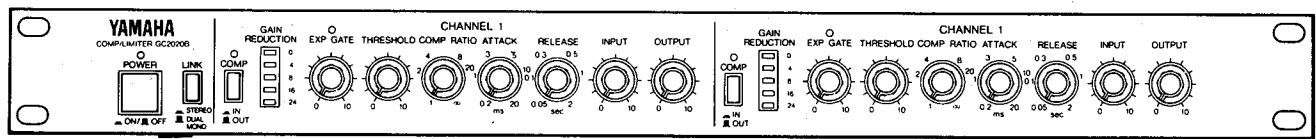


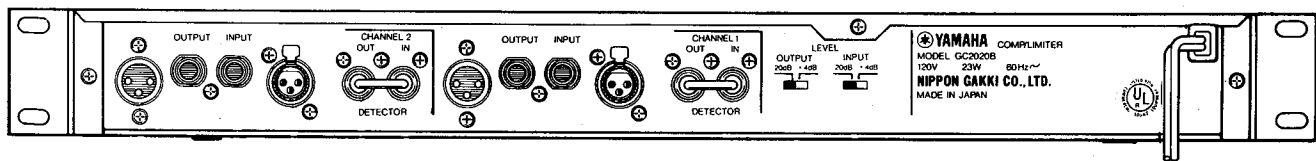
# 2-Channels Compressor/Limiter GC2020B

## SERVICE MANUAL

### FRONT PANEL



### REAR PANEL



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## ■ IMPORTANT NOTICE

### IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

**WARNING:** Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

**IMPORTANT:** The presentation or sale of this manual to any individual or firm does not constitute authorization, certification, recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and changes in specification are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

**WARNING:** Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

**IMPORTANT:** Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

## 仕様

|   |  |
|---|--|
| チャンネル数                                  | 2チャンネル   |
| モード                                     | ステレオ/デュアルモノ切替  |
| 周波数特性                                   | 0 <sup>±</sup> dB 20Hz~20kHz @ +4dB                            |
| 全高調波歪率                                  | 0.05%以下 @ +4dB 20Hz~20kHz                                      |
| ノイズレベル                                  | -87dB以下 (IHF-A)  |
| 最大電圧利得                                  | +24dB (INPUT LEVEL切替スイッチ-20dBの時)<br>(OUTPUT LEVEL切替スイッチ+4dBの時) |
| レシオ設定範囲                                 | 1:1~1:∞  |
| 最大リミッティング                               | 32dB   |
| コンプ/リミッター・スレッシュホールドレベル設定範囲              |  |
| +20dB~-35dB (INPUT LEVEL切替スイッチ+4dBの時)   |  |
| INPUTコントロール 0の時                         | +20dB~+5dB   |
| INPUTコントロール 5の時                         | +20dB~-20dB  |
| INPUTコントロール 10の時                        | +5dB~-35dB   |
| -4dB~-59dB (INPUT LEVEL切替スイッチ-20dBの時)   |  |
| INPUTコントロール 0の時                         | -4dB~-19dB   |
| INPUTコントロール 5の時                         | -4dB~-44dB   |
| INPUTコントロール 10の時                        | -19dB~-59dB  |
| エクスパンドノイズゲート・スレッシュホールドレベル設定範囲           |  |
| 0~-80dB (INPUT LEVEL切替スイッチ+4dBの時)       |  |
| INPUTコントロール 0の時                         | 0 ~-40dB   |
| INPUTコントロール 5の時                         | -25dB~-65dB  |
| INPUTコントロール 10の時                        | -40dB~-80dB  |
| -24dB~-104dB (INPUT LEVEL切替スイッチ-20dBの時) |  |
| INPUTコントロール 0の時                         | -24dB~-64dB  |
| INPUTコントロール 5の時                         | -49dB~-89dB  |
| INPUTコントロール 10の時                        | -64dB~-104dB   |

|             |                  |
|-------------|------------------|
| アタックタイム設定範囲 | 0.2msec~20msec   |
| リリースタイム設定範囲 | 50msec~2sec      |
| ゲインリダクション表示 | 5ポイントLED表示       |
| 電源          | AC100V 50/60Hz   |
| 消費電力        | 18W              |
| 寸法(W×H×D)   | 480mm×44mm×235mm |
| 重量          | 3kg              |

- 測定における基本セッティングは次のとおりです。
 

|                    |                       |
|--------------------|-----------------------|
| INPUT LEVEL切替スイッチ  | ..... +4dB            |
| OUTPUT LEVEL切替スイッチ | ..... +4dB            |
| LINKスイッチ           | ..... OFF (DUAL MONO) |
| INPUTコントロール        | ..... 5               |
| OUTPUTコントロール       | ..... 5               |
| EXP. GATEコントロール    | ..... OFF             |
| COMP RATIOコントロール   | ..... 1:1             |
| アタックタイム            | ..... 0.2msec(最小)     |
| リリースタイム            | ..... 50msec(最小)      |
- 0dB=0.775Vr.m.s.
- 仕様および外観は改良のため、予告なく変更することがあります。

**■ SPECIFICATIONS**

|                                    |   |
|------------------------------------|---|
| Frequency Response                 | 0 <sup>+</sup> <sub>-3</sub> dB 20Hz ~ 20kHz @ +4dB   |
| Total Harmonic Distortion          | Less than 0.05% @ +4dB 20Hz ~ 20kHz   |
| Hum & Noise (Rs = 150Ω)            | -85dB (12.7kHz 6dB/oct LPF Weighted, Average)<br>-83dB (DIN AUDIO Weighted, Average)<br>-87dB (IHF-A Weighted, Average)   |
| Maximum Voltage Gain               | +24dB: Input Level SW at -20dB<br>Output Level SW at +4dB   |
| Compression Ratio                  | 1 : 1 ~ 1 : ∞ (Maximum limiting 32dB)   |
| Compressor/Limiter Threshold Level | +20 ~ -35dB (Input Level SW at +4dB)<br>(Input Control at 0 : +20 ~ +5)<br>(Input Control at Center : +20 ~ -20)<br>(Input Control at 10 : +5 ~ -35)<br>+20 ~ -59dB (Input Level SW at -20dB)<br>(Input Control at 0 : +20 ~ -19dB)<br>(Input Control at Center : -4 ~ -44dB)<br>(Input Control at 10 : -19 ~ -59dB)        |
| Expander Noise Gate Threshold      | 0 ~ -80dB (Input Level SW at +4dB)<br>(Input Control at 0 : 0 ~ -40dB)<br>(Input Control at Center : -25 ~ -65dB)<br>(Input Control at 10 : -40 ~ -80dB)<br>-24 ~ -104dB (Input Level SW at -20dB)<br>(Input Control at 0 : -24 ~ -64dB)<br>(Input Control at Center : -49 ~ -89dB)<br>(Input Control at 10 : -64 ~ -104dB) |
| Attack Time                        | 0.2 msec ~ 20 msec  |
| Release Time                       | 50 msec ~ 2.0 sec   |
| Indicators                         | Power "ON" . . . . . RED<br>Comp "ON" . . . . . RED<br>EXP Gate . . . . . RED<br>Gain Reduction . . . . . RED 5 Segment LED meter   |

|                        |   |
|------------------------|---|
| Controls (Per CH)      | Input Level Control                               |
|                        | Output Level Control                              |
| Controls               | Exp. Gate Control (with ON/OFF SW)                |
|                        | Comp. Ratio                                       |
|                        | Attack Time                                       |
|                        | Release Time                                      |
|                        | Comp IN/OUT SW                                    |
| Power Requirements     | Power SW  |
|                        | Link SW (Stereo/Dual Mono)                        |
|                        | Input Level SW (+4/-20dB)                         |
|                        | Output Level SW (+4/-20dB)                        |
| U.S. & Canadian model  | 120V AC, 60Hz                                     |
|                        | General model 110V ~ 120V/220V ~ 240V AC, 50/60Hz |
| Power Consumption      | U.S. & Canadian model 23W                         |
|                        | General model 19W                                 |
| Dimensions (W x H x D) | 480 mm x 44 mm x 235 mm                           |
|                        | (18-7/8" x 1-3/4" x 9-1/4")                       |
| Weight                 | 3 kg (6.6 lbs)                                    |
| Finish                 | Black semi-gloss                                  |

\* All Controls are nominal setting for test.  
 Input Level SW . . . . . +4dB  
 Output Level SW . . . . . +4dB  
 Link SW . . . . . OFF (dual Mono)  
 Input Level Control . . . . . Center  
 Output Level Control . . . . . Center  
 EXP. Gate Control . . . . . Off  
 Comp. Ratio . . . . . 1 : 1  
 Attack Time . . . . . 0.2 mSec (minimum)  
 Release Time . . . . . 50 mSec (minimum)

\* 0dB is referenced to 0.775V RMS.  
 \* Specifications subject to change without notice.  
 \* 0 dB = 0.775Vr.m.s.  
 \* 仕様および外観は、改良のため予告なく変更することがあります。

**● INPUT SPECIFICATIONS**

| CONNECTION | INPUT LEVEL SW | ACTUAL LOAD IMPEDANCE | FOR USE WITH NOMINAL | INPUT LEVEL    |                  | CONNECTOR***             |
|------------|----------------|-----------------------|----------------------|----------------|------------------|--------------------------|
|            |                |                       |                      | NOMINAL        | MAX. BEFORE CLIP |                          |
| INPUT      | +4dB           | 15k ohms              | 600 ohm LINES        | +4dB (1.23V)   | +20dB (7.75V)    | XLR-3-31 type PHONE JACK |
|            | -20dB          |                       |                      | -20dB (77.5mV) | -4dB (489mV)     |                          |

**● OUTPUT SPECIFICATIONS**

| CONNECTION | OUTPUT LEVEL SW | ACTUAL SOURCE IMPEDANCE | FOR USE WITH NOMINAL | OUTPUT LEVEL   |                  | CONNECTOR***  |
|------------|-----------------|-------------------------|----------------------|----------------|------------------|---------------|
|            |                 |                         |                      | NOMINAL        | MAX. BEFORE CLIP |               |
| OUTPUT     | +4dB (1.23V)    | 150 ohms                | 600 ohm Lines        | +4dB (1.23V)   | +20dB (7.75V)    | XLR-3-32 type |
|            |                 | 600 ohms                | 10k ohm Lines        | +4dB (1.23V)   | +18dB (6.16V)    | PHONE JACK    |
|            | -20dB (77.5mV)  | 150 ohms                | 600 ohm Lines        | -20dB (77.5mV) | -4dB (489mV)     | XLR-3-32 type |
|            |                 | 600 ohms                | 10k ohm Lines        | -20dB (77.5mV) | -6dB (388mV)     | PHONE JACK    |

\* : In these specifications, when dB represent a specific Voltage, 0dB is referenced to 0.775V.  
 \*\* : Sensitivity is the level required to produce an output of +4dB (1.23V).  
 \*\*\* : All XLR type connectors are balanced.  
 : Input Phone Jacks are balanced, Output Phone Jacks are unbalanced.

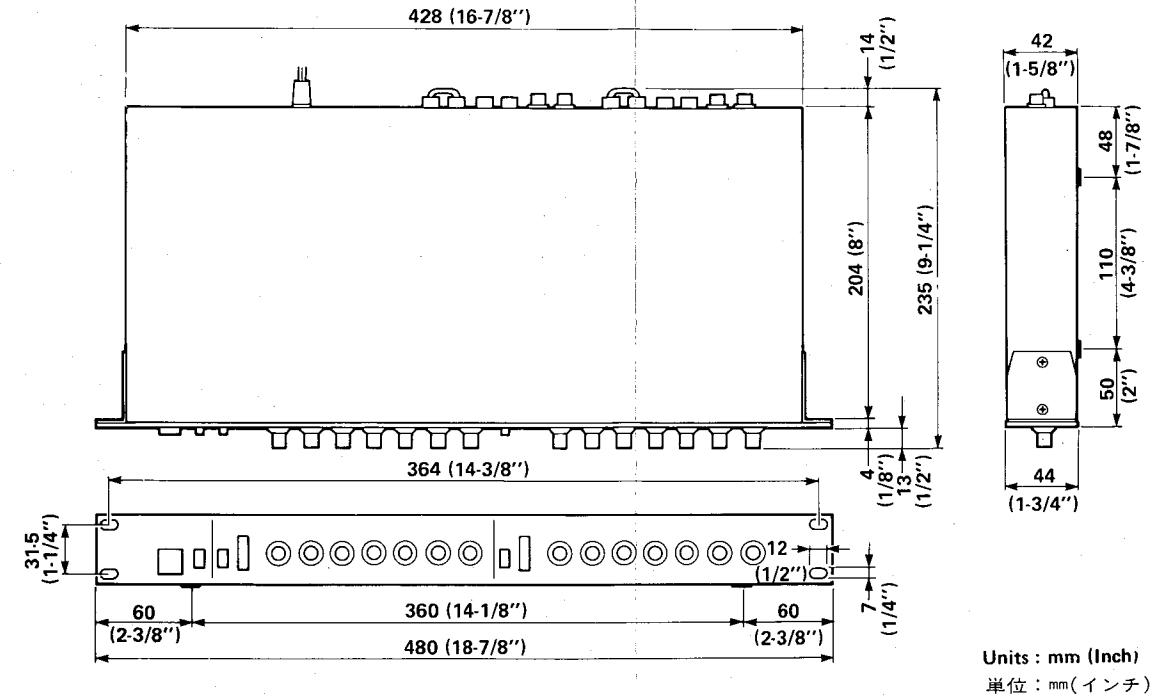
**● DETECTOR SPECIFICATIONS**

| CONNECTION | ACTUAL LOAD IMPEDANCE | FOR USE WITH NOMINAL | SENSITIVITY*** (AT MAX. GAIN) | INPUT LEVEL   |                  | CONNECTOR*** |
|------------|-----------------------|----------------------|-------------------------------|---------------|------------------|--------------|
|            |                       |                      |                               | NOMINAL       | MAX. BEFORE CLIP |              |
| INPUT      | 27k ohms              | 600 ohm Lines        | -10dB (245mV) Lines           | -10dB (245mV) | +20dB (7.75V)    | RCA Pin Jack |

| CONNECTION | ACTUAL SOURCE IMPEDANCE | FOR USE WITH NOMINAL | OUTPUT LEVEL  |                  | CONNECTOR*** |
|------------|-------------------------|----------------------|---------------|------------------|--------------|
|            |                         |                      | NOMINAL       | MAX. BEFORE CLIP |              |
| OUTPUT     | 600 ohms                | 10k ohm Lines        | -10dB (245mV) | +20dB (7.75V)    | RCA Pin Jack |

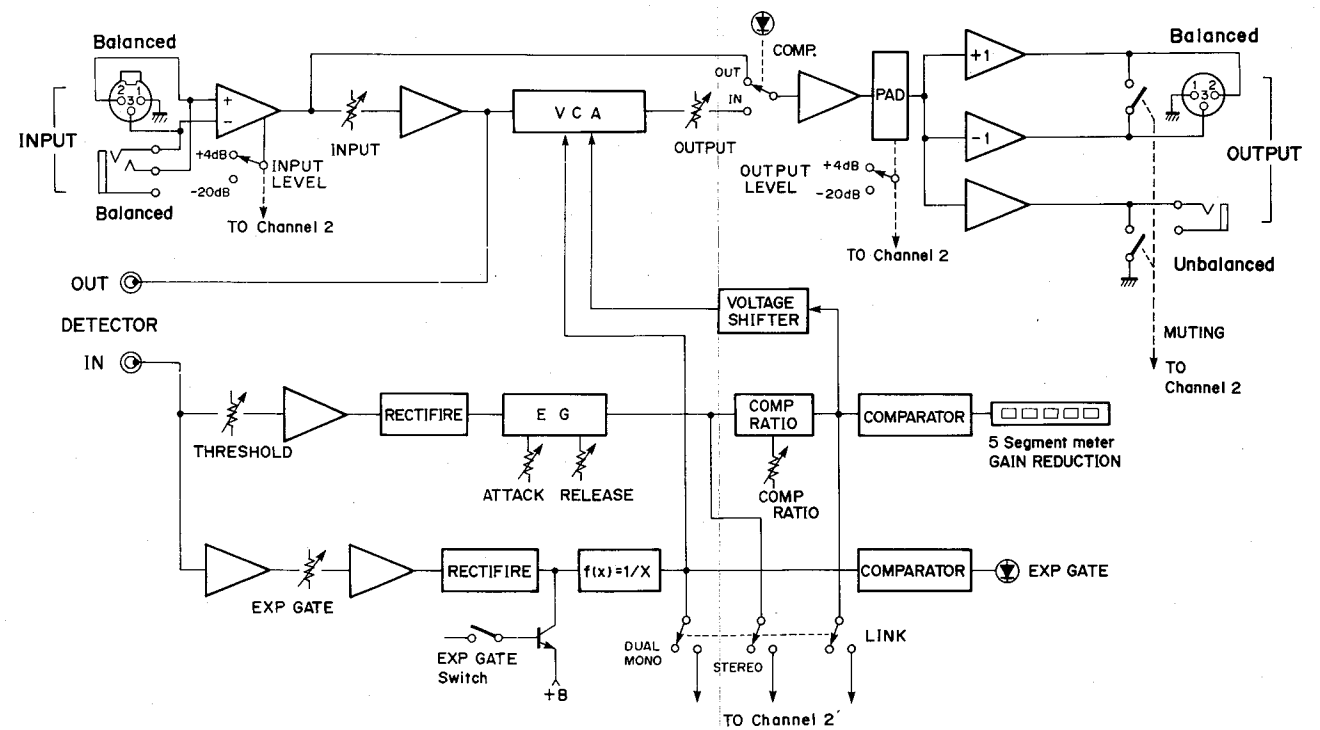
\* : 0dB is referenced to 0.775V.  
 \*\* : Sensitivity is the level required to produce an output of +4dB (1.23V).  
 \*\*\* : All RCA Pin Jack connectors are unbalanced.  
 : Input Phone Jacks are balanced, Output Phone Jacks are unbalanced.

**■ DIMENSIONS (寸法図)**



Units : mm (Inch)  
 単位 : mm (インチ)

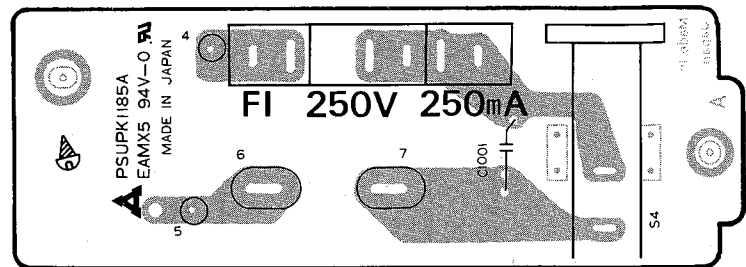
**■ BLOCK DIAGRAM (ブロック図)**



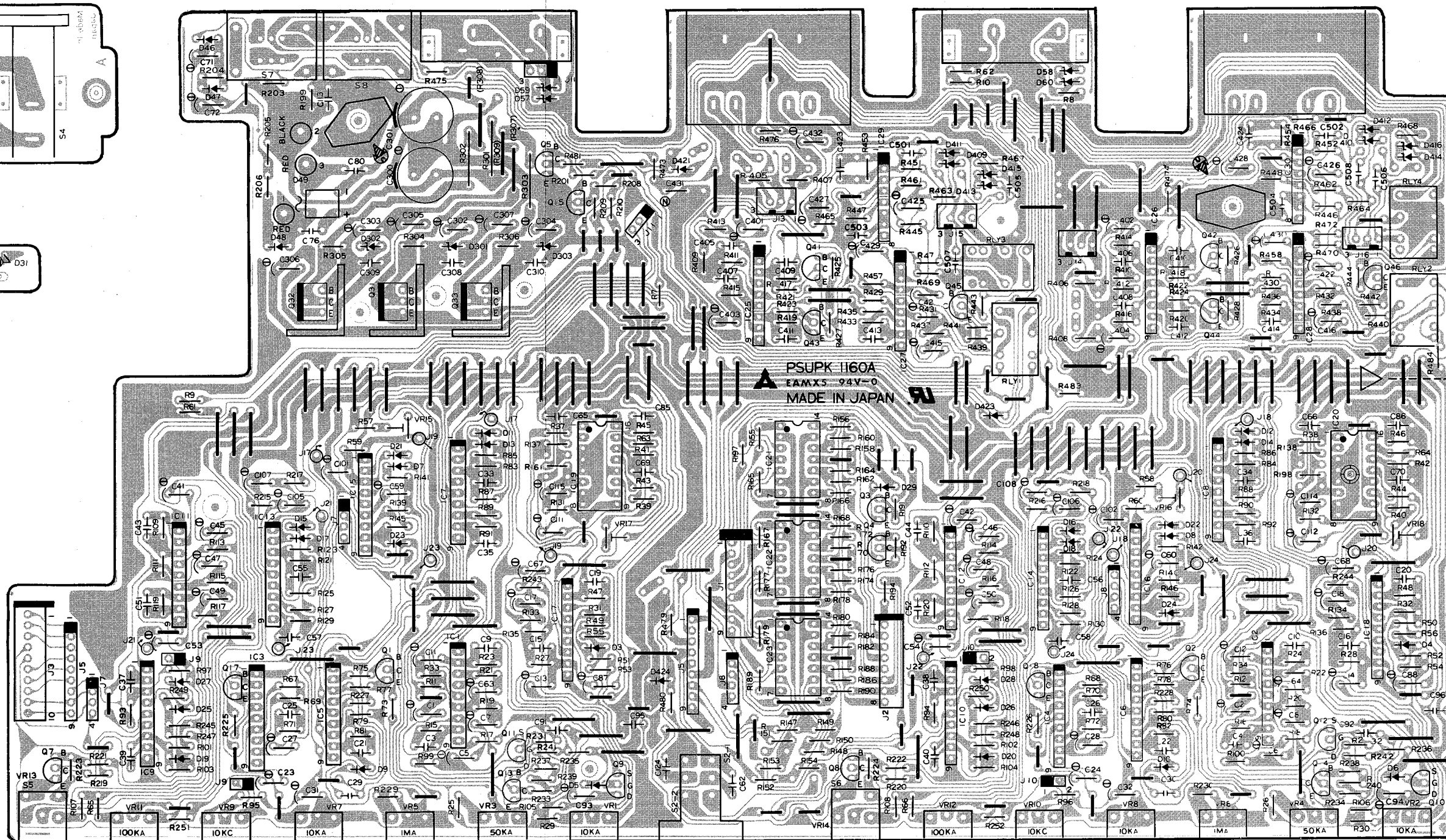
■ CIRCUIT BOARDS (Parts side)

シート図(部品側)

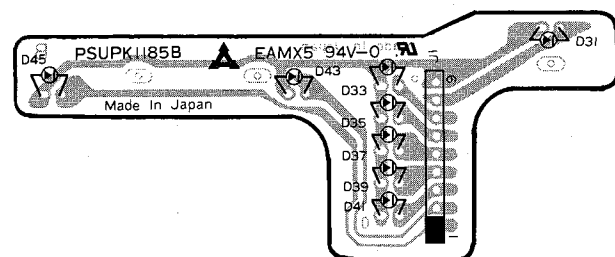
● AC CIRCUIT BOARD (Japanese, U.S. & Canadian; NX802530 General; NX802540)



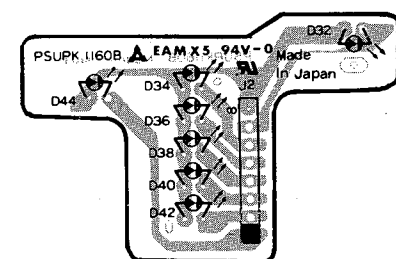
● MAIN CIRCUIT BOARD (NX802490)



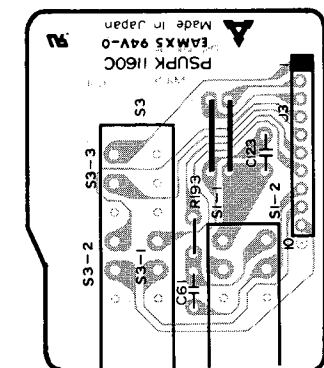
● LED1 CIRCUIT BOARD (NX802520)



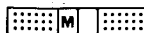
● LED2 CIRCUIT BOARD (NX802510)



● SW CIRCUIT BOARD (NX802500)




<Components side>



## ADJUSTMENTS (調整仕様)

### 1. Before adjustment

Set the switch and controls as follows.

|             |  |
|-------------|--|
| LINK switch | OFF (D.MONO)   |
| COMP switch | IN (  ) |
| EXP GATE    | min  |
| THRESHOLD   | max  |
| COMP RATIO  | max  |
| ATTACK      | min  |
| RELEASE     | min  |
| INPUT       | max  |
| OUTPUT      | max  |

### 2. Adjustment of ratio curve

Adjust VR15 (CH1) and VR16 (CH2) so that  $-2 \text{ dB}$  ( $600 \text{ mV}$ )  $\pm 1 \text{ dB}$  is obtained at the OUTPUT connectors (Phone connector) when a  $1 \text{ kHz}$ ,  $-30 \text{ dB}$  ( $24.5 \text{ mV}$ ) signal is applied to the INPUT connectors (Phone connector).


\* Insert the short plugs between the DETECTOR OUT and IN.

### 3. Noise level

Adjust VR17 (CH1) and VR18 (CH2) so that the distortion factor should be less than  $4 - 6\%$  and the clipping signals should be vertically symmetrical. (Observe the distortion meter or connect the oscilloscope to the output load.)

### 1. 調整の前に

スイッチおよびツマミは次のようにセットする。

|             |  |
|-------------|--|
| LINK switch | OFF (D.MONO)   |
| COMP switch | IN (  ) |
| EXP GATE    | min  |
| THRESHOLD   | max  |
| COMP RATIO  | max  |
| ATTACK      | min  |
| RELEASE     | min  |
| INPUT       | max  |
| OUTPUT      | max  |

### 2. レシオカーブの調整

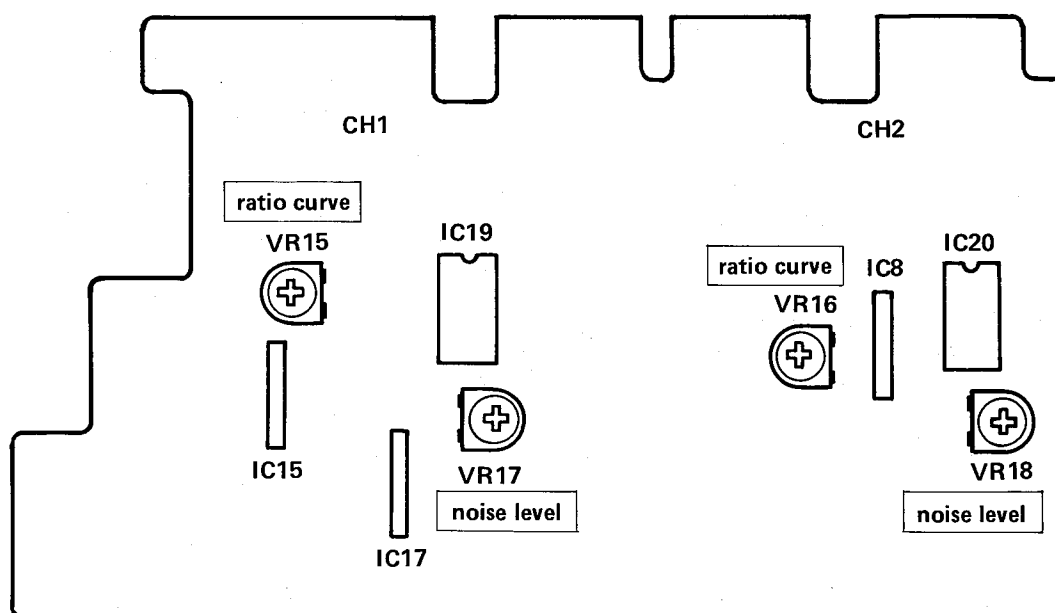
INPUT端子 (Phone Jack) に  $1 \text{ kHz}$ 、 $-30 \text{ dB}$  ( $24.5 \text{ mV}$ ) の信号を印加したとき、OUTPUT端子 (Phone Jack) に  $-2 \text{ dB}$  ( $600 \text{ mV}$ )  $\pm 1 \text{ dB}$  が得られるように VR15 (CH1)、VR16 (CH2) を調整する。

\* DETECTOR OUT、IN 間にショートプラグを差しておくこと。

### 3. ノイズレベルの調整

INPUT端子 (Phone Jack) に  $100 \text{ Hz}$ 、 $-20 \text{ dB}$  ( $77.8 \text{ mV}$ ) の信号を印加したとき、OUTPUT端子 (Phone Jack) に出力波形の歪率が最少 ( $4 - 6\%$ ) になるように VR17 (CH1)、VR18 (CH2) で調整する。

\* なるべく歪率波形をモニターし、歪率波形が上下対称となるようにする。



MAIN Circuit Board

1 ■ EXPLODED VIEW (分解図)

1

2

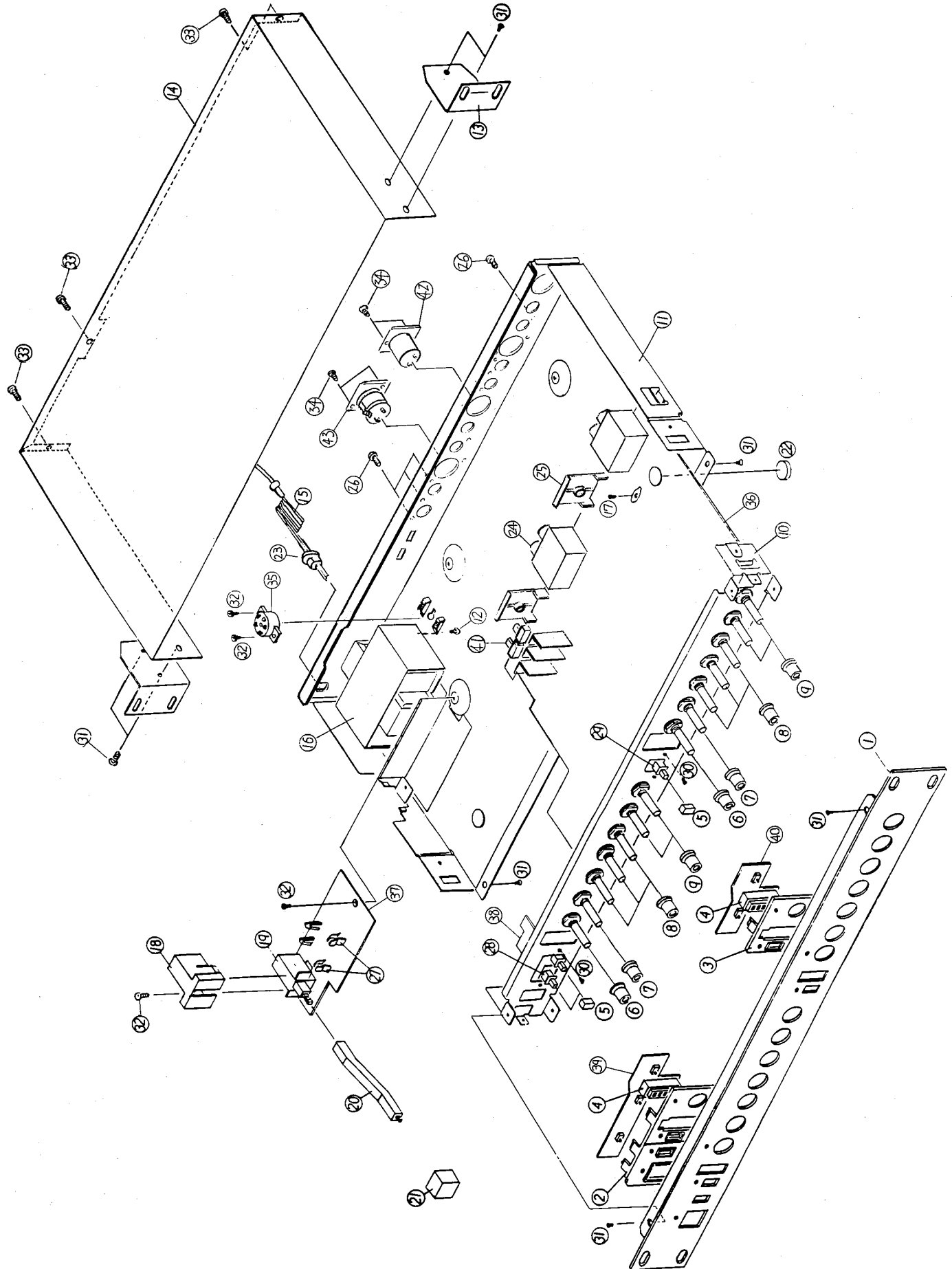
3

4

5

6

7



## MECHANISM PARTS (メカ部品)

| Ref. No. | Part No.    | Description             | 部 品 名         | Remarks                 | Markets       | ランク        |
|----------|-------------|-------------------------|---------------|-------------------------|---------------|------------|
| ※ 1      | AX 80 03 50 | Front Panel             | フ ロ ン ト パ ネ ル | PSGWK300B               |               |            |
| 2        | XX 80 60 20 | Sheet A, Knob           | ツ マ ミ 座 (A)   | PSG XK97                |               | 03         |
| 3        | XX 80 61 10 | Sheet B, Knob           | ツ マ ミ 座 (B)   | PSG XK97B               |               |            |
| 4        | XX 80 60 30 | Holder, LED             | L E D ホ ル ダ ー | PSGLK15                 |               | 03         |
| 5        | CX 80 01 10 | Push Button             | プ ッ シ ュ ボ タ ン | PSBCK46                 |               | 02         |
| 6        | CB 83 52 10 | Knob                    | ツ マ ミ         | PSBNK41-3               |               | 01         |
| 7        | CB 83 49 40 | "                       | "             | PSBNK41-2               |               | 01         |
| 8        | CX 80 01 20 | "                       | "             | PSBNK41                 |               | 02         |
| 9        | CB 83 52 00 | "                       | "             | PSBNK41-1               |               | 01         |
| 10       | XX 80 60 40 | Sub Panel               | 前 板           | PSU FK20                |               | 07         |
| ※ 11     | AX 80 03 60 | Chassis                 | シ ャ ー シ       | PSGPK292A               | J             |            |
| ※ "      | AX 80 03 70 | "                       | "             | PSGPK292-1A             | U, C          |            |
| ※ "      | AX 80 03 80 | "                       | "             | PSGPK292-2A             | G             |            |
| 12       | ED 33 00 86 | Bind Head Screw         | 3 x 8 BI      | バ イ ン ド 小 ネ ジ           | XTW3 + 8LFZ   | 01         |
| 13       | XX 80 60 50 | Bracket                 |               | パ ネ ル 補 強 金 具           | PSKXK3        | 06         |
| 14       | XX 80 60 60 | Top Cover               |               | ト ッ プ カ バ ー             | PSKCK140      | 11         |
| 15       | MX 80 01 80 | Power Supply Cord       |               | 電 源 コ ー ド               | PSJAK3        | J 05       |
| "        | MX 80 01 90 | "                       |               | "                       | PSJAK4        | U, C       |
| "        | MX 80 02 00 | "                       |               | "                       | PSJAK5        | G          |
| ※ 16     | GX 80 03 60 | Power Transformer       |               | 電 源 ト ラ ン ス             | PSLTK9M5-W    | J          |
| ※ "      | GX 80 03 70 | "                       |               | "                       | PSLTK9M6-W    | U          |
| ※ "      | GX 80 03 80 | "                       |               | "                       | PSLTK9M7-W    | C          |
| ※ "      | GX 80 03 90 | "                       |               | "                       | PSLTK9M8-W    | G          |
| 17       | ED 33 00 86 | Bind Head Screw         | 3 x 8 BI      | バ イ ン ド 小 ネ ジ           | XTBS3 + 8FFZ1 | 01         |
| 18       | XX 80 60 80 | Cover, Power Screw      |               | 電 源 ス イ ッ チ カ バ ー       | SMNK17        | 02         |
| 19       | KX 80 02 10 | Power Switch            |               | 電 源 ス イ ッ チ             | SSH1071       | 03         |
| 20       | XX 80 60 90 | Shaft, Power Switch     |               | 電 源 ス イ ッ チ 連 絡 棒       | SUB69         | 02         |
| 21       | CB 81 23 80 | Push Button             |               | プ ッ シ ュ ボ タ ン           | PSBCK45       | 01         |
| 22       | XX 80 61 00 | Leg                     |               | 脚                       | PSK LK2       | 02         |
| 23       | XX 80 64 60 | Cord Stopper            |               | コ ー ド ス ト ッ パ ー         | SHR127        | U, C, G 02 |
| ※ 24     | LX 80 07 30 | Phone Jacks             |               | 入 出 カ ジ ャ ッ ク           | PSJJK35       |            |
| 25       | LX 80 04 30 | Pin Jacks               |               | 入 出 カ ピ ン ジ ャ ッ ク       | SJF3057-7N    | 04         |
| 26       | Ei 33 01 06 | Bind Head Tapping Screw | 3 x 10 BI     | バ イ ン ド タ ッ ピ ン グ ネ ジ   | XTB3 + 10GFZ  | 01         |
| 27       | LX 80 04 50 | Fuse Holder             |               | ヒ ュ ー ズ ホ ル ダ ー         | SJT345        | J, U, C 01 |
| "        | LX 80 04 80 | "                       |               | "                       | SJT347        | G          |
| 28       | KX 80 01 70 | Push Switch             |               | プ ッ シ ュ ス イ ッ チ         | PSSHK50       | 04         |
| 29       | KX 80 01 80 | "                       | LINK          | "                       | PSSHK51       | 03         |
| 30       | EB 33 00 86 | Flat Head Screw         | 3 x 8 BI      | 皿 小 ネ ジ                 | XSS3 + 8S     | 01         |
| 31       | EO 33 00 86 | Flat Head Tapping Screw | 3 x 8 BI      | 皿 タ ッ ピ ン グ ネ ジ         | XTS3 + 8BFZ   | 01         |
| 32       | ED 33 00 86 | Bind Head Screw         | 3 x 8 BI      | バ イ ン ド 小 ネ ジ           | XTB3 + 8FFZ   | 01         |
| 33       | Ei 33 00 86 | Bind Head Tapping Screw | 3 x 8 BI      | バ イ ン ド タ ッ ピ ン グ ネ ジ   | XTB3 + 8BFZ   | 01         |
| 34       | EM 13 00 86 | Oval Head Tapping Screw | 3 x 8 Ni      | 丸 皿 タ ッ ピ ン グ ネ ジ       | XTS3 + 8BFN   | 01         |
| 35       | KX 80 02 00 | Voltage Selector        |               | 電 圧 切 替 器               | ESE3787       | G          |
| ※ 36     | NX 80 24 90 | Circuit Board, MAIN     |               | M A I N シ ー ト           |               |            |
| ※ 37     | NX 80 25 30 | Circuit Board, AC       |               | A C シ ー ト               |               | U, C       |
| ※ "      | NX 80 25 80 | "                       |               | "                       |               | J          |
| ※ "      | NX 80 25 40 | "                       |               | "                       |               | G          |
| ※ 38     | NX 80 25 00 | Circuit Board, SW       |               | S W シ ー ト               |               |            |
| ※ 39     | NX 80 25 20 | Circuit Board, LED1     |               | L E D 1 シ ー ト           |               |            |
| ※ 40     | NX 80 25 10 | Circuit Board, LED2     |               | L E D 2 シ ー ト           |               |            |
| ※ 41     | KX 80 03 60 | Switch, Level           |               | レ ベ ル 切 替 ス イ ッ チ       | PSSSK10       |            |
| 42       | LB 30 23 40 | XLB Connector (Plug)    | XLB-3-32      | キ ャ ノ ン 端 子 O U T P U T | SJSK9-1       | 06         |
| 43       | LB 30 23 20 | XLB Connector (Socket)  | XLB-3-31      | " I N P U T             | SJSK8-1       | 07         |

※New Parts (新規部品)

ランク : Japan Only

## ■ CIRCUIT BOARDS & ELECTRICAL PARTS (シート及び電気部品)

| Ref. No.     | Part No.           | Description                | 部 品 名           | Remarks       | Markets        | ランク     |
|--------------|--------------------|----------------------------|-----------------|---------------|----------------|---------|
| *            | <b>NX 80 24 90</b> | <b>Circuit Board, MAIM</b> |                 |               |                |         |
|              |                    |                            | M A I N シ ー ト   |               |                | 36      |
| VR1, 2, 7, 8 | HX 80 04 80        | Potentiometer              | A10kΩ           | 可 変 抵 抗 器     | EVJ-KAA033A14  | 04      |
| VR9, 10      | HX 80 04 90        | "                          | C10kΩ           | "             | EVJ-KAA033C14  | 04      |
| VR3, 4       | HX 80 05 00        | "                          | A50kΩ           | "             | EVJ-KAA033A54  | 04      |
| VR11, 12     | HX 80 05 10        | "                          | A100kΩ          | "             | EVJ-KAA033A15  | 04      |
| VR5, 6       | HX 80 05 20        | "                          | A1MΩ            | "             | EVJ-KAA033A16  | 05      |
| VR13, 14     | HX 80 05 30        | Potentiometer with Switch  | C10kΩ           | "             | EVJ-LLB026C14  | 05      |
| VR15, 16     | HX 80 06 50        | Trimmer Potentiometer      | B20kΩ           | ソ リ ッ ド V R   | EVN-D4AA00B24  |         |
| VR17, 18     | HX 80 06 60        | "                          | B500Ω           | "             | EVN-D4AA00B52  |         |
| Q1, etc.     | iC 28 78 00        | Transistor                 | 2SC2878 (A, B)  | ト ラ ン ジ ス タ   | 2SC2878B-T     | 03      |
| Q3 ~ 8, etc. | iA 10 15 30        | "                          | 2SA1015 (Y, GR) | "             | 2SA1015GR-T    | 03      |
| Q31, 33      | iX 60 44 20        | "                          | 2SD1406 (Y)     | "             | 2SD1406Y       | 04      |
| Q32          | iX 60 58 80        | "                          | 2SB1015 (Y)     | "             | 2SB1015Y       | 04      |
| Q9, 10       | iE 10 26 00        | FET                        | 2SK246          | F E T         | 2SK246GR-T     | 03      |
| Q11, 12      | iX 60 33 70        | "                          | 2K301R          | "             | 2SK301R-TA     | 03      |
| D46          | iX 80 15 30        | Diode                      |                 | ダ イ オ ー ド     | MA29W-A(T)     | 01      |
| D3, etc.     | iX 60 61 20        | "                          |                 | "             | MA165          |         |
| D1, 2        | iX 80 11 40        | "                          |                 | "             | MA1120MTA      | 01      |
| D54, 56      | iF 00 70 00        | "                          | MA1130M         | "             | MA1130MTA      | 01      |
| D49          | iX 80 11 70        | "                          |                 | "             | SVD1B4B42      | 02      |
| D50          | iX 80 11 80        | "                          |                 | "             | SVD1SR35-200LF | 03      |
| D301, etc.   | iX 60 23 70        | "                          |                 | "             | MTZ15A         | 01      |
| IC3 ~ 16     | iX 80 07 80        | IC                         | TA75559S        | I C           | SVITA75559S-1  | 03      |
| IC1, etc.    | iG 08 02 00        | "                          | NJM2043S        | "             | SVINJM2043SE   | 03      |
| IC19, 20     | iX 80 12 20        | "                          |                 | "             | NJM13600       | 05      |
| IC21 ~ 23    | iX 80 12 30        | "                          |                 | "             | LA6324         | 03      |
| IC24         | iX 80 13 30        | "                          |                 | "             | AN78M15        | 04      |
| IC25         | iX 80 12 50        | "                          |                 | "             | AN79M15        | 05      |
| IC26         | iX 80 12 40        | "                          |                 | "             | AN78N12        | 04      |
| RLY1, 2      | KX 80 02 30        | Relay                      | 12V DC          | リ レ           | SFDYG5A237P    | 07      |
| *            | <b>NX 80 25 30</b> | <b>Circuit Board, AC</b>   |                 | A C シ ー ト     |                | U, C    |
| *            | <b>NX 80 25 80</b> | "                          |                 | "             |                | J       |
| *            | <b>NX 80 25 40</b> | "                          |                 | "             |                | G       |
|              | KB 00 09 90        | Fuse                       |                 | ヒ ュ ー ズ       | XBA2F02NU100   | U, C 02 |
|              | KB 00 09 90        | "                          |                 | "             | XBA2E025NS5    | J       |
|              | KB 00 07 00        | "                          |                 | "             | XBA2C02TRO     | G       |
| *            | <b>NX 80 25 00</b> | <b>Circuit Board, SW</b>   |                 | S W シ ー ト     |                | 11      |
| *            | <b>NX 80 25 20</b> | <b>Circuit Board, LED1</b> |                 | L E D 1 シ ー ト |                | 12      |
| D31, etc.    | iF 00 37 40        | LED                        | LN222RP         | L E D         |                | 02      |
| D33, etc.    | iF 99 05 50        | "                          | LN229RP         | "             |                | 02      |
| *            | <b>NX 80 25 10</b> | <b>Circuit Board, LED2</b> |                 | L E D 2 シ ー ト |                | 11      |
| D32, etc.    | iF 00 37 40        | LED                        | LN222RP         | L E D         |                | 02      |
| D34, etc.    | iF 99 05 50        | "                          | LN229RP         | "             |                | 02      |

\*New Parts (新規部品)

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OVERALL CIRCUIT DIAGRAM (総回路図)

