

VLBI Observing Notes

To run a VLBI experiment, a number of independent programs need to be run. This include a program to control the telescope and IF setup, controlling the DAS and the LBADR disk recorder.

DAS

The DAS is controlled by a gui. Log onto the machine running the DAS control and run

```
> das1 &  
> das2 &
```

A gui is needed to control each DA individually. For each experiment determine which DAS profile is needed (the wiki guesses the profile, but this is not guaranteed to be correct).

- Load the require profile by selecting the File→Load menu item, then selecting the correct profile in the file browser.
- Select Config Hwd
- Select Start Monitor

Monitor IF Level status bar. The this should be roughly mid range. If it goes of of range the DAS gui will complain and the attenuation (or catie gain at ATCA) will need to be adjusted.

Note: If the control buttons are greyed out, it might be that a lock file still exists (either the DAS crashed without removing this, or another DAS process is still running). If you are sure there is not anyther DAS process running, remove the lock file by hand.

LBADR

The LBADR is a disk based recorder based around a standard PC. Data is recorded usually to external Xserve RAIDs, but can also be recorded to removable IDE disks or internal disks.

Disk loading

There is no need to shutdown the host PC to change Xraid disks. The following steps are needed to swap disks

- Check if any of the xraid disks are currently mounted, and if so unmount them.

```
> df | grep xraid  
> umount /data/xraid0
```

(for example, do all mounted disks)

- Shut down the Xraid chassis, either use the RAID Tools GUI or hold the power button down at the back of the chassis for about 10 seconds (until it starts flashing).

- Remove any mounted disks and put them back in their appropriate “suitcase”.
- Install the new disks. Install them in numerical order and gently push each disk in. The “pop” the handle out and for each disk give an extra firm push to make sure the disks is properly inserted. Failure to do this could invalidate the RAID set and make the disks unusable for 24hrs as the RAID set is reassembled.
- Power the chassis on again, either using the control GUI or pressing the power button on the rear. Power on takes a few minutes. Check a green light comes on on each disk. A red or orange light means disk failure.
- Mount the disks (see the troubleshooting guide if this does not work)

```
> mount /data/xraid0
```

etc

- Check the disk ID is updated in cdisco. If not run

```
> /etc/init.d/recorder_server restart
```

Recording

Recording is make by a program called `vsib_record` on the LBADR, which is controlled by a Tk gui `cdisco`. Ssh as `vlbi` onto the LBADR recorder and run:

```
> cdisco
```

Fill in the following fields, based on the notes on the experiment wiki:

- For 8 channel recording select the “Huygen's Cable” button
- Experiment, Bandwidth, Channel Selection, Duration.
- Select the disk partition to record to. If required (ie you are setting up before the experiment starts), select the `Scheduled start` button, click “Now + 10s” then set the start time to the recording start time. If starting the recorder late, or when changing disk partition during an experiment **do not** use the scheduled start.
- Click start button

To determine the correct channel selection, choose either 1-4 or 1-8 for 4 or 8 channel setups (as per the wiki). For other selections, the wiki should give the channel selection required.

The Xraid disks are “sliced” into 2 or 3 sections (due to limits in the Linux kernel). The slices can record 6.5 hrs of data at 512 Mbps or 13 hrs at 256 Mbps. Normally record 6 (or 12) hours to a single slide. However always set the duration to be longer than the indented recording time in case you are late doing the change. If possible try and change disks during slew time.

To actually do a disk change, while recording

- Make sure `Scheduled start` is turned *off*
- Select the next (empty!) disk to record to

- Click Stop
- Immediately click Start

The cdisko manual is at http://www-ra.phys.utas.edu.au/~jstevens/vsib/vsib_control_31.html

ATNF Machines (5 Sept 2018)

	Default Recorder	DAS control
ATCA	cavsi1	cavsi1
Mopra	mpvsi1	mpvsi1
Parkes	pkvsi2	pkvsi1

From:

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

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