 | 47279800 | Lid Ass'y (Silver Model) |
| | 47279700 | Lid Ass'y (Black Model) |
| 2 | 47261900 | Bonnet (Silver Model) |
| | 47262000 | Bonnet (Black Model) |
| 3 | 47280800 | Front Panel Ass'y (Silver Model) |
| | 47280900 | Front Panel Ass'y (Black Model) |
| 4 | 46638900 | FL Display Tube |
| 5 | 47262900 | Knob, ⇌ |
| 6 | 47262800 | Knob, ⇐ |
| 7 | 47262700 | Knob, ⇨ |
| 8 | 47263100 | Knob, DOLBY NR B |
| 9 | 47263200 | Knob, DOLBY NR C |
| 10 | 47263300 | Knob, DOLBY NR OFF |
| 11 | 46726900 | Push SW., REVERSE MODE, DOLBY NR |
| 12 | 46708100 | Push SW., COUNTER, MEMORY, ARMS, INTROSKIP, BLANK SEARCH |
| 13 | 46549500 | Push SW., control SW. |
| 14 | 47257100 | Knob, POWER |
| △15 | 46360300 | Push SW., POWER |
| 16 | 47257500 | Knob, TIMER |
| 17 | 47159500 | Push SW., TIMER |
| 18 | 46265700 | Jack, PHONES |
| 19 | 46212000 | Jack, MIC |
| 20 | 46672000 | 50kΩ(B) Slide V.R., REC LEVEL |
| 21 | 47255300 | Knob, EJECT |
| 22 | 47122800 | Spring, EJECT |

5-2. Top View



Parts List < Top View >

| Parts No. | Stock No. | Description |
|-----------|-----------|--------------------------------------|
| △ 1 | 47204700 | Slide SW., voltage selector (EU, BS) |
| △ 2 | 38005700 | Power Supply Cord (XX, UL, CSA) |
| △ | 38004500 | Power Supply Cord (EU) |
| △ | 38004300 | Power Supply Cord (BS) |
| △ | 07204200 | Power Supply Cord (AS) |
| 3 | 07917700 | AC Cord Cover |
| △ 4 | 15013601 | Power Transformer (XX) |
| △ | 15013602 | Power Transformer (UL, CSA) |
| △ | 15013605 | Power Transformer (EU, BS, AS) |
| 5 | 47128220 | Side Panel R (Silver Model) |
| | 47128320 | Side Panel R (Black Model) |
| 6 | 47113100 | Joint Shaft, power SW. |
| 7 | 47128410 | Side Panel L (Silver Model) |
| | 47128510 | Side Panel L (Black Model) |
| 8 | 46363800 | 4P Terminal Board |

6. MAIN PARTS REPLACEMENT

(See Exploded View on page 13 & Top View left)

A. Mechanism Ass'y

- 1) Take off the lid Ass'y.
- 2) Remove the bonnet and bottom plate.
- 3) Cut two wirebands ⑧.
- 4) Extract four connectors ③ from circuit boards at mechanism Ass'y.
- 5) Un fasten two connectors from F-4354 circuit board.
- 6) Remove the frontpanel ass'y.
- 7) Pull out the eject knob with spring after arranging length-wise it.
- 8) Remove the side pane L.
- 9) Loosen two screws ⑤ fixing reinforcement plate and F-4354 circuit board to remove the mechanism ass'y.

B. Flywheel ⑤⑨, Capstan Belt ⑥⑩ & Capstan motor Ass'y ⑥③

- 1) Remove the mechanism ass'y from set.
- 2) Cut the wireband near capstan motor ⑥③.
- 3) Loosen three screws ②③ fasting capstan motor fixing plate.
- 4) Take off capstan belt ⑥⑩.
- 5) On the occasion of flywheel, pull out the washer ⑤③ to remove it.
- 6) On the occasion of capstan motor ass'y, loosen three screws ⑥⑥ to remove it.

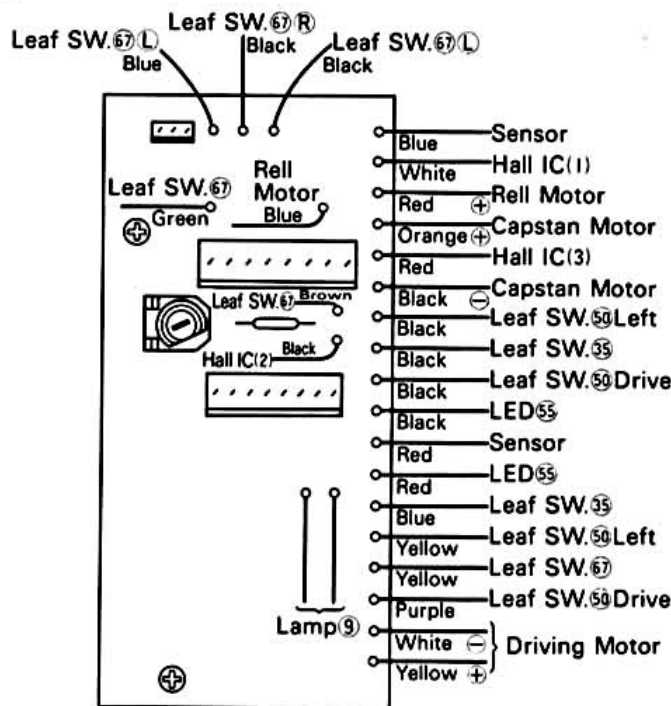
C. Reel Ass'y (Left) ④②, (Right) ④④, Hall IC ④⑧ & Reel Motor Ass'y ④⑦

- 1) Remove the mechanism ass'y from set.
- 2) Remove the mechanism dress panel.
- 3) Take off two washer ④③ to pull out reel ass'y (left) ④② and reel ass'y (right) ④④.

Note: Pay attention to loose backtension spring ④⑥ and washer ④⑤.

- 4) Loosen three screws ②③②⑨ fasting driving motor fixing plate.
- 5) Cut the wire band near capstan motor ⑥③.
- 6) Loosen three screws ②③ fasting capstan motor fixing plate.
- 7) Loosen one screw ②⑦ to remove holl IC circuit board.
- 8) Take out the reel motor ass'y with plate.
- 9) Loosen two screws ②⑦ to remove reel motor ass'y ④⑦.

Fig. 6-1



D. Driving Motor Ass'y ⑤① & Rotary Gear ⑤②

- 1) Remove the mechanism ass'y from set.
- 2) Loosen three screws ②③④⑨ fasting driving motor fixing plate.
- 3) Take out rotary gear ⑤②.

Note: Sure to fit rotary gear on the cam shaft when installing driving motor ass'y and rotary gear.

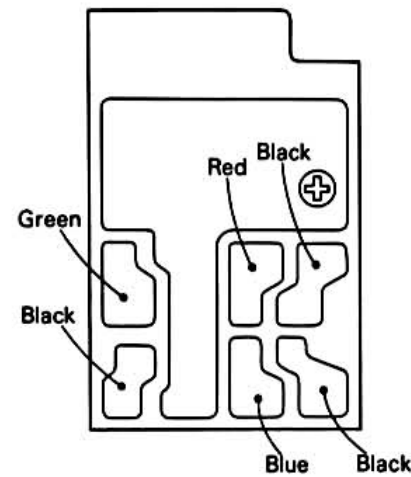
E. Rec/PB Head Ass'y (with Erase Head) ⑦

- 1) Remove the mechanism ass'y from set.
- 2) Unsolder head read wires.
- 3) Loosen two screws ⑦-②.

F. Tape Guide Ass'y (with sensor) ④

- 1) Remove the mechanism ass'y from set.
- 2) Unsolder sensor read wires.
- 3) Loosen one nut ①.

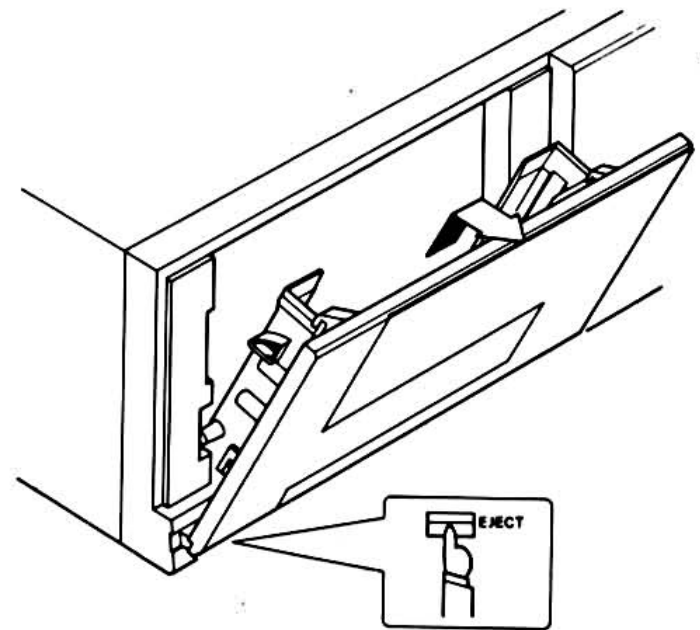
Fig. 6-2



G. Lid Ass'y

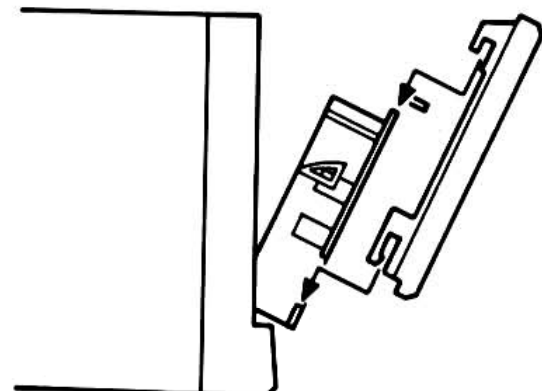
Depress the EJECT switch to open the cassette holder, and pull the cover up and then toward you to remove it as shown in the figure.

Fig. 6-3

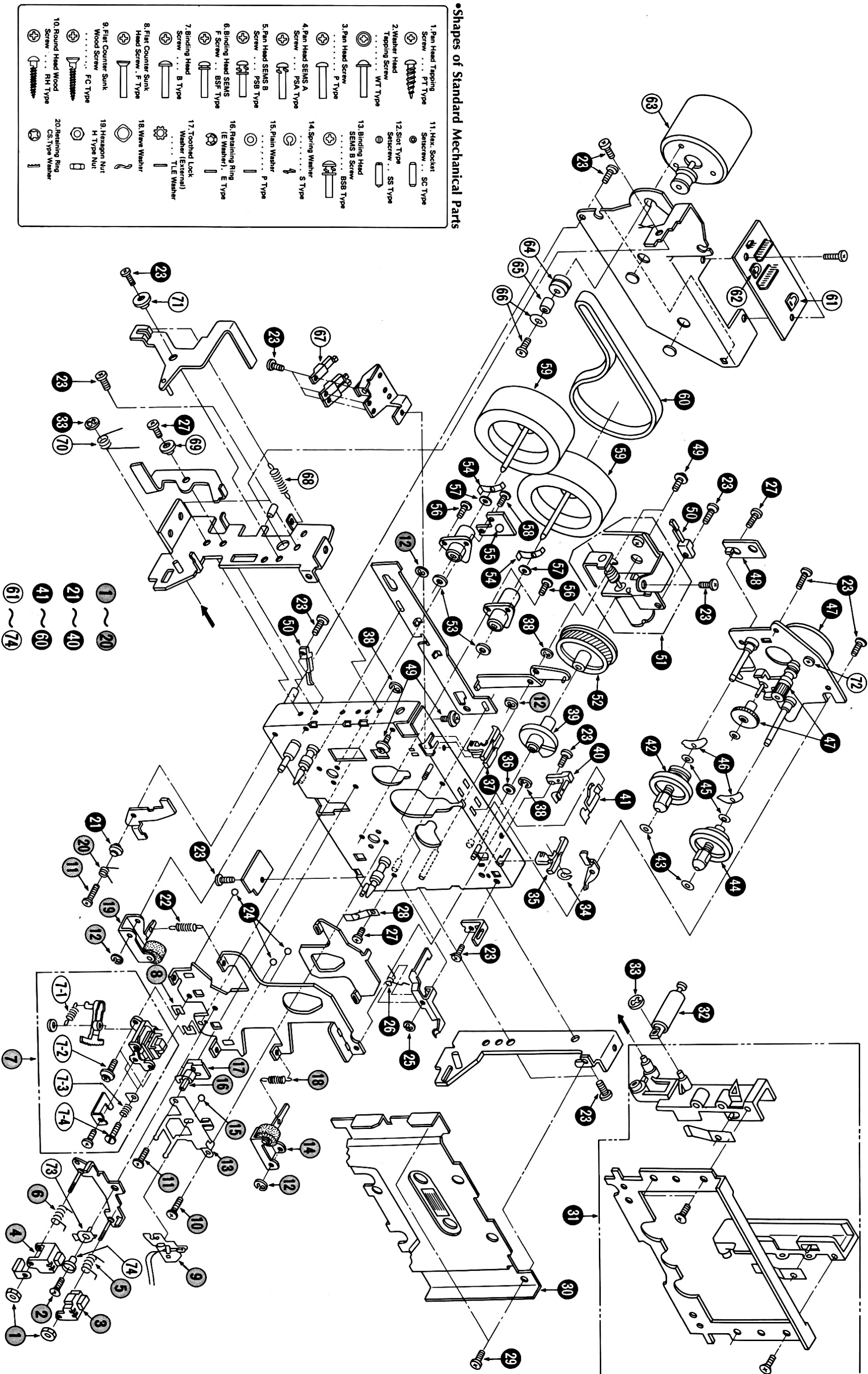


Re-attach the cover to the cassette holder by following the procedure for its removal in reverse.

Fig. 6-4



7. EXPLODED VIEW OF MECHANISM ASS'y & PARTS LIST

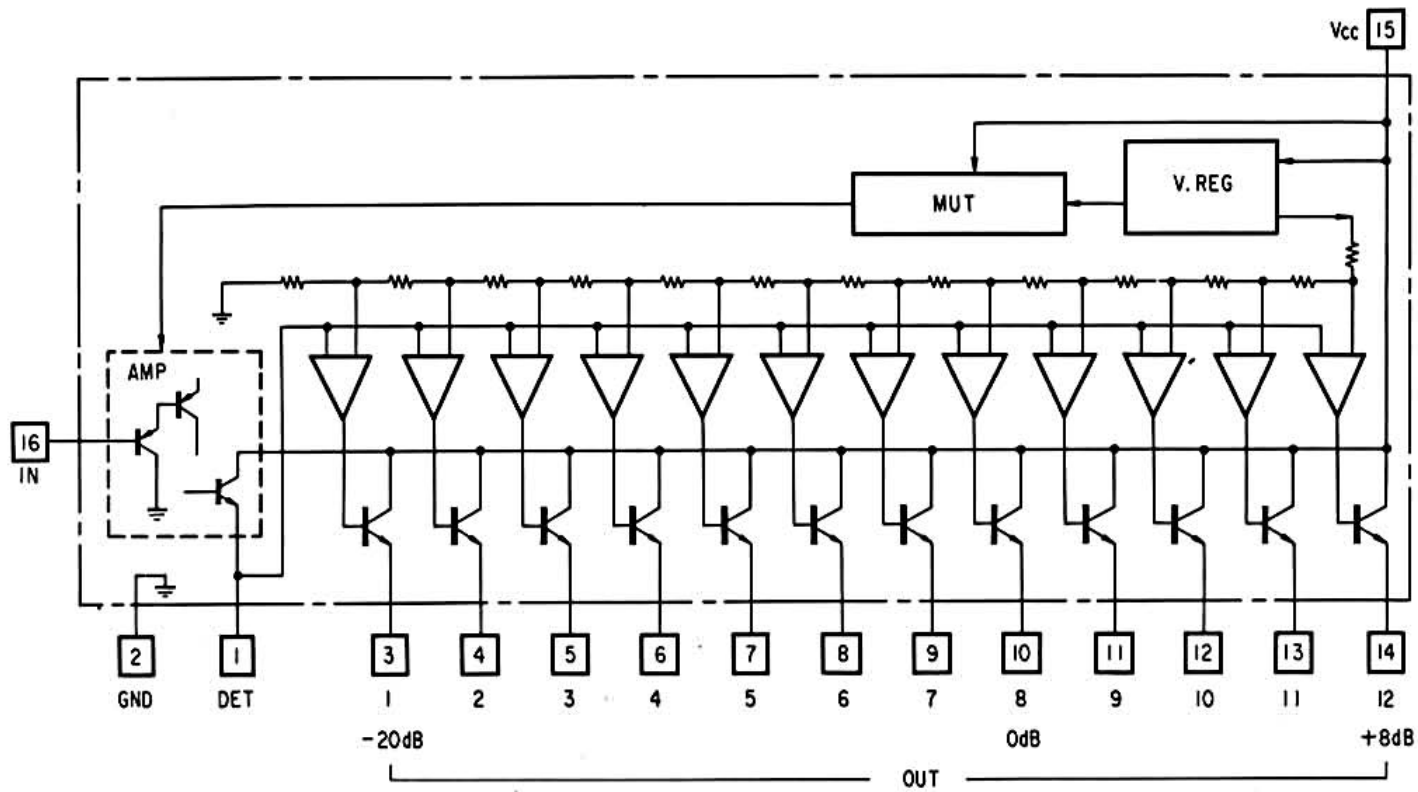


Parts List

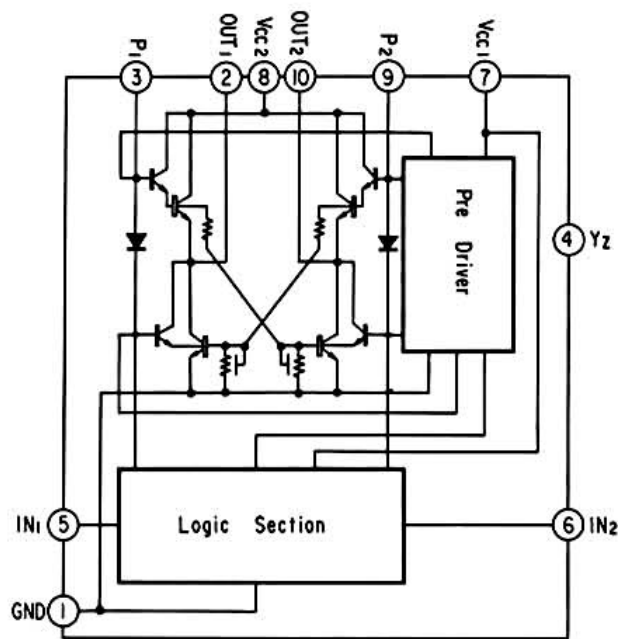
| Parts No. | Stock No. | Description |
|-----------|-----------|---|
| 1 | 00463100 | Hexagon Nut, M2 |
| 2 | 00433600 | Pan Head Screw, M2 x 6 |
| 3 | 37002400 | Tape Guide |
| 4 | 37002300 | Tape Guide Ass'y (with sensor) |
| 5 | 37004900 | Spring, tape guide |
| 6 | 37004800 | Spring, tape guide ass'y |
| 7 | 37002100 | REC/PB Head Ass'y (with Erase Head) |
| 7-1 | 37004700 | Spring |
| 7-2 | 37006000 | Pan Head Screw with Washer, M2 x 4 |
| 7-3 | 37005500 | Spring, azimuth |
| 7-4 | 37006600 | Screw, azimuth |
| 8 | 09461600 | Head Spacer |
| 9 | 37004100 | Lamp, 12V 40mA |
| 10 | 37006300 | Pan Head Screw, M3 x 4 |
| 11 | 37006200 | Pan Head Screw, M2.5 x 8 |
| 12 | 00489000 | E-type Washer, E2 |
| 13 | 37004000 | Spring Plate |
| 14 | 37003400 | Pinch Roller Ass'y (FWD) |
| 15 | 09462700 | Steel Ball, φ3 |
| 16 | 37003900 | Half Guide |
| 17 | 37003800 | Guide Base |
| 18 | 37004600 | Spring, pinch roller ass'y (FWD) |
| 19 | 37003300 | Pinch Roller Ass'y (REV) |
| 20 | 37005200 | Spring |
| 21 | 37005700 | Collar, lock Plate |
| 22 | 37004500 | Spring, pinch roller ass'y (REV) |
| 23 | 46396800 | Pan Head, M2.5 x 5 |
| 24 | 65400300 | Steel Ball, φ2 |
| 25 | 08322600 | E-type Washer, E2.5 |
| 26 | 37005100 | Spring |
| 27 | 09463700 | Truss Head Deltite Screw, M2 x 3.2 |
| 28 | 09465600 | Spring |
| 29 | 37006100 | Pan Head Screw, M2.5 x 3.5 |
| 30 | 37004400 | Dress Panel Ass'y |
| 31 | 37004200 | Cassette Holder Ass'y |
| 32 | 37004300 | Damper Ass'y |
| 33 | 51830000 | CS-type Washer |
| 34 | 37006700 | Washer with cut, d = 3.1 |
| 35 | 37002800 | Rec Prevention Nail (REV) |
| 36 | 37006800 | Washer, d = 4.1 |
| 37 | 09446800 | Rec Prevention Nail (FWD) |
| 38 | 00489200 | E-type Washer, E3 |
| 39 | 37003000 | Cam |
| 40 | 09462400 | Leaf SW. |
| 41 | 47156100 | Spring |
| 42 | 37002700 | Reel Ass'y (Left side) |
| 43 | 07732600 | Washer, d = 1.8 |
| 44 | 37002600 | Reel Ass'y (Right side) |
| 45 | 51821600 | Washer, d = 3.1 |
| 46 | 47040600 | Spring, back tension |
| 47 | 37002500 | Reel Motor Ass'y |
| 48 | 03614000 | DN6838, holl element |
| 49 | 08321500 | Pan Head Screw, M2 x 5 |
| 50 | 47021500 | Leaf SW. |
| 51 | 37003200 | Driving Motor Ass'y |
| 52 | 37003100 | Rotary Gear |
| 53 | 47041900 | Washer, d = 2.5 |
| 54 | 47156200 | Spring, flywheel |
| 55 | 46150400 | LED, TLR121 |
| 56 | 37006400 | Pan Head Deltite Screw, M2.6 x 5 |
| 57 | 09464000 | Washer, d = 2.6 |
| 58 | 46399200 | Pan Head Deltite Screw, M2.6 x 6 |
| 59 | 47041300 | Flywheel |
| 60 | 37003500 | Capstan Belt |
| 62 | 07241200 | 5kΩ(B) S.V.R., Sensor level adj. |
| 63 | 37003600 | Capstan Motor Ass'y (with pulley) |
| 64 | 07734100 | Cushion |
| 65 | 47041700 | Spacer |
| 66 | 37006500 | Pan Head Screw with Washer, M2.6 x 9 |
| 67 | 09463400 | Leaf SW. |
| 68 | 37005400 | Spring |
| 69 | 37005800 | Collar, eject lever (under) |
| 70 | 37005300 | Spring |
| 71 | 47156500 | Collar, eject lever (upper) |
| 72 | 00736400 | Pan Head Screw, M2.6 x 3 |
| 73 | 37005000 | Spring, guide plate |
| 74 | 37005600 | Collar, guide plate |

8. INTERIOR BLOCK DIAGRAM OF IC

•BA6146 (Peak Level Meter IC)



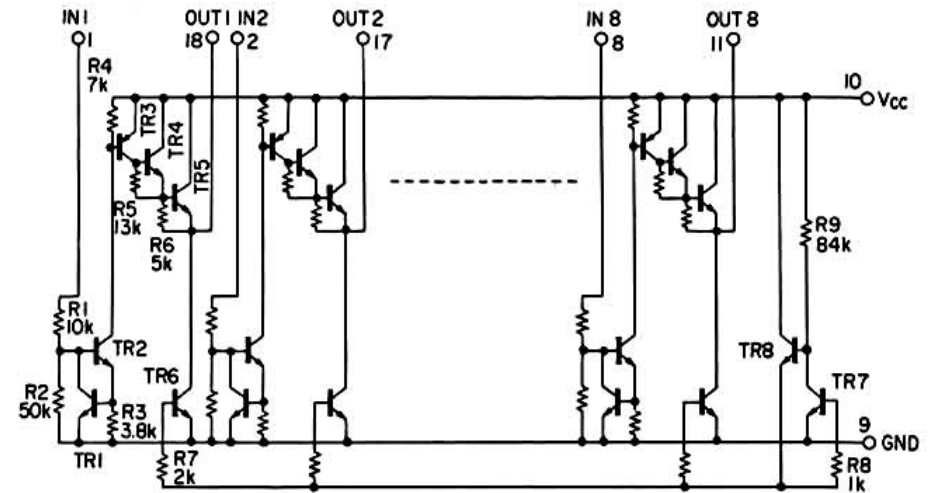
•LB1645 (Motor Drive IC)



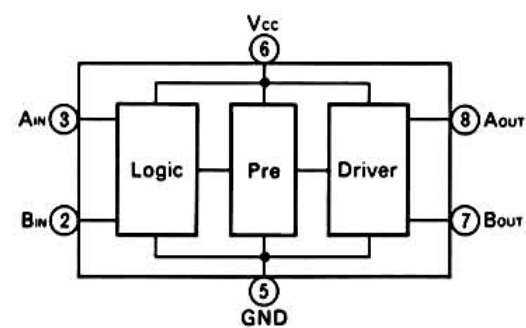
•Output Table

| IN1 | IN2 | OUT1 | OUT2 |
|-----|-----|------|------|
| L | L | L | L |
| H | L | H | L |
| L | H | L | H |
| H | H | L | L |

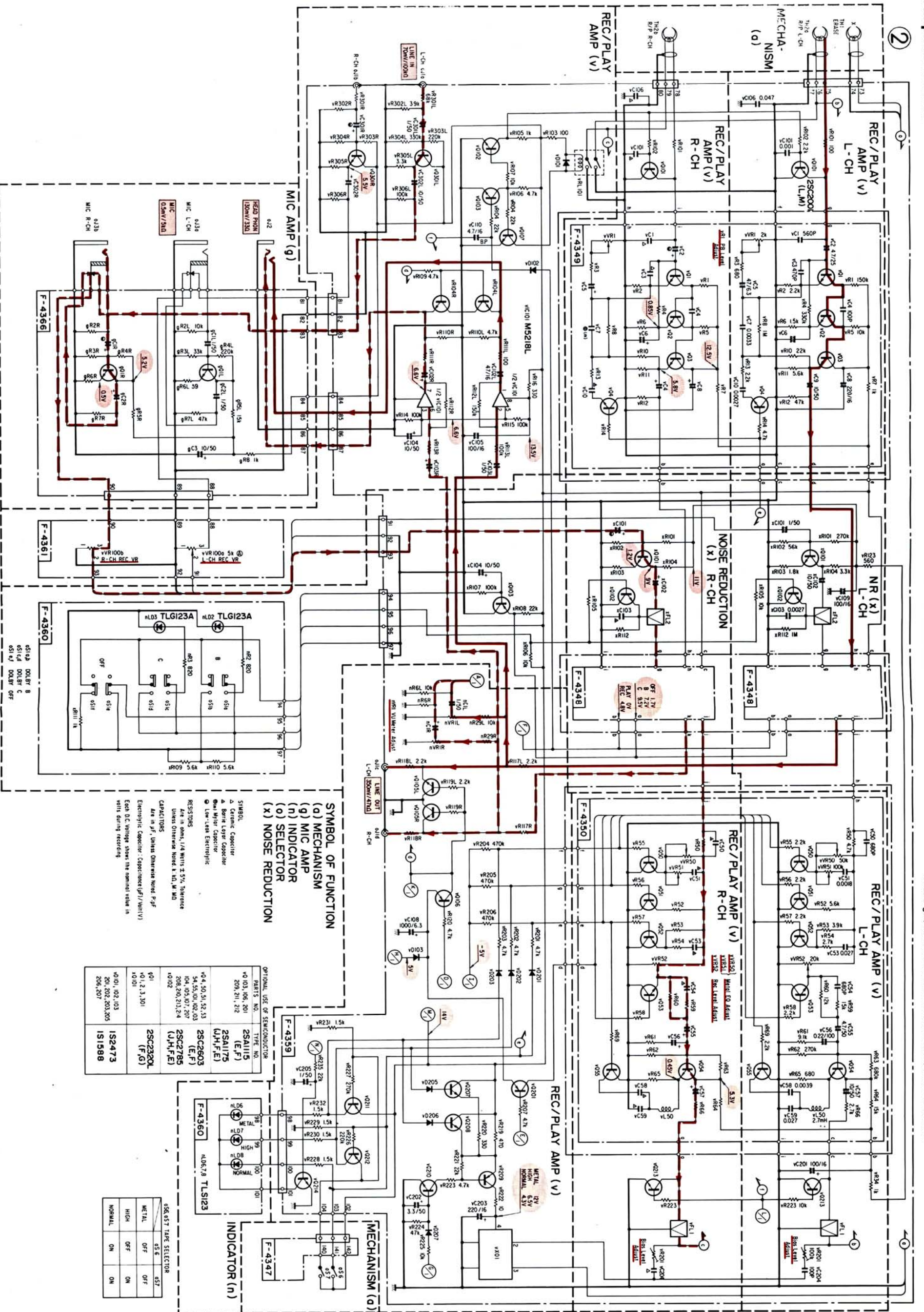
•LB1291 (FL. Display Drive IC)



•BA6208 (Motor Drive IC)



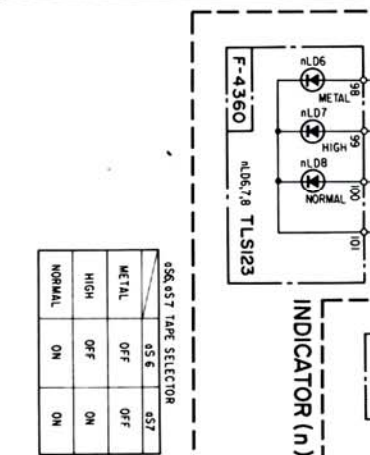
*Design and specifications subject to change without notice for improvement.
 *La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
 *Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



SYMBOL OF FUNCTION
 (o) MECHANISM
 (g) MIC AMP
 (n) INDICATOR
 (o) SELECTOR
 (x) NOISE REDUCTION

OPTIONAL USE OF SEMICONDUCTOR

| PARTS NO. | TYPE NO. |
|-------------------------|-------------------|
| *013, *06, *201 | 2SA1115 (E,F) |
| *209, *211, *212 | 2SA1175 (J,H,F,E) |
| *04, *30, *51, *52, *53 | 2SC2803 (E,F) |
| *54, *55, *01, *02, *03 | 2SC2785 (J,H,F,E) |
| *08, *05, *01, *207 | |
| *208, *201, *213, *214 | |
| *10, *02 | |



556.57 TAP SELECTOR

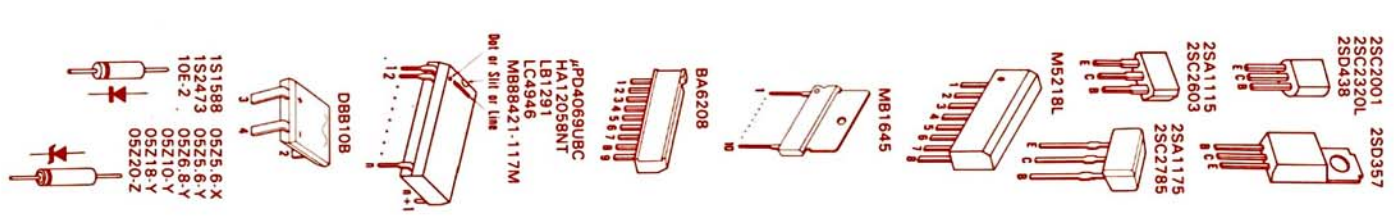
| 556 | 557 |
|--------|-----|
| METAL | OFF |
| OFF | OFF |
| HIGH | ON |
| OFF | ON |
| NORMAL | ON |

SYMBOL

- Ceramic Capacitor
- △ Bore Layer Capacitor
- Paper Capacitor
- Low-leak Electrolytic

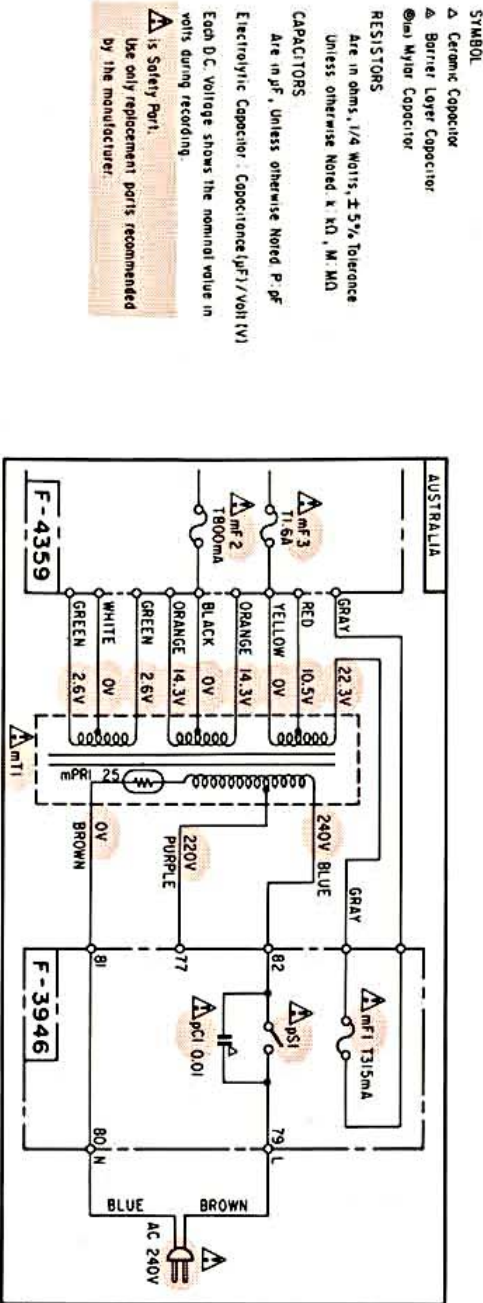
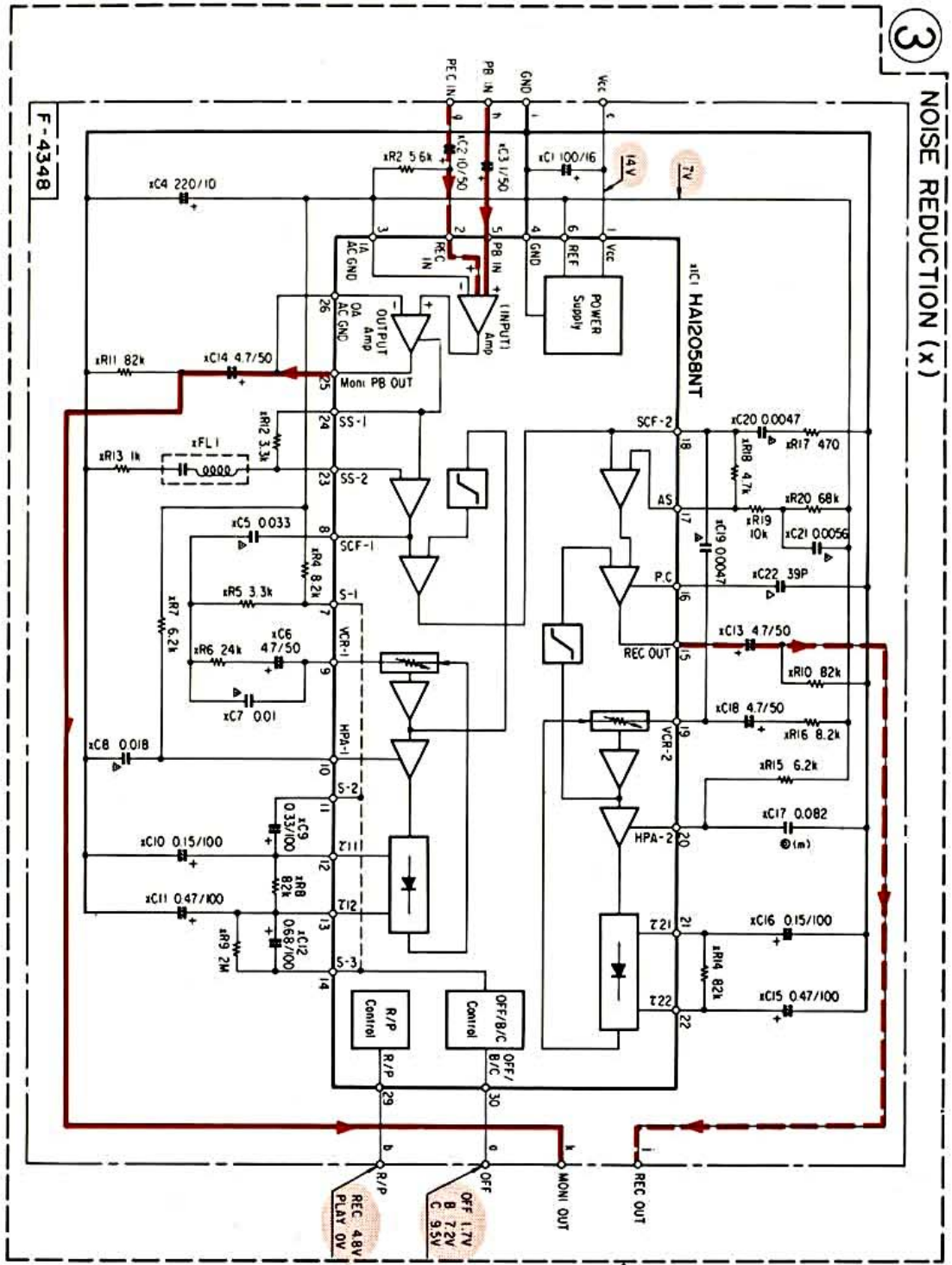
RESISTORS
 Are in ohms, 1/4 W with ± 5%, tolerance
 Unless otherwise noted: R, K, M, MD

CAPACITORS
 Are in pF, unless otherwise noted: P, Pf
 Electrolytic Capacitor: Capacitance (μF)/Voltage (V)
 Each DC Voltage shows the nominal value in volts during recording

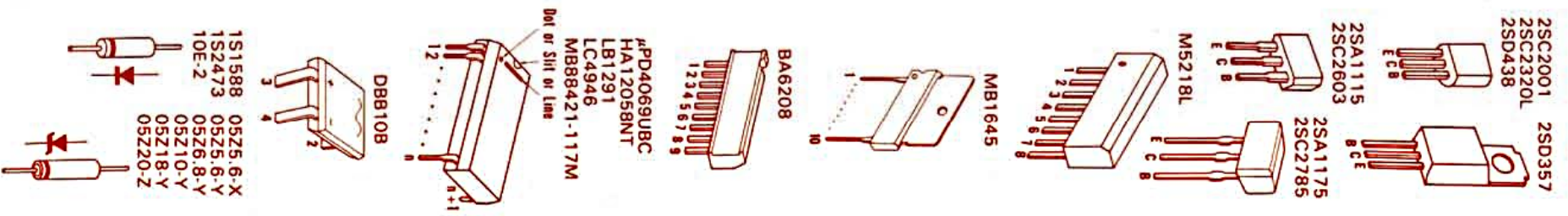


9-3. Noise Reduction Section

*Design and specifications subject to change without notice for improvement.
 *La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
 *Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

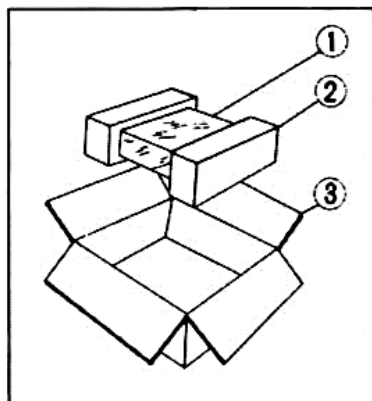


SYMBOL OF FUNCTION
 (m) POWER SUPPLY
 (p) FIXED PARTS
 (x) NOISE REDUCTION



10. PACKING LIST

| Parts No. | Stock No. | Description |
|-----------|-----------|----------------------------|
| 1 | 91167620 | Vinyl Bag |
| 2 | 47127610 | Styrofoam Packing |
| 3 | 47254900 | Carton Case (Silver Model) |
| | 47255000 | Carton Case (Black Model) |



11. ACCESSORY LIST

| Stock No. | Description |
|-----------|-----------------------|
| 38103300 | Pin Plug Cord |
| 46704800 | Operating Instruction |



SANSUI ELECTRIC CO., LTD.:

SANSUI ELECTRONICS CORPORATION:

SANSUI ELECTRONICS (U.K.) LTD.:
SANSUI ELECTRONICS G.M.B.H.:

14-1, Izumi 2-chome, Suginami-ku, Tokyo 168 Japan
PHONE: (03) 324-8891/TELEX: 232-2076 (International Division)

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17150 South Margay Ave. Carson, California 90746 U.S.A.
3036 Koapaka 5t. Honolulu, Hawaii 96819 U.S.A.

Unit 10A, Lyon Industrial Estate, Rockware Avenue, Geenford, Middx UB6, OAA, England
Pau Ehrich Strasse 8, 6074 Rödermark 2, West Germany