

x200 tablet

https://libreboot.org/docs/install/x200_external.html

```
root@x200:~# dmidecode | grep ROM\ Size
      ROM Size: 8192 kB

root@x200:~# ifconfig eth0
eth0: flags=4098<BROADCAST,MULTICAST> mtu 1500
      ether 00:1f:16:0c:2a:41 txqueuelen 1000 (Ethernet)
```

<https://operand.ca/2018/02/22/liberating-a-x200.html>

x230 tablet

<https://www.coreboot.org/Board:lenovo/x230>

https://www.ericholzbach.net/blog/x230_coreboot/

<https://blog.nog2.net/corebooting-thinkpad-x230.html>

<http://zmatt.net/unlocking-my-lenovo-laptop-part-3/>

XPE, VGA bios <https://vimeo.com/177951809>

<https://mega.nz/#!PVxz2ZgS!u9ivPW3Hio3kGKcmBHsBLw!UpRe3n74NHQK-Gzgz08>

[x230.dmi.after](#)

[x230.dmi.before](#)

EC

<https://github.com/eigenmatt/mec-tools>

flashrom

```
pi@rpi3:~ $ sudo apt-get install build-essential pciutils usbutils libpci-dev libusb-dev libftdi
```

ME

http://hardenedlinux.org/firmware/2016/11/17/neutralize_ME_firmware_on_sandybridge_and_ivybridge.html

https://github.com/corna/me_cleaner

before

```
dpavlin@x230:/x200/x230/coreboot/util/intelmetool$ sudo ./intelmetool -s
Bad news, you have a `QM77 Express Chipset LPC Controller` so you have ME hardware on board and y
```

```
MEI not hidden on PCI, checking if visible
MEI found: [8086:1e3a] 8;ï¼
```

```
ME Status : 0x1e000245
ME Status 2 : 0x60000106
```

```
ME: FW Partition Table : OK
ME: Bringup Loader Failure : NO
ME: Firmware Init Complete : YES
ME: Manufacturing Mode : NO
ME: Boot Options Present : NO
ME: Update In Progress : NO
ME: Current Working State : Normal
ME: Current Operation State : M0 with UMA
ME: Current Operation Mode : Normal
ME: Error Code : No Error
ME: Progress Phase : Host Communication
ME: Power Management Event : Clean Mofw->Mx wake
ME: Progress Phase State : Host communication established
```

```
ME: Extend SHA-256: 72ac4092d50568edb998066d81033da5f626bf97fe7f9942d06247dbf59bf8db
```

```
ME: timeout waiting for data: expected 8, available 0
```

```
ME: GET FW VERSION message failed
```

```
ME Capability: Full Network manageability : OFF
ME Capability: Regular Network manageability : OFF
ME Capability: Manageability : ON
ME Capability: Small business technology : ON
ME Capability: Level III manageability : OFF
ME Capability: IntelR Anti-Theft (AT) : ON
ME Capability: IntelR Capability Licensing Service (CLS) : ON
ME Capability: IntelR Power Sharing Technology (MPC) : ON
ME Capability: ICC Over Clocking : ON
ME Capability: Protected Audio Video Path (PAVP) : ON
ME Capability: IPV6 : OFF
ME Capability: KVM Remote Control (KVM) : OFF
ME Capability: Outbreak Containment Heuristic (OCH) : OFF
ME Capability: Virtual LAN (VLAN) : ON
ME Capability: TLS : ON
ME Capability: Wireless LAN (WLAN) : OFF
```