

多模式数字语音热点设置指南

❖ 入门套装

- 个人便携数字语音热点+安卓手机
- BlueDV软件安卓版

❖ 一体化版本

- 个人便携数字语音热点+树莓派Zero W
- Pi-Star for Raspberry Pi



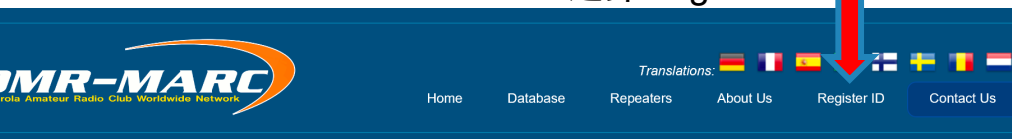
什么是数字热点和反射器



如何注册DMR-ID

首先登陆到www.dmr-marc.net网站

1. 选择Register ID



The DMR-MARC Worldwide Network

Our network is an all-digital group of over 500 DMR-MARC repeaters in 75 countries with 63049 registered users. There are 4200 registered DMR repeaters world-wide in our database. We are all amateur radio operators many of whom are Motorola Solutions employees, Motorola Service Station employees, dealers, system installers and Motorola equipment aficionados.

Please consider a donation to support the registration system and talk group distribution servers by clicking on the Donate button to the right. Even small amounts help!

Repeaters on our network are connected all the time. TRBO radios have great voice quality, great coverage, and extended battery life all in LESS THAN 1/3 the channel bandwidth of a traditional analog FM repeater with TWICE as many voice channels! Our mission is to offer you a reliable and scalable choice in connectivity: local, regional, national and international. Isn't it time you upgraded to digital radio's cutting edge?

Member Toolbox



Amateur Radio Guide to DMR

DMR MARC Best Practice Guide

Program your Radio

Regional Codeplugs

Audio Calibration

Program your Repeater

DMR Plus North America

****DV4MINI, openSPOT, DVMEGA type devices do NOT require a separate ID, use an existing ID only, do NOT request an ID for them****

Requests for UPDATES to both Users and Repeaters

Please contact the ID Team: ldteam@dmr-marc.net

*** DO NOT USE REGISTRATION FORMS BELOW TO MAKE CORRECTIONS, SEE THE LINKS ABOVE ***

REPEATER registration requires a valid frequency coordination from the recognized Spectrum Management or Repeater Council.

By proceeding to the USER or REPEATER registration, you hereby agree to the above terms and conditions

Older versions of IE do not work well, please use a modern browser.

**** Registration process takes AT LEAST 24 HOURS, re-applying will not speed up your request ****

2. 选择左边 User Registration



User Registration

Repeater Registration

3. 完成左侧的国家选择，呼号，名，姓，城市，省份以及申请类型和邮箱的填写，注明申请原因，比如for DMR digital hotspot。再输入右侧的验证信息，点击Register提交。之后注意查询邮件，发送自己无线电执照的扫描件（有效期内）

The image shows the 'ADD DMR USER' registration form. The form is titled 'ADD DMR USER' and has a blue header. The form fields are: Country (dropdown), Callsign (required), First Name (required), Last Name (required), City (required), State/Prov (dropdown), Radio Type (DMR), Email Address (required), and Comment (optional). A reCAPTCHA verification image is shown on the right, with the text 'The correct reCAPTCHA phrase includes all letters and numbers on the white background and those in the image next to it.' Below the form is a 'Register' button.

常用资源

一些常用的网址：

- **Pi-STAR**系统下载
 - <http://www.pistar.uk/downloads/>
- **Pi Zero W**无线配置工
 - http://www.pistar.uk/wifi_builder.php
- 写**TF**卡镜像工具
 - <https://sourceforge.net/projects/win32diskimager/>
- **BlueDV for** 安卓，电脑
 - <http://www.pa7lim.nl/bluedv/>
- **云盘分流**：
 - <https://pan.baidu.com/s/1bpxZPa3> 密码: feyy



入门套装

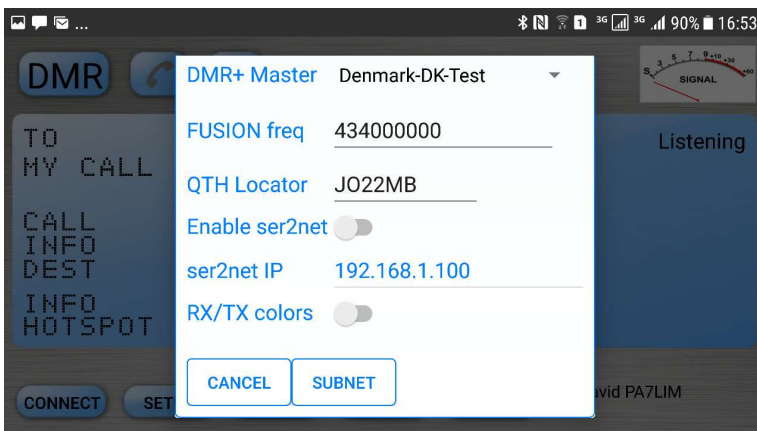
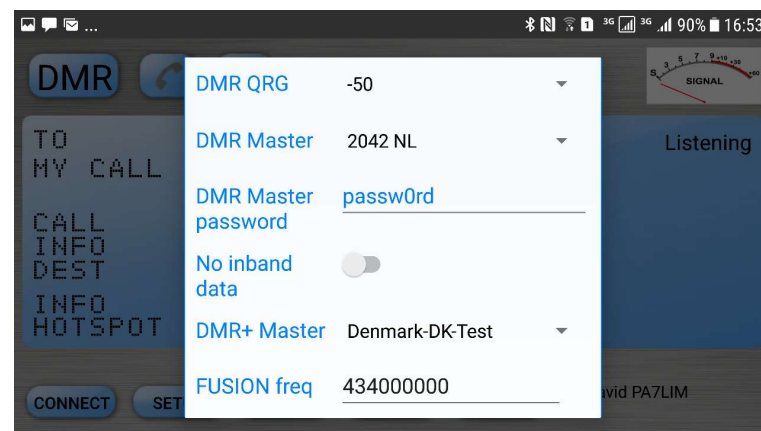
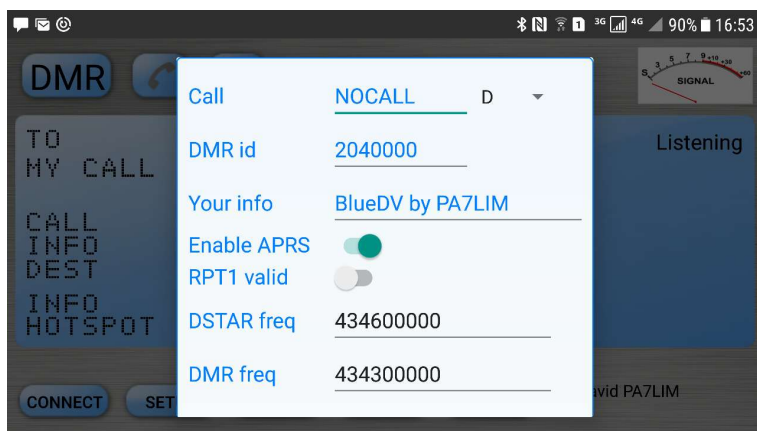
准备工作：

- 首先，需要一部数字电台，可以是手台也可以是车台，最好是主流的数字制式，如DMR，C4FM或者D-STAR。
- 然后需要准备一部已经联网的安卓电话（平板）或者已经连至互联网的个人电脑。
- 根据你所使用的终端下载BlueDV软件，比如Windows版本或者Android版本，然后安装到终端上。（具体参照之前的常用资源）



系统配置

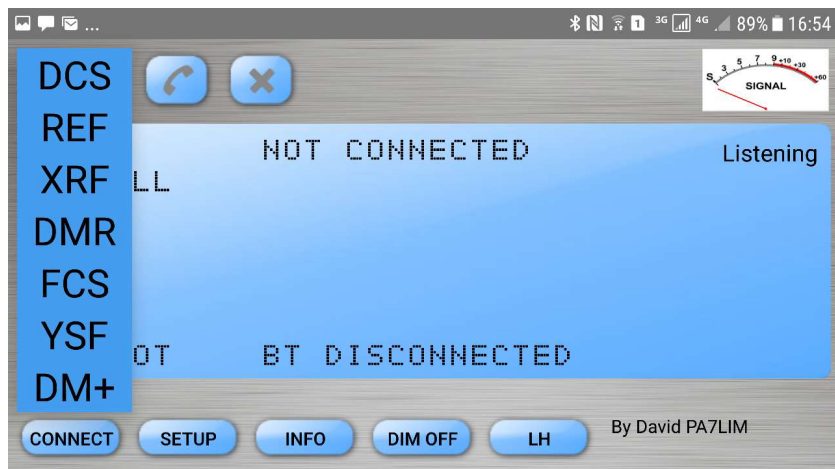
- 将多模式数字语音热点板上的开关拨至“BT”，打开板载蓝牙模式。用手机蓝牙查找新设备“**BlueStack**”，点击配对，输入“**1234**”完成匹配。
- 点击安卓手机上的BlueDV图标，启动BlueDV软件。注意先不要点击连接，选择屏幕下方“Setup”按钮，进入系统设置菜单



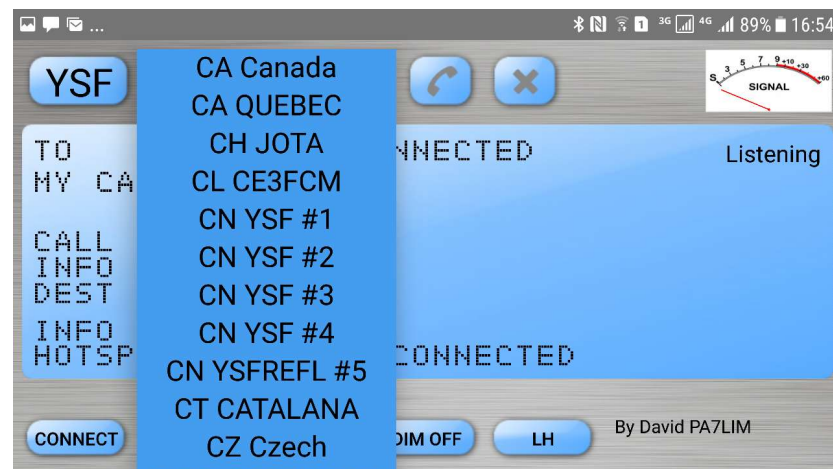
1. 输入自己的呼号和DMR ID（需要提前申请，参照之前申请指南）输入和电台匹配的数字制式的频率，注意请把电台切换到和BlueDV一致的频率。
2. DMR Master可以选择性能较好的DMR服务器，通常可以选择KR，Ru或者AU的服务器。
3. 输入Fusion数字制式的频率，打开RX/TX Colors的开关，完成后选择 SUBMIT。



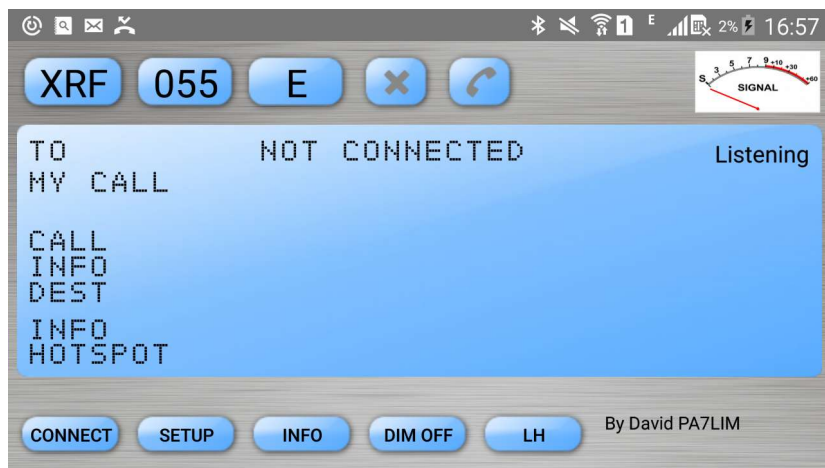
不同的数字制式配置



1. 点击左上角菜单选择需要的数字通联制式



2. 八重州选择YSF，寻找CN开始的反射器



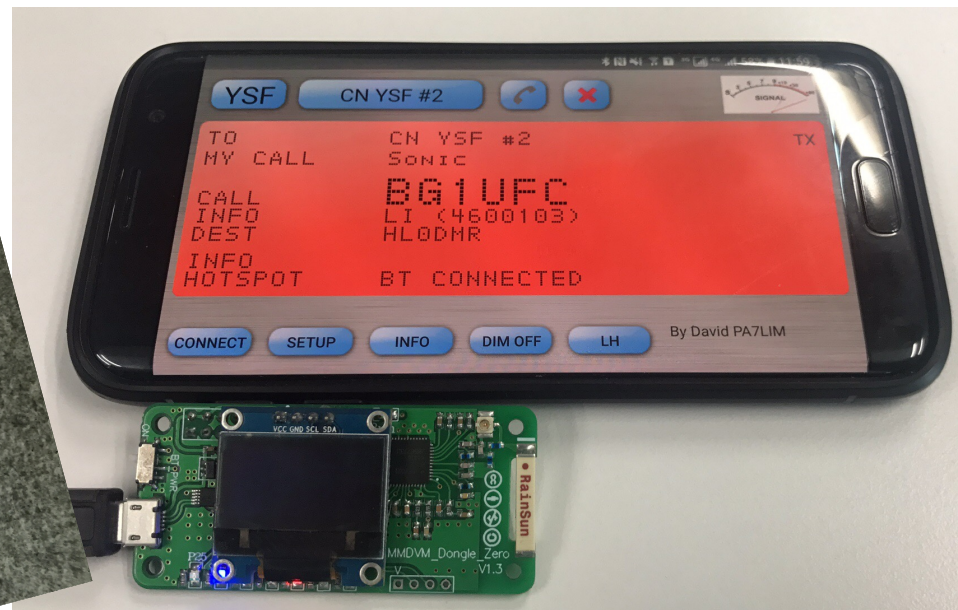
3. D-STAR选择XRF，选择055 C 或者 E 通联



4. DMR选择DMR即可

选择完成后，点击左下角的**CONNECT**，然后点击上部中间的电话按钮连上反射器可以开始通话





一体化版本

准备工作：

- 首先，需要一部数字电台，可以是手台也可以是车台，最好是主流的数字制式如DMR，C4FM，D-STAR或者P25，选择型号比较新一点的设备避免兼容性问题
- 然后需要购买树莓派结合多模式数字语音热点使用，为了便携和省电，建议选用树莓派 Zero W版本，同样树莓派3大板子也可以使用，但是能耗较高并且发热量较大。两者使用Pi-STAR本质上没有任何区别。
- 从网站下载Pi-STAR的最新镜像文件，准备好一张不小于2G的TF卡，下载镜像烧录软件准备把Pi-STAR写入到卡上。



配置

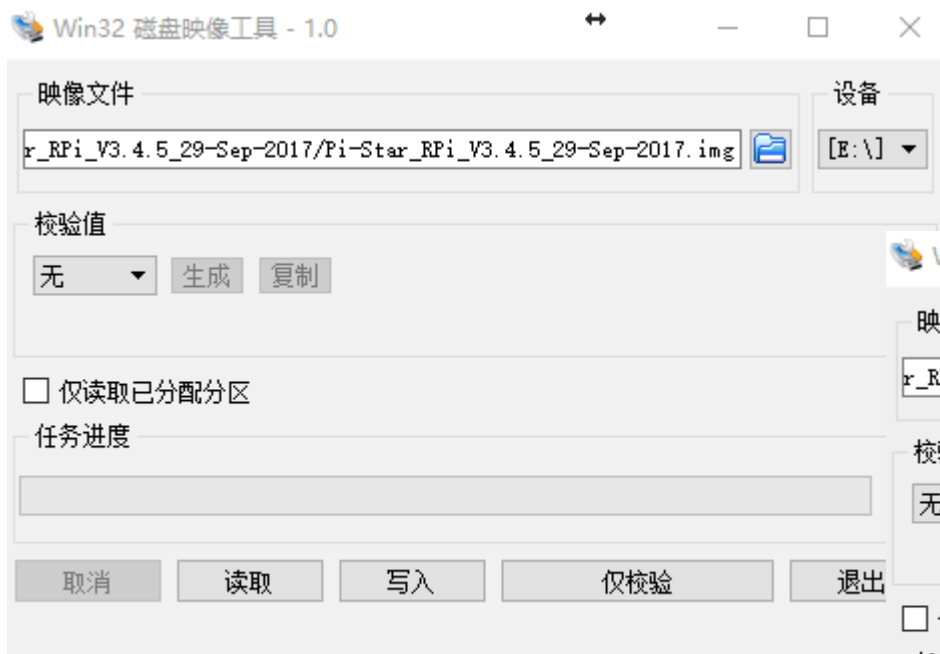


1. 一体化套件需要树莓派的支持，首先请把MMDVM个人数字热点上右侧拨动开关**拨至“Pi”**，确保正确工作模式。
2. 将MMDVM个人数字热点通过GPIO的插座和插针连接在树莓派Zero W上，如果你同时购买了黑色外壳，记得在安装和拆卸的时候首先把TF卡取出，避免损坏TF卡或者插座。在拆卸外壳的时候注意从左侧TF插槽大开口位置向外扣松卡扣分离上下盖。
3. 请将USB供电线插在左侧MMDVM主板集成的USB接口，不要插在树莓派的USB口，可以通过拨动开关灵活切换MMDVM个人热点的工作模式：a. 蓝牙+BlueDV模式 b. 整合树莓派一体化模式
- 4.

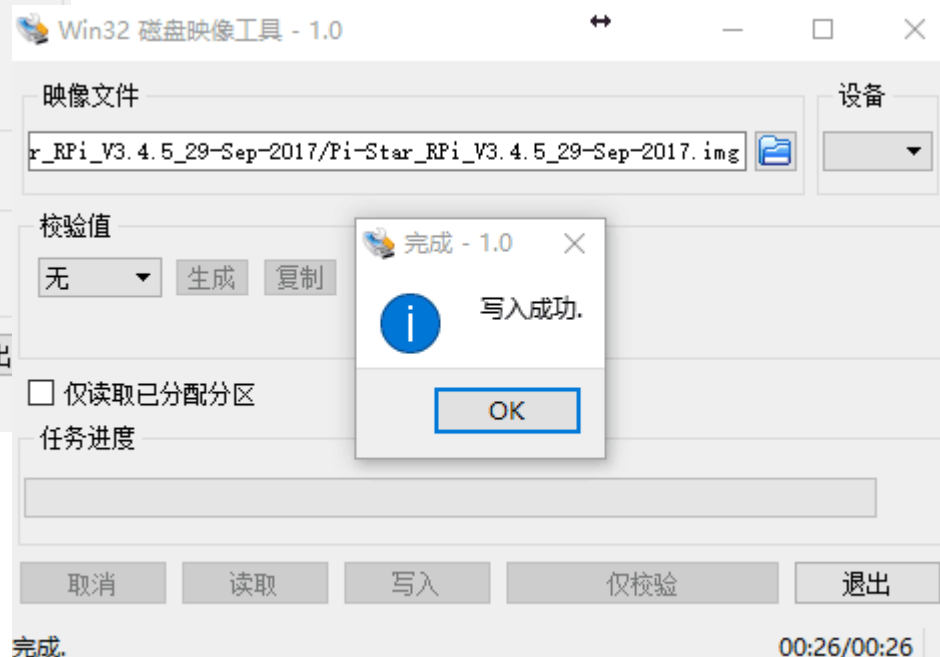


烧录PI-STAR镜像

烧录Pi-STAR镜像首先需要下载Pi-STAR和Win32DiskImager文件，可以在百度云盘中下载或者在原始链接中下载。



解压缩镜像文件，然后用 Win32DiskImager 选择文件位置，写到 TF 卡上，提示成功后不要着急拔出设备，准备下一步配置无线



配置树莓派无线网络连接

为了方便配置和直接使用，并且由于树莓派Zero W不带网口，可以直接写好无线网络的SSID和密码在SD卡上，确保树莓派启动之后就可以访问网络。访问www.pistar.uk/wifi_builder.php，输入自己的无线信息，点击“Submit Query”，复制生成的“wpa_supplicant.conf”文件到TF卡的boot分区

Home

Information

Help

Pi-Star Tools

BrandMeister Tools

DMR+ Tools

D-Star Tools

Downloads

Credits

Links

Pi-Star UK - Pi-Star Digital Voice Software

Pi-Star WiFi Builder

This tool is used to create your "wpa_supplicant.conf" for use with Pi-Star.
All you need to do is enter your SSID (this is the name of your Wireless Network) and the matching PSK (this is the Pre-Shared Key, or Password) for this network, when you hit "Submit" the generated config file will download to your computer.
All you need to do then, is drop this onto the "Boot" volume of your Pi-Star SD card - this will appear as you complete writing the SD Card.

Once the Pi-Star system boots up, it will add the config file for the WiFi and reboot.

SSID:	My Wifi
PSK:	12345678
Submit Query	

pistar.uk website designed and developed by Andy Taylor (MW0MWZ) - andy@mw0mwz.co.uk
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wifi_builder.php last modified on 06/09/17 at 11:32 +0100

完成后，弹出TF卡，把卡插在树莓派上加电启动树莓派

Sonic | 2017-10-10

连接和配置PI-STAR

将USB供电线插在MMDVM热点板左侧，启动树莓派，大约等待1分半左右时间，等待启动完成，用电脑或者手机访问Pi-STAR的设置页面。

1. Windows电脑直接在浏览器输入pi-star即可查看页面启动配置，Mac电脑和手机可以在浏览器输入pi-star.local查看页面配置。
2. 如果无法找到页面，请在苹果或者安卓手机安装“fing”应用软件，查找自己局域网中名为pi-star的主机ip地址，然后通过浏览器访问
3. Pi-STAR的用户名密码： pi-star raspberry



Control Software

Setting	Value
Controller Software:	☐ DStarRepeater ☒ MMDVMHost (DV-Mega Minimum Firmware 3.07 Required)
Controller Mode:	☒ Simplex Node ☐ Duplex Repeater

切换数字通信模式，建议同一时刻只打开一种避免冲突或者无法正常接收

Apply Changes

MMDVMHost Configuration

Setting	Value
DMR Mode:	☐ RF Hangtime: 20 Net Hangtime: 20
D-Star Mode:	☒ RF Hangtime: 20 Net Hangtime: 20
YSF Mode:	☐ RF Hangtime: 20 Net Hangtime: 20
P25 Mode:	☐ RF Hangtime: 20 Net Hangtime: 20
MMDVM Display Type:	OLED Port: /dev/ttyAMA0 /dev/ttyAMA0

默认OLED显示屏是关闭的
选择下拉菜单打开屏幕

Apply Changes

General Configuration

Setting	Value
Hostname:	pi-star Do not add suffixes such as .local
Node Callsign:	Sonic
CCS7/DMR ID:	4607008
Radio Frequency:	436.000.000 MHz
Latitude:	39.54 degrees (positive va
Longitude:	116.23 degrees (positive va
Town:	Beijing
Country:	China
URL:	http://www.qrz.com/db/Sonic
Radio/Modem Type:	STM32-DVM / MMDVM_HS - Raspber
Node Type:	☐ Private ☒ Public
System Time Zone:	Asia/Shanghai
Dashboard Lang	english_uk english_uk

选择中文
界面

时区选择
亚洲/上海

和树莓派整合选择
此硬件设备-GPIO

DMR Configuration

Setting	Value
DMR Master:	BM_South_Korea_4501
BrandMeister M	Repeater Information
DMR Colour Cod	1
DMR Embedded ILC	☐
DMR DumpTADat	☒

DMR服务话可以根据
服务话性能灵活选择
中国通话组为TG460单模式
TG46001跨模式

Apply Changes

D-Star Configuration

Setting	Value
RPT1 Callsign:	B
RPT2 Callsign:	
ircDDBGateway Password:	
Default Reflector:	XRF055 C
APRS Host:	uk.aprs2.net
ircDDBGateway Language:	English_(UK)
Time Announcements:	☒

D-STAR中国发射话是XRF055，
C是单模式，E是跨模式

Apply Changes

Yaesu System Fusion Configuration

Setting	Value
YSF Startup Host:	15160 - CN YSF #2 - C4FM by Sonic
APRS Host:	uk.aprs2.net

YAESU C4FM中国服务话可以选择
#1单模式，#2跨模式

Apply Changes

Firewall Configuration

Setting	Value
Dashboard Access:	☒ Private ☐ Public
ircDDBGateway Remote:	☒ Private ☐ Public
SSH Access:	☒ Private ☐ Public

Apply Changes

