

DELL LATITUDE PP01X REVERSE ENGINEERING

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Summary:



The device is an old Dell Latitude C840 PP01X computer that was chosen because we were really interested in figuring out its parts and mechanisms. The methodology used for disassembling the device was a simple process of finding and getting rid of screws, stickers or tape and separating the parts for later identification and theorizing their function and place in the system of the computer.

In the process of deconstructing the device we easily identified the display, keyboard, touchpad, battery, disk drive and motherboard. After separating the frame, we found the hard drive, the fan, memory ram among others.

Parts of the Device

The **battery** is what gives the computer power and the ability to work.



The **display** shows what is on the computer. The **LCD chip** is a flat-panel display or other electronically modulated optical device that uses the light-modulating properties of liquid crystals combined with polarizers.

The **hard drive** stores all the data of the computer, the operating system, applications, and data files, such as documents, pictures, and music. The **HDD** is a data storage device that lives inside the computer, it has spinning disks inside where the data is stored.



The **motherboard** connects all the hardware to the processor, distributes electricity from the power supply, and defines expansion cards that can connect to the PC. The **distributor** is the central item of a computer network used to connect many computers to each other and streamline the process.

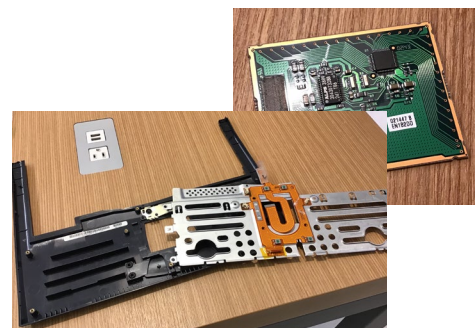
The **speakers** produce audio output.

The **keyboard** sends information, such as letters, to the computer. The **CMOS battery** powers the BIOS firmware in your laptop.



The **laptop dual fan** cools down the laptop. The **minebea motor** rotates fans to cool the inside of PCs and other office automation equipment by directing heat outside.

The **palm-rest** helps keep the wrists in a healthy posture. The **touchpad** is used to control the mouse pointer.



The **power button** turns the computer on and off. The **power button board** connected to the power button, allows the turning on and off of the device.

The **LCD CCFL inverter** provides the power supply to the CCFL.



The **Dell 600M intel mini PCI wireless Wi-if card WM3A2100** receives the wireless signal and communicates with wireless network.

The **CD-ROM drive** uses a low-power laser beam to read digitized data that has been encoded in the form of tiny pits on an optical disk. (Reads DVD-ROM disks.)



The **ram sticks** are a form of volatile memory.

The **laptop computer modem** provides internet access.

The **CPU** (central processing unit) calculates and interprets instructions while you are surfing the web, creating documents, playing games, or running software programs.



The **microprocessor** is a multipurpose, programmable, clock-driven, register based electronic device that reads binary instructions from a storage device called memory, accepts binary data as input and processes data according to those instructions, and provides an output. The **Toshiba semiconductor** are material that have resistance levels

between those of a conductor and an insulator, quite common, found in almost all electronic devices.

In conclusion, during the disassembling of this device, we learned the pieces of computers in the past and how many there were. One of the things that interested us the most was the the fact that they were not as dramatically behind as we thought before. It was honestly surprising to find nearly no cables and that most of the parts were held together by screws.

References (most answers were found in the google web):

<http://www.contrib.andrew.cmu.edu/~hkrishn1/networks.html>

<https://www.dell.com/en-us>

Pictures by Nicole Macero in Hammocks Middle School.