

Security Classification:

Most Confidential () Confidential () Internal () Public ()

RK3399 Linux Debian System

Development Guide

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Revision History

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1 Overview

This document mainly describes RK3399 Linux Debian system development instruction including compiling steps and flashing method.

2 Compiling environment setup

2.1 Cross tool chain download

```
sudo apt-get install gcc-4.8-multilib-arm-linux-gnueabi
```

```
sudo apt-get install gcc-arm-linux-gnueabi libssl-dev gcc-aarch64-linux-gnu
```

3 Compiling

3.1 kernel compiling

```
cd kernel
```

```
make ARCH=arm64 rockchip_linux_defconfig
```

```
make ARCH=arm64 rk3399-sapphire-excavator-linux.img -j12
```

3.2 Debian rootfs compiling

First enter rootfs directory

```
cd rootfs
```

3.2.1 Building base debian system by ubuntu-build-service from linaro.

```
sudo apt-get install binfmt-support qemu-user-static live-build
```

```
sudo dpkg -i ubuntu-build-service/packages/*
```

```
sudo apt-get install -f
```

```
ARCH=armhf ./mk-base-debian.sh
```

After compiling finished, it will generate:linaro-stretch-alip-20161201-1.tar.gz

Note:

if occur:

```
lb config: unrecognized option '--debootstrap-options'lb config: unrecognized option
```

```
'--variant=minbase --include=apt-transport-https,gnupg'lb config: unrecognized option
```

```
'--updates'
```

need to upgrade live-build version.

download 3.0-a69-1 package and manually install: dpkg -i live-build_3.0-a69-1_all.deb

3.2.2 Building rk-debian rootfs

```
ARCH=armhf ./mk-rootfs.sh
```

3.2.3 Creating the ext4 image(linaro-rootfs.img)

```
./mk-image.sh
```

3.3 Pack complete image

Back to project root directory, pack complete image:

```
./mkdebian_firmware.sh
```

Generate all images to directory of **rockimg/Image-debian**

4 Flashing

Windows flashing tool, open the flashing tool:

tools\windows\AndroidTool_Release_v2.35\AndroidTool_Release_v2.35\AndroidTool.exe

select all the images generated in step 3.3 and then start flashing after board enters flashing mode.

linaro-rootfs is Debian root file system just as shown in below picture.

