

TGIFSPOT.COM



TGIF

3.5" HotSpot Handbook



VE3JAR

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TGIFSPOT - 3.5 inch with Nextion Touch screen

This is the top-of-the-line built in a c4labs case. Connect to an ambient Wi-Fi without the need for a PC. On / Off and reboot touch functions. BER adjustments are done from screen. Pi-Star© updates and modem board firmware updates are also done from the screen. Profiles can be saved for all modes and easily recalled and implemented. Last heard dashboard functions just recently added as well as live graph of Processor Temperature, BER, PPS and RSSI. Now update the Nextion© Display without removing it from the case.

(Thanks to Mitch, EA7KDO and James, KF6S for SUPER touch screen features)

AS NEW FUNCTIONS ARE DEVELOPED YOU CAN EASILY UPDATE It is a raspberry© Pi-3b loaded with Pi-Star©. It works on wi-fi and also has an ethernet port. The JumboSpot© hat board has the latest 2019 version 1.7 It is in a nice acrylic see thru case with a custom programmed 3.5-inch Nextion screen. The enhanced Nextion© screen has touch areas and has some amazing features you will not find anywhere else. Assembly, soldering, and configuration is all done by Robert, (K4WZV). These units are completely tested before being shipped. All you need is an Android© type micro-USB power cable and a wi-fi based internet connection or a wired Ethernet connection and you are on the air with your digital radio. It works on DMR, NXDN, D-Star, P25 and Fusion

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IDLE mmdvm SCREEN

Reboot

This RED button – Click this button to have the Hotspot Reboot.

(Same as Pi-Star Dashboard - Admin/Power/Reboot).

Pwr Off

This Red button – click this button to have the Hotspot Shut Down.

(Same as Pi-Star Dashboard - Admin/Power/Shut Down).

These Red Buttons are on various screens on the Hotspot.

The PWR Off adds 30 seconds before Shut Down.

Information on screen

Date / Time - Network connected to -- Tx & Rx Frequencies – MY Callsign – Lastheard Talk Group - Lastheard Callsign – Lastheard Name – Lastheard Location – MY ID - MY Location (scrolling) – CPU Temps F & C scale – IP Address.

FLAG is related to Lastheard Transmitting Station's Country Flag.

LINKs button will advance to additional page for more features.



RECEIVE SIGNAL SCREEN – (top half)

Flag / Photo

This displays the Transmitting Station's Country Flag and /or USER Photo.

To add photo, send request to Mitch EA7KDO.

Clicking the Flag area controls switching the display to lock onto either the Flag or Photo or alternate flashing between both images.

(possible 3 different clicks situation).

DMR

DMR mode icon indicates active Mode - Click this box to turn on /off the "On Air" from flashing.

Other Modes have their own specific screens (P25, Fusion, Nxdn, D-star).



Frequencies

TX / RX frequencies displayed. (As you have configured for your RADIO & Pi-Star).

When flashing "Click Here to Brighten Screen". (works together with ScreenSaver Page settings)

Text displays the QTH of the transmitting station.

Callsign and Name displayed of Transmitting Station.

Callsign displayed will be replaced with "2 LISTENING" when hotspot is in an IDLE Situation.

RECEIVE SIGNAL SCREEN – (bottom half)

Click here for TG Release / Talk Group

This field shows Talk Group & flashes Message to Release TG similar to tg4000.

Flashes Ip Address when Hotspot is Idle.

RSSI (Received signal strength indication)

On transmit signal strength (example [-47dBm]).

Ber (Bit Error Rate)

Indicates the BER (acceptable rate less than 0.5%).

If adjustment is required click this box to move to the RX/TX OFFSET page.



Lastheard callsign

Lastheard Callsign and Name scrolling right to left.

Turn off flashing

Clicking this box will turn ON/OFF the flashing information on Screen.

Lastheard TG

Displays Talk Group being used.

Click here for links page

Click this button for LINKS 1 Page – (more information in another section).

MMdvM - gateway

Info related to the MMDVM module.

IP Address

Current IP Address used by this HotSpot.

LINKS 1 PAGE

Reboot

This RED button – Click this button to have the Hotspot Reboot. (Same as Pi-Star Dashboard -Admin / Power / Reboot).

House Symbol

This symbol of the HOUSE is the "HOME BUTTON".
Click to go back to the Idle screen.

Pwr Off

This Red button – click this button to have the Hotspot Shut Down. (Same as Pi-Star Dashboard – Admin / Power/Reboot).

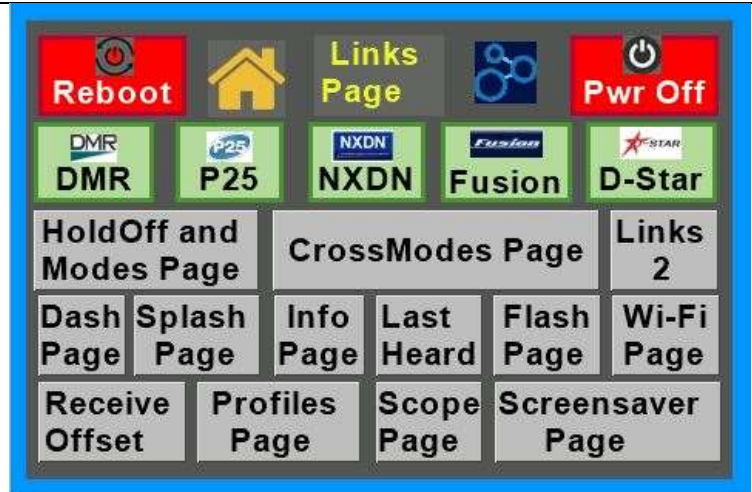
Always as a SAFEGUARD to Shutdown rather than just removing the 5-volt power source.

Row of FIVE Network Boxes

DMR P25 NXDN Fusion D-Star

These Networks have their own specific information Pages. Click the Network of your choice. (sample page 10).

Note: these Networks Share the same Idle screen. (Page 1)



HOLDOFF AND MODE PAGE

Screen information for various Networks.
 "HANG Time" - Time set to pause before switching from the Receive activity screen back to the Idle screen. Similar to the Pi-Star configuration GENERAL section, for the various Digital Networks.

Hang Time and Mode Page				Links
DMR RF	↓ ↑	DMR Lan	↓ ↑	DMR Mode Off
D-Star RF	↓ ↑	D-Star Lan	↓ ↑	D-Star Mode Off
YSF RF	↓ ↑	YSF Lan	↓ ↑	YSF Mode Off
P-25 RF	↓ ↑	P-25 Lan	↓ ↑	P25 Mode Off
NXDN RF	↓ ↑	NXDN Lan	↓ ↑	NXDN Mode Off

Click Here to Apply Holdoff Values to Pistar

Click here to Apply Mode On/Off to Pistar

CROSSMODE PAGE

Screen for CROSS MODE configuration,
(Still Under Development)

YSF to NXDN

DMR to YSF

DMR to NXDN

YSF to P25

YSF to DMR

APPLY CHANGES Click to save changes made.in configuration.

Links Button

Click to return to Links 1 Page.

CrossMode Page			Links
Network	TG		YSF2DMR Mode Off
Network	TG		YSF2NXDN Mode Off
Network	TG		YSF2P25 Mode Off
Network	REF		DMR2YSF Mode Off
Network	TG		DMR2NXDN Mode Off

Please wait.....
 Querying CrossMode Status

DASH PAGE

Screen displays HotSpot information. TX/RX frequencies / CPU Temperature / CPU Cycles / CPU Load / Disk-Free Space % / Power Status.

Calibration – Click this field to calibrate the Nextion Touch screen. Click the corner “ + ” to verify screen corners.

IP Address is Displayed on the bottom of screen.

Power Down This White button – click this button



to have the Hotspot Shut Down.

(Same as Pi-Star Dashboard – Admin / Power / Shut Down).

Reboot This RED button - click this button

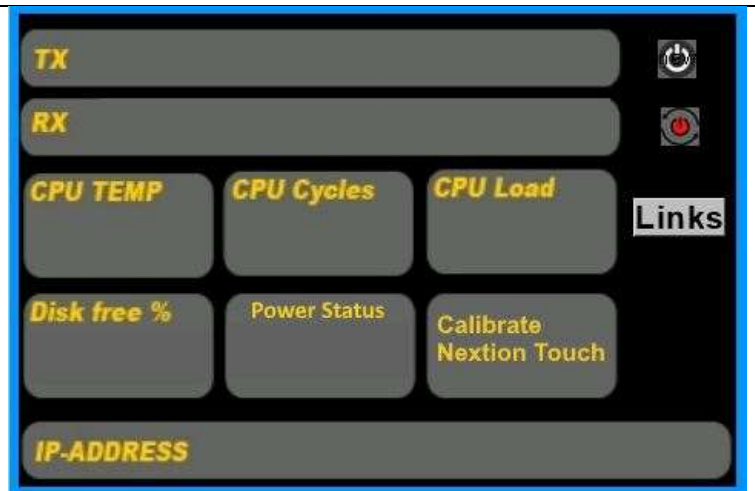


to have the Hotspot Reboot.

(Same as Pi-Star Dashboard - Admin/Power/Reboot).

IP Address is Displayed on the bottom of screen.

Links button – Click to return to the LINK 1 page.



SPLASH PAGE

WELCOME SCREEN

Appears during the HotSpot start-up process.

Bottom Line

LASTEST version DATE installed for the Nextion Customized Touch Screen Hotspot.



INFO PAGE**HotSpot displays information :**

Screen Model / Version / Released Date / Callsign & Name of transmitting station / Receive Talk Group / Nextion Display Latest Upgrade Date. / . List of credits (Names of those that worked on TGIF Network and Nextion HotSpot.

Yellow Slide Bar - Controls Screen Brightness.

Links button – Click to return to the LINK 1 page.

LASTHEARD PAGE

View a list of stations transmitted while Hotspot is powered up. A logbook!

First Line –

Idle situation displays the DATE / TIME and Talk Group connected to.

Receiving signal this field displays the Callsign & Name of user transmitting.

The other lines will list Lastheard Logbook style entries.

HISTORY button. Click this button to list more entries Logged while HotSpot is powered up

Page

Click for additional pages of logged entries.

Network Symbol displayed relates to the Network connected. (DMR / P25 / NXDN / Fusion / D-Star)

Links button – Click to return to the LINK 1 page

FLASH PAGE

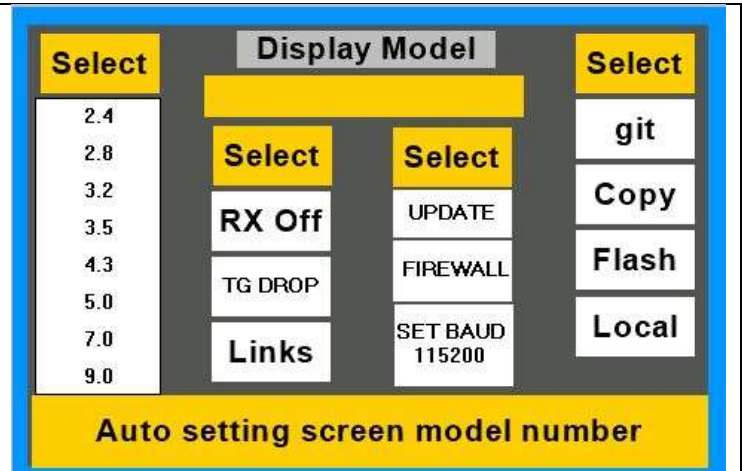
This screen has information related to the Nextion Screen. Model Number.

There are four White Select buttons. (all with different functions).

Left Select

A list of different Nextion Screens (based on size).

The TGIF HotSpot automatically selects Screen size from Model Number.



Center Left Select

RX OFF click this button to take you to the Offset Setting page. Used to adjust for the best Ber. (Bit Error Rate)

TG Drop -- possible TG Disconnect, similar to TG4000.

Links -- This is the manual return button to the LINK 1 screen.

Center Right Select

Update -- Update to Pi-Star current New Version - Similar to Pi-Star Dashboard Admin/ Update function.

Firewall -- used to open the ports involved with TG drop.

Set Baud 115200. Will change baud rate from 9600 to 115200 on the Nextion Screen.

Note: This is already done on TGIF Assembled HotSpots.

Right Select

This Select button controls the NEXTION SCREEN process for the LATEST UPDATE.

These steps take time to complete the update

Step 1 -- press **GIT Button** .and wait for the script process to complete before continuing.

(Wait 2 minutes before next step)

Step 2 -- press **Copy button** and wait for the script process to complete before continuing.

(Wait 2 minutes before next step)

Step 3 -- press **Flash button** and **"WAIT Be Patient"** this process takes time (more than 20 minutes).

A white screen will appear with some text showing activity and the counting percentage.

IMPORTANT Text is the Percentage count -- Once 100% Successful, then the HotSpot will Reboot.

The Welcome Screen appears with the NEW VERSION DATE. This completes the Update.

Note: DO NOT REMOVE POWER - UNTILL PROCESS IS COMPLETED & HOTSPOT RE-BOOTS.

Local -- (Used by DEVELOPERS of the screen) Not Used BY End USER.

Yellow box displays information during various process Steps.

Links button

If you need to cancel /exit out of the screen locate the Links button.

Center Left Select button has the Links button for escape / return to the LINKS 1 page.

Two choices to escape from the LINKS 1 page

1 Click the House (HOME) icon return to Idle Page.

2 Click your Mode box to whichever you are connected to DMR / P25 / NXDN / Fusion / D-star.

WI-FI PAGE

This page allows Wi-fi configuration for up to 3 different scenarios.

Similar - Pi-Star Dashboard wi-fi configuration section.

You have the ability to SCAN for existing available Wi-fi connections. Or manually enter ESSID & Passcode.

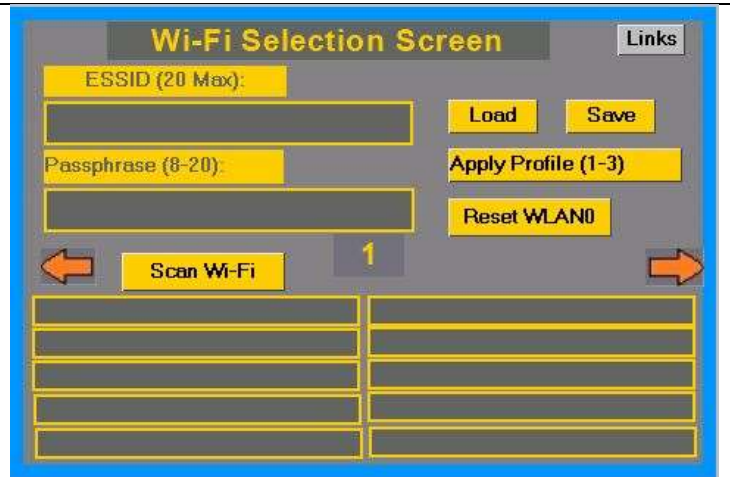
SPECIAL CHARACTERS in the password may cause connection issues.

Use the Left and Right Orange Arrows to navigate thru the 3 different wi-fi configurations.

Example: Home / Cell Phone or Portable.

SAVE and LOAD – buttons available.

LINKs button – click this to return to the LINK1 Page.



RECEIVE OFFSET PAGE

Adjust the RX OffSet to lower BER (Bit Error Rate).

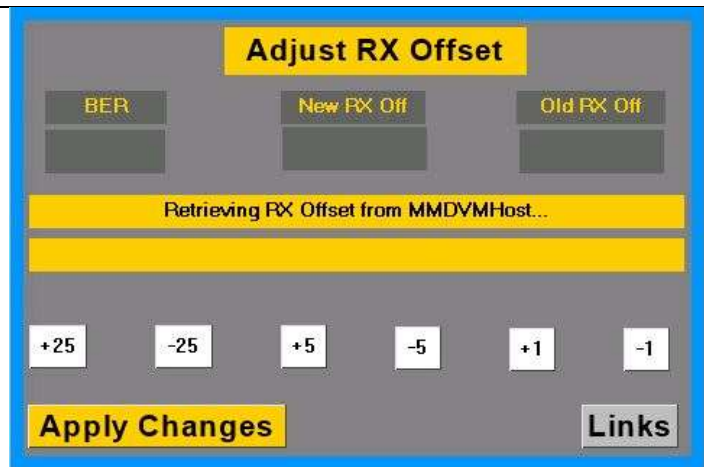
Present settings are displayed in the 2nd Yellow line in the middle of screen. (example -200)

The white boxes have various steps that can be used. Normal test use +5 / -5 steps during trial to see the BER changes. Alternately you can select +/-25 or +/- 1 steps for trial.

What seems to be acceptable is -0.5% or lower. (lower number the better).

APPLY CHANGES Click when you are satisfied with your adjustment to gets Bit Error Rate low.

LINKs button – click this to return to the LINK1 Page.



DAPNET RECEIVING PAGE

Link 1 & 2 page select the icon



The POCSAG screen is a two-way pager system that can send and receive SMS style messages to cheap eBay pagers, Pi-star (for receiving messages, command line for sending), our Nextion screens with POCSAG support and phones with the POCSAG application.

MORE Detailed information

Click on links

<http://mitchopto.com/SetupPOCSAG.html>

<http://mitchopto.com/>

For more NEXTION STUFF on EA7KDO Mitch's page.

Lower right corner House icon is the "HOME key"



PROFILE PAGE

This page is useful if you need to switch between different MODES (DMR /P25 / Fusion / Nxdn / D-Star).

Up to 6 different Profiles can be configured.

Information required for each Profile [Name of Profile / IP / DNS Name / Password / Server Port / Rx & Tx Offset / Rx & Tx frequencies and the Mode Selected.

Save each Profile separately.

ORANGE ARROWS to navigate between profiles.

Apply Profile will set Pi-Star settings to the selected profile (DMR Network).

Load - Loads and saves the Profiles to the screen for selection 1-6.

Change Master will switch to any of the saved DMR master servers.

More details: [click link below]

<https://tgifnetwork.createaforum.com/index.php?action=dlattach;topic=1904.0;attach=342>

IMPORTANT NOTE: The Lock (Upper Left corner of the screen).

Needs to be in the UN-LOCK position before SAVING the Profile. Then after Profile is Saved, click Lock to place back in the LOCK Position. The Lock Open & Close motion can be seen as you click the lock.

Links Button – Click to return to the LINKS 1 Page.

Profiles		IP / DNS Name
MD390#1		74.91.125.81
RX Offset	-200	Password
TX Offset	0	passw0rd
RX Freq	443025000	Server Port
TX Freq	433025000	62031
SEL Mode	DMR	

SCOPE PAGE (6 channel)

This Scope can display graphed information TX and RX.

Information such as UDP packets / Temp / RSSI / BER.

Along with Wlan0 and Eth0 settings while connected either to Wi-Fi or Ethernet.

Net button when clicked puts scope into Network Mode.

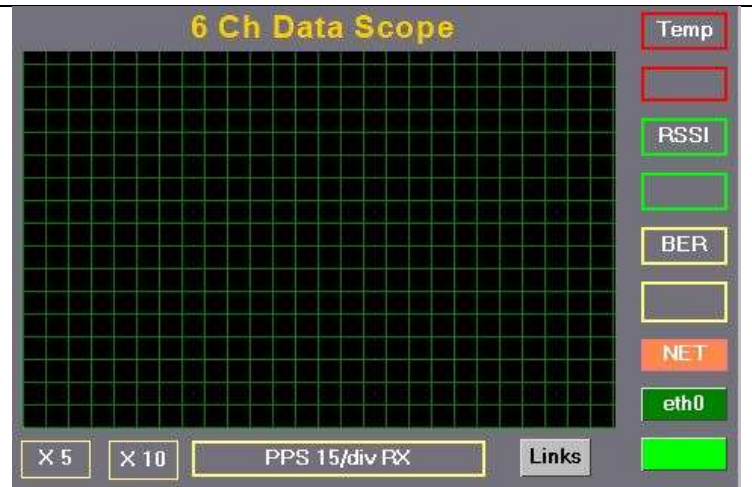
Toggle between Wlan0 and Ethe0 to show (UDP packets).

The bottom right button when RED will display TX pps (packets per second) Touch to change Green to Red.

When Green the graph with show RX pps (packets per second).

Bottom left screen you have the choice to change Packets Per Second times 5 or time 10 scale.

Links Button – Click to return to the LINKS 1 Page.



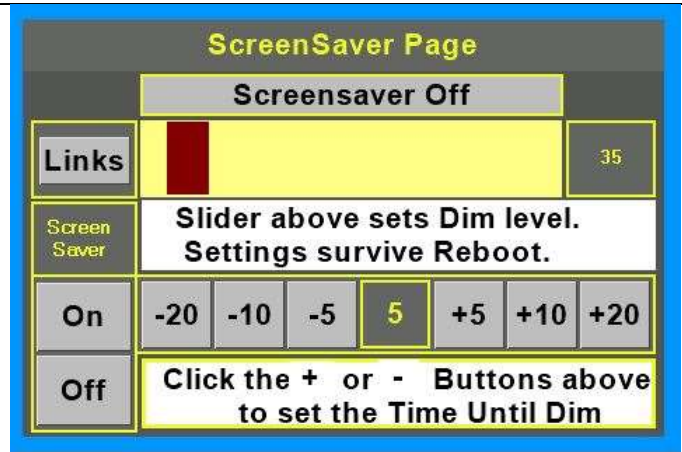
SCREENSAVER PAGE

This screen allows you to adjust the Screen Brightness, with the slide bar to increase or decrease level.

You can also control time intervals when brightness Levels dim – set up a delay timing.

On / Off Buttons – Control ScreenSaver activity.

Links Button – Click to return to the LINKS 1 Page.



LINKS 2 PAGE

This Link 2 page is displayed when on the LINK 2 button is pressed on LINK 1 page (seen on Page3 of this document).

Click a Color Theme to assign it to the HotSpot Screens.

Reboot

This Red Button – Click on button to Reboot the HotSpot.

House

This Symbol of the House is the Home Button to get back to the Idle Screen.

Pwr Off

This Red button – Click on this button to SHUT DOWN the HotSpot.



Boxes for ALL MODES (Center of Screen)

Click respective Mode for COLOR THEME selected to be take effect.

Note: these boxes in RED will not be linked to the Color Theme selected.

Click the MODE buttons to show GREEN, the color theme chosen will be displayed on various screens.

Click the MMDVM box to show GREEN to display on the Idle Screen.

Click the House icon to activate and switch to the Idle screen. (acts like a SAVE button)

Split Button

For further enhancement- Click this button and set to GREEN. The color theme selected will displays a lighter color to top half of the screen, while a darker color on the bottom half of the Idle screen and Activity screen.

NOTE: Sample of this customization can be seen on page 3 of the document.

ADDITIONAL SCREENS



DMR



P25



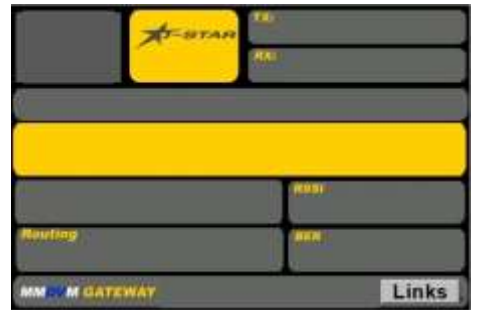
NXDN



Fusion

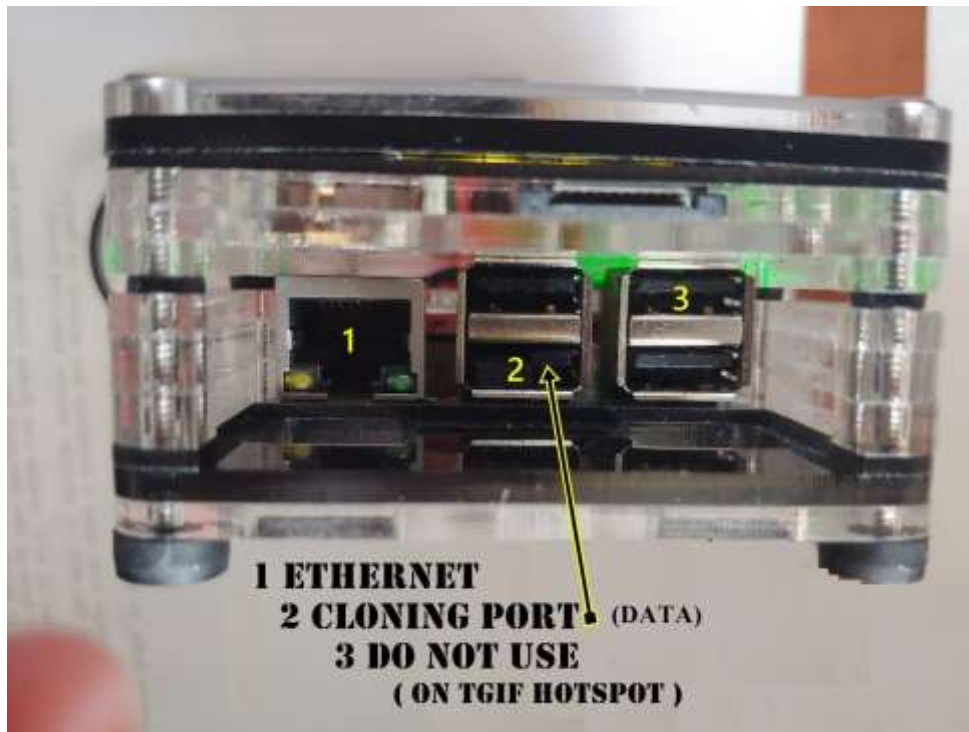
Five Digital Modes Specific screens for each Mode

- DMR
- P25
- NXDN
- FUSION
- D-STAR



D-star

Clone SD CARD



Very important to have a backup 'micro' SD Card

These Sd card can get damaged / corrupted very easily. To assure yourself that you will be back in operating quickly.

"MAKE A CLONE SD CARD"

Option 1:

Take a spare micro SD Card (16gb or larger) and perform a FORMAT (SD FORMATER software).

Place the SD Card into a SD Card READER & plug into your PC computer USB slot to run Format software.

Once this process is complete

Plug SD Card READER with the newly formatted card into HOTSOT "CLONING" DATA PORT (As shown in above image)

CAUTION: TGIF HotSpots ----- DO NOT plug anything into the USB port (right upper port on the PI3+ board).

With PI-STAR Dashboard select EXPERT / SSH Access.

Login: **pi-star** [ENTER].

Password **raspberry** [Enter] unless you have changed the default password.

Note: typing password does not show on the screen.

The command prompt will appear at the bottom of the screen

NOW type, the following:

sudo su [ENTER].

rpi-rw [ENTER.

sudo rpi-clone sda [Enter].

The process will scroll information, when it stops scrolling and you see the command prompt.

Process is complete...

RETURN to the PI-STAR DASHBOARD screen by clicking on the main menu "**DASHBOARD**".

Remove the SD Card reader from HotSpot **Store the "cloned" micro SD Card in a SAFE place.**

NOTE:

sudo pistar-clone sda — (If your SD card reader has more than one slot they will be labeled sda, sdb, sdc etc. so make sure to use the correct one. If sda does not find the SD card then try sdb etc. You do not need to install rpi-clone the pi-star image comes with it already installed.)

Option 2 :

As outlined on Mitch's EA7KDO web-page

<http://mitchhopto.com/rpi-clone.html>

TGIF Webpage

Click last menu selection "NEXTION STUFF"

More Nextion Touch Screen information on this webpage !

TGIF Network

Enjoy your TGIF HotSpot