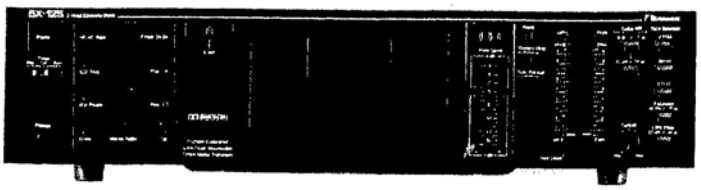
Nakamichi

# Service Manual

# Nakamichi
# BX-125
# BX-125E

## 2 Head Cassette Deck



CONTENTS



## 1. GENERAL

**1.1. Voltage Selector**

Voltage selector is installed on the rear panel for Other version of the Nakamichi BX-125.
This voltage selector can select either 120 V or 220-240 V at customer's disposal.

**1.2. Packing Materials and Owner's Manual**

| Part No. | Description | Q'ty |
|---|---|---|
| 0F03855A | Carton Box BX-125 (Silver) | 1 |
| 0F03857A | Carton Box BX-125 (Black) | 1 |
| 0F03856A | Carton Box BX-125E (Silver) | 1 |
| 0F03858A | Carton Box BX-125E (Black) | 1 |
| 0F03674C | Packing | 2 |
| 0D04517A | Owner's Manual (English) | 1 |
| 0D04518A | Owner's Manual (English/German/French) | 1 |
| 0D04522A | Owner's Manual (Japanese) | 1 |

**1.3. Serial Number**

The BX-125/BX-125E has two versions, Silver and Black.
In the service manual, serial numbers of these versions are identified as follows:

Silver version: A322xxxxx
Black version: A323xxxxx

However, the actual serial number on the serial number plate of the BX-125/BX-125E is indicated as A322.3xxxxx.
The serial number begins with A322.301001.

## 2. TEST TAPES AND GAUGES

(1) 400 Hz Level Tape (DA09005B)
(2) 1 kHz Track Alignment Tape (DA09007B)
(3) 15 kHz Azimuth Tape (DA09004B)
(4) 3 kHz Speed and Wow/Flutter Tape (DA09006C)
(5) 10 kHz PB Frequency Response Tape (DA09003B)
(6) 15 kHz PB Frequency Response Tape (DA09002B)
(7) 20 kHz PB Frequency Response Tape (DA09001B)
(8) Tape Travelling Cassette (DA09027B)
(9) Reference EXII Tape (DA09066B)
(10) Reference SX Tape (DA09025B)
(11) Reference SX-E Tape (DA09086A)
(12) Reference ZX Tape (DA09037B)
(13) Head Alignment Gauge (DA09092A)

## 3. MECHANICAL ADJUSTMENTS

**3.1. Tape Guide Height Check for Record/Playback Head and Erase Head**

With use of a Head Alignment Gauge, tape guide height check for the Record/Playback and Erase Heads shall be made, wherein a small block shall be pushed straight down to the base while in use of the Head Alignment Gauge. Refer to Fig. 3.1.

(1) **Record/Playback Head Tape Guide Height**
(a) Load the base of the Head Alignment Gauge carefully and set the cassette deck in Play mode.
(b) Place the small block of the Head Alignment Gauge on the base.
(c) Slide the small block against the tape guide of the Record/Playback Head, and check to insure that the block is accepted by the tape guide.
(d) If not, loosen the screw and insert a shim (either 30 μm (0C80048A), 60 μm (0C80038A), or 100 μm (0C80039A)) to raise the Record/Playback Head, then tighten and apply a quantity of lock tight paint to the screw.

(2) **Erase Head Tape Guide Height**
(a) Load the base of the Head Alignment Gauge carefully and set the cassette deck in Play mode.
(b) Place the small block of the Head Alignment Gauge on the base.
(c) Slide the small block against the tape guide of the Erase Head, and check whether the block is accepted by the tape guide.

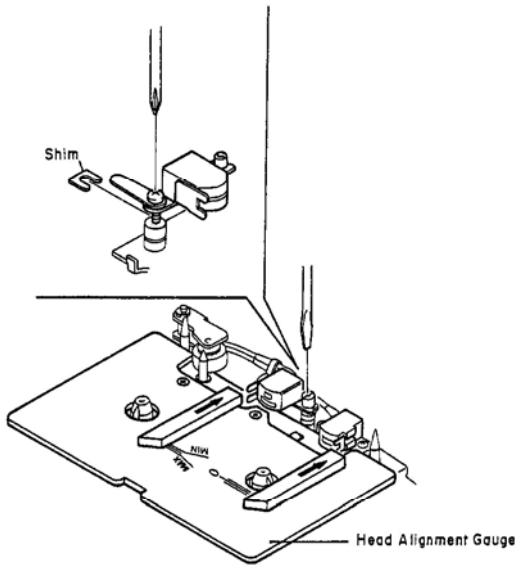



Fig. 3.1

**3.2. Head Base Stroke Check**

Refer to Fig. 3.2.
(1) Load the base of the Head Alignment Gauge carefully, then push the base toward the Record/Playback Head to eliminate the clearance between the reference pin and the base.
(2) Set the cassette deck in Play mode.
(3) Place the small block of the Head Alignment Gauge on the base.
(4) Contact the small block with the Record/Playback Head surface and the Erase Head surface, and check whether the end of the small block is located within the specified tolerance as shown in Fig. 3.2.

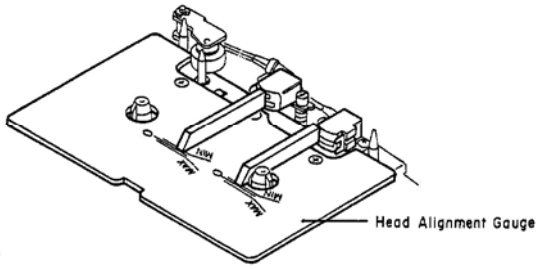



Fig. 3.2

**3.3. Record/Playback Azimuth Alignment and Height Check**

Refer to Fig. 3.1.
(1) Connect a VTVM to the Output Jacks.
(2) Load a 15 kHz Azimuth Tape and set the cassette deck in Play mode.
(3) Turn the Azimuth Alignment Screw until the outputs of both channels become maximum.
(4) Load a 1 kHz Track Alignment Tape and set the cassette deck in Play mode.
(5) Check to insure that the readings of both channels on the VTVM are below −25 dB.
If not, replacement of the Record/Playback Head will be required.
(6) Apply a quantity of lock tight paint to the Azimuth Alignment Screw.

**3.4. Pressure Adjustment of Pressure Roller**

Refer to Fig. 3.3.

(1) In Play mode, measure the torque of the Pressure Roller and check whether the torque is in a range of 320 ±50 g-cm.
(2) If torque is out of the range, correct it by changing the installation point of the Pressure Roller Spring.

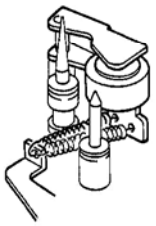


Fig. 3.3

**3.5. Tape Travelling Check**

Load a Tape Travelling Cassette and set the cassette deck in Play mode to check the followings:

(1) After more than 2 seconds, the fluctuation of the tape travelling on the Record/Playback Head is small.
(2) Tape is in contact with the head sufficiently.
(3) Tape waving is small on the heads and pressure roller.

**3.6. Eject Damper Adjustment**

Refer to Fig. 3.4. Load a cassette tape, and with opening the Cassette Case by pressing the Eject button and closing it by hand, adjust the speed of damper action by the Damper Adjustment Screw.

CCW: Damper moves fast.
CW: Damper moves slowly.

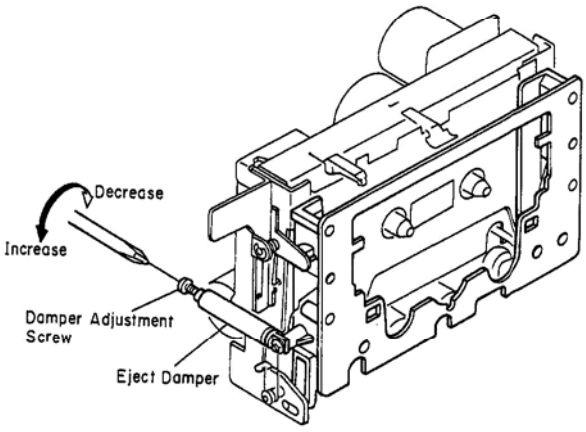



Fig. 3.4

**3.7. Reel Motor Speed Adjustment in Play Mode**

(1) To warm-up the cassette deck, load a C-60 cassette tape and set the cassette deck in Play mode.
(2) After more than four minutes, load a torque meter TW-211 (made by Sony) and set the cassette deck in Play mode.
(3) Adjust VR601 on the Main P.C.B. Ass'y to obtain exactly 50 g-cm on the torque meter.

**3.8. Tape Speed Adjustment**

Refer to Fig. 3.5.

(1) Connect a frequency counter to the Output Jacks.
(2) Load a 3 kHz Speed and Wow/Flutter Tape and play it back.
(3) Adjust the Tape Speed Adjustment Volume incorporated in the Capstan Motor to obtain 3,000 Hz on the frequency counter.

CCW: Motor drives slowly.
CW: Motor drives fast.

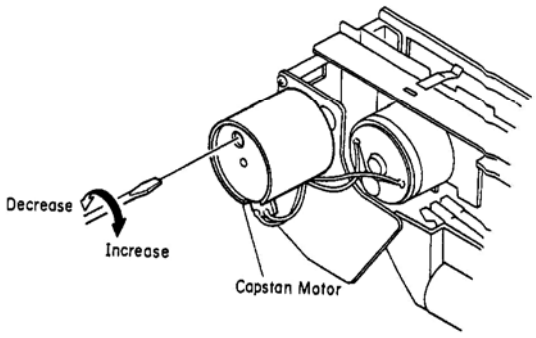



Fig. 3.5

**3.9. Lubrication**

The tape transport is of a lubrication-free type mechanism. When the following parts are replaced, apply the specified lubricant.

(1) Molykote (R) Grease (X5-6020)
Cam Motor Pulley
Thrust portion on the Capstan Shaft
(2) FLOIL GB-TS-1
Washer between Reel Hub Ass'y and Back Tension Spring
(3) Diamond Oil (EP56)
Reel Hub Shaft
(4) Anderol 456
Capstan Shaft

Note: We suggest that you use the above specified lubricant or equivalent type.
The company dealing in the above lubricant is as follows:
(a) Molykote (R) Grease (X5-6020)
Dowcorning Co., Ltd., 1-15-1 Nishishinbashi, Minato-ku, Tokyo, Japan
(b) FLOIL GB-TS-1
Kanto Chemicals Co., Ltd., 2-7 Kanda Sakuma-cho, Chiyoda-ku, Tokyo, Japan
(c) Diamond Oil (EP-56)
Mitsubishi Oil Co., Ltd., 1-2-4 Toranomon, Minato-ku, Tokyo, Japan
(d) Anderol 456
Toyo Kokusai Oil Co., Ltd., 3-3-5 Hatchobori, Chuo-ku, Tokyo, Japan

## 4. PARTS LOCATION FOR ELECTRICAL ADJUSTMENT

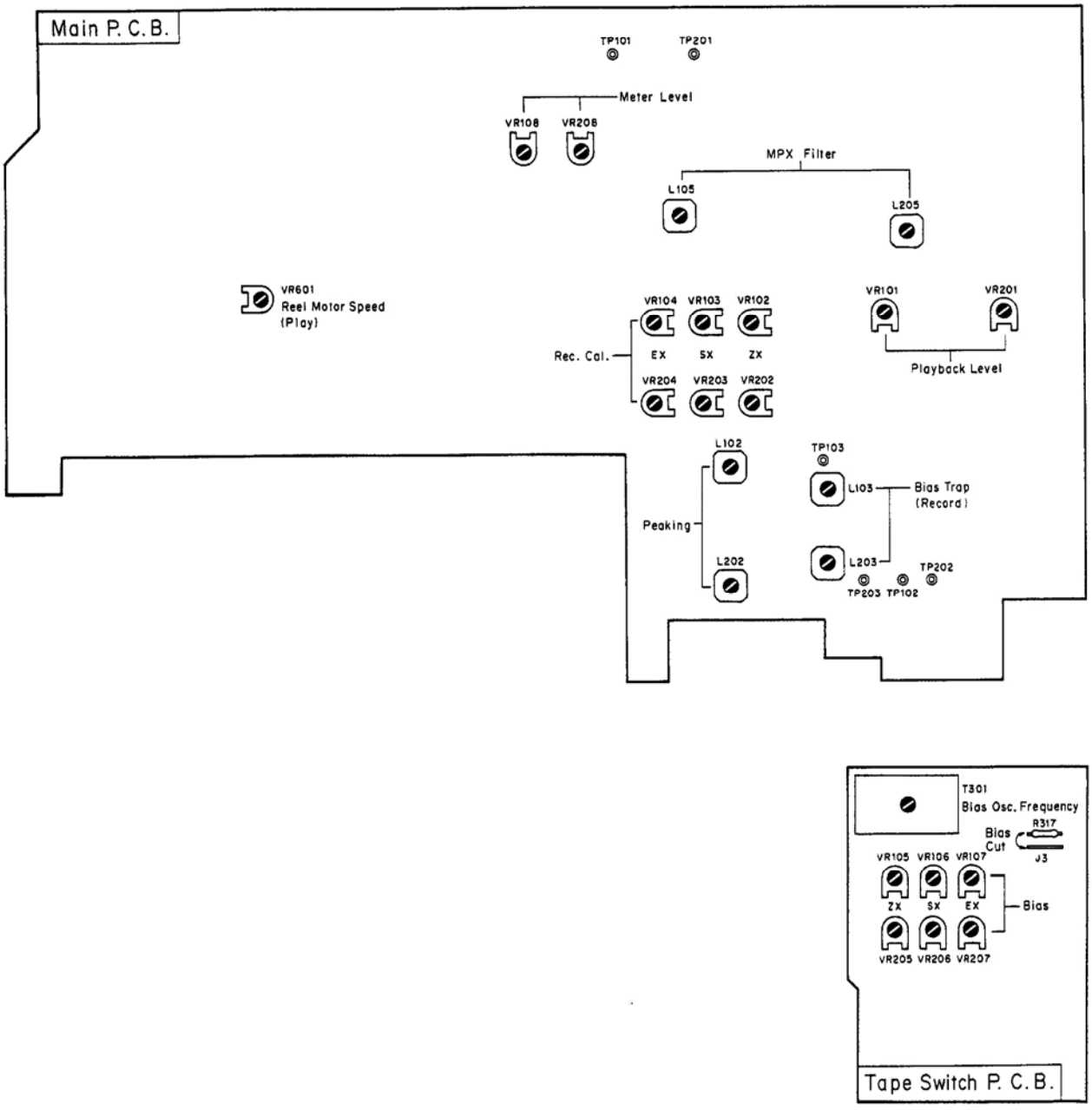



Fig. 4

## 5. ELECTRICAL ADJUSTMENTS

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

**5.1. Adjustment Instructions**

| STEP | ITEM | SIGNAL SOURCE | OUTPUT CONNECTION | MODE | ADJUST-MENT | REMARKS |
|---|---|---|---|---|---|---|
| 1 | Tape Speed Adjustment | 3 kHz Speed and Wow/ Flutter Tape | Frequency Counter to Output Jacks | Playback Eq. - 70 μs | Tape Speed Adjust-ment Volume | Adjust the volume incorporated in the capstan motor to obtain 3 kHz ±0.5% on the frequency counter. |
| 2 | Meter Level Calibration | 400 Hz to Input Jacks | VTVM to TP101, TP201 on Main P.C.B. | Record, Pause | Main P.C.B. VR108 VR208 | 1. Feed in 400 Hz and adjust the Input Level controls to obtain 350 mV -0.8 dB on the VTVM.<br>2. Adjust VR108 (VR208) so that the 0 dB segment of the level meter starts illuminating.<br>3. Adjust the Input Level controls to obtain 350 mV on the VTVM, then decrease the generator output level by 20 dB.<br>4. Check to insure that the segment for -20 dB illuminates. |
| 3 | MPX Filter Adjustment | 19 kHz ±100 Hz to Input Jacks | VTVM to Output Jacks | Record, Pause MPX - OFF/ON | Main P.C.B. L105 L205 | 1. Set the Output Level control to max. Adjust the Input Level controls to obtain 500 mV (0 dB) on the VTVM.<br>2. Set the MPX Filter switch to ON and adjust L105 (L205) to obtain minimum reading on the VTVM (minimum reading will be less than -30 dB). |
| 4 | Record/ Playback Head Azimuth Alignment | 15 kHz Azimuth Tape | VTVM to Output Jacks | Playback Eq. - 70 μs Dolby NR - OFF MPX - OFF | Record/ Playback Head Azimuth Align-ment Screw | Adjust the Record/Playback Head Azimuth Alignment Screw to obtain maximum readings for both channels on the VTVM. |
| 5 | Playback Level Calibration | 400 Hz Level Tape | VTVM to TP101, TP201 on Main P.C.B. | Same as above | Main P.C.B. VR101 VR201 | Adjust VR101 (VR201) to obtain 350 mV on the VTVM. |
| 6 | Playback Frequency Response Adjustment | 400 Hz Level Tape<br>10 kHz PB Frequency Response Tape<br>15 kHz PB Frequency Response Tape<br>20 kHz PB Frequency Response Tape | VTVM to Output Jacks | Same as above | Main P.C.B. R110 R210 R195 R295 | 1. Load a 400 Hz level tape and play it back. Adjust the Output Level control to a certain level.<br>2. Load 10 kHz, 15 kHz and 20 kHz PB frequency response tapes and play them back. Adjust the record/play-back head azimuth to obtain maximum readings for both channels on the VTVM with each tape. Short R110 (R210) or R195 (R295) on the Main P.C.B. Ass'y to obtain the following levels against the level for the 400 Hz level tape.<br>10 kHz: -20 dB -2 to +2 dB<br>15 kHz: -20 dB -2 to +3 dB<br>20 kHz: -20 dB -2 to +4 dB<br>3. Conduct step 4 "Record/Playback Head Azimuth Alignment". |

| STEP | ITEM | SIGNAL SOURCE | OUTPUT CONNECTION | MODE | ADJUST-MENT | REMARKS |
|---|---|---|---|---|---|---|
| 7 | Bias Oscillation Frequency and Erase Current Adjustment | None | Frequency Counter to CN2-2 on Tape Switch P.C.B. and VTVM across the additional 0.1 ohm resistor | Record, Pause<br>Tape - ZX<br>Eq. - 70 μs<br>Dolby NR - OFF<br>MPX - OFF | Tape Switch P.C.B.<br>T301<br>R318<br>R350 | 1. Connect an additional 0.1 ohm resistor in series to the Erase Head and connect a VTVM across it.<br>2. Adjust T301 to obtain 105 kHz on the frequency counter.<br>3. Check the erase current by the VTVM. Erase current will be in a range of 310 mA to 400 mA (typically approx. 350 mA).<br>If erase current is not sufficient, increase it by shorting either R318 or R350.<br>4. After completion of the erase current adjustment, re-check the bias oscillation frequency.<br>5. Remove the additional 0.1 ohm resistor. |
| 8 | Record Amplifier Equalizer Adjustment | 21 kHz (-20 dB) to Input Jacks | VTVM to TP102,TP202 on Main P.C.B. | Same as above | Main P.C.B.<br>L102<br>L202 | 1. Short the bias cut points indicated in Fig. 4 with a clip to stop bias oscillation.<br>2. Adjust L102 (L202) to obtain peak reading at 21 kHz on the VTVM.<br>3. Remove the clip. |
| 9 | Bias Trap Adjustment (Record Amp.) | None (remove input signals) | VTVM to TP103,TP203 on Main P.C.B. | Same as above | Main P.C.B.<br>L103<br>L203 | Adjust L103 (L203) to obtain maximum reading on the VTVM. |
| 10 | Record Level Calibration and Recording Bias Current Adjustment | 400 Hz (0 dB) and 15 kHz (-20 dB) to Input Jacks | VTVM and Distortion Meter to Output Jacks | Record and Playback<br>Tape - ZX/SX/EX<br>Eq. - 70 μs (ZX/SX)<br>120 μs (EX)<br>Dolby NR - OFF<br>MPX - OFF | Main P.C.B. (Level)<br>ZX:<br>VR102<br>VR202<br>SX:<br>VR103<br>VR203<br>EX:<br>VR104<br>VR204<br><br>Tape Switch P.C.B. (Bias)<br>ZX:<br>VR105<br>VR205<br>SX:<br>VR106<br>VR206<br>EX:<br>VR107<br>VR207 | Adjustment should be made in the order of ZX, SX and EX.<br><br>1. Set the Output Level control to max.<br>2. Set the cassette deck in Record/Pause mode.<br>3. Feed in 400 Hz and adjust the Input Level controls to obtain 500 mV (0 dB) on the VTVM.<br>4. Load a reference ZX tape, reference SX/SX-E tape and reference EXII tape.<br>5. Feed in 400 Hz (0 dB) and record, rewind and play it back.<br>Adjust VR102 (VR202) for ZX tape, VR103 (VR203) for SX/SX-E Tape and VR104 (VR204) for EXII tape so that the played back output levels are 500 mV (0 dB) on the VTVM.<br>6. Feed in 15 kHz (-20 dB) and record, rewind and play it back.<br>Adjust VR105 (VR205) for ZX tape, VR106 (VR206) for SX/SX-E tape and VR107 (VR207) for EXII tape so that the played back output levels are 50 mV (-20 dB) on the VTVM.<br>7. Repeat above 5 and 6 two or three times.<br>8. Feed in 400 Hz (0 dB) and record, rewind and play it back. Check to insure whether the total harmonic distortion is less than 1.0% for ZX and EXII tapes and 1.2% for SX/SX-E tape. If the total harmonic distortion exceeds the specified value, repeat above steps till satisfactory results are obtained. |

| STEP | ITEM | SIGNAL SOURCE | OUTPUT CONNECTION | MODE | ADJUST-MENT | REMARKS |
|---|---|---|---|---|---|---|
| 11 | Overall Frequency Response Adjustment | 400 Hz (0 dB) and 20 Hz to 17 kHz (-20 dB) to Input Jacks | VTVM to Output Jacks | Record and Playback<br>Tape - ZX/SX/EX<br>Eq. - 70 μs (ZX/SX)<br>120 μs (EX)<br>Dolby NR - OFF<br>MPX SW - OFF | Main P.C.B.<br>L102<br>L202 | 1. Set the cassette deck in Record/Pause mode.<br>2. Feed in 400 Hz and set the Input Level controls to obtain 500 mV (0 dB) on the VTVM.<br>3. Decrease the generator output control by 20 dB.<br>4. Feed in 20 Hz to 17 kHz (-20 dB), and record, rewind and play them back, then check to insure whether the output levels are within -20 dB ±4 dB.<br>5. If above is not sufficient, adjust L102 (L202) to obtain approx. -20 dB on the VTVM, then conduct step 10 "Record Level Calibration and Recording Bias Current Adjustment".<br>6. If above is not sufficient, precise re-adjustment of step 6 "Playback Frequency Response", replacement of Record/Playback Head or tape travelling check will be required. |

**5.2. Playback Frequency Response Adjustment**

Figs. 5.1 and 5.2 show the playback amp. circuit for adjustment and the playback equalization curve.
This adjustment will be required if playback level is not sufficient when a 20 kHz PB frequency response tape is played back.

The peaking portion of the equalization curve compensates the gap loss of the playback head. Peaking level is varied by the short circuit of R110 (R210) or R195 (R295).

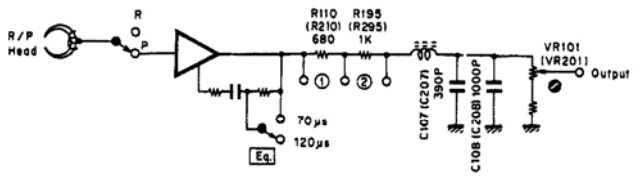



Fig. 5.1

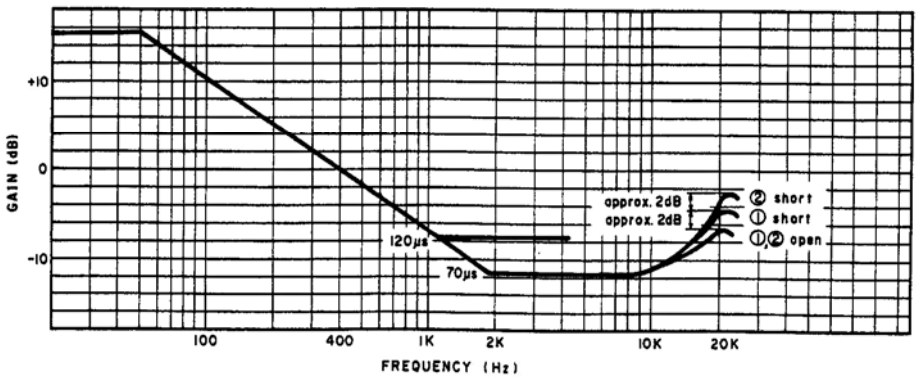



Fig. 5.2

## 6. MECHANISM ASS'Y AND PARTS LIST

### 6.1. Synthesis

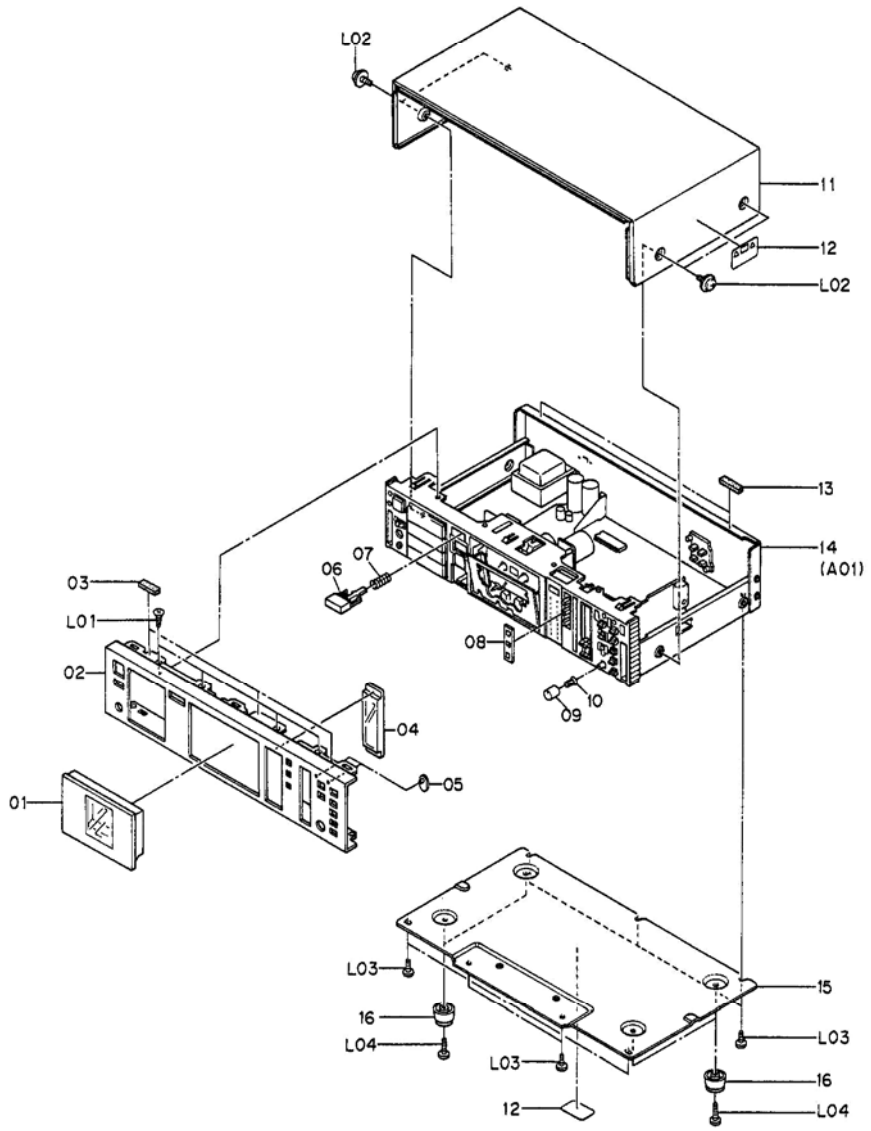



Fig. 6.1

| Schematic Ref. No. | Part No. | Description | Q'ty | Schematic Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|---|---|---|---|
| | | Synthesis<br>Serial No.: A32201001 - (Silver) | | | | Synthesis<br>Serial No.: A32301001 - (Black) | |
| 01 | HA04494B | Cassette Case Cover Ass'y | 1 | 01 | HA04495B | Cassette Case Cover Ass'y | 1 |
| 02 | 0H04582B | Front Panel Ass'y BX-125 | 1 | 02 | 0H04584B | Front Panel Ass'y BX-125 | 1 |
| | 0H04583B | Front Panel Ass'y BX-125E | 1 | | 0H04585B | Front Panel Ass'y BX-125E | 1 |
| 03 | 0J04628A | Top Cover Cushion (Front) | 3 | 03 | 0J04628A | Top Cover Cushion (Front) | 3 |
| 04 | 0H04306A | Meter Cover | 1 | 04 | 0H04307A | Meter Cover | 1 |
| 05 | 0H04240A | LED Lens | 2 | 05 | 0H04240A | LED Lens | 2 |
| 06 | HA04571A | Eject Button Ass'y | 1 | 06 | HA04570A | Eject Button Ass'y | 1 |
| 07 | 0J04765A | Spring | 1 | 07 | 0J04765A | Spring | 1 |
| 08 | 0H04276A | Counter Escutcheon | 1 | 08 | 0H04275A | Counter Escutcheon | 1 |
| 09 | 0H04432B | Volume Knob | 1 | 09 | 0H04342A | Volume Knob | 1 |
| 10 | 0H03737A | Volume Knob Base | 1 | 10 | 0H03737A | Volume Knob Base | 1 |
| 11 | 0H04155B | Top Cover | 1 | 11 | 0H04156B | Top Cover | 1 |
| 12 | 0M04377B | Caution Label | 2 | 12 | 0M04377B | Caution Label | 2 |
| 13 | 0J04629A | Top Cover Cushion (Back) | 2 | 13 | 0J04629A | Top Cover Cushion (Back) | 2 |
| 14 | — | Synthesis Mechanism Ass'y | 1 | 14 | — | Synthesis Mechanism Ass'y | 1 |
| 15 | 0J04762A | Bottom Cover | 1 | 15 | 0J04762A | Bottom Cover | 1 |
| 16 | 0J03564A | Leg T-H | 4 | 16 | 0J03564A | Leg T-H | 4 |
| L01 | 0E03054A | BT 3x8 ⊕ Countersunk | 4 | L01 | 0E03054A | BT 3x8 ⊕ Countersunk | 4 |
| L02 | 0E03033A | BT 4x8 ⊕ Pan Washer-faced (Nickel) | 4 | L02 | 0E03032A | BT 4x8 ⊕ Pan Washer-faced (Black Chromate) | 4 |
| L03 | 0E00868A | BT 3x8 ⊕ Binding | 7 | L03 | 0E00868A | BT 3x8 ⊕ Binding | 7 |
| L04 | 0E00865A | BT 3x10 ⊕ Binding | 4 | L04 | 0E00865A | BT 3x10 ⊕ Binding | 4 |

## 6.2. Synthesis Mechanism Ass'y (A01)

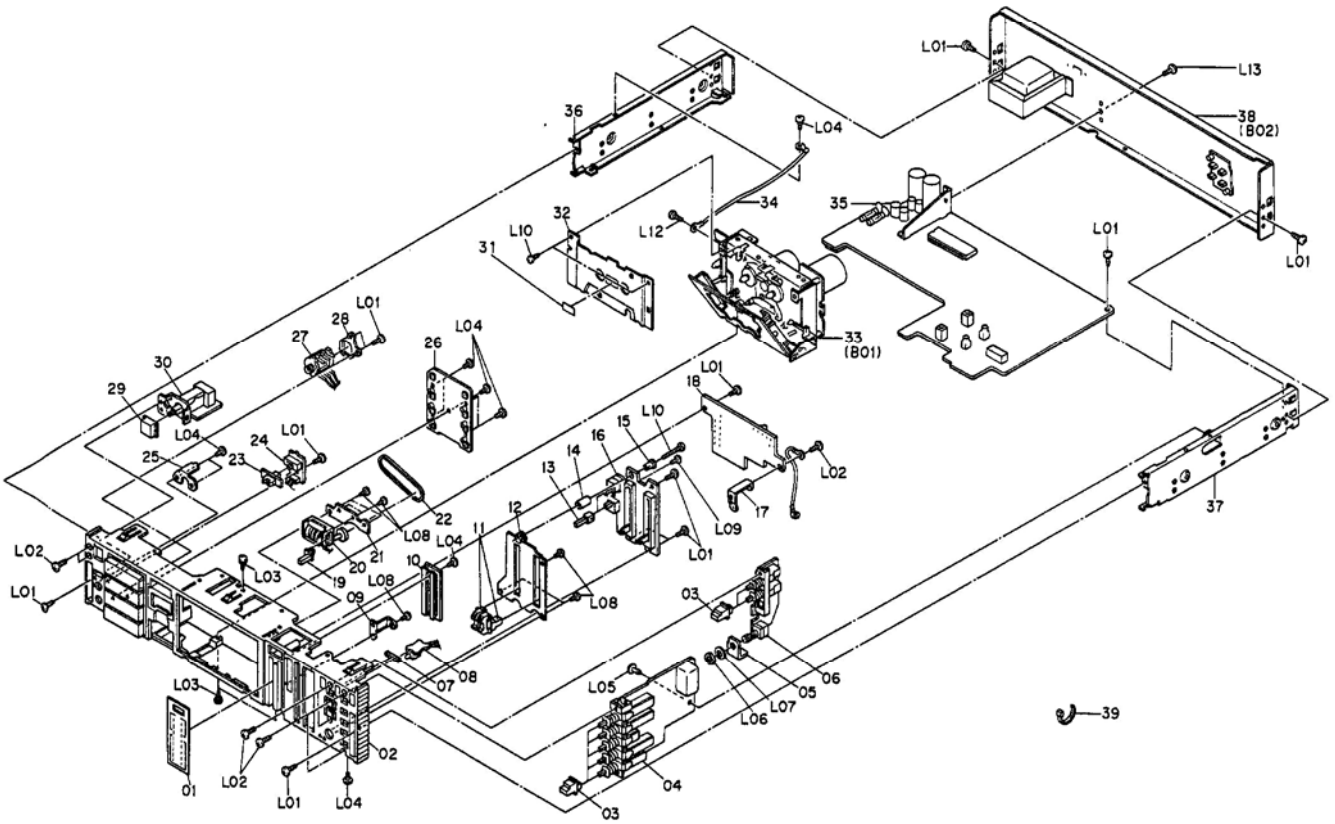



Fig. 6.2

| Schematic Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| A01 | — | Synthesis Mechanism Ass'y Serial No.: A32201001 - (Silver) | 1 |
| 01 | 0H04277A | Meter Scale | 1 |
| 02 | HA04794A | Front Chassis Ass'y | 1 |
| 03 | 0H04288A | Push Switch Button | 7 |
| 04 | BA05637A | Tape Switch P.C.B. Ass'y | 1 |
| 05 | 0J04838A | Holder | 1 |
| 06 | BA05635A | Dolby NR Switch P.C.B. Ass'y | 1 |
| 07 | 0J04984A | Cushion A | 1 |
| 08 | BA05630A | LED P.C.B. Ass'y | 1 |
| 09 | 0J04767A | Memory Switch Holder | 1 |
| 10 | BA05089A | Indicator Ass'y | 1 |
| 11 | 0H04289A | Slide Volume Knob | 2 |
| 12 | 0H04283B | Slide Volume Plate | 1 |
| 13 | 0H04272A | Memory Switch Knob | 2 |
| 14 | 0J04703A | Bushing A | 1 |
| 15 | 0J04704A | Bushing B | 1 |
| 16 | BA05639A | Volume P.C.B. Ass'y | 1 |
| 17 | 0J04840A | Indicator P.C.B. Holder | 1 |
| 18 | BA05638A | Indicator P.C.B. Ass'y | 1 |
| 19 | 0H04274A | Counter Knob | 1 |
| 20 | 0C08602A | Tape Counter | 1 |
| 21 | 0J04764A | Counter Holder | 1 |
| 22 | 0C08604A | Counter Belt | 1 |
| 23 | 0H04309A | Slide Switch Knob | 1 |
| 24 | BA05641A | Timer Switch P.C.B. Ass'y | 1 |
| 25 | 0J04843A | Timer Switch P.C.B. Holder | 1 |
| 26 | BA05640A | Control Switch P.C.B. Ass'y | 1 |
| 27 | 0B08511A | Headphone Jack | 1 |
| 28 | 0J04611A | Headphone Plate | 1 |
| 29 | 0H04290A | Power Switch Button | 1 |
| 30 | BA05230A | Power Switch P.C.B. Ass'y BX-125 (U.S.A. & Canada) | 1 |
| | BA05231A | Power Switch P.C.B. Ass'y BX-125 (Japan) | 1 |
| | BA05229A | Power Switch P.C.B. Ass'y BX-125 (Australia & Others) & BX-125E | 1 |
| 31 | 0M04196A | Cassette Label (Silver) | 1 |
| 32 | 0H04154C | Cover Plate | 1 |
| 33 | CA08498A | Mechanism Ass'y | 1 |
| 34 | BA05131A | Earth Wire | 1 |
| 35 | BA05627A | Main P.C.B. Ass'y BX-125 | 1 |
| | BA02757A-E | Main P.C.B. Ass'y BX-125E | 1 |
| 36 | 0J04603F | Side Chassis L | 1 |
| 37 | 0J04773D | Side Chassis R | 1 |
| 38 | HA04759B | Rear Panel Ass'y BX-125 (U.S.A.) | 1 |
| | HA04791A | Rear Panel Ass'y BX-125 (Japan) | 1 |
| | HA04760A | Rear Panel Ass'y BX-125 (Others) | 1 |
| | HA04761A | Rear Panel Ass'y BX-125 (Australia) | 1 |
| | HA04771B | Rear Panel Ass'y BX-125 (Canada) | 1 |
| | HA04758A | Rear Panel Ass'y BX-125E (UK) | 1 |
| | HA04762A | Rear Panel Ass'y BX-125E (220V Class 2) | 1 |
| 39 | 0B08515A | Insu-Lock | 14 |
| — | 0J04581A | Counter Cushion | 3 |
| — | 0B08525A | Fuse 2A 250V BX-125 (U.S.A., Canada & Others) | 2 |
| | 0B08854A | Fuse 2A BX-125 (Japan) | 2 |
| — | 0B08347U | Fuse T1A 250V BX-125 (Australia) & BX-125E | 2 |
| — | 0M04131B | Fuse Label T1A BX-125 (Australia) & BX-125E | 1 |
| — | 0B08349B | Fuse Clip BX-125 (Australia) & BX-125E | 4 |
| L01 | 0E00868A | BT 3x8 ⊕ Binding | 15 |
| L02 | 0E00766A | M3x8 ⊕ Binding | 7 |
| L03 | 0E03074A | BT 2.6x8 ⊕ Binding with Toothed-Lock Washer | 3 |
| L04 | 0E00857A | BT 3x6 ⊖ Binding | 10 |
| L05 | 0B08583A | Plastic Rivet | 1 |
| L06 | — | Nut | (1) |
| L07 | — | Washer | (1) |
| L08 | 0E00859A | BT 2.6x6 ⊕ Binding | 8 |
| L09 | 0E03070A | M2.6x6 ⊕ Binding | 1 |
| L10 | 0E00835A | BT 3x25 ⊕ Pan | 1 |
| L11 | 0E00824A | BT 2.6x6 ⊕ Pan (Black Chromate) | 2 |
| L12 | 0E00954A | BT 2.6x8 ⊕ Binding | 1 |
| L13 | 0E03028A | BT 3x8 ⊕ Binding (Nickel) | 1 |

| Schematic Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| A01 | — | Synthesis Mechanism Ass'y Serial No.: A32301001 - (Black) | 1 |
| 01 | 0H04278B | Meter Scale | 1 |
| 02 | HA04795A | Front Chassis Ass'y | 1 |
| 03 | 0H04248A | Push Switch Button | 7 |
| 04 | BA05637A | Tape Switch P.C.B. Ass'y | 1 |
| 05 | 0J04838A | Holder | 1 |
| 06 | BA05635A | Dolby NR Switch P.C.B. Ass'y | 1 |
| 07 | 0J04984A | Cushion A | 1 |
| 08 | BA05630A | LED P.C.B. Ass'y | 1 |
| 09 | 0J04767A | Memory Switch Holder | 1 |
| 10 | BA05089A | Indicator Ass'y | 1 |
| 11 | 0H04247B | Slide Volume Knob | 2 |
| 12 | 0H04284B | Slide Volume Plate | 1 |
| 13 | 0H04271A | Memory Switch Knob | 2 |
| 14 | 0J04703A | Bushing A | 1 |
| 15 | 0J04704A | Bushing B | 1 |
| 16 | BA05639A | Volume P.C.B. Ass'y | 1 |
| 17 | 0J04840A | Indicator P.C.B. Holder | 1 |
| 18 | BA05638A | Indicator P.C.B. Ass'y | 1 |
| 19 | 0H04273A | Counter Knob | 1 |
| 20 | 0C08602A | Tape Counter | 1 |
| 21 | 0J04764A | Counter Holder | 1 |
| 22 | 0C08604A | Counter Belt | 1 |
| 23 | 0H04242A | Slide Switch Knob | 1 |
| 24 | BA05641A | Timer Switch P.C.B. Ass'y | 1 |
| 25 | 0J04843A | Timer Switch P.C.B. Holder | 1 |
| 26 | BA05640A | Control Switch P.C.B. Ass'y | 1 |
| 27 | 0B08511A | Headphone Jack | 1 |
| 28 | 0J04611A | Headphone Plate | 1 |
| 29 | 0H04243A | Power Switch Button | 1 |
| 30 | BA05230A | Power Switch P.C.B. Ass'y BX-125 (U.S.A. & Canada) | 1 |
| | BA05231A | Power Switch P.C.B. Ass'y BX-125 (Japan) | 1 |
| | BA05229A | Power Switch P.C.B. Ass'y BX-125 (Australia & Others) & BX-125E | 1 |
| 31 | 0M04392A | Cassette Label (Gold) | |
| 32 | 0H04154C | Cover Plate | 1 |
| 33 | CA08498A | Mechanism Ass'y | 1 |
| 34 | BA05131A | Earth Wire | 1 |
| 35 | BA05627A | Main P.C.B. Ass'y BX-125 | 1 |
| | BA02757A-E | Main P.C.B. Ass'y BX-125E | 1 |
| 36 | 0J04603F | Side Chassis L | 1 |
| 37 | 0J04773D | Side Chassis R | 1 |
| 38 | HA04764A | Rear Panel Ass'y BX-125 (U.S.A.) | 1 |
| | HA04792A | Rear Panel Ass'y BX-125 (Japan) | 1 |
| | HA04765A | Rear Panel Ass'y BX-125 (Others) | 1 |
| | HA04766A | Rear Panel Ass'y BX-125 (Australia) | 1 |
| | HA04772A | Rear Panel Ass'y BX-125 (Canada) | 1 |
| | HA04763A | Rear Panel Ass'y BX-125E (UK) | 1 |
| | HA04767A | Rear Panel Ass'y BX-125E (220V Class 2) | 1 |
| 39 | 0B08515A | Insu-Lock | 14 |
| — | 0J04581A | Counter Cushion | 3 |
| — | 0B08525A | Fuse 2A 250V BX-125 (U.S.A., Canada & Others) | 2 |
| | 0B08854A | Fuse 2A BX-125 (Japan) | 2 |
| — | 0B08347U | Fuse 1AT 250V BX-125 (Australia) & BX-125E | 2 |
| — | 0M04131B | Fuse Label 1AT BX-125 (Australia) & BX-125E | 1 |
| — | 0B08349B | Fuse Clip BX-125 (Australia) & BX-125E | 4 |
| L01 | 0E00868A | BT 3x8 ⊕ Binding | 15 |
| L02 | 0E00766A | M3x8 ⊕ Binding | 7 |
| L03 | 0E03074A | BT 2.6x8 ⊕ Binding with Toothed-Lock Washer | 3 |
| L04 | 0E00857A | BT 3x6 ⊕ Binding | 10 |
| L05 | 0B08583A | Plastic Rivet | 1 |
| L06 | — | Nut | (1) |
| L07 | — | Washer | (1) |
| L08 | 0E00859A | BT 2.6x6 ⊕ Binding | 8 |
| L09 | 0E03070A | M2.6x6 ⊕ Binding | 1 |
| L10 | 0E00835A | BT 3x25 ⊕ Pan | 1 |
| L11 | 0E00824A | BT 2.6x6 ⊕ Pan (Black Chromate) | 2 |
| L12 | 0E00954A | BT 2.6x8 ⊕ Binding | 1 |
| L13 | 0E00921A | BT 3x8 ⊕ Binding (Black Chromate) | 1 |

**6.3. Mechanism Ass'y (B01)**

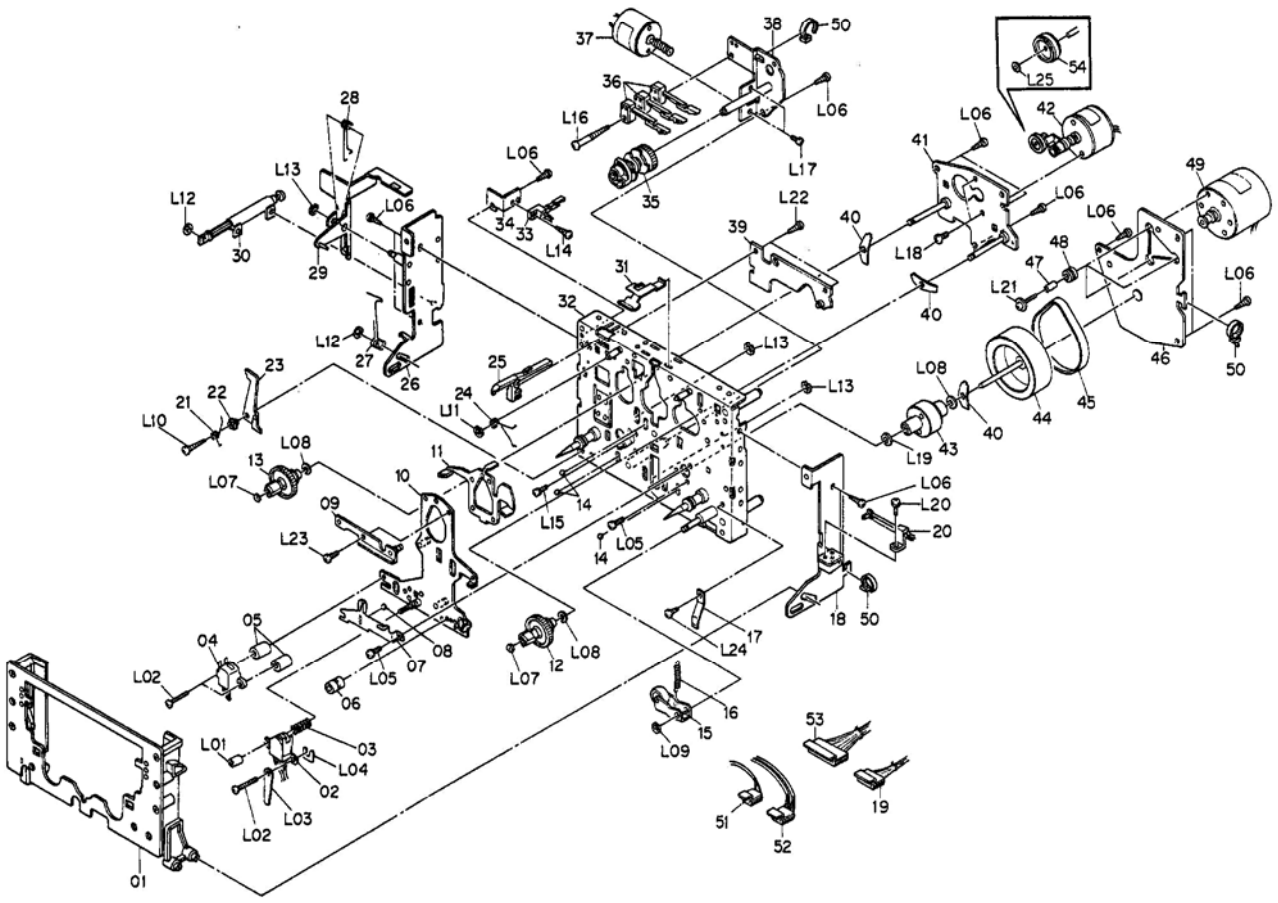
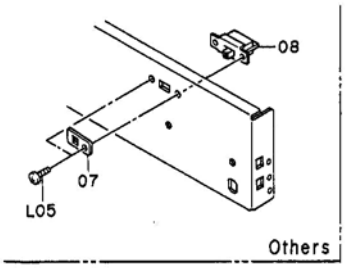



Fig. 6.3

| Schematic Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| **B01** | **CA08498A** | **Mechanism Ass'y**<br>**Serial No.: A322.301001 -** | **1** |
| 01 | CA80001A | Cassette Case Ass'y | 1 |
| 02 | 0G01371A | Record/Playback Head RP-2G | 1 |
| 03 | 0C80001A | Azimuth Adjust Spring | 1 |
| 04 | 0G01365A | Erase Head E-2D | 1 |
| 05 | 0C80044A | Erase Head Collar | 2 |
| 06 | 0C80045A | Record/Playback Head Collar | 1 |
| 07 | 0C80003A | Head Base Hold Plate | 1 |
| 08 | 0C80004A | Steel Ball 3mm | 1 |
| 09 | 0C80005A | Reinforcement Plate | 1 |
| 10 | 0C80006A | Head Base | 1 |
| 11 | CA80002A | Brake Ass'y | 1 |
| 12 | CA80003B | Take-up Reel Hub Ass'y | 1 |
| 13 | CA80004B | Supply Reel Hub Ass'y | 1 |
| 14 | 0C80007A | Steel Ball 2mm | 3 |
| 15 | CA80005A | Pressure Roller Ass'y | 1 |
| 16 | 0C80008A | Pressure Roller Spring | 1 |
| 17 | 0C80009A | Cassette Case Spring | 1 |
| 18 | 0C80010C | Cassette Case Holder R | 1 |
| 19 | 0C80043A | 5P-H Connector | 1 |
| 20 | 0C80012A | Eject Sensor | 1 |
| 21 | 0C80013A | Lock Lever Spring | 1 |
| 22 | 0C80014A | Lock Lever Collar | 1 |
| 23 | 0C80015B | Lock Lever | 1 |
| 24 | 0C80016A | Brake Spring | 1 |
| 25 | 0C80017A | Record Protector Lever | 1 |
| 26 | 0C80018A | Cassette Case Holder L | 1 |
| 27 | 0C80019B | Eject Spring | 1 |
| 28 | 0C80020A | Eject Lever Spring | 1 |
| 29 | 0C80021A | Eject Lever | 1 |
| 30 | CA80006A | Pneumatic Damper Ass'y | 1 |
| 31 | 0C80022B | Cassette Hold Spring | 1 |
| 32 | 0C80023A | Mechanism Chassis | 1 |
| 33 | 0C80024A | Record Protector | 1 |
| 34 | 0C80025A | Record Protector Holder | 1 |
| 35 | 0C80026A | Cam | 1 |
| 36 | 0C80027A | Mode Switch | 3 |
| 37 | CA80007A | Control Motor Ass'y | 1 |
| 38 | 0C80028A | Control Motor Holder | 1 |
| 39 | CA80011A | Shut-off P.C.B. Ass'y | 1 |
| 40 | 0C80029A | Back Tension Spring | 3 |
| 41 | 0C80030A | Reel Motor Holder | 1 |
| 42 | CA80008B | Reel Motor Ass'y | 1 |
| 43 | 0C80031A | Capstan Flange | 1 |
| 44 | 0C80033A | Flywheel | 1 |
| 45 | 0C80034A | Capstan Belt | 1 |
| 46 | CA80009A | Flywheel Holder Ass'y | 1 |
| 47 | 0C80035A | Sleeve | 3 |
| 48 | 0C80036A | Floating Rubber | 3 |
| 49 | CA80010A | Capstan Motor Ass'y | 1 |
| 50 | 0C80037A | Insu-Lock | 3 |
| 51 | 0C80040A | 2P-H Connector | 1 |
| 52 | 0C80041A | 4P-H Connector | 1 |
| 53 | 0C80042A | 9P-H Connector | 1 |
| 54 | 0C80635B | Idler Pulley | 1 |
| L01 | 0C80046A | Azimuth Alignment Screw | 1 |
| L02 | 0E03038A | M2x12 ⊕ Binding | 3 |
| L03 | 0E03053A | Wire Holder | 1 |
| L04 | 0C80048A | Shim 0.03T | (1) |
| | 0C80038A | Shim 0.06T | (1) |
| | 0C80039A | Shim 0.1T | (1) |
| L05 | 0E03046A | M2.6x6 ⊕ Pan (2A) | 3 |
| L06 | 0E03042A | FT 2.5x5 ⊕ Pan | 13 |
| L07 | 0E03049A | Washer 1.8mm | 2 |
| L08 | 0E03050A | Washer 3.1mm | 3 |
| L09 | 0E00222A | E-Ring 2mm | 1 |
| L10 | 0E03043A | FT 2.5x10 ⊕ Pan | 1 |
| L11 | 0E00698A | E-Ring 2.5mm | 1 |
| L12 | 0E03052A | Stopper Ring 2.4mm | 2 |
| L13 | 0E00181A | E-Ring 3mm | 3 |
| L14 | 0E03048A | FT 2.6x6 ⊕ Pan | 1 |
| L15 | 0E03036A | M2x4 ⊕ Pan (2A) | 1 |
| L16 | 0E03044A | FT 2.5x20 ⊕ Pan | 1 |
| L17 | 0E00691A | M2x3 ⊕ Pan | 2 |
| L18 | 0E03045A | M2.6x3 ⊕ Binding | 2 |
| L19 | 0E03051A | Washer 2.5mm | 1 |
| L20 | 0E03037A | M2x5 ⊕ Pan (2A) | 1 |
| L21 | 0E03047A | M2.6x9 ⊕ Pan | 3 |
| L22 | 0E03041A | FT 2.5x4 ⊕ Pan | 2 |
| L23 | 0E03040A | FT 2.5x3.5 ⊕ Pan | 1 |
| L24 | 0E03035A | M2x3.2 ⊕ Truss | 1 |
| L25 | 0E03245A | Mylar Washer 1.3x3.3x0.3 | 1 |

### 6.4. Rear Panel Ass'y (B02)



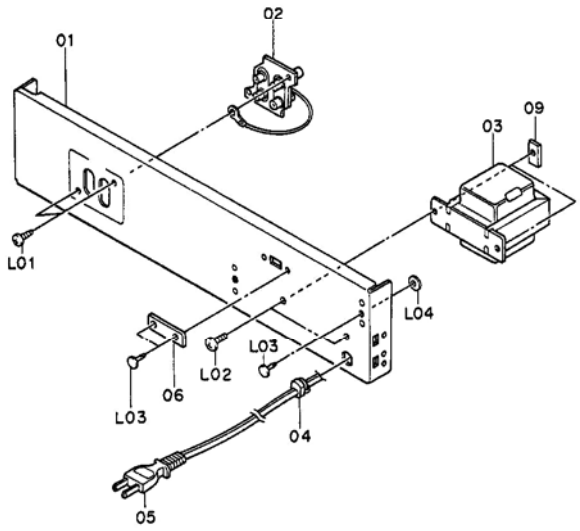




Fig. 6.4

| Schematic Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| B02 | HA04759B | Rear Panel Ass'y BX-125 (U.S.A.) | 1 |
| | HA04771B | Rear Panel Ass'y BX-125 (Canada) | 1 |
| | HA04761A | Rear Panel Ass'y BX-125 (Australia) | 1 |
| | HA04791A | Rear Panel Ass'y BX-125 (Japan) | 1 |
| | HA04760A | Rear Panel Ass'y BX-125 (Others) | 1 |
| | HA04758A | Rear Panel Ass'y BX-125E (UK) | 1 |
| | HA04762A | Rear Panel Ass'y BX-125E (220V Class 2) Serial No.: A32201001 - (Silver) | 1 |
| 01 | 0H04586A | Rear Panel BX-125 | 1 |
| | 0H04587A | Rear Panel BX-125E | 1 |
| 02 | BA05087A | 4P Pin Jack Ass'y (Consists of the followings) | 1 |
| | (0B81001A) | (4P Pin Jack) | (1) |
| | (0E00037A) | (Earth Lug) | (1) |
| 03 | 0B50040A | Power Transformer BX-125 (U.S.A. & Canada) | 1 |
| | 0B50009B | Power Transformer BX-125 (Australia) & BX-125E | 1 |
| | 0B50011B | Power Transformer BX-125 (Japan) | 1 |
| | 0B50010B | Power Transformer BX-125 (Others) | 1 |
| 04 | 0B08037U | Cord Bushing C BX-125 (U.S.A., Australia, Others & Japan) & BX-125E (220V Class 2) | 1 |
| | 0B08351A | Cord Bushing 4K-4 BX-125 (Canada) & BX-125E (UK) | 1 |
| 05 | 0B08533A | Power Cord BX-125 (U.S.A. & Others) | 1 |
| | 0B08504A | Power Cord BX-125 (Canada) | 1 |
| | 0B05241A | Power Cord BX-125 (Australia) | 1 |
| | 0B08219B | Power Cord BX-125 (Japan) | 1 |
| | 0B08348A | Power Cord BX-125E (UK) | 1 |
| | 0B08093U | Power Cord BX-125E (220V Class 2) | 1 |
| 06 | 0J04601B | Switch Cover BX-125 (U.S.A., Canada, Australia & Japan) & BX-125E | 1 |
| 07 | 0M03948A | Voltage Lock Plate BX-125 (Others) | 1 |
| 08 | 0B07092U | Voltage Selector BX-125 (Others) | 1 |
| 09 | 0C01162B | Bolt Receptacle Plate BX-125 (U.S.A. & Canada) | 2 |
| L01 | 0E00921A | BT 3x8 ⊕ Binding (Black Chromate) | 2 |
| L02 | 0E03034A | M4x8 ⊕ Binding (Black Chromate) BX-125 (U.S.A. & Canada) | 2 |
| | 0E00907A | ST 4x8 ⊕ Binding (Black Chromate) BX-125 (Australia, Others & Japan) & BX-125E | 2 |
| L03 | 0B08583A | Plastic Rivet | 3 |
| L04 | 0E00637A | Washer 3.3x7x0.5 | 1 |
| L05 | 0E00818A | M3x8 ⊕ Binding (Black Chromate) BX-125 (Others) | 2 |

| Schematic Ref. No. | Part No. | Description | Q'ty |
|---|---|---|---|
| 05 | 0B08533A | Power Cord BX-125 (U.S.A. & Others) | 1 |
| | 0B08504A | Power Cord BX-125 (Canada) | 1 |
| | 0B05241A | Power Cord BX-125 (Australia) | 1 |
| | 0B08219B | Power Cord BX-125 (Japan) | 1 |
| | 0B08348A | Power Cord BX-125E (UK) | 1 |
| | 0B08093U | Power Cord BX-125E (220V Class 2) | 1 |
| 06 | 0J04622B | Switch Cover BX-125 (U.S.A., Canada, Australia & Japan) & BX-125E | 1 |
| 07 | 0M04407A | Voltage Lock Plate BX-125 (Others) | 1 |
| 08 | 0B07092U | Voltage Selector BX-125 (Others) | 1 |
| 09 | 0C01162B | Bolt Receptacle Plate BX-125 (U.S.A. & Canada) | 2 |
| L01 | 0E03028A | BT 3x8 ⊕ Binding (Nickel) | 2 |
| L02 | 0E03034A | M4x8 ⊕ Binding (Nickel) BX-125 (U.S.A. & Canada) | 2 |
| | 0E00897A | ST 4x8 ⊕ Binding (Nickel) BX-125 (Australia, Others & Japan) & BX-125E | 2 |
| L03 | 0B08583A | Plastic Rivet | 3 |
| L04 | 0E00637A | Washer 3.3x7x0.5 | 1 |
| L05 | 0E03031A | M3x8 ⊕ Binding (Nickel) BX-125 (Others) | 2 |
| B02 | HA04764A | Rear Panel Ass'y BX-125 (U.S.A.) | 1 |
| | HA04772A | Rear Panel Ass'y BX-125 (Canada) | 1 |
| | HA04766A | Rear Panel Ass'y BX-125 (Australia) | 1 |
| | HA04792A | Rear Panel Ass'y BX-125 (Japan) | 1 |
| | HA04765A | Rear Panel Ass'y BX-125 (Others) | 1 |
| | HA04763A | Rear Panel Ass'y BX-125E (UK) | 1 |
| | HA04767A | Rear Panel Ass'y BX-125E (220V Class 2) Serial No.: A32301001 - (Black) | 1 |
| 01 | 0H04588A | Rear Panel BX-125 | 1 |
| | 0H04589A | Rear Panel BX-125E | 1 |
| 02 | BA05087A | 4P Pin Jack Ass'y (Consists of the followings) | 1 |
| | (0B81001A) | (4P Pin Jack) | (1) |
| | (0E00037A) | (Earth Lug) | (1) |
| 03 | 0B50040A | Power Transformer BX-125 (U.S.A. & Canada) | 1 |
| | 0B50009B | Power Transformer BX-125 (Australia) & BX-125E | 1 |
| | 0B50011B | Power Transformer BX-125 (Japan) | 1 |
| | 0B50010B | Power Transformer BX-125 (Others) | 1 |
| 04 | 0B08037U | Cord Bushing C BX-125 (U.S.A., Australia, Others & Japan) & BX-125E (220V Class 2) | 1 |
| | 0B08351A | Cord Bushing 4K-4 BX-125 (Canada) & BX-125E (UK) | 1 |

## 7. MOUNTING DIAGRAMS AND PARTS LIST

Notes: 1. Mounting diagram shows a dip side view of the printed circuit board.
2. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.
3. Following transistors are interchangeable with each other.
   a. 2SA733, 2SA608SP, 2SA1048, 2SA1175
   b. 2SC945, 2SC536SP, 2SC2458, 2SC2785
4. Abbreviation for part name:
   TR — Transistor, SiD — Silicon Diode, ZD — Zener Diode
   RK — Carbon Resistor, RM — Metal Film Resistor, RF — Fail Safe Type Resistor
   CE — Electrolytic Capacitor, CM — Mylar Capacitor, CC — Ceramic Capacitor, CP — PP Capacitor,
   CT — Tantalum Capacitor, CF — Film Capacitor, C — Mica Capacitor

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

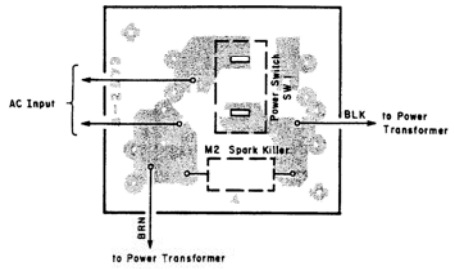



Fig. 7.1

### 7.2. LED P.C.B. Ass'y

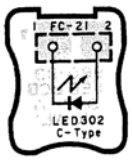



Fig. 7.2

### 7.3. Timer Switch P.C.B. Ass'y

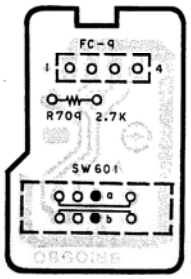



Fig. 7.3

### 7.4. Shut-off P.C.B. Ass'y

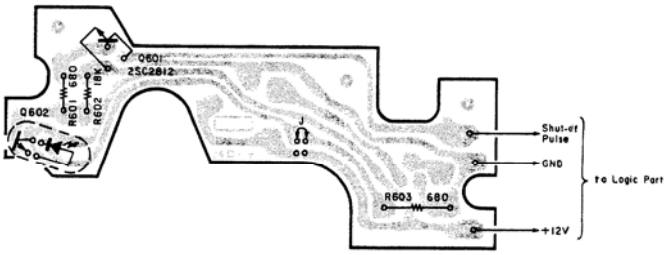



Fig. 7.4

| Schematic Ref. No. | Part No. | Description |
|---|---|---|
| | **BA05626A** | **Set P.C.B. Ass'y BX-125** |
| | BA05627A | Main P.C.B. Ass'y BX-125 |
| | BA05630A | LED P.C.B. Ass'y |
| | BA05635A | Dolby NR Switch P.C.B. Ass'y |
| | BA05637A | Tape Switch P.C.B. Ass'y |
| | BA05638A | Indicator P.C.B. Ass'y |
| | BA05639A | Volume P.C.B. Ass'y |
| | BA05640A | Control Switch P.C.B. Ass'y |
| | BA05641A | Timer Switch P.C.B. Ass'y |
| | **BA05626A-E** | **Set P.C.B. Ass'y BX-125E** |
| | BA05627A-E | Main P.C.B. Ass'y BX-125E |
| | BA05630A | LED P.C.B. Ass'y |
| | BA05635A | Dolby NR Switch P.C.B. Ass'y |
| | BA05637A | Tape Switch P.C.B. Ass'y |
| | BA05638A | Indicator P.C.B. Ass'y |
| | BA05639A | Volume P.C.B. Ass'y |
| | BA05640A | Control Switch P.C.B. Ass'y |
| | BA05641A | Timer Switch P.C.B. Ass'y |

| Schematic Ref. No. | Part No. | Description |
|---|---|---|
| | **BA05230A** | **Power Switch P.C.B. Ass'y BX-125 (U.S.A. & Canada)** |
| | **BA05231A** | **Power Switch P.C.B. Ass'y BX-125 (Japan)** |
| | **BA05229A** | **Power Switch P.C.B. Ass'y BX-125 (Australia & Others) & BX-125E** |
| | 0B02573D | Power Switch P.C.B. |
| SW1 | 0B70002A | Power Switch |
| M2 | 0B08342A | Spark Killer BX-125 (U.S.A. & Canada) |
| M2 | 0B08363A | Spark Killer BX-125 (Japan) |
| M2 | 0B08445A | Spark Killer BX-125 (Australia & Others) & BX-125E |
| | 0B90059A | Spark Killer Cover BX-125 (Australia & Others) & BX-125E (1) |
| | 0J04763A | Power Switch Holder (1) |
| | 0E00612A | M3x6 ⊕Pan (2A) (2) |
| | 0E00752A | Eyelet 2x3 (2) |
| | **BA05630A** | **LED P.C.B. Ass'y** |
| | 0B60183A | LED P.C.B. |
| LED302 | 0B06333A | LED Red TLR124A |
| | 0B81065A | Wire Mate 2P (1) |
| | 0B82116B | Ribbon Cable 2P (1) |

| Schematic Ref. No. | Part No. | Description |
|---|---|---|
| | **BA05641A** | **Timer Switch P.C.B. Ass'y** |
| R709 | 0B60189A | Timer Switch P.C.B. |
| SW601 | 0B09687A | RK 2.7K 1/6W J |
| FC9 | 0B07437A | Slide Switch 2-3 |
| | 0B81011A | Dip Mate 4P (1) |
| | **CA80011A** | **Shut-off P.C.B. Ass'y** |
| | 0C80047A | Shut-off P.C.B. |
| Q601 | 0B06388A | TR 2SC2812 |
| Q602 | 0B06389A | Photo Reflector NJL5141 |
| R601,603 | 0B09840A | RK 680 Leadless |
| R602 | 0B09841A | RK 18K Leadless |

### 7.5. Dolby NR Switch P.C.B. Ass'y

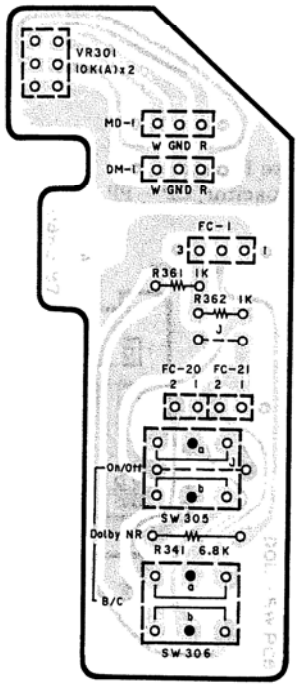



Fig. 7.5

### 7.6. Volume P.C.B. Ass'y

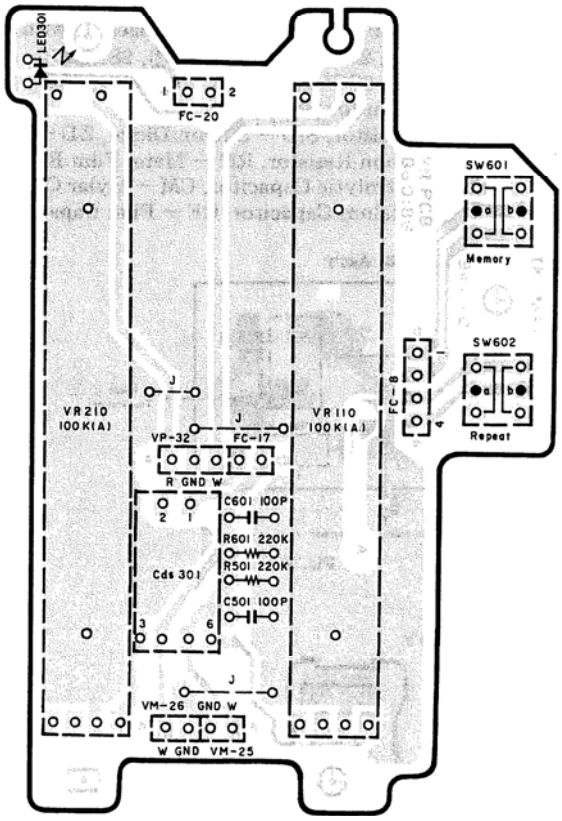



Fig. 7.6

### 7.7. Control Switch P.C.B. Ass'y

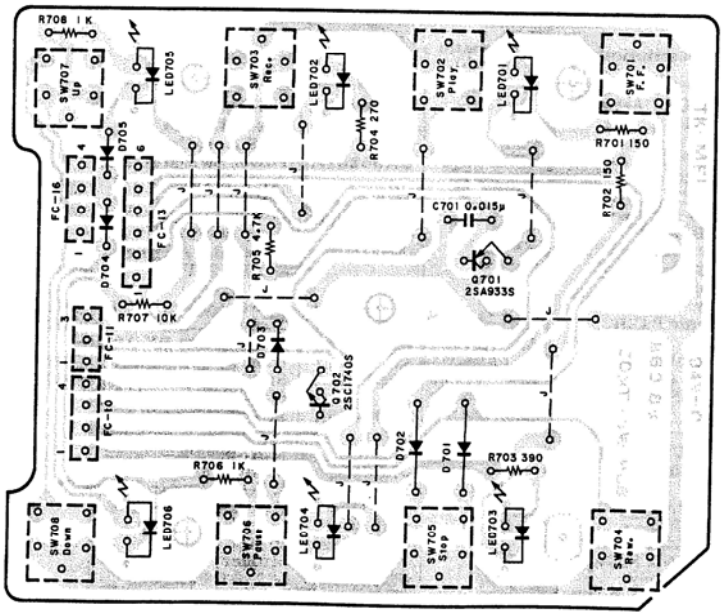



Fig. 7.7

| Schematic Ref. No. | Part No. | Description |
|---|---|---|
| | BA05635A | Dolby NR Switch P.C.B. Ass'y |
| | 0B60187A | Dolby NR Switch P.C.B. |
| VR301 | 0B30036A | VR 10K (A)x2 |
| R341 | 0B01682A | RK 6.8K 1/4W J |
| R361,362 | 0B09677A | RK 1K 1/6W J |
| SW305/306 | 0B70027A | Push Switch 2-Key |
| FC1,MD1 DM1 | 0B81010A | Dip Mate 3P (3) |
| FC20/21 | 0B02349A | JP Connector 4P (1) |
| | BA05639A | Volume P.C.B. Ass'y |
| | 0B60186A | Volume P.C.B. |
| LED301 | 0B06333A | LED Red TLR124A |
| Cds301 | 0B06325B | Photocoupler MCD7214F |
| VR110,210 | 0B31002A | Slide VR 100K (A) |
| R501,601 | 0B09733A | RK 220K 1/6W J |
| C501,601 | 0B09282A | CC 100P 50V K |
| SW601,602 | 0B07462A | Push Switch |
| FC8 VM25/26 | 0B81011A | Dip Mate 4P (2) |
| FC17/VP32 | 0B81012A | Dip Mate 5P (1) |
| FC20 | 0B81002A | Dip Mate 2P (1) |
| | BA05640A | Control Switch P.C.B. Ass'y |
| | 0B60188A | Control Switch P.C.B. |
| Q701 | 0B10026A | TR 2SA933S (Q,R,S) |
| Q702 | 0B10039A | TR 2SC1740S (S,E) |
| LED701 703,704 | 0B06334A | LED Green TLG124A |
| LED702 705,706 | 0B06333A | LED Red TLR124A |
| D701,702 | 0B06181A | SiD 1SS53 |
| D703,704 705 | 0B06398A | SiD 1SS176 |
| R701,702 | 0B09657A | RK 150 1/6W J |
| R703 | 0B09667A | RK 390 1/6W J |
| R704 | 0B09663A | RK 270 1/6W J |
| R705 | 0B09693A | RK 4.7K 1/6W J |
| R706,708 | 0B09677A | RK 1K 1/6W J |
| R707 | 0B09701A | RK 10K 1/6W J |
| C701 | 0B05557A | CM 0.015μ 50V J |
| SW701-708 | 0B70004A | Touch Switch 4.3mm |
| | 0J04744A | LED Reflector (6) |
| | BA05637A | Tape Switch P.C.B. Ass'y |
| | 0B60184A | Tape Switch P.C.B. |
| Q304 | 0B06069A | TR 2SB564 (L,M) |
| VR105,107 205,207 | 0B32010A | Semi-fixed VR 47K |
| VR106,206 | 0B32009A | Semi-fixed VR 22K |
| R138,238 | 0B09653A | RK 100 1/6W J |
| R139,239 351,352 353 | 0B09695A | RK 5.6K 1/6W J |
| R140,240 | 0B09707A | RK 18K 1/6W J |
| R197,297 | 0B09705A | RK 15K 1/6W J |
| R317 | 0B09263A | RK 12K 1/4W J |
| R318 | 0B09831A | RF 22 1W J |
| R350 | 0B09837A | RF 10 1W J |
| C118,218 | 0B09283A | CC 220P 50V K |
| C306 | 0B09828A | CP 8200P 100V J |
| C308 | 0B01403A | CE 47μ 16V |
| C327 | 0B41229A | CP 1500P 100V J |
| C330,331 332 | 0B05796A | CM 0.047μ 50V J |
| C333,334 | 0B09187A | CE 1μ 16V (BP) |
| CN2 | 0B81051A | 2P-S Post (1) |
| FC2 SM27/28 | 0B81011A | Dip Mate 4P (2) |
| FC5 | 0B81012A | Dip Mate 5P (1) |
| SM29 | 0B81010A | Dip Mate 3P (1) |
| | 0B06688C | Bias Osc. Unit (1) |
| | 0B70005A | Push Switch 5-Key (1) |
| | 0J04768B | Earth Plate A (1) |

| Schematic Ref. No. | Part No. | Description |
|---|---|---|
| | BA05638A | Indicator P.C.B Ass'y |
| | 0B60185A | Indicator P.C.B. |
| IC301 | 0B06369A | IC TA7612AP |
| IC701 | 0B11031A | IC TL092 |
| Q704 | 0B06013A | TR 2SA733 (P,Q) |
| ZD701,702 | 0B06191A | ZD 2.7V RD2.7E |
| D301,302 | 0B06181A | SiD 1SS53 |
| D703-706 | 0B06398A | SiD 1SS176 (4) |
| R301 | 0B01888A | RK 10K 1/4W J |
| R302 | 0B01887A | RK 5.6K 1/4W J |
| R303 | 0B01857A | RK 1K 1/4W J |
| R304 | 0B09797A | RK 120 1/4W J |
| R305-314 | 0B09681A | RK 1.5K 1/6W J (10) |
| R701 | 0B09677A | RK 1K 1/6W J |
| R702,703 704,709 711,715 | 0B09725A | RK 100K 1/6W J |
| R705 | 0B09709A | RK 22K 1/6W J |
| R706 | 0B09685A | RK 2.2K 1/6W J |
| R707 | 0B09701A | RK 10K 1/6W J |
| R712 | 0B09749A | RK 1M 1/6W J |
| R713,714 | 0B09737A | RK 330K 1/6W J |
| R716 | 0B09717A | RK 47K 1/6W J |
| R717 | 0B09713A | RK 33K 1/6W J |
| C301 | 0B09281A | CC 150P 50V K |
| C701 | 0B09868A | CF 0.1μ 50V J |
| C702 | 0B09163A | CE 10μ 16V (BP) |
| FC3/12 | 0B81012A | Dip Mate 5P (1) |
| FC6/17,16 | 0B81011A | Dip Mate 4P (2) |
| FC18/19 | 0B02356A | JP Connector 12P (1) |

7.8. Tape Switch P.C.B. Ass'y

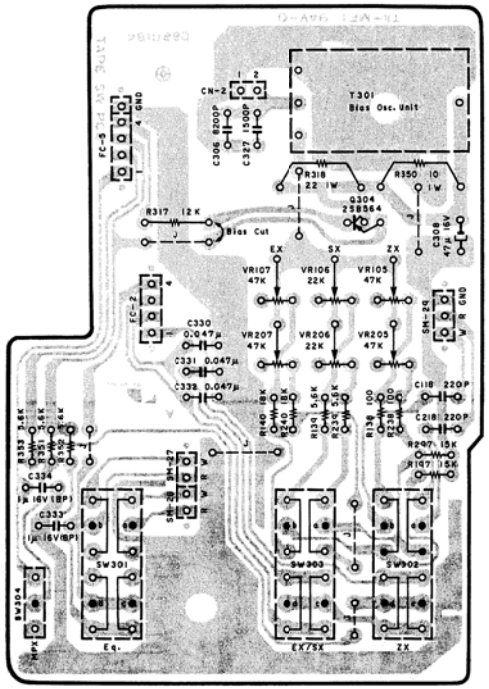



Fig. 7.8

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

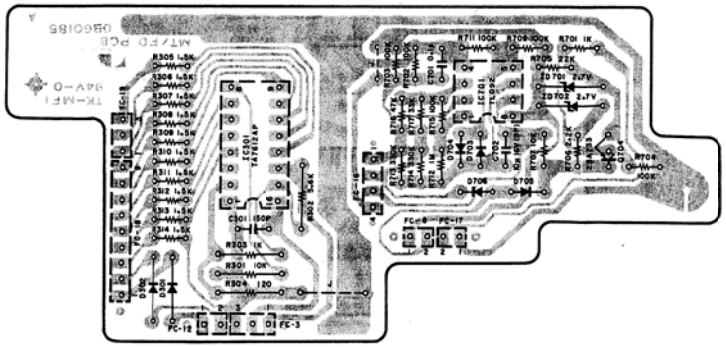


Fig. 7.9

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

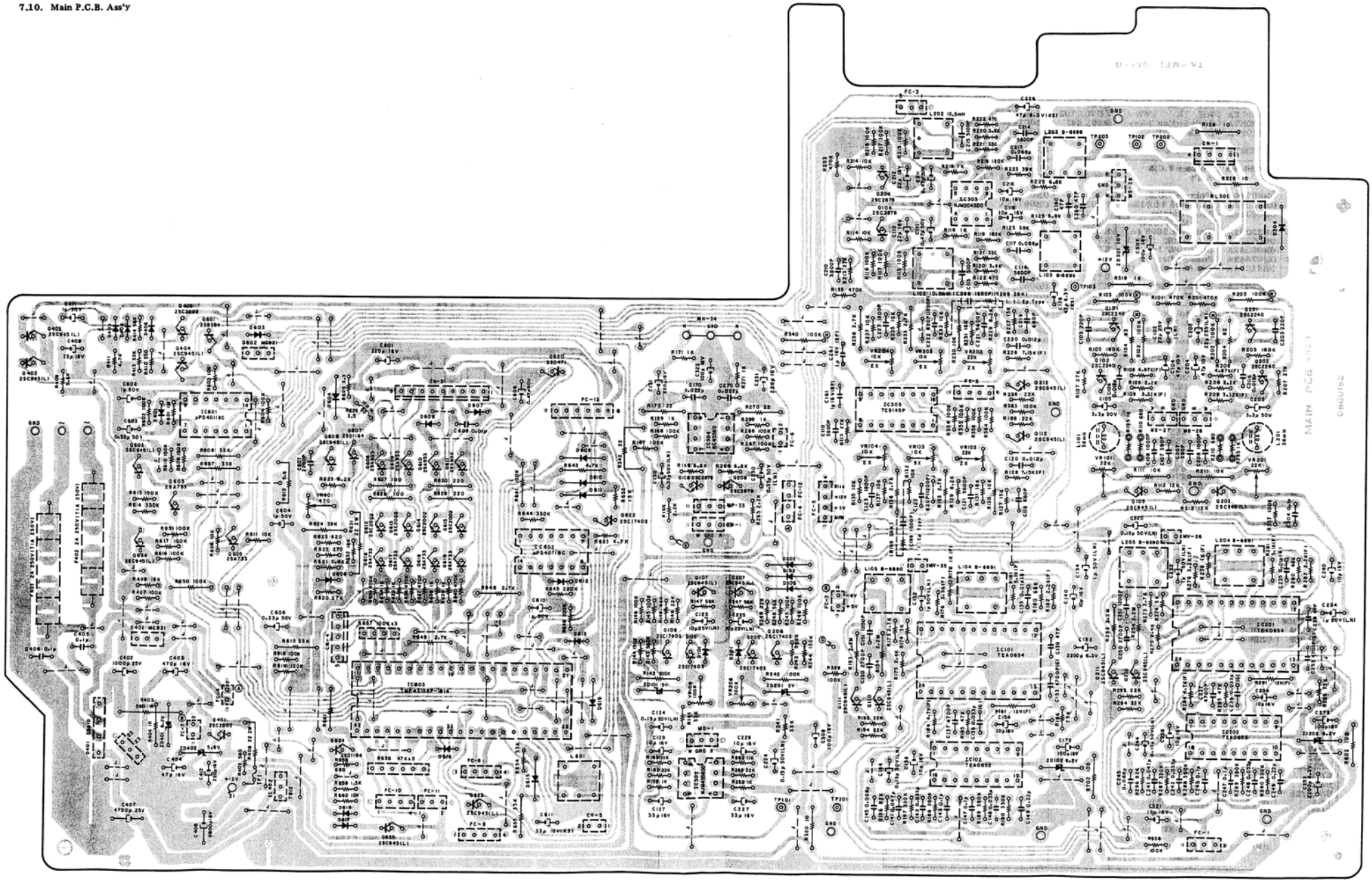


Fig. 7.10

| Schematic Ref. No. | Part No. | Description |
|---|---|---|
| | BA05627A | Main P.C.B. Ass'y |
| | — PB Eq. Amp. — | |
| Q101,102 | 0B06142A | TR 2SC2240 (BL) |
| 201,202 | | |
| Q103,203 | 0B01872A | TR 2SC945L (P,Q) |
| ZD301 | 0B12168A | ZD 10V RD10TS-T1B2 |
| D304 | 0B01909A | SiD 1S1555 |
| L101,201 | 0B03919C | Inductor 36mH |
| VR101,201 | 0B32009A | Semi-fixed VR 22K |
| R101,201 | 0B09741A | RK 470K 1/6W J |
| R102,103 | 0B09330A | RK 100K 1/4W J (Noiseless) |
| 202,203 | | |
| R104,204 | 0B05631A | RK 82 1/4W J |
| R105,205 | 0B09731A | RK 180K 1/6W J |
| R106,206 | 0B09685A | RK 2.2K 1/6W J |
| R107,207 | 0B09711A | RK 27K 1/6W J |
| R108,208 | 0B22307A | RM 4.87K 1/6W F |
| R109,209 | 0B22287A | RM 3.32K 1/6W F |
| R110,210 | 0B09673A | RK 680 1/6W J |
| R111,211 | 0B01888A | RK 10K 1/4W J |
| R112,212 | 0B09703A | RK 12K 1/6W J |
| R195,295 | 0B09677A | RK 1K 1/6W J |
| R319 | 0B01857A | RK 1K 1/4W J |
| R357 | 0B09725A | RK 100K 1/6W J |
| C102,202 | 0B09137A | CE 22μ 25V (LN) |
| C103,203 | 0B09283A | CC 220P 50V K |
| C104,204 | 0B01403A | CE 47μ 16V |
| C105,205 | 0B01863A | CE 3.3μ 50V |
| C106,206 | 0B05832A | CM 0.018μ 50V J |
| C107,207 | 0B41002A | CP 390P 100V J |
| C108,208 | 0B05550A | CM 1000P 50V J |
| C304 | 0B09868A | CF 0.1μ 50V J |
| C307 | 0B01400A | CE 100μ 16V |
| RL301 | 0B90011A | DS Relay |
| CN1 | 0B02242A | 4P-T Post |
| | — Rec. Eq. Amp. — | |
| IC303 | 0B06387A | IC NJM2043DD |
| Q104,204 | 0B06299A | TR 2SC2878 |
| L102,202 | 0B00068A | Trap Coil 10.5mH |
| L103,203 | 0B06696A | L-C Block |
| R113,213 | 0B09711A | RK 27K 1/6W J |
| R114,214 | 0B09701A | RK 10K 1/6W J |
| R115,116 | 0B09725A | RK 100K 1/6W J |
| 117,215 | | |
| 216,217 | | |
| R118,218 | 0B09677A | RK 1K 1/6W J |
| R119,219 | 0B09731A | RK 180K 1/6W J |
| R120,220 | 0B09691A | RK 3.9K 1/6W J |
| R121,221 | 0B09665A | RK 330 1/6W J |
| R122,222 | 0B09669A | RK 470 1/6W J |
| R123,223 | 0B09715A | RK 39K 1/6W J |
| R125,225 | 0B09697A | RK 6.8K 1/6W J |
| R126,226 | 0B05936A | RK 10 1/4W J |
| R153,253 | 0B09741A | RK 470K 1/6W J |
| C110,210 | 0B01804A | CM 3900P 50V J |
| C111,211 | 0B40178A | CE 0.47μ 50V |
| C112,212 | 0B01862A | CE 22μ 16V |
| C114,214 | 0B05659A | CM 5600P 50V J |
| C115,215 | 0B41186A | CM 5100P 50V J |
| C116,216 | 0B01412A | CE 10μ 16V |
| C117,217 | 0B09866A | CF 0.068μ 50V J |
| C126,226 | 0B09815A | CE 47μ 6.3V (KS) |
| C160,260 | 0B09280A | CC 47P 50V J |
| C161,261 | 0B09187A | CE 1μ 16V (BP) |
| | — Rec. Level — | |
| IC305 | 0B11027A | IC TC9145P |
| Q112,212 | 0B01872A | TR 2SC945L (P,Q) |
| VR102,202 | 0B32009A | Semi-fixed VR 22K |
| VR103,104 | 0B32008A | Semi-fixed VR 10K |
| 203,204 | | |
| R127,227 | 0B09705A | RK 15K 1/6W J |
| R128,228 | 0B22327A | RM 7.15K 1/6W F |
| R129,229 | 0B09699A | RK 8.2K 1/6W J |
| R130,230 | 0B01888A | RK 10K 1/4W J |
| R131,231 | 0B09707A | RK 18K 1/6W J |
| R132,135 | 0B09701A | RK 10K 1/6W J |
| 137,232 | | |
| 235,237 | | |
| R133,136 | 0B05629A | RK 2.7K 1/4W J |
| 233,236 | | |
| R134,234 | 0B09677A | RK 1K 1/6W J |
| R198,298 | 0B09709A | RK 22K 1/6W J |

| Schematic Ref. No. | Part No. | Description |
|---|---|---|
| R354,355 | 0B09725A | RK 100K 1/6W J |
| 356,363 | | |
| 364 | | |
| C119,219 | 0B05571A | CM 680P 50V J |
| C120,220 | 0B05843A | CM 0.012μ 50V J |
| C121,221 | 0B05659A | CM 5600P 50V J |
| C122,222 | 0B09993A | CM 820P 50V J |
| C123,223 | 0B01913A | CM 1800P 50V J |
| | — Dolby NR — | |
| IC101,201 | 0B06383A | IC TEA0654 |
| IC102,202 | 0B06382A | IC TEA0652 |
| Q110,111 | 0B10025A | TR 2SC945L (P,K) |
| ZD102,202 | 0B06167A | ZD 6.2V RD6.2EB3 |
| L104,204 | 0B06691A | L-C Block Yellow |
| L105,205 | 0B06690A | L-C Block Blue |
| R154,193 | 0B05671A | RK 2.2M 1/4W J |
| 254,293 | | |
| R173,273 | 0B09687A | RK 2.7K 1/6W J |
| R174,274 | 0B09688A | RK 3K 1/6W J |
| R175,275 | 0B09686A | RK 2.4K 1/6W J |
| R176,276 | 0B22286A | RM 3.3K 1/6W F |
| R178,278 | 0B22229A | RM 1K 1/6W F |
| R180,280 | 0B09721A | RK 68K 1/6W J |
| R181,281 | 0B22309A | RM 5.1K 1/6W F |
| R182,282 | 0B22265A | RM 2.2K 1/6W F |
| R184,284 | 0B22305A | RM 4.7K 1/6W F |
| R185,285 | 0B09717A | RK 47K 1/6W J |
| R186,286 | 0B09722A | RK 75K 1/6W J |
| R187,190 | 0B09737A | RK 330K 1/6W J |
| 287,290 | | |
| R188,189 | 0B09739A | RK 390K 1/6W J |
| 288,289 | | |
| R191,291 | 0B09796A | RM 12K 1/4W F |
| R192,194 | 0B09709A | RK 22K 1/6W J |
| 292,294 | | |
| R196,296 | 0B09723A | RK 82K 1/6W J |
| R340 | 0B09330A | RK 100K 1/4W J (Noiseless) |
| R358,359 | 0B09725A | RK 100K 1/6W J |
| R702,802 | 0B01679A | RK 100 1/4W J |
| C132,134 | 0B09494A | CE 1μ 50V (LN) |
| 232,234 | | |
| C135,235 | 0B09312A | CP 0.01μ 100V G |
| C136,236 | 0B09240A | CP 0.033μ 100V G |
| C137,237 | 0B05652A | CM 4700P 50V J |
| C138,140 | 0B01412A | CE 10μ 16V |
| 154,238 | | |
| 240,254 | | |
| 321 | | |
| C139,239 | 0B09280A | CC 47P 50V J |
| C141,241 | 0B09864A | CF 0.047μ 50V J |
| C142,148 | 0B09862A | CF 0.033μ 50V J |
| 242,248 | | |
| C143,147 | 0B09868A | CF 0.1μ 50V J |
| 243,247 | | |
| C144,244 | 0B09570A | CE 0.15μ 50V (LN) |
| 320 | | |
| C145,245 | 0B09866A | CF 0.068μ 50V J |
| C149,249 | 0B09872A | CF 0.22μ 50V J |
| C150,250 | 0B09189A | CM 2700P 50V J |
| C151,251 | 0B05687A | CM 1200P 50V J |
| C152,252 | 0B40054A | CE 2200μ 6.3V |
| C153,253 | 0B09191A | CP 4700P 100V G |
| C172,272 | 0B01400A | CE 100μ 16V |
| | — Line Amp. — | |
| IC302 | 0B06146A | IC NJM4558DD |
| R152,252 | 0B09677A | RK 1K 1/6W J |
| R162,262 | 0B09709A | RK 22K 1/6W J |
| R163,263 | 0B09702A | RK 11K 1/6W J |
| C127,227 | 0B40076A | CE 33μ 16V |
| C129,229 | 0B01412A | CE 10μ 16V |
| | — Meter Amp. — | |
| Q105,106 | 0B10039A | TR 2SC1740S (S,E) |
| 205,206 | | |
| Q107,207 | 0B01872A | TR 2SC945L (P,Q) |
| ZD101,201 | 0B12101A | ZD 5V 5C-1 |
| D101,201 | 0B06398A | SiD 1SS176 |
| D102,202 | 0B06181A | SiD 1SS53 |
| 305 | | |
| VR108,208 | 0B32011A | Semi-fixed VR 100K |

| Schematic Ref. No. | Part No. | Description |
|---|---|---|
| R141,241 | 0B09713A | RK 33K 1/6W J |
| R142,242 | 0B01889A | RK 100K 1/4W J |
| R143,243 | 0B09743A | RK 560K 1/6W J |
| R144,244 | 0B09729A | RK 150K 1/6W J |
| R145,146 | 0B09725A | RK 100K 1/6W J |
| 245,246 | | |
| R147,148 | 0B09719A | RK 56K 1/6W J |
| 247,248 | | |
| R149,249 | 0B09709A | RK 22K 1/6W J |
| R320 | 0B09216A | RF 10 1/4W J |
| C124,224 | 0B09570A | CE 0.15μ 50V (LN) |
| C125,225 | 0B09148A | CE 10μ 25V (LN) |
| C308 | 0B01400A | CE 100μ16V |
| | — Headphone Amp. — | |
| IC304 | 0B06370A | IC 4556D |
| Q108,208 | 0B06299A | TR 2SC2878 |
| R165,265 | 0B09685A | RK 2.2K 1/6W J |
| R166,266 | 0B09697A | RK 6.8K 1/6W J |
| R167,168 | 0B09725A | RK 100K 1/6W J |
| 267,268 | | |
| R170,270 | 0B05579A | RK 22 1/4W J |
| R171,199 | 0B09677A | RK 1K 1/6W J |
| 271,299 | | |
| R342 | 0B09049A | RF 22 1/4W J |
| C130,230 | 0B09327A | CE 0.33μ 50V (LN) |
| C131,231 | 0B01398A | CE 220μ 16V |
| C170,270 | 0B09291A | CC 0.022μ 50V Z |
| C323 | 0B01400A | CE 100μ 16V |
| | — Logic — | |
| IC601 | 0B06178A | IC μPD4011BC |
| IC602 | 0B06214A | IC μPD4071BC |
| IC603 | 0B11020A | IC TMP4315BP-1814 |
| Q601 | 0B06069A | TR 2SB564 (L,M) |
| Q602,604 | 0B01872A | TR 2SC945L (P,Q) |
| 606,623 | | |
| 625 | | |
| Q603,605 | 0B06013A | TR 2SA733 (P,Q) |
| 616,617 | | |
| 618,619 | | |
| Q607,624 | 0B10021A | TR 2SD1164 (K,L) |
| Q608,609 | 0B06372A | TR 2SA953 (K,L) |
| 610,611 | | |
| Q612,613 | 0B06322A | TR 2SC2002 (K,L) |
| 614,615 | | |
| Q620 | 0B06066A | TR 2SD471 (L,M) |
| Q622 | 0B10034A | TR 2SC1740S (E) |
| D601,603 | 0B06398A | SiD 1SS176 |
| 606,607 | | |
| 608,612 | | |
| 613,616 | | |
| 617,618 | | |
| D602 | 0B12100A | Double SiD MC921 |
| D604,609 | 0B06181A | SiD 1SS53 |
| 610,611 | | |
| 615,619 | | |
| L601 | 0B06689A | L-C Block |
| VR601 | 0B32007A | Semi-fixed VR 470 |
| R601 | 0B09749A | RK 1M 1/6W J |
| R602,604 | 0B09725A | RK 100K 1/6W J |
| 613,616 | | |
| 617,618 | | |
| 619,651 | | |
| R603,606 | 0B09701A | RK 10K 1/6W J |
| 611,660 | | |
| R605 | 0B09617A | RK 3.3 1/6W J |
| R607,608 | 0B05509A | RK 33K 1/4W J |
| 615 | | |
| R609,610 | 0B09729A | RK 150K 1/6W J |
| R612 | 0B09217A | RF 5.6 1/4W J |
| R614,644 | 0B09737A | RK 330K 1/6W J |
| R620 | 0B09711A | RK 27K 1/6W J |
| R621 | 0B09695A | RK 5.6K 1/6W J |
| R622 | 0B09663A | RK 270 1/6W J |
| R623 | 0B09672A | RK 620 1/6W J |
| R624 | 0B01854A | RK 39K 1/4W J |
| R625 | 0B09699A | RK 8.2K 1/6W J |
| R626 | 0B06706A | R Coil 3.5 |
| R627,628 | 0B01679A | RK 100 1/4W J |
| R629,630 | 0B01933A | RK 220 1/4W J |
| R631 | 0B24007A | RF 22 2W J |
| R632 | 0B09707A | RK 18K 1/6W J |
| R633,636 | 0B09741A | RK 470K 1/6W J |
| 637,640 | | |

| Schematic Ref. No. | Part No. | Description |
|---|---|---|
| R634,635 | 0B09677A | RK 1K 1/6W J |
| 638,639 | | |
| R641,650 | 0B01889A | RK 100K 1/4W J |
| R643 | 0B01846A | RK 4.7K 1/4W J |
| R645,646 | 0B09733A | RK 220K 1/6W J |
| R648,649 | 0B05629A | RK 2.7K 1/4W J |
| R652 | 0B09705A | RK 15K 1/6W J |
| R653 | 0B09693A | RK 4.7K 1/6W J |
| R654,655 | 0B09713A | RK 33K 1/6W J |
| R656 | 0B09803A | R-Network 47Kx5 |
| R657 | 0B09824A | R-Network 100Kx3 |
| R658 | 0B09673A | RK 680 1/6W J |
| R659 | 0B09681A | RK 1.5K 1/6W J |
| R661 | 0B24023A | R Fuse 1 |
| C601 | 0B01398A | CE 220μ 16V |
| C602,604 | 0B01405A | CE 1μ 50V |
| 610 | | |
| C603,606 | 0B40024A | CE 0.33μ 50V |
| C607 | 0B01802A | CM 2200P 50V J |
| C608 | 0B09290A | CC 0.01μ 50V Z |
| C609 | 0B40178A | CE 0.47μ 50V |
| C611 | 0B09817A | CE 33μ 10V (KS) |
| CN3 | 0B02245A | 9P-T Post |
| CN4 | 0B02243A | 5P-T Post |
| CN5 | 0B81118A | 2P-T Post |
| | — DC Supply — | |
| IC402 | 0B06380A | IC NJM7812 |
| Q401,405 | 0B06322A | TR 2SC2002 (K,L) |
| Q402,403 | 0B01872A | TR 2SC945L (P,Q) |
| 404 | | |
| ZD401 | 0B06167A | ZD 6.2V RD6.2EB3 |
| ZD402 | 0B06290A | ZD 5.6V RD5.6EB2 |
| D401 | 0B06282A | Diode Bridge DBA10 |
| D402 | 0B12100A | Double SiD MC921 |
| D403,404 | 0B06398A | SiD 1SS176 |
| 406 | | |
| R403 | 0B24006A | RF 560 1W J |
| R404 | 0B01857A | RK 1K 1/4W J |
| R405 | 0B09671A | RK 560 1/6W J |
| R406 | 0B24007A | RF 22 2W J |
| R407 | 0B09725A | RK 100K 1/6W J |
| R408 | 0B09707A | RK 18K 1/6W J |
| R409 | 0B09695A | RK 5.6K 1/6W J |
| R410 | 0B09665A | RK 330 1/6W J |
| R411 | 0B09693A | RK 4.7K 1/6W J |
| R413 | 0B09713A | RK 33K 1/6W J |
| R414 | 0B09719A | RK 56K 1/6W J |
| C402 | 0B40095A | CE 1000μ 25V |
| C403 | 0B01392A | CE 470μ 16V |
| C404 | 0B01403A | CE 47μ 16V |
| C405,406 | 0B09292A | CC 0.1μ 50V Z |
| C407 | 0B09799A | CE 4700μ 25V |
| C408 | 0B09798A | CE 6800μ 16V |
| C409 | 0B40076A | CE 33μ 16V |
| C411 | 0B01405A | CE 1μ 50V |
| C412 | 0B01398A | CE 220μ 16V |
| TF1 | 0B08715A | Thermal Fuse 129 |
| | 0B08676B | Heat Sink (1) |
| | 0E00507A | Nut Hex. M3 (1) |
| | 0E00612A | M3x6 ⊕Pan (2A) (1) |
| | 0E00857A | BT 3x6 ⊕Binding (2) |
| | — Miscellaneous — | |
| | 0B60182A | Main P.C.B. |
| | 0B81002A | Dip Mate 2P (7) |
| | 0B81010A | Dip Mate 3P (6) |
| | 0B81011A | Dip Mate 4P (5) |
| | 0B81013A | Dip Mate 6P (2) |
| | 0B81014A | Dip Mate 7P (1) |

| Schematic Ref. No. | Part No. | Description |
|---|---|---|
| | BA05627A-E | Main P.C.B. Ass'y BX-125E |
| | | Contents of the list is the same as for BX-125 except the following section. |
| | — Rec. Level — | |
| IC305 | 0B11027A | IC TC9145P |
| Q112,212 | 0B01872A | TR 2SC945L (P,Q) |
| VR102,202 | 0B32009A | Semi-fixed VR 22K |
| VR103,104 | 0B32008A | Semi-fixed VR 10K |
| 203,204 | | |
| R127,227 | 0B09705A | RK 15K 1/6W J |
| R128,228 | 0B22327A | RM 7.15K 1/6W F |
| R129,229 | 0B09699A | RK 8.2K 1/6W J |
| R130,230 | 0B01888A | RK 10K 1/4W J |
| R131,231 | 0B09707A | RK 18K 1/6W J |
| R132,135 | 0B09701A | RK 10K 1/6W J |
| 137,232 | | |
| 235,237 | | |
| R133,136 | 0B05629A | RK 2.7K 1/4W J |
| 233,236 | | |
| R198,298 | 0B09709A | RK 22K 1/6W J |
| R199,299 | 0B09715A | RK 39K 1/6W J |
| R354,355 | 0B09725A | RK 100K 1/6W J |
| 356,363 | | |
| 364 | | |
| C119,219 | 0B05571A | CM 680P 50V J |
| C120,220 | 0B05843A | CM 0.012μ 50V J |
| C121,221 | 0B05659A | CM 5600P 50V J |
| C122,222 | 0B05687A | CM 1200P 50V J |
| C123,223 | 0B01913A | CM 1800P 50V J |
| C199,299 | 0B05653A | CM 1500P 50V J |

## 8. SCHEMATIC DIAGRAM

### 8.1. IC Block Diagrams

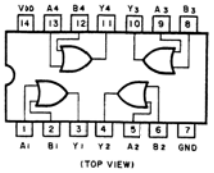



Fig. 8.1.1 OR Gate C-MOS IC μPD4071BC

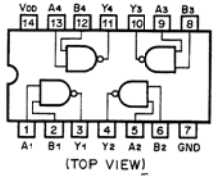



Fig. 8.1.2 NAND Gate C-MOS IC μPD4011BC

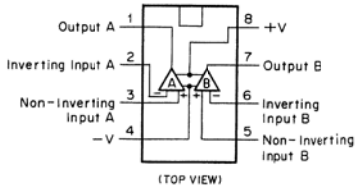



Fig. 8.1.3 Operational Amp. IC 4556D, NJM4558DD, NJM2043DD, TL092

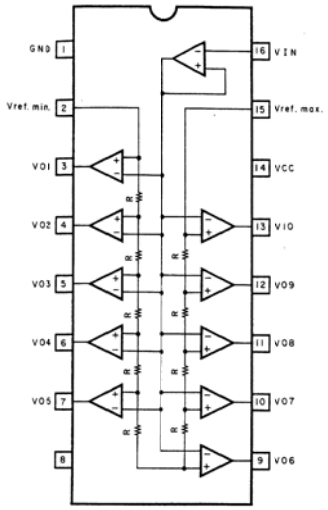



Fig. 8.1.4 Level Meter Driver TA7612AP

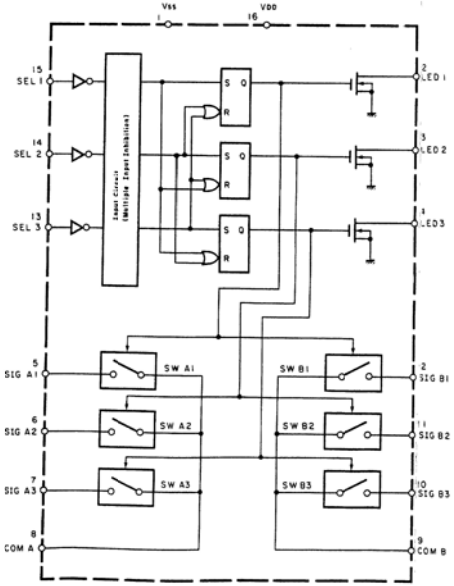
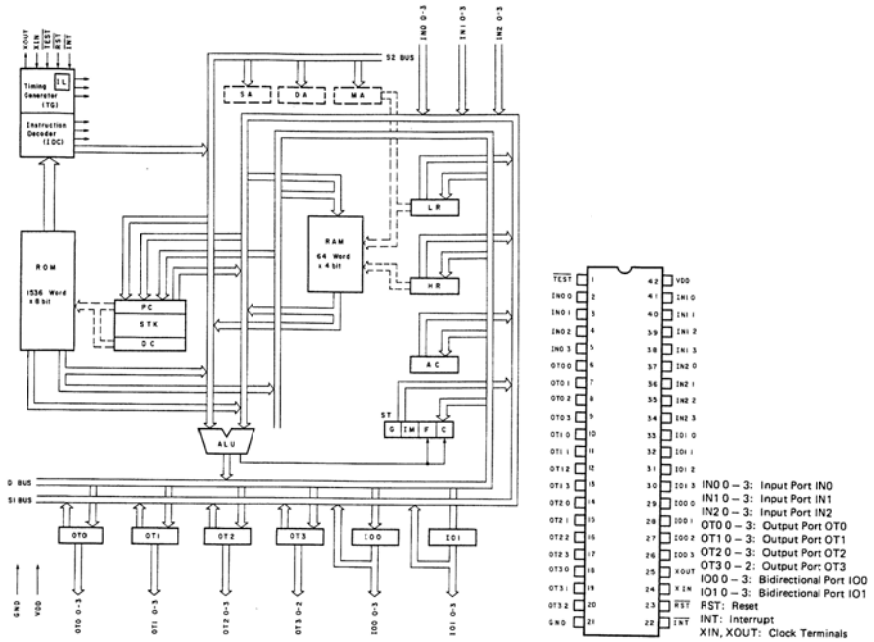


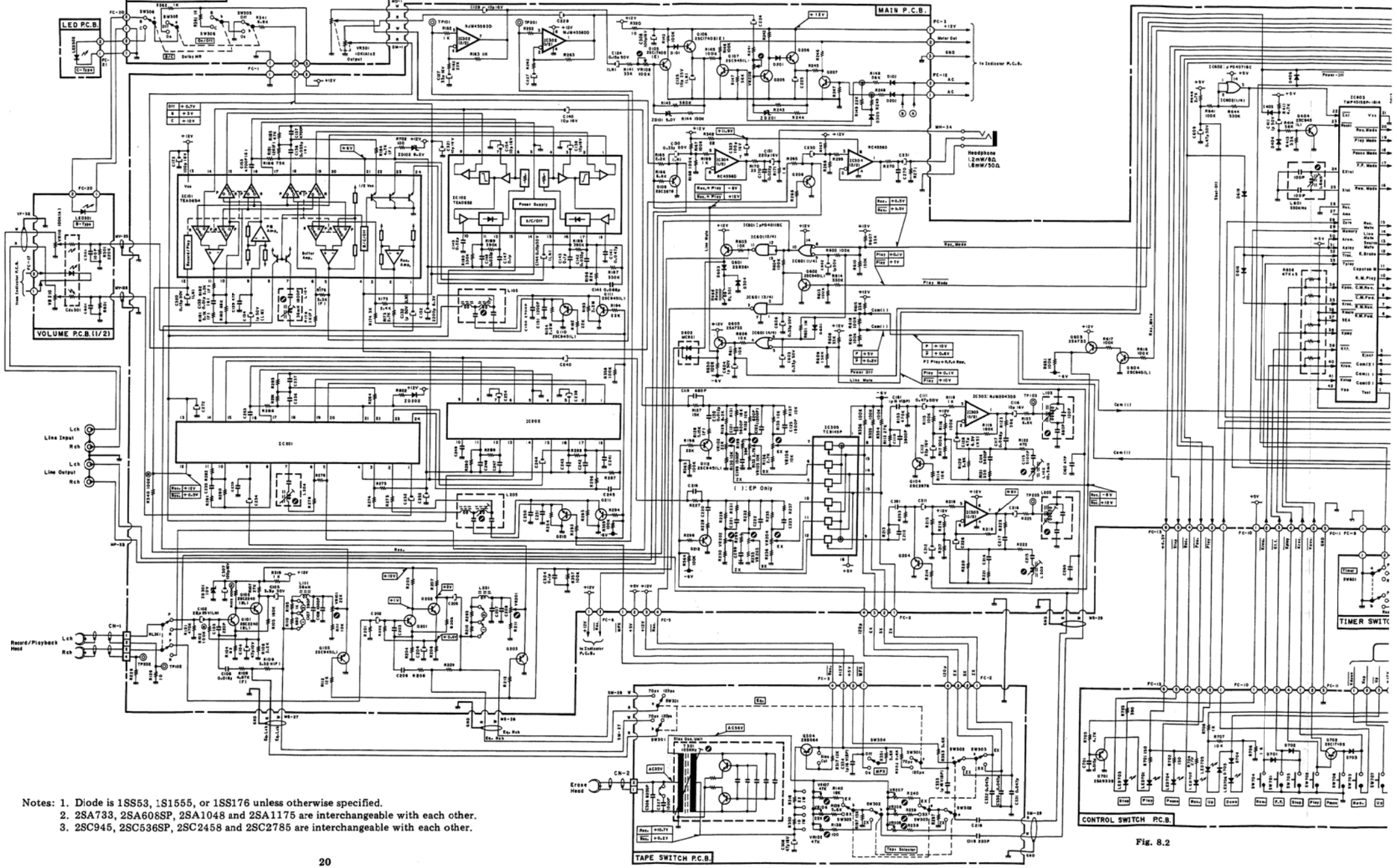

Fig. 8.1.5 Analog Switch Selector TC9145P




IN0 0 – 3: Input Port IN0
IN1 0 – 3: Input Port IN1
IN2 0 – 3: Input Port IN2
OT0 0 – 3: Output Port OT0
OT1 0 – 3: Output Port OT1
OT2 0 – 3: Output Port OT2
OT3 0 – 2: Output Port OT3
IO0 0 – 3: Bidirectional Port IO0
IO1 0 – 3: Bidirectional Port IO1
RST: Reset
INT: Interrupt
XIN, XOUT: Clock Terminals

Fig. 8.1.6 4-Bit Micro-processor TMP4315BP-1814

## 8.2. Schematic Diagram




Notes: 1. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.
2. 2SA733, 2SA608SP, 2SA1048 and 2SA1175 are interchangeable with each other.
3. 2SC945, 2SC536SP, 2SC2458 and 2SC2785 are interchangeable with each other.

Fig. 8.2

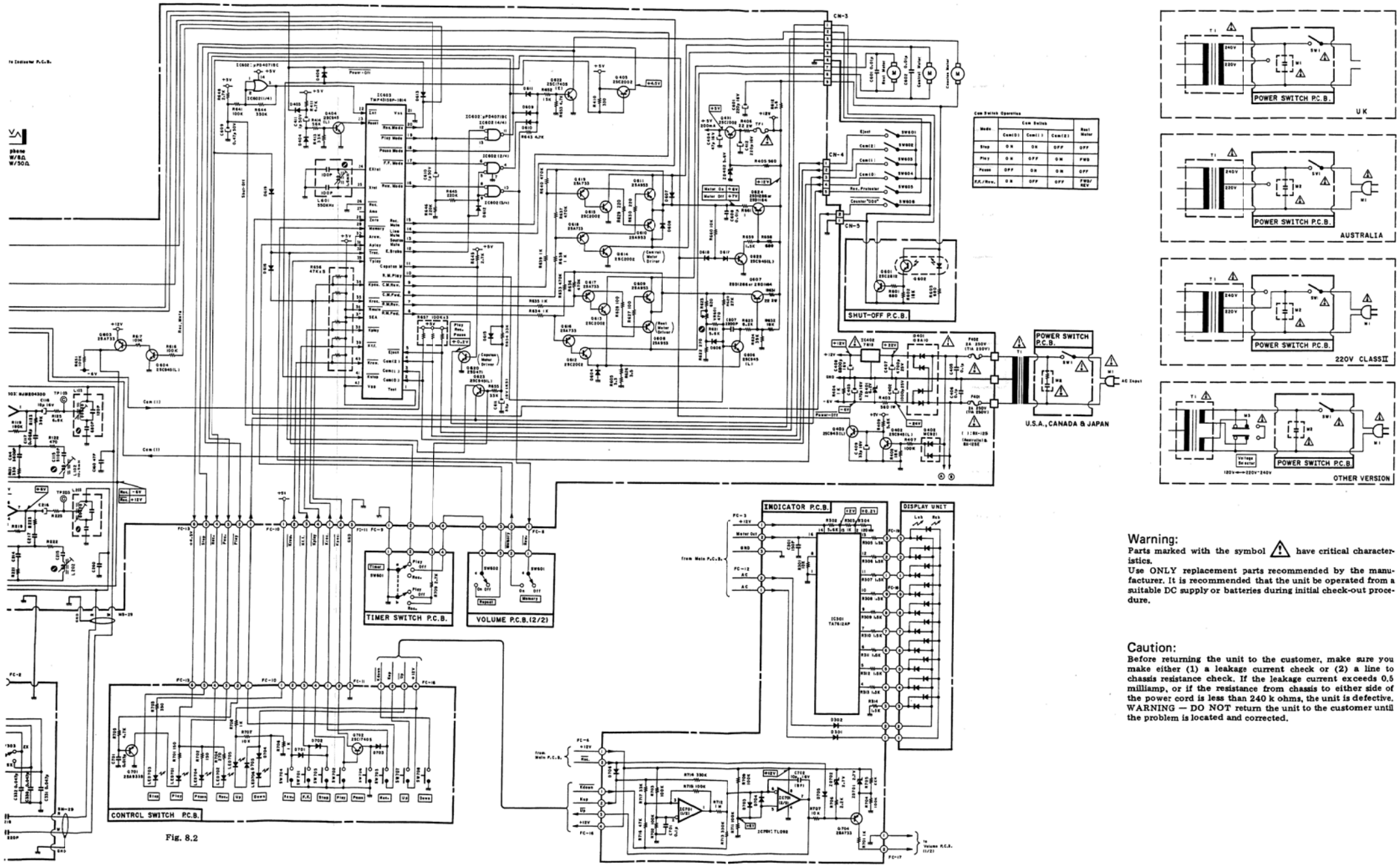
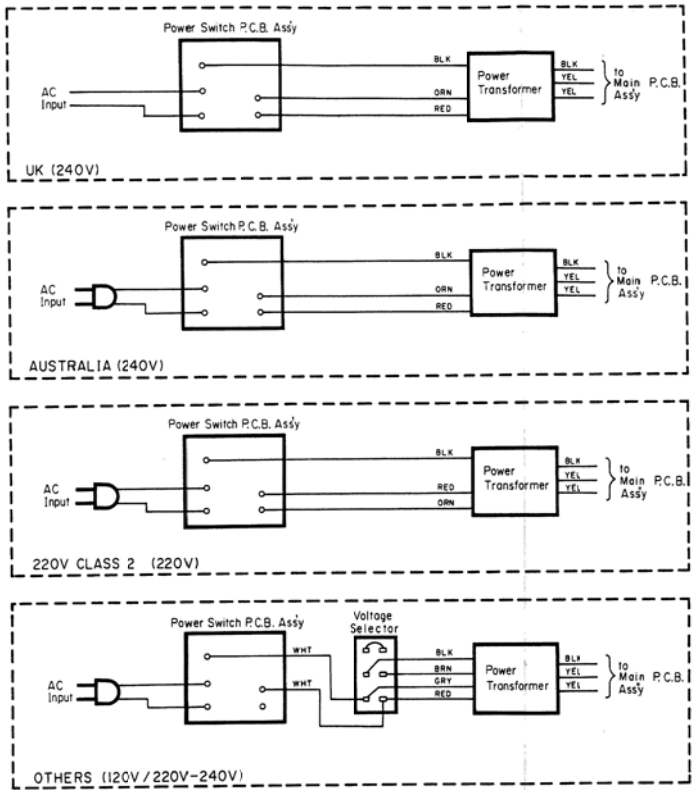



Fig. 8.2

**Warning:**
**Parts marked with the symbol ⚠ have critical characteristics.**
**Use ONLY replacement parts recommended by the manufacturer. It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedure.**

**Caution:**
**Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamp, or if the resistance from chassis to either side of the power cord is less than 240 k ohms, the unit is defective. WARNING — DO NOT return the unit to the customer until the problem is located and corrected.**

## 9. WIRING DIAGRAM




Notes: 1 Table of wire colors

| | |
|---|---|
| BRN — Brown | BLU — Blue |
| RED — Red | VIO — Violet |
| ORN — Orange | GRY — Gray |
| YEL — Yellow | WHT — White |
| GRN — Green | BLK — Black |

2. Component side view of the P.C.B. is illustrated unless otherwise specified.
3. Wire tube color is shown in ( ).

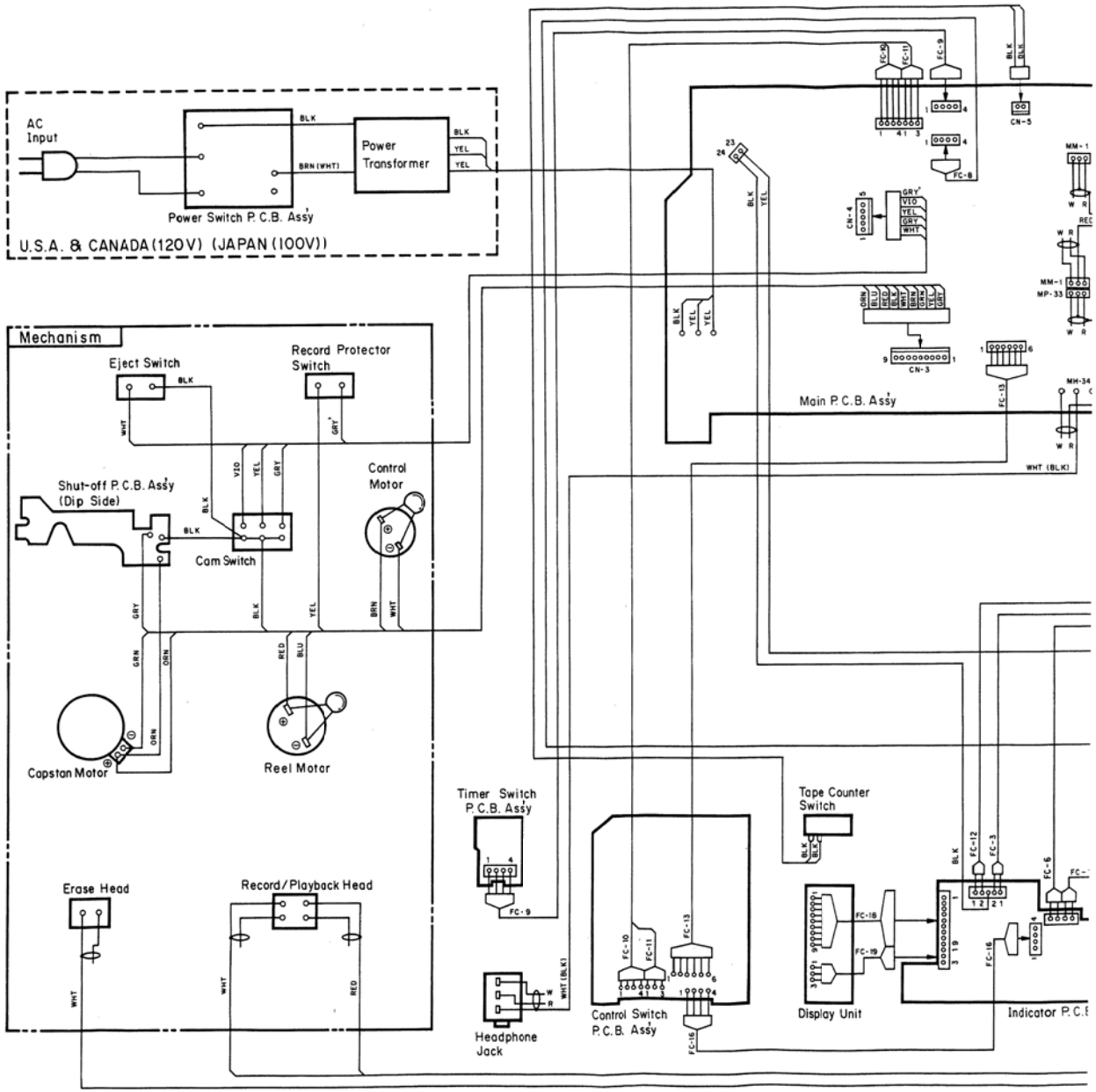



Fig. 9

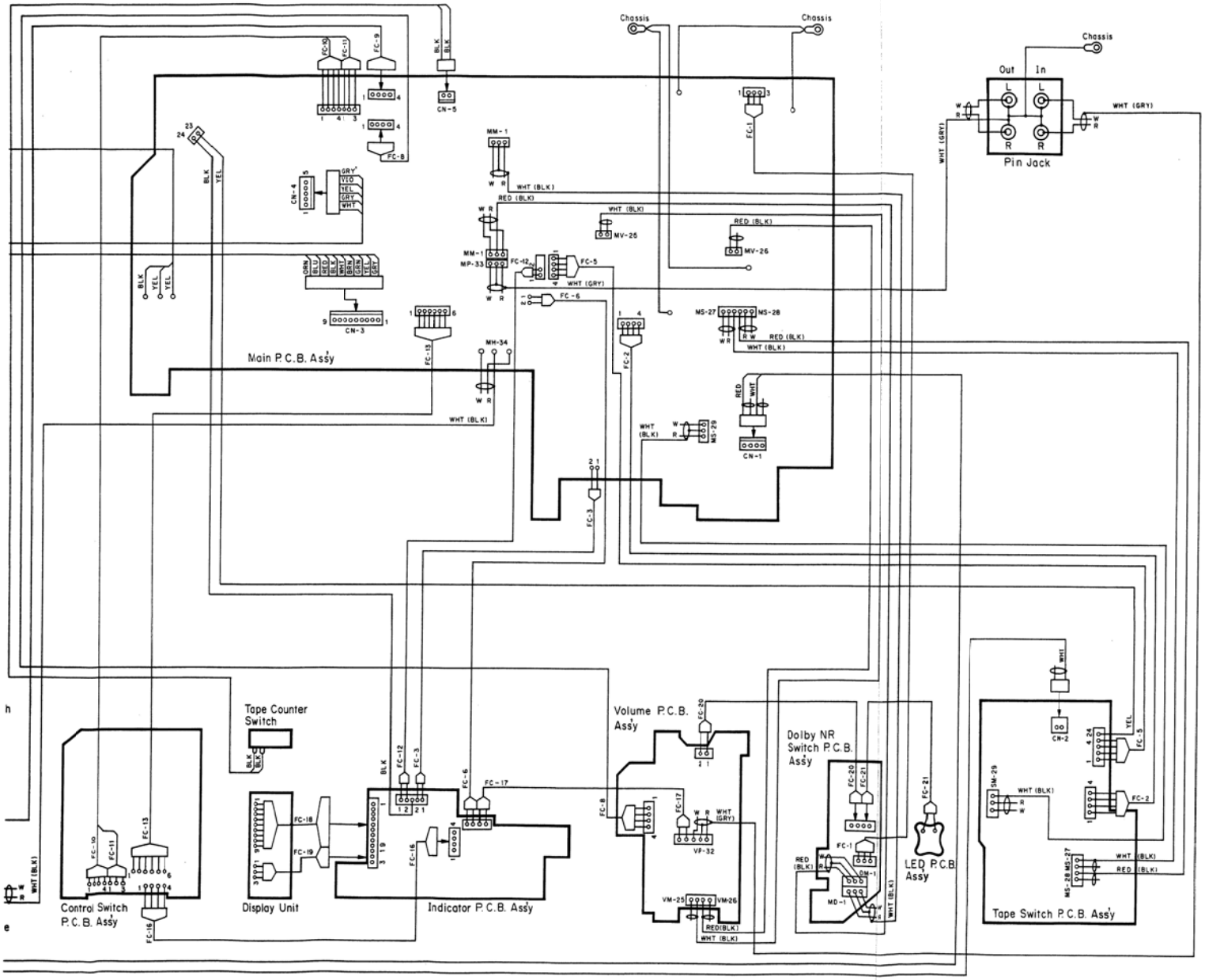

Chassis
Chassis
Chassis
Out
In
Pin Jack
WHT (GRY)
Main P.C.B. Assy
CN-5
CN-4
CN-3
CN-1
MM-1
MP-33
MV-26
MS-27
MS-28
MS-29
MH-34
FC-1
FC-2
FC-3
FC-5
FC-6
FC-8
FC-12
FC-15
FC-16
FC-17
FC-18
FC-19
WHT (BLK)
RED (BLK)
Tape Counter Switch
Control Switch P.C.B. Assy
Display Unit
Indicator P.C.B. Assy
Volume P.C.B. Assy
VP-32
VM-25
VM-26
Dolby NR Switch P.C.B. Assy
FC-20
FC-21
LED P.C.B. Assy
CN-2
SW-29
Tape Switch P.C.B. Assy

Fig. 9

## 10. BLOCK DIAGRAMS

### 10.1. Amplifier Section

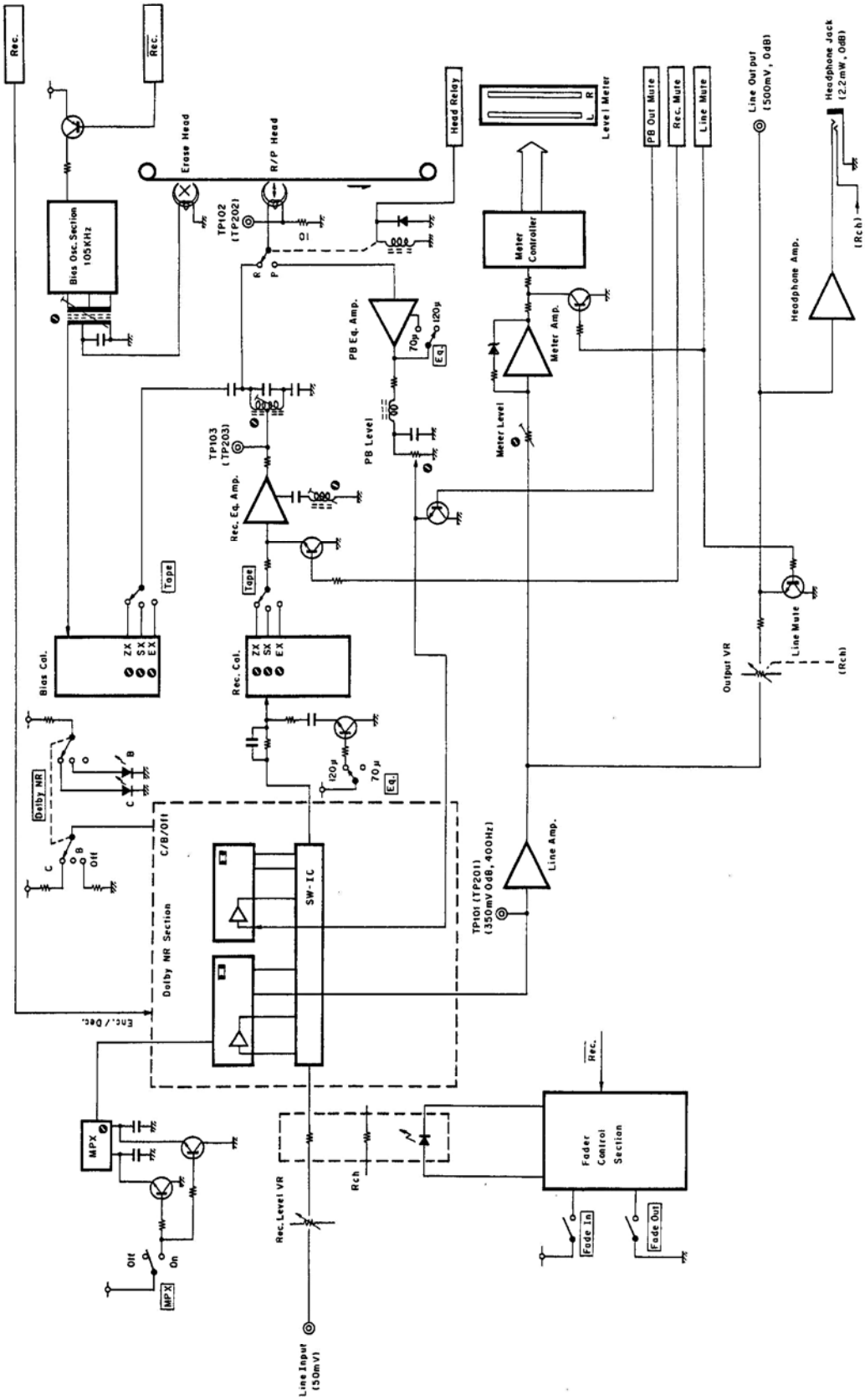



Fig. 10.1

## 10.2. Mechanism Control Section

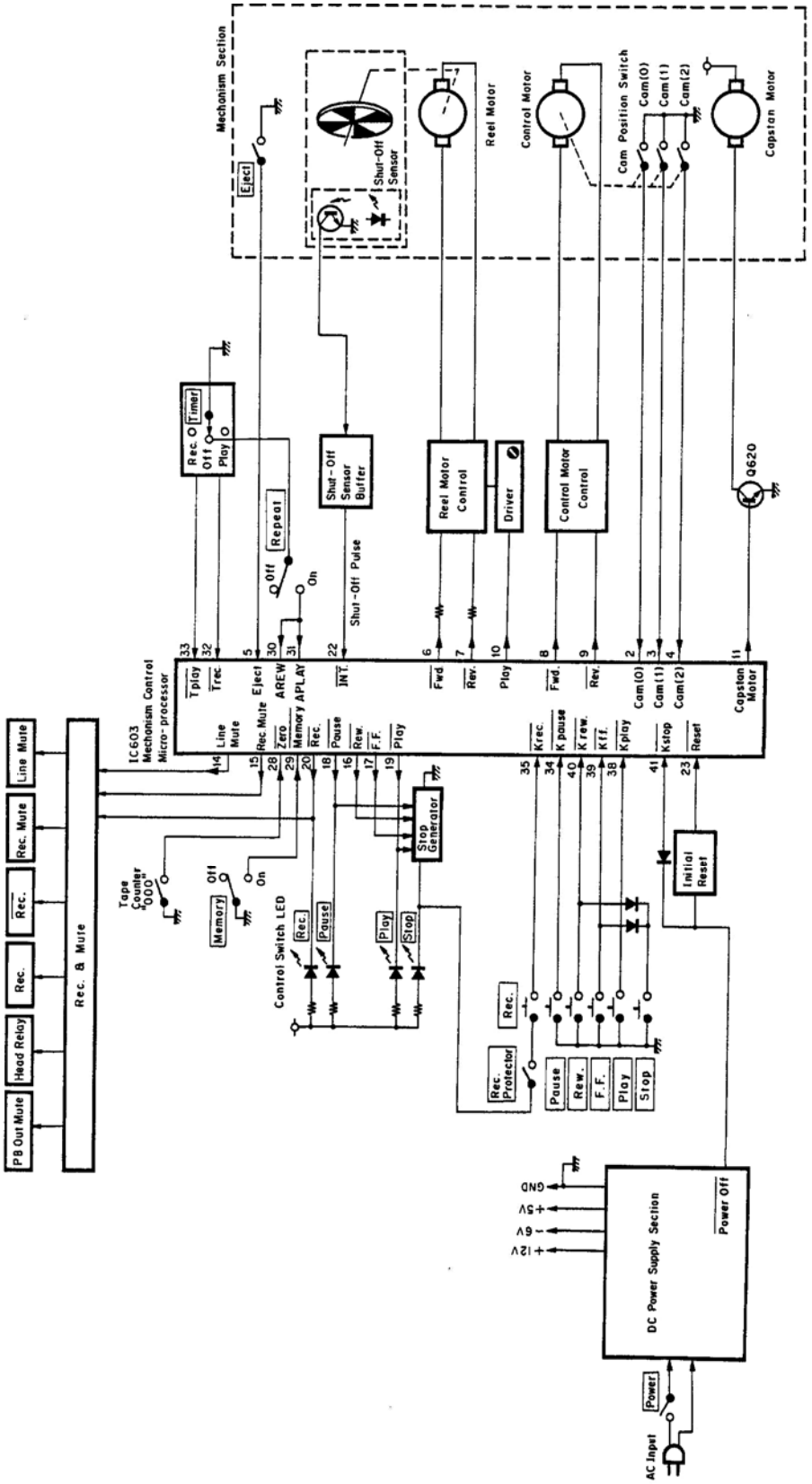



Fig. 10.2

## 11. TIMING CHART AND EQ. AMP. FREQUENCY RESPONSE

### 11.1. Timing Chart
### (1) Overall Timing Chart

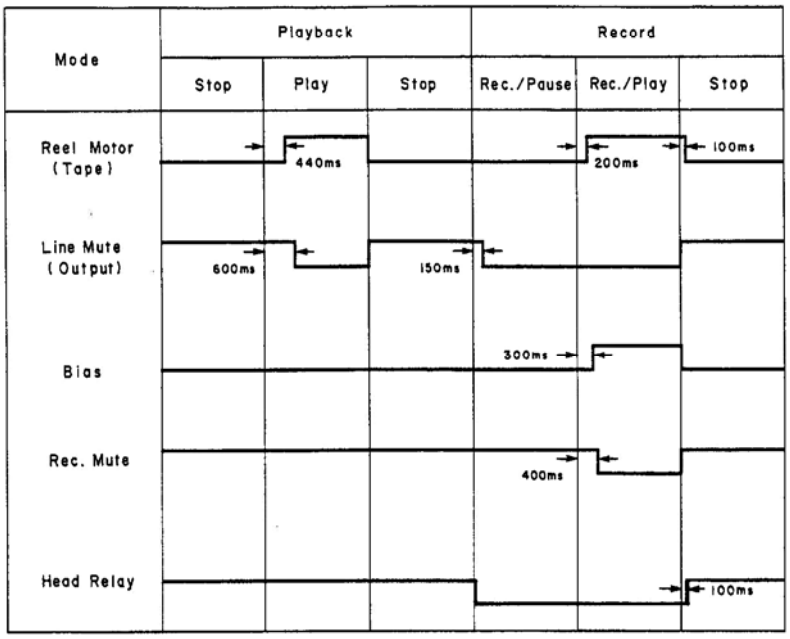



Fig. 11.1.1

### (2) Mechanism Control Timing Chart

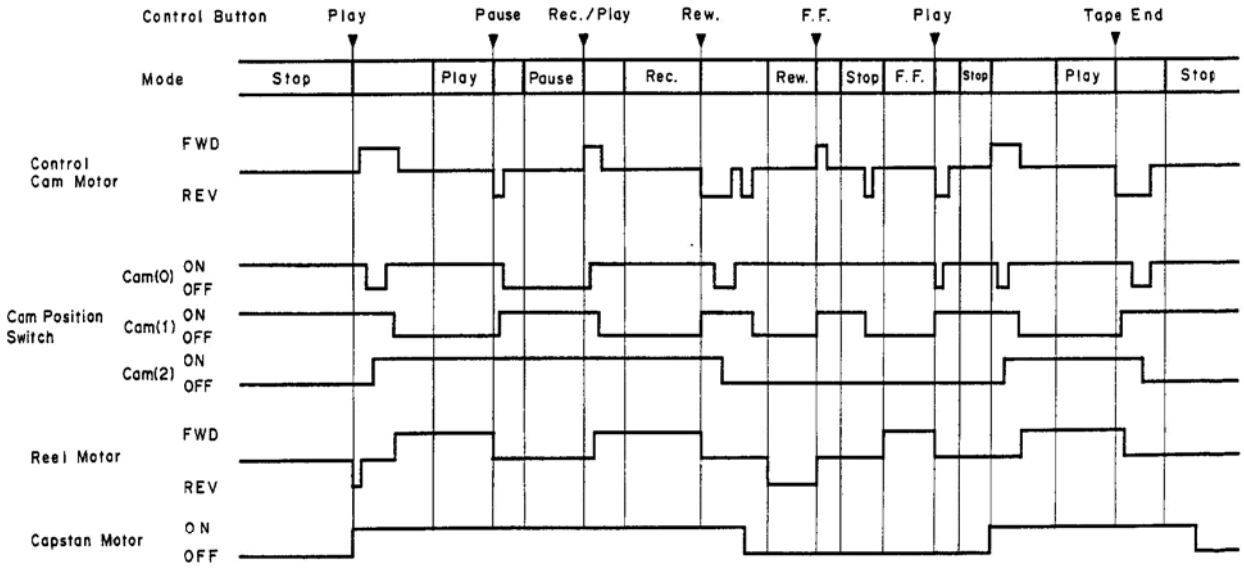



Fig. 11.1.2

## 11.2. Eq. Amp. Frequency Response

### (1) Playback Frequency Response

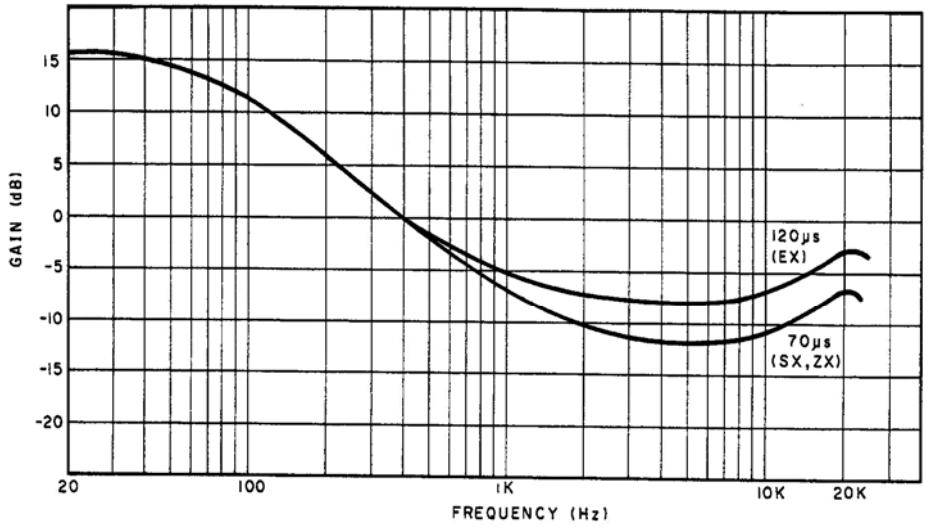



Fig. 11.2.1

### (2) Record Current Frequency Response

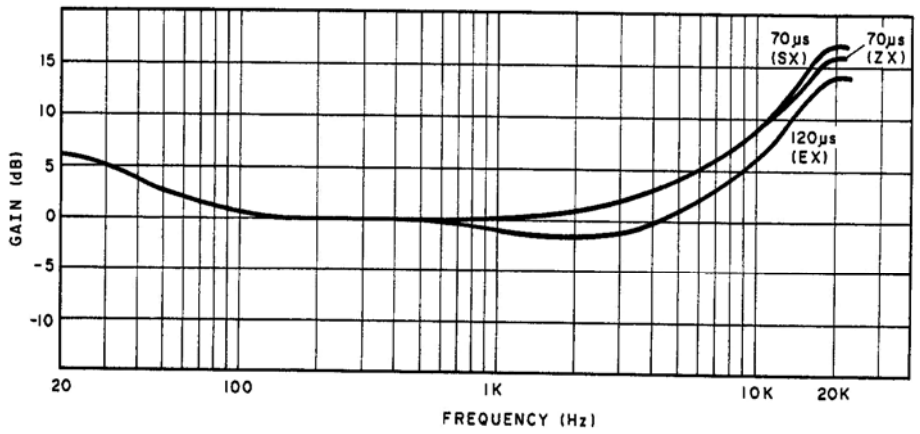



Fig. 11.2.2

## 12. SPECIFICATIONS

| | |
|---|---|
| Track Configuration | 4 Tracks/2-Channel Stereo |
| Heads | 2 (Erase Head x 1, Record/Playback Head x 1) |
| Motors (Tape Transport) | DC Servo Motor (Capstan Drive) x 1<br>DC Motor (Reel Drive) x 1 |
| Power Source | 100, 120, 120/220-240, 220 or 240 V AC; 50/60 Hz<br>(According to country of sale) |
| Power Consumption | 23 W max. |
| Tape Speed | 1-7/8 ips. (4.8 cm/sec.) ±0.5% |
| Wow and Flutter | Less than ±0.11% WTD Peak<br>Less than 0.06% WTD RMS |
| Frequency Response | 20 Hz—20,000 Hz (recording level —20 dB) |
| Signal to Noise Ratio | **Dolby C-Type NR on** <70 μs, ZX tape><br>Better than 68 dB (400 Hz, 3% THD, IHF A-WTD RMS)<br>**Dolby B-Type NR on** <70 μs, ZX Tape><br>Better than 62 dB (400 Hz, 3% THD, IHF A-WTD RMS) |
| Total Harmonic Distortion | Less than 1.0% (400 Hz, 0 dB, ZX, EXII tape)<br>Less than 1.2% (400 Hz, 0 dB, SX tape) |
| Erasure | Better than 60 dB (100 Hz, 10 dB) |
| Separation | Better than 36 dB (1 kHz, 0 dB) |
| Crosstalk | Better than 60 dB (1 kHz, 0 dB) |
| Bias Frequency | 105 kHz |
| Input (Line) | 50 mV, 30 kΩ |
| Output (Line) | 0.5 V (400 Hz, 0 dB, output level control at max.) 2.2 kΩ |
| (Headphones) | 2.2 mW (400 Hz, 0 dB, output level control at max.) 8 Ω load |
| Fast-Winding Time | Approx. 85 seconds (with C-60 cassette) |
| Dimensions | 430 (W) x 100 (H) x 250 (D) millimeters<br>16-15/16 (W) x 3-15/16 (H) x 9-7/8 (D) inches |
| Approximate Weight | 5 kg<br>11 lb. |

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

# Service Manual

# Nakamichi BX-125,BX-125E


## Nakamichi Corporation

Tokyo Office
Shinjuku Daiichi Seimei Bldg.
2-7-1 Nishishinjuku, Tokyo
Phone (03) 342-4461
Telex : 2324721 (NAKAM J)

## Nakamichi U.S.A. Corporation

19701 South Vermont Avenue
Torrance, California 90502
Phone : (213) 538-8150

## Nakamichi GmbH

Stephanienstrasse 6, 4000 Düsseldorf 1
Phone : (0211) 359036



0-850410A Printed in Japan