

Thank you for buying the Portsdown Filter Modulator board – your unit has been tested by BATC volunteers before despatch and the results are shown on the attached sheet.



## What now?

*Before you take the board out of the bag, please observe anti static handling precautions!*

First fit and mount on a heatsink the 5v regulator which is supplied separately.

Next you will need to connect up the board to the various modules including:

- ADF4351 or suitable local Oscillator
- BATC LO filter (desirable but not essential)
- BATC GPIO breakout board
- Raspberry Pi version 3 and an SD card with Portsdown software
- Waveshare 3.5 inch touch screen
- 5.1v PSU – see the notes on the wiki page
- RPi camera and Audio USB dongle (optional)
- BATC 4 band output decoder (optional)

Please take time to read this page on the BATC wiki:

[https://wiki.batc.tv/Assembling\\_Portsdown](https://wiki.batc.tv/Assembling_Portsdown)

Once you are confident that it is all connected up correctly, apply 5.1volts and the touch screen should start light and then go dark.

## Configuring the unit

Now you need to configure the Portsdown software – this is described here

[https://wiki.batc.tv/Initial\\_setup](https://wiki.batc.tv/Initial_setup).

There is also a “how-to video” on the BATC youtube channel

<https://www.youtube.com/c/BATCOnline>

## Using the filter modulator card

Once you have initially configured your Portsdown, stay in the console menu:

- Select item 2 “Output”
- Select item 3 “Output mode”
- Press the space bar to select the first item “IQ output”
- Press Enter

Now exit to Touchscreen:

- Item 8 “Shutdown menu”
- Item 4 “Restore Touchscreen, Exit to LCD”

We suggest you set the unit to 1255 MHz, 2 Msymbols and ½ FEC and press “TX”. You should now be able to receive your DATV transmission on any Free to Air satellite receiver or the BATC MiniTiouner receiver!

## BATC Portsdown Filter Modulator Version 1A

Test Sheet for Serial: \_\_\_\_\_

### Acceptance from Factory:

Settings	Measure	Acceptable Range	Yes/No
1255 MHz 333 KS	Supply Current	200 – 250 mA	
1255 MHz 333 KS	MER and Spectrum	>23 dB	
1255 MHz 333 KS	Power Output	2 – 5 dBm	
1255 MHz 1000 KS	MER and Spectrum	>23 dB	
1255 MHz 2000 KS	MER and Spectrum	>23 dB	
1255 MHz 4000 KS	MER and Spectrum	>23 dB	
1255 MHz 125 KS	MER and Spectrum	>23 dB	
1255 MHz 250 KS	MER and Spectrum	>23 dB	
1255 MHz 500 KS	MER and Spectrum	>23 dB	

### After Modification to V1A Standard:

Settings	Measure	Acceptable Range	Result
1255 MHz 333 KS	Supply Current	200 – 250 mA	
1255 MHz 333 KS	MER	>24 dB	
1255 MHz 333 KS	Power Output	2 – 5 dBm	
1255 MHz 1000 KS	MER	>24 dB	
1255 MHz 1000 KS	Power Output	2 – 5 dBm	
1255 MHz 2000 KS	MER	>24 dB	
1255 MHz 4000 KS	MER	>24 dB	
1255 MHz 125 KS	MER	>24 dB	
1255 MHz 250 KS	MER	>24 dB	
1255 MHz 500 KS	MER	>24 dB	
437 MHz 500 KS	Power Output	>7 dBm	
146.5 MHz 500 KS	Power Output	>7 dBm	
71 MHz 500 KS	Power Output	>7 dBm	

All MERs measured with a Sharp tuner and MiniTioune V0.6d in DVB-S mode

Tested by:

Date: 17 March 2017