

Debian Jessie on Acer C720P

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The Acer C720 is a chromebook on which you can install a Linux distribution. This is a cheap solution to get a very mobile device (11.6" display in 1 kg, running more than 7 hours for around 250\$). This article gathers my sources to install and run Debian Jessie on this machine.



Flashing firmware

To flash the firmware (and boot straight on Linux):

- Open the case to make the firmware writable unscrewing the write-protect screw :
<http://www.chromium.org/chromium-os/developer-information-for-chrome-os-devices/acer-c720-chrom>
- Flashing procedure :
https://johnlewis.ie/mediawiki/index.php?title=Flashing_stock_firmware_to_a_coreboot_build_on_Acer

CAUTION! Opening the chromebook will void the warranty. Furthermore, you can brick your device if flashing fails.

You should backup your firmware before installing the new one. Before you can perform this copy, you **MUST** unprotect it or the copy would be corrupted.

Note that you may see a NORMAL error message while copying the firmware.



Acer C720P

Installing Debian



Acer C720P

To install Testing (which is currently Jessie) for XFCE, take CD 1 at:
<http://cdimage.debian.org/cdimage/weekly-builds/amd64/iso-cd/debian-testing-amd64-xfce-CD-1.iso>.

Then copy this ISO on an USB key with following command:

```
dd if=debian-testing-amd64-xfce-CD-1.iso of=/dev/sdX
```

To install Debian on your chromebook, you have to enable developer mode. You can follow [the procedure described on this page](#).

Reboot then start installation from the USB key. You should connect an USB mouse as the trackpad is not recognized out of the box.

Issues during installation:

- netinst didn't work for me (BusyBox wouldn't install).
- I had to disable Wifi security to be able to connect during installation.

Configure trackpad

Trackpad is now managed by latest kernels and can be configured as follows:

- Create a directory for configuration file:

```
$ sudo mkdir /etc/X11/xorg.conf.d
```

- Copy default configuration file:

```
$ sudo cp /usr/share/X11/xorg.conf.d/50-synaptics.conf /etc/X11/xorg.conf.d/5
```

- Add following configuration:

```
Section "InputClass"
    Identifier "touchpad peppy cyapa"
    MatchIsTouchpad "on"
    MatchDevicePath "/dev/input/event*"
    MatchProduct "cyapa"
    Option "FingerLow" "5"
    Option "FingerHigh" "5"
    Option "VertEdgeScroll" "0"
    Option "VertTwoFingerScroll" "1"
    Option "HorizTwoFingerScroll" "1"
    Option "AreaRightEdge" "850"
    Option "AreaLeftEdge" "50"
    Option "TapButton1" "1"
    Option "TapButton2" "3"
    Option "TapButton3" "2"
EndSection
```

Enable special keys

Control sound volume with keyboard

In XFCE, in section **Parameters / Keyboard / Application Shortcuts**, define following entries:

```
<F8> amixer set Master toggle
<F9> amixer set Master 5%-
<F10> amixer set Master 5%+
```

Control LCD Brightness

Install xbacklight:

```
sudo apt-get install xbacklight
```

Then define following entries in XFCE keyboards shortcuts:

```
<F6> xbacklight -5
<F7> xbacklight +5
```

Handle windows with keyboard

In **Parameters / Window Manager / Keyboard** of XFCE, make following associations:

```
Left Desktop          <F1>
Right Desktop         <F2>
Minimize Window       <F3>
Full Screen           <F4>
Navigate Previous Window <F5>
```

Xmodmap Configuration

You can also configure these keys with an Xmodmap configuration. Put following *.xinitrc* file in your home:

```
# ~/.xinitrc
# Configuration file to configure Acer C720 keyboard.

xmodmap .Xmodmap
```

The *.Xmodmap* file would be the following:

```
! ~/.Xmodmap
! Configuration file to map special keys of the Acer C720.

keycode 72 = XF86MonBrightnessDown
```

```
keycode 73 = XF86MonBrightnessUp
keycode 74 = XF86AudioMute
keycode 75 = XF86AudioLowerVolume
keycode 76 = XF86AudioRaiseVolume
```

Nevertheless, this works for LCD Brightness but not for sound volume...

To get Delete key pressing Shift-Backspace, use following *.Xmodmap* configuration file:

```
! ~/.Xmodmap
! Configuration file to get Delete key with Shift-Backspace on the Acer C720.

keycode 22 = BackSpace Delete BackSpace BackSpace
```

Handle Power key under XFCE

After a Jessie update, hitting Power key result in a shutdown whatever your XFCE preferences regarding Power key management. To solve this issue, edit file */etc/systemd/logind.conf* and add following line:

```
HandlePowerKey=ignore
```

Configure Swappiness

SSD discs dont like repeated writings and thus you should limit swapping usage as follows:

- Print current swappiness (that should have default value of 60):

```
$ cat /proc/sys/vm/swappiness
```

- Change this value editing file */etc/sysctl.conf* and adding following line:

```
vm.swappiness=1
```

Disable Bluetooth

Edit file */etc/bluetooth/main.conf* and replace the line *InitiallyPowered* with the following one:

```
InitiallyPowered = false
```

To disable bluetooth service (so that it doesn't start on boot), type following line:

```
sudo update-rc.d bluetooth disable
```

You can check that bluetooth was disabled typing:

```
sudo service bluetooth status
```

Important Note

The internal clock is powered by the main battery (and not by its own battery as usual) so that if your battery is completely discharged, the clock will be set with a random value at next boot. If this value is too far in the past or the future, it might prevent Wifi connection.

You must then set time manually with following command line:

```
$ sudo date --set 2018-06-25T11:00:00
```

You should keep that in mind when you can't connect to Wifi on startup.

Links

Here are links dealing with Linux on Acer C720 :

- [Chromebook to Jessiebook.](#)
- [Howto Linux on Acer C720 Chromebook.](#)
- [Another new Free Software machine: the Acer C720.](#)
- [Archlinux on Acer C720.](#)
- [Debian on Acer C720 \(German\).](#)
- [Fedora sur Acer C720 \(French\).](#)

Updates

- **2018-06-25** : Added note on internal clock and battery.
- **2018-02-06** : Latest kernels versions manage the trackpad. Thus it's not necessary to install a patched kernel anymore. Furthermore, touch screen is also managed.
- **2014-10-11**: Added Xmodmap configuration to get Delete key.
- **2014-06-25**: Since last system update, when I press *Power* button, it prints a menu, as before update, but it shuts down immediately. I'm investigating...
- **2014-08-09**: After last system update the menu doesn't even appear when I press *Power* button and machine shutdowns immediately.
- **2014-09-11**: The Power key issue was fixed editing file `/etc/systemd/logind.conf` (see above).

Unsolved Issues

- Suspending the machine reboots.
- Mic and cam management?



Jessie

Enjoy!