

Lenovo 100S-11BY IdeaPad 11.6"



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\$244

@ officejerks

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Shiny & Chrome

Lenovo 100S-11BY Tablet Pad 11.6"



Shiny & Crisp

Pros

- \$244
- Full size HDMI port
- \$244
- 9 hour battery life *
- \$244

Laptop cons

- Windows 10
- Doesn't run Arch Linux
- Everything else

Windows 10 part 1: A terrible UEFI

- Pressing F2 at boot loads the windows 10 recovery options
- Pressing F12 at boot loads the windows 10 boot options
- Pressing the tiny little itty bitty button (near the power button) brings up the UEFI settings: Huzzah! Progress.
- Disabled safe booting, can access UEFI boot menu now

Install Arch Linux ...

- No optical drive, so dd'd iso image to USB
- Arch installer supports both 32 and 64bit, BIOS and UEFI
- ... But doesn't come up on the boot from USB screen :-(
 - The internet says it could be bad UEFI:
 - UEFI looks for a microsoft path in /EFI partition?
 - Renamed UEFI path in arch installer, didn't work :-(
 - It's a 32bit UEFI – requires 32bit UEFI binaries
 - Arch installer only comes with 64bit UEFI binaries :-(
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Install Ubuntu ...

- Ubuntu gnome 64bit only has 64bit UEFI, doesn't work :-(
- Ubuntu gnome 32bit only supports BIOS, no UEFI :-(
- Ubuntu 15.10 / 14.04 vanilla / gnome 32bit no UEFI :-(
- Ubuntu 64bit any flavour / release only has 64bit UEFI :-(

Install Debian ...

- Debian stable 32bit net installer works
 - But keyboard, touchpad, wifi, and sound doesn't :-(
- Debian stable 32bit with firmware installer works
 - But keyboard, touchpad, and sound doesn't :-|
 - Wifi works with external USB dongle :-|
- Debian testing 32bit net installer works
 - But wifi and sound doesn't :-|
 - No firmware variant of testing installer available :-(

Windows 10 part 2: USB recovery

- Doesn't come with win 10 on CD / USB, so ...
- Youtube shows how to create a USB recovery stick to allow you to re-install windows 10 on a nuked HDD
 - <https://www.youtube.com/watch?v=3UzphLuk5II>
- Success! Just in case the Debian install stuffs up, have a way to get an OS back on it – could be handy for warranty.

The next day: installation day

- Bought USB 3.0 gigabit ethernet adapter, doesn't work on laptop's USB 2.0 :-(
 - Don't buy [Volans](#) 
- Borrowed USB 2.0 ethernet adapter, it works. Later bought [Orico](#) USB 3 to gig, and it works :-)
- Loaded debian testing installer, crashed after formatting HDD, unable to install UEFI grub
- Loaded windows 10 recovery USB, crashed after 7%



... Which leaves Debian stable

- Debian testing install media is actually testing installer
- Loaded 32bit Debian stable with firmware USB
- Attached USB keyboard, mouse, ethernet dongle
- And it works :-)
- Changed `/etc/apt/sources.list` to point at Debian testing
- Upgraded to Debian testing :-)
- Installed as much firmwares and drivers as I could find

Debian testing: the result

- Linux kernel 4.4.0 (come on, what about 4.4.5?)
- Wifi, bluetooth, and sound not working
- Wifi works with USB dongle
- Keyboard and mouse works
- MicroSD card slot works
- HDMI port works, though unable to pass through sound
- Libreoffice impress works perfectly (sans sound).
- (under) Charged client for labour
- Now contains no traces of Windows 10
- Also contains no traces of Arch Linux :-)

PSA: 32bit UEFI

- Requires 32bit UEFI binary in /EFI/
- Most distros come with 64bit UEFI only
- 32bit UEFI is found on:
 - Pre 2008 intel macs
 - some Intel Cloverfield ultrabooks
 - some older Intel Server boards
 - Intel Atom System-on-Chip systems post Nov 2013

PSA: Don't buy 🍌 32bit EUFI systems

... without further research anyway

- Intel atom Z3735F, maximum 2GB DDR3 LP-RAM
- Found on cheap Laptops from:
 - Asus, Lenovo, Intel compute sticks
- Should be possible to get Arch Linux running, but would need to compile 32bit UEFI binaries.
- It is possible to get 32bit UEFI to then boot in to a 64bit kernel and OS

Laptop specifications:-

Lenovo ideapad 100s-11by

- Intel atom Z3735F SoC
- 2GB DDR3 LP-RAM (max)
- Win 10 Home (32bit)
- 11.6" Monitor, 1366 x 768
- 2x USB 2.0 ports
- 1x HDMI port
- 32GB on-board MMC SSD
- \$244
- 1x uSD slot
- 640x480 webcam
- 9 hour battery
- No easily accessible panels on the back
- No ethernet
- No optical drive
- \$244