

GREEN 753 Plus

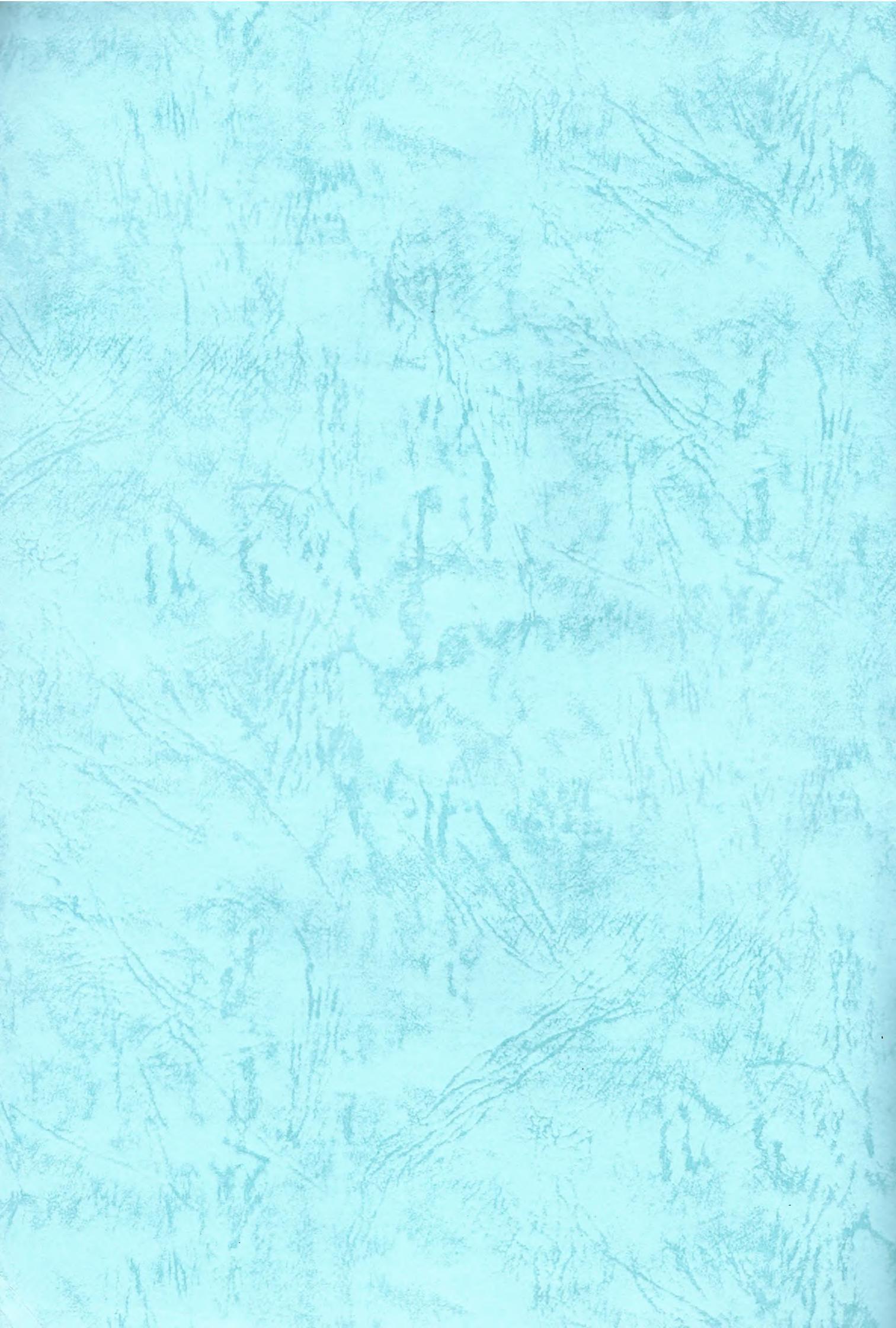
NOTEBOOK COMPUTER

TEST REPORT

Version :1.1

Feb. 1997

— GVC/ALPHA-TOP —



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Table of Contents

<i>Chapter 1</i>	<i>Specification</i>
<i>Chapter 2</i>	<i>Power Supply</i>
<i>Chapter 3</i>	<i>DMA, Timer/Counter</i>
<i>Chapter 4</i>	<i>Interrupts</i>
<i>Chapter 5</i>	<i>Memory Address Mapping</i>
<i>Chapter 6</i>	<i>I/O Address Mapping</i>
<i>Chapter 7</i>	<i>Connector & Pin Assignment</i>
<i>Chapter 8</i>	<i>INT Function</i>
<i>Chapter 9</i>	<i>BIOS Setup</i>
<i>Chapter 10</i>	<i>Post Code & Error Handling</i>
<i>Chapter 11</i>	<i>CPU Setting Table</i>
<i>Chapter 12</i>	<i>Schematics</i>
<i>Chapter 13</i>	<i>System Block Diagram</i>
<i>Chapter 14</i>	<i>Main Board Layout Placement</i>
<i>Chapter 15</i>	<i>System & Modular Parts Assembly and Disassembly Diagram</i>

Green753 Plus Product Specification

1..General Description

This document describes the detailed product specification of the notebook.
 Green753 Plus is a full function, high performance notebook providing complete multimedia functionalities with 12.1" SVGA color LCD. The notebook has CD-ROM drive built-in.

2..CPU

- Intel Pentium P54C, P54LM , P54CSLM, P55C* series
- ZIF socket
- 3.3V for basic configuration
- Regulator to match different CPU power rail (2.5V / 2.9V / 3.1V / 3.3V)
- Running at up to 166 MHz(internal clock)
 (Max. speed of CPUs: P54C-75, P54LM-100, P54CSLM-150*, P55C-166*)
 Note: 1. The available CPU(by 4/25/1996) is up to P54CSLM-133
 2. " * " when available
- BUS clock up to 66 MHz

3..Core Logic.

- Controller: Intel 430 MX
- Supports pure PCI bus
- Supports Windows95
- Supports Plug & Play

4..Memory

- 4.1..Main Memory:
 - 16MB on board(factory optional)
 - 8/16/32 MB memory card options (72-pin standard DIMM socket x 2)
- 4.2..ROM:
 - 256KB x 1 Flash Memory
- 4.3..Cache Memory
 - 256K L2 write-back cache, Pipeline Burst Synchronous SRAM factory optional

5..Mass Storage

- 5.1..HDD:
 - 2.5" ,19 mm HDD space
 - Supports equal or greater than 810 MB
 - Enhanced IDE interface
 - Reseller upgradable
- 5.2..FDD:

DOCUMENTATION

Alpha-Top

Corporation

TITLE:

Green753 Plus Product SPEC.

DOC. NO.: PS-SYS-006



REV.: 1.1

PAGE: 3 OF 8

- 3.5" 720K/1.2MB/1.44MB diskettes support , 1.2MB format support for NEC PC compatibility

5.3..CD-ROM drive:

- 5.25" standard CD-ROM
- Supports 6x or 8x speed CD-ROM drive
- Enhanced IDE interface

6..Video System

6.1..Video Controller: Neo-Magic 2093

6.2..Graphic Feature

- Windows GUI Accelerator
- Running on PCI bus
- Support up to 1024x768x256 colors mode on external CRT
- Support 800x600 SVGA color LCD panel

6.3..Video Memory:

- Video memory on chip

6.4..LCD Display:

- The whole assembly is field-interchangeable
- 11.3" DSTN / TFT SVGA color LCD
- 12.1" DSTN / TFT SVGA color LCD

7..I/O Ports

7.1..Standard Ports

- One 16550 UART RS-232 serial port (9-pin male D-connector)
- One parallel port support EPP/ECP (25-pin female D-connector)
- One video port for external analog VGA monitor (15-pin female D-connector)
- One Game / Midi port (15-pin female D-connector)
- One external auto-sensed PS/2 keyboard/mouse connector(6-pin mini-DIN connector),
- One DC input port for external AC adaptor (2-pin DC jack)
- One Type III and one Type II PCMCIA card socket
- Docking Station Connector
- Line-in /Line-out / Mic-in for sound card
- Fast IR port, IrDA compliant
- Composite video output port for display on TV set

7.2..I/O controller

- NS 87C338 + CMD PCI0646

7.3..PCMCIA

- Controller: Cirrus Logic-6730 / O₂Micro-OZ6730
- 3.3V/5V card support
- Supports Zoom-Video port

8..I/O Devices

8.1..Keyboard:



<p>DOCUMENTATION</p> <p>Alpha-Top</p> <p>Corporation</p>	<p>TITLE:</p> <p>Green753 Plus Product SPEC.</p>	<p>DOC. NO.: PS-SYS-006</p> <p>REV.: 1.1</p> <p>PAGE: 4 OF 8</p>
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- US/Europe, DOS/V keyboard for Japan full sized keyboard alike pitch
- Key stroke: about 3 mm
- Twelve function keys
- Inverted "T" cursor control keys layout
- Screwless removable
- Internal keyboard works as standard 101/102 keys desktop keyboard

8.2..Pointing Device: Touchpad(Synaptics)

- Touchpad under space bar of keyboard
- Both external PS/2 mouse and internal pointing device can work concurrently

8.3..Sound System

- Controller: ESS 1878
- Sound Blaster, Sound Blaster Pro Compatible and Microsoft Sound System For Windows compatible
- 16-bit stereo sound
- Wave Table
- Microphone and two speaker built-in

9..System Software

9.1..System BIOS:

- Phoenix PnP BIOS

9.2..VGA BIOS:

- Neo-Magic

9.3..Operating System:

- Optional MS-DOS 6.22 or above version
- Optional Windows 3.1 or above version
- Optional OS/2 2.1 for Windows or above version
- Optional Windows NT
- Optional Windows '95

9.4..Device Drivers and Utilities:

- Neo-Magic: VGA driver and utility
- ESS: Audio driver
- SystemSoft: PCMCIA driver
- Synaptics: Touch-pad driver
- TEAC: CD-ROM driver
- PUMA: Fast IR Utility
- Software MPEG driver(optional)

10..CMOS Setup:

10.1..Normal information

- Displays system information
- Password protection of setup entry
- No cursor stop if item is unchangeable



<p>DOCUMENTATION</p> <p>Alpha-Top</p> <p>Corporation</p>	<p>TITLE:</p> <p>Green753 Plus Product SPEC.</p>	<p>DOC. NO.: PS-SYS-006</p> <p>REV.: 1.1</p> <p>PAGE: 5 OF 8</p>
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- Password support
- Block mode IDE support

11..Power Management System

- Multiple-mode power management scheme
- Static suspend
- Suspend to HDD
- Modem ring and any key triggered resume
- APM1.2 support
- Battery gas gauge support
- Suspend or warning on low battery

12..Power Subsystem

12.1..

- AC Adapter:
- 45W (Max.)

12.2..Battery:

- Battery pack with 10-cell NiMH or 9-cell Lithium Ion, user interchangeable
- Removable and rechargeable
- Battery gas gauge function support, providing accurate battery charging and discharging status

13..Human Factors

13.1..Dimension:

- 299(W)×230(D)×56 (H)mm
- 11.8" × 9." × 2.2"

13.2..Weight:

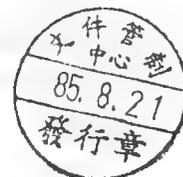
- 7 lbs (3.2Kgs) with battery and CD-ROM drive

13.3..Construction Description:

- LCD assembly is field upgradable with a few screws removed, and main unit is independent to the type of LCD module used
- Speakers are located at two upper corner of the base, and the internal microphone is located at the palm rest area and under the Touchpad module

13.4..LCD indicators:

- A/C- IN
- Battery
- Num Lock
- Caps Lock
- Scroll Lock
- Pad Lock
- HDD
- FDD
- CD-ROM



<p>DOCUMENTATION</p> <p>Alpha-Top</p> <p>Corporation</p>	<p>TITLE:</p> <p>Green753 Plus Product SPEC.</p>	<p>DOC. NO.: PS-SYS-006</p> <p>REV.: 1.1</p> <p>PAGE: 6 OF 8</p>
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- PCMCIA
- SUSPEND

13.5..Hot Key:

- LCD brightness
- LCD contrast
- Audio Volume
- Display mode
- Suspend

14..Docking Station: Mini Docking

15..Accessories

- User's manual
- AC adapter
- Power cord
- Utility diskette
- Carrying bag

16..Optional Items

- Spare battery pack
- Mini-docking
- External Charger
- Memory expansion card
- DOS
- Windows
- Windows95
- OS/2 for Windows
- Windows NT

17..Environment

17.1..Temperature:

- Operating: 5°~35°C
- Non-operating: -20°~60°C

17.2..Humidity:

- Operating: 30%~90% (non-condensing)
- Non-operating: 5%~95% (non-condensing)

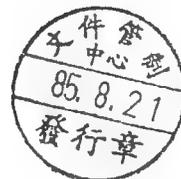
17.3..Altitude:

- Operating: -200~10000 ft
- Non-operating: -200~30000 ft

17.4..Shock:

- Operating: 10G, 11ms
- Non-operating: 50G, 11ms

17.5..Vibration:



DOCUMENTATION

Alpha-Top
Corporation

TITLE:

**Green753 Plus Product
SPEC.**

DOC. NO.: PS-SYS-006

REV.: 1.1
PAGE: 7 OF 8

- Operating: 10~27 Hz, 0.01"
- Non-operating: 5~62 Hz, 0.02"

17.6..Drop:

- 900mm

17.7..Noise:

- 35dB (max.) at 1 meter

17.8..ESD:

- Follow IEC 801-2 standard
- 8KV: no error allowed

17.9..P.L.T.:

- 1KV: without error

18..Regulation

18.1..Safety:

- UL 1950, CSA, TUV, CE

18.2..EMI:

- FCC class B, BZT, VCCI

19..MTBF

- 20,000 hrs, 90% confidence level

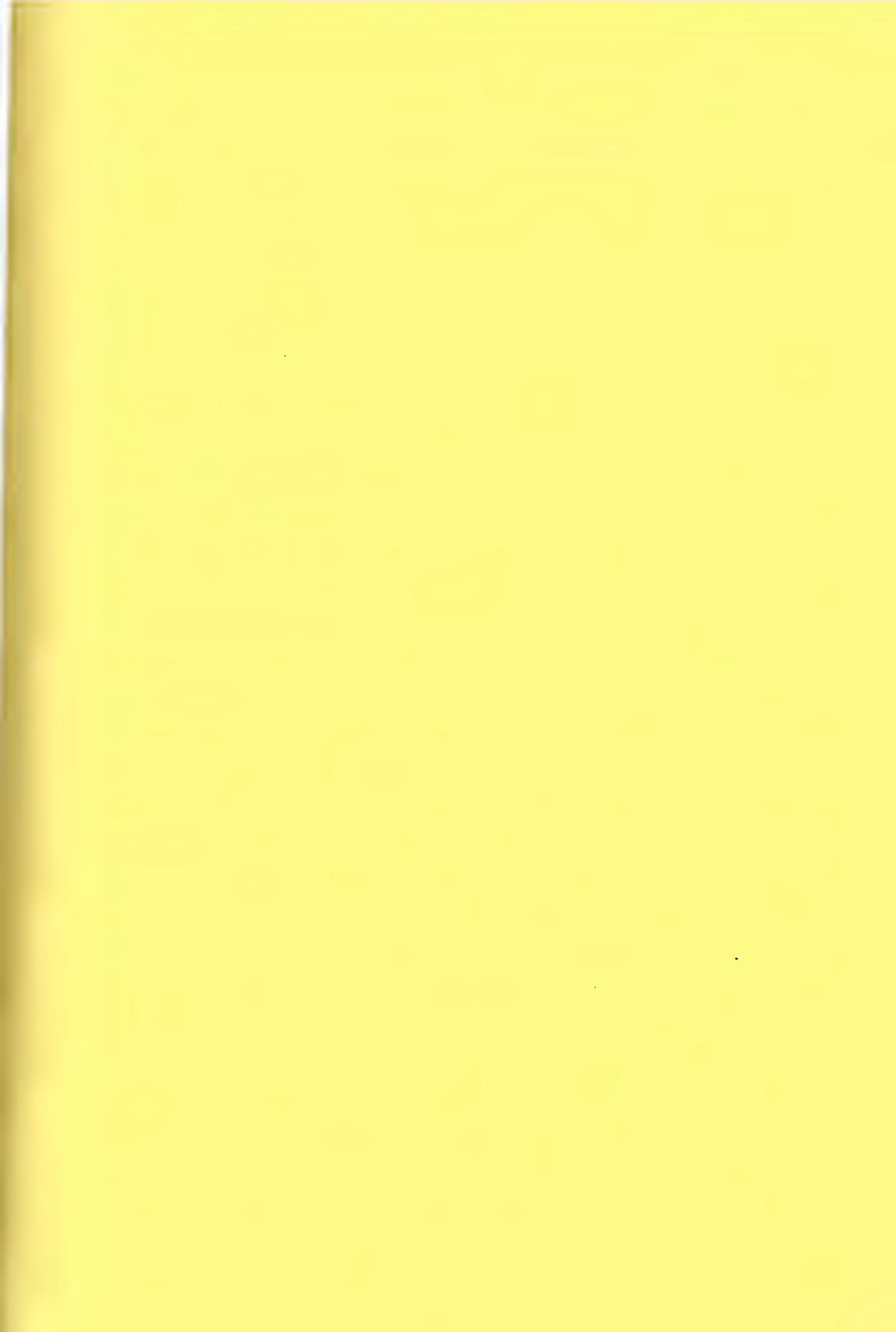
20..MTTR

- 30 min.

Note: The content is subject to change without notice.



<p>DOCUMENTATION</p> <p>Alpha-Top</p> <p>Corporation</p>	<p>TITLE:</p> <p>Green753 Plus Product SPEC.</p>	<p>DOC. NO.: PS-SYS-006</p> <p>REV.: 1.1</p> <p>PAGE: 8 OF 8</p>
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Chapter 2 Power Supply

ADAPTER SPECIFICATION

Input Characteristics:

- * Input Voltage: 100Vac to 240Vac +/- 10%, full range.
- * Input Frequency Range: 47Hz to 63 Hz.
- * Max. Input AC Current: 1.2A, 110Vac, input, full load.
- * Inrush Current(coldstart): 30A(max.)@110Vac,60A(max.)@230Vac@full load & cold start.
- * Efficiency: 78%min, at 110Vac input, full load, after warm up 30 sec.

Output Characteristics:

Static Output Characteristics(VO):

1. Constant Voltage Range : 22.5Vdc+/-5%
 Range : 22.5Vdc+/-5%
 Full load : 2A(45W)
 Min load : 0A
2. Constant Current Range : 2.2A

- * Load Regulation: +/-5%
- * Ripple & Noise Test: Use 20MHz bandwidth frequency oscilloscope.
- * Add 0.1 uF & 10uF capacitor at output connector terminals for ripple & noise test.
- * Load regulation is only measured in the constant voltage.

Dynamis Output Characteristics:

- * Turn-on Delay Time: 5 sec Max.@110Vac, full load.
- * Hold up Time: 10mS min, @110Vac, full load.
- * Short Circuit Protection: Output can be shorted without damage.

Chapter 2

Dielectric Withstand Voltage:

- * Hi-Pot Test: Primary to FG: 1500Vac/1min.
- * Leakage Current: 0.75mA max,

RFI/EMI:Internal filter to meet

- * FCC part 15 class B.
- * VFG 243/1991

Product Safety:

- * This power supply is designed to meet the following spec:
 - 1.)UL 1950 Listed
 - 2.)CSA C22.2 Level 3
 - 3.)TUV EN60950
 - 4.)CE
 - 5.)NODC

Environment:

- * Operating Temperature:0 to 40 degree C.
- * Operating Relative Humidity:15 to 85%RH.
- * Stotage Temperature:-10 to 85 degree C.

Chapter 2 Power Supply

* Storage Relative Humidity:5 to 90%RH.

* Altitude: Operate properly at any altitude between 0 to 10,000 feet.

* Vibration:

Operating: 0.75G zero to peak, 5 to 500 Hz, 0.5 octave/minute, one cycle, 5 to 500 to 5 Hz per axis in each of three mutually perpendicular axes.

Non-operating: 1.5G zero to peak, 5 to 50 Hz, 0.5 octave/minute, one cycle, 5 to 500 to 5 Hz per axis in each of three mutually perpendicular axes.

DC/DC POWER SPECIFICATION

Introduction:

* High efficiency, DC/DC converter for notebook computer.

Input Characteristics:

Input voltage range:

* AC/DC adapter:+22.5V+/-5% 45W Max.

* Battery:10 cells for NiMH Battery.(Optional Lithium-Ion 9 cells)

Input current range:

* From adapter:2.2A max(including charger).

Input pin assignment:

* Input jack:(1)VA (2)GND (3)GND

* Battery input connector:(1)VB (2)GND (3)BTID (4)NTC1(5)NTC2(6)DQ

Chapter 2

Description:

*VA: connected to charge source.

* VB: discharge path for battery.

* GND: system ground.

*DQ: battery gauge, data communication.

*NTC1&NTC2: both pins of NTC Thermister.

*BTID: Battery ID(the type of battery).

Output Characteristics:

Out put voltage parameter:

+5V O/P:

PARAMETER	SYMBOL	UNIT	MIN	NOM	MAX
Output current	Iout	Adc	0		3
Output Voltage	Vout	Vdc	4.75	5	5.25
O/P Ripple	Vrip	mV(p-p)			100
OCP	Ilim	Adc			4

+3.3V O/P:

PARAMETER	SYMBOL	UNIT	MIN	NOM	MAX
Output current	Iout	Adc	0		3
Output Voltage	Vout	Vdc	3.3	3.45	3.6
O/P Ripple	Vrip	mV(p-p)			60
O.C.P.	Ilim	Adc			4

+12V O/P:

PARAMETER	SYMBOL	UNIT	MIN	NOM	MAX
Output current	Iout	mAdc	0		150
Output Voltage	Vout	Vdc	11.4	12	12.6
O/P Ripple	Vrip	mV(p-p)			240

When adjust to 3.1Voltage get the follow table:

+3.1V O/P:

Chapter 2 Power Supply

PARAMETER	SYMBOL	UNIT	MIN	NOM	MAX
Output current	Iout	Adc	0		3.5
Output Voltage	Vout	Vdc	2.94	3.1	3.25
O/P Ripple	Vrip	mV(p-p)			100
O.C.P.	Ilim	Adc			5

* Remark: 1. The voltage is adjusted by a switch(sw2).

2. The voltage tolerance is +/-5%

Efficiency

0.8min

Test Condition:

* VBA: From adapter or battery

* +5V: 3A

* +3.3V: 3A

* +12V: 150mA

* +2.5V /+2.9V /+3.1V /+3.3V: 3.5A

Protection:

* OCP: Over Current Protection.

+5V Protection: 4A min

+3.3V Protection: 4A min

+2.5V /+2.9V /+3.1V /+3.3V Protection: 5A min

Humidity:

* Operation: 15-85%RH non-condensing

* Storage: 5-90%RH non-condensing

Temperature:

Chapter 2

* Operating: 0-40degree C

* Storage: -20~+70 degree C

Charger Characteristics:

Charging current: (For Ni-MH)

- 1) Quick Charge: 2A(typ.), When the system is off.
- 2) Pulse Trickle Charge: 100~120mA
- 3) Trickle charge: 22mA(for reference), When battey vlotage is 12V.

Charger Control:

1-delta temperature / delta time

2-Max Voltage

3-Max temperature

4-Safety time

5-Negative delta voltage

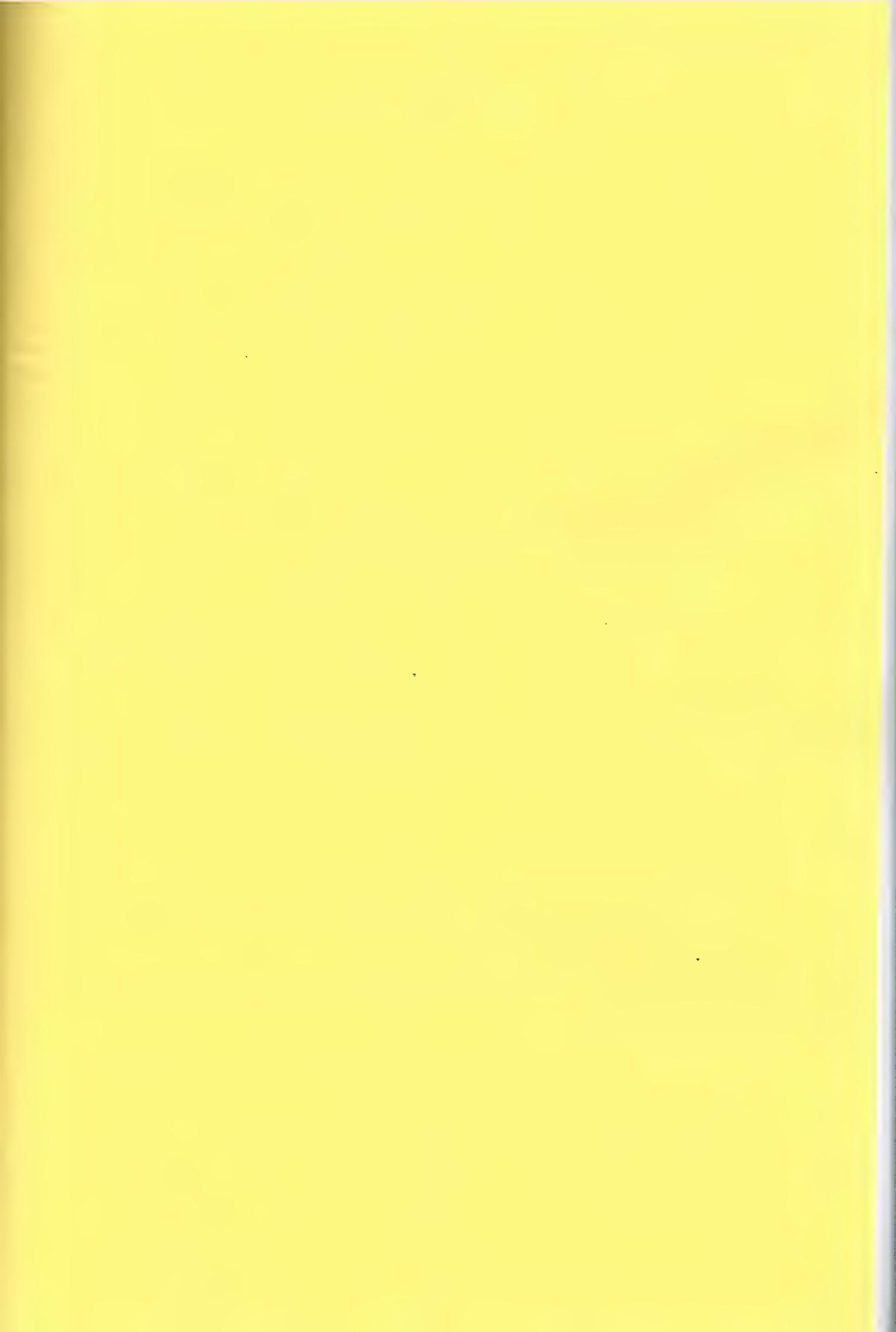
Chapter 3 DMA, Timer/Counter

DMA channel:

DMA Channel No.	Function
Channel 0	Sound Module/Ecp Support/Enhance IR
Channel 1	Sound Module/Ecp Support/Enhance IR
Channel 2	Floppy Disk
Channel 3	Sound Module/Ecp Support/Enhance IR
Channel 4	[Cascade]
Channel 5	Available
Channel 6	Available
Channel 7	Available

Programmable Timer/Counters:

Channel No.	Function
Channel 0	Supports system timer
Channel 1	Supports refresh cycles
Channel 2	Supports the Audio speaker



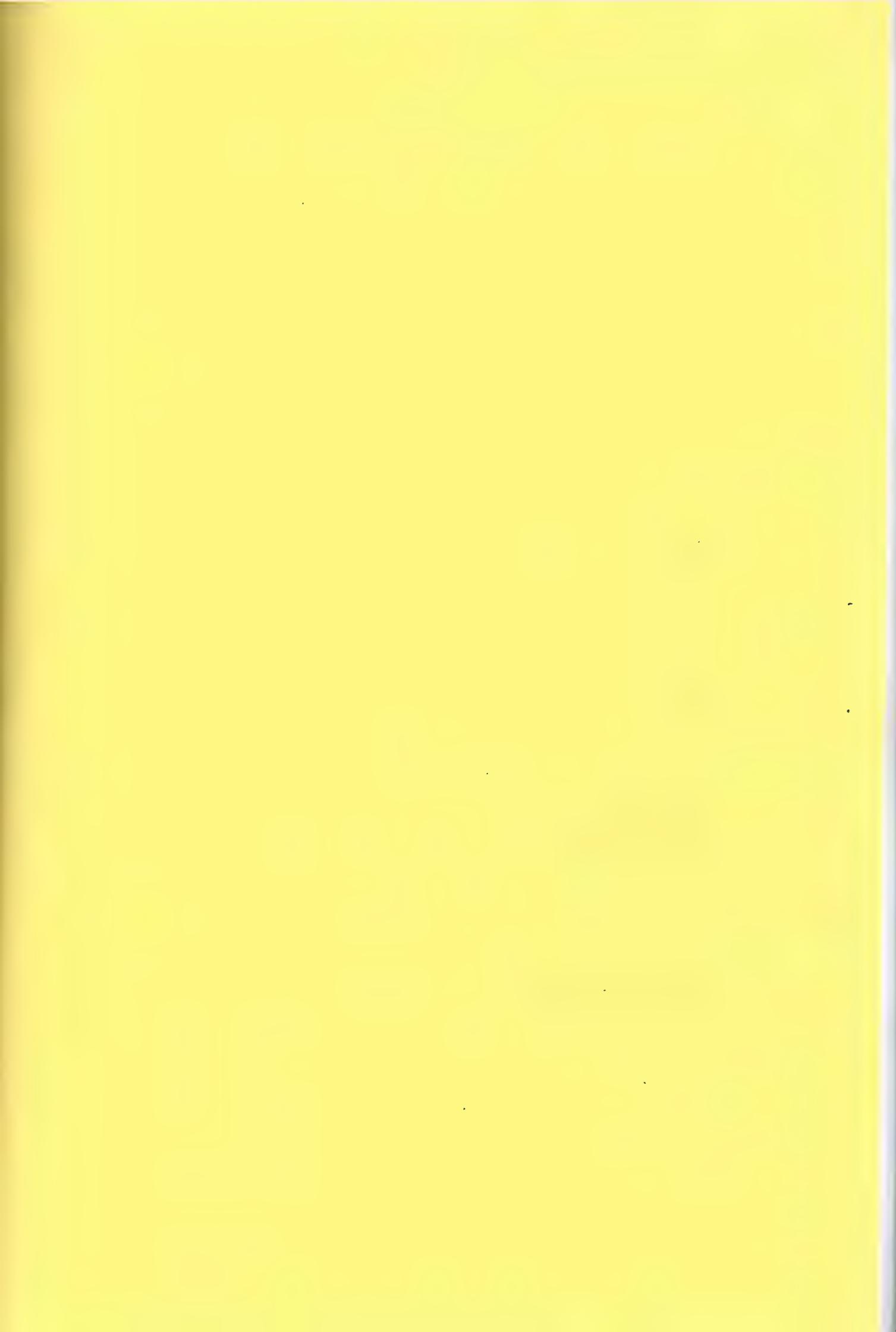
Chapter 4 Interrupts

Interrupt	Function
IRQ 0	System Timer
IRQ 1	Keyboard
IRQ 2	Default For Sound chip
IRQ 3	COM2 (SIR/MIR/FIR)
IRQ 4	COM1
IRQ 5	Reserved
IRQ 6	Floppy Disk
IRQ 7	Reserved
IRQ 8	Clock/Calendar
IRQ 9	Cascaded to INT 0AH(IRQ 2) / Sound
IRQ10	PCMCIA Socket Service
IRQ11	Reserved
IRQ12	Touch-Pad
IRQ13	Coprocessor
IRQ14	Fixed Disk Controller
IRQ15	IDE CD-ROM

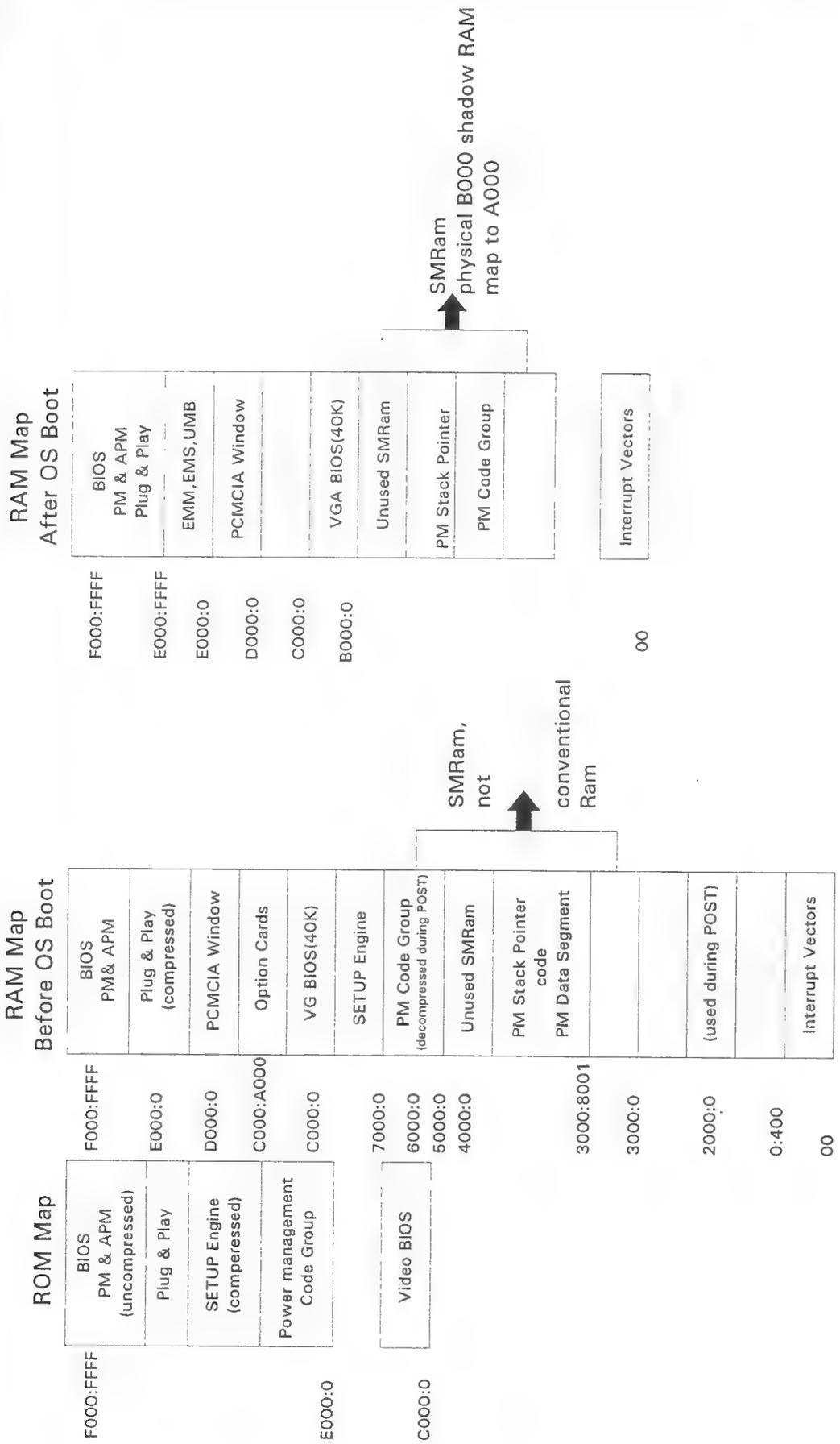
Note:

1. IRQ3,4,5,7,9,10,11,12,14,15 are connected to PCMCIA controller, but available for PCMCIA function only when the IRQ is not used by other device.
2. IRQs connected to Modem Card are IRQ3,4,5,7.



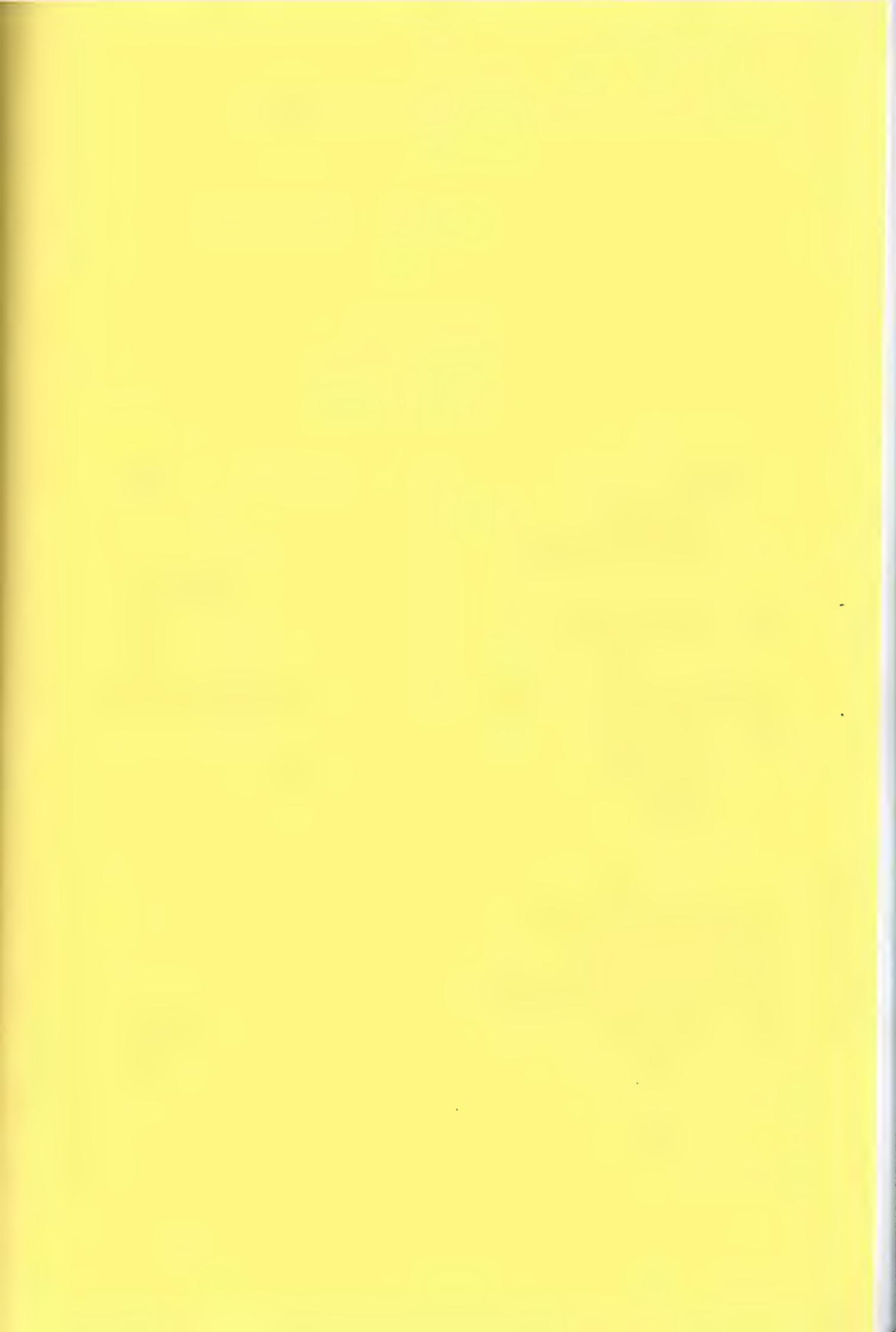


Chapter 5 Memory Address Mapping



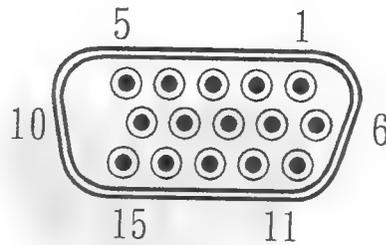
Chapter 6 I/O Address Mapping

Hexadecimal Range	Devices	Usage
000-01F	DMA controller 1	System
020-03F	Interrupt controller 1	System
040-05F	Timer	System
060-06F	Keyboard I/O	System
070-07F	Real time clock, NMI mask	System
080-09F	DMA page register	System
0A0-0BF	Interrupt controller 2	System
0C0-0DF	DMA Controller 2	System
0F0	Clear math coprocessor busy	System
0F1	Reset math coprocessor	System
0F8-0FF	Math coprocessor	System
1F0-1F8	Fixed disk	I/O
200-207	Game	I/O
220-22F	Default for Sound	I/O
278-27F	Parallel printer port2	I/O
2F8-2FF	Serial port2	I/O
300-31F	Default for Wave Table	I/O
360-36F	Reserved	I/O
378-37F	Parallel printer port1	I/O
388-38B	Default for Sound	I/O
3BC-3BF	Parallel printer port3	I/O
3E0-3E1	PCMCIA controller	I/O
3C0-3CF	Reserved	I/O
3F8-3FF	Serial port 1	I/O



Chapter 7 Connector & Assignment

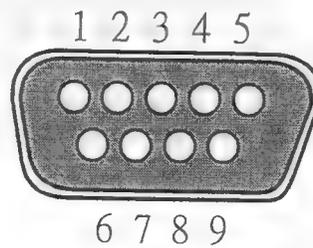
The Pin Assignment of Video Port



Pin	Signal	Pin	Signal
1	Red	9	Vcc
2	Green	10	Ground
3	Blue	11	MSO
4	MS2	12	DDC2BD
5	Ground	13	Horizontal Sync
6	Ground	14	Vertical Sync
7	Ground	15	DDC2BC
8	Ground		

Chapter 7 Connector & Assignment

The Pin Assignment of Serial Port



Pin	Signal	Pin	Signal
1	Carrier	6	Data Set Ready
2	Receive Data	7	Request to Send
3	Transmit Data	8	Clear to Send
4	Data Terminal Ready	9	Ring Indicate
5	Signal Ground		



Chapter 8 INF Function

The following lists the available interrupt services made through the system BIOS. For detailed information about each function, refer to any one of the many books on interrupts.

INT	Type	Function
02	Logical	Nonmaskable Interrupt
05h	Software	Print Screen
08h	Hardware	System Timer
09h	Hardware	Keyboard
0Ah	Hardware	Slave PIC Redirect
0Eh	Hardware	Diskette
10h	Software	Video

AH Value	Function
00h	Set video mode
01h	Set cursor type
02h	Set cursor position
03h	Read current cursor position
04h	Not supported
05h	Select new video page
06h	Scroll current page up
07h	Scroll current page down
08h	Read character/Attribute to screen
09h	Write character/attribute from screen
0Ah	Write character only to screen
0Bh	Set color palette
0Ch	Write pixel
0Dh	Read pixel
0Eh	Write teletype to active page
0Fh	Return video status
10h-12h	not supported
13h	Write String

Chapter 8

		14h-ffh	
		reserved	
11h	Software	Equipment List	
12h	Software	Memory Size	
13h	Software	Diskette Service (Interrupt 40h)	
		AH Value	Function
		00h	Reset diskette system
		01h	Read diskette status
		02h	Read diskette sectors
		03h	Write diskette sectors
		04h	Verify diskette sectors
		05h	Format diskette track
		06h,07h	Reserved
		08h	Read drive parameters
		09h-14h	
		reserved	
		15h	Read drive type
		16h	Detect media change
		17h	Set diskette type
		18h	Set media type for format
		19h-FFh	
		reserved	
13h	Software	Hard disk services	
		AH Value	Function
		00h	Reset disk system
		01h	Read disk status
		02h	Read disk sectors
		03h	Write disk sectors
		04h	Verify disk sectors
		05h	Format disk cylinder
		06h,07h	Reserved
		08h	Read drive parameters
		09h	Initialize drive parameters
		0Ah	Read long disk sectors
		0Bh	write long disk sectors

Chapter 8

		0Ch	Seek to cylinder
		0Dh	Alternate reset fixed disk
		0Eh	Diagnostics 1, read test buffer
		0Fh	Diagnostics 2, write test buffer`
		10h	Test for drive ready
		11h	Recalibrate drive
		12h-14h	reserved
		15h	Read disk type
		16h-18h	reserved
		19h, 1Ah	Not supported
14h	Software	1Bh-FFh	Reserved
		Serial Communication	
		AH Value	Function
		00h	Initialize serial communication port
		01h	Send character
		02h	Receive character
		03h	Read serial port status
		04h-FFh	reserved
15h	Software	System Services	
		AH Value	Function
		00h-4Eh	reserved
		4Fh	Keyboard intercept
		50h-7Fh	reserved
		80h	Device open
		81h	Device close
		82h	Program termination
		83h	Set event wait interval
		84h	Joystick support
		85h	System request key
		86h	Wait

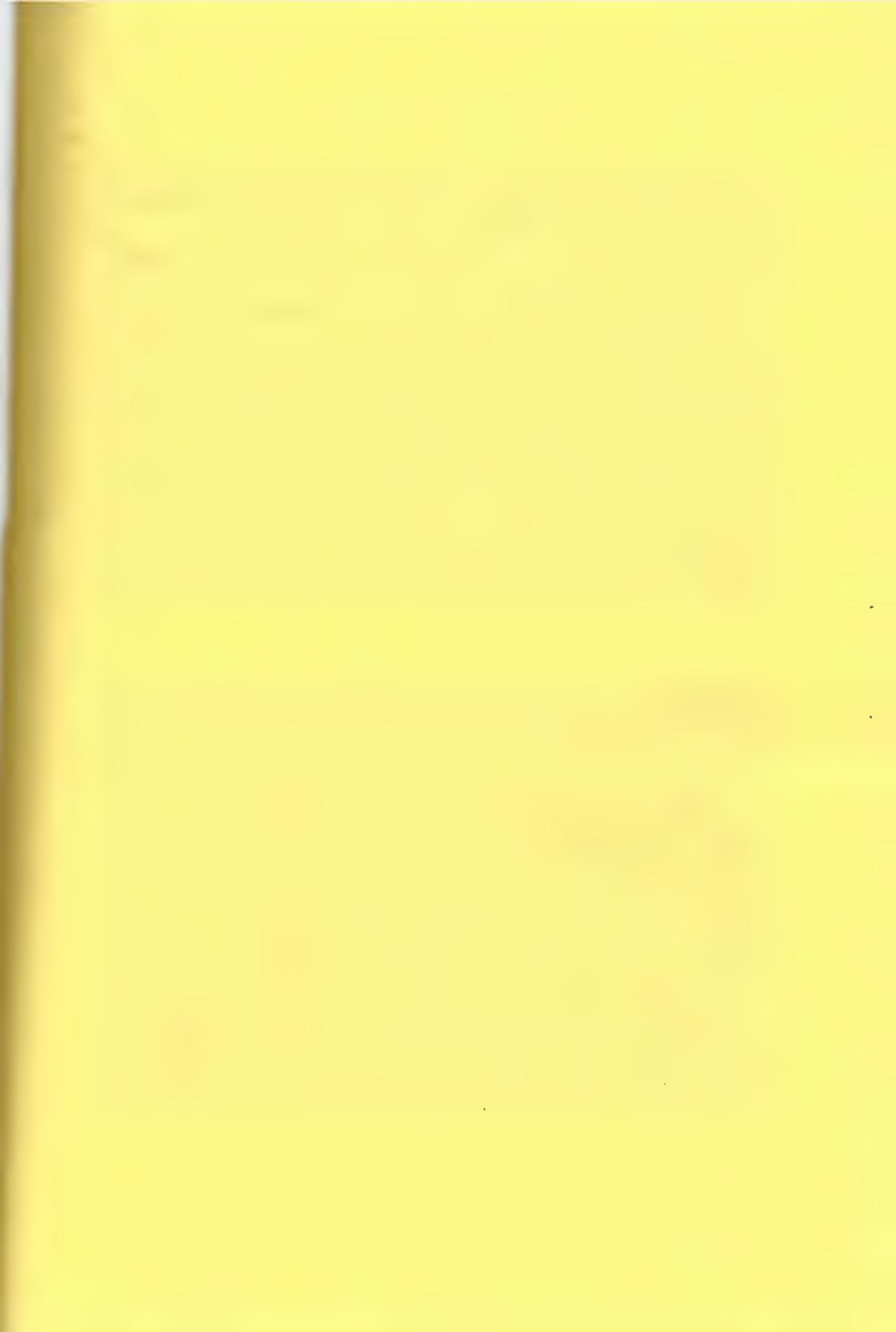
Chapter 8

		87h	Move block
		88h	Read extended memory size
		89h	Switch processor to protected mode
		8Ah-8Fh	Reserved
		90h	Device busy loop
		91h	Interrupt complete
		92h-BFh	Reserved
		C0h	Return system configuration parameters
		C1h	Return extended BIOS data area segment address
		C2h	Pointing device interface
		C3h-FFh	Reserved
16h	Software	Keyboard	
		AH Value	Function
		00h	Read keyboard input
		01h	Return keyboard status
		02h	Return shift flag status
		03h	Set typematic rate and delay
		04h	Reserved
		05h	Store key data
		06h-0Fh	reserved
		10h	Read extended key input
		11h	Return extended keyboard status
		12h	Return extended shift flags status
		13h-FFh	reserved
17h	Software	Parallel Printer	
		AH Value	Function
		00h	Print character
		01h	Initialize printer
		02h	Read printer status
		03h-FFh	reserved

Chapter 8

18h	Software	Load ROM BASIC
19h	Software	Bootstrap Loader
1Ah	Software	System Timer and Real-Time Clock
		AH Value Function
		00h Read system timer time counter
		01h Set system timer time counter
		02h Read real time clock time
		03h Set real time clock time
		04h Read real time clock date
		05h Set real time clock date
		06h Reserved
		07h Set real time clock alarm
		08h Read day of week from real time clock(SystemSoft only)
		09h Write day of week to real time clock(SystemSoft only)
		0Ah-FFh Reserved
1Bh	Software	Keyboard Break
1Ch	User	User timer tick
1Dh	BIOS table	Video parameters table
1Eh	BIOS table	Diskette parameters table
1Fh	User	Video graphics characters
40h	Software	diskette BIOS receptor
41h	BIOS table	Fixed disk parameter table
46h	BIOS table	Fixed disk parameter table
70h	Hardware	Real time clock
71h	Hardware	Redirect cascade
74h	Hardware	Pointing device(Mouse)
76h	Hardware	fixed disk

+ Any 80386 and/or coprocessor exception interrupts normally handled by the operating system are vectored by default to the BIOS at system power-on.



Chapter 9 BIOS Setup

Phoenix BIOS Setup - Copyright 1985-95 Phoenix Technologies, Inc.	
Main Advanced Security Power Boot Exit	
System Time: [16:42:23]	Item Specific Help <Tab>, <Shift-Tab>, or <Enter> selects field.
System Date: [07/19/1996]	
Diskette A: [1.44 MB, 3 1/2"]	
Diskette B: [Not Installed]	
▶ IDE Adapter 0 Master (C: 1883 Mb)	
▶ IDE Adapter 0 Slave (None)	
▶ IDE Adapter 1 Master (None)	
▶ IDE Adapter 1 Slave (None)	
Video Display Device: [CRT & LCD]	
▶ Memory Cache	
▶ Boot Options	
▶ Numlock: [Auto]	
System Memory: 640 KB	
Extended Memory: 7 MB	
F1 Help F2 Select Item F3 Change Values F9 Setup Defaults ESC Exit ← Select Menu Enter Select Sub-Menu F10 Restore Defaults	

/Dump0000

Phoenix BIOS Setup - Copyright 1985-95 Phoenix Technologies, Inc.		
Main		
Memory Cache		
External Cache: [Disabled]	Item Specific Help Sets the state of external memory cache.	
Cache System BIOS area: [Enabled]		
Cache Video BIOS area: [Enabled]		
Cache Memory Region		
C800-CBFF: [Enabled]		
CC00-CFFF: [Enabled]		
D000-D3FF: [Enabled]		
D400-D7FF: [Enabled]		
DB00-DBFF: [Enabled]		
DC00-DFFF: [Enabled]		
F1 Help F2 Select Item F3 Change Values F9 Setup Defaults ESC Exit ← Select Menu Enter Select Sub-Menu F10 Restore Defaults		

/Dump0002

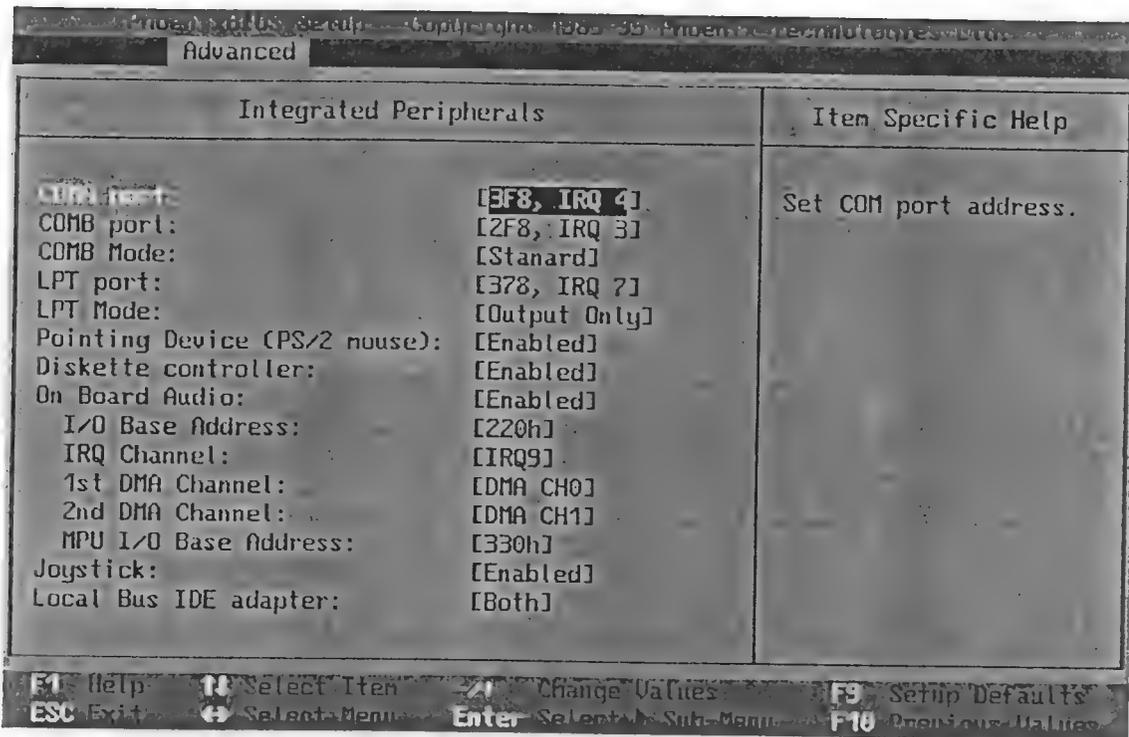
PhoenixBIOS Setup - Copur 1985-95 Phoenix Technologies Ltd.	
Main	
Boot Options	Item Specific Help
Secondary screen: [Enabled] Floppy check: [Disabled]	Display system configuration on boot.
F1 Help F2 Select Item F3 Change Values F9 Setup Defaults ESC Exit F4 Select Menu Enter Select Sub-Menu F10 Previous Values	

/Dump0003

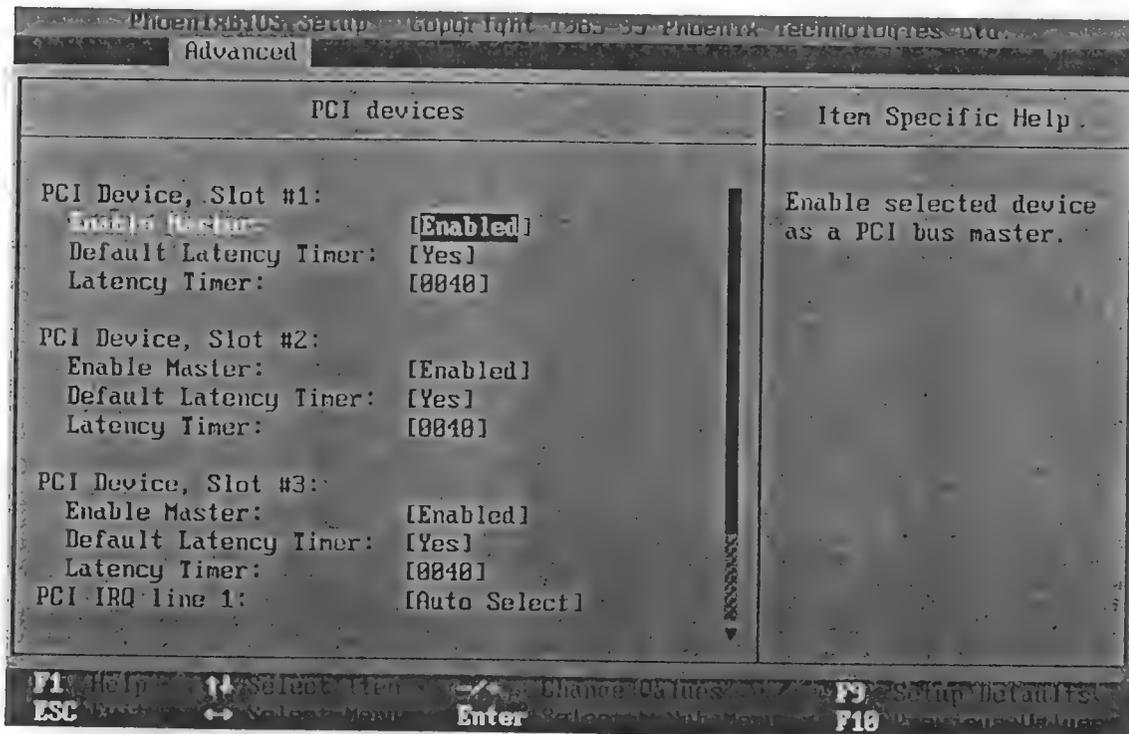
PhoenixBIOS Setup - Copur 1985-95 Phoenix Technologies Ltd.	
Main	
Keyboard Features	Item Specific Help
Num Lock: [Auto] Key Click: [Disabled] Keyboard auto-repeat rate: [30/sec] Keyboard auto-repeat delay: [1/2 sec]	Selects Power-on state for Numlock
F1 Help F2 Select Item F3 Change Values F9 Setup Defaults ESC Exit F4 Select Menu Enter Select Sub-Menu F10 Previous Values	

/Dump0004

Chapter 9



/Dump0006



/Dump0008

Main		Advanced	Security	Power	Boot	Exit
Supervisor Password is:	Disabled					Item Specific Help
User Password is:	Disabled					
Set Supervisor Password:	[Press Enter]					
Set User Password:	Press Enter					
Password on boot:	[Disabled]					
Diskette access:	[Supervisor]					
Fixed disk boot sector:	[Normal]					
System backup reminder:	[Disabled]					
Virus check reminder:	[Disabled]					
F1 Help ↑ Select Item → Change Values F9 Setup Defaults ESC Exit ← Select Menu Enter Select Sub-Menu F10 Previous Values						

/Dump0009

Main		Advanced	Security	Power	Boot	Exit
Power Savings:	[OFF]					Item Specific Help
Doze Mode:	Disabled					
Standby Timeout:	OFF					
Suspend Timeout:	OFF					
Save To Disk:	OFF					
Hard Disk Timeout:	OFF					
Video Timeout:	OFF					
Low Power Suspend:	[OFF]					
Resume On Modem Ring:	[OFF]					
Resume On Time:	[OFF]					
Resume Time:	[00:00:00]					
F1 Help ↑ Select Item → Change Values F9 Setup Defaults ESC Exit ← Select Menu Enter Select Sub-Menu F10 Previous Values						

/Dump0010

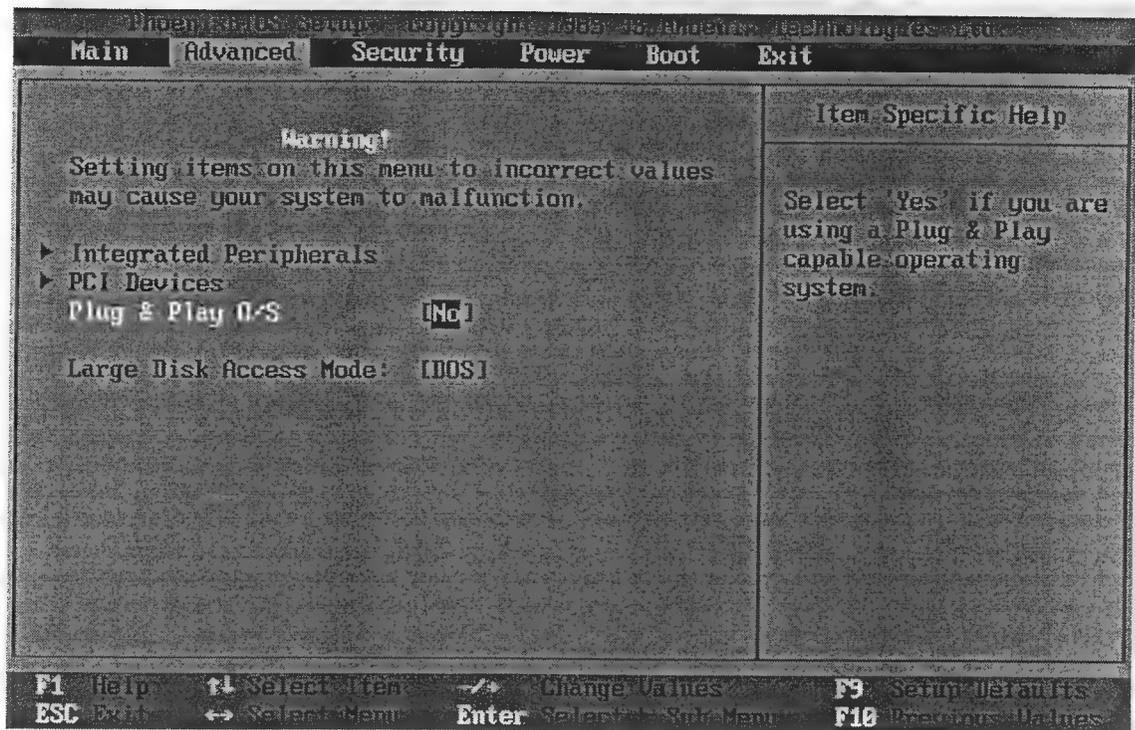
Chapter 9



/Dump0012



/Dump0013



/Dump0015



POST Errors

A. Recoverable POST Errors

Whenever a recoverable error occurs during POST, *PhoenixBIOS* displays an error message describing the problem.

PhoenixBIOS also issues a beep code (one long tone followed by two short tones) during POST if the video configuration fails (no card installed or faulty) or if an external ROM module does not properly checksum to zero.

An external ROM module (e.g. VGA) can also issue audible errors, usually consisting of one long tone followed by a series of short tones.

B. Terminal POST Errors

There are several POST routines that issue a POST Terminal Error and shut down the system if they fail. Before shutting down the system, the terminal-error handler issues a beep code signifying the test point error, writes the error to port 80h, attempts to initialize the video, and writes the error in the upper left corner of the screen (using both mono and color adapters).

The routine derives the beep code from the test point error as follows:

1. The 8-bit error code is broken down to four 2-bit groups.
2. Each group is made one-based (1 through 4) by adding 1.
3. Short beeps are generated for the number in each group.

Example:

Testpoint 01Ah = 00 01 10 10 = 1-2-3-3 beeps

If the BIOS detects error 2C, 2E, or 30 (base 512k RAM error), it displays an additional word of information reflecting the bit or address line that failed. For example, if "2C 0002" is displayed, address line 1 (represented by bit one) has failed. If "2E 1020" is displayed, then data bits 12 and 5 have failed in the upper 16 bits.

BIOS sends the same information to the port-80 LED display (See below). The check point code is followed by a delay, the high order byte, another delay, and then the low order byte of the error. This

C. Test Points and Beep Codes

At the beginning of each POST routine, the BIOS outputs the test point error code to I/O address 80h. Use this code during trouble shooting to establish at what point the system failed and what routine was being performed.

Some motherboards are equipped with a seven-segment LED display that displays the current value of port 80h. For production boards which do not contain the LED display, you can purchase a card that performs the same function.

If the BIOS detects a terminal error condition, it halts POST after issuing a terminal error beep code (See above) and attempting to display the error code on upper left corner of the screen and on the port 80h LED display. It attempts repeatedly to write the error to the screen. This may cause "hash" on some CGA displays.

If the system hangs before the BIOS can process the error, the value displayed at the port 80h is the last test performed. In this case, the screen does not display the error code.

The following is a list of the checkpoint codes written at the start of each test and the beep codes issued for terminal errors:

Code	Beeps	POST Routine Description
02		Verify Real Mode
04		Get CPU type
06		Initialize system hardware
08		Initialize chipset registers with initial POST values
09		Set in POST flag
0A		Initialize CPU registers
0C		Initialize cache to initial POST values

0E		Initialize I/O
0F		Initialize the local bus IDE
10		Initialize Power Management
11		Load alternate registers with initial POST valuesnew
12		Jump to UserPatch0
14		Initialize keyboard controller
16	2-2-3	BIOS ROM checksum
18		8254 timer initialization
1A		8237 DMA controller initialization
1C		Reset Programmable Interrupt Controller
20	3-1-1	Test DRAM refresh
22	3-1-3	Test 8742 Keyboard Controller
24		Set ES segment register to 4 GB
28		Autosize DRAM
2A		Clear 512K base RAM
2C	3-4-1	Test 512K base address lines
2E	3-4-3	Test 512K base memory
32		Test CPU bus-clock frequency
34		Test CMOS RAM
35		Initialize other hardware devices.
37		Reinitialize the chipset (MB only)
38		Shadow system BIOS ROM

5C		Test RAM between 512 and 640k
60		Test extended memory
62		Test extended memory address lines
64		Jump to UserPatch1
66		Configure advanced cache registers
68		Enable external and CPU caches
6A		Display external cache size
6C		Display shadow message
6E		Display non-disposable segments
70		Display error messages
72		Check for configuration errors
74		Test real-time clock
76		Check for keyboard errors
7C		Set up hardware interrupt vectors
7E		Test coprocessor if present
80		Disable onboard I/O ports.
82		Detect and install external RS232 ports
84		Detect and install external parallel ports
86		Re-initialize onboard I/O ports.
88		Initialize BIOS Data Area
8A		Initialize Extended BIOS Data Area
8C		Initialize floppy controller
90		Initialize hard-disk drives

Chapter 10

39		Reinitialize the cache (MB only)
3A		Autosize cache
3C		Configure advanced chipset registers
3D		Load alternate registers with CMOS valuesnew
40		Set Initial CPU speed new
42		Initialize interrupt vectors
44		Initialize BIOS interrupts
46	2-1-2-3	Check ROM copyright notice
47		Initialize manager for PCI Option ROMs
48		Check video configuration against CMOS
49		Initialize PCI bus and devices
4A		Initialize all video adapters in system
4C		Shadow video BIOS ROM
4E		Display copyright notice
50		Display CPU type and speed
51		Initialize EISA slots
52		Test keyboard
54		Set key click if enabled
56		Enable keyboard
58	2-2-3-1	Test for unexpected interrupts
5A		Display prompt "Press F2 to enter SETUP"

Chapter 10

91		Local-bus IDE timing
92		Jump to UserPatch2
93		Build MPTABLE for multi-processor boards
94		Disable A20 address line
96		Clear huge ES segment register
98		Search for option ROMs
9A		Shadow option ROMs
9C		Set up Power Management
9E		Enable hardware interrupts
A0		Set time of day
A2		Check key lock
A4		Initialize typematic rate
A8		Erase F2 prompt
AA		Scan for F2 key stroke
AC		Enter SETUP
AE		Clear in-POST flag
B0		Check for errors
B2		POST done - prepare to boot operating system
B4		One beep
B6		Check password (optional)
B8		Clear global descriptor table
BC		Clear parity checkers

BE		Clear screen (optional)
BF		Check virus and backup reminders
C0		Try to boot with INT 19
DO		Interrupt handler error
D2		Unknown interrupt error
D4		Pending interrupt error
D6		Initialize option ROM error
D8		Shutdown error
DA		Extended Block Move
DC		Shutdown 10 error
		The following are for boot block in Flash ROM
E2		Initialize the chipset
E3		Initialize refresh counter
E4		Check for Forced Flash
E5		Check HW status of ROM
E6		BIOS ROM is OK
E7		Do a complete RAM test
E8		Do OEM initialization
E9		Initialize interrupt controller
EA		Read in the bootstrap code
EB		Initialize all vectors
EC		Boot the Flash program
ED		Initialize the boot device
EE		Boot code was read OK

D. PhoenixBIOS Messages

nnnn Cache SRAM Passed
Diskette drive A error
Diskette drive B error
Entering SETUP...
Extended RAM Failed at offset: *nnnn* *
Extended RAM Passed
Failing Bits: *nnnn* *
Fixed Disk 0 Failure
Fixed Disk 1 Failure
Fixed Disk Controller Failure *
Incorrect Drive A type - run SETUP
Incorrect Drive B type - run SETUP
Invalid NVRAM media type *
Keyboard controller error *
Keyboard error
Keyboard locked - Unlocked key switch
Monitor type does not match CMOS - Run SETUP
Operating system not found
Parity Check 1 *nnnn* *
Parity Check 2 *nnnn* *
Press <F1> to resume, <F2> to Setup
Press <F2> to enter SETUP
Real time clock error *
Shadow Ram Failed at offset: *nnnn* *
nnnn Shadow RAM Passed
System battery is dead - Replace and run SETUP
System BIOS shadowed
System cache error - Cache disabled *
System CMOS checksum bad - run SETUP
System RAM Failed at offset: *nnnn* *
nnnn System RAM Passed
System timer error *
UMB upper limit segment address: *nnnn*
Video BIOS shadowed

* If your system displays this message, write down the message and contact your dealer. If your system fails after you made changes in the Setup menus, you may be able to correct the problem by entering Setup and restoring the original values. The following is an explanation of each of the messages listed above.

nnnn Cache SRAM Passed Where *nnnn* is the amount of system cache in kilobytes successfully tested.

Diskette drive A error or

Diskette drive B error Drive A: or B: is present but fails the BIOS POST diskette test. Check to see that the drive is defined with proper diskette type in Setup and that the diskette drive is attached correctly.

Entering SETUP... Starting Setup program

Extended RAM Failed at offset: *nnnn* Extended memory not working or not configured properly at offset *nnnn*.

nnnn Extended RAM Passed Where *nnnn* is the amount of RAM in kilobytes successfully tested.

Failing Bits: *nnnn* The hex number *nnnn* is a map of the bits at the RAM address (in System, Extended, or Shadow memory) which failed the memory test. Each 1 (one) in the map indicates a failed bit.

Fixed Disk 0 Failure or

Fixed Disk 1 Failure or

Fixed Disk Controller Failure Fixed disk is not working or not configured properly. Check to see if fixed disk is attached properly. Run Setup be sure the fixed-disk type is correctly identified.

Incorrect Drive A type - run SETUP Type of floppy drive A: not correctly identified in Setup.

Incorrect Drive B type - run SETUP Type of floppy drive B: not correctly identified in Setup.

Invalid NVRAM media type Problem with NVRAM (CMOS) access.

Keyboard controller error The keyboard controller failed test. You may have to replace keyboard or controller.

Keyboard error Keyboard not working.

Keyboard error *nn* BIOS discovered a stuck key and displays the scan code *nn* for the stuck key.

Keyboard locked - Unlocked key switch Unlocked the system to proceed.

Monitor type does not match CMOS - Run SETUP Monitor type not correctly identified in Setup.

Operating system not found Operating system cannot be located on either drive A: or drive C:.
Enter Setup and see if fixed disk and drive A: are properly identified.

Parity Check 1 Parity error found in the system bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????

Parity Check 2 Parity error found in the I/O bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????

Press <F1> to resume, <F2> to Setup Displayed after any recoverable error messages. Press <F1> to start the boot process or <F2> to enter Setup and change any settings.

Chapter 10

Press <F2> to enter SETUP Optional message displayed during POST. Can be turned off in Setup.

Previous boot incomplete - Default configuration used Previous POST did not complete successfully. POST loads default values and offers to run Setup. If the failure was caused by incorrect values and they are not corrected, the next boot will likely fail. On systems with control of wait states, improper Setup settings can also terminate POST and cause this error on the next boot. Run Setup and verify that wait-state configuration is correct. This error is cleared the next time the system is booted.

Real time clock error Real-time clock fails BIOS test. May require board repair.

Shadow Ram Failed at offset: *nnnn* Shadow RAM failed at offset *nnnn* of the 64k block at which the error was detected.

***nnnn* Shadow RAM Passed** Where *nnnn* is the amount of shadow RAM in kilobytes successfully tested.

System battery is dead - Replace and run SETUP The CMOS clock battery indicator shows the battery is dead. Replace the battery and run Setup to reconfigure the system.

System BIOS shadowed System BIOS copied to shadow RAM.

System cache error - Cache disabled RAM cache failed the BIOS test. BIOS disabled the cache.

System CMOS checksum bad -run SETUP System CMOS has been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS. Run Setup and reconfigure the system either by getting the Default Values and/or making your own selections.

System RAM Failed at offset: *nnnn* System RAM failed at offset *nnnn* of in the 64k block at which the error was detected.

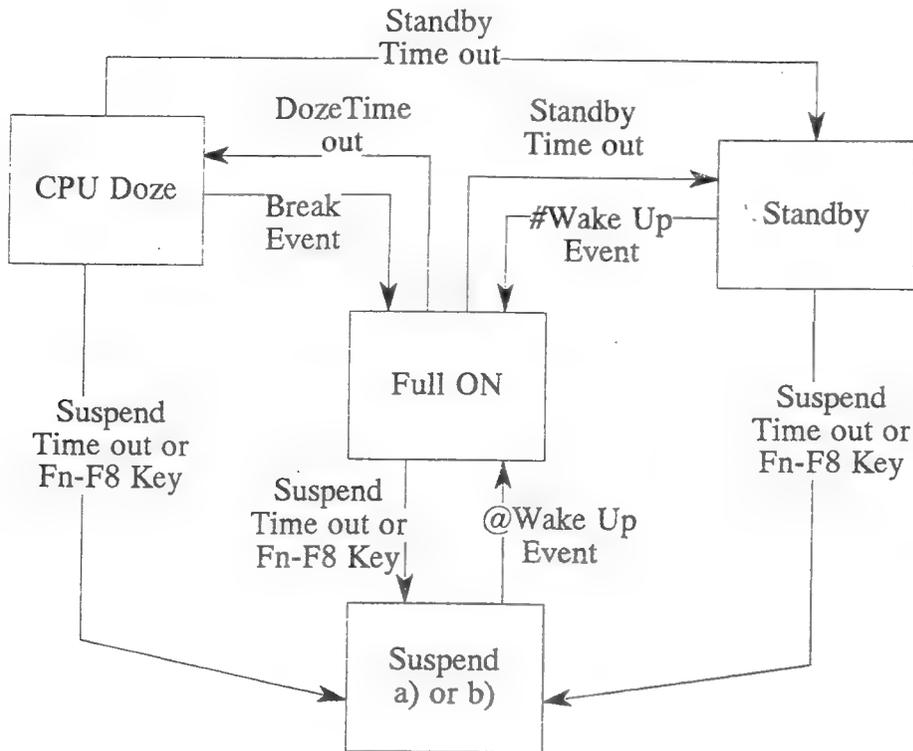
***nnnn* System RAM Passed** Where *nnnn* is the amount of system RAM in kilobytes successfully tested.

System timer error The timer test failed. Requires repair of system board.

UMB upper limit segment address: *nnnn* Displays the address *nnnn* of the upper limit of Upper Memory Blocks, indicating released segments of the BIOS which may be reclaimed by a virtual memory manager.

Video BIOS shadowed Video BIOS successfully copied to shadow RAM.

Power Management Mode Transfer Diagram



System Power management Mode

1) Doze Mode (CPU enter Stop Grant Cycle)

Break Event:

IRQ 0, 1, 3, 4, 5, 6, 7, 9, 10, 11, 12, 14, 15, SMI, NMI

2) Standby Mode

(CPU enter Stop Grant, FDD, COM, HDD, SOUND, VIDEO enter Standby mode)

#System Event :

IRQ 1, 3, 4, 5, 6, 7, 9, 10, 11, 12, 14, 15, NMI

WakeUp Event :

IRQ 1, 3, 4, 8, 12, SMI, COMRI

3) Suspend Mode

a) Static Suspend

(CPU enter Stop Grant, FDD, COM, HDD, SOUND, VIDEO enter Suspend mode)

System Event :

IRQ 1, 3, 4, 5, 6, 7, 9, 10, 11, 12, 14, 15, NMI

@WakeUp Event :

IRQ 1, 8, COMRI

b) Suspend To Disk

System Event :

IRQ 1, 3, 4, 5, 6, 7, 9, 10, 11, 12, 14, 15, NMI

WakeUp Event :

Power On Button

Respective Device Standby

i) Hard Disk :

System Event: IRQ 14, 15

Wake Up by Hard Disk Access

ii) Video :

System Event: IRQ 1, 12

Wake Up By Keyboard or PS/2 Mouse Active

* COMRI is the Ring signal of Modem

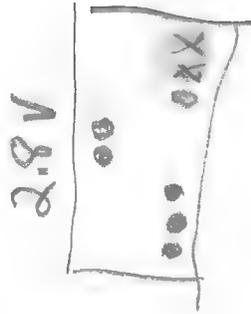


Chapter 11 Cpu Setting Table

G753+ CPU SPEED & VOLTAGE SWITCH SETTING

SW1	
SPEED	SETTING
75	
90	
100 / 230	
120	
133	
150	

SW2	
VOLTAGE	SETTING
2.5V	
2.9V	
3.1V	
3.3V	
<p>*SW2 PIN7 & PIN8 IS NC PIN SO "X" MEANS DON'T CARE</p>	



Approved by	<i>Reyva 11/5</i>	Checked by	<i>林 11/10</i>	Designed by	<i>林 11/10</i>
ALPHA-TOP CORPORATION					
Title G753+ M/B CPU SELECTION SWITCH SETTING					
Size B					
Document Number G753H0168					
Rev 00					
Date November 4, 1995 Sheet 1 of 1					

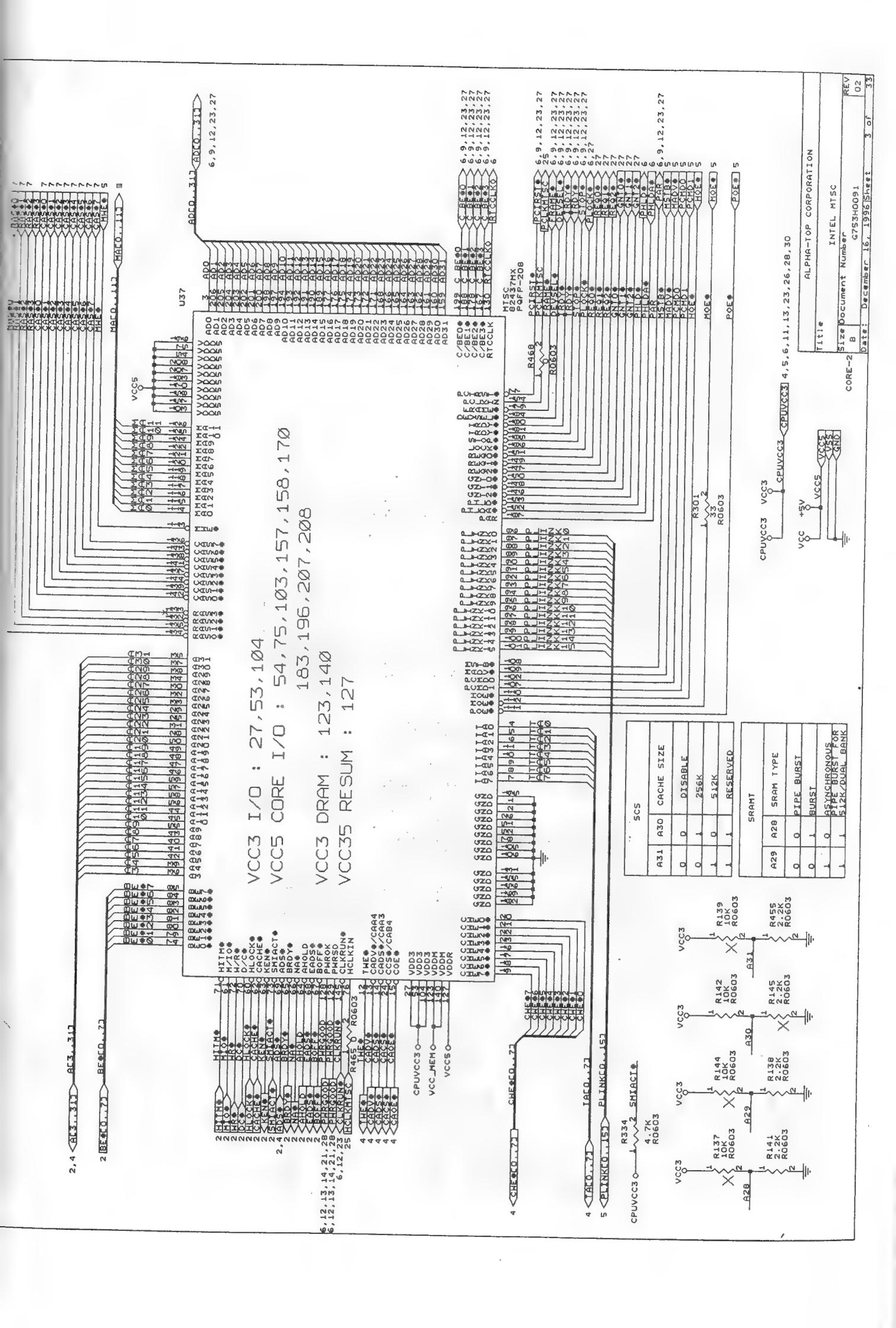


LINK-1
CORE-1
CORE-2
CORE-3
CORE-4
CORE-5
CORE-6
CORE-7
CORE-8
CORE-9
CORE-10
CORE-11
CORE-12
CORE-13
CORE-14
CORE-15
CORE-16
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CORE-97
CORE-98
CORE-99
CORE-100

- PAGE 1 : THIS PAGE
- PAGE 2 : CPU SOCKET (SPGA)
- PAGE 3 : INTEL MTSC (83437MX)
- PAGE 4 : 32K X 32 SRAM
- PAGE 5 : INTEL MTD (82438MX)
- PAGE 6 : INTEL MPIIX (82371MX)
- PAGE 7 : DRAM , DIM SOCKET
- PAGE 8 : BIOS SOCKET
- PAGE 9 : IDE CONTROLLER (PCI0646) , HDD & CD-ROM CONN
- PAGE 10: SUPER IO (NS338) , FIR & FDD CONN
- PAGE 11: MAX213 , SERIAL & PARALLEL CONN ; ERRATA 27
- PAGE 12: VGA CONTROLLER (NM2093)
- PAGE 13: TV OUT , AD722 & LCDVDD SWITCH
- PAGE 14: LCD DAMPING RESISTOR , CRT CONN
- PAGE 15: SOUND CHIP (ES1878)
- PAGE 16: GAME PORT ,MIC AMP ,DS1669
- PAGE 17: SPEAKER OUT AMP & CONN
- PAGE 18: MIC ,LINE IN & LINE OUT JACK
- PAGE 19: WAVETABLE CHIP (ES981 & ES690)
- PAGE 20: MICRO P. M37451SFP
- PAGE 21: KB CONTROLLER M38802M2 , K.B.& T/B CONN. & RTC DS12885
- PAGE 22: BUSY SIGNAL & IO PORT 110-112
- PAGE 23: LCDI ,MODEM & PCMCIA CONN.
- PAGE 24: SRAM ZZ MODE & SPARE PARTS
- PAGE 25: CLOCK GENERATOR & CPU CLK SELECTER
- PAGE 26: SYSTEM BYPASS & CPU BYPASS ,BULK CAPACITORS
- PAGE 27: DOCKING CONN. (AMP C-59013-32)
- PAGE 28: POWER ON BOARD-1
- PAGE 29: POWER ON BOARD-2
- PAGE 30: POWER ON BOARD-3
- PAGE 31: POWER ON BOARD-4
- PAGE 32: POWER ON BOARD-5
- PAGE 33: HISTORY

PCB P/N : HW101402
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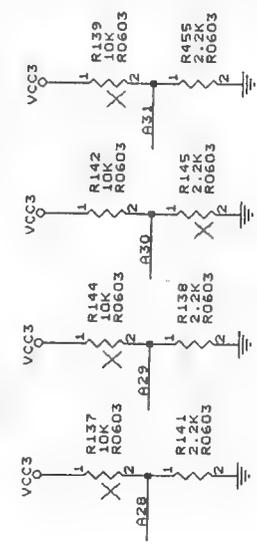
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Size : G753+ COVER PAGE		
Document Number	REV	
B	02	
Date : December 16, 1996	Sheet	1 of 33



VCC3 I/O : 27,53,104
 VCC5 CORE I/O : 54,75,103,157,158,170
 VCC3 DRAM : 183,196,207,208
 VCC35 RESUM : 127

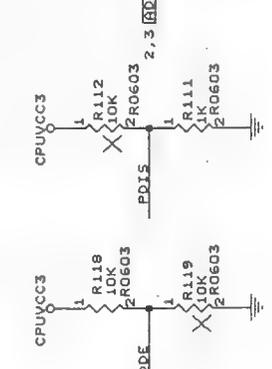
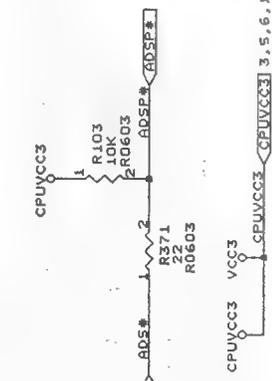
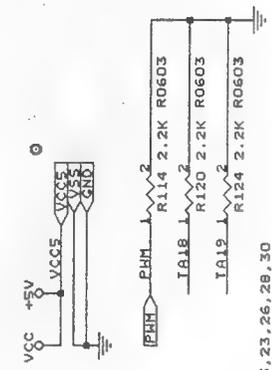
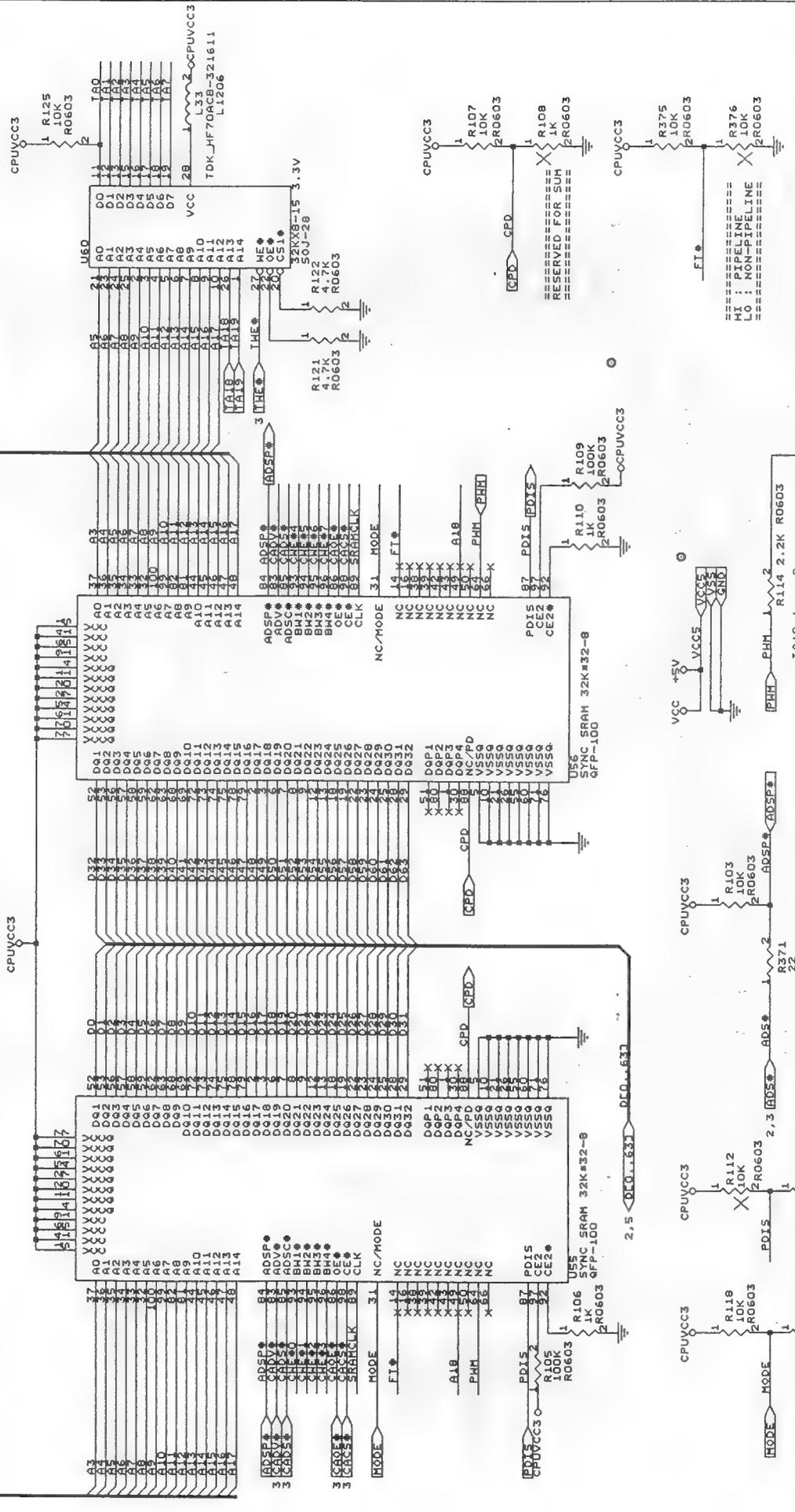
SCS	
A31	CACHE SIZE
0	0
0	DISABLE
1	256K
1	512K
1	RESERVED

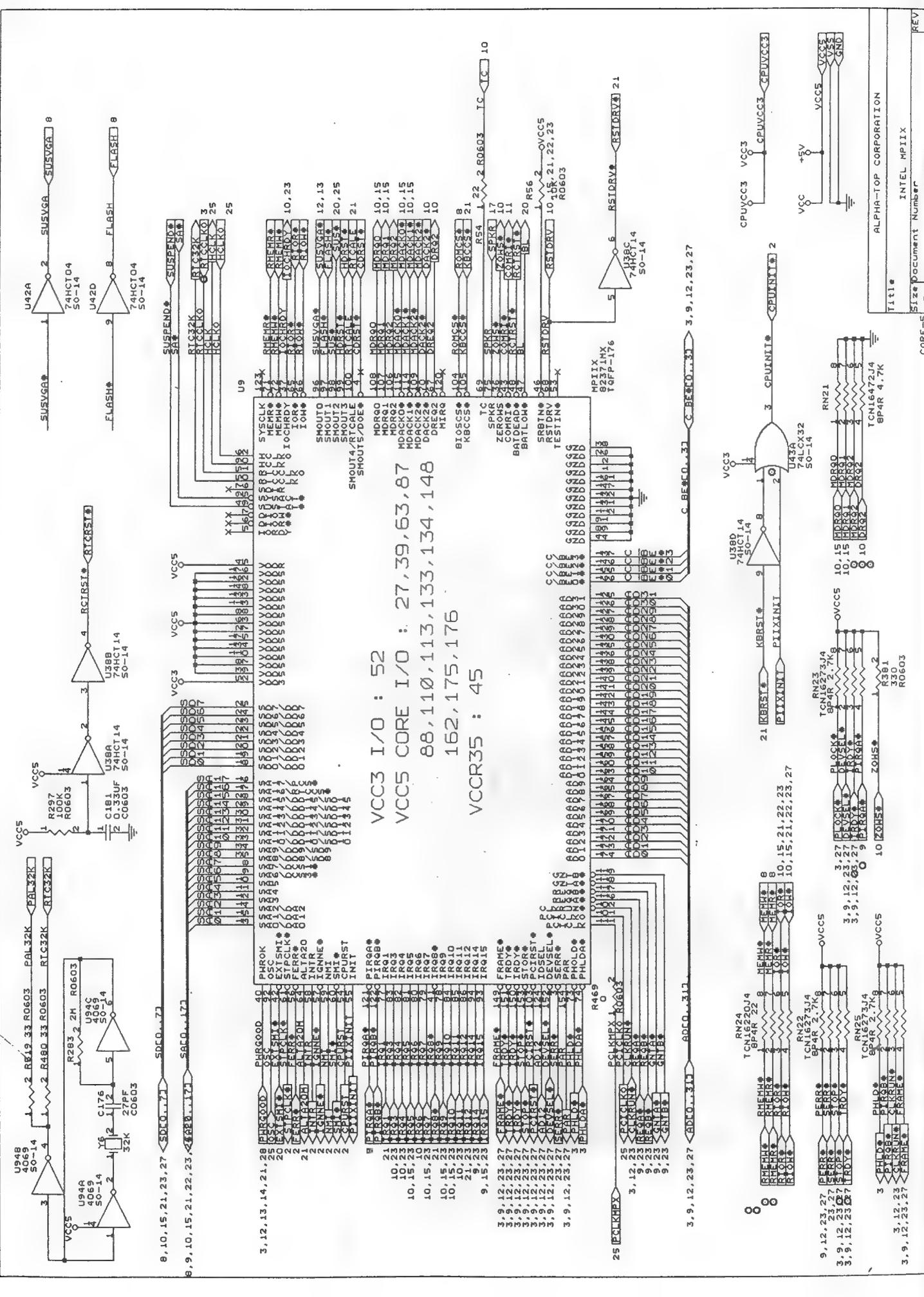
SRAM1	
A29	SRAM TYPE
0	PIPE BURST
0	BURST
1	ASYNCHRONOUS PIPE BURST FOR 512K/DUAL BANK



3 <IACO...7> IACO...7
 3 <SHE...7> SHE...7
 25 <HCLKSRAM...2> SRAMCLK SRAMCLK
 R467
 R0603

AL3...187 <AL3...18> 2.3





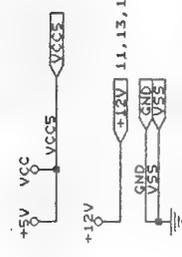
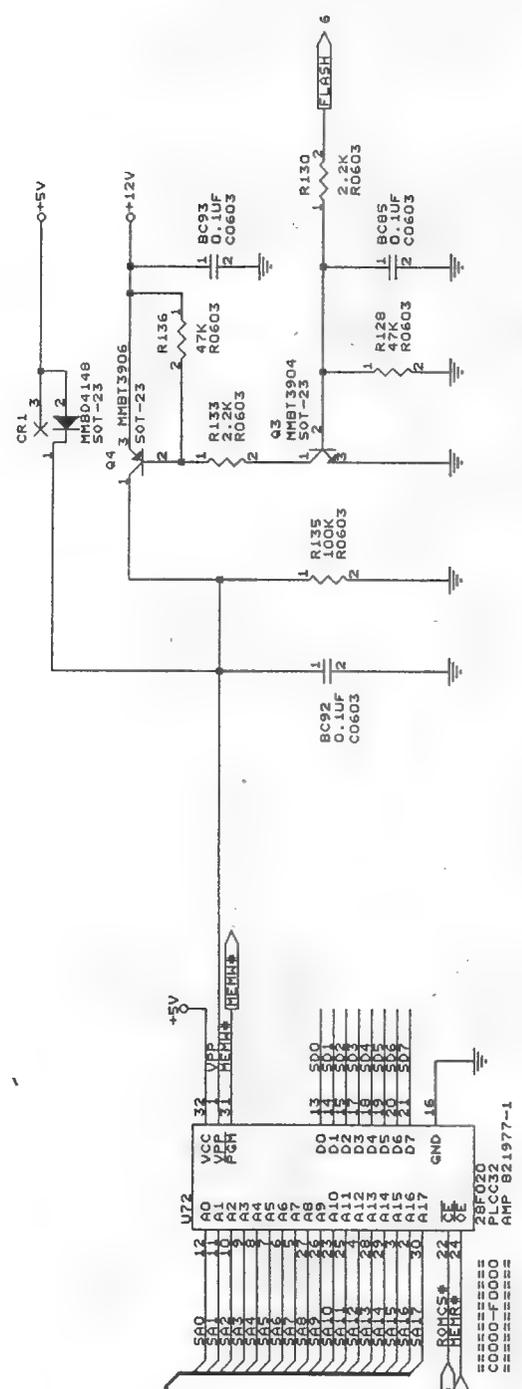
VCC3 I/O : 52
 VCC5 CORE I/O : 27,39,63,87
 88,110,113,133,134,148
 162,175,176
 VCCR35 : 45

6.10.15,21,22,23,27

SDCO...71 SDCO...71

6.9,10,15,21,22,23,24,27

SDCO...171 SDCO...171



1.1,13,15,16,18,19,23,29

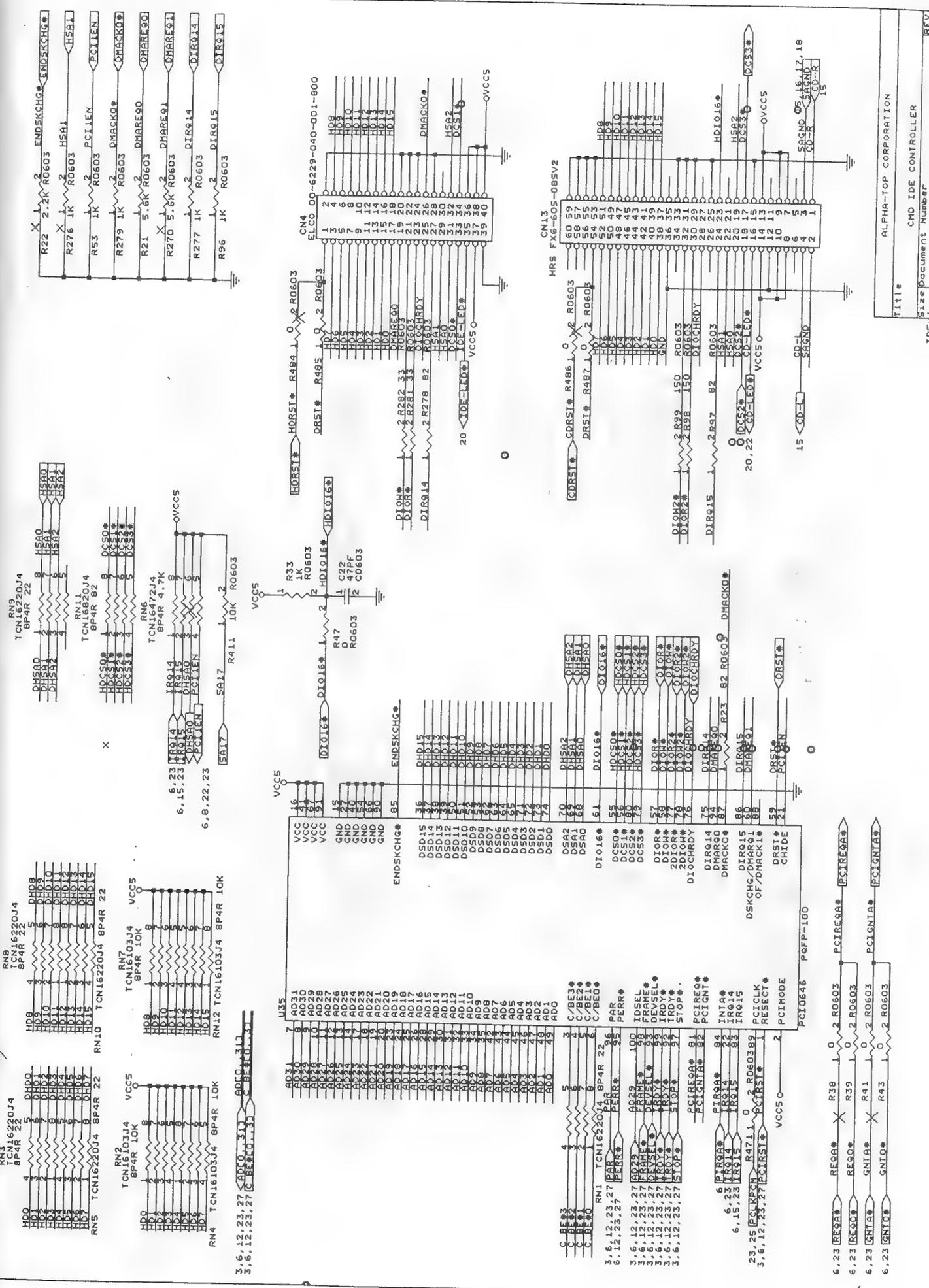
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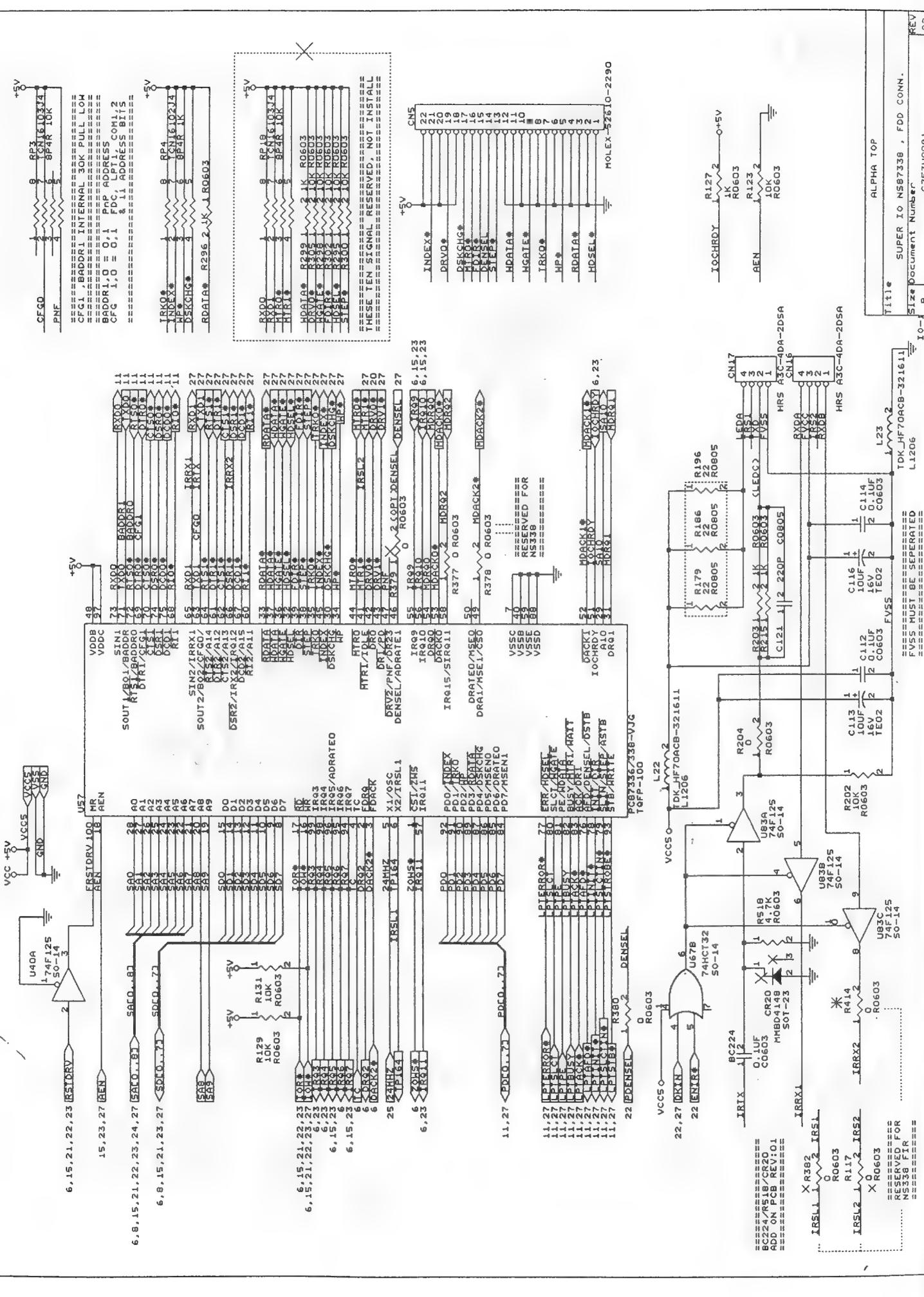
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SYSTEM BIOS

Document Number G753H0091

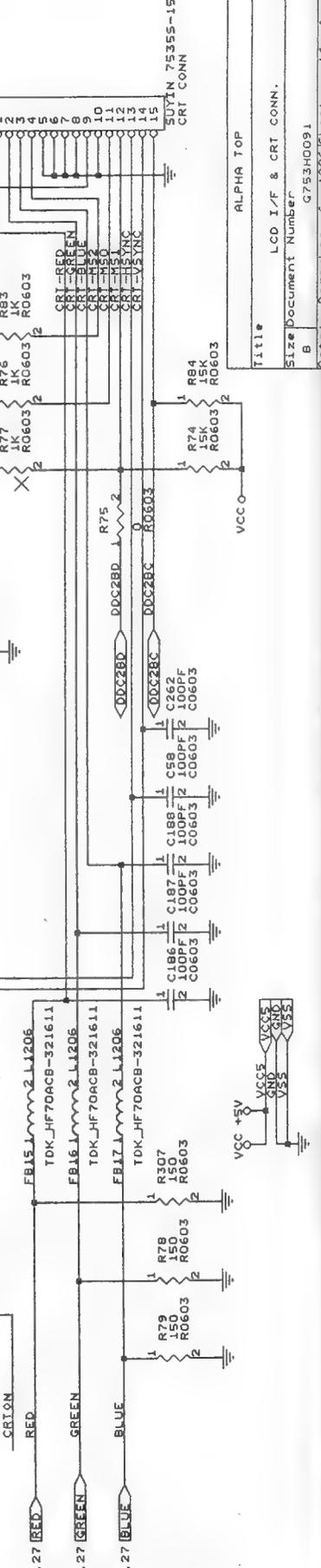
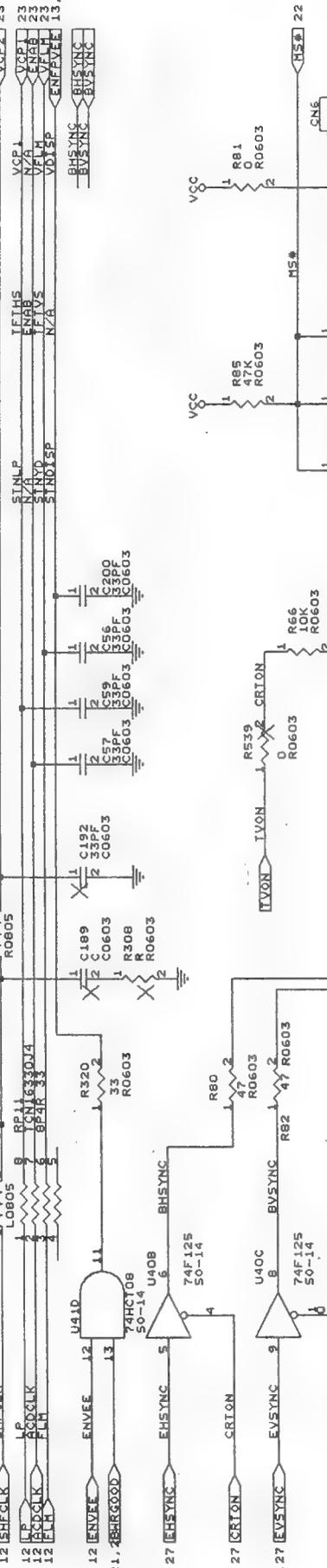
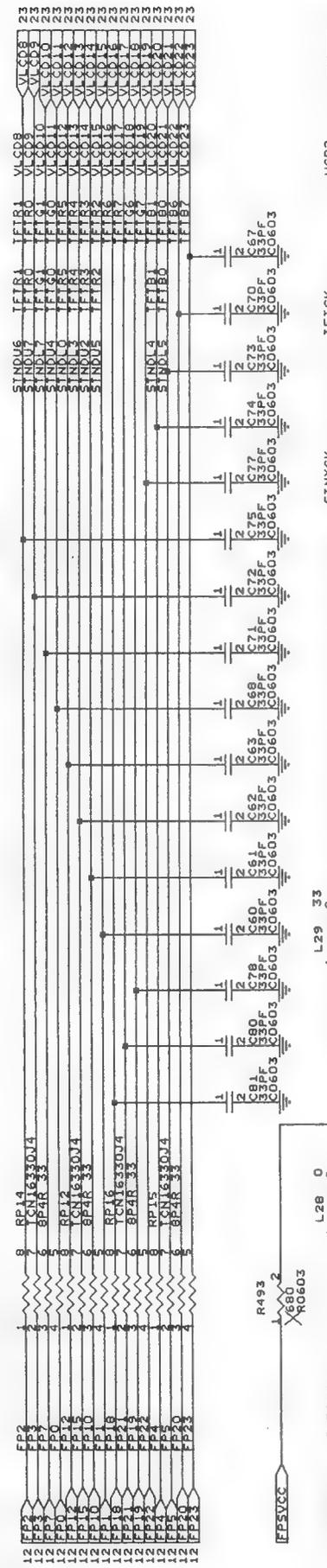
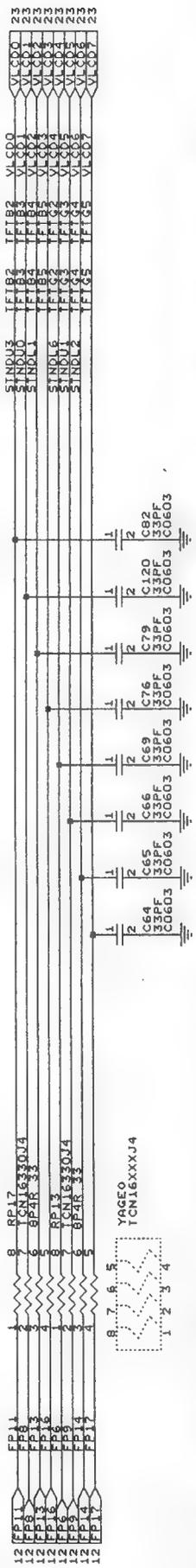
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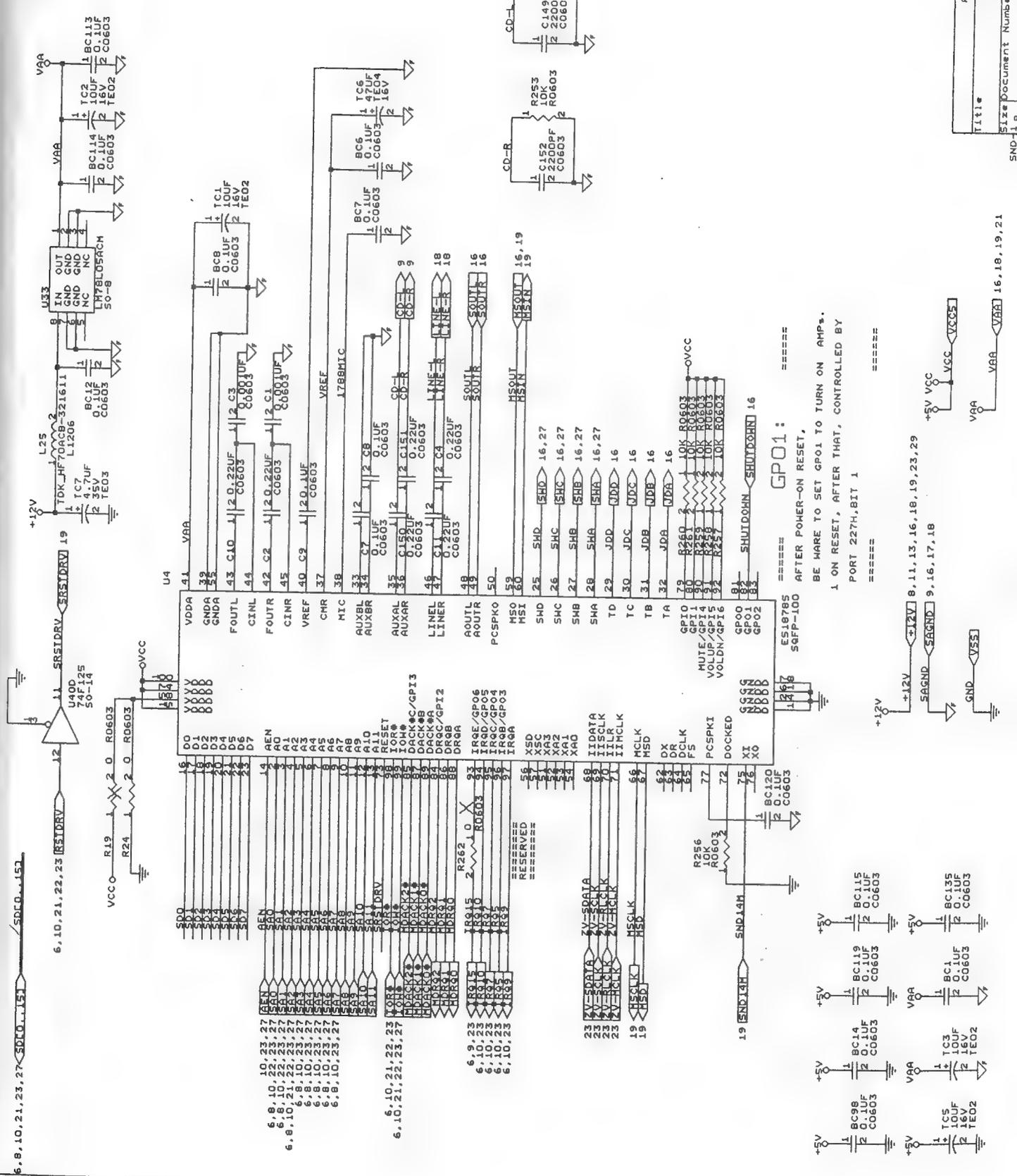




SUPER IO NSB7338 , FDD CONN.
 SIZE Document Number G753H0091
 Date: November 29, 1995 Sheet 10 of 33

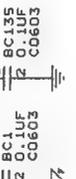
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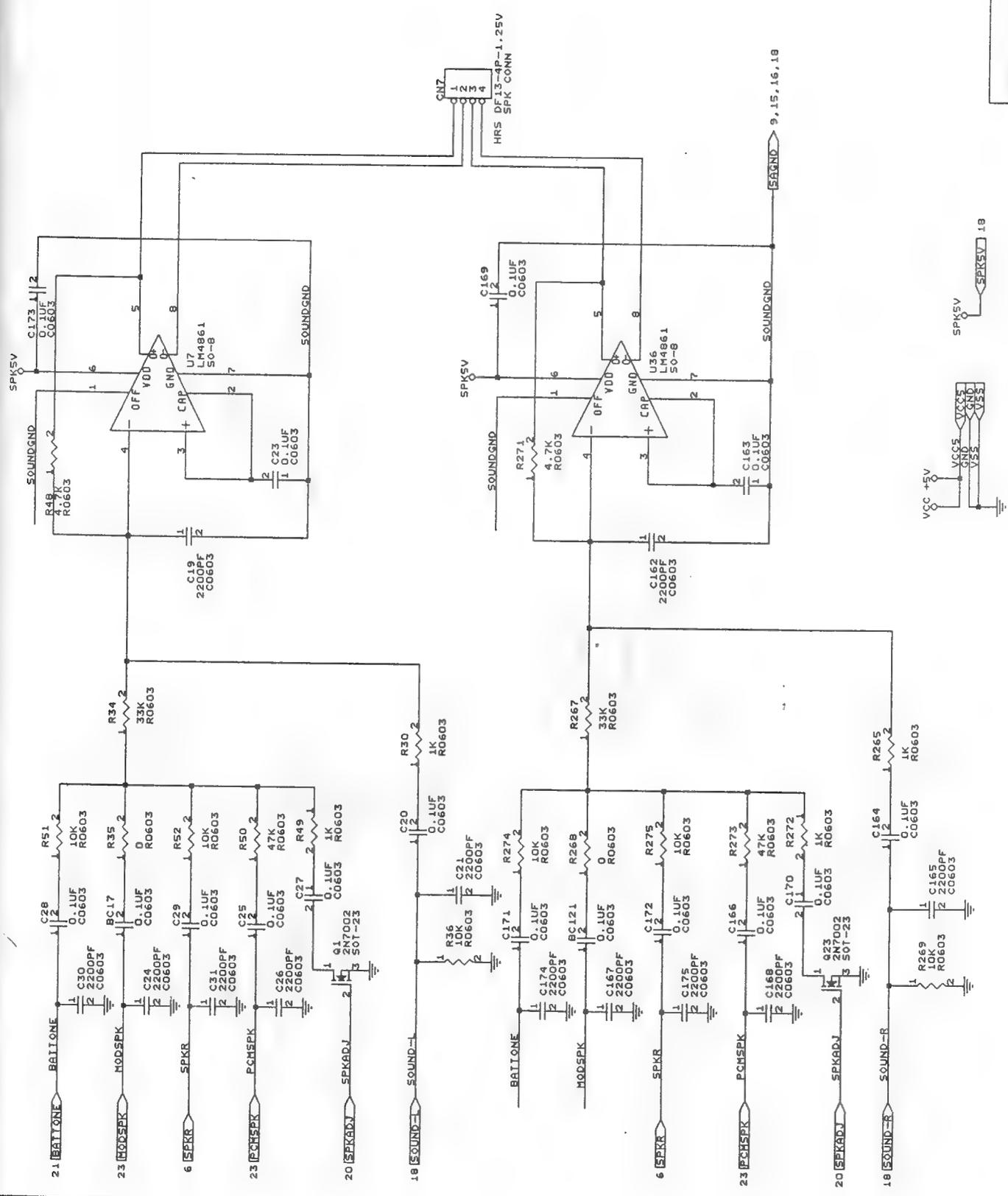




GPO1: =====
 BE WARE TO SET GPO1 TO TURN ON AMPs.
 1 ON RESET, AFTER THAT, CONTROLLED BY
 PORT 227H,BIT 1
 =====

8, 11, 13, 16, 18, 19, 23, 29
 9, 16, 17, 18





Title	ALPHA TOP
Size	A
Document Number	G753H0091
REV	02
Date	November 29, 1996
Sheet	17 of 33

SND-3

SPKSV 19

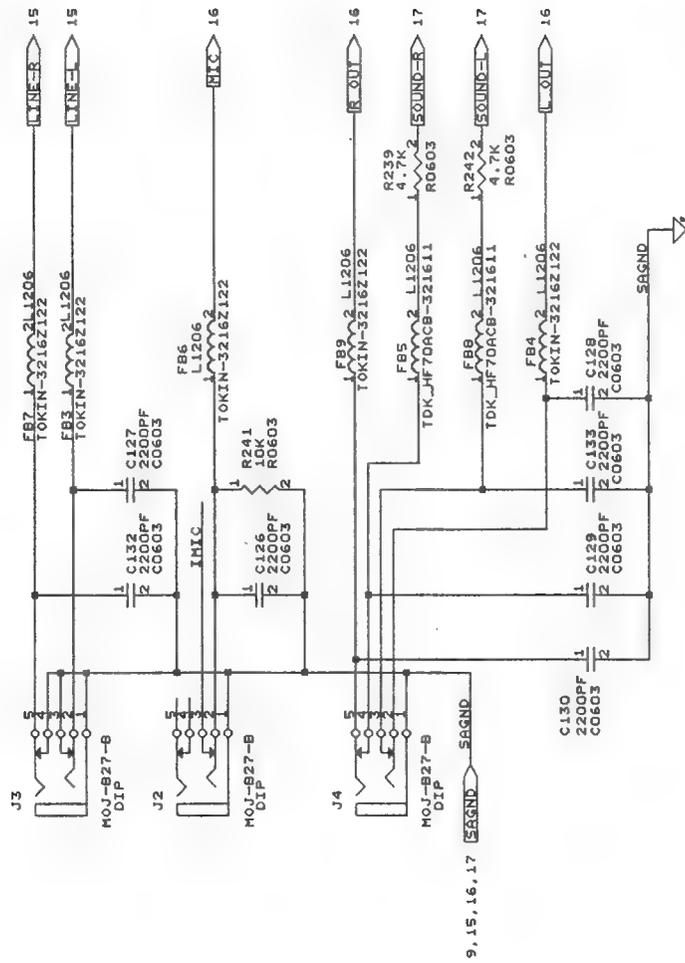


VCC +5V

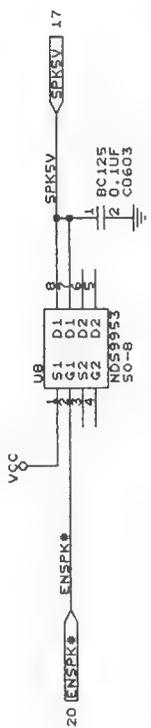
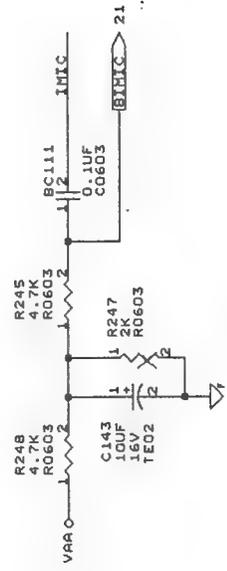
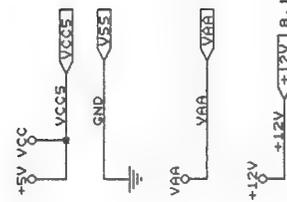
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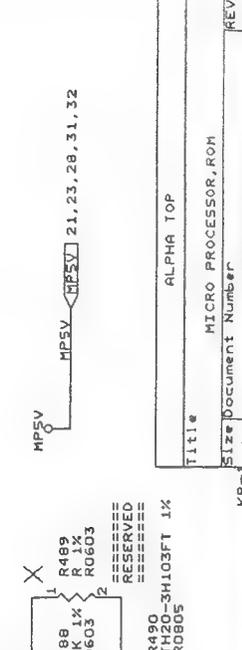
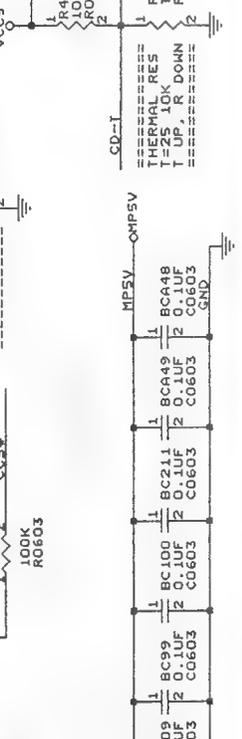
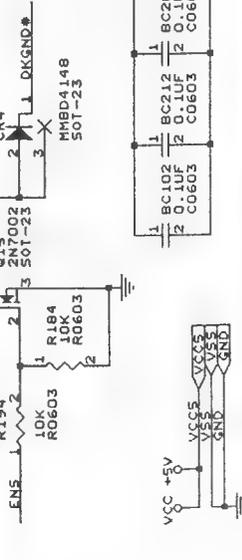
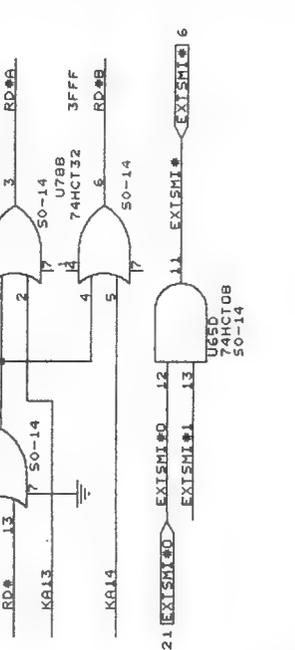
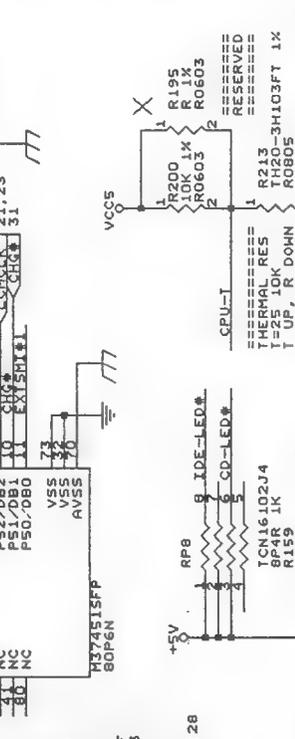
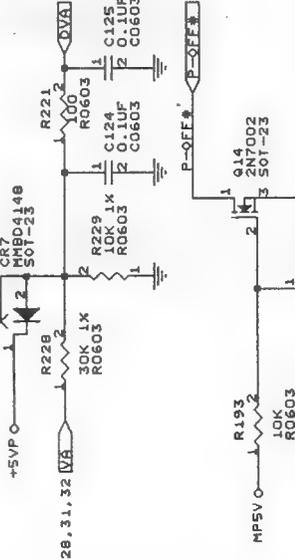
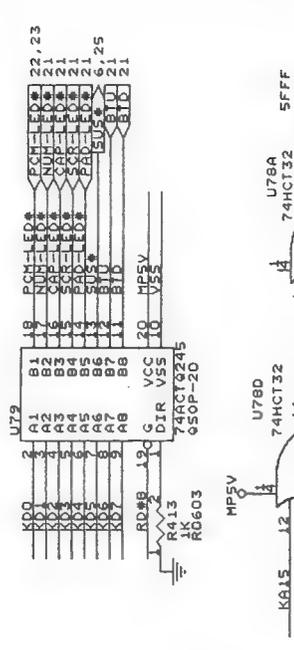
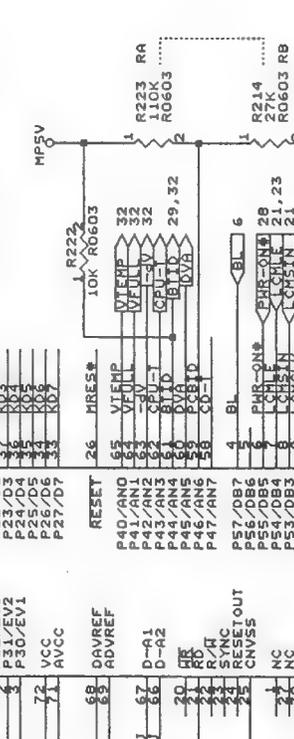
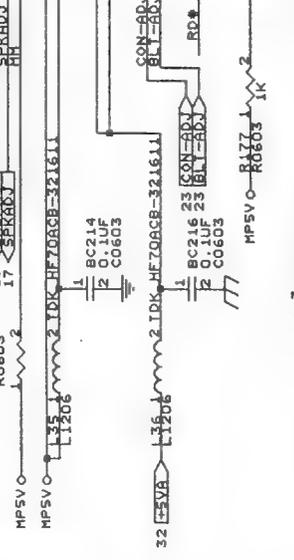
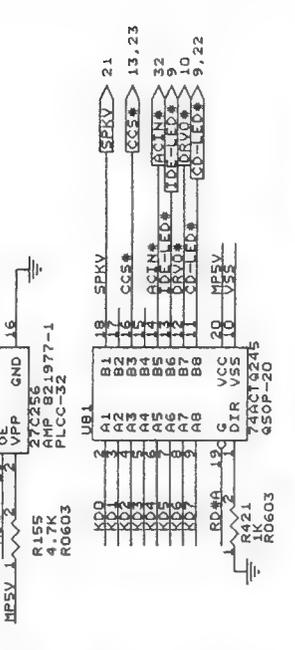
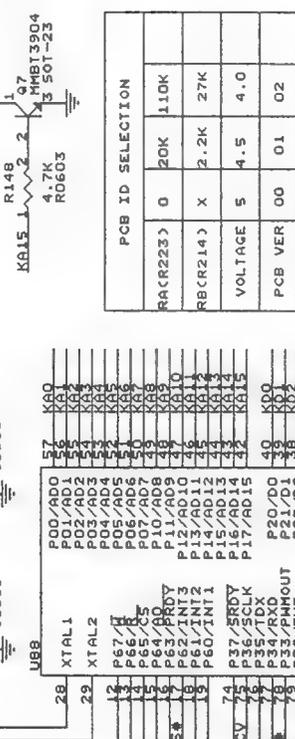
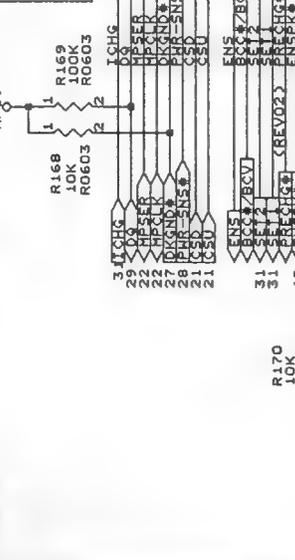
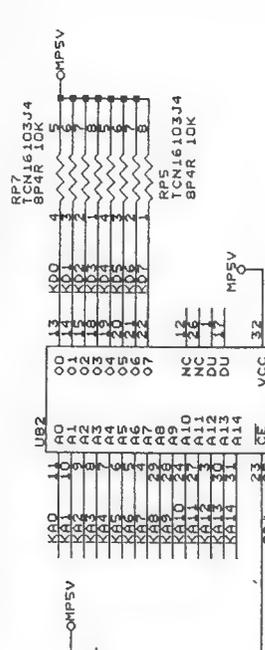
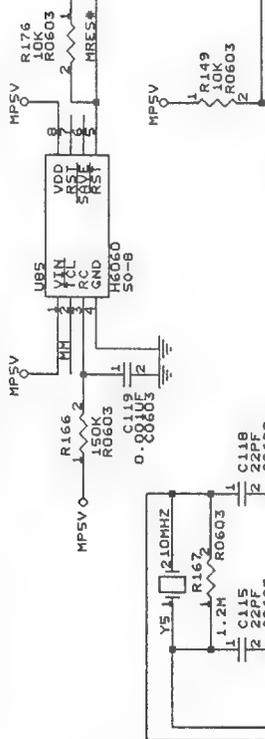
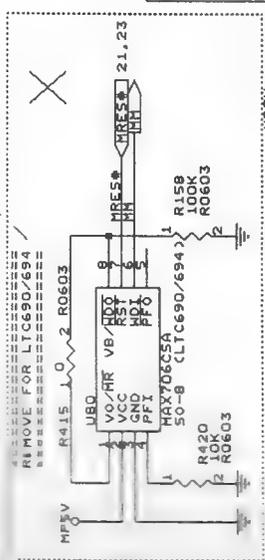
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VSS

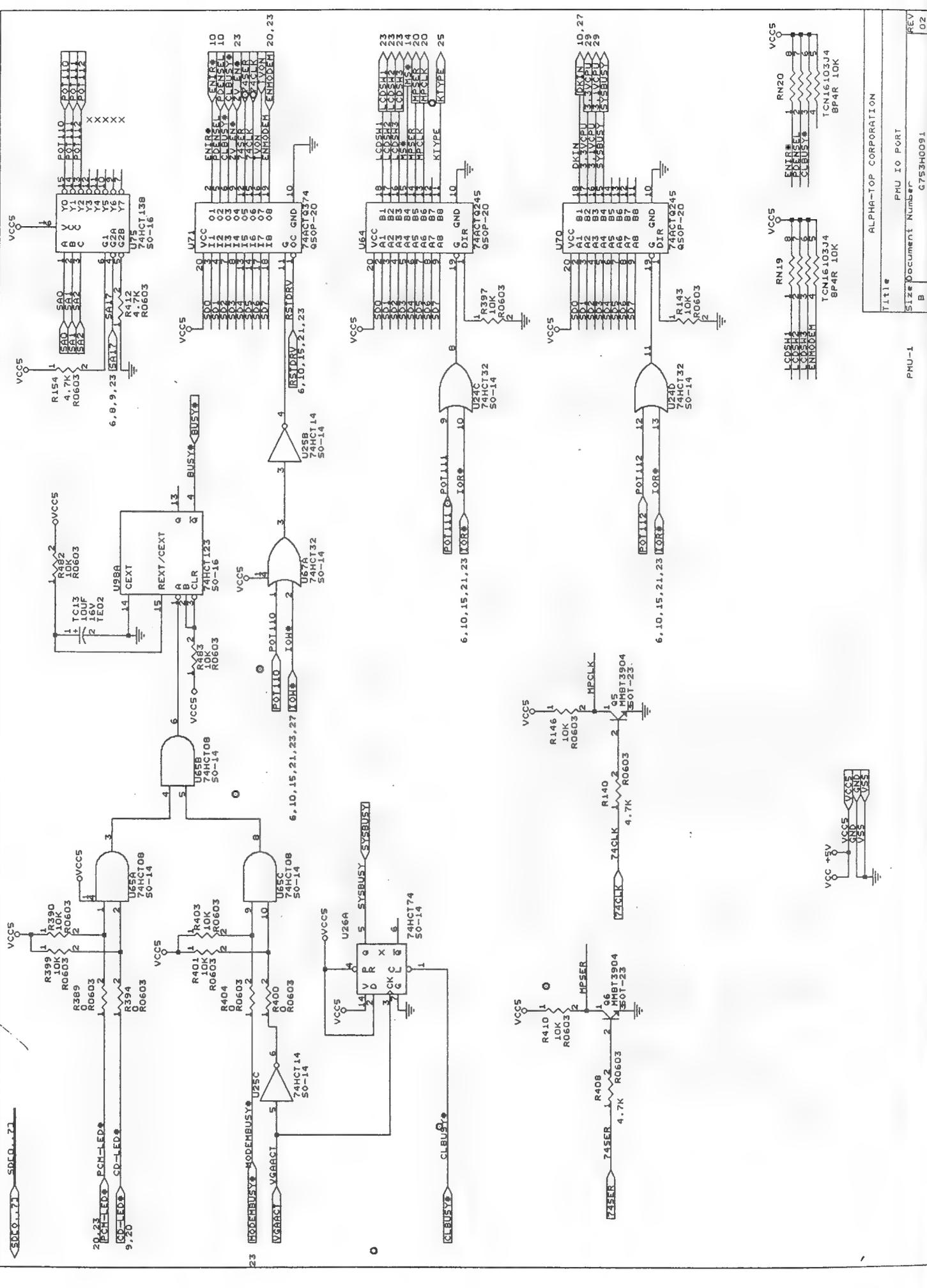


9, 15, 16, 17





PCB ID SELECTION			
RA(R223)	0	20K	110K
RB(R214)	X	2.2K	27K
VOLTAGE	5	4.5	4.0
PCB VER	00	01	02

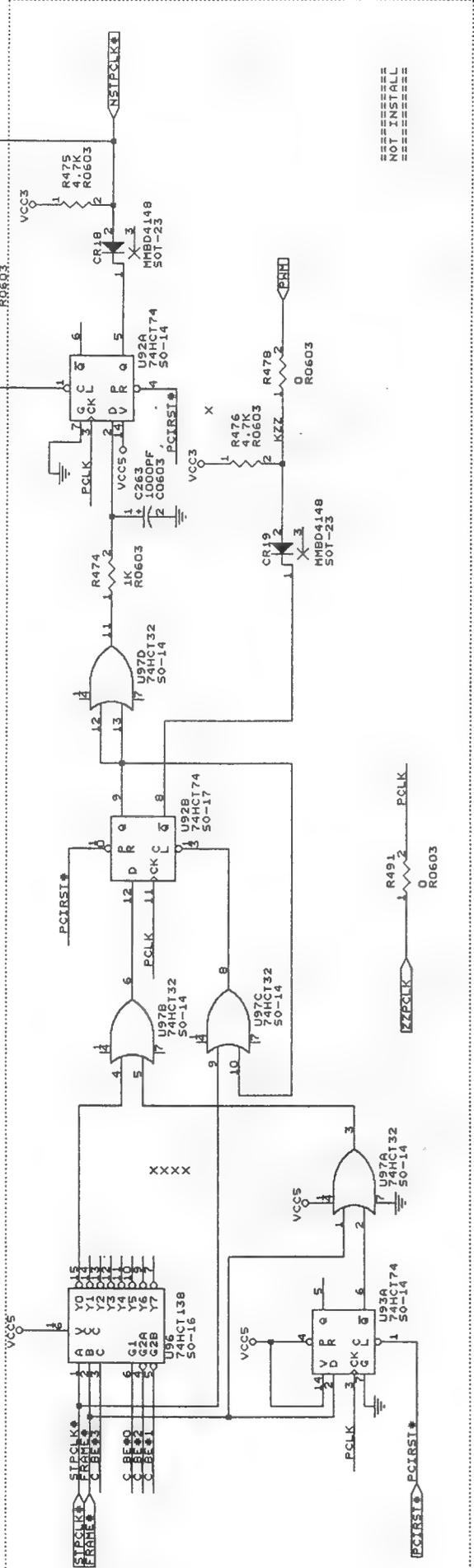


REV	02
Size	Document Number
Date:	December 3, 1996
Sheet	22 of 33

Alpha-TOP CORPORATION
 Title: PMU I/O PORT
 Size: Document Number
 Date: December 3, 1996
 Sheet: 22 of 33

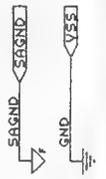
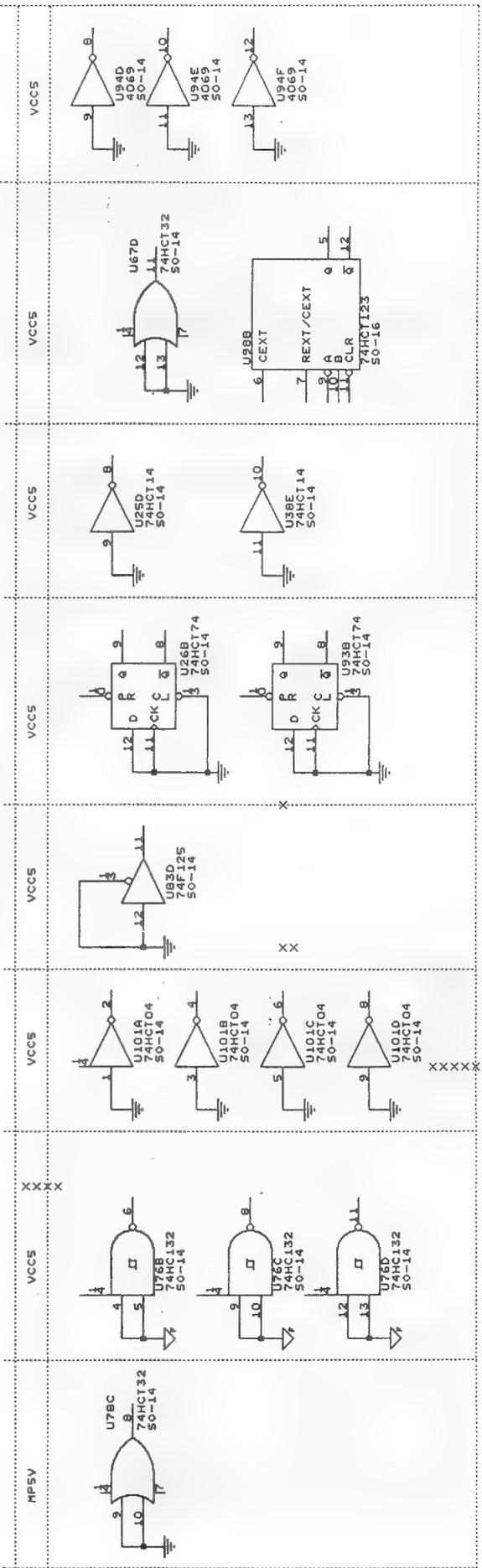
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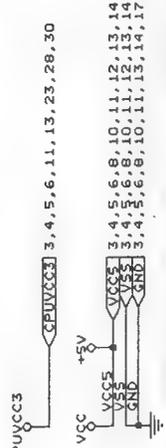
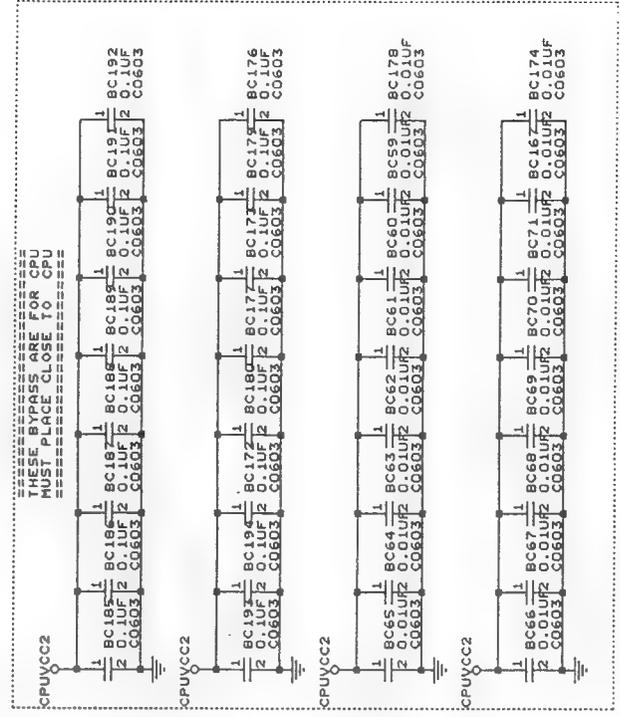
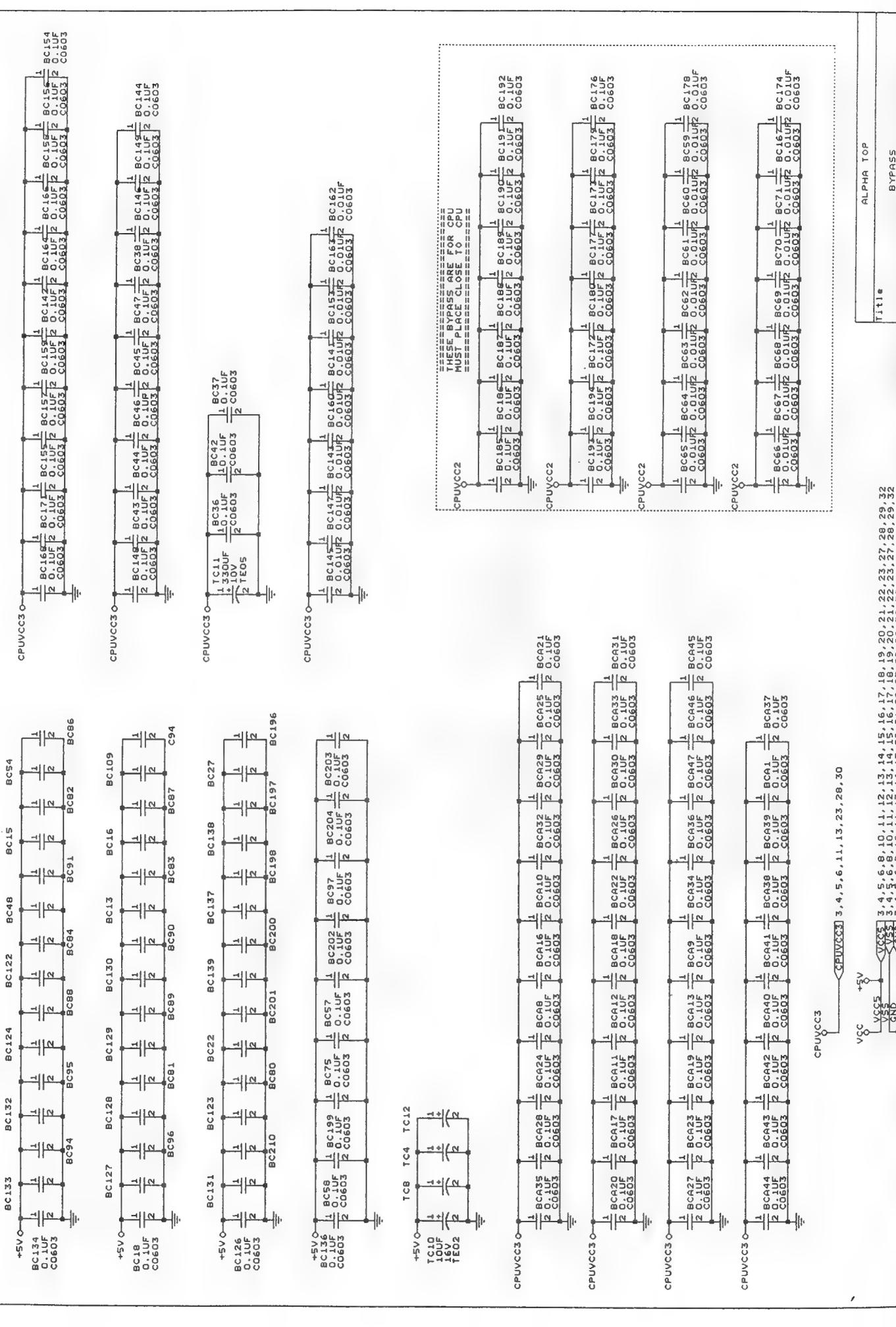
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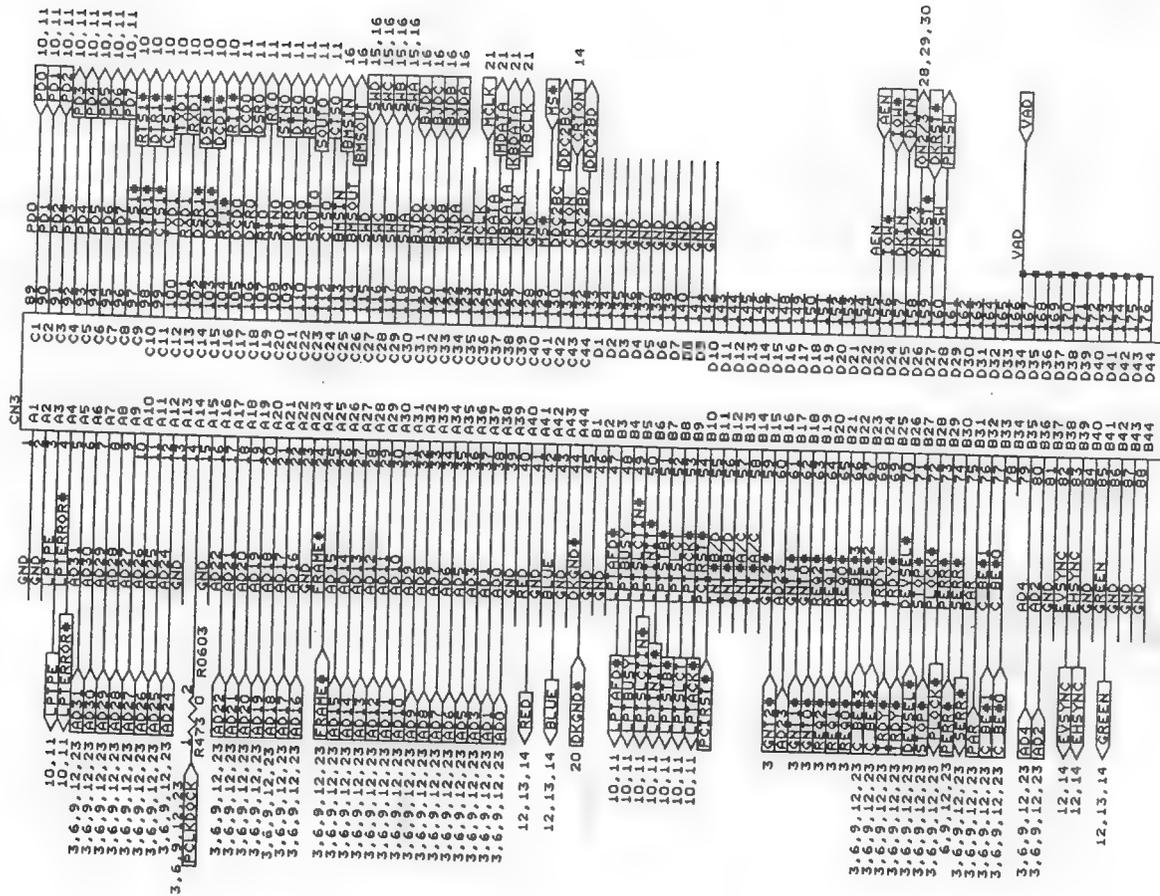


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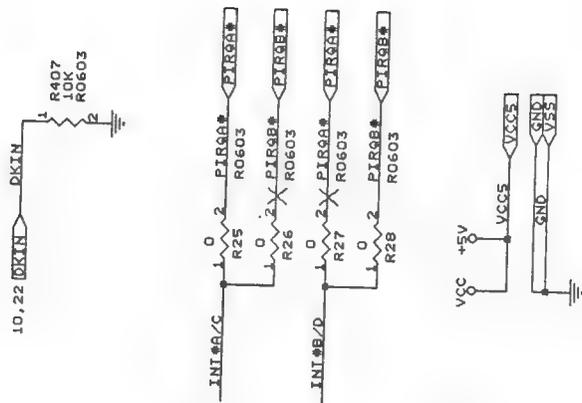
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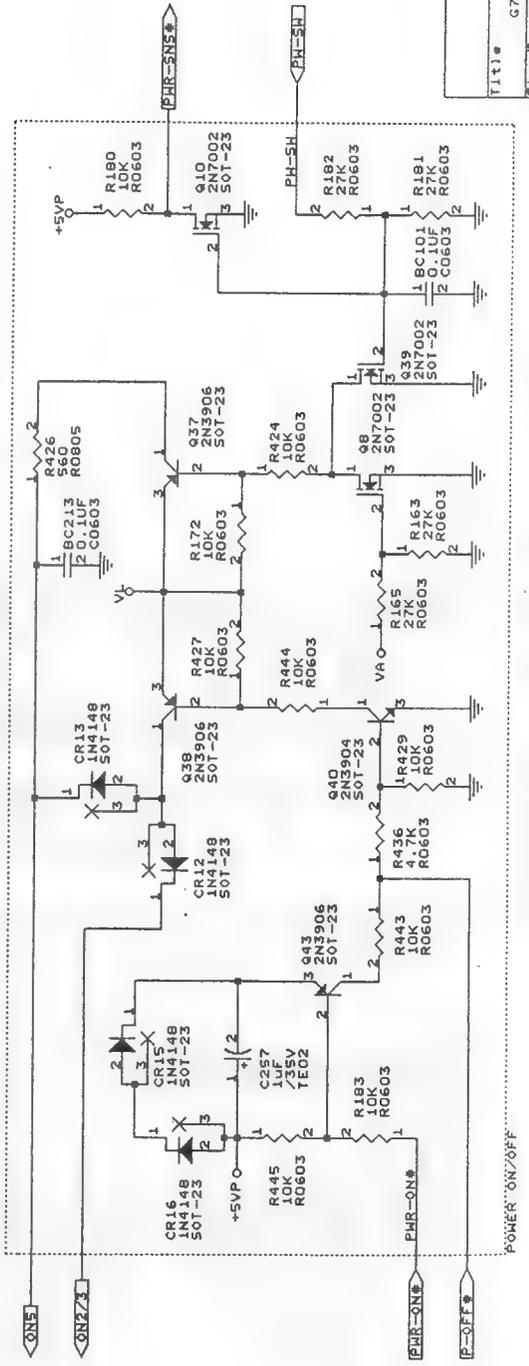
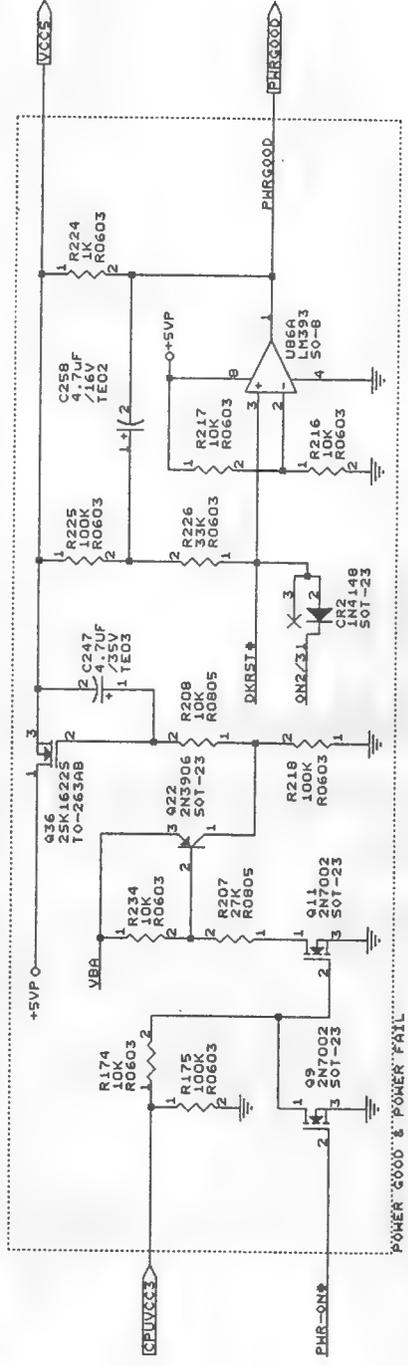
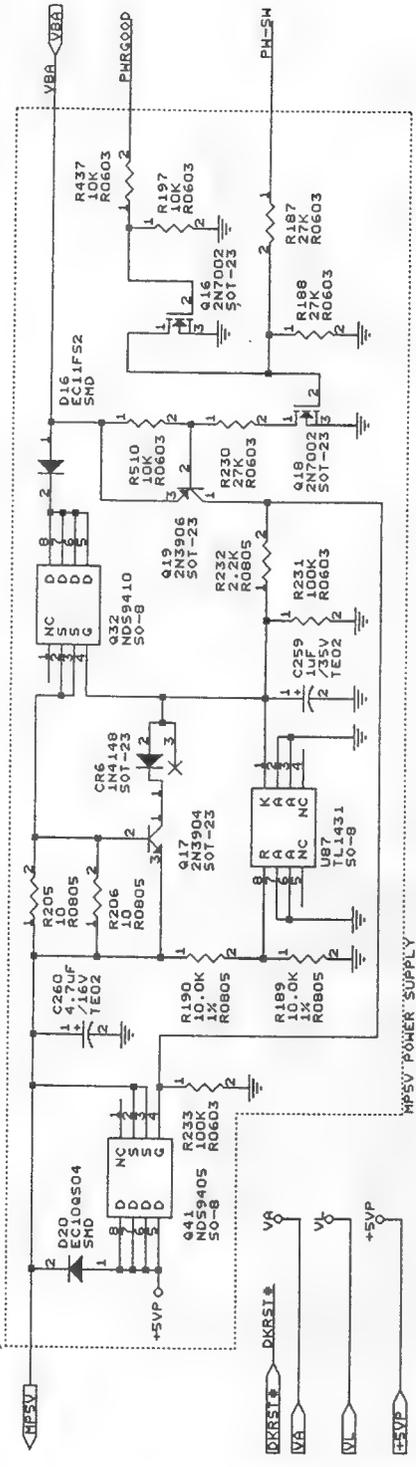




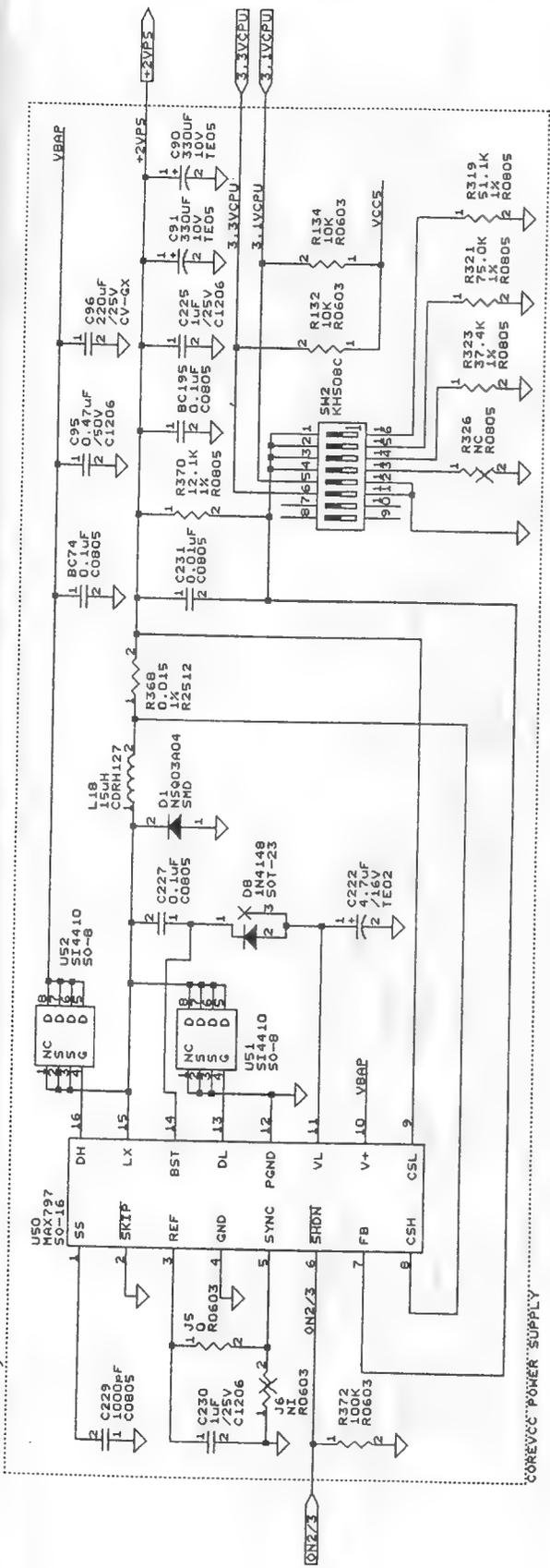


MOLEX-52758-1760
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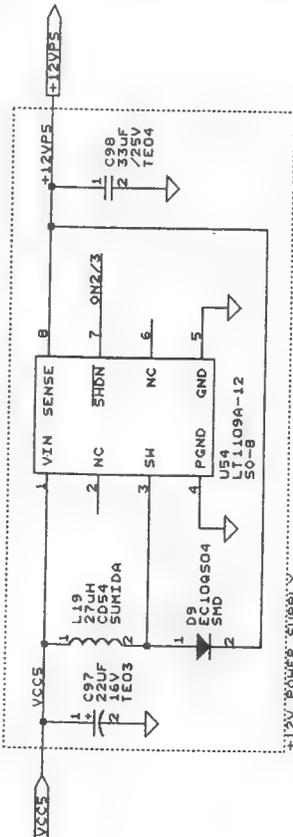




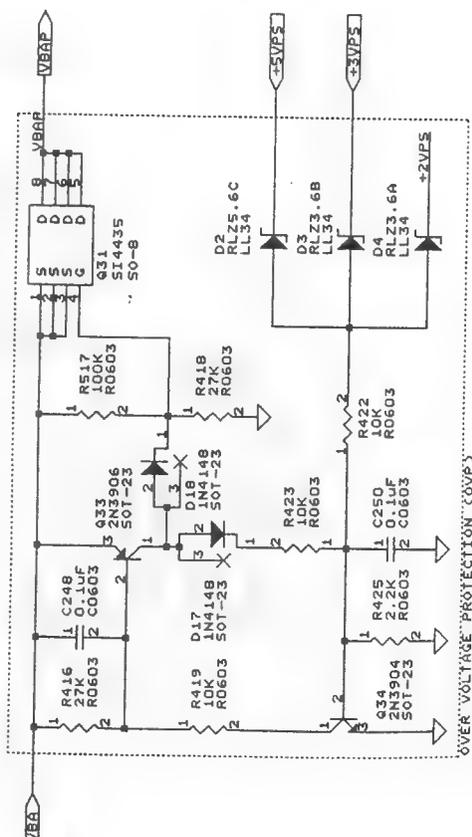
LINK
PHR-12
PHR-13
PHR-14
PHR-15



COREVCC POWER SUPPLY

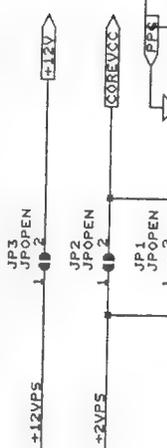
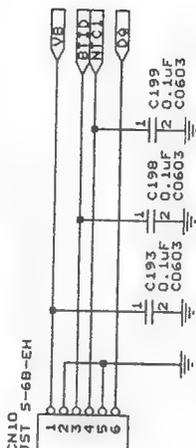


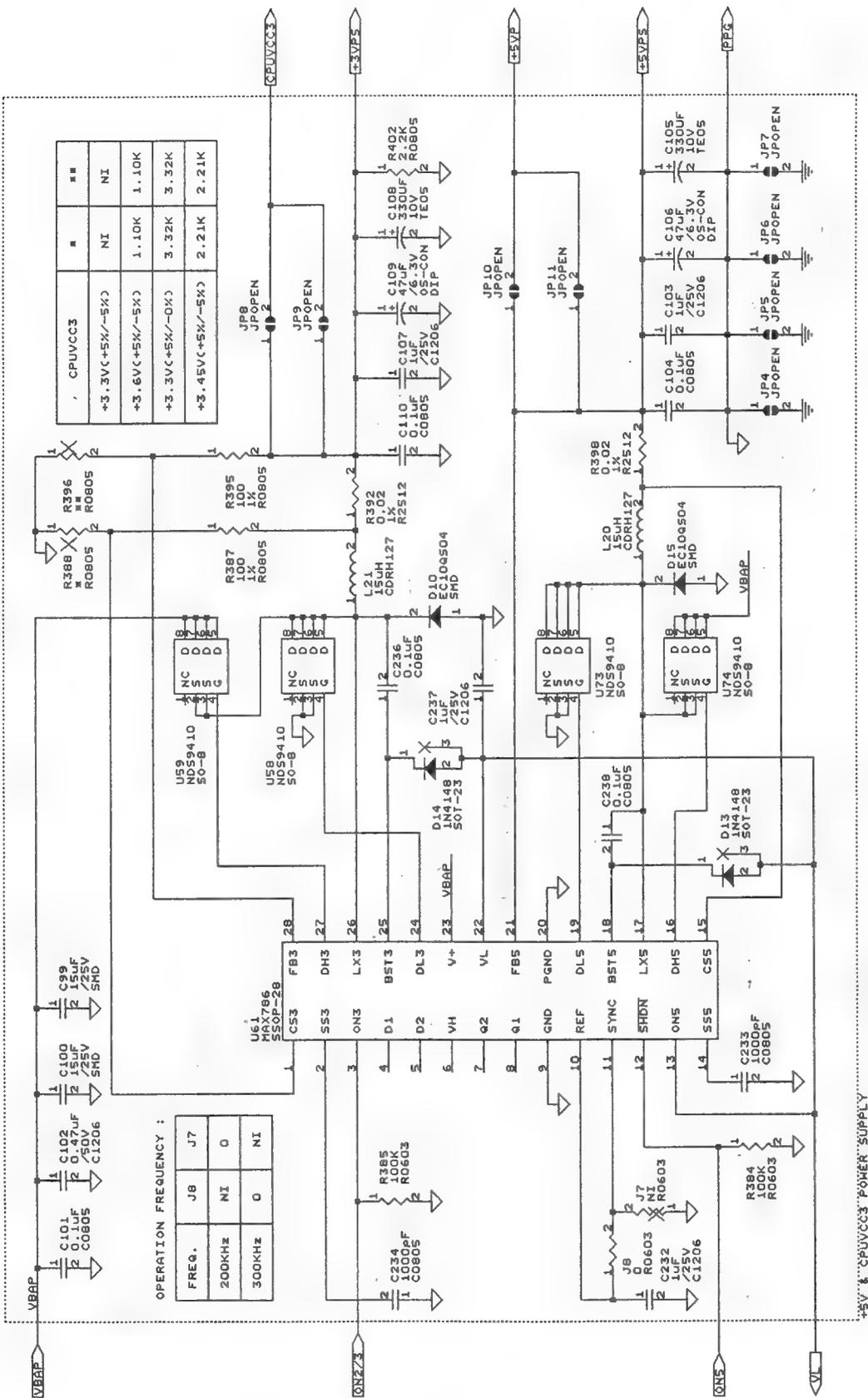
+12VPS POWER SUPPLY



OVER VOLTAGE PROTECTION (OVP)

		SN2					
CPUVCC	1	2	3	4	5	6	
2.5V	OFF	OFF	OFF	OFF	ON	OFF	
2.9V	OFF	OFF	ON	OFF	ON	OFF	
3.1V	ON	OFF	OFF	OFF	ON	OFF	
3.3V	OFF	OFF	ON	OFF	OFF	ON	

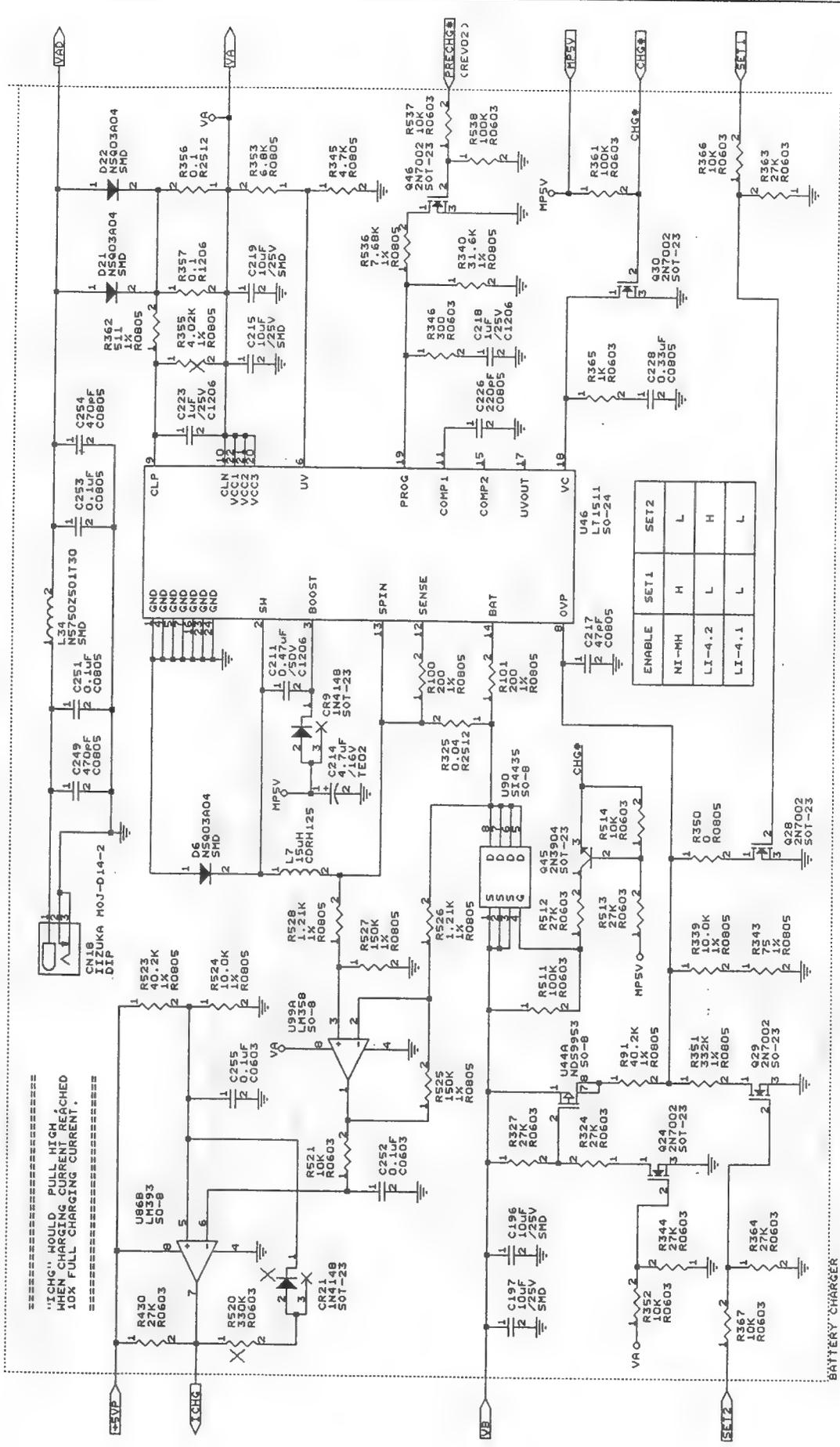




RES	VALUE	TYPE
R396	100	ROB05
R388	100	ROB05
R395	100	ROB05
R387	100	ROB05
R392	100	ROB05
R397	100	ROB05
R398	100	ROB05
R399	100	ROB05
R402	2.2K	ROB05
R403	2.2K	ROB05

OPERATION FREQUENCY :

FREQ.	J8	J7
200KHZ	NI	0
300KHZ	0	NI



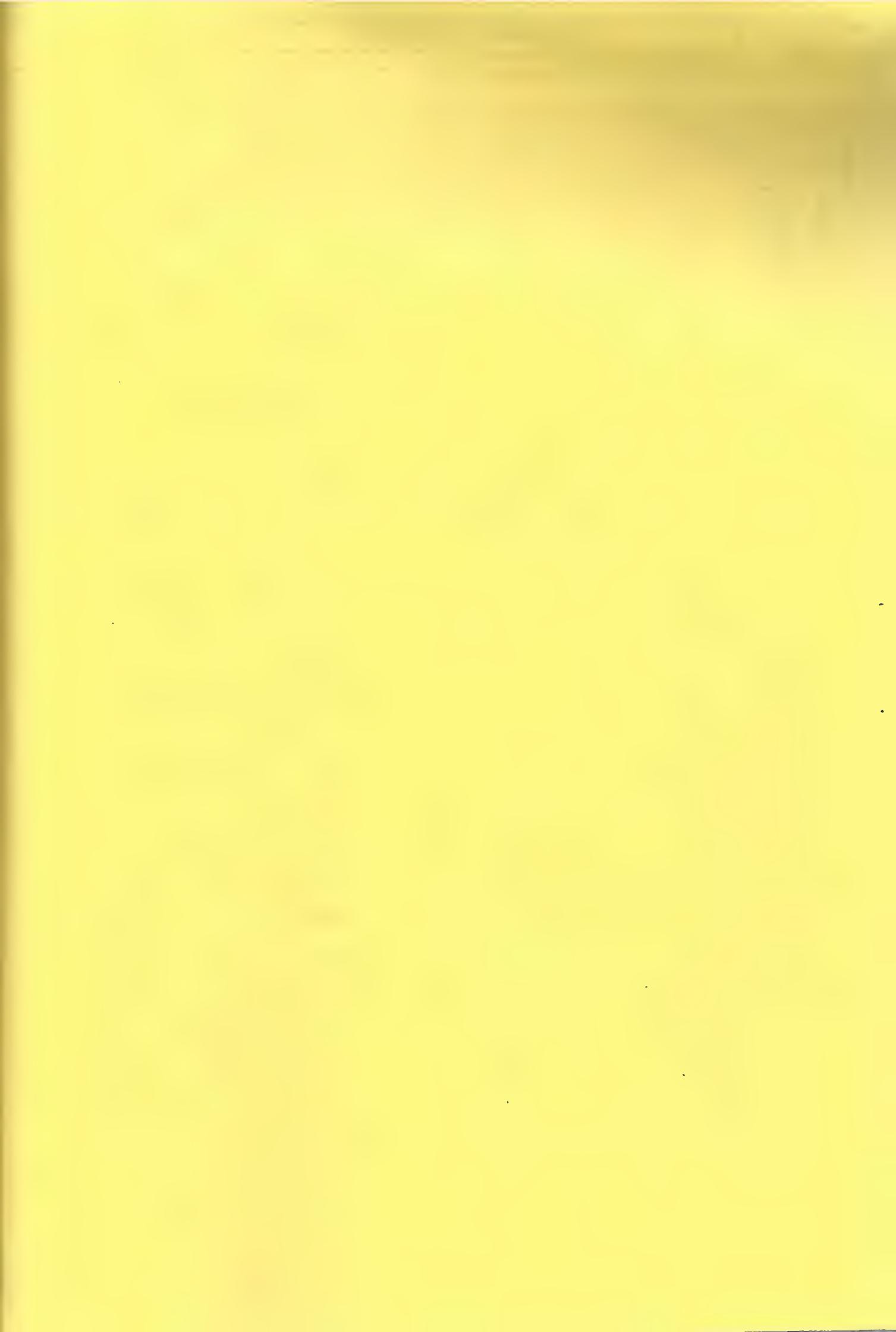
HISTORY

REV01 : 8/30/85

1. ERRATA 27
2. 5RAM I2C MODE CONTROL LOGIC
3. LCD I/F REMAPPING
4. DEL 16 BIT I/O DECODER TO SMALL SIZE
5. CHANGE CLOCK GENERATOR
6. CHANGE MCDR125 FROM 10V TO 5V
7. CHANGE NH2093 NHVDD & DVDD FROM 5V TO 3V
8. A2B-A31 PULL UP & DOWN

REV02 : 10/23

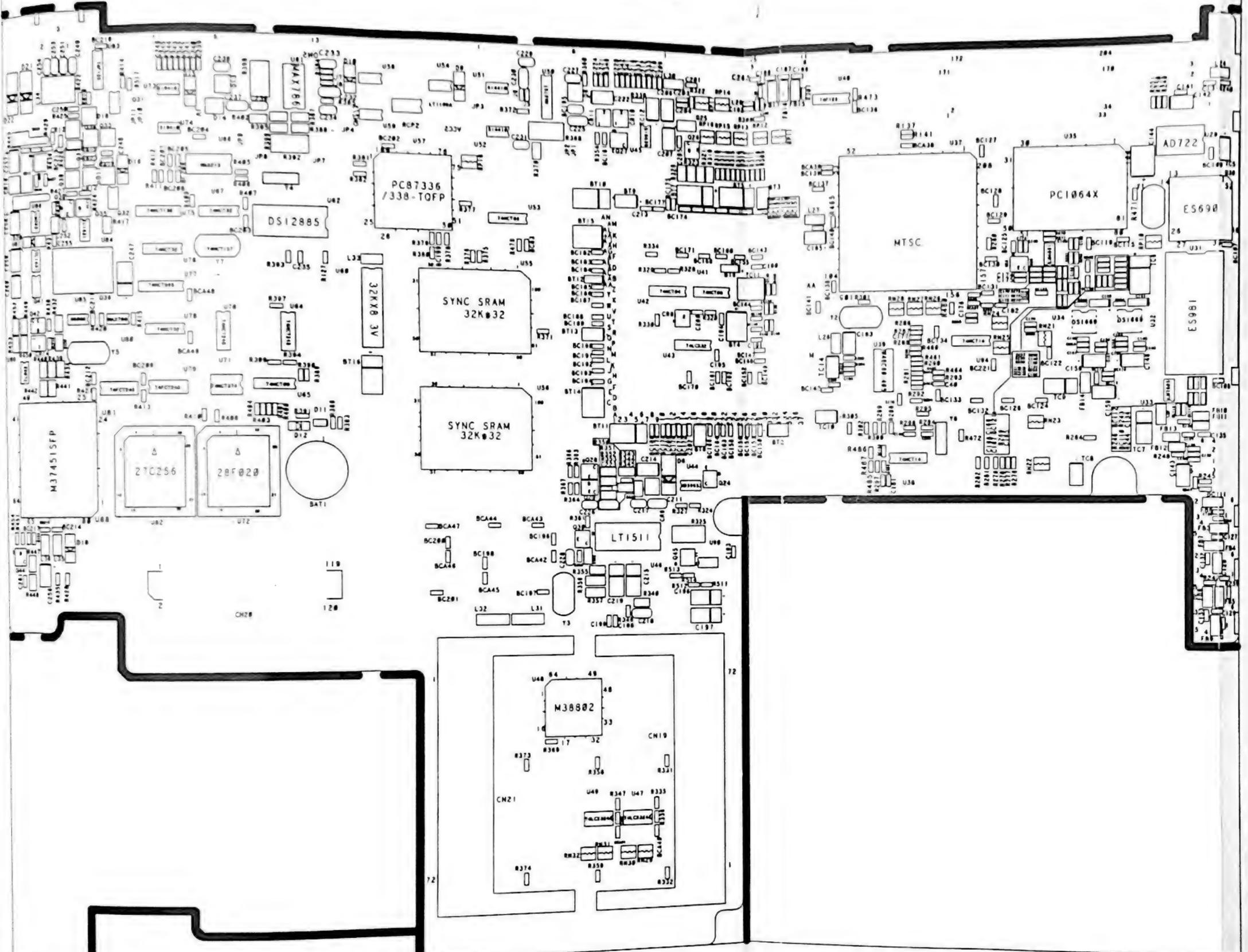
1. ADD TEST PAD
2. ADD IN THE REV01 REMARK
3. CHANGE THE SOUND AMP RATIO RESISTOR VALUE
4. CHANGE R281, R282 FROM 150 TO 33 ohm
5. CHANGE R281, R282 FROM 150 TO 33 ohm
6. CHANGE L7 FROM D03316P TO MCDR125
7. RE-ALLOCATE PIRQ/REG RESISTOR LOCATION
8. ADD 0.22uF PARALLEL SIGNAL FROM MP5V TO 0M2/3
9. ADD 0.22uF PARALLEL WITH R451
10. ADD THE PRECHARGE CKT
11. CHANGE ERRATA#27 SOLUTION FROM PIC TO PAL
12. CHANGE 25K1764 TO ND59410(CU100)







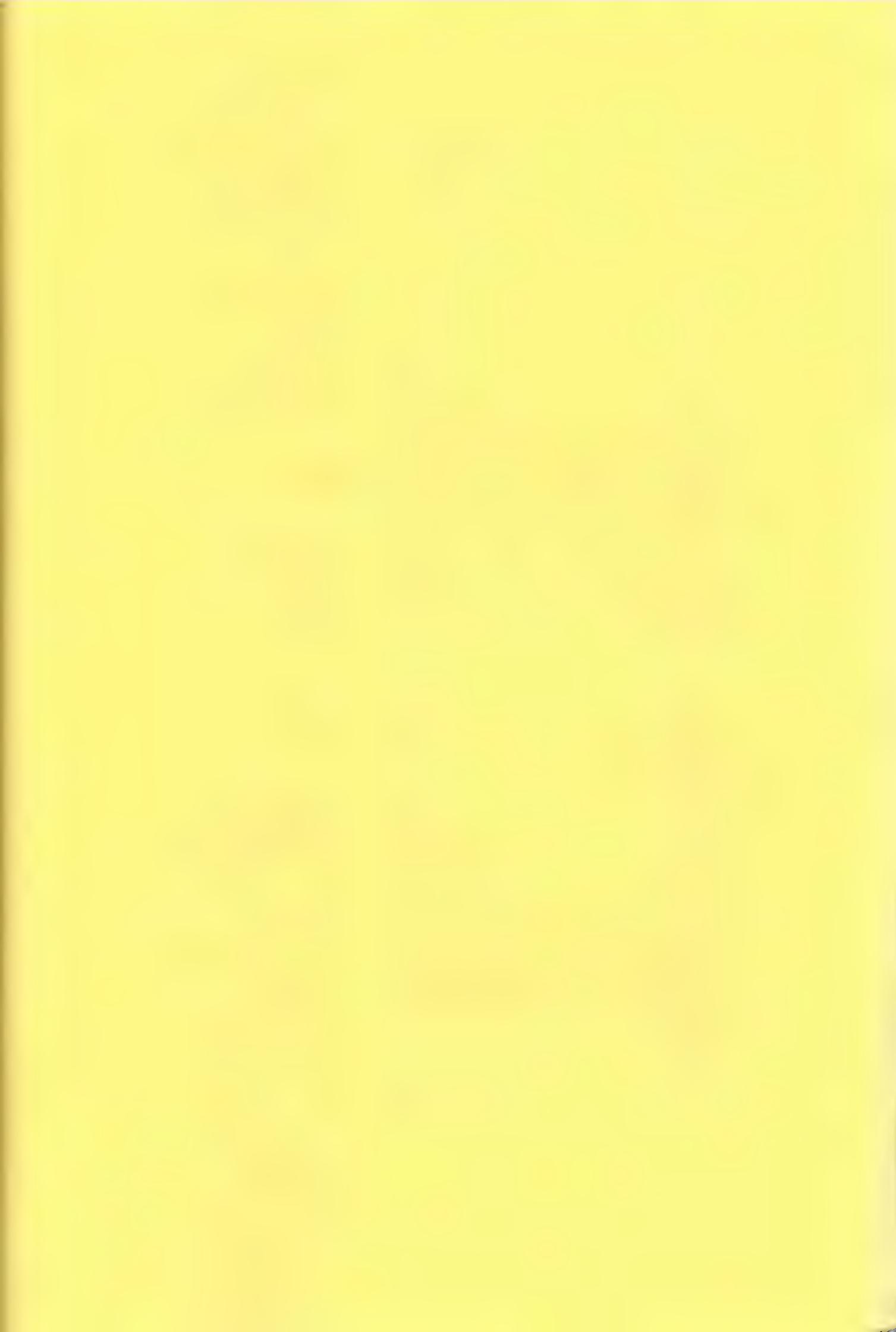
Chapter 14 Main Board Layout Placement

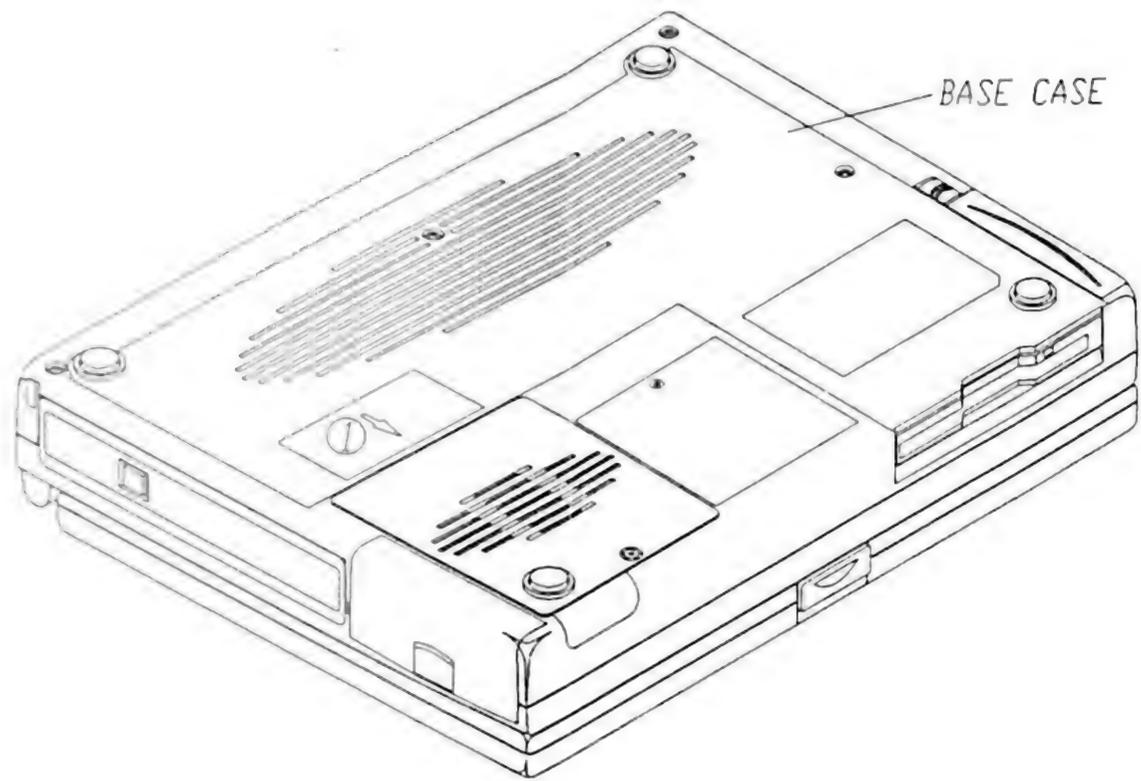


5228021-3 CAM 82-02-14

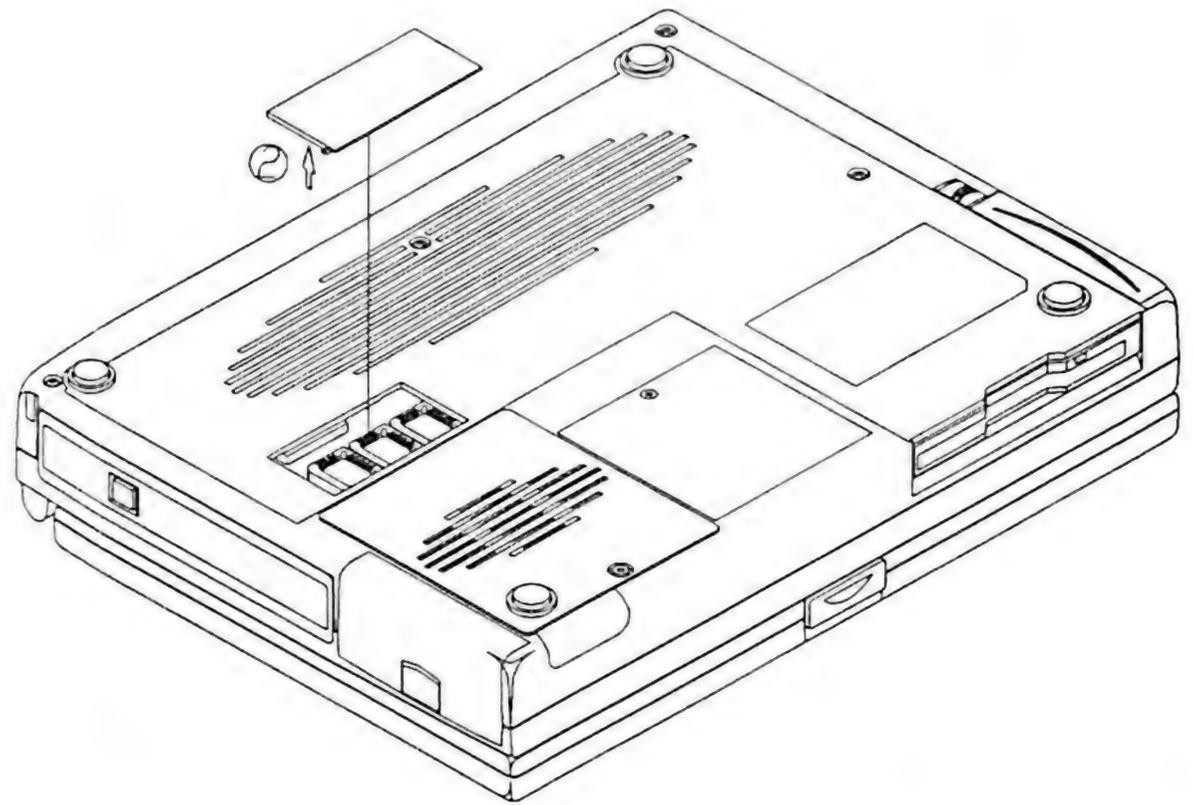
DATE	SEP-13-1986
PROJ	H0858B
HORNER CO. LTD	
TEL: 886-5-002-8007	
FAX: 886-5-002-0032	



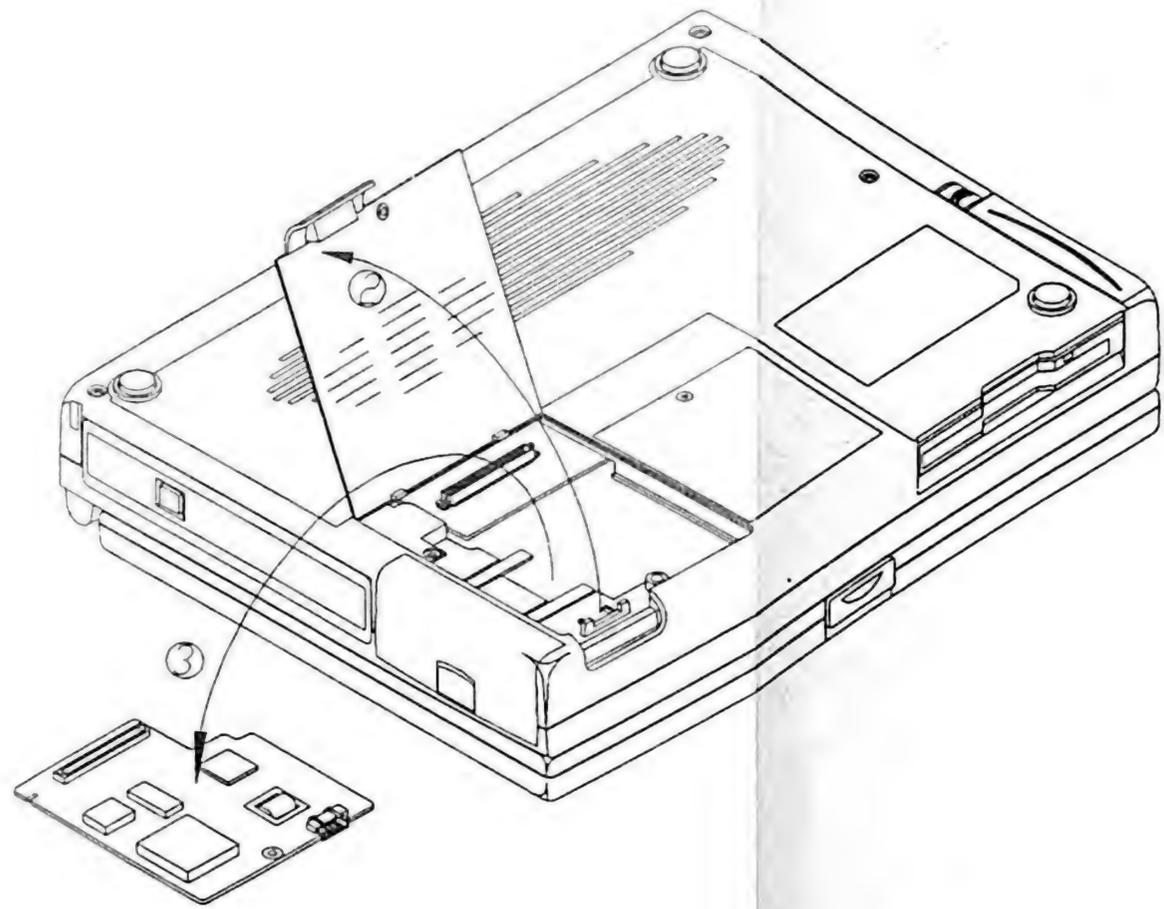
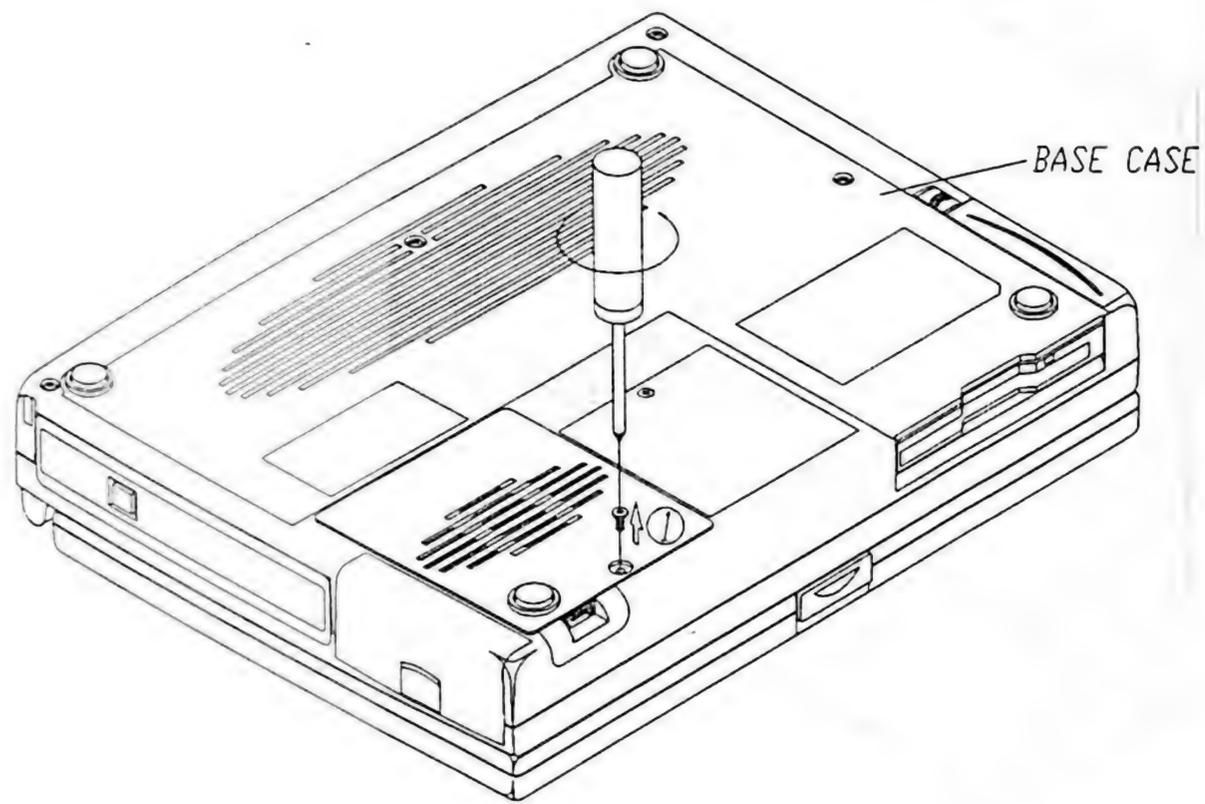




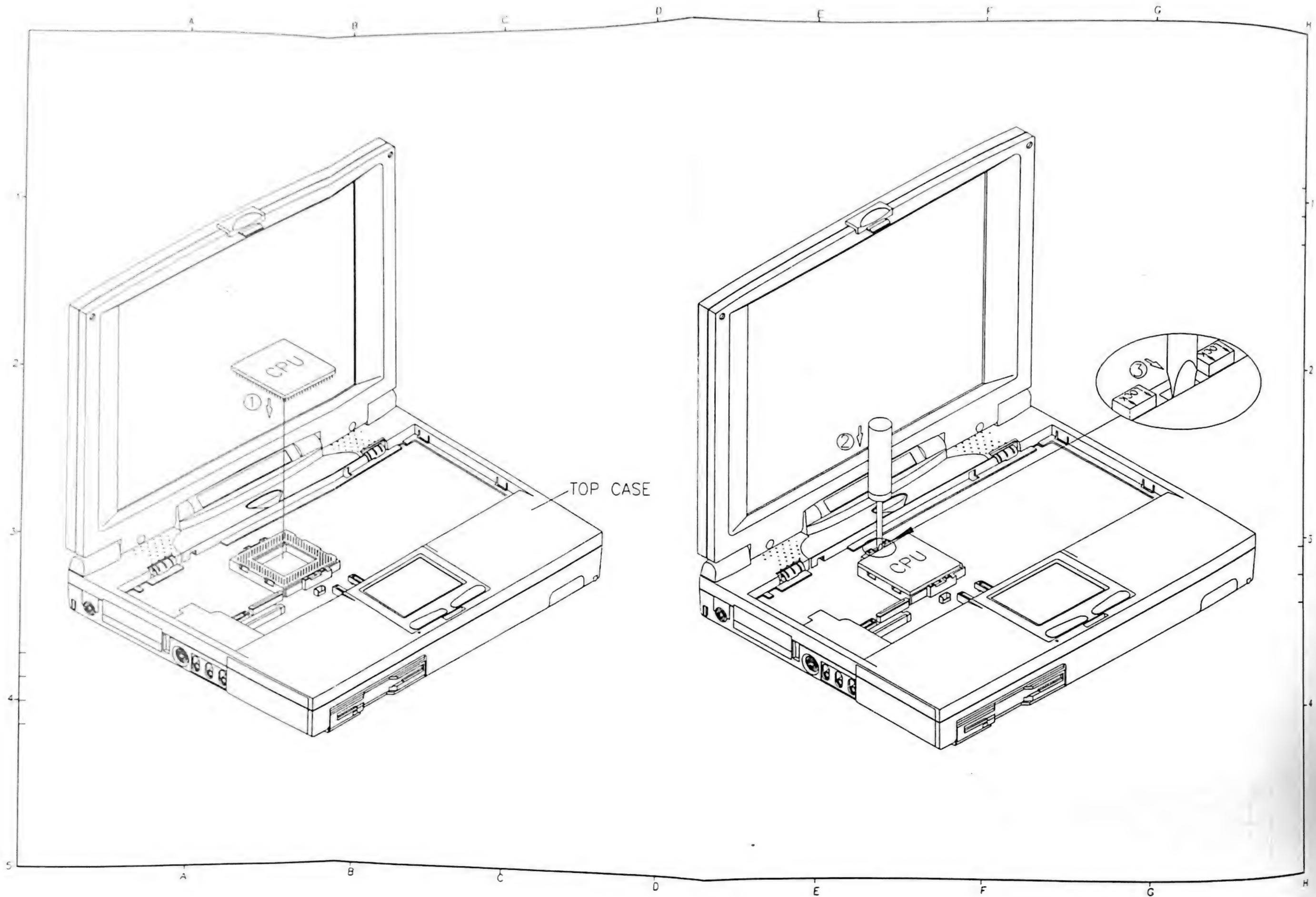
BASE CASE

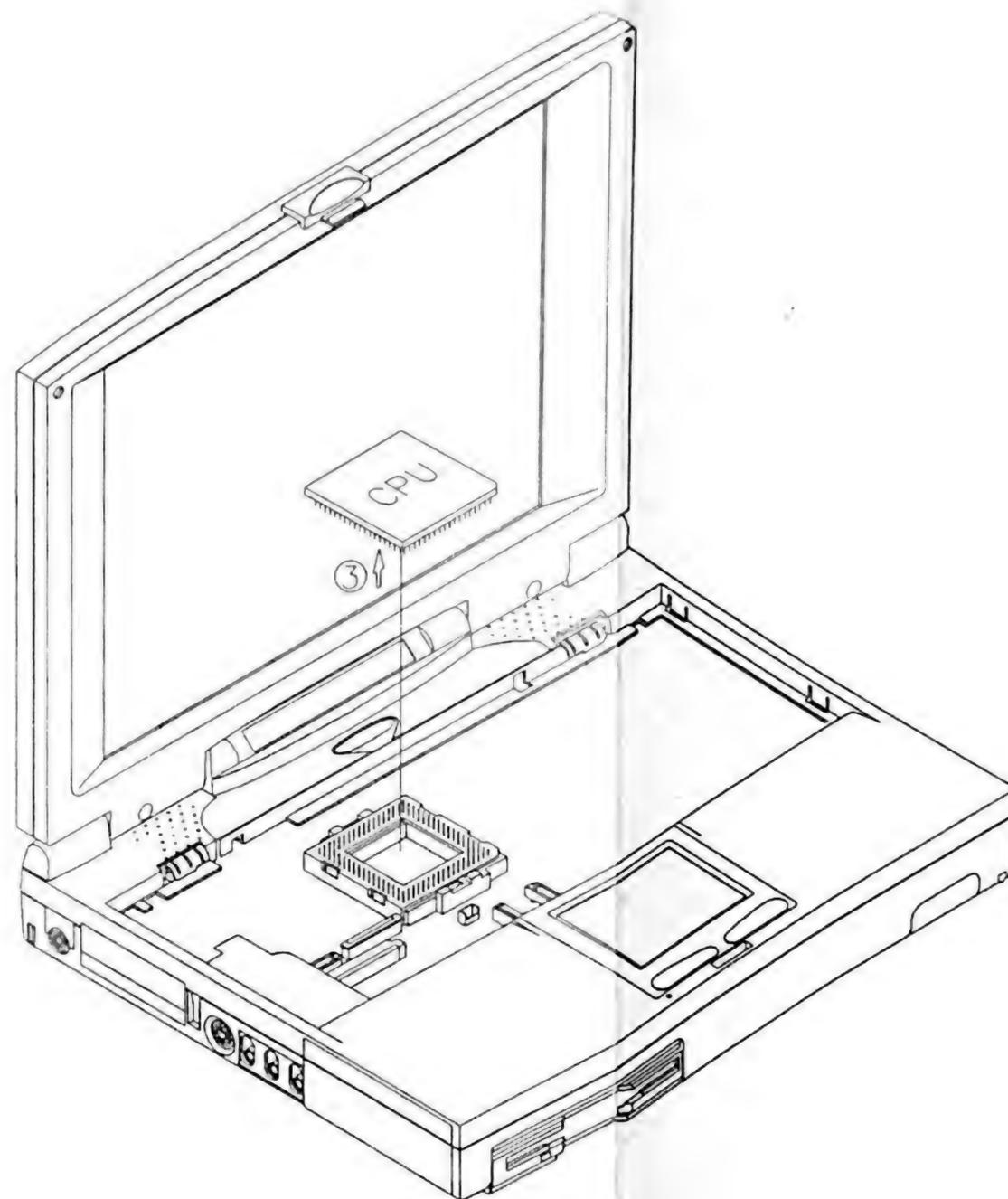
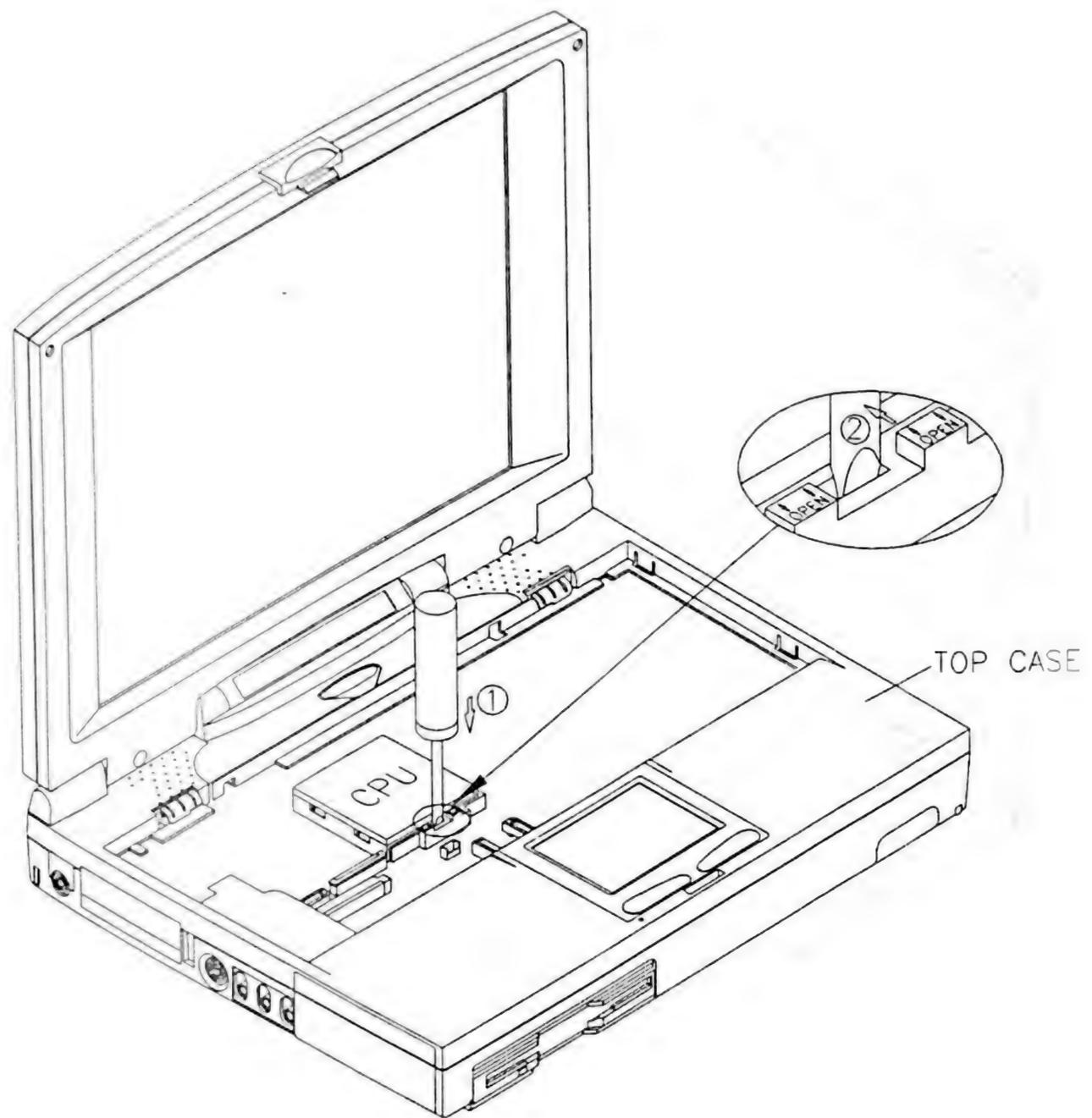


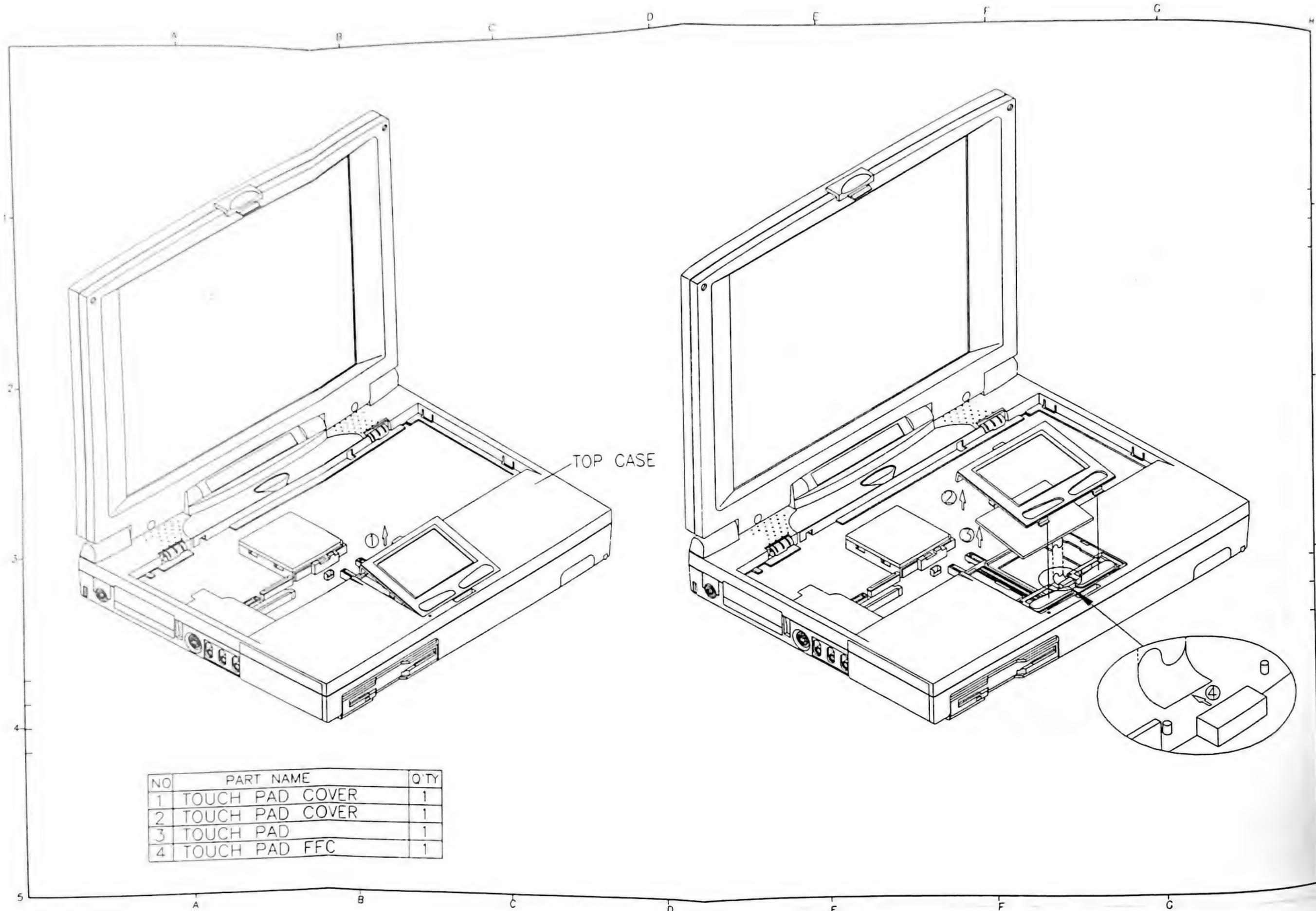
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2	BIOS COVER	1



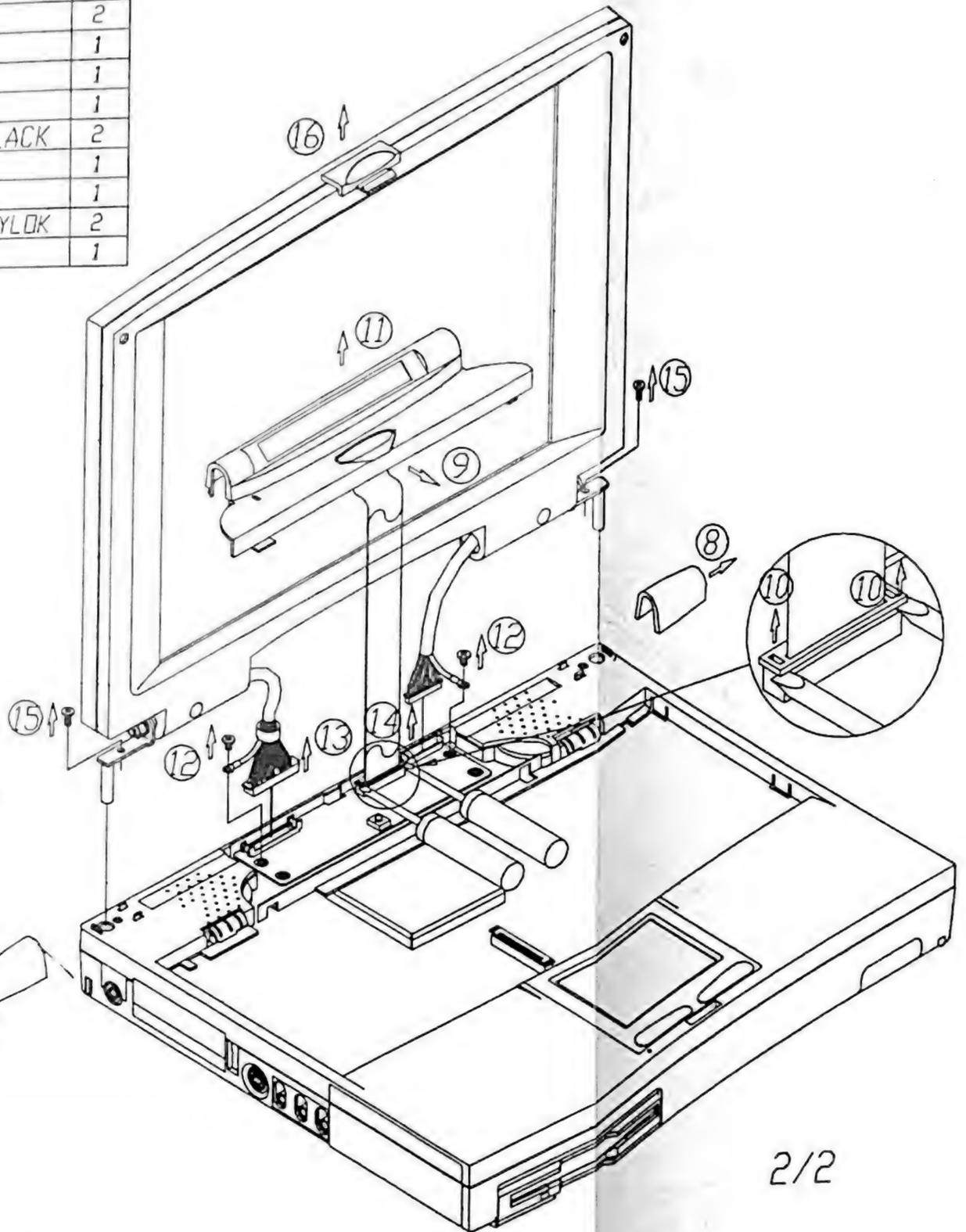
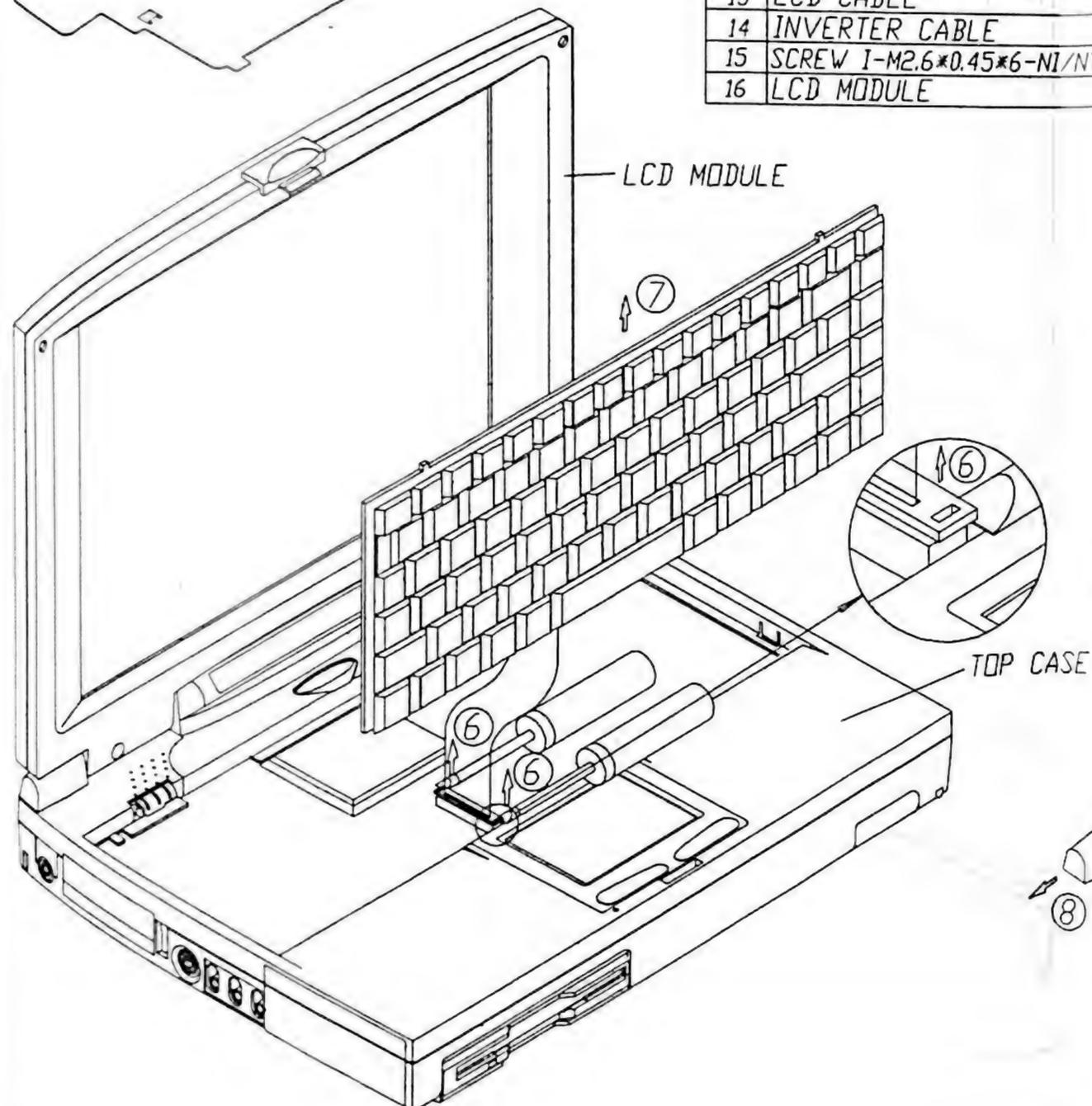
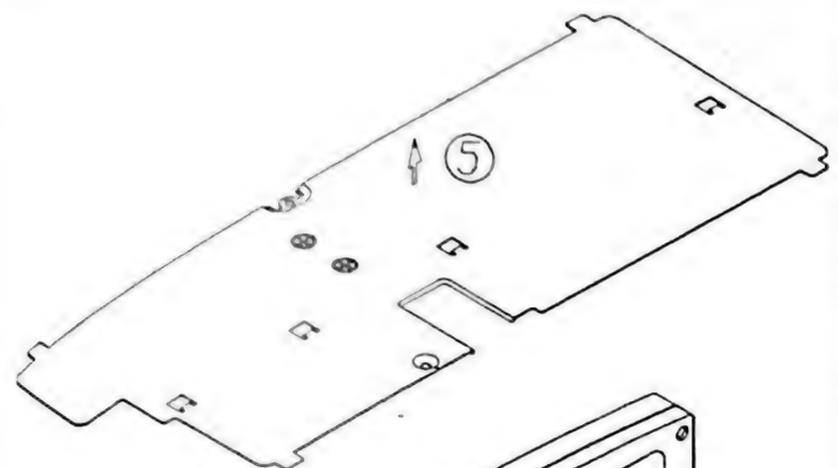
NO	PART NAME	Q'TY
1	SCREW 1-M2.6*0.45*6-BLACK	1
2	MODEM COVER	1
3	MODEM CARD	1

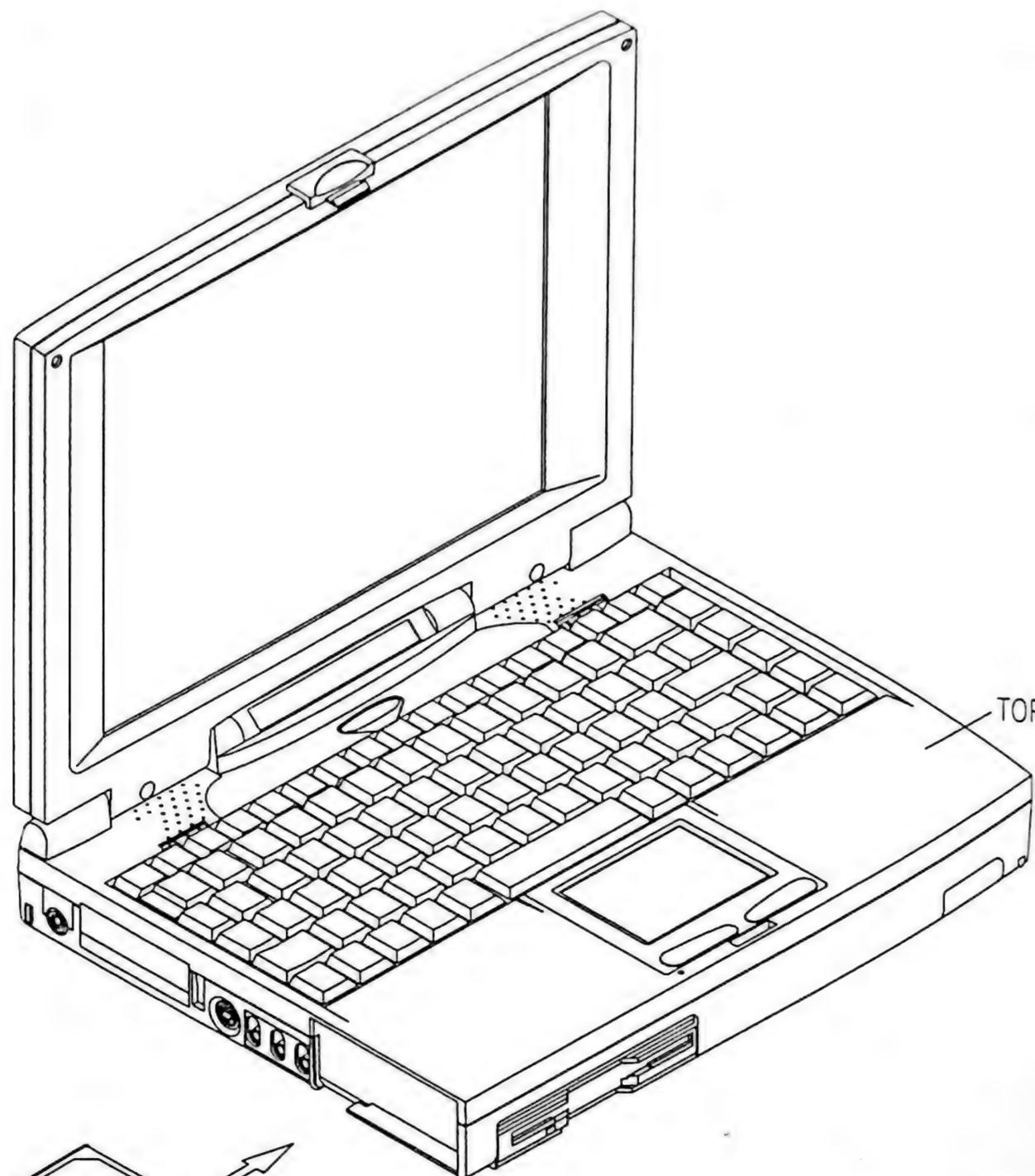
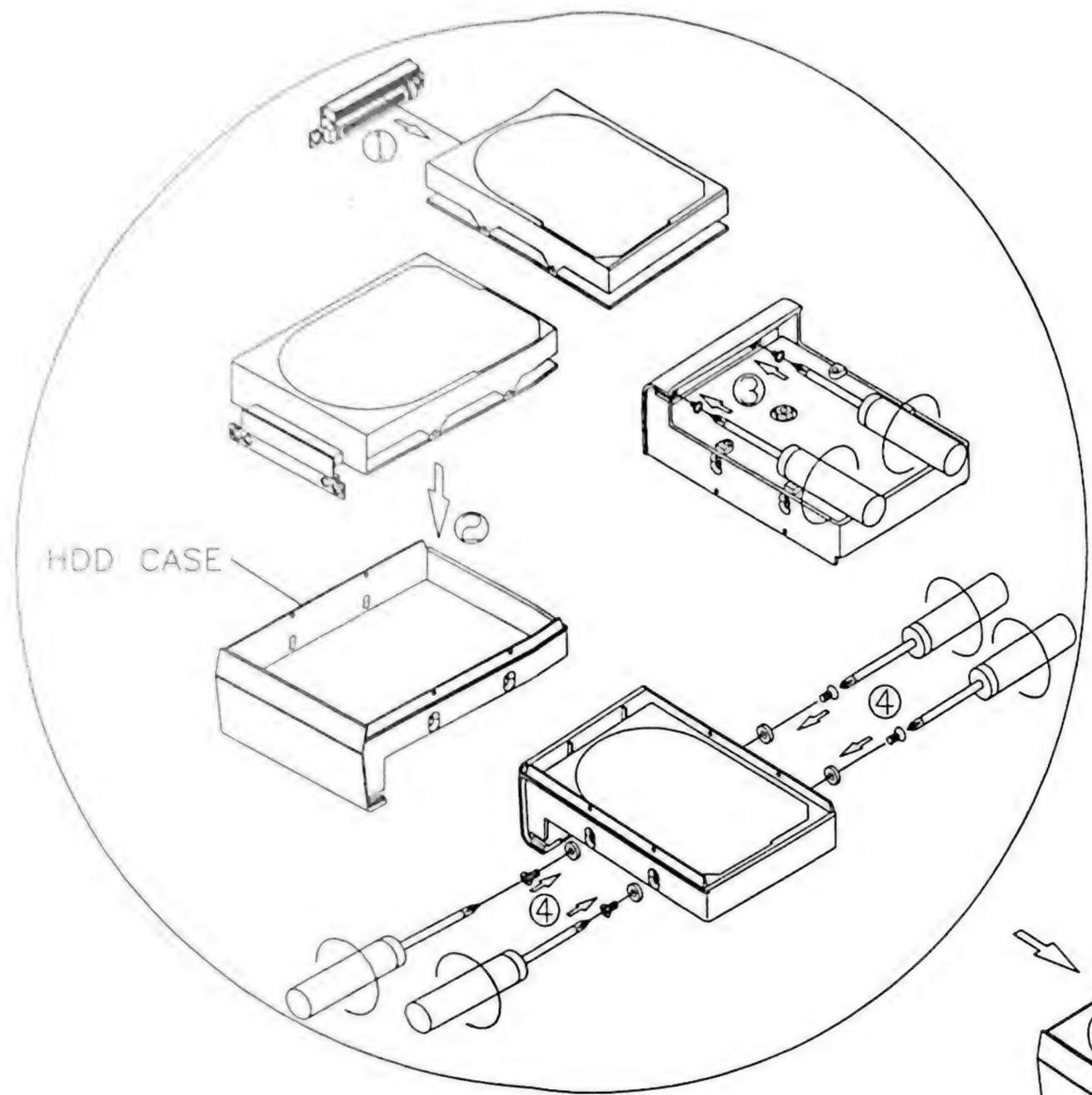






NO	PART NAME	Q'TY
5	CPU DISSIPATE PLATE	1
6	KEYBOARD CONNECTOR	1
7	KEYBOARD	1
8	HINGE COVER	2
9	LCM COVER	1
10	LCM CONNECTOR	1
11	LCM COVER	1
12	SCREW I-M2.6*0.45*4-BLACK	2
13	LCD CABLE	1
14	INVERTER CABLE	1
15	SCREW I-M2.6*0.45*6-NI/NYLOK	2
16	LCD MODULE	1



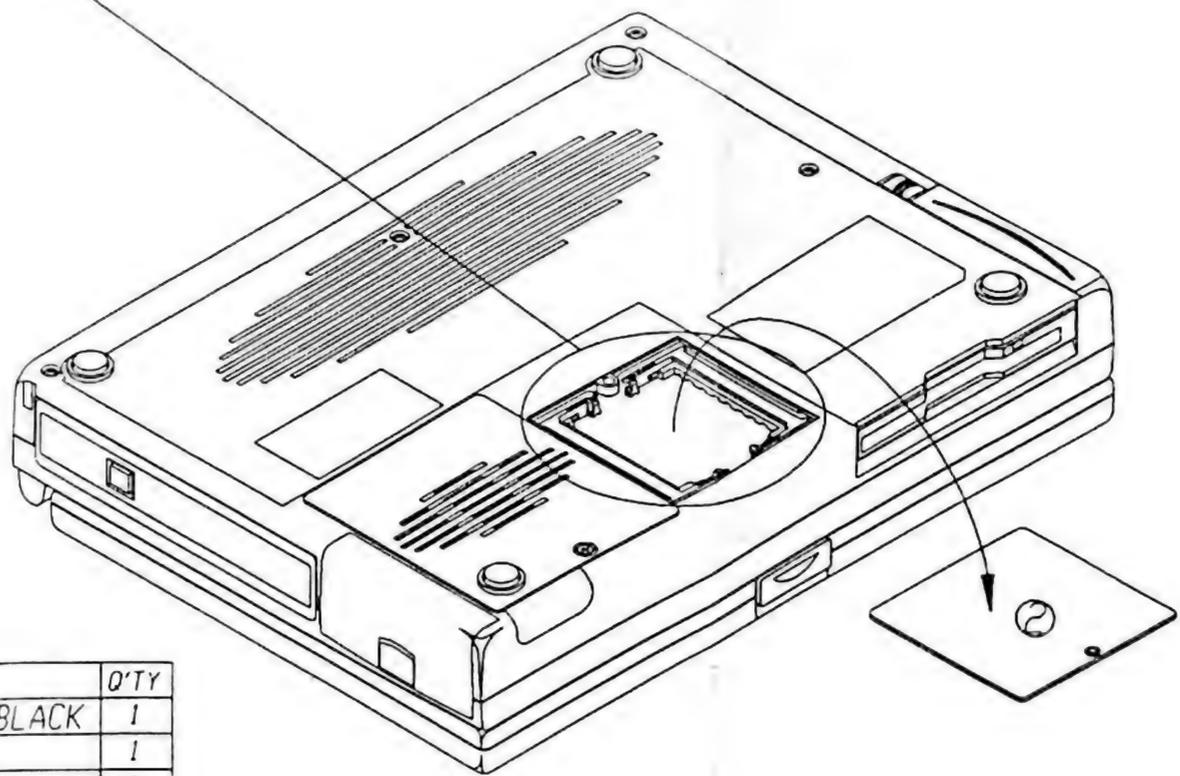
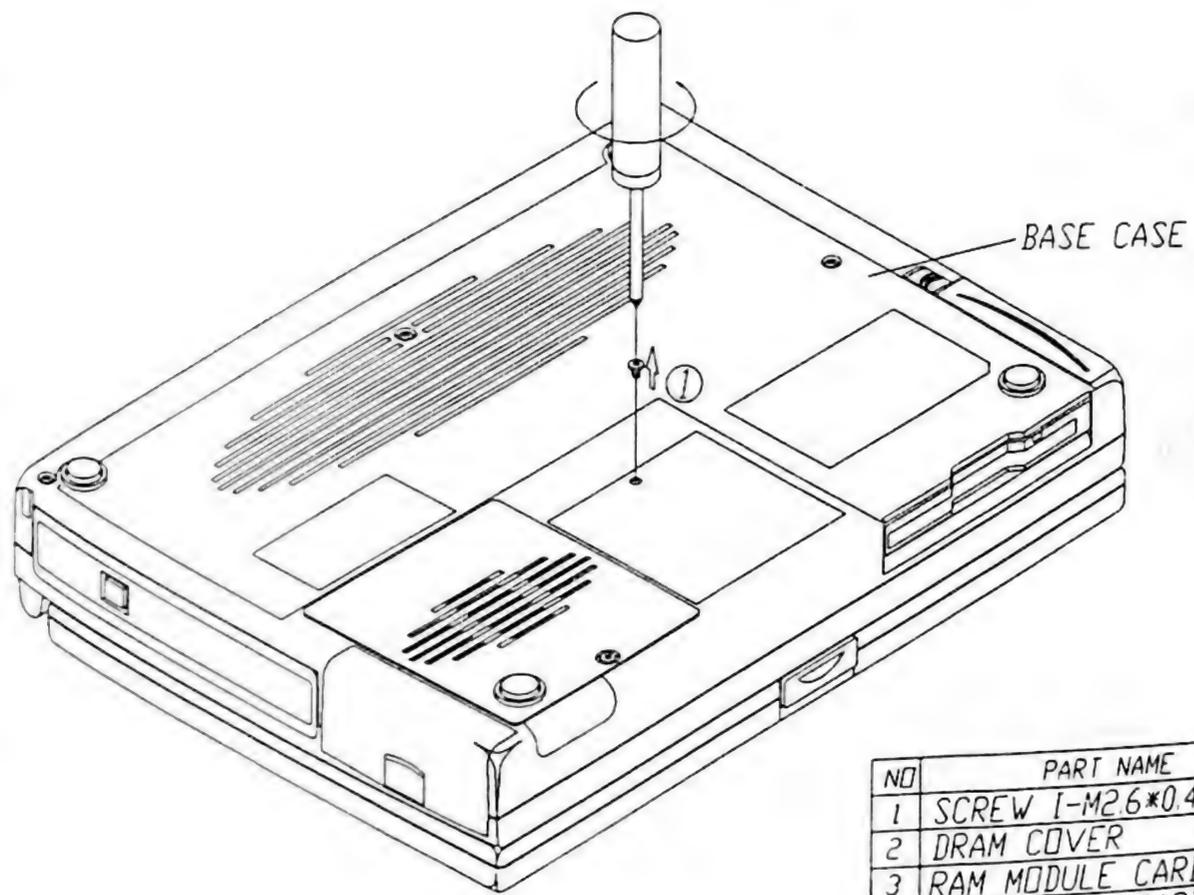
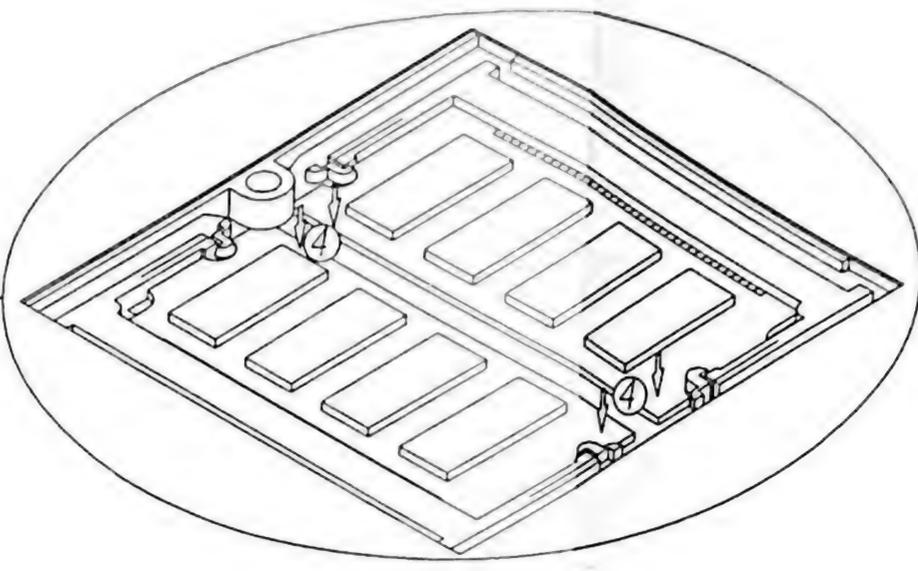
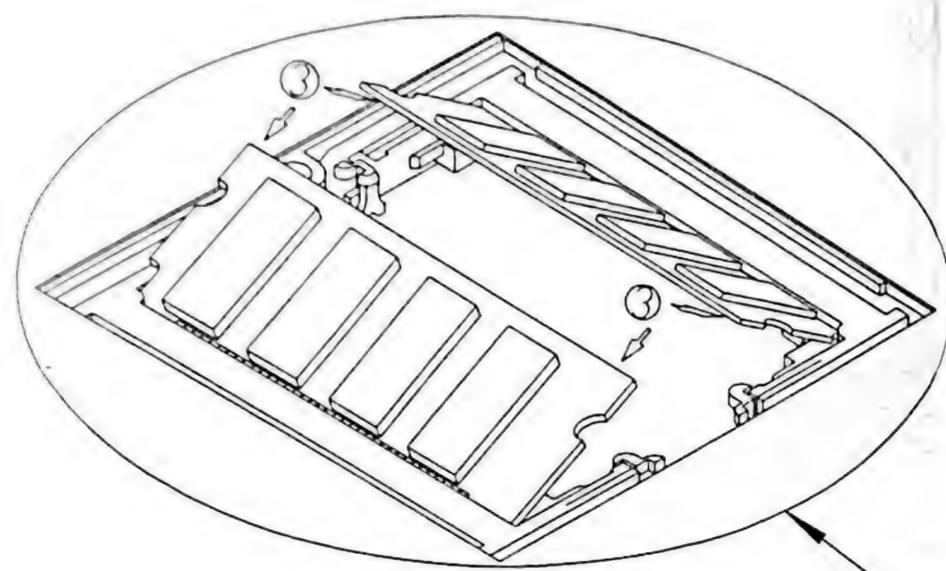


TOP CASE

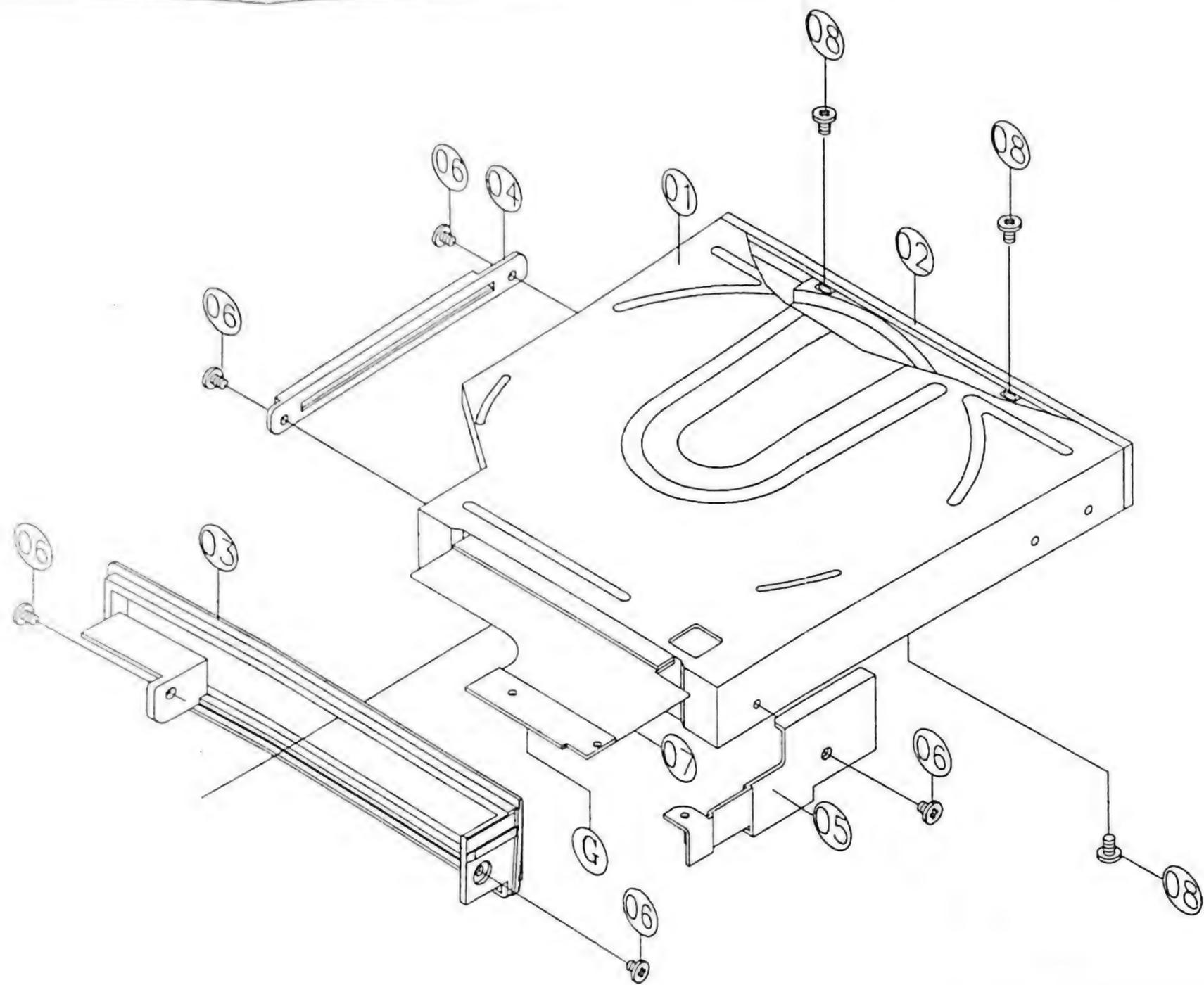
NO	PART NAME	Q'TY
1	HDD FPC	1
2	HDD	1
3	SCREW W-M2*0.4*3-Ni	2
4	SCREW F-M3*0.5*4-BLACK	4
5	SPONGE HDD CUSHION G753	4

RAM 1GB 2GB

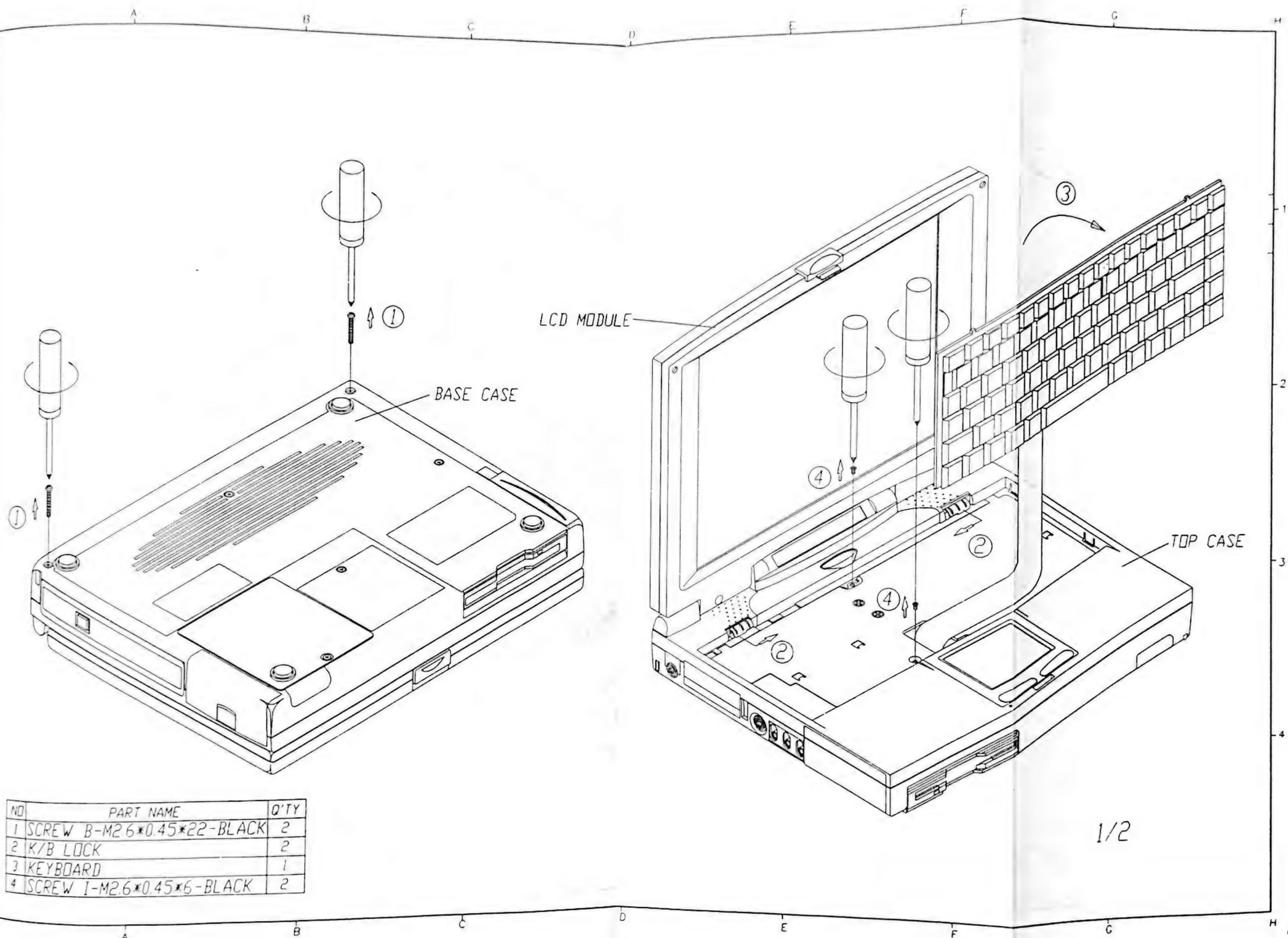
OK



NO	PART NAME	QTY
1	SCREW I-M2.6*0.45*4-BLACK	1
2	DRAM COVER	1
3	RAM MODULE CARD	2
4	RAM MODULE CARD	2

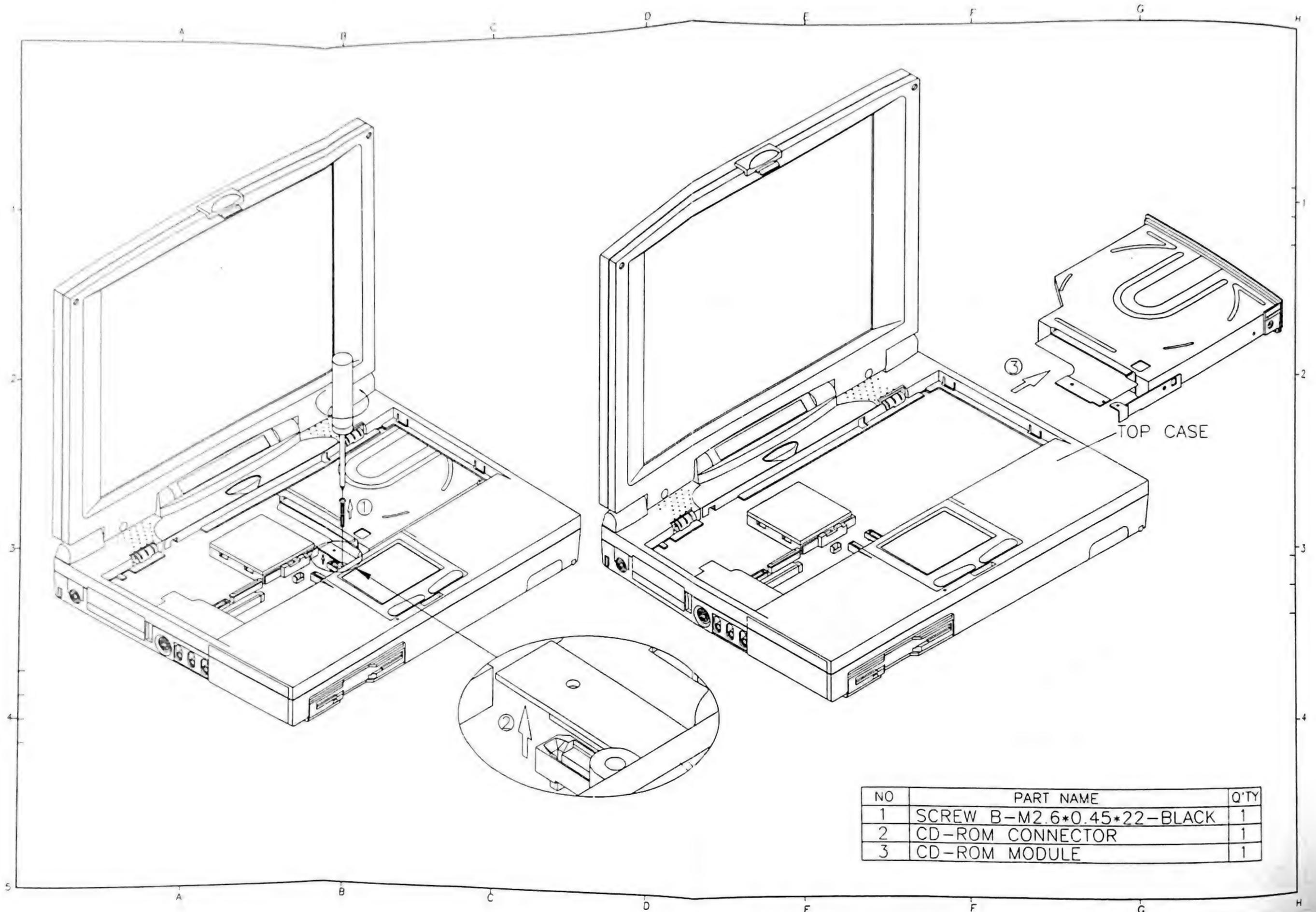


ITEM	PART NO.	DESCRIPTION	Q'TY	REMARK
01	33400057	CD-ROM TEAC CD-38E-900	1	
02	LA011161	BEZEL MODULE 17mm BLACK	1	
03	R0259135	PANEL CD-ROM TEAC38E G753	1	
04	R0180N03	HOLDER CD-ROM TEAC38E G753	1	
05	R0157N63	BRACKET CD-ROM TEAC38E G753	1	
06	R0311229	SCREW W-M2*0.4*3 NI(NYLOK)	5	
07	KE102300	FPC CD-ROM TEAC G753	1	
08	R0310055	SCREW I-T2.0*4.0L-NI	3	



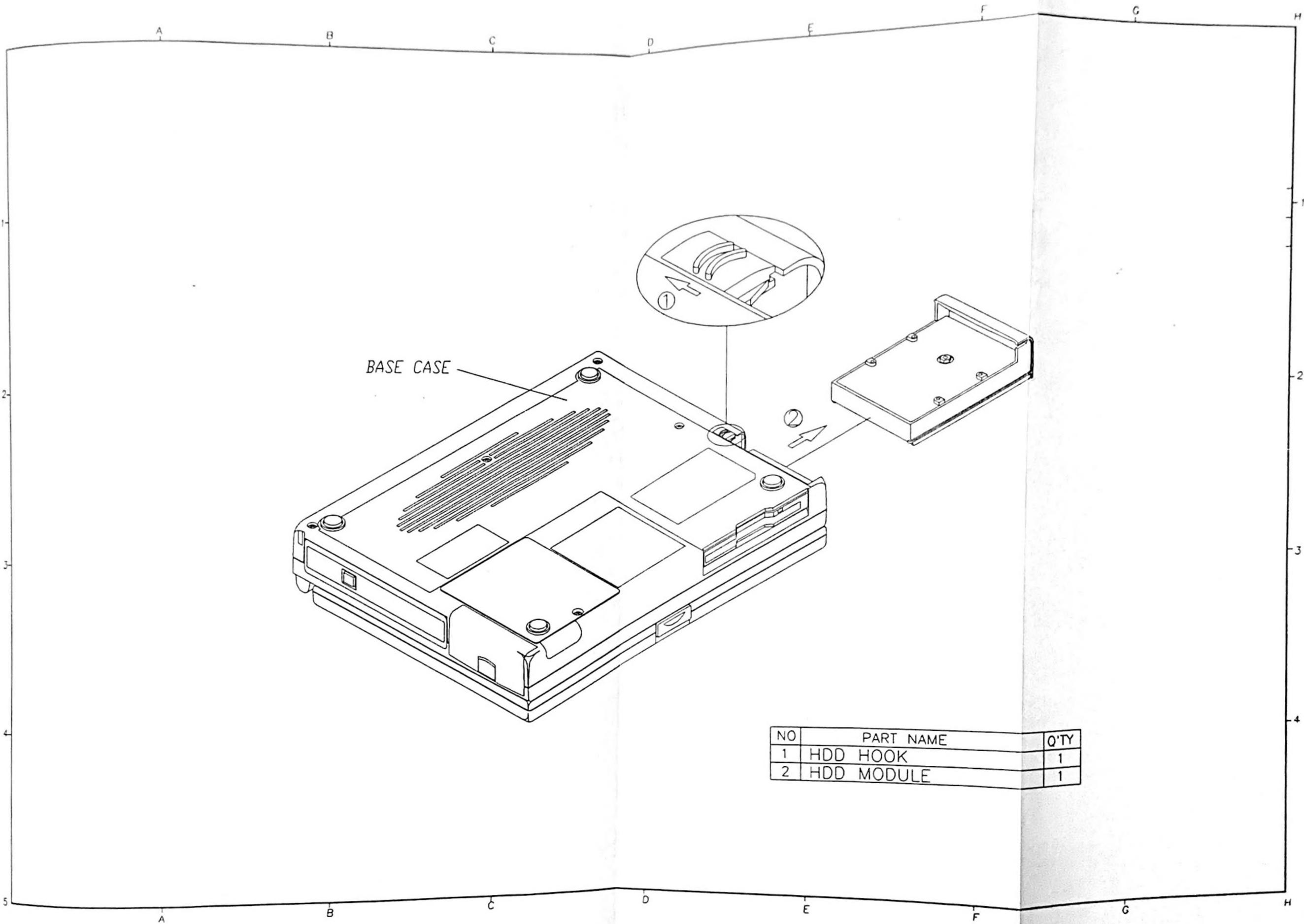
NO	PART NAME	QTY
1	SCREW B-M2.6*0.45*22-BLACK	2
2	K/B LOCK	2
3	KEYBOARD	1
4	SCREW I-M2.6*0.45*6-BLACK	2

卸下 CD-ROM MODULE 之步骤



NO	PART NAME	Q'TY
1	SCREW B-M2.6*0.45*22-BLACK	1
2	CD-ROM CONNECTOR	1
3	CD-ROM MODULE	1

取下 HDD MODULE 之步驟



NO	PART NAME	Q'TY
1	HDD HOOK	1
2	HDD MODULE	1



