



Thank you for purchasing the DECromancer MFM Emulator!

Please read this important information before using your new device.

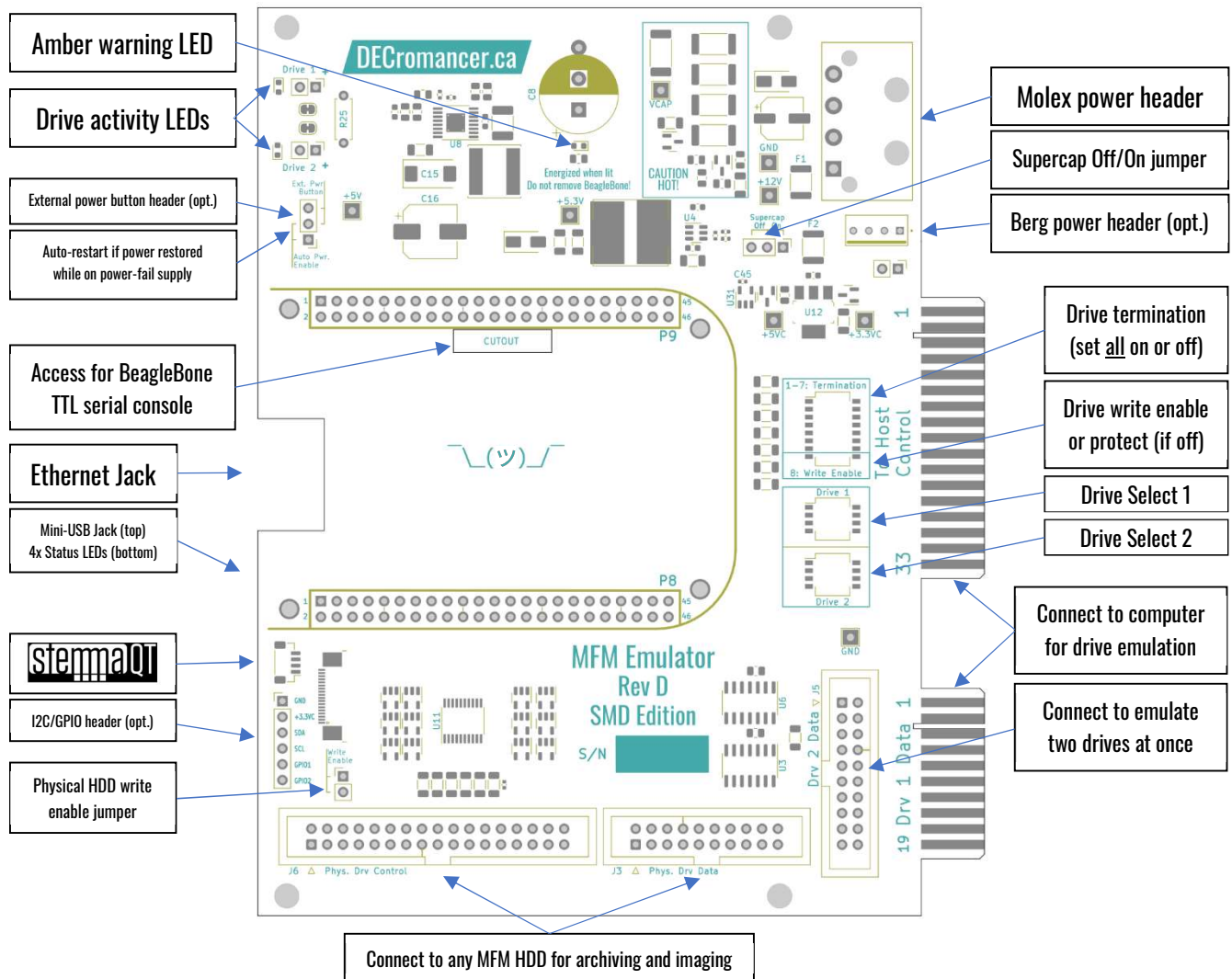
- The emulator must be powered from the 4-pin Molex power connector when in use .
- **Never remove the BeagleBone from the emulator when the amber warning LED is lit!**
- Using the emulator requires a basic understanding of `ssh` and the Linux command line. If you need a tutorial, we recommend Digital Ocean's Linux Basics: <https://www.digitalocean.com/community/tags/linux-basics>
- After powering up the emulator, connect to it via `ssh` one of two ways:
 - via Ethernet: Connect a cable, then check your local router for the IP address it supplied to the emulator.
 - via mini-USB: Connect the supplied mini-USB cable to the emulator and your computer. The emulator should appear at either `192.168.7.1` or `192.168.6.1`, depending on your computer's OS.

The default username is **debian** and the password is **tempwd**.

Change this password at your first login with the `passwd` command. Write down your new password.

- Your emulator has been shipped with the supercapacitor discharged for safety.
 - To enable the 10 second graceful shutdown at power-off, **while the device is off** , move the **Supercap** jumper from **Off** to **On**.
 - You must also configure the device for emulation on startup. Details are on the next page.
 - The power resistors in the **CAUTION HOT!** section will now get hot during operation. Watch your fingers!
- The DIP switches are preset for the following common configuration:
 - Emulated drive termination is enabled
 - Emulated drive is write enabled (not write protected)
 - Drive 1 appears at Drive Select 1 (DS1)
 - Drive 2 appears at Drive Select 2 (DS2)
- Your emulator is pre-loaded with DECromancer's optimised emulator image. Should a reload be necessary, follow the instructions on our website: <https://decromancer.ca/mfm-emulator#reload>
- To update the software on your image, ensure your emulator has Internet access, then enter the following:

```
sudo apt update
sudo apt upgrade
cd /opt/mfm && sudo git pull && sudo make && sudo reboot
```



To emulate a drive:

```

setup_emu
mfm_emu --drive 1 --file emu_file
or, for 2 drives: mfm_emu --drive 1,2 --file emufile_a,emufile_b

```

To dump a working drive:

```

setup_mfm_read
mfm_read --analyze --emulation_file emu_file --extracted_data_file data_file

```

To enable emulation on startup with power-fail backup power:

1. With the power off, set the Supercap jumper to On.
2. Copy (via `scp`) an emulation file to the system.
3. Edit the file `/etc/mfm_emu.conf` to set the path to the emulation file, and any other options you want.
4. Enter `sudo systemctl enable mfm_emu.service` and reboot.
5. You can disable automatic emulation with `sudo systemctl disable mfm_emu.service` and reboot.

Or, supply back-up system power via the mini-USB connector, and add `--threshold 0` to the `powerfail` arguments to disable automatic power-fail shutdown. (The supercap can be disabled in this configuration.)

Full information on the emulation software is available at <http://www.pdp8online.com/mfm/>.