Nov 2021 - wip

Installing Slackware AArch64 on the RockPro64

	Target
Platform	AArch64
Slackware Distribution	Slackware AArch64 Current
Hardware Model	Rock Pro64

Video Tutorial

This tutorial is also available in video form.

Installation Lifecycle

The Installation consists of nine distinct stages:

1. Acquiring all required hardware
2. Setting up local environment to support the installation over the network
3. Downloading the Slackware assets
4. Writing the Initialisation Bootware to the Micro SD card
5. Setup of the RockPro64 hardware
6. Initialising the RockPro64 with the Bootware
7. Writing the Slackware Installer to the Micro SD card
8. Booting the Slackware Installer
9. Installing Slackware
10. Completing the installation
11. Booting the Slackware OS

Requirements

Hardware

Item	Specification	Notes
RockPro64	4GB version	The RockPro64 (2GB version may work but hasn't been tested)
RockPro64 Power Supply ('PSU')	Pine64's own	There is a cheaper alternative, but this version is recommended. Note that the link here is for the EU version - a US version is also available in the Pine64 store
Micro SD Card	2GB **minimum**, fast speed, good quality make	Used as Slackware' /boot partition

Item	Specification	Notes
USB Multi-Card Reader	Must accept Micro SD cards	Used to write the Bootware on your host Linux computer. This isn't required if your host computer has a Micro SD card reader.
USB to Serial adapter	PL2303 chip. Other models may work, but this one has been tested. If your model has the option to set voltages, ensure **3volts** is set!	A USB to Serial adapter is recommended, but optional.
Jumper or Dupont cable	See images below	This is to bridge the pins required for initial firmware deployment and/or Hardware Model recovery
USB to SATA adapter	Many models will work, but this one has been tested.	For a simple installation you require either storage attached to a USB interface, or using the SATA PCI card (see below).
PCIe to Dual SATA-III Interface Card	PINE64's own	You can use this or the USB to SATA adapter (see row above)
SATA storage	Any SSD or spinning hard disk should work	Will contain the Operating System. You can install to other storage, but this documentation covers this particular configuration only.
Wifi and Bluetooth module	Pine64's own	Optional
Heat sink and CPU fan	Pine64's own	Either a heat sink or fan are required. Some of the cases have built-in heat sinks, so check the options
SATA power cable	Pine64's own	Optional - depends if you use the SATA PCI card and choose to power the drives from the board (see notes below around stability)

USing os-initrd-mgr tool. chroot

Post installation tweaks

Booting

Without serial adaptor, you have no visibility until a certain point in the boot process. Installer ships with network support.... so you need to wait if there's no network.

```
screen -T screen-256color /dev/ttyUSB0 1500000,n
```

Other adapter configs:

```
screen -T screen-256color /dev/ttyUSB0 1500000,crtscts
```

Initial Setup

/boot - SD card. Resize later.

screen font? Rockpro?

HTTP Installation

Installation Finalisation

Installing the Boot Loader to onboard ('SPI') flash

Note: This currently takes approximately 30 minutes from the installer, but only four minutes from within the OS. This needs some research.

Resize /boot

Fan control

```
# Max setting:
root@bladswede:/tmp#  echo 255 > /sys/devices/platform/pwm-
fan/hwmon/hwmon3/pwm1
# Happy medium - I can't hear it:
echo 100 > /sys/devices/platform/pwm-fan/hwmon/hwmon3/pwm1
# Lowest setting (lower figures cause the fan to stop spinning):
echo 50 > /sys/devices/platform/pwm-fan/hwmon/hwmon3/pwm1

# If the fan is stopped, it can be restarted by sending '100' to that
# interface.
```

Using the Serial adapter