

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

NOTE: If your situation requires that you have multiple partitions, e.g. separate home directories, the Guided selection will allow you to choose from various options to meet your specific needs.

- 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.

NOTE: Even though a X-window environment is installed it is not executed by default.

- 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. If you use 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
 - o This command is used to assure that the all of the dependent files to build a kernel module exist before the module is compiled.
- mount /media/cdrom
- cd /media/cdrom
- ./install-mark5b.sh
 - o This shell script will install the Mark5B application, the Mark5B interrupt handler and Conduants SDK8.1.
- Do to conflicts of different shells used with Mark5, (e.g. bash, tcsh) we now recommend that you manually set up the streamstor environment variables.
 - o For tcsh, in /home/oper/.login please add the following declarations:
 - setenv PATH :\$/HOME/bin:/bin:/usr/bin:/usr/local/bin:/usr/local/bin/mark5b
 - setenv STREAMSTOR_BIB_PATH /usr/local/src/streamstor/linux/bib
 - setenv SS /usr/local/src/streamstor/linux
 - o For bash, in /home/oper/.bash_profile please add the following declarations:
 - PATH=\$PATH:\$HOME/bin:/sbin:/usr/sbin:/usr/local/bin/mark5b
 - STREAMSTOR_BIB_PATH=/usr/local/src/streamstor/linux/bib
 - export STREAMSTOR_BIB_PATH
 - SS=/usr/local/src/streamstor/Sdk
 - export SS
- Verify operations of the Mark5 application – now called “domino” and “tstDim”
 - o su – oper
 - To log into the oper account
 - o domino -m 0 to verify start of the application
 - o ctrl-z to put it in the back round
 - o tstdimino
 - Verify operation.
 - o EndDim
 - Is used to terminate the application
- 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.