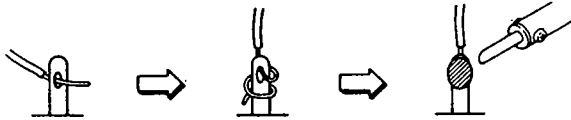


PRECAUTIONS DURING SERVICING

- Parts identified by the \triangle symbols are critical for safety. Replace only with parts number specified.
- 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 specified replacements.
Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
- Use specified internal wiring. Note especially:
 - Wires covered with PVC tubing
 - Double insulated wires
 - High voltage leads
- Use specified insulating materials for hazardous live parts. Note, especially:
 - Insulation Tape
 - PVC tubing
 - Spacers (Insulating Barriers)
 - Insulation sheets for transistors
 - Plastic screws for fixing microswitch (especially in turntable)
- When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



- Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).

- Check that replaced wires do not contact sharp edged or pointed parts.
- Also check areas surrounding repaired locations.
- Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

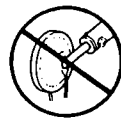
SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 M ohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for **C** or **A**, specified insulation resistance should be head-phone jacks, line-in-out jacks, etc. more than 2.2 M ohms (ground terminals, microphone jacks).

PRECAUTIONS FOR LITHIUM BATTERY

The lithium battery may explode when heated excessively. [OBSERVE THE FOLLOWING WHEN REPLACING]

- Replace with the same make and type only.
- Use soldering iron in "recommended way" only.
- Place battery in correct polarity.
- Do not short the terminals.
- Do not recharge battery.
- Do not dispose of battery in fire.



[DANGER]



[RECOMMENDED WAY]

★ INFORMATION

SYMBOLS FOR PRIMARY DESTINATION

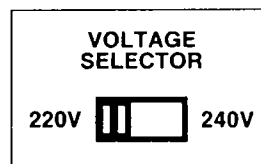
Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
A	USA
B	UK
C	Canada
E	Europe (except UK)
J	Japan
S	Australia
V	W. Germany only
U	Universal Area
Y*	Custom version

VOLTAGE CONVERSION

(**V, E, B, S** Model only)

Before connecting the power cord, set the VOLTAGE SELECTOR located on the bottom plate with a screw-driver so that the correct voltage is indicated.



I. SPECIFICATIONS

[Sampler Section]

Sampling rate.....	40 kHz (fixed)
Sampling time.....	13.1 seconds standard (750k bytes), or 26.2 seconds with sound memory expansion option (EXM003, 750k bytes)
Frequency response.....	20 Hz~18 kHz
Data format.....	12 bit sample resolution with special non-linear format for reduced noise
Tuning range.....	+1/2 octave, -1 octave
Preset sounds.....	32 drums
Voice.....	16

[Sequencer Section]

Note.....	60,000 (512k bytes)
Timing resolution.....	96 divisions per 1/4 note
Sequence.....	99
Track per Sequence.....	99
Output MIDI channels.....	16
Song mode.....	20 songs, 256 steps per song
Drum pads.....	16 (velocity and pressure sensitive)
Sync mode.....	SMPTE, MIDI time code, MIDI clock, MIDI song position pointer FSK24, Pulse, 1/4 note clicks

[Rear Panel Inputs/Outputs]

Record input.....	1 (record input gain switch: HI, MID, LOW) Input level (balanced) HI: -65dBm, Impedance 45k ohms MID: -45 dBm, Impedance 45k ohms LOW: -27 dBm, Impedance 45k ohms
Assignable mix outputs.....	8 Standard output level 0dBv, Impedance 600 ohms

Stereo outputs.....	2 (left & right) Standard output level -3 dBv, Impedance 600 ohms
Echo send mixer output....	1 (output level control ×1) Standard output level -1.5 dBv, Impedance 600 ohms
Echo return inputs.....	2 (left & right) Standard inputs level -3 dBv, Impedance 10k ohms
Sync input.....	1 (dual function-also trigger input, balanced, input level control ×1) Input level 0.5 Vp-p ~ 1 Vp-p
Sync output.....	1 Output level 1 Vp-p, Impedance 220 ohms
Metro output.....	1 (clicks)
MIDI input.....	2
MIDI output.....	4 (independent)
Foot switch inputs.....	2

[GENERAL]

Display.....	320 character LCD display with graphics
Disk drive.....	3.5" 2DD (793k bytes formatted capacity)
Computer.....	80186 (10 MHz)
Power requirement.....	AC 100V, 50/60 Hz for Japan AC 120V, 60 Hz for USA and Canada AC 220V, for Europe except UK AC 240V, for UK and Australia
Power Consumption.....	30W for Japan 32W for other countries
Dimensions.....	495 (W) × 127 (H) × 471 (D) mm
Weight.....	10.5 kg

[Accessories]

Standard accessories.....	3.5" 2DD × 4 (Drum sound data)
Optional accessories.....	EXM003 Memory Expansion Board SC-X614 Soft case for MPC60

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

③ **DISK key**

To access the disk functions, press the DISK key and the following screen will appear.

```

===== Save / Load =====
1) Save Sequence      2) Save All Seqs/Song
3) Save Drum Sound   4) Save all Sounds
5) Load/View/Erase/Rename files
6) Erase/format disk

Select Option:
    
```

Fig. 2-4

This screen displays a list of disk options. To select one, type the number of the desired option. Each of the options are described in detail in the following sections.

④ **TEMPO/SYNC key**

TEMPO..... This feature is useful, for example, to quickly switch between the normal playing tempo and a slower tempo for recording.

SYNC..... This feature is used to select the type of SYNC signal of the MPC60 to receive SYNC from an external device or tape. There are seven possible type of SYNC which the MPC60 will accept, but only one may be active at one time.

⑤ **DRUM MIX key**

To adjust the individual volume and pan settings for the stereo mix outputs, press DRUM MIX and the following screen will appear:

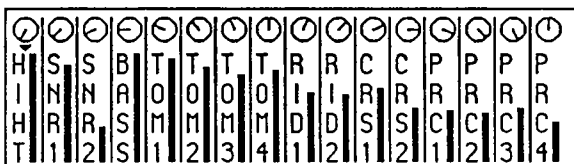


Fig. 2-5

This is a simulation of a 16 channel stereo mixer. For each channel, there is a four letter abbreviation of a drum, a graphic representation of a volume slider, and a graphic representation of a rotary pan control.

⑥ **SOUND key**

The SOUNDS key provides access to all functions associated with the creation.

⑦ **SONG MODE key**

To enter song mode, press the SONG MODE key. The following screen will appear:

```

===== SONG MODE =====
Song#: 8      End:LOOP      Loop step: 20
----- Contents of step#: 4 -----
Sequence#:02      Repetitions:4
Name:Roger's_tune....  Size (bars): 2
-----
Bar:124.01.00      Time=00:00:00:00
<Insert B4> <Delete> <Step-1> <Step+1>
    
```

Fig. 2-6

While this screen is showing, the MPC60 is in SONG mode, meaning that if play is entered, the active song will play instead of the active sequence.

⑧ **EDIT key**

The EDIT key encompasses the following functions related to editing of the active sequence:

- Viewing/changing the ending status
- Viewing all time signature changes
- Creating a new time signature/number of bars format
- Inserting blank bars into a sequence
- Deleting specified bars from a sequence
- Copying a section and inserting it elsewhere within the sequence
- Copying a single track to another area or merging it with other data
- Copying an entire sequence to another sequence

When the EDIT key is pressed, the following screen is displayed:

```

===== Edit Sequence =====
1) Time Sig / # of Bars / Ending Status
2) Create new time sig / # of bars
3) Insert Blank Bars  4) Delete Bars
5) Copy Bars          6) Copy/merge tracks
7) Copy one sequence to another
8) Convert song to long sequence
Select Option:
    
```

Fig. 2-7

Pressing a single number key will cause the screen for the selected function to be displayed.

⑨ **STEP EDIT key**

The STEP EDIT function allows the contents of the active track to be edited in precise detail.

Every parameter of every note, drum or other type of midi event is displayed in on-screen fields for detailed editing.

⑩ **Edit LOOP key**

This function causes a specified number of bars within a sequence to repeat in a loop to allow quick recording or editing of that section.

⑪ **MIDI key**

The MIDI key provides access to a number of parameters related to Midi.

- Assign the 4 Midi outputs.
- Assign incoming Midi notes numbers to the internal drums.
- Assign outgoing drums to Midi note numbers.
- Remove selected event types from the Midi input data.
- Select the Midi channel which the internal drums play from.
- Set the 'Midi soft through' feature.

⑫ **OTHER key**

The OTHER key function has many uses.

- The two metronome adjustment.
- The two foot switch input
- The 'Free sequence memory' display

- ⑬ **WAIT FOR KEY** key
This acts as a 'remote play switch' to start the sequence. If **PLAY RECORD** or **OVER DUB** mode is entered while the **WAIT FOR KEY** function is on, the sequence will not begin to play until a key (any key) is played on the Midi keyboard.
- ⑭ **AUTO PUNCH** key
The auto punch function, when set to **ON**, enables **OVERDUB** or **RECORD** modes to be automatically entered and exited at preset times while playing.
- ⑮ **TRANSPOSE** key
This function allows you to transpose a track up or down by a specified amount on a specified range of the bars in real time.
- ⑯ **2nd SEQ** key
This feature will be implemented in a future version of software. Currently, it has no function.
- ⑰ **COUNT IN** key
This function causes a single bar of metronome 'clicks' to play before the sequence starts playing or recording, acting as a 'count in' or 'countdown' before recording this part.
- ⑱ **MAIN SCREEN** key
Pressing the **MAIN SCREEN** key at any time will return you back to the main 'power-up' screen of MPC 60 without damaging any data.

3. REC/PLAY keys (Refer to Fig. 2-3)

These ten keys operate similarly to the transport keys on a tape recorder, with some very useful additions.

- ① **PLAY START** key
This key causes the sequence to begin playing from the beginning.
- ② **PLAY** key
This key causes the sequence to begin playing from the current position within the sequence, displayed in the 'Bar': field in the **PLAY/RECORD** screen.
- ③ **STOP** key
This key causes the sequence to stop playing.
- ④ **OVERDUB** key
This key, when pressed simultaneously with either **PLAY** or **PLAY START**, causes **OVERDUB** mode to be entered, in which new notes may be recorded onto the active track, but existing notes will not be erased. While **OVERDUB** mode is active, the light above the **OVERDUB** key goes on.

- ⑤ **RECORD** key
This key, when pressed simultaneously with either **PLAY** or **PLAY START**, causes **RECORD** mode to be entered, in which new notes may be recorded onto the active track while existing notes are erased, just like a tape recorder. While **RECORD** mode is active, the light above the **RECORD** key goes on.
- ⑥ '<<' key
This key causes the current position within the sequence to move to the previous bar.
- ⑦ '>>' key
This key causes the current position within the sequence to move to the next bar.
- ⑧ '<' key
This key causes the current position within the sequence to move to the previous step. The step size is normally one 1/16 note. However, it is possible to this value by changing the 'Note value' field in the **TIMING CORRECT** screen.
- ⑨ '>' key
This key causes the current position within the sequence to move to the next step. The step size is normally one 1/16 note. However, it is possible to this value by changing the 'Note value' field in the **TIMING CORRECT** screen.
- ⑩ **LOCATE** key
This key is used to instantly go to a specific position within the active sequence. When pressed, it displays the following screen:

```

===== Locate =====
Press Softkeys To Go To Markers:
Marker A: 001.01.00
Marker B: 001.01.00
Marker C: 001.01.00
-----
Bar:001.01.00           Time:00:00:00:00
<Goto 'A'><Goto 'B'><Goto 'C'><Load 'Now'>

```

Fig. 2-8

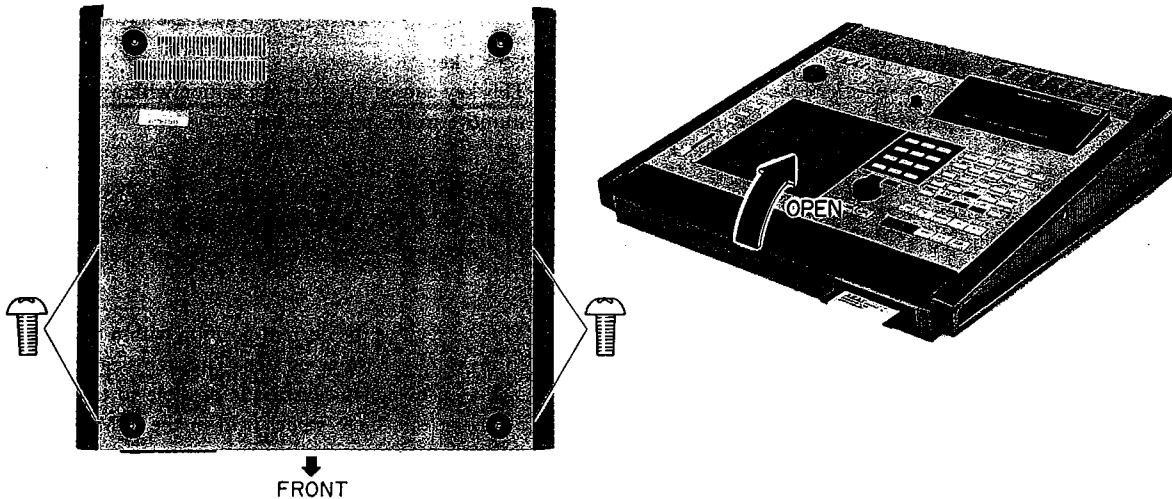
There are three sequence position markers, labeled A, B and C.

Pressing softkey 1, 2 or 3 causes either marker A, B or C, respectively, to be loaded into the 'Bar' position, having the effect of 'going' to that location. Pressing **SOFTKEY 4**, <Load'Now'>, causes the contents of the 'Bar' field to be loaded into the marker field currently containing the cursor. To load any of the three markers, move the cursor to it and enter the desired bar numbers in the format: 'bar.note.clock' (separated by '.', in the numeric keypad). If you only want to enter the bar number, type it, followed by **ENTER**, and the note and clock numbers will be automatically reset.

III. DISASSEMBLY

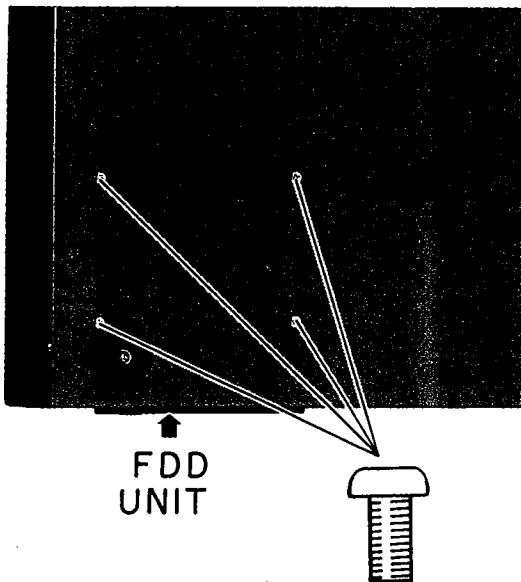
In case of trouble, etc, necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

1. HOW TO OPEN THE FRONT PANEL

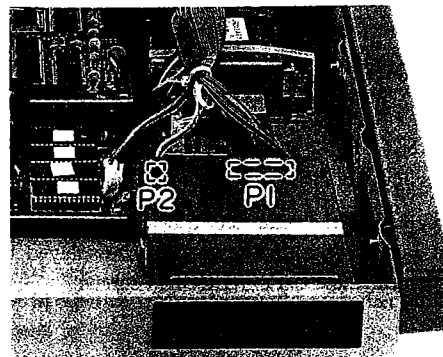


Remove 4 screws and then open the FRONT PANEL

2. HOW TO DISMANTLE THE FDD UNIT



Remove 4 screws and open the FRONT PANEL.



Disconnect connectors P1 and P2, then remove the FDD UNIT.

IV. PRINCIPAL PARTS LOCATION

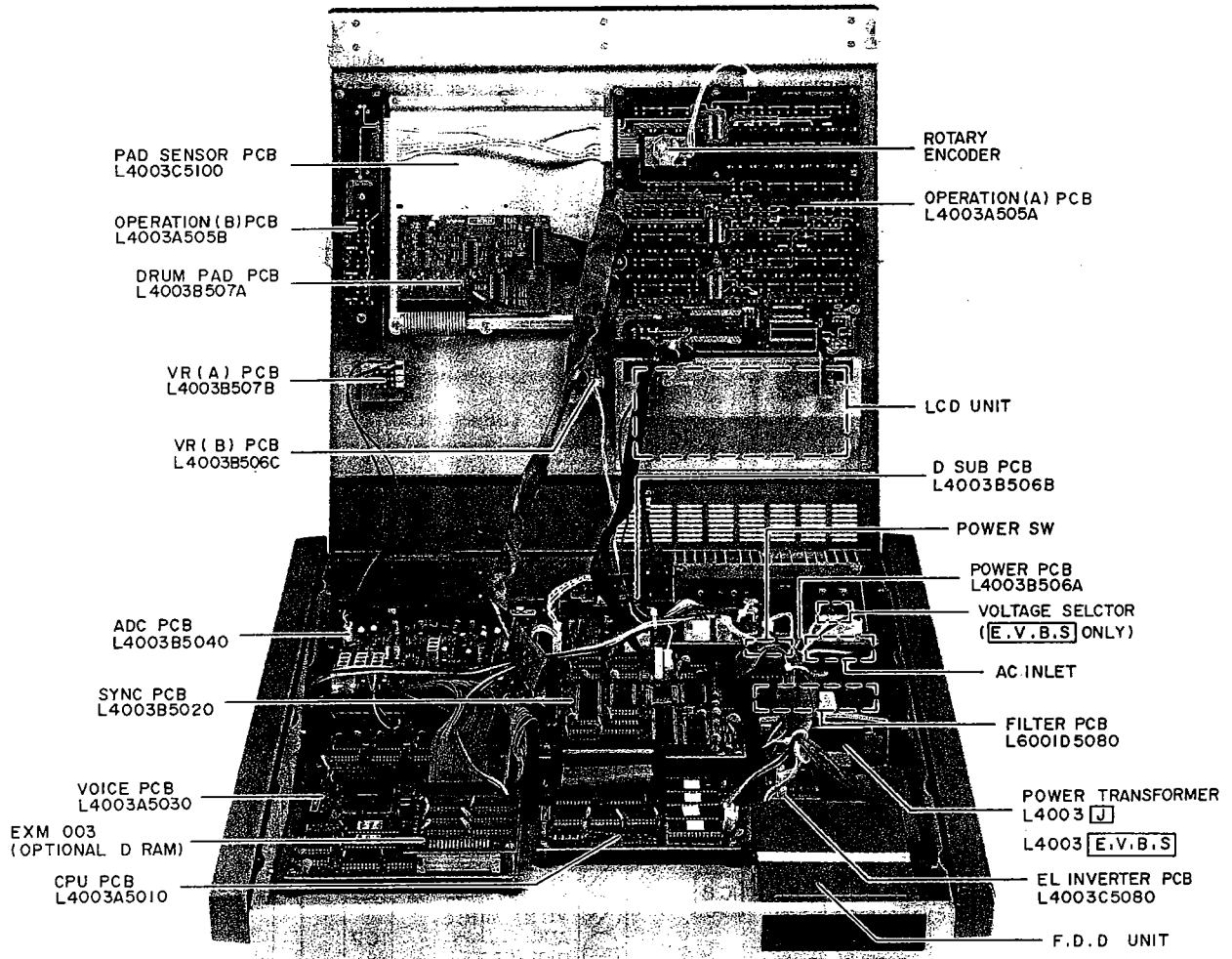


Fig. 4-1

V. ADJUSTMENT

[TEST MODE]

- * This test mode is used for adjusting and inspecting the Model MPC60.
- * Insert the TEST DISK into the disk drive, then switch the power ON. The following menu will appear on the LC-display a few seconds later indicating that the unit is set to test mode. (Fig. 5-1)

- * Once in the test mode, testing functions can be selected by pressing the DATA ENTRY key on the control panel.
- * Inputs from keys other than the DATA ENTRY key are not accepted during the test mode.
- * For the termination of the test mode, switch the power OFF and remove the test disk.

```

===== MPC60 Test Functions =====
1) DAC Trim (15Hz out #8)
2) ADC Monitor
3) CPU RAM test
4) Battery CRAM test
5) Sound Memory test
    
```

Fig. 5-1

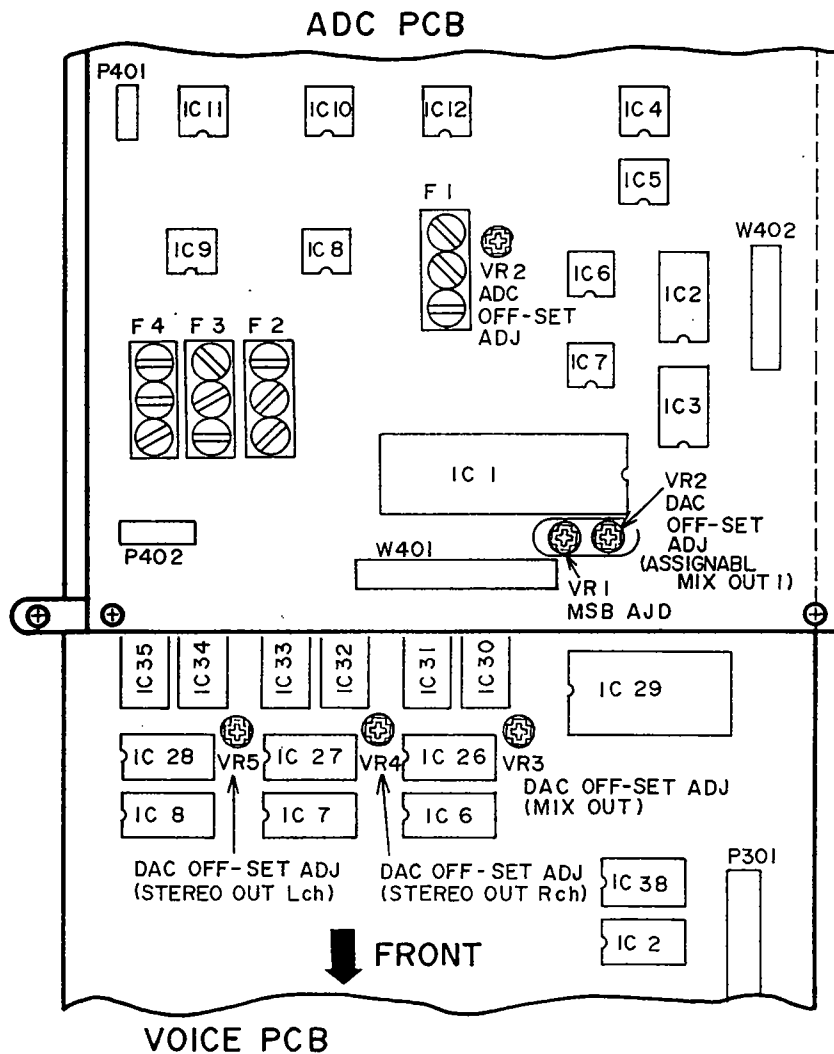


Fig. 5-2

5-1. Adjustment of A/D converter OFF-SET (ADC PCB)

1. Select "2) ADC Monitor" by pressing the DATA ENTRY key. Then the LC-display will change as shown below indicating that the unit enters the OFF-SET adjustment mode. (Refer to Fig. 5-3).

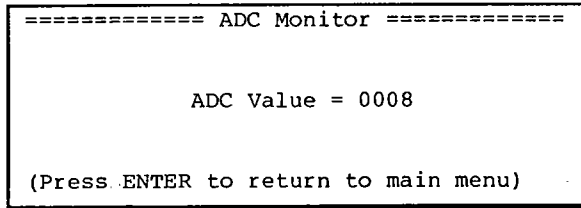


Fig. 5-3

2. Set the indicated ADC-value between 0003 and 000E by adjusting VR2 on the ADC PCB.
3. Press the ENTER key when the adjustment is completed.

5-2. D/A converter MSB-adjustment (VOICE PCB)

1. Select "1) DAC Trim (15 Hz out #8)" by pressing the DATA ENTRY key. The LC-display will change as shown below, indicating that the sine wave for MSB adjustment is being loaded. (Refer to Fig. 5-4)

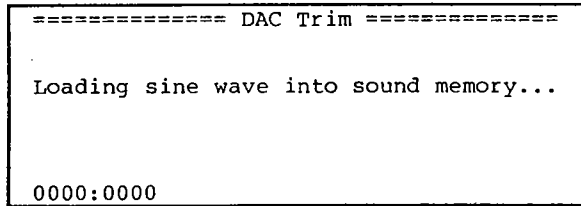


Fig. 5-4

2. Then the following screen will appear to indicate that the sine wave has been loaded and the MSB adjustment mode is set. (Refer to Fig. 5-5)

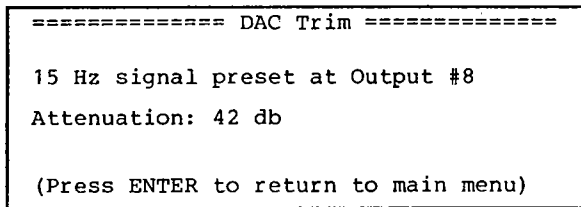


Fig. 5-5

3. Connect the oscilloscope to terminal [8] of [ASSIGN-ABLE MIX OUT] located on the rear panel. (The attenuation level can be altered in 6dB steps with the DATA CONTROL dial. The adjustment range is between 36dB and 48dB.)

If notches appear in the waveform displayed on the oscilloscope as shown Fig. 5-6, adjust VR1 on the VOICE PCB as shown Fig. 5-7.

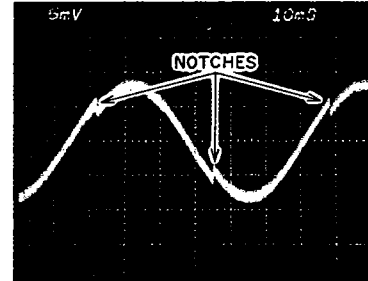


Fig. 5-6

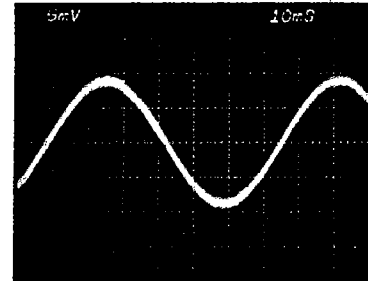


Fig. 5-7

5-3. Adjustment of D/A converter OFF-SET (VOICE PCB)

1. At first, switch the MCP60 OFF to terminate the test mode. Then switch power ON again, and load the data of the DRUM SOUND DATA "STUDIO-SET" (Standard accessories) in DISK mode.
2. Press the "FULL LEVEL" key on the left of the front panel to set the unit to FULL LEVEL mode. Press the "BASS DRUM" pad and adjust each VR so that there is no click noise during sustain. The outputs and their corresponding VRs are as follows.

ASSIGNABLE MIX OUT 1	VR2
MIX OUT	VR3
STEREO OUT RIGHT CH	VR4
STEREO OUT LEFT CH.....	VR5

Note: Connect the corresponding output of the MCP60 to an amplifier and adjust each VR according to the sound coming out of the speaker.

5-4. RAM checks

For testing each section of RAM operation, a RAM test software in test mode is used as shown in the Fig. 5-1. These programs test the function of each RAM and indicates if the LSI of each RAM functions correctly or not. In case of faultless operation, "OK" will appear on the LC-display, while malfunctions are indicated by "ERROR". The "ERROR" display contains messages pointing out which LSI and peripheral circuit to be checked.

5-4-1. CPU RAM TEST

1. Set the MPC60 to TEST MODE. (Refer to page 10 "TEST MODE")
2. Select "3) CPU RAM TEST" by pressing the DATA ENTRY key and the screen shown in fig. 5-8 will appear on the LC-display.

```
CPU RAM TEST (Seg 0000; PASS # 0001)
```

Fig. 5-8

3. If the CPU RAM function is normal, the LC-display will show the message as in fig. 5-9. If "ERROR" is displayed, the function is abnormal. Check it's circuit and the LSI.

```
CPU RAM OK  
  
(Press ENTER to return to main menu)
```

Fig. 5-9

4. When the test is completed, press ENTER key to return to the main menu (Refer to Fig. 5-1).

5-4-2. BATTERY CRAM TEST

1. Select "4) BATTERY CRAM TEST" by pressing the DATA ENTRY key. The screen as shown in the fig. 5-10 will appear on the LC-display.

```
=====CRAM Test =====  
  
Select type of CRAM test:  
  
1) Full CRAM Read / Write test  
2) Read only CRAM test
```

Fig. 5-10

Select the test function required by pressing DATA ENTRY.

2. If the CRAM function is normal, the LC-display will indicate the message as shown in the Fig. 5-11. If "ERROR" is displayed, the function is abnormal. Check its circuit and the LSI.

```
CRAM OK  
  
(Press ENTER to return to main menu)
```

Fig. 5-11

3. When the test is completed, press ENTER key to return to the main menu on the LC-display (Refer to Fig. 5-1).

5-4-3. Sound Memory Test

1. Select "5) Sound Memory Test" by pressing the DATA ENTRY key. The screen shown in Fig. 5-12 will appear on the LC-display.

```
===== Sound Memory Test =====  
  
Indicate sound memory configuration:  
  
1) Half MEG (NO memory expansion card)  
2) Full MEG (Expansion card installed)
```

Fig. 5-12

If the optional Expansion DRAM "EXM003" is equipped, select "2) Full MEG".

2. If the DRAM function is normal, the test will be carried out automatically in order of Fig. 5-13, 5-14 and 5-15 after which the display will change to the screen as shown in the Fig. 5-16.

```

===== Sound Memory Test =====
Writing 5550 ( hex ) ...
Reading 5550 ( hex ) ...

```

Fig. 5-13

```

===== Sound Memory Test =====
Writing AAA0 ( hex ) ...
Reading AAA0 ( hex ) ...

```

Fig. 5-14

```

===== Sound Memory Test =====
Writing Address check Data ...
Reading Address check Data ...

```

Fig. 5-15

```

SOUND MEM. OK

(Press ENTER to return to main menu)

```

Fig. 5-16

If the screen as shown in Fig. 5-17 appears on the LC-display, it means that the DRAM does not function normally. Check its circuit and the LSI.

```

LSI ERROR ADDR.00080003
Expected = 5550 Read = FFF0
Voice PCB      Extension card
|ok| |ok|  BAD  |ok|
|ok| |ok|  BAD  |ok|
|ok| |ok|  BAD  |ok|
(Press ENTER to return to main menu)

```

Fig. 5-17

- * When "2) Full MEG" test is selected while "EXM003" is not equipped, the screen as shown above will appear indicating errors in the RAM circuit of the Extension card.

Note: These RAM test mode programs only indicate if their functions are normal or not, but they do not apply to each BUS LINE and LSI. Use these programs as a guidance for checking the function of RAMs.

5-5. PROCEDURE OF CPU ROM (CPU PCB IC2 TO IC5) Version Check

- * This Version Check is for checking the EP-ROM Version used for the CPU of the MCP60.

1. Switch the MPC60 on without inserting a floppy disk.
2. When the "Main Screen" appears on the LC-display, press the COMMAND key "OTHER" first, then "SOFT KEY4".

Note: There will be indication of "SOFT KEY4" on the LC-display in the "OTHER" mode.

3. After pressing "SOFT KEY4" key the "Debug Function" screen appears on the LC-display from which the production date of the EP-ROM can be detected. (Refer to Fig. 5-18)
4. To terminate the Version Check mode, press the "MAIN SCREEN" key.

```

===== Debug Functions =====
Date of this version: 12/14/87
Voices off After Playing: YES
Help Codes: OFF

(sync)

```

Fig. 5-18

VI. THE MIDI IMPLEMENTATION CHART

This section contains the Midi implementation charts for the MPC60. There are two charts-one for the drum sampler section, and one for the sequencer section.

[Drums sampler section]

Model MPC60 MIDI Implementation Chart Version: 1.0

Function ...	Transmitted	Recognized	Remarks
Basic Default Channel Changed	16 1-16	16 1-16	memorized
Mode Default Messages Altered	3 × *****	3 × ×	
Note Number : True voice	0-127 *****	0-127 0-127	
Velocity Note ON Note OFF	○ ○ (Always=64)	○ ×	
After Key's Touch Ch's	× ×	○ ○	Used in 'Note repeat' feature
-Pitch Bender	×	×	
Control 20 Change	○	○	Hihat decay cont.
Prog Change : True #	× *****	× ×	
System Exclusive	○	○	See note 2
System : Song Pos : Song Sel Common : Tune	× × ×	× × ×	
System : Clock Real Time : Commands	× ×	× ×	
Aux : Local ON/OFF : All Notes OFF Messages : Active Sense : Reset	× × × ×	× ○ (when stop pressed) × ×	
Notes			

Mode 1: OMNI ON, POLY
Mode 3: OMNI OFF, POLY

Mode 2: OMNI ON, MONO
Mode 4: OMNI OFF, MONO

○: Yes
×: No

[Sequencer section]

Model MPC60 MIDI Implementation Chart Version: 1.0

Function ...		Transmitted	Recognized	Remarks
Basic Channel	Default	1-16	1-16	memorized
	Changed	1-16	1-16	memorized
Mode	Default	3	1	
	Messages	×	×	
	Altered	*****	×	
Note Number	: True voice	0-127	0-127	
		*****	0-127	
Velocity	Note ON	○	○	
	Note OFF	○	○	
After Touch	Key's	○	○	
	Ch's	○	○	
Pitch Bender		○	○	
Control Change	0 - 121	○	○	See note 1
Prog Change	: True #	○ *****	○ 0-127	
System Exclusive		○	○	See note 2
System Common	: Song Pos	×	○	
	: Song Sel	×	○	
	: Tune	×	×	
System Real Time	: Clock	○	○	
	: Commands	○	○	
Aux Messages	: Local ON/OFF	×	×	
	: All Notes OFF	○	×	
Messages	: Active Sense	×	×	
	: Reset	×	×	
Notes				

Mode 1: OMNI ON, POLY
Mode 3: OMNI OFF, POLY

Mode 2: OMNI ON, MONO
Mode 4: OMNI OFF, MONO

○: Yes
×: No

Note 1:

When the control code 64 (damper or sustain pedal) is received while recording, it is not recorded. Instead, all notes currently on at that time are held on until the sustain pedal is released, even if the individual notes are released. This allows multiple overdubs on the same track to have different and independent sustain pedal times.

Note 2:

The follow system exclusive messages, unique to the MPC60, are sent and received:

Drum mixer volume change:

11110000	System exclusive header
01000111	Akai ID (47 H)
0000XXXX	Unit number (midi channel # 1-16)
01000100	44H
01000XXX	Akai product ID (MPC60=45H)
00000001	Parameter ID: 01 = Drum mix volume
000XXXXX	Drum number (0-31)
0XXXXXXX	Data: 0 (off) - 127(full volume)

Drum mixer pan change:

11110000	System exclusive header
01000111	Akai ID (47H)
0000XXXX	Unit number (midi channel # 1-16)
01000100	44H
01000XXX	Akai product ID (MPC60 = 45H)
00000010	Parameter ID: 02 = Drum mix pan
000XXXXX	Drum number (0-31)
0000XXXX	Data: 0 (full left) - 14 (full right)

Echo mixer volume change:

11110000	System exclusive header
01000111	Akai ID (47 H)
0000XXXX	Unit number (midi channel # 1-16)
01000100	44H
01000XXX	Akai product ID (MPC60=45H)
00000011	Parameter ID: 03 = Drum mix volume
000XXXXX	Drum number (0-31)
0XXXXXXX	Data: 0 (off) - 127(full volume)

Drum tuning change:

11110000	System exclusive header
01000111	Akai ID (47H)
0000XXXX	Unit number (midi channel # 1-16)
01000100	44H
01000XXX	Akai product ID (MPC60 = 45H)
00000100	Parameter ID:04 = Drum mix volume
000XXXXX	Drum number (0-31)
0XXXXXXX	Pitch data MSB
0XXXXXXX	Pitch data LSB

The above two bytes comprise a 14 bit pitch change word. Range =0 - 4000H in increments of 1/2 cent (2000H = no change).

VII. PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list 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 of 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

b) PC Board

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20x03STL CMT
2-4	ZS-536488	BID20x08STL CMT
2-5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

A small "x" indicates that this part is not shown in the Photo or Illustration.

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

This number corresponds with the Figure Number.

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
6-C1B	EC-350949	C MMY V 223M 250DC [J]
6-C1C	EC-338397	C MMY V 223M 125AC [C,A]
6-X1	EI-318384	OSC X'TAL 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) [V]: VDE(W. Germany)
 [E]: CEE(Europe) [Y]: Custom Version
 [J]: JPN(Japan)

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 MANUFACTURE'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.

MODEL MPC60

1. RECOMMENDED SPARE PARTS

Ref. No.	Part No.	Description
1	BB-375768	FROPPY DISK MF353C-62M
2	*BT-378272	TRANS POW L4003 C,A [A,C,Y1] [T901]
3	*BT-378273	TRANS POW L4003 E,V,B,S [E,V,B,S] [T901]
4	*BT-378271	TRANS POW L4003 J [J] [T901]
5	BT-379599	TRANS PULSE D32-48
6	ED-359863	D LED LN81CV-(LF) AK ORANGE
7	*ED-365819	D SILICON CTU-12R 200/ 6.0A
8	*ED-365818	D SILICON CTU-12S 200/ 6.0A
9	*ED-330319	D SILICON DBA10B 100/1.0A
10	*ED-361055	D SILICON DS135E-UB1
11	ED-301911	D SILICON H DS448
12	ED-378184	D ZENER H HZ3BLL
13	ED-378219	DETECTOR PC 6N137
14	*EF-364518	FUSE BET T 250V 2.50A [B]
15	*EF-355374	FUSE BET T 250V 500MA [B]
16	*EF-623125	FUSE SEMKO T [E,V,S]
17	*EF-593706	FUSE SEMKO T 250V 500MA [E,V,S]
18	*EF-311839	FUSE TSC A 250V 1.60A [J]
19	*EF-326639	FUSE TSC A 250V 3.15A [J]
20	*EF-309388	FUSE TSC A 250V 800MA [J]
21	*EF-310229	FUSE TSC 125V 1.00A [C,A]
22	*EF-309392	FUSE TSC 125V 1.25A [C,A]
23	*EF-323080	FUSE TSC 125V 3.15A [C,A]
24	EH-359185	COMP R RKC1/8B8 103J
25	EH-378283	DL ADL-050SH7P
26	EI-379592	IC AD7523JN
27	EI-378285	IC CD74HCT173
28	EI-378141	IC CD74HC4051
29	EI-379585	IC CD74HC4053
30	EI-369660	IC CXK5816PN-12L
31	EI-376734	IC F74AC74P
32	EI-355891	IC HD74LS32P
33	EI-365804	IC HD7406P
34	EI-365806	IC HD75188P
35	EI-365805	IC HD75189P
36	EI-378277	IC I-0055
37	EI-360954	IC IR9311
38	EI-379605	IC LA6339
39	EI-378276	IC LC7981
40	EI-378293	IC L4003
41	EI-378197	IC MBL80186-10-CR-G-C
42	EI-378294	IC MBM27C256-15-ADR15-5-V1.0
43	EI-378296	IC MBM27C256-15-ADR15-6-V1.0
44	EI-378198	IC MBM27C512-20-ADR15-1-V1.0
45	EI-378200	IC MBM27C512-20-ADR15-2-V1.0
46	EI-378201	IC MBM27C512-20-ADR15-3-V1.0
47	EI-378203	IC MBM27C512-20-ADR15-4-V1.0
48	EI-378218	IC MB81C4256-10-G
49	EI-379657J	IC MB89255A-P-G
50	EI-378204	IC MB89371-P-G
51	EI-378214	IC MC74F08N
52	EI-379586	IC MC74F157N
53	EI-378212	IC MC74F158N
54	EI-378215	IC MC74F32N
55	EI-375346	IC MM74HCO4N
56	EI-375347	IC MM74HC14N
57	EI-349719	IC M5218P
58	EI-360043	IC M5220P
59	*EI-348123	IC M5230L
60	EI-362588	IC M5238P
61	EI-336995	IC NJM78L05A
62	*EI-360772	IC NJM79L05A

Ref. No.	Part No.	Description
63	EI-378297	IC PCM54HP
64	EI-377067	IC PCM77P
65	EI-364253	IC PST520D-2
66	EI-365798	IC SED9420CAC
67	*EI-365820	IC STR9005
68	EI-378286	IC TC4516BP
69	EI-378284	IC TC74HCT245P
70	EI-378211	IC TC74HCT573P
71	EI-379583	IC TC74HCT574P
72	EI-360037	IC TC74HC00P
73	EI-360039	IC TC74HC08P
74	EI-375222	IC TC74HC125P
75	EI-378216	IC TC74HC126P
76	EI-360025	IC TC74HC138P
77	EI-372578	IC TC74HC153P
78	EI-365840	IC TC74HC155P
79	EI-372550	IC TC74HC161P
80	EI-360054	IC TC74HC174P
81	EI-360053	IC TC74HC175P
82	EI-360042	IC TC74HC259P
83	EI-360036	IC TC74HC32P
84	EI-378217	IC TC74HC390
85	EI-365831	IC TC74HC393P
86	EI-365803	IC TC74HC4002P
87	EI-375205	IC TC74HC541P
88	EI-360028	IC TC74HC74P
89	EI-379598	IC TM2764AD-20-ADR15-7-V1.0
90	EI-379594	IC UPC814C
91	EI-379593	IC UPD5200C
92	EI-378275	IC UPD72066C
93	EI-371671	IC UPD78C11G-044-36
94	EI-354123	OSC CE CSA120MT 12.000000MHZ
95	EI-378205	OSC X'TAL AT-51 20.000000MHZ
96	EI-365811	OSC X'TAL NR18 16.000MHZ
97	EI-378290	OSC X'TAL TD308A 35.84MHZ
98	*EJ-358633	SOCKET INLET SOT-17 2P [J,E,V,B,S,Y1]
99	EM-378267	IND LCD 240082
100	*EO-360068	COIL LF LF-2 B
101	EO-378291	FILTER LC 258BLR-5326N 18KHZ
102	ES-365943	SW EWT-XDFK2550B
103	*ES-364478	SW SEESAW SDDT SPST TYPEA T8.5
104	*ES-306430	SW SLIDE J-S4013#01 01-2
105	ES-379609	SW SLIDE SSSP***** [REC GAIN]
106	ES-349474	SW TACT SKHHAM004A
107	ET-353899	TR 2SA1317 S,T,U
108	ET-305463	TR 2SA970 GR,BL
109	*ET-356817	TR 2SB891 Q,R
110	ET-307195	TR 2SC2240 GR,BL
111	ET-308977	TR 2SC2274K F F05
112	ET-360067	TR 2SC3330 T,U F05
113	*ET-354083	TR 2SD1189 Q,R
114	EV-379613	VR ROTARY EVHCCAP20B53 B502
115	EV-379614	VR ROTARY EWKE2AP20A14 A103X2
116	EV-365876	VR SLIDE VJ4513-2PVNB5 103 [HIHAT DECAY]
117	EV-379610	VR V012L-PLHJ20U A103 [MIX OUT LEVEL]
118	EV-378278	VR V012L-PLHJ20U B103 [SYNC LEVEL]
119	*EZ-378206	BATTERY LITHIUM CL2020 IHF

2. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1	BA-L4003A020A	PC(##) OPERATION BLK MPC60
2	BA-L4003A050A	PC CPU BLK MPC60
3	BA-L4003A070A	PC SYNC BLK MPC60
4	BA-L4003A040A	PC VOICE BLK MPC60
5	BA-L4003A060A	PC ADC BLK MPC60
6	BA-L4003A030A	PC(##) DRUM PAD BLK MPC60

NOTE

PC (##) OPERATION BLK CONSISTS OF FOLLOWING P.C BOARD.

- * OPERATION (A) P.C BOARD
- * OPERATION (B) P.C BOARD

PC (##) DRUM PAD BLK CONSISTS OF FOLLOWING P.C BOARD.

- * DRUM PAD P.C BOARD
- * VR (A) P.C BOARD

3. OPERATION (A) P.C BOARD

Ref. No.	Part No.	Description
D1	ED-359863	D LED LN81CV-(LF) AK ORANGE
D2	ED-359863	D LED LN81CV-(LF) AK ORANGE
D3	ED-359863	D LED LN81CV-(LF) AK ORANGE
D4	ED-359863	D LED LN81CV-(LF) AK ORANGE
D5	ED-359863	D LED LN81CV-(LF) AK ORANGE
D6	ED-359863	D LED LN81CV-(LF) AK ORANGE
D7	ED-359863	D LED LN81CV-(LF) AK ORANGE
D8	ED-359863	D LED LN81CV-(LF) AK ORANGE
D9	ED-359863	D LED LN81CV-(LF) AK ORANGE
D10	ED-359863	D LED LN81CV-(LF) AK ORANGE
D11	ED-361055	D SILICON DS135E-UB1
IB1	EH-359185	COMP R RKC1/8B8 103J
IC1	EI-371671	IC UPD78C11G-044-36
IC2	EI-379598	IC TM2764AD-20-ADR15-7-V1.0
IC3	EI-378211	IC TC74HCT573P
IC4	EI-360025	IC TC74HC138P
IC5	EI-360042	IC TC74HC259P
IC6	EI-360042	IC TC74HC259P
IC7	EI-336995	IC NJM78L05A
SW1	ES-349474	SW TACT SKHHAM004A
SW2	ES-349474	SW TACT SKHHAM004A
SW3	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
SW5	ES-349474	SW TACT SKHHAM004A
SW6	ES-349474	SW TACT SKHHAM004A
SW7	ES-349474	SW TACT SKHHAM004A
SW8	ES-349474	SW TACT SKHHAM004A
SW9	ES-349474	SW TACT SKHHAM004A
SW10	ES-349474	SW TACT SKHHAM004A
SW11	ES-349474	SW TACT SKHHAM004A
SW12	ES-349474	SW TACT SKHHAM004A
SW13	ES-349474	SW TACT SKHHAM004A
SW14	ES-349474	SW TACT SKHHAM004A
SW15	ES-349474	SW TACT SKHHAM004A
SW16	ES-349474	SW TACT SKHHAM004A
SW17	ES-349474	SW TACT SKHHAM004A
SW18	ES-349474	SW TACT SKHHAM004A
SW19	ES-349474	SW TACT SKHHAM004A
SW20	ES-349474	SW TACT SKHHAM004A
SW21	ES-349474	SW TACT SKHHAM004A
SW22	ES-349474	SW TACT SKHHAM004A
SW23	ES-349474	SW TACT SKHHAM004A
SW24	ES-349474	SW TACT SKHHAM004A
SW25	ES-349474	SW TACT SKHHAM004A
SW26	ES-349474	SW TACT SKHHAM004A
SW27	ES-349474	SW TACT SKHHAM004A
SW28	ES-349474	SW TACT SKHHAM004A

Ref. No.	Part No.	Description
SW29	ES-349474	SW TACT SKHHAM004A
SW30	ES-349474	SW TACT SKHHAM004A
SW31	ES-349474	SW TACT SKHHAM004A
SW32	ES-349474	SW TACT SKHHAM004A
SW33	ES-349474	SW TACT SKHHAM004A
SW34	ES-349474	SW TACT SKHHAM004A
SW35	ES-349474	SW TACT SKHHAM004A
SW36	ES-349474	SW TACT SKHHAM004A
SW37	ES-349474	SW TACT SKHHAM004A
SW38	ES-349474	SW TACT SKHHAM004A
SW39	ES-349474	SW TACT SKHHAM004A
SW40	ES-349474	SW TACT SKHHAM004A
SW41	ES-349474	SW TACT SKHHAM004A
SW42	ES-349474	SW TACT SKHHAM004A
SW43	ES-349474	SW TACT SKHHAM004A
SW44	ES-349474	SW TACT SKHHAM004A
SW45	ES-349474	SW TACT SKHHAM004A
SW46	ES-349474	SW TACT SKHHAM004A
SW47	ES-349474	SW TACT SKHHAM004A
SW48	ES-349474	SW TACT SKHHAM004A
SW49	ES-349474	SW TACT SKHHAM004A
SW50	ES-349474	SW TACT SKHHAM004A
SW51	ES-349474	SW TACT SKHHAM004A
SW52	ES-349474	SW TACT SKHHAM004A
X1	EI-354123	OSC CE CSA120MT 12.000000MHZ
1	EJ-358691	SOCKET IC DILB28P-8J

4. OPERATION (B) P.C BOARD

Ref. No.	Part No.	Description
D1	ED-359863	D LED LN81CV-(LF) AK ORANGE
D2	ED-359863	D LED LN81CV-(LF) AK ORANGE
D3	ED-359863	D LED LN81CV-(LF) AK ORANGE
D4	ED-359863	D LED LN81CV-(LF) AK ORANGE
SW1	ES-349474	SW TACT SKHHAM004A
SW2	ES-349474	SW TACT SKHHAM004A
SW3	ES-349474	SW TACT SKHHAM004A
SW4	ES-349474	SW TACT SKHHAM004A
VR1	EV-365876	VR SLIDE VJ4513-2PVB5 103 [HIHAT DECAY]

5. CPU P.C BOARD

Ref. No.	Part No.	Description
DL1	EH-378283	DL ADL-050SH7P
D2	ED-301911	D SILICON H DS448
D3	ED-378184	D ZENER H HZ3BLL
D4	ED-301911	D SILICON H DS448
D5	ED-301911	D SILICON H DS448
IC1	EI-378197	IC MBL80186-10-CR-G-C
IC2	EI-378198	IC MBM27C512-20-ADR15-1-V1.0
IC3	EI-378200	IC MBM27C512-20-ADR15-2-V1.0
IC4	EI-378201	IC MBM27C512-20-ADR15-3-V1.0
IC5	EI-378203	IC MBM27C512-20-ADR15-4-V1.0
IC6	EI-369660	IC CXX5816PN-12L
IC7	EI-378204	IC MB89371-P-G
IC8	EI-378204	IC MB89371-P-G
IC9	EI-378211	IC TC74HCT573P
IC10	EI-378211	IC TC74HCT573P
IC11	EI-378211	IC TC74HCT573P
IC12	EI-378212	IC MC74F158N

Ref. No.	Part No.	Description
IC13	EI-378212	IC MC74F158N
IC14	EI-378212	IC MC74F158N
IC15	EI-365840	IC TC74HC155P
IC16	EI-360028	IC TC74HC74P
IC17	EI-360036	IC TC74HC32P
IC18	EI-375347	IC MM74HC14N
IC19	EI-378214	IC MC74F08N
IC20	EI-360037	IC TC74HCOOP
IC21	EI-378215	IC MC74F32N
IC23	EI-365803	IC TC74HC4002P
IC24	EI-375222	IC TC74HC125P
IC25	EI-378216	IC TC74HC126P
IC26	EI-355891	IC HD74LS32P
IC27	EI-365805	IC HD75189P
IC28	EI-378217	IC TC74HC390
IC29	EI-378217	IC TC74HC390
IC30	EI-372550	IC TC74HC161P
IC31	EI-378218	IC MB81C4256-10-G
IC32	EI-378218	IC MB81C4256-10-G
IC33	EI-378218	IC MB81C4256-10-G
IC34	EI-378218	IC MB81C4256-10-G
IC35	EI-364253	IC PST520D-2
J101	EJ-378207	DIN J TCS4450-01-1011 [MIDI IN 1]
J102	EJ-378207	DIN J TCS4450-01-1011 [MIDI IN 2]
J103	EJ-378207	DIN J TCS4450-01-1011 [MIDI OUT 1]
J104	EJ-378207	DIN J TCS4450-01-1011 [MIDI OUT 2]
J105	EJ-378207	DIN J TCS4450-01-1011 [MIDI OUT 3]
J106	EJ-378207	DIN J TCS4450-01-1011 [MIDI OUT 4]
PH1	ED-378219	DETECTOR PC 6N137
PH2	ED-378219	DETECTOR PC 6N137
TR1	ET-353899	TR 2SA1317 S,T,U
TR2	ET-360067	TR 2SC3330 T,U F05
X1	EI-378205	OSC X'TAL AT-51 20.000000MHZ
1	*EZ-378206	BATTERY LITHIUM CL2020 IHF
2	EJ-358691	SOCKET IC DILB28P-8J

6. SYNC P.C BOARD

Ref. No.	Part No.	Description
D1	ED-301911	D SILICON H DS448
D2	ED-301911	D SILICON H DS448
D3	ED-301911	D SILICON H DS448
D4	ED-301911	D SILICON H DS448
IC1	EI-379657J	IC MB89255A-P-G
IC2	EI-378275	IC UPD72066C
IC3	EI-365798	IC SED9420CAC
IC4	EI-378276	IC LC7981
IC5	EI-369660	IC CXK5816PN-12L
IC6	EI-378211	IC TC74HCT573P
IC7	EI-378284	IC TC74HCT245P
IC8	EI-360053	IC TC74HC175P
IC9	EI-378285	IC CD74HCT173
IC10	EI-360028	IC TC74HC74P
IC11	EI-365840	IC TC74HC155P
IC12	EI-365831	IC TC74HC393P
IC13	EI-372578	IC TC74HC153P
IC14	EI-372578	IC TC74HC153P
IC15	EI-360028	IC TC74HC74P
IC16	EI-360028	IC TC74HC74P
IC17	EI-375346	IC MM74HCO4N
IC18	EI-360039	IC TC74HC08P
IC19	EI-360039	IC TC74HC08P
IC20	EI-375347	IC MM74HC14N

Ref. No.	Part No.	Description
IC21	EI-360039	IC TC74HC08P
IC22	EI-365804	IC HD7406P
IC23	EI-365806	IC HD75188P
IC24	EI-378286	IC TC4516BP
IC25	EI-360954	IC IR9311
IC26	EI-362588	IC M5238P
IC27	EI-362588	IC M5238P
IC28	EI-362588	IC M5238P
IC29	EI-349719	IC M5218P
IC30	EI-378277	IC I-0055
IC31	EI-375346	IC MM74HCO4N
J201	EJ-353031	PHONE J 3P HLJ0520-010 [SYNC IN]
J202	EJ-353031	PHONE J 3P HLJ0520-010 [SYNC OUT]
J203	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [FOOT SW 1]
J204	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [FOOT SW 2]
J205	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [METRO OUT]
P201	EJ-378279	PLUG RA-H502SD-1190 50P
P202	EJ-378282	PLUG RF-H202TD-1190 20P
P203	EJ-378282	PLUG RF-H202TD-1190 20P
P204	EJ-365834	PLUG RK-H341TD-0190 34P
P205	EJ-378269	PLUG B10P-ER 10P
R65	*ER-325114	R CB H S10 FS RDS 1/4W 330J
R66	*ER-325114	R CB H S10 FS RDS 1/4W 330J
VR1	EV-378278	VR V012L-PLHJ20U B103 [SYNC LEVEL]
X1	EI-365811	OSC X'TAL NR18 16.000MHZ

7. VOICE P.C BOARD

Ref. No.	Part No.	Description
F1	EO-378291	FILTER LC 258BLR-5326N 18KHZ
F2	EO-378291	FILTER LC 258BLR-5326N 18KHZ
F3	EO-378291	FILTER LC 258BLR-5326N 18KHZ
F4	EO-378291	FILTER LC 258BLR-5326N 18KHZ
F5	EO-378291	FILTER LC 258BLR-5326N 18KHZ
F6	EO-378291	FILTER LC 258BLR-5326N 18KHZ
F7	EO-378291	FILTER LC 258BLR-5326N 18KHZ
F8	EO-378291	FILTER LC 258BLR-5326N 18KHZ
IC1	EI-378293	IC L4003
IC2	EI-375346	IC MM74HCO4N
IC3	EI-379583	IC TC74HCT574P
IC4	EI-379583	IC TC74HCT574P
IC5	EI-360054	IC TC74HC174P
IC6	EI-360054	IC TC74HC174P
IC7	EI-360054	IC TC74HC174P
IC8	EI-360054	IC TC74HC174P
IC9	EI-375222	IC TC74HC125P
IC10	EI-375205	IC TC74HC541P
IC11	EI-360025	IC TC74HC138P
IC12	EI-379585	IC CD74HC4053
IC13	EI-378141	IC CD74HC4051
IC14	EI-379586	IC MC74F157N
IC15	EI-379586	IC MC74F157N
IC16	EI-379586	IC MC74F157N
IC17	EI-378294	IC MBM27C256-15-ADR15-5-V1.0
IC18	EI-378296	IC MBM27C256-15-ADR15-6-V1.0
IC19	EI-378218	IC MB81C4256-10-G
IC20	EI-378218	IC MB81C4256-10-G
IC21	EI-378218	IC MB81C4256-10-G
IC22	EI-378218	IC MB81C4256-10-G
IC23	EI-378218	IC MB81C4256-10-G
IC24	EI-378218	IC MB81C4256-10-G
IC25	EI-376734	IC F74AC74P
IC26	EI-360054	IC TC74HC174P

Ref. No.	Part No.	Description
IC27	EI-360054	IC TC74HC174P
IC28	EI-360054	IC TC74HC174P
IC29	EI-378297	IC PCM54HP
IC30	EI-379585	IC CD74HC4053
IC31	EI-379585	IC CD74HC4053
IC32	EI-379585	IC CD74HC4053
IC33	EI-379585	IC CD74HC4053
IC34	EI-379585	IC CD74HC4053
IC35	EI-379585	IC CD74HC4053
IC36	*EI-360772	IC NJM79L05A
IC37	*EI-336995	IC NJM78L05A
IC38	EI-360037	IC TC74HC00P
IC39	EI-360043	IC M5220P
IC40	EI-360043	IC M5220P
IC41	EI-360043	IC M5220P
IC42	EI-360043	IC M5220P
J301	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [CH 1]
J302	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [CH 2]
J303	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [CH 3]
J304	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [CH 4]
J305	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [CH 5]
J306	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [CH 6]
J307	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [CH 7]
J308	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [CH 8]
L1	EO-379607	COIL FIX 2 8RBS 151K
L2	EO-379607	COIL FIX 2 8RBS 151K
P301	EJ-378280	PLUG RA-H502TD-1190 50P
P302	EJ-365834	PLUG RK-H341TD-0190 34P
P304	EJ-378287	PLUG RP148B30P-1TD2-03 48P
VR1	EV-336768	R S-FIX H RH0621C 0.30W104
VR2	EV-307626	R S-FIX H RH0621C 0.30W103
VR3	EV-307626	R S-FIX H RH0621C 0.30W103
VR4	EV-307626	R S-FIX H RH0621C 0.30W103
VR5	EV-307626	R S-FIX H RH0621C 0.30W103
X1	EI-378290	OSC X'TAL TD308A 35.84MHZ

8. ADC P.C BOARD

Ref. No.	Part No.	Description
D1	ED-301911	D SILICON H DS448
F1	EO-378291	FILTER LC 258BLR-5326N 18KHZ
F2	EO-378291	FILTER LC 258BLR-5326N 18KHZ
F3	EO-378291	FILTER LC 258BLR-5326N 18KHZ
F4	EO-378291	FILTER LC 258BLR-5326N 18KHZ
IC1	EI-377067	IC PCM77P
IC2	EI-379592	IC AD7523JN
IC3	EI-379593	IC UPD5200C
IC4	EI-360043	IC M5220P
IC5	EI-362588	IC M5238P
IC6	EI-379594	IC UPC814C
IC7	EI-362588	IC M5238P
IC8	EI-360043	IC M5220P
IC9	EI-360043	IC M5220P
IC10	EI-362588	IC M5238P
IC11	EI-362588	IC M5238P
IC12	EI-362588	IC M5238P
IC13	EI-336995	IC NJM78L05A
J401	EJ-353031	PHONE J 3P HLJ0520-010 [REC IN]
J402	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [OUT-L]

Ref. No.	Part No.	Description
J403	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [OUT-R]
J404	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [MIX OUT]
J405	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [EFFECT RETURN-R]
J406	EJ-354105	PHONE J 2P HLJ0520-110 6.3 [EFFECT RETURN-L]
L1	EO-379607	COIL FIX 2 8RBS 151K
L2	EO-379607	COIL FIX 2 8RBS 151K
R26	ER-333363	R CB H S10 FS RDS 1/4W 120J
R27	ER-333363	R CB H S10 FS RDS 1/4W 120J
SW1	ES-379609	SW SLIDE SSSP***** [REC GAIN]
TR1	ET-307195	TR 2SC2240 GR,BL
TR2	ET-307195	TR 2SC2240 GR,BL
TR3	ET-305463	TR 2SA970 GR,BL
TR4	ET-305463	TR 2SA970 GR,BL
VR1	EV-379610	VR V012L-PLHJ20U A103 [MIX OUT LEVEL]
VR2	EV-336768	R S-SIX H RH0621C 0.30W104

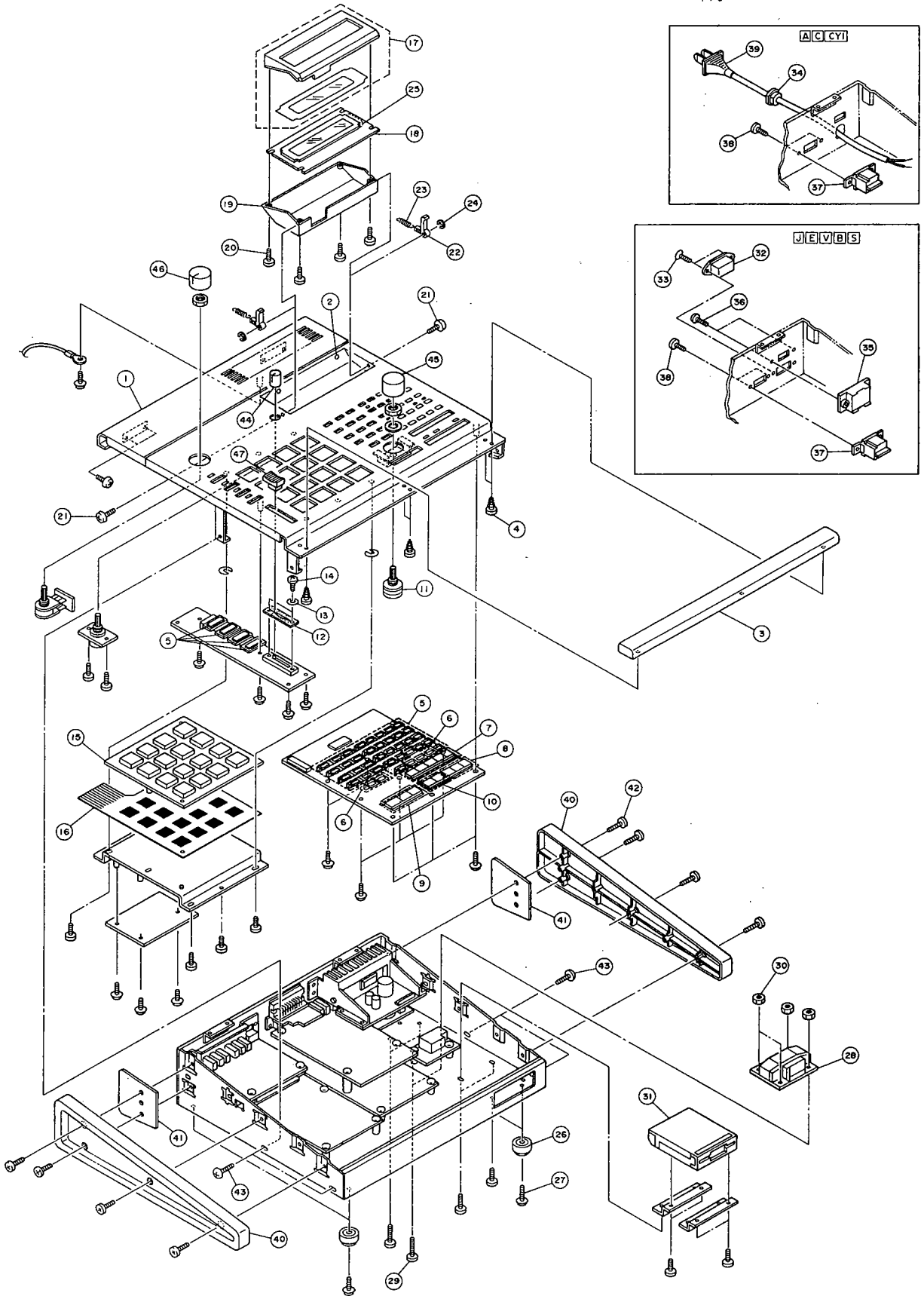
9. DRUM PAD P.C BOARD

Ref. No.	Part No.	Description
D1	ED-301911	D SILICON H DS448
D2	ED-301911	D SILICON H DS448
D3	ED-301911	D SILICON H DS448
D4	ED-301911	D SILICON H DS448
D5	ED-301911	D SILICON H DS448
D6	ED-301911	D SILICON H DS448
D7	ED-301911	D SILICON H DS448
D8	ED-301911	D SILICON H DS448
D9	ED-301911	D SILICON H DS448
D10	ED-301911	D SILICON H DS448
D11	ED-301911	D SILICON H DS448
D12	ED-301911	D SILICON H DS448
D13	ED-301911	D SILICON H DS448
D14	ED-301911	D SILICON H DS448
D15	ED-301911	D SILICON H DS448
D16	ED-301911	D SILICON H DS448
D17	ED-301911	D SILICON H DS448
D18	ED-301911	D SILICON H DS448
D19	ED-301911	D SILICON H DS448
D20	ED-301911	D SILICON H DS448
D21	ED-301911	D SILICON H DS448
D22	ED-301911	D SILICON H DS448
D23	ED-301911	D SILICON H DS448
D24	ED-301911	D SILICON H DS448
IC1	EI-375346	IC MM74HC04N
IC2	EI-379605	IC LA6339
IC3	EI-362588	IC M5238P
IC4	EI-362588	IC M5238P
P701	EJ-378282	PLUG RF-H202TD-1190 20P
P702	EJ-379603	PLUG 20FR-ST

10. VR (A) P.C BOARD

Ref. No.	Part No.	Description
VR1	EV-379614	VR ROTARY EWKE2AP20A1.4 A103X2

FINAL ASSEMBLY BLOCK



PARTS LIST

MODEL EXM003
2. EXM P.C BOARD

Ref. No.	Part No.	Description
IC1	EI-378218	IC MB81C4256-10-G
IC2	EI-378218	IC MB81C4256-10-G
IC3	EI-378218	IC MB81C4256-10-G
IC4	EI-378218	IC MB81C4256-10-G
IC5	EI-378218	IC MB81C4256-10-G
IC6	EI-378218	IC MB81C4256-10-G

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MODEL MPC60

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BA-379695	16	ED-378184	D3	EI-360054	IC8	EI-378204	IC7
BA-L4003A020A	1	ED-378219	13	EI-360054	IC26	EI-378204	IC8
BA-L4003A030A	6	ED-378219	PH1	EI-360054	IC27	EI-378205	95
BA-L4003A040A	4	ED-378219	PH2	EI-360054	IC28	EI-378205	X1
BA-L4003A050A	2	EF-309388	20	EI-360772	62	EI-378211	70
BA-L4003A060A	5	EF-309388	F3	EI-360772	IC36	EI-378211	IC3
BA-L4003A070A	3	EF-309388	F4	EI-360954	37	EI-378211	IC9
BB-375768	1	EF-309392	22	EI-360954	IC25	EI-378211	IC10
BB-375768	31	EF-309392	F1A	EI-362588	60	EI-378211	IC11
BD-381924J	1	EF-310229	21	EI-362588	IC26	EI-378211	IC6
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BT-378272	28A	EF-311839	F1	EI-362588	IC7	EI-378212	IC14
BT-378273	3	EF-323080	23	EI-362588	IC10	EI-378212	51
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ED-301911	D1	EF-593706	F4B	EI-365804	IC22	EI-378218	IC33
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ED-301911	D3	EF-623125	16	EI-365805	IC27	EI-378218	IC19
ED-301911	D4	EF-623125	F2B	EI-365806	34	EI-378218	IC20
ED-301911	D1	EH-359185	24	EI-365806	IC23	EI-378218	IC21
ED-301911	D1	EH-359185	IB1	EI-365811	96	EI-378218	IC22
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ED-359863	D3	EI-360039	IC18	EI-375347	56	EI-379585	IC12
ED-359863	D4	EI-360039	IC19	EI-375347	IC18	EI-379585	IC30
ED-359863	D5	EI-360039	IC21	EI-375347	IC20	EI-379585	IC31
ED-359863	D6	EI-360042	82	EI-376734	31	EI-379585	IC32
ED-359863	D7	EI-360042	IC5	EI-376734	IC25	EI-379585	IC33
ED-359863	D8	EI-360042	IC6	EI-377067	64	EI-379585	IC34
ED-359863	D9	EI-360043	58	EI-377067	IC1	EI-379585	IC35
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ED-359863	D1	EI-360043	IC40	EI-378141	IC13	EI-379586	IC14
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EJ-353031	J401	ES-349474	SW11	EV-379613	114		
EJ-354105	J203	ES-349474	SW12	EV-379613	VR1		
EJ-354105	J204	ES-349474	SW13	EV-379614	115		
EJ-354105	J205	ES-349474	SW14	EV-379614	VR1		
EJ-354105	J301	ES-349474	SW15	EW-357931	39A		
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EJ-354105	J404	ES-349474	SW25	EZ-378206	1		
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EJ-378269	25	ES-349474	SW41	SK-380293J	46		
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EO-378291	F2	ES-349474	SW4	ZS-379293	4		
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EO-378291	F5	ES-365943	102	ZW-321317	13		
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EO-378291	F8	ES-379609	SW1				
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EO-378291	F3	ET-305463	TR4				
EO-378291	F4	ET-307195	110				
EO-379607	L1	ET-307195	TR1				
EO-379607	L2	ET-307195	TR2				
EO-379607	L1	ET-308977	111				
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ES-349474	106	EV-307626	VR3				
ES-349474	SW1	EV-307626	VR4				
ES-349474	SW2	EV-307626	VR5				
ES-349474	SW3	EV-336768	VR1				
ES-349474	SW4	EV-336768	VR2				
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MODEL EXM003

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
EI-378218	IC1						
EI-378218	IC2						
EI-378218	IC3						
EI-378218	IC4						
EI-378218	IC5						
EI-378218	IC6						

ABBREVIATIONS FOR THE SERVICE MANUAL

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AMP (Amp)	AMPlifier	MINI	MINIum
BBD	Backet Brigade Diode	MIX	MIXer
BCD	Binary Code Decimal	MOD	MODulation
B.DOWN	Brak Down	OSC	OSCillator
B.UP	Back UP	RAM	Random Access Memory
CE	Chip Enable	RD	ReaD
CH	Channel	REG	REGulator
COMP	COMParator	RESO	RESOnance
CONT	CONTrol	RL	ReLay
CV	Control Voltage	ROM	Read Only Memory
D/A	Digital to Analogue	S/H	Sample and Hold
EG	Envelope Generator	SW	SWitch
EXT	EXTernal	THRU	THRoUgh
FREQ	FREQuency	TRANS	TRANSpose
HPF	High Pass Filter	U	Upper
INH	INHibit	VA	Voltage Analog
INT	INTerrupt	VCA	Voltage Controlled Amplifier
INV	INVerter	VCF	Voltage Controlled Filter
L	Lower	VR	Variable Resistor
LFO	Low Frequency Oscillator	VREF	REFerence Voltage
MAX	MAXimum	WR	WRite
MEMO	MEMOry		
MIDI	Musical Instrument Digital Interface		

MPC60/EXM003

AKAI ELECTRIC CO., LTD.

12-14, 2-Chome, Higashi-Kojiya, Ohta-ku, Tokyo, Japan
 TEL: Tokyo (742) 5111 CABLE: HIFIAKAI TOKYO TELEX: J26261
 Printed No. 880125-G1-600 Printed Date: February 20, 1988
 950 Printed in Japan

AKAI

MODEL **MPC 60**

MODEL **EXM 003**

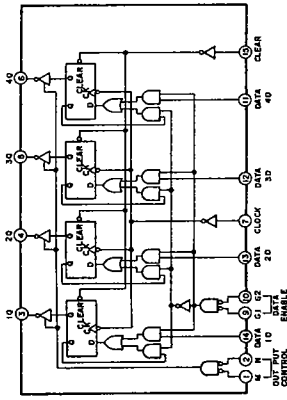
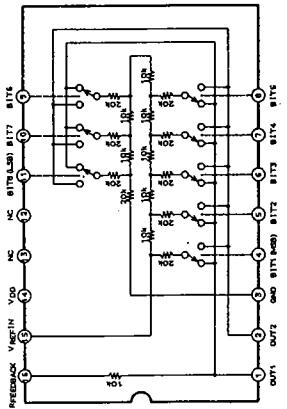
SCHEMATIC DIAGRAM AND PC BOARDS

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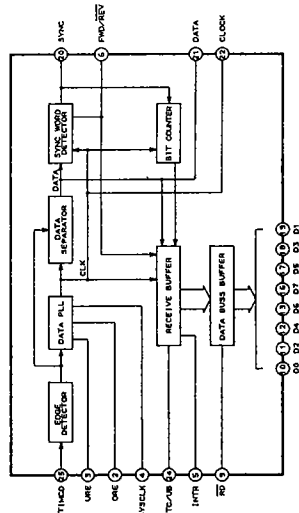
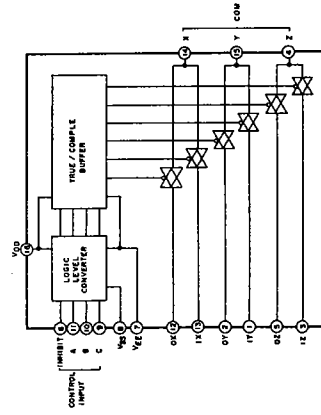
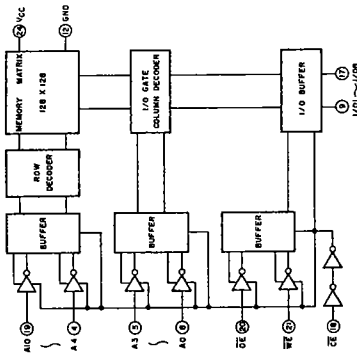
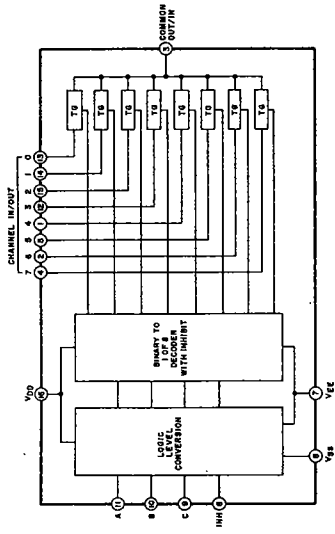
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Information of ICs

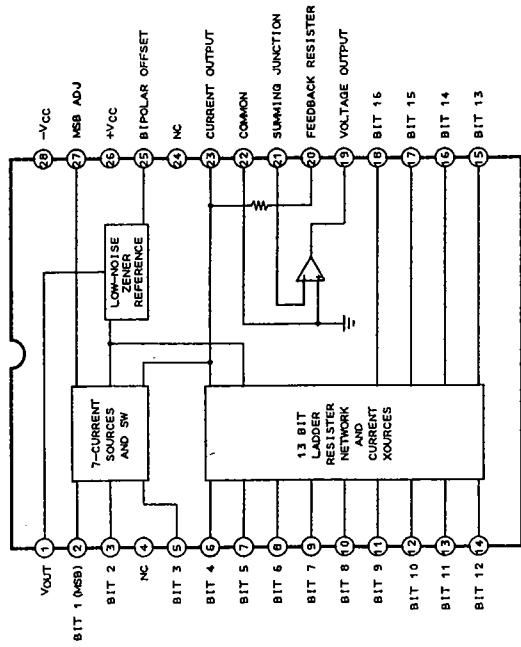
NAME OF IC	FUNCTION	NAME OF IC	FUNCTION
AD7523JN	Digital Control Attenuator	SED9420CAC	VFO type FDD Data Separator
CD74HC4051	Single 8-Channel Multiplexer	STR9005	+5V Regulator
CD74HC4053	Tripple 2-Channel Multiplexer	TC74HCOOP	Quad 2-Input NAND Gate
CD74HCT173	3 state Quad D-Flip Flop	TC74HC04P	Hex Inverter
CXK5816PN-15L	2K×8 bit Static RAM	TC74HC08P	Quad 2-Input AND Gate.
F74AC74P	Dual D-Flip Flop with Preset and Clear	TC74HC14P	Hex Inverting Schmitt Trigger
HD74LS32P	Quand 2-Input OR Gate	TC74HC32P	Quad 2-Input OR Gate
HD7406P	Hex Inverter	TC74HC74P	Dual D-Flip Flop with Preset and Clear
HD75188P	Quand Line Driver	TC74HC125P	3-State Quad Buffer
HD75189P	Quand Line Receiver	TC74HC126P	3-State Quad Buffer
I-0055	Time Code Reader	TC74HC138P	3 to 8 Line Decoder/ Demultiplexer
IR9311	High Speed Comparator	TC74HC153P	Dual 4-Input Multiplexer
L4003	Custom Micro-Processor for MPC60	TC74HC155P	Dual 2 to 4 Decoder/ Demultiplexer
LA6339	Quad Comparator	TC74HC161P	4-bit Synchronous Binary Counter with Asynchronous Clear
LC7981	LCD Dot Matrix Graphic Generator	TC74HC174P	Hex D-Flip Flop with Clear
M5218P	Dual Low Noise OP-Amplifier	TC74HC175P	Quand D-Flip Flop with Clear
M5220P	Dual Low Noise Voltage Amplifier	TC74HC259P	3 to 8 Line Decoder
M5230L	Regulator (Variable output, + - teacking type)	TC74HC390	Dual 4-bit Decode Counter
M5238P	Dual J-FET Input OP-Amplifier	TC74HC393P	Dual 4-bit Binary Counter
MB89255-P-G	Parallel Data IN-OUT Interface	TC74HC541P	Octal 3-State Buffer
MB89371P-G	Serial Data Transmitter, Receiver	TC74HCT245P	Octal 3-State Transceiver
MB81C4256-10	256K×4 (1M) bit Dynamic RAM	TC74HCT573P	3-State Octal D-Type Latch
MBL80186-10	High-Integration 16 bit Micro-Processor	TC74HCT574P	Octal D-Flip Flop
MBM27C256-15	256K bit EP-ROM	TC74HC4002P	Dual 4-Input NOR Gate
MBM27C512-20	64K×8 (512K) bit EP-ROM	TC4516BP	Binary U/D counter
MC74F08N	Quad 2-Input AND Gate	TM2764AD-20	64 K bit EP-ROM
MC74F32N	Quad 2-Input OR Gate	μPC814C	High-Speed Dual Low Noise OP-Amplifier
MC74F157N	Quad 2-Input Multiplexer	μPD78C11G-044	8 bit Micro-Processor with A/D Coverter
MC74F158N	Quad 2-Input Multiplexer (Inv. out)	μPD5200C	Dual Analog Switch
NJM78L05A	+5V Regulator	μPD72066C	FDD Controler
NJM79L05A	-5V Regulator		
PCM54HP	16 bit D/A Converter		
PCM77P	16 bit A/D Converter		
PST520D	Reset Pulse Generator		



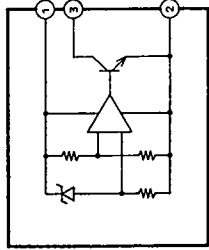
PIN No.	SYMBOL	FUNCTION	
1, 15	GROUND		
14, 28	V _{CC}	+5VDC	
2	ORE	Internal Register Overflow	
3	URE	Internal Register Underflow	
4	SYSCLK	Input for system clock-To 10 MHz	
5	INTR	Active when a new Time Code Word has been stored in the internal buffer.	
6	FWD/REV	Tape Direction Indicator HIGH = FWD LOW = REV	
7	AO	Output Word Select-Selects which word is presented to Data Output 00-07	
8	A1		
	A0		Output Word Selected
	A1		Output Word Selected
9	RD	Output Enable-Data is available at Data Outputs 00-07 when RD is active.	
10	D0	Data Output 0	
11	D2	Data Output 2	
12	D4	Data Output 4	
13	D6	Data Output 6	
16	D7	Data Output 7	
17	D5	Data Output 5	
18	D3	Data Output 3	
19	D1	Data Output 1	
20	SYNC	Outputs a pulse two clock periods wide when the Time Code SYNC word has been read completely.	
21	DATA	Serial NRZ Data Output, Format:NRZ 1	
22	CLOCK	Time Code Clock [clock rate derived from Time Code]	
23	TESTEN	Test Enable-Must be HIGH for normal operation	
24	TC/UB	Time code or User Bits select Input HIGH = Time Code LOW = User Bits	
25	TIMCO	Longitudinal Time Code Input at TTL levels	
26	TEST B	Test Input B-Must be HIGH for normal operation	
27	TEST A	Test Input A-Must be HIGH for normal operation	



PCM54HP



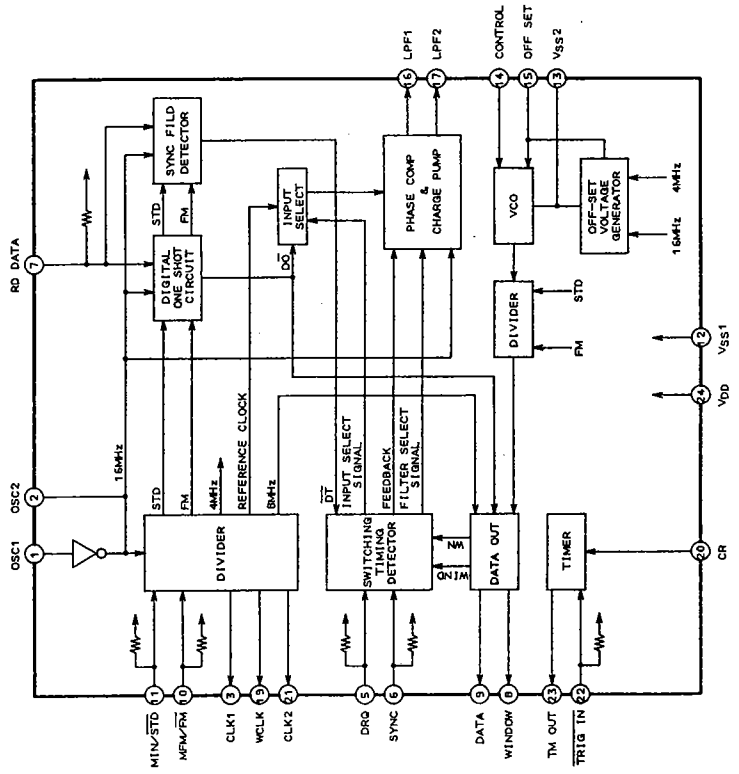
PST520D



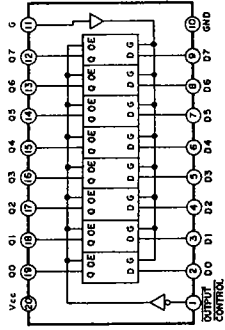
SED9420CAC

PIN No.	SYMBOL	FUNCTION
1	OSC1	OSC IN
2	OSC2	OSC OUT
3	CLK1	FDC CLOCK OUT STD FD: 8MHz MINI FD: 4MHz
4	TEST 2	NC OR PULL UP (VDD)
5	DRQ	DATA REQUEST IN
6	SYNC	SYNC REQUEST IN
7	RD DATA	FDD. READ DATA IN
8	WINDOW	DATA WINDOW OUT
9	DATA	
10	MFM/FM	MFM/FM SELECT
11	MIN/STD	FD SELECT 5 INCH; High 8 INCH; Low
12	Vss1	DIGITAL GND
13	Vss2	ANALOG GND (VCO GND)
14	CONTROL	VCO CONTROL
15	OFFSET	VCO OFFSET
16	LPF1	PLL LOOP FILTER CONNECTOR
17	LPF2	PLL LOOP FILTER CONNECTOR
18	TEST	TEST NC
19	WCLK	FDC SAVE CLOCK ● 8 INCH/MFM; T = 1 μs ● 8 INCH/FM; T = 2 μs ● 5 INCH/MFM; T = 2 μs ● 5 INCH/FM; T = 4 μs
20	CR	
21	CLK2	FDC CLOCK OUT ● 8 INCH; 2 MHz ● 5 INCH; 1 MHz
22	TRIG IN	TIMER TRIGGER IN
23	TM OUT	(For HEAD LOAD, MOTORSTOP ETC.)
24	VDD	+5V

SED9420CAC

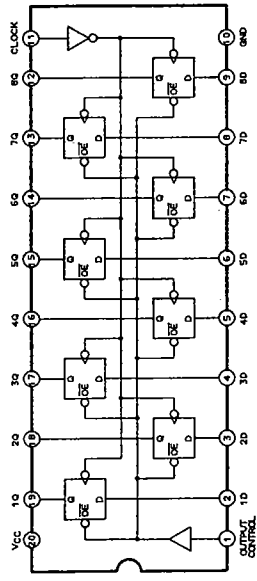


TC74HCT573P

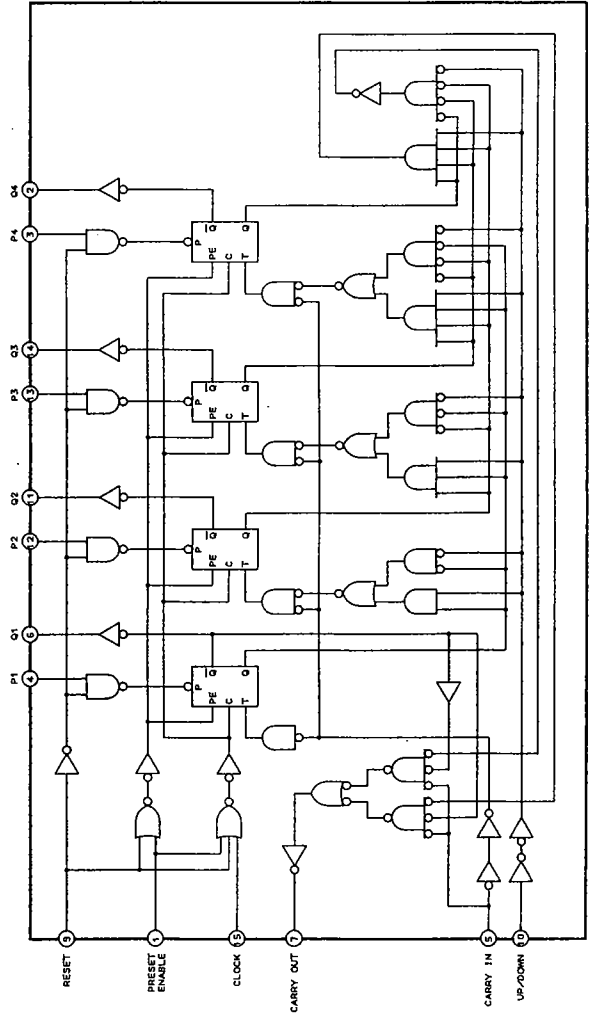


OUTPUT CONTROL	CLOCK	DATA	OUTPUT
L	L	H	H
L	L	L	L
L	L	X	X
H	X	X	Z

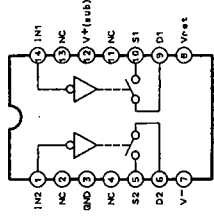
TC74HCT574P



TC4516BP

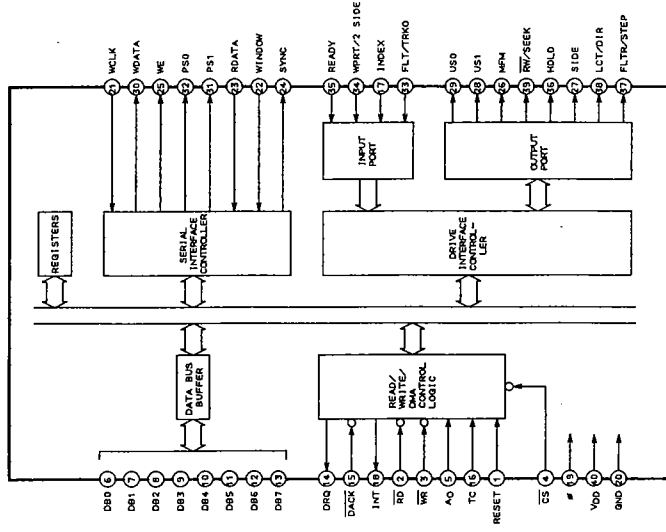


μPD5200C



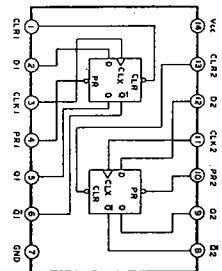
INPUT	SWITCH
* L *	ON
* H *	OFF

μPD72066C

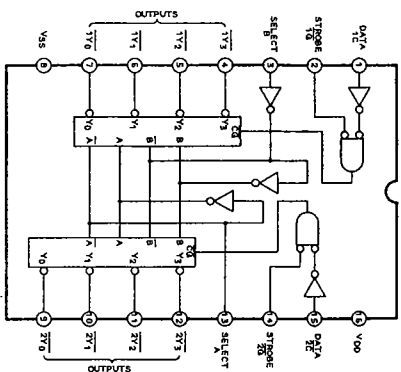


CARRY IN	UP/DOWN	PRESET ENABLE	RESET	ACTION
1	X	0	0	NO COUNT UP
0	1	0	0	COUNT UP
0	0	0	0	COUNT DOWN
X	X	1	0	PRESET
X	X	X	1	RESET

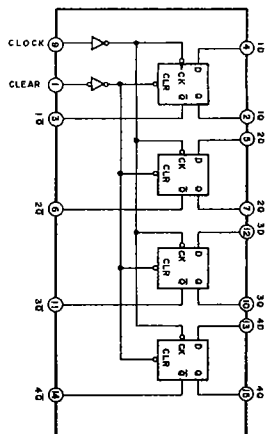
X=DON'T CARE



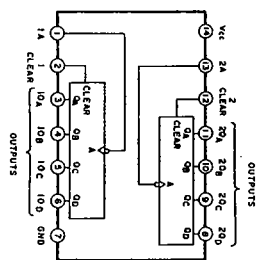
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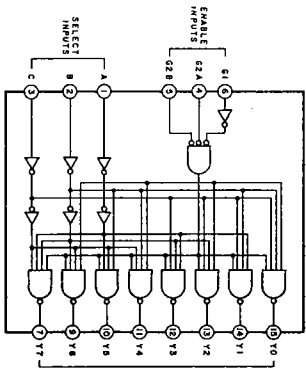
TC74HC155P



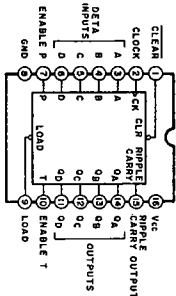
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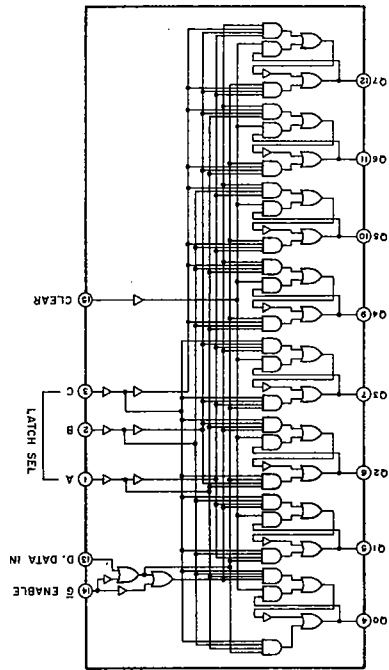
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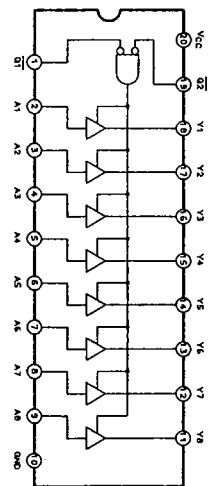
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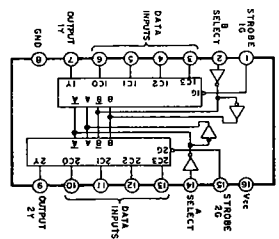
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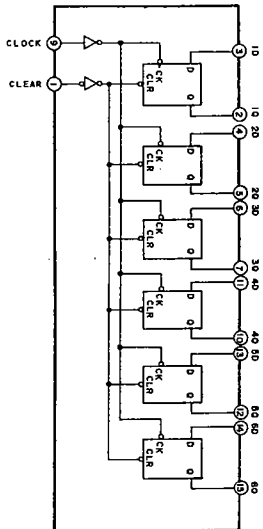
TC74HC259P



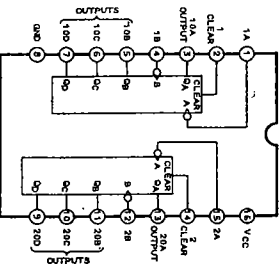
TC74HC541P



TC74HC153P

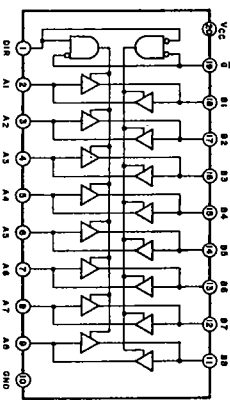


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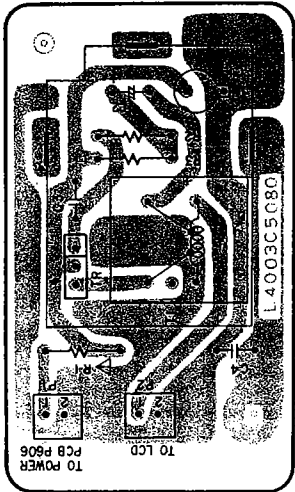


TC74HC390P

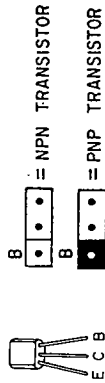
INPUTS	FUNCTION
1	CLOCK
X	INHIBIT
	CLEAR



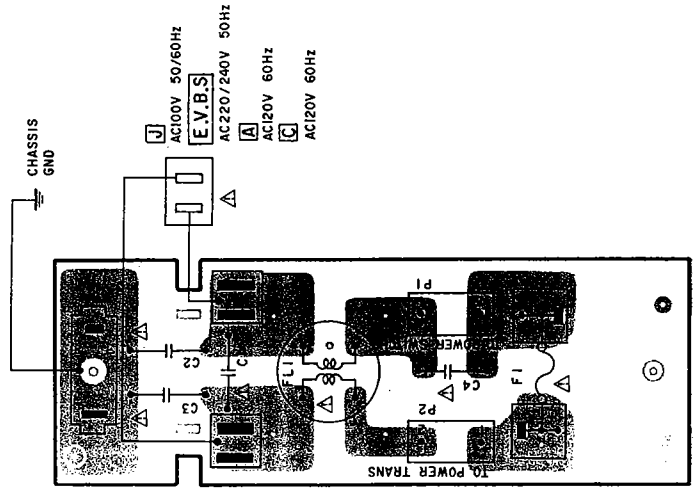
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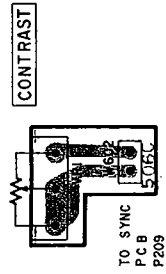
EL INVERTER PCB L4003C5080



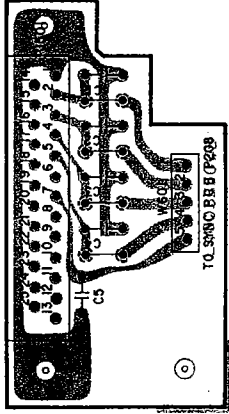
2SC2774



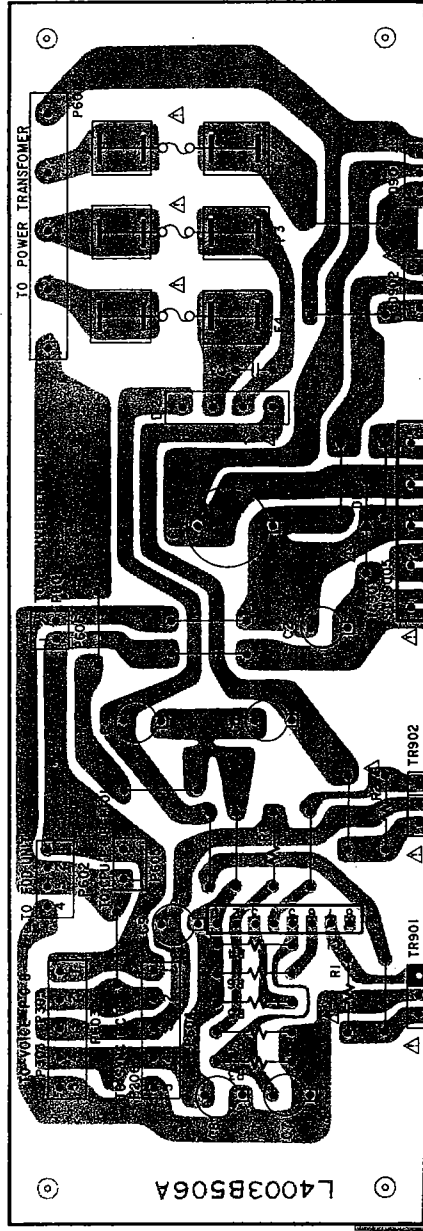
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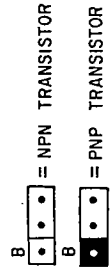
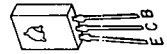
VR (B) PCB L4003B506C



D SUB PCB L4003B506B

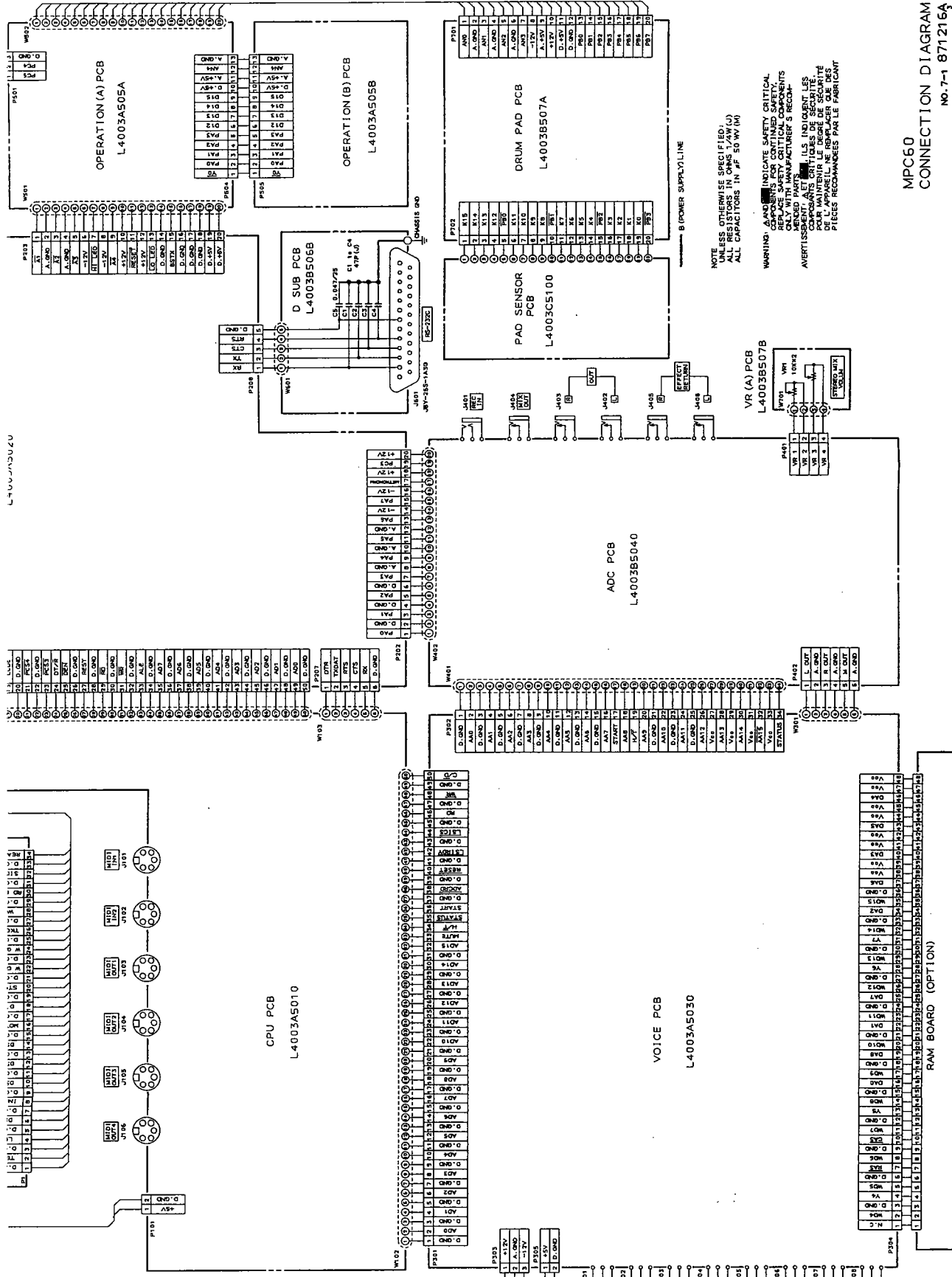


POWER PCB L4003B506A



WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
 AVERTISSEMENT: Δ ILL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

2SB891
2SD1189



L4003A505A

L4003A5010

L4003A5030

L4003B507A

L4003C5100

L4003B5040

L4003A505A

L4003A505B

L4003B507A

L4003C5100

L4003B5040

L4003A505A

L4003A505B

L4003B507A

L4003A505A

L4003A505B

L4003B507A

L4003C5100

L4003B5040

L4003A505A

L4003A505B

L4003B507A

L4003A505A

L4003A505B

L4003B507A

L4003C5100

L4003B5040

L4003A505A

L4003A505B

L4003B507A

L4003A505A

L4003A505B

L4003B507A

L4003C5100

L4003B5040

L4003A505A

L4003A505B

L4003B507A

L4003A505A

L4003A505B

L4003B507A

L4003C5100

L4003B5040

L4003A505A

L4003A505B

L4003B507A

L4003A505A

L4003A505B

L4003B507A

NOTE: UNLESS OTHERWISE SPECIFIED, ALL RESISTORS IN OHMS (1/4W/1/2) ALL CAPACITORS IN #F 50V(1M)

WARNING: **▲** INDICATE SAFETY CRITICAL COMPONENTS. ONLY WITH MANUFACTURER'S RECOMMENDATIONS. **▲** ILLS INDICENT LES COMPOSANTS CRITIQUES DE SECURITE. DE L'APPAREIL NE REMPLACER QUE DES PIECES RECOMMENDEES PAR LE FABRICANT.

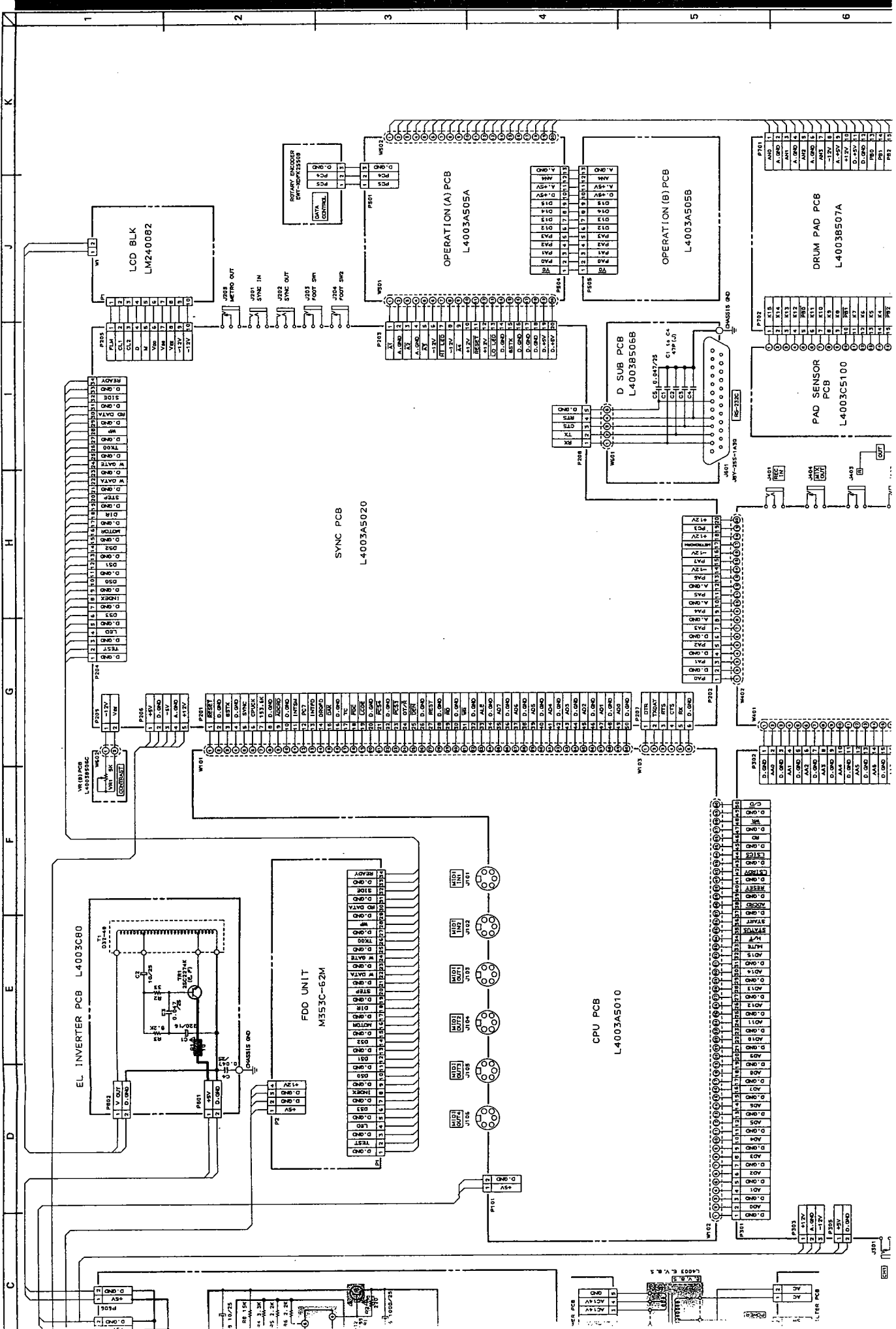
MPC60 CONNECTION DIAGRAM NO. 7-1 871216A

C D E F G H I J K

RAM BOARD (OPTION)

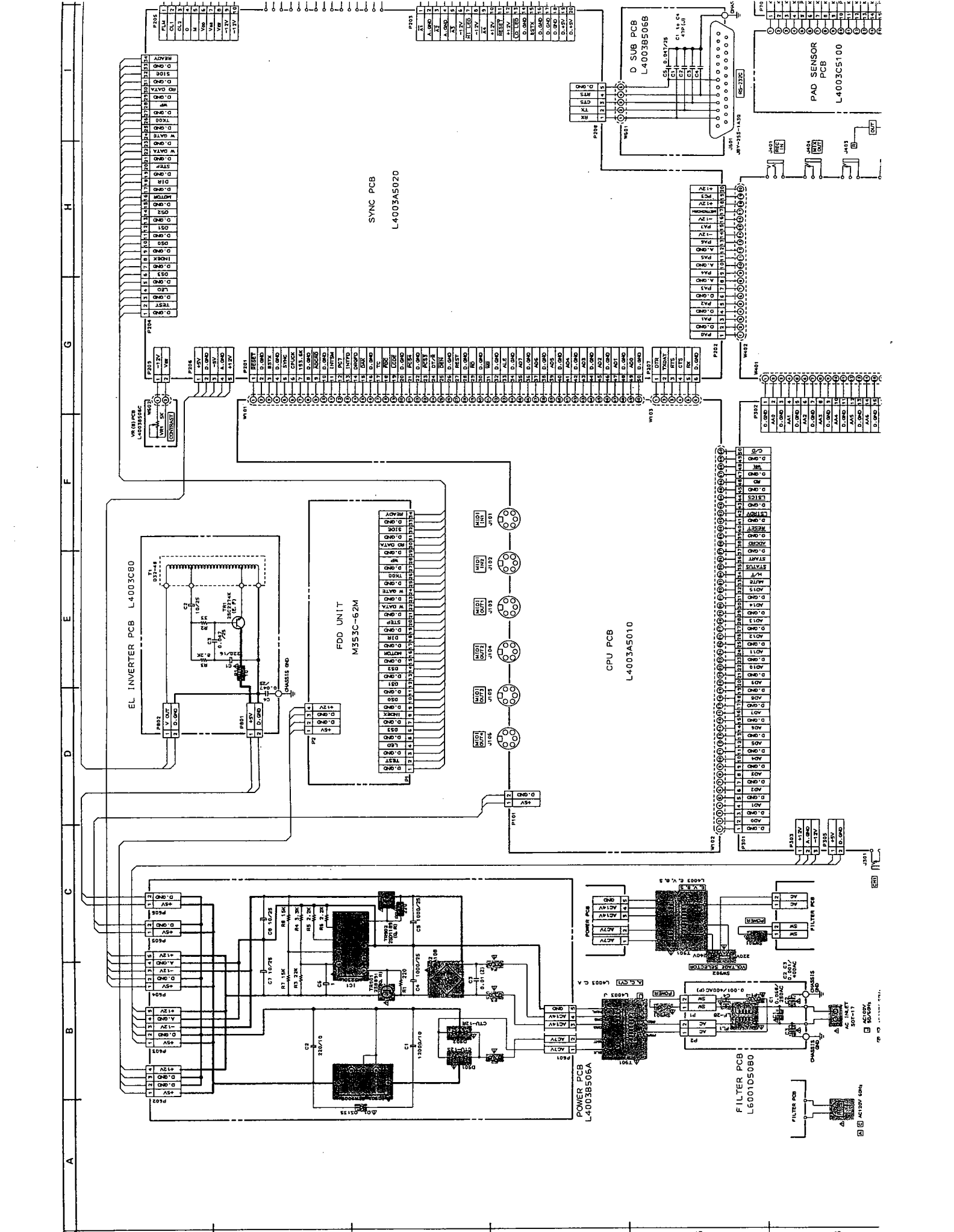
POWER PCB FILTER PCB

5 20V 25V 250V 250V



1 2 3 4 5 6
K
J
I
H
G
F
E
D
C

REV. 1
DATE: 10/75
BY: [Signature]



SYNC PCB
L4003A5020

CPU PCB
L4003A5010

EL INVERTER PCB
L4003C80

FDD UNIT
M353C-G2M

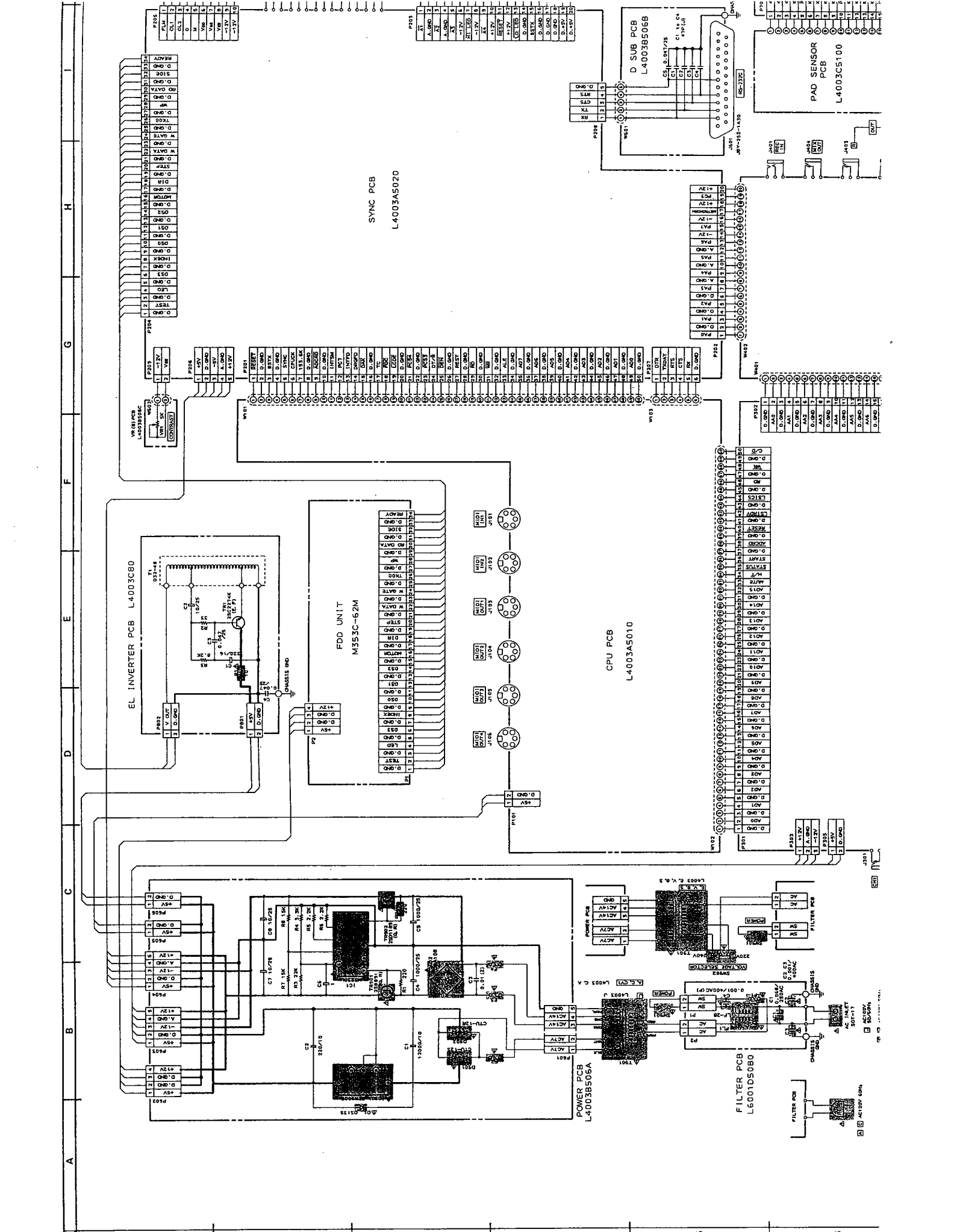
POWER PCB
L4003B505A

FILTER PCB
L6001D5080

FILTER PCB
L6001D5080

PAD SENSOR PCB
L4003C5100

D SUB PCB
L4003B5068



11. POWER P.C BOARD

Ref. No.	Part No.	Description
D1	*ED-361055	D SILICON DS135E-UB1
D2	*ED-330319	D SILICON DBA10B 100/1.0A
D901	*ED-365818	D SILICON CTU-12S 200/ 6.0A
D902	*ED-365819	D SILICON CTU-12R 200/ 6.0A
IC1	*EI-348123	IC M5230L
IC901	*EI-365820	IC STR9005
R1	*ER-324185	R CB H S10 FS RDS 1/4W 221J
R2	*ER-324185	R CB H S10 FS RDS 1/4W 221J
TR901	*ET-356817	TR 2SB891 Q,R
TR902	*ET-354083	TR 2SD1189 Q,R
F2	*EF-326639	FUSE TSC A 250V 3.15A [J]
F3	*EF-309388	FUSE TSC A 250V 800MA [J]
F4	*EF-309388	FUSE TSC A 250V 800MA [J]
F2A	*EF-323080	FUSE TSC 125V 3.15A [C,A]
F3A	*EF-310229	FUSE TSC 125V 1.00A [C,A]
F4A	*EF-310229	FUSE TSC 125V 1.00A [C,A]
F2B	*EF-623125	FUSE SEMKO T [E,V,S]
F3B	*EF-593706	FUSE SEMKO T 250V 500MA [E,V,S]
F4B	*EF-593706	FUSE SEMKO T 250V 500MA [E,V,S]
F2C	*EF-364518	FUSE BET T 250V 2.50A [B]
F3C	*EF-355374	FUSE BET T 250V 500MA [B]
F4C	*EF-355374	FUSE BET T 250V 500MA [B]

12. D SUB P.C BOARD

Ref. No.	Part No.	Description
J601	EJ-379612	PLUG JBY-25S-1A3G ***

13. VR (B) P.C BOARD

Ref. No.	Part No.	Description
VR1	EV-379613	VR ROTARY EVHCCAP20B53 B502

14. FILTER P.C BOARD

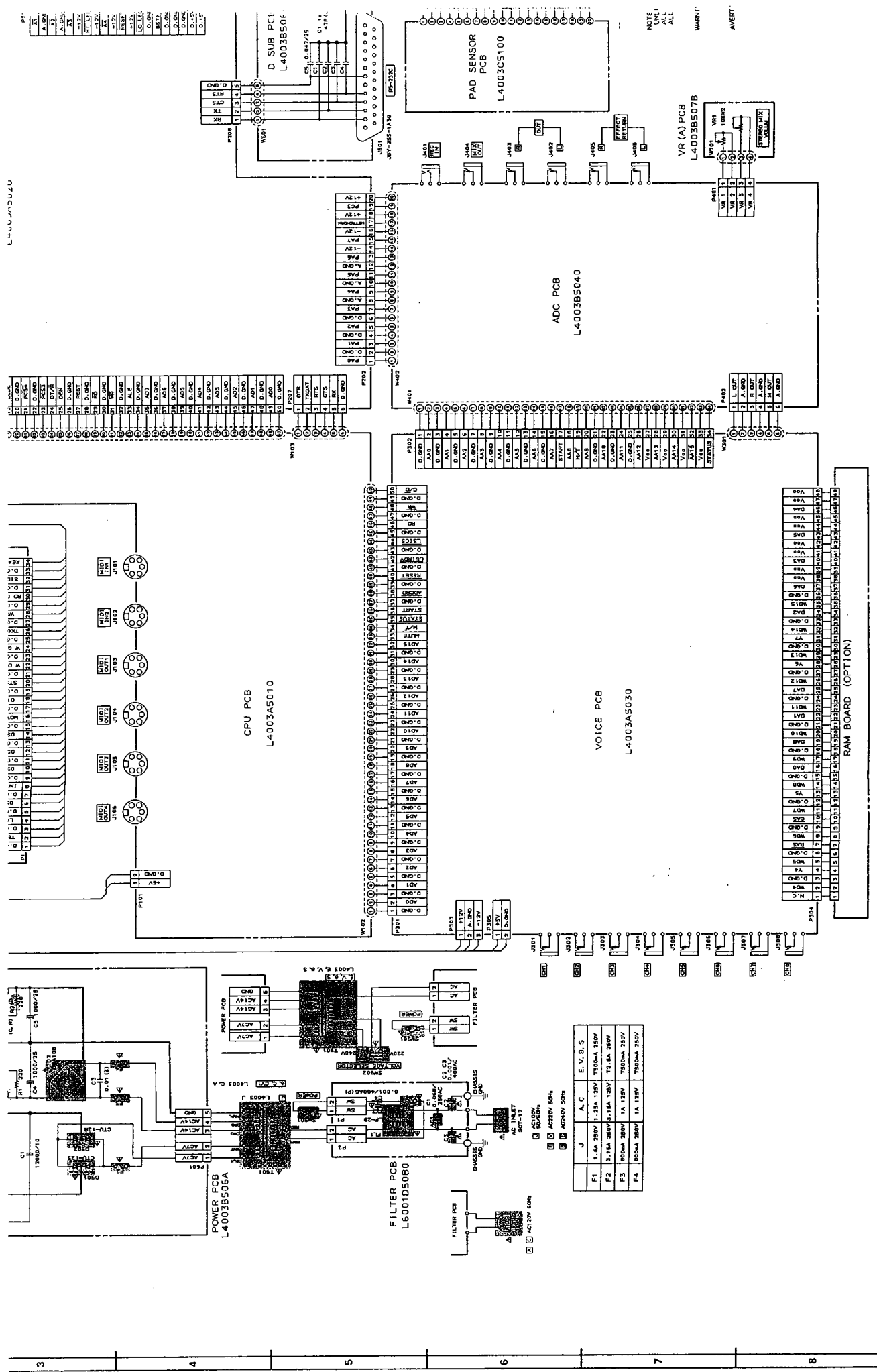
Ref. No.	Part No.	Description
C1	*EC-369670	C MMY V XE 683M 250AC
C2	*EC-358450	C CE V DNS102MBE B 102M 400AC
C3	*EC-358450	C CE V DNS102MBE B 102M 400AC
C4	*EC-338411	C CE V FZ 103P 400AC
FL1	*EO-360068	COIL LF LF-2 B
F1	*EF-311839	FUSE TSC A 250V 1.60A [J]
F1A	*EF-309392	FUSE TSC 125V 1.25A [C,A]
F1B	*EF-593706	FUSE SEMKO T 250V 500MA [E,V,S]
F1C	*EF-355374	FUSE BET T 250V 500MA [B]

15. EL INVERTER P.C BOARD

Ref. No.	Part No.	Description
R1	ER-322787	R CB H S10 FS RDS 1/4W 100J
TR1	ET-308977	TR 2SC2274K F F05
T1	BT-379599	TRANS PULSE D32-48

16. FINAL ASSEMBLY BLOCK

Ref. No.	Part No.	Description
1	BD-381924J	PANEL FRONT COMP PART
2	MB-330911	CUSHION RUBBER
3	SD-378251	PANEL LEATHER PART
4	ZS-379293	WS RND31X100STL CMT
5	SK-378252A	KNOB PUSH(A)
6	SK-378252B	KNOB PUSH(B)
7	SK-378253A	KNOB OPERATE(A)
8	SK-378253B	KNOB OPERATE(B)
9	SK-378253C	KNOB OPERATE(C)
10	SK-378253D	KNOB OPERATE(D)
11	ES-365943	SW EWT-XDFK2550B
12	SE-362389A-A	MASK VOLUME(A)
13	ZW-321317	PW2 1X040X050PSL
14	ZS-362266	PAN20X02STL BNI
15	SE-376331	PAD
16	BA-379695	PC PAD SENSOR
17	SP-380192J	PANEL LCD(A) PART
18	EM-378267	IND LCD 240082
19	SP-380172J	PANEL LCD(B)
20	ZS-353268	BID30X10STL NI3
21	ZS-421806	PAN30X08STL CMT
22	ML-380175J	ARM LOCK
23	ZG-380174J	SP PULL ARM LOCK
24	ZW-270101	RING E 300SUP CMT
25	EJ-378269	PLUG B10P-ER 10P
26	SA-332850	FOOT ROUND
27	ZS-360715	ST PAN30X08STL CMT C080
28	*BT-378271	TRANS POW L4003 J [J] [T901]
28A	*BT-378272	TRANS POW L4003 C,A [A,C,Y1] [T901]
28B	*BT-378273	TRANS POW L4003 E,V,B,S [E,V,B,S] [T901]
29	ZS-369535	ST BR30X10STL NI3
30	ZW-516993	N30STL CMT 1
31	BB-375768	FROPPY DISK MF353C-62M
32	*EJ-358633	SOCKET INLET SOT-17 2P [J,E,V,B,S,Y1]
33	ZS-311746	T2CTS30X08STL BNI
34	*EZ-302906	STRAIN RELIEF SR-6N-4 [C,A,Y1]
35	*ES-306430	SW SLIDE J-S4013#01 01-2
36	ZS-360952	PT BR30X08STL NI3
37	*ES-364478	SW SEESAW SDDT SPST TYPEA T8.5
38	ZS-338591	BID30X08STL NI3
39	*EW-365947	AC CORD 250 SKP210KS17B A [J]
39A	*EW-357931	AC CORD 3 CORES VM0033A SJT18A [C,Y1]
39B	*EW-366055	AC CORD 250 KP11WSJT18 UC [A]
39C	*EW-359641	AC CORD 2C KP-419C/KS-17 EV [E,V]
39D	*EW-358631	AC CORD 2C KS-17 LTBS2F BS [B]
39E	*EW-358630	AC CORD 2C KP560 LTSA2F KS17 S [S]
40	SP-369956	PANEL SIDE
41	SE-370057	MASK SIDE
42	ZS-321783	ST BID40X10STL NI3
43	ZS-345107	ST BR30X08STL NI3
44	SK-380638J	KNOB(A-6)
45	SK-380281J	KNOB(A-2)
46	SK-380293J	KNOB(A-3)
47	SK-364219B	KNOB SLIDE(B)
48	EW-379635	WIRE ASSY MPC60 W901 34P
49	EW-379636	WIRE ASSY MPC60 W902 10P



PT:

1	A. 20V
2	Z.
3	A. 50V
4	A. 10V
5	A. 10V
6	A. 10V
7	A. 10V
8	A. 10V
9	A. 10V
10	A. 10V
11	A. 10V
12	A. 10V
13	A. 10V
14	A. 10V
15	A. 10V
16	A. 10V
17	A. 10V
18	A. 10V
19	A. 10V
20	A. 10V
21	A. 10V
22	A. 10V
23	A. 10V
24	A. 10V
25	A. 10V
26	A. 10V
27	A. 10V
28	A. 10V
29	A. 10V
30	A. 10V
31	A. 10V
32	A. 10V
33	A. 10V
34	A. 10V
35	A. 10V
36	A. 10V
37	A. 10V
38	A. 10V
39	A. 10V
40	A. 10V
41	A. 10V
42	A. 10V
43	A. 10V
44	A. 10V
45	A. 10V
46	A. 10V
47	A. 10V
48	A. 10V
49	A. 10V
50	A. 10V

J	A.C.	E.V.B.S
F1	1.6A 250V	1.25A 125V T560MA 250V
F2	3.15A 250V	3.15A 125V T7.5A 250V
F3	500MA 250V	1A 125V T560MA 250V
F4	500MA 250V	1A 125V T560MA 250V

L4003A5030

A B C D E F G H I

3

4

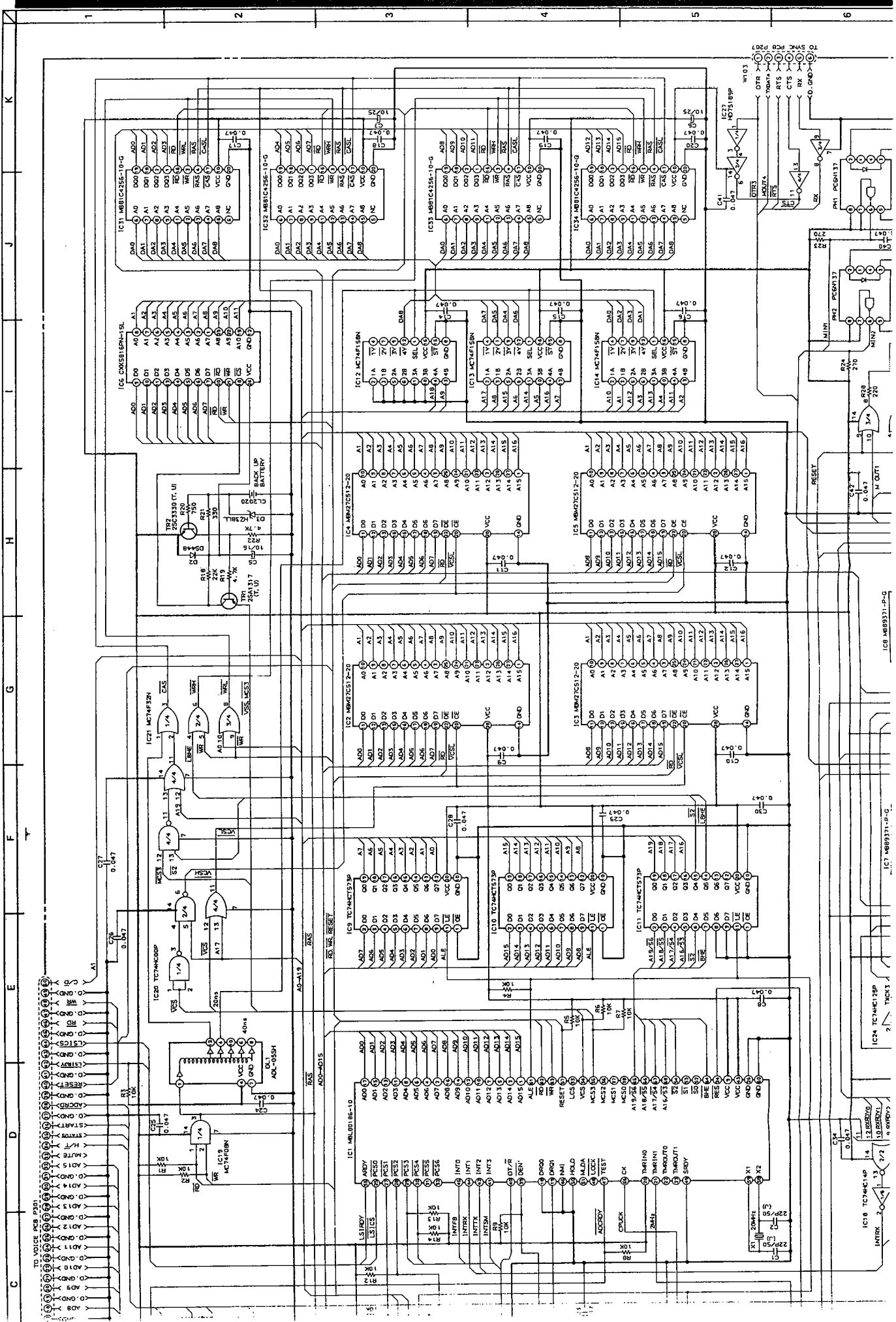
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6

7

8

NOTE:
UNL: ALL
WARN: I
AVERT:



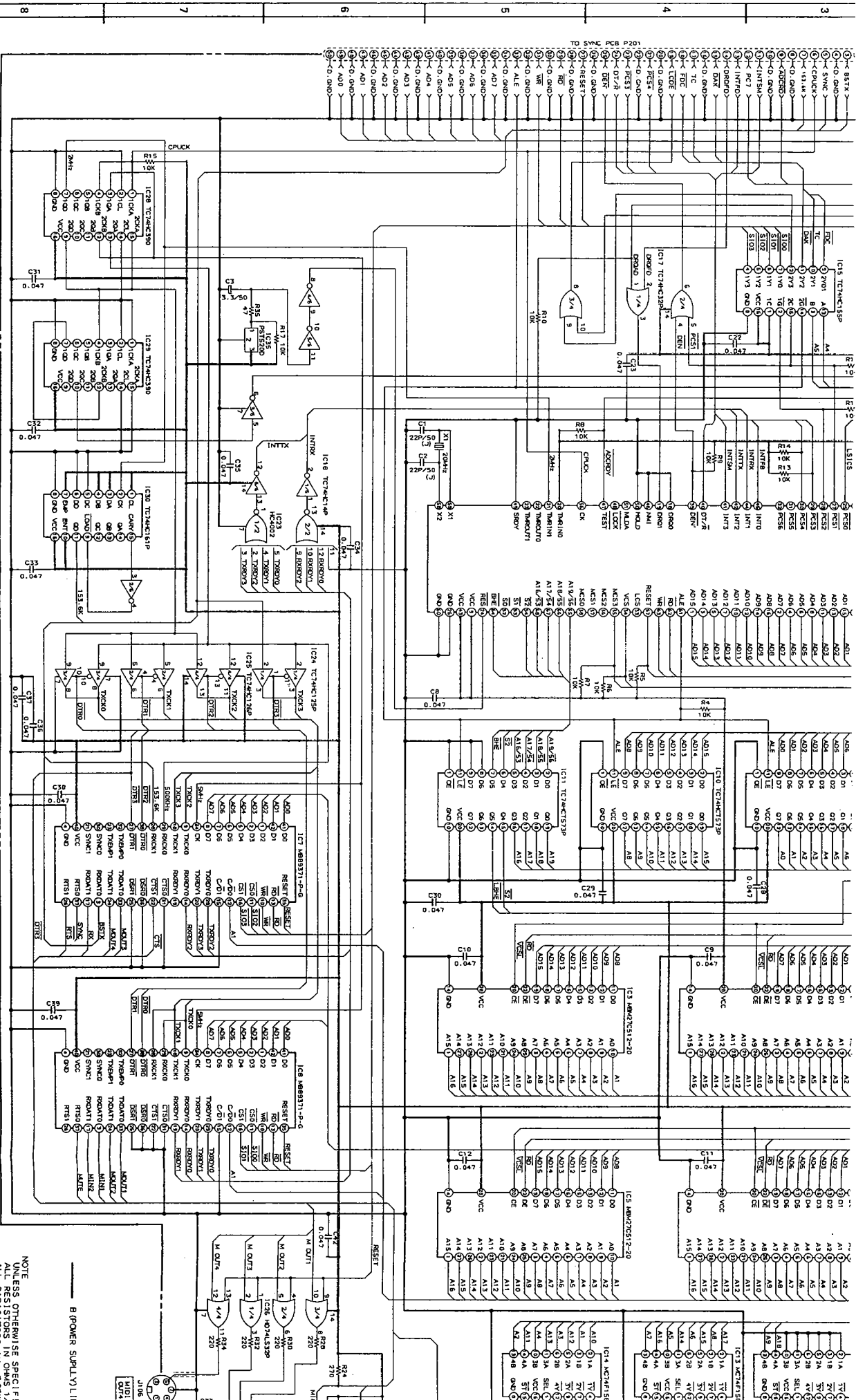
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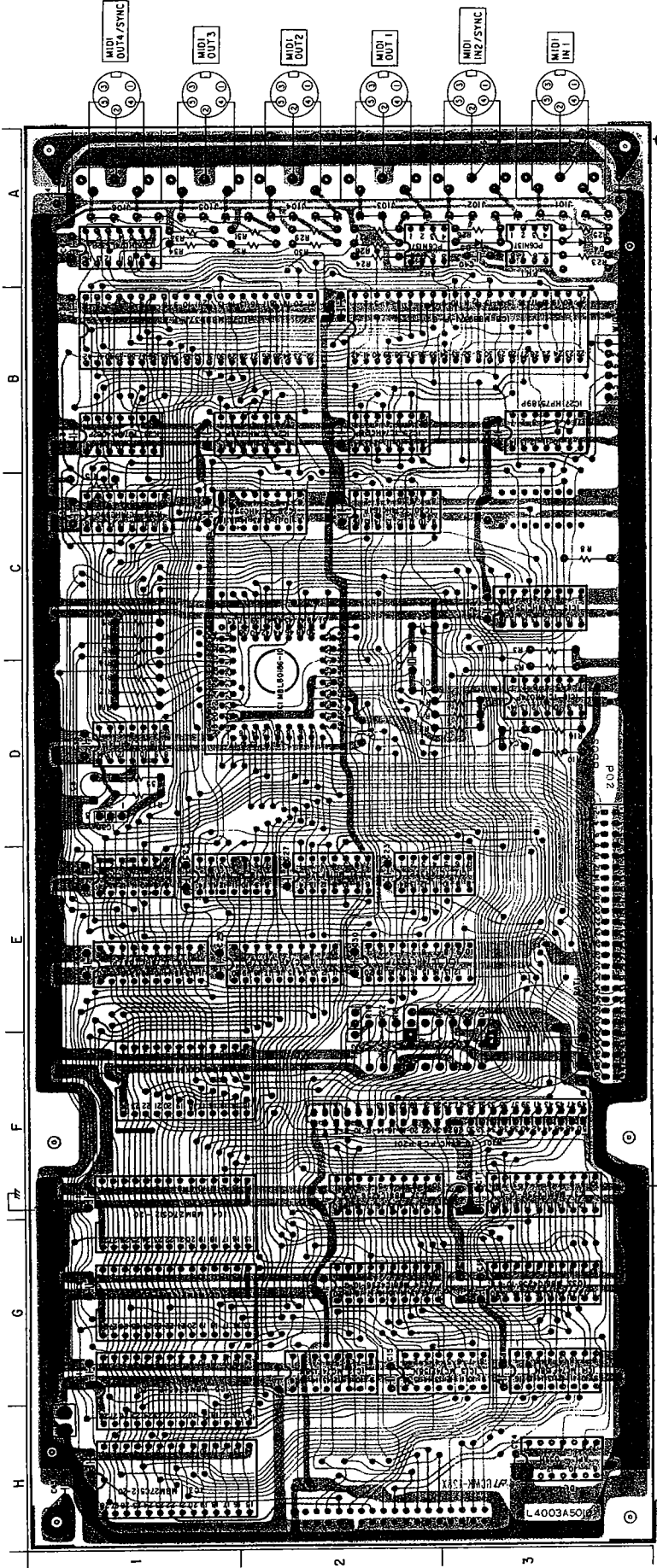
TO VOICE PCB 8001

51

IC1 MEL90185-10
IC2 M68125E-10-G
IC3 M68125E-10-G
IC4 M68125E-10-G
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IC100 M6827512-20

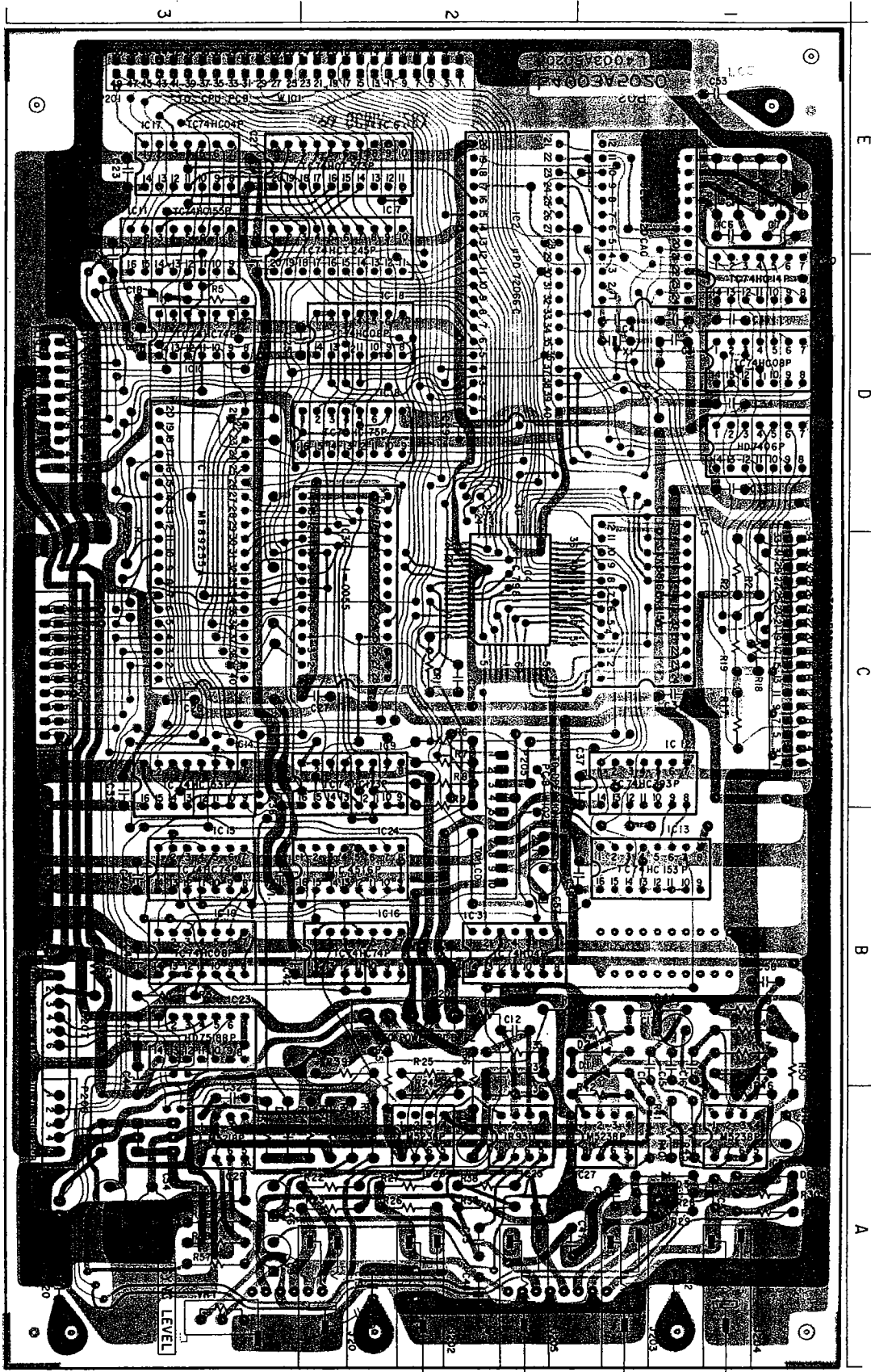
CPU PCB L4003A5010



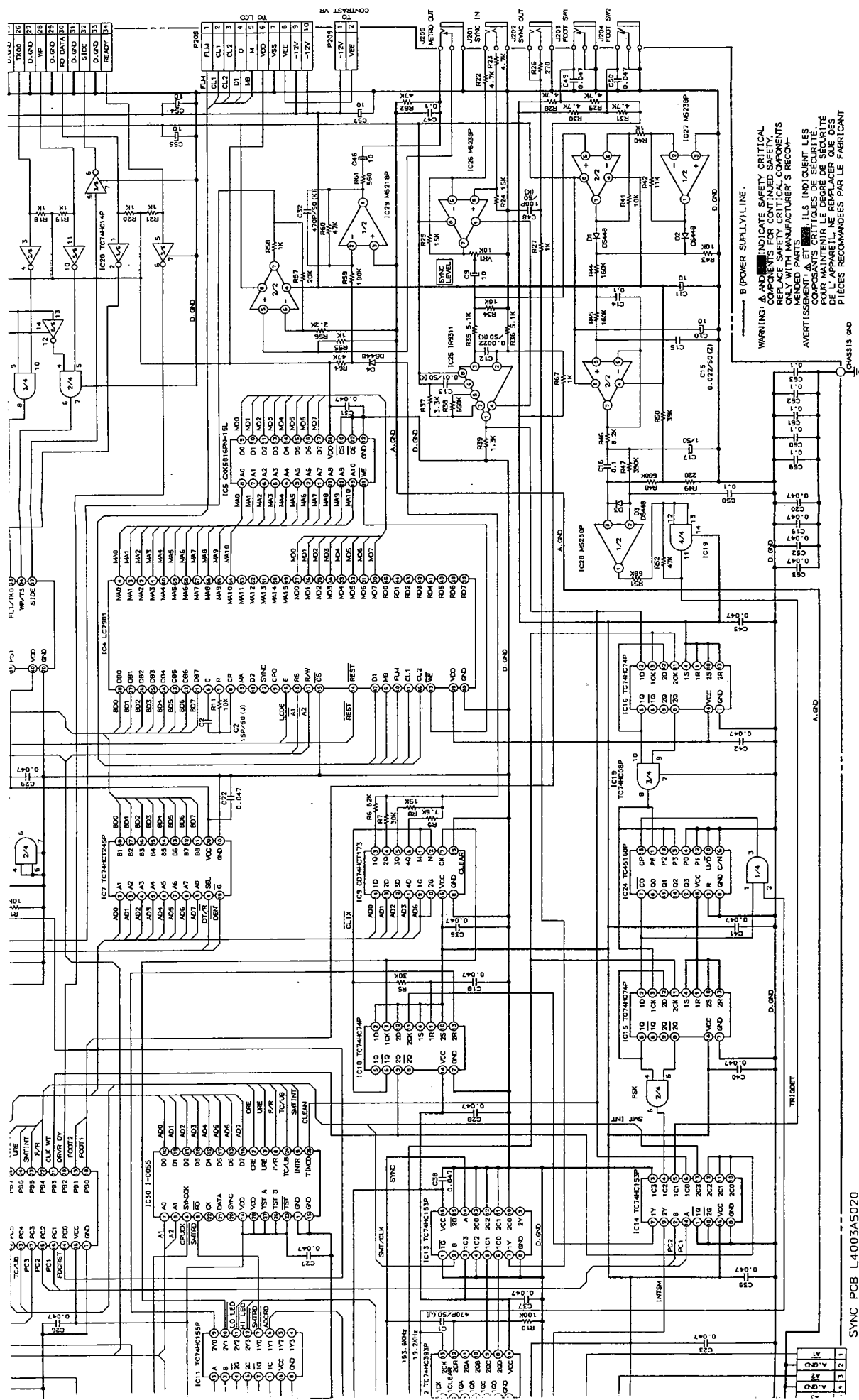


CPU PCB L4003A5010

IC1	IC2	IC3	IC4	IC5	IC6	IC7	IC8	IC9	IC10	IC11	IC12	IC13	IC14	IC15	IC16	IC17	IC18	IC19	IC20	IC21	IC22	IC23	IC24	IC25	IC26	IC27	IC28	IC29	IC30	IC31	IC32	IC33	IC34	IC35	IC36	IC37	IC38	IC39	IC40	IC41	IC42	IC43	IC44	IC45	IC46	IC47	IC48	IC49	IC50	IC51	IC52	IC53	IC54	IC55	IC56	IC57	IC58	IC59	IC60	IC61	IC62	IC63	IC64	IC65	IC66	IC67	IC68	IC69	IC70	IC71	IC72	IC73	IC74	IC75	IC76	IC77	IC78	IC79	IC80	IC81	IC82	IC83	IC84	IC85	IC86	IC87	IC88	IC89	IC90	IC91	IC92	IC93	IC94	IC95	IC96	IC97	IC98	IC99	IC100
TRANSISTORS	TR1	TR2	TR3	TR4	TR5	TR6	TR7	TR8	TR9	TR10	TR11	TR12	TR13	TR14	TR15	TR16	TR17	TR18	TR19	TR20	TR21	TR22	TR23	TR24	TR25	TR26	TR27	TR28	TR29	TR30	TR31																																																																				



IC5	C3
IC4	D2
IC3	E1
IC2	F2
IC1	G3
IC10	H4
IC9	I5
IC8	J6
IC7	K7
IC6	L8
IC5	M9
IC4	N10
IC3	O11
IC2	P12
IC1	Q13
IC10	R14
IC9	S15
IC8	T16
IC7	U17
IC6	V18
IC5	W19
IC4	X20
IC3	Y21
IC2	Z22
IC1	AA23
IC10	AB24
IC9	AC25
IC8	AD26
IC7	AE27
IC6	AF28
IC5	AG29
IC4	AH30
IC3	AI31
IC2	AJ32
IC1	AK33
IC10	AL34
IC9	AM35
IC8	AN36
IC7	AO37
IC6	AP38
IC5	AQ39
IC4	AR40
IC3	AS41
IC2	AT42
IC1	AU43
IC10	AV44
IC9	AW45
IC8	AX46
IC7	AY47
IC6	AZ48
IC5	BA49
IC4	BB50
IC3	BC51
IC2	BD52
IC1	BE53
IC10	BF54
IC9	BG55
IC8	BH56
IC7	BI57
IC6	BJ58
IC5	BK59
IC4	BL60
IC3	BM61
IC2	BN62
IC1	BO63
IC10	BP64
IC9	BQ65
IC8	BR66
IC7	BS67
IC6	BT68
IC5	BU69
IC4	BV70
IC3	BW71
IC2	BX72
IC1	BY73
IC10	BZ74
IC9	CA75
IC8	CB76
IC7	CC77
IC6	CD78
IC5	CE79
IC4	CF80
IC3	CG81
IC2	CH82
IC1	CI83
IC10	CJ84
IC9	CK85
IC8	CL86
IC7	CM87
IC6	CN88
IC5	CO89
IC4	CP90
IC3	CQ91
IC2	CR92
IC1	CS93
IC10	CT94
IC9	CU95
IC8	CV96
IC7	CW97
IC6	CX98
IC5	CY99
IC4	CZ00
IC3	DA01
IC2	DB02
IC1	DC03
IC10	DD04
IC9	DE05
IC8	DF06
IC7	DG07
IC6	DH08
IC5	DI09
IC4	DJ10
IC3	DK11
IC2	DL12
IC1	DM13
IC10	DN14
IC9	DO15
IC8	DP16
IC7	DQ17
IC6	DR18
IC5	DS19
IC4	DT20
IC3	DU21
IC2	DV22
IC1	DW23
IC10	DX24
IC9	DY25
IC8	DZ26
IC7	EA27
IC6	EB28
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IC4	ED30
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IC9	EI35
IC8	EJ36
IC7	EK37
IC6	EL38
IC5	EM39
IC4	EN40
IC3	EO41
IC2	EP42
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IC9	ES45
IC8	ET46
IC7	EU47
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IC7	FE57
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IC4	FH60
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IC2	FJ62
IC1	FK63
IC10	FL64
IC9	FM65
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IC6	FP68
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IC4	FR70
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IC2	FT72
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IC6	GT98
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IC4	GV00
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IC10	GZ04
IC9	HA05
IC8	HB06
IC7	HC07
IC6	HD08
IC5	HE09
IC4	HF10
IC3	HG11
IC2	HH12
IC1	HI13
IC10	HJ14
IC9	HK15
IC8	HL16
IC7	HM17
IC6	HN18
IC5	HO19
IC4	HP20
IC3	HQ21
IC2	HR22
IC1	HS23
IC10	HT24
IC9	HU25
IC8	HV26
IC7	HW27
IC6	HX28
IC5	HY29
IC4	HZ30
IC3	IA31
IC2	IB32
IC1	IC33
IC10	ID34
IC9	IE35
IC8	IF36
IC7	IG37
IC6	IH38
IC5	II39
IC4	IJ40
IC3	IK41
IC2	IL42
IC1	IM43
IC10	IN44
IC9	IO45
IC8	IP46
IC7	IQ47
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IC2	JF62
IC1	JG63
IC10	JH64
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IC7	JL67
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IC2	KA82
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IC9	KD85
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IC9	KN95
IC8	KO96
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IC9	LH15
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IC6	LU28
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IC4	LW30
IC3	LX31
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IC9	MB35
IC8	MC36
IC7	MD37
IC6	ME38
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IC4	MG40
IC3	MH41
IC2	MI42
IC1	MJ43
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IC7	NH67
IC6	NI68
IC5	NJ69
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IC2	NM72
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IC8	OB86
IC7	OC87
IC6	OD88
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IC4	OF90
IC3	OG91
IC2	OH92
IC1	OI93
IC10	OJ94
IC9	OK95
IC8	OL96
IC7	OM97
IC6	ON98
IC5	OO99
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IC3	OQ01
IC2	OR02
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IC10	OT04
IC9	OU05
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IC7	OW07
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IC5	OY09
IC4	OZ10
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IC2	PB12
IC1	PC13
IC10	PD14
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IC10	PN24
IC9	PO25
IC8	PP26
IC7	PQ27
IC6	PR28
IC5	PS29
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IC2	PV32
IC1	PW33
IC10	PX34
IC9	PY35
IC8	PZ36
IC7	QA37
IC6	QB38
IC5	QC39
IC4	QD40
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IC2	QF42
IC1	QG43
IC10	QH44
IC9	QI45
IC8	QJ46
IC7	QK47
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IC5	QM49
IC4	QN50
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IC2	QP52
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IC9	QS55
IC8	QT56
IC7	QU57
IC6	QV58
IC5	QW59
IC4	QX60
IC3	QY61
IC2	QZ62
IC1	RA63
IC10	RB64
IC9	RC65
IC8	RD66</



WARNING: Δ AND □ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. RELY ON MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: Δ ET □ ILS INDICENT LES COMPOSANTS CRITIQUES DE SECURITE. SEULEMENT LES PIÉCES RECOMMANDÉES PAR LE FABRICANT.

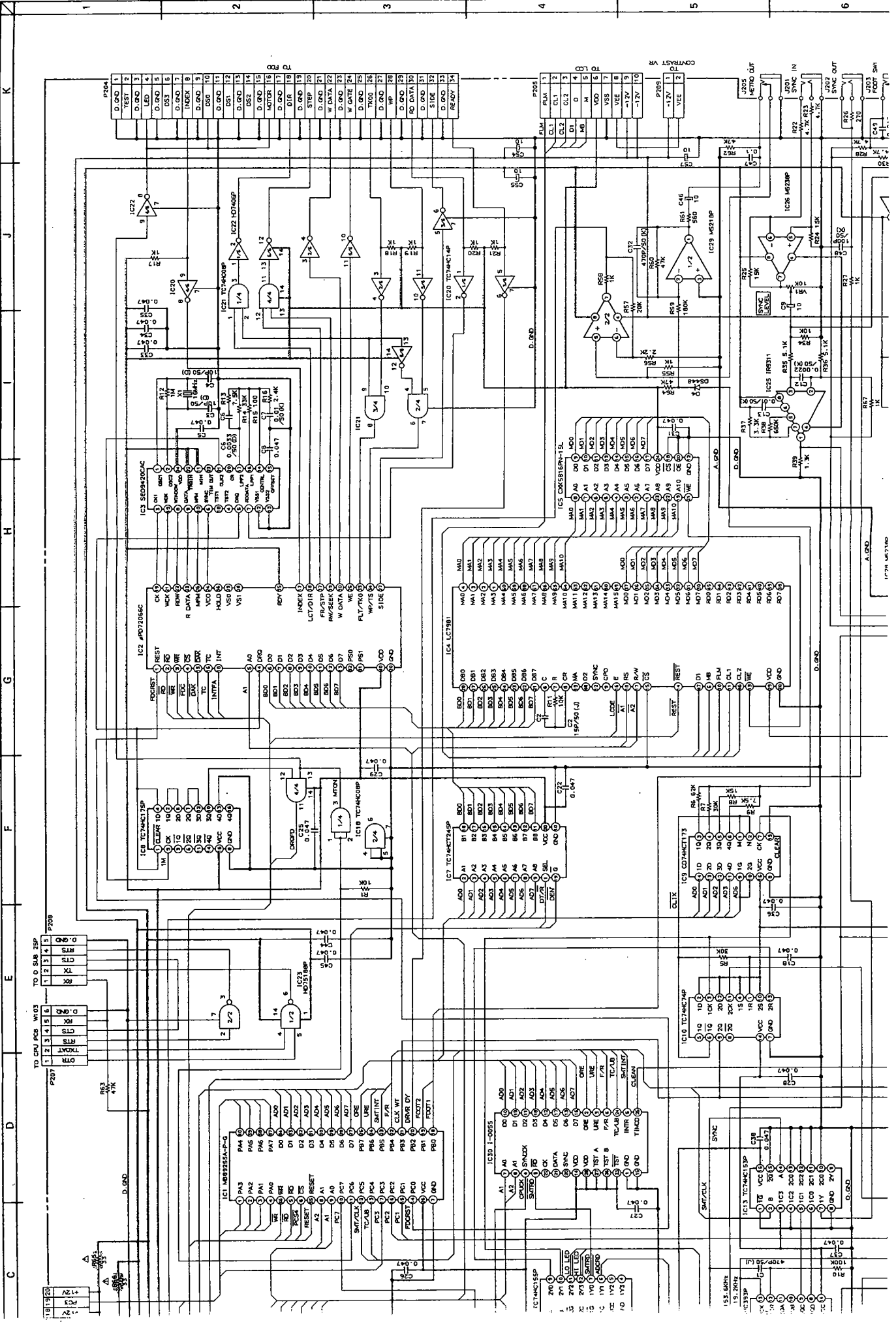
MPC60 SYNC

SCHEMATIC DIAGRAM
NO. 7-3 871218A

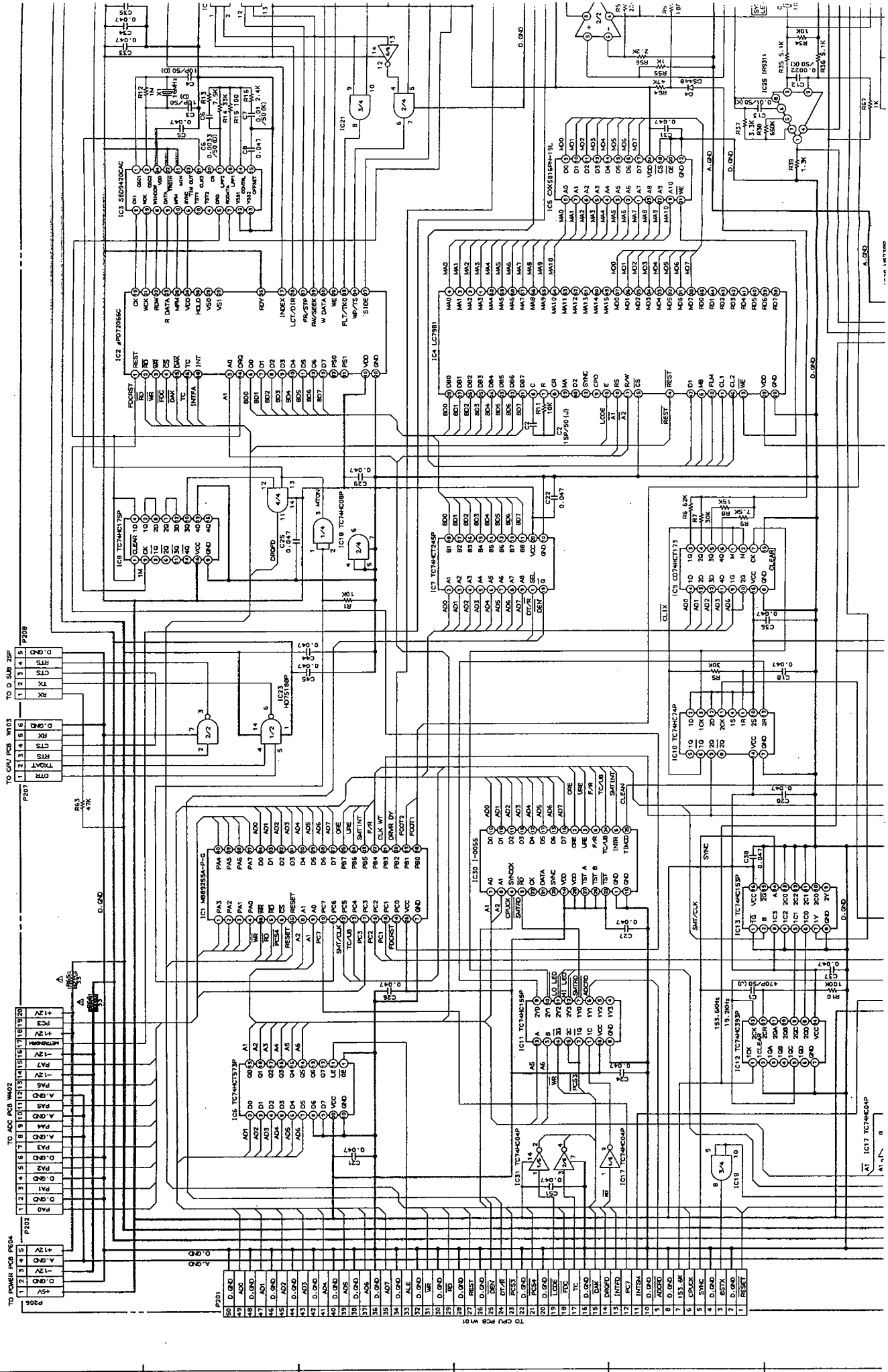
NOTE: UNLESS OTHERWISE SPECIFIED, ALL RESISTORS IN OHMS 1/4W (J) ALL CAPACITORS IN μF 25 WV (M)

SYNC PCB L4003A5020

C D E F G H I J K
3 4 5 6 7 8



ICP4 W4748P



TO POWER PCB P204
 TO ADC PCB W402
 TO CPU PCB W403
 TO SUB 35P

P201
 50 D.000
 49 A00
 48 D.000
 47 A01
 46 D.000
 45 A02
 44 D.000
 43 A03
 42 D.000
 41 A04
 40 D.000
 39 A05
 38 D.000
 37 A06
 36 D.000
 35 A07
 34 D.000
 33 A08
 32 D.000
 31 A09
 30 D.000
 29 A10
 28 D.000
 27 A11
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 25 A12
 24 D.000
 23 A13
 22 D.000
 21 A14
 20 D.000
 19 A15
 18 D.000
 17 A16
 16 D.000
 15 A17
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 13 A18
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 11 A19
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 9 A20
 8 D.000
 7 A21
 6 D.000
 5 A22
 4 D.000
 3 A23
 2 D.000
 1 A24

P202
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 11 4V
 10 4V
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 1 4V

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P204
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 1 4V

P205
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 1 4V

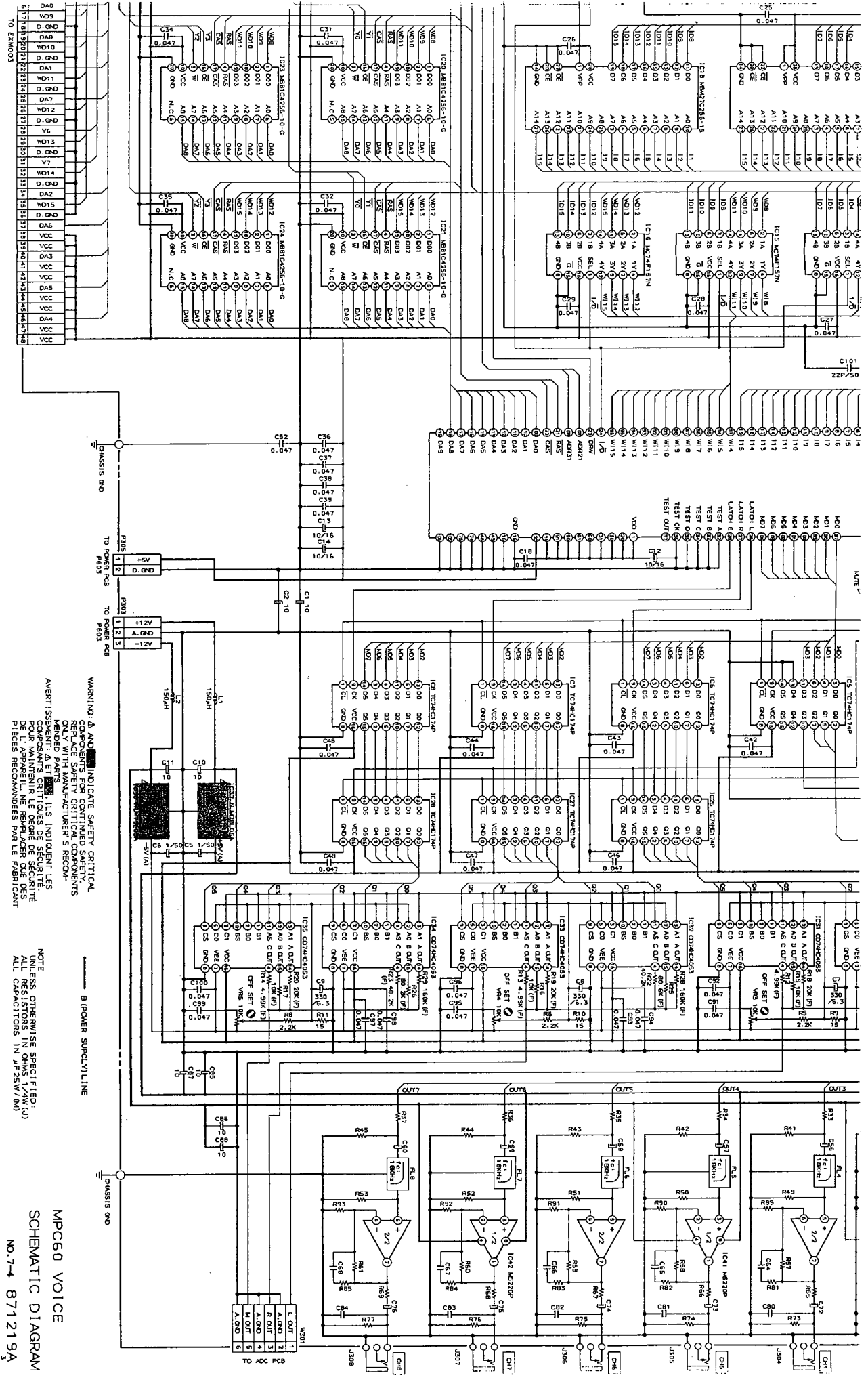
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P207
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P208
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 2 4V
 1 4V

A.000
 A.001
 A.002
 A.003
 A.004
 A.005
 A.006
 A.007
 A.008
 A.009
 A.010
 A.011
 A.012
 A.013
 A.014
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 A.016
 A.017
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 A.027
 A.028
 A.029
 A.030
 A.031
 A.032
 A.033
 A.034
 A.035
 A.036
 A.037
 A.038
 A.039
 A.040
 A.041
 A.042
 A.043
 A.044
 A.045
 A.046
 A.047

D.000
 D.001
 D.002
 D.003
 D.004
 D.005
 D.006
 D.007
 D.008
 D.009
 D.010
 D.011
 D.012
 D.013
 D.014
 D.015
 D.016
 D.017
 D.018
 D.019
 D.020
 D.021
 D.022
 D.023
 D.024
 D.025
 D.026
 D.027
 D.028
 D.029
 D.030
 D.031
 D.032
 D.033
 D.034
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 D.036
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 D.041
 D.042
 D.043
 D.044
 D.045
 D.046
 D.047

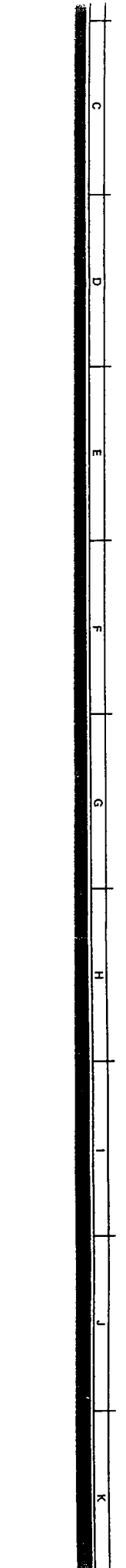


WARNING: A AND B INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

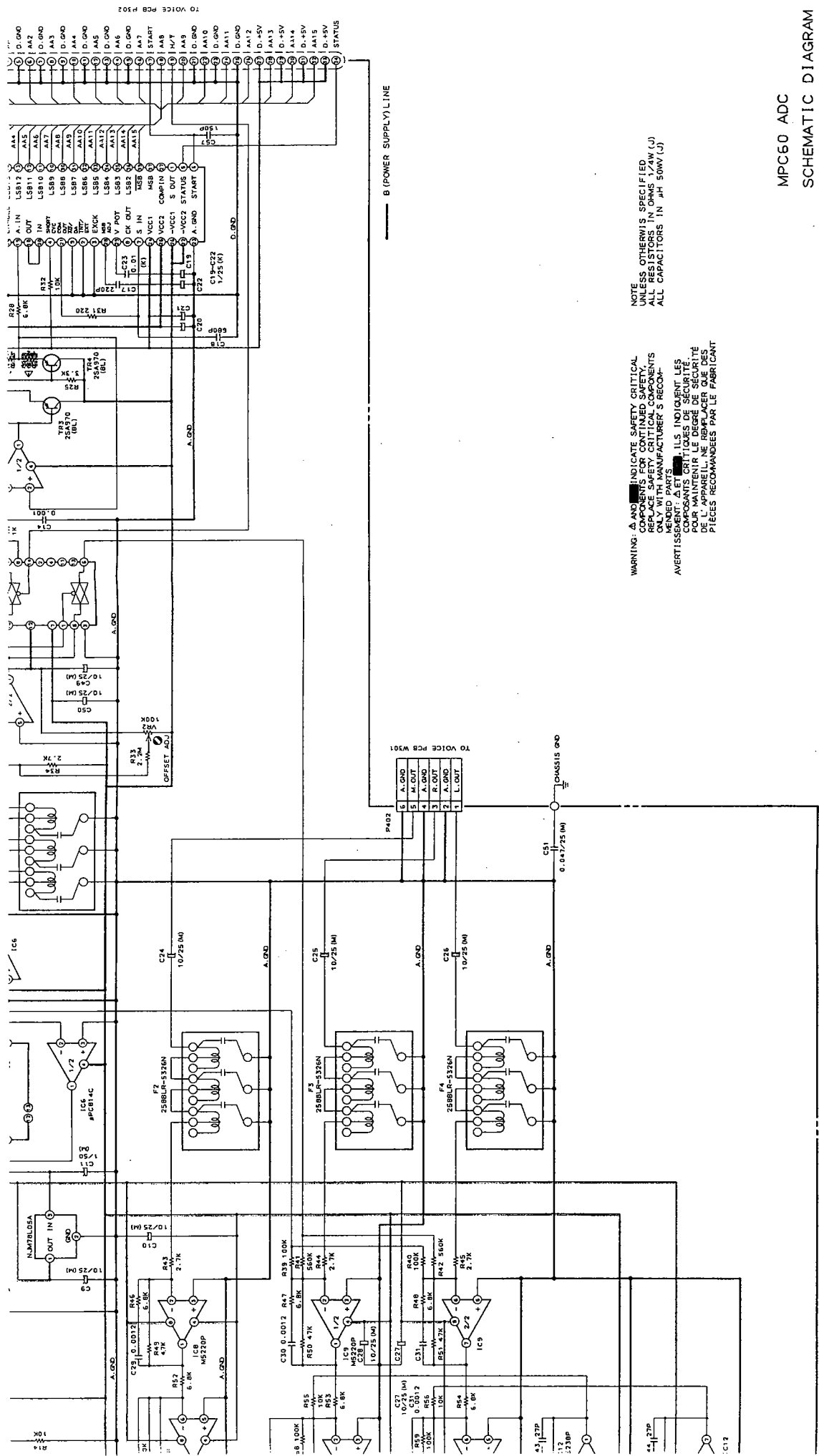
AVERTISSEMENT: A ET B ILS INDICENT LES COMPOSANTS CRITIQUES DE SECURITE DE L'APPAREIL. NE REMPLACEZ QUE DES PIECES RECOMMANDEES PAR LE FABRICANT.

NOTE: UNLESS OTHERWISE SPECIFIED: ALL RESISTORS IN OHMS (1/W) ALL CAPACITORS IN μF(25V/0A)

MPC60 VOICE
SCHEMATIC DIAGRAM
NO.7-4 871219A



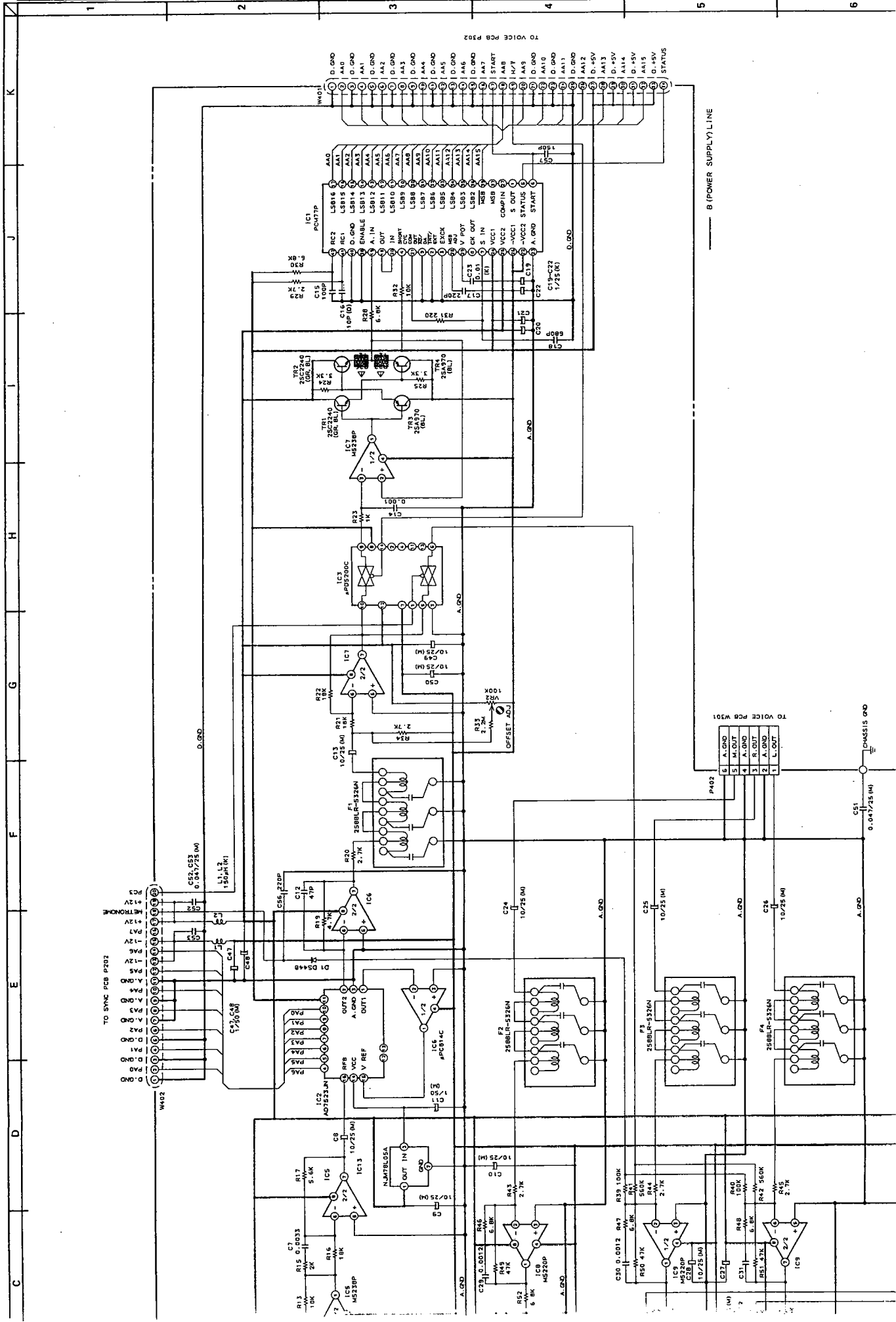
MPC60 ADC
SCHEMATIC DIAGRAM
NO. 7-5 871220A



NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μ H 50WV (J)

WARNING: A AND B INDICATE SAFETY CRITICAL
COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS
ONLY WITH MANUFACTURER'S RECOM-
MENDED PARTS.
AVERTISSEMENT: A ET B INDICQUENT LES
COMPOSANTS CRITIQUES DE SECURITE.
POUR MAINTENIR LE DEGRE DE SECURITE
REPLACEZ SEULEMENT LES COMPOSANTS
PIECES RECOMMANDEES PAR LE FABRICANT

C D E F G H I J K



TO SYNC PCB P202

TO VOICE PCB W301

B (POWER SUPPLY) LINE

TO VOICE PCB P302

C D E F G H I J K

1 2 3 4 5 6

PC31 0.0012

R15 0.0033

R16 10K

R17 5.6K

R18 10K

R19 10K

R20 2.7K

R21 10/25 (M)

R22 10K

R23 1K

R24 10/25 (M)

R25 10/25 (M)

R26 2.7K

R27 10/25 (M)

R28 10/25 (M)

R29 10/25 (M)

R30 10/25 (M)

R31 20K

R32 10/25 (M)

R33 2.7K

R34 10/25 (M)

R35 10/25 (M)

R36 10/25 (M)

R37 10/25 (M)

R38 10/25 (M)

R39 10/25 (M)

R40 10/25 (M)

R41 10/25 (M)

R42 10/25 (M)

R43 10/25 (M)

R44 2.7K

R45 6.8K

R46 6.8K

R47 6.8K

R48 10K

R49 10K

R50 47K

R51 10/25 (M)

R52 10/25 (M)

R53 10/25 (M)

R54 10/25 (M)

R55 10/25 (M)

R56 10/25 (M)

R57 10/25 (M)

R58 10/25 (M)

R59 10/25 (M)

R60 10/25 (M)

R61 10/25 (M)

R62 10/25 (M)

R63 10/25 (M)

R64 10/25 (M)

R65 10/25 (M)

R66 10/25 (M)

R67 10/25 (M)

R68 10/25 (M)

R69 10/25 (M)

R70 10/25 (M)

R71 10/25 (M)

R72 10/25 (M)

R73 10/25 (M)

R74 10/25 (M)

R75 10/25 (M)

R76 10/25 (M)

R77 10/25 (M)

R78 10/25 (M)

R79 10/25 (M)

R80 10/25 (M)

R81 10/25 (M)

R82 10/25 (M)

R83 10/25 (M)

R84 10/25 (M)

R85 10/25 (M)

R86 10/25 (M)

R87 10/25 (M)

R88 10/25 (M)

R89 10/25 (M)

R90 10/25 (M)

R91 10/25 (M)

R92 10/25 (M)

R93 10/25 (M)

R94 10/25 (M)

R95 10/25 (M)

R96 10/25 (M)

R97 10/25 (M)

R98 10/25 (M)

R99 10/25 (M)

R100 10/25 (M)

R101 10/25 (M)

R102 10/25 (M)

R103 10/25 (M)

R104 10/25 (M)

R105 10/25 (M)

R106 10/25 (M)

R107 10/25 (M)

R108 10/25 (M)

R109 10/25 (M)

R110 10/25 (M)

R111 10/25 (M)

R112 10/25 (M)

R113 10/25 (M)

R114 10/25 (M)

R115 10/25 (M)

R116 10/25 (M)

R117 10/25 (M)

R118 10/25 (M)

R119 10/25 (M)

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R138 10/25 (M)

R139 10/25 (M)

R140 10/25 (M)

R141 10/25 (M)

R142 10/25 (M)

R143 10/25 (M)

R144 10/25 (M)

R145 10/25 (M)

R146 10/25 (M)

R147 10/25 (M)

R148 10/25 (M)

R149 10/25 (M)

R150 10/25 (M)

R151 10/25 (M)

R152 10/25 (M)

R153 10/25 (M)

R154 10/25 (M)

R155 10/25 (M)

R156 10/25 (M)

R157 10/25 (M)

R158 10/25 (M)

R159 10/25 (M)

R160 10/25 (M)

R161 10/25 (M)

R162 10/25 (M)

R163 10/25 (M)

R164 10/25 (M)

R165 10/25 (M)

R166 10/25 (M)

R167 10/25 (M)

R168 10/25 (M)

R169 10/25 (M)

R170 10/25 (M)

R171 10/25 (M)

R172 10/25 (M)

R173 10/25 (M)

R174 10/25 (M)

R175 10/25 (M)

R176 10/25 (M)

R177 10/25 (M)

R178 10/25 (M)

R179 10/25 (M)

R180 10/25 (M)

R181 10/25 (M)

R182 10/25 (M)

R183 10/25 (M)

R184 10/25 (M)

R185 10/25 (M)

R186 10/25 (M)

R187 10/25 (M)

R188 10/25 (M)

R189 10/25 (M)

R190 10/25 (M)

R191 10/25 (M)

R192 10/25 (M)

R193 10/25 (M)

R194 10/25 (M)

R195 10/25 (M)

R196 10/25 (M)

R197 10/25 (M)

R198 10/25 (M)

R199 10/25 (M)

R200 10/25 (M)

R201 10/25 (M)

R202 10/25 (M)

R203 10/25 (M)

R204 10/25 (M)

R205 10/25 (M)

R206 10/25 (M)

R207 10/25 (M)

R208 10/25 (M)

R209 10/25 (M)

R210 10/25 (M)

R211 10/25 (M)

R212 10/25 (M)

R213 10/25 (M)

R214 10/25 (M)

R215 10/25 (M)

R216 10/25 (M)

R217 10/25 (M)

R218 10/25 (M)

R219 10/25 (M)

R220 10/25 (M)

R221 10/25 (M)

R222 10/25 (M)

R223 10/25 (M)

R224 10/25 (M)

R225 10/25 (M)

R226 10/25 (M)

R227 10/25 (M)

R228 10/25 (M)

R229 10/25 (M)

R230 10/25 (M)

R231 10/25 (M)

R232 10/25 (M)

R233 10/25 (M)

R234 10/25 (M)

R235 10/25 (M)

R236 10/25 (M)

R237 10/25 (M)

R238 10/25 (M)

R239 10/25 (M)

R240 10/25 (M)

R241 10/25 (M)

R242 10/25 (M)

R243 10/25 (M)

R244 10/25 (M)

R245 10/25 (M)

R246 10/25 (M)

R247 10/25 (M)

R248 10/25 (M)

R249 10/25 (M)

R250 10/25 (M)

R251 10/25 (M)

R252 10/25 (M)

R253 10/25 (M)

R254 10/25 (M)

R255 10/25 (M)

R256 10/25 (M)

R257 10/25 (M)

R258 10/25 (M)

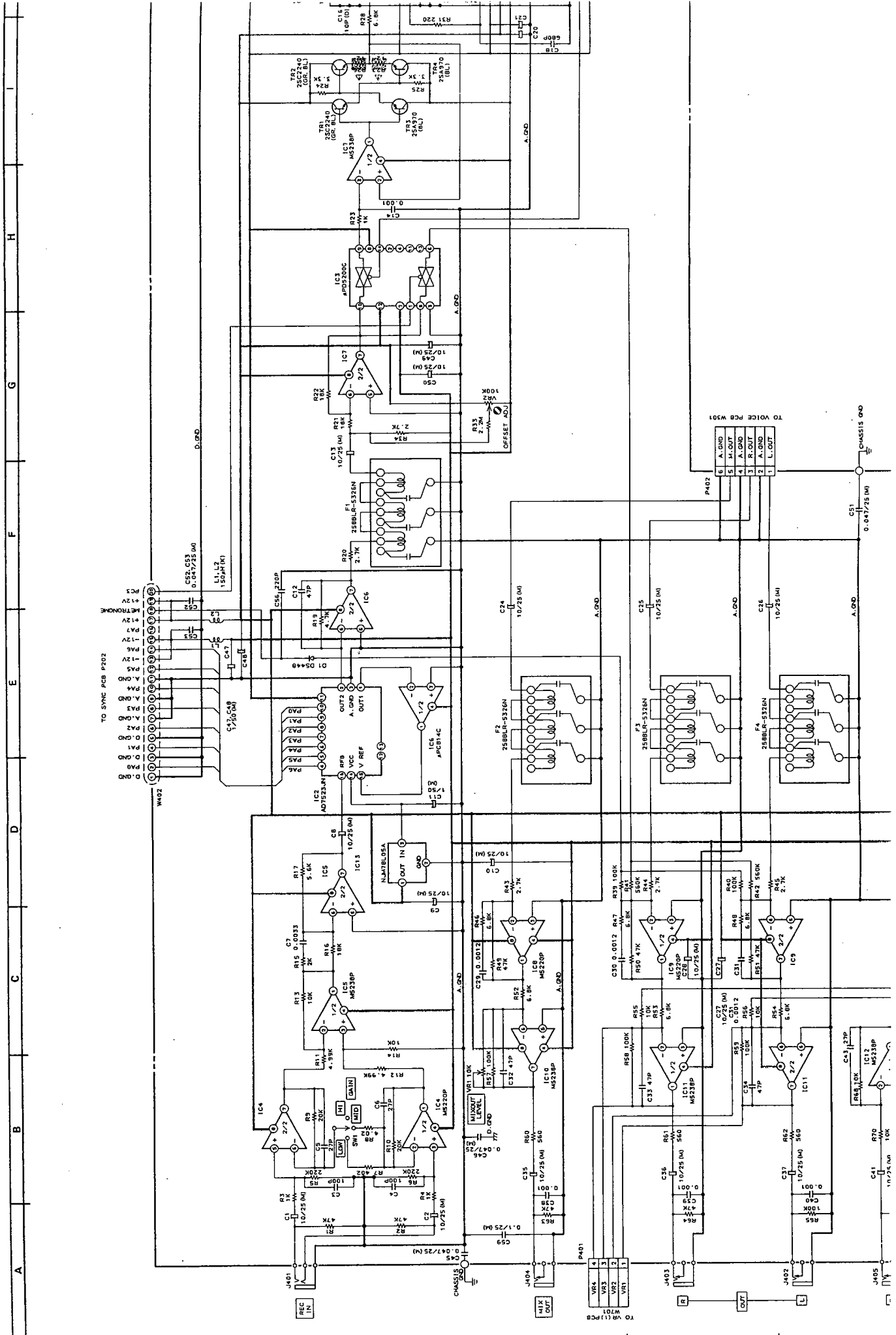
R259 10/25 (M)

R260 10/25 (M)

R261 10/25 (M)

R262 10/25 (M)

R263 10/25 (M)



TO SYNC PCB #202

P3	+	1-2V
P5	+	1-2V
P7	+	1-2V
P8	+	1-2V
P9	+	1-2V
P10	+	1-2V
P11	+	1-2V
P12	+	1-2V
P13	+	1-2V
P14	+	1-2V
P15	+	1-2V
P16	+	1-2V
P17	+	1-2V
P18	+	1-2V
P19	+	1-2V
P20	+	1-2V
P21	+	1-2V
P22	+	1-2V
P23	+	1-2V
P24	+	1-2V
P25	+	1-2V
P26	+	1-2V
P27	+	1-2V
P28	+	1-2V
P29	+	1-2V
P30	+	1-2V
P31	+	1-2V
P32	+	1-2V
P33	+	1-2V
P34	+	1-2V
P35	+	1-2V
P36	+	1-2V
P37	+	1-2V
P38	+	1-2V
P39	+	1-2V
P40	+	1-2V
P41	+	1-2V
P42	+	1-2V
P43	+	1-2V
P44	+	1-2V
P45	+	1-2V
P46	+	1-2V
P47	+	1-2V
P48	+	1-2V
P49	+	1-2V
P50	+	1-2V
P51	+	1-2V
P52	+	1-2V
P53	+	1-2V
P54	+	1-2V
P55	+	1-2V
P56	+	1-2V
P57	+	1-2V
P58	+	1-2V
P59	+	1-2V
P60	+	1-2V
P61	+	1-2V
P62	+	1-2V
P63	+	1-2V
P64	+	1-2V
P65	+	1-2V
P66	+	1-2V
P67	+	1-2V
P68	+	1-2V
P69	+	1-2V
P70	+	1-2V
P71	+	1-2V
P72	+	1-2V
P73	+	1-2V
P74	+	1-2V
P75	+	1-2V
P76	+	1-2V
P77	+	1-2V
P78	+	1-2V
P79	+	1-2V
P80	+	1-2V
P81	+	1-2V
P82	+	1-2V
P83	+	1-2V
P84	+	1-2V
P85	+	1-2V
P86	+	1-2V
P87	+	1-2V
P88	+	1-2V
P89	+	1-2V
P90	+	1-2V
P91	+	1-2V
P92	+	1-2V
P93	+	1-2V
P94	+	1-2V
P95	+	1-2V
P96	+	1-2V
P97	+	1-2V
P98	+	1-2V
P99	+	1-2V
P100	+	1-2V

TO VOICE PCB #301

6	A. GND
5	M. OUT
4	A. GND
3	R. OUT
2	A. GND
1	L. OUT

CHASSIS GND

C61 0.047/25 IMV

TO S (1) PCB #701

WR4	4
WR3	3
WR2	2
WR1	1

J403

J404

J405

J406

J407

J408

J409

J410

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J418

J419

J420

J421

J422

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J424

J425

J426

J427

J428

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J430

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J472

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J474

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J495

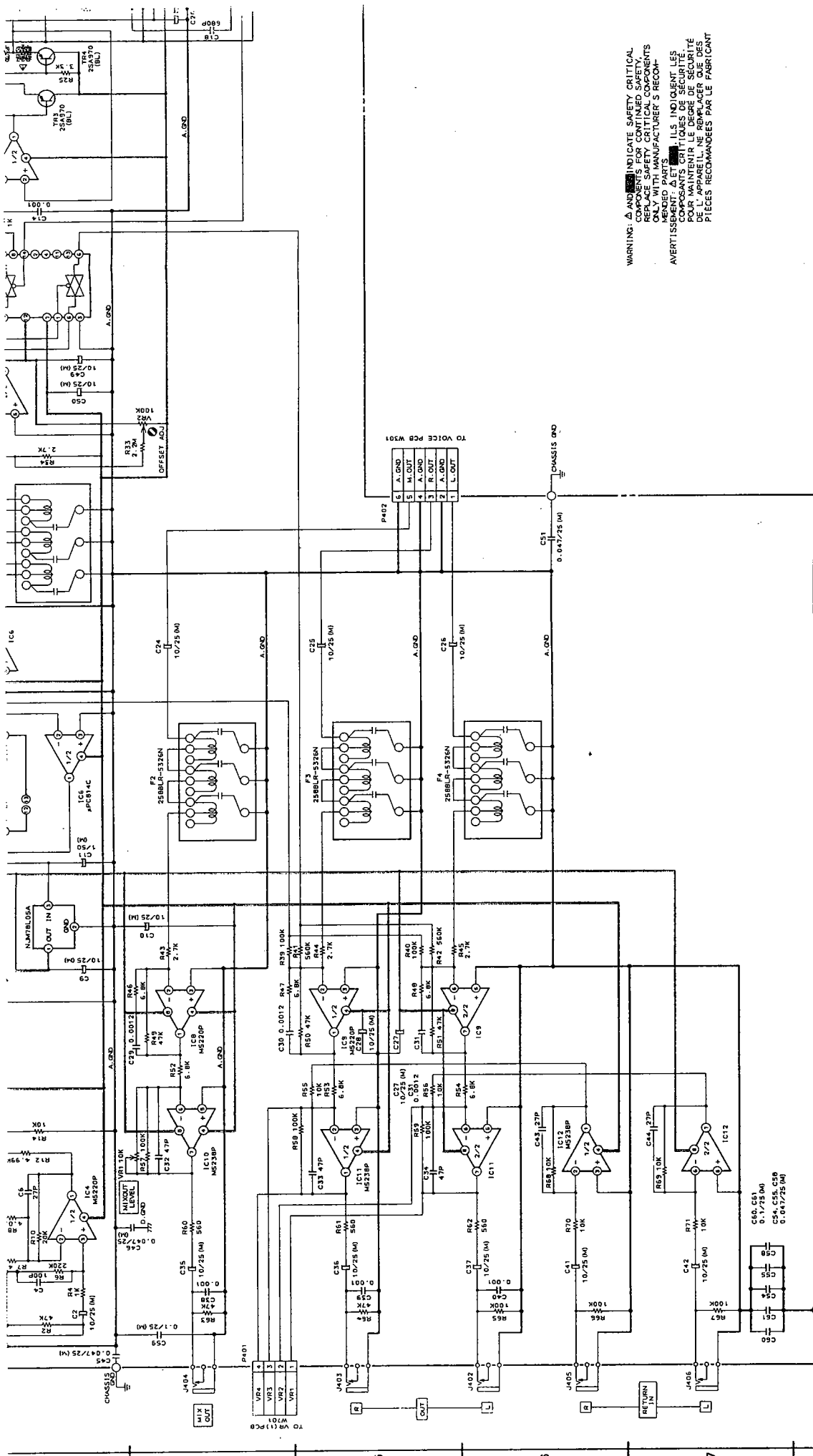
J496

J497

J498

J499

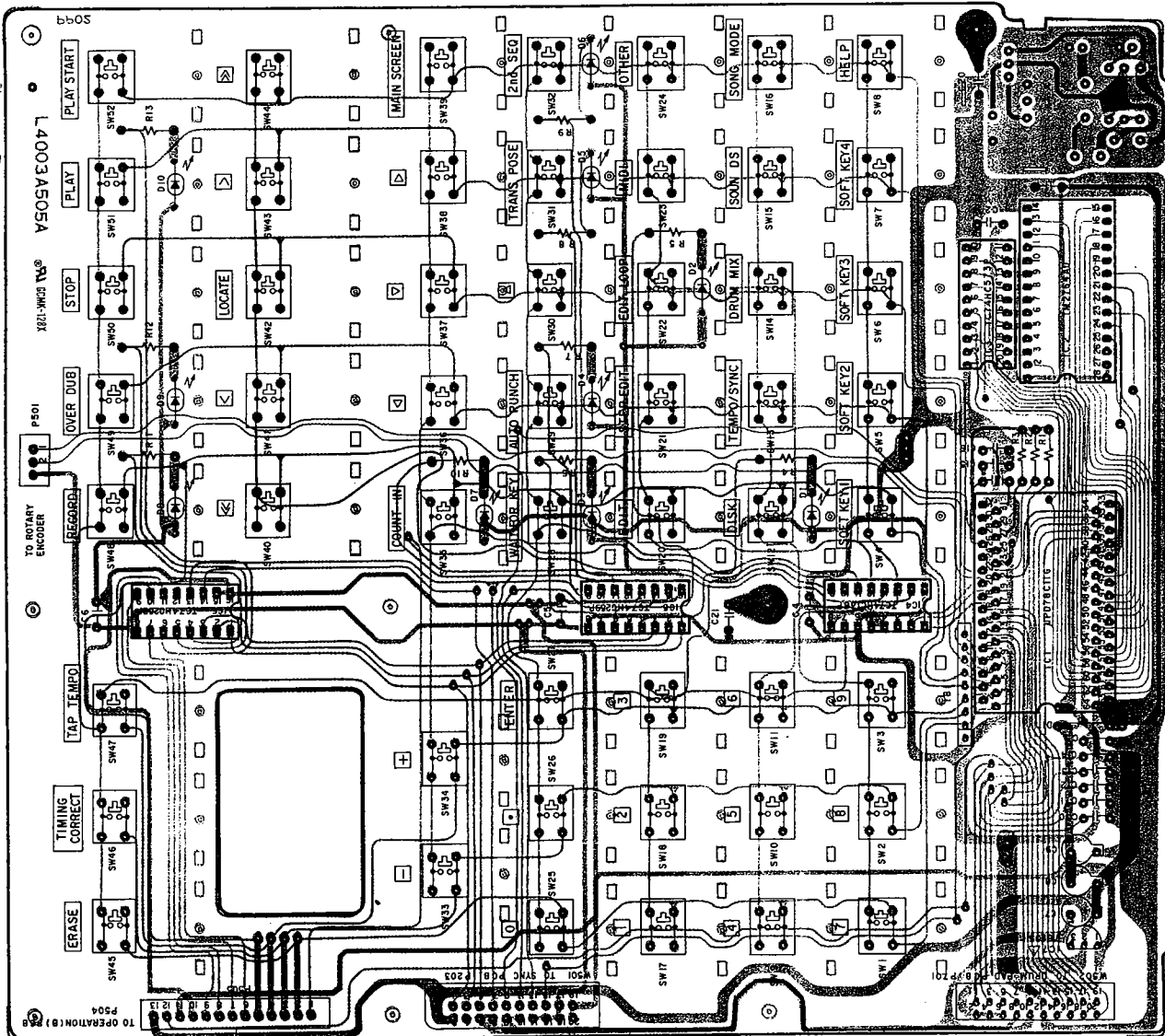
J500



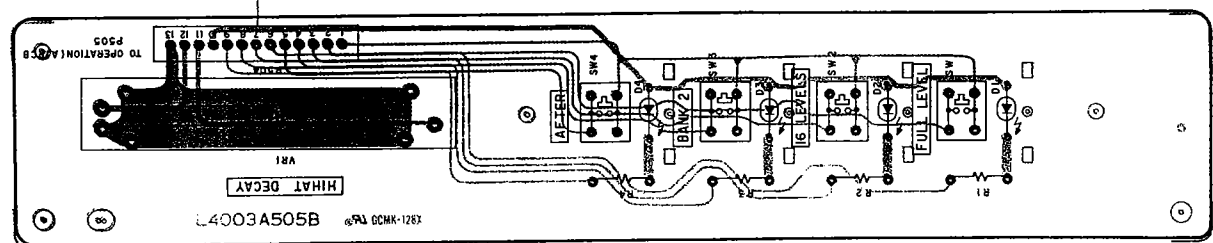
WARNING: **Δ** AND **□** INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. ONLY USE THE SPECIFIED PARTS OR EQUIVALENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
 AVERTISSEMENT: **Δ** ET **□** ILS INDICENT LES COMPOSANTS CRITIQUES DE SÉCURITÉ. SEULEMENT LES PIÈCES RECOMMANDÉES PAR LE FABRICANT PEUVENT ÊTRE UTILISÉES. SEULEMENT LES PIÈCES RECOMMANDÉES PAR LE FABRICANT SONT RECOMMANDÉES.

ADC PCB L400385040



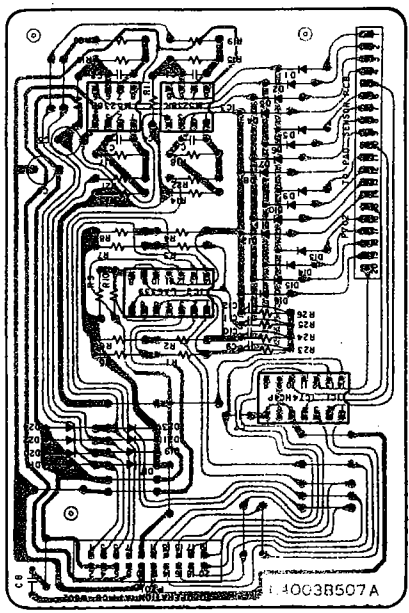
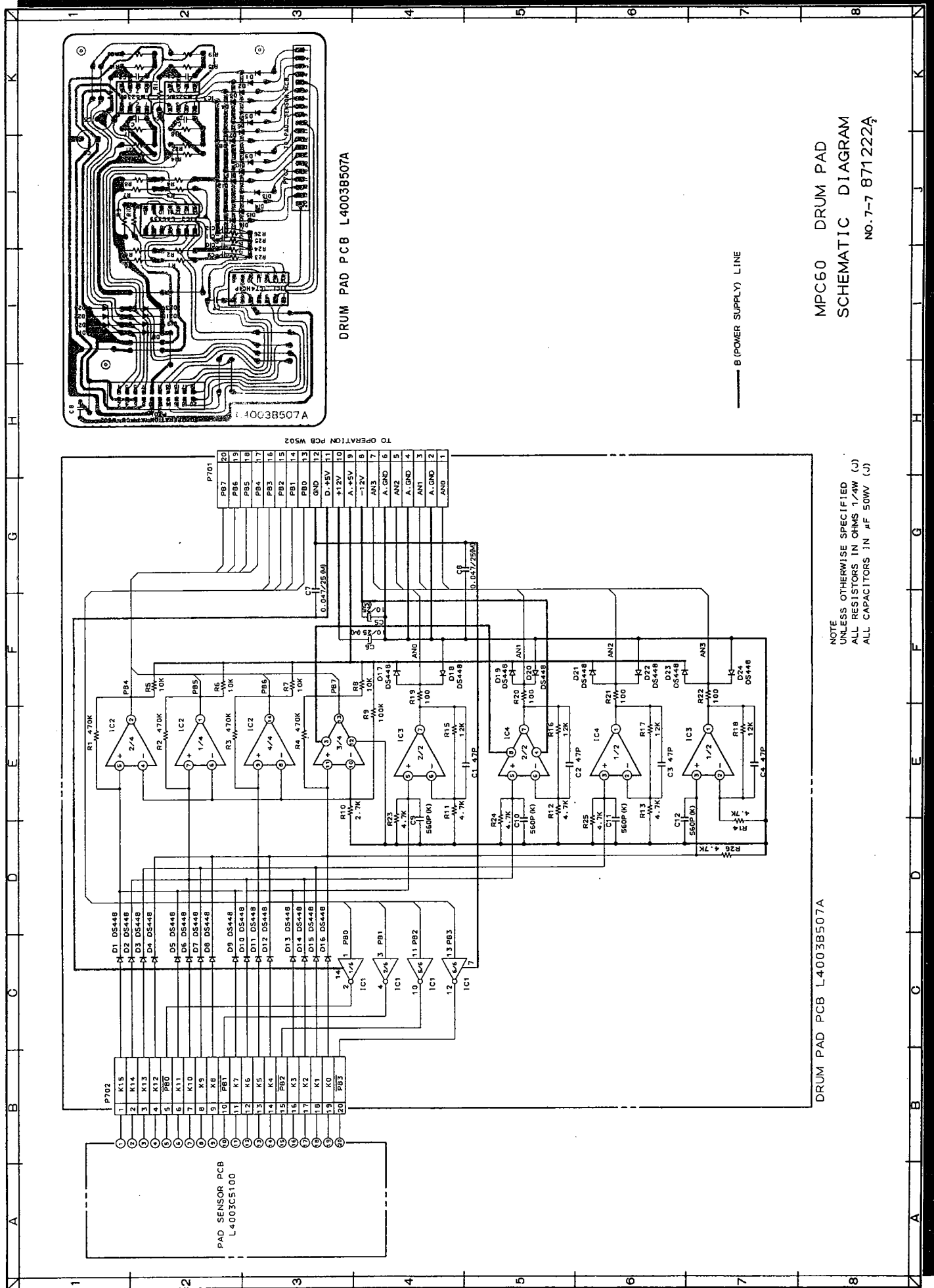


OPERATION (A) PCB L4003A505A



OPERATION (B) PCB L4003A505B

WARNING: INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFE REPLACEMENT. ONLY WITH MANUFACTURER RECOMMENDED PARTS.
 AVERTISSEMENT: INDICATE LES COMPOSANTS CRITIQUES DE SÉCURITÉ POUR LE MAINTIENR LE GÉRE DE SÉCURITÉ DE L'APPAREIL. NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.



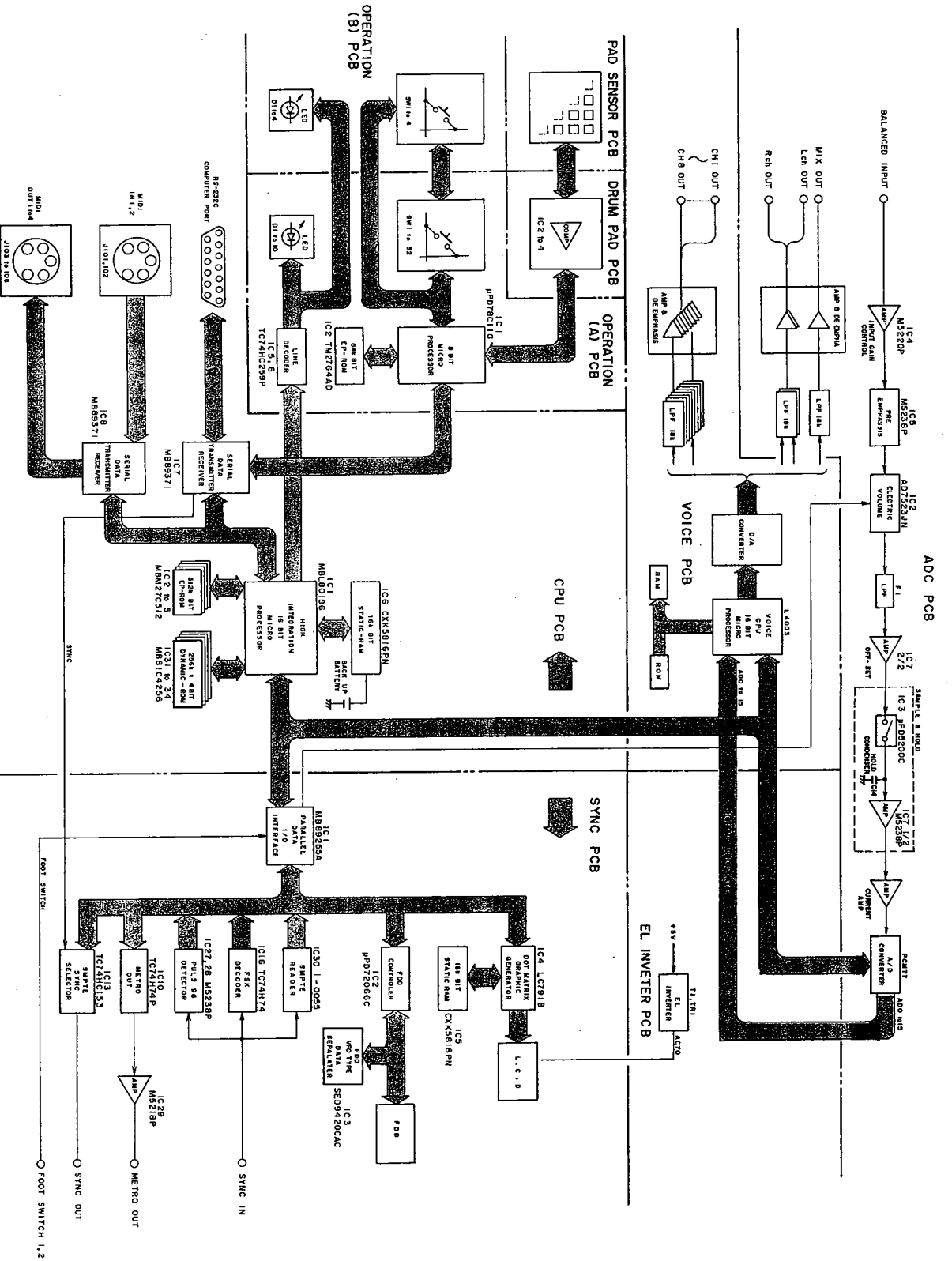
DRUM PAD PCB L4003BS07A

— B (POWER SUPPLY) LINE

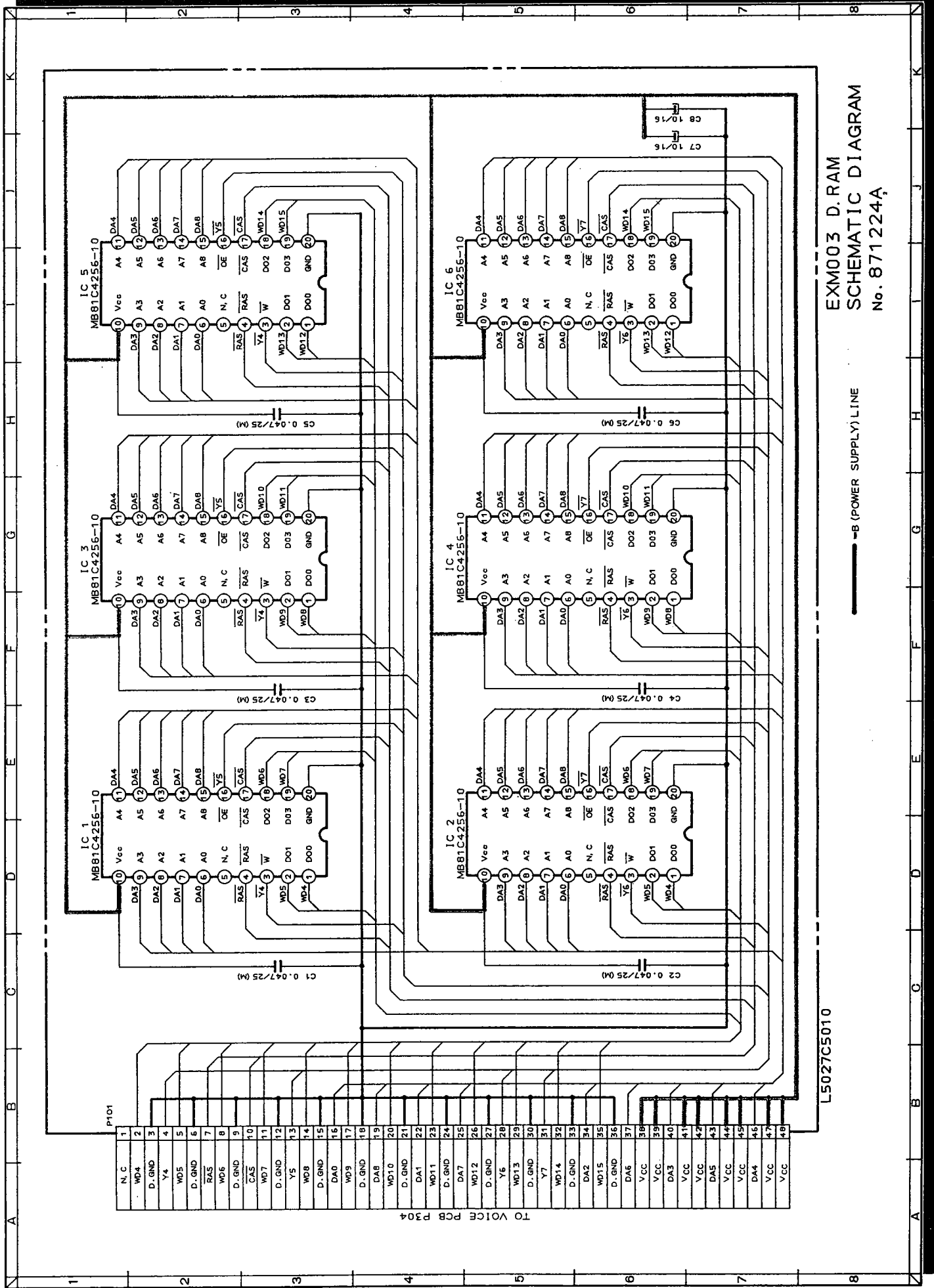
MPC60 DRUM PAD
SCHEMATIC DIAGRAM
NO. 7-7 871222A

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μ F 50WV (J)

DRUM PAD PCB L4003BS07A



MPC 60
BLOCK DIAGRAM
NO. 871223A



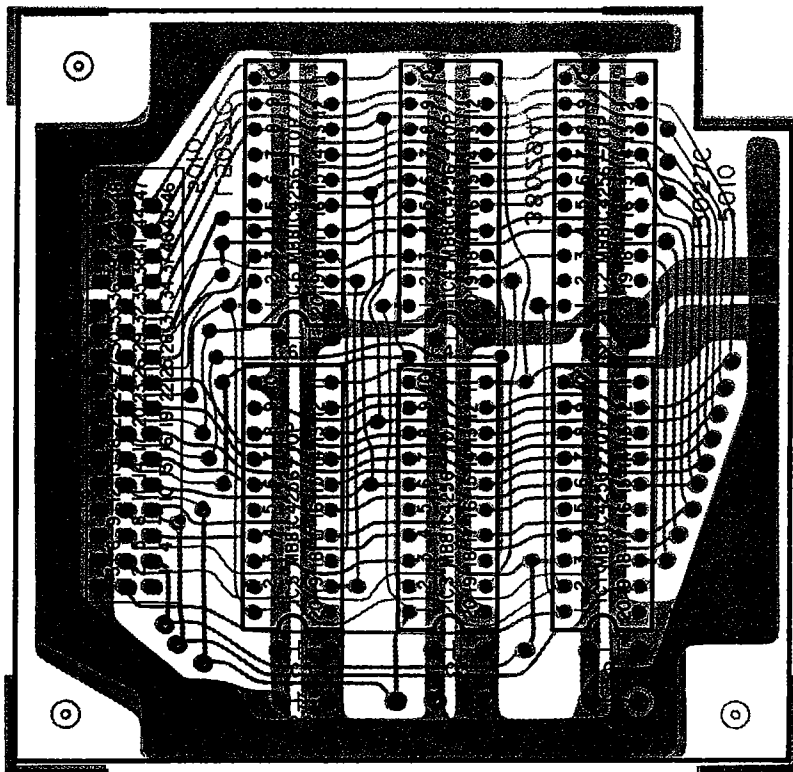
EXM003 D.RAM
SCHEMATIC DIAGRAM
No. 871224A

-----B (POWER SUPPLY) LINE

L5027C5010

1	N.C.
2	WD4
3	D.GND
4	Y4
5	WD5
6	D.GND
7	RAS
8	WD6
9	D.GND
10	CAS
11	WD7
12	D.GND
13	Y4
14	WD8
15	D.GND
16	DA0
17	WD9
18	D.GND
19	DA1
20	WD10
21	D.GND
22	DA2
23	WD11
24	D.GND
25	DA3
26	WD12
27	D.GND
28	Y6
29	WD13
30	D.GND
31	Y7
32	WD14
33	D.GND
34	DA4
35	WD15
36	D.GND
37	DA6
38	VCC
39	VCC
40	DA3
41	VCC
42	VCC
43	DA5
44	VCC
45	VCC
46	DA4
47	VCC
48	VCC
49	VCC
50	VCC

TO VOICE P CB P304



EXM003 D. RAM P C B L5027C5010