

# Setup LBADR Recorder

## Install basic Debian system

- SSh/Standard System only
- Add non-free and contrib to /etc/apt/sources.list and update
- Install the following packages

```
apt-get install apt-file libfftw3-dev tkdiff g++ gcc gfortran build-essential subversion pgplot5
tcptraceroute ethtool wireshark autoconf libtool gnu-standards emacs qiv tcpdump x11-apps zlib1g-dev pkg-config ntpdate ntp libgtk2-perl screen lshw firmware-qlogic
apt-file update
```

### ETCH

```
apt-get install pgsperl libpng3-dev
```

### SQUEEZE & WHEEZEY

```
apt-get install libpng12-dev libpgplot-perl
```

Can duplicate packages from an existing machine:

On original

```
apt-clone clone lbadr
```

On new machine

```
apt-clone restore lbadr.apt-clone.tar.gz
```

- Copy bigphysarea kernel deb package (see below)

```
dpkg -i linux-image-XXX-bigphys_1.2_i386.deb dpkg -i linux-headers-XXX-bigphys_1.2_i386.deb
```

### SQUEEZE & WHEEZEY

- Edit /etc/default/grub change GRUB\_DEFAULT as appropriate and GRUB\_CMDLINE\_LINUX\_DEFAULT="bigphysarea=64000"

```
update-grub
```

## To create a kernel build machine

```
apt-get install kernel-package linux-source  
echo "CONCURRENCY_LEVEL= 2" >> /etc/kernel-pkg.conf
```

## Wheezy

```
apt-get install libqt4-dev
```

## Setup NTP

Add ntp servers to /etc/ntp.conf

## Etch

Also add ntp server to /etc/default/ntp

## Build patched bigphys kernel

- As root on kernel build machine (see above)
- Download patch from [http://e-mode.phas.ubc.ca/mce/pc\\_install/bigphys/](http://e-mode.phas.ubc.ca/mce/pc_install/bigphys/)

```
cd /usr/src/  
tar xvfj /usr/src/linux-source-X.X.tar.bz2  
cd linux-source-X.X  
make xconfig      (see list below)  
patch -p1 < bigphysarea-3.2.0.patch  
make oldconfig  
    Support for big physical area reservation (BIGPHYS_AREA) [N/y/?] (NEW)  
y  
make-kpkg clean  
fakeroot make-kpkg --initrd --revision=1.0 --append-to-version=-bigphys  
kernel_image kernel_headers
```

Removed the following modules/categories

```
PCCard  
DCCP  
Amateur Radio  
CAN bus  
IrDA  
Bluetooth  
Wireless LAN  
ISDN
```

## Install "eVLBI" code

```
svn co https://svn.atnf.csiro.au/evlbi/trunk evlbi
cd evlbi
make
```

## Install vsib drivers and setup

- as root:

```
cd ~vlbi/evlbi/vsib
cp init.vsib /etc/init.d/vsib
update-rc.d vsib defaults
cp vsib.conf /etc/modprobe.d/
make install
```

### ETCH

- Add the following to `/etc/udev/permissions.rules`

### SQUEEZE & WHEEZY

- Add the following to `/lib/udev/rules.d/91-permissions.rules`

```
# vsib board
KERNEL=="vsib", MODE="0664", GROUP="vlbi"
```

```
===== More =====
```

```
* via CPAN Config::Trivial.pm, Astro::Time
```

## New VSI Machines

### e1000e Network driver

Need support for Intel I219LM LAN controller

- Download e1000e-3.3.5.3.tar.gz from <https://downloadcenter.intel.com/download/15817> (latest 3.4.2.1)

```
tar zxvf e1000e-3.3.5.3.tar.gz
cd e1000e-3.3.5.3/src
make install
modprobe e1000e
```

### Patch kernel

[https://launchpadlibrarian.net/85312585/fix\\_readq.patch](https://launchpadlibrarian.net/85312585/fix_readq.patch)

```
---
drivers/acpi/atomicio.c | 11 ++++++++--
1 file changed, 9 insertions(+), 2 deletions(-)

--- a/drivers/acpi/atomicio.c
+++ b/drivers/acpi/atomicio.c
@@ -306,11 +306,18 @@ static int acpi_atomic_read_mem(u64 padd
     case 32:
         *val = readl(addr);
         break;
-#ifdef readq
     case 64:
+#ifdef readq
         *val = readq(addr);
-        break;
+#else
+        {
+            u64 h;
+            *val = readl(addr);
+            h = readl(addr+4);
+            *val = *val + (h << 32);
+        }
+#endif
+        break;
     default:
         return -EINVAL;
 }
```

## DAS GUI

Install libmotif-dev libxt-dev

## Create partitions for RAID

32 bit kernel can only handle 16 TB partitions....

The following command to create 2 partitions:

```
parted -a optimal -s -- /dev/sdb unit gb mkpart primary 50 2025 mkpart
primary 2025 -0 set 3 raid on set 4 raid on
mdadm --create /dev/md3 --level=5 --raid-devices=8 /dev/sd[abcdefgh]3
mdadm --create /dev/md4 --level=5 --raid-devices=8 /dev/sd[abcdefgh]4
```

From:

<https://www.atnf.csiro.au/vlbi/dokuwiki/> - **ATNF VLBI Wiki**

Permanent link:

[https://www.atnf.csiro.au/vlbi/dokuwiki/doku.php/lbaops/vsib\\_installation?rev=1549247065](https://www.atnf.csiro.au/vlbi/dokuwiki/doku.php/lbaops/vsib_installation?rev=1549247065)

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