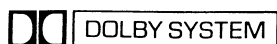


# Service Manual

## Cassette Deck RS-686DS-D

Ultra-Compact 3-Head Portable High-Fidelity  
Stereo Cassette Deck with Monitor Head,  
FG Servo DC Motor and Anti-Rolling Mechanism



### RS-686 MECHANISM SERIES

#### Specifications (Catalog specifications for sales)

|                        |                                                                                                                                                    |                                  |                                                                                                                                                                                      |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power requirement:     | AC; 110/125/220/240V, 50/60Hz with<br>AC adaptor RP-997 (accessory included)<br>DC; 9V, six R-14 size dry cell batteries<br>Power consumption; 12W | Fast forward and<br>rewind time: | Approx. 80 seconds with C-60 cassette tape                                                                                                                                           |
| Motor:                 | 1-FG servo controlled DC motor                                                                                                                     | Input:                           | MIC; sensitivity 0.25 mV/applicable microphone<br>impedance 400Ω ~ 10 KΩ<br>LINE; sensitivity 60 mV/input impedance 100 KΩ                                                           |
| Track system:          | 4-track, 2-channel stereo recording and playback                                                                                                   | Output:                          | LINE; output level 420 mV/load impedance<br>22 KΩ over<br>HEADPHONE; output level 65 mV/load<br>impedance 8Ω ~ 125Ω<br>EARPHONE; output level 65 mV/load impedance<br>8Ω (monaural)  |
| Tape speed:            | 4.8 cm/s                                                                                                                                           | Head:                            | Monitor speaker; output power 0.2 W (monaural)<br>3-head system<br>1-HPF head for record/playback<br>1-permalloy head for recording monitor<br>1-double-gap ferrite head for erasure |
| Battery life:          | Approx. 4 hours with alkaline batteries<br>(continuous recording)                                                                                  | Dimensions:                      | 24.3cm(W) × 7.7cm(H) × 20.0cm(D)                                                                                                                                                     |
| Wow and flutter:       | 0.07% (WRMS), ±0.18% (DIN)                                                                                                                         | Weight:                          | 2.8kg (without batteries)                                                                                                                                                            |
| Frequency response:    | CrO <sub>2</sub> tape; 50 ~ 16,000Hz ±3 dB<br>40 ~ 16,000Hz (DIN)<br>Normal tape; 50 ~ 14,000Hz ±3 dB<br>40 ~ 14,000Hz (DIN)                       |                                  |                                                                                                                                                                                      |
| Signal-to-noise ratio: | Dolby NR in; 66 dB (above 5kHz)<br>Dolby NR out; 56 dB<br>(signal level = max. recording level)                                                    |                                  |                                                                                                                                                                                      |

Specifications are subject to change without notice.

**Technics**

**Matsushita Electric Trading Co., Ltd.**  
P.O. Box 288, Central Osaka Japan

# LOCATION OF CONTROLS AND COMPONENTS

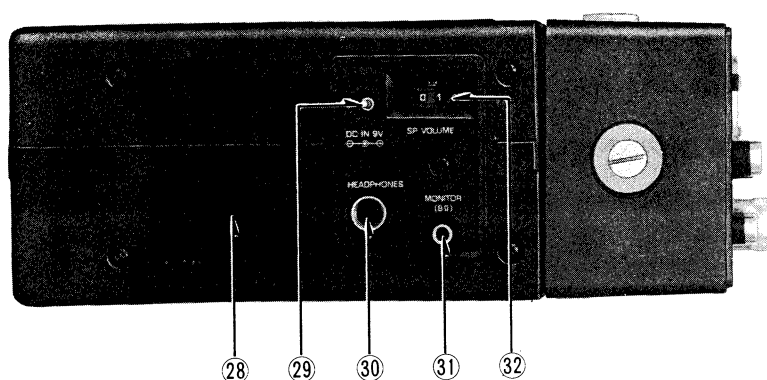
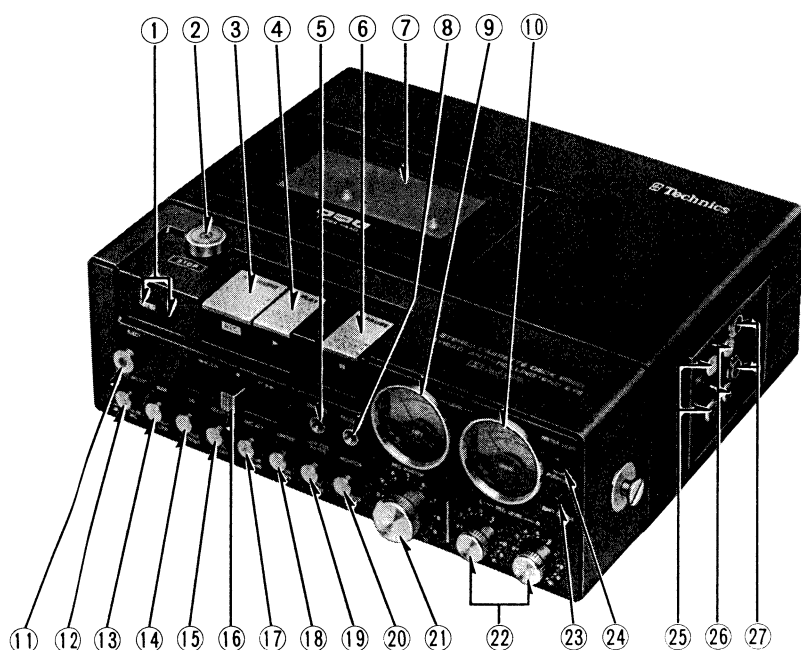
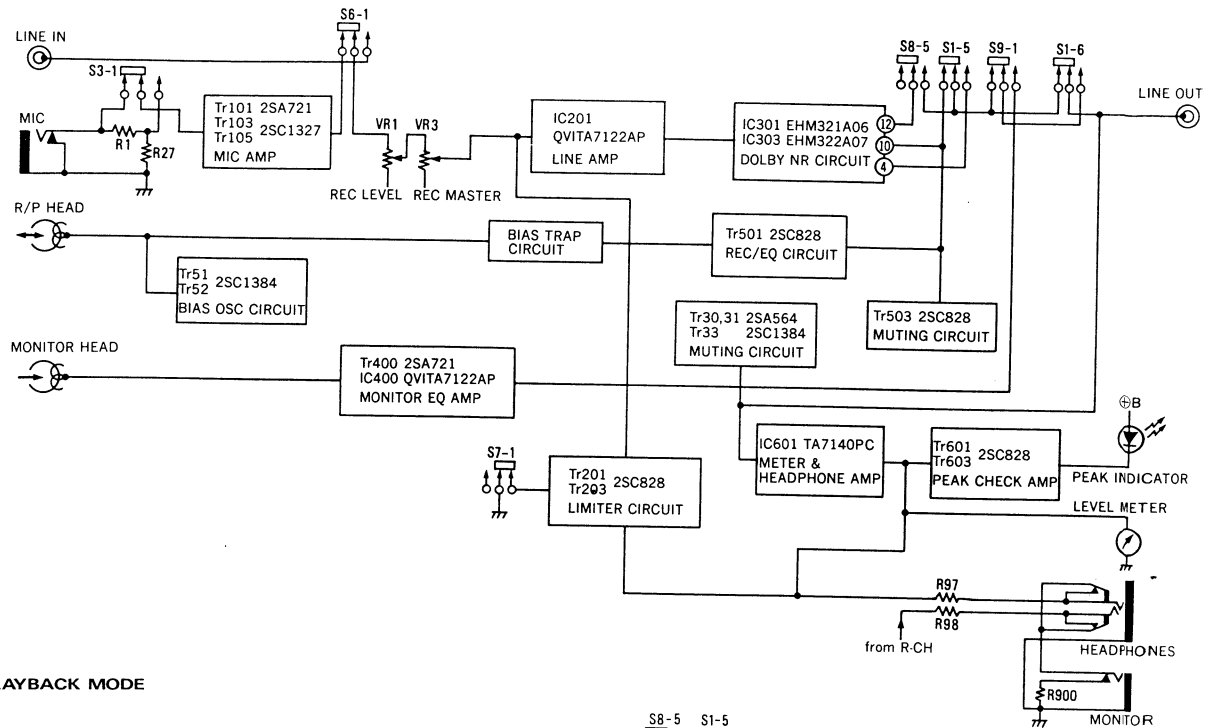


Fig. 1

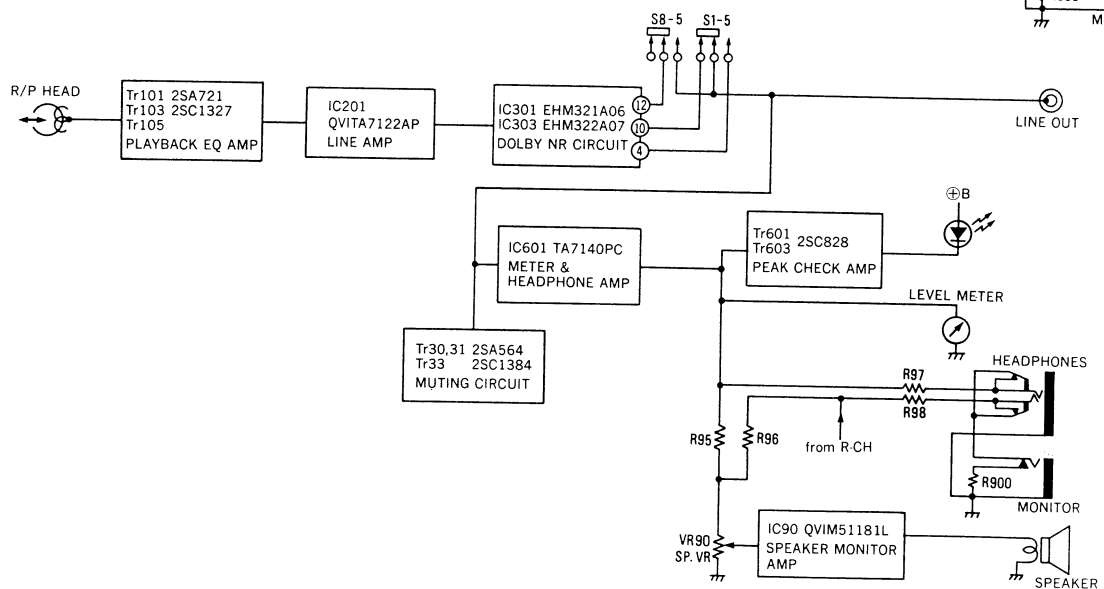
- ① Tape counter and reset button
- ② Stop button
- ③ Record button
- ④ Playback button
- ⑤ Tape-end indicator
- ⑥ Pause button
- ⑦ Cassette compartment cover
- ⑧ Recording indicator lamp
- ⑨ Peak-check/level meter
- ⑩ Peak-check/level/battery-check meter
- ⑪ Eject button
- ⑫ Input selector
- ⑬ Bias selector
- ⑭ Equalization selector
- ⑮ Dolby noise-reduction switch
- ⑯ Rewind/fast forward lever
- ⑰ Microphone attenuator switch
- ⑱ Limiter switch
- ⑲ Low-cut filter switch
- ⑳ Monitor switch
- ㉑ Master record level control
- ㉒ Record level control
- ㉓ Battery-check button
- ㉔ Meter light button
- ㉕ Line output jacks
- ㉖ Microphone jack
- ㉗ Line input jacks
- ㉘ Built-in speaker
- ㉙ External DC input jack
- ㉚ Headphone jack
- ㉛ Monitor jack
- ㉜ Speaker volume control

# BLOCK DIAGRAM OF ELECTRICAL CIRCUITS

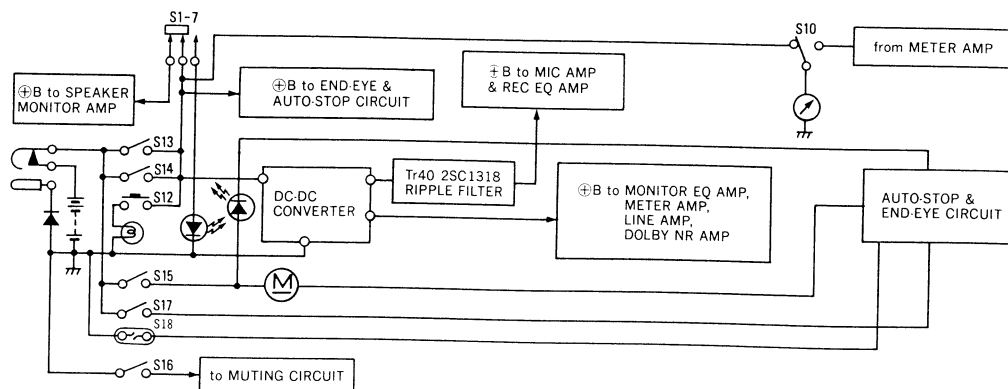
## RECORD MODE



## PLAYBACK MODE



## POWER SECTION



# DISASSEMBLY INSTRUCTIONS

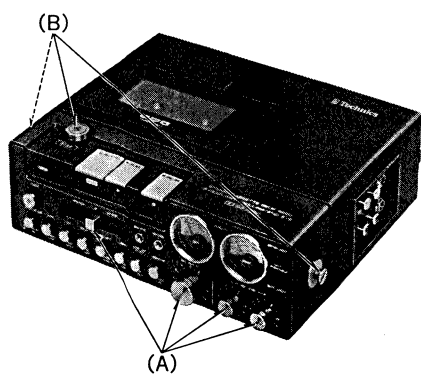


Fig. 2

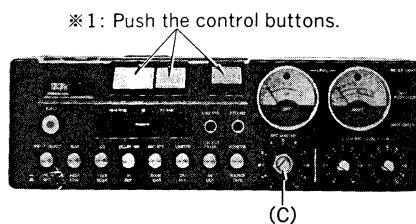


Fig. 3

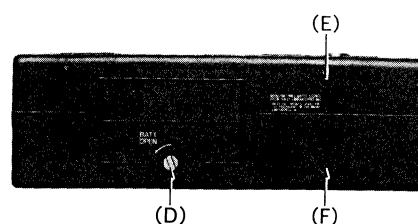


Fig. 4

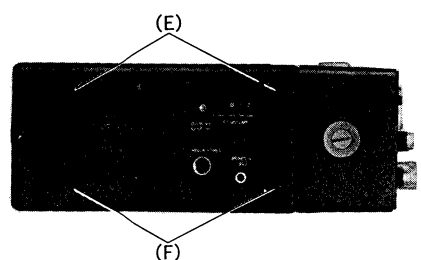


Fig. 5

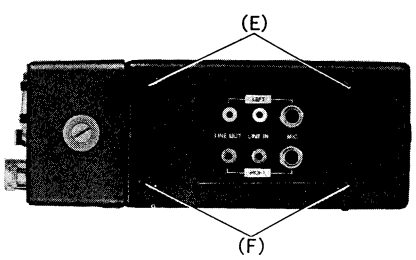


Fig. 6

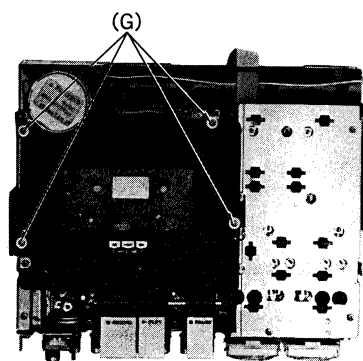


Fig. 7

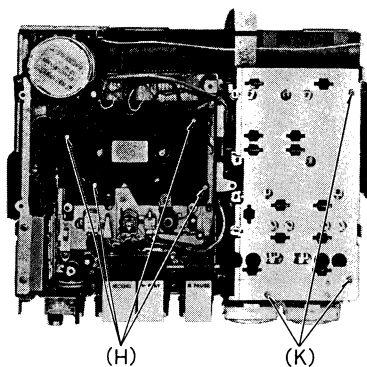


Fig. 8

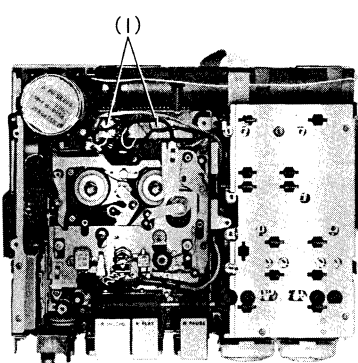


Fig. 9

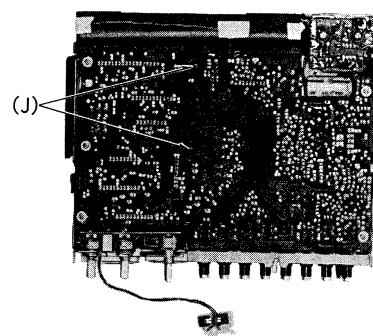


Fig. 10

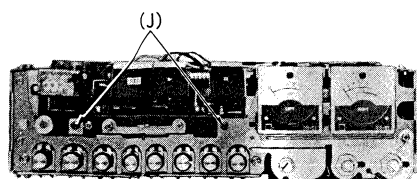


Fig. 11

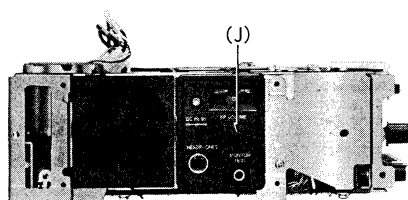


Fig. 12

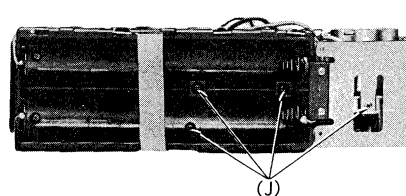
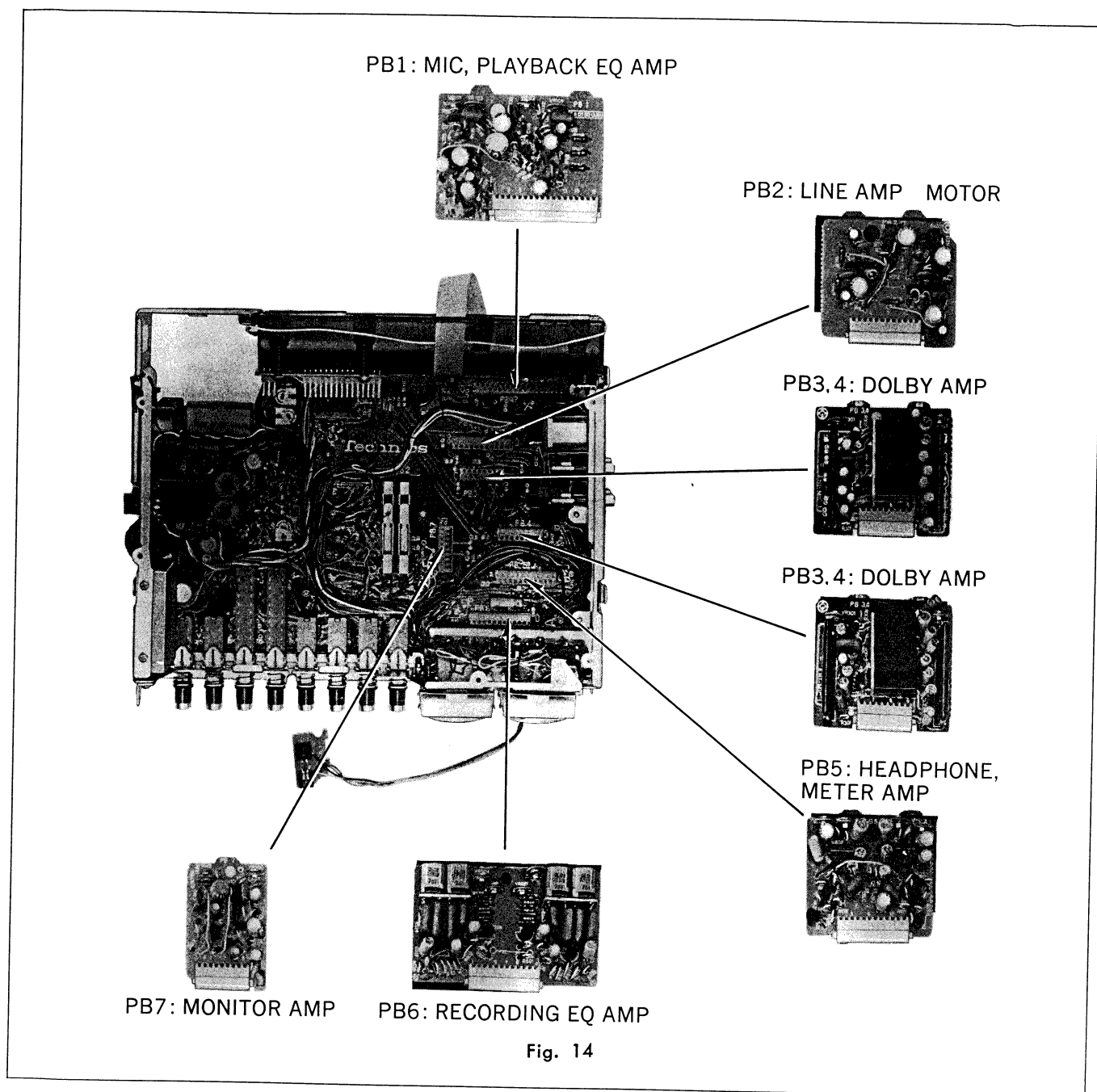


Fig. 13





| Procedure | To remove ———                   | Remove ———                                                         | Shown in fig. ———        |
|-----------|---------------------------------|--------------------------------------------------------------------|--------------------------|
| 1         | Front panel (※ 1... See fig. 3) | 4 knobs ..... (A)<br>3 screws ..... (B)<br>Nut ..... (C)           | 2<br>2<br>3              |
| 2         | Battery lid                     | Screw ..... (D)                                                    | 4                        |
| 3         | Top case                        | 5 screws ..... (E)                                                 | 4, 5, 6                  |
| 3         | Bottom case                     | 5 screws ..... (F)                                                 | 4, 5, 6                  |
| 4         | Cassette cover                  | 4 screws ..... (G)                                                 | 7                        |
| 5         | Mechanism                       | 4 screws ..... (H)<br>2 connectors ..... (I)<br>9 screws ..... (J) | 8<br>9<br>10, 11, 12, 13 |
| 5         | P.C.B. holding plate            | 3 screws ..... (K)                                                 | 8                        |

# ADJUSTMENTS

Before measuring and adjusting "Overall frequency response", "Overall distortion" and "Overall S/N ratio", confirm that the characteristics of 5 items below are within standard which have much relation to or influence on electrical performances above.

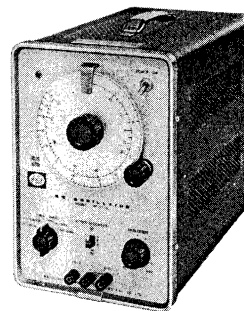
1. Head azimuth adjustment.
2. Bias current.
3. Playback gain.
4. Overall gain.
5. Playback frequency response.

## I. TEST INSTRUMENTS

1. Prepare test instruments which are equivalent in accuracy to those shown below.
2. The test instruments should be inspected and corrected by specialists once every 6 months, because a long period of use without maintenance may increase errors in indication.
3. Warm-up the test instruments for 30 minutes and the set to be measured for 10 minutes before taking the measurements. If not, there may arise an error or difference between the initial value and the stabilized value measured after "aging".
4. Specifications of test instruments.

### (1) Audio frequency oscillator

- |                               |                                                                                            |
|-------------------------------|--------------------------------------------------------------------------------------------|
| a. Oscillation frequency:     | 5 Hz ~ 500 kHz (5 ranges)                                                                  |
| b. Frequency tolerance:       | $\pm(3\% + 1\text{ Hz})$                                                                   |
| c. Sine wave                  |                                                                                            |
| * Output voltage (at 25°C):   | 5 Vrms $\pm 10\%$ (without load)<br>2.5 Vrms $\pm 10\%$ (with 600 $\Omega$ load)           |
| * Output frequency response:  | Within $\pm 0.2\text{ dB}$ , 20 Hz ~ 20 kHz<br>Within $\pm 0.5\text{ dB}$ , 5 Hz ~ 500 kHz |
| * Distortion factor:          | Not more than 0.05%, 200 Hz ~ 20 kHz<br>Not more than 0.5%, 5 Hz ~ 500 kHz                 |
| * Output impedance:           | 600 $\Omega$ unbalanced, within $\pm 15\%$                                                 |
| * Output attenuator:          | 0 dB, 20 dB, error; within $\pm 0.2\text{ dB}$                                             |
| d. Temperature in use of set: | Temperature = 0 ~ 40°C, humidity = 90% or less                                             |



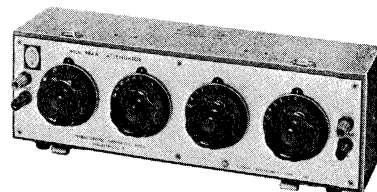
### (2) Automatic-stop distortion meter (with vacuum tube voltmeter)

- |                                      |                                                                        |
|--------------------------------------|------------------------------------------------------------------------|
| A. Distortion factor measurement     |                                                                        |
| a. Frequency (fundamental wave):     | 400 Hz, 1 kHz $\pm 10\%$                                               |
| b. Measurement:                      | 0.1 ~ 100% (6 ranges)                                                  |
| c. Input:                            | 50 mV ~ 50 V                                                           |
| d. Fundamental wave attenuation:     | 60 dB or more                                                          |
| B. Level measurement                 |                                                                        |
| a. Measurement:                      | 1 mV (−60 dB) ~ 30 V (30 dB) (9 ranges)                                |
| b. Frequency response (1 kHz basis): | 20 Hz ~ 100 kHz $\pm 0.3\text{ dB}$                                    |
| c. Input impedance:                  | 1 M $\Omega$ $\pm 10\%$ , less than 50 pF                              |
| d. Error in indicated value:         | Within $\pm 3\%$ at 1 kHz                                              |
| C. Output terminal                   |                                                                        |
| a. Frequency response:               | 10 Hz ~ 100 kHz $\pm 1\text{ dB}$<br>100 kHz ~ 1 MHz $\pm 3\text{ dB}$ |
| b. Output voltage:                   | 1 Vrms $\pm 10\%$ (1 kHz sine wave)                                    |



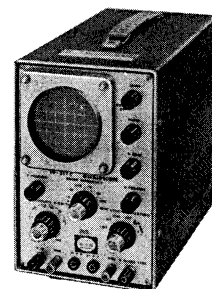
### (3) Attenuator

- a. Input impedance: 600 $\Omega$  unbalanced
- b. Maximum attenuation: 121 dB
- c. Minimum attenuation: 0.1 dB



### (4) Oscilloscope

- a. Cathode ray tube: Effective ranges 8 × 8 cm
- b. Vertical axis
  - \* Input sensitivity: 30 mV ~ 30 V/cm
  - \* Frequency band: DC ~ 2 MHz
  - \* Transient time: 180 ns
  - \* Input impedance: 1 M $\Omega$ , 35 pF
- c. Horizontal axis
  - \* Tuning range: 30 Hz ~ 2 MHz
  - \* Sweep time: 1  $\mu$ s ~ 100 ms/cm
  - \* External sweep: 1 Vp-p/cm or more



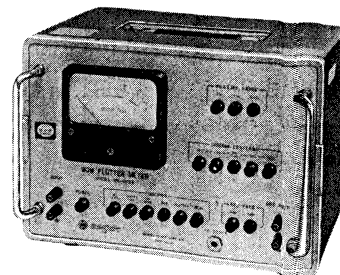
### (5) Digital electronic counter

- a. Number of figure: 4 (decimal system)
- b. Input sensitivity: 100 mVrms
- c. Input impedance: 1 M $\Omega$ , 40 pF
- d. Frequency measurement range: 10 Hz ~ 100 kHz
- e. Counting time: 0.1 s, 1 s, 10 s



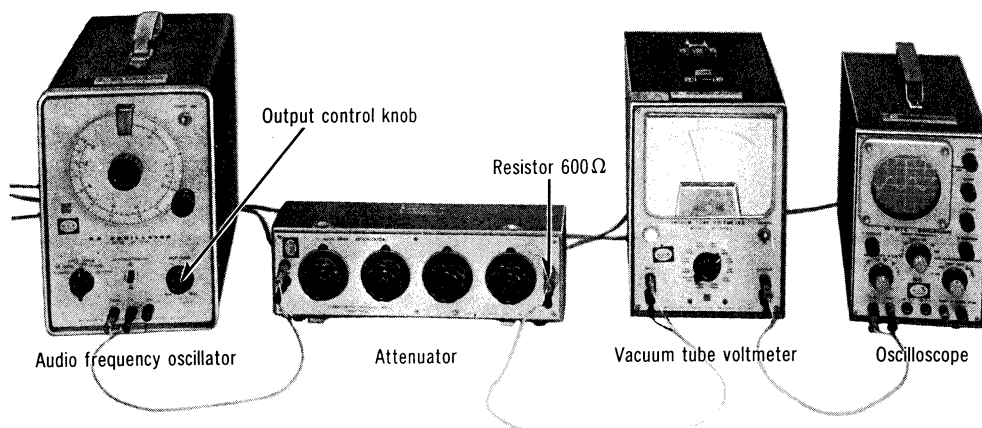
### (6) Wow meter

- a. Measured center frequency range: 3 kHz  $\pm$  4%
- b. Input level range: 30 mV ~ 3 V
- c. Input impedance: About 50 K $\Omega$  unbalanced
- d. Measurement: 0.01 ~ 3% (5 ranges)
- e. Indicator error: Maximum error in indicated value  $\pm$  5% in each range.
- f. Frequency response: Conforming to weighting curve characteristics (WRMS), JIS C5551. Flat characteristics (RMS) 0.5 ~ 200 Hz, within -3 dB (4 Hz basis)
- g. Meter indication system: Effective value indication, conforming to JIS C5551.
- h. Meter response characteristic: About 5 ~ 7 sec.
- i. Oscillation frequency: 3 frequencies (3 kHz, 3 kHz  $\pm$  3%)
- j. Temperature range: 0 ~ 40°C



## II. MEASUREMENT CONDITIONS

- Standard measurement conditions
  - \* Ambient temperature: 10~30°C (50~86°F)
  - \* Ambient humidity: 30~90% RH
  - \* Power voltage accuracy:  $\pm 3\%$
- Position of tape recorder
  - \* When measuring, place the unit under test in a horizontal position.
- Oscillator output voltage adjustment
  - \* Connect the equipments as shown in the following and adjust the oscillator output control knob for 1 V ( $f=1\text{ kHz}$ ) through the attenuator while keeping the attenuator at 0 dB.
  - \* When supplying a signal to the tape recorder amplifier, adjust the input level using the attenuator.



## III. TEST TAPE

### Test tape life

The more frequently the test tape is used, the more the tape characteristics will deteriorate (e.g. lowering of recorded level, worsening of frequency response particularly in high-frequency range, and an increase in wow due to tape elongation) until measured values become unreliable. Even in such a case when a tape is not used, but stored, for a long period of time, tape shows deterioration in performance because of self damagenetization due to storage conditions, etc.

Please refer to the tape life specification and use care not to use a tape longer than its rated life when servicing.

Frequency of use: Not more than 20 times for each tape length.

Storage period: Not more than 6 months.

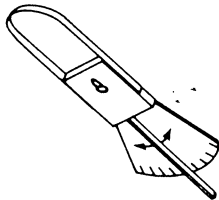
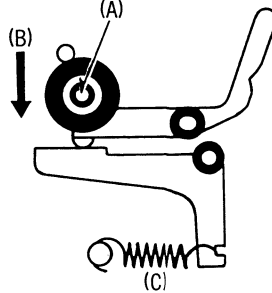
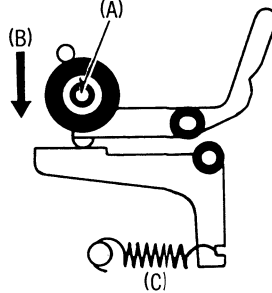
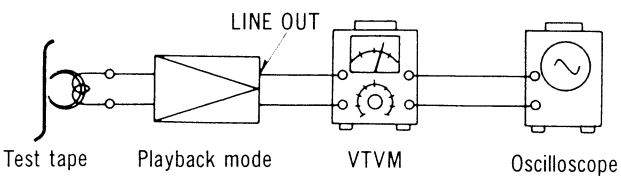
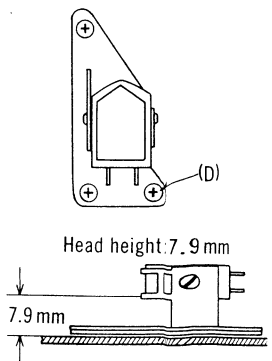
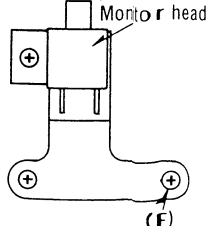
### Test tape

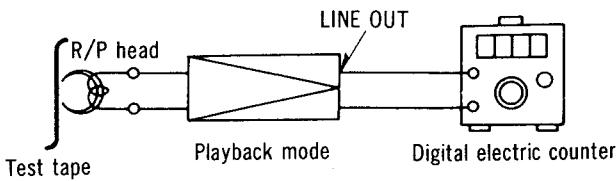
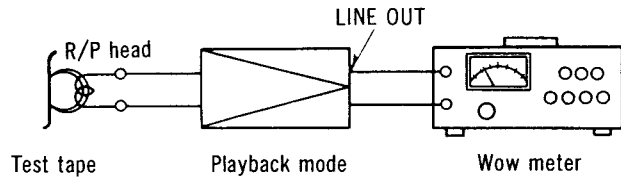
| PARTS NO. | PARTS NAME                                           | SPECIFICATIONS                              | REMARKS                                                                                   |
|-----------|------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------|
| C-FH      | Standard recording level and frequency response tape | <p>0dB: STANDARD REC. LEVEL (160pWb/mm)</p> | 5 times repetitive recording<br>Tape speed: 1-7/8 ips. (4.8 cm/s)<br>Full track (10 min.) |
| C-WAT     | Wow and tape speed tape                              | <p>0dB: 250pWb/mm</p>                       | Tape speed: 1-7/8 ips. (4.8 cm/s)<br>Full track (45 min.)                                 |
| C-AA      | Azimuth tape                                         | <p>0dB: 250pWb/mm</p>                       | Tape speed: 1-7/8 ips. (4.8 cm/s)<br>Full track (15 min.)                                 |
| C-RA      | Reference blank tape (Normal)                        |                                             | Unrecorded tape (20 min.)                                                                 |
| C-RF      | Reference blank tape (CrO <sub>2</sub> )             |                                             | Unrecorded tape (20 min.)                                                                 |

## IV. MEASUREMENT & ADJUSTMENT METHOD

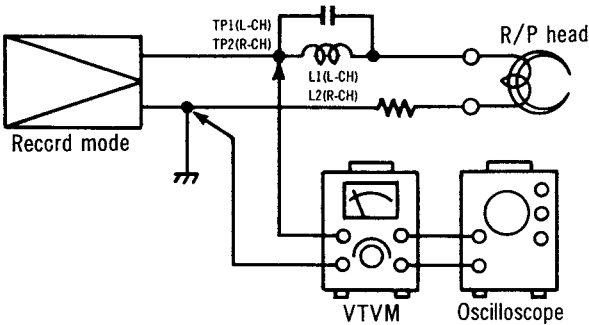
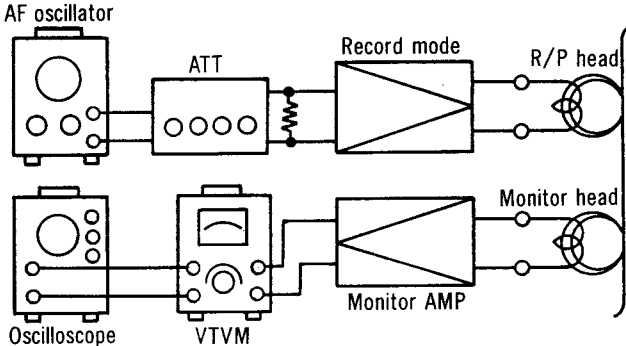
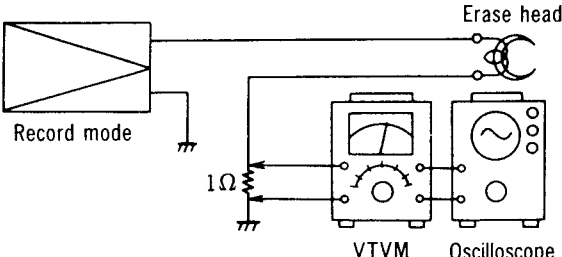
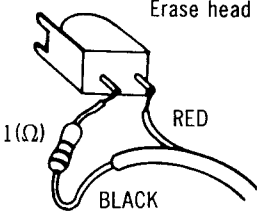
### NOTE:

1. Make sure heads are clean.
2. Make sure capstan and pressure roller are clean.
3. Judgeable room temperature:  $20 \pm 5^\circ\text{C}$  ( $68 \pm 9^\circ\text{F}$ )
4. Input select switch: LINE IN
5. Bias select switch: LOW
6. Equalizer select switch:  $120\mu\text{S}$
7. Dolby NR switch: OUT
8. Microphone attenuator switch: 0 dB
9. Limiter switch: OFF
10. Low-cut filter switch: OUT
11. Monitor switch: TAPE
12. Record master control: Maximum
13. Record level control: Maximum

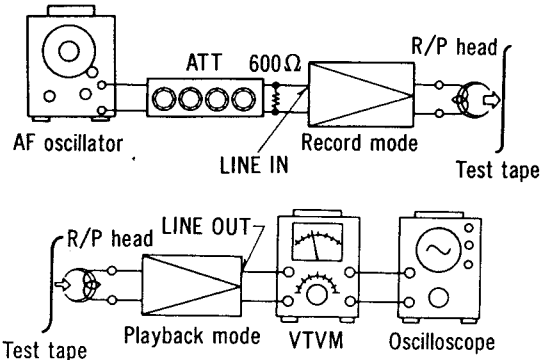
| ITEM                                                                                                                                                                | MEASUREMENT & ADJUSTMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | REMARKS                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>Pressure of pressure roller</b><br>Equipment:<br>* Tension gauge (max. 500 gr)  | <ol style="list-style-type: none"> <li>Place UNIT into playback mode.</li> <li>Hook the tension gauge to pressure roller shaft top (A) and pull it in the direction of the arrow (B) as shown in fig. 15.</li> <li>Measure the tension at the moment when the pressure roller moves away from the capstan.</li> </ol> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Standard value: <math>400 \pm 50</math> gr</b> </div> <b>Adjustment method</b><br>Adjust by bending the (C) part of the pressure roller spring.     | * Playback mode<br><br><b>Fig. 15</b>   |
| <b>Takeup tension</b><br>Equipment:<br>* Cassette torque meter (SRK-CT or RP8063)                                                                                   | <ol style="list-style-type: none"> <li>Mount cassette torque meter on UNIT.</li> <li>Place UNIT into playback mode and read takeup torque.</li> <li>Measure several times and determine the mean value.</li> </ol> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Standard value: <math>55 \pm 15</math> gr·cm</b> </div>                                                                                                                                                                                                                                                                                   | * Playback mode                                                                                                            |
| <b>Head azimuth adjustment</b><br>Equipment:<br>* VTVM<br>* Oscilloscope<br>* Test tape (azimuth) ... C-AA                                                          | <b>Record/playback head adjustment</b><br><ol style="list-style-type: none"> <li>Test equipment connection is shown below.</li> </ol>  <p style="text-align: center;"><b>Fig. 16</b></p> <ol style="list-style-type: none"> <li>Playback azimuth tape (C-AA 6.3 kHz).</li> <li>Adjust record/playback head angle adjustment screw (D) in fig. 17 so that output level at LINE OUT becomes maximum.</li> <li>Measure both channels, and adjust levels for equal output.</li> <li>After adjustment lock head adjustment screw with lacquer.</li> </ol> | * Playback mode<br><br><b>Fig. 17</b> |
| Equipment:<br>* VTVM<br>* Oscilloscope<br>* AF oscillator<br>* ATT<br>* Test tape ... C-RA <sub>2</sub><br>(reference blank tape)                                   | <b>Monitor head adjustment</b><br><ol style="list-style-type: none"> <li>Test equipment connection is shown in fig. 23.</li> <li>Set the monitor switch to TAPE and supply 1 kHz signal (−24 dB) to LINE IN.</li> <li>Using test tape (C-RA<sub>2</sub>).</li> <li>Place UNIT into record mode and measure the monitor output level at LINE OUT jack on VTVM.</li> <li>Adjust head angle adjustment screw (E) in fig. 18 so that output level at LINE OUT becomes maximum.</li> <li>Measure both channels, and adjust levels for equal output.</li> <li>After adjustment lock head adjustment screw with lacquer.</li> </ol>             | * Record mode<br><br><b>Fig. 18</b>   |

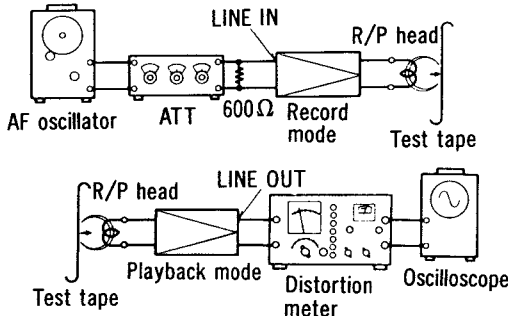
| ITEM                                                                                                                                                                                   | MEASUREMENT & ADJUSTMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | REMARKS                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <p><b>Tape speed</b></p> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* Digital electronic counter or frequency counter (RP8067)</li> <li>* Test tape ... C-WAT</li> </ul> | <p><b>Tape speed accuracy</b></p> <p>1. Test equipment connection is shown below.</p>  <p style="text-align: center;"><b>Fig. 19</b></p> <p>2. Playback test tape (C-WAT 3,000Hz), and supply playback signal to frequency counter.</p> <p>3. Measure this frequency.</p> <p>4. On the basis of 3,000Hz determine value by following formula:</p> $\text{Tape speed accuracy} = \frac{f - 3,000}{3,000} \times 100(\%)$ <p style="text-align: center;">where, f = measured value</p> <p>5. Take measurement at middle section of tape.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><b>Standard value: <math>\pm 0.5\%</math></b></p> </div> <p><b>Adjustment method</b></p> <ol style="list-style-type: none"> <li>1. Playback the test tape (middle).</li> <li>2. Adjust the tape speed adjustment VR shown in fig. 32 so that frequency becomes 3,000Hz.</li> </ol> <p><b>Tape speed fluctuation</b></p> <p>Make measurements in same manner as above (beginning middle and end of tape), and determine difference between maximum and minimum values and calculate as follows:</p> $\text{Tape speed fluctuation} = \frac{f_1 - f_2}{3,000} \times 100(\%)$ <p style="margin-left: 40px;">f<sub>1</sub> = maximum value<br/>f<sub>2</sub> = minimum value</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><b>Standard value: 0.5%</b></p> </div> | <p>* Playback mode</p> |
| <p><b>Wow and flutter</b></p> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* Wow meter</li> <li>* Test tape ... C-WAT</li> </ul>                                           | <p>1. Test equipment connection is shown below.</p>  <p style="text-align: center;"><b>Fig. 20</b></p> <p>2. Use wow test tape (3,000Hz) and measure the playback signal on wow meter.</p> <p>3. Wow and flutter is expressed in percentage and that measurement can be weighted by JIS network (WRMS).</p> <p>4. Measure at middle section of test tape.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><b>Standard value: 0.08% (WRMS)</b></p> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p>* Playback mode</p> |

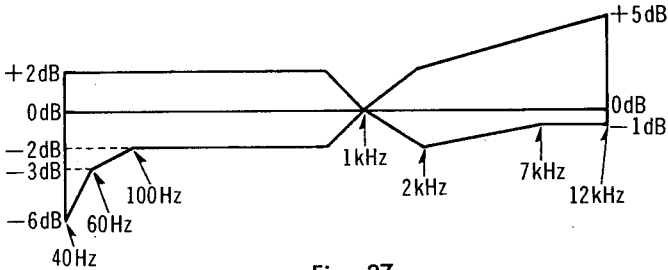
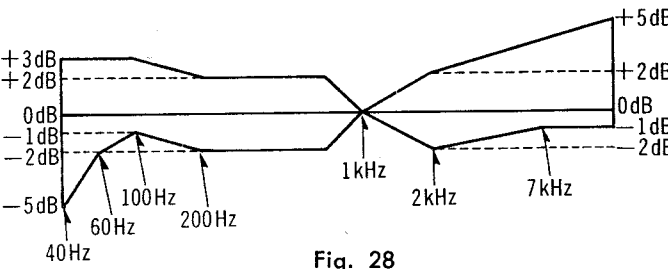
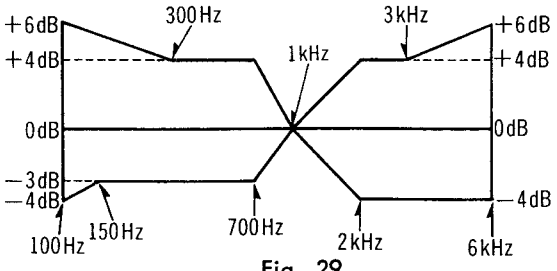
| ITEM                                                                                                            | MEASUREMENT & ADJUSTMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | REMARKS         |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>Playback frequency response</b><br>Equipment:<br>* VTVM<br>* Oscilloscope<br>* Test tape ... C-FH            | <ol style="list-style-type: none"> <li>1. Test equipment connection is as same as "Head azimuth adjustment" but use the test tape (C-FH) instead of head azimuth tape (See fig. 16).</li> <li>2. Place UNIT into playback mode.</li> <li>3. Playback frequency response test tape (C-FH).</li> <li>4. Measure output level at 10kHz, 8kHz, 4kHz, 1kHz, 125Hz and 63 Hz and compare each output level with standard frequency 333Hz, at LINE OUT.</li> <li>5. Make measurement for both channels.</li> <li>6. Make sure that the measured value is within the range specified in the frequency response chart.</li> </ol> <p style="text-align: center;"><b>Playback frequency response chart</b></p> <p style="text-align: center;"><b>Fig. 21</b></p> <ol style="list-style-type: none"> <li>7. If measured value is not in standard, adjust VR101 (L-CH), VR102 (R-CH) (See fig. 32).</li> </ol>                                                                                                                        | * Playback mode |
| <b>Playback gain</b><br>Equipment:<br>* VTVM<br>* Oscilloscope<br>* Test tape ... C-FH                          | <ol style="list-style-type: none"> <li>1. Test equipment connection is shown in fig. 16.</li> <li>2. Playback standard recording level portion on test tape (C-FH 333Hz), and using VTVM measure the output level at LINE OUT jack.</li> <li>3. Make measurement for both channels.</li> </ol> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Standard value: 0.42(-7dB)±0.05 V</b> </div> <p><b>Adjustment method</b></p> <ol style="list-style-type: none"> <li>1. If measured value is not in standard, adjust VR103 (L-CH), VR104 (R-CH) (See fig. 32).</li> <li>2. After adjustment, check "Playback frequency response" again.</li> </ol>                                                                                                                                                                                                                                                                                                                                              | * Playback mode |
| <b>Playback S/N ratio</b><br>Equipment:<br>* VTVM<br>* Oscilloscope<br>* Test tape ... C-FH<br>* Empty cassette | <ol style="list-style-type: none"> <li>1. Test equipment connection is shown in fig. 16.</li> <li>2. Playback standard recording level test tape (C-FH 333Hz) and read output level on VTVM. Refer to "Playback gain adjustment".</li> <li>3. Place UNIT into pause mode.</li> <li>4. Measure noise level at this time using VTVM, and determine ratio of this level to test tape output signal voltage (333Hz).</li> </ol> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Standard value: Greater than 45 dB</b> </div> <p>An example calculation is shown below.</p> <p>A: Es= playback output signal voltage of test tape (333Hz)<br/>           B: En= playback output noise level</p> $S/N \text{ ratio} = \frac{E_s}{E_n} = \frac{0.42 \text{ V}}{2.35 \text{ mV}} = 140$ $20 \log_{10} 178 = 45 \text{ dB}$ $S/N \text{ ratio} = E_s(\text{dB}) - E_n(\text{dB}) = -7 - (-52) = 45 \text{ dB}$ <p style="margin-left: 40px;">Es=0.42 V (-7 dB)<br/>           En=2.35 mV (-52 dB)</p> | * Playback mode |

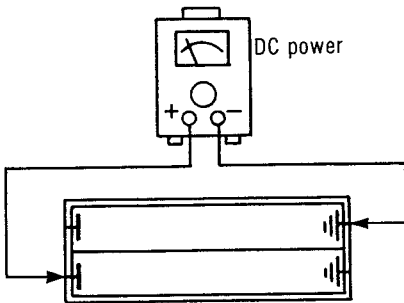
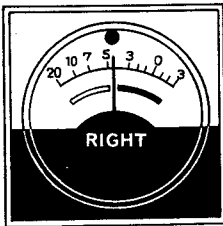
| ITEM                                                                                      | MEASUREMENT & ADJUSTMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | REMARKS                                                                                                                                                   |
|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Bias leak</b><br>Equipment:<br>* VTVM<br>* Oscilloscope                                | <ol style="list-style-type: none"> <li>Test equipment connection is shown below.</li> </ol>  <p style="text-align: center;"><b>Fig. 22</b></p> <ol style="list-style-type: none"> <li>Place UNIT into record mode.</li> <li>Adjust trap coil L1 (L-CH), L2 (R-CH), so that measured value become minimum.</li> <li>Take adjustment for both channels.</li> </ol>                                                                                                                     | * Record mode                                                                                                                                             |
| <b>Bias current</b><br>Equipment:<br>* VTVM<br>* Oscilloscope<br>* AF oscillator<br>* ATT | <ol style="list-style-type: none"> <li>Test equipment connection is shown below.</li> </ol>  <p style="text-align: center;"><b>Fig. 23</b></p> <ol style="list-style-type: none"> <li>Supply 1 kHz signal (−24 dB) from AF oscillator, through ATT, to LINE IN.</li> <li>Place UNIT into record mode and measure the monitor level at LINE OUT jack on VTVM.</li> <li>Adjust VR51 (L-CH) and VR52 (R-CH) so that measured values become 0.5 dB lower than maximum level.</li> </ol> | * Record mode<br>* Standard bias current<br>Normal ..... 180 mA<br>CrO <sub>2</sub> ..... 210 mA                                                          |
| <b>Erase current</b><br>Equipment:<br>* VTVM<br>* Oscilloscope<br>* Resistor (1Ω)         | <ol style="list-style-type: none"> <li>Connect 1Ω resistor between ground side terminal of erase head and ground lead wire removed (See fig. 24A).</li> <li>Connect VTVM to both ends of 1Ω resistor.</li> </ol>  <p style="text-align: center;"><b>Fig. 24B</b></p>                                                                                                                                                                                                               | * Record mode<br> <p style="text-align: center;"><b>Fig. 24A</b></p> |



| ITEM                                                                                                                                                                                                                                 | MEASUREMENT & ADJUSTMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | REMARKS                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                      | <p>3. Place UNIT into record mode and, measure voltage across the 1Ω resistor.</p> <p>4. Determine erase current with the following formula:</p> $\text{Erase current (A)} = \frac{\text{Voltage across } 1\Omega \text{ resistor (V)}}{1 (\Omega)}$ <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>Standard value: 90±20mA (Normal)<br/>110±20mA (CrO<sub>2</sub>)</p> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                       |
| <p><b>Overall gain</b></p> <p>Equipment:</p> <ul style="list-style-type: none"> <li>• AF oscillator</li> <li>• VTVM</li> <li>• ATT</li> <li>• Oscilloscope</li> <li>• Test tape... C-RA for Normal (reference blank tape)</li> </ul> | <p>1. Test equipment connection is shown in fig. 25.</p>  <p style="text-align: center;"><b>Fig. 25</b></p> <ol style="list-style-type: none"> <li>Place UNIT into record mode, and equalizer selector to 120μS, bias selector to LOW (for normal tape) and monitor switch to SOURCE.</li> <li>Supply 1 kHz signal (−24 dB) from AF oscillator, through ATT, to LINE IN.</li> <li>Adjust ATT until source monitor level at LINE OUT becomes 0.42 V (−7 dB).</li> <li>Using test tape (C-RA), make recording.</li> <li>Playback recorded tape, and make sure the value at LINE OUT on VTVM becomes 0.42 V.</li> <li>If measured value is not 0.42 V, adjust VR501 (L-CH), VR502 (R-CH) (See fig. 32).</li> <li>Repeat from step (2).</li> <li>Change the equalizer selector to 70μS and bias selector to HIGH (for CrO<sub>2</sub> tape).</li> <li>Using test tape (C-RF) and measure as same as manner above.</li> <li>If measured value is not 0.42 V, adjust VR503 (L-CH), VR504 (R-CH) (See fig. 32).</li> </ol> <p><b>Adjustment of the recording monitor level</b></p> <ol style="list-style-type: none"> <li>Set the monitor switch to SOURCE and supply 1 kHz signal (−24 dB) to LINE IN.</li> <li>Place UNIT into record mode and adjust ATT until source monitor level at LINE OUT becomes 0.42 V (−7 dB).</li> <li>Then, change the monitor switch to TAPE, and measure the recording monitor level at LINE OUT on VTVM.</li> <li>If measured value is not 0.42 V, adjust VR401.</li> </ol> | <ul style="list-style-type: none"> <li>* Record/playback mode</li> <li>* Record master and record level control ..... MAX</li> <li>* Input selector ..... LINE IN</li> <li>* Standard input level: <ul style="list-style-type: none"> <li>MIC ..... −72±3 dB</li> <li>LINE IN ... −24±3 dB</li> </ul> </li> <li>* Monitor switch .. SOURCE</li> </ul> |

| ITEM                                                                                                                                                                                                          | MEASUREMENT & ADJUSTMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | REMARKS                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Level meter</b><br>Equipment:<br>* VTVM<br>* Oscilloscope<br>* AF oscillator<br>* ATT                                                                                                                      | <ol style="list-style-type: none"> <li>1. Supply 1 kHz signal (−24 dB) from AF oscillator, through ATT, to LINE IN jack.</li> <li>2. Place UNIT into record mode.</li> <li>3. Set the monitor switch to SOURCE.</li> <li>4. Adjust ATT until source monitor level at LINE OUT becomes 0.42V.</li> <li>5. Adjust VR601 (L-CH), VR602 (R-CH) so that level meter indicates 0 dB (See adjustment parts location on page 16).</li> </ol> <p><b>Peak indicator adjustment</b></p> <ol style="list-style-type: none"> <li>6. Adjust ATT so that input level become 6 dB greater than the value in step (4) above.</li> <li>7. Check whether the peak indicators on level meter illuminate.</li> <li>8. Then, adjust ATT so that input level become 5 dB greater than the value in step (4) above.</li> <li>9. Check whether the peak indicators on level meter do not illuminate.</li> <li>10. If operation of peak indicator are not correct, adjust VR603 (L-CH), VR604 (R-CH).</li> </ol>                                                                                                                          | <ul style="list-style-type: none"> <li>* Record mode</li> <li>* Record master and record level control ..... MAX</li> </ul>                                                                                      |
| <b>Overall distortion</b><br>Equipment:<br>* Distortion meter<br>* AF oscillator<br>* ATT<br>* Oscilloscope<br>* Test tape ... C-RA<br>(reference blank tape)<br>C-RA for Normal<br>C-RF for CrO <sub>2</sub> | <ol style="list-style-type: none"> <li>1. Test equipment connection is shown in fig. 26.</li> </ol>  <p style="text-align: center;"><b>Fig. 26</b></p> <ol style="list-style-type: none"> <li>2. Supply 1 kHz signal to LINE IN and adjust ATT so that output level at LINE OUT indicates 0.42 V (−7 dB).</li> <li>3. Make recording.</li> <li>4. Playback and measure distortion factor of output signal.</li> <li>5. When the distortion factor does not satisfy the standard, check the bias current. When the bias current is lower than standard, distortion will increase.<br/>Care should be exercised in the adjustment because the bias current also has an influence on the overall frequency response. Refer to "The overall frequency response" and "The bias current adjustment".</li> </ol> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center;">Standard value: Less than 2.3% (Normal)<br/>Less than 3.2% (CrO<sub>2</sub>)</p> </div> | <ul style="list-style-type: none"> <li>* Record master and record level control ..... MAX</li> <li>* Input selector ..... LINE IN</li> </ul>                                                                     |
| <b>Overall frequency response</b><br>Equipment:<br>* VTVM<br>* AF oscillator<br>* ATT<br>* Test tape ... C-RA<br>(reference blank tape)<br>C-RA for Normal<br>C-RF for CrO <sub>2</sub>                       | <p><b>Note:</b><br/>Before measuring and adjusting, make sure of the playback frequency response (For the method of measurement, please refer to the playback frequency response).</p> <ol style="list-style-type: none"> <li>1. Test equipment connection is shown in fig. 25.</li> <li>2. Load reference blank test tape and place UNIT into record mode.</li> <li>3. Supply 1 kHz signal from AF oscillator, through ATT, to LINE IN.</li> <li>4. Adjust ATT so that input level is −20 dB below standard recording level (standard recording level = 0 VU).</li> <li>5. At this time, LINE OUT level indicates 0.042 V.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>* Record/playback mode</li> <li>* Record master and record level control ..... MAX</li> <li>* Use test tape ..... C-RA</li> <li>* Input selector ..... LINE IN</li> </ul> |

| ITEM | MEASUREMENT & ADJUSTMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | REMARKS                           |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
|      | <p>6. Record each frequency 50Hz, 100Hz, 200Hz, 700Hz, 1kHz, 1.5 kHz, 2kHz, 4kHz and 11 kHz (12kHz for CrO<sub>2</sub>) at the same level.</p> <p>7. Playback and express in dB the difference between playback output level of each frequency based on playback output level of 1 kHz.</p> <p>8. Make sure that the measured value is within the range specified in the overall frequency response chart.</p> <p>9. If measured value is not within standard, adjust peaking coil L501 (L-CH), L502 (R-CH).</p> <p style="text-align: center;"><b>Overall frequency response chart (Normal)</b></p>  <p style="text-align: center;"><b>Fig. 27</b></p> <p>10. Set the equalizer selector to 70<math>\mu</math>S and bias selector to HIGH (for CrO<sub>2</sub> tape).</p> <p>11. Measure as same as manner above.</p> <p>12. Make sure that the measured value is within the range specified in the overall frequency response chart for CrO<sub>2</sub> tape below.</p> <p>13. If measured value is not within standard, adjust peaking coil L503 (L-CH), L504 (R-CH).</p> <p style="text-align: center;"><b>Overall frequency response chart (CrO<sub>2</sub>)</b></p>  <p style="text-align: center;"><b>Fig. 28</b></p> <p><b>Recording monitor frequency response</b></p> <p>1. Set the monitor switch to TAPE and supply -44 dB input signal from AF oscillator, through ATT, to LINE IN jack.</p> <p>2. Using test tape (C-RA<sub>2</sub> for normal tape), and place UNIT into record mode.</p> <p>3. Change frequency of input signal 100Hz, 150Hz, 300Hz, 700Hz, 1kHz, 2kHz, 3kHz and 6kHz.</p> <p>4. At this time, measure the recording monitor level at LINE OUT jack on VTVM.</p> <p>5. Make sure that the measured value is within the range specified in the overall frequency response chart below.</p>  <p style="text-align: center;"><b>Fig. 29</b></p> <p>6. If measured value is not within standard, adjust VR400.</p> | <p>* Use test tape ..... C-R1</p> |

| ITEM                                                                                                                                            | MEASUREMENT & ADJUSTMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | REMARKS                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Overall S/N ratio</b><br>Equipment:<br>* VTVM<br>* AF oscillator<br>* ATT<br>* Oscilloscope<br>* Test tape... C-RA<br>(reference blank tape) | <ol style="list-style-type: none"> <li>1. Test equipment connection is shown in fig. 25.</li> <li>2. Supply 1 kHz signal to LINE IN and adjust ATT so that output level at LINE OUT indicates 0.42 V (− 7 dB).</li> <li>3. Make recording.</li> <li>4. Make another recording without supplying signal (disconnect input plug to LINE IN).</li> <li>5. Rewind to recorded part and playback.</li> <li>6. Measure output signal level and no signal level (noise), and determine the ratio in decibels (dB).</li> <li>7. The value is difference between "Playback S/N and overall S/N", but for decibel calculation refer to "Playback S/N measurement" on page 10.</li> </ol> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <b>Standard value: Greater than 43 dB<br/>(without NAB filter)</b> </div> | <ul style="list-style-type: none"> <li>* Record/playback mode</li> <li>* Record master and record level control ..... MAX</li> <li>* Erase the tape with a bulk tape eraser.</li> <li>* Input selector ..... LINE IN</li> </ul>                                      |
| <b>Dolby NR circuit</b><br>Equipment:<br>* VTVM<br>* AF oscillator<br>* ATT<br>* Oscilloscope                                                   | <ol style="list-style-type: none"> <li>1. Place UNIT into record mode, set the Dolby NR switch to OUT position and supply to LINE IN to obtain −34.5 dB at TP3 (L-CH), TP3 (R-CH) (frequency 5 kHz).</li> <li>2. Confirm that the value at IN position is 8 dB greater than the value at OUT position of Dolby NR switch.</li> <li>3. When it is not in condition above, adjust as follows.</li> <li>4. Set VR301 (L-CH), VR301 (R-CH) to maximum.</li> <li>5. Set the Dolby NR switch to IN position.</li> <li>6. At this time adjust VR303 (L-CH), VR303 (R-CH) so that the reading of VTVM become 10 dB greater than the value in step (1) above.</li> <li>7. Adjusting VR301 (L-CH), VR301 (R-CH), make the reading of VTVM become 2 dB smaller than the value obtained through the adjustment in step (6) above.</li> </ol>                     | <ul style="list-style-type: none"> <li>* Record mode</li> <li>* Record master and record level control ..... MAX</li> <li>* Input selector ..... LINE IN</li> <li>* Stop the bias oscillation by unsoldering point (A) shown in circuit board on page 18.</li> </ul> |
| <b>Battery check meter</b><br>Equipment:<br>* DC power                                                                                          | <ol style="list-style-type: none"> <li>1. Test equipment connection is shown in fig. 30.</li> </ol> <div style="text-align: center;">  <p>Battery case</p> <p><b>Fig. 30</b></p> </div> <ol style="list-style-type: none"> <li>2. Supply 6.5V from DC power to battery terminal.</li> <li>3. Then, push the battery check button and check whether the indication needle of the level meter (right) is in the position shown in fig. 31.</li> </ol> <div style="text-align: center;">  <p><b>Fig. 31</b></p> </div> <ol style="list-style-type: none"> <li>4. If it deviate to the position shown above, adjust VR10.</li> </ol>                                               |                                                                                                                                                                                                                                                                      |

| ITEM    | MEASUREMENT & ADJUSTMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                | REMARKS         |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| End-eye | <ol style="list-style-type: none"> <li>1. Playback a C-60 (60-minute) tape.</li> <li>2. Then, measure the elapsed time between the lamp begins to flicker and when the tape reaches its end.</li> </ol> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 10px auto;">Standard value: <math>3 \pm 1</math> minute</div> <ol style="list-style-type: none"> <li>3. If the measured value is not within <math>3 \pm 1</math> minute, adjust VR70.</li> </ol> | * Playback mode |

ADJUSTMENT PARTS LOCATION

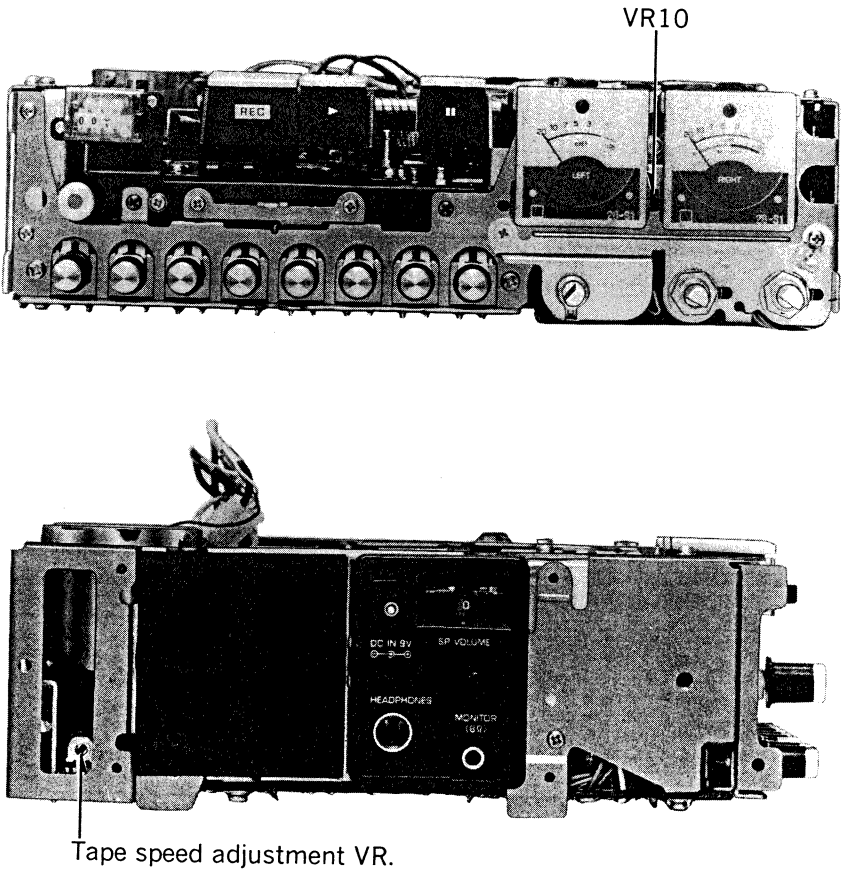
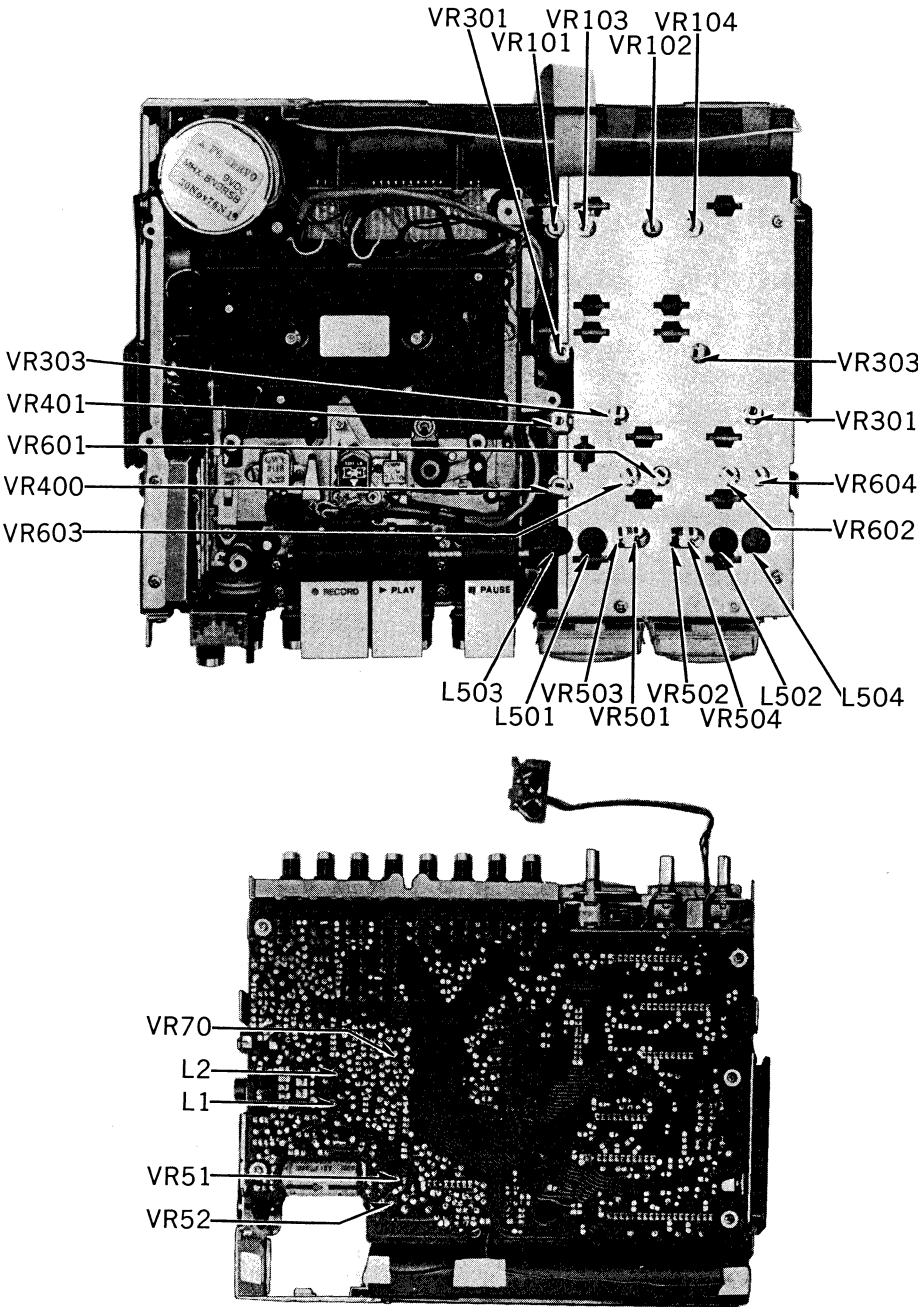
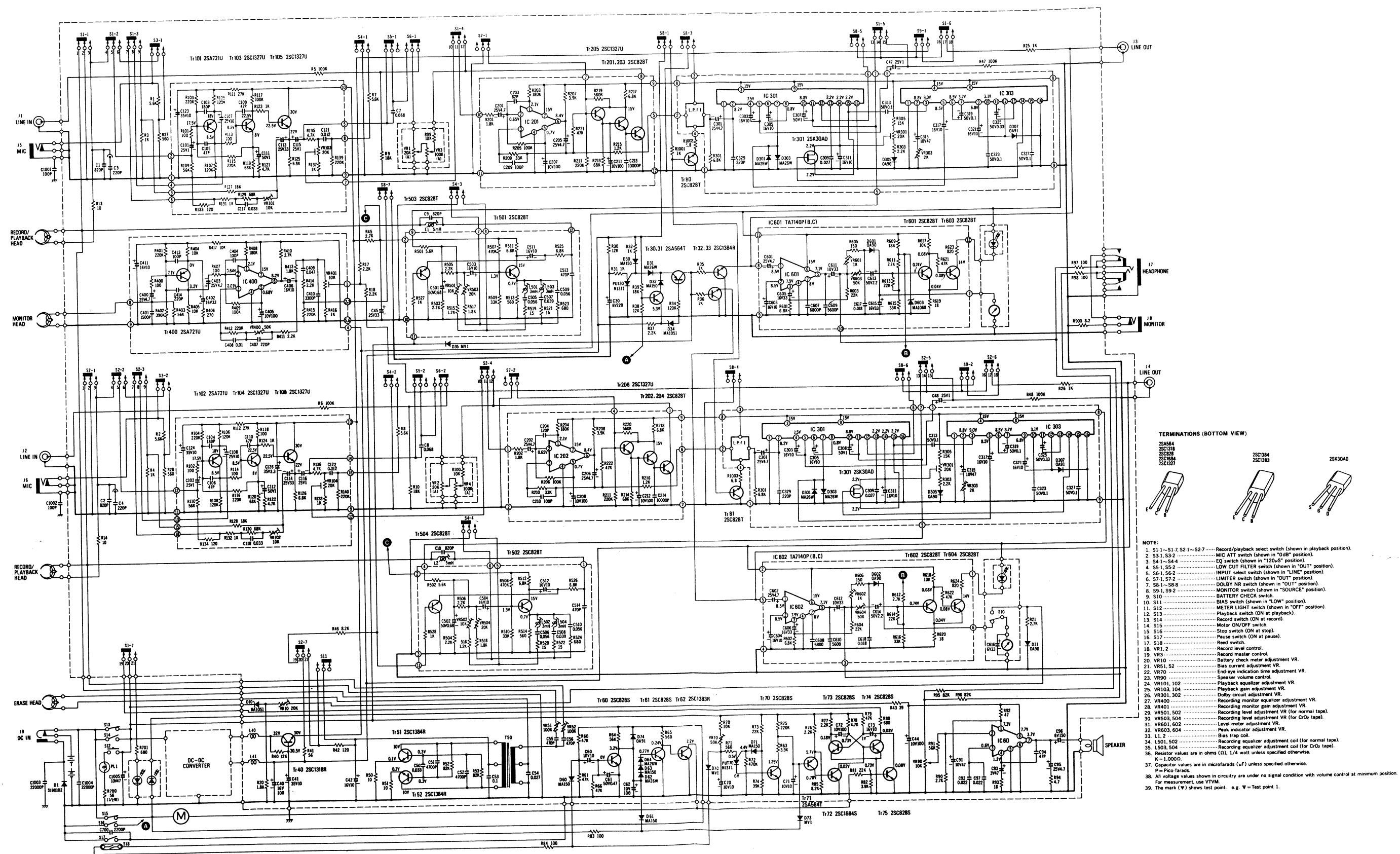
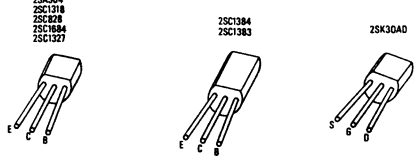


Fig. 32

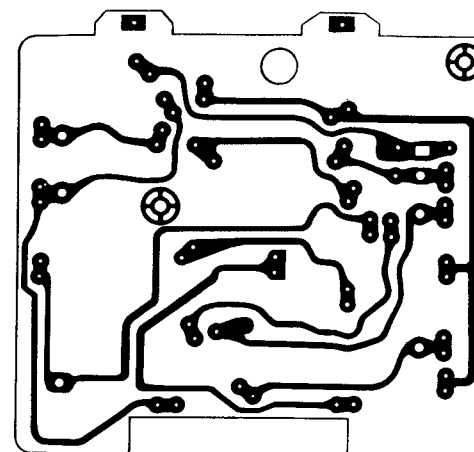
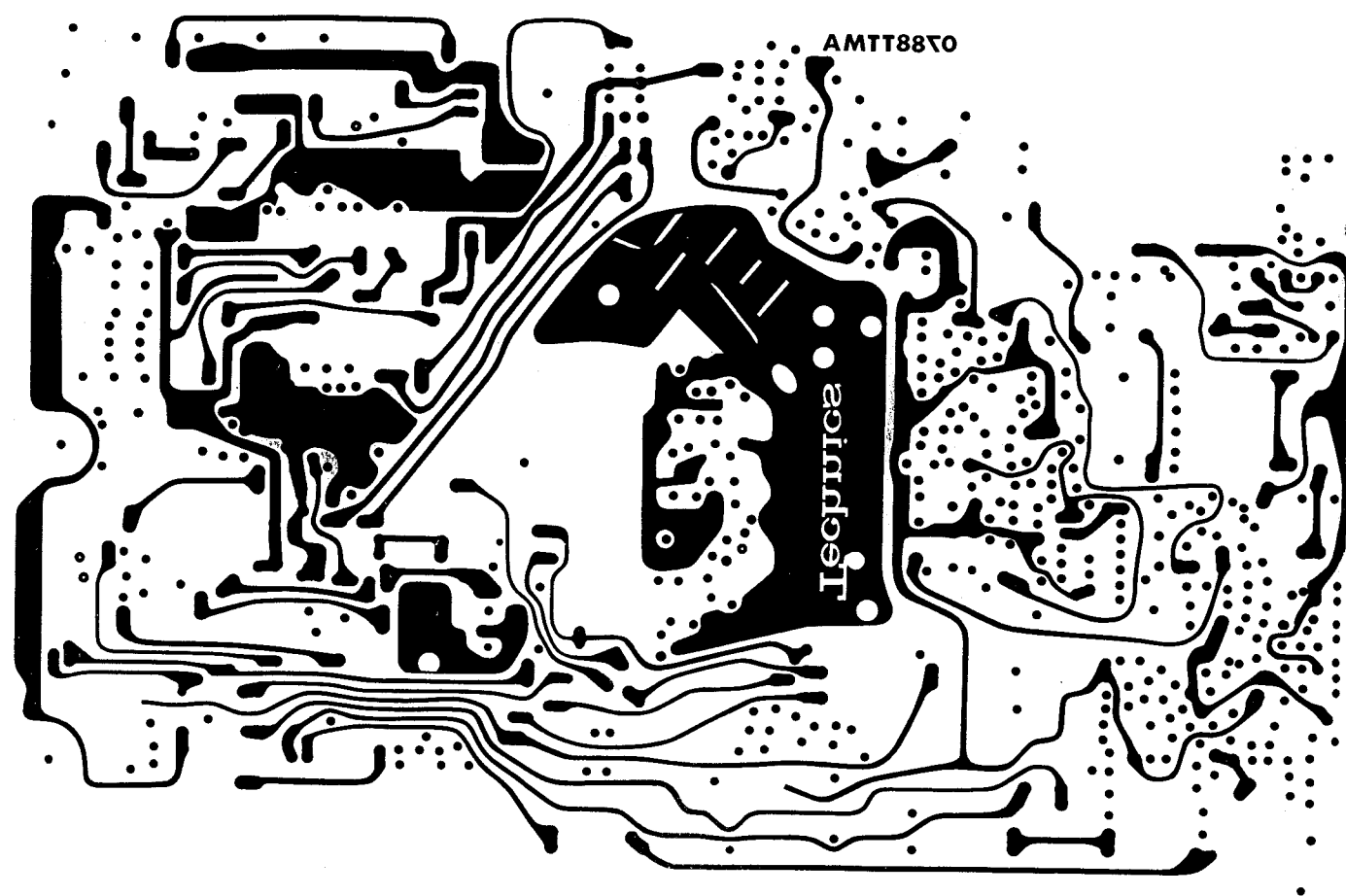
# SCHEMATIC DIAGRAM MODEL RS-686DS-D



## TERMINATIONS (BOTTOM VIEW)



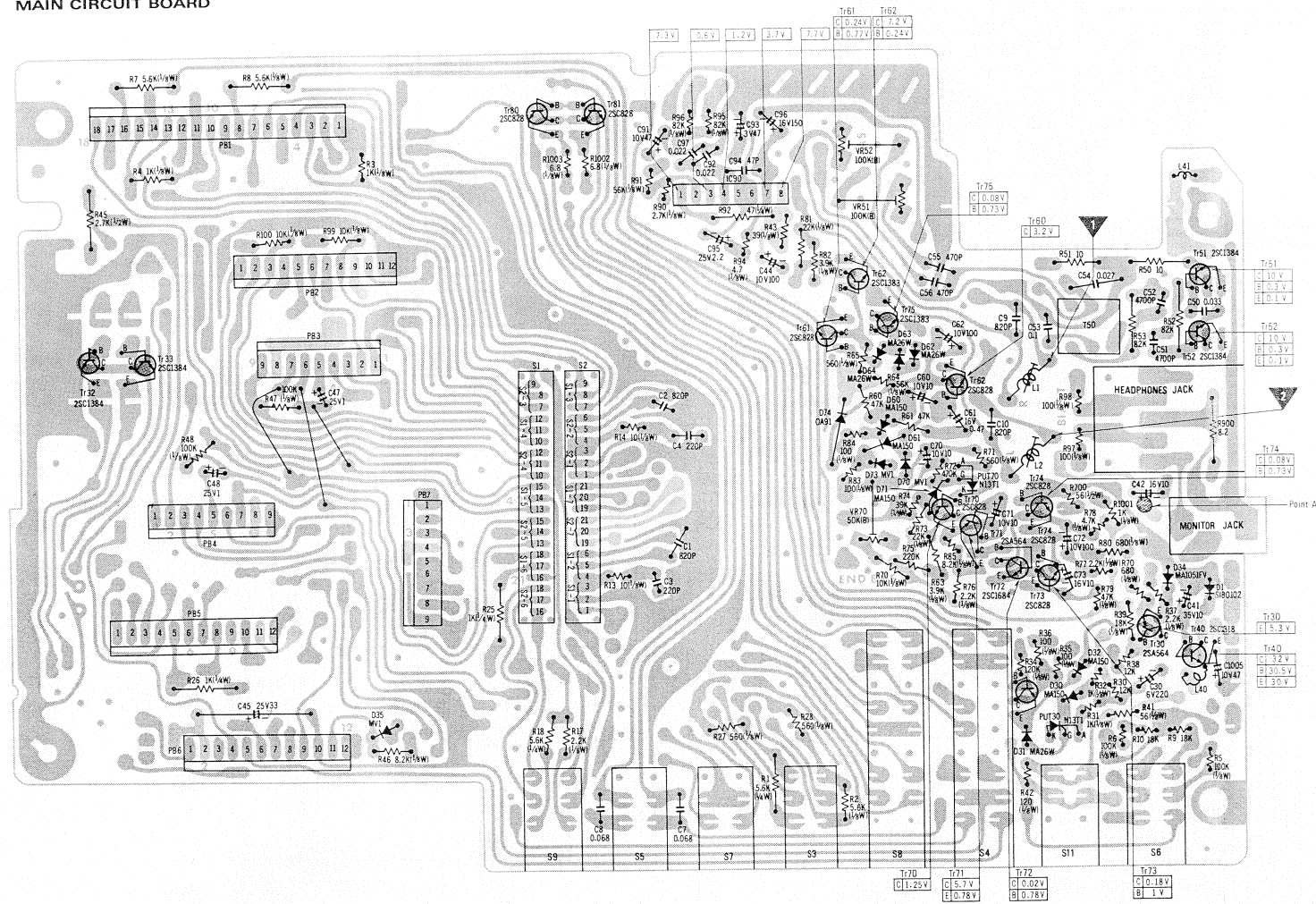
- NOTE:
- 1. S11-S17, S21-S27 ..... Record/playback select switch (shown in playback position).
  - 2. S31-S32 ..... MIC ATT switch (shown in "0dB" position).
  - 3. S41-S44 ..... EQ switch (shown in "120dB" position).
  - 4. S51, S52 ..... LOW CUT FILTER switch (shown in "OUT" position).
  - 5. S61, S62 ..... INPUT select switch (shown in "LINE" position).
  - 6. S71, S72 ..... LIMITER switch (shown in "OUT" position).
  - 7. S81-S88 ..... DOLBY NR switch (shown in "OUT" position).
  - 8. S91, S92 ..... MONITOR switch (shown in "SOURCE" position).
  - 9. S10 ..... BATTERY CHECK switch.
  - 10. S11 ..... BIAS switch (shown in "LOW" position).
  - 11. S12 ..... METER LIGHT switch (shown in "OFF" position).
  - 12. S13 ..... Playback switch (ON at playback).
  - 13. S14 ..... Record switch (ON at record).
  - 14. S15 ..... Motor ON/OFF switch.
  - 15. S16 ..... Stop switch (ON at stop).
  - 16. S17 ..... Pause switch (ON at pause).
  - 17. S18 ..... Read switch.
  - 18. VR1, 2 ..... Record level control.
  - 19. VR3 ..... Record master control.
  - 20. VR10 ..... Battery check meter adjustment VR.
  - 21. VR51, 52 ..... Bias current adjustment VR.
  - 22. VR70 ..... End-eye indication time adjustment VR.
  - 23. VR90 ..... Speaker volume control.
  - 24. VR101, 102 ..... Playback equalizer adjustment VR.
  - 25. VR103, 104 ..... Playback gain adjustment VR.
  - 26. VR301, 302 ..... Dolby circuit adjustment VR.
  - 27. VR400 ..... Recording monitor equalizer adjustment VR.
  - 28. VR401 ..... Recording monitor gain adjustment VR.
  - 29. VR501, 502 ..... Recording level adjustment VR (for normal tape).
  - 30. VR503, 504 ..... Recording level adjustment VR (for CrO<sub>2</sub> tape).
  - 31. VR601, 602 ..... Level meter adjustment VR.
  - 32. VR603, 604 ..... Peak indicator adjustment VR.
  - 33. L1, 2 ..... Bias trap coil.
  - 34. L501, 502 ..... Recording equalizer adjustment coil (for normal tape).
  - 35. L503, 504 ..... Recording equalizer adjustment coil (for CrO<sub>2</sub> tape).
  - 36. Resistor values are in ohms (Ω), 1/4 watt unless specified otherwise. K=1,000Ω.
  - 37. Capacitor values are in microfarads (μF) unless specified otherwise. P=Pico farads.
  - 38. All voltage values shown in circuitry are under no signal condition with volume control at minimum position. For measurement, use VTVM.
  - 39. The mark (V) shows test point. e.g. V=Test point 1.



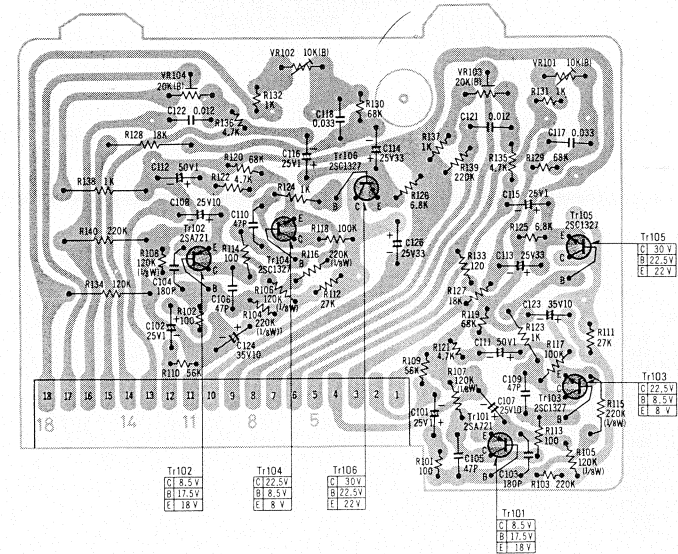


# CIRCUIT BOARD

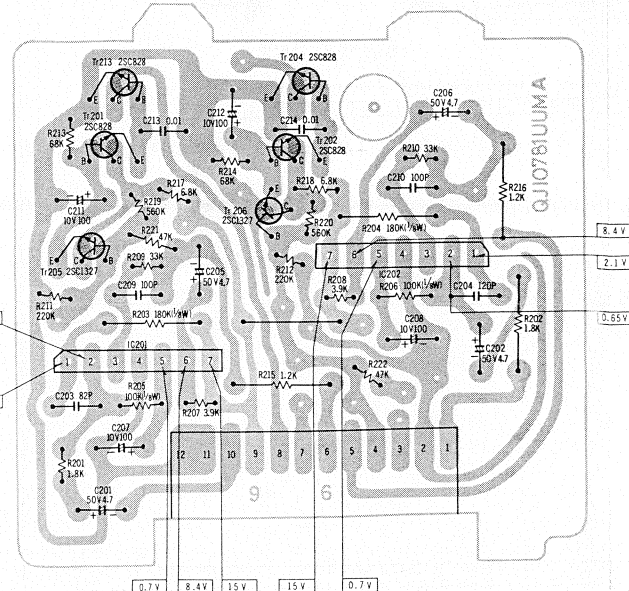
## MAIN CIRCUIT BOARD



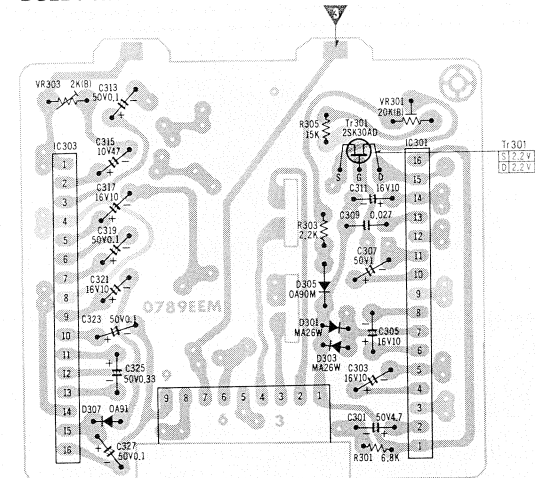
## PLAYBACK EQ & MIC AMP CIRCUIT BOARD



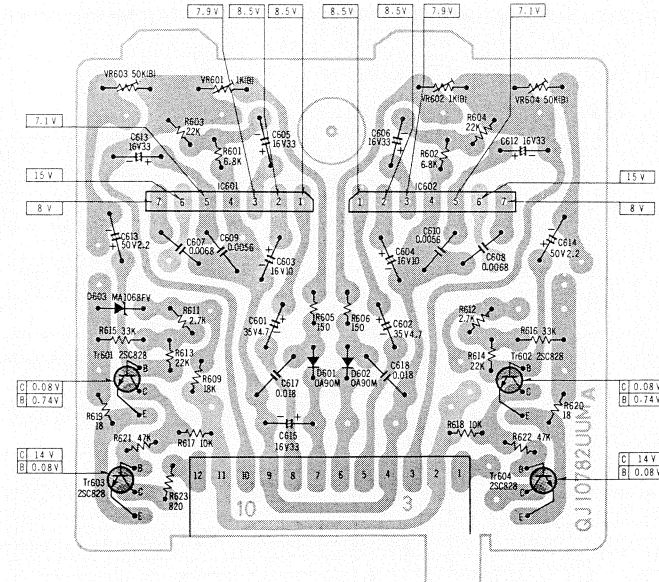
## LINE AMP CIRCUIT BOARD



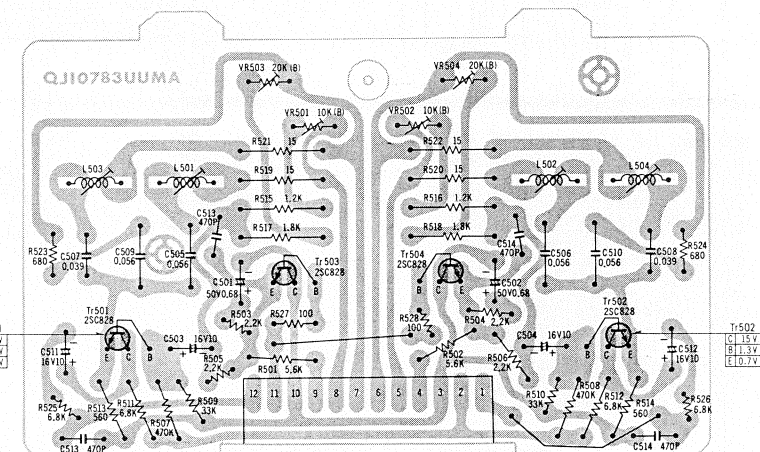
DOLBY NR CIRCUIT BOARD



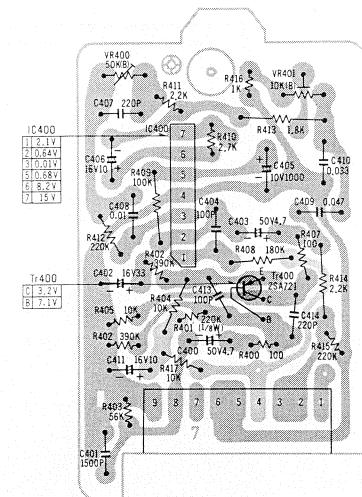
## MONITOR AMP CIRCUIT BOARD



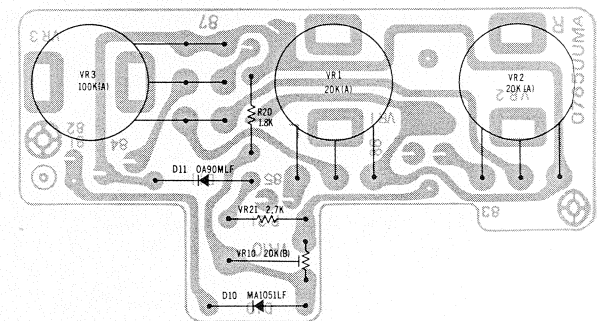
RECORD EQUALIZATION CIRCUIT BOARD



### METER AMP CIRCUIT BOARD



VOLUME CIRCUIT BOARD

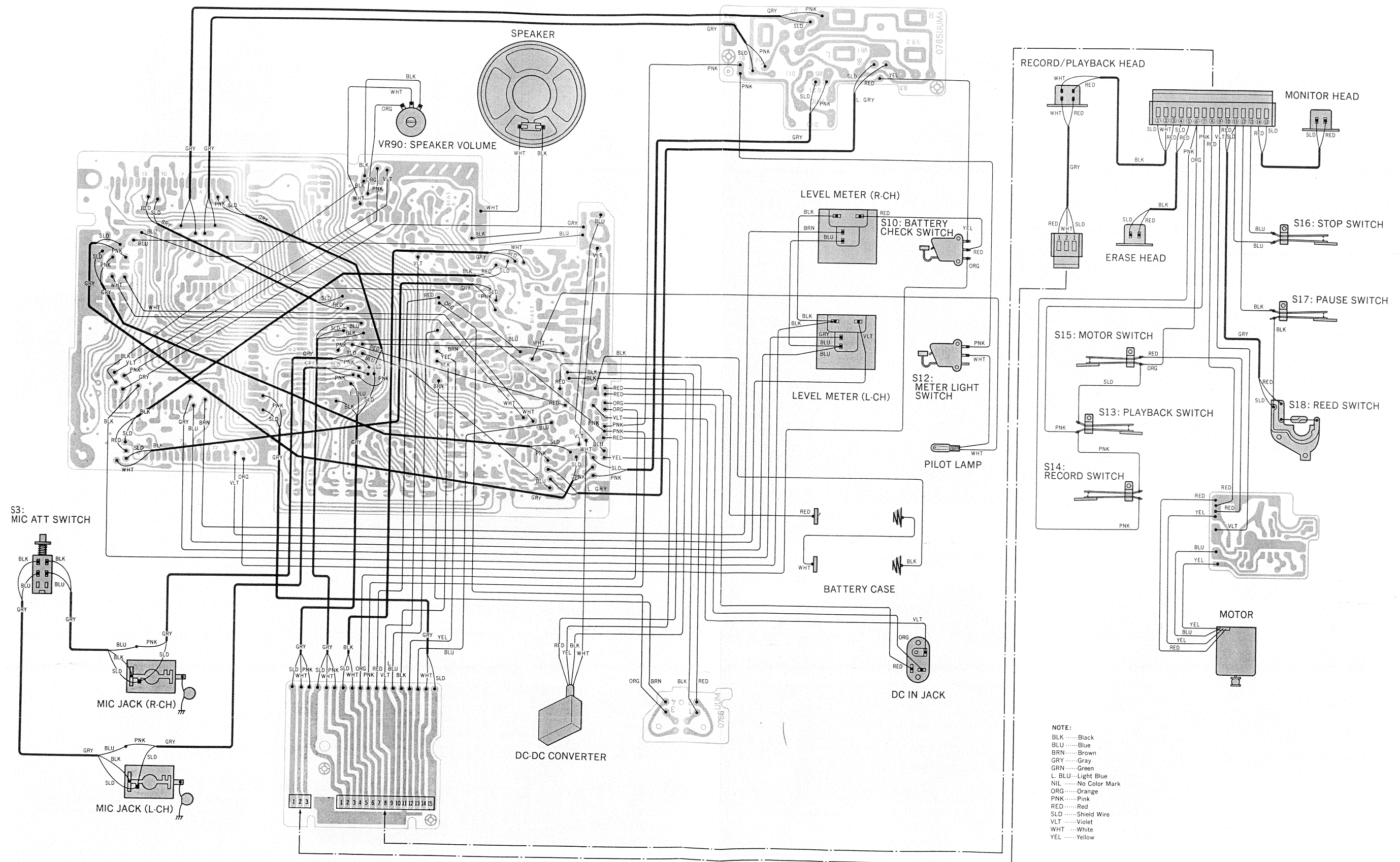


**NOTE:**

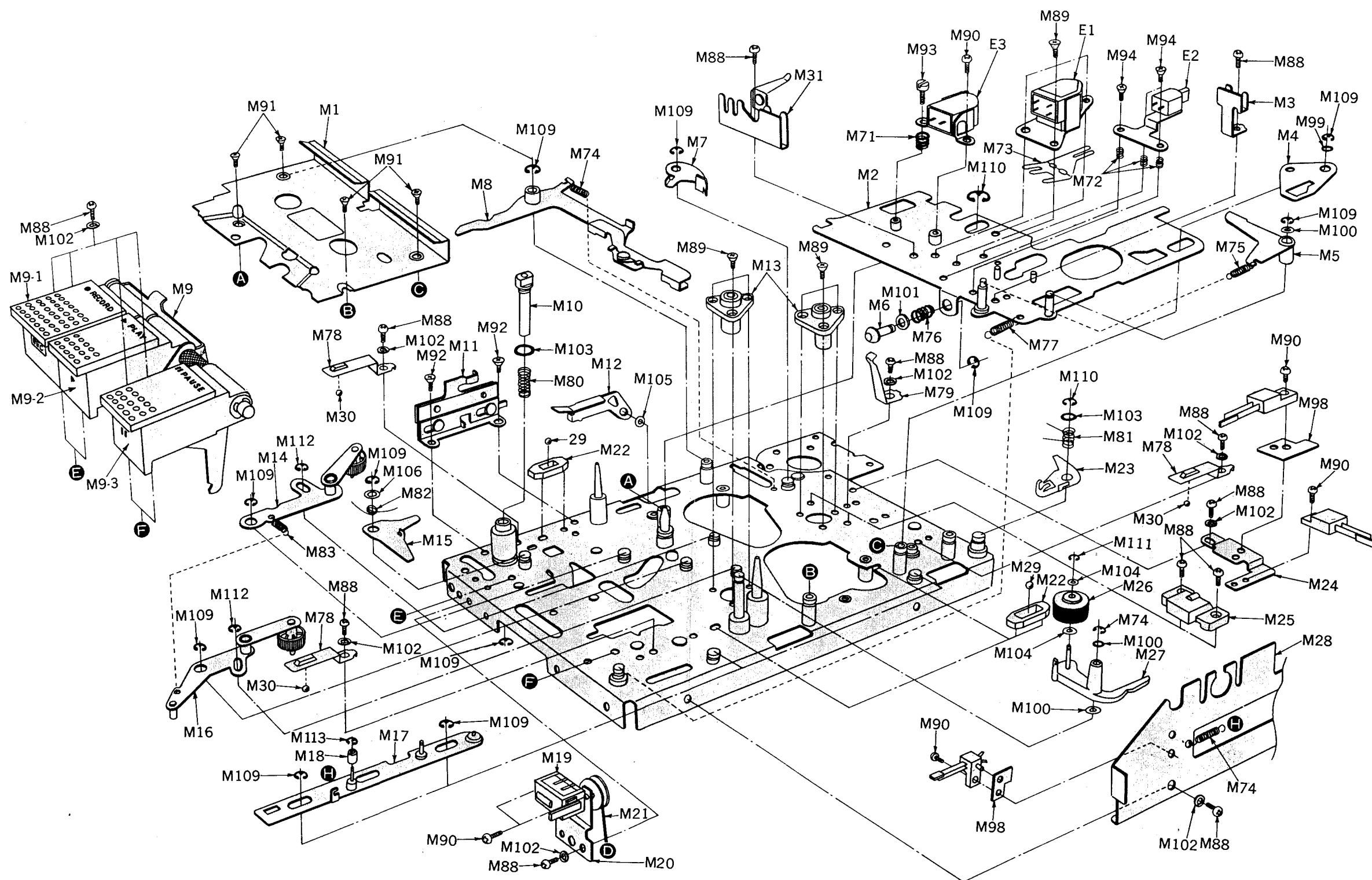
The circuit shown in red on the conductor is B circuit. Values indicated in    are DC voltages between the chassis and electrical parts.

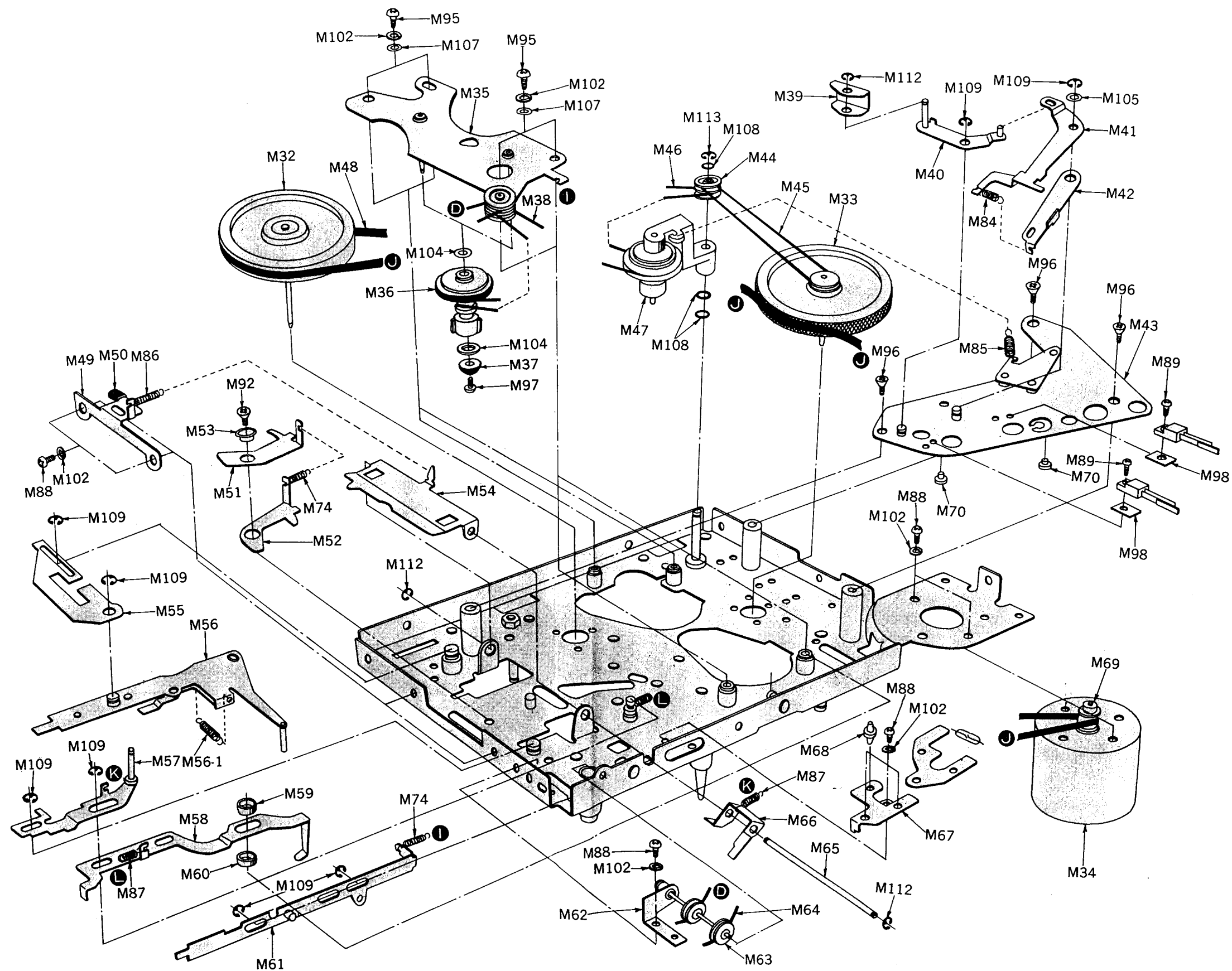


# WIRING CONNECTION DIAGRAM MODEL RS-686DS-D

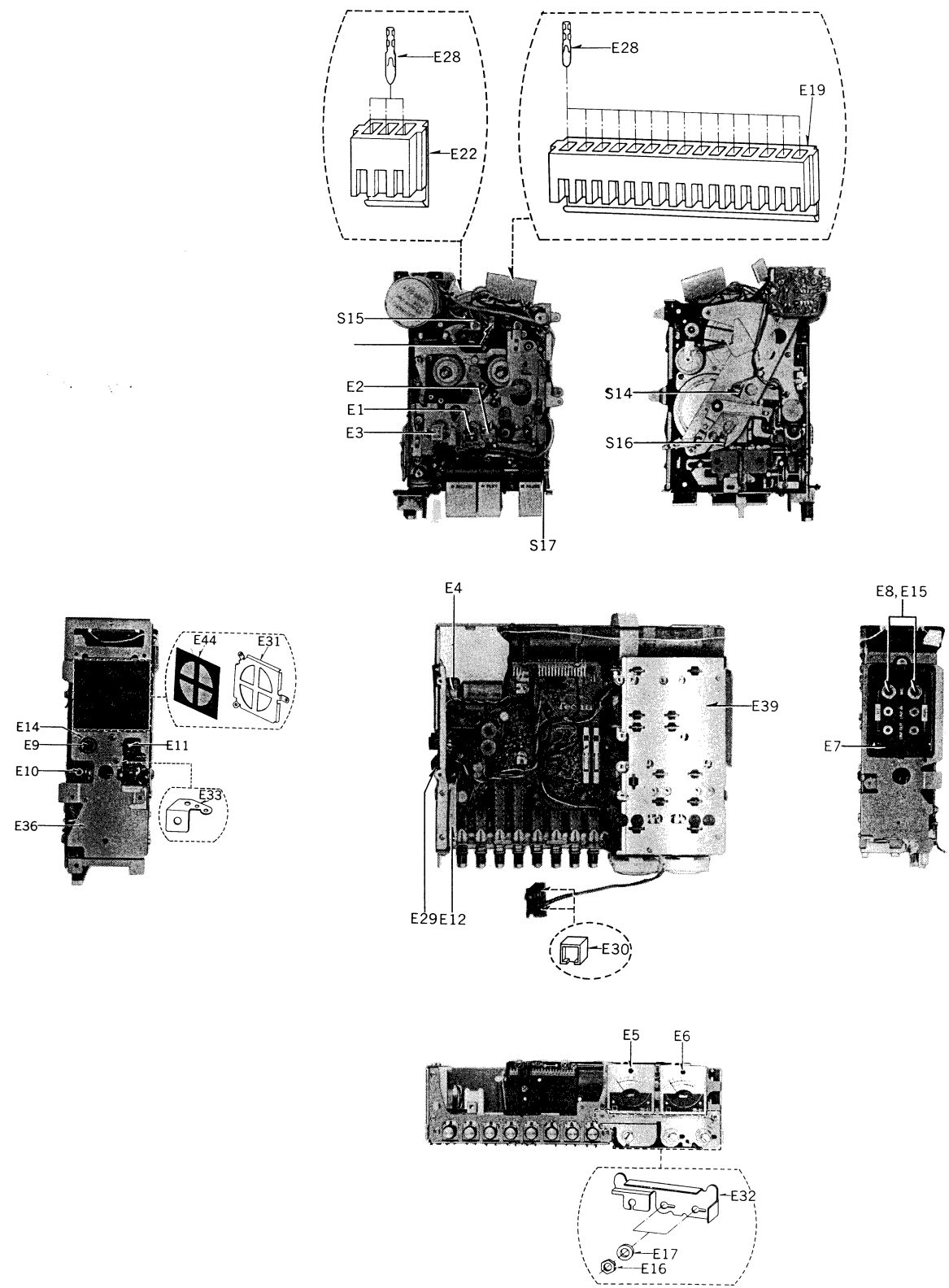
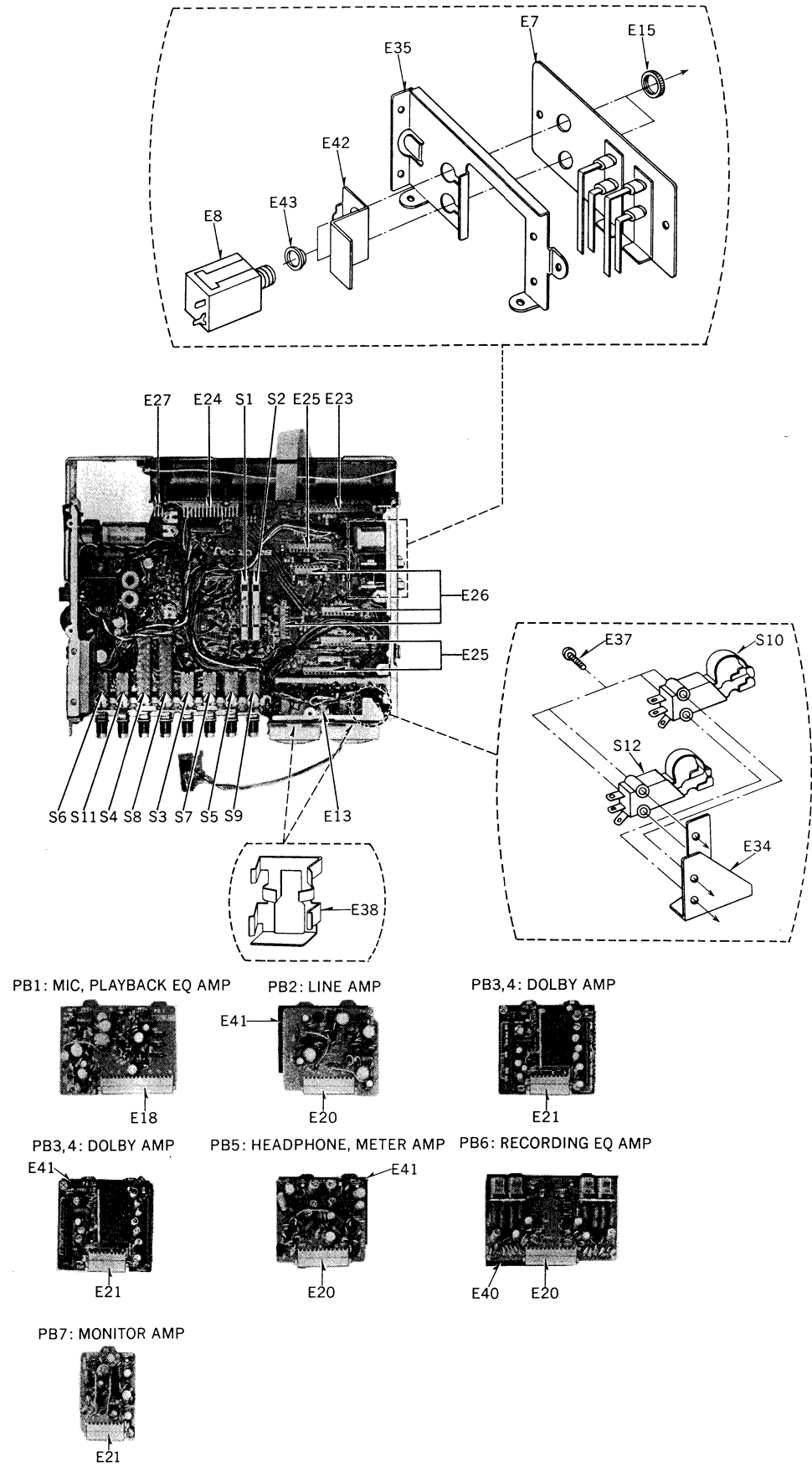


# EXPLODED VIEWS

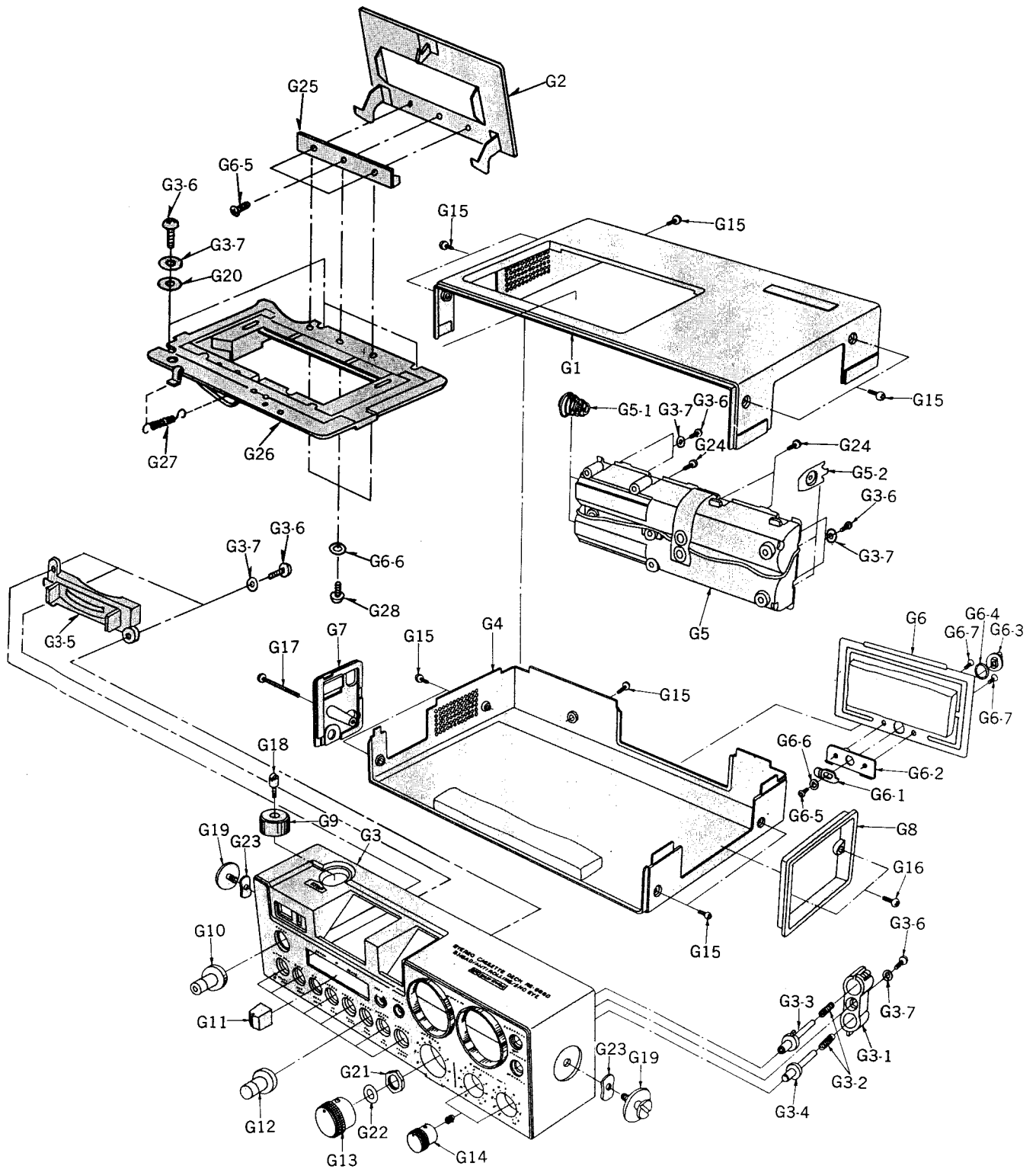




ELECTRICAL PARTS LOCATION



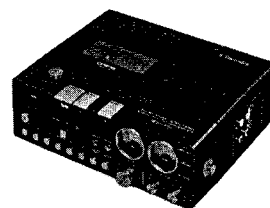
# CABINET PARTS



Printed in Japan

# REPLACEMENT PARTS LIST

Technics MODEL RS-686DS-D



RS-686DS-D

## NOTE:

1. Be sure to make your orders of replacement parts according to this list.
2. "N" in "Remarks" column indicates new parts.

## NOTA:

1. Habrá que asegurarse que los pedidos de piezas de repuesto se hagan según esta lista.
2. "N" marcado en la columna "Remarks", quiere decir que las piezas son nuevas.

## NOTE:

1. Bien s'assutet de se conformer à la liste suivante pour les commandes de pièces de rechange.
2. "N", dans la colonne "Remarks", indique les pièces nouvelles.

## HIEINWEIS:

1. Bestellen Sie Ihre Ersatzteile genau nach dieser Liste.
2. "N" in der "Remarks" Spalte bedeutet "neue Teile".

## 按:

1. 關於代用零件之訂購，務請依照此表而行之為荷。
2. 「備考」(Remarks)一欄中之 "N" 形符號標記表示該零件為新出品。

RS-686DS-D

| Ref. No.                | Part No. | Part Name & Description     | Pcs/<br>Set | Remarks     |
|-------------------------|----------|-----------------------------|-------------|-------------|
| <b>MECHANICAL PARTS</b> |          |                             |             |             |
| M1                      | QXH0253  | Mechanism Panel Ornament    | 1           | N           |
| M2                      | QXK1869  | Head Base Plate Assembly    | 1           | N           |
| M3                      | QMF1878  | Clamper                     | 1           | N           |
| M4                      | QML3096  | Pause Lever                 | 1           | N           |
| M5                      | QXL1084  | Pressure Lever              | 1           | N           |
| M6                      | QMN2189  | Guide Shaft                 | 1           | N           |
| M7                      | QML3095  | Switch Lever                | 1           | N           |
| M8                      | QXL1078  | Brake Lever Assembly        | 1           | N           |
| M9                      | QXB0468B | Push Button Assembly        | 1           | N           |
| M9-1                    | QXB0471  | Record Button Assembly      | 1           | N           |
| M9-2                    | QXB0472  | Playback Button Assembly    | 1           | N           |
| M9-3                    | QXB0473  | Pause Button Assembly       | 1           | N           |
| M10                     | QMN2179A | Stop Shaft                  | 1           | N           |
| M11                     | QXA0592  | Eject Angle Assembly        | 1           | N           |
| M12                     | QML3099  | Eject Lever                 | 1           | N           |
| M13                     | QXM0138B | Flywheel Metal Assembly     | 2           | N           |
| M14                     | QXL1079  | Rewind Lever Assembly       | 1           | N           |
| M15                     | QML3102  | Lever-A                     | 1           | N           |
| M16                     | QXL1081  | Fast Forward Lever Assembly | 1           | N           |
| M17                     | QXR0302  | Pause Rod Assembly          | 1           | N           |
| M18                     | QMP1330  | Roller                      | 1           | N           |
| M19                     | QDC0089  | Tape Counter                | 1           | N           |
| M20                     | QMA2995A | Counter Angle               | 1           | N           |
| M21                     | QDB0235  | Counter Belt-2              | 1           | N           |
| M22                     | QMH2009  | Ball Holder                 | 3           | N           |
| M23                     | QML2898A | Pause Lock Plate            | 1           | N RS-600USD |
| M24                     | QMA2990  | Switch Angle                | 1           | N           |
| M25                     | QMZ1188  | Cassette Table              | 1           | N           |
| M26                     | QXP0198  | Pressure Roller             | 1           | N           |
| M27                     | QXL1049  | Pressure Roller Lever       | 1           | N           |
| M28                     | QMA3029  | Mechanism Holding Angle     | 1           | N           |
| M29                     | QDK1006  | Steel Ball 3φ               | 3           | RQ-512SD    |
| M30                     | QDK1012  | Steel Ball 2.5φ             | 3           | RS-630USD   |



## RS-686DS-D

| Ref. No. | Part No.  | Part Name & Description     | Pcs/<br>Set | Remarks   |
|----------|-----------|-----------------------------|-------------|-----------|
| M31      | QXA0595A  | Angle-1 Assembly            | 1           | ②         |
| M32      | QXF0125   | Flywheel-1                  | 1           | ②         |
| M33      | QXF0126   | Flywheel-2                  | 1           | ②         |
| M34      | MHX8N9RSB | Motor                       | 1           | ②         |
| M35      | QXH0255   | Reel Suspension Assembly    | 1           | ②         |
| M36      | QXD0071   | Reel Table Assembly         | 2           | ②         |
| M37      | QGK9135   | Reel Table Cap              | 2           | ②         |
| M38      | QDB0234   | Counter Belt-1              | 1           | ②         |
| M39      | QML3094   | Record Lever-3              | 1           | ②         |
| M40      | QXL1088   | Record Lever-2 Assembly     | 1           | ②         |
| M41      | QML3157   | Record Lever-1              | 1           | ②         |
| M42      | QML3158   | Record Lever-2              | 1           | ②         |
| M43      | QXH0254   | Thrust Retainer Assembly    | 1           | ②         |
| M44      | QDP1716   | Connection Pulley           | 1           | ②         |
| M45      | QDB0232   | Takeup Belt-1               | 1           | ②         |
| M46      | QDB0233   | Takeup Belt-2               | 1           | ②         |
| M47      | QXL1082   | Idler Lever Assembly        | 1           | ②         |
| M48      | QDB0236   | Capstan Belt                | 1           | ②         |
| M49      | QMF1876   | Lever Guide                 | 1           | ②         |
| M50      | QBG1132   | Stopper Rubber              | 1           | RS-630USD |
| M51      | QML3083   | Lock Lever-2                | 1           | ②         |
| M52      | QML3082   | Lock Lever-1                | 1           | ②         |
| M53      | QMC0060   | Guide Collar                | 1           | ②         |
| M54      | QML3086   | Lock Plate                  | 1           | ②         |
| M55      | QMR1568   | Safety Rod                  | 1           | ②         |
| M56      | QXL1077   | Fast Forward Lever Assembly | 1           | ②         |
| M56-1    | QBT1769M  | Motor Operation Rod Spring  | 1           | ②         |
| M57      | QXR0293   | Record Rod Assembly         | 1           | ②         |
| M58      | QMR1569   | Erase Safety Rod            | 1           | ②         |
| M59      | QMZ1190   | Collar-2                    | 1           | ②         |
| M60      | QMZ1191   | Collar-3                    | 1           | ②         |
| M61      | QXR0292   | Eject Rod Assembly          | 1           | ②         |
| M62      | QXA0593   | Angle-2 Assembly            | 1           | ②         |
| M63      | QBJ2088   | Counter Pulley              | 2           | RS-630USD |
| M64      | QDB0235   | Counter Belt-2              | 1           | ②         |

## RS-686DS-D

| Ref. No. | Part No.  | Part Name & Description     | Pcs/<br>Set | Remarks    |
|----------|-----------|-----------------------------|-------------|------------|
| M65      | QMN2178   | Lock Plate Shaft            | 1           | ②          |
| M66      | QML3098   | Stop Lever                  | 1           | ②          |
| M67      | QMA2993   | P.C.B. Holding Angle        | 1           | ②          |
| M68      | QBG1570   | Cushion Rubber              | 3           | ②          |
| M69      | QXP0565   | Motor Pulley Assembly       | 1           | ②          |
| M69-1    | XXE26D4FZ | Set Screw                   | 1           | COMMON     |
| M70      | QMM1969   | Thrust Retainer             | 2           | ②          |
| M71      | QBC1235   | Head Spring-1               | 1           | RS-671USD  |
| M72      | QBCA0008  | Head Spring-2               | 1           | RQ-212DS-D |
| M73      | QBP1500   | Head Spring-3               | 1           | ②          |
| M74      | QBT1475DM | Fast Forward Spring         | 3           | RQ-432SD   |
| M75      | QBT1606   | Pressure Lever Spring       | 1           | ②          |
| M76      | QBC1294   | Playback Spring             | 1           | ②          |
| M77      | QBT1586M  | Spring                      | 1           | ②          |
| M78      | QBP1733   | Ball Holding Spring         | 3           | ②          |
| M79      | QBP1730   | Cassette Holding Spring     | 1           | ②          |
| M80      | QBC1190   | Cushion Spring              | 1           | ②          |
| M81      | QBN1527   | Pause Lock Spring           | 1           | ②          |
| M82      | QBN1529   | Record Spring               | 1           | ②          |
| M83      | QBT1828   | Return Spring               | 1           | ②          |
| M84      | QBT1531   | Dial Spring                 | 1           | RQ-432SD   |
| M85      | QBT1745M  | Record Rod Spring           | 1           | ②          |
| M86      | QBT1757M  | Brake Spring                | 1           | RS-671USD  |
| M87      | QBT1785M  | Idler Spring                | 1           | ②          |
| M88      | XSN26+4   | Screw $\oplus 2.6 \times 4$ | 18          | COMMON     |
| M89      | XSS2+4    | Screw $\oplus 2 \times 4$   | 6           | "          |
| M90      | XSN2+4    | Screw $\oplus 2 \times 4$   | 7           | "          |
| M91      | QH1185    | Screw                       | 4           | ②          |
| M92      | XSS26+6   | Screw $\oplus 2.6 \times 6$ | 3           | COMMON     |
| M93      | QH1211    | Screw                       | 1           | RS-671USD  |
| M94      | XQS2-6FZ  | Screw $\oplus 2 \times 6$   | 3           | COMMON     |
| M95      | XSN26+6   | Screw $\oplus 2.6 \times 6$ | 4           | "          |
| M96      | XSS3+6S   | Screw $\oplus 3 \times 6$   | 2           | "          |
| M97      | XQS14A4FN | Screw $\oplus 1.4 \times 4$ | 2           | "          |
| M98      | QBK1248   | Fiber Washer                | 4           | "          |

## RS-686DS-D

## RS-686DS-D

| Ref. No.         | Part No.   | Part Name & Description            | Pcs/<br>Set | Remarks |
|------------------|------------|------------------------------------|-------------|---------|
| M99              | QBW2019    | Poly Washer                        | 1           | COMMON  |
| M100             | QBW2016    | "                                  | 3           | "       |
| M101             | QBK7128    | Fiber Washer                       | 1           | "       |
| M102             | XWA26B     | Spring Washer 2.6 $\phi$           | 16          | "       |
| M103             | QBK7129    | Fiber Washer                       | 2           | "       |
| M104             | QBW2012    | Poly Washer                        | 2           | "       |
| M105             | QBK7007    | Fiber Washer                       | 1           | "       |
| M106             | QBK7075    | "                                  | 1           | "       |
| M107             | XWG26      | Flat Washer                        | 4           | "       |
| M108             | QBW2014    | Poly Washer                        | 4           | "       |
| M109             | XUC3FT     | Stop Ring 3 $\phi$                 | 15          | "       |
| M110             | XUC4FT     | Stop Ring 4 $\phi$                 | 2           | "       |
| M111             | XUC15FT    | Stop Ring 1.5 $\phi$               | 1           | "       |
| M112             | XUC25FT    | Stop Ring 2.5 $\phi$               | 6           | "       |
| M113             | XUC2FT     | Stop Ring 2 $\phi$                 | 1           | "       |
| <b>RESISTORS</b> |            |                                    |             |         |
| R1               | ERD25TJ562 | Carbon Resistor 5.6K $\Omega$ 1/4W | 1           |         |
| R2               | ERD10TJ562 | " 5.6K $\Omega$ 1/8W               | 1           |         |
| R3, 4            | ERD10TJ102 | " 1K $\Omega$ 1/8W                 | 2           |         |
| R5, 6            | ERD10EJ104 | " 100K $\Omega$ 1/8W               | 2           |         |
| R7, 8            | ERD25TJ562 | " 5.6K $\Omega$ 1/4W               | 2           |         |
| R9, 10           | ERD10EJ183 | " 18K $\Omega$ 1/4W                | 2           |         |
| R13, 14          | ERD10EJ100 | " 10 $\Omega$ 1/8W                 | 2           |         |
| R17, 18          | ERD10TJ222 | " 2.2K $\Omega$ 1/8W               | 2           |         |
| R20              | ERD25TJ182 | " 1.8K $\Omega$ 1/4W               | 1           |         |
| R21              | ERD25TJ272 | " 2.7K $\Omega$ 1/4W               | 1           |         |
| R25, 26          | ERD25TJ102 | " 1K $\Omega$ 1/4W                 | 2           |         |
| R27, 28          | ERD10TJ561 | " 560 $\Omega$ 1/8W                | 2           |         |
| R30              | ERD10EJ123 | " 12K $\Omega$ 1/8W                | 1           |         |
| R31, 32          | ERD10EJ102 | " 1K $\Omega$ 1/8W                 | 2           |         |
| R34              | ERD10EJ124 | " 120K $\Omega$ 1/8W               | 1           |         |
| R35, 36          | ERD10EJ101 | " 100 $\Omega$ 1/8W                | 2           |         |
| R37              | ERD10EJ222 | " 2.2K $\Omega$ 1/8W               | 1           |         |
| R38              | ERD10EJ123 | " 12K $\Omega$ 1/8W                | 1           |         |

| Ref. No. | Part No.   | Part Name & Description           | Pcs/<br>Set | Remarks |
|----------|------------|-----------------------------------|-------------|---------|
| R39      | ERD10TJ183 | Carbon Resistor 18K $\Omega$ 1/8W | 1           |         |
| R40      | ERD10EJ123 | " 12K $\Omega$ 1/8W               | 1           |         |
| R41      | ERD10EJ560 | " 56 $\Omega$ 1/8W                | 1           |         |
| R42      | ERD10EJ121 | " 120 $\Omega$ 1/8W               | 1           |         |
| R43      | ERD10TJ390 | " 39 $\Omega$ 1/8W                | 1           |         |
| R45      | ERD25TJ272 | " 2.7K $\Omega$ 1/4W              | 1           |         |
| R46      | ERD10TJ822 | " 8.2K $\Omega$ 1/8W              | 1           |         |
| R47, 48  | ERD10TJ104 | " 100K $\Omega$ 1/8W              | 2           |         |
| R50, 51  | ERD25TJ100 | " 10 $\Omega$ 1/4W                | 2           |         |
| R52, 53  | ERD25TJ823 | " 82K $\Omega$ 1/4W               | 2           |         |
| R60, 61  | ERD10TJ473 | " 47K $\Omega$ 1/8W               | 2           |         |
| R63      | ERD10TJ392 | " 8.9K $\Omega$ 1/8W              | 1           |         |
| R64      | ERD10EJ563 | " 56K $\Omega$ 1/8W               | 1           |         |
| R65      | ERD10EJ561 | " 560 $\Omega$ 1/8W               | 1           |         |
| R66      | ERD10EJ473 | " 47K $\Omega$ 1/8W               | 1           |         |
| R70      | ERD10TJ103 | " 10K $\Omega$ 1/8W               | 1           |         |
| R71      | ERD10EJ561 | " 560 $\Omega$ 1/8W               | 1           |         |
| R72      | ERD10EJ474 | " 470K $\Omega$ 1/8W              | 1           |         |
| R73      | ERD10TJ223 | " 22K $\Omega$ 1/8W               | 1           |         |
| R74      | ERD10EJ393 | " 39K $\Omega$ 1/8W               | 1           |         |
| R75      | ERD10TJ224 | " 220K $\Omega$ 1/8W              | 1           |         |
| R76      | ERD10TJ222 | " 2.2K $\Omega$ 1/8W              | 1           |         |
| R77      | ERD10EJ222 | " 2.2K $\Omega$ 1/8W              | 1           |         |
| R78      | ERD10EJ472 | " 4.7K $\Omega$ 1/8W              | 1           |         |
| R79      | ERD10EJ473 | " 47K $\Omega$ 1/8W               | 1           |         |
| R80      | ERD10EJ681 | " 680 $\Omega$ 1/8W               | 1           |         |
| R81      | ERD10TJ223 | " 22K $\Omega$ 1/8W               | 1           |         |
| R82      | ERD10TJ392 | " 3.9K $\Omega$ 1/8W              | 1           |         |
| R83, 84  | ERD10EJ101 | " 100 $\Omega$ 1/8W               | 2           |         |
| R85      | ERD10EJ822 | " 8.2K $\Omega$ 1/8W              | 1           |         |
| R90      | ERD10EJ272 | " 2.7K $\Omega$ 1/8W              | 1           |         |
| R91      | ERD10EJ563 | " 56K $\Omega$ 1/8W               | 1           |         |
| R92      | ERD25TJ470 | " 47 $\Omega$ 1/4W                | 1           |         |
| R93      | ERD10EJ180 | " 18 $\Omega$ 1/8W                | 1           |         |
| R94      | ERD10EJ4R7 | " 4.7 $\Omega$ 1/8W               | 1           |         |



## RS-686DS-D

## RS-686DS-D

| Ref. No.            | Part No.    | Part Name & Description   | Pcs/<br>Set | Remarks |
|---------------------|-------------|---------------------------|-------------|---------|
| R95, 96             | ERD10EJ823  | Carbon Resistor 82KΩ 1/8W | 2           |         |
| R97, 98             | ERD10EJ101  | " 100Ω 1/8W               | 2           |         |
| R99, 100            | ERD10TJ103  | " 10KΩ 1/8W               | 2           |         |
| R101,<br>102        | ERD25TJ101  | " 100Ω 1/4W               | 2           |         |
| R103,<br>104        | ERD18VSJ224 | " 220KΩ 1/8W              | 2           |         |
| R105, 106, 107, 108 |             |                           |             |         |
|                     | ERD18VSJ124 | " 120KΩ 1/8W              | 4           |         |
| R109,<br>110        | ERD25TJ563  | " 56KΩ 1/4W               | 2           |         |
| R111,<br>112        | ERD25TJ273  | " 27KΩ 1/4W               | 2           |         |
| R113,<br>114        | ERD25TJ101  | " 100Ω 1/4W               | 2           |         |
| R115,<br>116        | ERD18VSJ224 | " 220KΩ 1/8W              | 2           |         |
| R117,<br>118        | ERD25TJ104  | " 100KΩ 1/4W              | 2           |         |
| R119,<br>120        | ERD25TJ683  | " 68KΩ 1/4W               | 2           |         |
| R121,<br>122        | ERD25TJ472  | " 4.7KΩ 1/4W              | 2           |         |
| R123,<br>124        | ERD25TJ102  | " 1KΩ 1/4W                | 2           |         |
| R125,<br>126        | ERD25TJ682  | " 6.8KΩ 1/4W              | 2           |         |
| R127,<br>128        | ERD25TJ183  | " 18KΩ 1/4W               | 2           |         |
| R129,<br>130        | ERD25TJ683  | " 68KΩ 1/4W               | 2           |         |
| R131,<br>132        | ERD25TJ102  | " 1KΩ 1/4W                | 2           |         |
| R133,<br>134        | ERD25TJ121  | " 120Ω 1/4W               | 2           |         |
| R135,<br>136        | ERD25TJ472  | " 4.7KΩ 1/4W              | 2           |         |
| R137,<br>138        | ERD25TJ102  | " 1KΩ 1/4W                | 2           |         |
| R139,<br>140        | ERD25TJ224  | " 220KΩ 1/4W              | 2           |         |
| R201,<br>202        | ERD25TJ182  | " 1.8KΩ 1/4W              | 2           |         |
| R203,<br>204        | ERD18TSJ184 | " 180KΩ 1/8W              | 2           |         |
| R205,<br>206        | ERD18TSJ104 | " 100KΩ 1/8W              | 2           |         |
| R207,<br>208        | ERD25TJ392  | " 3.9KΩ 1/4W              | 2           |         |
| R209,<br>210        | ERD25TJ333  | " 33KΩ 1/4W               | 2           |         |
| R211,<br>212        | ERD25TJ224  | " 220KΩ 1/4W              | 2           |         |
| R213,<br>214        | ERD25TJ683  | " 68KΩ 1/4W               | 2           |         |
| R215,<br>216        | ERD25TJ122  | " 1.2KΩ 1/4W              | 2           |         |
| R217,<br>218        | ERD25TJ682  | " 6.8KΩ 1/4W              | 2           |         |
| R219,<br>220        | ERD25TJ564  | " 560KΩ 1/4W              | 2           |         |
| R221,<br>222        | ERD25TJ473  | " 47KΩ 1/4W               | 2           |         |
| R301                | ERD25TJ682  | " 6.8KΩ 1/4W              | 1           |         |

| Ref. No.            | Part No.    | Part Name & Description    | Pcs/<br>Set | Remarks |
|---------------------|-------------|----------------------------|-------------|---------|
| R303                | ERD25TJ222  | Carbon Resistor 2.2KΩ 1/4W | 1           |         |
| R305                | ERD25TJ153  | " 15KΩ 1/4W                | 1           |         |
| R400                | ERD25TJ101  | " 100Ω 1/4W                | 1           |         |
| R401                | ERD18VSJ224 | " 220KΩ 1/8W               | 1           |         |
| R402                | ERD18VSJ394 | " 390KΩ 1/8W               | 1           |         |
| R403                | ERD25TJ563  | " 56KΩ 1/4W                | 1           |         |
| R404,<br>405        | ERD25TJ103  | " 10KΩ 1/4W                | 2           |         |
| R406                | ERD25TJ271  | " 270Ω 1/4W                | 1           |         |
| R407                | ERD25TJ101  | " 100Ω 1/4W                | 1           |         |
| R408                | ERD25TJ184  | " 180KΩ 1/4W               | 1           |         |
| R409                | ERD25TJ104  | " 100KΩ 1/4W               | 1           |         |
| R410                | ERD25TJ272  | " 2.7KΩ 1/4W               | 1           |         |
| R411                | ERD25TJ222  | " 2.2KΩ 1/4W               | 1           |         |
| R412                | ERD25TJ224  | " 220KΩ 1/4W               | 1           |         |
| R413                | ERD25TJ182  | " 1.8KΩ 1/4W               | 1           |         |
| R414                | ERD25TJ222  | " 2.2KΩ 1/4W               | 1           |         |
| R415                | ERD25TJ224  | " 220KΩ 1/4W               | 1           |         |
| R416                | ERD25TJ102  | " 1KΩ 1/4W                 | 1           |         |
| R417                | ERD25TJ103  | " 10KΩ 1/4W                | 1           |         |
| R501,<br>502        | ERD25TJ562  | " 5.6KΩ 1/4W               | 2           |         |
| R503, 504, 505, 506 |             |                            |             |         |
|                     | ERD25TJ222  | " 2.2KΩ 1/4W               | 4           |         |
| R507,<br>508        | ERD25TJ474  | " 470KΩ 1/4W               | 2           |         |
| R509,<br>510        | ERD25TJ333  | " 33KΩ 1/4W                | 2           |         |
| R511,<br>512        | ERD25TJ682  | " 6.8KΩ 1/4W               | 2           |         |
| R513,<br>514        | ERD25TJ561  | " 560Ω 1/4W                | 2           |         |
| R515,<br>516        | ERD25TJ122  | " 1.2KΩ 1/4W               | 2           |         |
| R517,<br>518        | ERD25TJ182  | " 1.8KΩ 1/4W               | 2           |         |
| R519, 520, 521, 522 |             |                            |             |         |
|                     | ERD25TJ150  | " 15Ω 1/4W                 | 4           |         |
| R523,<br>524        | ERD25TJ681  | " 680Ω 1/4W                | 2           |         |
| R525,<br>526        | ERD25TJ682  | " 6.8KΩ 1/4W               | 2           |         |
| R527,<br>528        | ERD25TJ101  | " 100Ω 1/4W                | 2           |         |
| R601,<br>602        | ERD25TJ682  | " 6.8KΩ 1/4W               | 2           |         |
| R603,<br>604        | ERD25TJ223  | " 22KΩ 1/4W                | 2           |         |

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| Ref. No.                         | Part No.     | Part Name & Description               | Pcs/<br>Set | Remarks |
|----------------------------------|--------------|---------------------------------------|-------------|---------|
| R605,<br>606                     | ERD25TJ151   | Carbon Resistor 150Ω 1/4W             | 2           |         |
| R609                             | ERD25TJ183   | " 18KΩ 1/4W                           | 1           |         |
| R611,<br>612                     | ERD25TJ272   | " 2.7KΩ 1/4W                          | 2           |         |
| R613,<br>614                     | ERD25TJ223   | " 22KΩ 1/4W                           | 2           |         |
| R615,<br>616                     | ERD25TJ333   | " 33KΩ 1/4W                           | 2           |         |
| R617,<br>618                     | ERD25TJ103   | " 10KΩ 1/4W                           | 2           |         |
| R619,<br>620                     | ERD25TJ180   | " 18Ω 1/4W                            | 2           |         |
| R621,<br>622                     | ERD25TJ473   | " 47KΩ 1/4W                           | 2           |         |
| R623,<br>624                     | ERD25TJ821   | " 820Ω 1/4W                           | 2           |         |
| R700                             | ERG12ANJ560  | Metal-oxide Resistor 56Ω 1/2W         | 1           |         |
| R701                             | ERD10EJ681   | Carbon Resistor 680Ω 1/8W             | 1           |         |
| R900                             | ERD25TJ8R2   | " 8.2Ω 1/4W                           | 1           |         |
| R1001                            | ERD10EJ102   | " 1KΩ 1/8W                            | 1           |         |
| R1002,<br>1003                   | ERD10TJ6R8   | " 6.8Ω 1/8W                           | 1           |         |
| <b><u>VARIABLE RESISTORS</u></b> |              |                                       |             |         |
| VR1, 2                           | EVH9WA084A24 | Variable Resistor 20KΩ (A)            | 2           | ②       |
| VR3                              | EWK78A079A15 | " 100KΩ (A)                           | 1           | ②       |
| VR10                             | EVNK4AA00B24 | Semi-fixed Variable Resistor 20KΩ (B) | 1           | ②       |
| VR51, 52                         | EVNK4AA00B15 | " 100KΩ (B)                           | 1           | ②       |
| VR70                             | EVNK4AA00B54 | " 50KΩ (B)                            | 1           | ②       |
| VR90                             | EVJA2AT12A14 | Variable Resistor 10KΩ (A)            | 1           | ②       |
| VR101,<br>102                    | EVNJ0AA00B14 | Semi-fixed Variable Resistor 10KΩ (B) | 2           | ②       |
| VR103,<br>104                    | EVNK0AA00B24 | " 20KΩ (B)                            | 2           | ②       |
| VR301                            | EVNK0AA00B24 | " 20KΩ (B)                            | 2           | ②       |
| VR303                            | EVNJ0AA00B23 | " 2KΩ (B)                             | 1           | ②       |
| VR400                            | EVNJ0AA00B54 | " 50KΩ (B)                            | 1           | ②       |
| VR401                            | EVNK0AA00B14 | " 10KΩ (B)                            | 1           | ②       |
| VR501,<br>502                    | EVNJ0AA00B14 | " 10KΩ (B)                            | 2           | ②       |
| VR503,<br>504                    | EVNJ0AA00B24 | " 20KΩ (B)                            | 2           | ②       |
| VR601,<br>602                    | EVNK0AA00B13 | " 1KΩ (B)                             | 2           | ②       |
| VR603,<br>604                    | EVNK0AA00B54 | " 50KΩ (B)                            | 2           | ②       |
| <b><u>CAPACITORS</u></b>         |              |                                       |             |         |
| C1, 2                            | ECKD1H821KB  | Ceramic Capacitor 820pF               | 2           |         |

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| Ref. No.     | Part No.     | Part Name & Description      | Pcs/<br>Set | Remarks |
|--------------|--------------|------------------------------|-------------|---------|
| C3, 4        | ECKD1H221KB  | Ceramic Capacitor 220pF      | 2           |         |
| C7, 8        | ECQM05683MZ  | Mylar Capacitor 0.068μF      | 2           |         |
| C9, 10       | ECQS1821JZ   | Styrol Capacitor 820pF       | 2           |         |
| C30          | ECEA6Z220    | Electrolytic Capacitor 220μF | 1           |         |
| C40          | ECEB16V1000  | " 1000μF                     | 1           |         |
| C41          | ECEA35V10    | " 10μF                       | 1           |         |
| C42          | ECEA16V10    | " 10μF                       | 1           |         |
| C44          | ECSZ10EF100Q | Tantalum Capacitor 100μF     | 1           |         |
| C45          | ECEB25V33    | Electrolytic Capacitor 33μF  | 1           |         |
| C47, 48      | ECSZ25EF1Q   | Tantalum Capacitor 1μF       | 2           |         |
| C50          | ECQM05333MZ  | Mylar Capacitor 0.033μF      | 1           |         |
| C51, 52      | ECQS1472KZ   | Styrol Capacitor 4700pF      | 2           |         |
| C53          | ECQM05104MZ  | Mylar Capacitor 0.1μF        | 1           |         |
| C54          | ECQF4273JZH  | Film Capacitor 0.027μF       | 1           |         |
| C55, 56      | ECKD1H471KB  | Ceramic Capacitor 470pF      | 2           |         |
| C60          | ECSZ10EF10Q  | Tantalum Capacitor 10μF      | 1           |         |
| C61          | ECSZ16EFR47Q | " 0.47μF                     | 1           |         |
| C62          | ECEA10Z100   | Electrolytic Capacitor 100μF | 1           |         |
| C70, 71      | ECSZ10EF10Q  | Tantalum Capacitor 10μF      | 2           |         |
| C72          | ECEA10V100   | Electrolytic Capacitor 100μF | 1           |         |
| C73          | ECEA16V10    | " 10μF                       | 1           |         |
| C91          | ECSZ10EF47Q  | Tantalum Capacitor 47μF      | 1           |         |
| C92          | ECQM05223MZ  | Mylar Capacitor 0.022μF      | 1           |         |
| C93          | QCSZ3EF47    | Tantalum Capacitor 47μF      | 1           |         |
| C94          | ECCD1H470KC  | Ceramic Capacitor 47pF       | 1           |         |
| C95          | ECSZ25EF2R2  | Tantalum Capacitor 2.2μF     | 1           |         |
| C96          | ECSZ6EF150Q  | " 150μF                      | 1           |         |
| C97          | ECQM05223MZ  | Mylar Capacitor 0.022μF      | 1           |         |
| C101,<br>102 | ECSZ25AF1E   | Tantalum Capacitor 1μF       | 2           |         |
| C103,<br>104 | ECKD1H181KB  | Ceramic Capacitor 180pF      | 2           |         |
| C105,<br>106 | ECCD1H470KC  | " 47pF                       | 2           |         |
| C107,<br>108 | ECEA25Z10    | Electrolytic Capacitor 10μF  | 2           |         |
| C109,<br>110 | ECCD1H470KC  | Ceramic Capacitor 47pF       | 2           |         |
| C111,<br>112 | ECEA50M1     | Electrolytic Capacitor 1μF   | 1           |         |
| C113,<br>114 | ECEA25V33    | " 33μF                       | 2           |         |

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| Ref. No.     | Part No.    | Part Name & Description | Pcs/<br>Set   | Remarks |
|--------------|-------------|-------------------------|---------------|---------|
| C115,<br>116 | ECSZ25AF1E  | Tantalum Capacitor      | 1 $\mu$ F     | 2       |
| C117,<br>118 | ECQM05333MZ | Mylar Capacitor         | 0.033 $\mu$ F | 2       |
| C121,<br>122 | ECQM05123KZ | "                       | 0.012 $\mu$ F | 2       |
| C123,<br>124 | ECEA35V10   | Electrolytic Capacitor  | 10 $\mu$ F    | 2       |
| C126         | ECEA35V33   | "                       | 33 $\mu$ F    | 1       |
| C201,<br>202 | ECEA50M4R7  | "                       | 4.7 $\mu$ F   | 2       |
| C203         | ECCD1H820KC | Ceramic Capacitor       | 82 pF         | 1       |
| C204         | ECCD1H121K  | "                       | 120 pF        | 1       |
| C205,<br>206 | ECEA50M4R7  | Electrolytic Capacitor  | 4.7 $\mu$ F   | 2       |
| C207,<br>208 | ECEA10V100  | "                       | 100 $\mu$ F   | 2       |
| C209,<br>210 | ECCD1H101K  | Ceramic Capacitor       | 100 pF        | 2       |
| C211,<br>212 | ECEA10V100  | Electrolytic Capacitor  | 100 $\mu$ F   | 2       |
| C213,<br>214 | ECQM05103MZ | Mylar Capacitor         | 0.01 $\mu$ F  | 2       |
| C301         | ECEA50M4R7  | Electrolytic Capacitor  | 4.7 $\mu$ F   | 1       |
| C303,<br>305 | ECEA16V10   | "                       | 10 $\mu$ F    | 2       |
| C307         | ECEA50M1    | "                       | 1 $\mu$ F     | 1       |
| C309         | ECQM05273KZ | Mylar Capacitor         | 0.027 $\mu$ F | 1       |
| C311         | ECEA16V10   | Electrolytic Capacitor  | 10 $\mu$ F    | 1       |
| C313         | ECEA50MR1   | "                       | 0.1 $\mu$ F   | 1       |
| C315         | ECEA16V47   | "                       | 47 $\mu$ F    | 1       |
| C317         | ECEA16V10   | "                       | 10 $\mu$ F    | 1       |
| C319         | ECEA50ZR1   | "                       | 0.1 $\mu$ F   | 1       |
| C321         | ECEA16V10   | "                       | 10 $\mu$ F    | 1       |
| C323         | ECEA50ZR1   | "                       | 0.1 $\mu$ F   | 1       |
| C325         | ECEA50ZR33  | "                       | 0.33 $\mu$ F  | 1       |
| C327         | ECEA50ZR1   | "                       | 0.1 $\mu$ F   | 1       |
| C329         | ECCD1H220K  | Ceramic Capacitor       | 22 pF         | 1       |
| C400         | ECEA50M4R7  | Electrolytic Capacitor  | 4.7 $\mu$ F   | 1       |
| C401         | ECKD1H152MD | Ceramic Capacitor       | 1500 pF       | 1       |
| C402         | ECEA16V33   | Electrolytic Capacitor  | 33 $\mu$ F    | 1       |
| C403         | ECEA50M4R7  | "                       | 4.7 $\mu$ F   | 1       |
| C404         | ECCD1H101K  | Ceramic Capacitor       | 100 pF        | 1       |
| C405         | ECEA10V100  | Electrolytic Capacitor  | 100 $\mu$ F   | 1       |
| C406         | ECEA16V10   | "                       | 10 $\mu$ F    | 1       |
| C407         | ECKD1H221KB | Ceramic Capacitor       | 220 pF        | 1       |

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| Ref. No.           | Part No.    | Part Name & Description | Pcs/<br>Set    | Remarks |
|--------------------|-------------|-------------------------|----------------|---------|
| C408               | ECQM05103KZ | Mylar Capacitor         | 0.01 $\mu$ F   | 1       |
| C409               | ECQM05473MZ | "                       | 0.047 $\mu$ F  | 1       |
| C410               | ECQM05332KZ | "                       | 0.033 $\mu$ F  | 1       |
| C411               | ECEA16V10   | Electrolytic Capacitor  | 10 $\mu$ F     | 1       |
| C413               | ECCD1H101K  | Ceramic Capacitor       | 100 pF         | 1       |
| C414               | ECKD1H221KB | "                       | 220 pF         | 1       |
| C501,<br>502       | ECEA50ZR68  | Electrolytic Capacitor  | 0.68 $\mu$ F   | 2       |
| C503,<br>504       | ECEA16V10   | "                       | 10 $\mu$ F     | 2       |
| C505,<br>506       | ECQM05563KZ | Mylar Capacitor         | 0.056 $\mu$ F  | 2       |
| C507,<br>508       | ECQM05393KZ | "                       | 0.039 $\mu$ F  | 2       |
| C509,<br>510       | ECQM05563KZ | "                       | 0.056 $\mu$ F  | 2       |
| C511,<br>512       | ECEA16V10   | Electrolytic Capacitor  | 10 $\mu$ F     | 2       |
| C513,<br>514       | ECKD1H471KB | Ceramic Capacitor       | 470 pF         | 2       |
| C515,<br>516       | ECQM05153KZ | Mylar Capacitor         | 0.015 $\mu$ F  | 2       |
| C601,<br>602       | ECEA35V4R7  | Electrolytic Capacitor  | 4.7 $\mu$ F    | 2       |
| C603,<br>604       | ECEA16V10   | "                       | 10 $\mu$ F     | 2       |
| C605,<br>606       | ECEA16V33   | "                       | 33 $\mu$ F     | 2       |
| C607,<br>608       | ECQM05682KZ | Mylar Capacitor         | 0.0068 $\mu$ F | 2       |
| C609,<br>610       | ECQM05562KZ | "                       | 0.0056 $\mu$ F | 2       |
| C611,<br>612       | ECEA16V33   | Electrolytic Capacitor  | 33 $\mu$ F     | 2       |
| C613,<br>614       | ECEA50Z2R2  | "                       | 2.2 $\mu$ F    | 2       |
| C615               | ECEA16V33   | "                       | 33 $\mu$ F     | 1       |
| C617,<br>618       | ECQM05183KZ | Mylar Capacitor         | 0.018 $\mu$ F  | 2       |
| C1001,<br>1002     | ECCD1H101K  | Ceramic Capacitor       | 100 pF         | 2       |
| C1003,<br>1004     | ECKD1H223ZF | "                       | 0.022 $\mu$ F  | 2       |
| C1005              | ECSZ10EF47Q | Tantalum Capacitor      | 47 $\mu$ F     | 1       |
| <b>TRANSISTORS</b> |             |                         |                |         |
| Tr30, 31           | 2SA564      | Transistor              | 2              | COMMON  |
| Tr32, 33           | 2SC1384     | "                       | 2              | "       |
| Tr40               | 2SC1318     | "                       | 1              | "       |
| Tr51, 52           | 2SC1384     | "                       | 2              | "       |
| Tr60, 61           | 2SC828      | "                       | 2              | "       |
| Tr62               | 2SC1383     | "                       | 1              | "       |
| Tr70               | 2SC828      | "                       | 1              | "       |

| Ref. No.                                 | Part No.    | Part Name & Description | Pcs/<br>Set | Remarks   |
|------------------------------------------|-------------|-------------------------|-------------|-----------|
| Tr71                                     | 2SA564      | Transistor              | 1           | COMMON    |
| Tr72                                     | 2SC1684     | "                       | 1           | "         |
| Tr73, 74,<br>75                          | 2SC828      | "                       | 3           | "         |
| Tr80, 81                                 | 2SC828      | "                       | 2           | "         |
| Tr101,<br>102                            | 2SA721      | "                       | 2           | "         |
| Tr103, 104, 105, 106                     |             |                         |             |           |
|                                          | 2SC1327     | "                       | 4           | "         |
| Tr201, 202, 203, 204                     |             |                         |             |           |
|                                          | 2SC828      | "                       | 4           | "         |
| Tr205,<br>206                            | 2SC1327     | "                       | 2           | "         |
| Tr301                                    | 2SK30AD     | FET                     | 1           | "         |
| Tr400                                    | 2SA721      | Transistor              | 1           | "         |
| Tr501, 502, 503, 504, 601, 602, 603, 604 |             |                         |             |           |
|                                          | 2SC828      | "                       | 8           | "         |
| <b><u>INTEGRATED CIRCUITS</u></b>        |             |                         |             |           |
| IC90                                     | QVIM51181L  | Integrated Circuit      | 1           | Ⓝ         |
| IC201,<br>202                            | QVITA7122AP | "                       | 2           | RS-640USD |
| IC301                                    | EHM321A06   | "                       | 1           | Ⓝ         |
| IC303                                    | EHM322A07   | "                       | 1           | Ⓝ         |
| IC400                                    | QVITA7122AP | "                       | 1           | RS-640USD |
| IC601,<br>602                            | TA7140PC    | "                       | 2           | Ⓝ         |
| <b><u>DIODES</u></b>                     |             |                         |             |           |
| D1                                       | SIB0102     | Silicon Diode           | 1           | RS-615USD |
| D2                                       | LN25D       | LED                     | 1           | RS-462SD  |
| D10                                      | MA1051LF    | Silicon Diode           | 1           | Ⓝ         |
| D11                                      | OA90MLF     | Germanium Diode         | 1           | RS-671USD |
| D30                                      | MA150       | Silicon Diode           | 1           | "         |
| D31                                      | MA26W       | "                       | 1           | "         |
| D32                                      | MA150       | "                       | 1           | "         |
| D34                                      | MA1051FV    | "                       | 1           | Ⓝ         |
| D35                                      | MV1         | "                       | 1           | Ⓝ         |
| D60, 61                                  | MA150       | "                       | 2           | RS-671USD |
| D62                                      | MA26W       | "                       | 1           | "         |

| Ref. No.                  | Part No.  | Part Name & Description                                                | Pcs/<br>Set | Remarks   |
|---------------------------|-----------|------------------------------------------------------------------------|-------------|-----------|
| D63                       | MA150     | Silicon Diode                                                          | 1           | RS-671USD |
| D64                       | MA26W     | "                                                                      | 1           | "         |
| D65                       | LN45D     | LED                                                                    | 1           | Ⓝ         |
| D70                       | MV1       | Silicon Diode                                                          | 1           | Ⓝ         |
| D71                       | MA150     | "                                                                      | 1           | RS-671USD |
| D73                       | MV1       | "                                                                      | 1           | Ⓝ         |
| D74                       | OA91      | Germanium Diode                                                        | 1           | RS-671USD |
| D301,<br>303              | MA26W     | Silicon Diode                                                          | 2           | "         |
| D305                      | OA90M     | Germanium Diode                                                        | 1           | "         |
| D307                      | OA91      | "                                                                      | 1           | "         |
| D601,<br>602              | OA90M     | "                                                                      | 2           | "         |
| D603                      | MA1068FV  | Silicon Diode                                                          | 1           | RS-462SD  |
| PUT30,<br>70              | N13T1     | PUT                                                                    | 2           | RS-671USD |
| <b><u>TRANSFORMER</u></b> |           |                                                                        |             |           |
| T50                       | QLB0158   | Oscillator Transformer                                                 | 1           | RS-671USD |
| <b><u>COILS</u></b>       |           |                                                                        |             |           |
| L1, 2                     | QLH2020   | Bias Trap Coil                                                         | 2           | Ⓝ         |
| L40, 41                   | QLQX2421X | Choke Coil                                                             | 2           | RS-615USD |
| LPF1, 2                   | QLM9Z001W | MPX Filter                                                             | 2           | RS-676USD |
| L501, 502, 503, 504       |           |                                                                        |             |           |
|                           | QLQX0331W | Peaking Coil                                                           | 4           | RS-671USD |
| <b><u>SWITCHES</u></b>    |           |                                                                        |             |           |
| S1, 2                     | ESD1248   | Slide Switch<br>(Record/Playback Selector)                             | 2           | Ⓝ         |
| S3, 4, 5, 6, 7, 8, 9, 11  |           |                                                                        |             |           |
|                           | QSWY801A  | Push Switch (MIC, EQ, Filter, Input,<br>Limiter, Dolby, Monitor, Bias) | 8           | Ⓝ         |
| S10, 12                   | QSM0063   | Push Switch (Meter, Battery)                                           | 2           | Ⓝ         |
| S13, 14                   | QSB0195   | Leaf Switch                                                            | 2           | Ⓝ         |
| S15                       | QSB0194   | "                                                                      | 1           | Ⓝ         |
| S16                       | QSB0195   | "                                                                      | 1           | Ⓝ         |
| S17                       | QSB0194   | "                                                                      | 1           | Ⓝ         |
| S18                       | QSE0003   | Reed Switch                                                            | 1           | RS-671USD |

## RS-686DS-D

## RS-686DS-D

| Ref. No. | Part No.   | Part Name & Description        | Pcs/<br>Set | Remarks    |
|----------|------------|--------------------------------|-------------|------------|
|          |            | <b><u>ELECTRICAL PARTS</u></b> |             |            |
| E1       | WY445AH    | Record/Playback Head           | 1           | ①          |
| E2       | QWY0130X   | Monitor Head                   | 1           | ①          |
| E3       | QWY2118    | Erase Head                     | 1           | RS-671USD  |
| E4       | EAS5P03S   | Speaker                        | 1           | ①          |
| E5       | QSL4008RNM | Level Meter-L                  | 1           | ①          |
| E6       | QSL4009RNM | Level Meter-R                  | 1           | ①          |
| E7       | QEJ5005S   | Jack Board Assembly            | 1           | ①          |
| E8       | QJA0227    | Microphone Jack                | 2           | RS-263AUSD |
| E9       | QJA0253H   | Headphone Jack                 | 1           | ①          |
| E10      | QJA0154    | Monitor Jack                   | 1           | RQ-544SD   |
| E11      | QJA0139HP  | DC IN Jack                     | 1           | ①          |
| E12      | QEQ1392    | DC-DC Converter                | 1           | ①          |
| E13      | XAMQ30S200 | Pilot Lamp                     | 1           | RS-676USD  |
| E14      | QNNQ1070   | Headphone Jack Nut             | 1           | RS-600USD  |
| E15      | QNNQ1033   | Microphone Jack Nut            | 2           | ①          |
| E16      | QNNQ1004   | VR Holding Nut                 | 2           | RQ-542SD   |
| E17      | QWQ2002    | VR Holding Washer              | 2           | RS-9900US  |
| E18      | QJS0793J   | 18 Pin Socket                  | 1           | ①          |
| E19      | QJS0781JN  | 15 Pin Socket                  | 1           | RS-9900US  |
| E20      | QJS0792J   | 12 Pin Socket                  | 3           | ①          |
| E21      | QJS0791J   | 9 Pin Socket                   | 3           | ①          |
| E22      | QJS0784JN  | 3 Pin Socket                   | 1           | ①          |
| E23      | QJP1906JO  | 18 Pin Plug                    | 1           | ①          |
| E24      | QJP1905JO  | 15 Pin Plug                    | 1           | RS-9900US  |
| E25      | QJP1904JO  | 12 Pin Plug                    | 3           | "          |
| E26      | QJP1903JO  | 9 Pin Plug                     | 3           | "          |
| E27      | QJP1908JO  | 3 Pin Plug                     | 1           | RS-600USD  |
| E28      | QJT1042    | Contact                        | 18          | "          |
| E29      | QYT0432    | Volume Knob                    | 1           | ①          |
| E30      | QKJ0188    | LED Holder                     | 2           | ①          |
| E31      | QMA3023    | Speaker Holding Angle          | 1           | ①          |
| E32      | QMA3020A   | Volume Angle-A                 | 1           | ①          |
| E33      | QMA3021    | Volume Angle-B                 | 1           | ①          |

| Ref. No. | Part No. | Part Name & Description     | Pcs/<br>Set | Remarks   |
|----------|----------|-----------------------------|-------------|-----------|
| E34      | QMA3022  | Switch Angle                | 1           | ①         |
| E35      | QMA3024  | Jack Angle                  | 1           | ①         |
| E36      | QMA3008  | Side Angle                  | 1           | ①         |
| E37      | XSN2+8   | Screw $\oplus 2 \times 8$   | 4           | COMMON    |
| E38      | QBP1736  | Meter Holding Spring        | 2           | ①         |
| E39      | QMF1890  | P.C.B. Holding Plate        | 1           | ①         |
| E40      | QBK1254  | Insulator Plate             | 1           | ①         |
| E41      | QBK1249  | "                           | 3           | ①         |
| E42      | QTS1393A | Microphone Shield Plate     | 1           | ①         |
| E43      | QBJ3149  | Jack Washer                 | 2           | ①         |
| E44      | QYQ0270  | Speaker Net Assembly        | 1           | ①         |
|          |          | <b><u>CABINET PARTS</u></b> |             |           |
| G1       | QYM0440  | Top Case Assembly           | 1           | ①         |
| G2       | QYF0273  | Cassette Lid Assembly       | 1           | ①         |
| G3       | QYP0677  | Front Panel Assembly        | 1           | ①         |
| G3-1     | QGG0091  | Push Button Guide           | 1           | ①         |
| G3-2     | QBC1244  | Stop Rod Spring             | 2           | ①         |
| G3-3     | QG01325  | Meter Light Button          | 1           | ①         |
| G3-4     | QG01326  | Battery Check Button        | 1           | ①         |
| G3-5     | QGG0090  | Lever Guide                 | 1           | ①         |
| G3-6     | XSN26+6  | Screw $\oplus 2.6 \times 6$ | 12          | COMMON    |
| G3-7     | XWA26B   | Spring Washer               | 12          | "         |
| G4       | QYM0389  | Bottom Case Assembly        | 1           | ①         |
| G5       | QYD1019  | Battery Case Assembly       | 1           | ①         |
| G5-1     | QJB0004  | Battery Spring              | 2           | RQ-309DSD |
| G5-2     | QJB0047  | Battery Terminal            | 2           | "         |
| G6       | QYF0272  | Battery Lid Assembly        | 1           | ①         |
| G6-1     | QMA3017  | Lid Holding Metal-A         | 1           | ①         |
| G6-2     | QMA3018A | Lid Holding Metal-B         | 1           | ①         |
| G6-3     | QKG2689  | Lid Lock Knob               | 1           | ①         |
| G6-4     | QBW2018  | Washer                      | 1           | COMMON    |
| G6-5     | XSN2+3BV | Screw $\oplus 2 \times 3$   | 4           | "         |
| G6-6     | XWG2     | Flat Washer                 | 4           | "         |
| G6-7     | XQS2+3FZ | Screw $\oplus 2 \times 3$   | 2           | "         |

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| Ref. No. | Part No.     | Part Name & Description   | Pcs/<br>Set | Remarks   |
|----------|--------------|---------------------------|-------------|-----------|
| G7       | QKJ0174      | Jack Cover-L              | 1           | N         |
| G8       | QKJ0175      | Jack Cover-R              | 1           | N         |
| G9       | QGO1323      | Stop Button               | 1           | N         |
| G10      | QXB0467      | Eject Button              | 1           | N         |
| G11      | QYT0433      | Lever Knob Assembly       | 1           | N         |
| G12      | QXB0459      | Push Button               | 8           | N         |
| G13      | QYT0430      | Volume Knob-A Assembly    | 1           | N         |
| G14      | QYT0431      | Volume Knob-B Assembly    | 2           | N         |
| G15      | XSN26+6BV    | Screw $\pm 2.6 \times 6$  | 10          | COMMON    |
| G16      | XSN26+8BV    | Screw $\pm 2.6 \times 8$  | 2           | "         |
| G17      | XSN26+25BV   | Screw $\pm 2.6 \times 25$ | 1           | "         |
| G18      | QHQ1260      | Screw                     | 1           | N         |
| G19      | QHQ1259      | Screw                     | 2           | N         |
| G20      | XWG26        | Flat Washer               | 4           | COMMON    |
| G21      | QNQ1004      | Nut                       | 1           | RS-9900US |
| G22      | QBH0043      | Washer                    | 1           | N         |
| G23      | QBP1763      | Plate Spring              | 2           | N         |
| G24      | XSN26+8      | Screw $\pm 2.6 \times 8$  | 3           | COMMON    |
| G25      | QKC1086      | Hinge                     | 1           | N         |
| G26      | QYC0185      | Cassette Cover Assembly   | 1           | N         |
| G27      | QBT1785M     | Idler Spring              | 1           | N         |
| G28      | XSN2+6BV     | Screw $\pm 2 \times 6$    | 3           | COMMON    |
|          |              | <b><u>ACCESSORIES</u></b> |             |           |
| A1       | QFT6TCJNTBFZ | Cassette Tape             | 1           | RS-615USD |
| A2       | RP023A       | Connection Cord           | 2           | COMMON    |
| A3       | QYH0073A     | Shoulder Belt             | 1           | N         |
| A4       | RP997XD      | AC Adaptor                | 1           | N         |
| A5       | QQT2133      | Instruction Book          | 1           | N         |
|          |              | <b><u>PACKINGS</u></b>    |             |           |
| P1       | QPN3574      | Inside Carton             | 1           | N         |
| P2       | QPA0273      | Inner Cushion-L           | 1           | N         |
| P3       | QPA0274      | Inner Cushion-R           | 1           | N         |
| P4       | QPS0279      | Accessory Spacer          | 1           | N         |

[illegible]