

# AKAI SERVICE MANUAL



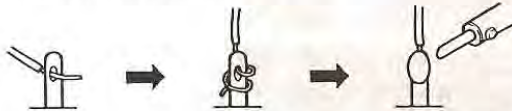
MIDI PRODUCTION CENTER

MODEL **MPC2000**

## ★ SAFETY INSTRUCTIONS

### PRECAUTIONS DURING SERVICING

1. Parts identified by the  $\Delta$  (\*) symbol are critical for safety. Replace them only with the parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with the specified replacements.  
Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
  - 1) Wires covered with PVC tubing
  - 2) Double insulated wires
  - 3) High voltage leads
4. Use specified insulating materials for hazardous live parts.  
Note especially:
  - 1) Insulation Tape
  - 2) PVC tubing
  - 3) Spacers (insulating barriers)
  - 4) Insulation sheets for transistors
  - 5) Plastic screws for fixing micro switches
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap the ends of the wires securely around the terminals before soldering.



6. Make sure that wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Make sure that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

### SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.

The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal input/output connectors, etc.) and the earth ground through a resistor of 1500 ohms paralleled with a 0.15  $\mu\text{F}$  capacitor, under the unit's normal working conditions. The leakage-current should be less than 0.5 mA rms AC.

The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 M ohms.

## ★ INFORMATIONS

### SYMBOLS FOR PRIMARY DESTINATION

Unit destinations are indicated with letters as shown below.

| Symbols | Principal Destinations |
|---------|------------------------|
| A       | U.S.A                  |
| B       | U.K                    |
| C       | Canada                 |
| E       | Europe (except U.K)    |
| J       | Japan                  |
| S       | Australia              |
| V       | Germany                |
| U       | Universal Area         |
| Y*      | Custom version         |

## ★ SPECIFICATIONS

|   |  |
|---|--|
| <p><b>Sound generator</b></p> <p>Sampling rate ..... 44.1 kHz (20 Hz to 20 kHz)</p> <p>Sampling capacity ..... 2 MB standard (expandable to 32 MB) (21.9 second/monaural or 10.9 second/stereo)</p> <p>Data format ..... 16 bit linear</p> <p>Dynamic filtering ..... 12 dB/oct dynamic resonant low pass filter per voice</p> <p>Maximum sounds in memory .... 128</p> <p>Number of sound program .... 24</p> <p>Sound assignments per program .... 64</p> <p>Simultaneous voices ..... 32</p> <p><b>Sequencer</b></p> <p>Maximum notes ..... 100,000</p> <p>Resolution ..... 96 parts per 1/4-note (ppq)</p> <p>Sequence ..... 99</p> <p>Tracks per sequence .... 64</p> <p>MIDI output channels .... 32 (16 channels x 2 output ports)</p> <p>Song mode ..... 20 songs, 250 steps per song</p> <p>Drum pads ..... 16 (with velocity &amp; pressure sensitive)</p> <p>Drum pad banks ..... 4</p> <p>Sync mode ..... MIDI clock with S.P.P., MTC, MMC, SMPTE (option). SMPTE frame rates supported are 24, 25, 30 and 30 drops (29.97)</p> <p><b>Rear panel IN/OUT</b></p> <p>Record input ..... 1/4 inch stereo phone jack x 2, balanced</p> <p>Sensitivity ..... -40 dBu/39 kohms (REC VR max.)</p> <p>Maximum input level .... +10 dBu</p> <p>Digital sampling input .... RCA-pin jack x1, S/PDIF (option)</p> <p>Digital master output .... RCA-pin jack x1, S/PDIF (option)</p> | <p>Stereo output ..... 1/4 inch stereo phone jack x 2, unbalanced</p> <p>Output level ..... +11 dBu/100 ohms level</p> <p>Maximum output level ..... +17 dBu/100 ohms</p> <p>Assignable mix out (option) ..... 1/4 inch stereo phone jack x 8, unbalanced</p> <p>Output level ..... +11 dBu/100 ohms</p> <p>Maximum output level ..... +17 dBu/100 ohms</p> <p>Headphone output ..... 1/4 inch stereo phone jack x 1, Output level ..... 200 mW/32 ohms</p> <p>MIDI inputs ..... 5 pin-DIN x 2 (mergeable)</p> <p>MIDI outputs ..... 5 pin-DIN x 2 (independent)</p> <p>SCSI port ..... 1 (25-pin D-sub connector)</p> <p><b>General</b></p> <p>Display ..... 248 x 64 dots graphic LCD</p> <p>Disk drive ..... 3.5 inch 2HD/2DD</p> <p>Expansion memory slots ..... 2 (72 pin SIMM, 70 ns)</p> <p>Dimensions ..... 405 (W) x 126 (H) x 328 (D) mm</p> <p>Weight ..... 6.3 kg</p> <p>Power requirements ..... AC 100 V, 50/60 Hz for Japan<br/>AC 120 V, 60 Hz for U.S.A and Canada<br/>AC 220-240 V, 50 Hz for Europe</p> <p>Power consumption ..... 23 W<br/>13 W (without optional board)</p> <p><b>Optional boards</b></p> <p>EB16 ..... Multi effect processor board</p> <p>FMX008M ..... 8 MB flash ROM board</p> <p>IB-M208P ..... 8 PARA out &amp; digital I/O board</p> <p>IB-M20T ..... SMPTE board</p> <p><b>Standard accessories</b></p> <p>Power cable ..... 1</p> <p>Floppy disk ..... 1 (OS disk)<br/>3 (Sound library disk)</p> <p>Operator's manual ..... 1</p> |
|---|--|

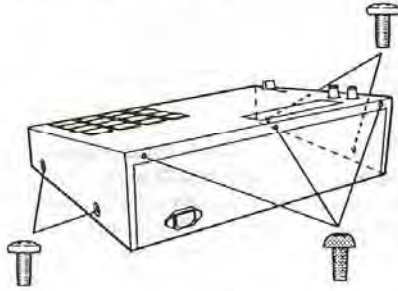
0 dBu=0.775 VRMS

\* For improvement purposes, specifications and design are subject to change without notice.

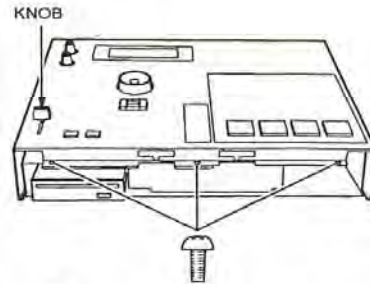
# I. DISASSEMBLY

In case of trouble, etc., necessitating dismantling, please dismantle in the order shown in the illustrations. Reassemble in the reverse order.

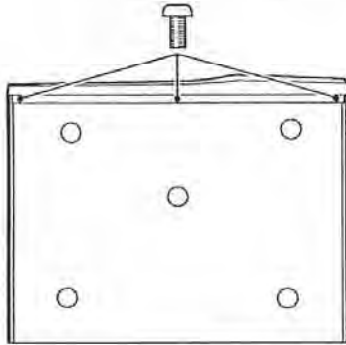
1. Remove the 4 screws on both the left and right sides and 3 screws on the back.



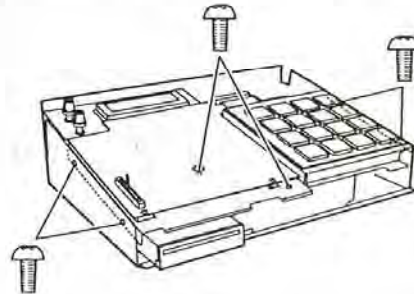
3. Remove the 3 screws which secure the UPPER PANEL. Next, extract the NOTE VARIATION knob and remove the UPPER PANEL.



2. Remove the 3 screws on the bottom. Remove the FRONT PANEL by pulling it in the forward direction.



4. Remove the 4 screws on both the left and right sides and 2 screws on the sub chassis.



Disconnect the P2 connector on the CPU PCB then remove the sub chassis with the OPERATION PCB and PAD block attached.

## II. PRINCIPAL PARTS LOCATION

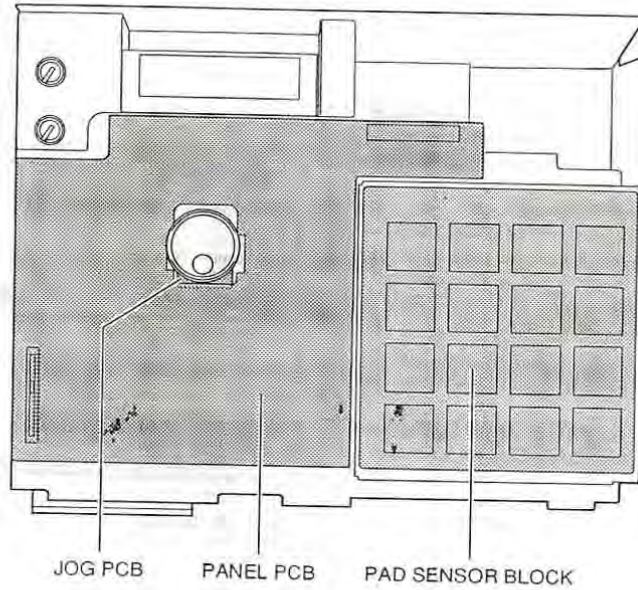


Fig. 2-1 Upper view (1)

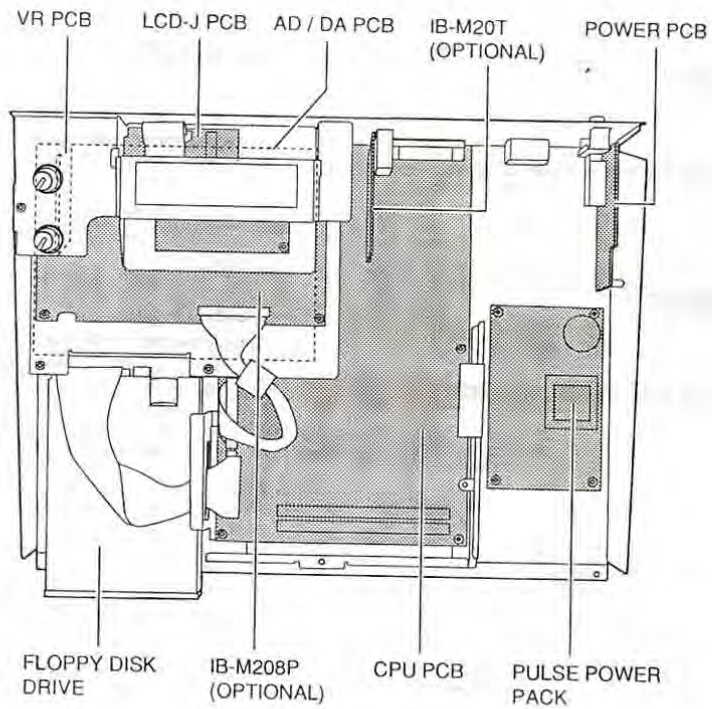


Fig. 2-2 Upper view (2)

### III. SUPPLEMENTARY INFORMATION

#### TEST MODE

※ This test mode is used for the inspection of the unit. To check the unit, proceed as follows.

#### Engaging the test mode.

- 1) Turn the power on and insert the OS disk according to the LCD indication. After the system is bootup, press the "MIXER (7)" button while pressing the "SHIFT" button.
- 2) Press the "OPEN WINDOW" button.
- 3) Press the "0" button while pressing the "SHIFT" button. The "flash file memory test" screen appears when the test mode is engaged.
- 4) To disengage the test mode, press the "MAIN SCREEN" button or turn the power of the unit off.

**NOTE:** Only the [WAVE MEMORY TEST] and [FLASH FILE MEMORY TEST] modes can be proceed sequentially.

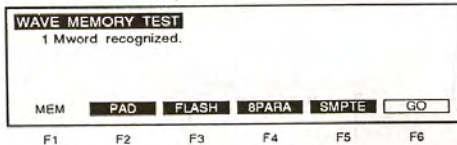
Once you engage the [PAD TEST], [REC OUT (8 PARA)] or [SMPTE TEST] mode in the test mode, it is not possible to go to the other test mode directly. In this case, press the "MAIN SCREEN" button and re-engage the test mode again to go to the other test modes.

※ The test mode may be different according to the version of the software.

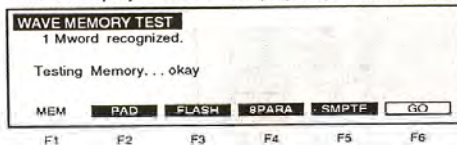
#### 3-1. Wave memory test

- 1) Engage the test mode and press the "F1" button. The following messages will be displayed.

**NOTE:** All wave memory (DRAM) will be lost when the "F1" button is pressed.



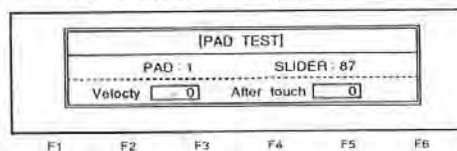
- 2) Press the "F6" (GO) button. The following messages will be displayed after the display stops incrementing.



This means the function of the unit is operating properly.

#### 3-2. Pad test

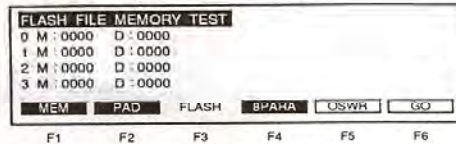
- 1) Engage the test mode and press the "F2" button. The following messages will be displayed.



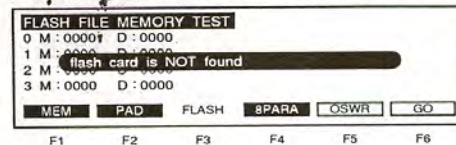
- 2) Press any of the 16 pad buttons. The pad number that you pressed will be shown in the display as well as the velocity and after touch conditions are displayed momentarily.

#### 3-3. Flash file memory test

- 1) Engage the test mode and press the "F3" button. The following messages will be displayed.



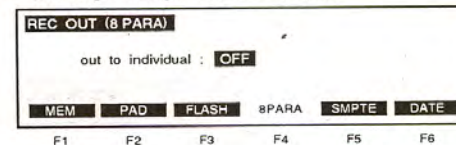
- 2) Press the "F6" (GO) button. The following messages will be displayed if the flash memory is not installed.



**NOTE:** All flash file memory (F-ROM) will be lost when this memory test is performed.

#### 3-4. REC out (8PARA)

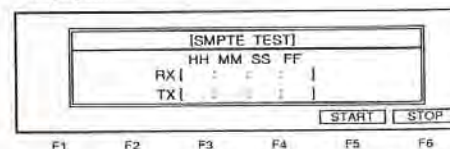
- 1) Engage the test mode and press the "F4" button. The following messages will be displayed.



- 2) If the IB-M208P (optional 8PARA/ DIO PCB) is connected, "out to individual;" turns on when the "DATA" knob is turned.

#### 3-5. SMPTE test

- 1) Engage the test mode and press the "F1" button then press the "F5" button. The following messages will be displayed.



- 2) Press the "F5" (START) button if the IB-M20T (optional SMPTE PCB) is connected. TX starts incrementing and count up the time until the F6 (STOP) button is pressed.

## IV. PARTS LIST

### ATTENTION

1. When placing an order for parts, be sure to list the Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List or Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

### HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

#### 2. HEAD BASE BLOCK

| Ref. No. | Part No.      | Description        |
|----------|---------------|--------------------|
| 1        | BH-T2023A320A | HEAD BASE BLOCK    |
| 2        | HP-H2206A010A | HEAD R/P PR4-8FU C |
| 3        | ZS-477876     | PAN20x03STL CMT    |
| 4        | ZS-536488     | BID20x08STL CMT    |
| 5        | ZG-402895     | SP CS ANGLE ADJUST |

SP (Service Parts) Classification

This number corresponds with the individual parts index number in the figure.

b) PC Board

#### 2. MAIN PC BOARD

| Ref. No. | Part No.  | Description                  |
|----------|-----------|------------------------------|
| IC1      | EI-324536 | IC HD14049BP                 |
| IC2      | EI-336801 | IC MB8841-564M               |
| C1A      | EC-338399 | C MMY V 223M 250AC [U,E,B,S] |
| C1B      | EC-350949 | C MMY V 223M 250DC [J]       |
| C1C      | EC-338397 | C MMY V 223M 125AC [C,A]     |
| X1       | EI-318384 | OSC XTAL NC-18C              |

Symbols for primary destination

[A]: AAL (U.S.A) [S]: SAA (Australia)  
 [B]: BEAB (England)[U]: U/T (Universal Area)  
 [C]: CSA (Canada)  
 [E]: CEE (Europe) [V]: VDE (Germany)  
 [J]: JPN (Japan) [Y]: Custom

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

### WARNING

⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

### AVERTISSEMENT

⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

## 1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

| Ref. No. | Part No.    | Description                    |
|----------|-------------|--------------------------------|
| 1        | BB-810498J  | FDD FD-235HF-7549              |
| 2        | ED-388539J  | D LED GL-3HD43                 |
| 3        | ED-810393J  | D LED GL-3KGB                  |
| 4        | ED-428162N  | D SCHOTTKY 1S30-E T26          |
| 5        | ED-389834J  | D SILICON DS135E-FB2 F12 100/1 |
| 6        | ED-344280   | D SILICON H GMA-01-FY2 F05     |
| 7        | ED-412105N  | D ZENER H MZ55B1 T26           |
| 8        | Δ EF-346890 | FUSE ICP-F15 50V 0.6A          |
| 9        | Δ EF-376821 | FUSE ICP-N15 50V 0.6A          |
| 10       | Δ EF-373142 | FUSE ICP-N25 50V 1.0A          |
| 11       | Δ EF-373143 | FUSE ICP-N38 50V 1.5A          |
| 12       | EI-810412J  | ICAK5340-VS                    |
| 13       | EI-429988J  | ICAV9173-01-CN8                |
| 14       | EI-410414J1 | IC CS8402A-CP                  |
| 15       | EI-432815J  | IC E28F016SA-100               |
| 16       | EI-810380J  | IC HD74AC00FP                  |
| 17       | EI-430936J  | IC HD74AC04FP                  |
| 18       | EI-396536J  | IC HD74AC138P                  |
| 19       | EI-430943J  | IC HD74AC74FP                  |
| 20       | EI-387934J  | IC HD74HC04P                   |
| 21       | EI-394832J  | IC HD74HC123AP                 |
| 22       | EI-386289J  | IC HD74HC138P                  |
| 23       | EI-393695J  | IC HD74HC154P                  |
| 24       | EI-810386J  | IC HD74HC174FP                 |
| 25       | EI-388707J  | IC HD74HC244P                  |
| 26       | EI-810382J  | IC HD74HC259FP                 |
| 27       | EI-810268J  | IC HD74HC273FP                 |
| 28       | EI-401217J  | IC HD74HC32FP                  |
| 29       | EI-810383J  | IC HD74HC4060FP                |
| 30       | EI-388567J  | IC HD74HC573P                  |
| 31       | EI-810269J  | IC HD74HC595FP                 |
| 32       | EI-393696J  | IC HD74HC86P                   |
| 33       | EI-810385J  | IC HM5118160ALTT-7             |
| 34       | EI-810153J  | IC HM514260CLTT-7              |
| 35       | EI-430810J  | IC IC52008V                    |
| 36       | EI-413120J  | IC L7A1045 L6028 DSP-A         |
| 37       | EI-810047J  | IC MB89352A-PFQ OFTY           |
| 38       | EI-401213J  | IC MB89371A-PF-G-BND QF        |
| 39       | EI-810328J  | IC MC74AC257M                  |
| 40       | EI-810646J  | IC MC74HCU04AN                 |
| 41       | EI-430680J  | IC M51957AL                    |
| 42       | EI-430681J  | IC M51958AL                    |
| 43       | EI-353227   | IC M5216L                      |
| 44       | EI-393325N  | IC M5218AP                     |
| 45       | EI-348785   | IC M5220L                      |
| 46       | EI-969043   | IC M5220P                      |
| 47       | EI-377047   | IC M5223FP                     |
| 48       | EI-362587J1 | IC M5238AL                     |
| 49       | EI-377191   | IC NJM5532D-D                  |
| 50       | EI-810613J  | IC PALCE16V8Q-15PC L4013C      |
| 51       | EI-810379J  | IC PALCE20V8Q-15PC L4013A      |
| 52       | EI-810384J  | IC PALCE20V8Q-15PC L4013B      |
| 53       | EI-430673J  | IC PALCE20V8Q-15PC L6039A      |
| 54       | EI-412279J1 | IC PCM69AP-4                   |
| 55       | EI-410389J  | IC PQ30RV1                     |
| 56       | EI-376741J1 | IC TC74HC244AF                 |
| 57       | EI-381290J1 | IC TC74HC245AF                 |
| 58       | EI-377101   | IC UPC7805HF                   |
| 59       | EI-430684J  | IC UPD70236AGD-16-5BB          |
| 60       | EI-396531J  | IC UPD72068GF-3B9              |
| 61       | EI-405572J  | IC UPD78C10AGQ-36              |
| 62       | EI-379997J  | ICYM3623B                      |
| 63       | EI-354123   | OSC CE CSA120MTZ 12.000000MHZ  |
| 64       | EI-414959J  | OSC XTALAT-51 11.289600MHZ     |
| 65       | EI-374176   | OSC XTALAT-51 16.9344MHZ       |
| 66       | EI-396541J  | OSC XTALHC-49U 32.000000MHZ    |
| 67       | EJ-357159   | PHONE J 2P HLJ0520-110 W/NUT   |
| 68       | EJ-354105   | PHONE J 2P HLJ0520-110 6.3     |
| 69       | EJ-810705J  | PHONE J 3P HLJ0544-010W/N,W6.3 |

| Ref. No. | Part No.   | Description                    |
|----------|------------|--------------------------------|
| 70       | EJ-810706J | PHONE J 3P HLJ0544-110W/N,W6.3 |
| 71       | EJ-810624J | PHONE J 3P HTJ-06411D 6.3      |
| 72       | EO-345990N | COIL FIX 1 EL0606RA T05 470J   |
| 73       | EO-414952J | TRANS PULSE CIT0705D-35101     |
| 74       | EQ-348929  | RELAY SIG G5A-237P 2TR 12V     |
| 75       | ES-403377J | SW ROTARY ENCODER SRGPHJ       |
| 76       | ES-411687N | SW TACT EVQ PAE 05R            |
| 77       | ES-415015J | SW TACT SKOEAD                 |
| 78       | ET-430926J | DETECTOR PC400                 |
| 79       | ET-366753N | TR DTA114ES T05                |
| 80       | ET-386938N | TR DTC123ES T05                |
| 81       | ET-349593  | TR 2SA1348 F05                 |
| 82       | ET-370013  | TR 2SA874 Q,R                  |
| 83       | EV-810416J | VR ROTARY RK0971220 L25 B103X2 |
| 84       | EV-810417J | VR ROTARY RK0971220 L25 C503X2 |
| 85       | EV-810633J | VR SLIDE RS45112 L15 B103X2    |

## 2. P.C. BOARD BLOCK

| Ref. No. | Part No.     | Description       |
|----------|--------------|-------------------|
| 1        | BA-L4013A020 | PC CPU BLK        |
| 2        | BA-L4013A030 | PC( # ) MULTI BLK |
| 3        | BA-L4013A040 | PC( # ) ADA BLK   |

PC (#) ADA BLK CONSISTS OF FOLLOWING P.C. BOARDS.

- ADA P.C. BOARD
- VR P.C. BOARD
- LCD-J P.C. BOARD

PC (#) MULTI BLK CONSISTS OF FOLLOWING P.C. BOARDS.

- PANEL P.C. BOARD
- JOG P.C. BOARD
- POWER P.C. BOARD

## 3. CPU P.C. BOARD

| Ref. No. | Part No.   | Description                    |
|----------|------------|--------------------------------|
| D1       | ED-344280  | D SILICON H GMA-01-FY2 F05     |
| D2       | ED-428162N | D SCHOTTKY 1S30-E T26          |
| D3       | ED-344280  | D SILICON H GMA-01-FY2 F05     |
| D4       | ED-389834J | D SILICON DS135E-FB2 F12 100/1 |
| FL1      | EH-410420J | FILTER EMI DSS306-93B101MT05   |
| FL2      | EH-410420J | FILTER EMI DSS306-93B101MT05   |
| FL3      | EH-410420J | FILTER EMI DSS306-93B101MT05   |
| FL4      | EH-410420J | FILTER EMI DSS306-93B101MT05   |
| FL5      | EH-410420J | FILTER EMI DSS306-93B101MT05   |
| FL6      | EH-410420J | FILTER EMI DSS306-93B101MT05   |
| FL7      | EH-410420J | FILTER EMI DSS306-93B101MT05   |
| FL8      | EH-410420J | FILTER EMI DSS306-93B101MT05   |
| FL11     | EH-410420J | FILTER EMI DSS306-93B101MT05   |
| FL12     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL13     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL14     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL15     | EH-410420J | FILTER EMI DSS306-93B101MT05   |
| FL16     | EH-364254  | FERRITE BEAD BL02RN2-R62       |
| FL17     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL18     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL19     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL20     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL21     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL22     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL23     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL24     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL25     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL26     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL27     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |
| FL28     | EH-413150J | FILTER EMI BL03RN2-R62T4 T05   |



| Ref. No. | Part No.    | Description                                     |
|----------|-------------|---|
| FL29     | EH-413150J  | FILTER EMI BL03RN2-R62T4 T05                    |
| FL30     | EH-413150J  | FILTER EMI BL03RN2-R62T4 T05                    |
| FS1      | △ EF-373142 | FUSE ICP-N25 50V 1.0A                           |
| IB1      | EH-357538   | COMP R RKC1/8B5 103J                            |
| IB2      | EH-384817J  | COMP R RKC1/8B8 102J                            |
| IB3      | EH-408860J  | COMP R RKC1/8B9 111J                            |
| IB4      | EH-408860J  | COMP R RKC1/8B9 111J                            |
| IB5      | EH-810378J  | COMP R RGSD1 0L503G 503G                        |
| IC1      | EI-430684J  | IC UPD70236AGD-16-5BB                           |
| IC2      | EI-430680J  | IC M51957AL                                     |
| IC3      | EI-381290J1 | IC TC74HC245AF                                  |
| IC4      | EI-810379J  | IC PALCE20V8Q-15PC L4013A                       |
| IC5      | EI-810328J  | IC MC74AC257M                                   |
| IC6      | EI-810328J  | IC MC74AC257M                                   |
| IC7      | EI-810380J  | IC HD74AC00FP                                   |
| IC8      | EI-401217J  | IC HD74HC32FP                                   |
| IC9      | EI-810153J  | IC HMS14260CLT-7                                |
| IC10     | EI-810153J  | IC HMS14260CLT-7                                |
| IC11     | EI-393695J  | IC HD74HC154P                                   |
| IC12-A   | EI-810381J  | IC AM27C256-150DC MPC2000V1.00<br>[PROGRAM ROM] |
| IC12-B   | EI-397343J  | IC AM27C256-150DC<br>[BLANK ROM]                |
| IC13     | EI-401213J  | IC MB89371A-PF-G-BND QF                         |
| IC14     | EI-401217J  | IC HD74HC32FP                                   |
| IC15     | EI-810382J  | IC HD74HC259FP                                  |
| IC16     | EI-430943J  | IC HD74AC74FP                                   |
| IC17     | EI-396531J  | IC UPD72068GF-389                               |
| IC18     | EI-810047J  | IC MB89352A-PFQ QFTY                            |
| IC19     | EI-410389J  | IC PQ30RV1                                      |
| IC20     | EI-413120J  | IC L7A1045 L6028 DSP-A                          |
| IC21     | EI-429888J  | IC AV9173-01-CN8<br>T                           |
| IC22     | EI-376741J1 | IC TC74HC244AF                                  |
| IC23     | EI-810383J  | IC HD74HC4060FP                                 |
| IC24     | EI-430673J  | IC PALCE20V8Q-15PC L6039A                       |
| IC25     | EI-810613J  | IC PALCE16V8Q-15PC L4013C                       |
| IC26     | EI-810268J  | IC HD74HC273FP                                  |
| IC27     | EI-810269J  | IC HD74HC595FP                                  |
| IC28     | EI-810269J  | IC HD74HC595FP                                  |
| IC29     | EI-430943J  | IC HD74AC74FP                                   |
| IC30     | EI-810384J  | IC PALCE20V8Q-15PC L4013B                       |
| IC31     | EI-810385J  | IC HMS118160ALTT-7                              |
| IC32     | EI-377047   | IC M5223FP                                      |
| IC33     | EI-810382J  | IC HD74HC259FP                                  |
| IC34     | EI-810386J  | IC HD74HC174FP                                  |
| IC35     | EI-430936J  | IC HD74AC04FP                                   |
| J1       | EJ-430956J  | DIN J YKF51-5058 2X5P                           |
| J2       | EJ-428182J  | SOCKET DBLC-J25SAF-20L9 25P                     |
| J3       | EJ-430956J  | DIN J YKF51-5058 2X5P                           |
| J4       | EJ-430687J  | SOCKET 128A-044S2A-S14N 44P                     |
| J5       | EJ-424423J  | SOCKET 6-176438-7 72P                           |
| J6       | EJ-424423J  | SOCKET 6-176438-7 72P                           |
| J7       | EJ-810388J  | SOCKET 225D-10018E2-2314 18P                    |
| PH1      | ET-430926J  | DETECTOR PC400                                  |
| PH2      | ET-430926J  | DETECTOR PC400                                  |
| P2       | EJ-810389J  | PLUG RA-H201TD-1190 20P                         |
| P3       | EJ-430689J  | PLUG 128A-060P3C-S14N 60P                       |
| P5       | EJ-429927J  | PLUG 302-20GSB 20P                              |
| P6       | EJ-429927J  | PLUG 302-20GSB 20P                              |
| P7       | EJ-429929J  | PLUG 302-34GSB 34P                              |
| W101     | EW-810390J  | WIRE ASSY L4013 W101 34P                        |
| X1       | EI-396541J  | OSC XTAL HC-49/U 32.000000MHZ                   |
| X2       | EI-414959J  | OSC XTALAT-51 11.289600MHZ                      |

#### 4. ADA P.C. BOARD

| Ref. No. | Part No.   | Description                    |
|----------|------------|--------------------------------|
| D5       | ED-344280  | D SILICON H GMA-01-FY2 F05     |
| D6       | ED-388539J | D SILICON DS135E-FB2 F12 100/1 |
| FL4      | EH-410420J | FILTER EMI DSS306-93B101 MT05  |
| FL5      | EH-410420J | FILTER EMI DSS306-93B101 MT05  |
| FL6      | EH-410420J | FILTER EMI DSS306-93B101 MT05  |
| FR1      | ER-200746  | R FUSE H ERD2FC 1/4W 1000G     |
| FR2      | ER-200746  | R FUSE H ERD2FC 1/4W 1000G     |
| FR3      | ER-403339N | R FUSE V T05 ERD2FCV 1/4W10R0G |

| Ref. No. | Part No.    | Description                  |
|----------|-------------|------------------------------|
| FS1      | △ EF-346880 | FUSE ICP-F15 50V 0.6A        |
| FS2      | △ EF-346880 | FUSE ICP-F15 50V 0.6A        |
| IC1      | EI-377191   | IC NJM5532D-D                |
| IC2      | EI-377191   | IC NJM5532D-D                |
| IC3      | EI-360043   | IC M5220P                    |
| IC4      | EI-360043   | IC M5220P                    |
| IC5      | EI-810412J  | ICAK5340-VS                  |
| IC6      | EI-377101   | IC UPC7805HF                 |
| IC8      | EI-412279J1 | IC PCM69AP-4                 |
| IC9      | EI-377101   | IC UPC7805HF                 |
| IC10     | EI-360043   | IC M5220P                    |
| IC11     | EI-360043   | IC M5220P                    |
| IC12     | EI-393325N  | IC M5218AP                   |
| IC13     | EI-393325N  | IC M5218AP                   |
| IC14     | EI-353227   | IC M5218L                    |
| IC15     | EI-430681J  | IC M51958AL                  |
| J201     | EJ-810624J  | PHONE J 3P HTJ-06411D 6.3    |
| J202     | EJ-810624J  | PHONE J 3P HTJ-06411D 6.3    |
| J203     | EJ-354105   | PHONE J 2P HLJ0520-110 6.3   |
| J204     | EJ-354105   | PHONE J 2P HLJ0520-110 6.3   |
| J205     | EJ-810624J  | PHONE J 3P HTJ-06411D 6.3    |
| L1       | EO-345990N  | COIL FIX 1 EL0606RA T05 470J |
| RL1      | EQ-348929   | RELAY SIG G5A-237P 2TR 12V   |
| R67      | ER-430691N  | R OMF H S12 FS RSS1 1W 101J  |
| R68      | ER-430691N  | R OMF H S12 FS RSS1 1W 101J  |
| TR1      | ET-366753N  | TR DTA114ES T05              |
| W203     | EW-810415J  | WIRE ASSY L4013 W203 20P     |

#### 5. VR P.C. BOARD

| Ref. No. | Part No.   | Description                    |
|----------|------------|--------------------------------|
| VR201    | EV-810416J | VR ROTARY RK0971220 L25 B103X2 |
| VR202    | EV-810417J | VR ROTARY RK0971220 L25 C503X2 |

#### 6. LCD-J P.C. BOARD

| Ref. No. | Part No.   | Description              |
|----------|------------|--------------------------|
| P3       | EJ-810418J | SOCKET SLD19S-1 19P      |
| W204     | EW-810419J | WIRE ASSY L4013 W204 20P |

#### 7. PANEL P.C. BOARD

| Ref. No. | Part No.   | Description                |
|----------|------------|----------------------------|
| D1       | ED-810393J | D LED GL-3KG8              |
| D2       | ED-388539J | D LED GL-3HD43             |
| D3       | ED-388539J | D LED GL-3HD43             |
| D4       | ED-810393J | D LED GL-3KG8              |
| D5       | ED-388539J | D LED GL-3HD43             |
| D6       | ED-810393J | D LED GL-3KG8              |
| D7       | ED-810393J | D LED GL-3KG8              |
| D8       | ED-810393J | D LED GL-3KG8              |
| D9       | ED-810393J | D LED GL-3KG8              |
| D10      | ED-810393J | D LED GL-3KG8              |
| D11      | ED-810393J | D LED GL-3KG8              |
| D12      | ED-344280  | D SILICON H GMA-01-FY2 F05 |
| D13      | ED-344280  | D SILICON H GMA-01-FY2 F05 |
| D14      | ED-344280  | D SILICON H GMA-01-FY2 F05 |
| D15      | ED-344280  | D SILICON H GMA-01-FY2 F05 |
| D16      | ED-344280  | D SILICON H GMA-01-FY2 F05 |
| D17      | ED-344280  | D SILICON H GMA-01-FY2 F05 |
| D18      | ED-412105N | D ZENER H HZ55B1 T26       |
| D19      | ED-344280  | D SILICON H GMA-01-FY2 F05 |
| D20      | ED-412105N | D ZENER H HZ55B1 T26       |
| D21      | ED-344280  | D SILICON H GMA-01-FY2 F05 |
| D22      | ED-412105N | D ZENER H HZ55B1 T26       |
| D23      | ED-344280  | D SILICON H GMA-01-FY2 F05 |
| D24      | ED-412105N | D ZENER H HZ55B1 T26       |
| D25      | ED-344280  | D SILICON H GMA-01-FY2 F05 |
| D26      | ED-344280  | D SILICON H GMA-01-FY2 F05 |
| D27      | ED-344280  | D SILICON H GMA-01-FY2 F05 |

| Ref. No. | Part No.    | Description                                 |
|----------|-------------|---|
| D28      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| D29      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| D30      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| D31      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| D32      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| D33      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| D34      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| D35      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| D36      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| D37      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| D38      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| D39      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| D40      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| D41      | ED-344280   | D SILICON H GMA-01-FY2 F05                  |
| IB1      | EH-349374   | COMP R RKC1/8B8 472J                        |
| IB2      | EH-349374   | COMP R RKC1/8B8 472J                        |
| IC1      | EI-405572J  | IC UPD78C10AGQ-36                           |
| IC2      | EI-386289J  | IC HD74HC138P                               |
| IC3      | EI-388567J  | IC HD74HC573P                               |
| IC4-A    | EI-810630J  | ICAM27C256 MPC2000 V1.0-OP<br>[PROGRAM ROM] |
| IC4-B    | EI-397343J  | ICAM27C256-150DC<br>[BLANK ROM]             |
| IC5      | EI-387934J  | IC HD74HC04P                                |
| IC6      | EI-362587J1 | IC M5238AL                                  |
| IC7      | EI-362587J1 | IC M5238AL                                  |
| P905     | EJ-379603   | PLUG 20FR-ST                                |
| SW1      | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW2      | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW3      | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW4      | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW5      | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW6      | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW7      | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW8      | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW9      | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW10     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW11     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW12     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW13     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW14     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW15     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW16     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW17     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW18     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW19     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW20     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW21     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW22     | ES-415015J  | SW TACT SKQEAD                              |
| SW23     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW24     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW25     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW26     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW27     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW28     | ES-415015J  | SW TACT SKQEAD                              |
| SW29     | ES-415015J  | SW TACT SKQEAD                              |
| SW30     | ES-415015J  | SW TACT SKQEAD                              |
| SW31     | ES-415015J  | SW TACT SKQEAD                              |
| SW32     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW33     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW34     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW35     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW36     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW37     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW38     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW39     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW40     | ES-411687N  | SW TACT EVQ PAE 05R                         |
| SW41     | ES-415015J  | SW TACT SKQEAD                              |
| VR1      | EV-810633J  | VR SLIDE RS45112 L15 B103X2                 |
| W304     | EW-810396J  | WIRE ASSY L4013 W304 20P                    |
| X1       | EI-354123   | OSC CE CSA120MTZ 12.000000MHZ               |

### 8. JOG P.C. BOARD

| Ref. No. | Part No.   | Description              |
|----------|------------|--------------------------|
| SW302    | ES-403377J | SW ROTARY ENCODER SRGPHJ |

### 9. POWER P.C. BOARD

| Ref. No. | Part No.      | Description                    |
|----------|---------------|--------------------------------|
| C301     | △ EC-427562J  | C MMY V CUT MKP3362 103M 275AC |
| C302     | △ EC-425606J  | C MMY V CUT MMRC 683M 275AC    |
| C307     | △ EC-427562J  | C MMY V CUT MKP3362 103M 275AC |
| FL301    | △ EO-389172J  | COIL LF LF-4N 502              |
| SW301    | △ ES-430685J1 | SW PUSH SDDP3A 02-1            |

### 10. FINAL ASSEMBLY BLOCK

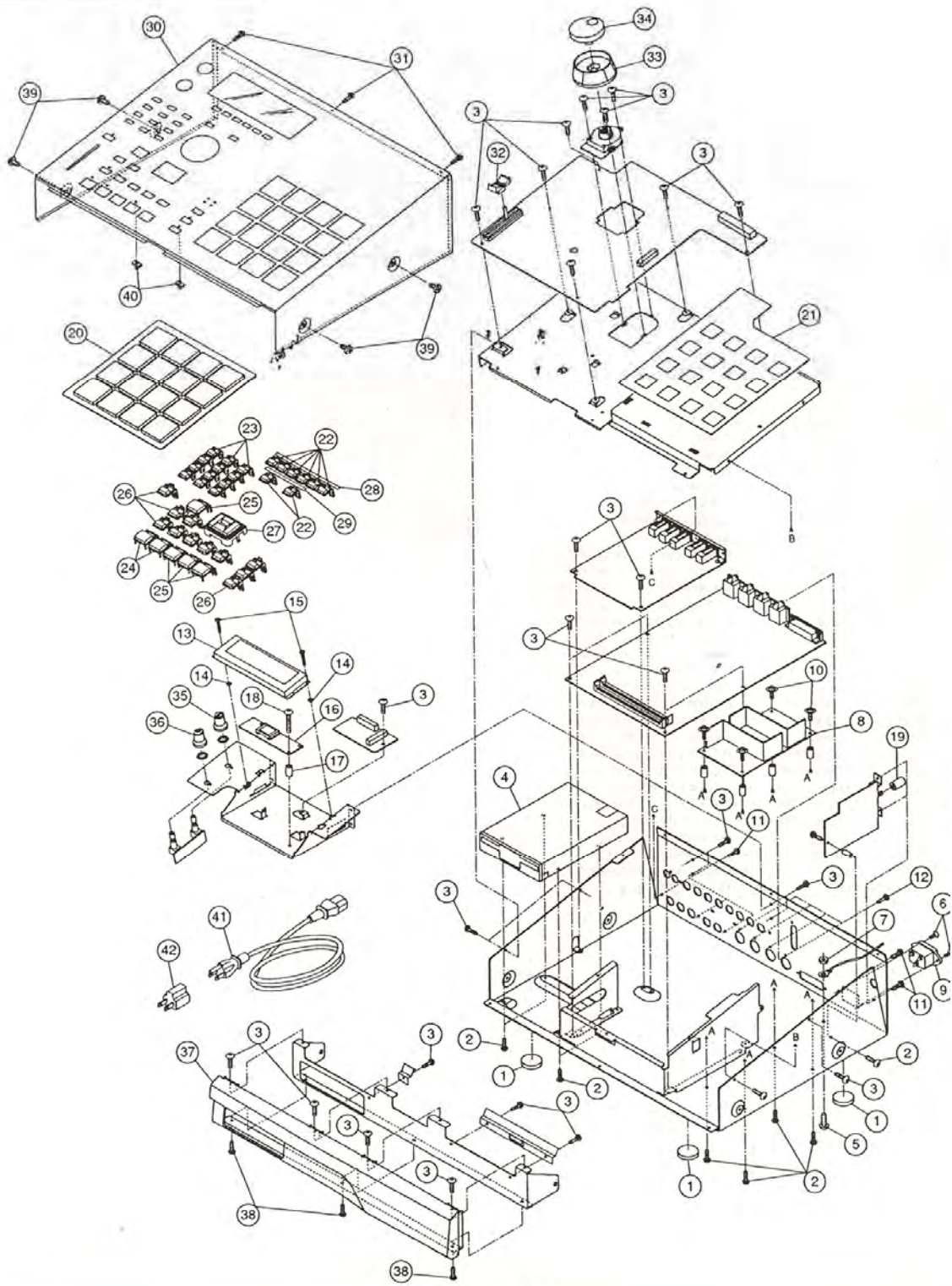
| Ref. No. | Part No.      | Description                    |
|----------|---------------|--------------------------------|
| 1        | SA-810344J    | FOOT                           |
| 2        | ZS-379405N    | BID30X06STL CMT (SG)           |
| 3        | ZS-320906     | ST BR30X08STL CMT              |
| 4        | BB-810498J    | FDD FD-235HF-7549              |
| 5        | ZS-322570     | ST BID40X08STL N13             |
| 6        | ZS-376875     | BT CTS30X08STL BNI             |
| 7        | ZW-413267     | N FRANGE 40STL CMT             |
| 8        | △ BP-810446J  | SW REGULATOR SNP-9541          |
| 9        | △ EJ-58632J2  | SOCKET INLET SOT-16 3P         |
| 10       | ZS-428277J    | PAN30X06STL CMT POLY WAVE      |
| 11       | ZS-345272     | ST BR30X06STL BNI              |
| 12       | ZS-350934     | PT BR30X08STL BNI              |
| 13       | EM-810407J    | IND LCD GMV24160AFTW           |
| 14       | ZW-810347J    | SPACER LCD                     |
| 15       | ZS-810640J    | BT PAN17X05STL CMT PS3         |
| 16       | BA-810408J    | INVERSEUR 13585A-CFL-INV       |
| 17       | ZW-810346J    | PLASTIC SPACER                 |
| 18       | ZS-400878J    | ST BR30X15STL CMT              |
| 19       | SB-810525J    | BUTTON POWER                   |
| 20       | SE-376331     | PAD                            |
| 21       | BA-379695J1   | PC PAD SENSOR                  |
| 22       | SB-429685J    | BUTTON PUSH(B)                 |
|          |               | [WHITE]                        |
| 23       | SB-810362J    | BUTTON PUSH(B)-2               |
|          |               | [BLUE]                         |
| 24       | SB-430327J    | BUTTON PUSH B(2)               |
|          |               | [RED]                          |
| 25       | SB-810359J    | BUTTON PUSH B(3)               |
|          |               | [WHITE]                        |
| 26       | SB-810360J    | BUTTON PUSH C-3                |
|          |               | [WHITE]                        |
| 27       | SB-413601J1   | BUTTON CURSOR                  |
| 28       | SE-810673J    | SPACER BUTTONPUSH A            |
| 29       | SE-810674J    | SPACER BUTTONPUSH B            |
| 30       | SP-810424J    | PANEL TOP MPC2000              |
| 31       | ZS-331182     | BT BID30X08STL BNI             |
| 32       | SK-810361J    | KNOB SLIDE (B)                 |
| 33       | SK-810363J    | KNOB SHUTTLE(F)                |
| 34       | SK-810364J    | KNOB JOG(F)                    |
| 35       | SK-411144J    | KNOB VOL PART(1)               |
|          |               | [WHITE]                        |
| 36       | SK-411147J    | KNOB VOL PART(2)               |
|          |               | [RED]                          |
| 37       | BD-810348J    | PANEL FRONT                    |
| 38       | ZS-348375     | ST BR30X08STL CMT              |
| 39       | ZS-322570     | ST BID40X08STL N13             |
| 40       | SE-810353J    | LENS LED                       |
| 41-A     | △ EW-380905J  | AC CORD 250S KP300 KS16A H B J |
|          |               | [J]                            |
| 41-B     | △ EW-368420J1 | AC CORD200SKP30KS16 BAC        |
|          |               | [A]                            |
| 41-C     | △ EW-410608J  | AC CORD 250S KP4819D KS31A B E |
|          |               | [E.V]                          |
| 41-D     | △ EW-419170J  | AC CORD200S KP610 KS31A B      |
|          |               | [B]                            |
| 42       | △ EJ-405424J  | PLUG ADAPTOR KPR-25            |
|          |               | [J]                            |

#### NOTE :

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

PARTS LIST

**FINAL ASSEMBLY BLOCK**



PARTS LIST

### 11. 8PARA/DIO (IB-M208P OPTIONAL P.C. BOARD)

| Ref.No. | Part No.    | Description                    |
|---------|-------------|--------------------------------|
| FL501   | EH-410420J  | FILTER EMI DSS306-93B101MT05   |
| FL506   | EH-410420J  | FILTER EMI DSS306-93B101MT05   |
| FL507   | EH-410420J  | FILTER EMI DSS306-93B101MT05   |
| FL508   | EH-410420J  | FILTER EMI DSS306-93B101MT05   |
| FL509   | EH-410420J  | FILTER EMI DSS306-93B101MT05   |
| FL511   | EH-404248J  | FILTER EMI DSS310-54B 101M CUT |
| FL512   | EH-404248J  | FILTER EMI DSS310-54B 101M CUT |
| FSS01   | △ EF-376821 | FUSE ICP-N15 50V 0.6A          |
| FSS02   | △ EF-373143 | FUSE ICP-N38 50V 1.5A          |
| IC501   | EI-388707J  | IC HD74HC244P                  |
| IC502   | EI-393696J  | IC HD74HC86P                   |
| IC503   | EI-412279J1 | IC PCM69AP-4                   |
| IC504   | EI-412279J1 | IC PCM69AP-4                   |
| IC505   | EI-412279J1 | IC PCM69AP-4                   |
| IC506   | EI-412279J1 | IC PCM09AP-4                   |
| IC507   | EI-348785   | IC M5220L                      |
| IC508   | EI-348785   | IC M5220L                      |
| IC509   | EI-348785   | IC M5220L                      |
| IC510   | EI-348785   | IC M5220L                      |
| IC511   | EI-348785   | IC M5220L                      |
| IC512   | EI-348785   | IC M5220L                      |
| IC513   | EI-348785   | IC M5220L                      |
| IC514   | EI-348785   | IC M5220L                      |
| IC515   | EI-393325N  | IC M5218AP                     |
| IC516   | EI-393325N  | IC M5218AP                     |
| IC517   | EI-393325N  | IC M5218AP                     |
| IC518   | EI-393325N  | IC M5218AP                     |
| IC519   | EI-379997J  | IC YM3623B                     |
| IC521   | EI-410414J1 | IC CS8402A-CP                  |
| IC522   | EI-377101   | IC UPC7805HF                   |
| IC524   | EI-810646J  | IC MC74HC04AN                  |
| IC525   | EI-394832J  | IC HD74HC123AP                 |
| J501    | EJ-357159   | PHONE J 2P HLJ0520-110 W/NUT   |
| J502    | EJ-357159   | PHONE J 2P HLJ0520-110 W/NUT   |
| J503    | EJ-357159   | PHONE J 2P HLJ0520-110 W/NUT   |
| J504    | EJ-357159   | PHONE J 2P HLJ0520-110 W/NUT   |
| J505    | EJ-357159   | PHONE J 2P HLJ0520-110 W/NUT   |
| J506    | EJ-357159   | PHONE J 2P HLJ0520-110 W/NUT   |
| J507    | EJ-357159   | PHONE J 2P HLJ0520-110 W/NUT   |
| J508    | EJ-357159   | PHONE J 2P HLJ0520-110 W/NUT   |
| J509    | EJ-430794J  | PIN J YKC21-3045 2P            |
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| R566    | ER-324480   | R CB H S10 FS RDS 1/4W 470J    |
| R567    | ER-324480   | R CB H S10 FS RDS 1/4W 470J    |
| R568    | ER-324480   | R CB H S10 FS RDS 1/4W 470J    |
| R569    | ER-324480   | R CB H S10 FS RDS 1/4W 470J    |
| R570    | ER-324480   | R CB H S10 FS RDS 1/4W 470J    |
| R571    | ER-324480   | R CB H S10 FS RDS 1/4W 470J    |
| R572    | ER-324480   | R CB H S10 FS RDS 1/4W 470J    |
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| W501    | EW-810423J  | WIRE ASSY L4013 W401 34P       |
| X501    | EI-374176   | OSC XTAL AT-51 16.9344MHZ      |
| FL1     | EH-810632J  | FILTER EMI TFC-16- 8-16        |

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| D802    | ED-344280  | D SILICON H GMA-01-FY2 F05     |
| D803    | ED-344280  | D SILICON H GMA-01-FY2 F05     |
| D804    | ED-344280  | D SILICON H GMA-01-FY2 F05     |
| FL801   | EH-429990J | FILTER EMI STB101KBA F05       |
| FL802   | EH-429990J | FILTER EMI STB101KBA F05       |
| FL803   | EH-429990J | FILTER EMI STB101KBA F05       |
| IC801   | EI-430810J | IC ICS2008V                    |
| J801    | EJ-810705J | PHONE J 3P HLJ0544-010W/N,W6.3 |
| J802    | EJ-810706J | PHONE J 3P HLJ0544-110W/N,W6.3 |
| TR801   | ET-349593  | TR 2SA1348 F05                 |

### 13. FLASH MEMORY (FMX008M OPTIONAL P.C. BOARD)

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| IC6     | EI-432815J | IC E28F016SA-100            |
| IC7     | EI-432815J | IC E28F016SA-100            |
| IC8     | EI-432815J | IC E28F016SA-100            |
| IC9     | EI-432815J | IC E28F016SA-100            |
| J1      | EJ-432816J | SOCKET 128A-060S3B-L14N 60P |
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PARTS LIST

ABBREVIATIONS FOR THE SERVICE MANUAL

| ABBREVIATION | EXPLANATION                          | ABBREVIATION | EXPLANATION                                      |
|--------------|--------------------------------------|--------------|--|
| AMP (Amp)    | AMPlifier                            | MINI         | MINimum  |
| BBD          | Backet Brigade Diode                 | MIX          | MIXer  |
| BCD          | Binary Code Decimal                  | MOD          | MODulation / MODulator                           |
| B.DOWN       | Brake DOWN                           | M.WHEEL      | Modulation WHEEL                                 |
| B.UP         | Back UP                              | OSC          | OSCillator                                       |
| CE           | Chip Enable                          | PLD          | Programmable Logic Device                        |
| CH           | CHannel                              | RAM          | Random Access Memory                             |
| COMP         | COMParator                           | RD           | ReaD   |
| CONT         | CONTRol                              | REG          | REGulator  |
| CV           | Control Voltage                      | RESO         | RESChance  |
| D/A          | Digital to Analogue                  | RL           | ReLay  |
| DIR          | DIRectory                            | ROM          | Read Only Memory                                 |
| DMA          | Direct Memory Access                 | SCSI         | Small Computer System Interface                  |
| DSP          | Digital Signal Processor             | S/H          | Sample and Hold                                  |
| EG           | Envelope Generator                   | SIMM         | Single Inline Memory Module                      |
| EXT          | EXTernal                             | SMPTE        | Society of Motion Picture & Television Engineers |
| FREQ         | FREQuency                            | SW           | SWitch   |
| HPF          | High Pass Filter                     | THRU         | THRUgh   |
| INH          | INHibit                              | TRANS        | TRANSpose  |
| INT          | INTerrupt                            | U            | Upper  |
| INV          | INVerter                             | VA           | Voltage Analog                                   |
| L            | Lower                                | VCA          | Voltage Controlled Amplifier                     |
| LAN          | Local Area Network                   | VCF          | Voltage Controlled Filter                        |
| LFO          | Low Frequency Oscillator             | VR           | Variable Resistor                                |
| MAX          | MAXimum                              | VREF         | REFerence Voltage                                |
| MEMO         | MEMOry                               | WR           | WRite  |
| MIDI         | Musical Instrument Digital Interface |              |  |

# **AKAI ELECTRIC CO., LTD.**

## **ELECTRONIC MUSICAL INSTRUMENT DIV.**

12-14, 2-Chome, Higashi-Kojiya, Ohta-ku, Tokyo, Japan

SERVICE SECT. TEL:Tokyo (3745) 9621 FAX:Tokyo (3745) 9633

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