

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

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.

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