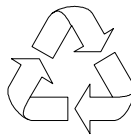


365 Notebook

Service Guide



100% Recycled Paper

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About this Manual

Purpose

This service guide aims to furnish technical information to the service engineers and advanced users when upgrading, configuring, or repairing the Extensa 365 notebook.

Manual Structure

This service guide consists of four chapters and seven appendices as follows:

Chapter 1 System Introduction

This chapter gives the technical specifications for the notebook and its peripherals.

Chapter 2 BIOS Setup Information

This chapter includes the system BIOS information, focusing on the BIOS setup utility.

Chapter 3 Disassembly and Unit Replacement

This chapter tells how to disassemble the notebook and replace components.

Appendix A Model Number Definition

This appendix shows the different configuration options for the 365 series notebook computer.

Appendix B Compatibility Test Report Excerpt

This appendix contains the compatibility test report of the notebook.

Appendix C BIOS POST Checkpoint

This appendix lists the POST checkpoints of the notebook BIOS.

Appendix D Silk Screen

This appendix contains the silk screen of the notebook.

Appendix E Spare Parts List

This appendix lists the spare parts for the 365 series notebook computer with their part numbers and other information.

Appendix G Schematics

This appendix contains the schematic diagrams for the system board.

Appendix H Troubleshooting to Board Repairing

If you need help.....

Conventions

The following are the conventions used in this manual:

Text entered by user

Represents parameter settings and text input by the user.

Screen messages

Denotes actual messages that appear onscreen.

ALT, ENTER, F8, etc.

Represent the actual keys that you have to press on the keyboard.



NOTE

Gives bits and pieces of additional information related to the current topic.



WARNING

Alerts you to any damage that might result from doing or not doing specific actions.



CAUTION

Gives precautionary measures to avoid possible hardware or software problems.



IMPORTANT

Reminds you to do specific actions relevant to the accomplishment of procedures.



TIP

Tells how to accomplish a procedure with minimum steps through little shortcuts.

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System Introduction

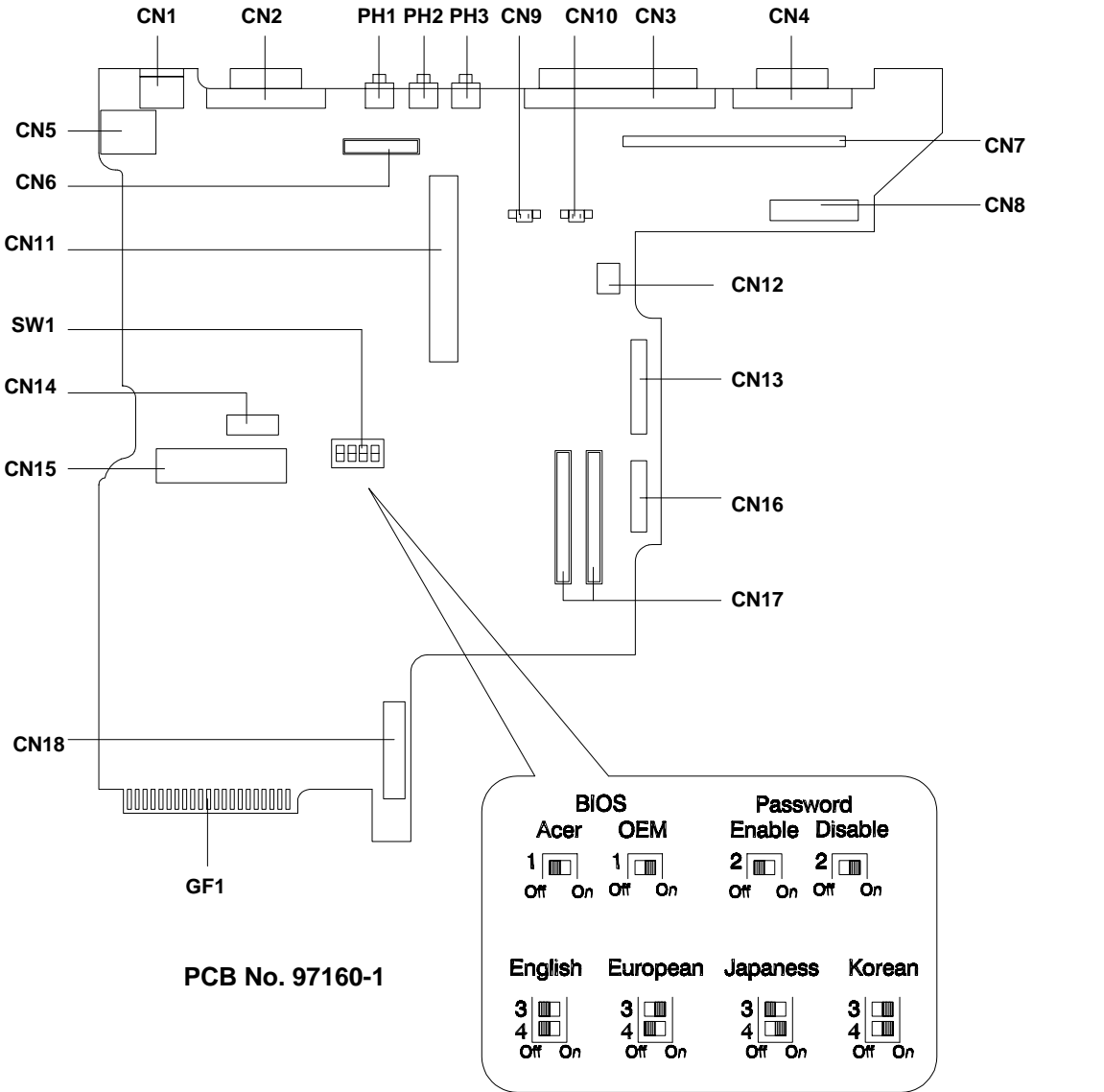
1.1 Overview

This computer combines high-performance, versatility, power management features and multimedia capabilities with unique style and ergonomic design. This computer was designed with the user in mind. Here are just a few of its many features:

- Performance
 - Intel Pentium® processor with MMX™ technology
 - 64-bit main memory and external (L2) cache memory
 - Large LCD display and PCI local bus video with graphics acceleration
 - Internal CD-ROM drive and external 3.5-inch floppy drive (CD-ROM drive model)
 - Internal 3.5-inch floppy drive (FDD model)
 - High-capacity, Enhanced-IDE hard disk
 - Nickel Metal-Hydride battery pack
 - Power management system with light green, standby and hibernation power saving modes
- Multimedia
 - 16-bit high-fidelity stereo audio with 3-D sound
 - Built-in dual speakers
 - Ultra-slim, high-speed CD-ROM drive
- Connectivity
 - High-speed fax/data modem port
 - USB (Universal Serial Bus) port
- Human-centric Design and Ergonomics
 - Lightweight and slim
 - Sleek, smooth and stylish design
 - Full-sized keyboard and wide palmrest
 - Ergonomically-centered touchpad pointing device
- Expansion
 - CardBus PC card (formerly PCMCIA) slots (two type II/I or one type III) with ZV (Zoomed Video) port support
 - User-upgradeable memory and hard disk

1.2 Jumpers and Connectors

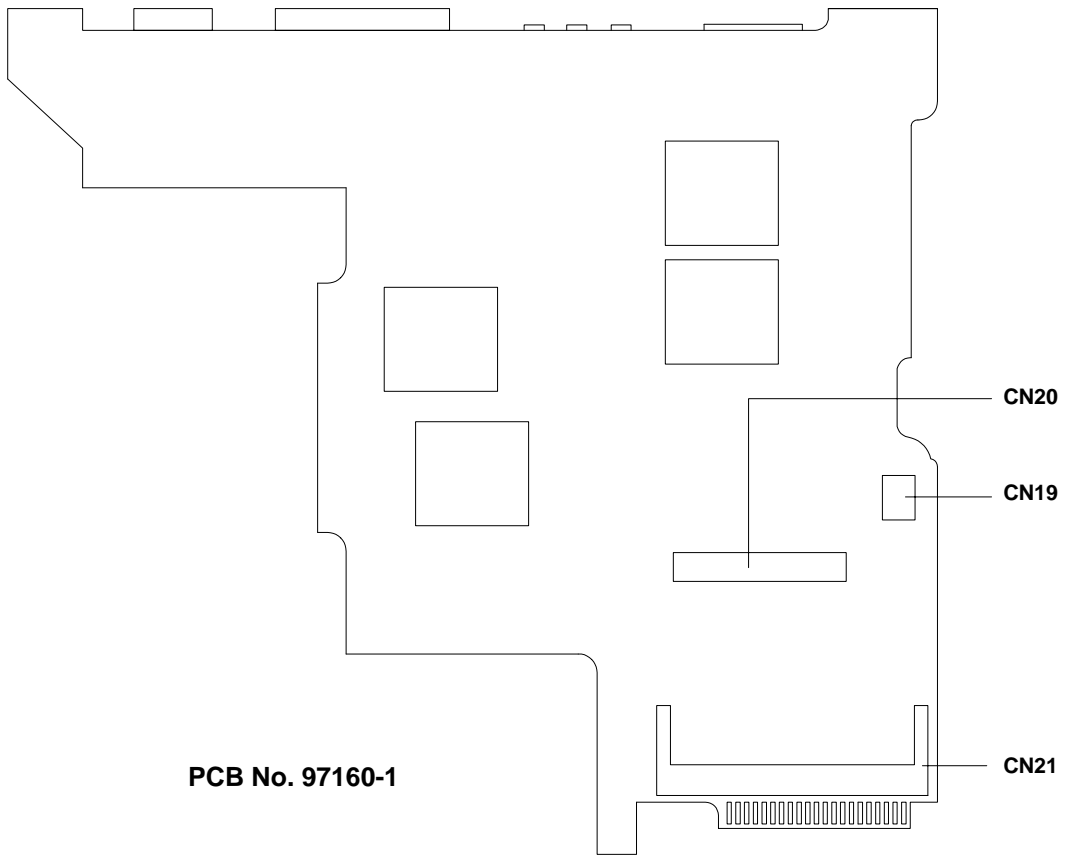
TOP VIEW



- | | | | | | |
|-----|-------------------|------|--------------------------------------|------|---------------------------------|
| CN1 | USB port | CN9 | Internal speaker connector (left) | CN17 | CPU board connector |
| CN2 | VGA port | CN10 | Internal speaker connector (right) | CN18 | Battery connector |
| CN3 | Parallel port | CN11 | PCMCIA socket connector | SW1 | KB/password/logo setting switch |
| CN4 | Serial port | CN12 | Inverter connector | GF1 | Golden finger for debug card |
| CN5 | RJ-11 phone jack | CN13 | FDD/CD-ROM connector | PH1 | Microphone connector |
| CN6 | LCD connector | CN14 | Internal keyboard/touchpad connector | PH2 | Line-In connector |
| CN7 | DC-DC connector | CN15 | HDD connector | PH3 | Line-out connector |
| CN8 | Charger connector | CN16 | CD-ROM connector | | |

Figure 1-1 Jumpers and Connectors (Top View)

BOTTOM VIEW



- CN19 Modem connector
- CN20 Modem connector
- CN21 DIMM socket

Figure 1-2 Jumpers and Connectors (Bottom View)

The following tables list the switch settings for SW1.

Table 1-1 SW1 Switch Settings

	ON		OFF	
Switch 1 (Logo Screen)	OEM		Acer	
Switch 2 (Password)	Bypass		Check	
	English	European	Japanese	Korean
Switch 3 (KB Language)	Off	On	Off	On
Switch 4 (KB Language)	Off	Off	On	On

1.3 Hardware Configuration and Specification

1.3.1 Memory Address Map

Table 1-2 Memory Address Map

Address Range	Definition	Function
000000 - 09FFFF	640 KB memory	Base memory
0A0000 - 0BFFFF	128 KB video RAM	Reserved for graphics display buffer
0C0000 - 0CBFFF	Video BIOS	Video BIOS
0F0000 - 0FFFFFFF	64 KB system BIOS	System BIOS
100000 - top limited	Extended memory	SIMM memory
FE0000 - FFFFFFFF	256 KB system ROM	Duplicate of code assignment at 0E0000-0FFFFFFF

1.3.2 Interrupt Channel Map

Table 1-3 Interrupt Channel Map

Priority	Interrupt Number	Interrupt Source
1	SMI	Power management unit
2	NMI	Parity error detected, I/O channel error
3	IRQ 0	Interval timer, counter 0 output
4	IRQ 1	Keyboard
	IRQ 2	Interrupt from controller 2 (cascade)
5	IRQ 8	Real-time clock /
6	IRQ 9	Cascaded to INT 0AH (IRQ 2) / Audio / PCMCIA/Internal Modem
7	IRQ 10	Audio (option) / PCMCIA / Internal modem / Serial communication port 2 / PCMCIA / USB
8		Audio (option) / PCMCIA / Internal modem / Serial communication port 1 / PCMCIA
9	IRQ 11	PS/2 mouse
10		INT from coprocessor
11	IRQ 12	Hard disk controller / PCMCIA controller
12	IRQ 13	CD-ROM controller / PCMCIA controller
13	IRQ 14	Serial communication port 2 / Internal modem / Audio / PCMCIA
14	IRQ 15	Serial communication port 1 / Internal modem / Audio / PCMCIA
15	IRQ 3	Parallel port (option) / Audio / PCMCIA
16	IRQ 4	Diskette controller
17	IRQ 5	Parallel port (option) / Audio / Internal Modem
18	IRQ 6	
19	IRQ 7	

1.3.3 DMA Channel Map

Table 1-4 DMA Channel Map

Controller	Channel	Address	Function
1	0	0087	Audio (option) / Audio
1	1	0083	Audio (option) / ECP / Audio
1	2	0081	Diskette
1	3	0082	Audio (option) / ECP
2	4	Cascade	Cascade
2	5	008B	Not support
2	6	0089	Not support
2	7	008A	Audio (option)

1.3.4 I/O Address Map

Table 1-5 I/O Address Map

Address Range	Device
000 - 00F	DMA controller-1
020 - 021	Interrupt controller-1
040 - 043	Timer 1
048 - 04B	Timer 2
060 - 06E	Keyboard controller 8742 chip select
070 - 071	Real-time clock and NMI mask
080 - 08F	DMA page register
0A0 - 0A1	Interrupt controller-2
0C0 - 0DF	DMA controller-2
1F0 - 1F7	Hard disk select
220 - 22F	Audio (option) - default
230 - 23F	Audio (option)
240 - 24F	Audio (option)
250 - 25F	Audio (option)
278 - 27F	Parallel port 3
2E8 - 2EF	COM 4
2F8 - 2FF	COM 2
378, 37A	Parallel port 2
3BC - 3BE	Parallel port 1
3B4, 3B5, 3BA	Video subsystem
3C0 - 3C5	Video subsystem
3C6 - 3C9	Video DAC
3C0 - 3CF	Enhanced graphics display
3D0 - 3DF	Color graphics adapter
3E0 - 3E1	PCMCIA controller
3E8 - 3EF	COM3
3F0 - 3F7	Floppy disk controller
3F8 - 3FF	COM 1
CF8 - CFF	PCI configuration register

1.3.5 Processor

Table 1-6 Processor Specifications

Item	Specification
CPU type	P55C-166, Tillamook-200/233
CPU package	TCP
Switchable processor speed (Y/N)	Yes
Minimum working speed	0MHz
CPU core voltage	2.45V/1.8V/1.8V
CPU I/O voltage	3.3V/2.5V/2.5V

1.3.6 BIOS

Table 1-7 BIOS Specifications

Item	Specification
BIOS vendor	Acer
BIOS version	V3.0
BIOS in flash EPROM (Y/N)	Yes
BIOS ROM size	256KB
BIOS package type	32-pin PLCC
Same BIOS for STN color/TFT color (Y/N)	Yes



The BIOS can be overwritten/upgradeable using the "AFLASH" utility (AFLASH.EXE). Please refer to software specification section for details.

1.3.7 System Memory

Memory is upgradeable from 16 to 80 MB, employing 16-/32-/64-MB 64-bit soDIMMs (Small Outline Dual Inline Memory Modules). After installing the memory modules, the system automatically detects and reconfigures the total memory size during the POST routines. The following lists important memory specifications.

- Memory bus width: 64-bit
- Expansion RAM module type: 144-pin, 64-bit, small outline Dual Inline Memory Module (soDIMM)

- Expansion RAM module size/configuration:
 - 8MB (1M*16x4)
 - 16MB (2M*8x8)
 - 32MB (4M*16x4)
 - 64MB (8M*8x8)
- Expansion RAM module speed/voltage/package: 60ns/3.3v/TSOP EDO
- EDO and fast-page mode DIMMs may be used together in a memory configuration.

The following table lists all possible memory configurations.

Table 1-8 Memory Configurations

On Board	Slot 1	Total Memory
16 MB	0 MB	16 MB
16 MB	16 MB	32 MB
16 MB	32 MB	48 MB
16 MB	64MB	80 MB

1.3.8 Second-Level Cache

This notebook has 256KB second-level (L2) cache onboard.

1.3.9 Video Memory

Table 1-9 Video RAM Configuration

Item	Specification
Fixed or upgradeable	Fixed, build in chip
Memory size/configuration	1.1MB
Memory speed	50ns
Memory voltage	3.3V

1.3.10 Video

Table 1-10 Video Hardware Specification

Item	Specification
Video chip	NeoMagic 2097
Working voltage	3.3V

External CRT Resolution Support

Table 1-11 Supported External CRT Resolutions

Resolution x Color on External CRT	CRT Refresh Rate		Simultaneous on TFT LCD	Simultaneous on STN LCD
	CRT only	Simultaneous	SVGA	SVGA
640x480x16	60	60	Y	Y
640x480x256	60,75,85	60	Y	Y
640x480x65,536	60,75,85	60	Y	Y
640x480x16,777,216	60,75,85	60	Y	Y
800x600x256	60,75,85	60	Y	Y
800x600x65,536	60,75,85	60	Y	Y
1024x768x256	60,75,85	60	Y	Y

LCD Resolution Support

Table 1-12 Supported LCD Resolutions

Resolution x Color on LCD Only*	TFT LCD (SVGA)	DSTN LCD (SVGA)
640x480x16	Y	Y
640x480x256	Y	Y
640x480x65,536	Y	Y
640x480x16,777,216	Y	Y
800x600x256	Y	Y
800x600x65,536	Y	Y
1024x768x256	Y	Y

* Maximum resolution (External CRT): 1024x768



Using software, you can set the LCD to a higher resolution than its physical resolution, but the image shown on the LCD will pan.

1.3.11 Parallel Port

Table 1-13 Parallel Port Configurations

Item	Specification
Number of parallel ports	1
ECP support	Yes (set by BIOS setup)
Connector type	25-pin D-type
Location	Rear side
Selectable parallel port (by BIOS Setup)	<ul style="list-style-type: none"> • Parallel port : Enabled / Disabled • Base Address: 378h/278h/3BCH • IRQ: 7/ 5

1.3.12 Serial Port

Table 1-14 Serial Port Configurations

Item	Specification
Number of serial ports	1
16550 UART support	Yes
Connector type	9-pin D-type
Location	Rear side
Selectable serial port (by BIOS Setup)	<ul style="list-style-type: none">Serial Port : Enabled / DisabledBase Address : 3F8h / 2F8h / 3E8h / 2E8hIRQ: 4 /11

1.3.13 Audio

Table 1-15 Audio Specifications

Item	Specification
Chipset	YMF715
Audio onboard or optional	Built-in
Mono or stereo	Stereo
Resolution	16-bit
Compatibility	SB-16 , Windows Sound System
Mixed sound sources	Voice, Synthesizer, Line-in, Microphone, CD
Voice channel	8-/16-bit, mono/stereo
Sampling rate	44.1 kHz
Internal microphone	No
Internal speaker / quantity	Yes / 2 pcs.
Microphone jack	Yes
Headphone jack	Yes

1.3.14 PCMCIA

PCMCIA is an acronym for Personal Computer Memory Card International Association. The PCMCIA committee set out to standardize a way to add credit-card size peripheral devices to a wide range of personal computers with as little effort as possible.

There are two type II/I or one type III PC Card slots found on the left panel of the notebook. These slots accept credit-card-sized cards that enhances the usability and expandability of the notebook.

ZV (Zoomed Video) port support allows your system to support hardware MPEG in the form of a ZV PC card.

Table 1-16 PCMCIA Specifications

Item	Specification
Chipset	O2 Micro OZ6833
Supported card type	Type-II / Type-III
Number of slots	Two Type-II or one Type-III
Access location	Left side
ZV (Zoomed Video) port support	Yes

1.3.15 Touchpad

Table 1-17 Touchpad Specifications

Item	Specification
Vendor & model name	Synaptics TM3202TPD-226
Power supply voltage (V)	5 ± 10%
Location	Palm-rest center
Internal & external pointing device work simultaneously	Yes
Support external pointing device hot plug	Yes
X/Y position resolution (points/mm)	20
Interface	PS/2 (compatible with Microsoft mouse driver)

1.3.16 Keyboard

Table 1-18 Keyboard Specifications

Item	Specification
Vendor & model name	SMK KAS1901-0161R (English)
Total number of keypads	84/85 keys
Windows 95 keys	Yes, (Logo key / Application key):
Internal & external keyboard work simultaneously	Yes

Windows 95 Keys

The keyboard has two keys that perform Windows 95-specific functions. See Table 1-26.

Table 1-19 Windows 95 Key Descriptions

Key	Description
Windows logo key	Start button. Combinations with this key performs special functions, e.g.: <ul style="list-style-type: none"> • <i>Windows + Tab</i> Activate next Taskbar button • <i>Windows + E</i> Explore My Computer • <i>Windows + F</i> Find Document • <i>Windows + M</i> Minimize All • <i>Shift + Windows + M</i> Undo Minimize All • <i>Windows + R</i> Display Run dialog box
Application key	Opens the application's context menu (same as right-click).

1.3.17 FDD

Table 1-20 FDD Specifications

Item	Specification		
Vendor & model name	Mitsumi D353F2		
Floppy Disk Specifications			
Media recognition	2DD (720K)	2HD (1.2M, 3-mode)	2HD (1.44M)
Sectors / track	9	15	18
Tracks	80	80	80
Data transfer rate (Kbits/s)	250 300	500	500
Rotational speed (RPM)	300 360	360	300
Read/write heads	2		
Encoding method	MFM		
Power Requirement			
Input Voltage (V)	+5 ± 10%		

1.3.18 HDD

Table 1-21 HDD Specifications

Item	Specification		
Vendor & Model Name	Hitachi DK225A-21	IBM DTNA22160	IBM DDLA21620
Drive Format			
Capacity (MB)	2160	2160	1620
Bytes per sector	512	512	512
Logical heads	16	16	16
Logical sectors	63	63	63
Drive Format			
Logical cylinders	4889	4200	3152
Physical read/write heads	6	6	3
Disks	3	3	2

Table 1-21 HDD Specifications

Item	Specification		
Spindle speed (RPM)	4464	4000	4000
Performance Specifications			
Buffer size (KB)	128	96	96
Interface	ATA-3(IDE)	ATA-3	ATA-3
Data transfer rate (disk-buffer, Mbytes/s)	5.7 ~ 9.0	5 ~ 7.7	5 ~ 8.3
Data transfer rate (host-buffer, Mbytes/s)	16.6 /33.3 (max., PIO mode 4)	16.6 (max., PIO mode 4)	16.6 (max., PIO mode 4)
DC Power Requirements			
Voltage tolerance (V)	5 ± 5%	5 + 5%	5 ± 5%

1.3.19 CD-ROM

Table 1-22 CD-ROM Specifications

Item	Specification
Vendor & Model Name	Teac-20X
Performance Specification	
Speed (KB/sec)	2100 (ave. speed), 3000 (max.)
Access time (ms)	150 (Typ.)
Buffer memory (KB)	128
Interface	Enhanced IDE (ATAPI) compatible
Applicable disc format	CD-DA, CD-ROM, CD-ROM XA (except ADPCM), CD-I, Photo CD (Multisession), Video CD, CD+
Loading mechanism	Soft eject (with emergency eject hole)
Power Requirement	
Input Voltage (V)	5

1.3.20 Battery

Table 1-23 Battery Specifications

Item	Specification
Battery gauge on screen	Yes, by hotkey
Vendor & model name	Solomonbtp-1631(pack)/Toshiba(cell)
Battery type	NiMH
Cell capacity (mAH)	3500
Cell voltage (V)	1.2
Number of battery cell	7-cell
Package configuration	7 serial
Package voltage (V)	8.4

Table 1-23 Battery Specifications

Item	Specification
Package capacity (WAH)	3500
Second battery	No

1.3.21 Charger

To charge the battery, place the battery pack inside the battery compartment and plug the AC adapter into the notebook and an electrical outlet. The adapter has three charging modes:

- Rapid mode

The notebook uses rapid charging when power is turned off and a powered AC adapter is connected to it. In rapid mode, a fully depleted battery gets fully charged in approximately two hours.

- Charge-in-use mode

When the notebook is in use with the AC adapter plugged in, the notebook also charges the battery pack if installed. This mode will take longer to fully charge a battery than rapid mode. In charge-in-use mode, a fully depleted battery gets fully charged in approximately six to eight hours.

- Trickle mode

The adapter charges the battery pack for two hours using trickle current $17 \pm 3\text{mA}$, then shifts to 1/10 duty pulse trickle charge to keep the battery capacity at 100%.

Table 1-24 Charger Specifications

Item	Specification
Vendor & model name	Ambit T62.096.C.00
Input voltage (from adapter, V)	0-24
Output current (to DC/DC converter, A)	4.3
Battery Low Voltage	
Battery Low 1 level (V)	8.2 ± 0.15
Battery Low 2 level (V)	7.8 ± 0.15
Battery Low 3 level (V)	6.8 ± 0.15
Charge Current	
Background charge (charge even system is still operative, A)	0.9 ± 0.1 (typ.)
Normal charge (charge while system is not operative, A)	2.0 ± 0.1 (typ.)
Charging Protection	
Maximum temperature protection ()	60

1.3.22 DC-DC Converter

DC-DC converter generates multiple DC voltage level for whole system unit use.

Table 1-25 DC-DC Converter Specifications

Item	Specification					
Vendor & model name	Ambit T62.095.C.00					
Input voltage (Vdc)	8~21					
Output Rating	5V	3.3V	Vcpu (2.47 /2.15 /1.8V/2.0V)	+12V	+6V	5VSB
Current (w/ load, A)	0~3.2	0~3.3	0~6	0~0.15	0~0.1	0.005
Voltage ripple (max., mV)	50	50	50	100	300	75
Voltage noise (max., mV)	100	100	100	200	500	250
OVP (Over Voltage Protection, V)	6.1~8.0	4.2~6.2	3-4	-	-	-
OCP (Over Current Protection, A)	4-6	4-6	6.5-9	0.3-0.4	-	-

1.3.23 DC-AC Inverter

DC-AC inverter is used to generate very high AC voltage, then supply to LCD CCFT backlight use, and is also responsible for the control of LCD brightness. Avoid touching the DC-AC inverter area while the system unit is turned on.

Table 1-26 DC-AC Inverter Specifications

Item	Specification		
Vendor & model name	Ambit T62.104.C.00		
Input voltage (V)	6.8(in.)	-	22(max.)
Input current (mA)	-	-	750 (max.)
Output voltage (Vrms, no load)	1000 (min.)	-	1600 (max.)
Output voltage frequency (kHz)	40 (min.)	-	65 (max.)
Output current (mArms)	1.0~5.5 (min.)	1.5~6.1 (typ.)	2.0~6.7 (max.)

1.3.24 LCD

Table 1-27 LCD Specifications

Item	Specification		
Vendor & model name	TORISAN LM-JK53-22NFQ	TORISAN LM-JK53-22NFR-A	HITACHI TX31D21VC
Mechanical Specifications			
LCD display area (diagonal, inch)	12.1	12.1	12.1
Display technology	STN	STN	TFT
Resolution	SVGA (800x600)	VGA (800x600)	SVGA (800x600)

Table 1-27 LCD Specifications

Item	Specification		
Supported colors	--	--	262,144 colors
Optical Specification			
Contrast ratio	40 (typ.)	40 (typ.)	80 (typ.)
Brightness (cd/m ²)	70 (typ.)	70 (typ.)	70 (typ.)
Brightness control	keyboard hotkey	keyboard hotkey	keyboard hotkey
Contrast control	using keyboard hotkey	using keyboard hotkey	none
Electrical Specification			
Supply voltage for LCD display (V)	3.3 or 5 (typ.)	3.3 or 5 (typ.)	3.0 ~ 3.6 (typ.)
Supply voltage for LCD backlight (Vrms)	630 (typ.)	630 (typ.)	595(typ.), 660(max)

1.3.25 AC Adapter

Table 1-28 AC Adapter Specifications

Item	Specification
Vendor & model name	Delta ADP-45GB Rev. E3, E5
Input Requirements	
Nominal voltages (Vrms)	90 - 270
Nominal frequency (Hz)	47 - 63
Frequency variation range (Hz)	47 - 63
Maximum input current (A, @90Vac, full load)	1.5 A
Inrush current	The maximum inrush current will be less than 50A and 100A when the adapter is connected to 115Vac(60Hz) and 230Vac(50Hz) respectively.
Efficiency	It should provide an efficiency of 83% minimum, when measured at maximum load under 115V(60Hz).
Output Ratings (CV mode)	
DC output voltage (V)	+19.0V~20.5V
Noise + Ripple (mV)	300mvp-pmax (20Mhz bandwidth)
Output Ratings (CV mode)	
Load (A)	0 (min.) 2.4 (max.)
DC output voltage (V)	+12 ~+19
Constant output (A)	2.75 ± 0.2
Dynamic Output Characteristics	
Turn-on delay time (s, @115Vac)	2
Hold up time (ms; @115 Vac input, full load)	5 (min.)
Over Voltage Protection (OVP, V)	26

Table 1-28 AC Adapter Specifications

Item	Specification
Short circuit protection	Output can be shorted without damage
Electrostatic discharge (ESD, kV)	±15 (at air discharge)
Dielectric Withstand Voltage	
Primary to secondary	3000 Vac (or 4242 Vdc), 10 mA for 1 second
Leakage current	0.25 mA maximum @ 254 Vac, 60Hz.
Regulatory Requirements	
Internal filter meets: <ol style="list-style-type: none"> 1. FCC class B requirements. (USA) 2. VDE 243/1991 class B requirements. (German) 3. CISPR 22 Class B requirements. (Scandinavia) 4. VCCI class II requirements. (Japan) 	

1.4 Software Configuration and Specification










1.4.1 BIOS

The BIOS is compliant to PCI v2.1, APM v1.2, E-IDE and PnP specification. It also defines the hotkey functions and controls the system power-saving flow.

Keyboard Hotkey Definition

The notebook supports the following hotkeys.

Table 1-29 Hotkey Descriptions

Hotkey	Icon	Function	Description
Fn-Esc		Hotkey Escape	Exits the hotkey control.
Fn-F1	?	Hotkey Help	Displays the hotkey list and help. Press to exit the screen.
Fn-F2		Brightness Control  Contrast Control 	Toggles between brightness control and contrast control. Press the scale hotkeys (Fn-→ and Fn-←) to increase and decrease the brightness or contrast level. Notebooks with TFT displays do not show the brightness control icon.
Fn-F3		Display Toggle	Switches display from LCD to CRT to both LCD and CRT.
Fn-F4		Battery Gauge 	Displays the battery gauge.
Fn-F5		Volume Control 	Press the scale hotkeys (Fn-→ and Fn-←) to increase and decrease the output level.
Fn-F6		Setup	Gains access to BIOS Setup's Advanced System Configuration parameters.
Fn-F7	Z ^Z	Hibernation/Standby	Enters hibernation mode if the 0-volt suspend function is installed and enabled; otherwise, the notebook enters standby mode.
Fn-→		Scale Increase	Increases the setting of the current icon.
Fn-←		Scale Decrease	Decreases the setting of the current icon.
Fn-T		Toggle Touchpad	Turns the internal touchpad on and off.



When the available hotkey is toggled, the system will issue a beep to enter the assigned process.

MultiBoot

The system can boot from the FDD, External FDD, HDD, or CD-ROM. The user can select the desired booting process to boot the system. If the CD-ROM is bootable, the BIOS will override the other process to boot the system directly.

Power Management

This computer has a built-in power management unit that monitors system activity. System activity refers to any activity involving one or more of the following devices: keyboard, mouse, floppy drive, hard disk, peripherals connected to the serial and parallel ports, and video memory. If no activity is detected for a period of time (called an inactivity time-out), the computer stops some or all of these devices in order to conserve energy.

This computer employs an innovative power management technique called Heuristic Power Management or HPM. HPM allows the computer to provide maximum power conservation and maximum performance at the same time.

Power management methods used by most computers are timer-based. You set inactivity time-out values for the display, hard disk, and other devices. The computer then "sleeps" when these time-outs elapse. The problem with this is that no two users are alike. Each of us has his or her own habits when using the computer, which makes timer-based power management ineffective.

With HPM, your computer manages its power according to the way you use your computer. This means the computer delivers maximum power when you need it, and saves power when you don't need the maximum — all without your intervention. There are no timers to set, because the HPM system figures out everything for you.

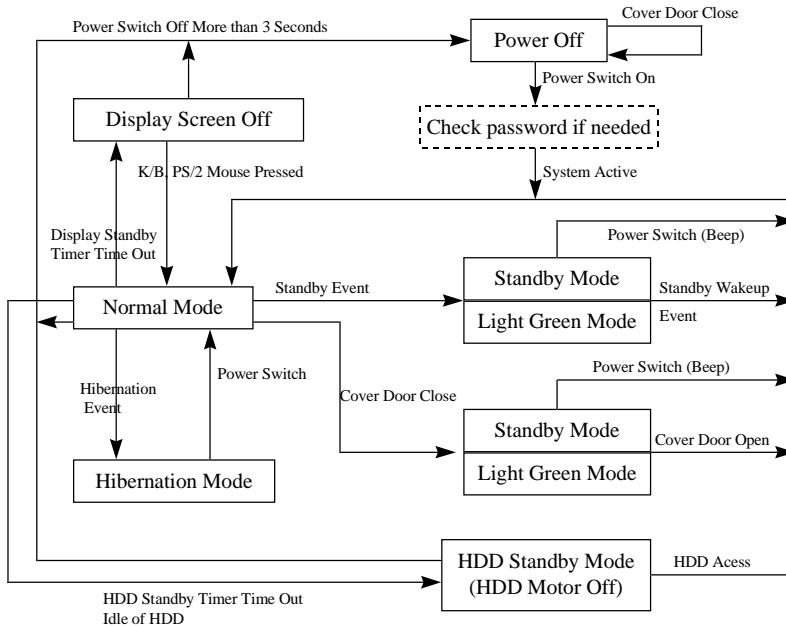


Figure 1-3 Power Management Block Diagram

ON MODE

Normal full-on operation

STANDBY MODE

The computer consumes very low power in standby mode. Data remain intact in the system memory until battery is drained.



Warning: Unstored data is lost when you turn off the computer power in standby mode or when the battery is drained.

Table 1-30 Standby Mode Conditions and Descriptions

Condition	Description
The condition to enter Standby Mode	<p>There are two necessary conditions for the computer to enter standby mode:</p> <ul style="list-style-type: none">• Heuristic Power Management Mode must be set to [ENABLED]. <p>In this situation, the following are ways to enter standby mode:</p> <ul style="list-style-type: none">• Pressing the sleep hot key Fn-F7• If the waiting time determined by the computer's HPM unit elapses without any system activity.• Closing the display cover.• With the System Sleep State is set to [HIBERNATION], the computer also enters standby mode if the hibernation file (Sleep Manager) is invalid or not present.• "Hard Disk Drive" is [Disabled] in System Security of BIOS SETUP.• "Hard Disk 0" is [None] in Basic System Configuration of BIOS SETUP. <p>Note: If the computer detects a PC I/O card installed in the PC card slots, the computer "sleeps" (light green mode) to maintain your communications connection. It will not enter standby mode.</p>
The condition of Standby Mode	<ul style="list-style-type: none">• Issue a beep.• The standby indicator flashes.• Disable the mouse, serial and the parallel port.• The keyboard controller, HDD and VGA enter the standby mode.• Stop the CPU internal clock.• All the functions are disabled except the keyboard, battery low warning and modem ring wake up from standby (if enabled).
The condition back to On Mode	<p>Any one of following activities will let system back to Normal Mode:</p> <ul style="list-style-type: none">• Any keystroke (Internal KB or External KB)• Any active pointing device (internal or external, PS/2 or serial or USB)• Resume Timer matched• Opening the display cover if you closed the display cover to enter Standby mode.• Modem ring

LIGHT GREEN MODE

The notebook consumes very low power in light green mode. Data and I/O connections remain intact in the system memory until battery is drained.

Table 1-31 Light Green Mode Conditions and Descriptions

Condition	Description
The condition to enter Light Green Mode	<ul style="list-style-type: none">• PCMCIA I/O Card detected and occupy resources (Non Cardbus mode).• HPM timer times out or cover close or APM standby / suspend function calls.
The condition of Light Green Mode	<ul style="list-style-type: none">• Issue a beep.• Only HDD, VGA enter standby
The condition back to On Mode	Any one of following activities will let system back to Normal Mode: <ul style="list-style-type: none">• Any keystroke (Internal KB or External KB)• Any active pointing device (internal or external, PS/2 or serial or USB)• Resume Timer matched• Modem ring

HIBERNATION MODE

In hibernation mode, all power shuts off (the computer does not consume any power). The computer saves all system information onto the hard disk before it enters hibernation mode. Once you turn on the power, the computer restores this information and resumes where you left off upon leaving hibernation mode.



If the computer beeps but does not enter hibernation mode after pressing the sleep hot key, it means the operating system will not allow the computer to enter the power saving mode.



Do not change any devices (such as add memory or swap hard disks when the computer is in hibernation mode).



If the computer detects a PC I/O card installed in the PC card slots, the computer enters light green mode to maintain your communications connection. It will not enter standby nor hibernation mode.

Table 1-32 Hibernation Mode Conditions and Descriptions

Condition	Description
The condition to enter Hibernation Mode	<p>There are two necessary conditions for the computer to enter standby mode:</p> <ul style="list-style-type: none"> • Heuristic Power Management Mode must be set to [ENABLED]. • The hibernation file created by Sleep Manager must be present and valid. <p>In this situation, the following are ways to enter hibernation mode:</p> <ul style="list-style-type: none"> • Pressing the sleep hot key Fn-F7 • "Hard Disk Drive" is not [Disabled] in System Security of BIOS SETUP. • "Hard Disk 0" is not [None] in Basic System Configuration of BIOS SETUP. • If the waiting time determined by the computer's HPM unit elapses without any system activity. • If a battery low condition takes place, the computer enters hibernation mode in about three minutes. The Sleep Upon Battery-low parameter in Setup must be set to [ENABLED]. • Invoked by the operating system power saving modes
The condition of Hibernation Mode	<ul style="list-style-type: none"> • Except the RTC, KB controller and power switch, all the system components are off.
The condition back to On Mode	<ul style="list-style-type: none"> • Pressing the power switch. • Resume Timer matched

DISPLAY STANDBY MODE

Screen activity is determined by the keyboard, the built-in touchpad, and an external PS/2 pointing device. If these devices are idle for the period determined by the computer's HPM unit, the display shuts off until you press a key or move the touchpad or external mouse.

Table 1-33 Display Standby Mode Conditions and Descriptions

Condition	Description
The condition to enter Display Standby Mode	<ul style="list-style-type: none"> • Pointing device is idle until Display Standby Timer times-out or LCD cover is closed.
The condition of Display Standby Mode	<ul style="list-style-type: none"> • All the system components are on except LCD backlight and CRT horizontal frequency output (if CRT is connected)
The condition back to On Mode	<ul style="list-style-type: none"> • Any keystroke (Internal KB or External KB) • Pointing device activity



The VGA BIOS should support DPMS (Desktop Power Management System) for the standby and hibernation mode function call. When the Display Standby Timer expires, the system BIOS will execute the DPMS service routines.

HARD DISK STANDBY MODE

The hard disk enters standby mode when there are no disk read/write operations within the period of time determined by the computer's HPM unit. In this state, the power supplied to the hard disk is reduced to a minimum. The hard disk returns to normal once the computer accesses it.

Table 1-34 Hard Disk Standby Mode Conditions and Descriptions

Condition	Description
The condition to enter HDD Standby Mode	Display Standby HPM timer times-out or LCD cover is closed.
The condition of HDD Standby Mode	All the system components are on except HDD spindle motor
The condition back to On Mode	Any access to HDD

BATTERY LOW

When the battery capacity is low and no adapter is plugged in, the system will generate the following battery low warning:

- Flash power LED with 1 Hz.
- Issue 4 short beeps per minute (if enabled in setup).
- If the AC adapter does not plug in within 3 minutes and the “Standby/Hibernation upon Battery-low” in BIOS SETUP is enabled, the system will enter Standby/0-Volt Hibernation Mode. The battery low warning will stop as soon as the AC adapter is plugged into the system.

THE AUTODIM PROCESS OF THE LCD BRIGHTNESS

The notebook has a unique “**automatic dim**” power saving feature. When the notebook is using AC power and you disconnect the AC adapter from the notebook, the system “decides” whether or not to automatically dim the LCD backlight to save power.

If the LCD backlight is too bright, the system automatically adjusts it to a manageable level; otherwise, the level stays the same. If you want a brighter picture, you can then adjust the brightness and contrast level using hotkeys (Fn-F2).

If you reconnect AC power to the system, the system automatically adjusts the LCD backlight to its original level — the brightness and contrast level before disconnecting the AC adapter. If you adjusted the brightness and contrast level after disconnecting AC power, the level stays the same after you reconnect the AC adapter.

There are two reasons for the notebook to have the LCD AutoDim feature. The first is to save the power during the notebook is operating under the DC mode. The second is to save the “favorite” brightness parameter set by the user.

The following processes are the basic methods used to implement the LCD brightness AutoDim.

1. If the original brightness is over 75% and the AC power is on-line, the BIOS will change the brightness to 75% after the AC power is off-line.
2. If the original brightness is below 75%, the brightness maintains the same level even if the AC power is off-line.
3. If the brightness is already changed by the hotkey under DC power, it will not be changed after the AC power is plugged in.
4. If the brightness is not changed by the hotkey under DC power, the brightness will be changed back to the old setting — the previous brightness parameter under AC power.
5. If the previous brightness parameter does not exist, the brightness will not be changed in process 4.

1.4.2 Drivers, Applications and Utilities

The notebook comes preloaded with the following software:

- Windows 95¹
- System utilities and application software²
 - Sleep Manager utility
 - Display drivers
 - Audio drivers
 - PC Card slot drivers and applications
 - Other third-party application software

Table 1-35 Location of Drivers in the System Utility CD

Device Category	Function	Location
Sound, video and game controllers	Audio	ENGLISH\WIN95\AUDIO\
Mouse	Mouse	ENGLISH\WIN95\MOUSE\
Display adapters	Video	ENGLISH\WIN95\VGA\
PCMCIA	Zoomed Video Port	English\Win95\PCMCIA\

¹ In some areas, a different operating system may be pre-loaded instead of Windows 95.

² The system utilities and application software list may vary.

To re-install applications under Windows 95, click on Start, then Run.... Based on the location of the application, run the setup program to install the application. The following table lists the applications and their locations:

Table 1-36 Location of Applications in the System Utility CD

Name	Function	Location
Sleep Manager	0V Suspend utility	ENGLISH\WIN95\SLEEPMGR\
Y-Station	Audio application	ENGLISH\WIN95\Ystation
SafeOFF	Protect if user accidentally press the power switch	ENGLISH\WIN95\SAFEOFF

Drivers for Windows 3.x and Windows NT are also found in the System Utility CD if you should need them.

1.5 Block Diagrams

1.5.1 System

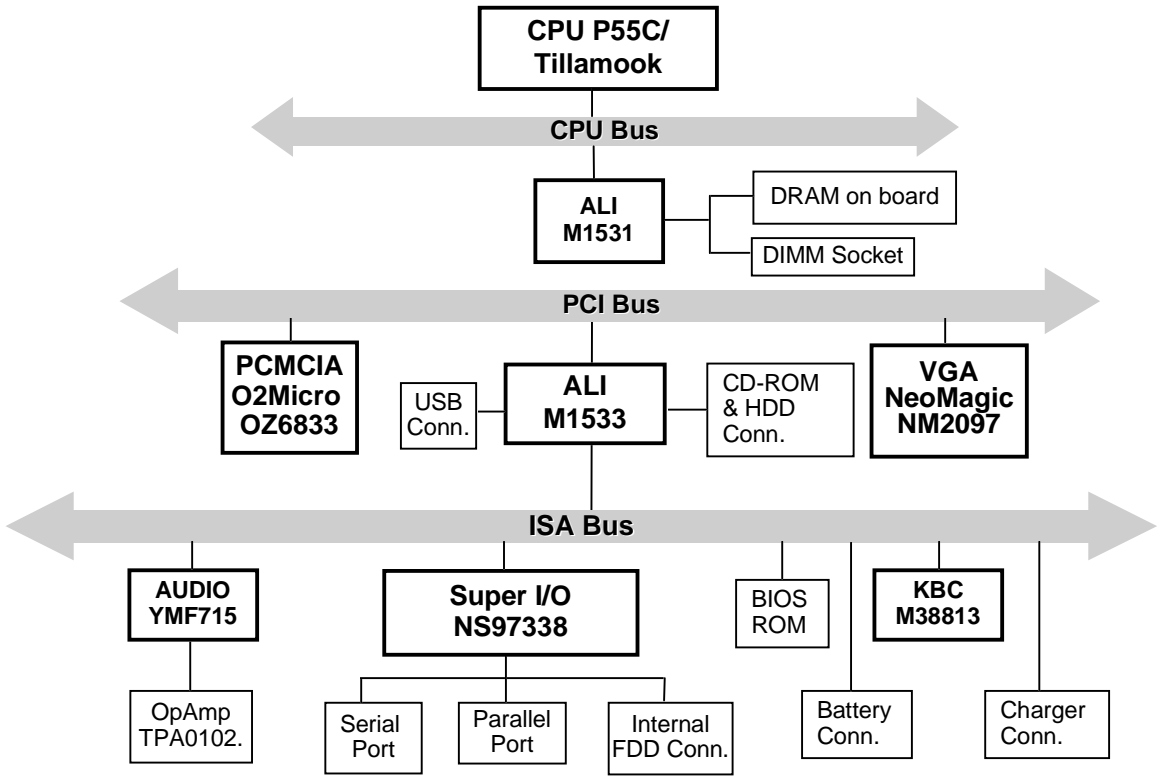


Figure 1-4 System Block Diagram

1.5.2 Clock

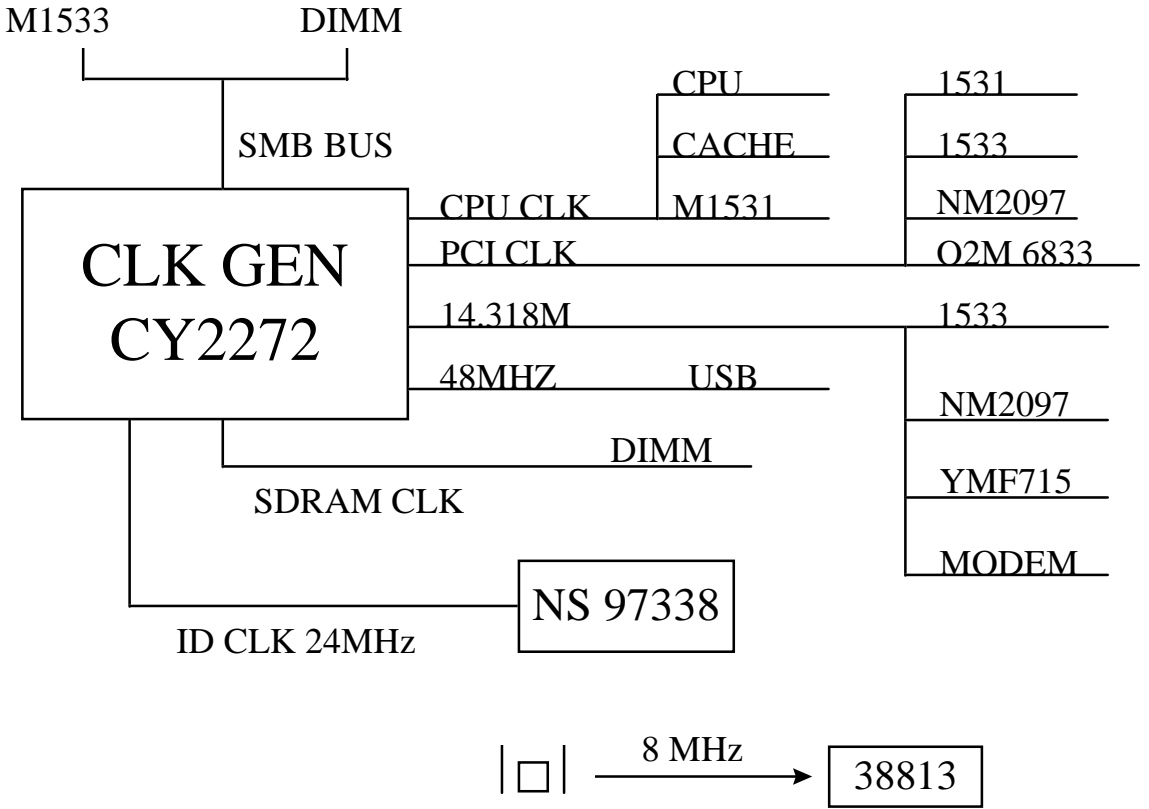


Figure 1-5 Clock Block Diagram

1.6 Environmental Requirements

Table 1- 37 Environmental Requirements

Item	Specification
Temperature	
Operating ()	+5~ +35
Non-operating()	-20 ~ +60
Humidity	
Operating (non-condensing)	20% ~ 85%
Non-operating (non-condensing)	20% ~ 90%
Operating Vibration (unpacked)	
Operating	5 - 25.6Hz, 0.38mm; 25.6 - 250Hz, 0.5G
Sweep rate	0.5 octave / minute
Number of test cycles	2 / axis (X,Y,Z)
Non-operating Vibration (unpacked)	
Non-operating	5 - 27.1Hz, 0.6G; 27.1 - 50Hz, 0.41mm; 50-500Hz, 2G
Sweep rate	0.5 octave / minute
Number of text cycles	4 / axis (X,Y,Z)
Non-operating Vibration (packed)	
Non-operating	5 - 62.6Hz, 0.51mm; 62.6-500Hz, 4G
Sweep rate	0.5 octave / minute
Number of text cycles	4 / axis (X,Y,Z)
Shock	
Non-operating (unpacked)	40G peak, 11±2ms, half-sine
Non-operating (packed)	50G peak, 11±2ms, half-sine
Altitude	
Operating	10,000 feet (5°C ~ 40°C)
Non-operating	40,000 feet (-20°C ~ 60°C)
ESD	
Air discharge	8kV (no error) 12.5kV (no restart error) 15kV (no damage)
Contact discharge	4kV (no error) 6kV (no restart error) 8kV (no damage)

1.7 Mechanical Specifications

Table 1-38 Mechanical Specifications

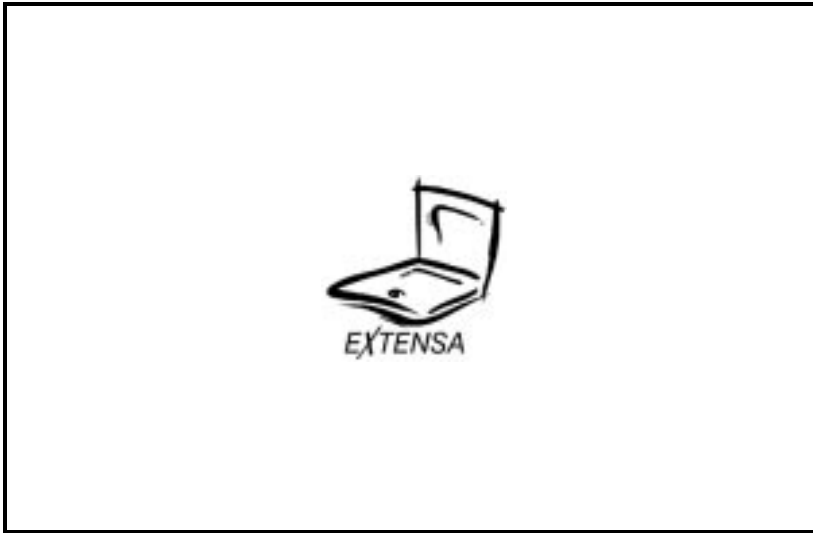
Item	Specification
Weight FDD model CD-ROM model	(includes battery) 2.77 kg. (6.11 lb.) 2.89 kg. (6.37 lb.)
Dimensions (main footprint)	W x D x H 310mm x 245mm x 46mm (12.2" x 9.65" x 1.81")

BIOS Setup

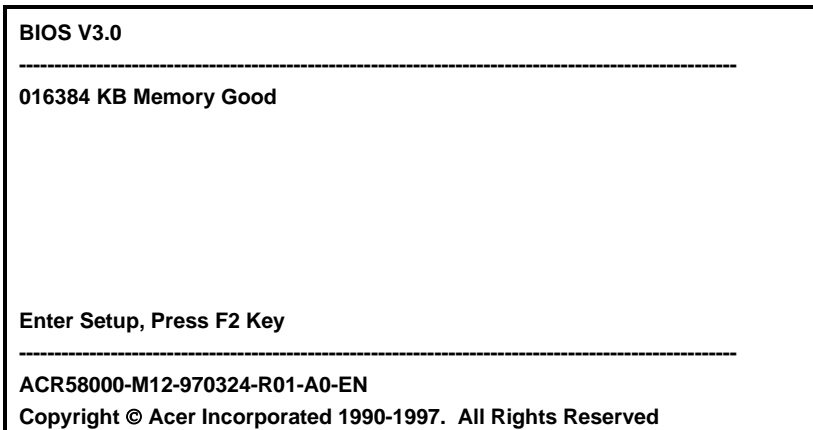
The Setup Utility is a hardware configuration program built into your computer's BIOS (Basic Input/Output System).

Your computer is already properly configured and optimized, and you do not need to run this utility. However, if you encounter configuration problems, you may need to run Setup. Please also refer to Chapter 6, Troubleshooting when a problem arises.

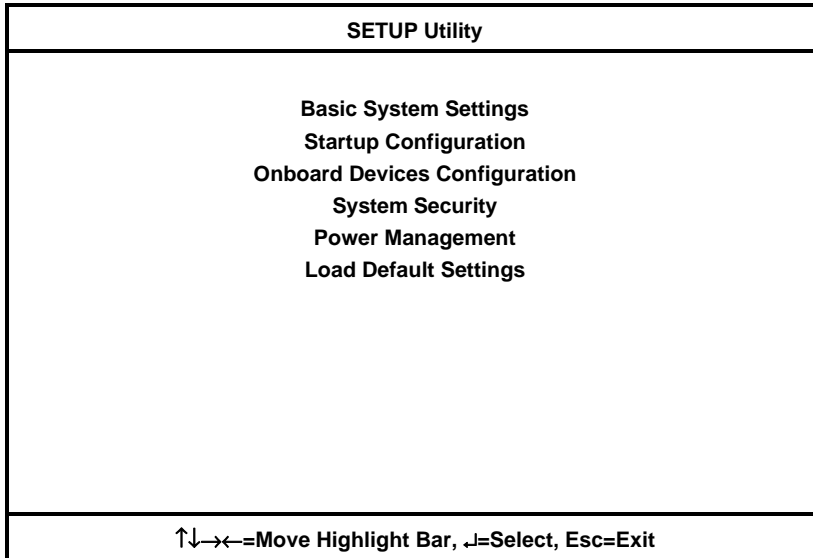
To activate the Setup Utility, press **F2** after you hear a beep while the Extensa logo is being displayed.



When Silent Boot (described later in this chapter) is disabled, a message displays telling you when you can press F2 to run the Setup Utility.



Pressing **F2** brings up the main screen of the Setup Utility.



Press the cursor keys (↑↓→←) to move the highlight bar, then press **Enter** to make a menu selection.

2.1 Basic System Settings

The Basic System Settings screen contains parameter items involving basic computer settings.

Basic System Settings	
Date -----	[Thu Jun. 11, 1998]
Time -----	[10:00:00]
Floppy Disk A -----	[1.44 MB 3.5-inch]
Floppy Disk B -----	[None]
	Cylinders Heads Sectors Size(MB)
Hard Disk -----	[Auto] xxxx xx xx xxxx
↑↓=Move Highlight Bar, →←=Change Setting, Esc=Exit	

Press ↑ and ↓ to move the highlight bar; press → and ← to change the setting of the highlighted parameter. To exit this screen and return to the main screen, press **Esc**.

The following table describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

Table 2-1 Basic System Settings Parameters

Parameter	Description	Setting or Format
Date	Sets the computer's system date	Day of the Week-Month-Day-Year
Time	Sets the computer's system time	Hour:Min:Sec
Floppy Disk A	Selects the floppy disk drive type.	1.44 MB 3.5-inch None
Floppy Disk B	Selects the floppy disk drive type. In most cases, you only have need for one floppy disk drive (A), so this is normally set to <i>None</i> .	None 1.44 MB 3.5-inch
Hard Disk	Selects the hard disk drive type. When set to <i>User</i> , you need to specify the Cylinder, Head and Sector information. For hassle-free and correct drive detection, this should be set to <i>Auto</i> .	Auto User None

2.2 Startup Configuration

The Startup Configuration screen contains parameter items that are set up when the computer starts up.

Startup Configuration	
Boot Display -----	[Auto]
Memory Test -----	[Enabled]
Silent Boot -----	[Enabled]
System Boot Drive -----	[Drive A Then C]
Boot from CD-ROM -----	[Enabled]
CardBus Support -----	[Enabled]
USB Function Support -----	[Disabled]
↑↓=Move Highlight Bar, →←=Change Setting, Esc=Exit	

Press ↑ and ↓ to move the highlight bar; press → and ← to change the setting of the highlighted parameter. To exit this screen and return to the main screen, press **Esc**.

The following table describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

Table 2-2 Startup Configuration Parameters

Parameter	Description	Setting or Format
Boot Display	Sets the display device (computer LCD and/or external monitor) to use when the computer starts (boots) up. When set to <i>Auto</i> , the computer outputs to the external monitor if one is connected; otherwise, the computer outputs to the LCD.	Auto Both
Memory Test	Runs or skips the memory test.	Enabled Disabled
Silent Boot	Hides or displays the POST (Power-on Self-Test) screen messages.	Enabled Disabled
System Boot Drive	Sets the startup (boot) sequence of the drives in your computer. For example, when set to <i>Drive A Then C</i> , the computer searches for a system (bootable) diskette in drive A first before proceeding with drive C.	Drive A Then C Drive C Then A Drive C Drive A

Table 2-2 Startup Configuration Parameters

Parameter	Description	Setting or Format
Boot from CD-ROM	Tells the computer to search for a bootable disc in the CD-ROM drive and boot from that disc. If the computer cannot find a bootable disc, it proceeds according to the System Boot Drive parameter setting.	Disabled Enabled
CardBus Support	Enables or disables CardBus support. For more information concerning CardBus, see section 3.7.	Enabled Disabled
USB Function Support	Selects support for USB (Universal Serial Bus). Enable this parameter if you are connecting USB device(s) to the computer.	Disabled Enabled

2.3 Onboard Devices Configuration

The Onboard Devices Configuration screen contains parameter items that are related to port devices on your computer.

Onboard Devices Configuration	
Serial Port -----	[Enabled]
Base Address -----	[3F8h]
IRQ -----	[4]
Parallel Port -----	[Enabled]
Base Address -----	[378h]
IRQ -----	[7]
Operation Mode -----	[Bi-directional]
ECP DMA Channel -----	[-]
↑↓=Move Highlight Bar, →←=Change Setting, Esc=Exit	

Press ↑ and ↓ to move the highlight bar; press → and ← to change the setting of the highlighted parameter. To exit this screen and return to the main screen, press **Esc**.

The following table describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

Table 2-3 Onboard Devices Configuration Parameters

Parameter	Description	Setting or Format
Serial Port	Enables or disables the serial port	Enabled Disabled
Base Address	Sets the I/O base address of the serial port	3F8h 2F8h 3E8h 2E8h
IRQ	Sets the IRQ (interrupt request) channel of the serial port	4 11
Parallel Port	Enables or disables the parallel port	Enabled Disabled
Base Address	Sets the I/O base address of the parallel port	378h 278h 3BCh
IRQ	Sets the interrupt request (IRQ) channel of the parallel port	7 5
Operation Mode	Selects the operation mode of the parallel port. ECP (Extended Capabilities Port) supports a 16-byte FIFO (first in, first out) which can be accessed by host DMA cycles and PIO cycles, boosting I/O bandwidth to meet the demands of high-performance peripherals.	Bi-directional ECP Standard

Table 2-3 Onboard Devices Configuration Parameters

Parameter	Description	Setting or Format
ECP DMA Channel	Sets the DMA channel of the parallel port when the parallel operation mode is set to ECP.	1 3

2.4 System Security

The System Security screen contains parameter items that help safeguard and protect your computer from unauthorized use.

System Security		
Disk	Drive	Control
Diskette Drive -----		[Normal]
Hard Disk Drive -----		[Normal]
Setup Password -----	[None]
POST Password -----	[None]
↑↓=Move Highlight Bar, →←=Change Setting, Esc=Exit		

Press ↑ and ↓ to move the highlight bar; press → and ← to change the setting of the highlighted parameter. To exit this screen and return to the main screen, press **Esc**.

The following table describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

Table 2-4 System Security Parameters

Parameter	Description	Setting or Format
Diskette Drive (Control)	Sets the control level of the diskette drive.	Normal Disabled Write Protect All Sectors Write Protect Boot Sector
Hard Disk Drive (Control)	Sets the control level of the diskette drive.	Normal Disabled Write Protect All Sectors Write Protect Boot Sector
Setup Password ¹	Sets (and enables) the setup password. When set, this password protects this Setup Utility from unauthorized entry. Before the computer allows access to the Setup Utility, you need to enter the setup password.	None Enabled

¹ To set passwords, see section 1.9.2.

Table 2-4 System Security Parameters

Parameter	Description	Setting or Format
Power On Password ¹	Sets (and enables) the power- on password. When set, this password protects the computer from unauthorized entry. At startup, you need to enter the power on password to continue computer operation.	None Enabled

2.5 Power Management Settings

The Power Management Settings screen contains parameter items related to power-saving and power management.

Power Management Settings	
Heuristic Power Management Mode -----	[Enabled]
Display Always On -----	[Disabled]
Hotkey Beep -----	[Enabled]
Modem Ring Resume On Indicator -----	[Enabled]
Battery-low Warning Beep -----	[Enabled]
Sleep Upon Battery-low -----	[Enabled]
↑↓=Move Highlight Bar, →←=Change Setting, Esc=Exit	

Press ↑ and ↓ to move the highlight bar; press → and ← to change the setting of the highlighted parameter. To exit this screen and return to the main screen, press **Esc**.

The following table describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

Table 2-5 Power Management Settings

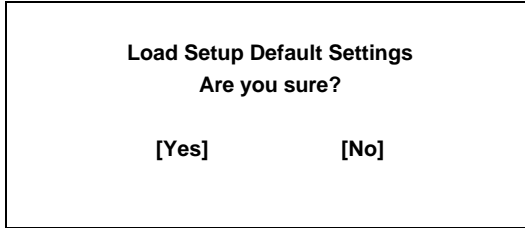
Parameter	Description	Setting or Format
Heuristic Power Management Mode	Enables or disables heuristic power management mode. For more information on power management modes, see section 2.2.1.	Enabled Disabled
Display Always On	When enabled the computer does not enter display standby mode. Note: Always enable this parameter when playing VCDs (Video Compact Disc). If not, the system will enter standby mode after 30 minutes and the screen will go blank.	Disabled Enabled
Hotkey Beep	When enabled the computer gives out a “beep” sound every time you use a hotkey. For more information on Hotkeys, see section 1.4.1.	Enabled Disabled
Modem Ring Resume On Indicator	When enabled, and an incoming modem ring is detected, the computer wakes up from standby mode. When the computer is off or in hibernation mode, the computer will not resume on a modem ring.	Enabled Disabled

Table 2-5 Power Management Settings

Parameter	Description	Setting or Format
Battery-low Warning Beep	Enables or disables warning beeps during a battery-low condition.	Enabled Disabled
Sleep Upon Battery-low	Enables or disables the sleep function (hibernation or standby) during a battery-low condition. When the computer is running very low on battery power, the computer will disregard the system sleep state setting and enter hibernation mode if Sleep Manager is installed and the hibernation file is valid (see section 5.1).	Enabled Disabled

2.6 Load Default Settings

When you select the Load Default Settings item from the main screen, a dialog box appears asking you to confirm that you want to reset all settings to their factory defaults.



Choose **Yes** to confirm or **No** to close the dialog box and return to the main screen.

Disassembly and Unit Replacement

This chapter contains step-by-step procedures on how to disassemble the notebook computer for maintenance and troubleshooting.

To disassemble the computer, you need the following tools:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge
- Flat-bladed screwdriver
- Phillips screwdriver
- Hexagonal screwdriver
- Tweezers
- Plastic stick




The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatch when putting back the components.

3.1 General Information

3.1.1 Before You Begin

Before proceeding with the disassembly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.
3. Press the battery compartment cover release button  and slide out the cover.
4. Pull out the battery pack using the pull loop at the end.

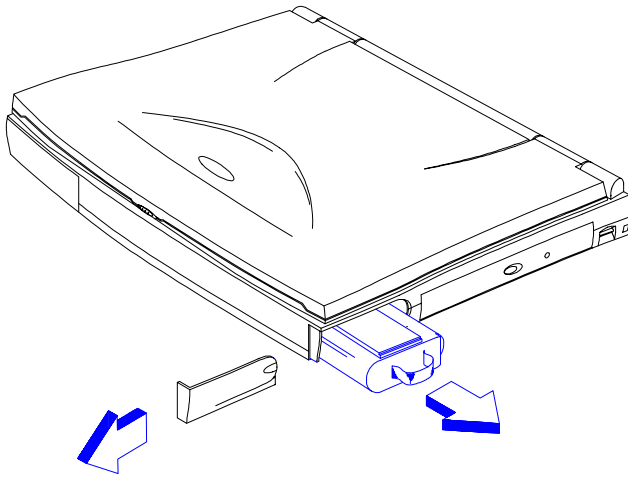


Figure 3-1 Removing the Battery Pack



Removing all power sources from the system prevents accidental short circuit during the disassembly process.

3.1.2 Connector Types

There are two kinds of connectors on the main board:

- Connectors with no locks

Unplug the cable by simply pulling out the cable from the connector.

- Connectors with locks

You can use a plastic stick to lock and unlock connectors with locks.



The cables used here are special FPC (flexible printed-circuit) cables, which are more delicate than normal plastic-enclosed cables. Therefore, to prevent damage, make sure that you unlock the connectors before pulling out the cables. Do not force cables out of the connectors.

CONNECTORS WITH LOCKS

- Unplugging the Cable

To unplug the cable, first unlock the connector by pulling up the two clasps on both sides of the connector with a plastic stick. Then carefully pull out the cable from the connector.

- Plugging the Cable

To plug the cable back, first make sure that the connector is unlocked, then plug the cable into the connector. With a plastic stick, press the two clasps on both sides of the connector to secure the cables in place.

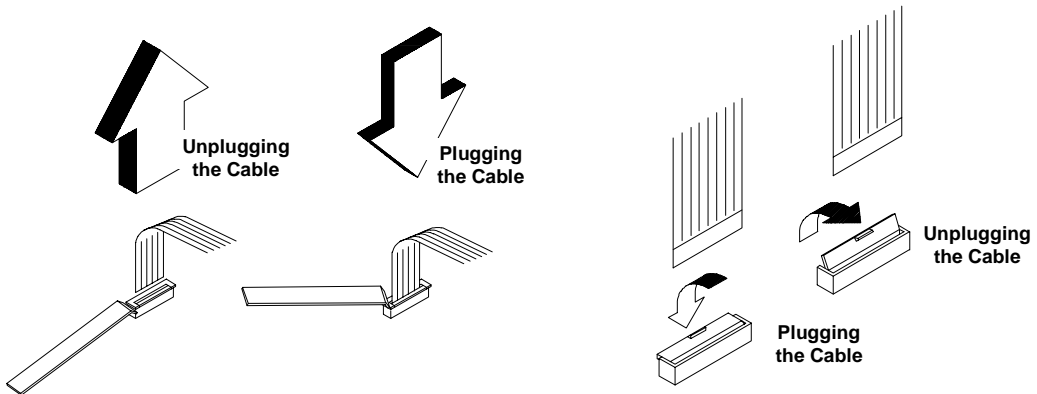


Figure 3-2 Using Connectors With Locks



Connectors mentioned in the following procedures are assumed to be no-lock connectors unless specified otherwise.

3.1.3 Disassembly Sequence

The disassembly procedure described in this manual is divided into four major sections:

- Section 4.2: Installing memory
- Section 4.3: Removing the modem board
- Section 4.4: Removing the hard disk drive
- Section 4.5: Removing the keyboard
- Section 4.6: Disassembling the inside frame assembly
- Section 4.7: Disassembling the display

The following table lists the components that need to be removed during servicing. For example, if you want to remove the motherboard, you must first remove the keyboard, then disassemble the inside assembly frame in that order.

Table 3-1 Guide to Disassembly Sequence

Service Item	Prerequisite
Remove or replace the hard disk drive	
Remove or replace the internal module	Remove the keyboard (and heat sink assembly).
Remove the motherboard for service or replacement	1. Remove the keyboard. 2. Disassemble the housing.
Remove the touchpad	1. Remove the keyboard. 2. Disassemble the housing.
Replace the LCD	Remove the display.
Install CPU	Remove the keyboard (and heat sink assembly).
Install additional memory	

The flowchart on the succeeding page gives a clearer and more graphic representation on the entire disassembly sequence. Please refer to it from time to time, together with the screw list below.

SCREW LIST

- A screw M2x4L Black (p/n: 86.1A322.4R0)
- B screw M2x6L NI (p/n: 86.1A522.6R0)
- C screw M2x20L NI (p/n: 86.1A522.200)
- D screw M2.5x8L NYLOK B-ZN (p/n: 86.1A353.8R0)
- E screw M2.5x6L NYLOK NI (p/n:86.1A553.6R0)
- F screw M3x6L BIND NI (p/n:86.4A524.6R0)
- G screw M2.5x4L BLACK.NY (p/n: 86.1A553.4R0)
- H screw M2x14L NI (p/n: 86.1A522.140)
- I screw M2x4L NI (p/n: 86.1A522.4R0)
- J screw cap M2*L5 NI (p/n: 86.7A522.5R0)

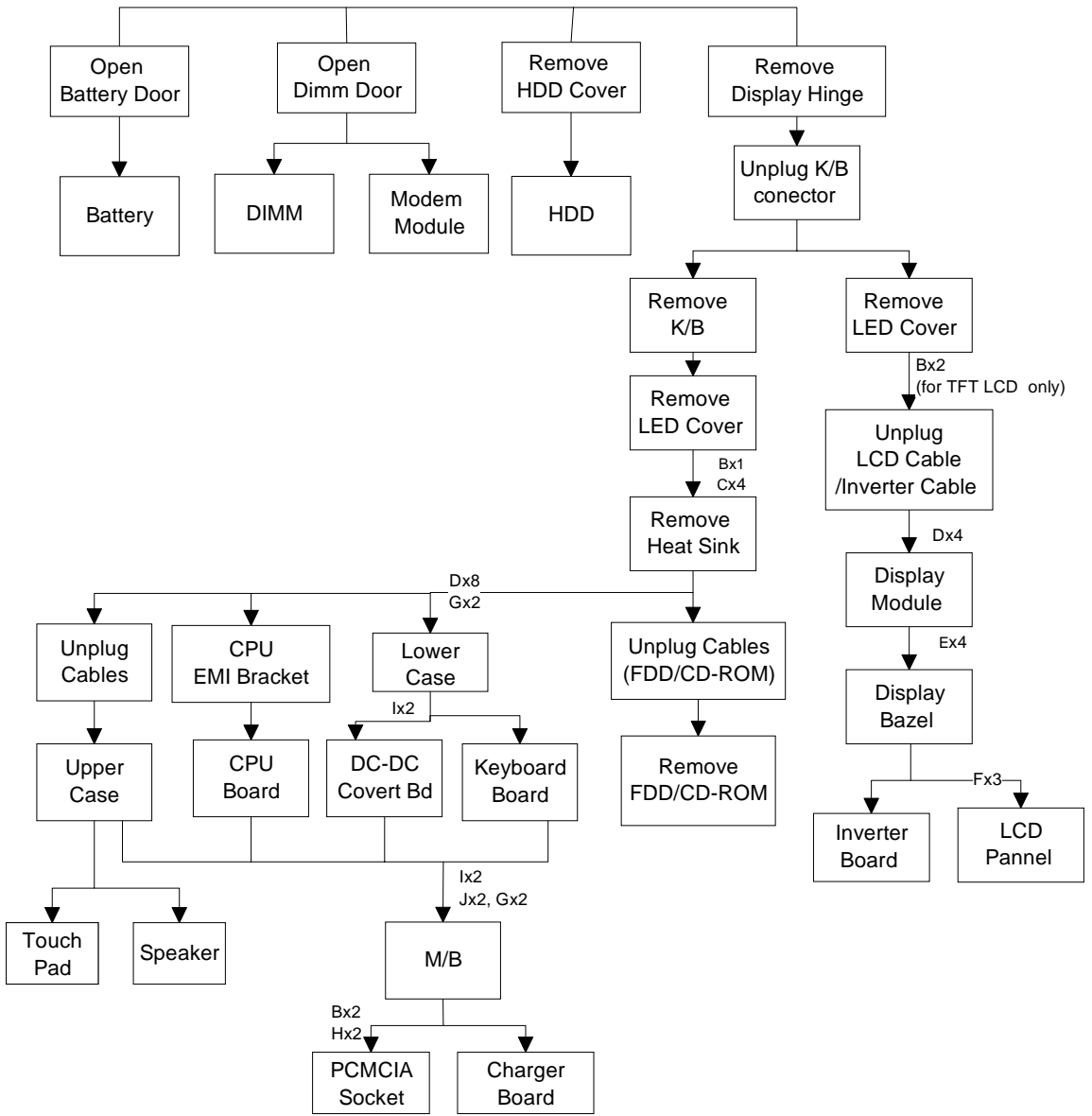


Figure 3-3 Disassembly Sequence Flowchart

3.2 Installing Memory

Follow these steps to insert memory modules:

1. Turn off the computer. Then turn the computer over to access its base.
2. Remove three screws from the memory door; then lift up and remove the memory door.

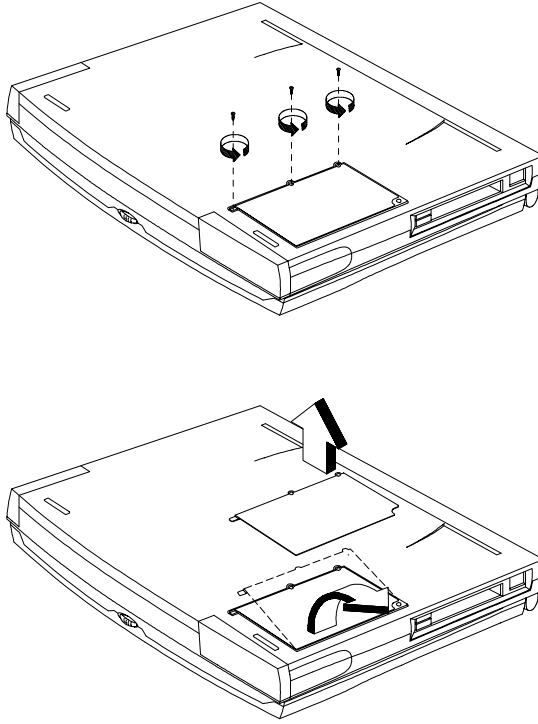


Figure 3-4 Removing the Memory Door

3. Remove the memory modules from its shipping container.
4. Align the connector edge of the memory module with the key in the connector. Insert the edge of the memory module board into the connector. Use a rocking motion to fully insert the module. Push downward on each side of the memory module until it snaps in place.

To remove the memory module, release the slot locks found on both ends of the memory slot to release the DIMM. Then pull out the memory module.

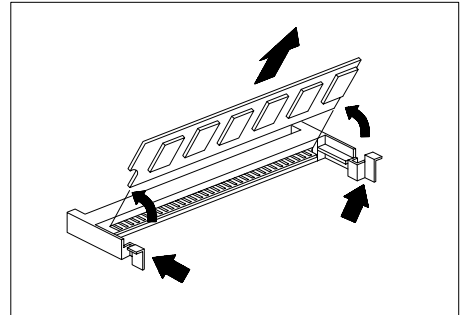
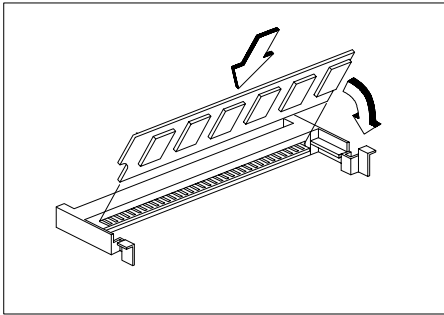
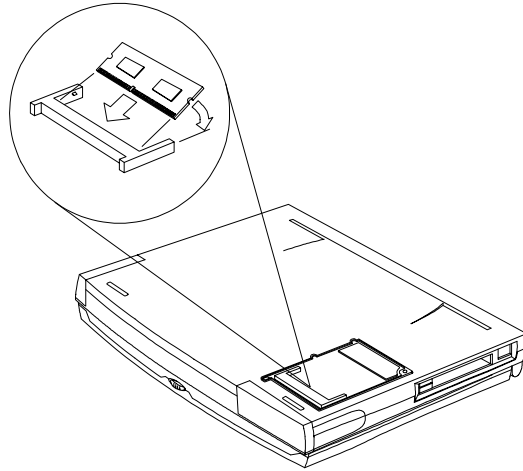


Figure 3-5 Installing and Removing Memory

5. Replace the memory door and secure it with the screws.



Sleep Manager must be run after installing additional memory for the computer to hibernate properly. If Sleep Manager is active, it will automatically adjust the hibernation file on your notebook.



If you are using an operating system other than Windows 95 or DOS, you may need to re-partition your hard disk drive to allow for the additional memory. Check with your system administrator.

3.3 Removing the Modem Board

When you open the memory door, you can also access and replace the modem board. See figure below.

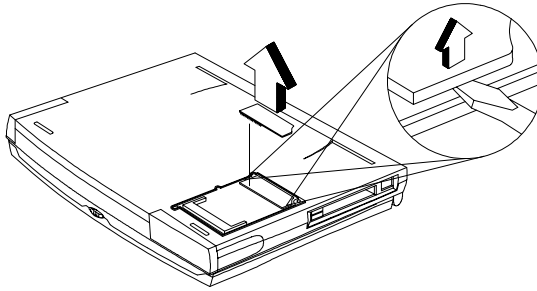


Figure 3-6 Removing the Modem Board

3.4 Removing the Hard Disk Drive

Follow these steps to remove the hard disk drive:

1. Turn the computer over and locate the hard disk drive bay cover.
2. Press the hard disk drive bay cover release and slide the cover out to remove it. Set aside the cover.
3. Pull the hard disk drive tab to remove the hard disk drive from the hard disk drive bay.

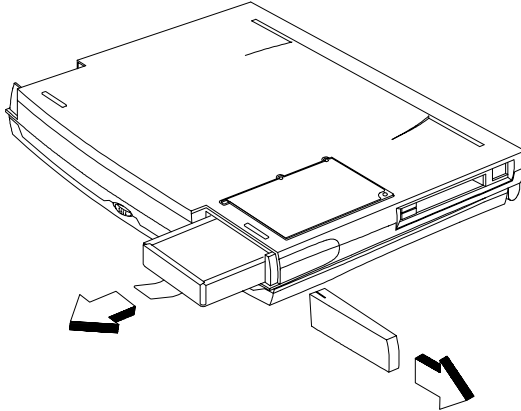


Figure 3-7 Removing the Hard Disk Drive

4. Store the hard disk drive in an antistatic bag.

If you want to install a new hard disk drive, reverse the steps described above.

3.5 Removing the Keyboard

Follow these steps to remove the keyboard:

1. Slide out the two display hinge covers on both sides of the notebook.

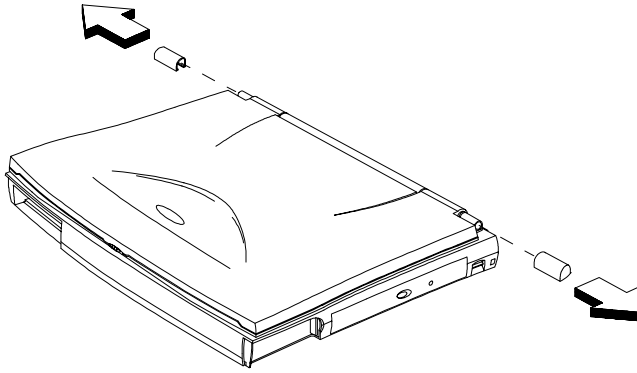


Figure 3-8 Removing the Display Hinge Covers

2. Using a pointed instrument, unlock the keyboard locks. Then pull out and flip down the keyboard to expose the keyboard connectors.

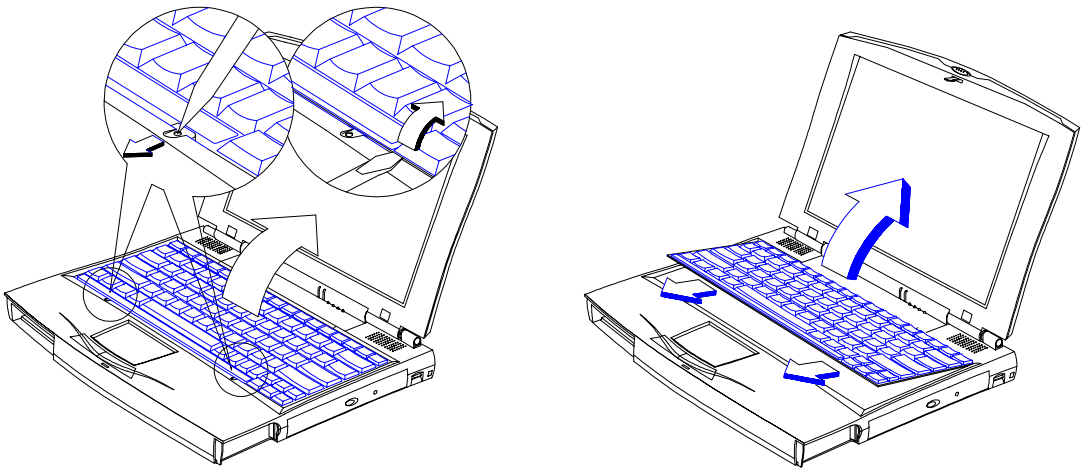


Figure 3-9 Removing the Keyboard

-
3. Unplug the keyboard connectors (CN3 and CN5) from the keyboard/touchpad board. Set aside the keyboard.

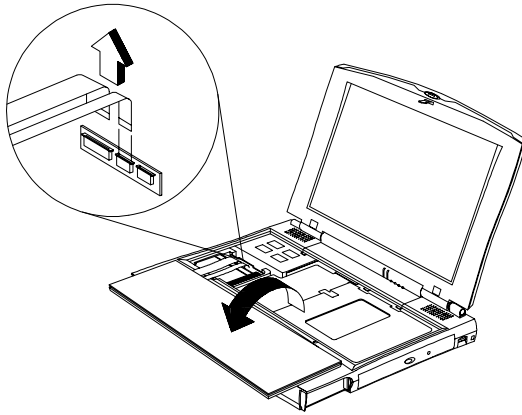


Figure 3-10 Unplugging the Keyboard Connectors

3.6 Disassembling the Inside Frame Assembly

This section discusses how to disassemble the housing, and during its course, includes removing and replacing of certain major components like the internal drive (CD-ROM or floppy), CPU and the main board. Follow these steps:

3.6.1 Removing the Heat Sink Assembly

Follow these steps to remove the heat sink assembly:

1. Pull up and remove the LED cover.

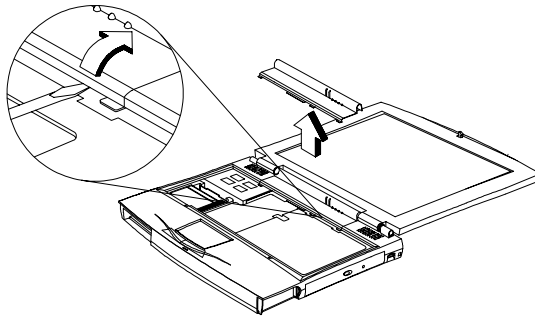


Figure 3-11 Removing the LED Cover

2. Remove the five screws that secure the heat sink assembly to the housing.

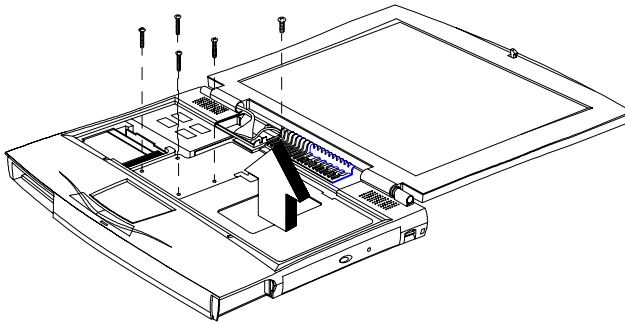


Figure 3-12 Removing the Heat Sink Assembly

3.6.2 Removing the Display

Follow these steps to remove the display:

1. Remove two screws on the bottom and two screws on the rear of the unit.

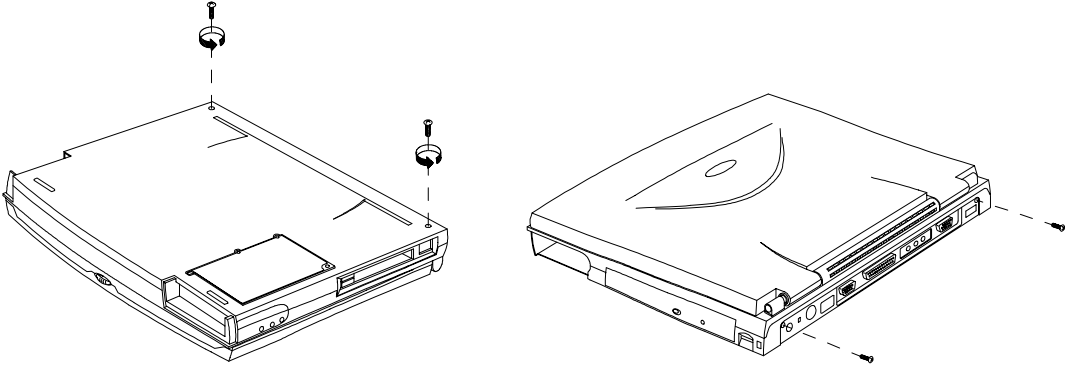


Figure 3-13 Unplugging the Display Cable

2. Open the display then pull up the display cable (CN6) and unplug the inverter cable (CN12).

For DSTN type LCD display:

For TFT type LCD display:

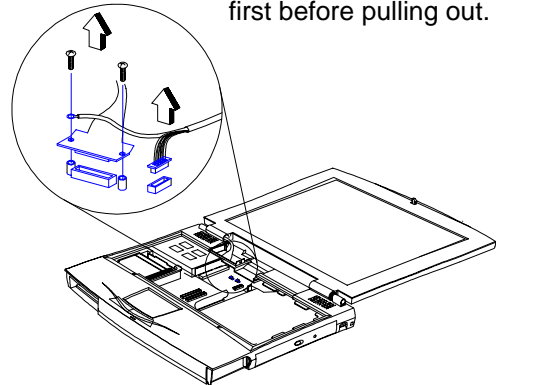
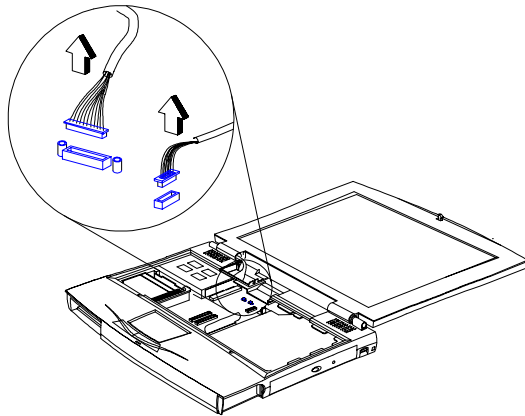


Figure 3-14 Removing the Display Hinge Screws

3. Detach the display from the main unit and set aside.

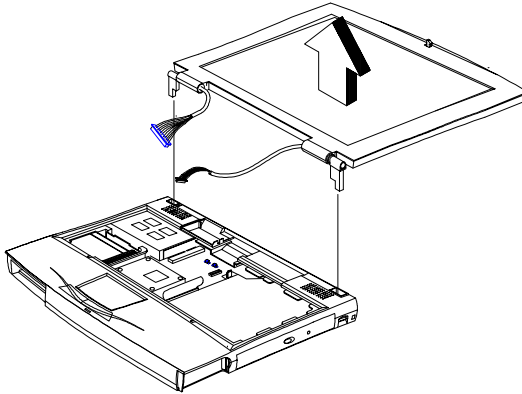


Figure 3-15 Removing the Display Hinge Screws

3.6.3 Removing the Internal Drive

Follow these steps to remove the internal drive:

1. Pull up the FDD/CD module latches.
2. Unplug the two internal drive cables (CN16 for FDD; CN13 and CN16 for CD-ROM).
3. Pull out the internal drive and set it aside.



Ensure the drive cables do not become hooked on the inside frame assembly when removing and reinstalling the drive.

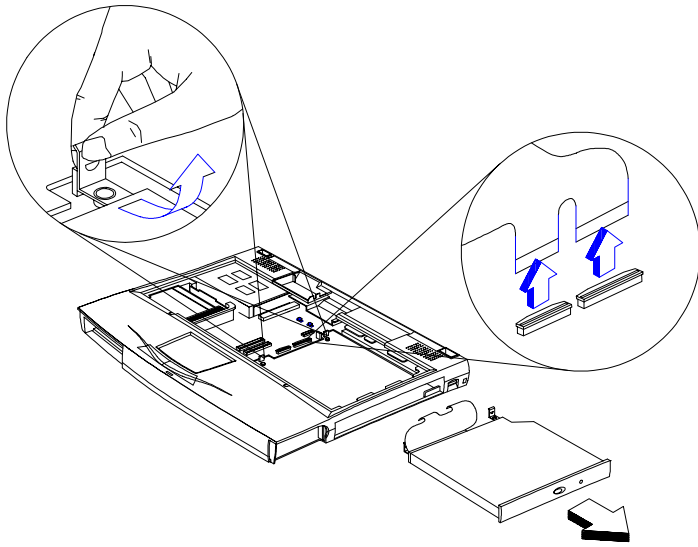


Figure 3-16 Removing the Internal Drive

3.6.4 Replacing the CPU

Gently pull out the CPU heat sink and the CPU board (CN17) from the mainboard.

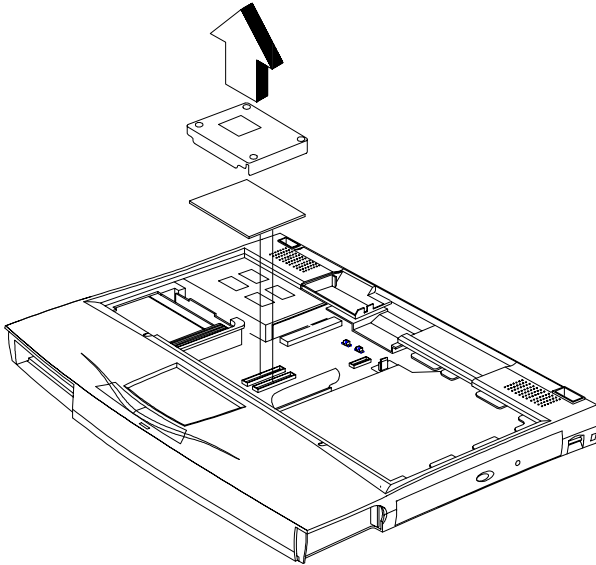


Figure 3-17 Replacing the CPU

Reverse the steps above to insert a replacement CPU.

3.6.5 Detaching the Top Cover

Follow these steps to detach the top cover from the bottom cover:

1. Unplug the touchpad cable (CN6) from the keyboard/touchpad board and speaker cables (CN9 and CN10).

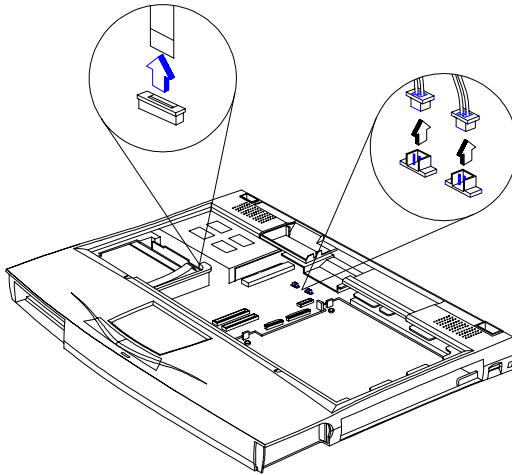


Figure 3-18 Removing Cables

2. Remove the screws found on the lower case (ten total screws, two screws shorter than the rest found on the front corners of the computer).

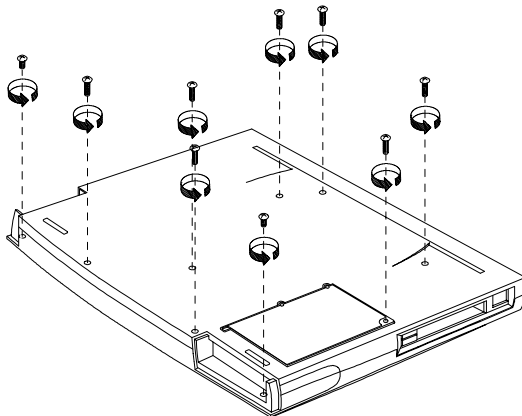


Figure 3-19 Removing Cables

3. Detach the top cover from the bottom cover.

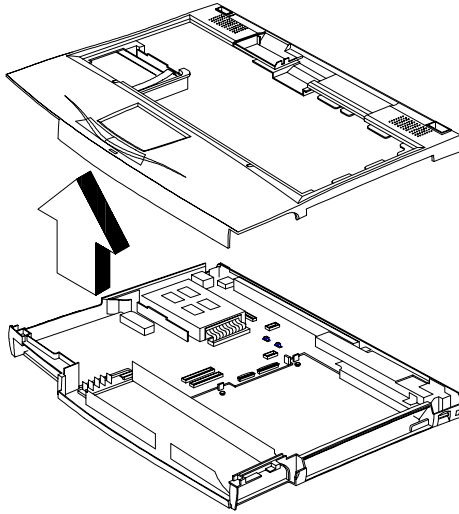


Figure 3-20 Detaching the Top Cover

3.6.6 Removing the Mainboard

Follow these steps to remove the mainboard:

1. Remove the keyboard/touchpad board (CN14). Remove two screws and remove the plate that covers the DC-DC converter board.

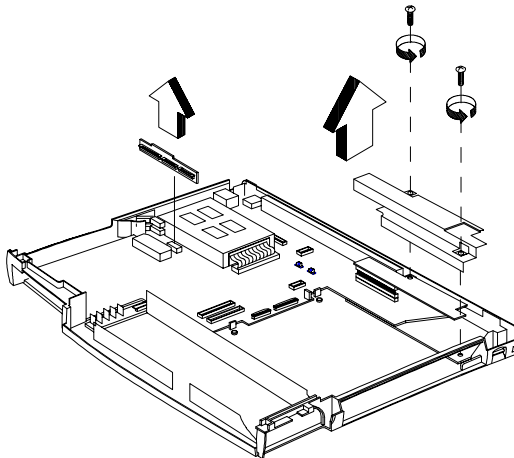


Figure 3-21 Removing the Keyboard/Touchpad Board and DC-DC Converter Board Cover

2. Gently remove the DC-DC converter board (CN7).

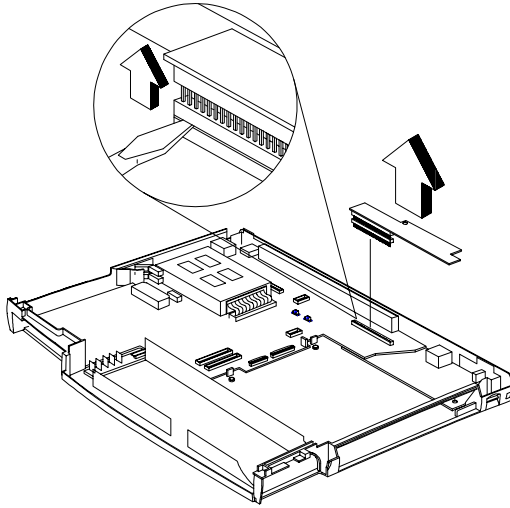


Figure 3-22 Removing the DC-DC Converter Board

3. Remove six (6) screws that secure the motherboard to the base assembly. Then pull up to remove the mainboard.

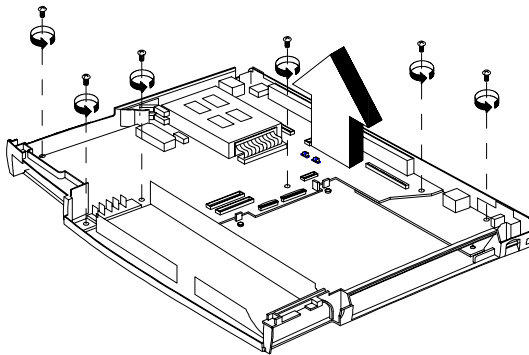


Figure 3-23 Removing the Mainboard

3.6.7 Disassembling the Mainboard

Follow these steps to disassemble the mainboard:

REMOVING THE CHARGER BOARD

Unplug the charger board (containing the power switch, DC-in jack and PS/2 port).

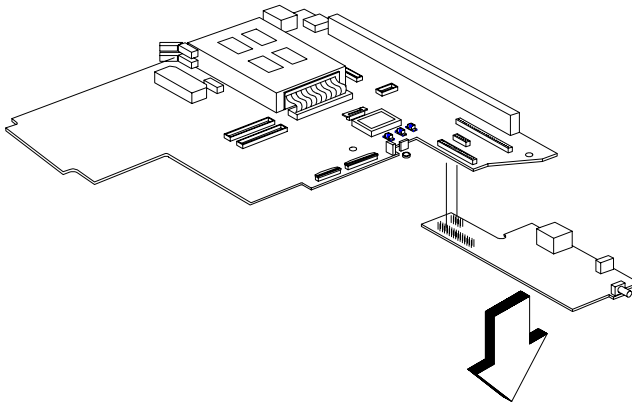


Figure 3-24 Removing the Charger Board

REMOVING THE PCMCIA SOCKETS

The PC Card Connector Module is normally part of the motherboard spare part. The following removal procedure is for reference only. Remove the four (4) screws and then detached the cable connected to the mainbaord (CN11) as shown below.

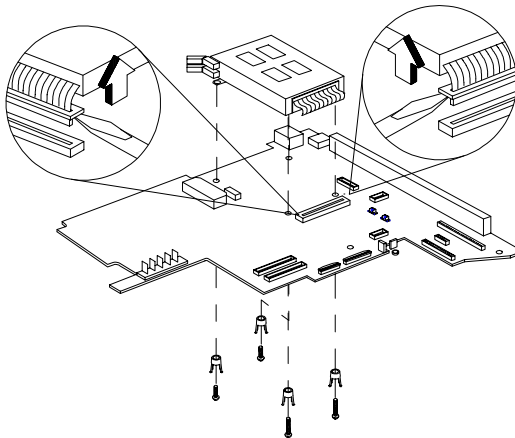


Figure 3-25 Removing the PCMCIA Sockets

3.6.8 Disassembling the Top Cover

The touchpad, speakers, audio board are connected to the top cover. The sections below describe the removal process of these components.

REMOVING THE HARD DISK DRIVE HEAT SINK

Pull up to remove the hard disk drive heat sink from the top cover.

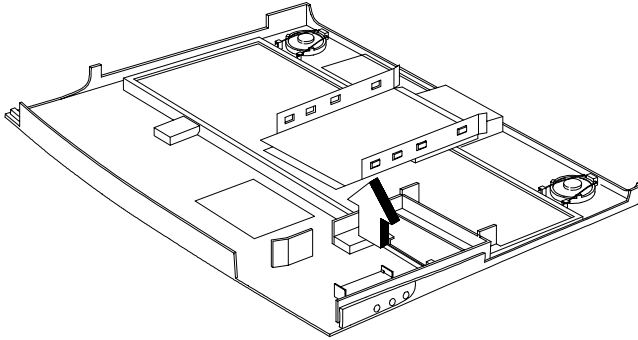


Figure 3-26 Removing the Hard Disk Drive Heat Sink

REMOVING THE TOUCHPAD

1. Remove four screws and lift up the metal plate and touchpad buttons.
2. Unplug the touchpad cable (JP1) and remove the touchpad main sensor and connector unit.

REMOVING THE SPEAKERS

1. Unlock the speaker by pushing outward on its locks.
2. The flip up the wire that holds the speaker in place and remove the speaker.

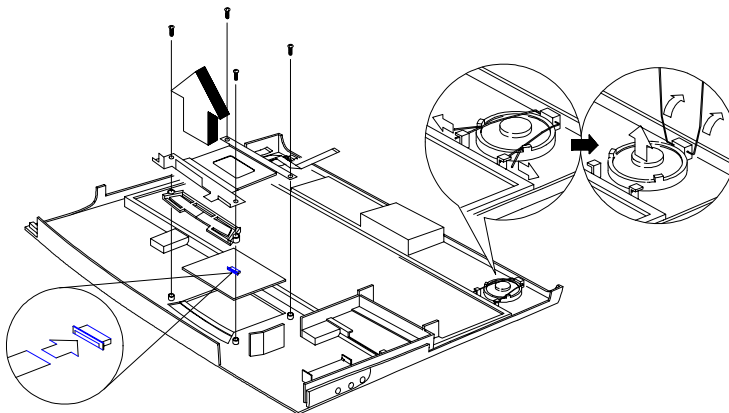


Figure 3-27 Removing the Touchpad and Speakers

3.7 Disassembling the Display

Follow these steps to disassemble the display:

1. Remove the two oval LCD bumpers at the top of the display; use a pointed instrument to remove the two mylar stickers on the bottom of the display.

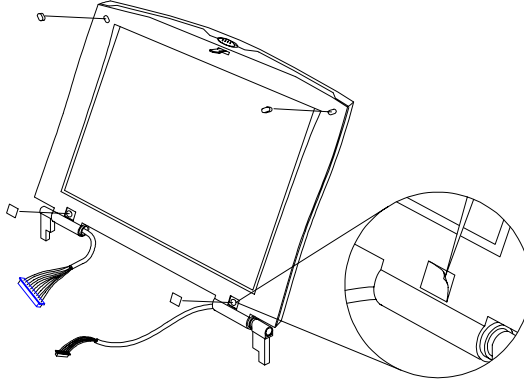


Figure 3-28 Removing the LCD Bumpers

2. Remove four screws on the display bezel.

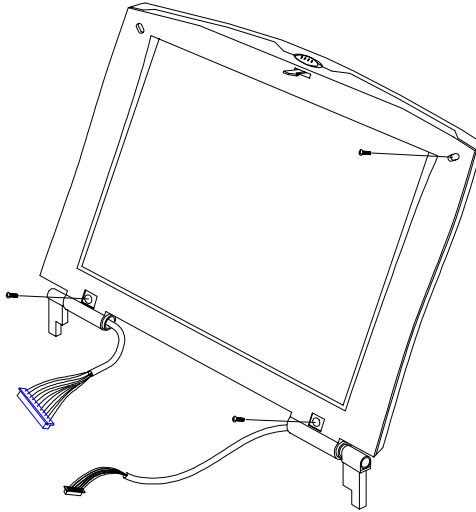


Figure 3-29 Removing the Display Bezel Screws



STN and TFT LCDs use the same bezel but different panels.

3. Pull out and remove the display bezel by first pulling on the inside of the bezel sides and lower bezel area. Then pull up the top bezel area.

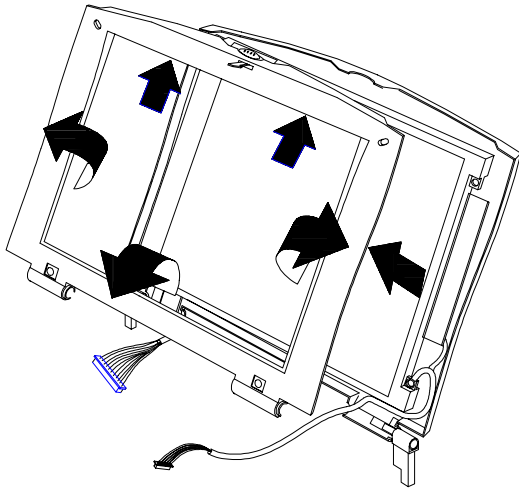


Figure 3-30 Removing the Display Bezel

4. Unplug two connectors and remove the inverter board.

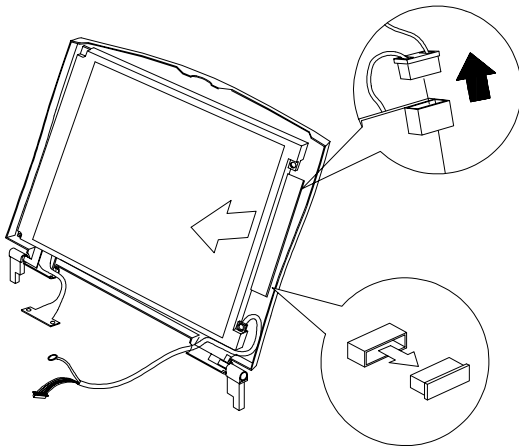


Figure 3-31 Removing the Inverter Board

-
5. Remove three screws on the four sides of the display panel (one screw holds and grounds the LCD cable). Then tilt the LCD Panel away for the display cover.

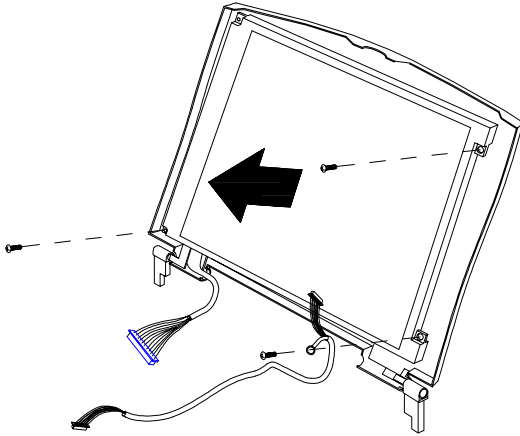


Figure 3-32 Removing the LCD Panel

6. Detached the Display cable from the LCD Panel.

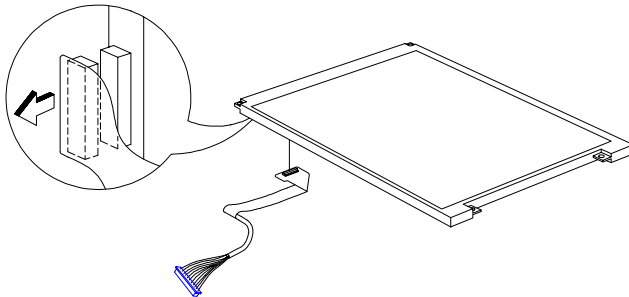


Figure 3-33 Removing the display cable from LCD Panel

Model Number Definition

This appendix shows the model number definition of the notebook.

36 X X

LCD:

D: 12.1" DSTN

T: 12.1" TFT

CPU, Memory, HDD, FDD/CD-ROM, Battery:

5: P55C-166, 16MB, 2.1G, Internal FDD, NiMH Battery

6: P55C-166, 16MB, 2.1G, External FDD, 20x CD-ROM, NiMH Battery

7: Tillamook-200, 32MB, 2.1G, External FDD, 20x CD-ROM, NiMH Battery

8: Tillamook-200, 32MB, 2.1G, Internal FDD, NiMH Battery

9: Tillamook-233, 32MB, 3.2G, External FDD, 20x CD-ROM, NiMH Battery

Compatibility Test Report Excerpt

This paragraph will usually be inserted into the Service Guide in the following weeks. Please check the <http://ipg.intranet.acer.com.tw> (Customer Services on the website) to find out when this information is available.

BIOS POST Checkpoints

This appendix lists the POST checkpoints of the notebook BIOS.

Table C-1 POST Checkpoint List

Checkpoint	Description
04h	<ul style="list-style-type: none"> Dispatch Shutdown Path <p>Note: At the beginning of POST, port 64 bit 2 (8042 system flag) is read to determine whether this POST is caused by a cold or warm boot. If it is a cold boot, a complete POST is performed. If it is a warm boot, the chip initialization and memory test is eliminated from the POST routine.</p>
08h	<ul style="list-style-type: none"> Reset PIE, AIE, UIE <p>Note: These interrupts are disabled in order to avoid any incorrect actions from happening during the POST routine.</p>
09h	<ul style="list-style-type: none"> Initialize m1531
0Ah	<ul style="list-style-type: none"> Initialize m1533 Initialize m7101
10h	<ul style="list-style-type: none"> DMA(8237) testing & initialization
14h	<ul style="list-style-type: none"> System Timer(8254) testing & initialization
18h	<ul style="list-style-type: none"> DRAM refresh cycle testing Set default SS:SP= 0:400
1Ch	<ul style="list-style-type: none"> CMOS shutdown byte test, battery, and check sum <p>Note: Several parts of the POST routine require the system to be in protected mode. When returning to real mode from protected mode, the processor is reset, therefore POST is re-entered. In order to prevent re-initialization of the system, POST reads the shutdown code stored in location 0Fh in CMOS RAM. Then it jumps around the initialization procedure to the appropriate entry point.</p> <p>The CMOS shutdown byte verification assures that CMOS 0Fh area is fine to execute POST properly.</p> <ul style="list-style-type: none"> Initialize default CMOS setting if CMOS bad Initialize RTC time base <p>Note: The RTC has an embedded oscillator that generates a 32.768 KHz frequency. To initialize the RTC time base, turn on this oscillator and set a divisor to 32768 so that the RTC can count time correctly</p>
1Dh, 1Eh	<ul style="list-style-type: none"> DRAM type determination
2Ch	<ul style="list-style-type: none"> 128K base memory testing Set default SS:SP= 0:400 <p>Note: The 128K base memory area is tested for POST execution. The remaining memory area is tested later.</p>
20h	<ul style="list-style-type: none"> KB controller(8041/8042) testing KB type determination Write default command byte upon KB type

Table C-1 POST Checkpoint List

Checkpoint	Description
24h	<ul style="list-style-type: none"> • PIC(8259) testing & initialization
30h	<ul style="list-style-type: none"> • System Shadow RAM
34h	<ul style="list-style-type: none"> • DRAM sizing
3Ch	<ul style="list-style-type: none"> • Initialize interrupt vectors
4Bh	<ul style="list-style-type: none"> • Identify CPU brand and type
35h	<ul style="list-style-type: none"> • PCI pass 0
40h	<ul style="list-style-type: none"> • Assign I/O if device request
41h	<ul style="list-style-type: none"> • Assign Memory if device requested
44h	<ul style="list-style-type: none"> • Assign IRQ if device request
45h	<ul style="list-style-type: none"> • Enable command byte if device is OK
50h	<ul style="list-style-type: none"> • Initialize Video display
52h	<ul style="list-style-type: none"> • Download keyboard matrix
4Ch	<ul style="list-style-type: none"> • ChipUp initialization for CPU clock checking
54h	<ul style="list-style-type: none"> • Process VGA shadow region
58h	<ul style="list-style-type: none"> • Set POST screen mode(Graphic or Text) • Display Acer(or OEM) logo if necessary • Display Acer copyright message if necessary • Display BIOS serial number
59h	<ul style="list-style-type: none"> • Hook int vector 1ch for POST quiet boot
5Ch	<ul style="list-style-type: none"> • Memory testing
5Ah	<ul style="list-style-type: none"> • SMRAM test and SMI handler initialization
4Eh	<ul style="list-style-type: none"> • Audio initialization
60h	<ul style="list-style-type: none"> • External Cache sizing • External Cache testing(SRAM & Controller) • Enable internal cache if necessary • Enable external cache if necessary
64h	<ul style="list-style-type: none"> • Reset KB device • Check KB status <p>Note: The keyboard LEDs should flash once.</p>
7Ch	<ul style="list-style-type: none"> • Reset pointing device • Check pointing device
70h	<ul style="list-style-type: none"> • Parallel port testing
74h	<ul style="list-style-type: none"> • Serial port testing
78h	<ul style="list-style-type: none"> • Math Coprocessor testing
80h	<ul style="list-style-type: none"> • Set security status
84h	<ul style="list-style-type: none"> • KB device initialization • Enable KB device

Table C-1 POST Checkpoint List

Checkpoint	Description
6Ch	<ul style="list-style-type: none"> • FDD testing & parameter table setup <p>Note: <i>The FDD LED should flash once and its head should be positioned</i></p>
88h	<ul style="list-style-type: none"> • HDD testing & parameter table setup
89h	<ul style="list-style-type: none"> • Get CPU MUX <p>Note: <i>This routine is to identify the user-set CPU frequency, not CPU-required frequency</i></p>
90h	<ul style="list-style-type: none"> • Display POST status if necessary
93h	<ul style="list-style-type: none"> • Rehook int1c for quiet boot
94h	<ul style="list-style-type: none"> • Initialize I/O ROM
A4h	<ul style="list-style-type: none"> • Initialize security feature
A8h	<ul style="list-style-type: none"> • Setup SMI parameters
A0h	<ul style="list-style-type: none"> • Initialize Timer counter for DOS use
ACh	<ul style="list-style-type: none"> • Enable NMI • Enable parity checking • Set video mode
B0h	<ul style="list-style-type: none"> • Power-on password checking • Display configuration table • Clear memory buffer used for POST • Select boot device

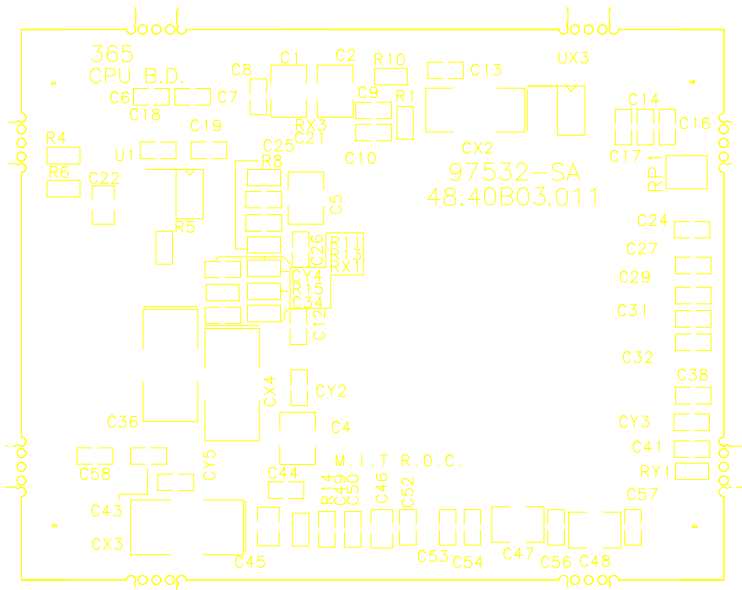
Silk Screen

1.1 CPU Board Layout

For the mainboard layout, please refer to the next page. The following table is a reference when mounting¹ the CPU.

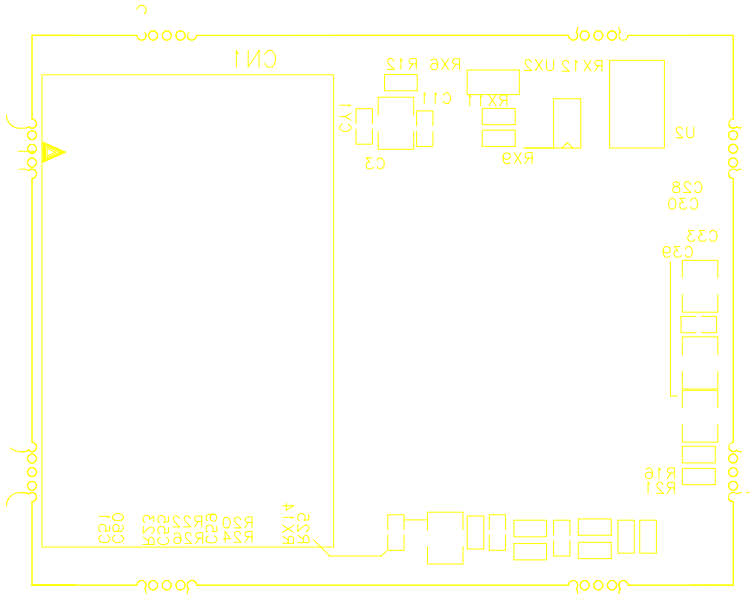
CPU Mounting Reference Table

			Volt.		Ext Freq		Ratio											
CPU	Volt	Freq	R4	R6	R8	R11	R20	R22	R24	R26	RX14	RY1	RX6	RX9	RX11	RX12	UX2	UX3
P55C-133MHz	2.5V	133=66x2	V	X	V	X	V	X	X	V	V	X	V	X	X	X	X	X
P55C-150MHz	2.5V	150=60x2.5	V	X	V	V	X	X	V	V	V	X	V	X	X	X	X	X
P55C-166MHz	2.5V	166=66x2.5	V	X	V	X	X	X	V	V	V	X	V	X	X	X	X	X
TLMK-200MHz	1.8V	200=66x3	X	X	V	X	X	V	V	X	V	X	X	V	V	V	V	V
TLMK-233MHz	1.8V	233=66x3.5	X	X	V	X	V	V	X	X	V	X	X	V	V	V	V	V
TLMK-266MHz	2.0V	266=66x4	X	V	V	X	X	X	V	V	X	V	X	V	V	V	V	V



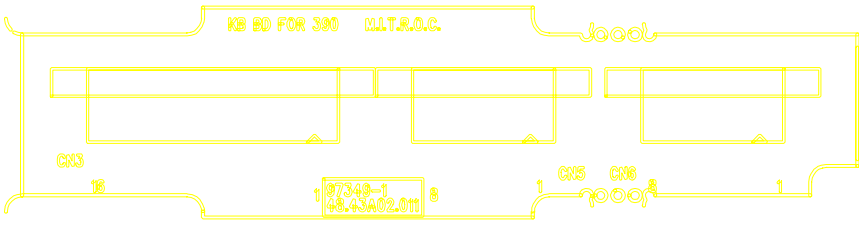
PCB No. 96532-SA CPU Board Layout (Top)

¹ V: mount on; X: not mount on

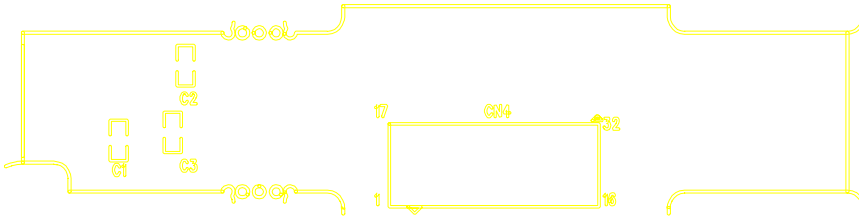


PCB No. 96532-SA CPU Board Layout (Bottom)

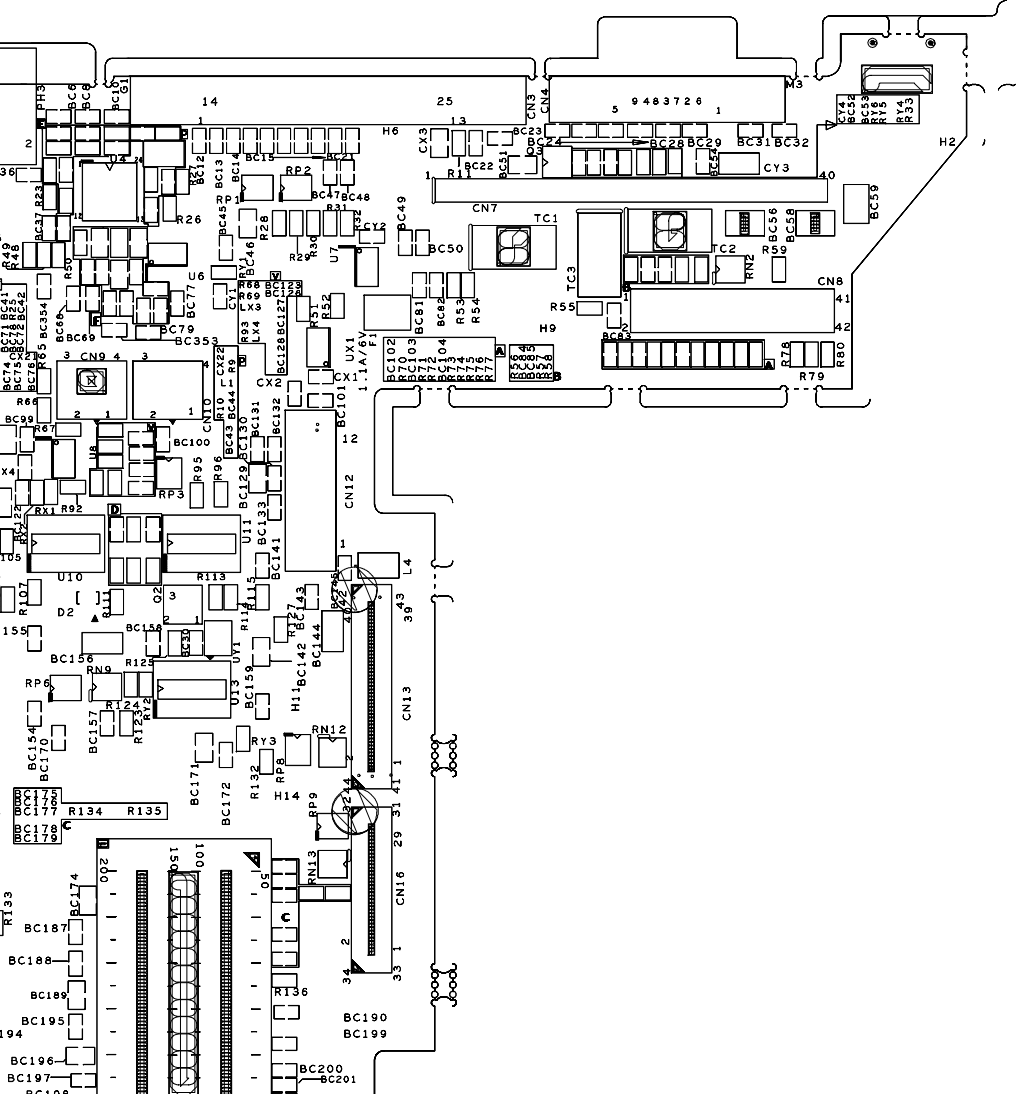
1.2 Keyboard/Touchpad Board

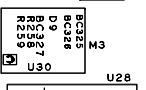
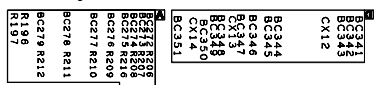
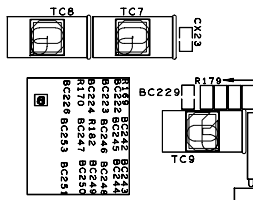
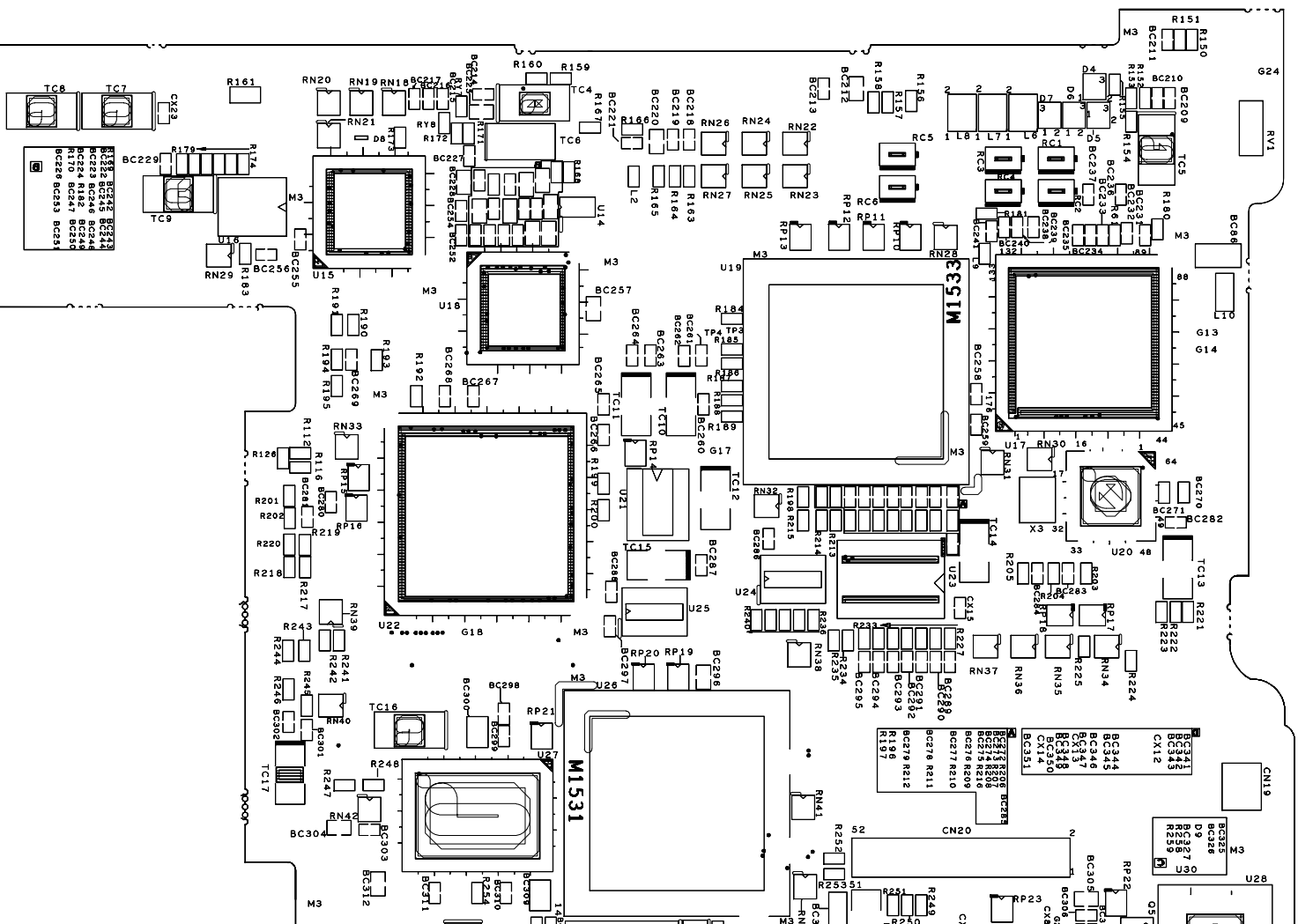


PCB No. 97349-1 Keyboard/Touchpad Board (Top View)



PCB No. 97349-1 Keyboard/Touchpad Board (Bottom View)

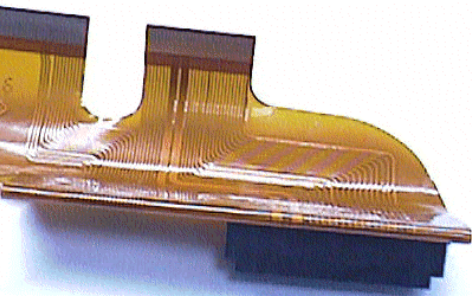




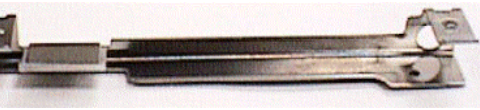
Acer 365/366D/366T Spare Parts List

(P/N 91.40B01.XXX)

<u>Picture</u>	<u>LEVEL</u>	<u>Description</u>	<u>Acer Part No</u>	<u>COMMENT/LOCATION</u>
ADAPTER				
	1	ADT 100-240V PA-1480-19AC 355	25.10068.001	
BATTERY PACK				
	1	ASSY BTY PACK BTP- 1631 AN365	60.40B10.001	
CD-ROM				
	1	365 CD-ROM	6M.40B08.001	

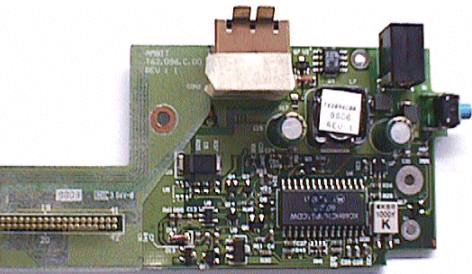


2 C.A 70P FPC 50.43A06.002 (S02,S05) (366D,366T) (Int.)
60MM CD-
ROM 390



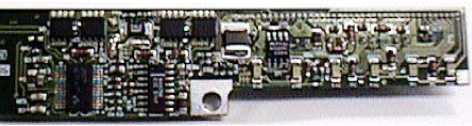
2 ASSY CD-ROM 60.43A16.002 (S02,S05) (366D,366T)
HOLDER 390

CHARGER



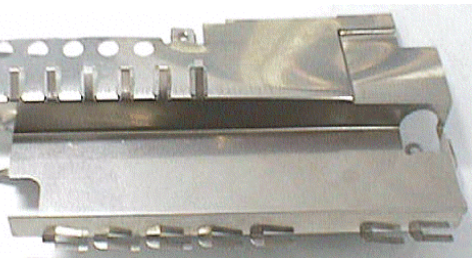
1 CHARGER 19.21030.241
T62.096.C.00
365

CONVERTER



1 CONVER 19.21030.231
DC/DC
T62.095.C.00
365

DC-DC COVER



1 ASSY DC-DC 60.40B04.001
BRACKET
AN365

MIDEL COVER



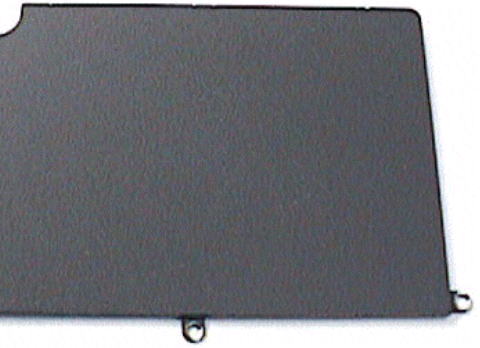
1 ASSY MIDLE 60.43A08.001
COVER 050
390

HDD COVER



1 ASSY HDD COVER 60.43A17.002

DIMM COVER



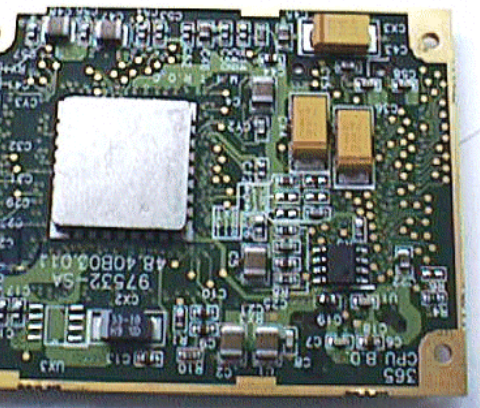
1 ASSY DIMM COVER AN390 60.43A20.002

BATTERY COVER



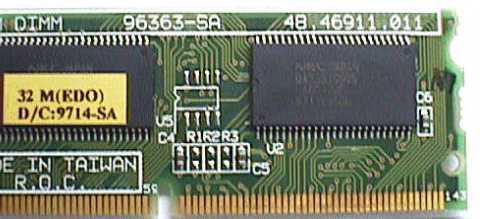
1 ASSY BATTERY COVER 60.43A21.003

CPU BOARD



1 365 CPU BOARD P55C-166 55.40B02.031

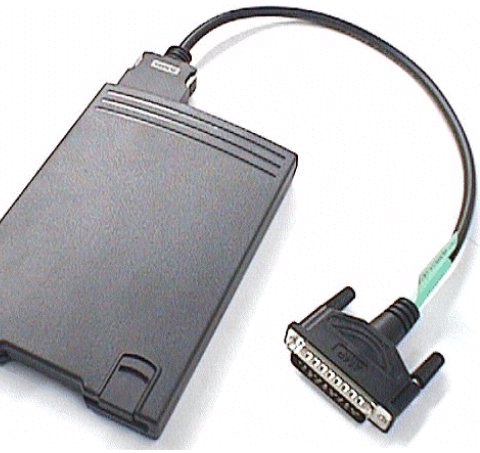
DIMM



1 DIMM EDO 32MB 3.3V 60NS 4K 55.46804.021

FDD

1	365 FDD MODULE (Int.)	6M.40B03.001	
1	365 FDD MODULE (Ext.)	6M.40B07.001	
2	C.A 25/26P 320MM FDD C440329-1	50.40B05.001	(S02,S05) (366D,366T) (Ext.)
2	C.A 30P FPC 60MM FDD 390	50.43A05.001	
2	ASSY FDD 2MB MF355H - 322MR 3M0D	60.40B11.001	(S02,S05) (366D,366T)



FOOT PACK

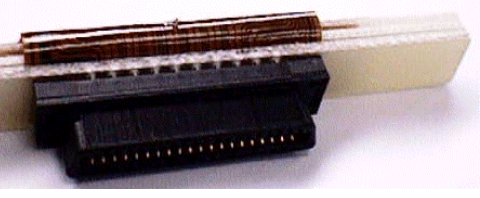
1	ASSY FOOT	6M.40B01.001	47.45001.001+47.46902.001-01.001
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HDD MODULE

1	365 HDD MODULE HITACHI 2GB	6M.40B02.001	56.02759.011
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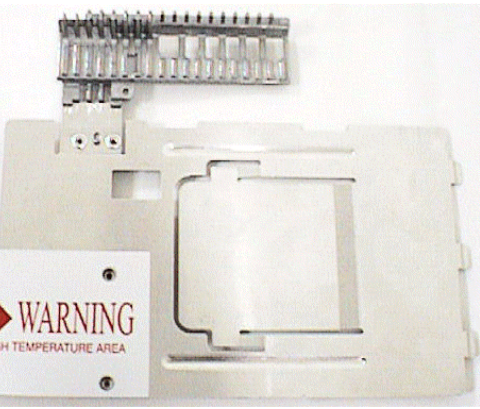


1	365 HDD MODULE IBM 2GB	6M.40B02.011	56.02756.051
1	365 HDD MODULE HITACHI 3GB	6M.40B02.021	56.02973.011
2	C.A 44P FPC HDD 390	50.43A08.001	



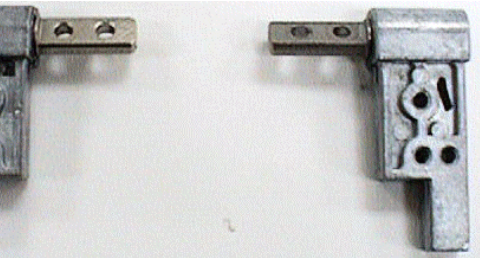
HEAT SINK

1	ASSY U HEAT SINK AN365	60.40B05.001	
---	---------------------------	--------------	--



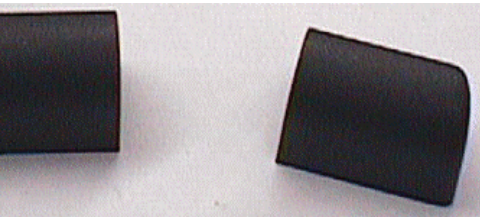
HINGE PACK

1	ASSY HINGE	6M.40B11.001	34.43B07.001+34.43A04.001
---	------------	--------------	---------------------------

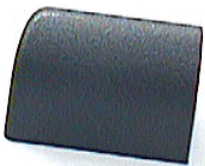


HINGE COVER

1	365 COVER HINGE	6M.40B05.001	
---	--------------------	--------------	--



2	COVER (L) HINGE (TOOLING) 390	42.43A03.001	
---	-------------------------------------	--------------	--





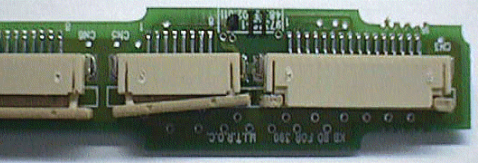
- 2 COVER (R) 42.43A04.001
HINGE
(TOOLING) 390

INVERTER



- 1 INVERTER 19.21030.301
T62.104.C.00
390/355

KEYBOARD BOARD



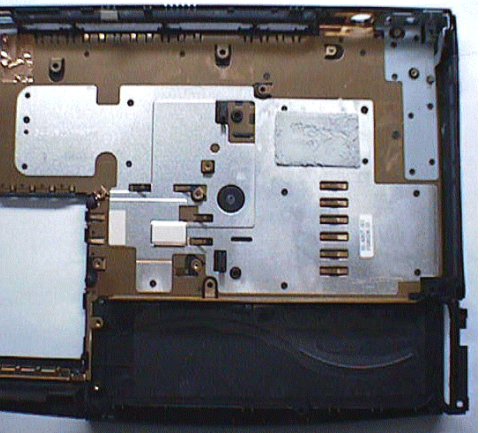
- 1 390 55.43A04.001
KEYBOARD
BOARD

KEYBOARD



- 1 US KB-84 KEY 90.46907.001
KAS1901-
0161R

LOWER CASE



- 1 ASSY L CASE 60.40B07.001
AN365

LCD MODULE 12.1" (DSTN)



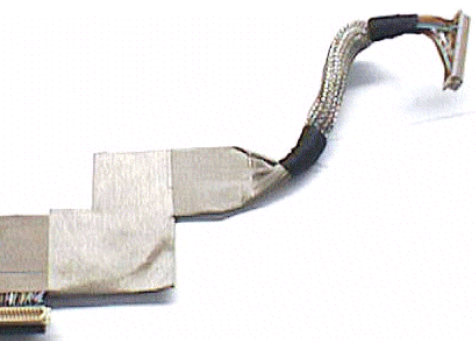
1 365 LCD MODULE DSTN 12.1" 6M.40B01.001 56.40B01.031



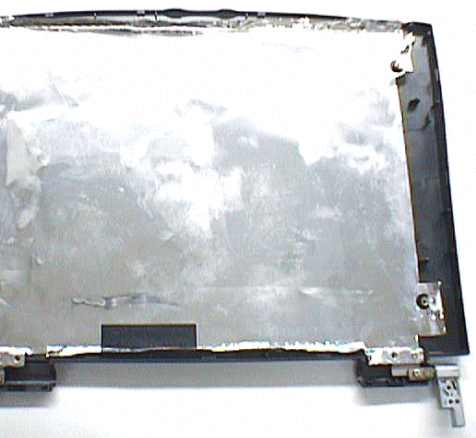
2 LCD 12.1 DSTN LM-JK53-22NFR 56.0743A.011



2 C.A LCD INVERTER AN365 50.40B02.001 (TFT.DSTN)



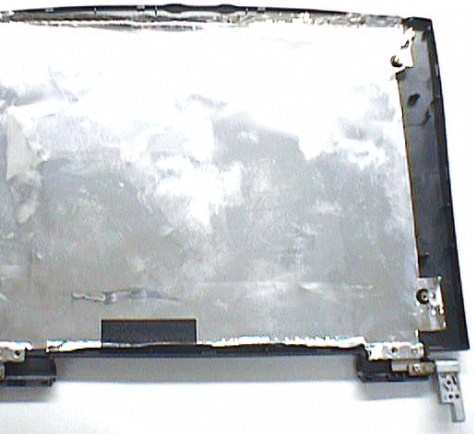
2 C.A LCD WIRE(SAYNO) AN365 50.40B03.001 (DSTN)



2 ASSY LCD PNL SANYO AN365 60.40B02.021



2 **ASSY LCD BZL**60.40B03.021
AN365

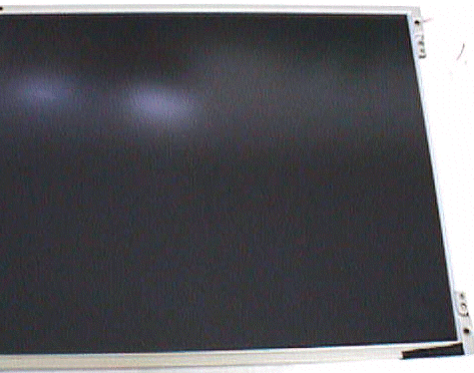


2 **ASSY LCD** 60.40B02.031 (S05) (366T)
PNL HIT-
TX31D21
AN365

LCD MODULE 12.1" (TFT)



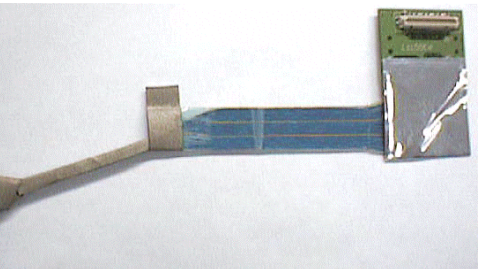
1 **365 LCD** 6M.40B01.021 56.40B01.021
MODULE TFT
12.1"



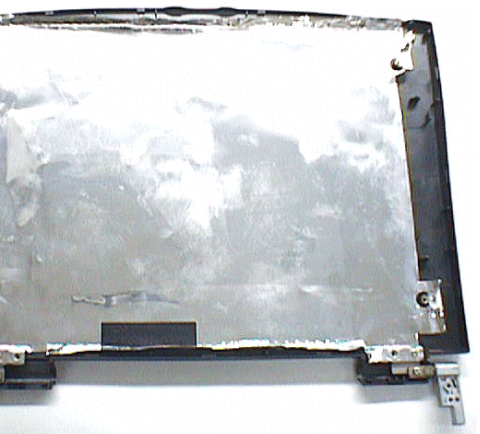
2 **LCM TX31D21** 56.07468.021 (S05) (366D)
12.1" TFT
SVGA HIT



2 C.A LCD INVERTER AN365 50.40B02.001 (TFT.DSTN)



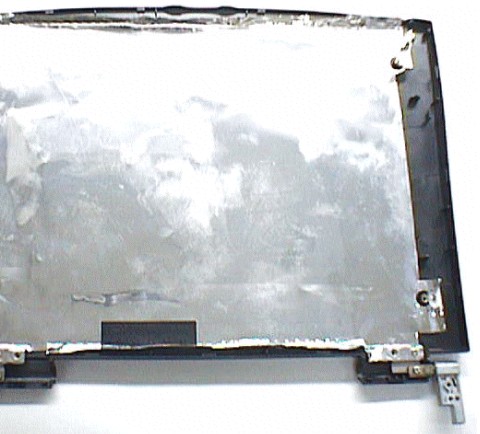
2 C.A LCD COAXICAL HIT -TX31D21 50.40B04.031 (S05) (366T) (TFT)



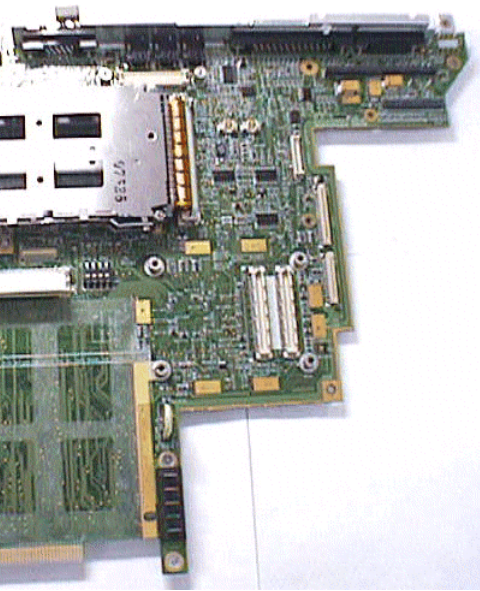
2 ASSY LCD PNL SANYO AN365 60.40B02.021



2 ASSY LCD BZL AN365 60.40B03.021

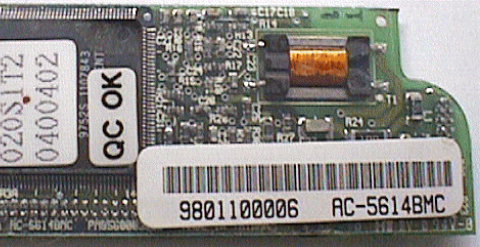


2 ASSY LCD PNL HIT-TX31D21 AN365 60.40B02.031 (S05) (366T)



1 365 MAIN BOARD 55.40B01.001

MODEM



1 MODEM 56K CSI AC-5614BMC 700 54.09011.091

PLATE NAME



1 PLATE NAME(LOGO) PC AN390 40.43A02.001

POWER CORD

1 CORD SPT-2#18*2C 7A125V1830M M 27.01618.001 US

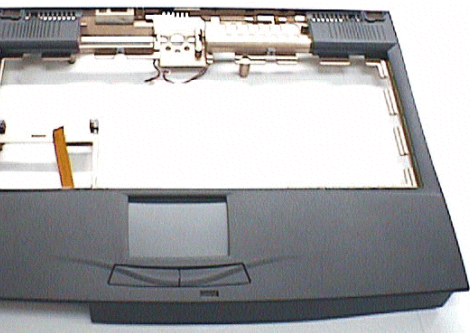
1 CORD VCTF 3C 7A125V JAPAN 27.03518.021 JPN

1 CORD 1203VVH2-F #18*2C 2.5A 250A 27.01218.021 ERU

SCREW PACK

1 365 SCREW 6M.40B04.001

UPPER CASE



1 365 U CASE 6M.40B06.001
MODULE



2 SPK 0.5W 23.40031.011
78DB ZK-
2808C 140M



2 KNOB TOUCH 42.43A10.001
PAD
(TOOLING) 390



2 TOUCH PAD 56.1740B.001
LOGITEC/TP3
ULTRA-THIN

LEVEL 1-1 : Stands for Field Replaceable Units(FRU) and Customer Replaceable Units (CRU) for system level1 service repair use.

LEVEL 1-2 : Stands for subassemblies of FRUs and CRUs which are component level of service repair use.

LEVEL 2 : Stands for consuming parts which are easily damaged with replacement action taken.

Explored View Diagram

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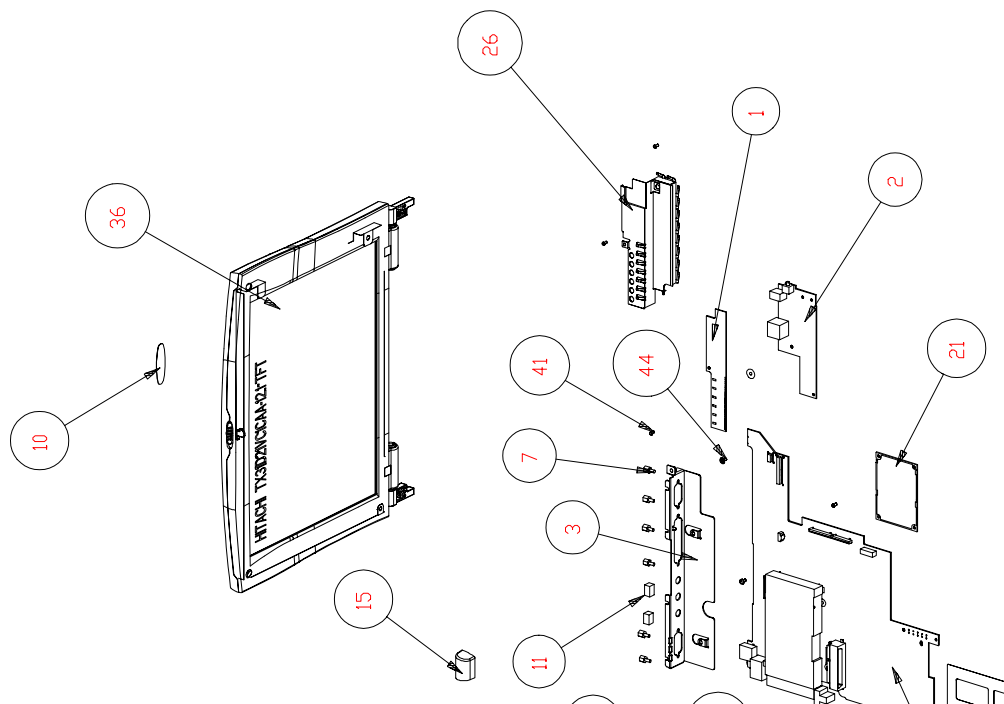
8

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No.	PART_No.	DESCRIPTION	Q'ty	Rev.	REMARK
1	19.21030.231	CONVERTER DC-DC T62.095 365	1	1	
2	19.21030.241	CHARGER T62.096 365	1	1	
3	33.40B03.001	BRACKET ID AL N/A 365	1	1	
4	33.40B05.001	TCP BRACKET AN365	1	1	
5	33.43A08.001	HOLDER HDD CONN AL N/A 390	1	1	
6	33.43A09.001	BRACKET HDD(TOOLING) 390	1	1	
7	34.00015.081	SCW HEX NYL IHR-40/0#4-40 L55	6	1	
8	40.43A01.021	MYLAR MB FOR HDD PC N/A 390	1	1	
9	40.43A01.131	MYLAR FOR T/P BOARD	1	1	
10	40.43A02.001	PLATE NAME(LOGO) PC AN390	1	1	
11	42.00097.161	GASKET FOR I/O BRK	2	1	
12	42.00097.171	GASKET FOR RJ-11	1	1	
13	42.40B10.001	GASKET ESD 10*8*10	1	1	
14	42.43A03.001	COVER(L) HINGE(TOOLING) 390	1	1	
15	42.43A04.001	COVER(R) HINGE(TOOLING) 390	1	1	
16	42.43A10.001	KNOB TOUCH PAD(TOOLING) 390	1	1	
17	50.43A03.001	C.A 8P FPC TOUCHPAD 390	1	1	
18	50.43A08.001	C.A 44P FPC HDD 390	1	1	
19	54.09011.091	MODEM CARD 56K CSI AC-5614BMC	1	1	
20	55.40B01.001	365 MAIN BOARD	1	1	
21	55.40B02.011	365 CPU BOARD P55C/166	1	1	
22	55.43A04.001	390 KEYBOARD BOARD	1	1	
23	56.02756.001	HDD 2.1GB IBM IDE	1	1	
24	56.17408.001	TOUCHPA LOGITEC 050	1	1	
25	60.40B01.001	ASSY BATY PACK 365	1	1	
26	60.40B04.001	ASSY EMI PLT DC-DC 365	1	1	
27	60.40B05.001	ASSY UPPER HEAT SINK 365	1	1	
28	60.40B06.001	ASSY UPPER CASE 050 365	1	1	
29	60.40B07.001	ASSY LOWER CASE 050 365	1	1	
30	60.43A05.001	ASSY MIDDLE COVER 050 390	1	1	
31	60.43A10.022	ASSY T/P BRACKET	1	1	
32	60.43A11.001	ASSY HDD PACKING BRACKET 390	1	1	
33	60.43A17.001	ASSY HDD COVER 390	1	2	
34	60.43A20.002	ASSY DIMM COVER	1	1	
35	60.43A21.001	ASSY BATT COVER	1	1	
36	65.40B01.021	LCD ASSY MODULE(HIT TFT) 365	1	1	
37	65.40B02.001	ASSY CD ROM MODULE 050 365	1	1	
38	86.1A522.200	SCREW MACH PAN M2*20L	4	4	
39	86.1A353.4R0	SCREW MACH PAN M2.5*4L B-Zn	4	4	
40	86.1A353.4R0	SCREW PAN M2.5*4L B-Zn	4	4	

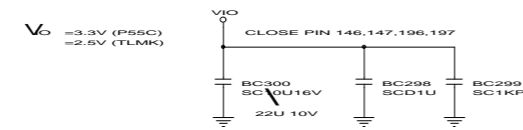
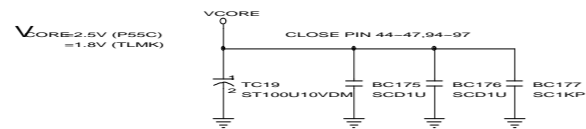
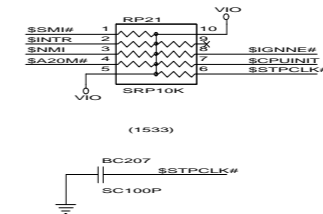
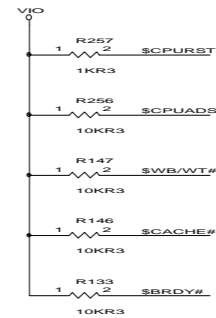
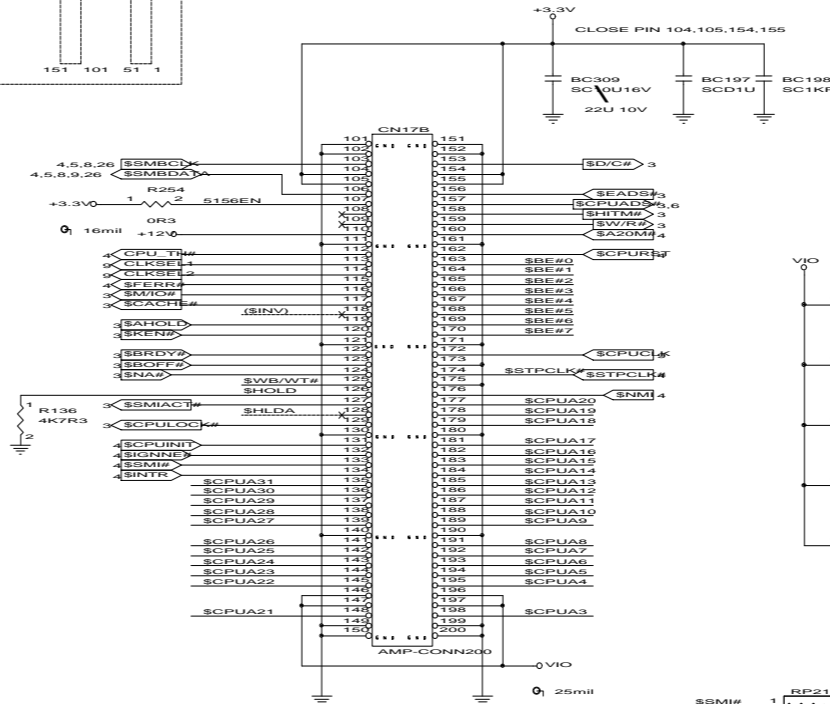
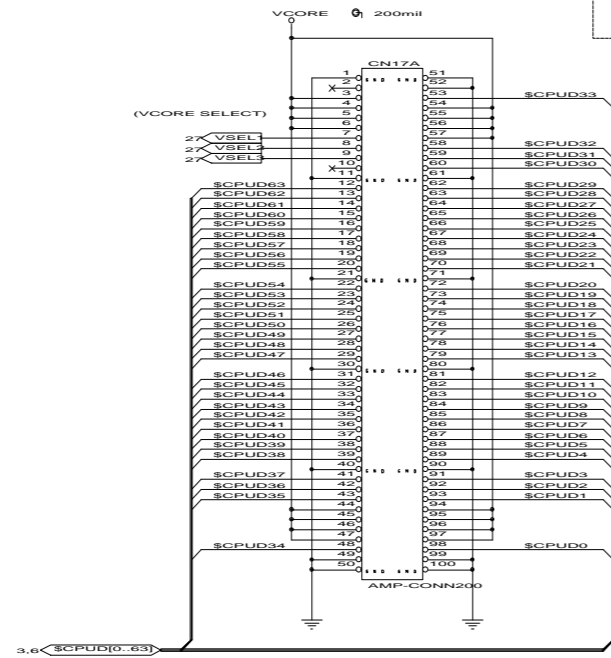
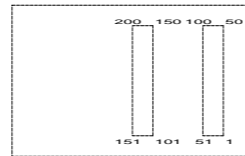
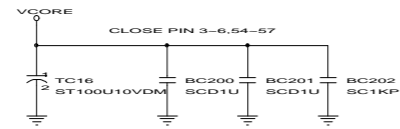


Schematics

This appendix shows the schematic diagrams of the notebook.

- G-1 CPU Board Connector
- G-2 M1531 Bypass Capacitors
- G-3 M1531
- G-4 M1533
- G-5 M1533 Configuration
- G-6 Cache RAM & Tag RAM
- G-7 16M EDO DRAM on board
- G-8 DIMM Socket
- G-9 Clock Generator CY2272
- G-10 VGA Chip NM2097
- G-11 LCD Interface
- G-12 LCD Inverter
- G-13 CRT Interface
- G-14 HDD, media LED
- G-15 CD-ROM, Internal FDD
- G-16 USB
- G-17 RTC, ROM
- G-18 Keyboard Controller M38813
- G-19 Fax/.Modem, Golden Finger
- G-20 Super I/O 97338
- G-21 Serial Port
- G-22 Parallel Port, External FDD
- G-23 Audio Chip YMF715 OPL3-SA3
- G-24 OP-AMP
- G-25 PCMCIA Controller OZ6833
- G-26 TPS2206 & Socket
- G-27 DC/DC, Charger, Battery Board
- G-28 Skew Holes

CPU BD TO BD CONNECTOR

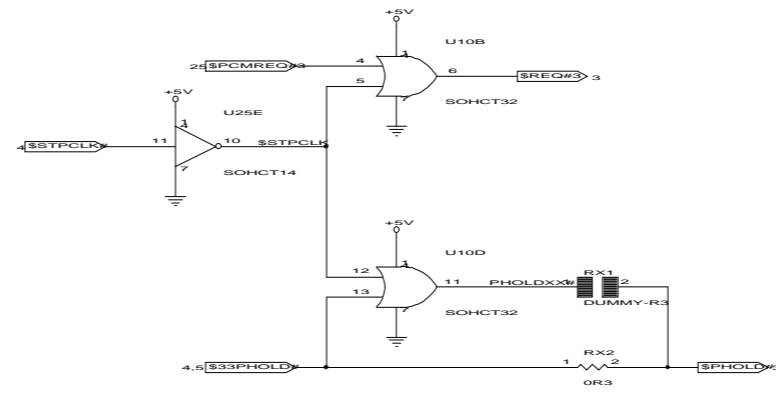
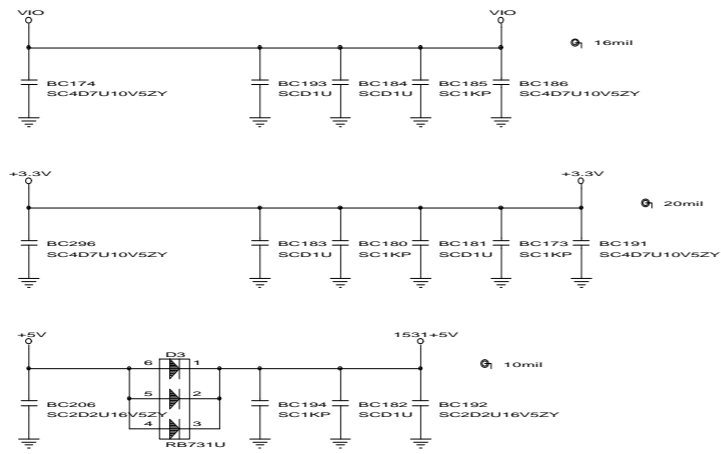


- 1 LINK
- 1 CPU Board conn.
- IM1531-C.SCH 2 M1531, M1533 bypass cap.
- IM1531.SCH 3 M1531
- IM1533.SCH 4 M1533
- IM1533-C.SCH 5 M1533 configurations
- ICACHE.SCH 6 CACHE RAM, TAG RAM
- IDRAM.SCH 7 DRAM
- IDIMM.SCH 8 DIMM socket
- ICLOCK.SCH 9 Clock generator
- IVGA.SCH 10 VGA chip
- ILCD.SCH 11 LCD
- INVERTER.SCH 12 Inverter
- ICRT.SCH 13 CRT
- IHDD.SCH 14 HDD
- ICD-FDD.SCH 15 CD-ROM, Internal FDD
- IUSB.SCH 16 USB
- IRTC-ROM.SCH 17 RTC, BIOS ROM
- IKBC.SCH 18 KBC
- IMODEM.SCH 19 Golden finger, FAX/MODEM
- ISUPER-IO.SCH 20 Super I/O chip
- SERIAL.SCH 21 RS-232, serial port COM1
- IPARALLEL.SCH 22 Parallel port LPT1
- AUDIO.SCH 23 Audio chip
- ICP-AMP.SCH 24 Audio CP amp.
- IPCMCIA.SCH 25 PCMCIA/CARDBUS controller
- ISOCKET.SCH 26 PCMCIA power IC, CARD socket
- IPOWER.SCH 27 Charger, DC/DC, BAT Conn.
- IHOLE.SCH 28 Skew holes

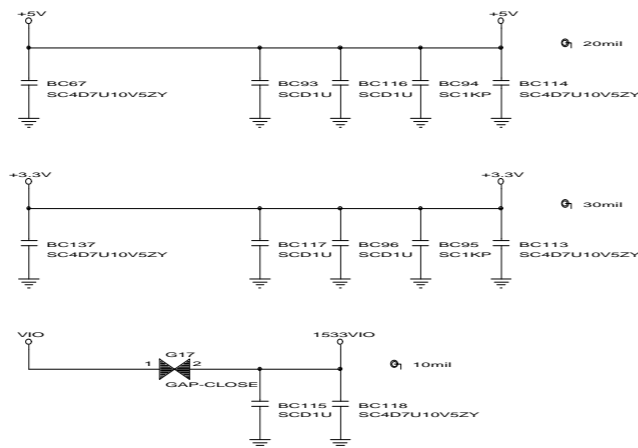
1998/03/01 Sun. 22:00

Acer Incorporated		
365		
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Size	Document Number	REV
B	97160-1, 365	V14
Date:	March 1, 1998	Sheet 1 of 28

M1531 BYPASS CAPACITORS

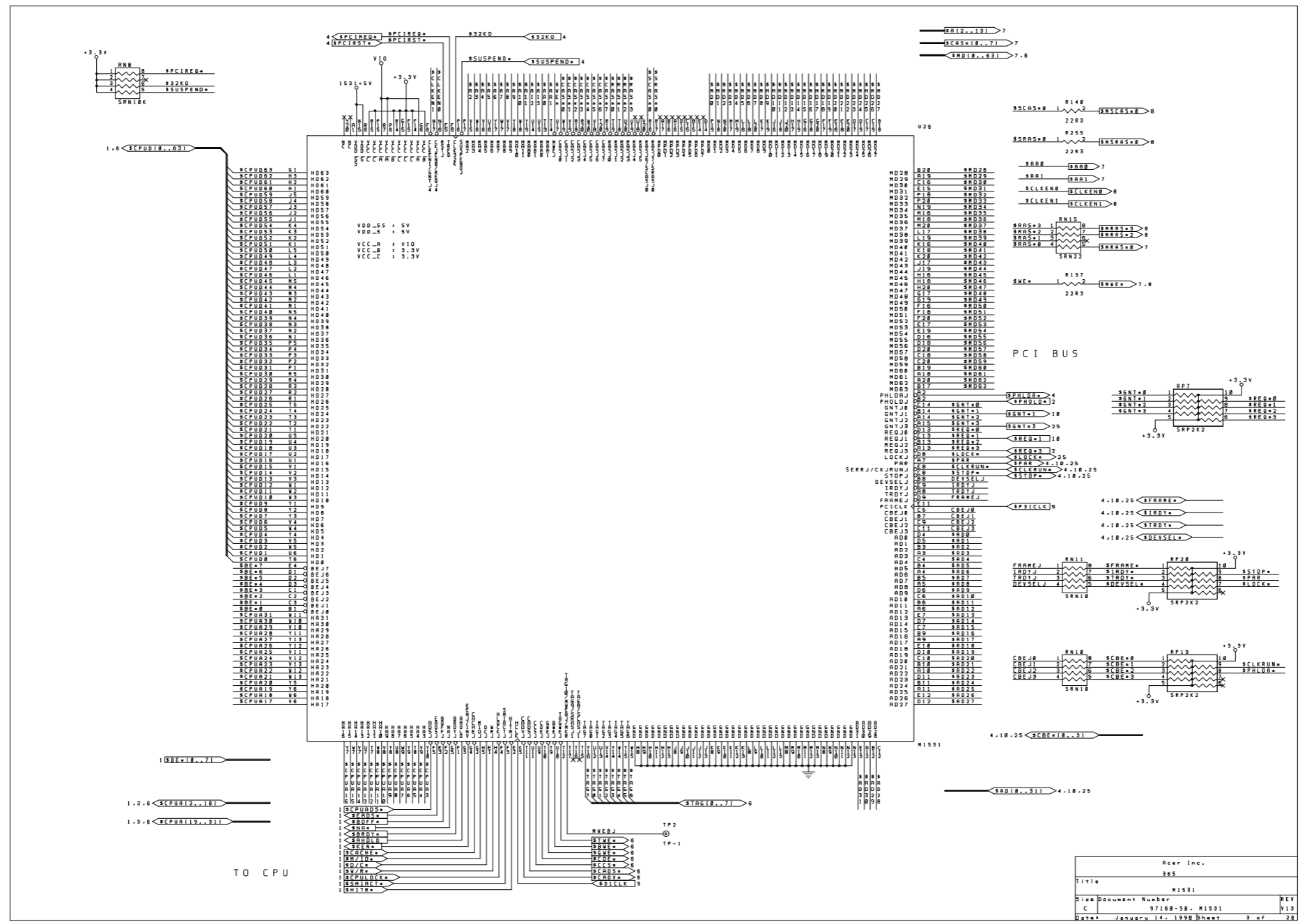


M1533 BYPASS CAPACITORS

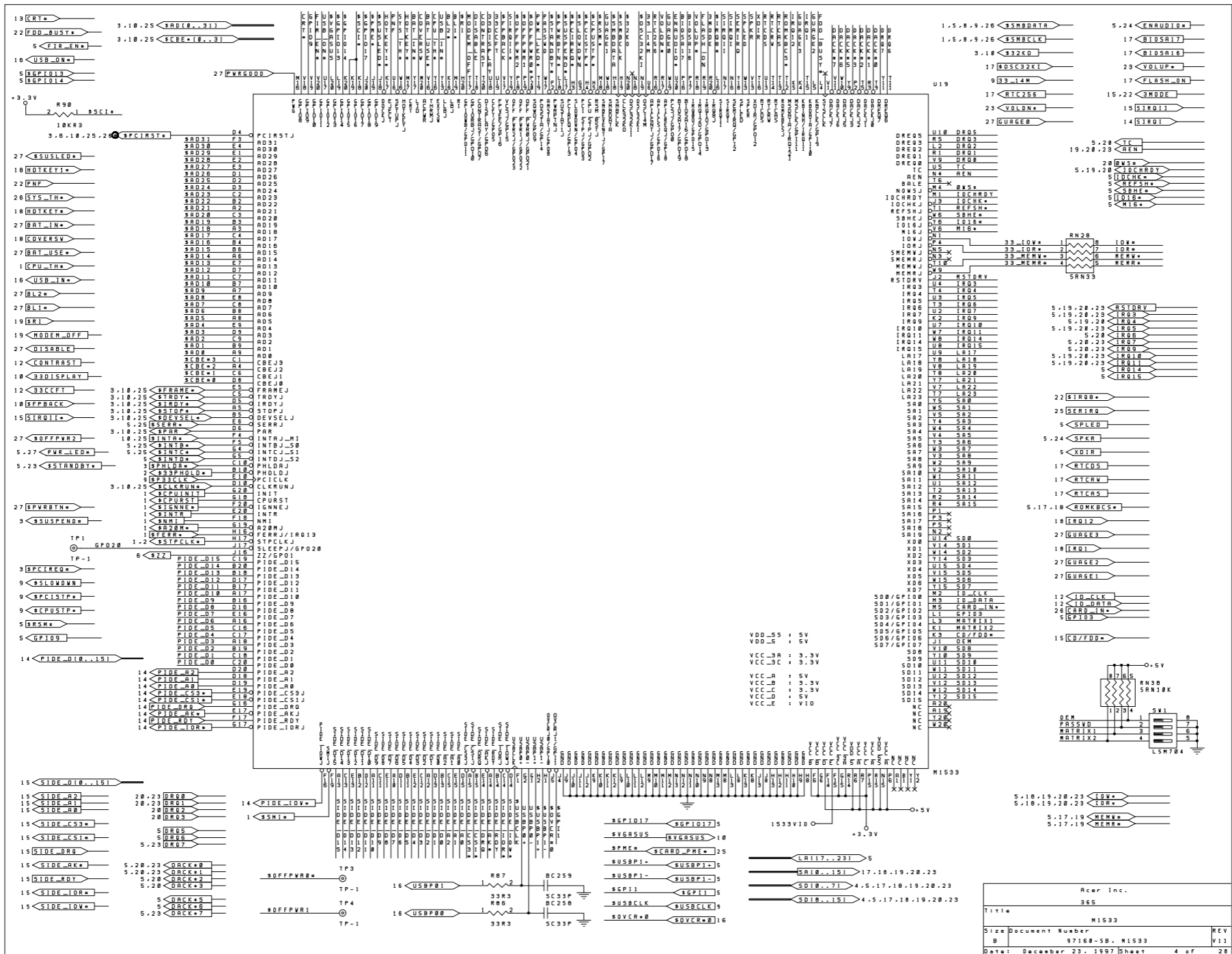


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Size	Document Number
B	97160-5B, M1531-C
Date: February 3, 1998	Sheet 2 of 28

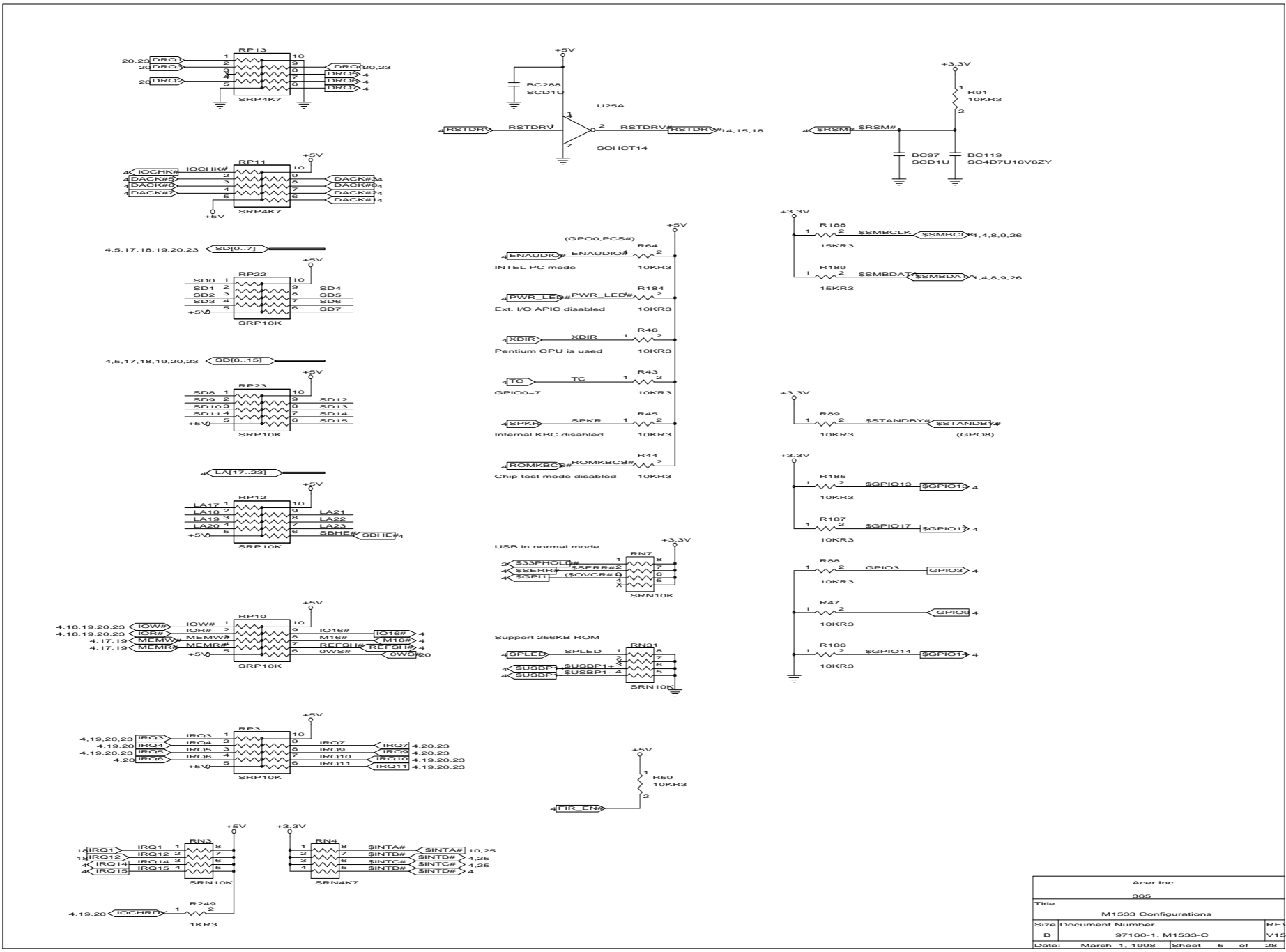
REV
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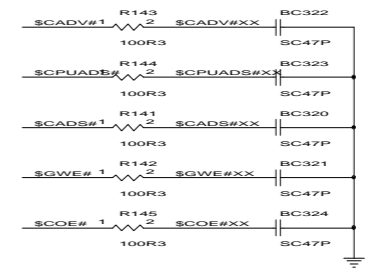
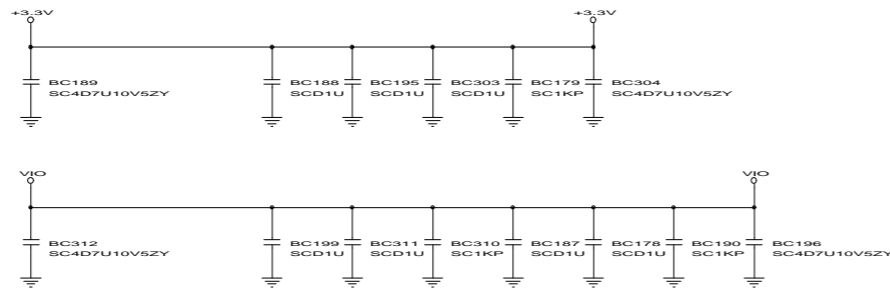
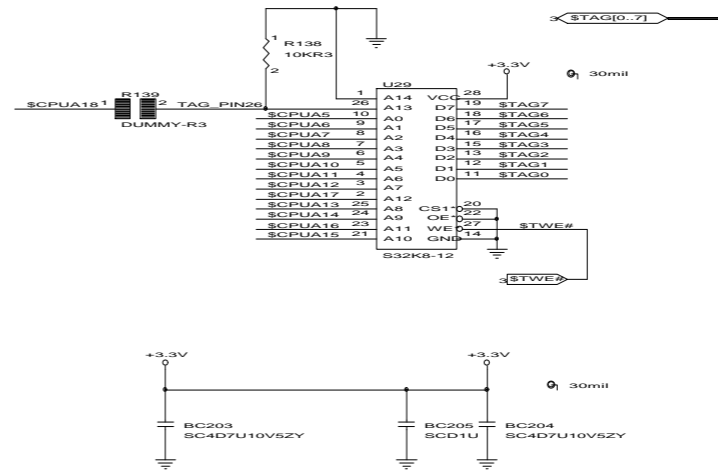
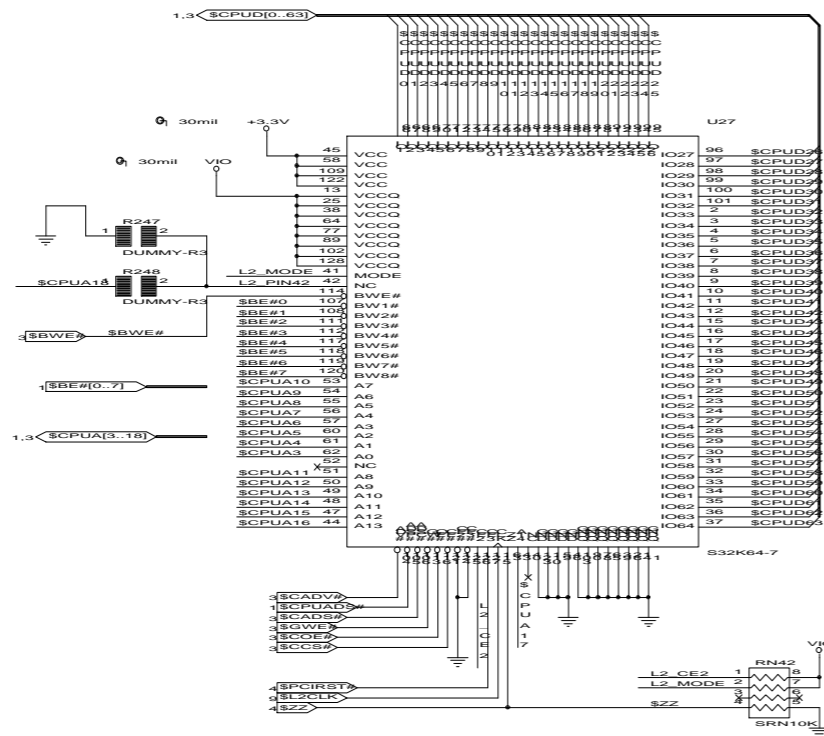


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Date:	January 14, 1998	Sheet 3 of 28

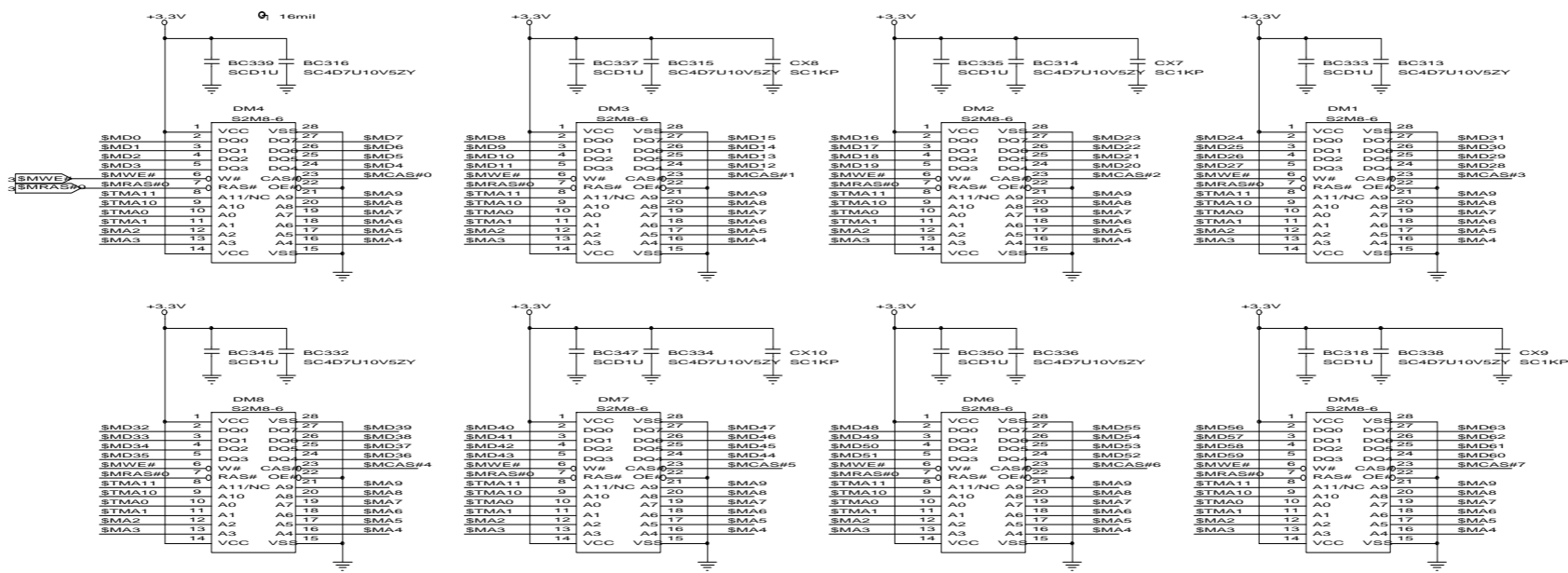


Acer Inc.
365
M1533
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Size Document Number: 97168-5B, M1533 REV 1.1
Date: December 23, 1997 Sheet 4 of 28



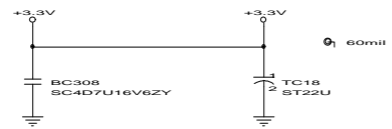


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Size Document Number	REV
B 97160-SB, CACHE	V14
Date: January 21, 1998	Sheet 6 of 28

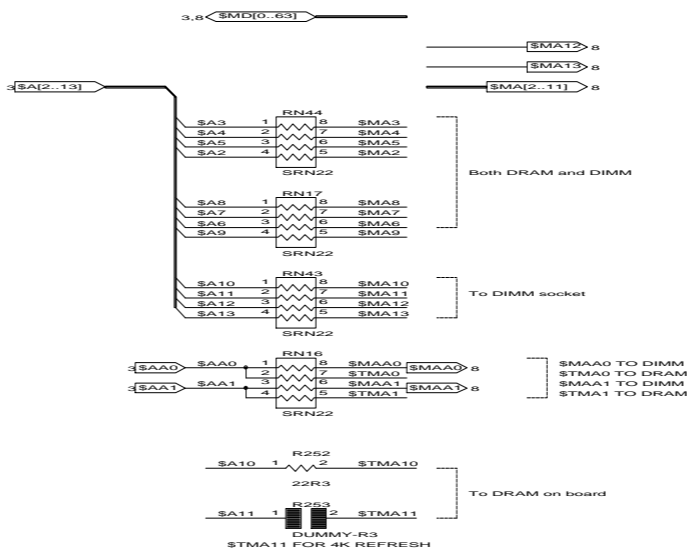
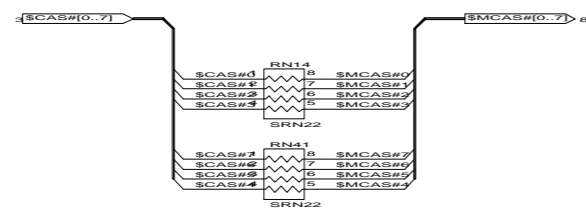


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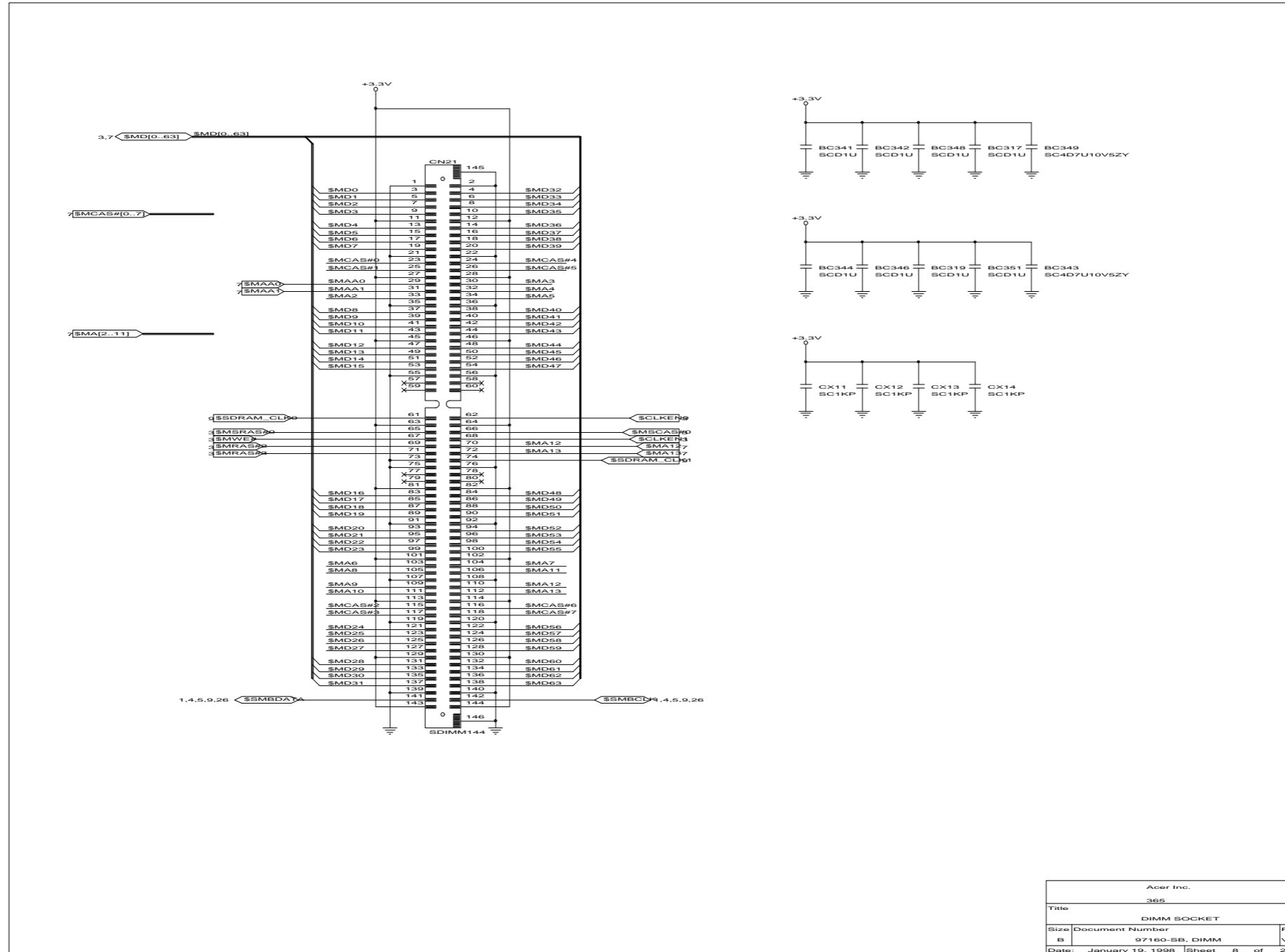
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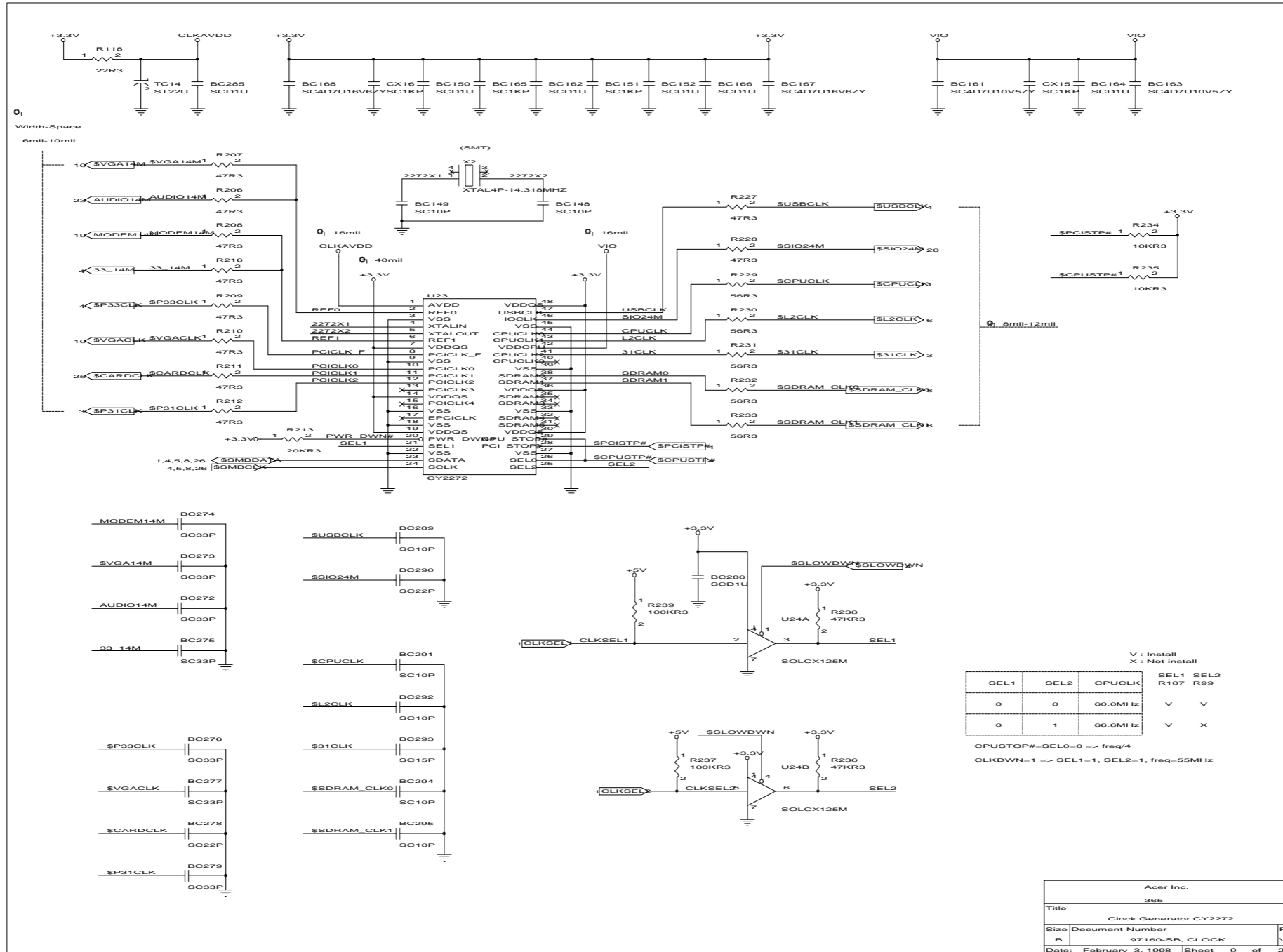


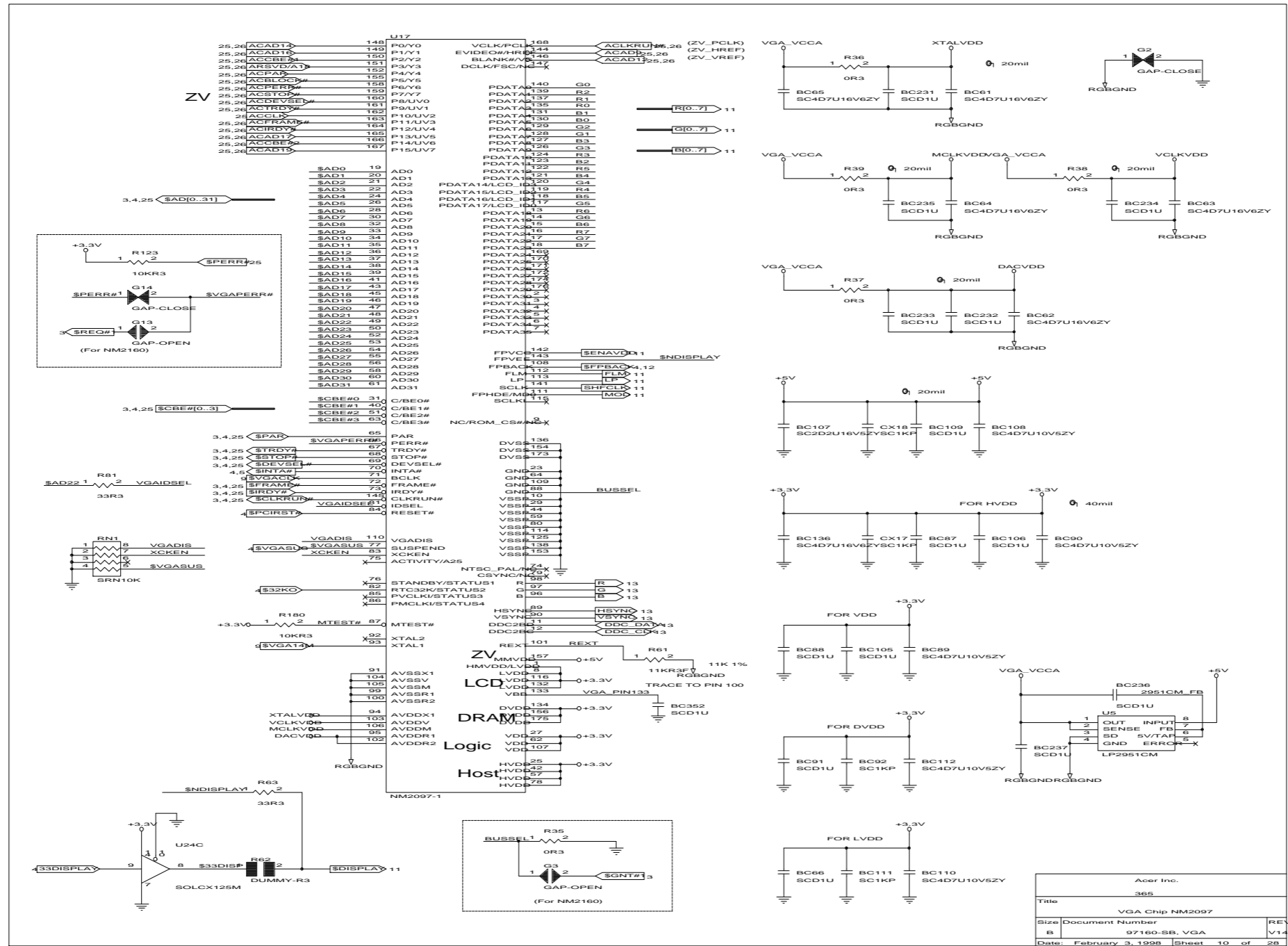
ALL DAMPING RESISTORS MUST CLOSE M1531



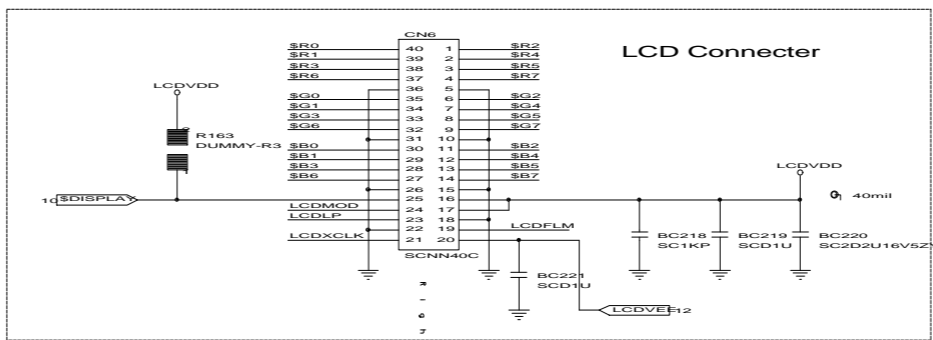
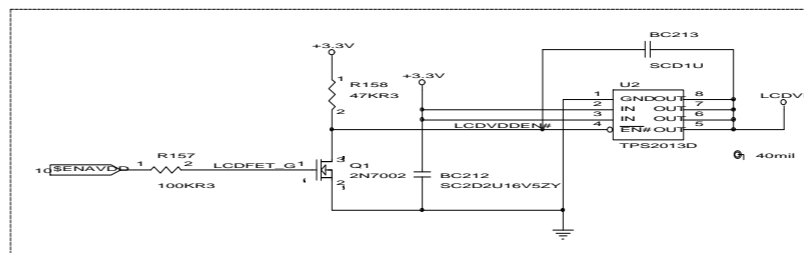
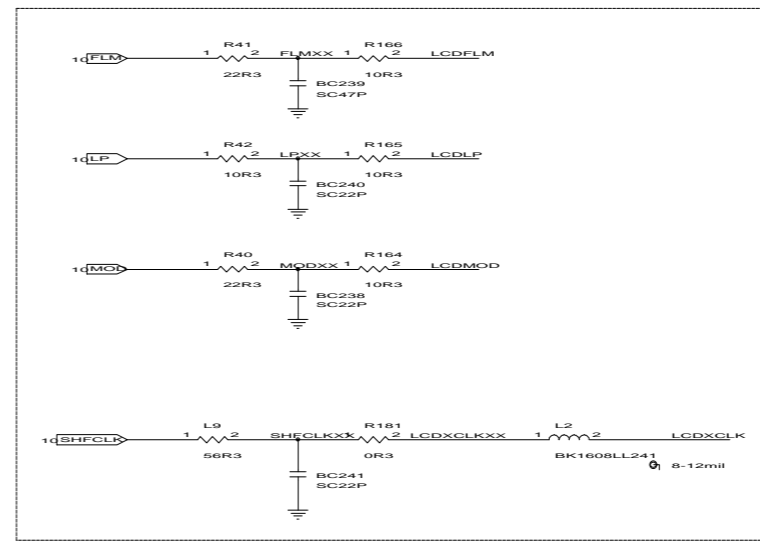
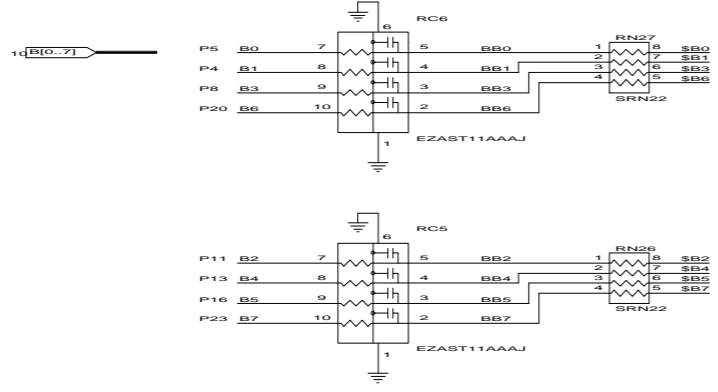
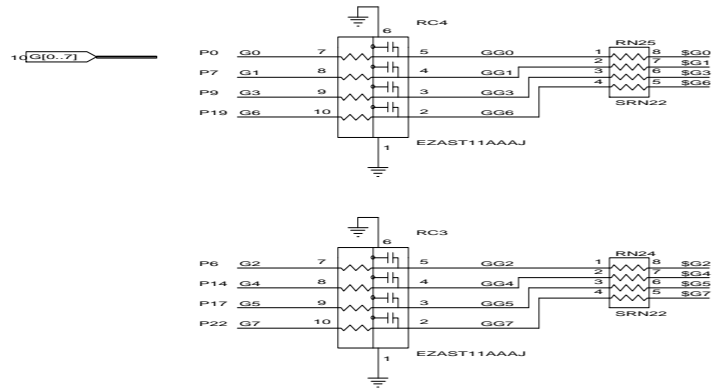
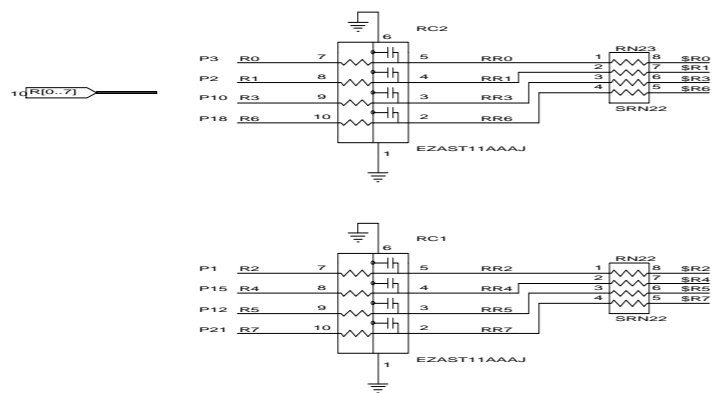
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365	
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Size Document Number B	REV V14
Date: January 21, 1998 Sheet 7 of 28	



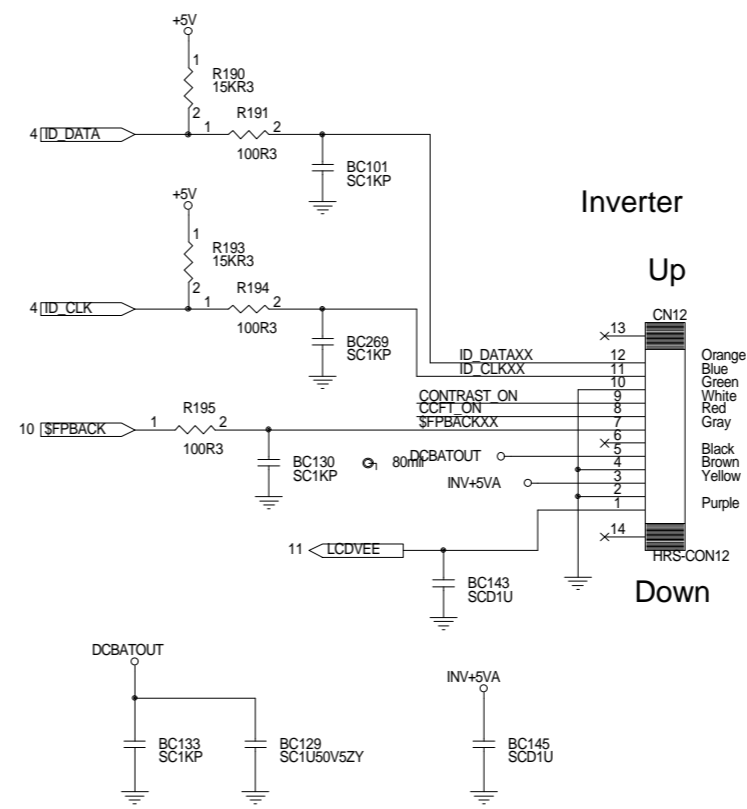
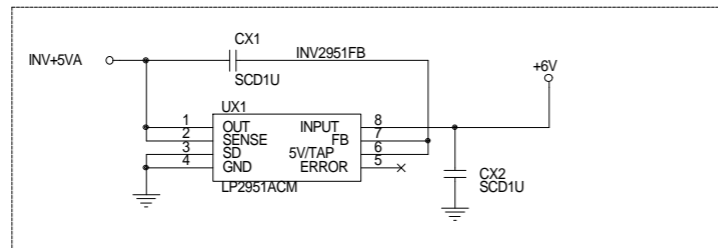
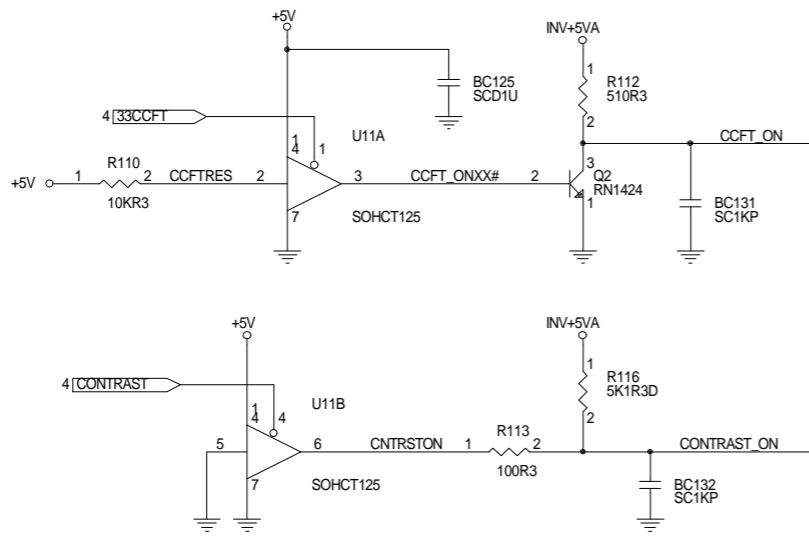




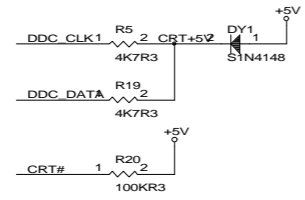
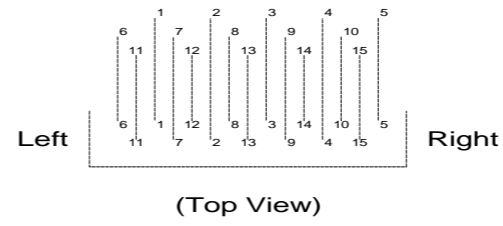
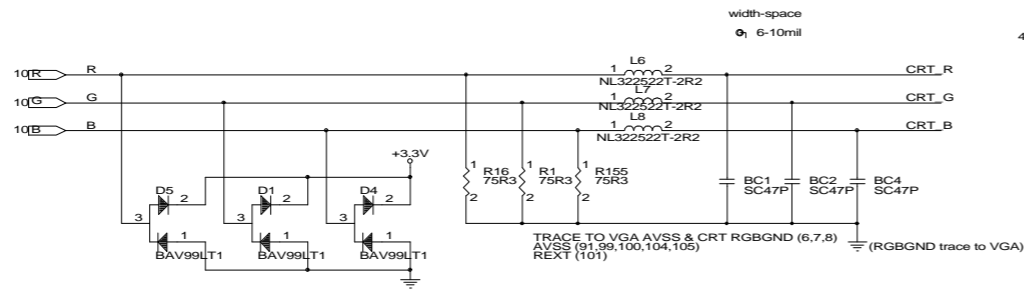
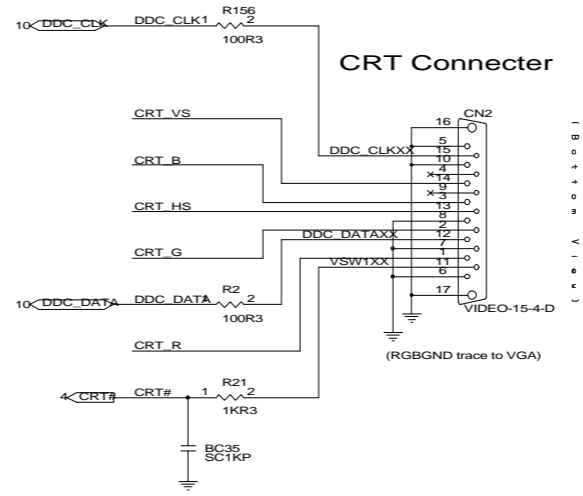
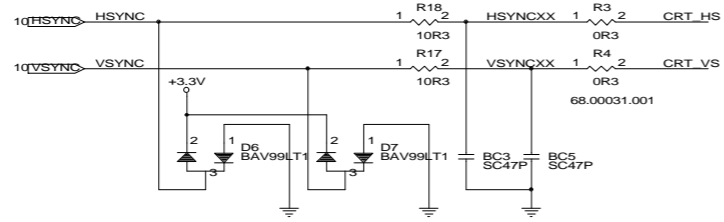
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Size	VGA Chip NM2097	REV
	Document Number	V14
	B	97160-SB_VGA
Date:	February 3, 1998	Sheet 10 of 28



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365	
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Size	Document Number
B	97160-SB_LCD
Date:	January 21, 1998
Sheet	11 of 28

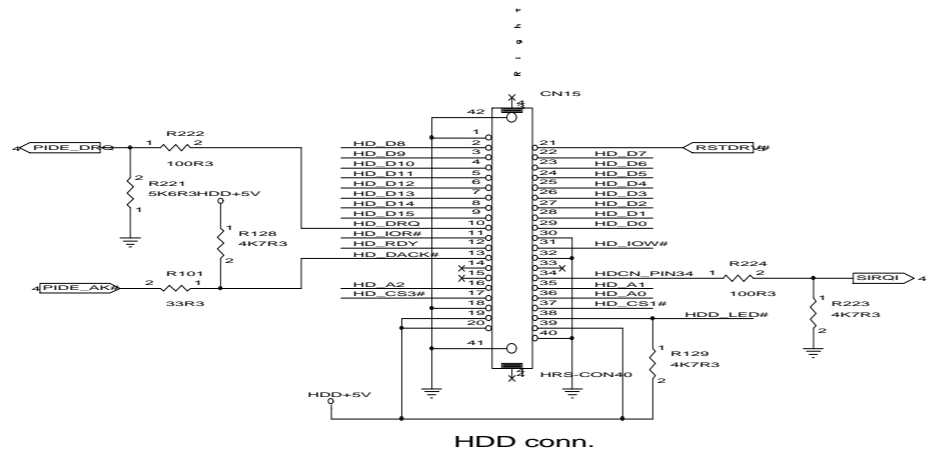


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Size	Document Number	REV
A	97160-SB, INVERTER	V11
Date:	January 8, 1998	Sheet 12 of 28

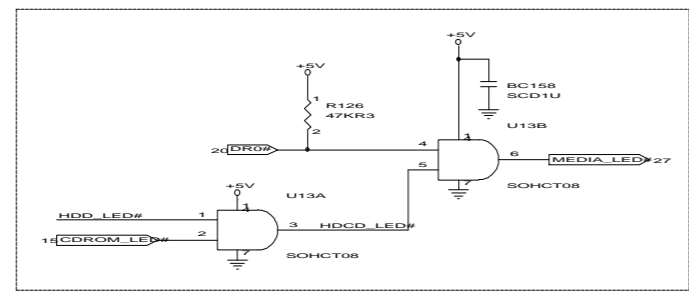
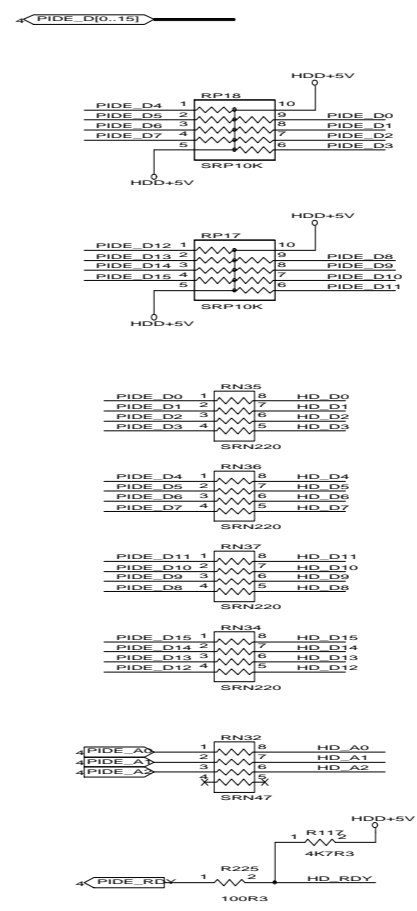
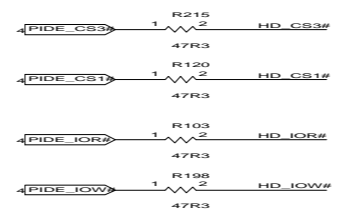
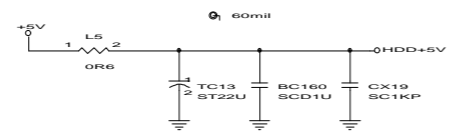


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Size B	Document Number 97160-1, CRT
Date: February 26, 1998	Sheet 13 of 28

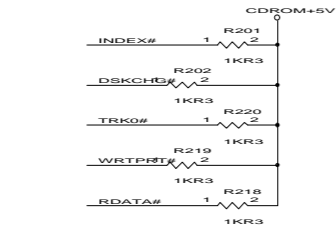
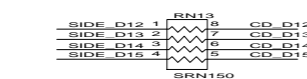
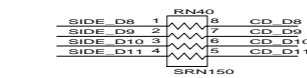
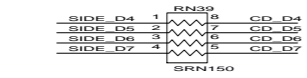
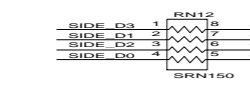
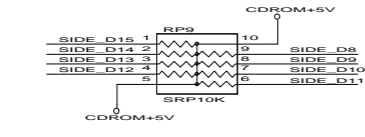
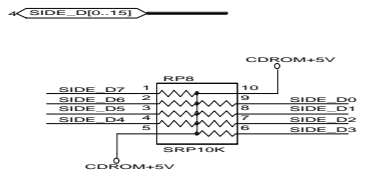
REV
v15



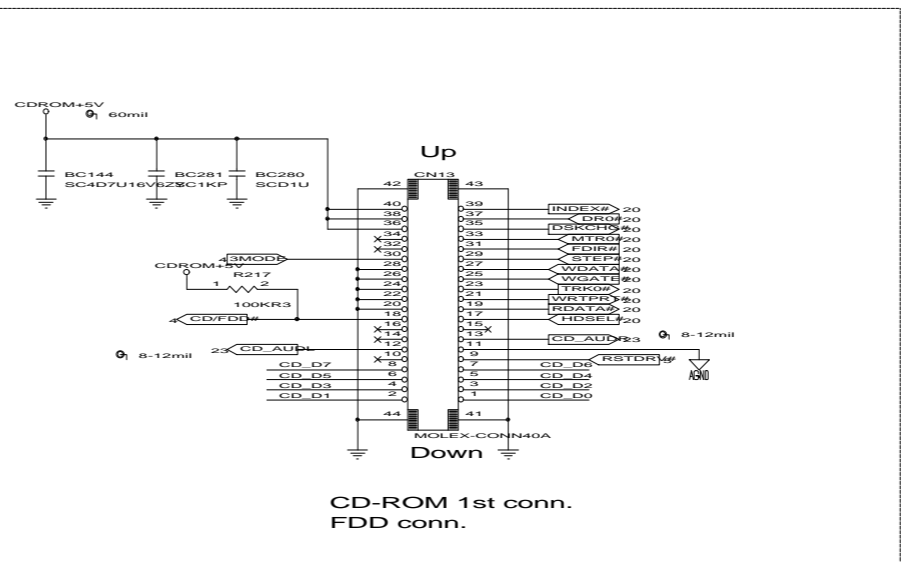
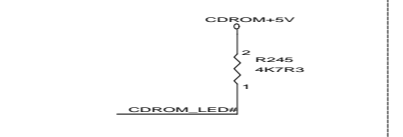
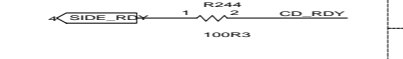
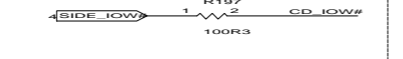
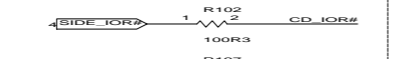
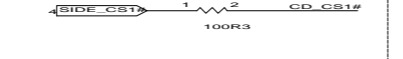
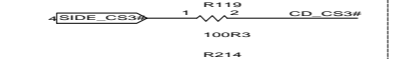
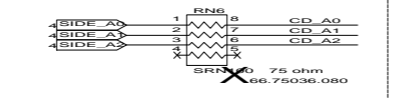
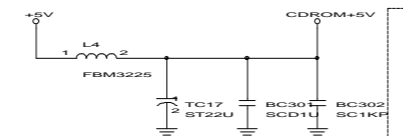
HDD conn.



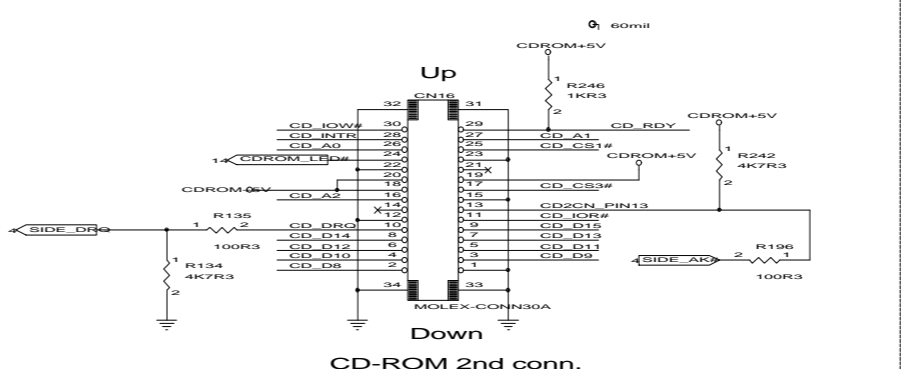
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Size Document Number	REV
B 97160-1, HDD	V14
Date: February 26, 1998	Sheet 14 of 28



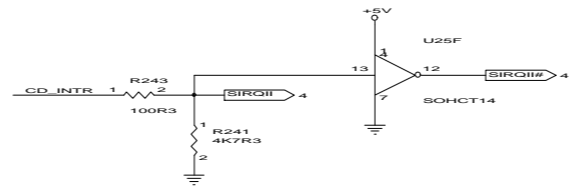
THESE RESISTORS MUST BE CLOSED FDD CONN.



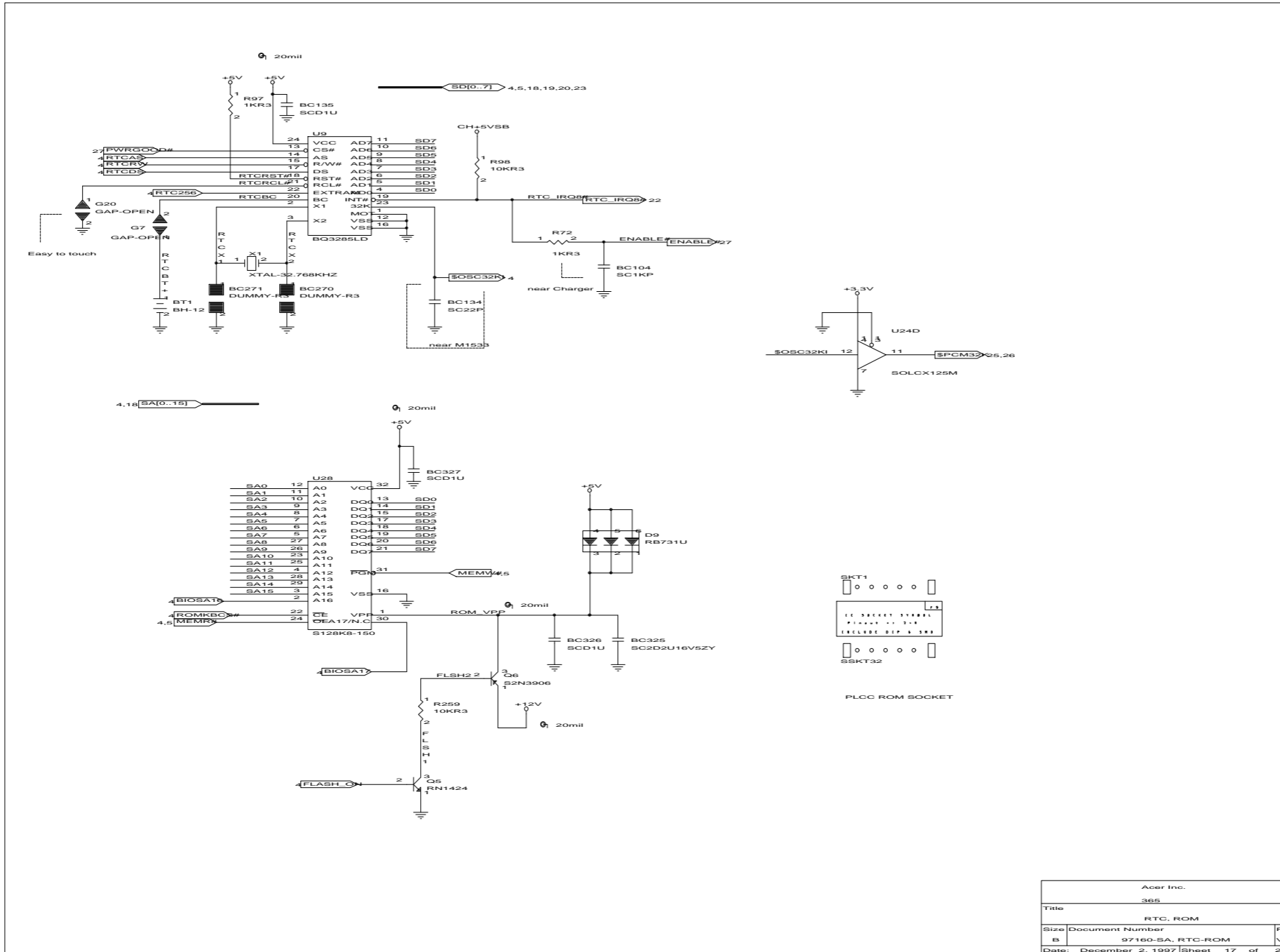
CD-ROM 1st conn.
FDD conn.



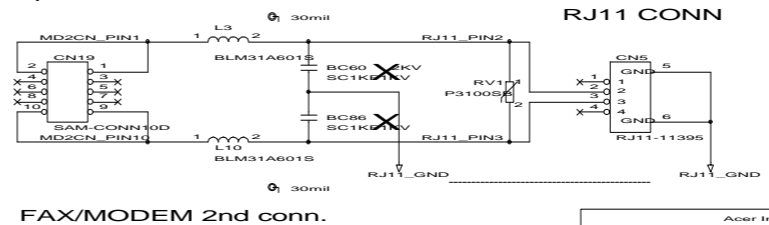
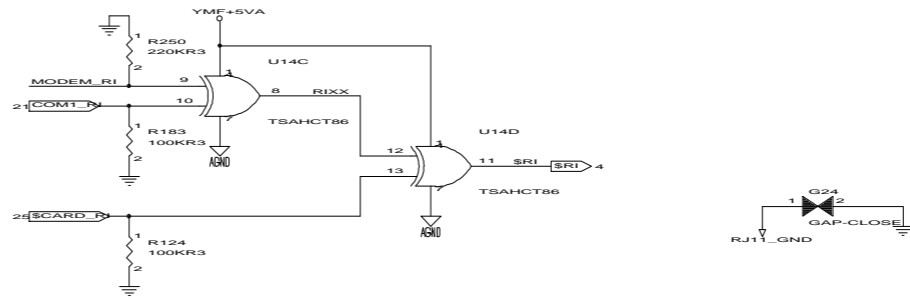
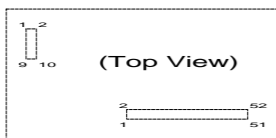
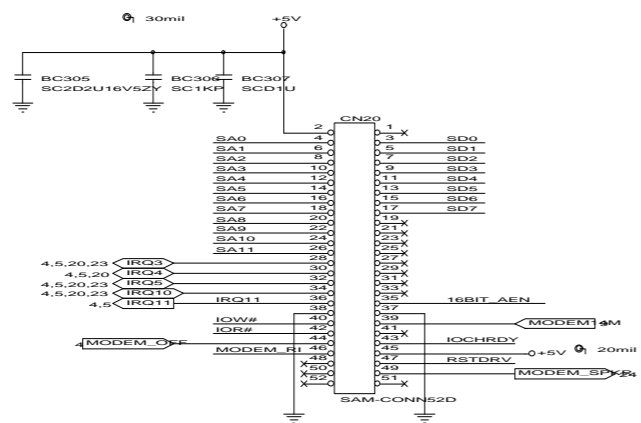
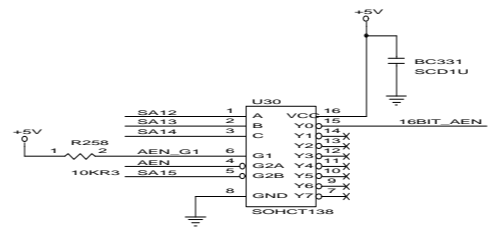
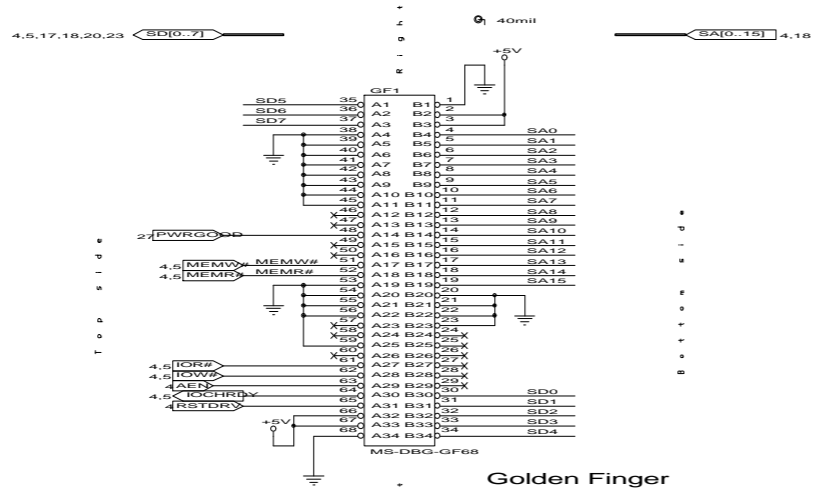
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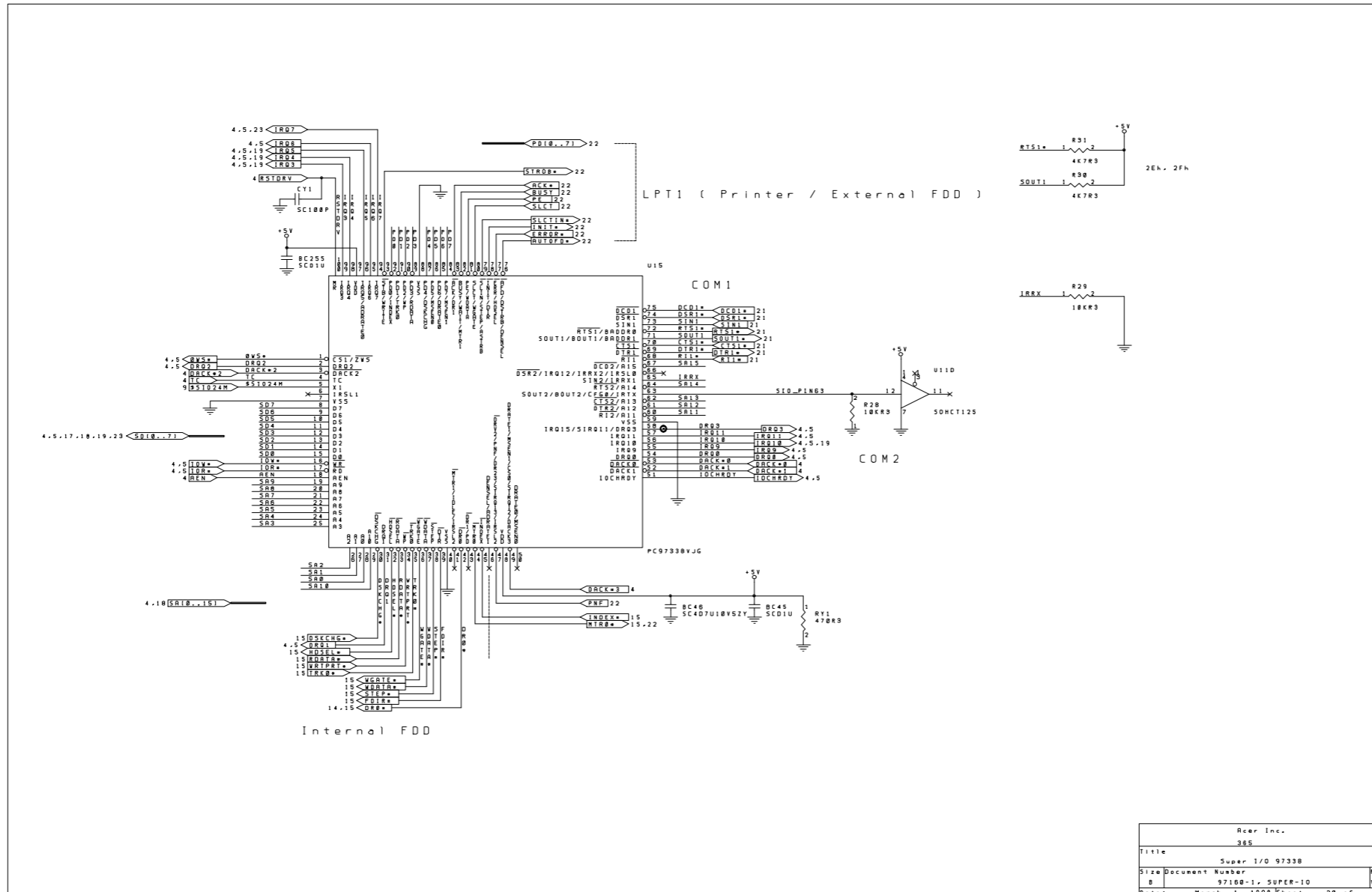
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B 97160-5B, CD-FDD	V14
Date: February 3, 1998	Sheet 15 of 28



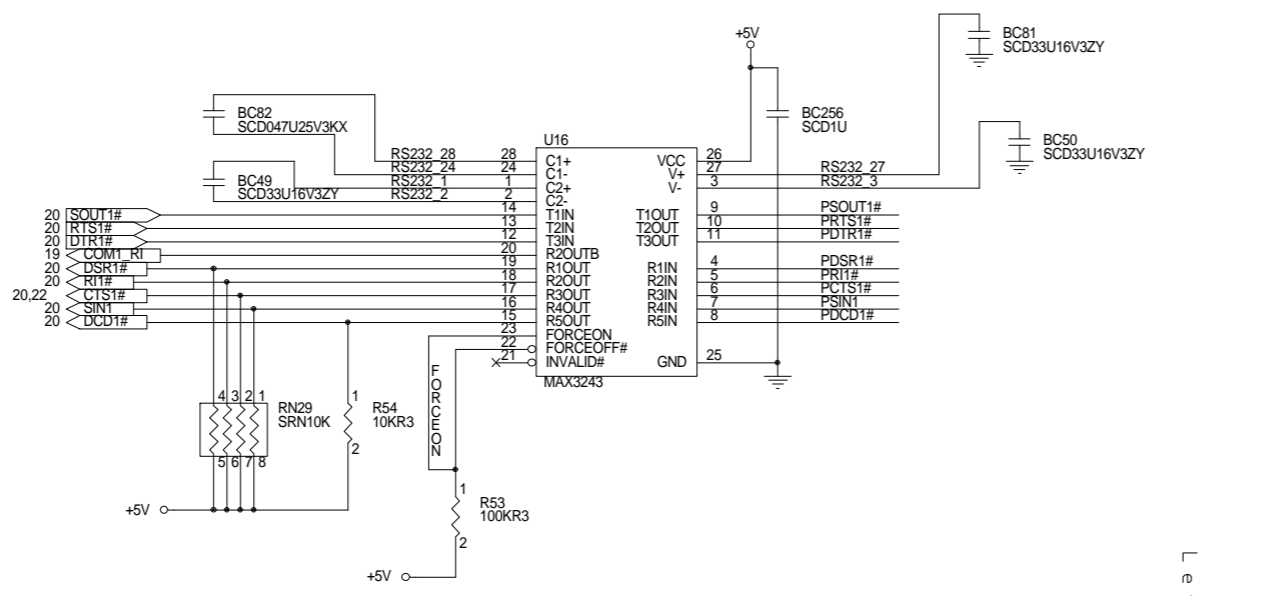
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Size	Document Number
B	97160-SA, RTC-ROM
Date:	December 2, 1997
Sheet	17 of 28
REV	V10



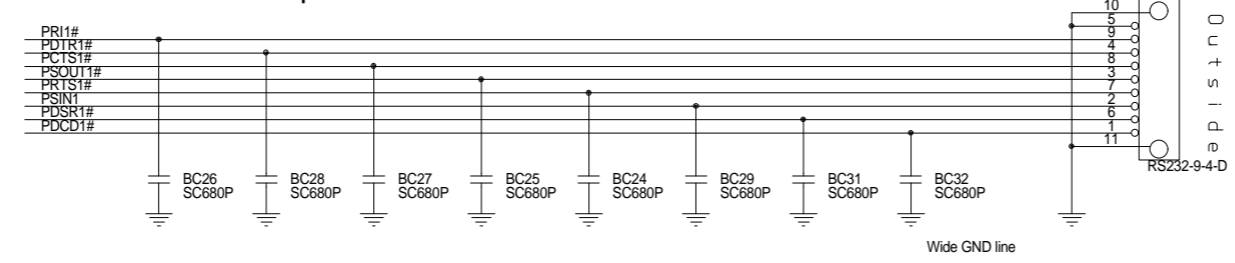
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365	
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Size Document Number	REV
B 97160-SB, MODEM	V11
Date: February 4, 1998	Sheet 19 of 28



Rcer Inc.	
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Size	Document Number
8	97100-1, SUPER-10
REV	V15
Date:	March 1, 1998 Sheet 28 of 28

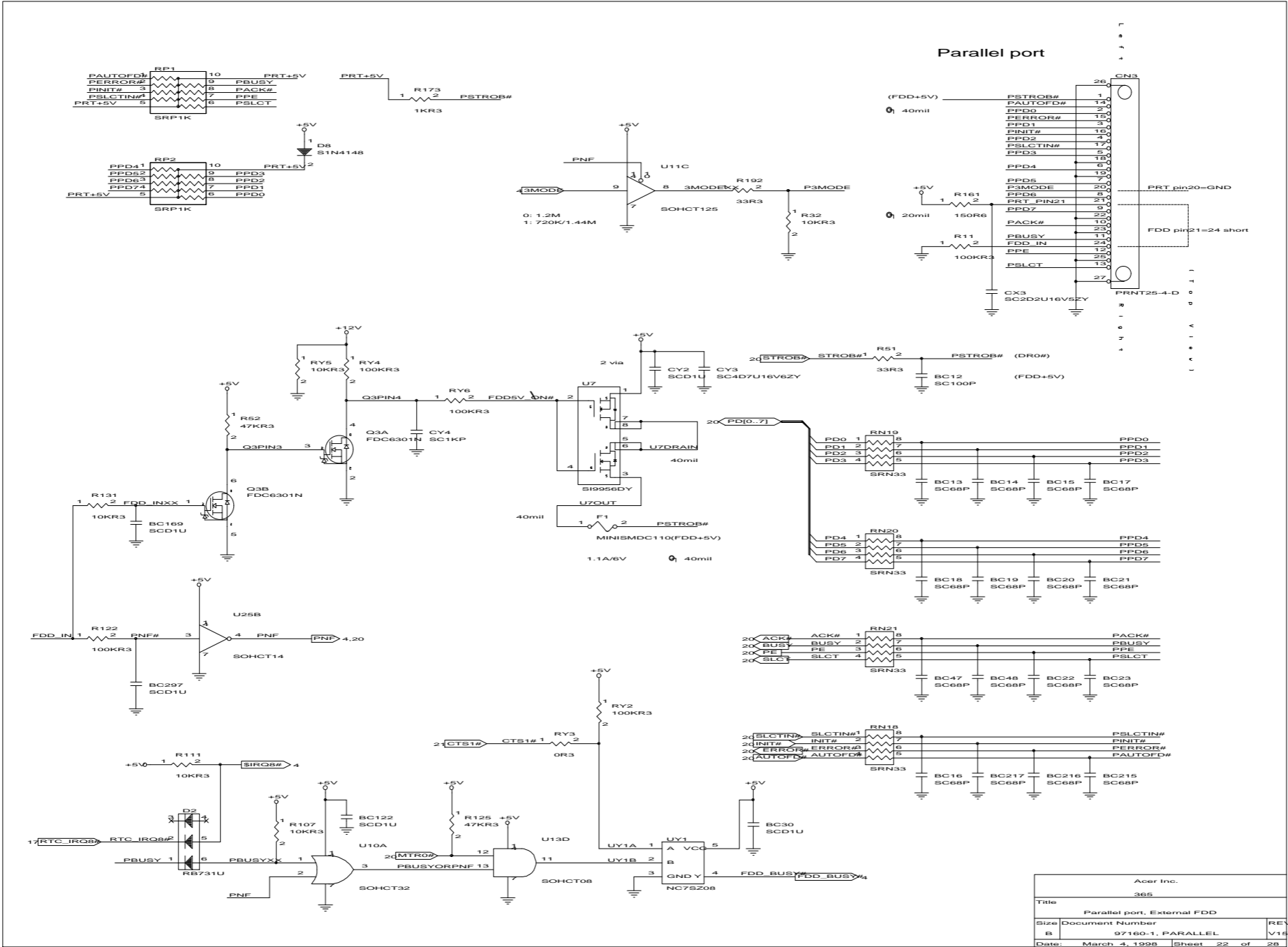


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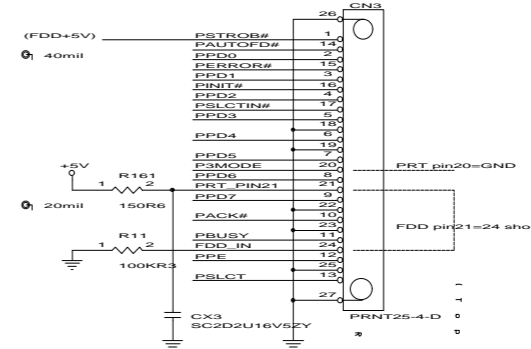


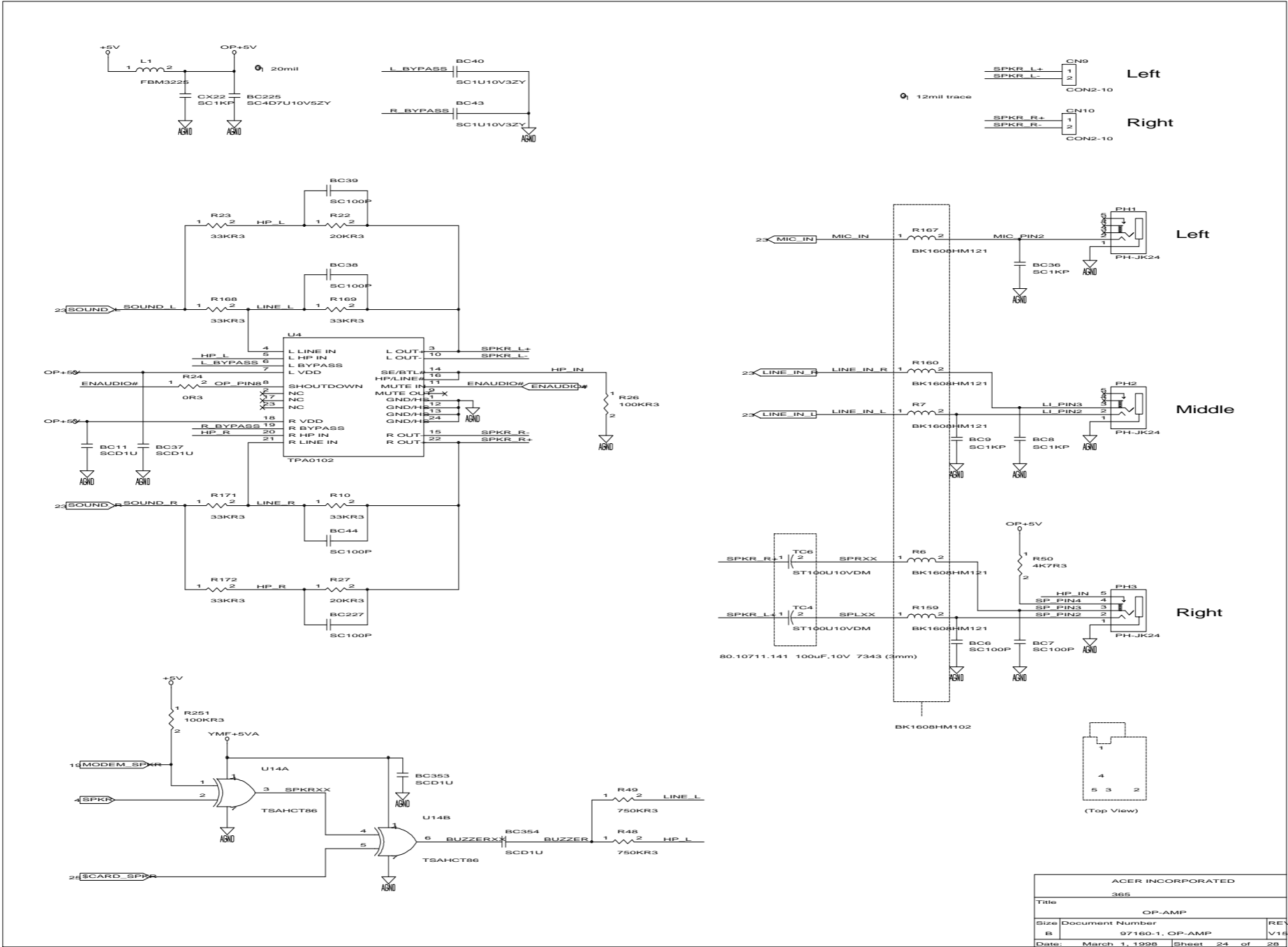
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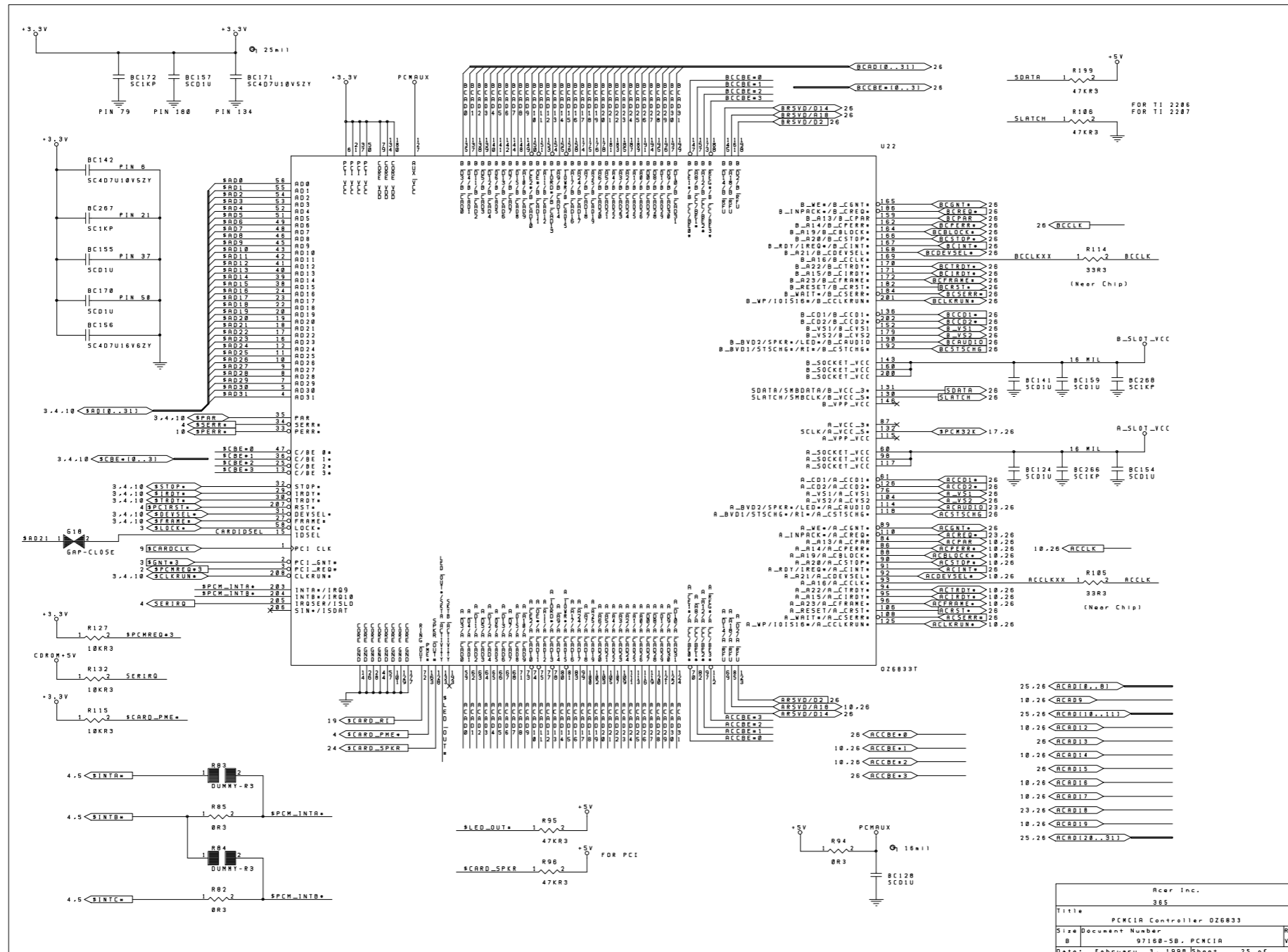
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Size	Document Number	REV
A	97160-1, SERIAL	V15
Date:	March 1, 1998	Sheet 21 of 28



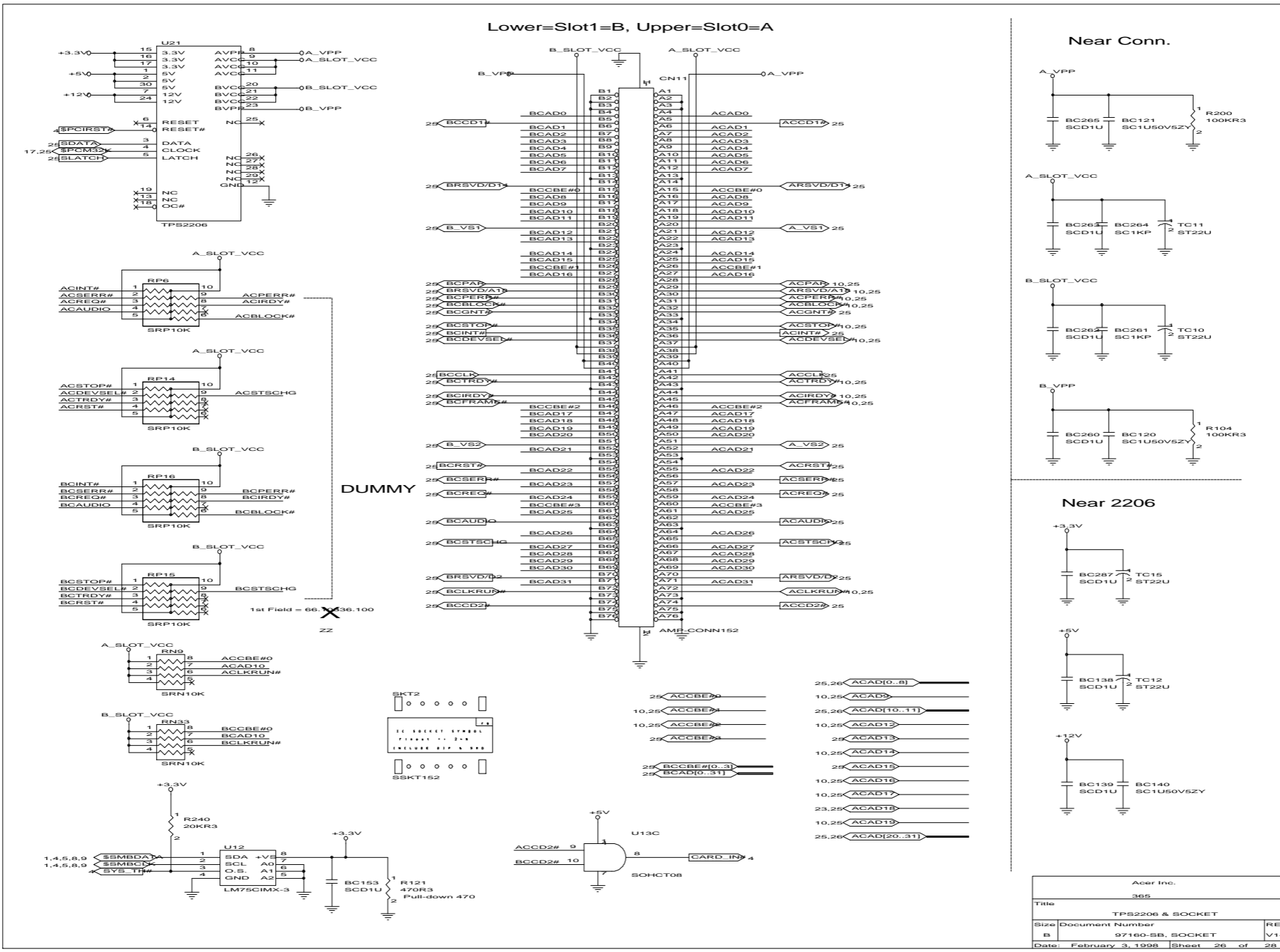
Parallel port

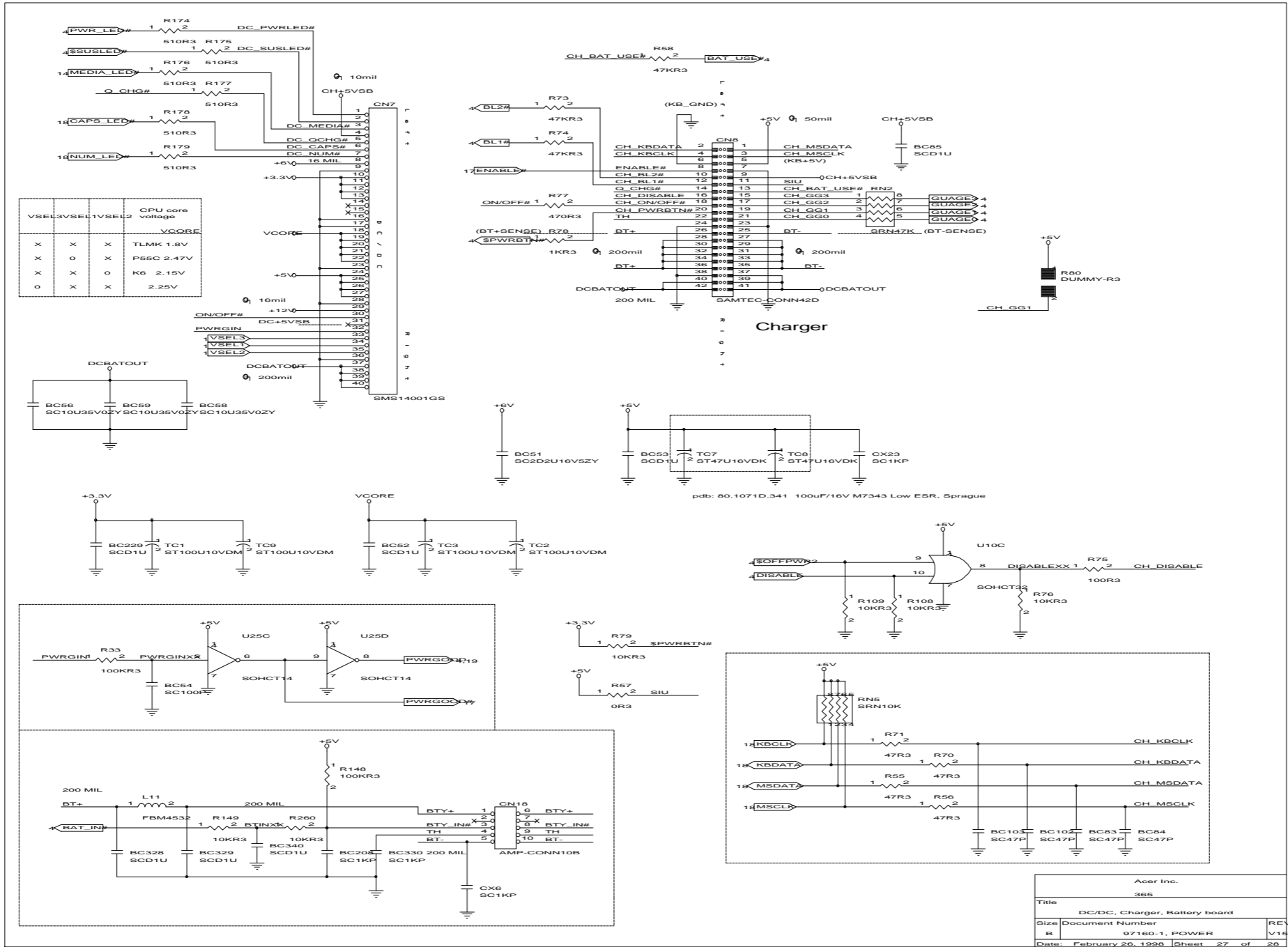


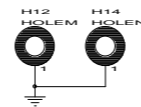
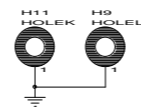
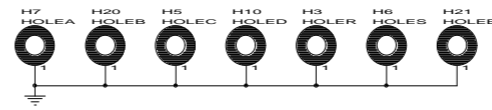
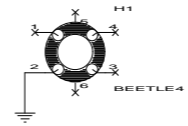




Rcer Inc.	
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Title PCMCIA Controller 026833	
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Near LCD conn. : H4, H5
Near CPU Board : H13, H14, H17, H18
Near Battery conn. : H20, H21

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Troubleshooting to Board Repairing

This paragraph will usually be inserted into the Service Guide in the following weeks. Please check the <http://ipg.intranet.acer.com.tw> (Customer Services on the website) to find out when this information is available.