Model 7200
Preliminary Service Manual

Mainboard	***77-72000-D02***
LED	***77-72004-D00***
D/D & Charger	***77-7200C-D02***
Daughter Board	***77-7200I-D10***
LVDS	***77-720FL-D00***

Specifications are subject to change without notice. *July 1997*

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.

- **CPU**
  - ✓ Intel P54C
  - ✓ Intel P54LM
  - ✓ Intel P55C with MMX technology.

- **Memory**
  - ✓ 3.3 V power supply.
  - ✓ Supports Fast Page Mode/EDO.
  - ✓ 512KB secondary cache pipeline burst synchronous SRAM.
  - ✓ 8MB expandable up to 128MB.
  - ✓ *8/16/32/64MB 144-pin SODIMM RAM modules (option).*

- **System BIOS**
  - ✓ 256KB flash ROM.
  - ✓ PCI 2.1.
  - ✓ Plug and Play 1.0a.

- **Display**
  - ✓ 13.0" DSTN XGA (1024x768 pixels) LCD panel available.
  - ✓ 13.3"/14.1" TFT XGA (1024x768 pixels) LCD panel.
  - ✓ 4MB display memory.
  - ✓ Video Port Manager (VPM) for Zoomed Video (ZV) port.
  - ✓ Simultaneous display with an external monitor.

- **Input/Output**
  - ✓ Built-in trackpad (PS/2).
  - ✓ Dual USB ports.
  - ✓ Serial port.
  - ✓ Parallel port.
  - ✓ CRT port.
  - ✓ Game port.
  - ✓ S-Video port.
  - ✓ PS/2 type port.
  - ✓ 168-pin expansion port.
  - ✓ Headphone jack.
  - ✓ Microphone-in jack.
  - ✓ Line-in jack.

- **PC Card Sockets**
  - ✓ One Type III or two Type II PC cards.
  - ✓ CardBus support.
  - ✓ One ZV-capable socket.

- **Mass Storage**
  - ✓ 2.5" (19mm high or less) or 3.0" (12.5mm high or less) hard disk drive.
  - ✓ 3.5" floppy disk drive (interchangeable).
  - ✓ 5.25" CD-ROM.
  - ✓ *2.5" or 3.0" secondary hard disk drive. (option).*

- **Infrared Wireless Communication**
  - ✓ IrDA.
  - ✓ ASKIR.
  - ✓ FIR.

- **Audio**
  - ✓ Sound Blaster Pro compatible.
  - ✓ 3D stereo sound effects.
  - ✓ Built-in microphone.
  - ✓ 1MB ROM wavetable.

- **Power Management**
  - ✓ Doze mode.
  - ✓ Suspend/Resume.
  - ✓ Display idle mode.
  - ✓ Hard disk idle mode.
  - ✓ APM 1.2.

- **Rechargeable battery Pack**
  - ✓ Ni-MH or Li-Ion available.
  - ✓ Battery low warning.
  - ✓ Auto-switching with AC power adapter.
  - ✓ *Secondary Battery Pack (option)*.

- **AC Power Supply**: Model AC-D01

- **Size & Weight**
  - ✓ 323mm(w)x263.5mm(d)x58mm(h)
  - ✓ 323mm(w)x263.5mm(d)x74mm(h) (stand protrusion included)
  - ✓ 4.15kg.

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 M38813 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 - 0CBFFF	48KB	VGA BIOS
0CC000 - 0DFFFF	80KB	Reserved
0E0000 - 0EFFFF	64KB	Reserved
0F0000 - 0FFFFF	64KB	System BIOS for Kernel
100000 -	15MB to 127MB	Extended Memory

Motherboard

The motherboard is designed mainly based on Pentium CPU and the OPTi FireStar 82C700 chipset; it includes the following features:

* OPTi 82C700 chipset solution from OPTi
* C&T 65554 Multimedia Flat Panel Controller
* PCI Local Bus IDE interface
* SMC669FR super I/O Floppy Disk Controller
* M38813 Keyboard Controller
* Flash EPROM 256KB with AMI system BIOS, VGA BIOS
* DRAM Upgradable to 128MB
* 7 DMA channels
* 13 interrupt levels
* Real Time clock / calendar, battery back up
* Buzzer for sound system
* Built-in 3D Stereo Audio subsystem
* Built-in NTSC/PAL video-out jack
* IrDA infrared communication (Fast IR)
* Port connectors:
    - 9 pin serial (COM1)
    - 25 pin Parallel Printer Port (LPT1)
    - 15 pin external monitor port
    - 6 pin external keyboard port
    - 168 pin Expansion Port for Docking Station
    - 8 pin USB Port
    - 15 pin Game Port

Microprocessor

P54C Pentium-100 Microprocessor

The Intel Pentium Microprocessor is a 64-bit architecture with on chip Memory Management Unit (MMU), floating point (math coprocessor) and cache memory (16K bytes, code and data caches each contain 8 Kbytes of information) units. It has the same functions of the Pentium-75 CPU, but provides greatly enhanced performance.

Feature includes:

- Superscalar architecture
- Separate code and data caches
- Branch prediction
- High performance floating point unit
- Enhanced 64 bits data bus
- Data integrity features
- SL technology power management features
- Multiprocessing support
- Performance monitoring
- Memory page size feature

P54XX Pentium-120/133/150/166/200 Microprocessor

The Intel Pentium-120/133/150/166/200 CPU is the same as Pentium-75 with different running speed.

P55C-133/166/200 Microprocessor

The Intel P55C-133/166/200 Processor is more accurate and aggressive than the P54C processor and the P55C CPU has built in MMX (MultiMedia eXtension enable) Technology Architecture.

Chips

Core Logic Chip - OPTi FireStar 82C700

- Support for Intel 586 CPU with bus speed up to 66MHz
- Support for both symmetric and asymmetric type DRAM
- High Performance Memory Controller
- Enhanced hidden refresh
- Support for Fast Page mode, EDO type.
- Supports two bus mastering IDE channels
- Serial IRQs supported
- Synchronous SRAM Clock Control to reduce Power Consumption
- Stop Grant, Stop Clock for 1X clock scaling
- PCI local bus support
- Flash EPROM support
- Screen activity detect
- Programmable suspend and resume
- Automatic suspend timer
- System activities and programmable clock speed control
- Programmable system event
- Programmable stop break event
- Intel SL compatible shadow registers

VGA Controller - C&T 65554

- Supports displays with options for 1, 1.5, 2 and 4 MB
- Supports burst PCI and EDO/FPM.
- Supports 16 bit color DSTNs up to 1024x768x64K color, and TFT panels up to 1280x768x16M color.
- Supports non-interlaced 1280x1024x64K, 1024x768x16M, 800x600x16M, and 640x480x16M color on CRT
- Simultaneous display on flat panel and CRT.
- Internal buffer provides flicker reduction
- RGB signals driven from the C&T 65554 LUT/DAC can directly interface with a standard off-the-shelf NTSC/PAL encoder. Composite synchronization signals
- Support the encoder for standard home TV connection.
- Graphic functions optimized by a 64 bit internal data bus and a four-color hardware cursor/pop-up icon operation up to 128x128x2 pixel image
- Provides flexible and extensive power management capabilities and supports four states of VESA Display Power Management Signaling
- Video Modes supported as below:

Panel #	Panel Type
1	1024x768 dual scan color STN
2	1280x1024 color TFT
3	640x480 dual scan color
4	800x600 dual scan color
5	640x480 SHARP color TFT
6	640x480 18-bit color TFT
7	1024x768 color TFT
8	800x600 color TFT
9	800x600 color TFT (44K BIOS only)
10	800x600 color TFT (44K BIOS only)
11	800x600 dual scan color (44K BIOS only)
12	800x600 dual scan color (44 K BIOS only)
13	1024x768 TFT color (44K BIOS only)
14	1024x768 TFT color (44K BIOS only)
15	Reserved
16	Reserved

PC CARD 95 (CardBus) Interface Controller - TI PCI1131

TI CardBus Interface Controller 1131 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
- Five programmable memory windows per socket
- Two I/O windows per socket
- ATA disk interface support
- Programmable Suspend mode
- Automatic flash memory timing support
- ExCA-compatible

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.

In this notebook, only the bottom PC Card slot is ZV capable.

L2 Cache Size

Cache Size	Data RAM	Tag RAM	Cacheable Size (8-bits tag)
512KB	64Kx32x2	32Kx8	128MB

L2 Cache Speed

Synchronous SRAM

Cache Configuration	50MHz (tag/data)	60MHz (tag/data)	66MHz (tag/data)
Read 3-1-1-1 Write 3-1-1-1	15ns/12ns	12ns/9ns	12ns/9ns

DRAM Speed

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

DRAM Speed	50MHz (clocks)	60MHz (clocks)	66MHz(clocks)
70ns	read x-3-3-3	read x-4-4-4	read x-4-4-4
70ns	write x-3-3-3	write x-3-3-3	write x-3-3-3

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

Super I/O Floppy Disk Controller - SMC FDC669FR

- 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 ChiProtect 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 support

AIT1108E VGA to NTSC/PAL Converter

- Converts VGA source analog RGB into broadcast-quality NTSC or PAL video signal.
- Multiple output standards - NTSC, PAL.
- S-Video output format.

Real PCI To USB (OHCI) Chip - CMD0670

- Complies with OpenHCI 1.0,USB 1.0,and PCI Local Bus 2.1 specifications.
- Bridges PCI bus and the Universal Serial Bus (USB).
- USB device bandwidth of up to 12 Mb/s.
- Full support of real time dynamic insertion and removal of devices.
- 32-bit PCI local bus interface.
- PCI Bus Master.
- Supports up to 127 devices (concurrent operation).
- Supports all USB-compliant peripherals (e.g. keyboard, mouse, monitor, telephone, joystick, etc)
- Supports legacy keyboards and mouse devices.

Keyboard Controller - Mitsubishi M38813M4

- Timers :8 bit prescaler X 2 + 8 bit timer X 3
- Comparator :4 bit X 8 channels
- Bus interface :2 bytes
- Key on wake-up :8 channels
- Interrupts :8 external,7 internal,and 1 software

ESS ES1879 High Quality Audio Chip

- Single,mixed-signal,16-bit stereo VLSI chip for digital audio
- High-quality,20-voice ESFM music synthesizer patents pending
- Supports ES978 Expansion audio Mixer chip
- Full Plug and Play (PnP)

ES690 Wavetable Synthesizer

- Wavetable music synthesizer.
- Playback of 16-bit data at 44.1 KHz via the ES1xxx DAC.
- MIDI serial port compatible with MPU-401 serial port of ES1xxx.
- Glueless interface with the external wavetable ROM.

ES981 Wavetable ROM

- 16-bit CMOS wavetable mask ROM.
- 150 ns access time.
- Total static operation.
- Single +5V power supply requirement.

ES938 3-D Audio Effects Processor

- Provides *Spatilizer* 3-D stereo sound effects.
- Expands the sound stage of stereo and mono audio material for a fuller sound environment from only two speakers.

Interfaces

Floppy Disk Drive Interface

Pin	Description	Pin	Description
1	VCC	29	N.C
2	VCC	30	N.C
3	MTR0#	31	N.C
4	INDEX#	32	N.C
5	3MOD	33	N.C
6	FDD0#	34	N.C
7	TRK0#	35	N.C
8	DSKCHG#	36	N.C
9	HDSEL#	37	GND
10	DIR#	38	GND
11	RDATA#	39	N.C
12	STEP#	40	N.C
13	WRPRT#	41	N.C
14	WDATA#	42	N.C
15	WGATE#	43	N.C
16	DETECT0	44	N.C
17	GND	45	N.C
18	GND	46	N.C
19	N.C	47	N.C
20	DETECT1	48	N.C
21	N.C	49	N.C
22	N.C	50	N.C
23	N.C	51	N.C
24	N.C	52	N.C
25	N.C	53	N.C
26	N.C	54	N.C
27	N.C	55	VCC
28	N.C	56	VCC

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 56-pin B/B connector. The 56-pin connector has the following pin configurations:

Pin	Description	Pin	Description
1	VCC	29	SDD3
2	VCC	30	SDD12
3	N.C	31	SDD2
4	N.C	32	SDD13
5	N.C	33	SDD1
6	N.C	34	SDD14
7	N.C	35	SDD0
8	N.C	36	SDD15
9	N.C	37	GND
10	N.C	38	GND
11	N.C	39	HDDWRB#
12	N.C	40	N.C
13	N.C	41	HDDRDB#
14	N.C	42	N.C
15	N.C	43	CHRDYB
16	DETECT0	44	N.C
17	GND	45	IRQ15
18	GND	46	IO16#
19	IDERST#	47	HDDA1B
20	DETECT1	48	N.C
21	SDD7	49	HDDA0B
22	SDD8	50	HDDA2B
23	SDD6	51	HDDCS1B#
24	SDD9	52	HDDCS3B#
25	SDD5	53	HDD1#
26	SDD10	54	N.C
27	SDD4	55	VCC
28	SDD11	56	VCC

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 through 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

The Notebook PC has two 144-pin SODIMM type Expansion memory sockets with the following pin configurations:

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	N.C	69	IRAS#0
70	MEMCLK2	71	IRAS#1	72	N.C
73	GND	74	N.C	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	N.C	69	IRAS#2
70	MEMCLK4	71	IRAS#3	72	N.C
73	GND	74	N.C	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

Docking Connector Pin Assignment

Pin	Description	Pin	Description	Pin	Description
1	A+	2	A+	3	CCO
4	SOUTA	5	GND	6	/DCD2
7	/DSR2	8	SIN2	9	/RTS2
10	GND	11	/STROBE	12	/AUTOFD
13	PPD0	14	/ERROR	15	PPD1
16	/INIT	17	PPD2	18	GND
19	SLCT	20	D-LOCK	21	CCLK3
22	GND	23	CCLK2	24	GND
25	CCLK1	26	GND	27	CCLK0
28	GND	29	A+	30	CCO
31	CCO	32	+20V-EN	33	SINA
34	GND	35	SOUT2	36	/CTS2
37	/DTR2	38	/RI2	39	GND
40	/SLCTIN	41	PPD3	42	PPD4
43	PPD5	44	PPD6	45	PPD7
46	/ACK	47	BUSY	48	PE
49	BHSYNC	50	BVSYNC	51	GREEN
52	RED	53	BLUE	54	DDCCLK
55	DDCDATA	56	GND	57	GND
58	DSRA	59	RTSA	60	DTRA
61	DCDA	62	COMSTBY#	63	CAD31
64	CAD30	65	CAD19	66	CAD17
67	CC/BE#0	68	CC/BE#1	69	CGNT0#
70	CGNT1#	71	CREQ0#	72	CREQ1#
73	CAD15	74	CAD12	75	CAD9
76	CAD6	77	CAD3	78	CAD0
79	MTR0#	80	MTR1#	81	FDD0#
82	FDD1#	83	N.C	84	DOCKRDY#
85	FB0	86	DOCKEN#	87	CTSA
88	RIA	89	RI2	90	CINTA#
91	CINTB#	92	CAD29	93	CAD18
94	CAD16	95	CC/BE#2	96	CC/BE#3
97	CGNT2#	98	CGNT3#	99	CREQ2#
100	CREQ3#	101	CAD14	102	CAD11
103	CAD8	104	CAD5	105	CAD2
106	TRK0#	107	HDSEL#	108	RDATA#
109	WRPRT#	110	WGATE#	111	ENBL3V
112	DOCKEN#	113	DOCK-ON	114	SEL2
115	CINTC#	116	UN-DOCK#	117	CAD27
118	CAD25	119	CAD24	120	CAD22
121	CAD21	122	CIRDY#	123	CSTOP#
124	CSERR#	125	CPAR	126	CFRAME#
127	CBLOCK#	128	CDEVSEL#	129	CAD13
130	CAD10	131	CAD7	132	CAD4
133	CAD1	134	INDEX#	135	DSKCHG#
136	DIR#	137	STEP#	138	WDATA#
139	3MOD-B	140	GND	141	N.C
142	SEL3	143	DOCK-VCC	144	CAD28
145	CAD26	146	GND	147	CAD23
148	GND	149	CAD20	150	GND
151	CPERR#	152	GND	153	CRST#
154	EN-722	155	CTRDY#	156	GND
157	MUS-DATA	158	MUS-CLK	159	KBD-DATA
160	KBD-CLK	161	XSD978	162	XSC978
163	978XA0	164	978XA1	165	978XA2
166	978XA3	167	GND	168	GND

Internal Trackpad Interface

There is a 8-pin connector used to interface with the internal trackpad. It will be disabled when external 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 configuration for the connector:

Pin	Description
1	VCC
2	PS/2 DATA
3	PS/2 CLK
4	SW Right
5	SW Left
6	GND
7	N.C
8	N.C

External Monitor Interface

Pin	Description
1	BRED
2	BGREEN
3	BBLUE
4	N.C
5	GND
6	GND
7	GND
8	GND
9	N.C
10	GND
11	N.C
12	DDCDATA
13	BHSYNC
14	BVSYNC
15	DDCCLK

RGB Out

Output Impedance: 75Ω
RGB peak voltage: 0.7Vpp

External Keyboard/PS2 Mouse Interface

Pin	Description
1	KBD-DATA
2	MUS-DATA
3	GND
4	VCC
5	KBD-CLK
6	MUS-CLK

External S-Video TV-Out Interface

Pin	Description
1	GND
2	GND
3	XLUMA
4	XCRMA

External Game Port Interface

Pin	Description
1	VCC
2	SWA
3	TA
4	GND
5	GND
6	TB
7	SWB
8	VCC
9	VCC
10	SWC
11	TC
12	MSO
13	TD
14	SWD
15	MSI

External USB (Universal Serial Bus) Interface

Port A:

Pin	Description
1	V1+OUT
2	VD1-N
3	VD1-P
4	GND

Port B:

Pin	Description
1	V2+OUT
2	VD2-N
3	VD2-P
4	GND

Internal ISA Interface (For *Optional* Modem/LAN)

Pin	Description	Pin	Description
1	RSTDRV	31	MODEM
2	SD0	32	SD1
3	SD2	33	SD3
4	SD4	34	SD5
5	SD6	35	SD7
6	SD8	36	SD9
7	SD10	37	SD11
8	SD12	38	SD13
9	VCC	39	VCC
10	SD14	40	SD15
11	SMEMR#	41	IOCHRDY
12	IO16#	42	+12V
13	IORD#	43	AEN
14	IOWR#	44	IRQ10
15	IRQ3	45	IRQ11
16	IRQ4	46	IRQ12
17	IRQ5	47	3.3V
18	IRQ9	48	3.3V
19	SA0	49	SA1
20	SA2	50	SA3
21	SA4	51	SA5
22	SA6	52	SA7
23	SA8	53	SA9
24	SA10	54	SA11
25	SA12	55	SA13
26	SA14	56	SA15
27	SA16	57	SA17
28	SA18	58	SA19
29	GND	59	GND
30	MIC-IN	60	AUXBR

Internal Hardware MPEG Interface (For Optional MX501/ALi3307)

Pin	Description	Pin	Description
1	VCC	31	VCC
2	GND	32	GND
3	AD0	33	AD1
4	AD2	34	AD3
5	AD4	35	AD5
6	AD6	36	AD7
7	AD8	37	AD9
8	AD10	38	AD11
9	AD12	39	AD13
10	AD14	40	AD15
11	AD16	41	AD17
12	AD18	42	AD19
13	AD20	43	AD21
14	AD22	44	AD23
15	AD24	45	AD25
16	AD26	46	AD27
17	AD28	47	AD29
18	AD30	48	AD31
19	GND	49	GND
20	CBE#0	50	CBE#1
21	CBE#2	51	CBE#3
22	PCIRST#	52	REQ#0
23	GND	53	GNT#0
24	PCICLK5	54	GND
25	GND	55	DEVSEL#
26	FRAME#	56	STOP#
27	IRDY#	57	PAR
28	TRDY#	58	INTC#
29	AD19	59	PERR#
30	VCC	60	VCC

PCMCIA CardBus Interface

Socket A:

Pin	Description	Pin	Description
1	GND	35	GND
2	A-CD3	36	A-CD1#
3	A-CD4	37	A-CD11
4	A-CD5	38	A-CD12
5	A-CD6	39	A-CD13
6	A-CD7	40	A-CD14
7	A-CE1#	41	A-CD15
8	A-CA10	42	A-CE2#
9	A-OE#	43	A-VS1
10	A-CA11	44	A-IORD#
11	A-CA9	45	A-IOWR#
12	A-CA8	46	A-CA17
13	A-CA13	47	A-CA18
14	A-CA14	48	A-CA19
15	A-WE#	49	A-CA20
16	A-RDYBY#	50	A-CA21
17	A-VCC-C	51	A-VCC-C
18	A-VPP	52	A-VPP
19	A-CA16	53	A-CA22
20	A-CA15	54	A-CA23
21	A-CA12	55	A-CA24
22	A-CA7	56	A-CA25
23	A-CA6	57	A-VS2
24	A-CA5	58	A-RESET
25	A-CA4	59	A-WAIT#
26	A-CA3	60	A-INPACK
27	A-CA2	61	A-REG#
28	A-CA1	62	A-BVD2#
29	A-CA0	63	A-BVD1#
30	A-CD0	64	A-CD8
31	A-CD1	65	A-CD9
32	A-CD2	66	A-CD10
33	A-WP#	67	A-CD2#
34	GND	68	GND

Socket B:

Pin	Description	Pin	Description
1	GND	35	GND
2	B-CD3	36	B-CD1#
3	B-CD4	37	B-CD11
4	B-CD5	38	B-CD12
5	B-CD6	39	B-CD13
6	B-CD7	40	B-CD14
7	B-CE1#	41	B-CD15
8	B-CA10	42	B-CE2#
9	B-OE#	43	B-VS1
10	B-CA11	44	B-IORD#
11	B-CA9	45	B-IOWR#
12	B-CA8	46	B-CA17
13	B-CA13	47	B-CA18
14	B-CA14	48	B-CA19
15	B-WE#	49	B-CA20
16	B-RDYBY#	50	B-CA21
17	B-VCC-C	51	B-VCC-C
18	B-VPP	52	B-VPP
19	B-CA16	53	B-CA22
20	B-CA15	54	B-CA23
21	B-CA12	55	B-CA24
22	B-CA7	56	B-CA25
23	B-CA6	57	B-VS2
24	B-CA5	58	B-RESET
25	B-CA4	59	B-WAIT#
26	B-CA3	60	B-INPACK
27	B-CA2	61	B-REG#
28	B-CA1	62	B-BVD2#
29	B-CA0	63	B-BVD1#
30	B-CD0	64	B-CD8
31	B-CD1	65	B-CD9
32	B-CD2	66	B-CD10
33	B-WP#	67	B-CD2#
34	GND	68	GND

LCD Interface (For TFT XGA With FPDL/Panel Link)

Connector A:

Pin	Description	Pin	Description
1	GND	31	GND
2	GND	32	GND
3	PP0	33	PP1
4	PP2	34	PP3
5	PP4	35	PP5
6	PP6	36	PP7
7	PP8	37	PP9
8	PP10	38	PP11
9	PP12	39	PP13
10	PP14	40	PP15
11	PP16	41	PP17
12	PP18	42	PP19
13	PP20	43	PP21
14	GND	44	GND
15	GND	45	GND
16	PP22	46	PP23
17	VCC	47	VCC
18	VCC	48	VCC
19	PP24	49	PP25
20	PP26	50	PP27
21	3.3V	51	3.3V
22	3.3V	52	3.3V
23	M	53	LP
24	LCDVCC	54	FLM
25	CONTADJ	55	LCD-ADJ
26	LCDVDD	56	LCDVDD
27	LCDVDD	57	LCDVDD
28	SHFCLK	58	SHFCLK
29	GND	59	GND
30	GND	60	GND

Connector B:

Pin	Description	Pin	Description
1	GND	31	GND
2	GND	32	GND
3	DEDGE	33	CEDGE
4	TxVCC	34	TxVCC
5	TxVCC	35	TxVCC
6	TEST	36	HALFCK
7	TxAVCC	37	TxAVCC
8	TxAVCC	38	TxAVCC
9	VMA3	39	VMA4
10	100DVCC	40	100DVCC
11	VMA5	41	VMA6
12	TxPVCC	42	TxPVCC
13	EXT-RES	43	EXT-RES
14	GND	44	GND
15	GND	45	GND
16	SUPV	46	PD
17	A- VCC	47	A- VCC
18	A- VCC	48	A- VCC
19	PP28	49	PP29
20	PP30	50	PP31
21	PP32	51	PP33
22	PP34	52	PP35
23	A-- VCC	53	A-- VCC
24	A-- VCC	54	A-- VCC
25	ENABKL	55	BRIGADJ
26	N.C	56	N.C
27	B+	57	B+
28	B+	58	B+
29	N.C	59	N.C
30	GND	60	GND

DC/DC Converter Board

The Notebook PC has a built-in DC/DC converter module which provides all the DC voltage outputs required by the system. This module will have the following features:

A. Input requirements :

- Voltage input from AC adapter : 20.0V
- Voltage input from battery : 12.0V (Ni-MH), or 10.8V (Li-Ion)

B. Output Requirements :

Voltage	Regulation	Ripple & Noise	Current Peak	Current Min.
+5V	-4% ~ +2%	100mV P-P	3.0A	0.5A
+3.3V	-4% ~ +2%	100mV P-P	5.0A	0.5A
+12V	-5% ~ +5%	200mV P-P	400mA	0.1A

C. Efficiency :

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

D. Function of Battery charge

FUNCTIONS	Charge Current	Charge Time
System Power On/Off	1.3A ± 10%	3 Hours
Battery Full (trickle charge)	0.02A	--

E. Battery Protection and indication

- The discharge circuit should be shut down when the battery voltage down to 8.5V max.

- The battery low signal active low when the battery voltage down to NI-MH 11V (±0.2V), or Li-ION 10V (±0.1V).

F. The power on/off switch in the LED board

G. Protection requirement :

- Input fuse protection : 5A
- Output short circuit protection : +5V, +3.3V, +3.1V, +2.9V, +2.8V, +2.5V and +12V

CPU Power Board

The module provides special CPU which voltage is adjustable (from 1.5V - 3.1V), This module will have the following features :

A. Input requirement :

- Voltage input from AC adapter :+20V.
- Voltage input from battery :+12V (Ni-MH), or +10.8V (Li-Ion)

B. Output requirement :

Voltage	Regulation	Ripple & noise	Current	Current:typical	Current:min
1.5V - 3.1V	-4%- +2%	100mV P-P	4A	3A	0.5A

C. Efficiency :

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

D. Protection requirement :

Output short circuit protection.
Output over current protection.

Inverter Board

The Notebook PC has a built-in inverter module which provides all the requirements to support the DSTN color and TFT color panels. This module will have the following features:

DC input: 8V ~ 21V full range

AC output:

Item	Min.	Typical	Max.
Input voltage (V)	8		21
Input current (A)			0.26
Non-load output voltage (V)	1000	1200	1500
Frequency (KHz)	40	50	60
Output current (mA)	2	5	6 (rms)
Output voltage			700 (rms)

Setting DIP Switch

Locate the DIP Switch (SW1) to set the correct configuration for the following purposes:

- Flash ROM BIOS Update.
- CPU upgrade.
- *Cache mode (reserved).*

Dip Switch (SW1)				Purpose
SW1-1	**SW1-2**			**Flash ROM BIOS**
Off	Off			Existing BIOS
On	On			Updating BIOS
SW1-5	**SW1-6**	**SW1-7**	**SW1-8**	**CPU Speed**
Off	Off	Off	Off	90 MHz
Off	On	Off	Off	100 MHz
Off	Off	Off	On	120 MHz
Off	On	Off	On	133 MHz
Off	Off	On	On	150 MHz
Off	On	On	On	166 MHz
Off	On	On	Off	200 MHz
Off	On	Off	Off	233 MHz
SW1-9 (Reserved)				***Cache Mode (Reserved)***
Off				*Intel pipeline burst*
On				*Cyrix linear burst*

POST Checkpoint Codes

POST is performed by the BIOS when the computer is reset or booted. POST tests and initializes key components. When a POST routine completes, a code is written to I/O port address 80h. Display this code by attaching diagnostic equipment to I/O port address 0080h.

Uncompressed Initialization Codes

Code	Description
D0h	The NMI is disabled. Power on delay is starting. Next, the initialization code checksum will be verified.
D1h	Initializing the DMA controller, performing the keyboard controller BAT test, starting memory refresh, and entering 4 GB flat mode next.
D3h	Starting memory sizing next.
D4h	Returning to real mode. Executing any OEM patches and setting the stack next.
D5h	Passing control to the uncompressed code in shadow RAM at E000:0000h. The initialization code is copied to segment 0 and control will be transferred to segment 0.
D6h	Control is in segment 0. Next, checking id <Ctrl><Home> was pressed and verifying the system BIOS checksum. If either <Ctrl><Home> was press or the system BIOS checksum is bad, next will go to checksum code E0h. Otherwise, going to checksum code D7h.
D7h	Passing control to the interface module next.
D8h	The main system BIOS routine code will be decompressed next.
D9h	Passing control to the main system BIOS in shadow RAM next.

Bootable Recovery Codes

Code	Description
E0h	The onboard floppy controller if available is initialized. Next, beginning the base 512KB memory test.

Power On Self Test

POST Phases

Every time the system is power on, BIOS executes two types of POST routines:

System Test and Initialization	Test and initialize BIOS for normal operations.
System Configuration Verification	Compare defined configuration with hardware actually installed.

BIOS Error Reporting

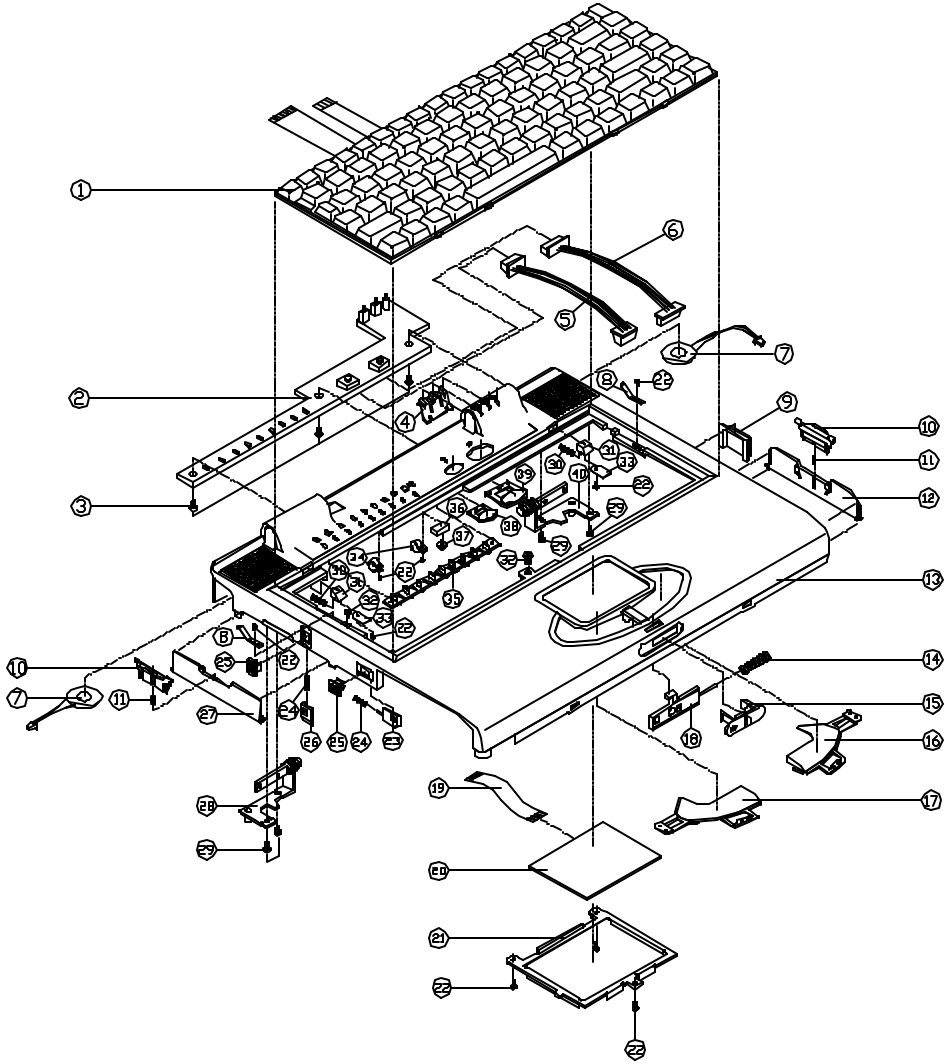
If an error occurs before the display device is initialized, a series of audio beeps will be emitted to indicate that a ***fatal error*** is detected. Fatal errors that cause beep codes halt the computer's boot process.

Beeps	Error Messages	Description
1	Refresh Failure	The memory refresh circuitry is faulty.
2	Parity Error	Parity error in the base memory (the first 64KB block) of memory
3	Base 64KB Memory Failure	Memory failure in the first 64KB.
4	Timer Not Operational	A memory failure in the first 64KB of memory, or Timer 1 is not functioning.
5	Processor Error	The CPU generated an error.
6	8042 - Gate A20 Failure	The keyboard controller (8042) may be bad. The BIOS cannot switch to protected mode.
7	Processor Exception Interrupt Error	The CPU generated an exception interrupt.
8	Display Memory Read/Write Error	The system video adapter is either missing or its memory is faulty. It's not a fatal error.
9	ROM Checksum Error	The ROM checksum value does not match the value encoded in the BIOS.
10	CMOS Shutdown Register Read/Write Error	The shutdown register for CMOS RAM has failed.
11	Cache Error/ External Cache Bad	The external cache is faulty.

If an error occurs after the display device is initialized, the error message is displayed. A prompt to press <F1> will appear with the ***displayed error*** message.

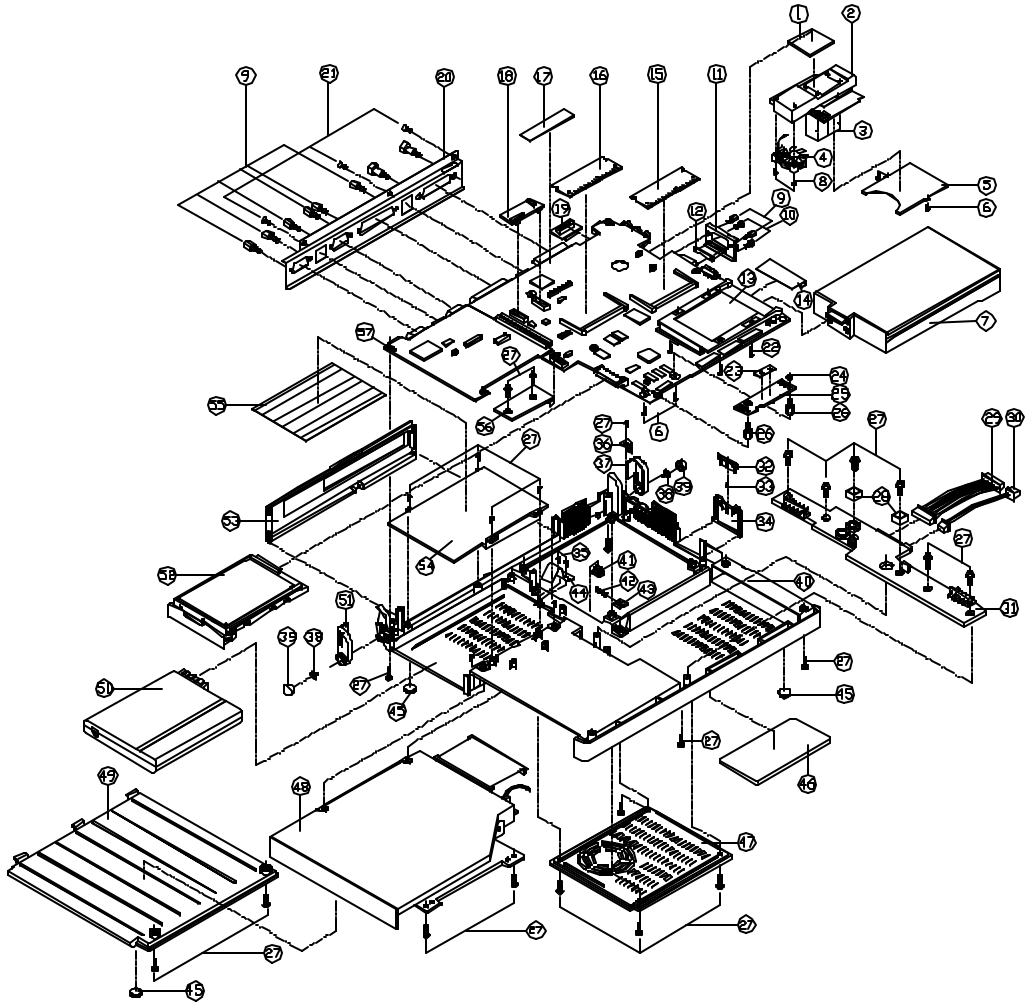
Error Message	Explanation
8042 Gate - A20 Error Address Line Short	Gate A20 on the keyboard controller (8042) is not working. Replace the 8042. Errors in the address decoding circuitry.
C: Drive Error	Hard disk drive C: does not respond. Check the C: hard disk type in the Standard Setup.
C: Drive Failure	Hard disk drive C: does not respond. Replace the hard disk.
Cache Memory Bad, Do Not Enable Cache.	Cache memory is defective. Replace it.
CH-2 Timer Error	Most ISA computers include two timers. There is an error in Timer 2.
CMOS Battery State Low	CMOS RAM is powered by a battery. The battery power is low. Replace the battery.
CMOS Checksum Failure	After CMOS RAM values are saved, a checksum value is generated for error checking. The previous value is different from the current value. Run the BIOS Setup.
CMOS System Options Not Set	The values stored in CMOS RAM are either corrupt or nonexistent. Run the BIOS Setup.
CMOS Display Type Mismatch	The video type in CMOS RAM does not match the type detected by the BIOS. Run the BIOS Setup.
CMOS Memory Size Mismatch	The amount of memory is different from the amount in CMOS RAM.
CMOS Time and Date Not Set D: Drive Error	Run Standard Setup to set the date and time in CMOS RAM. Hard disk drive D: does not respond. Check the D: hard disk type in the Standard Setup.
D: Drive Failure	Hard disk drive D: does not respond. Replace the hard disk.
Diskette Boot Failure	The boot disk in floppy disk A: is corrupt. It can not be used to boot the computer. Use another boot disk and follow the screen instructions.
Display Switch Not Proper	Some computers require a video switch be set to either color or monochrome. Turn the computer off, set the switch, then power on.
DMA Error DMA#1 Error	Error in the DMA controller. Error in the first DMA channel.
DMA#2 Error	Error in the second DMA channel.
FDD Controller Failure	The BIOS can not communicate with the floppy disk drive controller. Check all appropriate connections after the computer is powered down.
HDD Controller Failure	The BIOS can not communicate with the hard disk drive controller. Check all appropriate connections after the computer is powered down.
INTR#1 Error	Interrupt channel 1 failed POST.
INTR#2 Error	Interrupt channel 2 failed POST.

Invalid Boot Diskette	The BIOS can read the disk in the floppy disk drive A:, but can not boot the computer. Use another boot disk.
Keyboard Is Locked…Unlock It	The keyboard lock is engaged. The computer must be unlocked to continue.
Keyboard Error	There is a timing problem with the keyboard. Set the keyboard option in Standard Setup to *Not Installed* to skip the keyboard POST routines.
KB/Interface Error	There is an error in the keyboard connector.
No ROM BASIC	Can not find a bootable sector on either disk drive A: or hard disk drive C:. The BIOS calls INT 18H which generates this message. Use a bootable disk.
Off Board Parity Error	Parity error in memory installed in an expansion slot.
On Board parity Error	Parity error in motherboard memory.
Parity Error ???	Parity error in system memory at an unknown address.

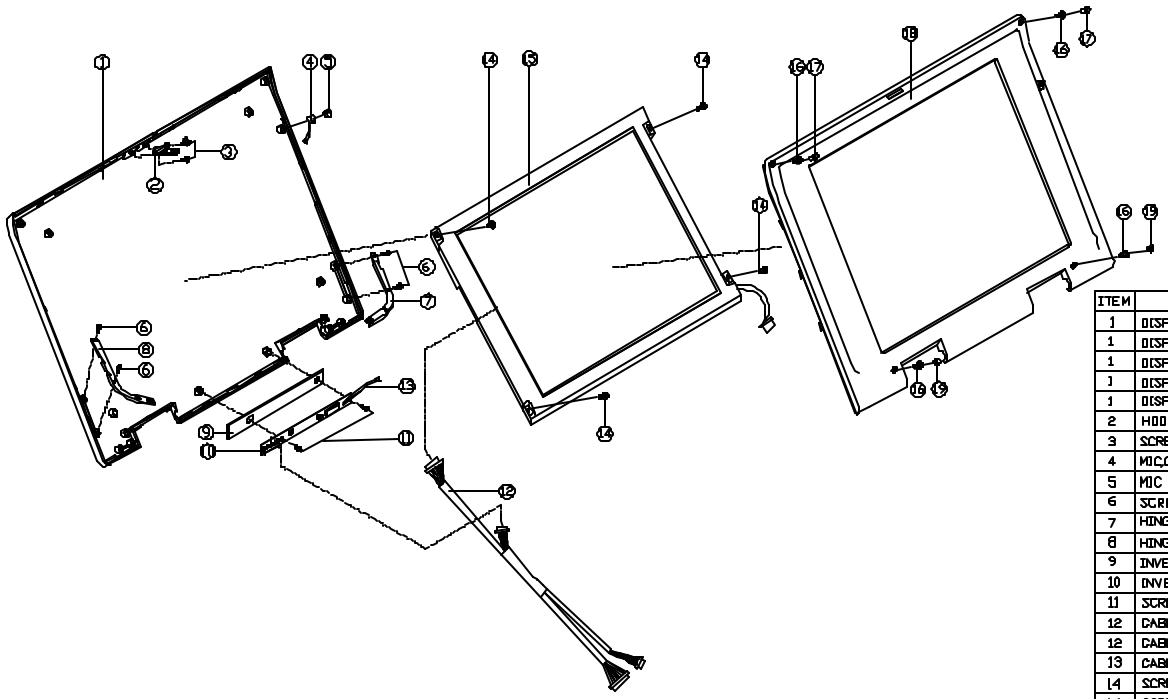


ITEM	PART NAME	PART NO	REMARK
1	KEYBOARD	80-6200B-7G0-1	
2	LED CARD	77-7E004-D00	
3	SCREW	35-0612D-6RA	
4	LED LENS (S)	42-7E002-020	
5	CABLE	28-77B05-450	
6	CABLE	28-77B13-450	
7	SPEAKER	23-C2B0L-100	
8	K/B SPRING PLATE	38-72020-010	
9	IR LENS	42-62012-010	
10	COVER KNOB POM	42-62082-010	
11	COVER KNOB SPRING	38-62020-020	
12	CARD BUS COVER	42-7207P-020	
13	TOP CASE	39-72012-01A	
14	SPRING FOR HOOK	38-L00R4-020	
15	HOOK KNOB	42-7208L-010	
16	GLIDE POINT KNOB(R)	42-62082-03D	
17	GLIDE POINT KNOB(L)	42-62082-04D	
18	HOOK HOLDER	42-720A2-020	
19	FFC CABLE	27-9350C-750-1	
20	GLIDE POINT	87-6207D-080	
21	G/D HOLDER	33-72002-010	
22	SCREW	35-41120-3RA	
23	HDD LOCK	42-7208C-010	
24	LOCK KNOB SPRING	38-62026-010	
25	BATTERY LOCK KNOB	42-6208N-010	
26	BATTERY LOCK	42-6203M-041	
27	BATTERY COVER	42-7203N-030	
28	HINGE(L)	79-7200Y-02D	
29	SCREW	35-41130-6RA	
30	SPRING FOR KB LOCK KNOB	38-00R26-010	
31	K/B LOCK KNOB	42-66082-070	
32	SCREW	35-06125-6R0	
33	K/B LOCK BRACKET	33-66002-020	
34	CABLE CLAMP	33-72002-020	
35	LED LENS (L)	42-72002-010	
36	MAGNET	34-72002-010	
37	SCREW	35-41025-4RA	
38	SUSPEND KNOB	42-72084-02D	
39	POWER KNOB	42-72084-010	
40	HINGE(R)	79-7200Y-010	

CLEVO CO.(PCII)			
DESCRIPTION: TOP CASE			
SCALE: 1/1	DRAWING NO: 99-72005-020		
UNIT: M/M	SUBBASE: 7210P	MODEL NO: 7200	



ITEM	PART NAME	PART NO	REMARK
1	HEAT SINK RUBBER	47-62033N-010	
2	HEAT SINK	31-72018N-010	
3	SCREW	35-01120-08A	
4	FAN+CON.	83-A3010-246	
5	HEAT SINK BRACKET	33-7200N-010	
6	SCREW	35-01125-4RA	
7	FDD ASS'Y 7200	参考部品番号 (99-72005-041)	
8	SCREW	35-41125-11A	
9	HEX STUD	34-47109-011	
10	SCREW	35-01125-4RA	
11	GAME PORT BRACKET	33-7200P-010	
12	GAME PORT PLATE	33-7200P-020	
13	MAIN BOARD	77-7201D-D1L	
14	CARD BUS MYLAR	40-7205P-010	
15	8M EDO RAM	77-7202T-270	
16	16M EDO RAM CARD	77-7202T-470	
17	32M EDO RAM CARD	77-7205T-870	
18	64M EDO RAM CARD	77-7207T-A70	
19	16M SDRAM	77-7202U-472	
20	8M SDRAM	77-7202U-272	
21	DOCKING PIN MYLAR	40-6205R-010	
22	LVDS CARD	77-720FL-D00	
23	PANEL LINK CARD	77-720PL-D00	
24	TFT CARD	77-722CL-3H1	
25	DSTN CARD	77-720CL-D00	
26	3.3V 保護卡	77-720A3-A01	
27	REAR BRACKET	33-72000-000	
28	SCREW	35-26130-6R0	
29	SCREW	35-41120-13A	
30	SWITCH PCB MYLAR	40-7215S-020	
31	NUT NI M2.5	36-01111-250	
32	SWITCH BOARD	77-72005-001	
33	HEX STUD	34-7200S-010	
34	SCREW	35-06125-6R0	
35	CONNECTOR HOLDER	42-72004-010	
36	CABLE	28-77318-301	
37	CABLE	80-77304-450	
38	D/D+CHARGER	77-7201C-D02	
39	COVER KNOB POM	48-62082-H10	
40	COVER KNOB SPRING	38-62020-020	
41	GAME PORT COVER	42-7207P-H10	
42	SCREW	35-41125-4RA	
43	LOCK BRACKET	33-72003-010	
44	FOOT(R)	42-62061-000	
45	SCREW	35-41025-4RA	
46	FOOT RUBBER	47-62113-01D	
47	BOTTOM CASE	39-72013-DLA	
48	BATTERY LOCK KNOB	42-6208N-010	
49	LOCK KNOB SPRING	38-62126-010	
50	FDD LOCK	42-7208J-010	
51	BATT. PUSH SPRING PLATE	38-62030-010	
52	BOTTOM CASE RUBBER PAD	47-62123-01D	
53	FCC LABEL	45-62003-D1I	
54	CPU COVER	42-7207J-010	
55	CD-ROM	參考部品番號 (99-72005-160)	
56	CD-ROM COVER	42-7207Z-01D	
57	JUMP BATTERY	87-62090-01D	
58	JUMP BATTERY	87-62090-011	
59	JUMP BATTERY	87-62090-020	
60	JUMP BATTERY	87-62090-021	
61	DURACELL BATTERY	87-62090-030	
62	FOOT(L)	42-62061-020	
63	HDD ASS'Y 7200	參考部品號 (99-72015-070)	
64	REAR COVER ASSY 7200	42-7207Q-001	
65	BATTERY BRACKET	33-7200M-H10	
66	BATTERY BRACKET MYLAR	40-7215M-H10	
67	MPEG CARD	77-72000-D1I	7D08 [illegible]
68	DAUGHTER CARD	77-72001-H10	



ITEM	PART NAME	PART NO	REMARK
1	DISPLAY BACK PANEL(12.1")	39-72201-32A	SAMSUNG
1	DISPLAY BACK PANEL(12.1")	39-72201-42A	HOSIDEN
1	DISPLAY BACK PANEL(12.1")	39-72D01-02A	SANYO
1	DISPLAY BACK PANEL(13.3")	39-72201-12A	PANASONIC
1	DISPLAY BACK PANEL(13.3")	39-72201-22A	SAMSUNG
2	HOOK	42-720A1-010	
3	SCREW	35-06120-6RA	
4	MIC.CABLE	23-ED61D-220	
5	MIC RUBBER	47-91023-010	
6	SCREW	35-41125-4RA	
7	HINGE BRACKET(R)	33-7200Y-01D	
8	HINGE BRACKET(L)	33-7200Y-02D	
9	INVERTER MYLAR	40-7205S-01D	
10	INVERTER MODULE	76-722TR-002	
11	SCREW	35-41LED-3RA	
12	CABLE FOR LCD-M/B(133")	28-77828-401	PANASONIC
12	CABLE FOR LCD-M/B(133")	28-77828-301	SAMSUNG
13	CABLE FOR INVERTER	28-57A02-700	
14	SCREW (13.3")	35-41125-6RA	PANASONIC
14	SCREW (12.1")	35-41130-6RA	SAMSUNG
15	LCD (12.1")	50-F5708-63S	SAMSUNG
15	LCD (12.1")	50-F5778-63H	HOSIDEN
15	LCD (13.3")	50-G6708-63S	SAMSUNG
15	LCD (13.3")	50-G6709-63P	PANASONIC
16	SCREW	35-01120-4R0	
17	DISPLAY RUBBER PAD (UP)	47-52021-010	
18	DISPLAY FRONT PANEL(12.1")	39-72001-21A	
18	DISPLAY FRONT PANEL(13.3")	39-72001-11A	
19	DISPLAY RUBBER PAD (BOTTOM)	47-52023-010	

CLEVO CO.(PCII)

DISPLAY(12.1",13.3")

1/1

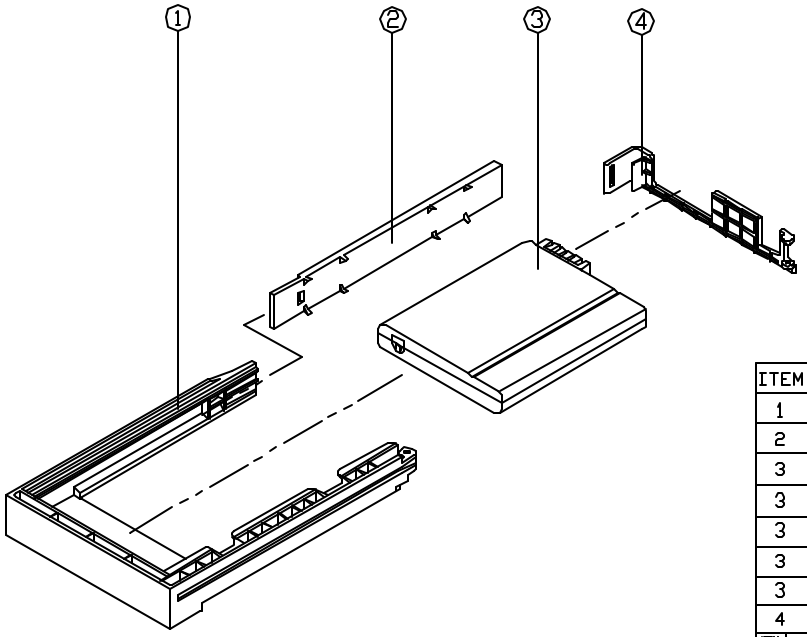
86-72005-010

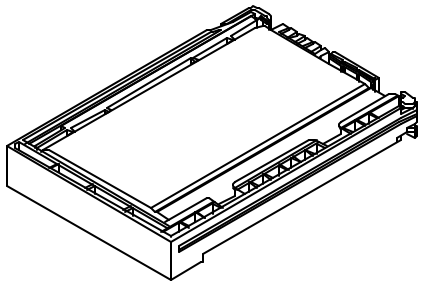
M/N

7205P

7202

REV. LTR	DATE	UPDATE DESCRIPTION	REMARK	SIGN	APPROVER
REV△TR	DATE	UPDATE			





BATTERY組合圖

ITEM	PART NAME	PART NO	REMARK
1	BATTERY HOLDER	42-7203M-010	
2	BATTERY SLIDER	42-6203M-050	
3	DUM. BATTERY	87-62080-010	TOSHIBA 德賢
3	DUM. BATTERY	87-62080-011	TOSHIBA 德賢
3	DURCELL BATTERY	87-62080-030	
3	DUMB BATTERY	87-62080-020	TOSHIBA [illegible]
3	DUMB BATTERY	87-62080-021	TOSHIBA [illegible]
4	BATTERY HOLDER LOCK	42-7203M-020	

ITEM	PART NAME	PART NO.	QTY /SET	MATERIAL (SPEC.)	REMARK

MATERIAL (SPEC.)

FINISH

SELECT V / DIM / TOL	1	2	3	4	EXTRA
~8	0.03	0.05	0.10	0.20	
8~2.5	0.05	0.08	0.20	0.30	
2.5~80	0.08	0.12	0.30	0.40	
80~250	0.12	0.20	0.40	0.60	
250~	0.20	0.30	0.50	0.80	

QUANTITY /SET: 1PC.

DRAWN: 3/24/1997 NI

DESIGNED

CHECKED

APPROVED

CLEVO CO.(PCII)

DESCRIPTION: BATTERY 組件圖(八)

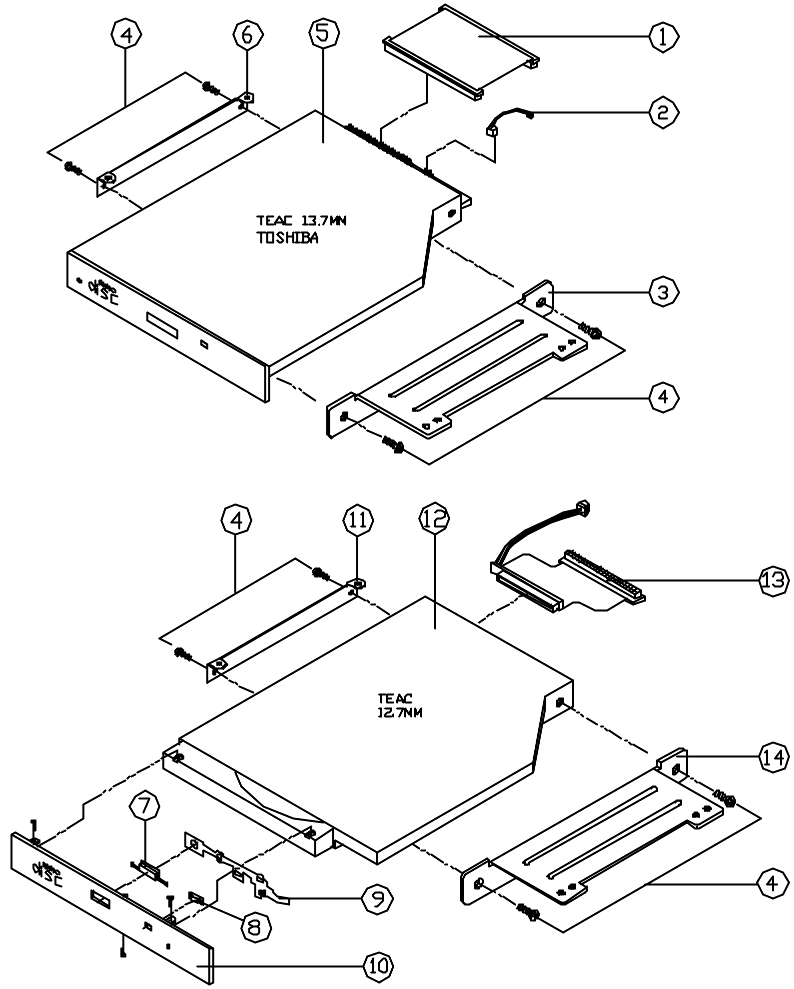
SCALE: 1/1

DRAWING NO.: 99-72D05-080

UNIT: M/M

FILENAME: 728ATT

MODEL NO: 720D



ITEM	PART NAME	PART NO	REMARK
1	FPC CABLE	2B-79R44-350	
2	CABLE	2B-77B06-300	TEAC
3	CD-ROM BRACKET (R)	33-7200Z-010	TEAC
4	SCREW	33-D1120-2RE	
5	CD-ROM	87-62010-052	TEAC
6	CD-ROM BRACKET (L)	33-7200Z-020	TEAC
7	CD-ROM EJECT BUTTON	42-6207Z-320	TEAC
8	CD-ROM LENS	42-52P7Z-110	TEAC
9	SPRING PLATE	38-62012-020	TEAC
10	CD-ROM PANEL	42-6207Z-310	PANASONIC
11	CD-ROM BRACKET (L)	33-7200Z-120	TOSHIBA
12	CD-ROM	87-62010-051	TEAC
13	FPC CABLE	2B-79R50-350	
14	CD-ROM BRACKET (R)	33-7200Z-110	

CLEVO CO.(PCII)

CD-ROM

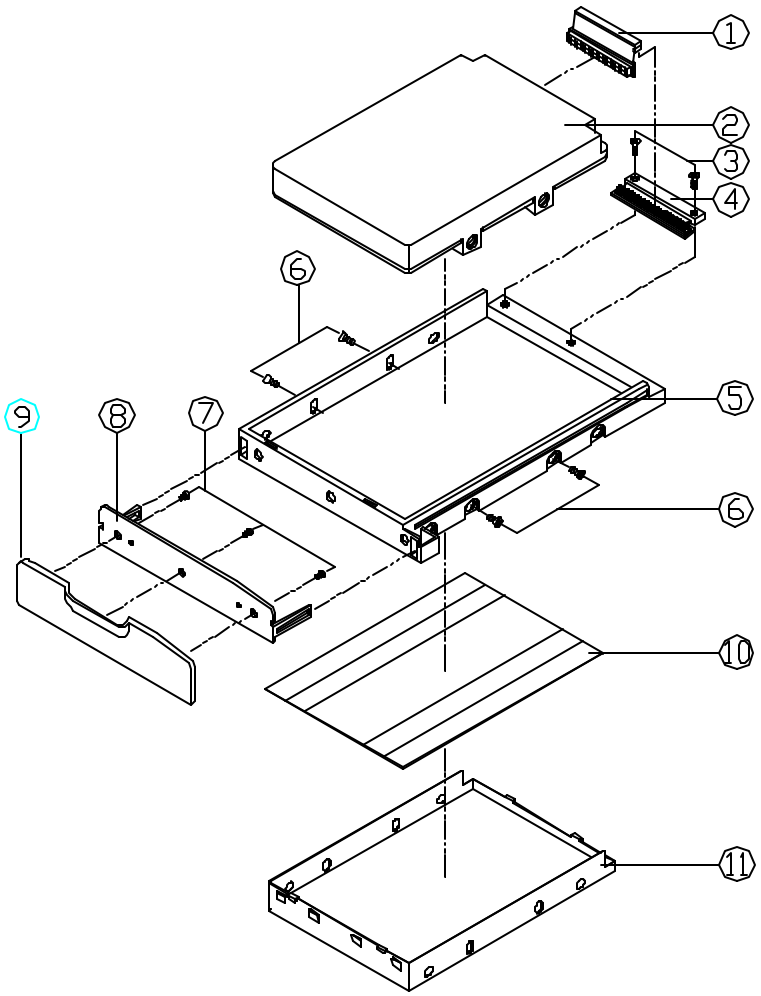
SCALE 1/1 — DRAWING NO. 99-72005-010

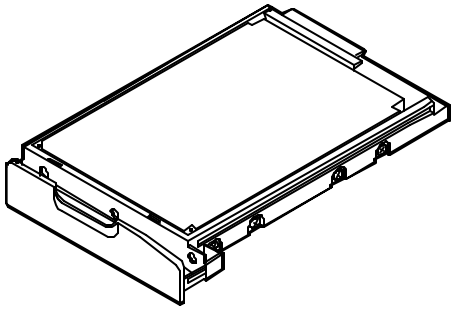
UNIT M/M — FILENAME 72CDROM — MODEL NO. 7200

QUANTITY/SET 1 PC — DRAWN 1/27/1997 IN

REV. LTR	DATE	UPDATE DESCRIPTION	REMARK	BKN	APPROVER
REV. LTR	DATE	UPDATE			

REV. LTR	DATE	UPDATE DESCRIPTION	REMARK	SIGN	APPROVER
REV△TR	DATE	UPDATE			





2.5"HDD 組合圖

ITEM	PART NAME	PART NO.	REMARK
1	FPC CABLE	28-79R44-33E	
2	2.5" HDD	85-12211-514	IBM
2	2.5" HDD	85-12211-542	SEAGATE
2	2.5" HDD	85-12211-59T	TOSHIBA
3	SCREW	35-81120-6RA	
4	HDD TRANSFER CARD	77-7200N-D00	
5	2.5"HDD CASE	42-720CI-010	
6	SCREW	35-B6130-4R0	
7	SCREW	35-01120-2RE	
8	HDD PULL BRACKET	33-7200I-020	
9	HDD COVER	42-7207I-010	
10	HDD MYLAR	40-6205I-010	
11	2.5"HDD SHIELDING PLATE	33-7200I-010	

ITEM	PART NAME	PART NO.	QTY /SET	MATERIAL (SPEC.)	REMARK

MATERIAL (SPEC.)

FINISH

QUANTITY /SET: 1PC

DRAWN: 4/3/1997 INI

DESIGNED

CHECKED

APPROVED

SELECT V / DIM	NO.	1	2	3	4	EXTRA
~6		0.03	0.05	0.10	0.20	
6~25		0.05	0.08	0.20	0.30	
25~80		0.08	0.12	0.30	0.40	
80~250		0.12	0.20	0.40	0.50	
250~		0.20	0.30	0.50	0.60	

CLEVO CO.(PCII)

DESCRIPTION: 2.5" HDD 組合圖 (七)

SCALE: 1/1

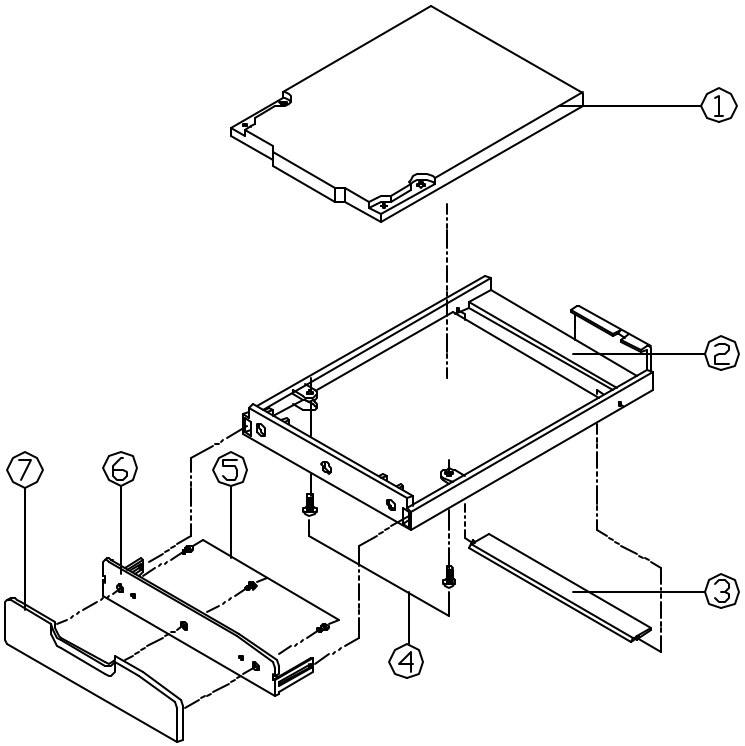
DRAWING NO: 99-72005-070

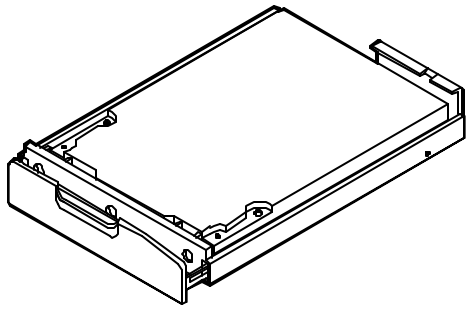
UNIT: M/M

FILENAME: 72HDD

MODEL NO.: 7200

REV. LTR	DATE	UPDATE DESCRIPTION	REMARK	SIGN	APPROVER
REV.A TR	DATE	UPDATE			





3"HDD 組合圖

ITEM	PART NAME	PART NO.	REMARK
1	3" HDD	85-14214-5CJ	
1	3" HDD	85-14214-51W	
2	3"HDD CASE	42-720CI-020	
3	3" HDD CHASSIS	42-7202I-020	
4	SCREV	35-06125-6R0	
5	SCREV	35-01120-2RE	
6	HDD PULL BRACKET	33-7200I-020	
7	HDD COVER	42-7207I-010	

ITEM	PART NAME	PART NO.	QTY /SET	MATERIAL (SPEC.)	REMARK

MATERIAL (SPEC.)

FINISH

QUANTITY /SET: 1PC

DRAWN: 3/31/1997 INI

DESIGNED

CHECKED

APPROVED

SELECT V / DIM	TOL.	1	2	3	4	EXTRA
~3		0.05	0.07	0.10	0.20	
3~25		0.05	0.08	0.20	0.30	
25~80		0.08	0.12	0.30	0.40	
80~250		0.12	0.20	0.40	0.50	
250~		0.20	0.30	0.50	0.80	

CLEVO CO.(PCII)

DESCRIPTION: 3" HDD

SCALE: 1/1

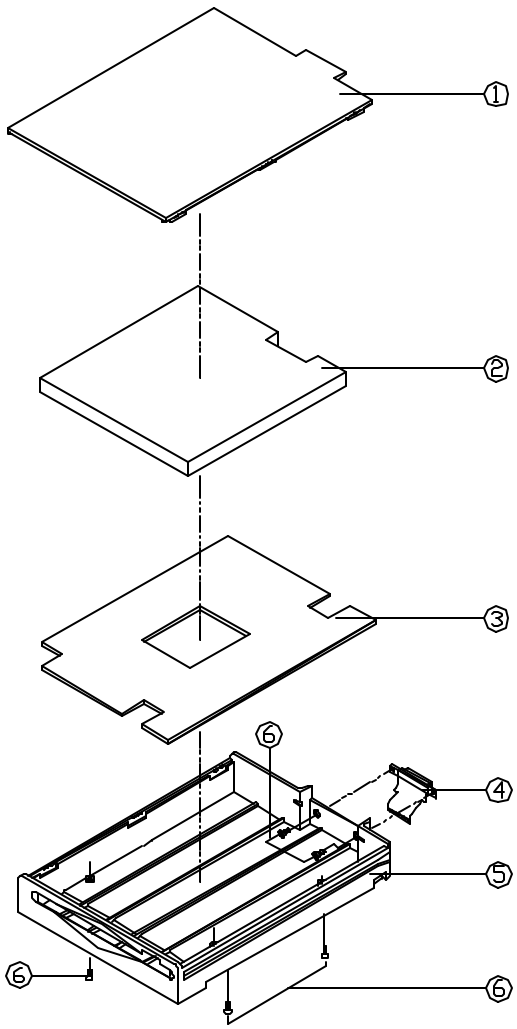
DRAWING NO: 99-72005-120

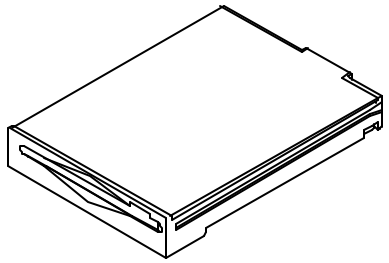
UNIT: M/M

FILENAME: 723HDD

MODEL NO.: 7200

REV. LTR	DATE	UPDATE DESCRIPTION	REMARK	SIGN
REV. TR	DATE	UPDATE		





FDD 組合圖

ITEM	PART NAME	PART NO	REMARK
1	FDD TOP CASE	42-7207J-010	
2	3.5" FDD	85-23211-557	TEAC
2	3.5" FDD	85-2321A-56P	PANASONIC
3	MYLAR FOR FDD	40-9205B-011	
4	FPC CABLE	28-59R56-660	
5	FDD BOTTOM CASE	42-7207J-020	
6	SCREW	35-B4125-3RA	

ITEM	PART NAME	PART NO.	QTY / SET	MATERIAL (SPEC.)	REMARK

SELECT Y / DIM. X	1	2	3	4	EXTRA
~8	0.08	0.08	0.10	0.30	
8~25	0.08	0.08	0.20	0.30	
25~80	0.08	0.13	0.30	0.40	
80~250	0.12	0.20	0.40	0.80	
250~	0.30	0.30	0.50	0.80	

MATERIAL (SPEC.)

FINISH

QUANTITY / SET: 1PC

DRAWN: 3/26/1997 [illegible]

DESIGNED

CHECKED

APPROVED

CLEVO CO.(PCII)

DESCRIPTION: 3.5" FDD [illegible] (PQ)

SCALE: 1/1

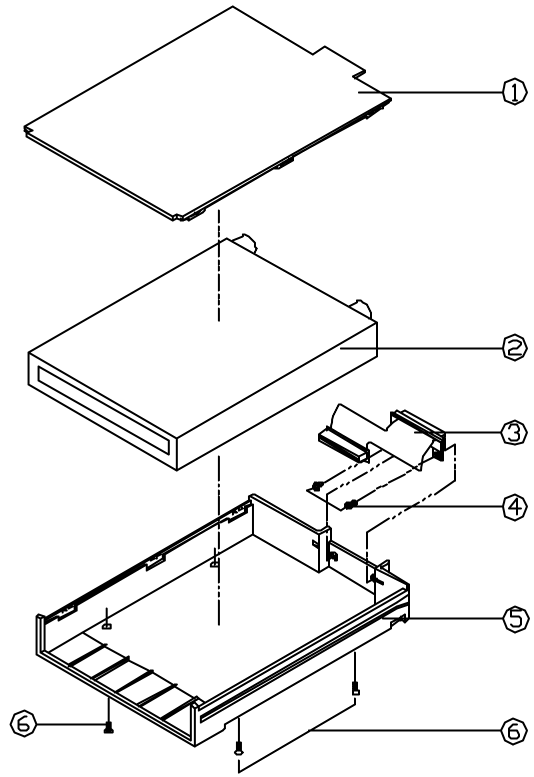
DRAWING NO.: 99-72005-040

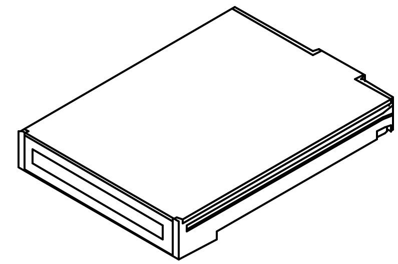
UNIT: M/M

FILENAME: 72FDD

MODEL NO.: 7200

REV. LTR	DATE	UPDATE DESCRIPTION	REMARK	SIGN
REV△TR	DATE	UPDATE		





3.5"MO 組合圖

ITEM	PART NAME	PART NO	REMARK
1	MO TOP CASE	42-7207K-010	
2	3.5" MO	85-43217-8GF	
3	FPC CABLE	28-79R56-750	
4	SCREW	35-B4125-3RA	
5	MO BOTTOM CASE	42-720CK-010	
6	SCREW	35-26130-6R0	
ITEM	PART NAME	PART NO	QTY /SET	MATERIAL (SPEC)	REMARK

SELECT DIM. \ TOL	1	2	3	4	EXTRA
~6	0.03	0.05	0.10	0.20	
6~25	0.06	0.08	0.20	0.30	
25~80	0.08	0.12	0.30	0.40	
80~250	0.12	0.20	0.40	0.60	
250~	0.20	0.30	0.50	0.80	

MATERIAL (SPEC)

FINISH

QUANTITY /SET: 1PC.

DRAWN: 3/28/1997 JYLJ

DESIGNED

CHECKED

APPROVED

CLEVO CO.(PCII)

DESCRIPTION: MO 爆炸圖(土)

SCALE: 1/1

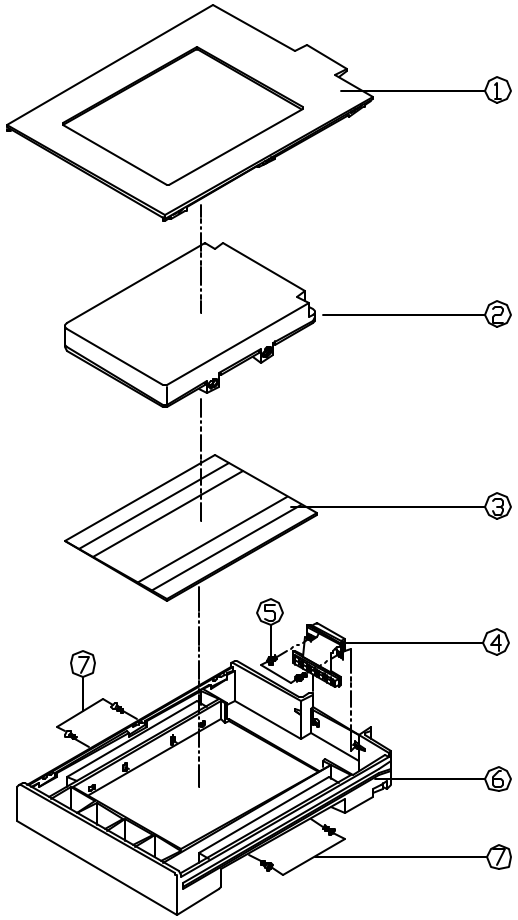
DRAWING NO.: 99-720D5-110

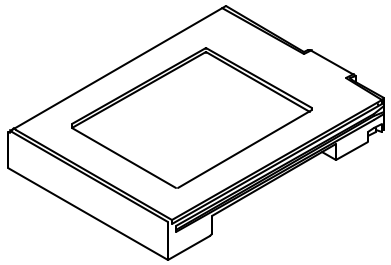
UNIT: M/M

FILENAME: 72N0

MODEL NO.: 72D0

REV. LTR	DATE	UPDATE DESCRIPTION	REMARK	SIGN
REV.A	TR	DATE	UPDATE	





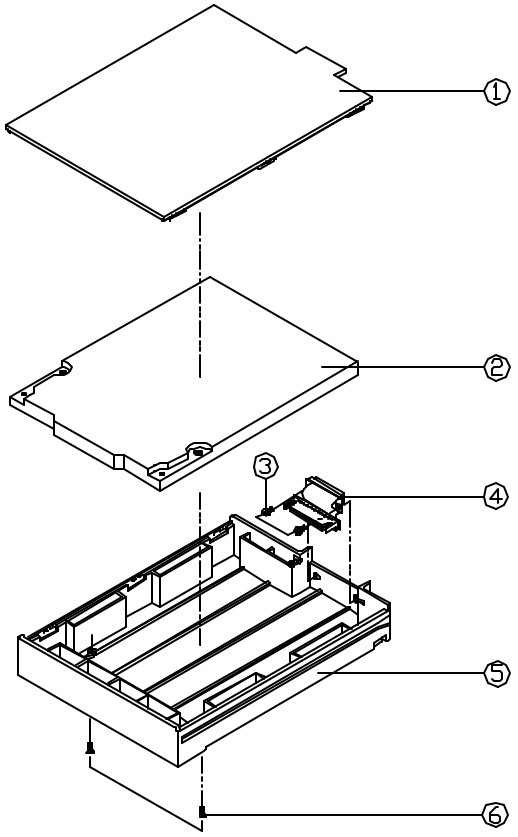
2ND 2.5"HDD 組合圖

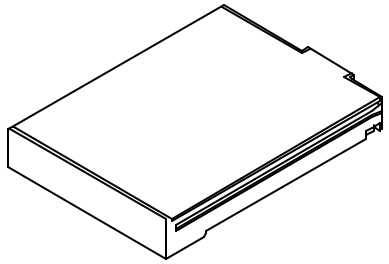
ITEM	PART NAME	PART NO	REMARK
1	2ND 2.5"HDD TOP CASE	42-7207I-030	
2	2.5" HDD	85-12211-514	
2	2.5" HDD	85-12211-59T	
3	HDD MYLAR	40-6205I-010	
4	FPC CABLE	28-79R56-670	
5	SCREW	35-B4125-3RA	
6	2ND 2.5"HDD BOTTOM CASE	42-720CI-030	
7	SCREW	35-B6130-4R0	

ITEM	PART NAME	PART NO	QTY /SET	MATERIAL (SPEC.)	REMARK

MATERIAL (SPEC.)		QUANTITY /SET	1PC	CLEVO CO.(PCII)	
FINISH		DRAWN 3/28/1997		DESCRIPTION	2ND 2.5"HDD
SELECT V		DESIGNED			
DIM. \ NO.	1 2 3 4 EXTRA	CHECKED		SCALE 1/1	DRAWING NO. 99-72005-1D0
~6	0.03 0.05 0.10 0.20	APPROVED		UNIT M/M	FILENAME 72-25HDD
6~25	0.05 0.08 0.20 0.30				MODEL NO. 72D0
25~80	0.08 0.12 0.30 0.40				
80~250	0.12 0.20 0.40 0.00				
250~	0.20 0.30 0.50 0.60				

REV LTR	DATE	UPDATE DESCRIPTION	REMARK	SIGN
RE⚠TR	DATE	UPDATE		





2ND 3"HDD 組合圖

ITEM	PART NAME	PART NO	REMARK
1	FDD TOP CASE	42-7207J-010	
2	3" HDD	85-14214-5CJ	
2	3" HDD	85-14214-51W	
3	SCREW	35-B4125-3RA	
4	FPC CABLE	28-79R56-420	
5	2ND 3"HDD BOTTOM CASE	42-720CI-040	
6	SCREW	35-06125-6R0	

ITEM	PART NAME	PART NO.	QTY /SET	MATERIAL (SPEC.)	REMARK

MATERIAL (SPEC.)		QUANTITY /SET	1PC.	CLEVO CO.(PCII)	
FINISH		DRAWN	3/28/1997	DESCRIPTION	2ND 3"HDD 組合圖(九)
		DESIGNED			
		CHECKED		SCALE	1/1
		APPROVED		UNIT	M/M
				DRAWING NO.	99-720CI5-D90
				FILENAME	72-3HDD
				MODEL NO.	720

SELECT 1 DIM. \ TOL.	1	2	3	4	EXTRA
~6	0.03	0.05	0.10	0.30	
6~25	0.04	0.08	0.20	0.30	
25~80	0.08	0.12	0.30	0.40	
80~250	0.12	0.20	0.40	0.60	
250~	0.20	0.30	0.50	0.80	