

YAMAHA

ELECTRONIC PIANO

CP-20



SERVICE MANUAL

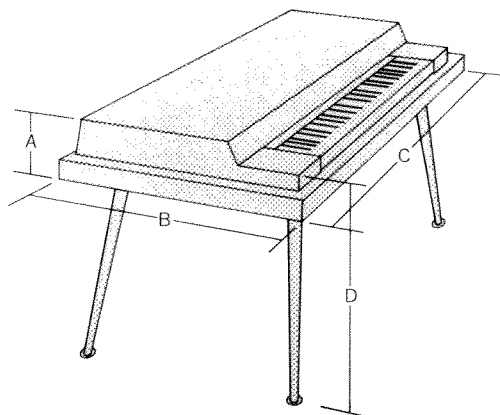
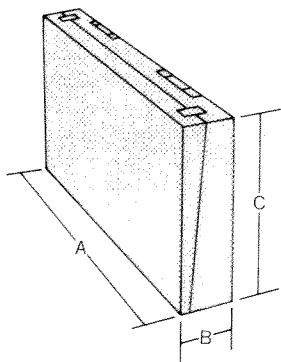
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SPECIFICATIONS

- KEYBOARD 61 KEYS
- TONE TABLETS
 - PIANO 1
 - PIANO 2
 - HARPSICHORD 1
 - HARPSICHORD 2
- CONTROL
 - VOLUME
 - PITCH
 - TONE ☐ BASS ☐ TREBLE
 - BALANCE (PIANO - HARPSICHORD)
 - DECAY
 - TREMOLO ☐ SPEED (0.5 ~ 13 Hz) ☐ INTENSITY
- OUTPUT TERMINAL (OUTPUT LEVEL/IMPEDANCE)
 - OUTPUT (-20 dBm/600Ω)
 - PHONES (-5 dBm/8Ω)
 - SUSTAIN FOOT SW.
- POWER REQUIREMENTS 120/220/240 Volts AC 50/60 Hz 25W
(120V 0.3A CSA Model)
- WEIGHT 40.5 kg (89.3 lbs)
- DIMENSIONS

| | |
|---|---|
| A - 1,080 mm (42-1/2") B - 166.5 mm (6-1/2") C - 571 mm (22-1/2") | A - 155 mm (6-1/8") B - 571 mm (22-1/2") C - 1,080 mm (42-1/2") D - 738 mm (29") Height to Keyboard - 733.7 mm (28-7/8") Total Height - 790 mm (31-1/8") |
|---|---|

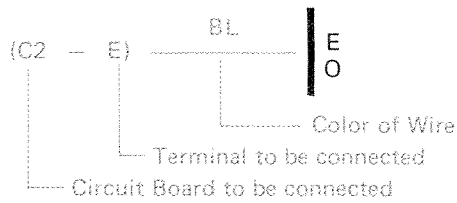


- ACCESSORY AC CORD, CP-20 LEGS
- OPTIONAL ATTACHMENTS SUSTAIN PEDAL (FC-4)

CODING GUIDE

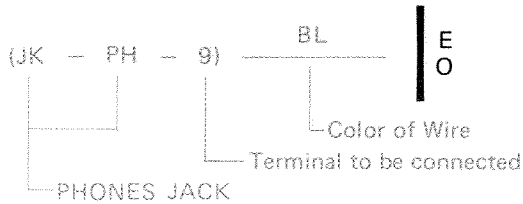
1. Designation of Wiring

All wiring of circuit boards are indicated, for example, as shown here-below:



NOTE: All above are applied, except JACKS.

Jack : JK
 PHONES : PH
 FOOT SW : SUS
 OUTPUT : OUT

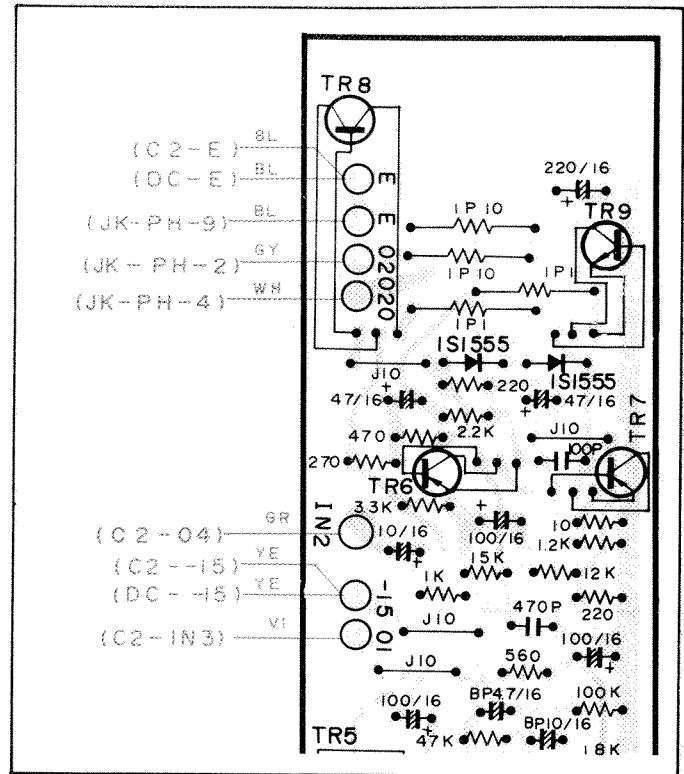


Also SUS stands for FOOT SW, OUT for OUTPUT.

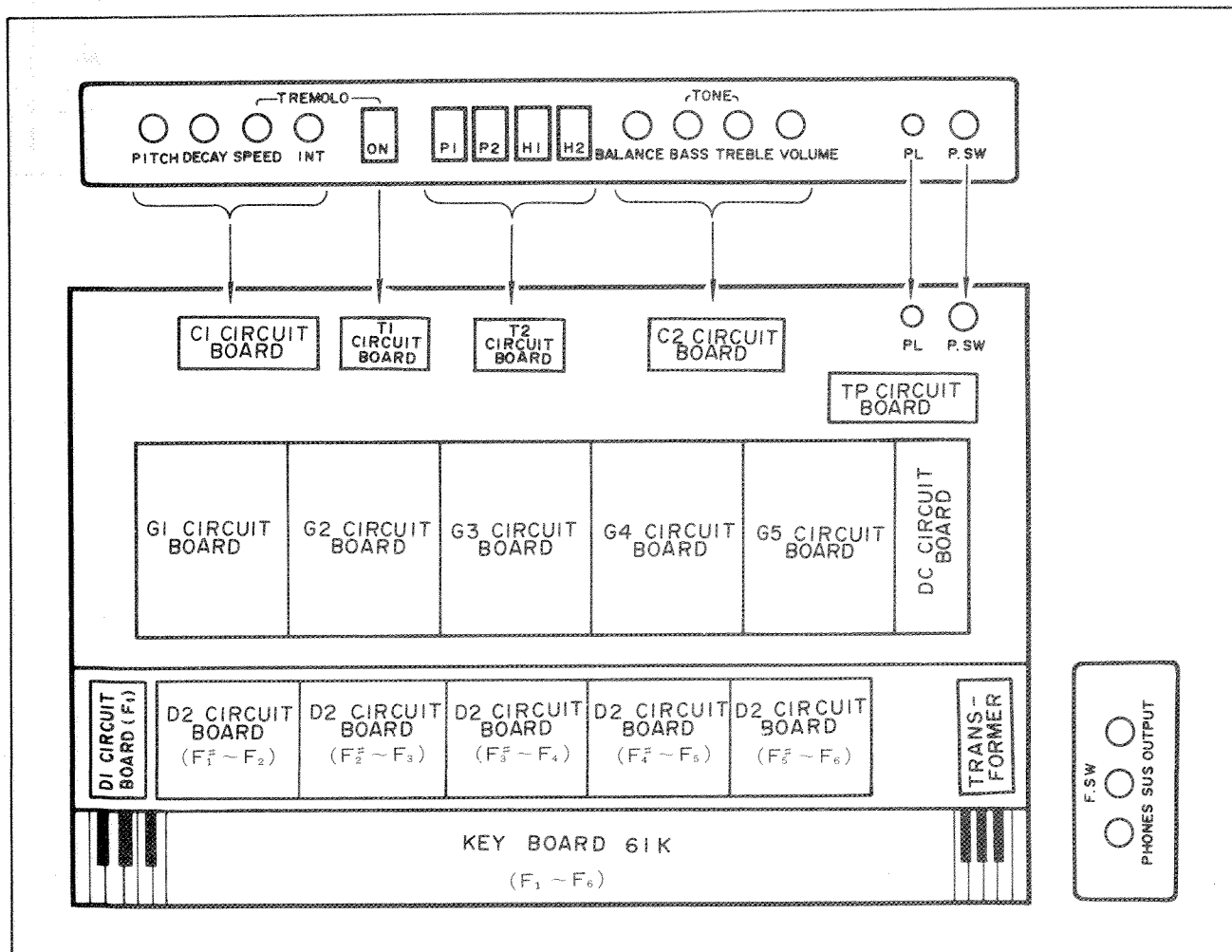
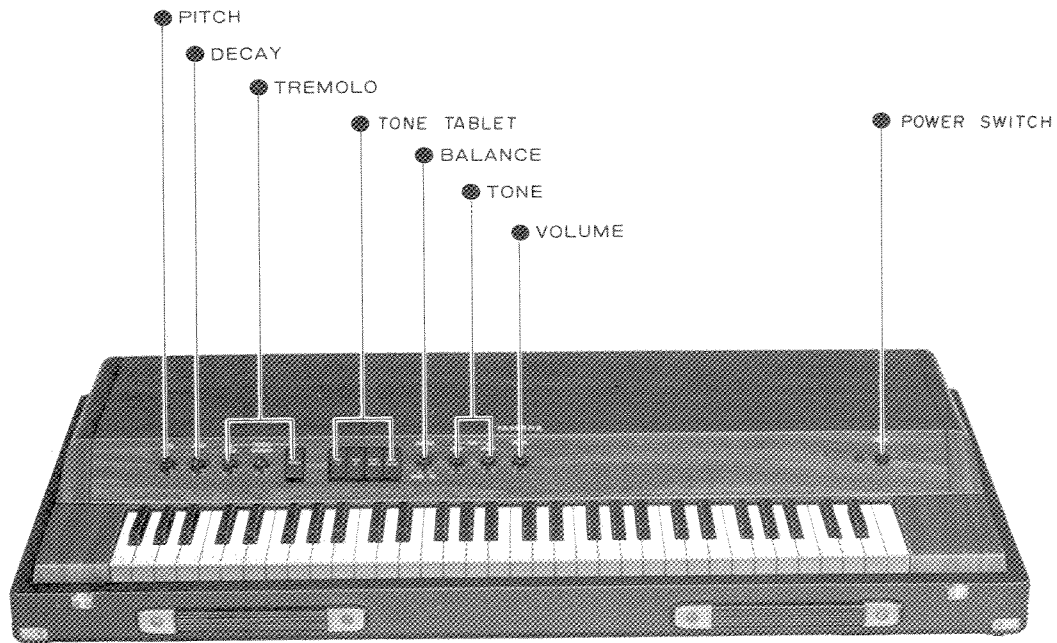
Designation of Wiring Materials

1. Color Designation (Only English letters are shown in patterns)

| | |
|-------------|------------------|
| BL (Black) | WH (White) |
| BR (Brown) | GG (Grass Green) |
| RE (Red) | SB (Sky Blue) |
| OR (Orange) | PK (Pink) |
| YE (Yellow) | J (Jumper) |
| GR (Green) | |
| BE (Blue) | |



UNIT LAYOUT



DISASSEMBLY PROCEDURES

1. Panel

Loosen the screws (1), (2), (3) and (4), which are located at the bottom of the main body.

Then raise up the panel, as shown in Fig. 1 and 2.

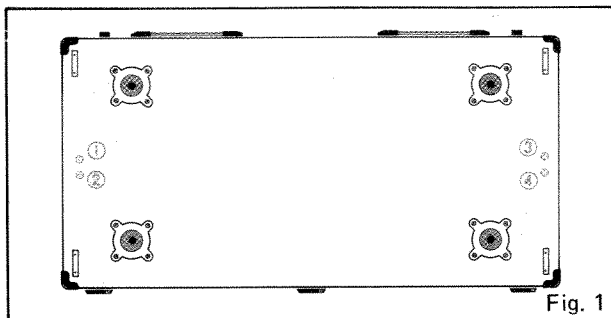


Fig. 1

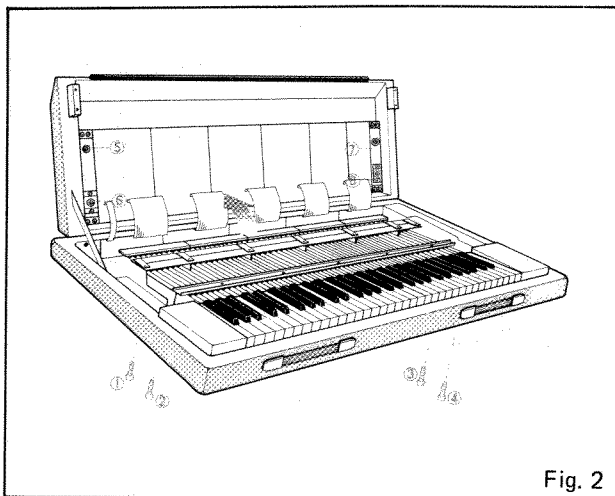


Fig. 2

Remove screws (5) to (8). Fig. 1, Fig. 2

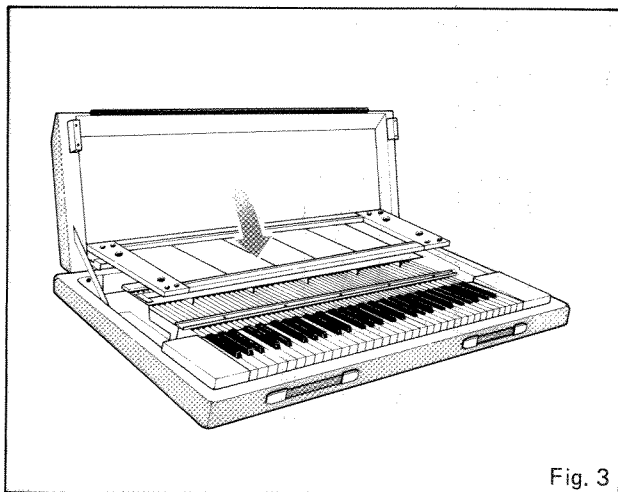


Fig. 3

2. D Circuit Board

Open the panel according to procedure (1). Remove screws (1) to (4), and then remove the D circuit board, as shown in Fig. 4.

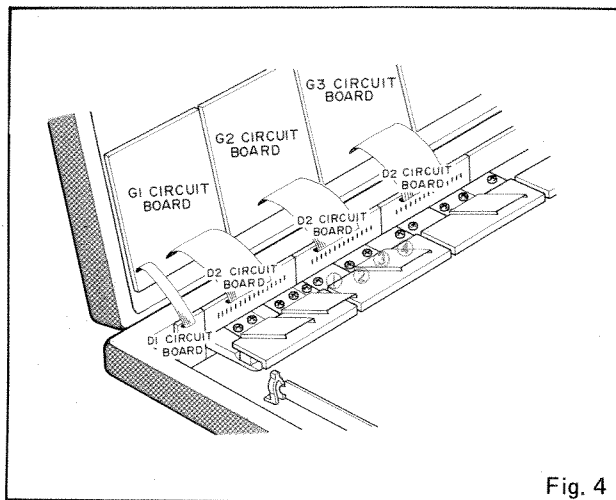


Fig. 4

3. Keyboard

Open the panel according to procedure (1). Remove screws of the stopper rail and the key stopper, as shown in Fig. 5.

NOTE: Be sure to remove screws of the D board and draw back the D board, when the keyboard is removed. This is because, not to scratch the keyboard with switches.

Remove black keys first, white ones next, as shown in Fig. 5.

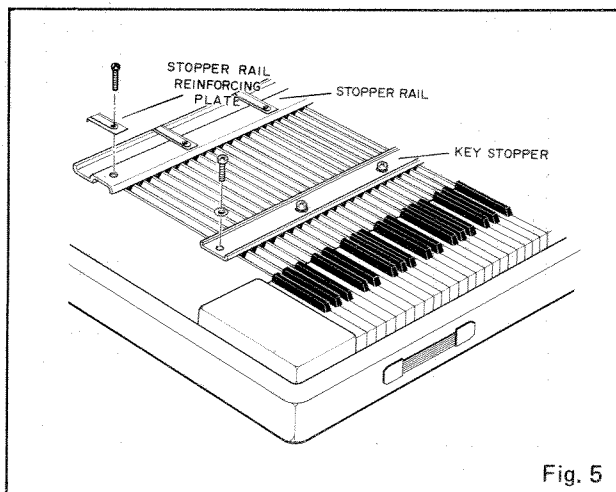
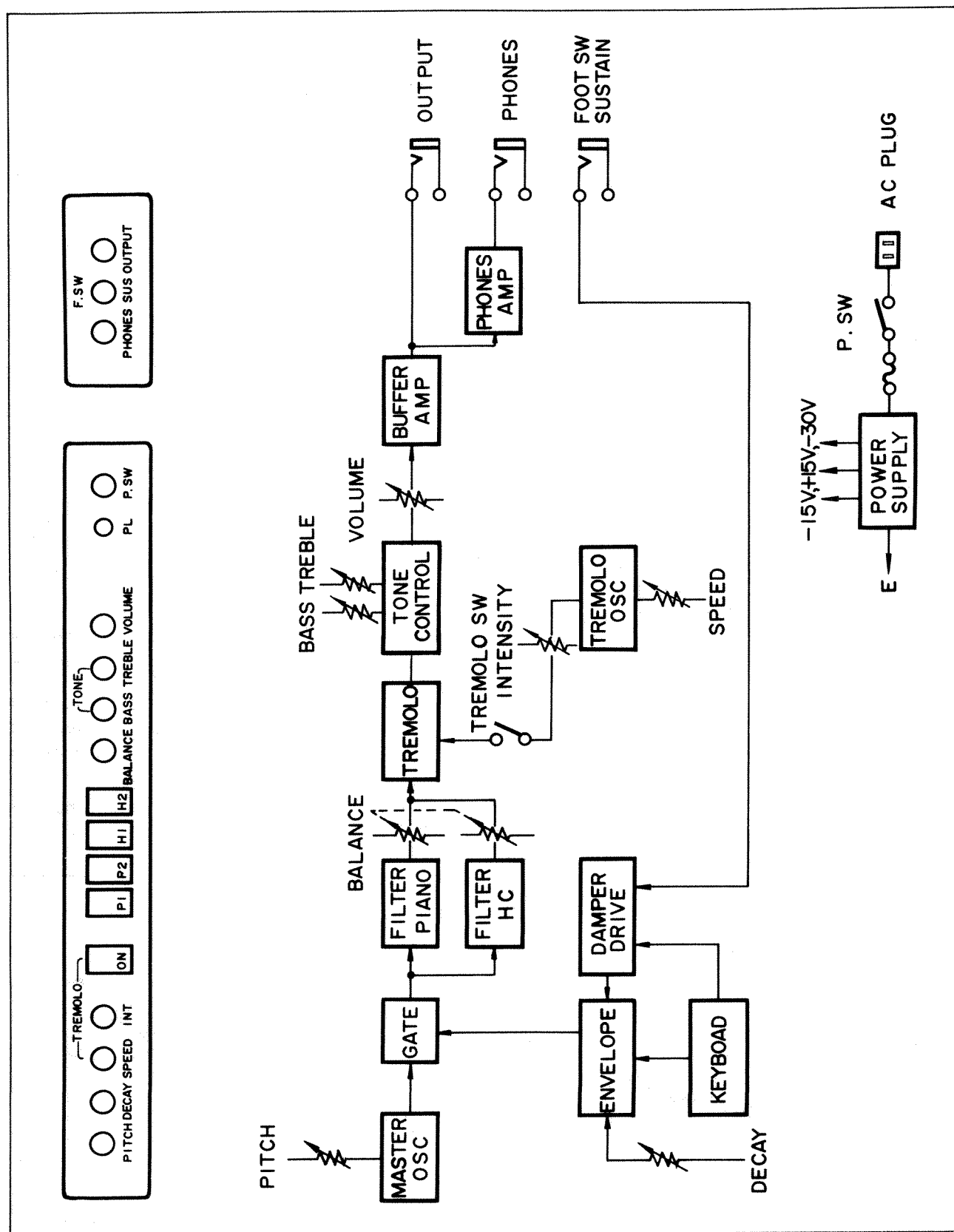


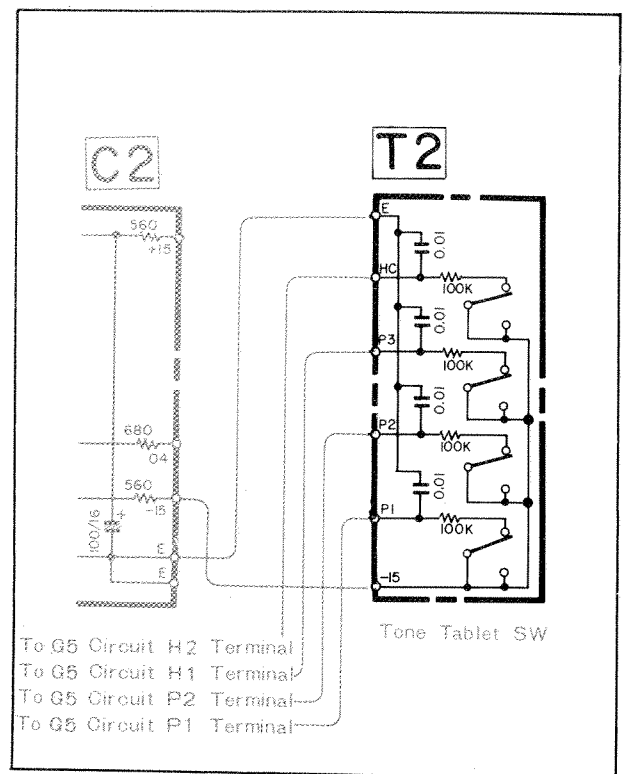
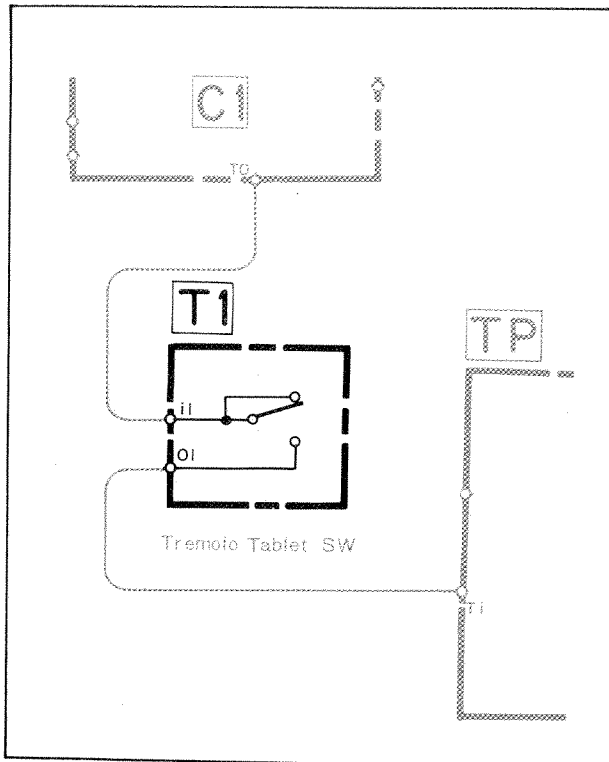
Fig. 5

BLOCK DIAGRAM



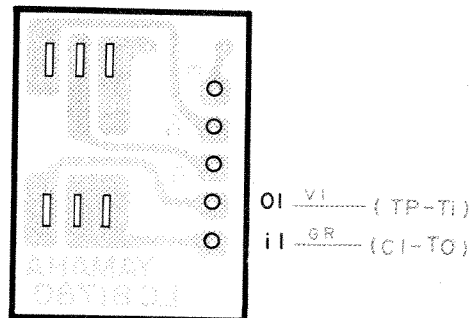
7. T1, T2 CIRCUIT BOARD

● T1 · T2 Circuit



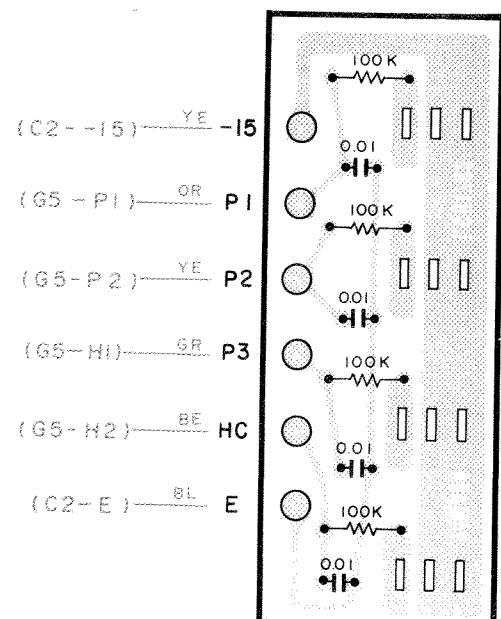
● T1 Circuit Board

NA80319



● T2 Circuit Board

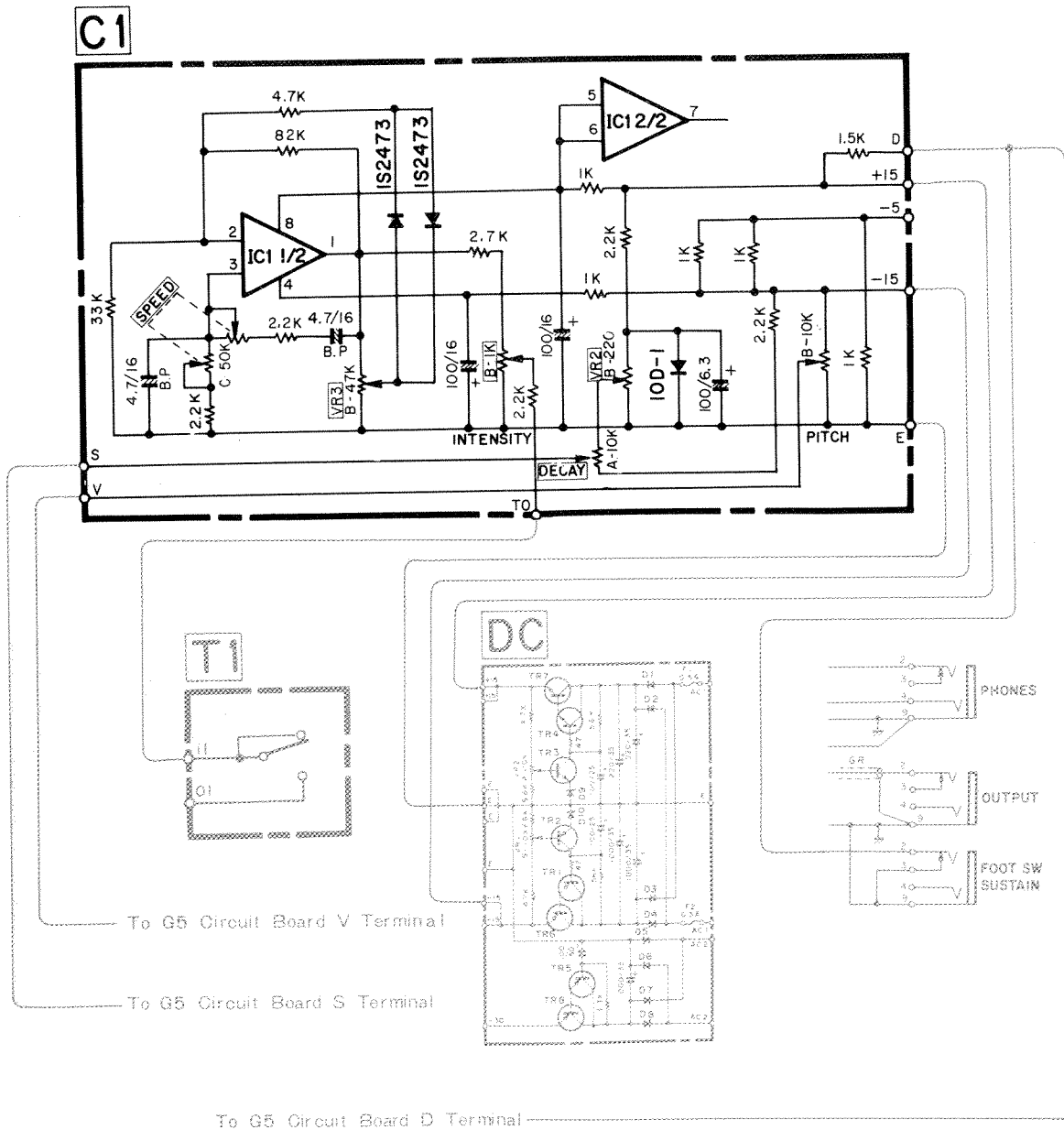
NA80218



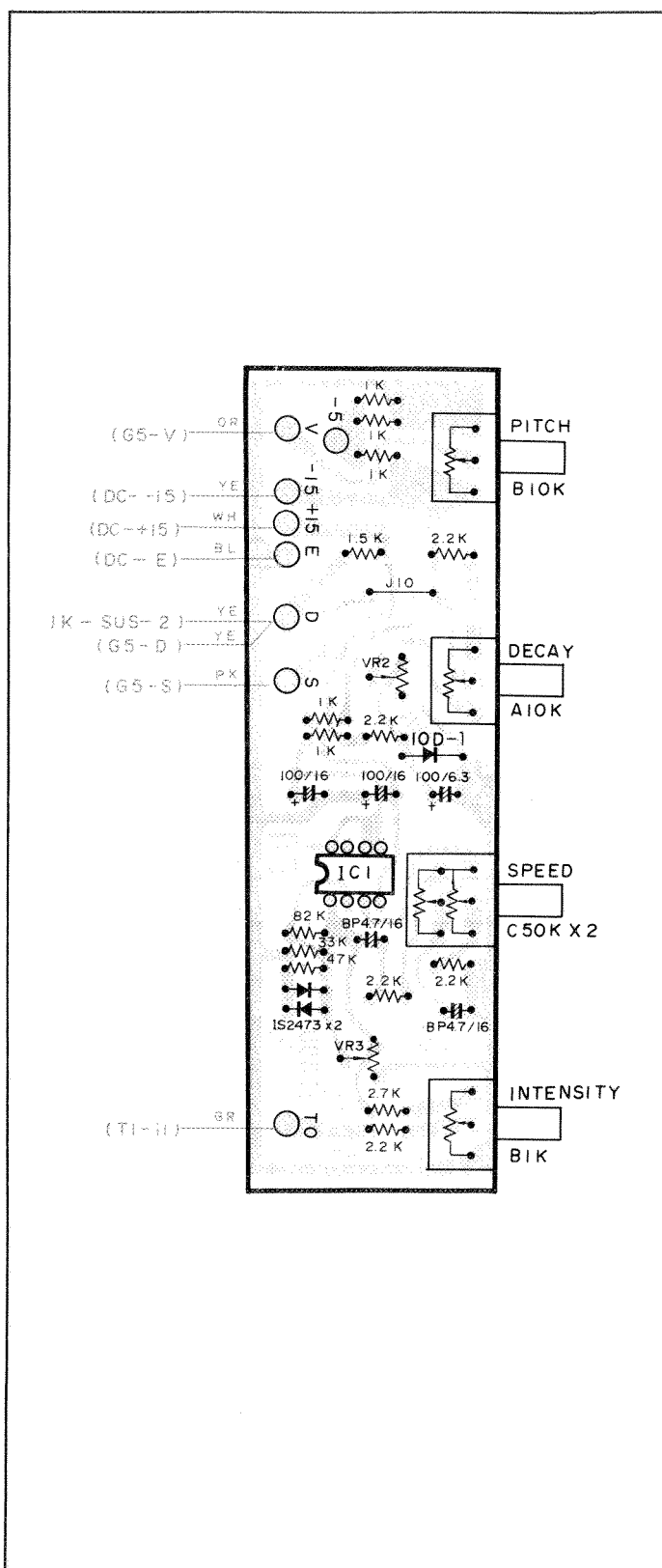
8. C1 CIRCUIT BOARD

● C1 Circuit Board

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● C1 Circuit Board



▼ Semiconductors, to be used.

1. IC

IC1 : NJM4558DN

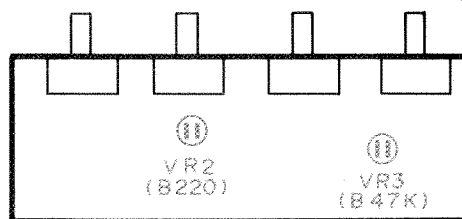
▼ Applied Sections

1. Pitch Control Circuit
2. Decay Control Circuit
3. Tremolo OSC Circuit

▼ Adjustment

VR-2 (B220) Decay Control MIN Adjustment

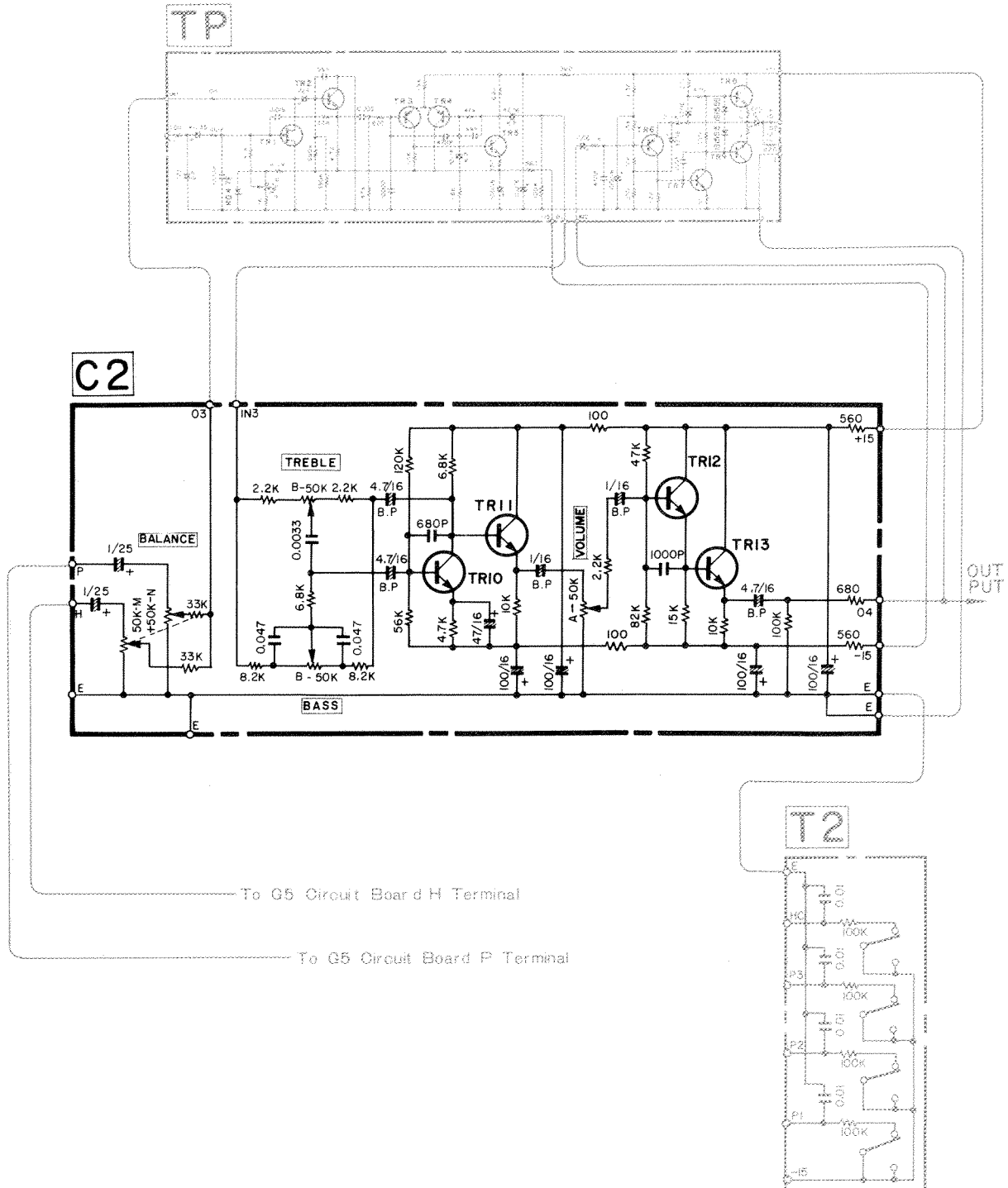
VR-3 (B47K) Tremolo OSC Output Adjustment



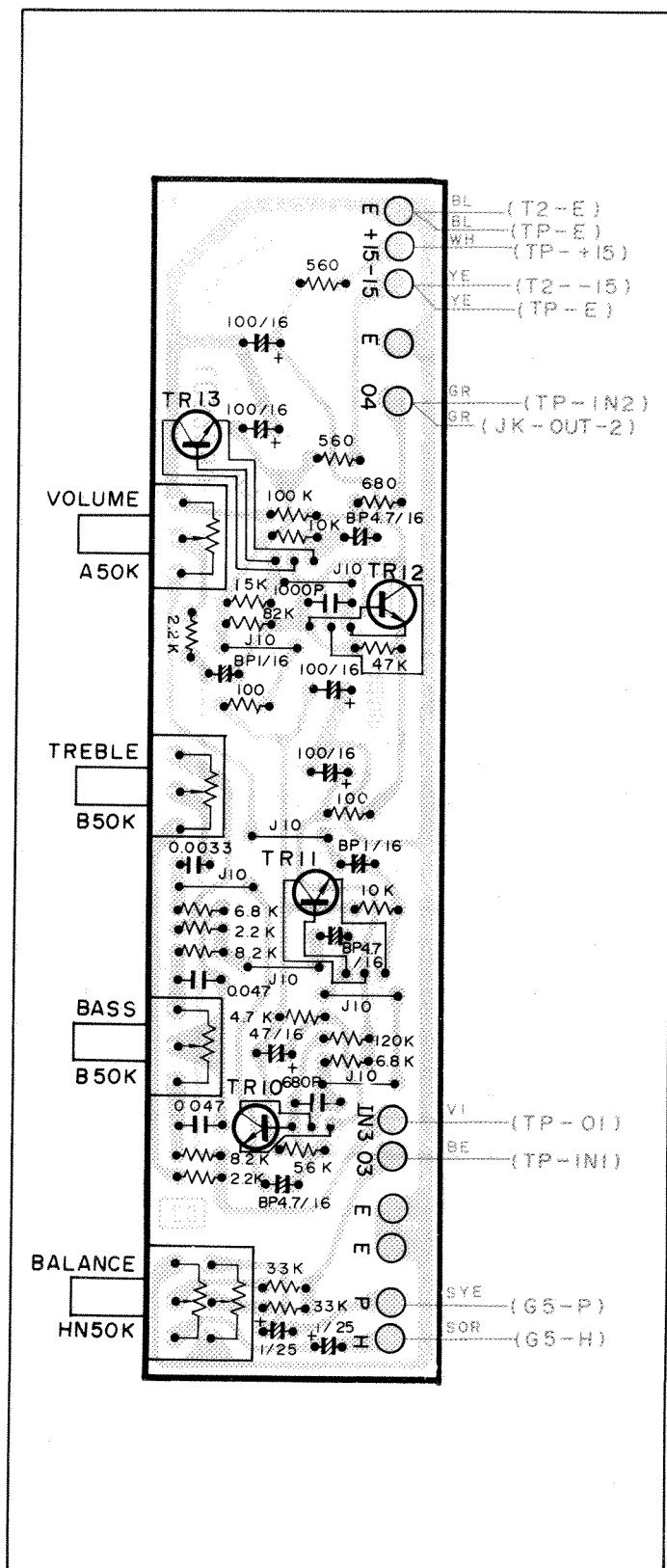
9. C2 CIRCUIT BOARD

● C2 Circuit Board

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● C2 Circuit Board



▼ Semiconductors, to be used.

2. Transistor

Tr1 : 2SK30A (Y)

Tr10~13 : 2SC1681 (BC)

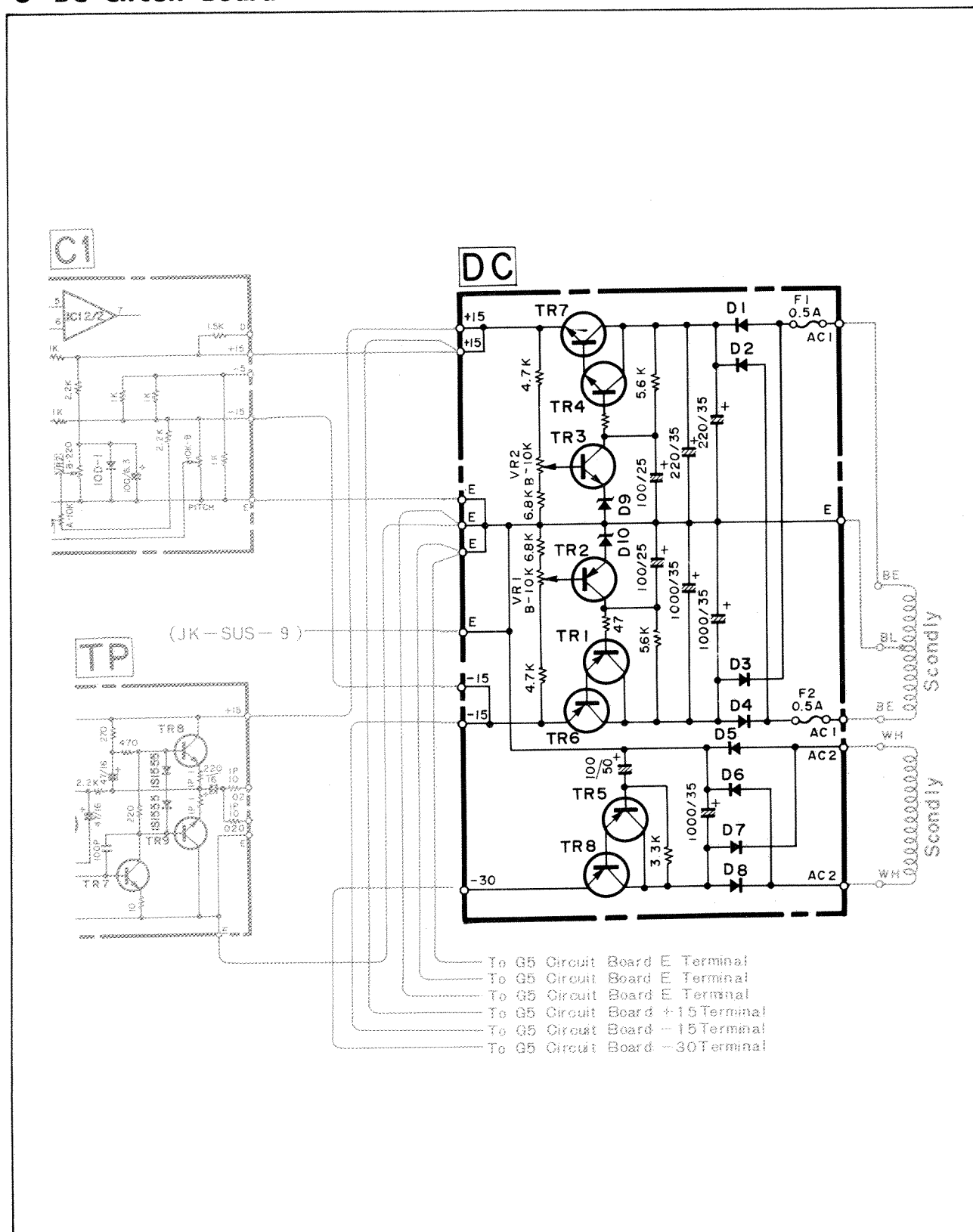
▼ Applied Sections

1. Tone Control Circuit

2. AMP Circuit

10. DC CIRCUIT BOARD

● DC Circuit Board

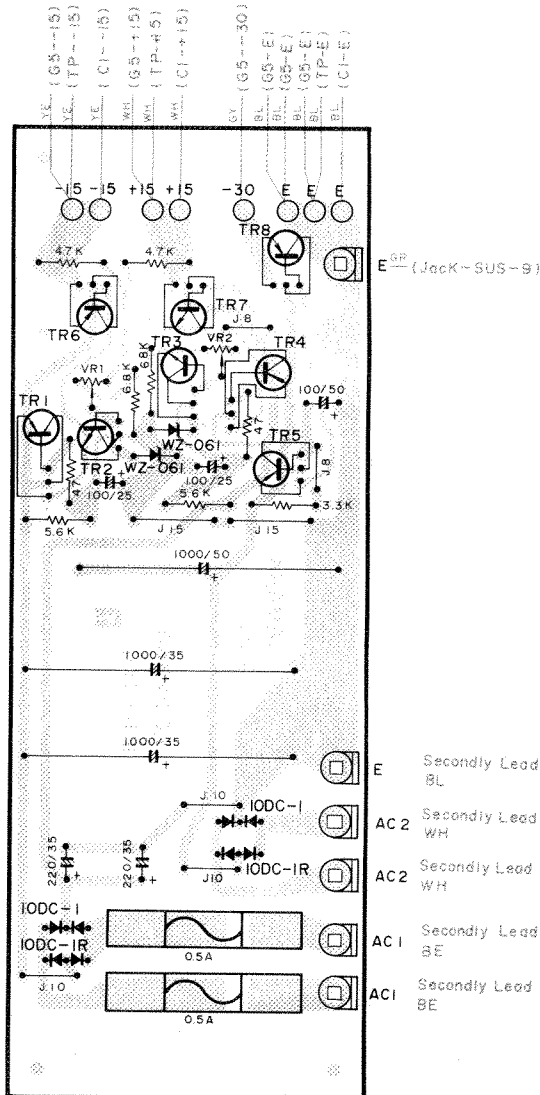


● DC Circuit Board

NA80313

NA80314

NA80315



▼ Semiconductors, to be used.

1. Transistor

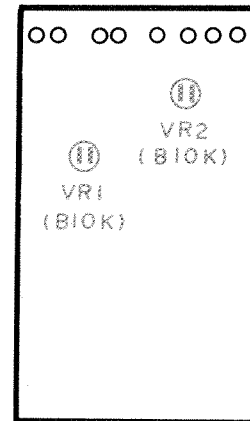
- Tr1, 2 : 2SA561 (Y)
 Tr3, 4 : 2SC1681 (BL)
 Tr5 : 2SA777 (R)
 Tr6, 8 : 2SB596 (R)
 Tr7 : 2SD526 (R)

2. Diode

- D1, 2, 5, 6: 10DC-1
 D3, 4, 7, 8: 10DC1R
 D9, 10 : WZ-061

▼ Adjustment

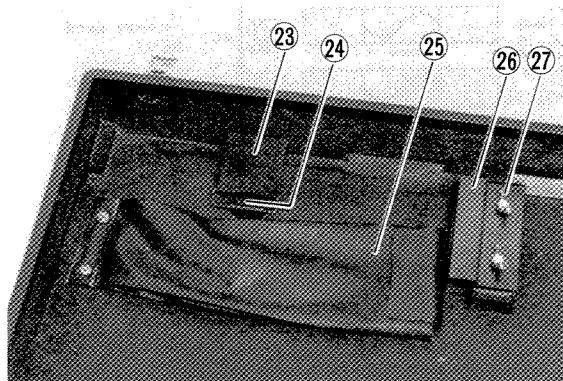
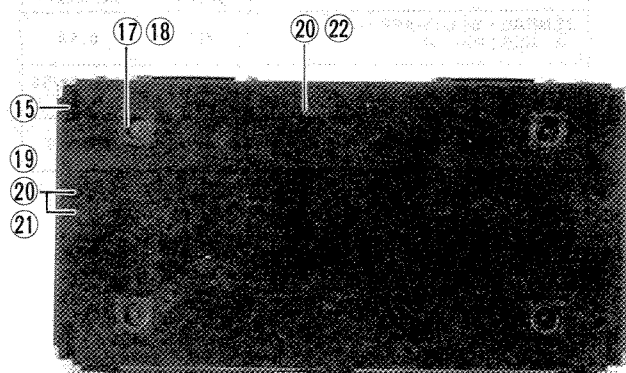
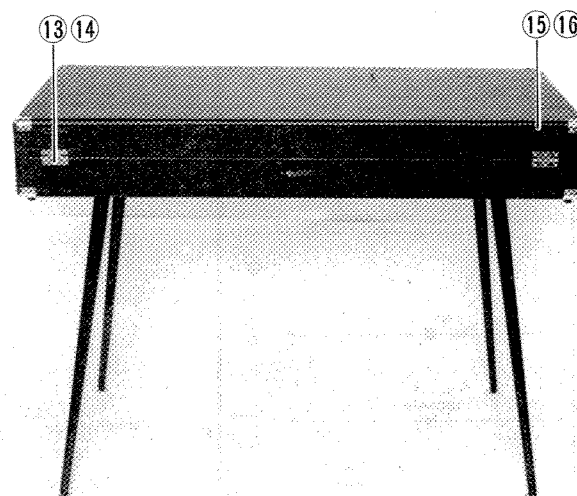
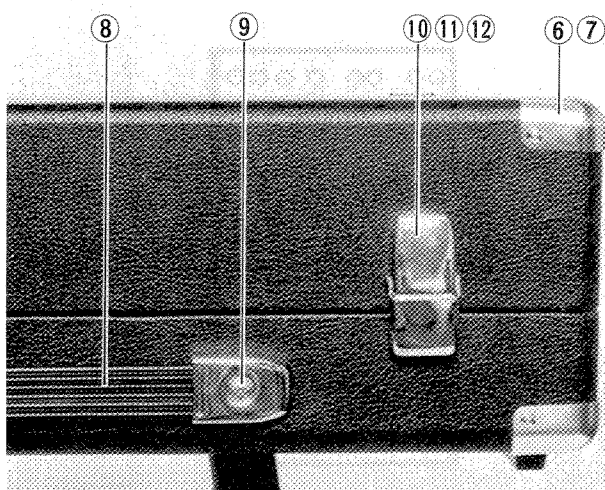
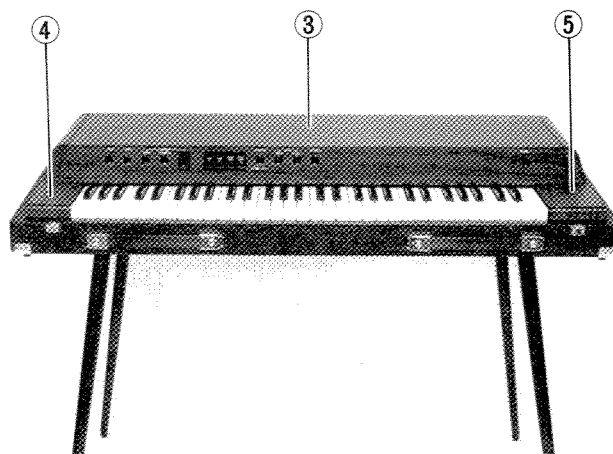
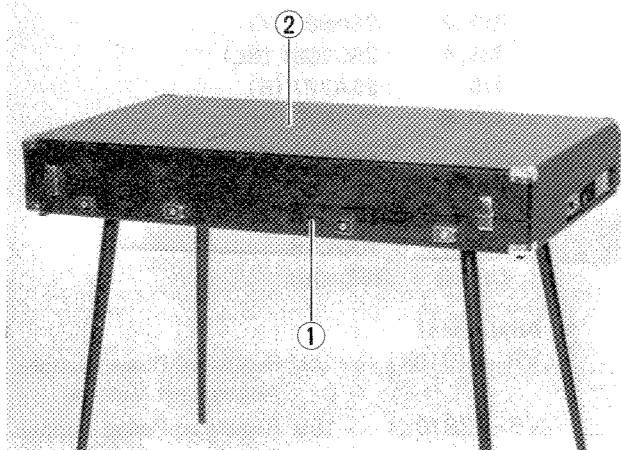
- VR-1 (B10K) +15V Regulated Power Supply
 Adjustment Volume
 VR-2 (B10K) -15V Regulated Power Supply
 Adjustment Volume



▼NOTE

| | NA-NO. | CAPACITY |
|---------------------------------------|--------|-----------------|
| GENRAL • SOUTHAFRICAN & AUSTRALIAN | 80313 | 0.5A |
| UL, CSA | 80314 | UL FUSE 0.5A |
| EUROPEAN BRITISH | 80315 | 500mA |

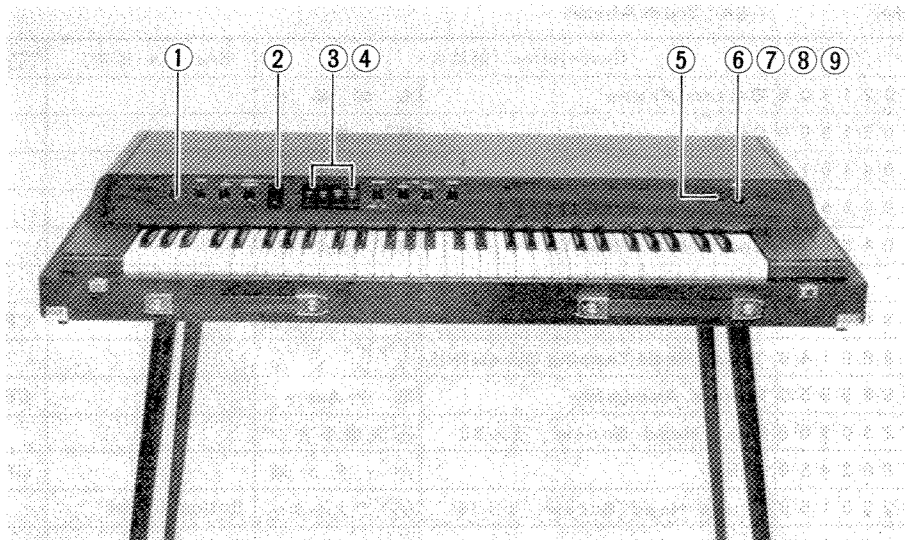
PARTS LIST

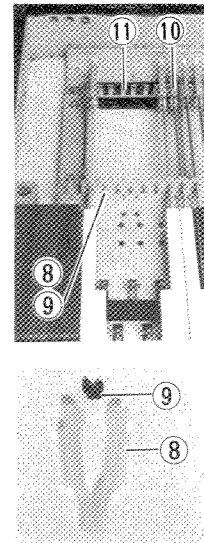


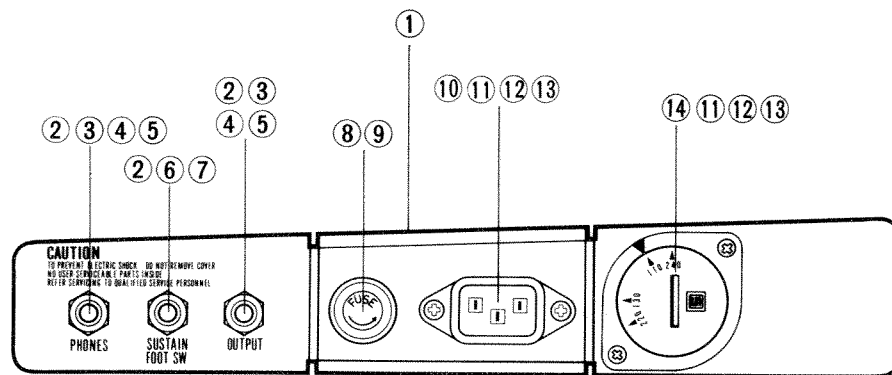
DESTINATION ABBREVIATIONS

Ge : General NE : North European Au : Australian CSA : Canadian
UL : US BS : British SA : South African

[illegible]

[illegible]

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| Ref. No. | Part No. (パーツ番号) | Description (部品名) | Remarks (備考) | Common Models (共通モデル) | 卸 価 | 小売価 |
|----------|-----------------------------|-------------------------------|----------------|-----------------------|-----|-----|
| 1 | 3 0 1 0 0 0 A A 8 0 6 2 6 0 | Side Panel | UL | | | |
| | 3 0 1 0 0 0 A A 8 0 6 2 7 0 | - do. - | CSA | | | |
| | 3 0 1 0 0 0 A A 8 0 6 2 8 0 | - do. - | Au | | | |
| | 3 0 1 0 0 0 A A 8 0 6 2 9 0 | - do. - | Ge, SA, BS, NE | | | |
| 2 | 4 0 1 0 0 0 L B 2 0 1 1 2 0 | Jack | ホーンジャック | | | |
| 3 | 4 0 1 0 0 0 L X 2 0 0 0 1 0 | Plain Washer For Phone Nut 9S | 特殊平座金 | | | |
| 4 | 4 0 1 0 0 0 L X 2 0 0 0 6 0 | Hexagonal Nut | 特殊六角ナット | | | |
| 5 | 4 0 1 0 0 0 E V 4 1 0 0 9 0 | Toothed Lock Washer A9S | 歯付座金 | | | |
| 6 | 4 0 1 0 0 0 E K 0 0 2 3 7 0 | Washer | ファイバーワッシャー | | | |
| 7 | 3 0 5 6 0 0 C B 0 6 2 0 1 0 | Phone Nut | ホーンナット | | | |
| 8 | 4 0 1 0 0 0 L B 2 0 0 4 8 0 | Fuse Holder | ヒューズホルダー | BS, NE | | |
| | 4 0 1 0 0 0 L B 2 0 0 5 9 0 | - do. - | ヒューズホルダー | BS, NE | | |
| | 3 0 1 0 0 0 A A 0 3 1 5 8 0 | Washer - Fuse Holder | ヒューズホルダーワッシャー | BS, NE | | |
| 9 | 4 0 1 0 0 0 K B 0 0 0 3 1 0 | Fuse 0.5A.250V | ヒューズ | GE, SA, Au | | |
| | 4 0 1 0 0 0 K B 0 0 1 1 5 0 | 0.5A.250V | ULヒューズ | UL, CSA | | |
| | 4 0 1 0 0 0 K B 0 0 0 7 1 0 | 0.5AT.250V | ミニヒューズ | BS, NE | | |
| 10 | 4 0 1 0 0 0 L B 3 0 0 5 6 0 | AC Socket | ACソケット | | | |
| 11 | 4 0 1 0 0 0 E A 3 3 0 0 8 0 | Pan Head Screw 3×8 | ⊕ナベ小ネジ | | | |
| 12 | 4 0 1 0 0 0 E V 4 1 0 0 3 0 | Toothed lock Washer A3S | 歯付座金 | | | |
| 13 | 4 0 1 0 0 0 E V 1 0 0 0 3 0 | Hexagonal Nut M3 | 六角ナット | | | |
| 14 | 4 0 1 0 0 0 L A 0 0 0 7 6 0 | Lug Terminal | カラー端+板 | | | |
| | 4 0 1 0 0 0 E A 3 3 0 0 6 0 | Pan Head Screw 3×6 | ⊕ナベ小ネジ | | | |
| | 4 0 1 0 0 0 L B 2 0 0 2 5 0 | | 電圧切換器 | GE, SA, BS, NE | | |
| | 4 0 1 0 0 0 M G 0 0 0 5 8 0 | AC Cord | 電源コード | UL, CSA | | |
| | 3 0 1 2 0 0 M Z 8 0 0 6 5 0 | - do. - | " | SA | | |
| | 3 0 1 2 0 0 M Z 8 0 1 7 4 0 | - do. - | " | Au | | |
| | 4 0 1 0 0 0 M G 0 0 0 3 6 0 | - do. - | " | NE | | |
| | 3 0 1 2 0 0 M G 8 0 1 7 5 0 | - do. - | " | BS | | |
| | 4 0 1 0 0 0 M G 0 0 0 5 6 0 | - do. - | " | GE | | |

| Ref. No. | Part No. (パーツ番号) | Description (部品名) | Remarks (備考) | Common Models (共通モデル) | 卸 価 | 小売価 |
|----------|-----------------------------|---|-----------------|-----------------------|-----|-----|
| | 3 0 1 2 2 8 N A 8 0 3 0 8 0 | G1 Circuit Board | G 1 シ ー ト | | | |
| | 3 0 1 2 2 8 N A 8 0 3 0 9 0 | G2 Circuit Board | G 2 シ ー ト | | | |
| | 3 0 1 2 2 8 N A 8 0 3 1 0 0 | G3 Circuit Board | G 3 シ ー ト | | | |
| | 3 0 1 2 2 8 N A 8 0 3 1 1 0 | G4 Circuit Board | G 4 シ ー ト | | | |
| | 3 0 1 2 2 8 N A 8 0 3 1 2 0 | G5 Circuit Board | G 5 シ ー ト | | | |
| | | | | | | |
| | 3 0 1 0 0 0 i T 2 5 3 0 1 0 | Integrated Circuit YM25301 | i C | G 1 シ ー ト | | |
| | 3 0 1 0 0 0 i G 0 0 1 4 0 0 | - do. - YM25300 | " | G 2 ~ G 5 シ ー ト | | |
| | 4 0 1 0 0 0 i A 0 8 4 4 1 0 | Transistor 2SA844 (DE) | トランジスター | | | |
| | 4 0 1 0 0 0 i C 0 4 5 8 5 0 | - do. - 2SC458LG (C) | " | | | |
| | 4 0 1 0 0 0 i A 0 4 9 5 0 0 | - do. - 2SA495 (QY) | " | | | |
| | 4 0 1 0 0 0 i C 0 7 5 2 3 0 | - do. - 2SC752 (QY) | " | | | |
| | 4 0 1 0 0 0 i C 0 8 2 8 9 0 | - do. - 2SC828 (P) | " | | | |
| | 4 0 1 0 0 0 i E 0 0 0 0 1 0 | - do. - 2SK30A (Y) | " | | | |
| | 4 0 1 0 0 0 i F 0 0 0 4 6 0 | Diode 1S1555 | ダ イ オ ー ド | | | |
| | 4 0 1 0 0 0 i H 0 0 0 0 6 0 | - do. - 10D-1 (10D-4) | " | | | |
| | 4 0 1 0 0 0 G B 0 6 4 5 6 0 | Filter Coil 560mH | フィルタコイル | | | |
| | 4 0 1 0 0 0 G B 0 6 4 4 7 0 | - do. - 470mH | " | | | |
| | 4 0 1 0 0 0 G B 0 6 4 3 3 0 | - do. - 330mH | " | | | |
| | 4 0 1 0 0 0 G E 9 0 0 2 0 0 | OSC Coil 1mH | O S C コ イ ル | | | |
| | 4 0 1 0 0 0 G E 3 0 0 1 2 0 | Coil 100 μ H | コ イ ル | | | |
| | 4 0 1 0 0 0 F P 1 4 6 1 0 0 | Tantalum Capacitor 1 μ F.25V | タンタルコンデンサー | | | |
| | 4 0 1 0 0 0 F P 1 3 7 1 0 0 | - do. - 10 μ F.16V | " | | | |
| | 4 0 1 0 0 0 F D 1 5 2 5 6 0 | Polystyrene Capacitor 560pf.50V | スチロール コンデンサー | | | |
| | 4 0 1 0 0 0 F D 1 5 2 1 5 0 | - do. - 120pf.50V | " | | | |
| | | | | | | |
| | 3 0 1 2 2 8 N A 8 0 3 1 6 0 | D1 Circuit Board SW付 | D 1 シ ー ト | | | |
| | 3 0 1 2 3 0 N A 8 0 2 2 0 0 | D2 Circuit Board SW付 | D 2 シ ー ト | CP-30 | | |
| | 4 0 1 0 0 0 i F 0 0 0 4 6 0 | Diode 1S1555 | ダ イ オ ー ド | | | |
| | 4 0 1 0 0 0 F J 8 6 6 1 0 0 | Electrolytic Capacitor 1 μ F 50V ($\pm 10\%$) | 電解コンデンサー | | | |
| | 3 0 1 2 0 0 N A 8 0 3 1 8 0 | C1, C2, TP Circuit Board | C1, C2, TPシート | | | |
| | | C1, Circuit Board | C 1 シ ー ト | | | |
| | 4 0 1 0 0 0 i G 0 0 1 3 9 0 | Integrated Circuit NJM4558DN | i C | | | |
| | 4 0 1 0 0 0 i F 0 0 0 0 7 0 | Diode 1S2473 | ダ イ オ ー ド | | | |
| | 4 0 1 0 0 0 i H 0 0 0 0 6 0 | - do. - 10D-1 (10D-4) | " | | | |
| | 4 0 1 0 0 0 H S 4 1 0 4 9 0 | Variable Resistor R1K | 可 変 抵 抗 | | | |
| | 4 0 1 0 0 0 H S 4 1 0 4 8 0 | - do. - B10K Ω | " | | | |
| | 4 0 1 0 0 0 H S 4 1 0 4 7 0 | - do. - A10K Ω | " | | | |
| | 4 0 1 0 0 0 H S 4 1 0 5 3 0 | - do. - C50K $\Omega \times \Omega$ | " | | | |
| | 4 0 1 0 0 0 H T 4 1 0 0 1 0 | - do. - B220 Ω | 半 固 定 抵 抗 | | | |
| | 4 0 1 0 0 0 H T 4 1 0 1 4 0 | - do. - B47K Ω | " | | | |
| | | | | | | |
| | | C2 Circuit Board | C 2 シ ー ト | | | |
| | 4 0 1 0 0 0 i C 1 6 8 1 2 0 | Transistor 2SC1681(BL) | トランジスター | | | |
| | 4 0 1 0 0 0 H S 4 1 0 6 3 0 | Variable Resistor A50K Ω | 可 変 抵 抗 | | | |
| | 4 0 1 0 0 0 H S 4 1 0 6 4 0 | - do. - B50K Ω | " | | | |
| | 4 0 1 0 0 0 H S 4 1 0 5 2 0 | - do. - MN50K $\Omega \times 2$ | " | | | |

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