

## New Installation of Mark5 Debian Etch Operation System

1. Get Configuration Information, you should ask your network system administrator for the following information.

- Your host name ( e.g. Mark5-11)
- Your domain name (e.g. haystack.edu)
- How your Mark5's IP network interface should be configured (static configuration or DHCP)

\* If using DHCP, the DHCP server will provide the appropriate network information.

\* If you have static configuration you will need:

IP Address:

Netmask:

Default Gateway:

DNS Servers IP address

- root password

2. Replace the old HDD

- Store the old one in case of problems.

3. Installation of new operating system

- Boot up system
- Insert the CD Labeled "Debian Net Install CD", created from the Debian-40r3-i3860netinst.iso image.
  - You will see the Debian Splash Screen.
- If you are using DHCP for network configuration
  - Press ENTER to boot
- If you have a static IP configuration at the prompt type
  - install netcfg/disable\_dhcp=true <enter>
- Choose Language
  - Select: English
- Choose Country or region
  - Select: United States
- Select a Keyboard layout
  - Select: American English
- Detecting Hardware - Scanning cd-rom - Detecting network hardware -
- Configure Network
  - Choose your primary network interface (since most new motherboards have 2 1G Ethernet interface, choose you appropriate interface).
  - If DHCP – the interface will gather information concerning hostname, domain, etc.

- Else if you choose `disable_dhcp=true` you will now manually enter the information gathered in step 1.
- Hostname: <any>
- Domain name: <any>
- Partition disks
  - Select: Guided – use entire disk
  - Verify the disk to partition
  - Select: All files in one partition
  - Review and Select: Finish partitioning and write changes to disk
  - Confirm write changes and Select: Yes
- Time zone configuration
  - Select your time zone: Eastern
  - Note: Choosing GMT is not an option at this point and we will modify it manually at the end of installation.
- Configuring passwd
  - Root password
    - ➔ Enter a secure password
    - ➔ Re-enter password to verify
- Create a non-admin user
  - Enter Full Name for the new user: oper
  - Enter a username for your account: oper
  - Enter a password for the new user: <password>
  - Re-enter password to verify: <password>
- Installing the Debian base system
- Configure Package Manager
  - Use a Network Mirror: <no>
- Software Selection
  - Deselect Standard System option
    - ➔ by using the arrow keys to move to [\*] and use the spacebar to deselect standard system install
- Installing GRUB boot loader
  - Install the GRUB boot loader to master boot record?
  - Select: yes
- Finishing the installation
- cd will eject, Select: Continue
- System Reboot

#### 4. Mark5 OS Distribution Disk 2 Installation

Description: This disk has the additional packages required for a Mark5 system minimum install after the installation of the Debian "Etch" netinstall. Create this disk from the `mark5os_etch_disk2.iso` available on the Haystack website.

- Log in as root
- Insert the Mark5 OS disk 2 cd
- At the prompt, issue the "apt-cdrom add" command.

```
apt-cdrom add
```

- prompted: "Please insert a disc in the drive and press enter"
- Insert ISO disk 2 in the drive <enter>

This will update the package manager with the appropriate Debian packages for minimal installation.

- Mount the cdrom device

```
mount /media/cdrom
```
- Copy the install script to the /tmp directory.

```
cp /media/cdrom/install-additional-pkgs.sh /tmp
```
- Execute the install-additional-pkgs.sh file in the tmp directory.

```
cd /tmp
/install-additional-pkgs.sh
```

**NOTE:** You may be required to reinsert the original Debian "Etch" netinstall cd.

- X-window configurations: The installation will prompt you for various display settings. The default settings will most like be preferred, and you can select ok.
- The Mark5 minimum OS installation is complete!
- To verify X-window configuration settings execute startx

```
startx
```
- Patch updates: If you have a network connection check for patches to the installed packages:
  - o To update the sources.list you will need to find a debian mirror near you and edit the sources.list file with the following information.
  - o Update the /etc/apt/sources.list with your nearest Debian Mirror.
    - There are two methods:
      - manually edit /etc/apt/sources.list
      - or if you are still in X-windows from an xterm execute the application synaptic
    - Manual approach
      - Use a "#" and comment out the cdrom additions
      - add the following two lines with the appropriate mirrors:

```
deb ftp://ftp.us.debian.org/debian etch main
deb-src ftp://ftp.us.debian.org/debian etch main
```

- save the file
  - execute: apt-get update
  - execute: apt-get upgrade
- synaptic
    - Select “Settings” -> Repositories
    - deselect cdrom entries
    - click add new repositories
    - deb repositories
      - url: <ftp://ftp.us.debian.org/debian>
      - distribution: etch
      - section: main
    - deb-src
      - url: <ftp://ftp.us.debian.org/debian>
      - distribution: etch
      - section: main
    - save and reload
    - select “Mark all upgrades”
    - select “apply”

**Note:** If the upgrade results in a new kernel image and headers installed, please reboot the system before continuing.

**Note:** If you wish to change the kernel for your Mark5 system to represent your installed motherboard, we recommend performing that step now. Using synaptic search on linux-image to select the kernel image of choice and the appropriate header files.

- e.g. linux-image-2.6.18-6-686-bigmem if your system has between 4G – 64G or RAM

**NOTE: SMP images have merged with non-SMP.** After the release of linux-image-2.6.17-2 the SMP and non-smp images were integrated into only one image. After this you will no longer find images like linux-image-2.6.16-2-686-smp and linux-image-2.6.16-2-686 but only one image that will detect at run time the presence of a SMP system and enable or disable the SMP code:

Sarge: kernel-image-2.6.8-2-686 and kernel-image-2.6.8-2-686-smp  
 Etch: linux-image-2.6.17-2-686

- If you installed an oper account as the first user account, we recommend that you edit the /etc/passwd file and change the oper account shell from /bin/bash to /bin/tcsh

## 5. You can now install the Mark5 application and the dependent drivers

- Execute module-assistant prepare
  - This command is used to assure that all of the dependent files to build a kernel module exist before the module is compiled.

- `dpkg -i /media/cdrom/streamstor_1.0-i386.deb`
  - o This command will compile / install the streamstor driver
  - o **In this pre-release please copy the contents of /usr/local/src/streamstor/linux/util directory to /usr/local/bin/streamstor**
  
- `dpkg -i /media/cdrom/mark5a_1.0-i386.deb`
  - o This will compile and install the Mark5A application and support utilities.
  - o **Please create a file /etc/hardware\_id and insert the proper Mark5-XX signature.**
  
- Verify operations of the Mark5 application
  - o `su – oper`
    - To log into the oper account
  - o `Mark5A -m 0` to verify start of the application
  - o `ctrl-z` to put it in the back round
  - o `tstMark5A`
    - Verify operation.
  
- Change the system timezone to GMT
  - o Execute – `tzconfig`
    - select Option 12 – for other
    - enter GMT
    - confirm
  
- Update the ntpdate configuration file
  - o edit `/etc/default/ntpdate.conf` with your local ntp server list

6. Your system is now ready for operation.