

The firmware is primarily designed for DSD dac [DSC2](#). But with success it can be applied with other dac. After setting the parameters in the /boot/uEnv.txt file Linux is compiled based on buildroot and linux kernel 4.9.146-rt with the Botic7 driver and the luchoh patch for mute to work properly.

The [botic7-image.gz](#) file is written using the [Etcher](#) program without prior unpacking.

The firmware turned out to be compact and consuming a minimum of resources:

```

CPU[ | 1.3%] Tasks: 9, 0 thr; 1 running
Mem[ ||| 15.9M/496M] Load average: 0.00 0.00 0.00
Swp[ | 0K/0K] Uptime: 00:05:30

  PID USER      PRI  NI  VIRT   RES   SHR  S  CPU% MEM%   TIME+  Command
 220 root        20   0  2428  1672  1436 R   1.3   0.3   0:00.09 htop
 213 root        20   0  1996  1312  1148 S   0.0   0.3   0:00.82 /usr/sbin/dropbear -R
    1 root        20   0  2196  1268  1192 S   0.0   0.2   0:01.16 init
 166 root        20   0  1696  1344  1072 S   0.0   0.3   0:00.07 /sbin/dhpcpd -f /etc/dhpcpd.conf
 169 root        20   0  2196    696   628 S   0.0   0.1   0:00.00 /usr/sbin/httpd -h /var/www
 173 root        20   0  1876  1120  1036 S   0.0   0.2   0:00.00 /usr/sbin/dropbear -R
 178 root        10 -10  4580  2588  2412 S   0.0   0.5   0:00.18 /sbin/networkaudiod
 179 root        20   0  2196  1280  1208 S   0.0   0.3   0:00.00 /sbin/getty -L tty00 0 vt100
 214 root        20   0  2316  1564  1468 S   0.0   0.3   0:00.02 -sh

# df -h
Filesystem      Size      Used Available Use% Mounted on
/dev/root       440.1M    98.9M    331.0M   23% /
devtmpfs        247.6M     0      247.6M    0% /dev
tmpfs           248.1M     0      248.1M    0% /dev/shm
tmpfs           248.1M     0      248.1M    0% /tmp
tmpfs           248.1M     0      248.1M    0% /run
#

```


100M on the disk and only 16M RAM.


Three network protocols are supported - UPNP, NAA, RAAT.


Switching protocols can be done using the minimal web interface:


← → ↻ ⓘ Not secure | 172.16.0.29/setup.php

Which network protocol do you want to use?


☐ UPNP (MPD) **disabled**


☐ UPNP (APlayer) **disabled**


☒ NAA (HQPlayer) **enable**


☐ RAAT (Roon) **disabled**

Attention!
This command will format and destroy old data on eMMC! It will take 1-2 minutes.
The D3 and D5 Leds on BeagleBone indicates that copying is in progress.

Copy finished!
BeagleBone is turned off.

For advanced users, there is access using SSH.

Login **root**

Password **root**

Player launch scripts are located in `/etc/rc.botic`. Copying or creating symlinks in `/etc/init.d` creates a constant launch after a reboot.

Through SSH you can run all the players simultaneously. But I would recommend using this mode only for informational purposes to compare the sound of different players.