How to upgrade the Firmware on the
STM32_DVM_PiHat V1 (Green) Board

This guide assumes you are Running a Pi_Star image and that you wish to upgrade firmware on a STM32_DVM_PiHat .

Log into Pi-Star's HTML configuration page, or connect to its IP address via SSH using a application such as PuTTY.
Login Defaults ->   usr:pi-star -- pwd:raspberry

If using SSH, proceed as below. If connecting via the HTML configurator, go to Admin->Expert->SSH Access then login.

pi-star@pi-star(rw):~$ *sudo –s*   *gives ROOT permissions
root@pi-star(rw): *rpi-rw*   *makes file system read/write
root@pi-star(rw): *mv /etc/mmdvmhost /etc/mmdvmhost.save*   *rename mmdvmhost so it won't auto start and interrupt us while upgrading

root@pi-star(rw): *cd /home/pi-star*   *go to pi-star directory
root@pi-star(rw): *wget -N http://dvswitch.org/files/HAM/MMDVM/stm32flash* *get flash utility
root@pi-star(rw): *wget -N http://dvswitch.org/files/HAM/MMDVM/Version_1_Firmware/mmdvm.hex*   *get Firmware
root@pi-star(rw): *chmod +x stm32flash*   *make flash utility executable

Shutdown the Raspberry Pi
Disconnect power to Raspberry Pi

Now you need to put the board in bootloader mode:

Insert JP1 (Or short pins with tweezers or similar)
Power ON the Raspberry Pi   *** NOTE: Jumper does NOT need to remain shorted once processor is in boot mode.
PWR, ACT and DMR should be lit solid, NOT flashing.
*** If the LEDs are NOT in this configuration, STOP!! Re-do the short/power-on procedure described above until they are.

Wait for the Pi to reboot, log into the Raspberry Pi via SSH or via web SSH access as above; then:
pi-star@pi-star(rw):~$ *sudo –s*
root@pi-star(rw): *rpi-rw*
root@pi-star(rw): *cd /home/pi-star*   *go to pi-star directory
root@pi-star(rw): *./stm32flash -v -w mmdvm.hex -R /dev/ttyAMA0*   *Do the actual flash programming

The response to the above command should be:

stm32flash 0.5

http://stm32flash.sourceforge.net/

Interface serial_posix: 57600 8E1
Version   : 0x22
Option 1   : 0x00
Option 2   : 0x00
Device ID : 0x0418 (STM32F105xx/F107xx)
- RAM   : 64KiB (4096b reserved by bootloader)
- Flash   : 256KiB (size first sector: 2x2048)
- Option RAM : 16b
- System RAM : 18KiB
Write to memory
Erasing memory
Wrote and verified address 0x0800fec8 (100.00%) Done.

Once writing is successful, do some clean up:
root@pi-star(rw): *mv /etc/mmdvmhost.save /etc/mmdvmhost*   *"re-enable" mmdvmhost
***Insure JP1 is no longer shorted
root@pi-star(rw): *reboot*