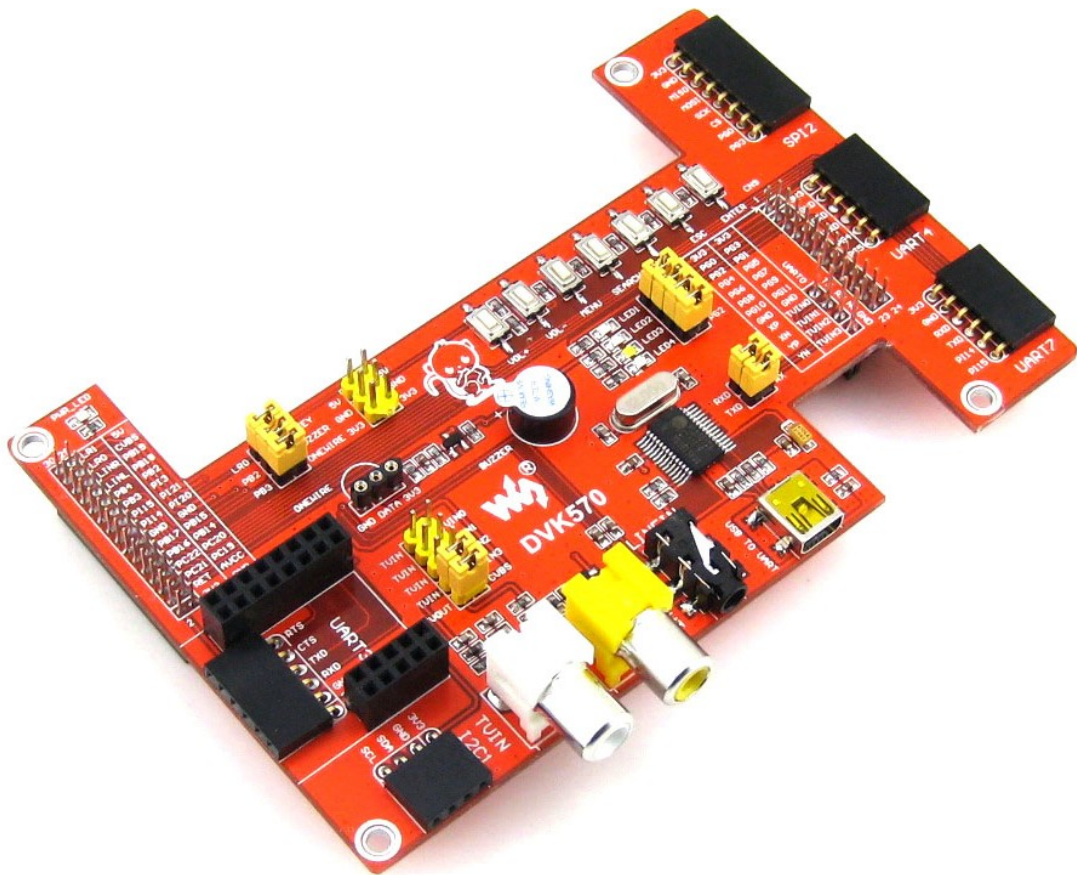


DVK570 Expansion Board

Kernel Porting Manual

2014.04.12 V1.0



Waveshare Electronics

www.waveshare.com

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Version update records

Version	Date	Description
V1.0	2014.04.12	Initial Release

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1. Installing compiler

Cross-compiler tool chain is needed when porting the kernel, execute the following command to install:

```
#apt-get update  
#apt-get install gcc-arm-linux-gnueabi
```

2. Compiling kernel

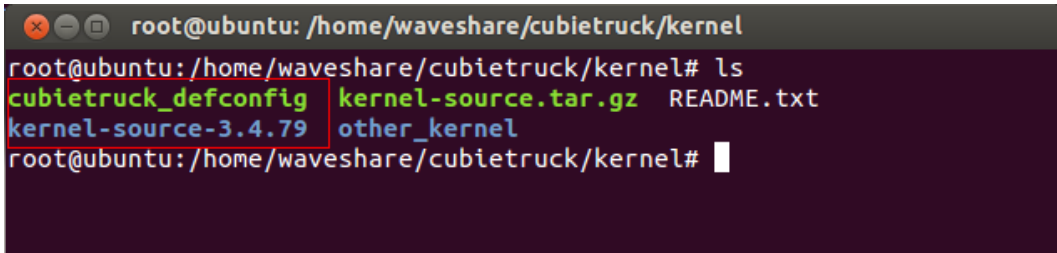
2.1 Obtaining source code

Click: <http://dl.cubieboard.org/software/a20-cubietruck/> to download kernel-source.tar.gz kernel source of 3.1.79 version and corresponding configuration profile cubietruck_defconfig, copy to home directory of Ubuntu system of the PC. Such as: /home/waveshare/cubietruck/kernel.

2.2 Unzipping

```
# tar -xzf kernel-source.tar.gz
```

Get kernel-source after extracting, renamed as kernel-source-3.4.79.



```
root@ubuntu: /home/waveshare/cubietruck/kernel  
root@ubuntu: /home/waveshare/cubietruck/kernel# ls  
cubietruck_defconfig kernel-source.tar.gz README.txt  
kernel-source-3.4.79 other_kernel  
root@ubuntu: /home/waveshare/cubietruck/kernel#
```

2.3 Specifying compiler

```
#cd /home/waveshare/cubietruck/kernel/kernel-source-3.4.79
```

```
#vi Makefile
```

Modify the following:

```
ARCH ?= $(SUBARCH)  
CROSS_COMPILE ?=
```

To:

```
ARCH ?= arm
```

```
CROSS_COMPILE ?= arm-linux-gnueabihf-
```

Save it and exit.

2.4 Clearing temporary files

```
#make clean
```

2.5 Copying standard configuration files

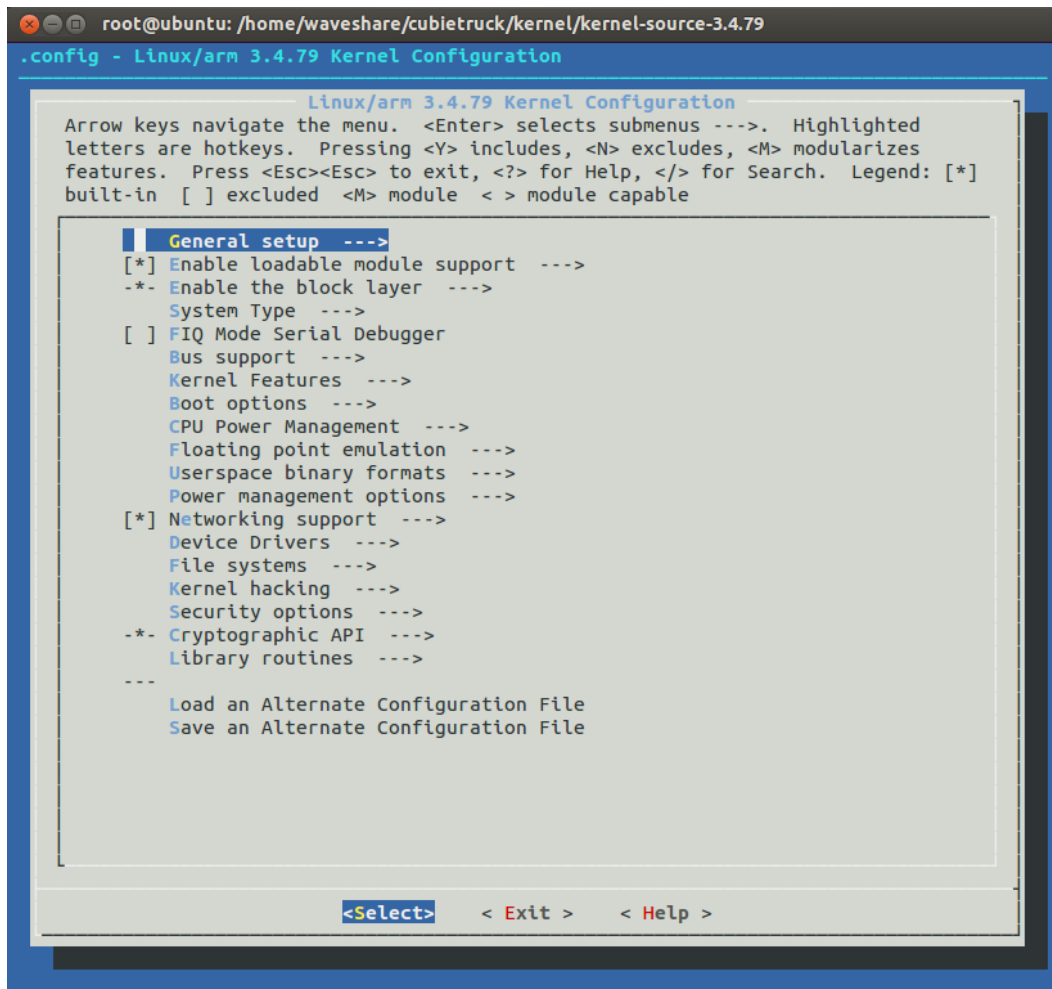
```
#cp ../cubietruck_defconfig .config
```

A hidden configuration file `.config` will be generated under top-level directory after executing the above operation.

2.6 Configuring kernel

```
#make menuconfig
```

There will be a pop up menu after executing the above command, we can detailed configure the kernel.



2.7 Compiling the kernel

#make ulmage

UImage will be generated under directory of arch/arm/boot after finished the compiling.

2.8 Compiling kernel module

#make modules

2.9 Installing kernel module

#make modules_install

Folder 3.4.79 named as kernel version will be generated under directory of /lib/modules/ after finished installing.