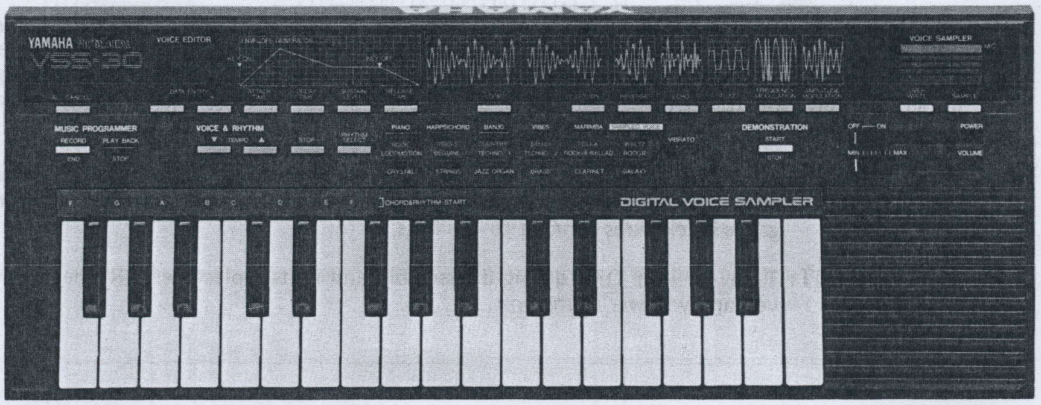
1SVSS30

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# YAMAHA PortaSound

# VSS-30

## SERVICE MANUAL




VSS-30

■ **CONTENTS**（目次）


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PARTS LIST


001314


SINCE 1887 YAMAHA
NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN
3.48K-66 ⊖ Printed in Japan '87.6


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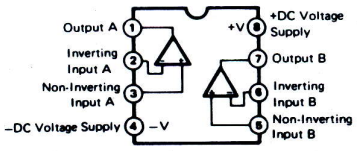
## ■ LSI DATA TABLE（LSI端子機能表）

### ●YM2416 (XD082001) GE11

| Pin No. | Pin Name | I/O | Function | Pin No. | Pin Name | I/O | Function |
|---|---|---|---|---|---|---|---|
| 1 | xtal1 | | Clock | 21 | A3 | O | Output port (for keyboard switches) |
| 2 | xtal2 | | | 22 | D0 | I | Input port (for keyboard and panel switches) |
| 3 | IC | I | Initial clear | 23 | D1 | I | |
| 4 | $\overline{A8}$ | I | External memory input | 24 | D2 | I | |
| 5 | $\overline{CAS}$ | O | External memory control | 25 | D3 | I | |
| 6 | $\overline{D}$ | O | Data output | 26 | D4 | I | |
| 7 | $\overline{WE}$ | O | Write control | 27 | D5 | I | |
| 8 | $\overline{A6}$ | I | External memory input | 28 | D6 | I | |
| 9 | $\overline{RAS}$ | O | External memory control | 29 | D7 | I | |
| 10 | A3 | I | External memory input | 30 | A8 | O | Output port (for panel switches) |
| 11 | A0 | I | | 31 | A7 | O | |
| 12 | A4 | I | | 32 | A6 | O | |
| 13 | A2 | I | | 33 | A5 | O | |
| 14 | A5 | I | | 34 | $\overline{A4}$ | O | |
| 15 | A1 | I | | 35 | $\overline{SP\ OFF}$ | O | Amplifier/speaker separating control |
| 16 | A6 | I | | 36 | VCC | | DC supply |
| 17 | A2 | O | Output port (for keyboard switches) | 37 | SAMPL A1 | I | Sampling signal IN |
| 18 | A1 | O | | 38 | A-GND | | Ground |
| 19 | A0 | O | | 39 | OUT | O | Musical sound/voice |
| 20 | VSS | | Ground | 40 | A-VDD | | DC supply |

## ■ IC BLOCK DIAGRAM（ICブロック図）

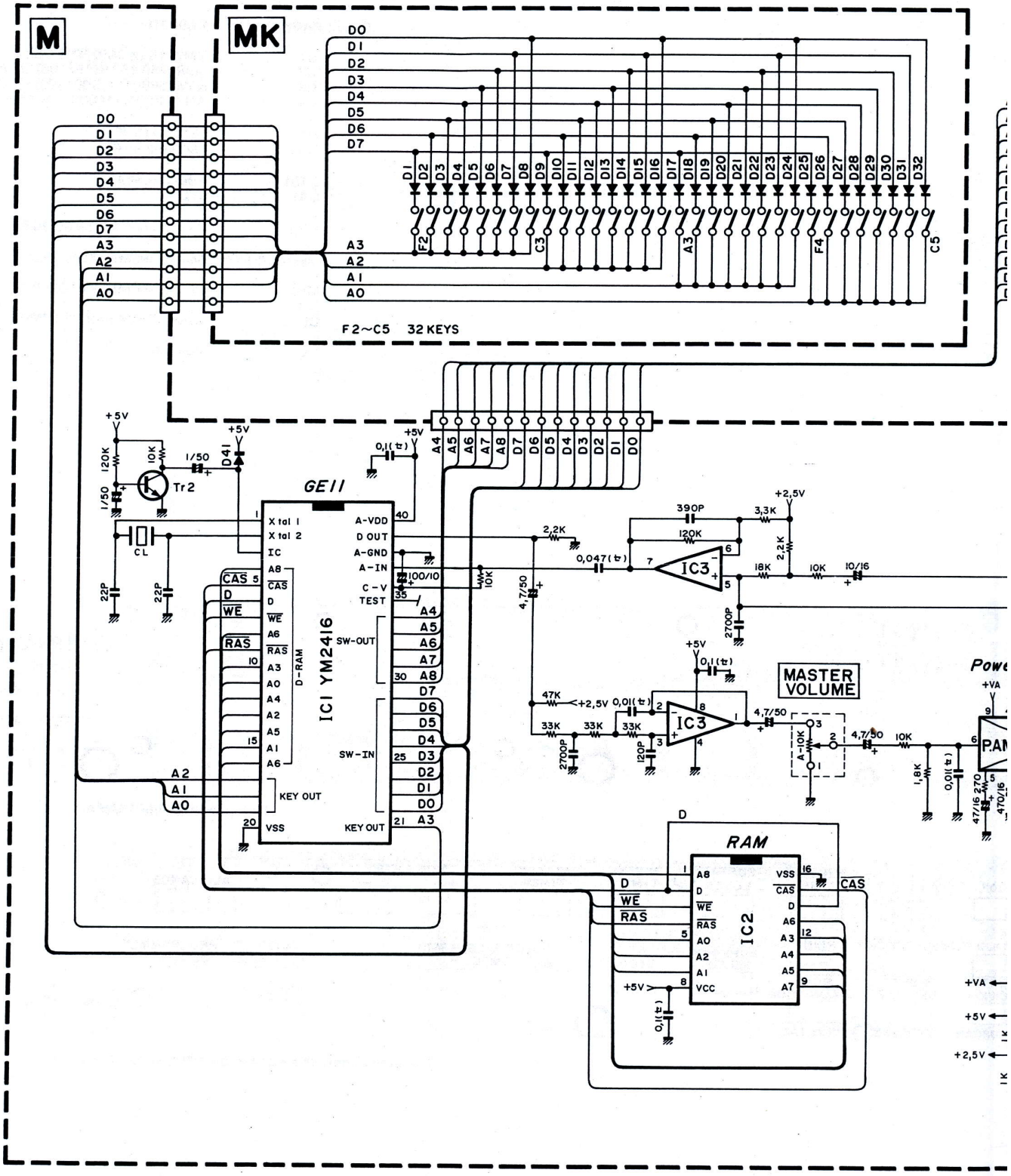
- **NJM4558DV (IG001390)**
  Dual Operational Amplifier






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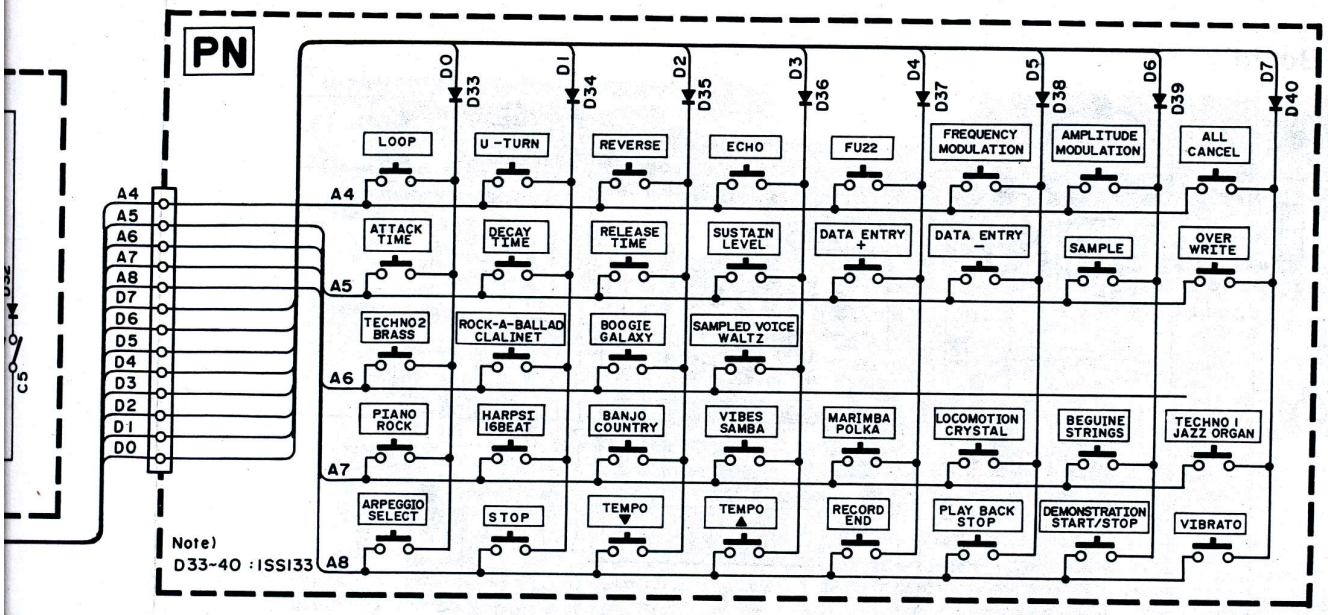
## ■OVERALL CIRCUIT DIAGRAM（総回路図）

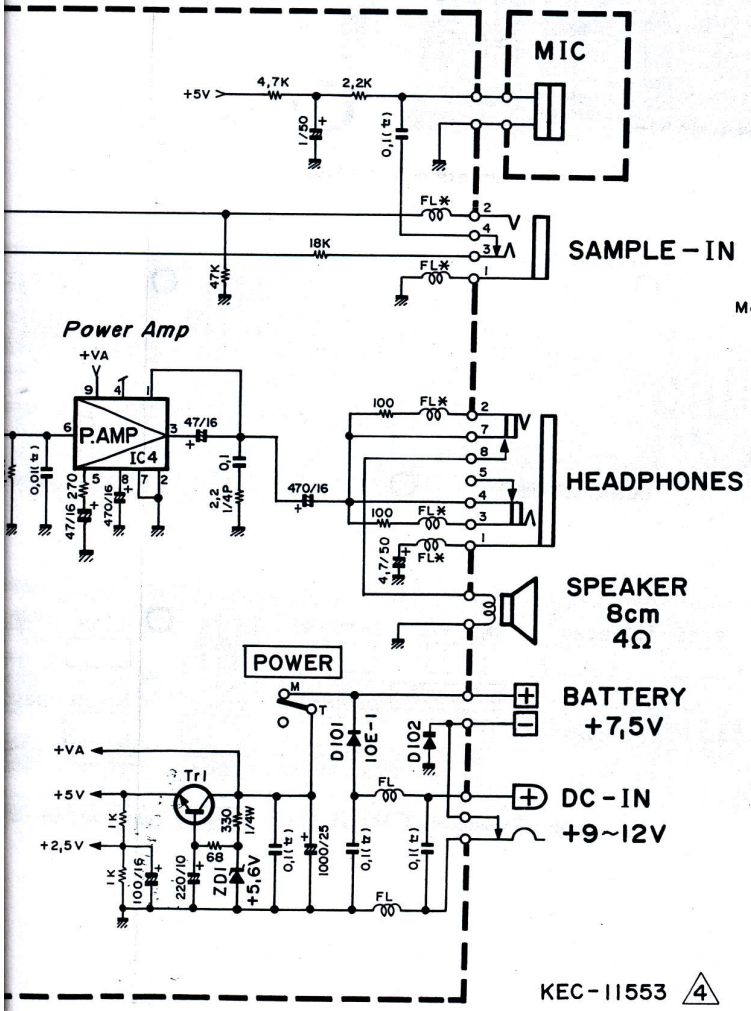







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Notes)

IC1 : YM2416 (XD082001) GE11
IC2 : MB81256-15 (IG155100) DRAM
IC3 : NJM4558DV (IG001390) OP AMP.
IC4 : AN7140 (IG116800) 5W 1CH
Tr1 : 2SD880 (O),(Y)
Tr2 : 2SC2603 (E),(F)
D41 : ISS133
D101,102 : 10E-1
ZD1 : Zener Diode MTZ5.6C 20mA
Marked 0,1(㎌) : Semiconductive Cera. Cap.
MIC : Condenser MIC WM-034B
CL : Ceramic Resonator 3,58MHz
FL : Coil 20μH
Marked * : North European model only

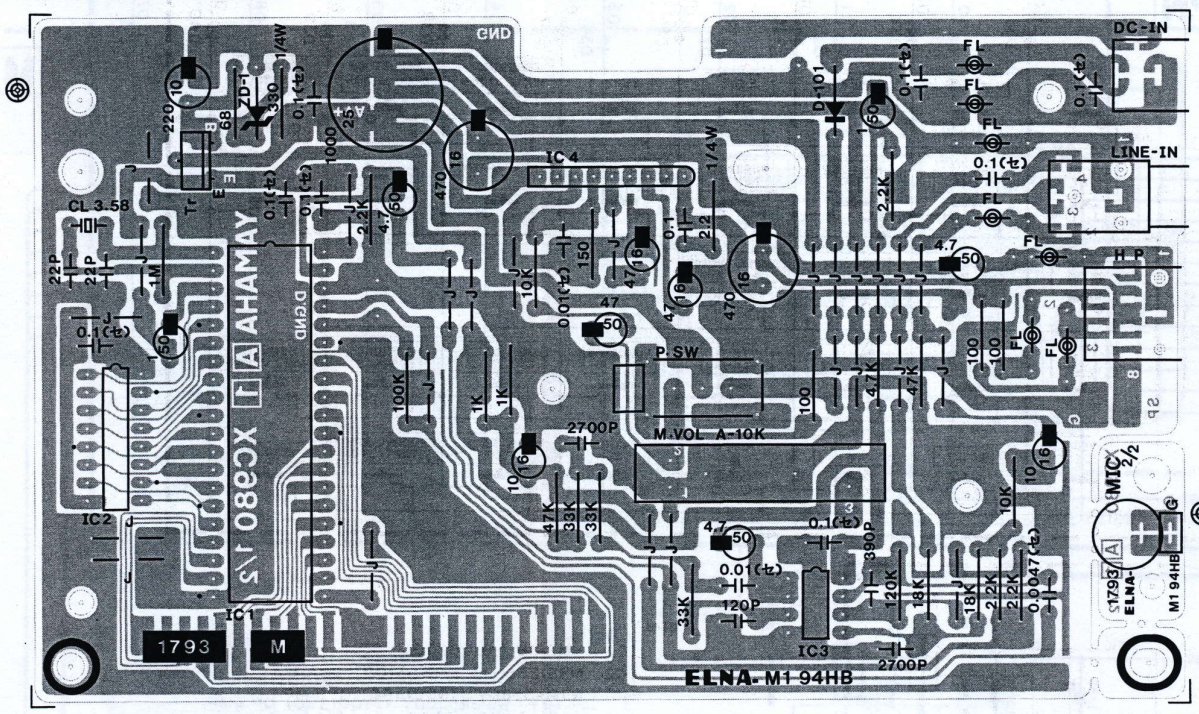
KEC-11553 4



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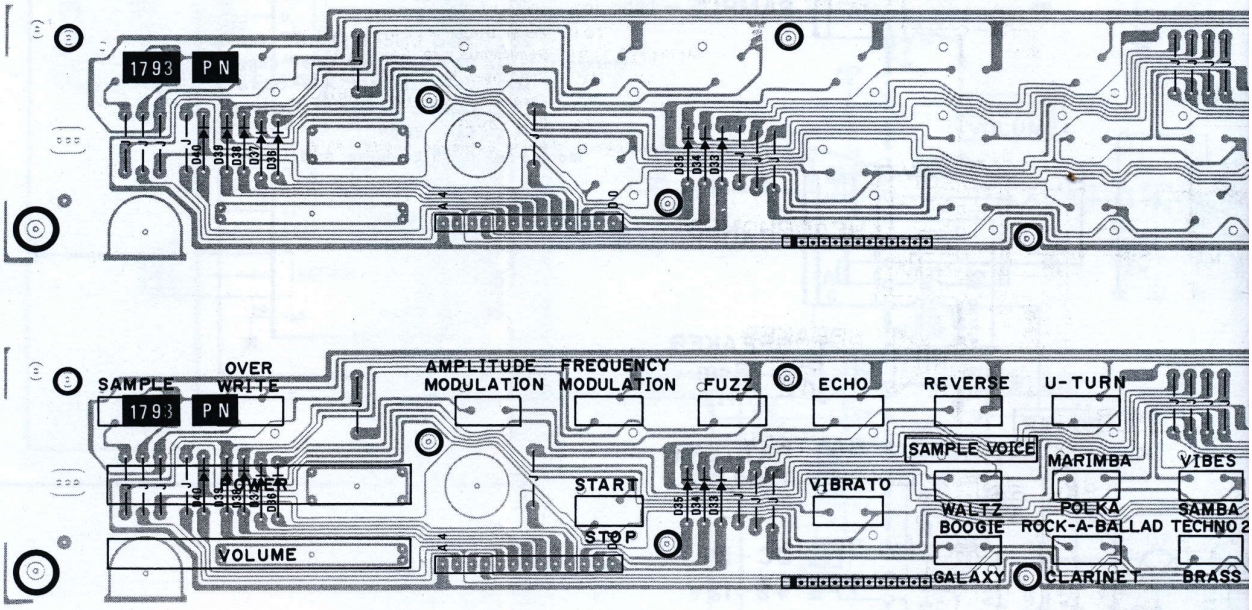
## ■CIRCUIT BOARDS（シート基板図）

### ● M Circuit Board




Components side（部品側）

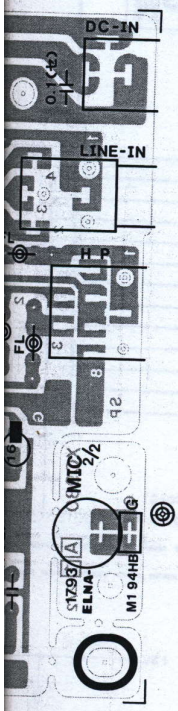
### ● PN Circuit Board




2NA-VD62780 ⚠1 : M Circuit Board (North European)
2NA-VD62830 ⚠0 : M Circuit Board (Others)
2NA-VD63110 ⚠0 : PN Circuit Board



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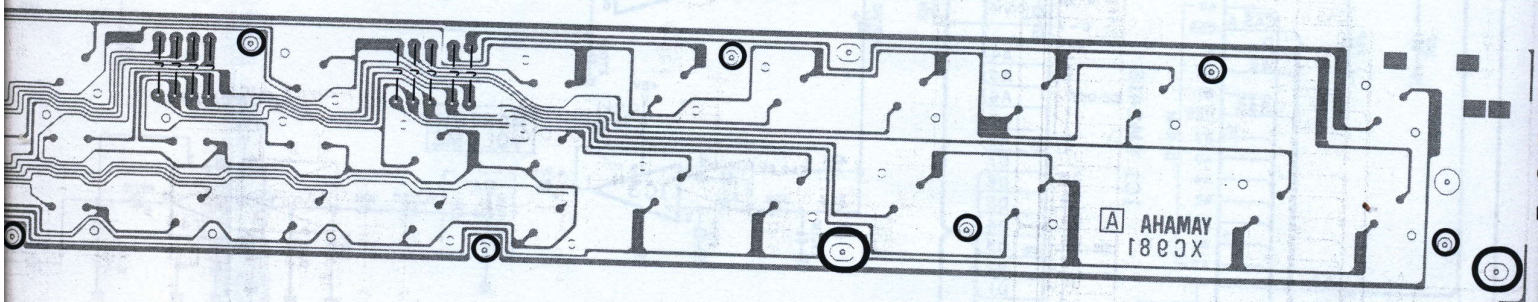



side（部品側）

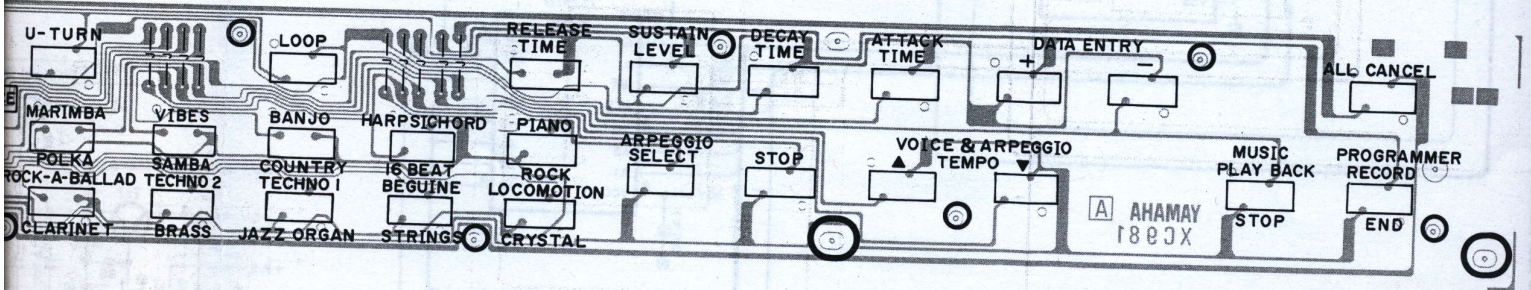
## [M Circuit Board]

Notes)

| | |
|---|---|
| Circuit Board: | XC98010 |
| IC1: | YM2416 (XD082 |
| IC2: | MB81256-15 (IG |
| IC3: | NJM4558DV (IG |
| IC4: | AN7140 (IG1168 |
| Tr1: | 2SD880 O, Y |
| Tr2: | 2SC2603 E, F |
| D101: | 10E-1 26MM |
| D41: | 1SS133 |
| ZD-1: | Zener Diode MTZ |
| Marked 0.1 (セ): | Semiconductive C |
| MIC: | Condenser MIC W |
| CL: | Ceramic Resonato |
| FL: | Coil 20μ |




Components side（部品側）




The application of switches on PN Circuit Board



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# [M Circuit Board]

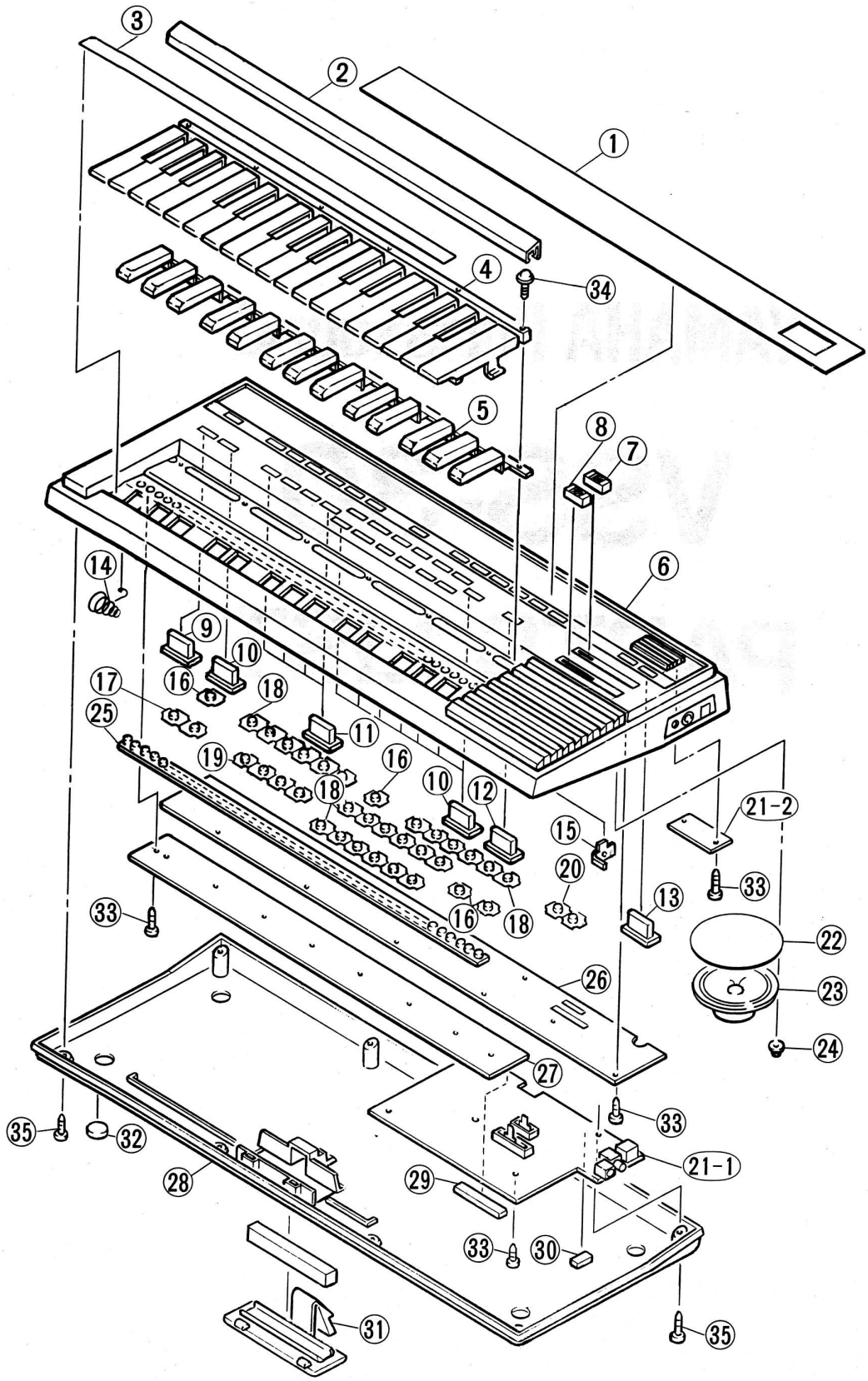
Notes)

Circuit Board: XC98010

| | |
|---|---|
| IC1: | YM2416 (XD082001) GE11 |
| IC2: | MB81256-15 (IG155100) DRAM |
| IC3: | NJM4558DV (IG001390) OP AM |
| IC4: | AN7140 (IG116800) 5W 1CH |
| Tr1: | 2SD880 O, Y |
| Tr2: | 2SC2603 E, F |
| D101: | 10E-1 26MM |
| D41: | 1SS133 |
| ZD-1: | Zener Diode MTZ5.6C 20mA |
| Marked 0.1 (セ): | Semiconductive Cera. Cap. |
| MIC: | Condenser MIC WM-034B |
| CL: | Ceramic Resonator 3.58MHz |
| FL: | Coil 20μ |

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## ■ OVERALL ASSEMBLY（総組立）




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## ■OVERALL ASSEMBLY（総組立）

| Ref. No. | Part No. | Description | | 部品名 | Remarks | ランク |
|---|---|---|---|---|---|---|
| * 1 | VC535900 | Panel Seal | | パネルシール | | |
| * 2 | VC537700 | Keyboard Holder | | 鍵盤押さえ | | 04 |
| * 3 | VC537000 | Stopper Cloth | | ストッパークロス | | 03 |
| * 4 | VC536100 | White Key Assembly | 13G-F32 | 白鍵Ａｓｓ'ｙ | | 01 |
| * 5 | VC536300 | Black Key Assembly | 13G-F32 | 黒鍵Ａｓｓ'ｙ | | |
| 6 | VC535200 | Upper Case | | Ｕケース | | |
| 7 | VC539000 | Knob | RE | スライドツマミ | POWER | 10 |
| 8 | VC545200 | Knob | GY | スライドツマミ | VOLUME | 01 |
| 9 | VC545000 | Knob | OR | プッシュツマミ | RECORD | 01 |
| 10 | VC539200 | Knob | BL | プッシュツマミ | PB,SELECTOR | 01 |
| 11 | VC544900 | Knob | BE | プッシュツマミ | TEMPO,STOP,ARP | 01 |
| 12 | VC545100 | Knob | YE | プッシュツマミ | DEMONSTRATION | 01 |
| 13 | VC544800 | Knob | GR | プッシュツマミ | | 01 |
| * 14 | VC540200 | Spring Terminal | | 接点バネ | | 01 |
| 15 | BB005460 | Terminal | | 端子板 | | 01 |
| * 16 | VC544100 | Rubber Contact | 11A | 接点ラバー | | 01 |
| * 17 | VC544200 | Rubber Contact | 11B | 接点ラバー | | 01 |
| * 18 | VC544700 | Rubber Contact | 11G | 接点ラバー | | 01 |
| * 19 | VC544300 | Rubber Contact | 11C | 接点ラバー | | 01 |
| * 20 | VD631300 | Rubber Contact | OR | 接点ラバー | | |
| * 21 | VD627800 | Circuit Board | M | Ｍシート | H | |
| 21 | VD628300 | Circuit Board | M | Ｍシート | OTHERS | |
| 21-1 | | Circuit Board | M | Ｍシート | | |
| 21-2 | | Circuit Board | MIC | ＭＩＣシート | | |
| * 22 | VC535700 | Speaker Cloth | | スピーカークロス | | |
| * 23 | XC042001 | Speaker | 8.0cm 4Ω 1W | スピーカー | | |
| 24 | EK003650 | Self Thrading Nut | SD250095 | ｾﾙﾌｽﾚﾃﾞｨﾝｸﾞﾅｯﾄ | | 04 |
| * 25 | VC548300 | Rubber Contact | GY 13GMK-F32 | 接点ラバー | KEY SWITCH | 01 |
| * 26 | NX002720 | Circuit Board | PN | ＰＮシート | | 03 |
| * 27 | NX002730 | Circuit Board | MK | ＭＫシート | | |
| * 28 | VC540700 | Lower Case Assembly | | 下ケースＡｓｓ'ｙ | | |
| * 29 | VD629100 | Cushion | 65X25 | 防振スポンジ | | 06 |
| 30 | VD629200 | Cushion | 20X10 | 防振スポンジ | | 01 |
| 31 | VB227600 | Battery Cover | BL | バッテリーカバー | | 01 |
| 32 | CB043750 | Foot | | ゴム足 | | 01 |
| 33 | EI026080 | Bind Head Tapping Screw | 2.6X8 ZMC2Y | ﾊﾞｲﾝﾄﾞﾀｯﾋﾟﾝｸﾞﾈｼﾞ | | |
| 34 | EK030030 | BW Head Tapping Screw | 2.6X12 ZMC2Y | BWﾍｯﾄﾞﾀｯﾋﾟﾝｸﾞﾈｼﾞ | | 01 |
| 35 | EI326126 | Bind Head Tapping Screw | 2.6X12 ZMC2BL | ﾊﾞｲﾝﾄﾞﾀｯﾋﾟﾝｸﾞﾈｼﾞ | | 01 |
| | | | | | | 01 |

* New Parts（新規部品）

ランク：Japan only

## ■ELECTRICAL PARTS（電気部品）

| Ref. No. | Part No. | Description | | 部品名 | Remarks | ランク |
|---|---|---|---|---|---|---|
| * | VD627800 | Circuit Board | M | Ｍシート | H | |
| * | VD628300 | Circuit Board | M | Ｍシート | OTHERS | |
| * | NX002720 | Circuit Board | PN | ＰＮシート | | |
| * | NX002730 | Circuit Board | MK | ＭＫシート | | |
| * | VD627800 | Circuit Board | M | Ｍシート | H | |
| * | VD628300 | Circuit Board | M | Ｍシート | OTHERS | |
| | IG001390 | IC | NJM4558DV | ＩＣ | OP AMP | 03 |
| | IG116800 | IC | AN7140 | ＩＣ | 5W 1CH | 04 |
| * | IG155100 | IC | MB81256-15 | ＩＣ | DRAM | 15 |
| | XD082001 | IC | YM2416 | ＩＣ | GE11 | |
| | ID088000 | Transistor | 2SD880 O,Y | トランジスタ | | 03 |
| | IC260310 | Transistor | 2SC2603 E,F | トランジスタ | | 03 |
| | IH000590 | Diode | 10E-1 26MM | ダイオード | | 01 |
| | IF003450 | Diode | 1SS133 | ダイオード | | 01 |
| | IF010720 | Zener Diode | MTZ5.6C 5.6V | ツェナーダイオード | | |
| | VA855600 | Slide Pot. | A 10K RSCA1 | スライドボリュウム | MASTER VOL | 01 |
| | UJ149220 | Electrolytic Cap. | 1000μF 25V | ケミコン | | 03 |
| * | FZ005030 | Semiconductive Cera. Cap. | 0.1μF 25V Z | 半導体セラコン | | 03 |
| | VC961000 | Condenser MIC. | WM-034B | マイクロホン | | 01 |
| | VB835000 | Coil | 20μFL5R200QNT | コイル | | 03 |
| | QU008000 | Ceramic Resonator | 3.58MHz | セラミック振動子 | | 01 |
| | VA856400 | Slide Switch | SSG1 : | スライドスイッチ | POWER SW | 03 |
| | VA855500 | Pin Jack | YKB11-0326A | ピンジャック | SAMPLE IN | 02 |
| | VB230400 | Phone Jack | | ホーンジャック | HEADPHONE | 02 |
| | VC664500 | DC IN Connector | HEC2305 | 電源コネクタ | DC IN | 03 |
| * | NX002720 | Circuit Board | PN | ＰＮシート | | 01 |
| | IF003450 | Diode | 1SS133 | ダイオード | | |
| * | NX002730 | Circuit Board | MK | ＭＫシート | | 01 |
| | IF003450 | Diode | 1SS133 | ダイオード | | |
| * | XC042001 | Speaker | 8.0cm 4Ω 1W | スピーカー | | 01 |
| | | | | | | 04 |

* New Parts（新規部品）

ランク：Japan only



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