1100P Series
Service Manual

The circuit schematics herein provided for reference only are not necessarily the latest version.

Mainboard	71-11P00-D02
Switch board	71-11A0S-D01
Charger board	71-11A0E-D01A
TFT & DSTN card	71-11PCL-D00
Flat Link card	71-11PFL-D00
Jack Board	71-11P0K-D00

Specifications are subject to change without notice.   Jan. 1999
                                                         99-01. version

Specifications

The Notebook Computer is a state-of-the-art, high performance, portable system. It offers a host of features specially designed to enhance performance and usability.

⌨ Processor
- Mobile Pentium II processors (AGP) at 300/266/233 MHz
- Intel Mobile Module Connector2 Structure (MMC2)
- 66 MHz CPU Bus Clock

⌨ Memory
- 3.3V power supply
- 64 bit data bus system memory
- Supports EDO/SDRAM
- 8MB expandable up to 256 MB
- Two 144-pin SODIMM package

⌨ System BIOS
- 256KB flash ROM
- SystemSoft BIOS with Smart Battery
- Plug and Play 1.0a
- ACPI

⌨ Display
- 14.1" TFT XGA (1024x768 pixels) LCD panel available
- 13.3" TFT XGA (1024x768 pixels) LCD panel available
- 12.1" DSTN/SVGA (800x600 pixels) LCD panel available
- AGP 2X
- 64 bits Hardware 2D/3D Graphics Engine
- Motion Video acceleration
- Motion Compensation
- Support Video Playback
- High quality TV-out
- High quality dedicated S-Video TV Out
- 4MB display memory SGRAM type
- Vertical Interpolate 720V x 480H pixel wide video source
- CRT resolution up to 1280x1024x16M non-interlaced
- Ratiometric LCD expansion
- 230 MHz DAC
- Tri-View for a triple display solution, TV, CRT and LCD
- Support external Video Input
- Support VPM 1.10

⌨ Mass Storage
 – 3.5" floppy diskette drive
 – 2.5" hard disk drive (12.7mm high or less)
 – 5.25" CD-ROM.
 – Support Master mode IDE.
 – Support PIO mode 4/ATA-33 (Ultra DMA)

⌨ Audio
 – Sound Blaster Pro compatible
 – Full duplex operation
 – 3D stereo sound effects
 – Built-in microphone
 – Built-in speakers
 – Wavetable Downloadable
 – IIS interface for external ZV port MPEG audio
 – High-quality FM music synthesizer 16 bits stereo sound system, compliant to PC97 Rev. 1.0

⌨ PC Card Sockets
 – One Type III PC card or two Type II PC cards
 – One socket ZV-capable
 – CardBus support

⌨ Input/Output
 – Built-in trackpad (PS/2)
 – USB port
 – S-video jack for TV output
 – RCA jack for video input
 – Docking connector for Port Replicator
 – External CRT monitor (CRT) port
 – Parallel port (LPT1)
 – Serial port (COM 1)
 – PS/2 type port (External keyboard/Mouse)
 – Microphone-in jack
 – Headphone jack
 – DC-in jack
 – Phone jack for a 56K Modem Card (Optional)

⌨ Infrared Wireless Communication
 – IrDA
 – FIR
 – ASKIR
 – 56K Modem Card (Optional)

▣ Keyboard
- Windows 95
- Detachable for various language versions

▣ Power Management
- APM 1.2
- ACPI
- Global standby
- Suspend and resume
- CPU over temperature protection
- Secondary cache power control
- Device power management for all devices
- Battery low suspend

▣ Rechargeable Battery Pack
- Ni-MH battery available
- Li-Ion battery available
- Battery low warning
- Auto-switching with AC power adapter

▣ Size & Weight
- 302mm(w)x249mm(d)x46mm(h)
- 3kg

▣ Temperature Environment
- Operating   5°C~35°C
- Storage   -20°C~60°C

▣ Humidity Environment
- Operating   20%~80%, non-condensing
- Storage   10%~90%, non-condensing

I/O Address Map

Hex Range	Device
000 – 00F	DMA controller-1
020 – 021	Interrupt controller-1
040 – 043	Timer 1
048 – 04B	Timer 2
060 – 06E	KB controller M38867 chip select
070 – 071	RTC and NMI mask
080 – 08F	DMA page register
0A0 – 0A1	Interrupt controller-2
0C0 – 0DF	DMA controller-2
1F0 – 1F7	Fixed disk select
3F6 , 3F7	
2F8 – 2FF	Serial port 2
378 – 37A	Parallel port 1
3B4 , 3B5	CRT controller index (mono)
3D4 , 3D5	CRT controller index (color)
3BA	Feature control
3C0 – 3DA	
3F2 – 3F7	Floppy disk controller
3F0 , 3F1	Configuration port
3F8 – 3FF	Serial port 1

System Memory Map

Address	Size	Function
000000 – 09FFFF	640KB	640KB Base Memory
0A0000 – 0BFFFF	128KB	Video RAM
0C0000 – 0CFFFF	64KB	VGA BIOS
0D0000 – 0DFFFF	64KB	Reserved
0E0000 – 0EFFFF	64KB	System BIOS for SCU, PCI, PnP, PMU
0F0000 – 0FFFFF	64KB	System BIOS for Kernal
100000 –	Above 1MB	Extended Memory

System Resource Allocation

IRQs	Devices
IRQ0	Timer
IRQ 1	Keyboard
IRQ 2	Cascade
IRQ 3	COM2
IRQ 4	COM1
IRQ 5	Audio/MPU-401
IRQ 6	Floppy Disk
IRQ 7	Parallel Port
IRQ8	Real Time Clock
IRQ9	Available
IRQ10	USB/PCMCIA
IRQ11	Available
IRQ12	Trackpad (PS/2)
IRQ13	Floating Point Unit
IRQ14	Primary IDE Interface (HDD)
IRQ15	Secondary IDE Interface (CD-ROM)

Motherboard

The motherboard is designed mainly based Intel MMC2 structure CPU and 82371EB(PIIX4E) Chipset ; it includes the following features:

- ✓ 82371EB(PIIX4E) chipset solution from INTEL
- ✓ ATI 3D RAGE LT PRO Multimedia Flat Panel Controller
- ✓ FDC37N769 Super I/O with IR Support Controller
- ✓ M38867 Keyboard Controller
- ✓ Flash EPROM 256KB with SystemSoft system BIOS, VGA BIOS
- ✓ DRAM Upgradable to 256MB
- ✓ 7 DMA channels
- ✓ 13 interrupt levels
- ✓ Real time clock / calendar, battery back up
- ✓ Buzzer for sound system
- ✓ Built-in 3D stereo audio subsystem
- ✓ Port connectors :
    - − 9 pin serial port (COM1)
    - − 25 pin parallel printer port (LPT1)
    - − 15 pin external monitor port
    - − 6 pin external keyboard port
    - − 4 pin USB port
    - − 120 pin Port Replicator connector
    - − Phone jack for a 56K Modem Card(Optional)

Microprocessor

Intel Mobile Module Family

I. Mobile Module Connector 2 (MMC2) Mobile Module

The Intel Pentium II processor Mobile module (400 pin MMC) is a small, highly integrated assembly containing an Intel Pentium II mobile processor and its immediate system-level support. Specification, the processor module contain a power supply for the processor's unique voltage requirement, a system Level 2 cache memory and the core logic require to bridge the processor to the standard system bus. The module interface electrically to its host system via a 3.3 volts PCI bus, a 3.3 volts memory bus and some Intel 443BX Host Bridge control signals.

II. Intel 440BX AGPset

The 440BX AGPset is the fourth generation chipset based on the Pentium Pro processor architecture. It has been designed to interface with the Mobile Pentium II processor's system bus at 66 MHz. Along with its Host-to-PCI bridge interface, the 82443 BX host bridge controller has been optimized with a 66 MHz SDRAM memory controller and data path. The 82443 BX component includes the following function and capabilities:

- ✓ 64-bit Low Power GTL + based system data bus interface
- ✓ 32-bit system address bus support
- ✓ 64/72-bit main memory interface with optimized support for SDRAM
- ✓ 32-bit PCI bus interface with integrated PCI arbiter
- ✓ AGP interface with up to 133 MHz data transfer capability
- ✓ Extensive data buffering between all interface for high throughput and concurrent operations

Functionality:

- ✓ 233/266/300 MHz Mobile Pentium II Processors
- ✓ Intel Mobile Module Connector 2 Structure (MMC2)
- ✓ Support Write-back L1 & L2 Cache
- ✓ 66 MHz CPU bus clock

Chips
Core Logic – Intel 82371EB (PIIX4E) Chipset

It contains the following features:

- ✓ Support kits for both Pentium and Pentium II Microprocessor
- ✓ Multifunction PCI to ISA Brige
- ✓ Supports PCI at 30 and 33 Mhz
- ✓ Supports PCI Rev 2.1 specification
- ✓ Supports Full ISA or Extended I/O Bus
- ✓ Supports Mobil Deep Green Environments
- ✓ 3.3V Operation with 5V Tolerant Buffers
- ✓ Ultra-low power for Mobil Environments Support
- ✓ Full Support for ACPI (Advanced Configuration and Power Interface) Revision 1.0
- ✓ Integrated IDE Controller
- ✓ Support Ultra DMA/33
- ✓ Supports two 82C37 Enhanced DMA controller
- ✓ Supports two 82C59 Interrupt controller
- ✓ Supports UHCI USB Ports
- ✓ Supports SM BUS

VGA Controller – ATI 3D RAGE LG PRO

The ATI 3D RAGE LT PRO is highly integrated graphics accelerator superior support for 3D and motion video, making it ideal for notebooks. DVD features include motion compensation, acceleration for soft DVD, integrated TV-out with Macrovision. It incorporates comprehensive support for Intel's Accelerated Graphics Port (AGP) including 1X or 2X mode with sidebands. The simultaneously. It contains the following functions:

- ✓ Accelerator to use AGP 2X (133 MHz) in AGP Texturing with sideband signals to realize all benefits of AGP
- ✓ Accelerator with integrated LVDS transmitter
- ✓ Accelerator to use Tri-View architecture for a triple display solution allowing three simultaneous outputs to TV, CRT and LCD with up to two different refresh rates
- ✓ Supports displays with SGRAM 4 MB
- ✓ Superior 3D performance achieved through a hardware setup engine and a 4KB on-chip texture cache
- ✓ Superior 2D performance with support of 100MHz SGRAM
- ✓ Supports DRAM, EDO DRAM, SDRAM and SGRAM at up to 100 MHz memory clock providing bandwidths up to 880MB/sec across a 64-bit interface
- ✓ Supports 16/24 bit color DSTN up to 1024x768x16M color, and TFT panels up to 1280x1024x64K color
- ✓ Supports non-interlaced 1280x1024x64K , 1024x768x16M , 800x600x16M color on CRT
- ✓ Simultaneous display in 24 bit color on flat panel and CRT
- ✓ Internal buffer provides flicker reduction
- ✓ RGB signals driven form the ATI LUT/DAC can directly interface with a standard off-the-shelf NTSC/PAL encoder
- ✓ Composite synchronization signals support for standard Home TV connection
- ✓ Graphic function optimized by a 64 bit internal data bus and VGA , SVGA, XGA AND SXGA flat panel
- ✓ Fully compliant ZV-Port interface with device driver support for VPM
- ✓ Industry leading DualView Simultaneous display

PC CARD95 (CARD BUS) Interface Controller - TI1225

TI CardBus Interface Controller 1225 implements the PCMCIA 2.0/JEIDA 4.1 standard. It contains the following functions:

- ✓ PCI interface Specification 2.1
- ✓ Supports Zoom Video Mode
- ✓ PCMCIA dual-socket interface
- ✓ Yenta Registers-compatible
- ✓ ACPI 1.0 Compliant
- ✓ One-Slot plus MPEG three Zoomed Video Ports Support
- ✓ Bus Master Transfer capability
- ✓ Supports both 5V & 3.3V PC cards
- ✓ Supports PCMCIA ATA Specification
- ✓ Advanced Submicron, Low Power CMOS Technology

ZV Port Custom Interface

The ZV (Zoomed Video) Port is a single source, point-to-point uni-directional video bus between a PC card socket and a VGA controller. The ZV Port complies with CCIR601 timing to allow NTSC decoders to deliver real-time digital video straight into the VGA frame buffer from a PC card. The ZV Port also allows an industry standard mechanism for transferring digital audio PCM data to a low cost DAC for conversion to an analog signal.

Super I/O Controller – SMC FDC37N769

The SMC's FDC37N769 super I/O is optimized for motherboard applications. It provides:

- ✓ 3.3 Volt operation
- ✓ Intelligent Auto Power Management
- ✓ 16 Bit Address Qualification (Optional)
- ✓ 2.88MB Super I/O Floppy Disk Controller
    - − Support Vertical Recording Format
    - − 16 Byte Data FIFO
    - − Enhanced Digital Data Separator. Data rate up to 1Mb/s.
- ✓ Multi-Mode Parallel Port with ChipProtect Circuitry
    - − Standard Mode
      IBM PC/AT and PS/2 compatible bi-directional Parallel port.
    - − Enhanced Mode
      Enhanced Parallel Port (EPP) Compatible
    - − High Speed Mode
      Microsoft and Hewlett Packard Extended Capabilities Port (ECP) Compatible
- ✓ Serial Port
    - − Two high speed NS16C550 compatible UARTs with Send/Receive 16 Byte FIFOs
    - − Programmable Baud Rate Generator
    - − Supports 230K and 460K Baud
    - − Modem Control Circuitry
    - − Infrared-IrDA, HPSIR, ASKIR ,Fast IR(4Mbps IrDA), Consumer IR Support

High Quality Audio Chip – ESS Maestro-2EM

- ✓ 500-MIPS-equivalent dual-engine PCI audio accelerator
- ✓ 64-Voice Wave processor for director sound and wavetable application
- ✓ HRTF 3-D positional audio acceleration under DirectX 5.0
- ✓ Multi-Stream Directsound and Direct Sound3D acceleration
- ✓ Hardware acceleration for DirectMusic, ActiveMovie, and DirectInput API
- ✓ Enhanced effects (reverb, chorus, flange, treble, bass, and 3D stereo extender)
- ✓ Advanced platform for interactive 3-Dgaming, DVD movie playback, and internet communications

Real PCI to USB (UHCI) Chip
– Intel 82371EB (PIIX4E)

The PIIX4E USB controller provides enhanced support for the Universal Host Controller Interface (UHCI). This includes support that allows legacy software to use a USB-based keyboard and mouse.

Keyboard Controller - M38867M8

- ✓ Memory size: 1024 bytes(RAM)/32K bytes(ROM)
- ✓ Timers: 8 bit timer X 4 ,8 bit prescalers X 3
- ✓ Comparator: 8 channels
- ✓ The minimum instruction execution time: 0.5us (8MHZ)
- ✓ Clock Generating Circuit: 2 clock generating circuits
- ✓ Interrupts: 21 sources, 16 vectors
- ✓ Multi-Master IIC-bus/SMBus (option): 1 channel

Infrared Communications Controller

- ✓ IrDA v1.1(4Mbps), HPSIR, ASKIR, Consumer IR Support
- ✓ 2 IR Ports
- ✓ 96 Base I/O Address and 7 IRQ Options

RGB to NTSC/PAL Encoder in ATI LT PRO

RGB signals driven from the ATI LUT/DAC can directly interface with a
standard off-the-shelf NTSC/PAL encoder
Composite synchronization signals support for standard Home TV connection

DRAM Speed

The speed ratings of DRAM for various CPU external clock rates are listed below (using 1Mx16, 2Mx8, 4Mx16 or 8Mx8 memory):

DRAM Speed	66MHz (clocks)	100MHz (clocks)
60ns	read x-4-4-4	read x-4-4-4
60ns	write x-3-3-3	write x-3-3-3

Refresh cycle (with CAS-BEFORE-RAS Refresh Cycle) = 2K

Pin Configurations

Floppy Disk Drive Interface

The Notebook PC uses one 26-pin FFC connector to interface with the built-in 1.44MB 3.5" disk drive. The pin configuration is:

Pin	Description	Pin	Description
1	VCC	2	INDEX#
3	VCC	4	DRV0#
5	VCC	6	DSKCHG#
7	N.C.	8	N.C.
9	3MODE#	10	MTR0#
11	N.C.	12	DIR#
13	N.C.	14	STEP#
15	GND	16	WDATA#
17	GND	18	WGATE#
19	GND	20	TRK0#
21	GND	22	WP-FD#
23	GND	24	RDATA#
25	GND	26	HDSEL#

Hard Disk Drive Interface

The Notebook PC has a standard PC/AT interface (IDE) which can directly interface with any hard disk drive with an embedded controller supporting the same PC/AT interface through the use of a 44-pin pin header connector. The 44-pin connector has the following pin configurations:

Pin	Description	Pin	Description
1	HDRST#	2	GND
3	DDP7	4	DDP8
5	DDP6	6	DDP9
7	DDP5	8	DDP10
9	DDP4	10	DDP11
11	DDP3	12	DDP12
13	DDP2	14	DDP13
15	DDP1	16	DDP14
17	DDP0	18	DDP15
19	GND	20	N.C.
21	PDREQ	22	GND
23	PDIOW#	24	GND
25	PDIOR#	26	GND
27	PIORDY	28	GND
29	PDACK#	30	GND
31	IRQ14	32	N.C.
33	PDA1	34	N.C
35	PDA0	36	PDA2
37	CS1P#	38	CS3P#
39	HD-LED#	40	GND
41	VCC	42	VCC
43	GND	44	N.C.

RS-232C Serial Interface

The Notebook PC has one RS-232C serial port which enables users to connect a serial printer, a serial mouse, a plotter, a modem, etc. The key features of the serial port are listed as follows:

✓ IBM PC/AT compatible.
✓ Compatible with NS16C550.
✓ Individual modem control/signals for each channel.
✓ Programmable serial interface characteristics:
  – 5-, 6-, 7-, or 8-bit characters.
  – Even, odd, or no parity bit generation and detection.
  – 1, 1 1/2 or 2 stop bit generation.
  – Tri-state TTL drives capabilities for bi-directional data bus and control bus.

The RS-232C serial port uses a 9-pin D-sub male connector which has the following pin configurations:

Pin	Description
1	DCD (DATA Carrier Detect)
2	RXD (Received Data)
3	TXD (Transmitted Data)
4	DTR (Data Terminal Ready)
5	GND (Signal Ground)
6	DSR (Data Set Ready)
7	RTS (Request To Send)
8	CTS (Clear To Send)
9	RI (Ring Indicator)

Parallel Interface

The parallel interface is implemented using a 25-pin D-sub female connector which has the following pin configurations:

Pin	Description	Pin	Description
1	Strobe#	2	Data 0
3	Data 1	4	Data 2
5	Data 3	6	Data 4
7	Data 5	8	Data 6
9	Data 7	10	ACK#
11	Busy	12	Paper Empty
13	Select	14	Auto Linefeed#
15	Error#	16	Initialize#
17	Select In	18	Ground
19	Ground	20	Ground
21	Ground	22	Ground
23	Ground	24	Ground
25	Ground		

Expansion Memory Socket
Socket 1:

Pin	Description	Pin	Description	Pin	Description
1	GND	2	GND	3	MD0
4	MD32	5	MD1	6	MD33
7	MD2	8	MD34	9	MD3
10	MD35	11	MEM-VCC	12	MEM-VCC
13	MD4	14	MD36	15	MD5
16	MD37	17	MD6	18	MD38
19	MD7	20	MD39	21	GND
22	GND	23	ICAS#0	24	ICAS#4
25	ICAS#1	26	ICAS#5	27	MEM-VCC
28	MEM-VCC	29	IMA0	30	IMA3
31	IMA1	32	IMA4	33	IMA2
34	IMA5	35	GND	36	GND
37	MD8	38	MD40	39	MD9
40	MD41	41	MD10	42	MD42
43	MD11	44	MD43	45	MEM-VCC
46	MEM-VCC	47	MD12	48	MD44
49	MD13	50	MD45	51	MD14
52	MD46	53	MD15	54	MD47
55	GND	56	GND	57	N.C
58	N.C	59	N.C	60	N.C
61	MEMCLK1	62	CKE	63	MEM-VCC
64	MEM-VCC	65	SRAS#	66	SCAS#
67	IMWE#	68	CKE	69	IRAS#0
70	IMA12	71	IRAS#1	72	IMA13
73	GND	74	MEMCLK2	75	GND
76	GND	77	N.C	78	N.C
79	N.C	80	N.C	81	MEM-VCC
82	MEM-VCC	83	MD16	84	MD48
85	MD17	86	MD49	87	MD18
88	MD50	89	MD19	90	MD51
91	GND	92	GND	93	MD20
94	MD52	95	MD21	96	MD53
97	MD22	98	MD54	99	MD23
100	MD55	101	MEM-VCC	102	MEM-VCC
103	IMA6	104	IMA7	105	IMA8
106	IMA11	107	GND	108	GND
109	IMA9	110	IMA12	111	IMA10
112	N.C	113	MEM-VCC	114	MEM-VCC
115	ICAS#2	116	ICAS#6	117	ICAS#3
118	ICAS#7	119	GND	120	GND
121	MD24	122	MD56	123	MD25
124	MD57	125	MD26	126	MD58
127	MD27	128	MD59	129	MEM-VCC
130	MEM-VCC	131	MD28	132	MD60
133	MD29	134	MD61	135	MD30
136	MD62	137	MD31	138	MD63
139	GND	140	GND	141	SMBDA
142	SMBCL	143	MEM-VCC	144	MEM-VCC

Socket 2:

Pin	Description	Pin	Description	Pin	Description
1	GND	2	GND	3	MD0
4	MD32	5	MD1	6	MD33
7	MD2	8	MD34	9	MD3
10	MD35	11	MEM-VCC	12	MEM-VCC
13	MD4	14	MD36	15	MD5
16	MD37	17	MD6	18	MD38
19	MD7	20	MD39	21	GND
22	GND	23	ICAS#0	24	ICAS#4
25	ICAS#1	26	ICAS#5	27	MEM-VCC
28	MEM-VCC	29	IMA0	30	IMA3
31	IMA1	32	IMA4	33	IMA2
34	IMA5	35	GND	36	GND
37	MD8	38	MD40	39	MD9
40	MD41	41	MD10	42	MD42
43	MD11	44	MD43	45	MEM-VCC
46	MEM-VCC	47	MD12	48	MD44
49	MD13	50	MD45	51	MD14
52	MD46	53	MD15	54	MD47
55	GND	56	GND	57	N.C
58	N.C	59	N.C	60	N.C
61	MEMCLK3	62	CKE	63	MEM-VCC
64	MEM-VCC	65	SRAS#	66	SCAS#
67	IMWE#	68	CKE	69	IRAS#2
70	IMA12	71	IRAS#3	72	IMA13
73	GND	74	MEMCLK4	75	GND
76	GND	77	N.C	78	N.C
79	N.C	80	N.C	81	MEM-VCC
82	MEM-VCC	83	MD16	84	MD48
85	MD17	86	MD49	87	MD18
88	MD50	89	MD19	90	MD51
91	GND	92	GND	93	MD20
94	MD52	95	MD21	96	MD53
97	MD22	98	MD54	99	MD23
100	MD55	101	MEM-VCC	102	MEM-VCC
103	IMA6	104	IMA7	105	IMA8
106	IMA11	107	GND	108	GND
109	IMA9	110	IMA12	111	IMA10
112	N.C	113	MEM-VCC	114	MEM-VCC
115	ICAS#2	116	ICAS#6	117	ICAS#3
118	ICAS#7	119	GND	120	GND
121	MD24	122	MD56	123	MD25
124	MD57	125	MD26	126	MD58
127	MD27	128	MD59	129	MEM-VCC
130	MEM-VCC	131	MD28	132	MD60
133	MD29	134	MD61	135	MD30
136	MD62	137	MD31	138	MD63
139	GND	140	GND	141	SMBDA
142	SMBCL	143	MEM-VCC	144	MEM-VCC

Internal Trackpad Interface

There is a connector used to interface with the internal trackpad. It should be disabled when external serial mouse has been installed. The trackpad is hardware-connected to PS/2 port, hardware-compatible to Microsoft PS/2 mouse and software-compatible to Microsoft mouse mode. The following is the pin configurations for the connector:

Pin	Description
1	VCC
2	PS/2 DATA
3	PS/2 CLK
4	GND

External Monitor Interface

Pin	Description
1	RED
2	GREEN
3	BLUE
4	N.C
5	GND
6	GND
7	GND
8	GND
9	N.C
10	GND
11	N.C
12	DDCDATA
13	HSYNC
14	VSYNC
15	DDCCLK

RGB Out

Output Impedance : 75Ω
RGB peak voltage : 0.7Vpp

External Keyboard/PS2 Mouse Interface

Pin	Description
1	EKDA
2	EMDA
3	GND
4	VCC
5	EKCLK
6	EMCLK

External USB (Universal Serial Bus) Interface

Pin	Description
1	VCC
2	DATA−
3	DATA+
4	GND

External S-Video TV-out Interface

Pin	Description
1	GND
2	GND
3	XLUMA
4	XCRMA

Video-in Interface

Pin	Description
1	Video-In
2	GND

PCMCIA CardBus Interface
Socket A:

Pin	Description	Pin	Description
A1	GND	A2	N/A
A3	A_CD3	A4	A_CD1#
A5	A_CD4	A6	A_CD11
A7	A_CD5	A8	A_CD12
A9	GND	A10	A_CD6
A11	A_CD13	A12	A_CD7
A13	A_CD14	A14	A_CE1#
A15	A_CD15	A16	GND
A17	A_CA10	A18	A_CE2#
A19	A_OE#	A20	A_VS1
A21	A_CA11	A22	GND
A23	A_IORD#	A24	A_CA9
A25	A_IOWR#	A26	A_CA8
A27	A_CA17	A28	GND
A29	A_CA13	A30	A_CA18
A31	A_CA14	A32	A_CA19
A33	A_WE#	A34	A_CA20
A35	A_RDYBY#	A36	A_CA21
A37	A_VCC_C	A38	A_VCC_C
A39	A_VPP	A40	A_VPP
A41	GND	A42	A_CA16
A43	GND	A44	A_CA22
A45	A_CA15	A46	A_CA23
A47	A_CA12	A48	A_CA24
A49	A_CA7	A50	A_CA25
A51	GND	A52	A_CA6
A53	A_VS2	A54	A_CA5
A55	A_RESET	A56	A_CA4
A57	A_WAIT#	A58	A_CA3
A59	GND	A60	A_INPACK
A61	A_CA2	A62	A_REG#
A63	A_CA1	A64	A_BVD2#
A65	A_CA0	A66	A_BVD1#
A67	A_CD0	A68	GND
A69	A_CD8	A70	A_CD1
A71	A_CD9	A72	A_CD2
A73	A_CD10	A74	GND
A75	A_WP#	A76	A_CD2#
A77	GND	A78	GND

Socket B:

Pin	Description	Pin	Description
B1	GND	B2	N/A
B3	B_CD3	B4	B_CD1#
B5	B_CD4	B6	B_CD11
B7	B_CD5	B8	B_CD12
B9	GND	B10	B_CD6
B11	B_CD13	B12	B_CD7
B13	B_CD14	B14	B_CE1#
B15	B_CD15	B16	GND
B17	B_CA10	B18	B_CE2#
B19	B_OE#	B20	B_VS1
B21	B_CA11	B22	GND
B23	B_IORD#	B24	B_CA9
B25	B_IOWR#	B26	B_CA8
B27	B_CA17	B28	GND
B29	B_CA13	B30	B_CA18
B31	B_CA14	B32	B_CA19
B33	B_WE#	B34	B_CA20
B35	B_RDYBY#	B36	B_CA21
B37	B_VCC_C	B38	B_VCC_C
B39	B_VPP	B40	B_VPP
B41	GND	B42	B_CA16
B43	GND	B44	B_CA22
B45	B_CA15	B46	B_CA23
B47	B_CA12	B48	B_CA24
B49	B_CA7	B50	B_CA25
B51	GND	B52	B_CA6
B53	B_VS2	B54	B_CA5
B55	B_RESET	B56	B_CA4
B57	B_WAIT#	B58	B_CA3
B59	GND	B60	B_INPACK
B61	B_CA2	B62	B_REG#
B63	B_CA1	B64	B_BVD2#
B65	B_CA0	B66	B_BVD1#
B67	B_CD0	B68	GND
B69	B_CD8	B70	B_CD1
B71	B_CD9	B72	B_CD2
B73	B_CD10	B74	GND
B75	B_WP#	B76	B_CD2#
B77	GND	B78	GND

LCD Interface

Pin	Description	Pin	Description
1	GND	2	GND
3	SHFCLK	4	LP
5	GND	6	GND
7	M	8	FLM
9	PP0	10	PP1
11	PP2	12	PP3
13	VCC	14	VCC
15	VCC	16	VCC
17	PP4	18	PP5
19	PP6	20	PP7
21	VCC3	22	VCC3
23	VCC3	24	VCC3
25	PP8	26	PP9
27	PP10	28	PP11
29	NC	30	NC
31	PP12	32	PP13
33	PP14	34	PP15
35	NC	36	NC
37	PP16	38	PP17
39	PP18	40	PP19
41	NC	42	NC
43	PP20	44	PP21
45	PP22	46	PP23
47	NC	48	NC
49	VD47	50	VD48
51	VD49	52	VD50
53	NC	54	NC
55	NC	56	NC
57	GND	58	GND
59	NC	60	NC
61	NC	62	NC
63	GND	64	GND
65	LCDVDD	66	LCD-ADJ
67	LCDVDD	68	LCDVDD
69	LCDVDD	70	LCDVDD
71	GND	72	GND
73	GND	74	GND
75	ACIN	76	BATON
77	NC	78	NC
79	NC	80	NC
81	NC	82	NC
83	CONTADJ	84	BRIGADJ
85	ENABKKL	86	ENAVEE
87	BATFULL	88	BATCHA
89	BAT-BEEP	90	HD-LED
91	SUS-LED	92	BIASON
93	GND	94	GND
95	NC	96	LID
97	GND	98	GND
99	B+	100	B+

SIGMA Design MPEG II Module

Pin	Description	Pin	Description
1	3V3_SUS	2	PCICLK
3	GND	4	RST#
5	REQ#	6	AD31
7	AD29	8	AD27
9	AD25	10	CBE3#
11	AD23	12	AD21
13	AD19	14	AD17
15	CBE2#	16	3V3
17	IRDY#	18	GND
19	DEVSEL#	20	PERR#
21	SERR#	22	CBE1#
23	AD14	24	AD12
25	AD10	26	AD8
27	AD7	28	AD5
29	AD3	30	AD1
31	DVD ON#	32	DVD EN#
33	DRIVE BUS	34	Y0
35	Y2	36	Y4
37	Y6	38	GND
39	UV0	40	UV2
41	UV4	42	UV6
43	3V3	44	LUMA
45	CHROMA	46	GND
47	S/PDIF	48	SCLK
49	MCLK	50	3V3
51	3V3	52	INTA#
53	GND	54	GNT#
55	AD30	56	AD28
57	AD26	58	AD24
59	IDSEL	60	AD22
61	AD20	62	AD18
63	AD16	64	FRAME#
65	TRDY#	66	3V3
67	STOP#	68	GND
69	PAR	70	AD15
71	AD13	72	AD2
73	AD9	74	GND
75	CBE0#	76	AD6
77	AD4	78	AD2
79	AD0	80	GND
81	Reserved	82	PCLK
83	HREF	84	VSYNC
85	Y1	86	Y3
87	Y5	88	Y7
89	UV1	90	UV3
91	UV5	92	UV7
93	3V3	94	CVBS
95	GND	96	Reserved
97	Reserved	98	SDATA
99	LRCLK	100	3V3

Port Replicator Connector

Pin	Description	Pin	Description
1	A++	2	AD
3	A++	4	AD
5	A++	6	AD
7	PWRGND	8	PWRGND
9	PWRGND	10	PWRGND
11	PWRGND	12	PWRGND
13	VCC	14	VCCS
15	VCC	16	VCCS
17	GND	18	GND
19	GND	20	GND
21	DCDA	22	DSRA
23	SINA	24	RTSA
25	SOUTA	26	CTSA
27	DTRA	28	RIA
29	DVDGND	30	DVDPORTOUT
31	CCO	32	CCO
33	CCO	34	CCO
35	CCO	36	CCO
37	VCC	38	VCCS
39	PD0	40	PACK#
41	PD1	42	PBUSY
43	PD2	44	PPE
45	PD3	46	PSLCT
47	PD4	48	PSTB#
49	PD5	50	PATFD
51	PD6	52	PPERR#
53	PD7	54	PINIT#
55	GND	56	PSLIN#
57	GND	58	GND
59	XCRMA	60	TVAGND
61	DDCDA	62	FBO
63	DDCLK	64	GND
65	GND	66	GND
67	GND	68	GND
69	USBP0-	70	USBP0+
71	DUSBP1-	72	DUSBP1+
73	OC1#	74	GND
75	GND	76	GND
77	GD0	78	GD1
79	GD2	80	GD3
81	GD4	82	GD5
83	GD6	84	GD7
85	RXD	86	TXD
87	GND	88	TVAGND
89	AVSS	90	XLUMA
91	RED	92	GREEN
93	BLUE	94	AVSS
95	AVSS	96	PORTHSYNC
97	PORTVSYNC	98	GND
99	GND	100	GND

Port Replicator Connector (Continued)

101	GND	102	GND
103	SOUT2	104	RTS2#
105	DTR2#	106	COM2RI
107	DSR2#	108	CTS2#
109	RI2#	110	SIN2
111	DCD2#	112	COMSTBY#
113	EKDA	114	EMDA
115	EKCLK	116	EMCLK
117	GND	118	GND
119	AGND VI	120	PORTVDO_IN

Flash ROM BIOS

The DIP Switch needed to be set in the **On** position when updating the existing system BIOS. The DIP Switches should be reset to the **Off** position after BIOS updating is complete.

Flash ROM BIOS	S1	S2
Existing BIOS	Off	Off
Updating BIOS	On	On

Hot Keys

Hot Keys	System Features	Remark
Fn + F3	Expand LCD display	
Fn + F4	Control display top/center position	
Fn + F6	Toggle CRT/LCD/LCD+CRT/TV/CRT+TV	
Fn + F9	Decrease LCD brightness	
Fn + F10	Increase LCD brightness	
Fn + F11	Decrease audio volume	
Fn + F12	Increase audio volume	
Fn + Z	Toggle audio mute on/off	
Fn + Esc	Put the system in a suspend state for power management	

DC / DC Converter

Input Characteristics

Input Voltage   from AC adapter   9.0 ~ 21V

                                 from battery   12V

Efficiency

The total efficiency is 85% minimum at full load condition.

Output Characteristics

+5V and +3.45V power on simultaneously.

Voltage	Regulation	Ripple & Noise	Current Typical	Current Peak
+ 5 V	- 4% ~ +2 %	150mVp-p	3.0 A	4.0 A
+3.45 V	- 4% ~ +2 %	150mVp-p	3.3 A	4.0 A
+ 12 V	- 5% ~ +5%	200mVp-p	0.22 A	0.4 A

System Alarm

Type	Battery Low	Shut Down
Li-Ion	9.8 V ± 0.3V	8.8 V ± 0.3V
Ni-MH	11 V ± 0.3V	10 V ± 0.3V

CPU Power Connector

20 Pin Assignment CN1

Pin	Assignment
1~10	B+
11~17	DD_ON
12~18	A
19	CCO
20	F

30 Pin Assignment CN2

Pin	Assignment
1~6	VCC3
7~12	GND
13~18	VCC
19~24	GND
25	12V
26	Temp
27	Bat
28	Bat low
29	X
30	Shut Down

Charger B/D Connector CN1

Pin	Assignment
1~6	B+
7~12	Bat
13~17,19	GND
26~29	GND
18	BATCHA
20	BAT FULL
21	F
22	Bat CLK
23	A
24	Bat Data
25	Temp
30~32	CCO
33	A++
34	FBO

Charger B/D Connector CN2

Pin	Assignment
1	-
2	A (Moli)
3	F (Panasonic)
4	X
5	Temp
6	CLK
7	Data
8	+

Battery Connector Assignment

Pin	Assignment
1	-
2	A (Moli)
3	F (Panasonic)
4	X
5	Temp
6	CLK
7	Data
8	+

Inverter

1.   LED1, LED2 ➜   SML-010 (GREEN)
       LED3~LED6 ➜   SML-020 (GREEN/RED)

2. **DIP 15-Pin Connector (Pin Assignment):**
   1. B+
   2. B+
   3. GND
   4. GND
   5. BRIGADJ
   6. BKLO
   7. BATFULL
   8. BATCHA
   9. BAT_BEEP
   10. ACIN
   11. BATON
   12. HDD_LED
   13. SUS_LED
   14. X
   15. X

3. **Lamp Current**
   2.0 ± 0.2 mA ~ 5.0 ± 5.5 mA rms

4. **Lamp Voltage**
   700 Vrms

5. **Starting Voltage**
   1400 Vrms @ 0°C

6. **Freq :** 30 ~ 80 KHZ

7. **BRIGADJ (Brightness) :** 0 ~ 2.5 V

8. **B+ :** 7 ~ 22 V

9. **BKLO :** 3.3 V (ON) ; 0V (OFF).

10. **Temperature Rise:**
    Temperature Rise under 40°C
    Max. operation temperature 75°C

Removing Processor Module
Inserting Processor Module

To insert the mobile processor module properly and correctly, the operator has to follow the steps illustrated below. To insert the mobile module, use the insertion board in the package. Insert the Guide-Pin on the Mounting holes of the module. (Figure 1) Then hold the insertion tool and push the mobile module into the mainboard. (Figure 2) When the module is fastened by the force of the insertion board, remove the insertion board away; fasten the heat fan and cover. (Figure 3 & 4)

Insertion Board *(Optional)*

Guide Pin

Figure 1

Mounting Hole

Processor Mobil Module

Insertion Board *(Optional)*

Processor Mobil Module

Connector

Figure 2

34
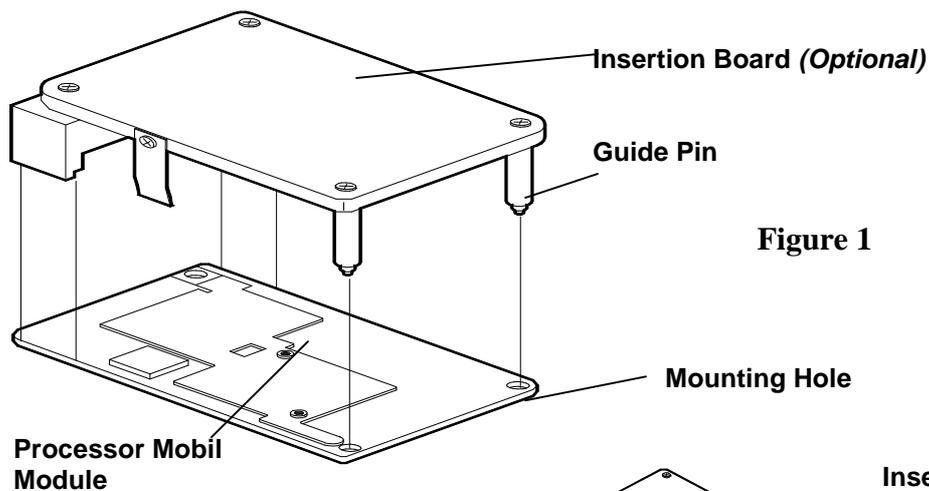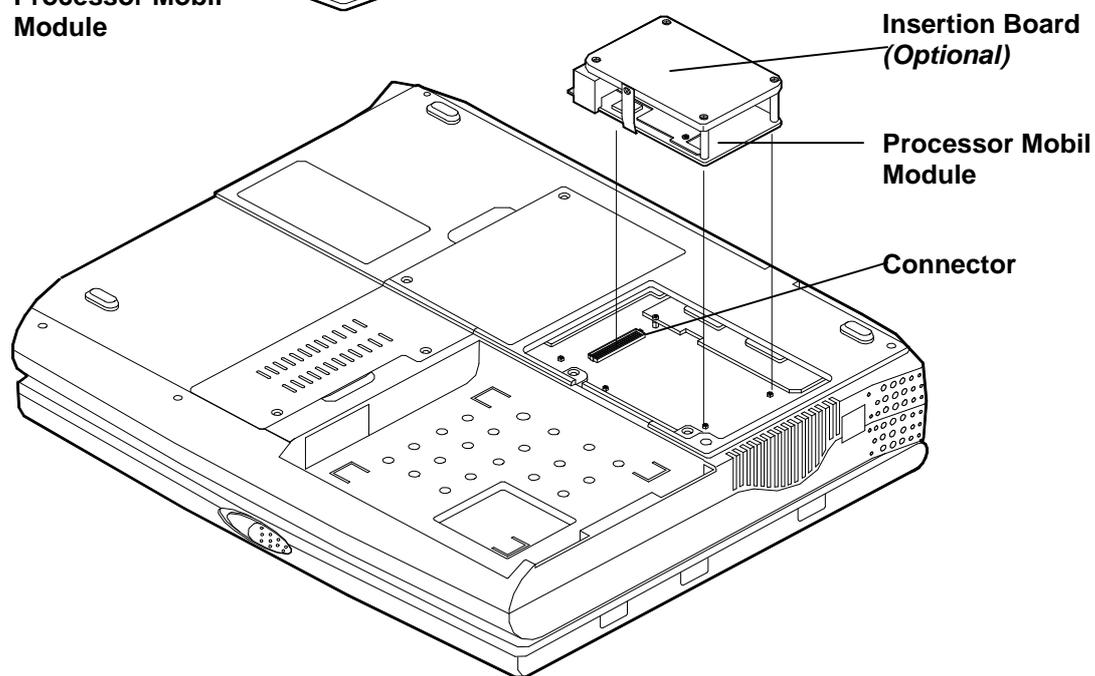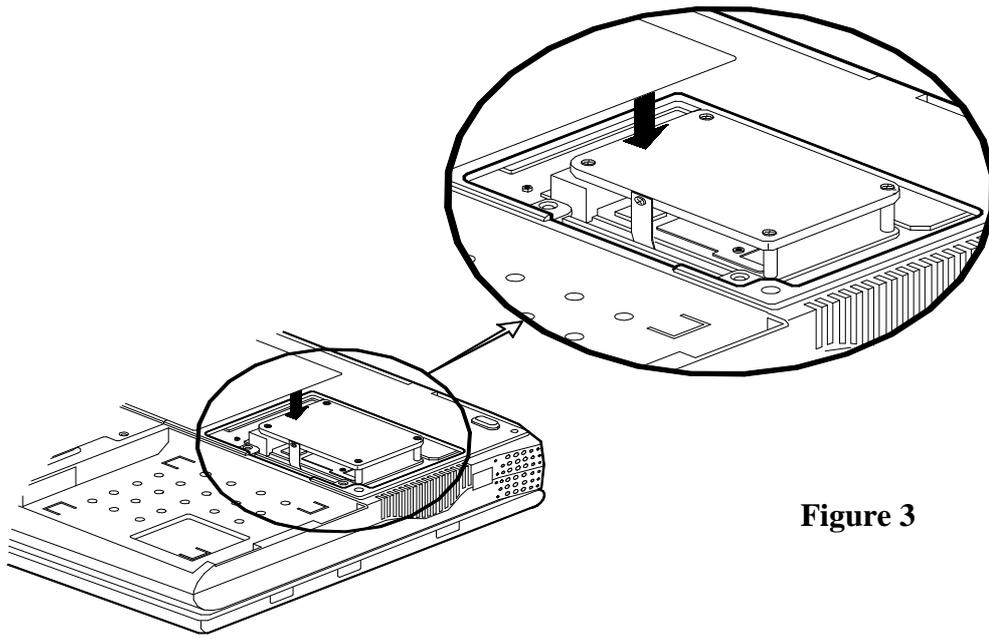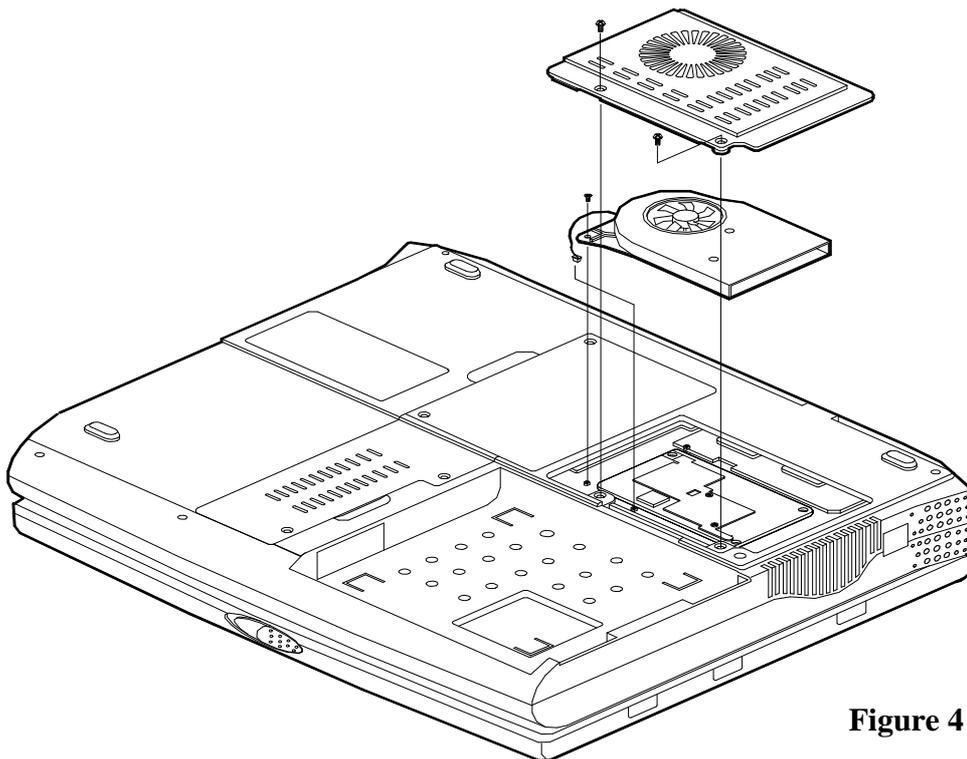
Figure 3

Figure 4

Extracting Processor Module

Use the extraction tool to replace the processor module. Position the extraction tool above the notebook and press the top. (Figure 4 & 5) Use the barb toward the mobile module at the tip of the tool to move the module out. (Figure6 & 7)
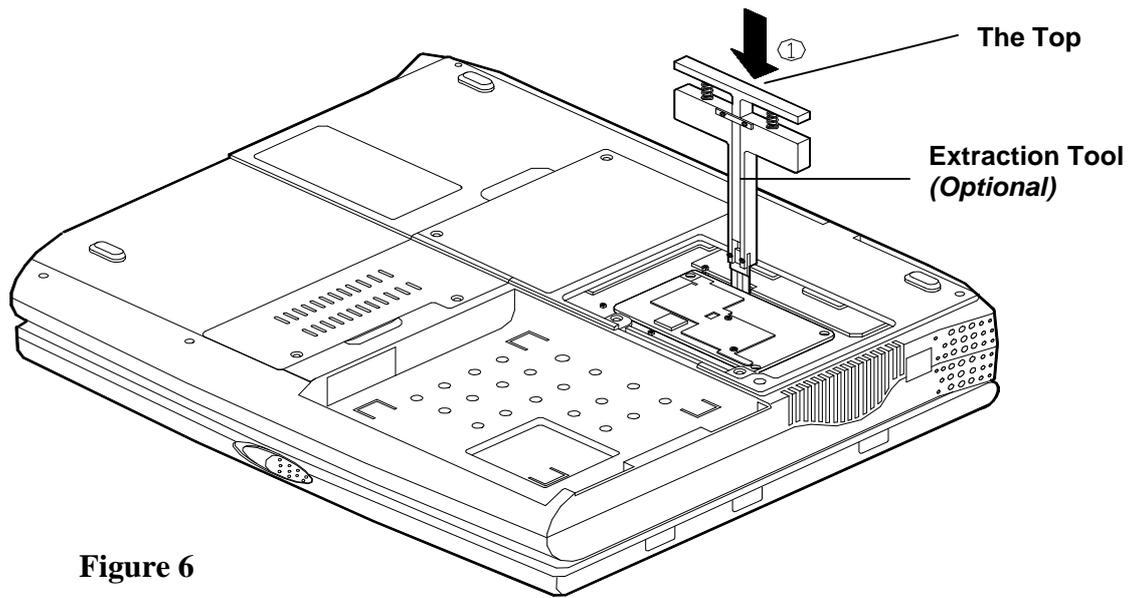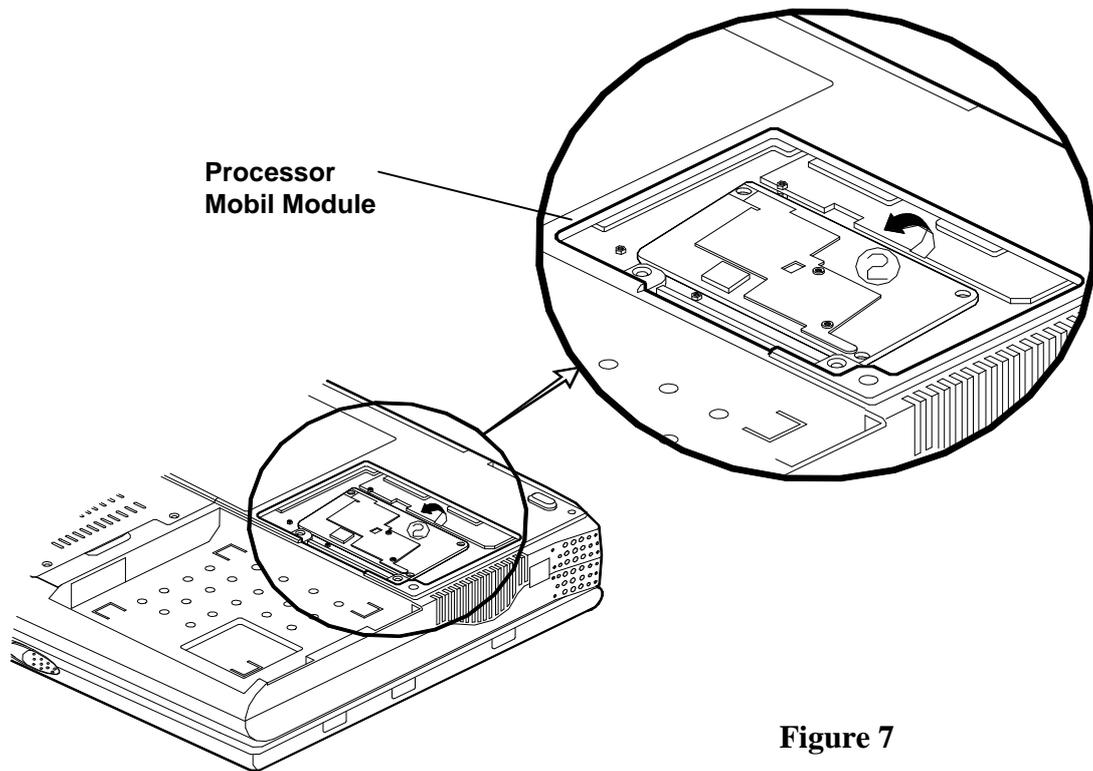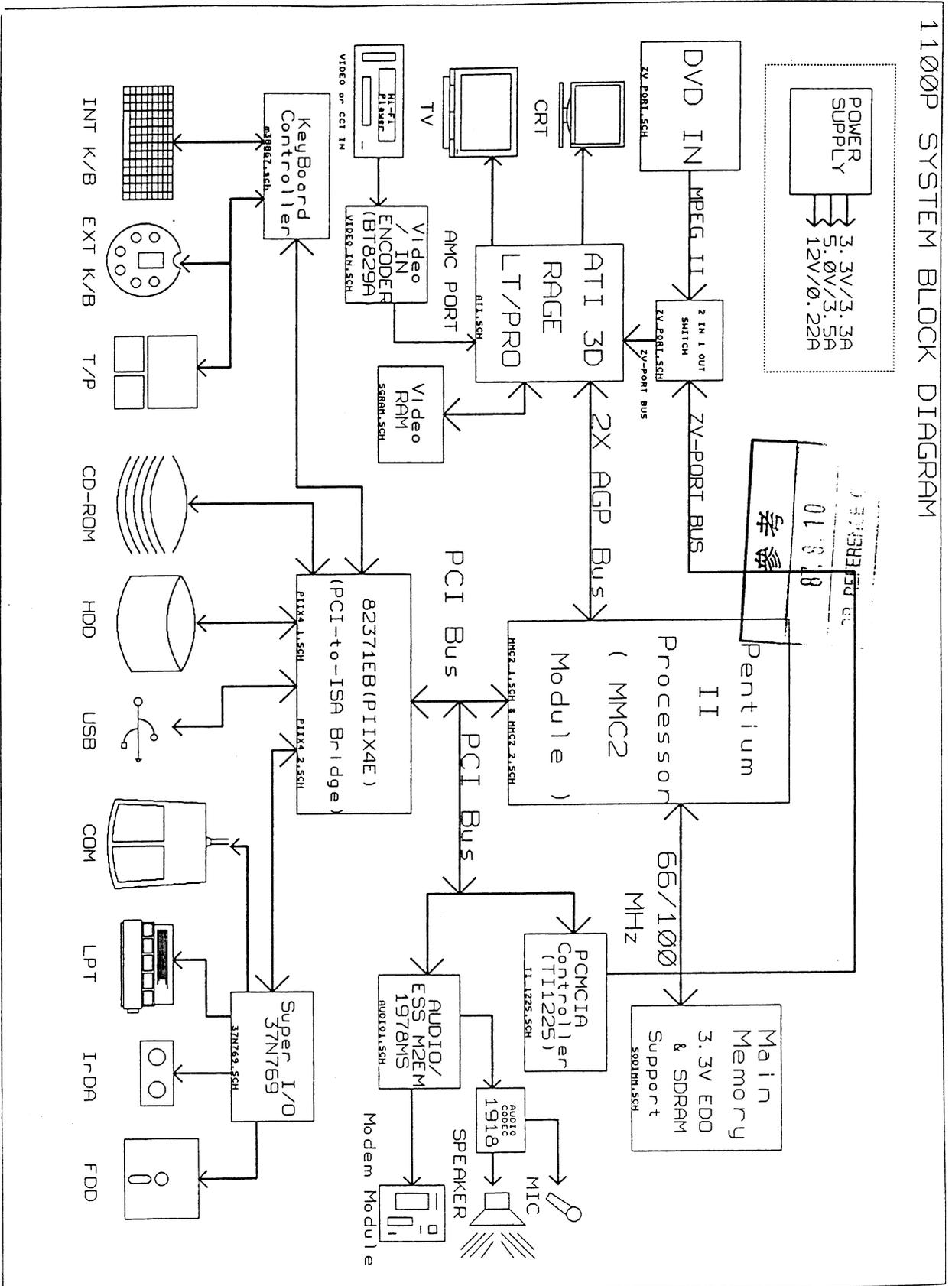
Figure 4

The Barb

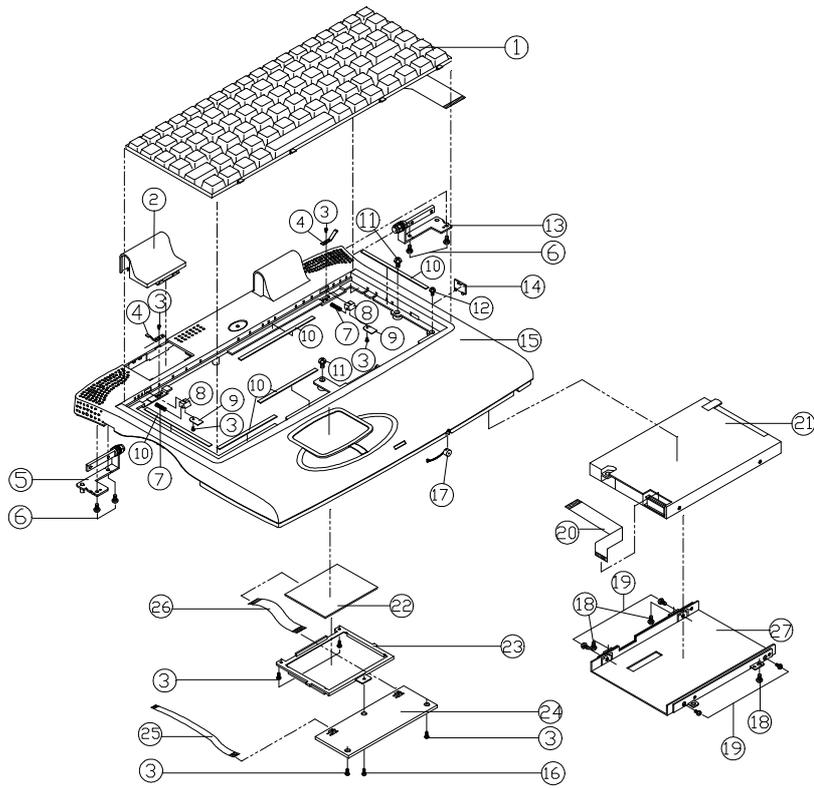**Figure 5**

The Top

Extraction Tool
(Optional)

Figure 6

**Processor
Mobil Module**
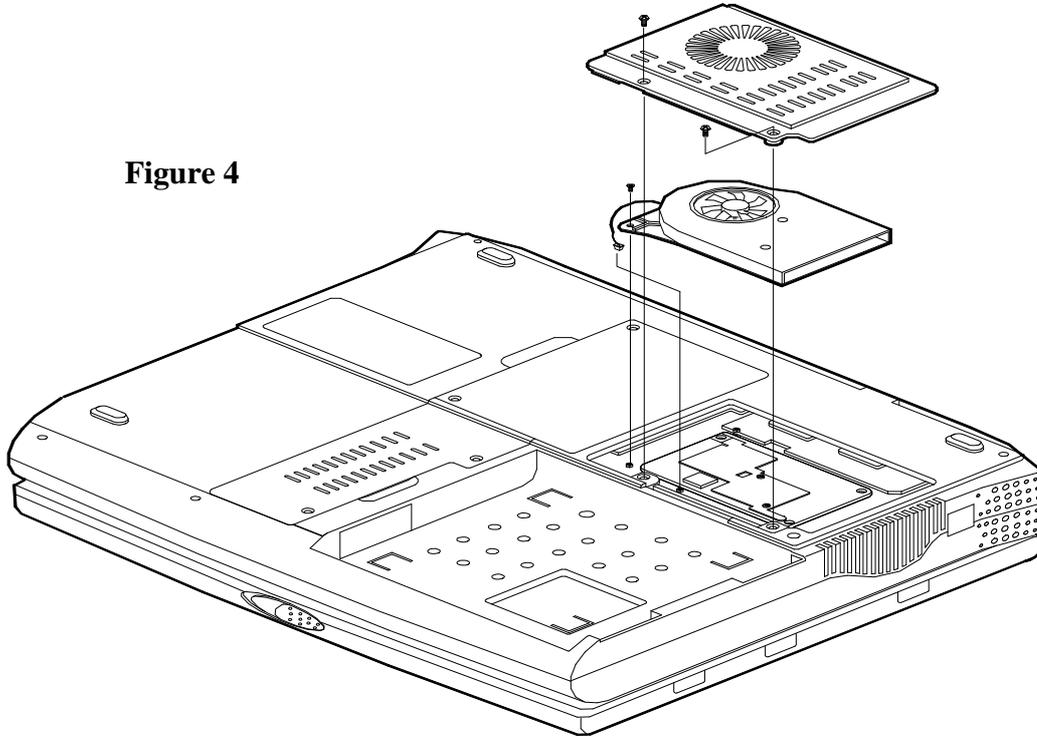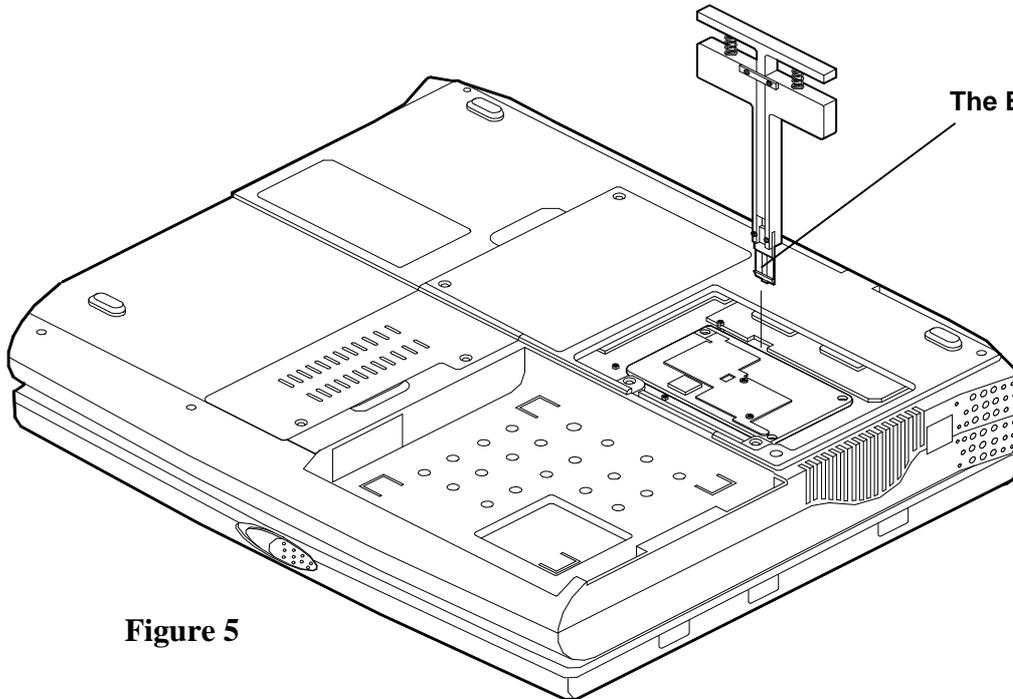
Figure 7

System Block Diagram

POWER SUPPLY

3.3V/3.3A
5.0V/3.5A
12V/0.22A

DVD IN

MPEG II

ZV-PORT.SCH

CRT

TV

2 IN 1 OUT SWITCH
ZV-PORT.SCH
ZV-PORT BUS

HI-FI Player

VIDEO or CCI IN

Video / IN ENCODER (BT829A)
VIDEO-IN.SCH

AMC PORT

ATI 3D RAGE LT/PRO
ATI.SCH

Video RAM
SGRAM.SCH

2X AGP Bus

ZV-PORT BUS

KeyBoard Controller
mj8967.sch

INT K/B   EXT K/B   T/P

Pentium II Processor (MMC2 Module)
MMC2_1.SCH & MMC2_2.SCH

66/100 MHz

Main Memory 3.3V EDO & SDRAM Support
MMM1.SCH

PCI Bus

82371EB(PIIX4E) (PCI-to-ISA Bridge)

PIIX4_1.SCH

PIIX4_2.SCH

PCI Bus

PCI Bus

CD-ROM   HDD   USB   COM   LPT   IrDA   FDD

PCMCIA Controller (TI1225)
TI-1225.SCH

AUDIO/ ESS M2EM 1978MS
AUDIO1.SCH

Super I/O 37N769
37N769.SCH

AUDIO CODEC 1918

SPEAKER

MIC

Modem Module

ITEM	PART NAME	PART NO	REMARK
1	KEYBOARD FOR 1100	80-11A38-7GX-1	
2	CONNECTOR COVER	42-11A72-011	
3	SCREW	35-41120-3RA	
4	K/B SPRING PLATE	38-35020-010	
5	HINGE(L) ASS'Y	79-11A0Y-020	
6	SCREW	35-01130-5RA	
7	SPRING FOR K/B LOCK KNOB	38-00R26-010	
8	K/B LOCK KNOB	42-85082-030	
9	K/B LOCK BRACKET	33-66002-020	
10	POWER KNOB	42-11A84-012	
11	SCREW	35-06125-6RA	
12	SCREW	35-01120-4RA	
13	HINGE(R) ASS'Y	79-11A0Y-010	
14	IR COVER	42-11MI2-011	
15	TOP CASE	39-11A12-01C	
16	MIC RUBBER	47-91023-010	
17	MIC,CABLE	28-H7B02-19A	
18	SCREW	35-41125-4RA	
19	GLIDE POINT KNOB (R)	42-11A82-010	
20	GLIDE POINT KNOB (L)	42-11A82-020	
21	3.5" FDD	85-23211-567-C	
22	GLIDE POINT TP-3 LOGTECH	87-62070-081	
23	GLIDE PAD HOLDER	33-85002-010	
24	SWITCH BOARD	77-11A0S-D01	
25	FPC CABLE	27-9350C-B50	PUCKA
26	FFC CABLE	27-9350C-850	PUCKA
27	FDD CASE	33-11A0J-041	
28	SCREW	35-B3126-3RA	
29	FFC CABLE	27-9350C-171	PUCKA
30	MYLAR FOR FDD	40-11A5J-010	
31	SCREW	35-06120-6RA	
32	EMI SPONGE(2) FOR K/B	47-35097-020	
33	EMI SPONGE FOR K/B	47-11A97-010	
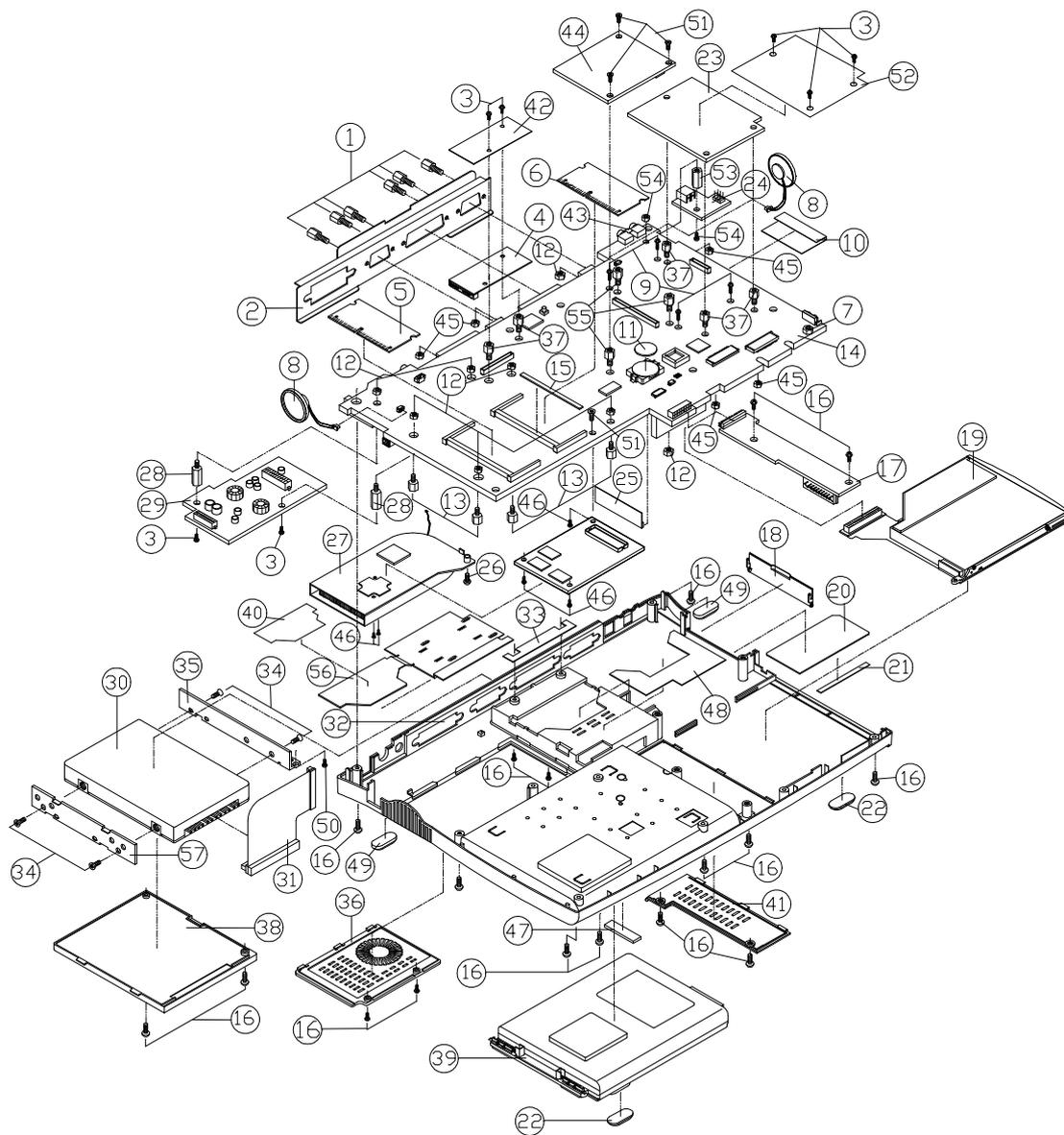
ITEM	PART NAME	PART NO	REMARK
1	HEX STUD	34-07009-011	
2	REAR BRACKET	33-11A0Q-011	
3	SCREW	35-41120-3RA	
4	DATA BOARD	77-11PCL-D00-A	SANYO/KY
4	DATA BOARD	77-11PCL-D00-B	SAM/LG/HY/HO 12.1"
4	DATA BOARD	77-11PFL-D00	SAM/LG/HO/HY 13.3",14.1"
5	EDO RAM CARD 8M 3.3V	77-7202T-270	
5	EDO RAM CARD 16M 3.3V	77-7202T-470	
5	EDO RAM CARD 32M 3.3V	77-7207T-870	
5	EDO RAM CARD 64M 3.3V	77-7207T-A70	
6	SDRAM CARD 8M	77-7202U-273	
6	SDRAM CARD 16M	77-7202U-473	
6	SDRAM CARD 64M	77-3508U-A70	
7	HEX STUD	34-11A0S-010	
8	SPK+CON+RUBBER	23-C2605-A5E	
9	SCREW	35-41120-15A	
10	CARD BUS FOR MYLAR	40-11P5P-010	
11	MYLAR FOR BATTERY	40-8505M-010	
12	NUT SN M2.5	36-05111-250	
13	HEX STUD	34-62M0S-03A	
14	MAIN BOARD	77-11P00-D03	
15	MYLAR FOR DIMM	40-8505S-010	
16	SCREW	35-06125-6R0	
17	CHARGER BOARD	77-11A0E-D01	
18	CARD BUS COVER	42-11A7P-011	
19	CD-ROM ASS'Y 1100	79-11A2Z-040	Referenge Ass'y dwg (99-11A05-050)
20	FCC DOC LABEL	45-11A03-020	
21	FCC DOC LABEL 1100	45-11P03-010	
22	BOTTOM CASE RUBBER PAD	47-35023-010	
23	MODEM CARD	88-109P0-010	USA
23	MODEM CARD	88-109P0-020	ERO
24	JACK BOARD	77-11P0K-D00	
25	MYLAR FOR CB-CONN.	40-11A5P-010	
26	SCREW	35-01120-11A	
27	HEAT SINK ASS'Y	31-11M0N-012	
28	HEX STUD	34-11A0S-020	
29	DC/DC	77-11M0C-D01A	
30	HDD	85-12210-XXX	
31	FPC CABLE	28-79R44-B9E	PUCKA
32	BOTTOM CASE	39-11P13-01D	
33	MYLAR FOR BOTTOM(S)	40-11A5S-071	
34	SCREW	35-B6130-4RA	
35	HDD BRACKET(R)	33-11A0I-020	
36	CPU COVER FOR IMM+SHIELDING	42-11M73-013	
37	HEX STUD	34-3500S-010	
38	HDD COVER	42-11A7I-012	
39	BATTERY ASS'Y NI-MH	87-11A80-322B	SMP
39	BATTERY ASS'Y NI-MH	87-11A80-341B	GLW
39	BATTERY ASS'Y LI-ION	87-11A80-427B	SMP
39	BATTERY ASS'Y NI-MH	87-11A8S-341B	GLW
39	BATTERY ASS'Y LI-ION	87-11A80-447B	GLW
39	BATTERY ASS'Y LI-ION	87-11A8S-427B	SMP
39	BATTERY ASS'Y NI-MH	87-11A8S-321B	SMP
39	BATTERY ASS'Y LI-ION	87-11A8S-447B	GLW
40	MYLAR FOR HDD HEAT SINK	40-11P5N-010	
41	CD-ROM COVER	42-11A7Z-011	
42	MYLAR FOR DATA/B	40-11A5S-010	
43	EMI SHIELDING SPRING FOR PHONE JACK	38-11P12-010	
44	MPEG MODULE	76-108P0-D00	
45	NUT NI M2.0	36-05111-200	
46	SCREW	35-41120-4RA	
47	SPONGE FOR BOTTOM	47-11A93-010	
48	MYLAR FOR BOTTOM(L)	40-11A5S-061	
49	BOTTOM CASE FOOT RUBBER	47-85M23-010	
50	SCREW	35-B1025-4R0	
51	SCREW	35-B1125-4RA	
52	MYLAR FOR MODEM	40-11P5U-010	
53	HEX STUD 11.1MM	34-11P0U-01B	
54	SCREW	35-01120-4RA	
55	HEX STUD 4MM	34-62M0S-01A	
56	HDD HEAT SINK	33-11P0I-010	
57	HDD BRACKET(L)	33-11A0I-030	
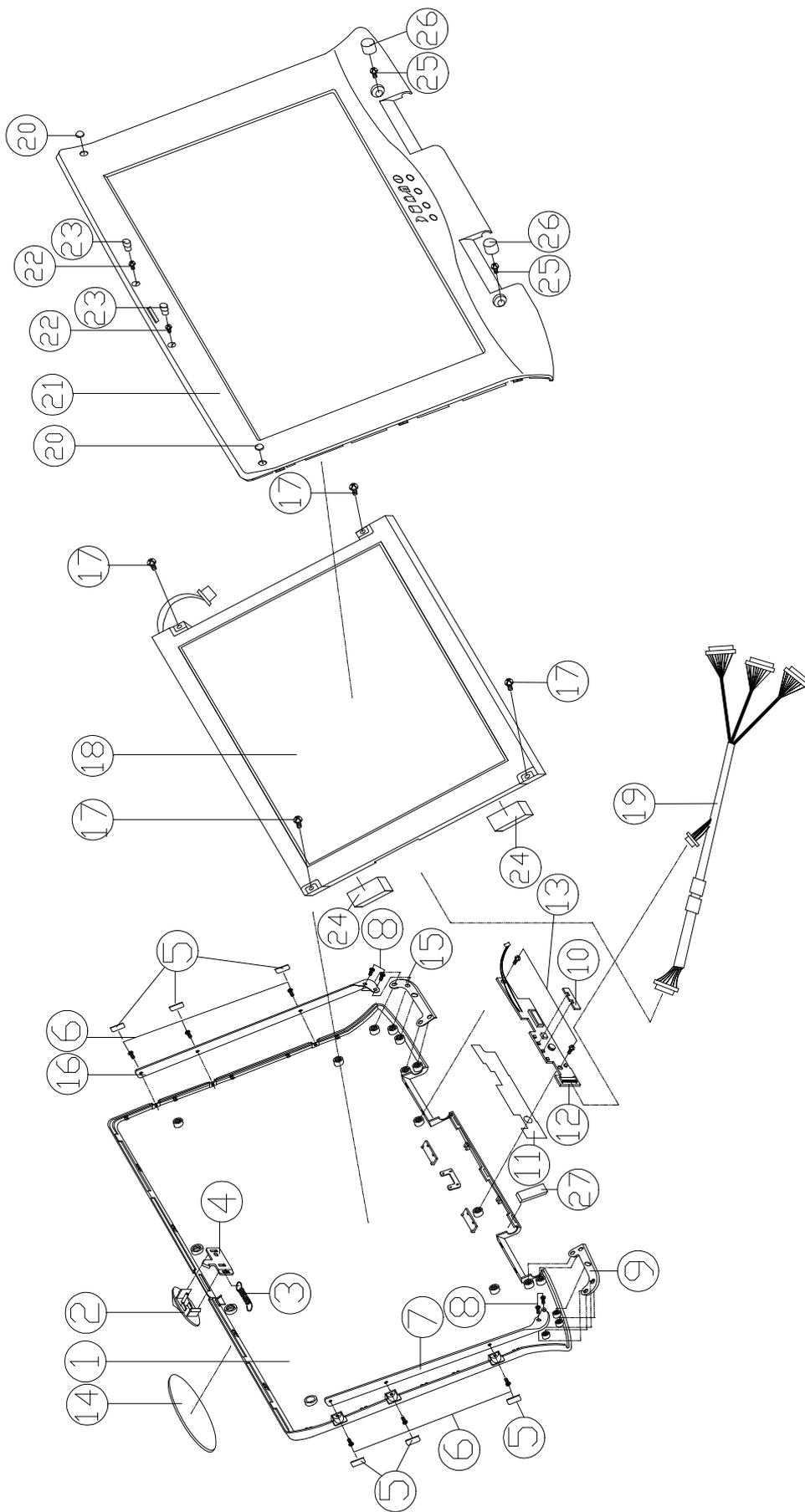
ITEM	PART NAME	PART NO	REMARK
1	DISPLAY BACK PANEL(12.1")	39-11A01-72D	HOSIDEN
1	DISPLAY BACK PANEL(12.1")	39-11A01-32D	SAM/HY
2	HOOK KNOB	42-11A81-011	
3	SPRING FOR HOOK	38-10R35-021	
4	DISPLAY HOOK	42-11AA1-010	
5	MYLAR FOR DISPLAY	40-11A51-010	
6	SCREW	35-B4125-5RA	
7	LCD BRACKET(L) FOR 12.1"	33-11A01-040	
8	SCREW	35-B6130-4RA	
9	BOSS ENHANCE BRACKET(L)	33-11A01-020	
10	SPONGE FOR INVERTER LED	47-11A91-020	
11	MYLAR FOR INVERTER	40-11A51-020	
12	INVERTER MODULE	76-11ATR-DA0	SAM/LG/HY/KY/SY
12	INVERTER MODULE	76-11ATR-D10	SAM/LG/HY/KY/SY
13	SCREW	35-41120-3RA	
14	DISPLAY BACK COVER LABEL	45-11A01-010	
15	BOSS ENHANCE BRACKET(R)	33-11A01-010	
16	LCD BRACKET(R) FOR 12.1"	33-11A01-030	
17	SCREW	35-41130-5RA	
18	LCD (12.1")	50-F5708-65S	HOSIDEN
18	LCD (12.1")	50-F5778-64H-1	HYUNDAI
18	LCD (12.1")	50-F5708-63Y	HYUNDAI
19	CABLE	28-77B56-X70	HOS/HYU
19	CABLE	28-77B56-361	SAMSUNG
20	DISPLAY RUBBER PAD (UP)	47-11A21-010	
21	DISPLAY FRONT PANEL(12.1")	39-11A01-01B	
22	SCREW	35-01120-4R0	
23	DISPLAY RUBBER PAD (MIDDLE)	47-11A21-020	
24	SHIELD SPONGE FOR DISPLAY	47-72091-011	
25	SCREW	35-84130-6RA	
26	DISPLAY RUBBER PAD (LOWER)	47-85021-010	
27	EMI SPONGE RUBBER FOR 12.1"	47-11A21-040	
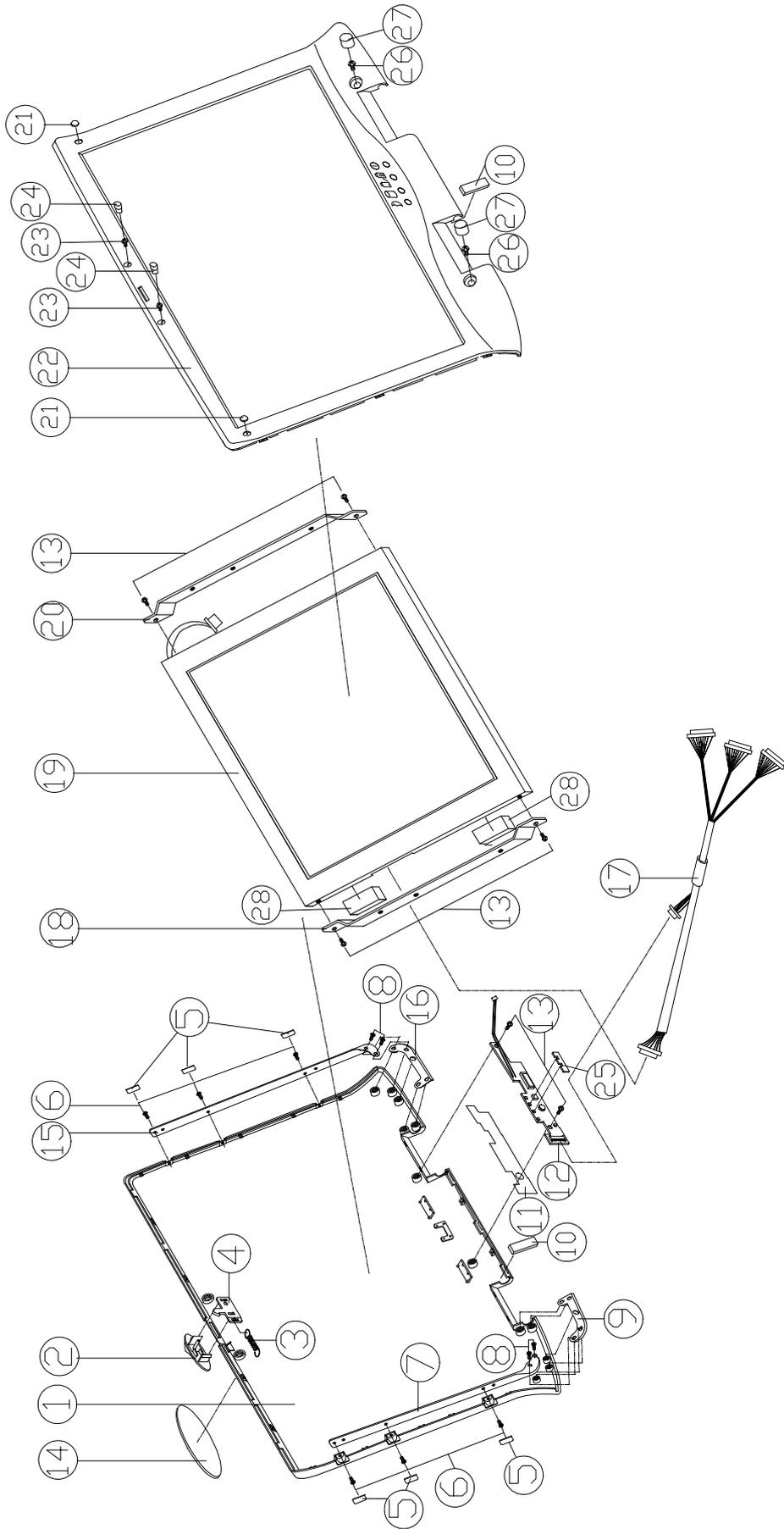
ITEM	PART NAME	PART NO	REMARK
1	DISPLAY BACK PANEL(13.3")	39-11A01-52D	SAM/HY/HOS/LG
2	HOOK KNOB	42-11A81-011	
3	SPRING FOR HOOK	38-10R35-021	
4	DISPLAY HOOK	42-11AA1-010	
5	MYLAR FOR DISPLAY	40-11A51-010	
6	SCREW	35-B4125-5RA	
7	LCD BRACKET(L) FOR 13.3"	33-11A01-C20	
8	SCREW	35-B6130-4RA	
9	BOSS ENHANCE BRACKET(L)	33-11A01-020	
10	EMI SPONGE	47-11A21-040	
11	MYLAR FOR INVERTER	40-11A51-020	
12	INVERTER MODULE	76-11ATR-D20	SAM/LG/HY/HOS
13	SCREW	35-41120-3RA	
14	DISPLAY BACK COVER LABEL	45-11A01-010	
15	LCD BRACKET(R) FOR 13.3"	33-11A01-C10	LG/HY
16	BOSS ENHANCE BRACKET(R)	33-11A01-010	
17	CABLE	28-77B35-321	HOSIDEN
17	CABLE	28-77B35-W50	SAMSUNG
17	CABLE	28-77B35-T90	LG
17	CABLE	28-77B35-311	HYUNDAI
18	LCD BRACKET(L)	33-11A01-220	SAMSUNG
18	LCD BRACKET(L)	33-11A01-720	HYUNDAI
19	LCD	50-G6787-64L	LG
19	LCD	50-G6708-63Y	HYUNDAI
19	LCD	50-G6708-66S	SAMSUNG
19	LCD	50-G6787-63L	LG
20	LCD BRACKET(R)	33-11A01-310	SAMSUNG
20	LCD BRACKET(R)	33-11A01-710	LG
21	DISPLAY RUBBER PAD (UP)	47-11A21-010	
22	DISPLAY FRONT PANEL(13.3")	39-11A01-21B	
23	SCREW	35-01120-4R0	
24	DISPLAY RUBBER PAD (MIDDLE)	47-11A21-020	
25	SPONGE FOR INVERTER LED	47-11A91-020	
26	SCREW	35-84130-6RA	
27	DISPLAY RUBBER PAD (LOWER)	47-85021-010	
28	SHIELD SPONGE FOR DISPLAY	47-72091-011	
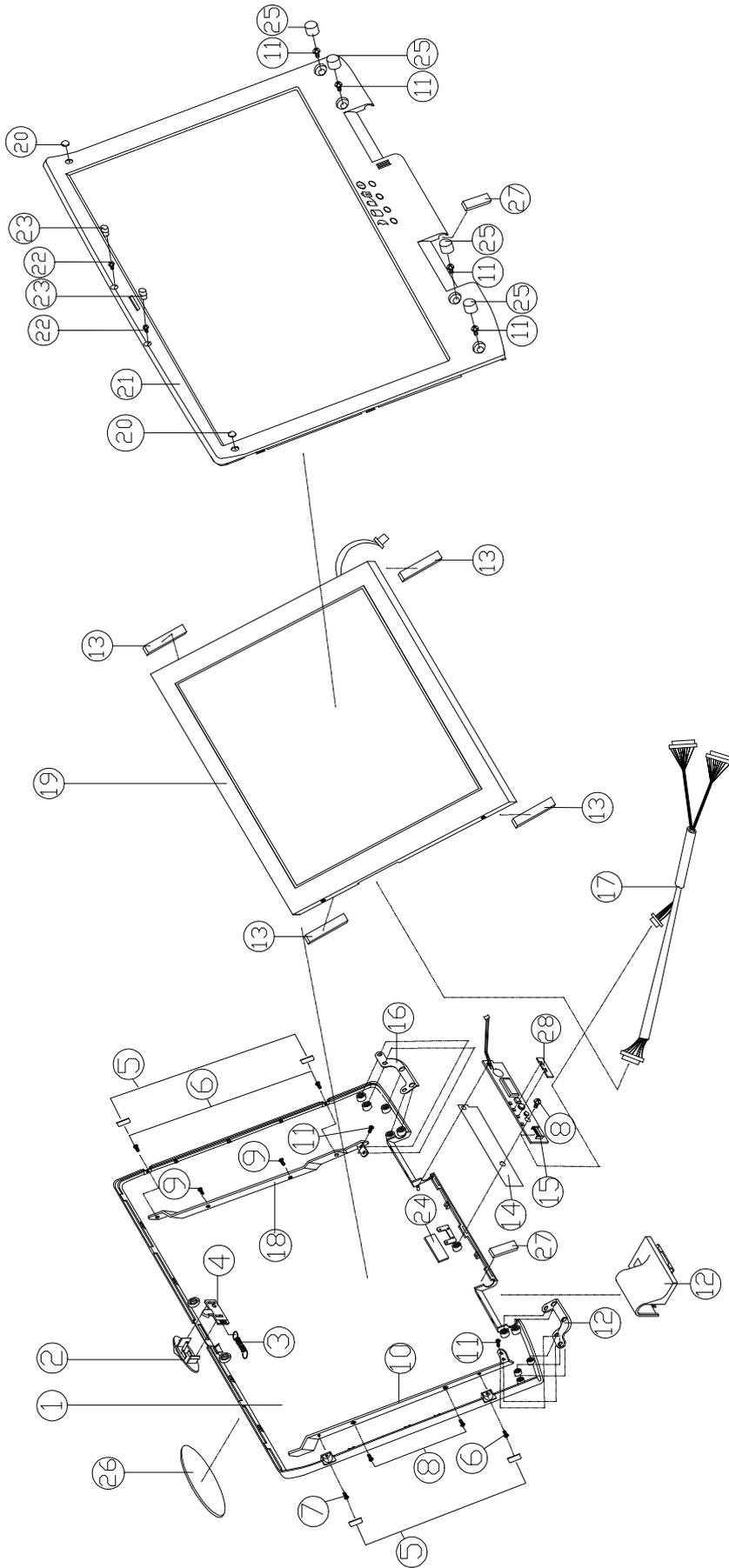
ITEM	PART NAME	PART NO	REMARK
1	DISPLAY BACK PANEL(14.1")	39-11A01-82B	HYUNDAI/LG
2	HOOK KNOB FOR DISPLAY	42-11A81-011	
3	SPRING FOR HOOK	38-10R35-021	
4	HOOK FOR 14.1" BACK PANEL	42-11AA1-110	
5	MYLAR FOR DISPLAY	40-11A51-010	
6	SCREW	35-41120-5RE	HYUNDAI
6	SCREW	35-41120-3RA	LG
7	SCREW	35-41120-5RE	HYUNDAI
8	SCREW	35-41120-3RA	HYUNDAI/LG
9	SCREW	35-41120-3RA	LG
10	LCD BRACKET(L)	33-11A01-620	LG
10	LCD BRACKET(L)	33-11A01-520	HYUNDAI
11	SCREW	35-84130-6RA	
12	BOSS ENHANCE BRACKET(L)	33-11A01-060	HYUNDAI/LG
13	RUBBER	47-11A21-030	
14	INVERTER MYLAR	40-11A51-040	HO/LG/HY14.1T INNSUN
15	INVERTER MODULE	76-11ATR-D30	HO/LG/HY14.1 AMBIT
16	BOSS ENHANCE BRACKET(R)	33-11A01-050	
17	CABLE	28-77B35-U50	HYUNDAI
17	CABLE	28-77B35-171	LG
18	LCD BRACKET(R)	33-11A01-510	HYUNDAI
18	LCD BRACKET(R)	33-11A01-610	LG
19	LCD	50-J6787-63Y	HYUNDAI
19	LCD	50-J6787-63L-1	LG
20	DISPLAY RUBBER PAD (UP)	47-11A21-010	
21	DISPLAY FRONT PANEL(14.1")	39-11A01-31B	
22	SCREW	35-01120-4R0	
23	DISPLAY RUBBER PAD (MIDDLE)	47-11A21-120	
24	SPONGE	40-11A91-030	
25	DISPLAY RUBBER PAD (BOTTOM)	47-85021-010	
26	DISPLAY BACK COVER LABEL	45-11A01-010	
27	EMI SPONGE	47-35091-010	
28	SPONGE FOR INVERTER LED	47-11A91-020	
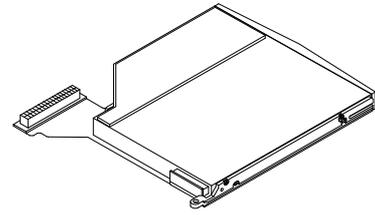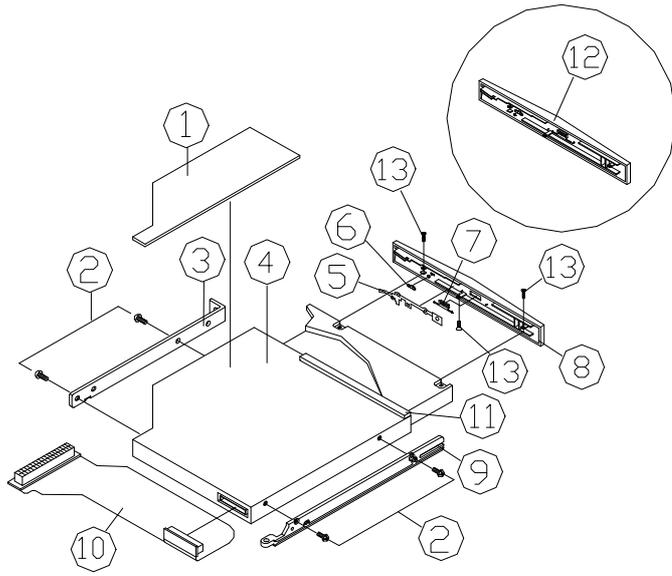
CD-ROM ASS'YDWG

ITEM	PART NAME	PART NO	REMARK
1	MYLAR FOR CD-ROM	40-11A5Z-010	
2	SCREW	35-B1120-3RA	
3	CD-ROM GUIDE RAIL(R)	42-11A7Z-040	
4	CD-ROM 24X	87-62010-057	TEAC
5	SPRING PLATE	38-62012-020	TEAC
6	CD-ROM LENS	42-52P7Z-110	TEAC
7	CD-ROM EJECT BUTTON	42-11A7Z-030	TEAC
8	CD-ROM PANEL	42-11A7Z-020	TEAC
9	CD-ROM GUIDE RAIL(L)	42-11A7Z-050	
10	FPC CABLE	28-79R50-A6E-A	
11	SHIELD SPONGE (A) TOP CASE TO K/B	47-72092-030	
12	CD-ROM PANEL	79-11A2Z-001-B	ASS'YDWG
13	FOR BEZEL SCREW	35-B4920-5R0	
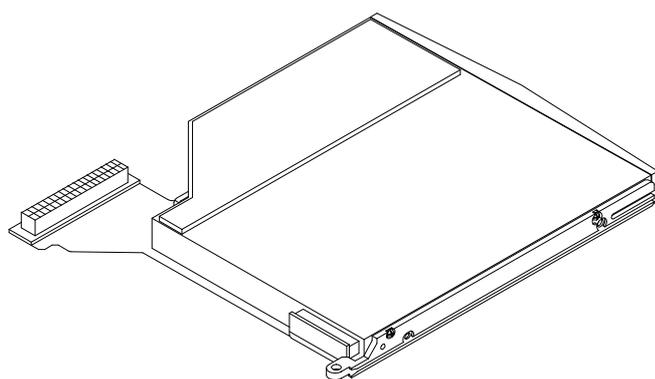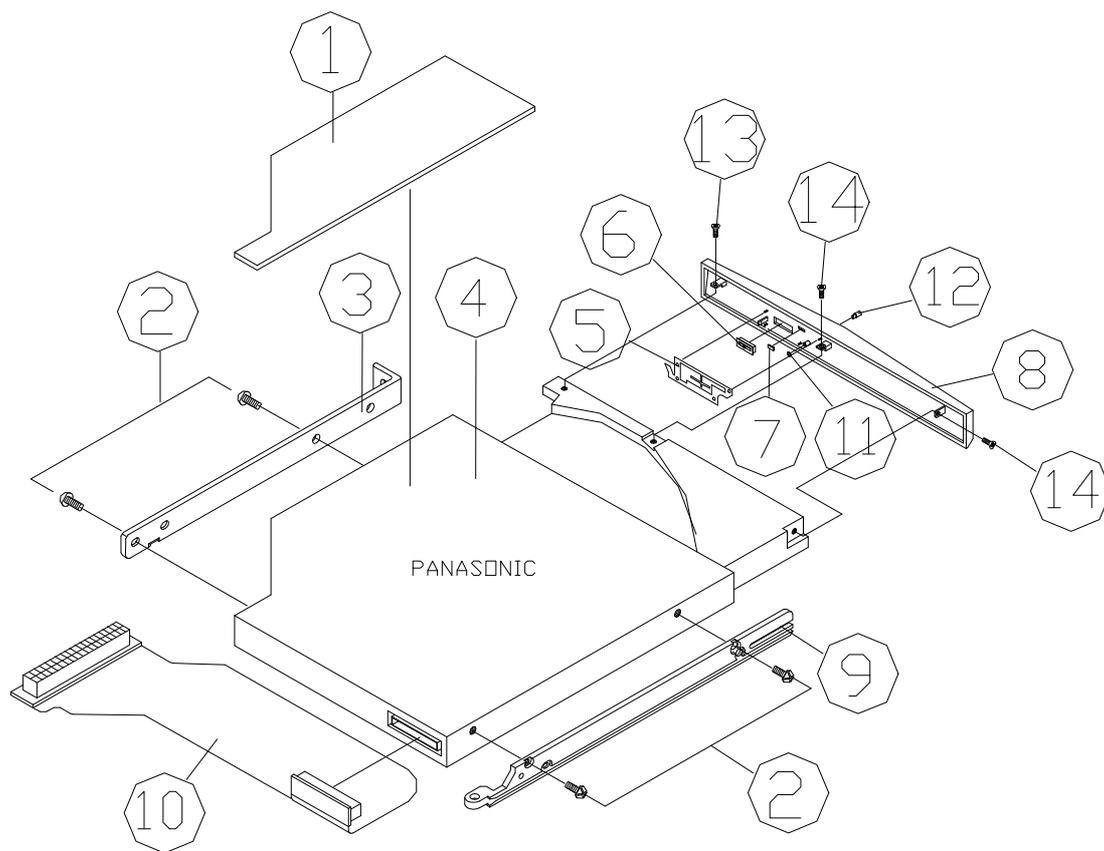
DVD-ROM ASS'YDWG

ITEM	PART NAME	PART NO	REMARK
1	MYLAR FOR CD-ROM	40-11A5Z-010	
2	SCREW	35-B6120-2RE	
3	CD-ROM GUIDE RAIL(R)	42-11A7Z-040	
4	DVD SR-8171 12.7MM	87-11M90-090	PANASONIC
5	DVD BEZEL PLATE	33-11MV-010	PANASONIC
6	DVD EJECT BUTTON	42-11M7V-040	PANASONIC
7	DVD LED LENS	42-11M7V-010	PANASONIC
8	DVD BEZEL	42-11M7V-030	PANASONIC
9	CD-ROM GUIDE RAIL(L)	42-11A7Z-050	
10	FPC CABLE	28-79R50-A60	
11	DVD CUT WASHER	42-11M9V-010	PANASONIC
12	DVD ENERGEBCT BUTTON	42-11M7V-020	PANASONIC
13	SCREW	35-81520-2R5	PANASONIC
14	SCREW	35-81920-3R5	PANASONIC
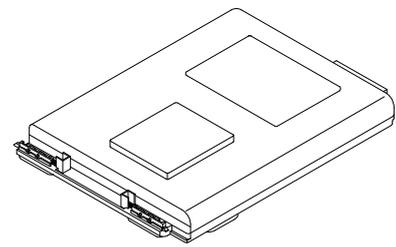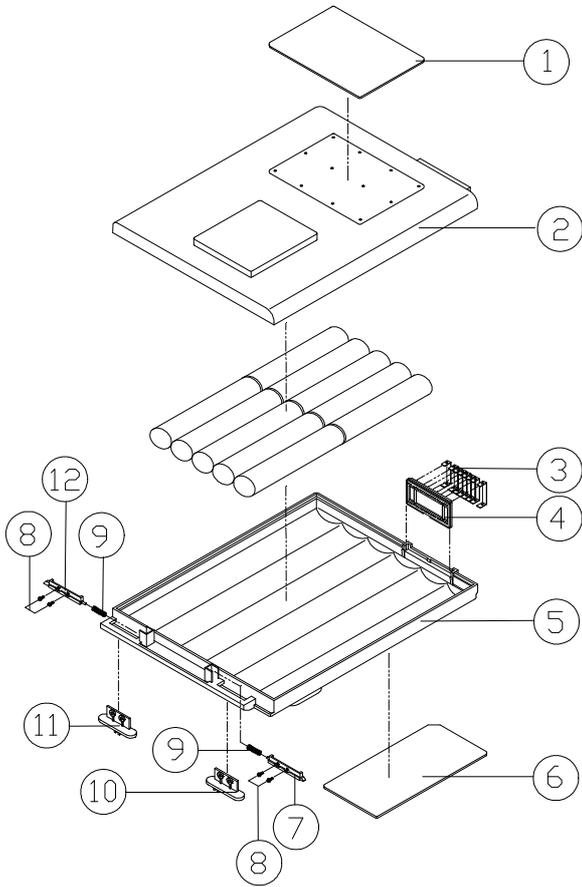
Battery ASS' YDWG

ITEM	PART NAME	PART NO	REMARK
1	MYLAR FOR LI-ION	40-3505M-010	LI-ION
2	BATT. TOP CASE	42-11A3M-011	
3	BATT. CONTACT PLATE	38-11A20-010	
4	BATT. HOLDER	42-11A3M-030	
5	BATT. BOTTOM CASE	42-11A3M-021	
6	BATTERY LABEL (1001XX)	45-11A0M-010	LI-ION
6	BATTERY LABEL (1002XX)	45-11ASM-010	NI-MH
7	BATTERY LOCK(DOWN)	42-11A8M-021	
8	SCREW	35-41120-3RA	
9	SPRING FOR HDD LOCK KNOB	38-00R26-010	
10	BATTERY LOCK KNOB(DOWN)	42-11A8M-040	
11	BATTERY LOCK KNOB(UP)	42-11A8M-030	
12	BATTERY LOCK(UP)	42-11A8M-010	