



Configurer un hotspot

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F6DZT 21/09/2022

C'est quoi un Hotspot ?

Un **hot spot** permet d'exploiter une fréquence analogique, pour créer une passerelle numérique, afin de bénéficier des avantages d'une interconnexion en voix sur IP « Internet, Wifi, 3G/4G »



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Voici un hotspot numérique complètement autonome qui prend en charge les communications DMR, D-STAR, YSF et même les modes P25, NXDN



- Raspberry Pi Zero
- MMDVM
- OLED
- Antenne
- Boitier
- Carte micro SD



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Installation Logicielle

- Télécharger l'image pi-star et la graver sur une carte Micro SD

<https://www.pistar.uk/downloads/>

| Pi-Star Downloads | |
|-------------------|------------------------------------------------------------------------|
| | Images available to Download |
| | Pi-Star_NanoPi_Air_V3.4.17_09-Jan-2019.zip |
| | Pi-Star_NanoPi_V3.4.17_09-Jan-2019.zip |
| | Pi-Star_Odroid_XU4_V3.4.17_09-Jan-2019.zip |
| | Pi-Star_OrangePi_Zero_V3.4.17_09-Jan-2019.zip |
| | Pi-Star_RPi_V4.1.4_08-Feb-2021.zip |
| | Pi-Star_RPi_V4.1.5_21-Jun-2021.zip |
| | dvmege-flash-tools.zip |
| | Information |
| | Remember, all you need to do, is download the zipped version of the im |

Choisir la dernière version de Pi-Star **Pi-Star_RPi_V4.1.5_21-Jun-2021**



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C'est quoi Pi-star ?

C'est une image linux développée par un groupe d'OM passionnés, permettant à n'importe quel néophyte Linux, de réaliser et monter un Hotspot numérique multimode à base de Raspberry **pi** et de carte MMDVM (Multi-Mode Digital Voice Modem)

Pi-Star inclut un petit serveur WEB permettant d'avoir accès à :

- Une Console (Dashboard)
- Une partie Configuration
- Une partie Administration



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Gravez l'image Pi-star sur votre Carte Micro SD

Pour commencer, vous aurez besoin de télécharger le logiciel gratuit [balena Etcher](#)





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Incérez la carte dans le Hotspot et alimentez le.

Il démarre sur son propre réseau.

Nom réseau: **pi-star**
Mot de passe: **raspberry**

Connectez votre micro sur le réseau **pi-star**

Ouvrez votre navigateur et tapez l'URL **pi-star.local**

hostname: pi-star Pi-Star 4.1.5 / Dashboard: 20210621

Pi-Star Digital Voice Dashboard for M1ABC

Dashboard | Admin | Configuration

No Mode Defined...

I don't know what mode I am in, you probaly just need to configure me.

You will be re-directed to the configuration portal in 10 secs

In the mean time, you might want to register on the support page here: <https://www.facebook.com/groups/pistarusergroup/> or the Support forum here: <https://forum.pistar.uk/>

Pi-Star / Pi-Star Dashboard, © Andy Taylor (MW0MWZ) 2014-2021.
ircDDBGateway Dashboard by Hans-J. Barthen (DL5DI),
MMDVMDash developed by Kim Huebel (DG9VH).
Need help? Click here for the Facebook Group
or Click here to join the Support Forum
Get your copy of Pi-Star from here.



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Cliquez sur **configuration**. Utilisateur : **pi-star**, Mot de passe **raspberry**

Pi-Star Digital Voice - Configuration

Dashboard | Admin | Expert | Power | Update | Backup/Restore | Factory Reset

Gateway Hardware Information

| Hostname | Kernel | Platform | CPU Load | CPU Temp |
|----------|----------|---------------------------|--------------------|----------------|
| pi-star | 5.10.17+ | Pi Zero W Rev 1.1 (512MB) | 0.79 / 1.06 / 0.49 | 39°C / 102.2°F |

Control Software

| Setting | Value |
|----------------------|-------------------------------------------------------------------------------------------------------------------------|
| Controller Software: | <input type="radio"/> DStarRepeater <input checked="" type="radio"/> MMDVMHost (DV-Mega Minimum Firmware 3.07 Required) |
| Controller Mode: | <input checked="" type="radio"/> Simplex Node <input type="radio"/> Duplex Repeater (or Half-Duplex on Hotspots) |

[Apply Changes](#)

General Configuration

| Setting | Value |
|---------------------|-----------------------------------------------------------------------------------------------------|
| Hostname: | pi-star Do not add suffixes such as .local |
| Node Callsign: | M1ABC |
| Radio Frequency: | 438.800.000 MHz |
| Latitude: | 50.00 degrees (positive value for North, negative for South) |
| Longitude: | -3.00 degrees (positive value for East, negative for West) |
| Town: | Town, LOC4TOR |
| Country: | Country |
| URL: | http://www.mw0mwz.co.uk/pi-star/ <input type="radio"/> Auto <input checked="" type="radio"/> Manual |
| Node Type: | <input checked="" type="radio"/> Private <input type="radio"/> Public |
| APRS Host Enable: | <input type="checkbox"/> |
| APRS Host: | euro.aprs2.net |
| System Time Zone: | Europe/London |
| Dashboard Language: | english_uk |

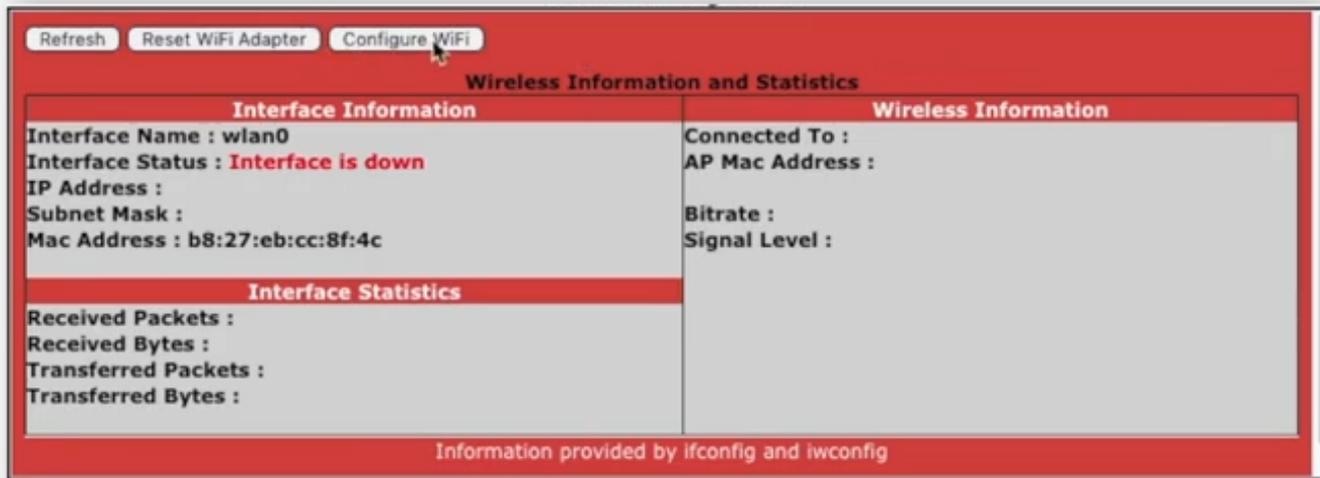
[Apply Changes](#)



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Allez dans la section **Wireless configuration**, cliquez sur **configuration WIFI**



Puis cliquez sur **Scan for Networks**, sélectionnez votre réseau



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Wireless Configuration

WiFi Info

WiFi Regulatory Domain (Country Code) : FR

Network 0 [Delete](#)

SSID :

PSK :

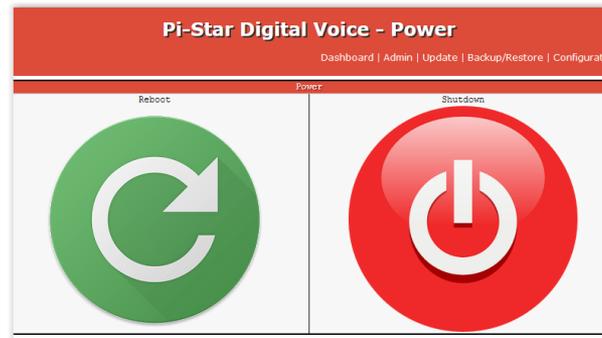
[Scan for Networks \(10 secs\)](#) [Add Network](#) [Save \(and connect\)](#)

Networks found :

| Connect | SSID | Channel | Signal | Security |
|------------------------|--------------|------------|---------|--------------------------|
| Select | Livebox-3C80 | 2.4GHz Ch1 | -46 dBm | WPA2-PSK (TKIP) with WPS |

Puis cliquez sur **Save and connect**

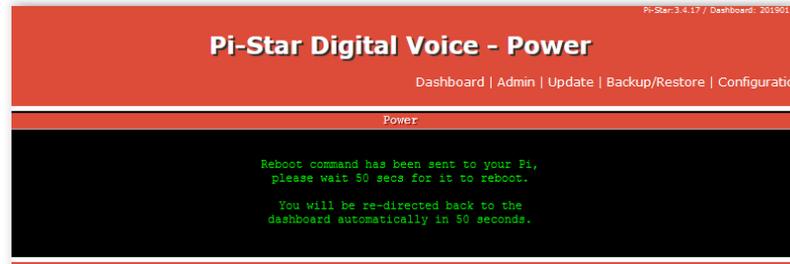
Remontez en haut de la fenêtre et cliquez sur **Power**, puis sur icône **reboot**





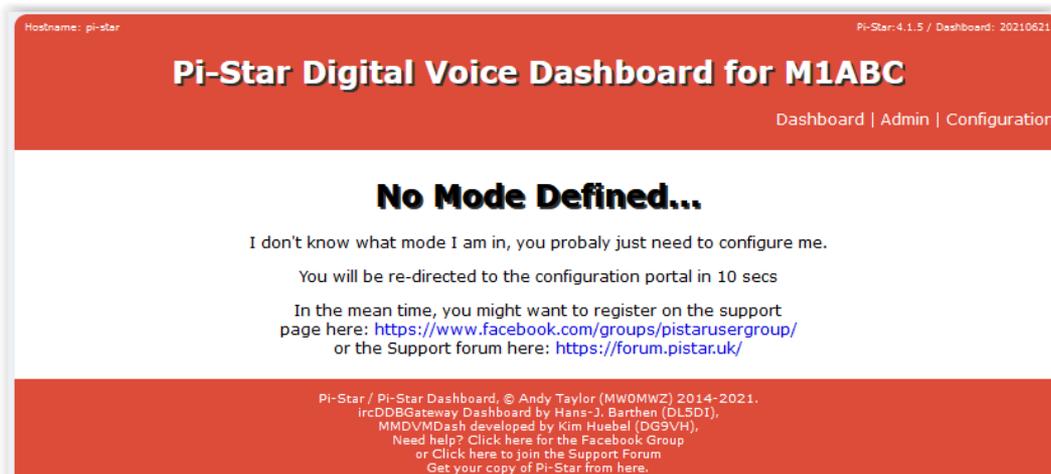
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Comptez 1 ou 2 minutes pour le redémarrage.

Une fois redémarré, se connecter avec le navigateur à l'adresse **pi-star.local**





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Configuration du hotspot

Cliquez sur **configuration**.

Dans la section **Control Software**:

Vérifiez que **MMDVMHost** et **Simplex Node** soient cochés.

Puis cliquez sur Apply Changes.

la section **MMDVMHost Configuration** apparait.

| MMDVMHost Configuration | | | |
|-------------------------|-------------------------------------|------------------------|-----------------------|
| Setting | Value | | |
| DMR Mode: | <input checked="" type="checkbox"/> | RF Hangtime: 20 | Net Hangtime: 20 |
| D-Star Mode: | <input type="checkbox"/> | RF Hangtime: 20 | Net Hangtime: 20 |
| YSF Mode: | <input type="checkbox"/> | RF Hangtime: 20 | Net Hangtime: 20 |
| POCSAG: | <input type="checkbox"/> | POCSAG Paging Features | |
| MMDVM Display Type: | OLED Type 3 | Port: /dev/ttyAMA0 | Nextion Layout: G4KLX |

Apply Changes



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Configuration du hotspot

Cliquez sur **configuration**.

Dans la section **Configuration générale**:

| Configuration générale | |
|------------------------|------------------------------------------------------------------------------------------------|
| Paramètres | Valeur |
| Hostname: | pi-star <small>Do not add suffixes such as .local</small> |
| Indicatif du Node: | F6DZT |
| Id CCS7/DMR: | 2080730 |
| Fréquence radio: | 434.500.000 MHz |
| Latitude: | 44.84933 <small>degrees (positive value for North, negative for South)</small> |
| Longitude: | -0.658176 <small>degrees (positive value for East, negative for West)</small> |
| Ville: | Merignac |
| Pays: | FRANCE |
| URL: | http://www.qrz.com/db/f6dzt <input type="radio"/> Auto <input checked="" type="radio"/> Manual |
| Modèle Radio/Modem: | STM32-DVM / MMDVM_HS - Raspberry Pi Hat (GPIO) ▼ |
| Type de Node: | <input checked="" type="radio"/> Private <input type="radio"/> Public |
| Hôte APRS Enable: | <input type="checkbox"/> |
| Hôte APRS: | euro.aprs2.net ▼ |
| Fuseau horaire: | Europe/Paris ▼ |
| Langage de la console: | french_fr ▼ |

Appliquer les modifications



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Configuration du hotspot

Cliquez sur **configuration**.

Dans la section **Configuration DMR**:

| Configuration DMR | |
|-----------------------------|----------------------------------------------------------------------------------------------|
| Paramètres | Valeur |
| Master DMR: | DMRGateway |
| Master BrandMeister: | BM_2082_France |
| BM Hotspot Security: | |
| Réseau BrandMeister ESSID: | 2080730 02 |
| Réseau BrandMeister Enable: | <input checked="" type="checkbox"/> |
| Réseau BrandMeister: | Repeater Information Edit Repeater (BrandMeister Selfcare) |
| Master DMR+: | DMR+_IPSC2-FRANCE3 |
| Réseau DMR+: | Options= |
| Réseau DMR+ ESSID: | 2080730 02 |
| Réseau DMR+ Enable: | <input checked="" type="checkbox"/> |
| Master XLX: | XLX_933 |
| XLX Startup Module: | C |
| Master XLX actif: | <input checked="" type="checkbox"/> |
| Code Couleur DMR: | 1 |
| DMR LC intégré uniquement: | <input type="checkbox"/> |
| DMR DumpTAData: | <input checked="" type="checkbox"/> |

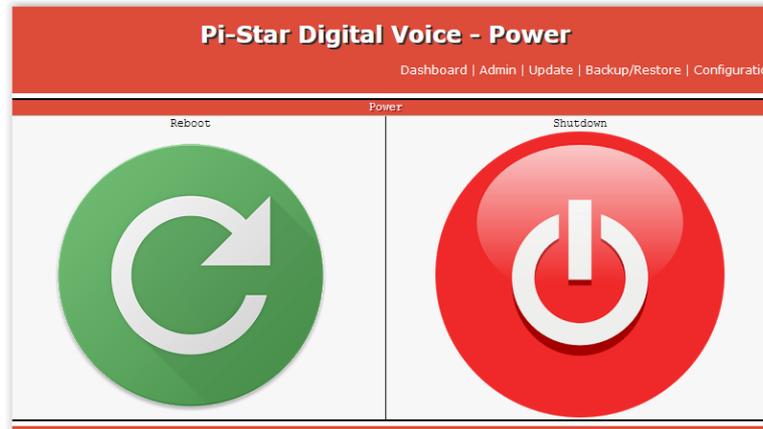


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Configuration du hotspot

Remontez en haut de la fenêtre et cliquez sur **Power**, puis sur icone **reboot**





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Test du hotspot avec le Pocket

Hostname: pi-star Pi-Star: 4.1.5 / Console: 20211021

Pi-Star Relais numérique Console pour M1ABCF6

Console | Administration | Configuration

| Modes actifs | |
|--------------|--------|
| D-Star | DMR |
| YSF | P25 |
| YSF XMode | NXDN |
| DMR XMode | POCSAG |

| Activité de la passerelle | | | | | | | | | |
|---------------------------|---------|-------------|----------|--------|-----------|--------|------|--|--|
| Heure (CEST) | Mode | Indicatif | Cible | Source | Durée (s) | Pertes | BER | | |
| 17:48:59 Oct 27th | DMR TS2 | F6DZT (GPS) | TG 20833 | RF | 17.3 | 0% | 0.4% | | |
| 17:46:36 Oct 27th | DMR TS2 | F6DZT (GPS) | TG 6 | Net | 5.8 | 0% | 0.0% | | |

| Activité locale de la voie radio | | | | | | | | | |
|----------------------------------|---------|-------------|----------|--------|-----------|------|-------------------|--|--|
| Heure (CEST) | Mode | Indicatif | Cible | Source | Durée (s) | BER | RSSI | | |
| 17:48:59 Oct 27th | DMR TS2 | F6DZT (GPS) | TG 20833 | RF | 17.3 | 0.4% | S9+46dB (-47 dBm) | | |

| État du réseau | |
|----------------|----------|
| D-Star Net | DMR Net |
| YSF Net | P25 Net |
| YSF2DMR | NXDN Net |
| YSF2NXDN | YSF2P25 |
| DMR2NXDN | DMR2YSF |

| Info Radio | |
|------------|----------------|
| Trx | Listening |
| Tx | 434.500000 MHz |
| Rx | 434.500000 MHz |
| FW | HS_Hat:v1.5.1b |
| TCXO | 14.7456 MHz |

| Relais DMR | |
|------------|----------|
| DMR ID | 2080730 |
| DMR CC | 1 |
| TS1 | disabled |
| TS2 | enabled |

| Master DMR | |
|--------------------|--|
| XLX933 C | |
| EM 2082 France | |
| DMR+ IPSC2-FRANCE3 | |

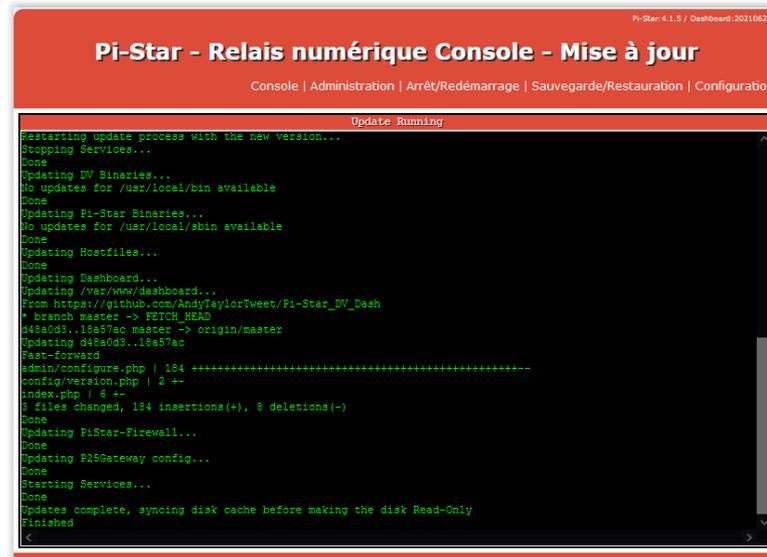


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Mise à jour du logiciel

L'un des avantages de Pi-Star est qu'il est mis à jour régulièrement pour ajouter de nouvelles fonctionnalités, options et correctifs.





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Divers:

Changez le mot de passe de **pi-star** dans le menu **Configuration**

| Remote Access Password | |
|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| User Name | Password |
| pi-star | Password: <input type="password"/> Confirm Password: <input type="password"/> <input type="button" value="Set Password"/> |
| WARNING: This changes the password for this admin page AND the "pi-star" SSH account | |

Pensez à faire une sauvegarde

Pi-Star Relais numérique - Sauvegarde/Restauration

Console | Administration | Arrêt/Redémarrage | Mise à jour | Configuration

Sauvegarde/Restauration

| | |
|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Download Configuration</p>  | <p>Restore Configuration</p>  <p><input type="button" value="Parcourir..."/> Aucun fichier sélectionné.</p> |
|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



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Divers:

Mode Expert

Pi-Star Digital Voice - Expert Editors

[Console](#) | [Administration](#) | [Mise à jour](#) | [Upgrade](#) | [Sauvegarde/Restauration](#) | [Configuration](#)

Quick Edit: [DStarRepeater](#) | [ircDDBGateway](#) | [TimeServer](#) | [MMDVMHost](#) | [DMR GW](#) | [YSF GW](#) | [P25 GW](#) | [NXDN GW](#) | [DAPNET GW](#)
Full Edit: [DMR GW](#) | [PiStar-Remote](#) | [WiFi](#) | [BM API](#) | [DAPNET API](#) | [System Cron](#) | [RSSI Dat](#) **Tools:** [CSS Tool](#) | [SSH Access](#)

Expert Editors

****WARNING****

Pi-Star Expert editors have been created to make editing some of the extra settings in the config files more simple, allowing you to update some areas of the config files without the need to login to your Pi over SSH.

Please keep in mind when making your edits here, that these config files can be updated by the dashboard, and that your edits can be over-written. It is assumed that you already know what you are doing editing the files by hand, and that you understand what parts of the files are maintained by the dashboard.

With that warning in mind, you are free to make any changes you like, for help come to the Facebook group ([link at the bottom of the page](#)) and ask for help if / when you need it.
73 and enjoy your Pi-Star experience.
Pi-Star UK Team.



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Divers:

Mode Expert: MMDVMHost

Si vous rencontrez un taux d'erreur binaire (BER) élevé (supérieur à 1%) avec votre radio, vous pouvez essayer de le réduire en ajustant le décalage RX (paramètre RXOffset).

Voir calibrage du MMDVM

<http://jullian.eu/index.php/calibrage-du-mmdvm/>

| Modem | |
|-------------|--------------|
| Port | /dev/ttyAMA0 |
| TXInvert | 1 |
| RXInvert | 0 |
| PTTInvert | 0 |
| TXDelay | 100 |
| RXOffset | 0 |
| TXOffset | 0 |
| DMRDelay | 0 |
| RXLevel | 50 |
| TXLevel | 50 |
| RXDOffset | 0 |
| TXDOffset | 0 |
| RFLevel | 100 |
| CWIdTXLevel | 50 |



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Divers:

Pour inverser le sens d'affiche de l'écran OLED

| OLED | |
|-----------------|---|
| Type | 3 |
| Brightness | 0 |
| Invert | 0 |
| Scroll | 0 |
| Rotate | 1 |
| Cast | 0 |
| LogoScreensaver | 0 |

Appliquer les modifications

Mode Expert: WiFi

Pour rendre plus lisible la configuration WiFi

```
ctrl_interface=DIR=/var/run/wpa_supplicant GROUP=netdev
update_config=1
ap_scan=1
fast_reauth=1
country=FR

network={
    ssid="Pierre"
    psk="f6dzt3381"
    id_str="0"
    priority=100
}
```



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Divers:

Mode Expert: SSH Access

```
Console | Administration | Mise à jour | Upgrade | Sauvegarde/Restauration | Configuration
Quick Edit: DStarRepeater | ircDDBGateway | TimeServer | MMDVMHost | DMR GW | YSF GW | P25 GW | NXDN GW | DAPNET GW
Full Edit: DMR GW | PiStar-Remote | WiFi | BM API | DAPNET API | System Cron | RSSI Dat  Tools: CSS Tool | SSH Access

SSH - Pi-Star

PI-STAR

The Pi-Star Dashboard can be found at one of the following locations:
http://pi-star/ http://pi-star.local/ http://192.168.1.26/

Pi-Star's disk is read-only by default, enable read-write with "rpi-rw".
Pi-Star built by Andy Taylor (MW0MWZ), pi-star tools all start "pistar-".

Welcome to Pi-Star: v4.1.5

pi-star@pi-star(ro):~$
pi-star@pi-star(ro):~$ sudo pistar-upgrade
Detected Pi-Star 4.1.5 running on RPi hardware, attached to stm32dvm modem...
You are already running the latest version...
Upgrade process complete, syncing disk cache before making the disk Read-Only
Finished
```



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Liens:

Dashboard du Brandmister

<https://brandmeister.network/>

Dashboard du Brandmister pour un TG particulier

<https://brandmeister.network/?page=lh&DestinationID=n°TG>

<https://brandmeister.network/?page=lh&DestinationID=20833>