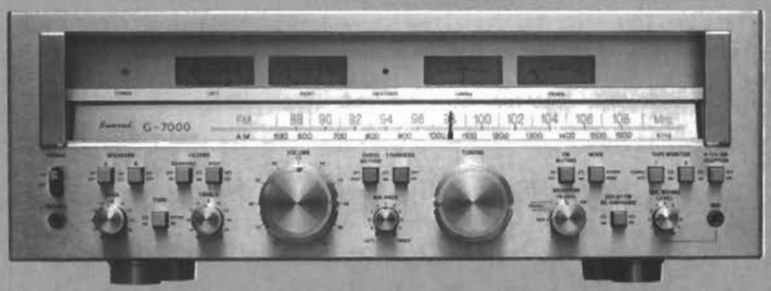
# SERVICE MANUAL

## PURE POWER DC STEREO RECEIVER

# SANSUI G-6000
# G-7000/701



Sansui

SANSUI ELECTRIC CO., LTD.

## SPECIFICATIONS

### Audio section

**≪G-6000≫**

**Power output**

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.03 % total harmonic distortion.
65 watts per channel into 8 ohms

**Load impedance** . . . . . 8 ohms

**Total harmonic distortion**
. . . . . less than 0.03 % at or below rated min. RMS power output

**Intermodulation distortion** (70 Hz : 7 kHz = 4:1 SMPTE method) . . . . . less than 0.03 % at rated power output

**≪G-7000/701≫**

**Power output**

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.038 % total harmonic distortion.
85 watts per channel into 8 ohms
85 watts per channel into 4 ohms

**Load impedance** . . . . 4 and 8 ohms

**Total harmonic distortion**
. . . . . less than 0.038 % at or below rated min. RMS power output

**Intermodulation distortion** (7 kHz : 7 kHz = 4:1 SMPTE method) . . . . . less than 0.038 % at rated power output

**≪G-6000/7000/701≫**

**Frequency response** (at 1 watt)
Overall (from AUX) . 5 to 50,000 Hz, +0.2 dB, −2.0 dB

**RIAA curve deviation** (PHONO, 20 Hz to 20 kHz)
. . . . . +0.2 dB, −0.2 dB

**Damping factor** (1 kHz, both channels driven)
. . . . . 30 into 8 ohms

**Input sensitivity and impedance** (at 1 kHz)
PHONO-1, 2 . . . . . 2.5 mV/47 kilohms
(Max. input capability: 220 mV at 1 kHz, less than 0.038 % total harmonic distortion.)
MIC . . . . . 6 mV/10 kilohms
TAPE-1, 2 PLAY, AUX
. . . . . 150 mV/47 kilohms

**Output level** (at 1 kHz)
TAPE-1, 2 REC (pin jacks)
. . . . . 150 mV
TAPE-2 REC/PLAY (DIN socket)
. . . . . 43 mV

**Hum and noise** (short-circuit, A-network)
PHONO-1, 2 . . . . . 78 dB
TAPE-1, 2 PLAY, AUX
. . . . . 95 dB

**Channel separation** (at 1 kHz)
PHONO-1, 2 . . . . . 60 dB
TAPE-1, 2 PLAY, AUX
. . . . . 65 dB

**Controls**
BASS . . . . . ±10 dB at 50 Hz
TREBLE . . . . . ±10 dB at 10 kHz
SUBSONIC FILTER . −3 dB at 16 Hz (6 dB/oct)
HIGH FILTER . . . . −3 dB at 3 kHz (6 dB/oct)
LOUDNESS (VOLUME control: −30 dB position)
. . . . . 8 dB at 50 Hz
6 dB at 10 kHz
AUDIO MUTING . . −20 dB

## SPECIFICATIONS

**FM section**

≪G-6000/7000/701≫

| | |
|---|---|
| Tuning range | 88 to 108 MHz |
| Usable sensitivity | |
| Mono IHF | 10.3 dBf (1.8 μV) |
| DIN | 1.0 μV |
| Stereo IHF | 17 dBf |
| 50 dB quieting sensitivity | |
| Mono | 14 dBf |
| Stereo | 36 dBf |
| Signal to noise ratio (at 65 dBf) | |
| Mono | 72 dB |
| Stereo | 68 dB |
| Distortion (at 65 dBf) | |
| Mono | less than 0.15 % at 100 Hz |
| | less than 0.13 % at 1,000 Hz |
| | less than 0.25 % at 6,000 Hz |
| Stereo | less than 0.25 % at 100 Hz |
| | less than 0.18 % at 1,000 Hz |
| | less than 0.25 % at 6,000 Hz |
| Alternate channel selectivity (at 400 kHz) | 75 dB |
| Capture ratio | 1.0 dB |
| Image response ratio | 70 dB |
| Spurious response ratio | 90 dB |
| IF response ratio | 95 dB |
| Stereo separation | 35 dB at 100 Hz |
| | 42 dB at 1,000 Hz |
| | 30 dB at 10,000 Hz |
| | 25 dB from 30 to 15,000 Hz |
| Frequency response | 30 to 15,000 Hz |
| | +0.2 dB, –1.0 dB |
| Antenna input impedance | 300 ohms balanced |
| | 75 ohms unbalanced |

**AM section**

≪G-6000/7000/701≫

| | |
|---|---|
| Tuning range | 530 to 1,600 kHz |
| Usable sensitivity (bar antenna) | 50 dB/m (300 μV/m) |
| Selectivity (±10 kHz) | 35 dB |
| Signal to noise ratio | 46 dB |
| Distortion (at 30 % Modulation, 80 dB/m) | less than 0.5 % |

**Other Parts**

≪G-6000≫

| | |
|---|---|
| Power requirements | |
| Power voltage | 100, 120, 220, 240 V (50/60 Hz) |
| For U.S.A. and Canada | 120 V (60 Hz) |
| Power consumption | |
| Rated consumption | 310 watts 380 VA |
| Dimensions | 505 mm (19-15/16") W |
| | 187 mm (7-7/16") H |
| | 409 mm (16-1/8") D |
| Weight | 17.5 kg (38.6 lbs) net |
| | 19.7 kg (43.4 lbs) packed |

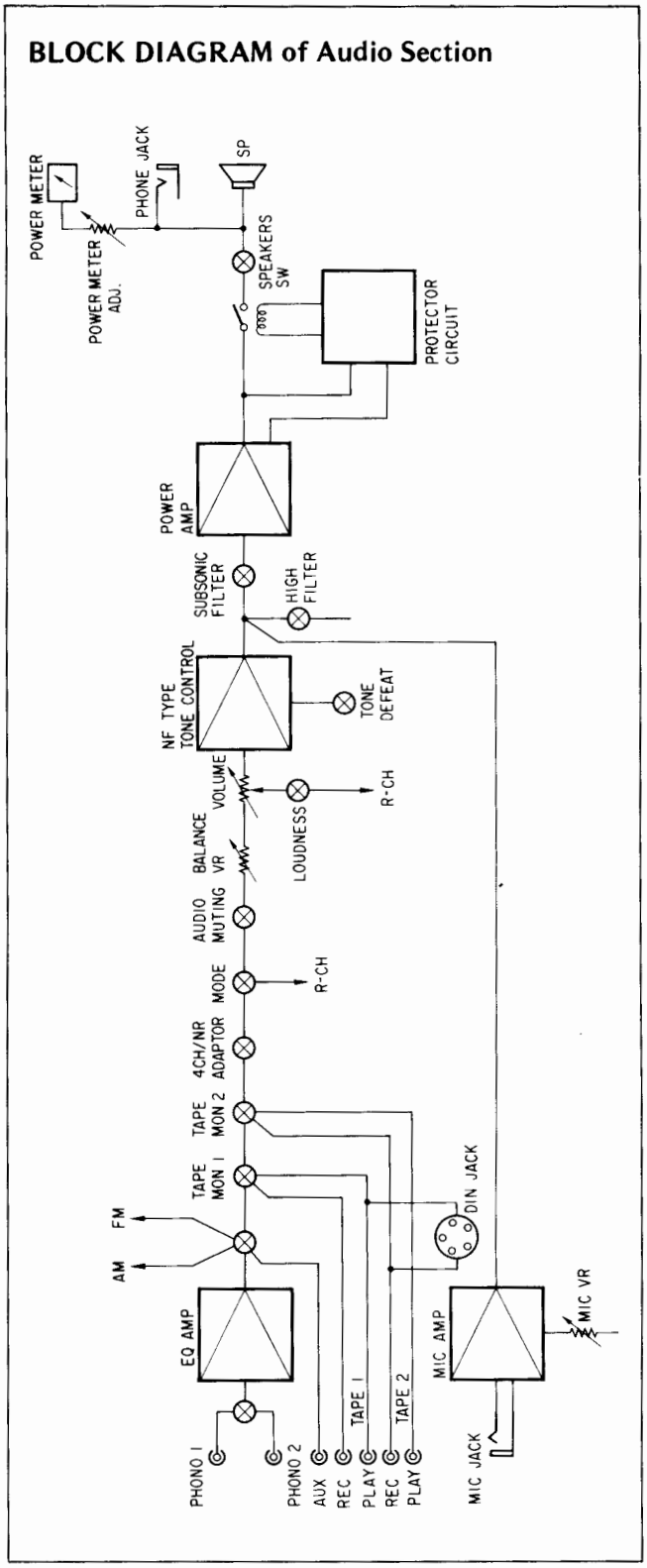
≪G-7000/701≫

| | |
|---|---|
| Power requirements | |
| Power voltage | 100, 120, 220, 240 V (50/60 Hz) |
| For U.S.A. and Canada | 120 V (60 Hz) |
| Power consumption | |
| Rated consumption | 380 watts 470 VA |
| Dimensions | 505 mm (19-15/16") W |
| | 187 mm (7-7/16") H |
| | 422 mm (16-5/8") D |
| Weight | 16.6 kg (36.6 lbs) net |
| | 18.8 kg (41.4 lbs) packed |

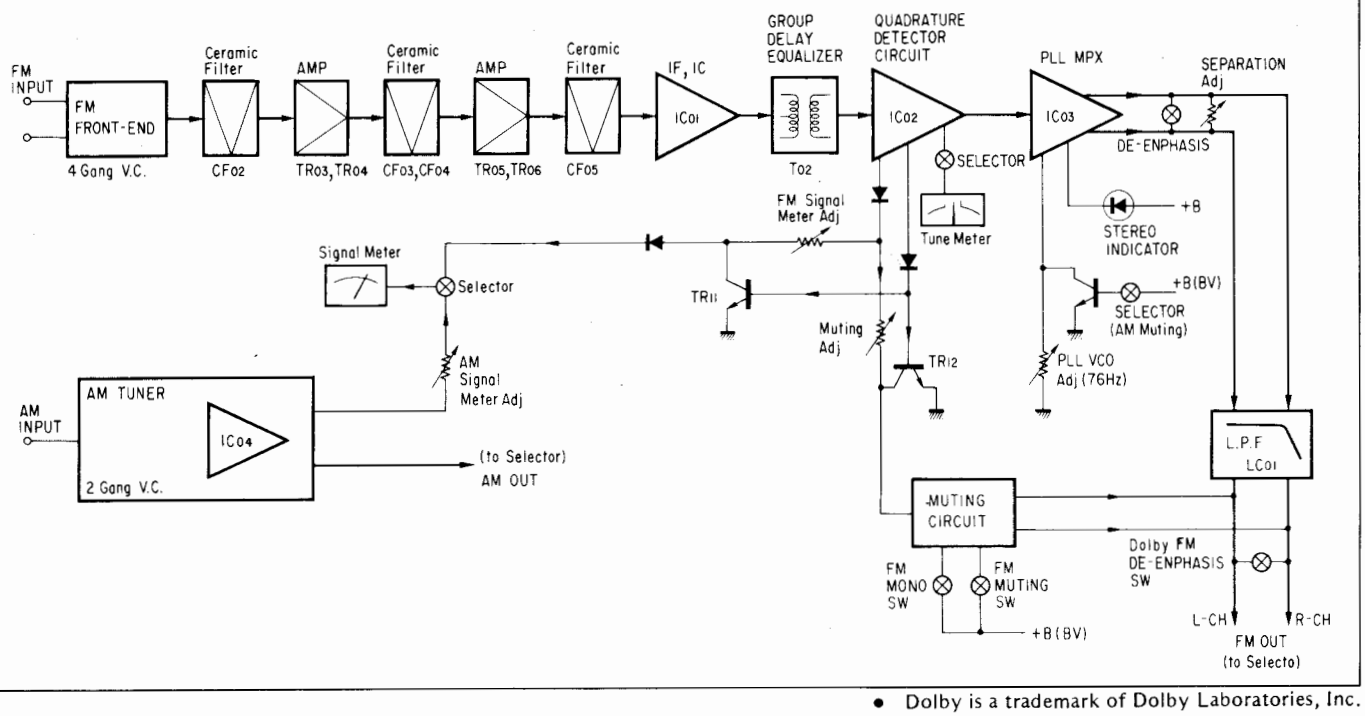
* Design and specifications subject to change without notice for improvements.

# 1. BLOCK DIAGRAM & OPERATION OF AUDIO SECTION

## BLOCK DIAGRAM of Audio Section



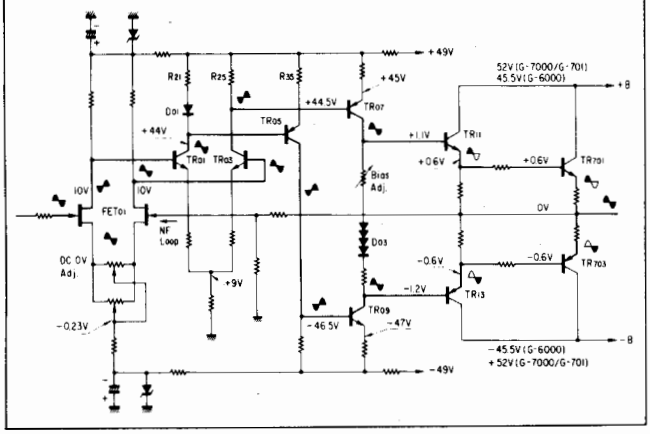
## BLOCK DIAGRAM of Tuner Section




• Dolby is a trademark of Dolby Laboratories, Inc.

## Operation of Audio Section

### Operation Block Diagram of Power Circuit




## 1. Power Amplifier Characteristics and its Operations (Refer to Operation Block Diagram of Power Circuit)

### (1) SEPP circuit of D.C. amplifier configuration

Sufficient gain and low distortion factor can be obtained by using a dual FET (FET 01) differential amplifier in the first stage and by applying these two outputs to the next differential amplifier consisting of $TR_{01}$ and $TR_{03}$.

Two output signals of $TR_{01}$ and $TR_{03}$ are 180 deg. out-of-phase each other, and the output of $TR_{03}$ is applied to $TR_{07}$ in phase. On the other hand, the output of $TR_{01}$ is applied to $TR_{09}$ after the phase is reversed through $TR_{05}$.

The outputs of $TR_{07}$ and $TR_{09}$, being of the same phase and the same amplitude, make a push-pull drive.

In the final current amplifier stage, the output configuration is a dual darlington-type complementary symmetry SEPP circuit.

### (2) FET characteristics of the first-stage differential amplifier

Two FETs, the characteristics of which are completely the same, are used in the first-stage differential amplifier.

FETs have many special characteristics; that is, no gate-current flowing is required and thereby an input capacitor is unnecessary, temperature drift suppression is possible due to no temperature dependance when used under a prescribed drain current conditions because of having a cross temperature point (temperature coefficient), by this a time constant capacitor in a NF loop circuit is unnecessary, and the noise occurence is also little.

### (3) Current mirror circuits

The operation from the second differential amplifier circuit of $TR_{01}$ and $TR_{03}$ to the pre-drive stage of $TR_{07}$ and $TR_{09}$ is described in detail below.

$TR_{05}$ is used in order to connect the 180 deg. out-of-phase output signals of the differential amplifier circuit of $TR_{01}$ and $TR_{03}$ to the next push-pull amplifier in the same phase. That is, $TR_{05}$, the amplification factor of which is one and only the phase of which is reversed, is inserted in order to connect the 180 deg. out-of-phase outputs from $TR_{01}$ and $TR_{03}$ to the base inputs of $TR_{07}$ and $TR_{09}$ in the same phase and the same level. By this, all the currents flowing through $TR_{01}$, $TR_{03}$, and $TR_{05}$ become the same, thereby being to be connected to the inputs of $TR_{07}$, and $TR_{09}$ in the same level and the same conditions.

This circuit is usually called "Current Mirror" because all the currents flowing through $TR_{01}$, $TR_{03}$, and $TR_{05}$ are the same, however, there are many kinds of current mirror circuits and the way to use this circuit here is different from AU-607, BA-2000, CA-2000, etc.

## 2. Differential Amplifier Circuits and Constant Current Circuits

Differential amplifier circuits are used for all the first-stage of equalizer tone-control and power-amplifier circuits in G-6000/G-7000/G-701. Also, in the equalizer and tone-control circuits, differential amplifier circuits are used in the first-stage by combining with constant current circuits.

### (1)Differential amplifier circuit characteristics and its operations

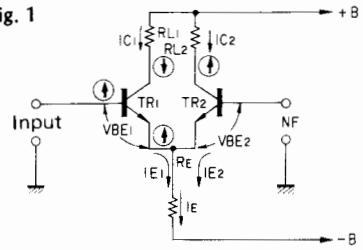
(A) Operations

First, when both the inputs of $TR_1$ and $TR_2$ are zero in Fig. 1, the state is as follows:

$$IE = IE_1 + IE_2,\quad IE_1 = IE_2$$

Next, when an input signal is applied from only the $TR_1$ side, the state is changed into that as shown by the movements ⓣ of electric potential. That is, the $TR_1$ base potential rising ⓣ makes the $IE_1$ increase, and the $TR_1$ emitter voltage also increases due to the emitter resistance RE.

Fig. 1




Then the $TR_2$ emitter voltage also increases since both the emitters of $TR_1$ and $TR_2$ are connected directly. This makes the $V_{BE2}$ level of $TR_2$ low, thereby operating in the direction to reduce $IC_2$ and $IE_2$.

As a result of this, $IE_1$ increases and $IE_2$ decreases at the same proportion, the equation being expressed in the following.

$$IE = IE_1 + IE_2 \ldots\ldots \text{constant}$$

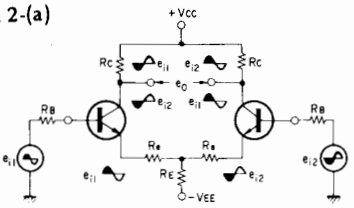
(the same as the case of no-signal)

(B) Characteristics

1. When considering SEPP power amplifier as an example and controlling the D.C. potential fluctuation at the median point, if a differential amplifier circuit is used at the first-stage and a D.C. NFB is provided, the controlling efficiency is excellent, being able to make the fluctuation almost zero. This indicates that two operating-point deviations compensate each other in the differential amplifier and the operating point stability is excellent.
2. Cancelling effect for the disturbance applied in the form of the same phase input.
   (temperature and power supply voltage fluctuations, noise, etc.)
   (1) It is possible to make the drift null because temperature compensation is easy to perform.
   (2) The allowable value of common mode voltage (CMV), which is able to apply to the input, is great. (Refer to Fig. 2b)
   (3) The same phase noise removal is possible because no output appears in the case where the same phase inputs are applied to two inputs. (common mode rejection ratio CMRR is large)
   (4) Power supply rejection ratio (PSRR) is large.

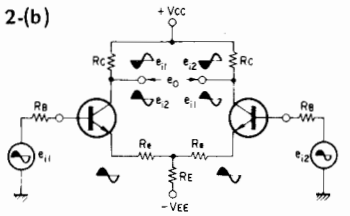
(C) Operation comparison among the reverse phase inputs, the same phase inputs, and the unbalanced inputs in differential amplifier circuit.

Fig. 2-(a)



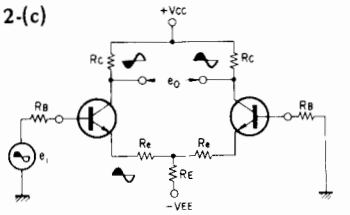

(a) The case where two input signals are in the reverse phase each other.

Fig. 2-(b)




(b) The case where two input signals are in the same phase.

Fig. 2-(c)

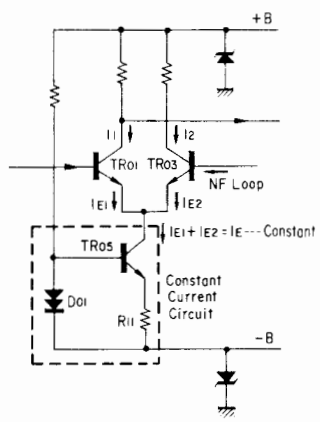



(c) The case where only one input signal is applied to a input.

1. The case where two input signals are in the reverse phase each other. (Fig. 2a)
   A large gain can be obtained because of no negative feed back action, and a large operating point stability is also obtained because a large RE is possible to use.
   Further, the two transistor emitter currents cancel each other, thereby the current flowing through RE being made into a constant current, and the fluctuations of IE and IC is suppressed.
2. The case where two input signals are in the same phase. (Fig. 2b)
   A great negative feedback action is obtained, and ascend with increasing RE. When this circuit is used actually, the input signal $e_{12}$ is generally NFB signal.

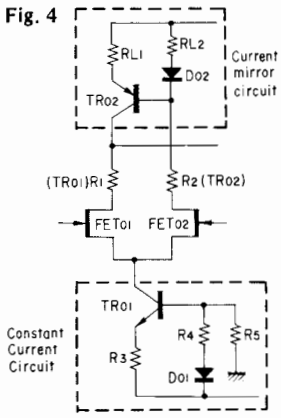
### (2)Constant current circuit function added to differential amplifier circuits

Fig. 3



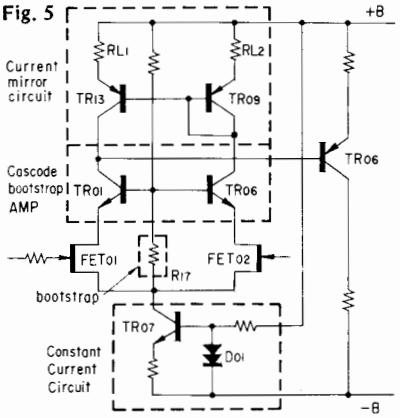

(G-6000/7000 Tonecontrol Section)

Fig. 4




(G-8000/9000 Tonecontrol Section)

Fig. 5




(G-9000 Equalizer Section)

In order to make large the common mode rejection ratio (CMRR), which is a superior characteristic in a differential amplifier circuit, to use an equal pair of transistors and a large emitter resistance RE are required.

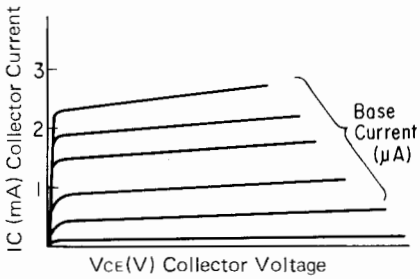
However, when considering the practical use of power supply voltage $|-V_{EE}|$, RE having its limit, it is desirable to insert a constant current circuit into the emitter side of the differential amplifier circuit in order to make the CMRR large.

Circuits used for G-6000/7000/8000/9000 are shown in Fig. 3, Fig. 4, and Fig. 5 above.

(A) Constant current circuit operation

When considering Fig. 3 as an example, even if $TR_{05}$ collector current (emitter current IE of the differential amplifier circuit) changes, the collector current hardly changes in the $TR_{05}$ saturated domain. (Fig. 6) By making use of this characteristic, it is possible to flow a constant current through the collector irrespective of the collector voltage fluctuation, and this also means that a considerable high internal resistance is connected equivalently to the emitter of the differential amplifier circuit. Further, a diode $D_{01}$ serves to make the $TR_{05}$ bias voltage constant, and at the same time to make the $TR_{05}$ temperature compensation.

Fig. 6




## 3. Applied Circuits to G-Series Model No. except G-6000/7000/701

Fig. 4 shows the combined circuit of differential amplifier, current mirror, and constant current used for tone control circuit of G-8000/9000.

The applied circuits used for an equalizer circuit of G-9000, is shown in Fig. 5.

The basic operations of the circuits in Fig. 4 and Fig. 5 are almost the same; that is, $D_{02}$ is equivalent to $TR_{09}$ in the current mirror stage, and $R_1$ and $R_2$ in Fig. 4 are equivalent to $TR_{01}$ and $TR_{06}$ connected in cascode in Fig. 5.

### (1) Characteristics

When used for a small signal amplifier circuit, it is possible to improve S/N, low distortion factor, high gain, and D.C. current stability, which are necessary for a small signal amplifier circuit.

In other words, it is possible to improve potential-fluctuation removal-ratio and the common mode rejection-ratio (CMRR), which are the characteristics of the circuit with a constant current circuit, and also possible to obtain a high gain and a high output impedance due to current mirror, in addition to low distortion factor by the push-pull function with current mirror.

By these, it is possible to provide a strong NP in order to improve the distortion factor.

### (2) Function of $TR_{01}$ and $TR_{06}$ connected in cascode

In Fig. 5, the operation of differential amplifier circuit using FETs with a constant current circuit is the same as in Fig. 3. Further, being bootstraped by $R_{17}$, this circuit of Fig. 5 contains $TR_{01}$ and $TR_{06}$ connected in common bases and a current mirror circuit consisting of $TR_{13}$ and $TR_{09}$.

When considering FET characteristics of high input impedance which allows the preceding portion load effect to be negligible, it is possible to make the signal source impedance high and the noise low. Consequently, the power source (+B, and −B) is determined to be high in order to increase the resistance between gate and earth, and the output. However, on account of this high source voltage, when an almost maximum voltage is applied to between drain and source of the FET, a gate leak-current flows, and the differential amplifier circuit becomes unstable, resulting in the fact that the median electric potential is not controlled to null at the output side.

In order to prevent this, it is necessary to make the FET electric potential between drain and gate sufficiently low, thus resistors or $TR_{13}$ and $TR_{09}$ being inserted into a portion between the current mirror circuit and the differential amplifier circuit in order to make a voltage drop.

The circuit, when $TR_{01}$ and $TR_{06}$ are added in common base as shown in Fig. 5, is called a cascode bootstrap amplifier, and has not only the characteristics to make low the voltage between drain and source of FET but also the following characteristics.

(A) To prevent the mirror effect and improve the high frequency characteristics.

(B) To make less the distortion resulting from the voltage dependance of reverse capacitance Crss.

(C) To improve the linearily.

### (3) Cascode bootstrap amplifier operation

Fig. 7 being the same circuit as Fig. 5, in order to understand a cascode bootstrap amplifier better, only the simplified portion is shown in Fig. 8.

Fig. 7

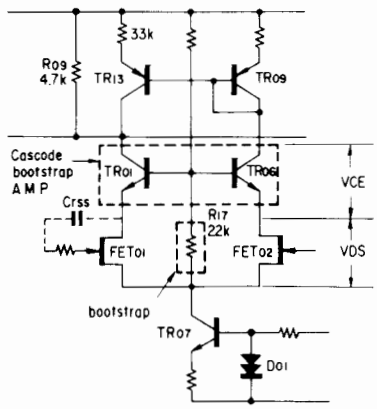
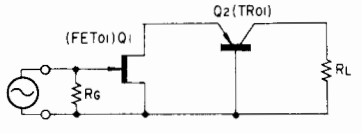



Fig. 8




(RL Corresponds to a current mirror circuit in practice)

As shown in Fig. 8, the load of $Q_1$ is the input impedance of $Q_2$, then to determine $Q_2$ input impedance is required in order to determine $Q_1$ gain $A_1$. As the $Q_2$ input impedance Zib is given by the following equation, $Q_1$ gain $A_1$ is obtained as follows:

$$Zib = \frac{h_{ie}}{1 + h_{fe}} \quad \text{then,} \quad A_1 = g_m \cdot Zib = g_m \frac{h_{ie}}{1 + h_{fe}}$$

Also, the gain $A_2$ of common-base amplifier circuit is given by the equation below.

$$A_2 = \frac{1 + h_{fe}}{h_{ie}} \cdot RL$$

Consequently, the gain $A_0$ of cascode amplifier is as follows:

$$A_0 = A_1 \cdot A_2 = g_m \frac{h_{ie}}{1 + h_{fe}} \cdot \frac{1 + h_{fe}}{h_{ie}} \cdot RL = g_m \cdot RL$$

where $h_{ie}$ is a $TR_{01}$ common-emitter input impedance, $h_{fe}$ is a $TR_{01}$ common-emitter forward current transfer ratio, and $g_m$ is a $TR_{01}$ mutual conductance.

By using the calculating equations in the left, when calculating the actual circuit of Fig. 7, the following values can be obtained.

$g_m = 12$ (m℧), RL = 4.7 kΩ ($R_{09}$),

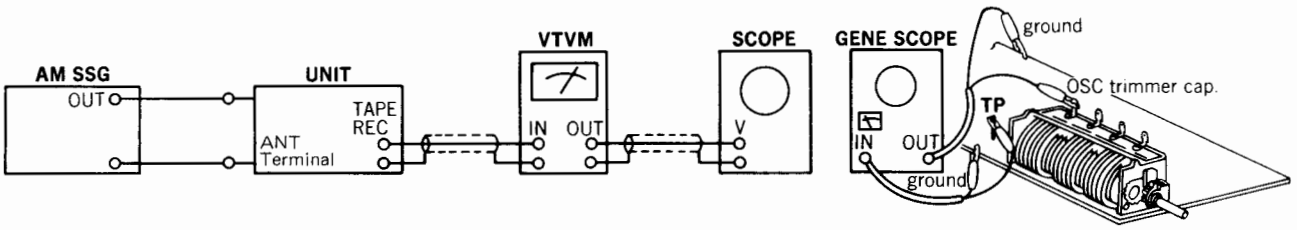
and $A_0 = 12 \times 10^{-3} \times 4.7 \times 10^3 = 56.4 \ldots 35$ (dB)

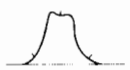
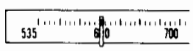
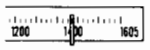
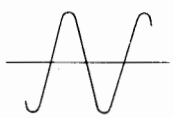
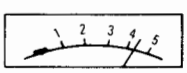
This gain is a total gain of $FET_{01}$ and $TR_{01}$, however, $R_{09}$ connected in parallel with the current mirror circuit is actually a load resistance of $TR_{01}$, and not a load of the current mirror circuit without any gain.
Consequently, the total circuit gain of Fig. 7 is approximately 35 dB.
Then the purpose of the current mirror circuit is to improve power supply utilization coefficient, to make a differential output into a single output, and also to reduce the distortion by letting the circuit make a push-pull operation.

# 2. ADJUSTMENTS

## 1. AM IF, RF Adjustment & Dial Calibration (See Fig. 2-1 on page 7)

Note: 1. Selector . . . . . AM
2. Confirm start point of dial pointer before alignment.

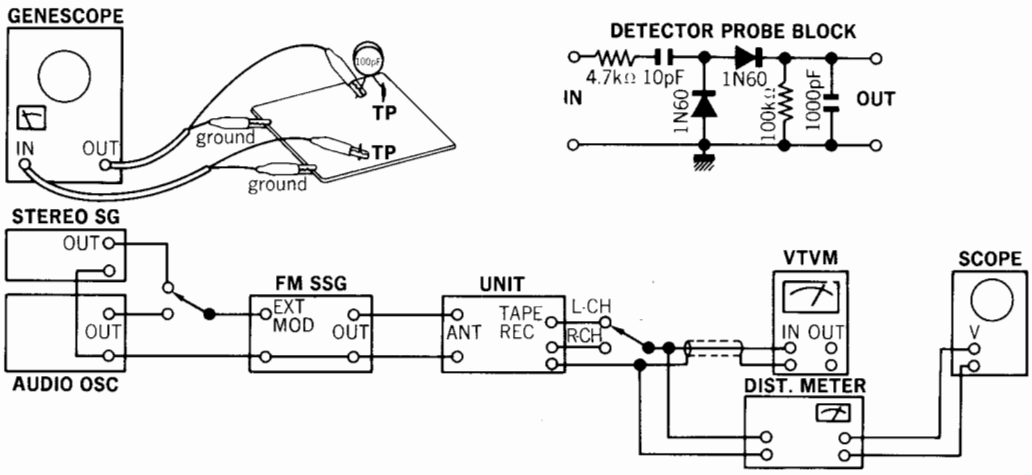



| STEP | SUBJECT | FEED SIGNAL FROM | FEED SIGNAL TO | MEASURE OUTPUT | ADJUST | ADJUST FOR | REMARKS |
|---|---|---|---|---|---|---|---|
| 1. | IF Coil | Genescope Output 45 dB | VT01b F-2614 | TP6 F-2614 | T06, T07 F-2614 | Max. IF waveform |  |
| 2. | 600 kHz Dial Calibration | 600 kHz ANT Input 60 dB 400 Hz (MOD 30%) AM SSG | AM ANT terminal | REC OUT L or R-CH VTVM & Scope | L13 F-2614 | Max. Output |   |
| | 1400 kHz Dial Calibration | 1400 kHz ANT Input 60 dB 400 Hz (MOD 30%) AM SSG | Same as above | Same as above | VT01d F-2614 | Same as above |   |
| 3. | 600 kHz RF Adj. | 600 kHz ANT Input 60 dB 400 Hz (MOD 30%) AM SSG | Same as above | Same as above | L702 Bar Antenna | Same as above |  |
| | 1400 kHz RF Adj. | 1400 kHz ANT Input 60 dB 400 Hz (MOD 30%) AM SSG | Same as above | Same as above | VT01b F-2614 | Same as above | |
| 4. | Signal Meter volume | 1000 kHz ANT Input 76 dB 400 Hz (MOD 30%) AM SSG | Same as above | Signal Meter | VR05 F-2614 | 4.3 on meter |   |

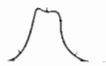
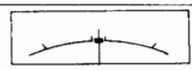
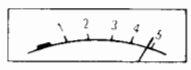
## 2. FM Adjustment (See Fig. 2-1 on page 7)

Note: 1. Selector . . . . . FM AUTO
2. FM Muting Switch . . . . . OFF

3. Connect the output of genescope to TP through 100 pF ceramic capacitor.




### (1) FM IF, RF Adjustment & Dial Calibration

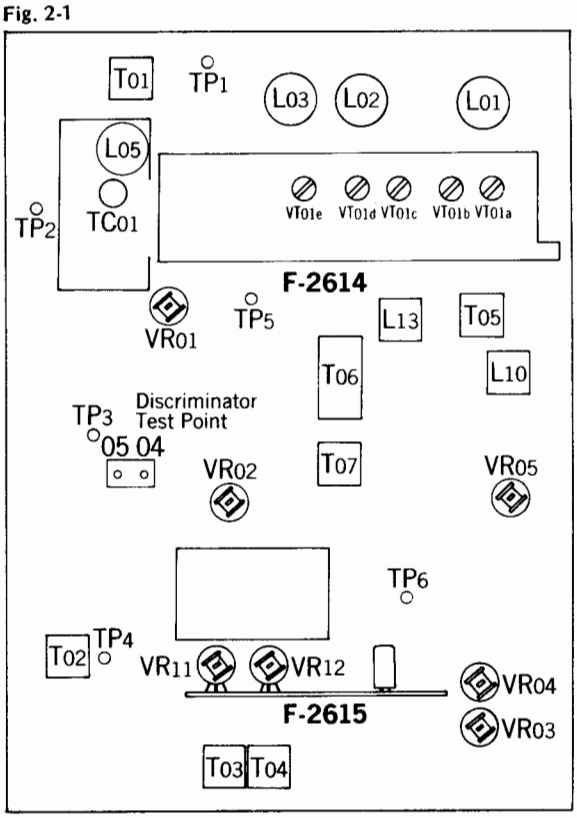
| STEP | SUBJECT | FEED SIGNAL FROM | FEED SIGNAL TO | MEASURE OUTPUT | ADJUST | ADJUST FOR | REMARKS |
|---|---|---|---|---|---|---|---|
| 1. | IF Coil | Output 90 dB Genescope | TP1 F-2614 | TP3 F-2614 Use Detector Probe | T01 F-2614 | Max. IF waveform |  |
| | | Output 80 dB Genescope | Same as above | TP4 F-2614 Use Detector Probe | T02 F-2614 | Same as above | |
| 2. | Discriminator Coil | Output 50 dB Genescope | Same as above | TM04(Pin Ass'y) F-2614 | T03 F-2614 | Center indication on tune meter |  |
| | | | | | | Max. linearily of S curve |  |
| | | | | | T04 F-2614 | Steep linearity of S curve |  |
| | | | | | | Set output wave to dip point (It's minimum distortion) | |
| 3. | 90 MHz Dial Calibration | 90 MHz ANT Input 40 dBf (34.8 dB) 1 kHz (100% MOD) FM SSG | ANT terminal 300Ω | REC OUT L or R-CH VTVM & Scope | L05 F-2614 | Max. Output | |
| | 106 MHz Dial Calibration | 106 MHz ANT Input 40 dBf (34.8 dB) 1 kHz (100% MOD) FM SSG | Same as above | Same as above | TC01 F-2614 | Same as above | |
| 4. | 90 MHz RF Adj. | 90 MHz ANT Input 30 dBf (24.8 dB) 1 kHz (100% MOD) FM SSG | Same as above | Same as above | L01, L02, L03 F-2614 | Same as above |  |
| | 106 MHz RF Adj. | 106 MHz ANT Input 30 dBf (24.8 dB) 1 kHz (100% MOD) FM SSG | Same as above | Same as above | VT01a, VT01c, VT01e F-2614 | Same as above | |
| 5. | Signal Meter Volume | 98 MHz ANT Input 105 dBf (99.8 dB) 1 kHz (100% MOD) FM SSG | Same as above | Signal Meter | VR11 F-2615 | 4.7 on Meter |  |

## (2) FM STEREO Adjustment

| STEP | SUBJECT | FEED SIGNAL | | MEASURE OUTPUT | ADJUST | ADJUST FOR | REMARKS |
|---|---|---|---|---|---|---|---|
| | | FROM | TO | | | | |
| 1. | PLL VCO Adj. | 98 MHz ANT Input 65 dBf (59.8 dB) FM SSG Pilot 19 kHz (9% MOD) SUB 1 kHz + Pilot (100% MOD) STEREO SG | ANT terminal 300Ω | Stereo indicator | VR01 F-2614 | Light indicator | Adjust the VR within center of lighting level. |
| | PLL VCO Adj. In case of using Freq. counter. | 98 MHz ANT Input 65 dBf (59.8 dB) FM SSG (no MOD) | Same as above | TP5 F-2614 Use Freq. counter | VR01 F-2614 | 76 kHz ±200 Hz | For this adjustment, run the unit more than 30 seconds. |
| 2. | Separation | 98 MHz ANT Input 65 dBf (59.8 dB) FM SSG Pilot 19 kHz (9% MOD) R Mode 1 kHz + Pilot (100% MOD) STEREO SG | ANT terminal 300Ω | REC OUT L-CH VTVM & Scope | VR02 F-2614 | Min. Output −40 dB | Confirm separation L-CH → R-CH −40 dB |
| 3. | Muting level & indicator level | 98 MHz ANT Input 23 dBf (17.8 dB) FM SSG Pilot 19 kHz (9% MOD) SUB 1 kHz + Pilot (100% MOD) STEREO SG | Same as above | Stereo indicator | VR12 F-2615 | Muting level 23 dBf (17.8 dB) Indicator lighting level 23 dBf (17.8 dB) | |

- **Adjusting or Connecting Points on AM, FM & FM MPX circuit board, F-2614 & F-2615**

Fig. 2-1



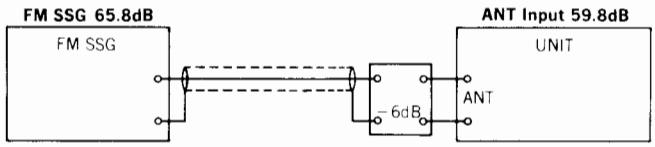

### •NEW MEASUREMENT FOR FM.

Input signal level under the provision of IHFM-T-200, a new measurement method is indicated by available power ratio "dBf" To obtain approximate available power ratio "dBf", abstract 0.8 from attenuater indication of general FMSG (open load indication type); however, the former measurement, IHFM-T-100 is designated together too.

The way of modulation on IHFM-T-200 is shown below.

| | modulation frequency | modulation mode | modulation fuctor |
|---|---|---|---|
| FM MONO | 1000 Hz | | 100% |
| FM STEREO | 1000 Hz | SUB | Pilot 9% Pilot + SUB 100% |

- The relation between the standard input 65 dBf of IHFM-T-200 and the former indication "dB" is shown below.



## 3. Audio Section

### (1) Driver Circuit Board Adjustments (See Fig. 2-2)

Note: 1. Master Volume . . . . . Minimum

2. For adjustment, run the unit for more than 3 minutes after the power is switched on.

| STEP | SUBJECT | EQUIPMENT | MEASURE OUTPUT | ADJUST | ADJUST FOR | REMARKS |
|---|---|---|---|---|---|---|
| 1. | DC 0V L-CH | DC Volt Meter | Speaker Terminal | VR01, VR03 F-2856 | DC 0V ±5mV | ○ Set VR01 and VR03 to center position. (VR03, VR04) ○ Then, for the purpose of proceeding the accurate adjustment, set the voltage to 0 volt by VR01 (VR02) first and VR03 (VR04) next. |
| 2. | DC 0V R-CH | Same as above | Same as above | VR02, VR04 F-2856 | DC 0V ±5mV | |
| 3. | Bias Current L-CH | Same as above | TP Terminal (+) (−) Fig. 2-2 | VR05 F-2856 | DC 4.5mV ±1mV | ○ By turning VR05 (VR06), counterclockwise, the bias current is decreased gradually. |
| 4. | Bias Current R-CH | Same as above | TP Terminal (+) (−) Fig. 2-2 | VR06 F-2856 | DC 4.5mV ±1mV | |

### (2) Power Meter Adjustments (See Fig. 2-3)

Note: 1. Master Volume . . . . . Maximum

2. For this adjustment, run the unit for more than 2 minutes after turning on the power switch.

| AUDIO OSCILLATOR | | OUTPUT TERMINAL | ADJUST | ADJUST FOR |
|---|---|---|---|---|
| OUTPUT | CONNECTING POINT | | | |
| At 1 kHz Sine wave, set the amplifier-output to 20V on both channels by adjusting Audio Osc.-output level | Input terminal of Amplifier | Speaker terminal 8Ω VTVM Scope | VR01 (L-CH) VR02 (R-CH) on F-2860 | Set the point of power meter to 50W on both channels |

Fig. 2-2

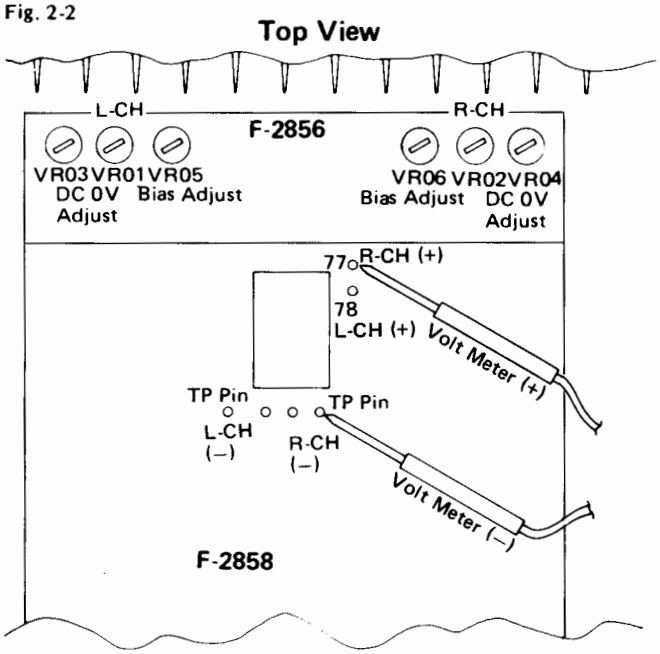
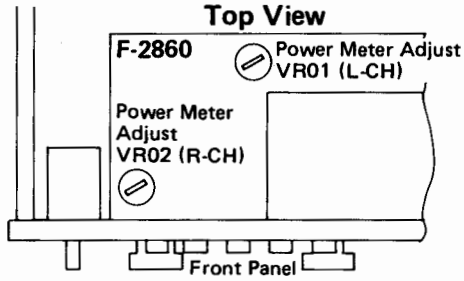



Fig. 2-3




**●Abbreviations**

Equipment

| | |
|---|---|
| AM FM Generator Oscilloscope | Genescope |
| AM Standard Signal Generator | AM SSG |
| FM Standard Signal Generator | FM SSG |
| FM Stereo Generator | Stereo SG |
| Oscilloscope | Scope |
| Audio Oscillator | Audio Osc. |

Others

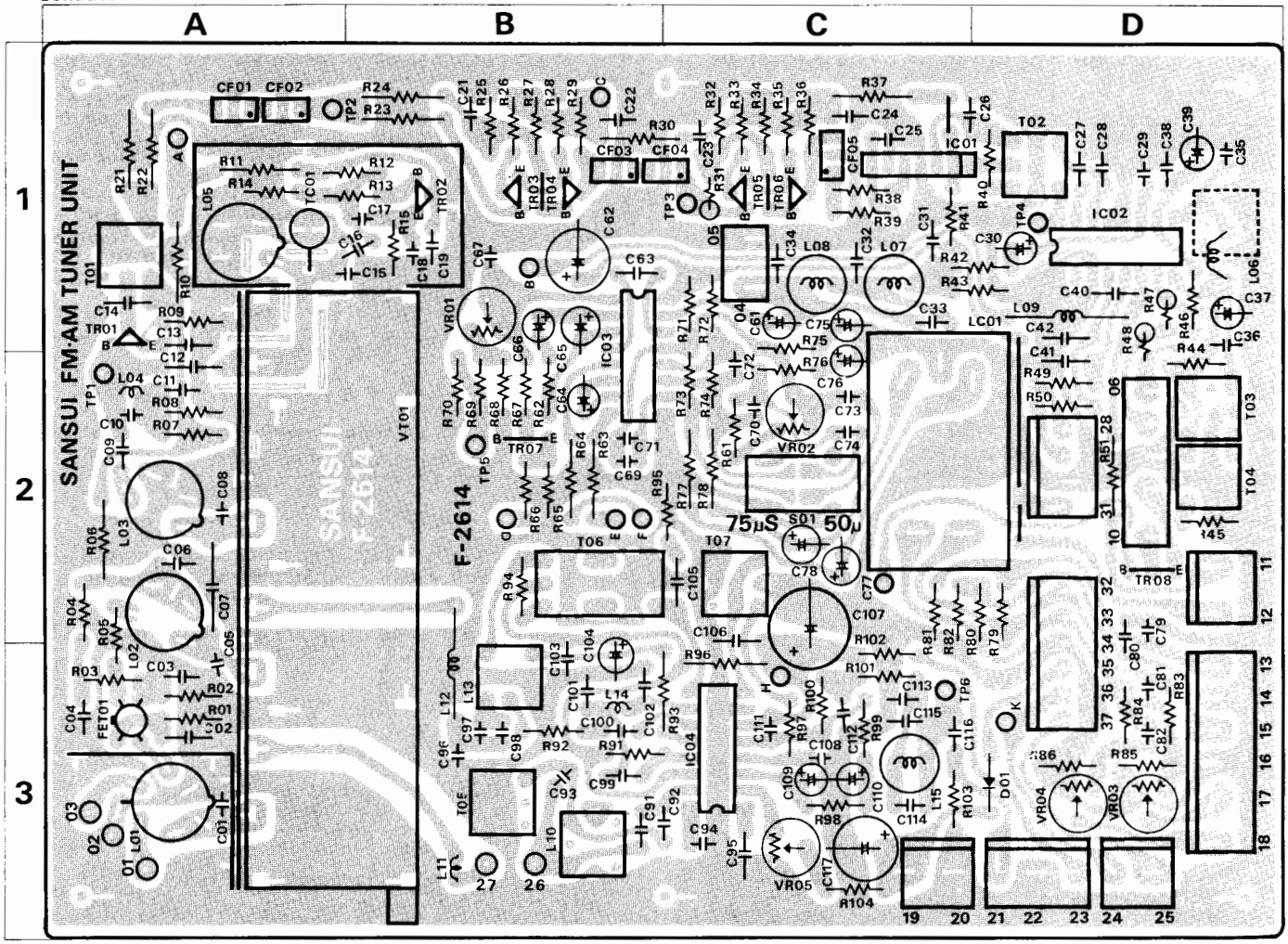
| | |
|---|---|
| Antenna | ANT. |
| Modulation | MOD. |
| Total Harmonic Distortion | T.H.D. |

# 3. PARTS LOCATION & PARTS LIST

Since some of capacitors and resistors are omitted from parts lists in this Service Manual, refer to the Common Parts List for capacitors & resistors which was appended previously to each Sansui Manual.

## 1. F-2614 RF Circuit Board (Stock No. 7521741●G-6000) (Stock No. 7521721●G-7000/G-701)

Conductor Side




### Parts List

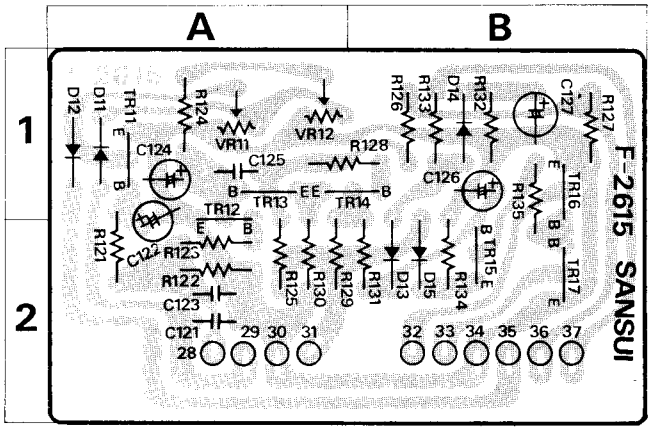
| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| TR01 | 0305801, 2 | 2SC1047 B, C | 1A |
| TR02 | 0305801, 2 | 2SC1047 B, C | 1B |
| TR03 | 0306341, 2 | 2SC1674 L, K | 1B |
| TR04 | 0306341, 2 | 2SC1674 L, K | 1B |
| TR05 | 0306341, 2 | 2SC1674 L, K | 1C |
| TR06 | 0306341, 2 | 2SC1674 L, K | 1C |
| TR07 | 0305731, 2 | 2SC711 E, F | 2B |
| | 0305951, 2 | 2SC945 Q, R | |
| IC 01 | 0360120 | μPC555H | 1C |
| IC 02 | 0360350 | HA1137W | 1B |
| IC 03 | 0360320 | HA1196 | 1, 2B |
| IC 04 | 0360390 | HA1197 | 3C |
| FT01 | 0370121, 2 | 3SK41 L, M FET | 3A |
| D 02 | 0311160 | 1S2473D | |
| | 0311180 | 1S1588 | |
| C 01 | 0669325 | 15PF 50V | 3A |
| C 05 | 0669325 | 15PF 50V | 2A |
| C 08 | 0669325 | 15PF 50V | 2A |
| C 09 | 0669210 | 10PF 50V | 2A |
| C 12 | 0679008 | 1.0PF 500V Gimmic Capacitor | 1A, B |
| C 15 | 0669330 | 20PF 50V | 1A, B |
| C 16 | 0669295 | 10PF 50V | 1B |
| C 17 | 0669295 | 10PF 50V | 1B |
| C 18 | 0669295 | 10PF 50V | 1D |
| C 29 | 0661330 | 33PF 50V | 1B |

| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| C 65 | 0573159 | 1.5 μF 35V T.C. | 1B |
| C 67 | 0629005 | 360PF 50V | 2C |
| C 73 | 0620561 | 560PF 50V | 2C |
| C 74 | 0620561 | 560PF 50V | 3B |
| C 93 | 0620562 | 5600PF 50V | 3B |
| C 96 | 0669400 | 15PF 50V | 3B |
| C 97 | 0669400 | 15PF 50V | 3B |
| C 98 | 0620361 | 360PF 50V P.C. | 2B |
| R 63 | 0200471 | 470Ω ½W N.I.R. | 3A |
| L 01 | 4200720 | Antenna Coil | 2, 3A |
| L 02 | 4210340 | RF Coil | 2A |
| L 03 | 4210340 | RF Coil | 2A |
| L 04 | 4900140 | 1 μH Inductor | 1A |
| L 05 | 4220400 | OSC Coil | 1D |
| L 06 | 4290300 | Inductor | 1C |
| L 07 | 4900250 | 8.2 μH Inductor | 1C |
| L 08 | 4900240 | 6.8 μH Inductor | 1D |
| L 09 | 4290011 | Choke Coil | 3B |
| L 10 | 4290250 | Choke Coil | |
| L 11 | 4900100 | 3.3 μH Inductor | 2, 3B |
| L 12 | 4290011 | Choke Coil | |
| L 13 | 4220650 | OSC Coil | 3B |
| L 14 | 4900110 | 100 μH Inductor | |
| L 16 | 4900100 | 3.3 μH Inductor | 1A |
| T 01 | 4235930 | 10.7 MHz IF Coil | 1D |
| T 02 | 4235930 | 10.7 MHz IF Coil | 2D |

| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| T 03 | 4235990, 1 | FM IFT 10.7 MHz | |
| T 04 | 4236000, 1 | IF Coil 10.7 MHz | 2D |
| T 05 | 4230620 | IF Coil 455 kHz | 3B |
| T 06 | 0910280 | Ceramic Filter 455 kHz | 2B |
| T 07 | 4230620 | IF Coil 455 kHz | 2C |
| CF 02 | 0910420 | | 1A |
| CF 03 | 0910420 | Ceramic Filter 10.7 MHz | 1B |
| CF 04 | 0910420 | | 1B, C |
| CF 05 | 0910420 | | 1C |
| LC01 | 0910360 | Low Pass Filter | 2C |
| VR01 | 1034250 | 4.7 kΩ B PLL VCO Adjust Volume | 1B |
| VR02 | 1035190 | 100 kΩ B MPX Separation Volume | 2C |
| VR05 | 1035110 | 4.7 kΩ B AM Signal Meter Adjust Volume | 3C |
| S 01 | 1110270 | DE-Emphasis Switch | |
| VT01 | 1220260 | AM-FM Variable Capacitor | 2B |
| TC01 | 1230090 | Trimmer Capacitor | 1A |
| | 2410570 | 5P Pin Ass'y Type D | |
| | 2410850 | 4P Pin Ass'y Type B | |
| | 2410860 | 6P Pin Ass'y Type B | |
| | 2410950 | 6P Pin Ass'y Type E | |

## 2. F-2615 FM Muting Circuit Board (Stock No. 7521751●G-6000) (Stock No. 7521731●G-7000/701)

Conductor Side

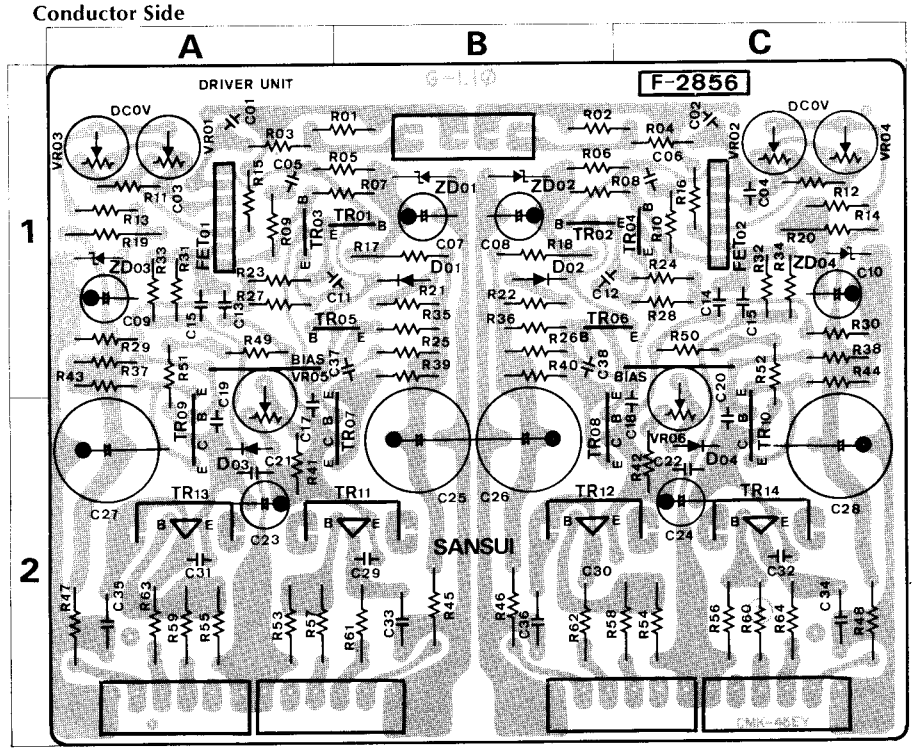



### Parts List

| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| TR11 | 0306390, 1 | 2SC1636-1, 2 | 1A |
| TR12 | 0305731, 2 | 2SC711 E, F | 1A |
| | 0305951, 2 | 2SC945 Q, P | |
| TR13 | 0305731, 2 | 2SC711 E, F | 1A |
| | 0305951, 2 | 2SC945 Q, P | |
| TR14 | 0305731, 2 | 2SC711 E, F | 1B |
| | 0305951, 2 | 2SC945 Q, P | |
| TR15 | 0300510, 1 | 2SA733 P, Q | 2B |
| TR16 | 0306390 | 2SC1636-1 | 1B |
| TR17 | 0306390 | 2SC1636-1 | 2B |
| D 11 | 0311160 | 1S2473D | 1A |
| | 0311180 | 1S1588 | |
| D 12 | 0311160 | 1S2473D | 1A |
| | 0311180 | 1S1588 | |
| D 13 | 0311160 | 1S2473D | 2B |
| | 0311180 | 1S1588 | |
| D 14 | 0311160 | 1S2473D | 1B |
| | 0311180 | 1S1588 | |
| D 15 | 0311160 | 1S2473D | 2B |
| | 0311180 | 1S1588 | |
| D 16 | 0311160 | 1S2473D | |
| | 0311180 | 1S1588 | |
| D 17 | 0311160 | 1S2473D | |
| | 0311180 | 1S1588 | |
| VR11 | 1035410 | 47 kΩ B, FM Signal | 1A |
| VR12 | 1035430 | 100 kΩ B, FM Muting | 1A |
| | 2420510 | 4P Connector Ass'y Type B | |
| | 2420520 | 6P Connector Ass'y Type A | |

## 3. F-2856 Driver Circuit Board (Stock No. 7571881●G-6000) (Stock No. 7571891●G-7000/G-701)

Conductor Side




### Parts List

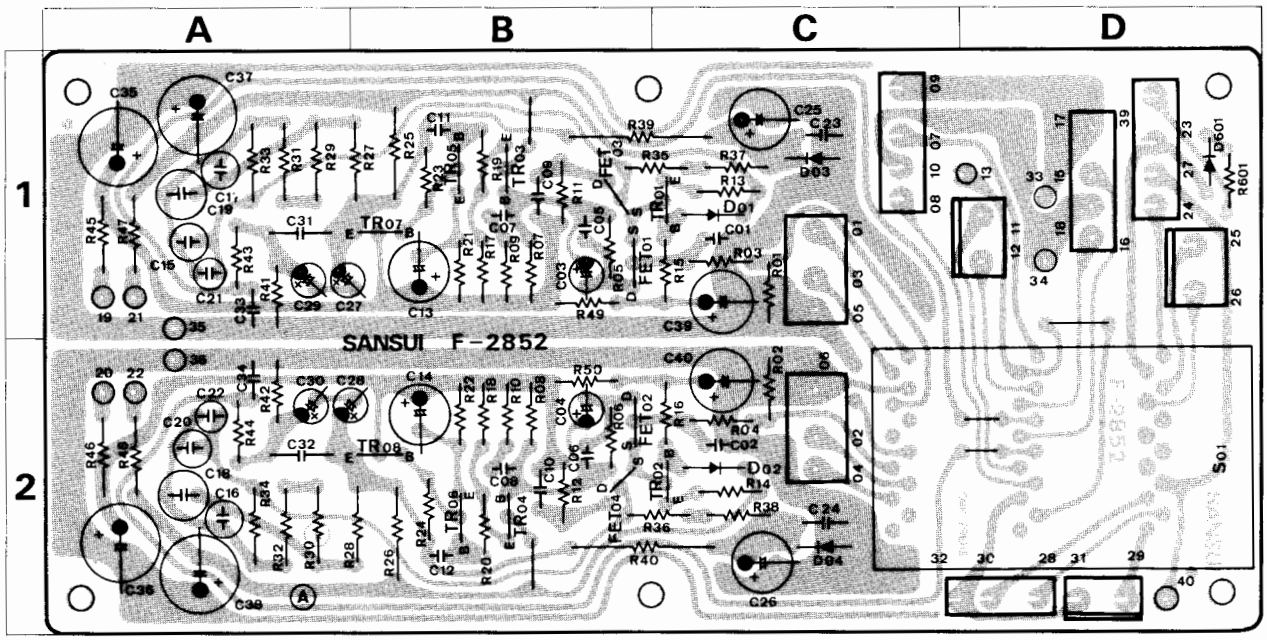
| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| TR01, 02 | 0306550 | 2SC1775 E, F | 1B |
| TR03, 04 | 0306550, 1 | 2SC1775 E, F | 1A, 1C |
| TR05, 06 | 0301030, 1 | 2SA939 B, V | 1A, B, C |
| TR07, 08 | 0301030, 1 | 2SA939 B, V | 2B |
| TR09, 10 | 0306680, 1 | 2SC-2071 B, V | 2A, 2C |
| TR11, 12 | 0308431, 2 | 2SD381 M, L | 2B |
| TR13, 14 | 0303261, 2 | 2SB536 M, L | 2A, 2C |
| FT01, 02 | 0370281, 2 | 2SK109 D, E FET | 1A, 1C |
| D 01, 02 | 0311160 | 1S2473D | 1B |
| | 0311180 | 1S1588 | |
| D 03, 04 | 0340140 | STV-4H Varistor | 2A, 2C |
| ZD01, 02 | 0316020 | EQA01-18R | 1B |
| ZD03, 04 | 0316020 | EQA01-18R | 1A, 1C |

| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| C 01, 02 | 0620101 | 100PF 50V P.C. | 1A, 1C |
| C 05, 06 | 0620331 | 330PF 50V P.C. | 1A, 1C |
| C 33, 34 | 0655223 | 22000PF 500V C.C. | 2B, 2C |
| C 35, 36 | 0655223 | 22000PF 500V C.C. | 2A, 2B |
| R 17, 18 | 0211332 | 3.3 kΩ 1W N.I.R. | 1B, |
| R 19, 20 | 0211332 | 3.3 kΩ 1W N.I.R. | 1A, 1C |
| R 45, 46 | 0210560 | 56Ω ½W N.I.R. | 2B |
| R 47, 48 | 0210560 | 56Ω ½W N.I.R. | 2A, 2C |
| R 53, 54 | 0210221 | 220Ω ½W N.I.R. | 2A, 2C |
| R 55, 56 | 0210221 | 220Ω ½W N.I.R. | 2A, 2C |
| VR01, 02 | 1033570 | 100Ω B Center DC 0V Adjust Volume (A) | 1A, 1C |
| VR03, 04 | 1033650 | 2.2 kΩ B Center DC 0V Adjust Volume (B) | 1A, 1C |

| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| VR05, 06 | 1033590 | 220Ω B Bias Current Adjust Volume | 2A, 2C |
| | 2410590 | 4P Pin Ass'y Type D | |
| | 2420520 | 6P Connector Ass'y Type A | |
| **G-6000 Only Parts** | | | |
| R 57, 58 | 0210229 | 2.2Ω ¼W N.I.R. | 2A, 2C |
| R 59, 60 | 0210229 | 2.2Ω ¼W N.I.R. | 2A, 2C |
| **G-7000/701 Only Parts** | | | |
| R 57, 58 | 0210229 | 2.2Ω ½W N.I.R. | 2A, 2C |
| R 59, 60 | 0210229 | 2.2Ω ½W N.I.R. | 2A, 2C |

## 4. F-2852 Equalizer Circuit Board (Stock No. 0000000●G-6000) (Stock No. 0000000●G-7000/701)

**Conductor Side**




### Parts List

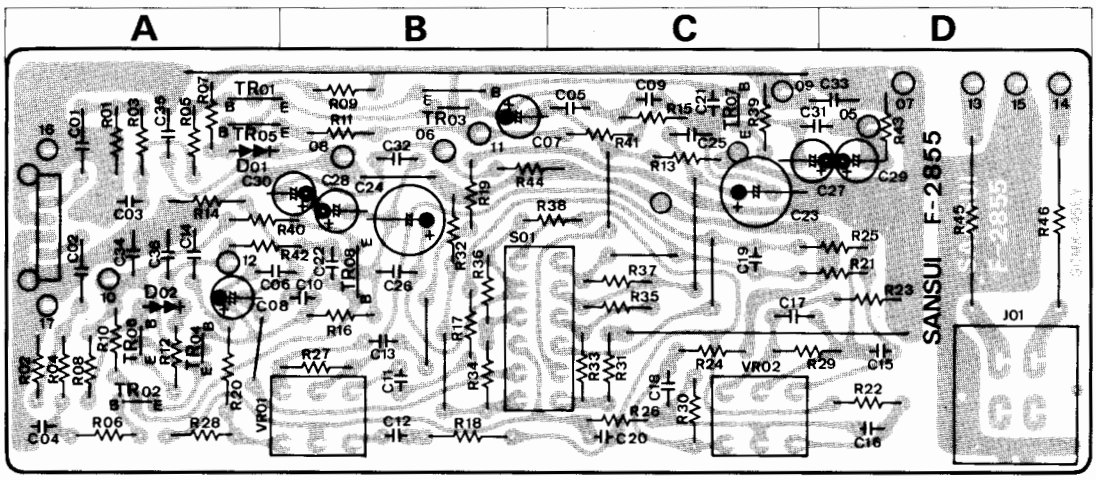
| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| TR01, 02 | 0306550, 1 | 2SC1775 E, F | 1C, 2C |
| TR03, 04 | 0300770, 1 | 2SA896-1-1, 2 | 1B, 2B |
| | 0300930, 1 | 2SA896-1-1, 2 | |
| TR05, 06 | 0300890, 1 | 2SA750 (3) E, U | 1B, 2B |
| | 0300930, 1 | 2SA872 D, E | |
| TR07, 08 | 0306350, 1 | 2SC1811-1-1, 2 | |
| | 0308520 ~ 2 | 2SD438 D, E, F | 1B, 2B |
| FT01, 02 | 0370302, 3 | 2SK-117 GR, BL (FET) | 1B, 2B |
| FT03, 04 | 0370302, 3 | 2SK-117 GR, BL (FET) | 1B, 2B |
| D 01, 02 | 0340150 | MV-12 Varistor | 1C, 2C |

| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| D 03, 04 | 0311160 | 1S2473D (Diode) | 1C, 2C |
| | 0311180 | 1S1588 (Diode) | |
| D 601 | 0311160 | 1S2473D (Diode) | 1D |
| | 0311180 | 1S1588 (Diode) | |
| C 01, 02 | 0620101 | 100PF 50V (P.C.) | 1C, 2C |
| C 07, 08 | 0620101 | 100PF 50V (P.C.) | 1B, 2B |
| C 17, 18 | 0625103 | 10000PF 50V (P.C.) | 1A, 2A |
| C 19, 20 | 0625272 | 10000PF 50V (P.C.) | 1A, 2A |
| C 21, 22 | 0620151 | 2700PF 50V (P.C.) | 1A, 2A |
| R 25, 26 | 0201392 | 3.9Ω 1W N.I.R. | |

| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| R 27, 28 | 0231561 | 560Ω ½W Me. R. | 1B, 2B |
| R 29, 30 | 0231153 | 560Ω ½W Mr. R. | 1A, 2A |
| R 31, 32 | 0231304 | 300 kΩ ½W Me. R. | 1A, 2A |
| R 33, 34 | 0231273 | 27 kΩ ½W Me. R. | 1A, 2A |
| R 45, 46 | 0191101 | 100Ω ¼W F.R. | 1A, 2A |
| R 47, 48 | 0191101 | 100Ω ¼W F.R. | 1A, 2A |
| S 601 | 1103590 | Selector Switch | 2D |
| | 2410590 | 4P Pin Ass'y Type D | |
| | 2410910 | 2P Pin Ass'y Type E | |
| | 2410920 | 3P Pin Ass'y Type E | |

## 5. F-2855 Tone Control Circuit Board (Stock No. 7562161●G-6000) (Stock No. 7562181●G-7000/G-701)

**Conductor Side**




### Parts List

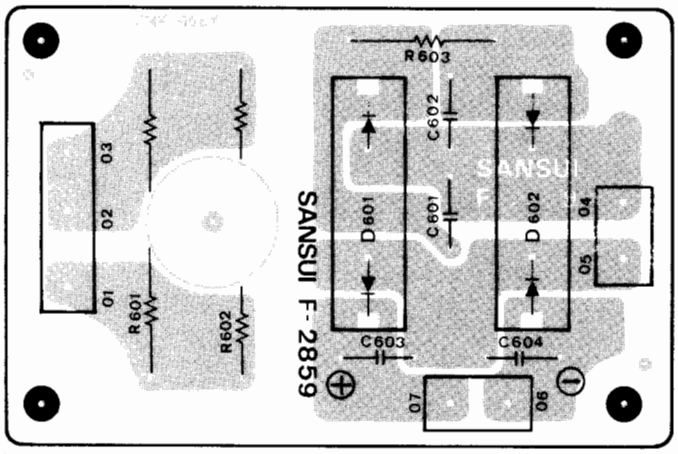
| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| TR01, 02 | 0306010, 1 | 2SC1222 (2) U, E (Transistor) | |
| TR03, 04 | 0306010, 1 | 2SC1222 (2) U, E (Transistor) | |
| TR05, 06 | 0306010, 1 | 2SC1222 (2) U, E (Transistor) | |
| TR07, 08 | 0300890, 1 | 2SA750 (3) E, U (Transistor) | |

| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| D 01, 02 | 0340120 | VD1212 (Varistor) | |
| | 0340150 | MV-12 (Varistor) | |
| VR01, 02 | 1015360, 1 | 100 kΩ x 2 C, Tone Control Volume | |

| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| S 01 | 1131630, 1 | Tone Defeat Switch | |
| J 01 | 2430400 | Head Phone Jack | |

## 6. F-2859 Power Supply Circuit Board (Stock No. 750282●G-7000/G-701)

Conductor Side

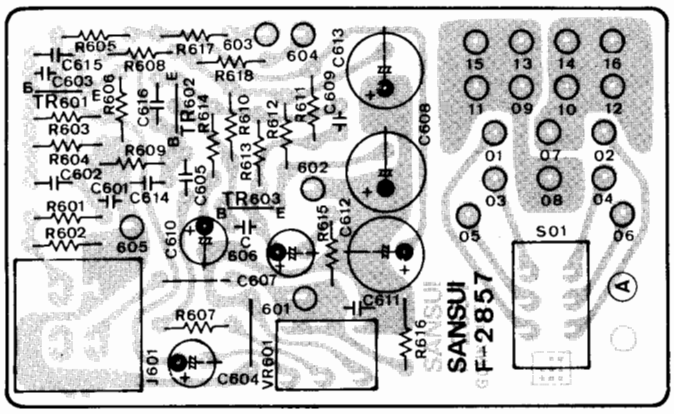



### Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| D 601 | 0311290 | SS-3 Diode |
| D 602 | 0311300 | SS-3R Diode |
| C 601 ~04 | 0655103 | 10000PF 500V C.C. |
| R 601, 02 | 0257829 | 8.2Ω 7W Ce. R. |
| R 603 | 0202822 | 8.2 kΩ 2W N.I.R. |

## 7. F-2857 MIC AMP. Circuit Board (Stock No. 7610251●G-6000) (Stock No. 7610261●G-7000/G-701)

Conductor Side

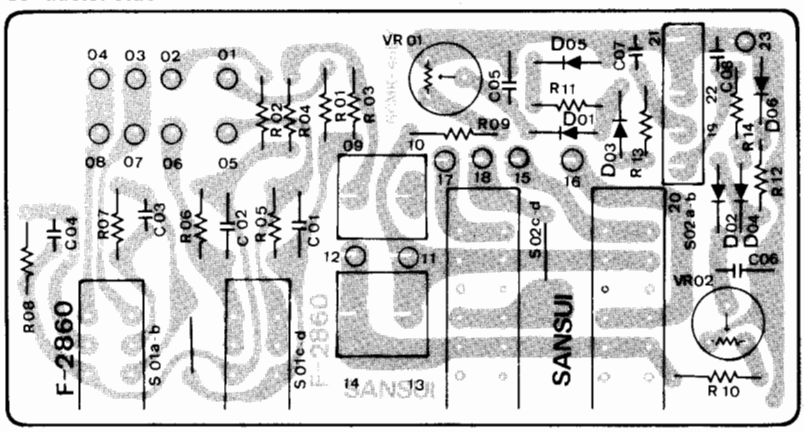



### Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| TR601 | 0306070, 1 | 2SC1313 F, G |
| TR602 | 0300470 | 2SA726 (W) F |
| TR603 | 0306011 | 2SC1222 (2) E |
| | | Transistor |
| C 609 | 0620681 | 680 PF 50V P.C. |
| R 617 | 0191470 | 47Ω ¼W F.R. |
| R 618 | 0191470 | 47Ω ¼W F.R. |
| VR601 | 1090270, 1 | MIC Volume |
| S 01 | 1131620, 1 | Dolby FM DE-Emphasis Switch |
| J 601 | 2430400 | MIC Jack |

## 8. F-2860 Tape Monitor Circuit Board (Stock No. 7596141●G-6000) (Stock No. 7596181●G-7000/G-701)

Conductor Side

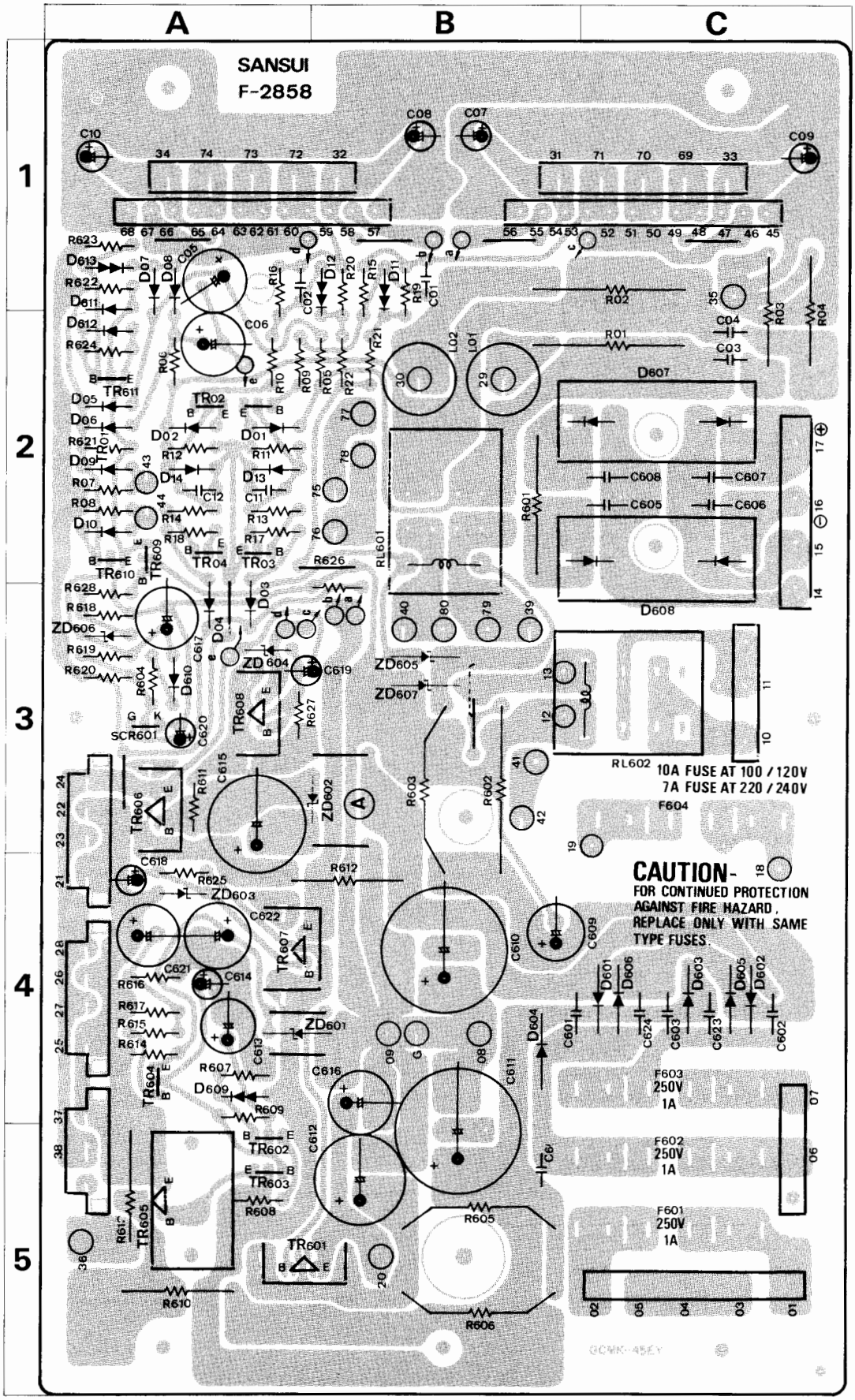



### Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| D 01, 02 | 0311160 | 1S2473D |
| | 0311180 | 1S1588 |
| D 03, 04 | 0310330 | 1N60 |
| D 05, 06 | 0311160 | 1S2473D |
| | 0311180 | 1S1588 |
| | | Diode |
| R 09, 10 | 0200471 | 470Ω ½W N.I.R. |
| VR01, 02 | 1035110 | 4.7 kΩ B Power Meter Adjust Volume |
| S 01 | 1131560, 1 | High Filter & Subsonic Filter Switch |
| S 02 | 1131580, 1 | Speakers Switch |
| | 2410590 | 4P Pin Ass'y Type D |
| | 2410910 | 2P Pin Ass'y Type E |

## 9. F-2858 Power Supply Circuit Board (Stock No. 7502801●G-6000) (Stock No. 7502811●G-7000/G-701)

Conductor Side



## Parts List

| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| TR01, 02 | 0306680, 1 | 2SC2071 B, V | 2A |
| TR03, 04 | 0300890, 1 | 2SA750 (3) E, U | 2A |
| TR601 | 0308392, 3 | 2SD313AL (E), (F) | 5A |
| TR602 | 0300721, 2 | 2SA850 D, E | 5A |
| TR603 | 0306371, 2 | 2SC1175V10 E, F | 5A |
| TR604 | 0306290, 1 | 2SC1400 (I) E, U | 4A |
| TR605 | 0308392, 3 | 2SD313AL (E), (F) | 5A |
| TR606 | 0303231, 2 | 2SB507V11-AL D, E | 3A |
| TR607 | 0308392, 3 | 2SD313AL (E), (F) | 4A |
| TR608 | 0303231, 2 | 2SB507V11-AL D, E | 3A |
| TR609 | 0308521, 2 | 2SD438 E, F | 2A |
| TR610 | 0306290, 1 | 2SC1400 (I) E, U | 2A |
| TR611 | 0306290, 1 | 2SC1400 (I) E, U | 2A |
| | | (Transistor) | |
| D 01, 02 | 0311160 / 0311180 | 1S2473D / 1S1588 | 2A |
| D 03, 04 | 0311160 / 0311180 | 1S2473D / 1S1588 | 3A |
| D 05, 06 | 0311160 / 0311180 | 1S2473D / 1S1588 | 2A |
| D 07, 08 | 0311160 / 0311180 | 1S2473D / 1S1588 | 1A |
| D 09, 10 | 0311160 / 0311180 | 1S2473D / 1S1588 | 2A |
| | | (Diode) | |
| D 11, 12 | 0340150 | MV-12 Varistor | 1B |
| D 13, 14 | 0310400 | 1N34A | 2A |
| D 601 | 0310350 | 10D2 | 4C |
| D 602 | 0310350 | 10D2 | 4C |
| D 603 | 0310350 | 10D2 | 4C |
| D 604 | 0310350 | 10D2 | 4B |
| D 605 | 0310350 | 10D2 | 4C |
| D 606 | 0310350 | 10D2 | 4C |
| D 610, 11 | 0311160 / 0311180 | 1S2473D / 1S1588 | 3, 1A |
| | | (Diode) | |

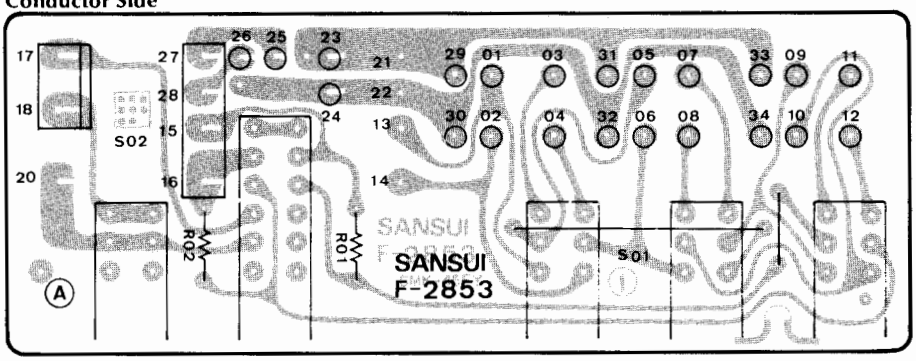
| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| D 612 | 0311160 / 0311180 | 1S2473D / 1S1588 (Diode) | 2A |
| D 613 | 0340150 | MV-12 Varistor | 1A |
| D 901 | 0311160 | 1S2473D Diode | |
| ZD601 | 0315970 | EQA01-13R | 4A |
| ZD602 | 0316580 | RD33E C | 3B |
| ZD603 | 0316020 | EQA01-18R | 4A |
| ZD604 | 0316020 | EQA01-18R (Zener Diode) | 3A |
| ZD605 | 0316070 | EQA01-24R | 3B |
| ZD606 | 0316390 | RD6.2E B | 3A |
| SR601 | 0350020 | 2SF656 SCR | 3A |
| C 601 | 0655472 | | 4B |
| C 602 | 0655472 | | 4C |
| C 603 | 0655472 | | 4C |
| C 604 | 0655472 | | 5B |
| C 605 | 0655472 | 4700PF 500V E.C. | 2C |
| C 606 | 0655472 | | 2C |
| C 607 | 0655472 | | 2C |
| C 608 | 0655472 | | 2C |
| C 610 | 0549207 | 1000 μF 63V E.C. | 4B |
| C 611 | 0549207 | 1000 μF 63V E.C. | 4B |
| C 623 | 0655472 | 4700PF 500V C.C. | 4C |
| C 624 | 0655472 | 4700PF 500V C.C. | 4C |
| R 01, 02 | 0133109 | 1.0Ω 3W Ce. R. | 1C |
| R 03, 04 | 0202100 | 10Ω 2W N.I.R. | 1, 2C |
| R 601 | 0202822 | 8.2 kΩ 2W N.I.R. | 2B |
| R 610 | 0212100 | 10Ω 2W N.I.R. | 5A |
| R 612 | 0212100 | 10Ω 2W N.I.R. | 4B |
| R 613 | 0200152 | 1.5 kΩ ½W N.I.R. | 5A |

| Parts No. | Stock No. | Description | Position |
|---|---|---|---|
| L 01, 02 | 4210290 | 1.5 μH RF Coil | 2B |
| RL601 | 1150400 | Relay Switch | 2B |
| F 601 | 0432240 | 2A 250V | |
| F 602 | 0432220 | 1A 250V (AC Fuse) | |
| F 603 | 0432220 | 1A 250V | |
| F 604 | 0432280 / 0432600 | 4A AC (220V) / 7A AC (120V) (Power Fuse) | |
| | 2410730 | 6P Pin Ass'y Type A | |
| | 2411400 | 3P Mini Connector | |
| | 2411410 | 4P Mini Connector | |
| **G-6000 Only Parts** | | | |
| D 607 | 0311320 | SS-5R Diode | 2C |
| D 608 | 0311310 | SS-5 Diode | 2C |
| D 609 | 0340120 / 0340150 | VD1212 / MV-12 (Varistor) | |
| R 603 | 0183681 | 680Ω 3W Ce. R. | 3B |
| R 605 | 0185331 | 330Ω 5W Ce. R. | 5B |
| R 606 | 0185471 | 470Ω 5W Ce. R. | 5B |
| **G-7000/701 Only Parts** | | | |
| D 607 | 0311300 | SS-3R Diode | 2C |
| D 608 | 0311290 | SS-3 Diode | 2C |
| D 609 | 0340150 | MV-12 Varistor | |
| R 602 | 0183821 | 820Ω 3W Ce. R. | 3B |
| R 603 | 0183821 | 820Ω 3W Ce. R. | 3B |
| R 605 | 0185561 | 560Ω 5W Ce. R. | 5B |
| R 606 | 0185471 | 470Ω 5W Ce. R. | 5B |
| RL602 | 1150360 | Relay Switch | 3C |

## 10. F-2853 Tape Monitor Circuit Board

(Stock No. 7596131●G-6000)
(Stock No. 7596171●G-7000/G-701)

### Conductor Side



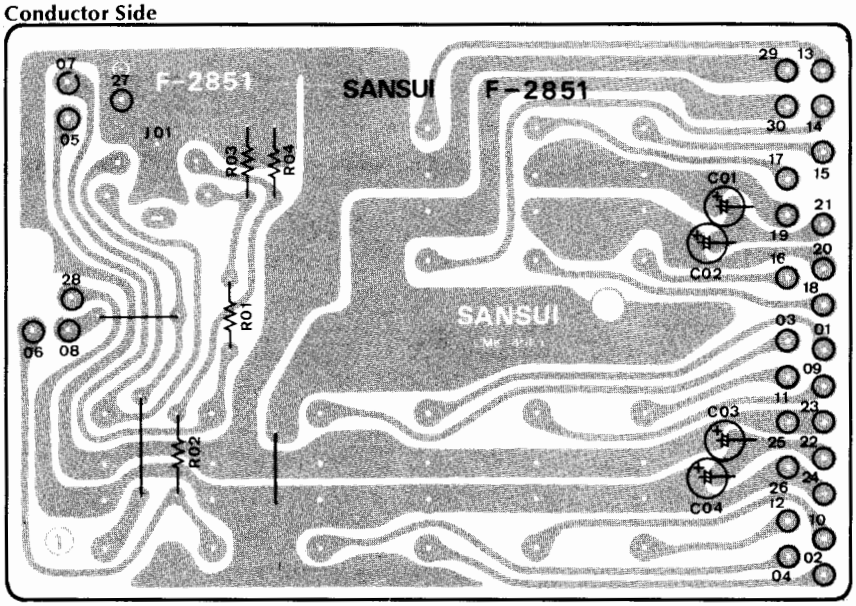

### Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| S 01 | 1131610, 1 | 4CH Adaptor Switch |
| S 02 | 1131600, 1 | MODE & FM Muting Switch |
| | 2410590 | 4P Pin Ass'y Type D |
| | 2410910 | 2P Pin Ass'y Type E |

- The circuit boards, F-2851, F-2854, F-2878, F-2862 & F-2879 are not supplied as the assembled, the individual parts on the circuit board, however, are provided for orders.

## 11. F-2851 Input Terminal Circuit Board

### Conductor Side

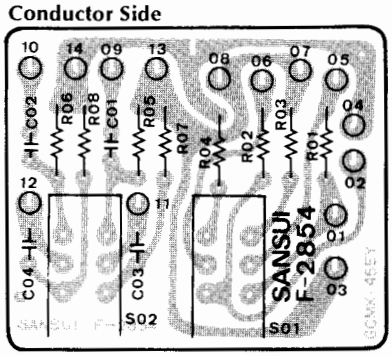



### Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| | 2090030 | 5P Connector Socket |
| | 2200490 | 12P Input Terminal |
| | 2200530 | 6P Input Terminal |

## 12. F-2854 Audio Muting Circuit Board

Conductor Side

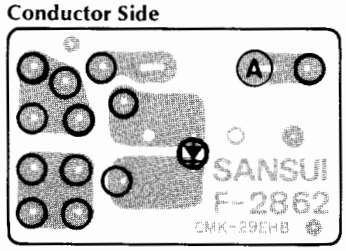



Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| C 01, 02 | 0620511 | 510 PF 50V P.C. |
| S 01 | 1131560, 1 | Audio Muting Switch |

## 13. F-2862 Indicator Circuit Board

Conductor Side




Parts List (Power Indicator Circuit)

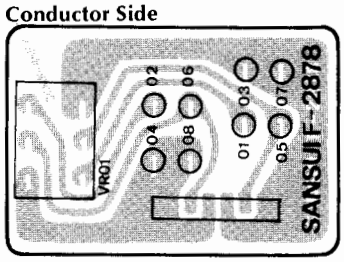
| Parts No. | Stock No. | Description |
|---|---|---|
| LD601 | 0319050 | SG2-13C (Green) LED |

Parts List (FM Stereo Indicator Circuit)

| Parts No. | Stock No. | Description |
|---|---|---|
| LD01 | 0319060 | SG2-12C (Red) LED |

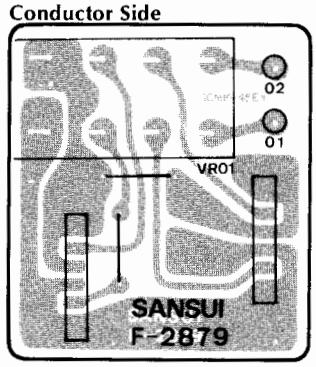
## 14. F-2878 Balance Volume Circuit Board

Conductor Side



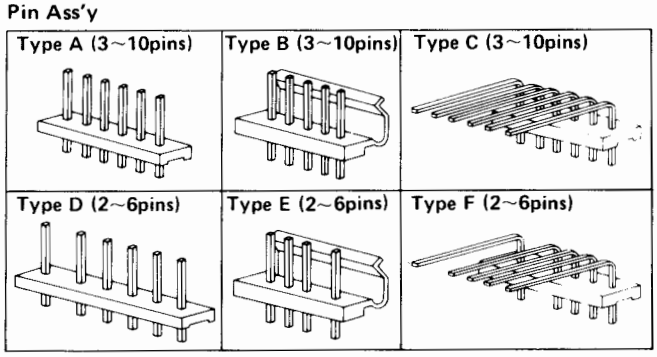

## 15. F-2879 Master Volume Circuit Board

Conductor Side



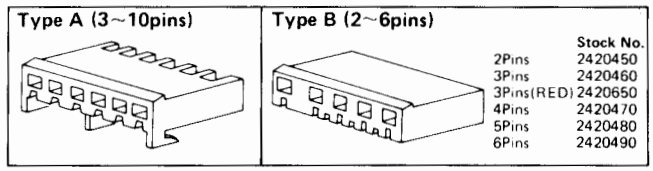

## • Figures

Pin Ass'y




NOTE: Since stock number of famale connectors (type B) with wires are not shown in each parts list of Complete circuit board, please refer to the above parts list when ordering the connector.

Conectors

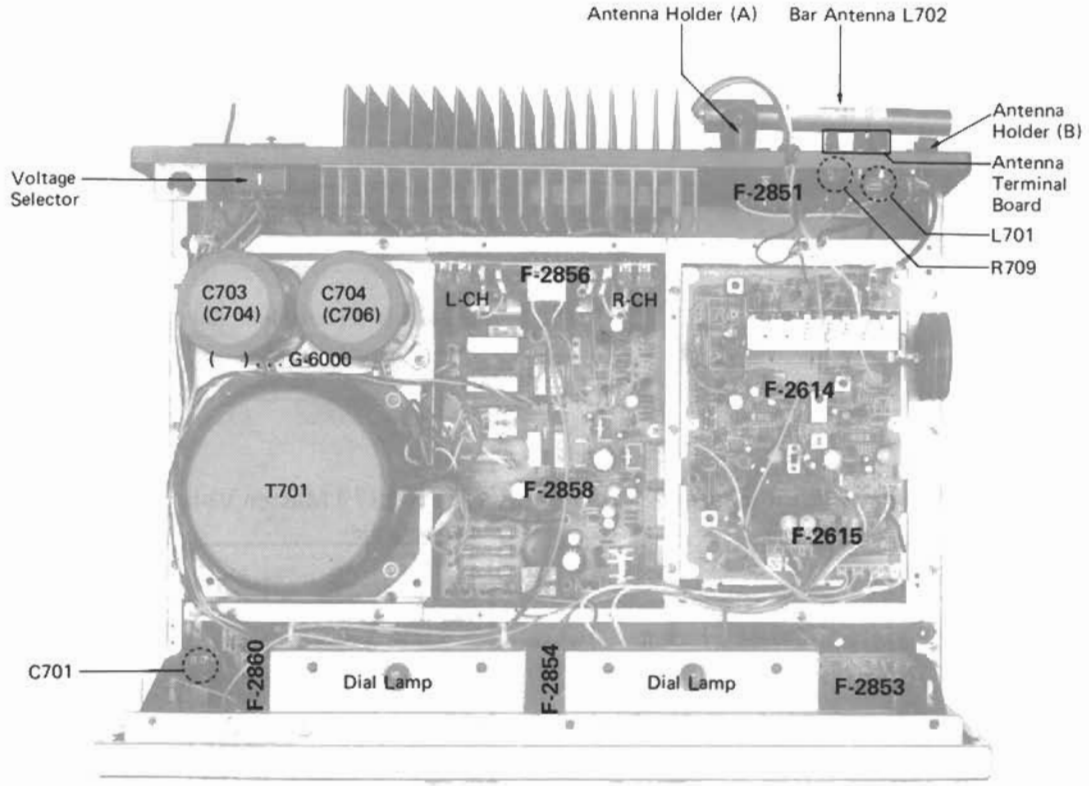



## • Abbreviations

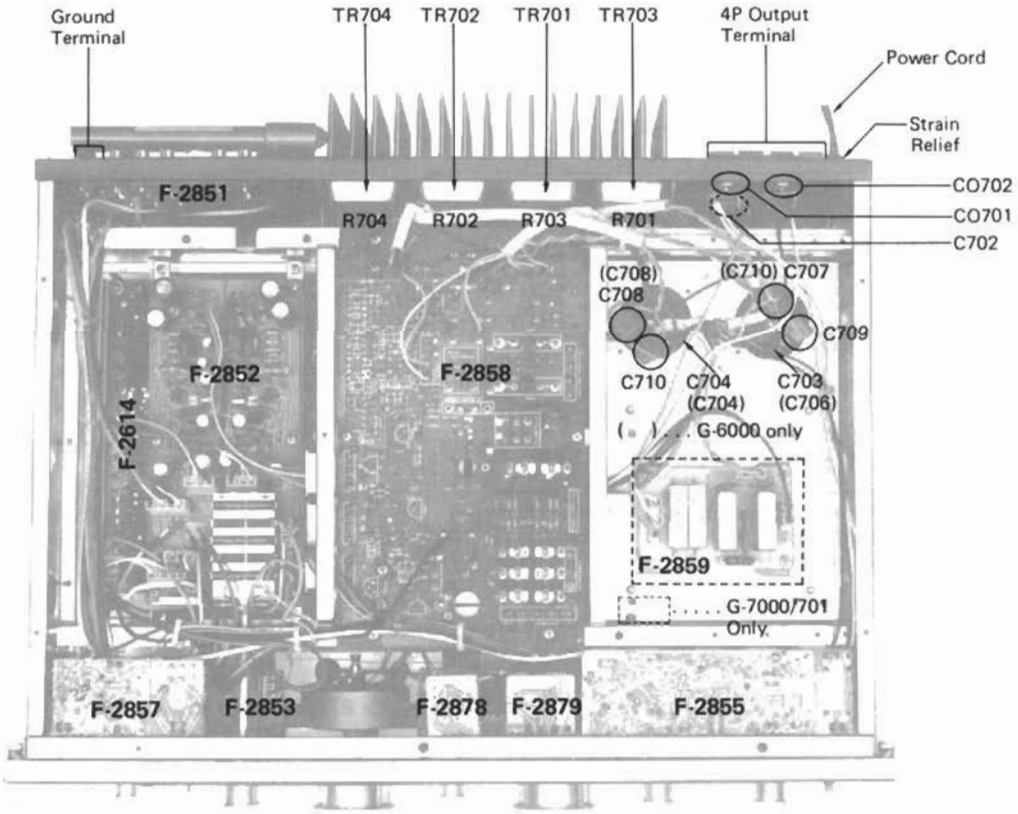
| | | | |
|---|---|---|---|
| C.R. | : Carbon Resistor | E.C. | : Electrolytic Capacitor |
| S.R. | : Solid Resistor | BP.E.C. | : Bi-Polar Electrolytic Capacitor |
| Ce.R. | : Cement Resistor | | |
| M.R. | : Metal Film Resistor | C.C. | : Ceramic Capacitor |
| | | Mi.C. | : Mica Capacitor |
| F.R. | : Fusing Resistor | O.C. | : Oil Capacitor |
| N.I.R. | : Non-Inflammable Resistor | P.C. | : Polystyrene Capacitor |
| | | E.C. | : Tantalum Capacitor |
| M.C. | : Mylar Capacitor | | |

# 4. OTHER PARTS

<Top View> ≪G-7000≫




<Bottom View> ≪G-7000≫




<Front Vie

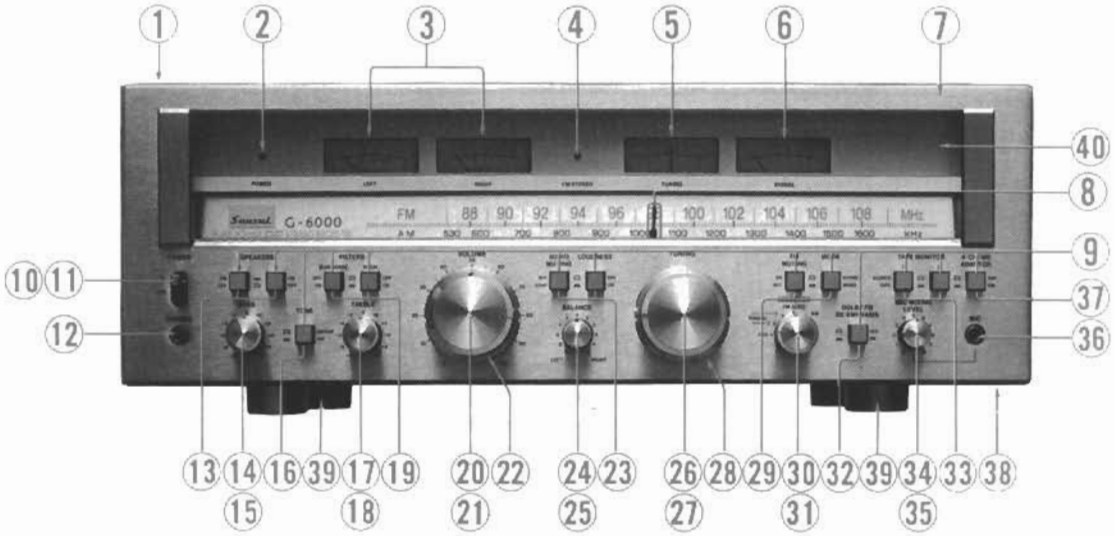
Front View
Parts List

| Parts No. | Stock |
|---|---|
| 1 | 5727 |
| 2 | 0319 |
| 3 | 4301 |
| 4 | 0319 |
| 5 | 4301 |
| 6 | 4301 |
| 7 | 7007 |
| | 7007 |
| | 540 |
| | 504 |
| | 539 |
| | 528 |
| | 551 |
| 8 | 7116 |
| 9 | 5326 |
| 10 | 1171 |

Top & Botto
Parts List

| Parts No. | Stock |
|---|---|
| TR701, 702 | 0306 |
| | 0306 |
| TR703, 704 | 0304 |
| | 0300 |
| C 701 | 0605 |
| C 702 | 0656 |
| C 703, 704 | 0556 |
| C 704, 706 | 0556 |
| C 708, 710 | 0602 |
| C 707, 708 | 0602 |
| C 709, 710 | 0602 |

## <Front View>



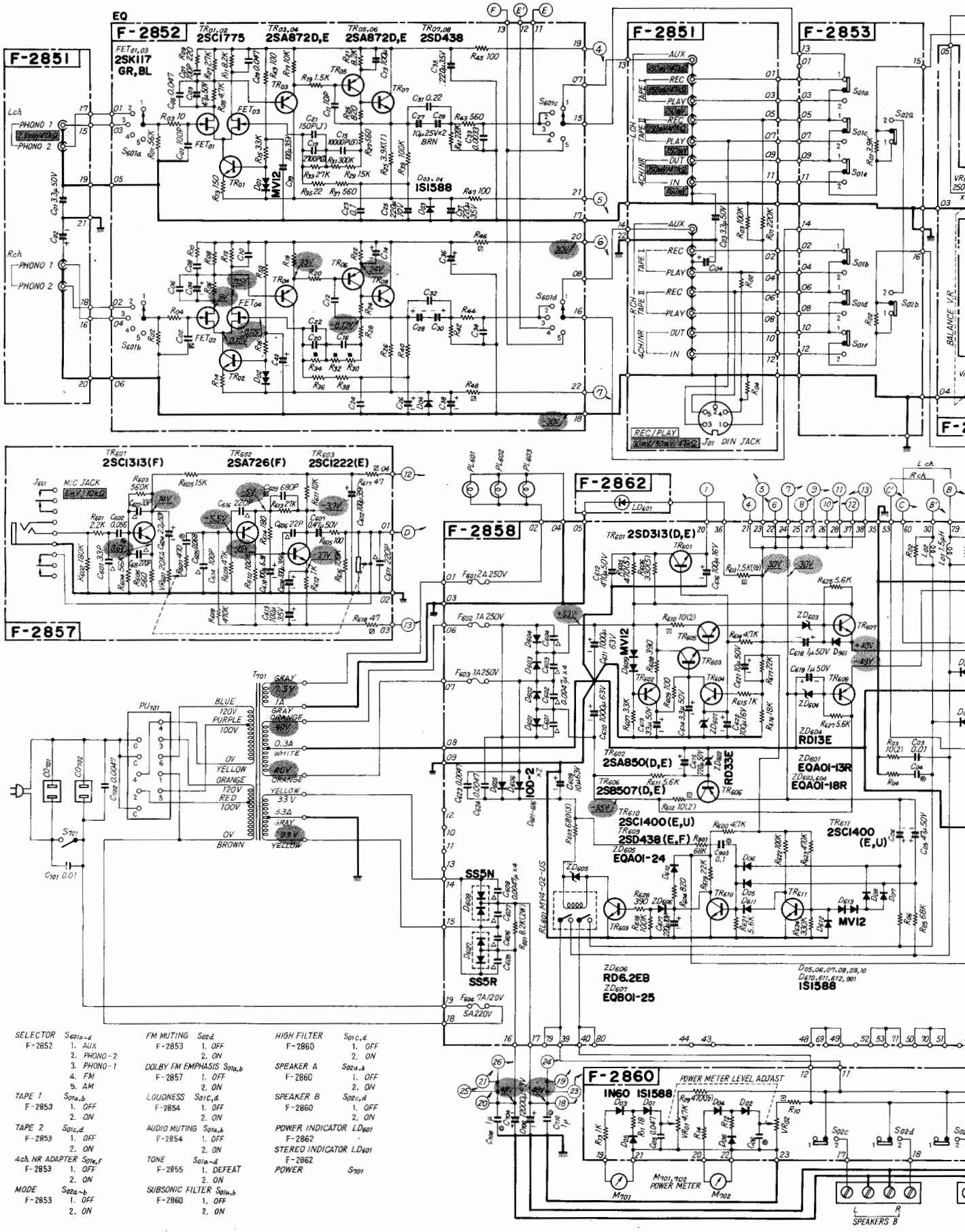

### Front View ≪G-6000/7000/701≫ Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| 1 | 5727091 | Wood Bonnet |
| 2 | 0319050 | Power Indicator, LED (Green) |
| 3 | 4301280, 1 | Power Meter |
| 4 | 0319060 | FM STEREO Indication, LED (Red) |
| 5 | 4301240 | Tuning Meter |
| 6 | 4301230 | Signal Meter |
| 7 | 7007830 | Front Panel Ass'y ≪G-6000/7000≫ |
| | 7007910 | Front Panel Ass'y ≪G-701≫ |
| | 5408300 | Front Glass |
| | 5048110 | Masking Plate |
| | 5393800 | Knob Ring |
| | 5280020 | Front Panel Retainer |
| | 5517270 | Masking Packing |
| 8 | 7116050 | Dial Pointer Ass'y |
| 9 | 5326690 | Push Switch Knob |
| 10 | 1171600 | Power Switch |
| 11 | 5326700 | Knob, power switch |
| 12 | 2430400 | Phones Jack |
| 13 | 1131580, 1 | Speaker Switch (A) (B) |
| 14 | 1015360, 1 | Bass Volume, 100 kΩ x 2 (C) |
| 15 | 5319100 | Knob, bass volume |
| 16 | 1131630, 1 | Tone Switch |
| 17 | 1015360, 1 | Treble Volume, 100 kΩ x 2 (C) |
| 18 | 5319100 | Knob, treble volume |
| 19 | 1131560, 1 | Subsonic & Filter Switch |
| 20 | 1011160, 1 | Volume, 150 kΩ x 2 (B) |
| 21 | 5319180 | Knob, volume |
| 22 | 5296191 | Volume Grille |
| 23 | 1131560, 1 | Audio Muting & Loudness Switch |
| 24 | 1015320 | Balance Volume, 250 kΩ x 2 MN |
| 25 | 5319090 | Knob, balance volume |
| 26 | 7036570 | Tuning Unit Ass'y |
| 27 | 5319170 | Knob, tuning unit ass'y |
| 28 | 5296191 | Grille, tuning unit ass'y |
| 29 | 1131600, 1 | FM Muting & Mode Switch |
| 30 | 1103590 | Selector |
| 31 | 5319100 | Knob, selector |
| 32 | 1131620, 1 | Dolby FM De-emphasis Switch |
| 33 | 1131610, 1 | Tape Monitor Switch (1), (2) |
| 34 | 1090270, 1 | MIC Mixing Volume |
| 35 | 5319090 | Knob, mic mixing volume |
| 36 | 2430400 | Mic Jack |
| 37 | 1131610, 1 | 4-CH/NR Adaptor Switch |
| 38 | 5058850 | Bottom Plate |
| 39 | 5517050 | Leg |
| 40 | 5408320 | Dial Glass ≪G-7000≫ |
| | 5408450 | Dial Glass ≪G-701≫ |
| | 5408330 | Dial Glass ≪G-6000≫ |

### Top & Bottom View ≪G-6000/7000/701≫ Parts List

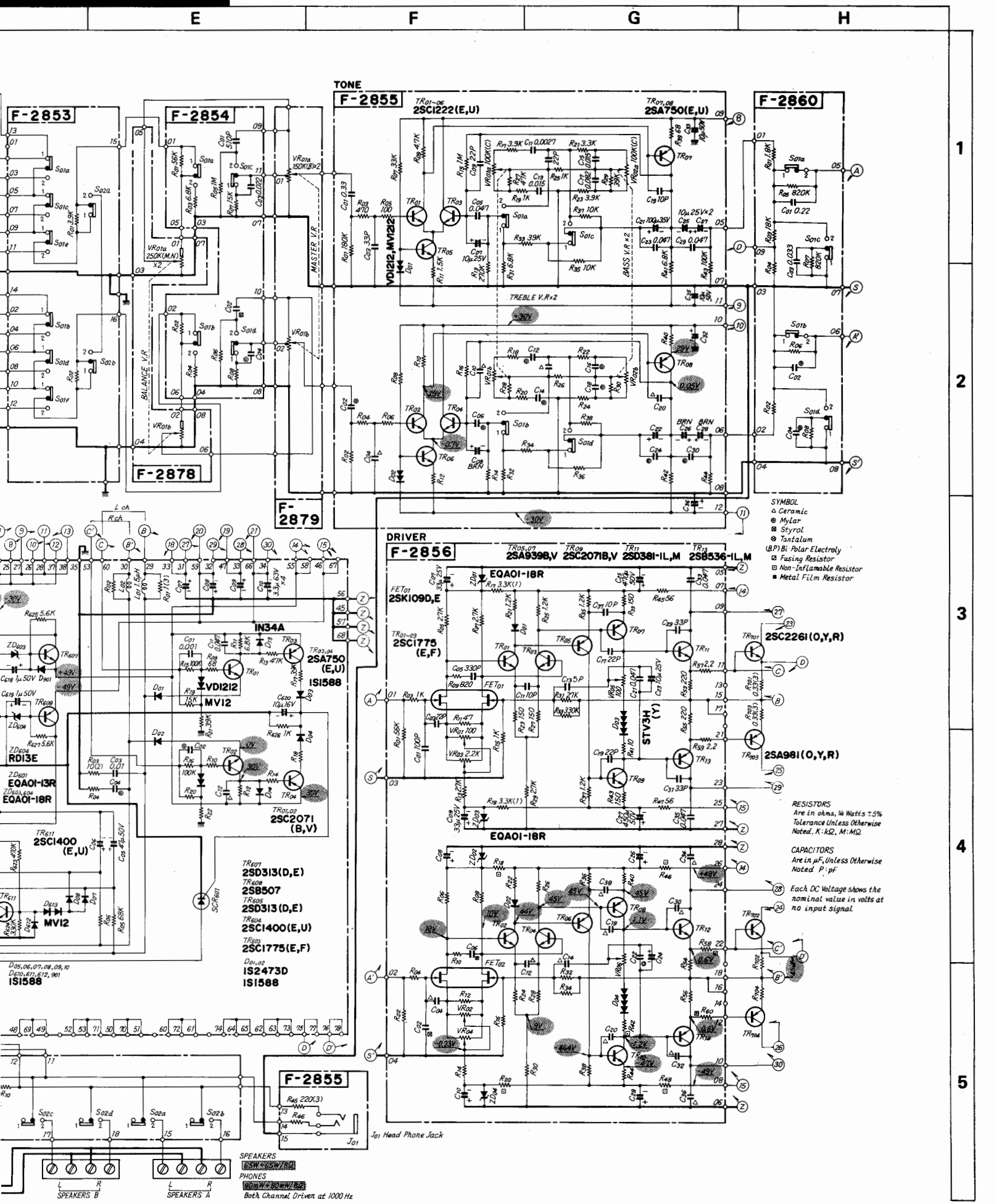
| Parts No. | Stock No. | Description |
|---|---|---|
| TR 701, 702 | 0306301 | 2SD551 R, O ≪G-7000/701≫ |
| | 0306570 ~ 2 | 2SC2261 R, O, Y |
| TR 703, 704 | 0304601 | 2SB681 R, O ≪G-7000/701≫ |
| | 0300950 ~ 2 | 2SA981 R, O, Y |
| C 701 | 0605337 | 0.033 μF 250V M.C |
| C 702 | 0659802 | 0.0047 μF 150V C.C. |
| C 703, 704 | 0559521 | 12000 μF x 2 63V E.C. ≪G-7000/701≫ |
| C 704, 706 | 0559518 | 12000 μF 63V E.C. ≪G-6000≫ |
| C 708, 710 | 0602109 | 1 μF 100V M.C ≪G-6000≫ |
| C 707, 708 | 0602109 | 1 μF 100V M.C ≪G-7000/701≫ |
| C 709, 710 | 0602109 | 1 μF 100V M.C ≪G-7000/701≫ |
| R 701, 702 | 0155338 | 0.33 Ω 5W Ce.R |
| R 703, 704 | 0155338 | 0.33 Ω 5W Ce.R |
| R 709 | 0103122 | 1.2 kΩ ½W C.R. |
| L 701 | 4290021 | Antenna Transformer |
| L 702 | 4200830, 1 | Bar Antenna |
| T 701 | 4002770 | Power Transformer ≪G-6000≫ |
| | 4002760 | Power Transformer ≪G-7000/701≫ |
| PL 701, 702 | 0400560 | Dial Lamp, 8V 0.3A |
| | 2410830 | Voltage Selector Socket |
| | 2410091 | Voltage Selector Plug |
| | 5286450 | Antenna Holder (1) (A) |
| | 5286480 | Antenna Holder (2) (B) |
| | 2210310 | Antenna Terminal Board |
| | 2230190 | Ground Terminal |
| CO701 | 2450060 | AC Connect |
| CO702 | 2450060 | AC Connect |
| | 2290190 | 4P Output Terminal |
| | 3800010 | Power Cord |
| | 3910490 | Strain Relief |

# 5. SCHEMATIC DIAGRAM 1. ≪G-6000≫ Audio Section

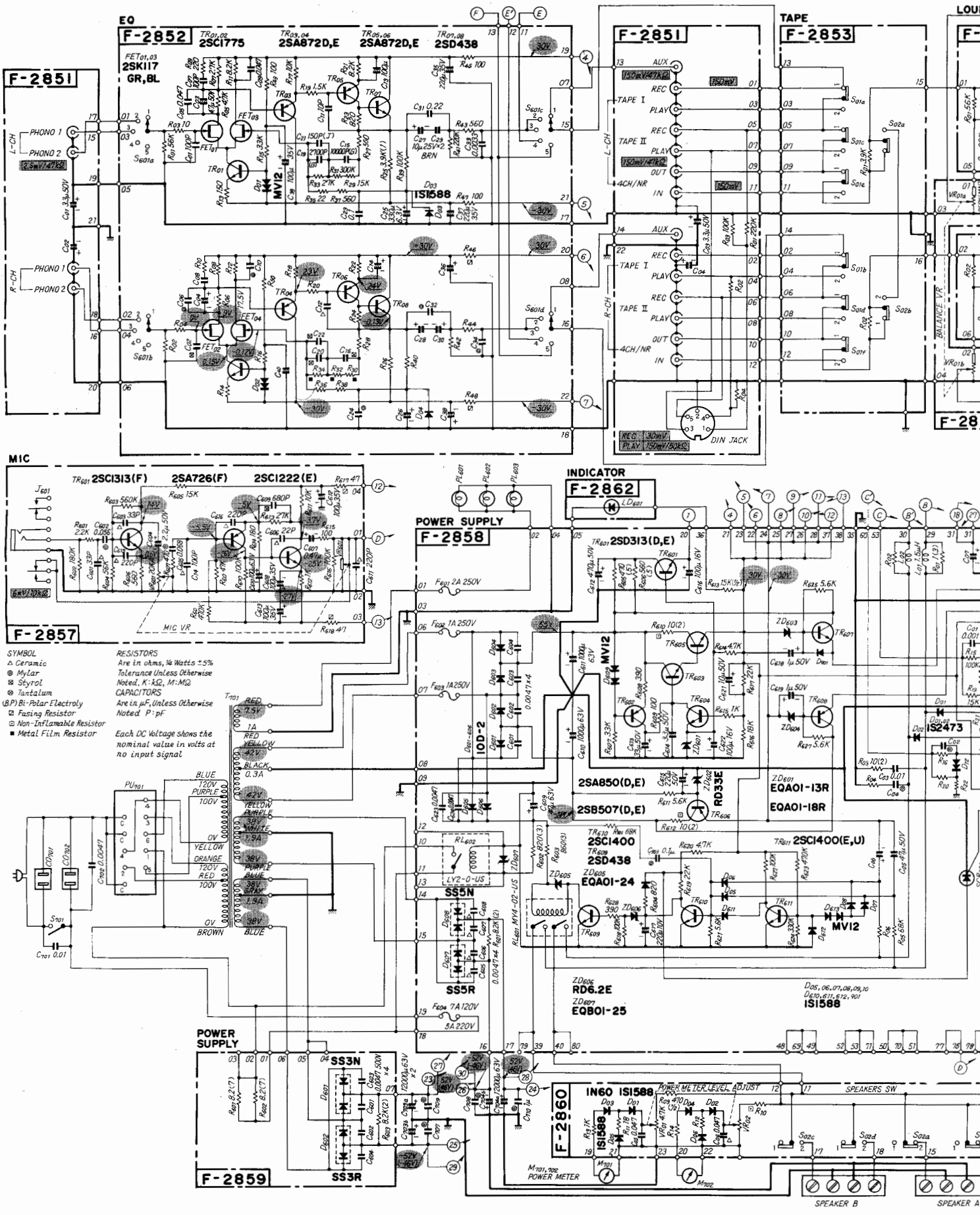



| | | | | | |
|---|---|---|---|---|---|
| SELECTOR $S_{601a\sim d}$ | | FM MUTING $S_{02d}$ | | HIGH FILTER $S_{01c,d}$ | |
| F-2852 | 1. AUX | F-2853 | 1. OFF | F-2860 | 1. OFF |
| | 2. PHONO-2 | | 2. ON | | 2. ON |
| | 3. PHONO-1 | DOLBY FM EMPHASIS $S_{01a,b}$ | | SPEAKER A $S_{02a,b}$ | |
| | 4. FM | F-2857 | 1. OFF | F-2860 | 1. OFF |
| | 5. AM | | 2. ON | | 2. ON |
| TAPE 1 $S_{01a,b}$ | | LOUDNESS $S_{01c,d}$ | | SPEAKER B $S_{02c,d}$ | |
| F-2853 | 1. OFF | F-2854 | 1. OFF | F-2860 | 1. OFF |
| | 2. ON | | 2. ON | | 2. ON |
| TAPE 2 $S_{01c,d}$ | | AUDIO MUTING $S_{01a,b}$ | | POWER INDICATOR $LD_{601}$ | |
| F-2853 | 1. OFF | F-2854 | 1. OFF | F-2862 | - |
| | 2. ON | | 2. ON | STEREO INDICATOR $LD_{601}$ | |
| 4ch NR ADAPTER $S_{01e,f}$ | | TONE $S_{01a\sim d}$ | | F-2862 | |
| F-2853 | 1. OFF | F-2855 | 1. DEFEAT | POWER $S_{701}$ | |
| | 2. ON | | 2. ON | | |
| MODE $S_{02a\sim b}$ | | SUBSONIC FILTER $S_{01a,b}$ | | | |
| F-2853 | 1. OFF | F-2860 | 1. OFF | | |
| | 2. ON | | 2. ON | | |

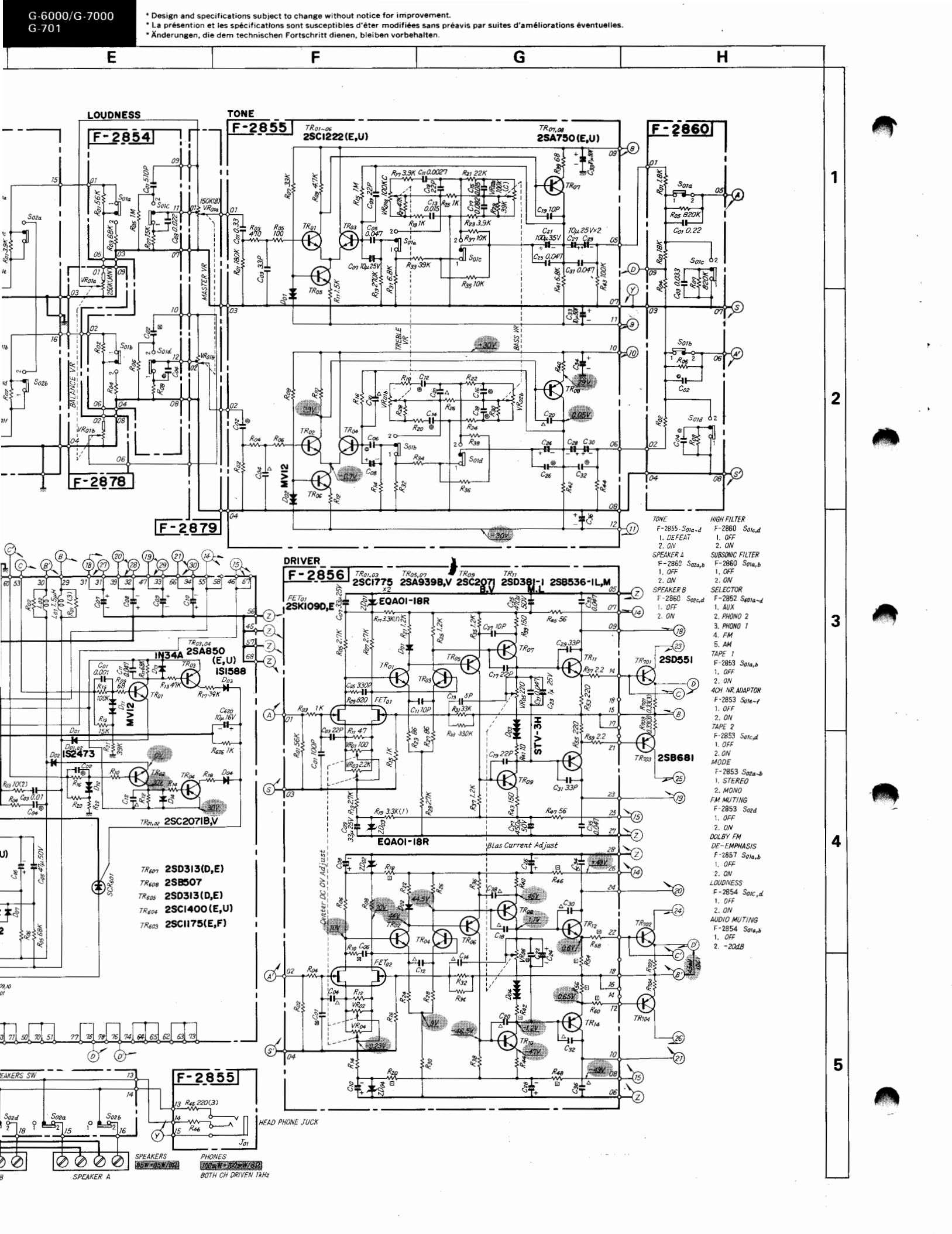
* Design and specifications subject to change without notice for improvement.
* La présention et les spécificatlons sont susceptibles d'éter modifiées sans préavis par suites d'améliorations éventuelles.
* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



## 2. ≪G-7000/701≫ Audio Section

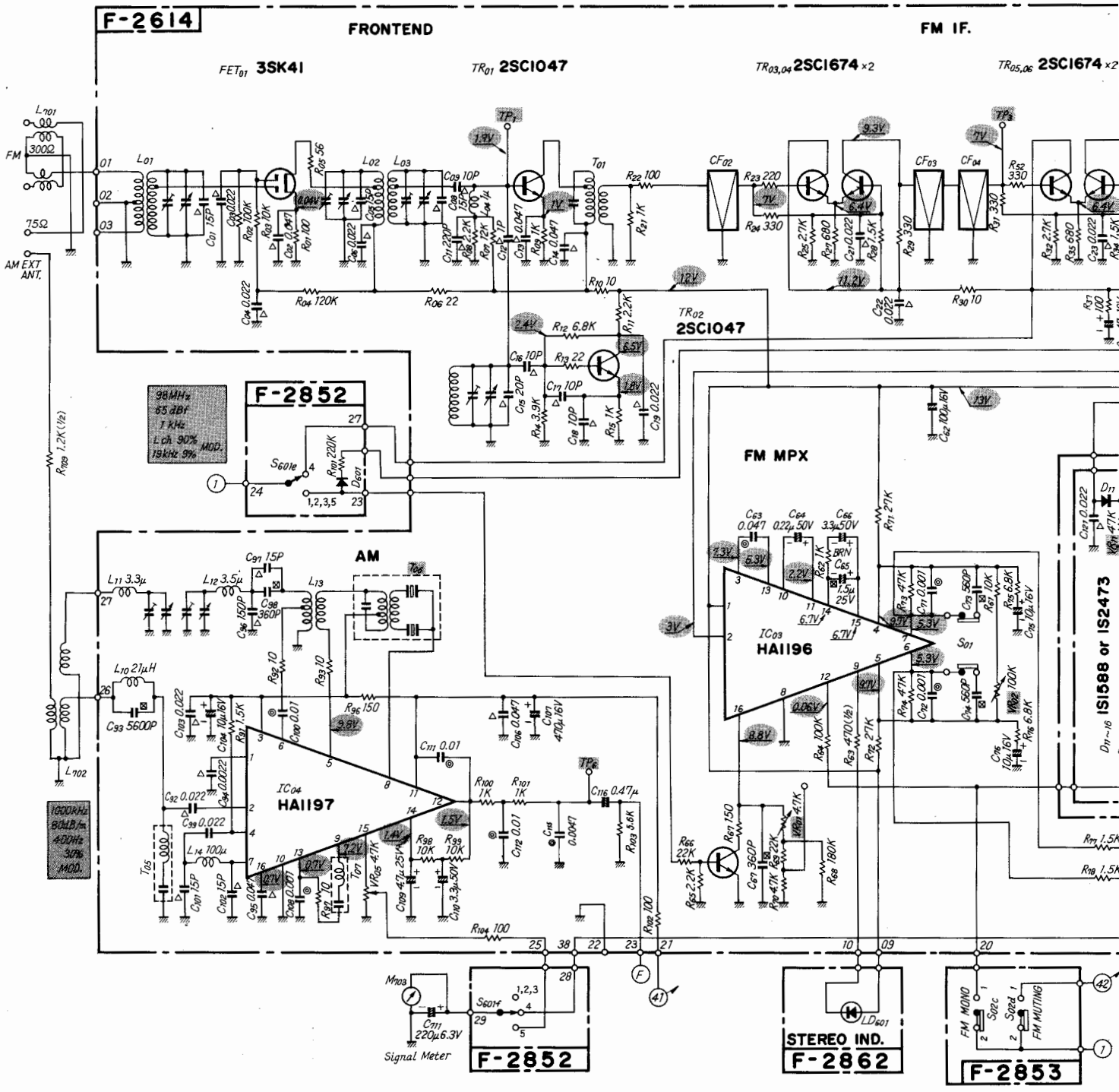


* Design and specifications subject to change without notice for improvement.
* La présention et les spécifications sont susceptibles d'éter modifiées sans préavis par suites d'améliorations éventuelles.
* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

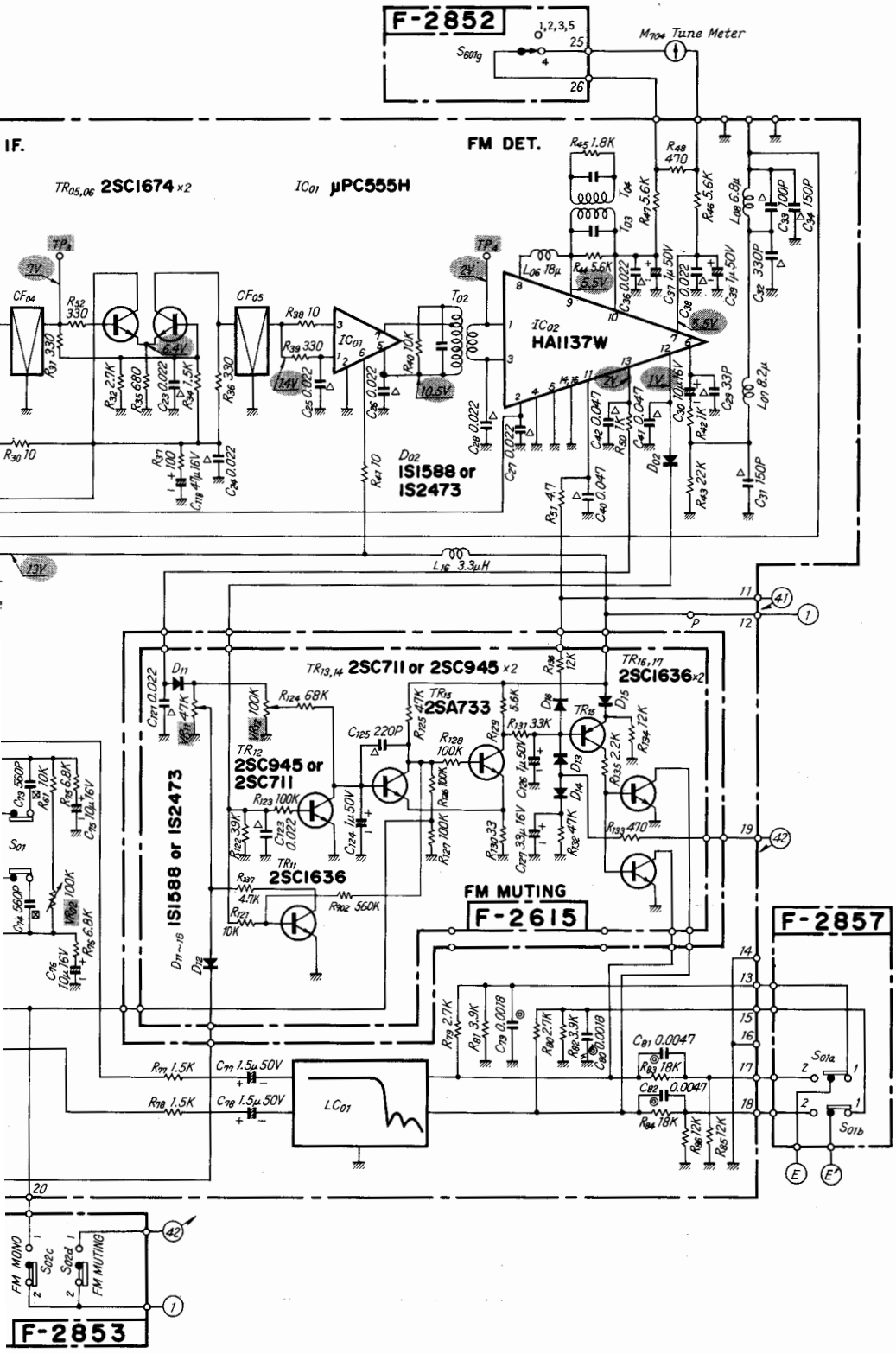


| A | B | C | D |
|---|---|---|---|

## 3. ≪G-6000/7000/701≫ Tuner Section



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




2SA733
2SA750
2SA8720
2SC945
2SC1047
2SC1400
2SC1222
2SC1674
2SC1775
2SD438

2SA939B
2SC2071B

2SK17

μPC555H

HA1137W
HA1196
HA1197

2SC1636

2SB681
2SD551

1S1588
1S2473

2SA726
2SA850
2SC711
2SC1313

2SK109

1N34A
1N60

3SK41

2SB507
2SB536
2SD313
2SD381

STV4H

SS-3N
SS-5N

VD1212
MV12

SS-3R
SS-5R

10D-2

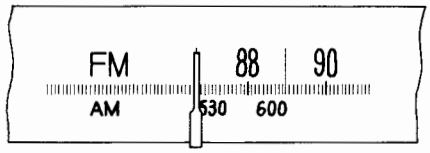
EQA01-13R
EQA01-18R
EQA01-24R

RD13E
RD33E

# 6. THREADING OF DIAL CORD

*If a dial cord is cut off or slips, replace it by following procedures.
As this unit uses 0.5 mmϕ cord, please replace it with the same type certainly.
*The length of dial cord is approximately 170cm (66.9 inch),

Fig. 6-2




(Start Point)

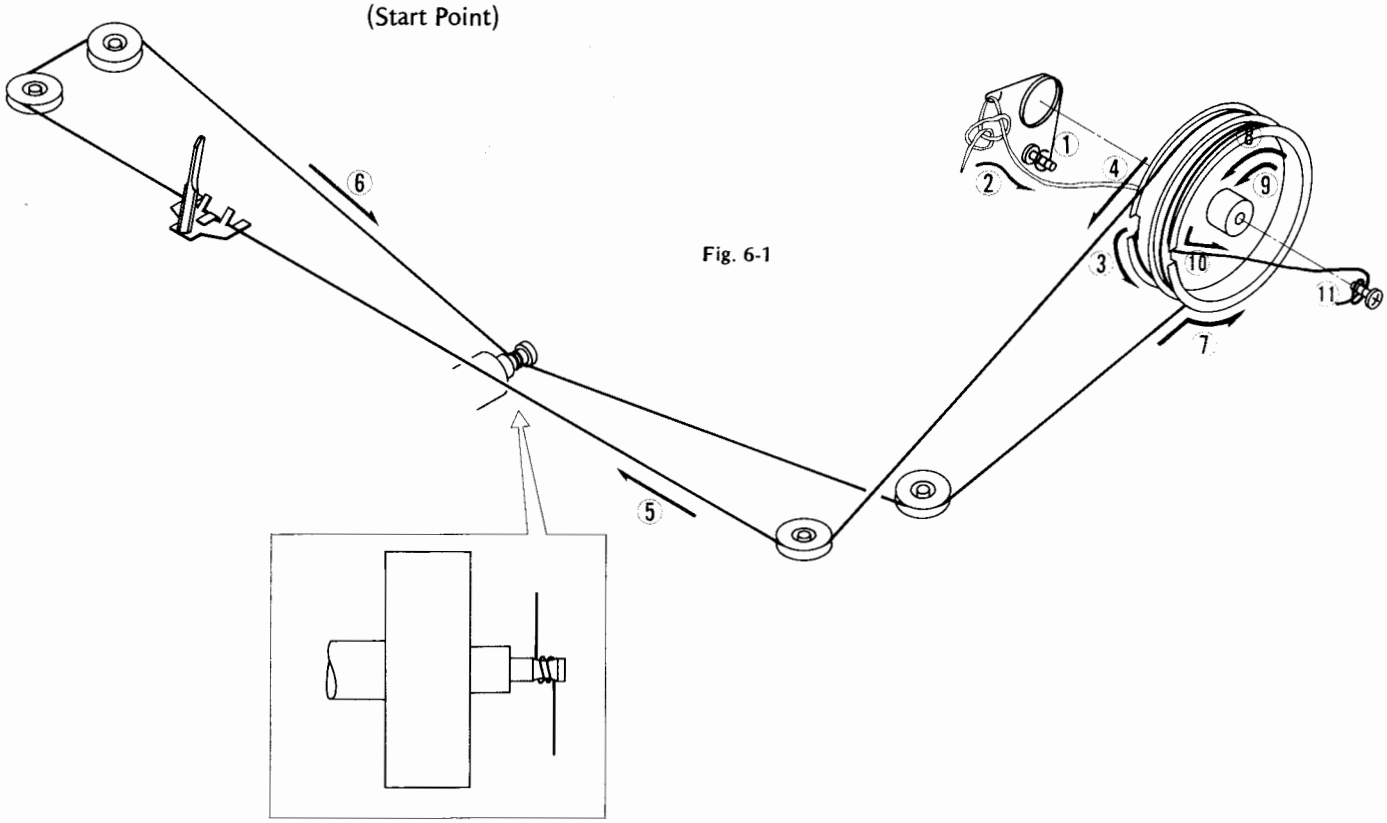



Fig. 6-1

## Threading of Dial Cord

Thread the dial cord in numerical order from 1 to 11 as Fig. 1.
*Close the variable capacitor completely.

| Stock No. | Description |
|---|---|
| 6036050 | Dial Cord (0.5 mmϕ) |
| 6146681 | Dial pulley |

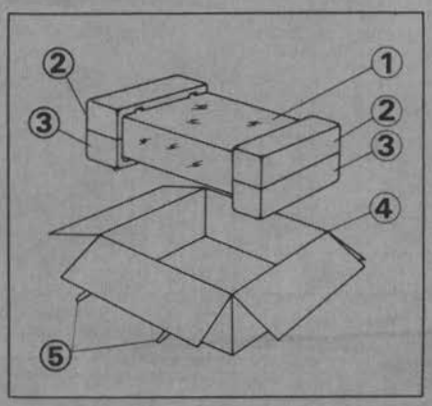
## Attachment of Dial Pointer

1) Close the variable capacitor completely.
2) Set the dial pointer to the start point, the line at the left edge of the dial scale. (Fig. 6-1).

*Confirm that the dial pointer runs smoothly on the dial scale by turning the tuning shaft.

# 7. PACKING LIST

| Parts No. | Stock No. | Description |
|---|---|---|
| 1 | 9116271 | Vinyl Cover ≪G-6000/7000/701≫ |
| 2 | 9028140 | Stylofoam Packing (Upper) ≪G-6000/7000/701≫ |
| 3 | 9028150 | Stylofoam Packing (Lower) ≪G-6000/7000/701≫ |
| 4 | 9009990 | Carton Case ≪G-6000≫ |
| | 9009980 | Carton Case ≪G-7000≫ |
| | 9000560 | Carton Case ≪G-701≫ |
| 5 | 5996080 | Curl Stopper ≪G-6000/7000/701≫ |




# 8. ACCESSORY PARTS LIST

| Stock No. | Description |
|---|---|
| 9202920 | Operating Instruction ≪G-6000≫ |
| 9202910 | Operating Instruction ≪G-7000≫ |
| 9203730 | Operating Instruction ≪G-701≫ |
| 9237750 | Schematic Diagram ≪G-6000≫ |
| 9237740 | Schematic Diagram ≪G-7000≫ |
| 9237810 | Schematic Diagram ≪G-701≫ |
| 2410560 | Short Pinplug 2 pcs. ≪G-6000/7000/701≫ |
| 3820100 | FM Antenna ≪G-6000/7000/701≫ |

MEMO

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