

# Porting mjpg-streamer

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## Overview

mjpg-streamer is an open source software that allows you to browse webcams via video stream server built on embedded system.

## 1. Porting Jpeg Library

### 1.1 Get the Source Code

Copy the `jpegsrc.v8b.tar.gz` to your Ubuntu system on PC, say, copy to [/home/waveshare/bb\\_black/mjpg-streamer](/home/waveshare/bb_black/mjpg-streamer).  
The file can be found on <Source-code/mjpg-streamer>, or can be obtained from the internet: <http://www.iijg.org/files/>.

### 1.2 Extract the Source Code

Extract:  

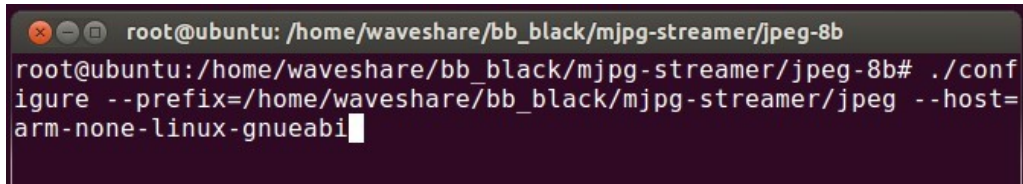
```
#cd /home/waveshare/bb_black/mjpg-streamer  
#tar -xvzf jpegsrc.v8b.tar.gz
```

And get the jpeg-8b file.

### 1.3 Config the Source Code

Create a folder to store file of jpeg dependent Libraries

```
#cd /home/waveshare/bb_black/mjpg-streamer
# mkdir jpeg
#./configure
--prefix=/home/waveshare/bb_black/mjpg-streamer/jpeg
--host=arm-none-linux-gnueabi
```



```
root@ubuntu: /home/waveshare/bb_black/mjpg-streamer/jpeg-8b
root@ubuntu: /home/waveshare/bb_black/mjpg-streamer/jpeg-8b# ./conf
figure --prefix=/home/waveshare/bb_black/mjpg-streamer/jpeg --host=
arm-none-linux-gnueabi
```

Description

```
./configure: configure the source tree
--prefix=XX: installation path
--host: specify compiler
```

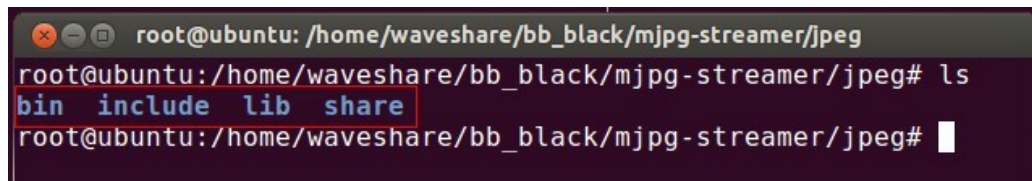
## 1.4 Compile and install

```
make
make install
```

Various files will be generated under

[/home/waveshare/bb\\_black/mjpg-streamer/jpeg](#)

likes: bin, include, lib, share, which are going to be used in the next section.



```
root@ubuntu: /home/waveshare/bb_black/mjpg-streamer/jpeg
root@ubuntu: /home/waveshare/bb_black/mjpg-streamer/jpeg# ls
bin include lib share
root@ubuntu: /home/waveshare/bb_black/mjpg-streamer/jpeg#
```

## 2. Porting mjpg-streamer

### 2.1 Get the Source Code

Copy the mjpg-streamer.tar.gz to your ubuntu 14.04 system on PC, say, copy to

[/home/waveshare/bb\\_black/mjpg-streamer](#)

The file can be found on Source-code\mjpg-streamer, or can be obtained from the internet: <http://sourceforge.net/projects/mjpg-streamer/>.

### 2.2 Extract the Source Code

Extract:

```
#cd /home/waveshare/bb_black/mjpg-streamer
```

```
#tar -xzvf mjpg-streamer.tar.gz
```

And get the mjpg-streamer file.

## 2.3 Config the Source Code

- 1) Open the folder mjpg-streamer

```
#cd /home/waveshare/bb_black/mjpg-streamer/mjpg-streamer
```

- 2) Modify the Makefile:

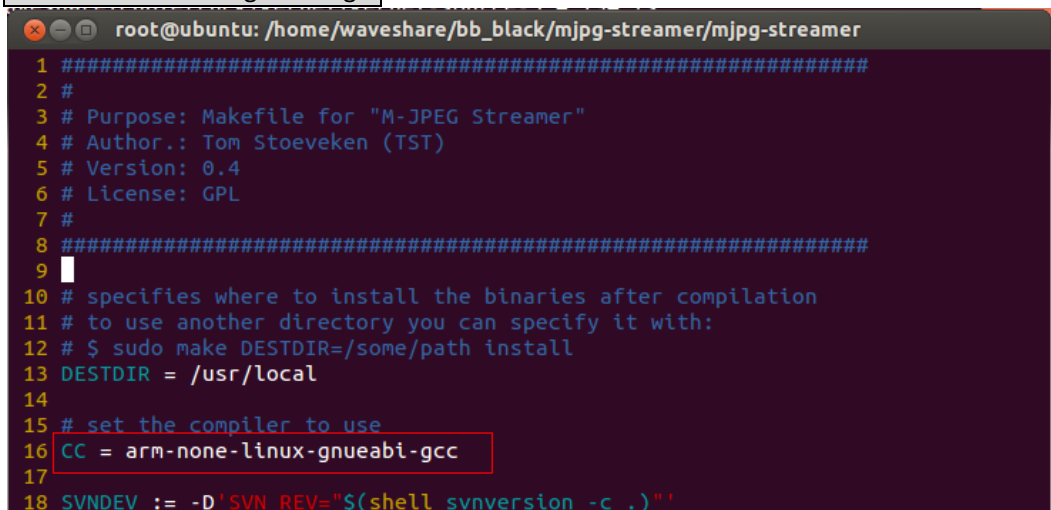
```
vi Makefile
```

- 3) Edit:

```
CC=gcc
```

As:

```
CC = arm-none-linux-gnueabi-gcc
```



```

1 #####
2 #
3 # Purpose: Makefile for "M-JPEG Streamer"
4 # Author.: Tom Stoeveken (TST)
5 # Version: 0.4
6 # License: GPL
7 #
8 #####
9
10 # specifies where to install the binaries after compilation
11 # to use another directory you can specify it with:
12 # $ sudo make DESTDIR=/some/path install
13 DESTDIR = /usr/local
14
15 # set the compiler to use
16 CC = arm-none-linux-gnueabi-gcc
17
18 SVNDEV := -D 'SVN_REV=$(shell svnversion -c .)'"

```

- 4) Modify the Makefile under plugins/input\_uvc/

```
vi plugins/input_uvc/Makefile
```

- 5) Edit

```
CFLAGS += -O1 -DLINUX -D_GNU_SOURCE -Wall -shared -fPIC
```

As:

```
CFLAGS += -O1 -DLINUX -D_GNU_SOURCE -Wall -shared -fPIC -I/home/waveshare/bb_black/mjpg-streamer/jpeg/include
```

- 6) Edit

```
$(CC) $(CFLAGS) $(LFLAGS) -ljpeg -o $@ input_uvc.c v4l2uvc.lo jpeg_utils.lo dyncntrl.lo
```

As:

```
$(CC) $(CFLAGS) $(LFLAGS) -ljpeg
```

```
-L/home/waveshare/bb_black/mjpg-streamer/jpeg/lib -o $@ input_uvc.c
v4l2uvc.lo jpeg_utils.lo dynctrl.lo
```

```

root@ubuntu: /home/waveshare/bb_black/mjpg-streamer/mjpg-streamer
10 CC = arm-none-linux-gnueabi-gcc
11
12 OTHER_HEADERS = ../../mjpg_streamer.h ../../utils.h ../output.h ../input.h
13
14 CFLAGS += -O1 -DLINUX -D_GNU_SOURCE -Wall -shared -fPIC -I/home/waveshare/bb_black/mjpg-streamer/jpeg/include
15
16 #CFLAGS += -g
17 #CFLAGS += -DDEBUG
18
19 ifeq ($(USE_LIBV4L2),true)
20 LFLAGS += -lv4l2
21 CFLAGS += -DUSE_LIBV4L2
22 endif
23
24
25 LFLAGS += -ljpeg
26
27 all: input_uvc.so
28
29 clean:
30     rm -f *.a *.o core *~ *.so *.lo
31
32 input_uvc.so: $(OTHER_HEADERS) input_uvc.c v4l2uvc.lo jpeg_utils.lo dynctrl.lo
33     $(CC) $(CFLAGS) $(LFLAGS) -ljpeg -L/home/waveshare/bb_black/mjpg-streamer/jpeg/lib -o $@ input_uvc.c v4l2uvc.lo jpeg_utils.lo dynctrl.lo
34
35 v4l2uvc.lo: huffman.h uvc_compat.h v4l2uvc.c v4l2uvc.h
36     $(CC) -c $(CFLAGS) -o $@ v4l2uvc.c

```

- 7) Modify line 90 in the file plugins/input\_uvc/input\_uvc.c

```
#vi plugins/input_uvc/input_uvc.c +90
```

Edit

```
int width = 640, height = 480, fps = 5, format = V4L2_PIX_FMT_MJPEG, i;
```

As:

```
int width = 320, height = 240, fps = 5, format = V4L2_PIX_FMT_YUYV, i;
```

## 2.4 Compile

```
make
```

Dynamic library and related scripts will be generated under current directory, which are required by the video stream server.

## 2.5 Install

Copy the folder mjpg-streamer to the development board, please read the chapter about copy document from: Porting Driver.pdf. You can run the start.sh script.