

Setting up Linux Fedora Core 3 for the Virtual Tea Room and Stereo Video
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1. Install Fedora Core 3 from DVD

2. Install files provided by CSIRO on CD

```
rpm -Uvh polycoreutils-1.18.1-2.12.i386.rpm
rpm -Uvh selinux-policy-targeted-1.17.30-3.16.noarch.rpm
rpm -Uvh udev-039-10.FC3.7.i386.rpm
rpm -ivh kernel-2.1.11-1.27_FC3_ieee050525.i686.rpm
rpm -Uvh libraw1394-0.10.1-10.i386.rpm
rpm -Uvh libraw-devel-1394-0.10.1-10.i386.rpm
rpm -Uvh libavc1394-0.4.1-3.i386.rpm
rpm -Uvh libavc1394-devel-0.4.1-3.i386.rpm
```

3. Edit /etc/rc.local to add lines related to 1394

4. Edit /etc/security/console.perms

Near the bottom of this file there is a line which should change:

```
Before:      <console> 0600 <raw1394> 0600 root
After:       <console> 0666 <raw1394> 0666 root
```

5. Rebuild static tables for libraries

As Root:

```
ldconfig -n
ldconfig /usr/lib
```

6. Reboot

7. Binaries to send and receive stereo video data

Send:

```
dvsend_stereo -4 -R -IP8000 -IC0 -lh202.9.5.73 -rP8010 -rC1 -rh202.9.5.73
```

-IP8000: Send the left channel to port 8000 on the target machine

-IC0: Get the left channel into the PC through canopus card zero

(See canopusswitcherutility: ./cameraInCard0)

-lh202.9.5.73: Send the left channel to machine 202.9.5.73

Similarly for the right channel, sending to port 8010 on the same target machine

Receive:

```
dvrecv_stereo -4 -R -IL -IP8000 -IC/dev/video1394/0 -rP8010 -rC/dev/video1394/1
```

-IL: Display lost packets from the left channel
-IP8000: Listen on port 8000 for packets for the left channel
-IC/dev/video1394/0: Send the left channel out through canopus card zero to the display device
(See canopuswitcherutility: ./screenOutCard0)
Similarly for the right channel, listening on port 8010 and displaying through canopus card one.

The port numbering conventions are just local to this pair of command lines and are not hardwired in the source code. Provided the send/receive command lines match you should be able to use any pair of available ports.

Similarly, we have used the convention of card zero for left channel and card one for right channel to be systematic.

8. Canopus switching utility

A simple utility is provided to switch the send/receive state of the canopus cards. This needs to be run each time the PC is started. Four small script files run the utility (called "test") and give it the parameters it needs. They need to be run as root and are run with the commands:

```
./cameraInCard0  
./cameraInCard1  
./screenOutCard0  
./screenOutCard1
```

9. To compile dvts code, also install the kernel source

```
rpm -ivh kernelsourcefile.rpm  
cd /usr/src/redhat/SPECS  
rpmbuild -bp -target=i696 kernel-2.6.spec  
cd /usr/src  
ln -s /usr/src/redhat/BUILD/kernel-2.6.11/linux-2.6.11 linux
```