

easyBM lite

A user manual

Intention:

We wanted to create a kind of beginners set, for being able to use the BrandMeister or DMR in general. Every user without deeper Linux knowledge should be able to get things up and running within a few minutes, to use DMR and have instant world wide access to other ham radio operators. Of course it is possible to dive deeper into the topic and configure much more but only the essentials. Our set of tools should jump start your DMR experience, the rest is up to you. Please note that you need to create a DMR ID before you proceed.

Recommended hardware (with EU sources):

- RaspBerry Pi with (at least) 4GB µSD card (<https://www.reichelt.de/my/1237528>) tested on RaspBerry 2, should also run with RaspBerry 1 and 3
- DVMega Single or Duoband (http://wimo.de/dvmega-gmsk-modem-transceiver_d.html) or directly from the manufacturer (<http://www.dvmega.auria.nl/>)
- Retevis RT-3 (ebay/Amazon, search for RT-3 or TyT MD-380)

Necessary files and programs:

- easyBM lite Image -> <http://www.bm262.de/downloads/getimage.php>
- Win32DiskImager
- Codeplug for Retevis RT-3 -> <http://www.bm262.de/downloads/getcodeplug.php>
- Customer Programming Software (CPS) for the Retevis RT-3

Step by Step:

1. Write the easyBM image onto the µSD card by using e.g. Win32DiskImager
2. Insert the µSD card into the RaspBerry, connect network and power
3. Use a browser on a connected PC to access -> <http://easyBM/init.php>
4. Fill in the necessary data, store them and reboot the RaspBerry.

In case the easyBM address can't be resolved, find out the hotspots IP address and call <http://IP-address/init.php>

The screenshot shows a web browser window displaying the 'easyBM initialize your DVMega System' form. The form is titled 'easyBM initialize your DVMega System' and includes the instruction 'Enter some data, and you are ready to go for the digital Hamradio Network BrandMeister.' Below the title, the word 'Configuration' is displayed. The form contains several input fields with labels and placeholder text: 'Your Callsign' (DL0ABC), 'Your DMR ID' (2621234), 'Your Location' (HamTown), 'Your URL' (https://www.qrz.com/callsign), and 'Description' (Multi-Mode Hotspot). At the bottom of the form, there is a green button labeled 'Now, save and initialize ...'. A footer note at the bottom of the page reads: 'For more informations, please look at the BrandMeister Webpage. (Version 2016-07-27, by BM-Team Germany)'.

Master-Settings

Optional Master Server Settings

Server Address
The DMR Master server IP-Address or hostname.

Server Port
The DMR Master server port.

Server Password
The DMR Master server password.

WLAN-Settings tested with PI3 und einem Edimax WLAN USB Stick on PI2

Optional WiFi Client Settings

Scan Result

```
Selected interface 'wlan0'
ssid / frequency / signal level / flags / ssid
80:71:7a:c9:db:6b      2437  -73  [WPA2-PSK-CCMP][WPS][ESS]      MTHome
80:71:7a:c9:db:6c      2437  -73  [ESS]      Telekom_FON
b0:48:7a:f1:9b:33      2462  -90  [WPA-PSK-CCMP+TKIP][WPA2-PSK-CCMP+TKIP][ESS]  BBQ
```

Network list

```
Selected interface 'wlan0'
network id / ssid / bssid / flags
0      Dummy  any
```

SSID
The Name of your WiFi Network.

Shared Key
Your WPA pre-shared-key.

After successful creation the hotspot should be visible in the BrandMeister dashboard

<https://brandmeister.network/?page=hotspots> - search for your callsign in the marked field

BrandMeister Registrieren Anmeldung DE Einstellungen

Benutzer Dashboard Geräte > Hotspots

Zuletzt gehört

Repeater 500

Hotspots 458

Master 38

Warnungen

Datenvisualisierung <

Dienste <

Hotspots

Zeige 10 Einträge

Suche: DG5MHD

Nummer	Name	Hardware	Firmware	TX	RX	CC	Status	Master
2628331	DG5MHD	DVMega (MMDVM)	20160505	438.000 MHz	438.000 MHz	1	Linked in DMO mode	2621

Zeige 1 bis 1 von 1 Einträgen (gefiltert von 415 Einträgen insgesamt)

Vorherige 1 Nächste

From now on the hotspot may be used from the radio, without a need for the PC browser any more. All activity can be monitored via the dashboard. Just enter easyBM/ your hotspots IP address into the browsers address field.

<http://easyBM/> or <http://IP-address>

Last Heard List of today's 20 callsigns.

Time (UTC)	Mode	Callsign	DSTAR-ID	Target	Source	Dur (s)	Loss	BER
2016-07-29 11:40:18	DMR Slot 1	DD8AA		TG 262	Network	4.1	0%	0.0%
2016-07-29 11:39:25	DMR Slot 2	DO7RF		TG 2628	Network	4.1	0%	0.0%
2016-07-29 11:32:06	DMR Slot 1	DG1XT		TG 262	Network	0.5	0%	0.0%
2016-07-29 11:17:41	DMR Slot 1	DK6TM		TG 262	Network	0.5	0%	0.0%
2016-07-29 11:14:52	DMR Slot 1	2622315		TG 262	Network	0.5	0%	0.0%
2016-07-29 10:56:42	DMR Slot 1	OE8AEQ		TG 262	Network	2.7	28%	7.1%

for the more advanced user:

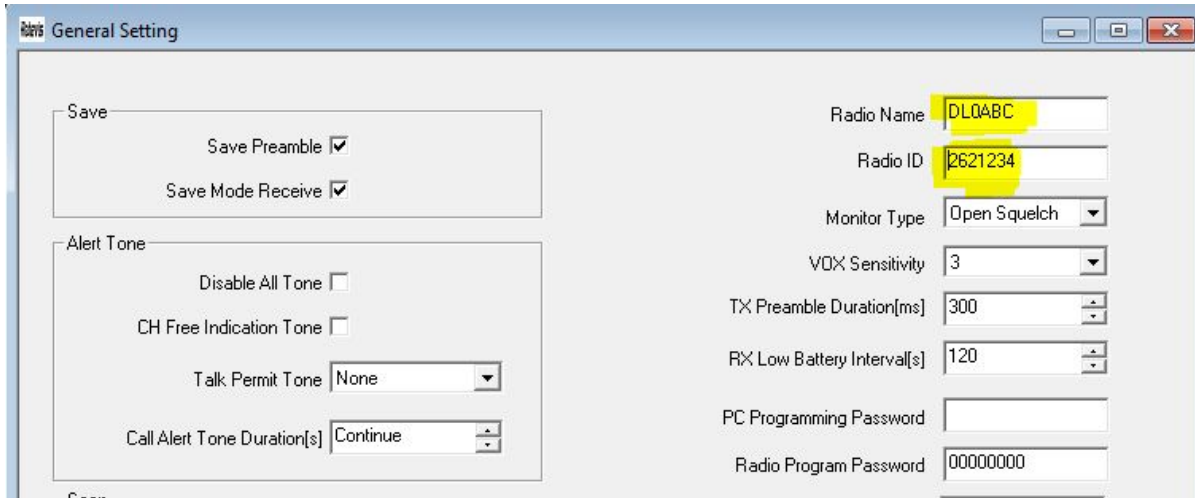
- RX and TX frequency is 430.375 MHz
- SSH access with user pi and password raspberry
- Based on raspian-jessie-light 2016-05-27
- BM-Master-IP: master.up4dar.de (German BrandMeister-Server / BM2621)
- MMDVM.ini is stored at /opt/MMDVMHost/

Thanks to

- Kim DG9VH for the great dashboard
- Jonathan G4KLX for the MMDDVMHost software; without it homebrew DMR would not have been possible at all
- and many OMs supporting our project, especially Klaus, DL5RFK

Prepare the Retevis RT-3 for first usage

The main prerequisite is the Customer Programming Software, allowing modifying and uploading the codeplugs. We have prepared a ready to use codeplug, that only needs to be completed with DMR ID and callsign. All other essential parameters are already set.



After successfully uploading the codeplug to the radio you can use the BrandMeister network and have your first conversations. Those talkgroups were

Channel	Talkgroup	Designator
01	91	World
02	92	Europe
03	920	D-A-CH
04	262	Deutschland
05	2620	Sachsen-Anhalt/Mecklenburg-Vorpommern
06	2621	Berlin/Brandenburg
07	2622	Hamburg/Schleswig-Holstein
08	2623	Niedersachsen/Bremen
09	2624	Nordrhein-Westfalen
10	2625	Rheinland-Pfalz/Saarland
11	2626	Hessen
12	2627	Baden-Württemberg
13	2628	Bayern
14	2629	Sachsen/Thüringen
15	9	Lokal bzw für Reflektorbetrieb
16	232	Österreich

Additional information about DMR and the BrandMeister network can be found at <http://www.bm262.de>

Changelog

V1.01

- QSY to 433.6125 MHz
- WLAN support
- easyBM lite version is shown in the init-Script
- support of the Rasp PI3
- manual choice of the BM Master Server (default is BM2621)