Observatory Setup

At each observatory you need to run the `obs.pl` program. This connects to the correlator processors at Parkes and copies the requested data down the network. `Obs.pl` should be run remotely by who ever is running the fringe test, as they sometimes hang and have to be restarted. This should be run after the correlator processes are started. Once you have logged onto the recorder PCs, you need to cd to the directory where the data is being recorded then run obs.pl. If the recorder is currently been run via `cdisko` or other programs which use "recorder_server", then an alias "`recdir`" is setup which will automatically change to the correct directory. Usage will normally be something like:

```
> recdir
> obs.pl
```

On Mark5 systems you will have to "`cd`" to whatever directory the Mark5 is dumping the data.

If disk recording is moved to a different directory, `obs.pl` will have to be stopped and restarted in this new directory.

Logging Onto Observatories

The recorders are running on the following machines and usernames. Note if remote recording is being run, you need to log onto the machine where the data is being written to disk ***NOT*** the machine where the data is received from the telescope. You can only connect via ssh.

Observatory	Host	Username	Path	. Notes
Parkes	pkvsi1-ext.atnf.csiro.au	vlbi		
Parkes	pam-store.atnf.csiro.au	vlbi	/data	
ATCA	cavsi1-ext.atnf.csiro.au	vlbi		
Mopra	mpvsi1-ext.atnf.csiro.au	vlbi		
Hobart#1,3#	flexbufhb	observer		Supports realtime check
Ceduna#1,3#	flexbuffcd #1#	observer		Supports realtime check
Tid	203.5.58.205	vlbi		
ASKAP	cira10.atnf.csiro.au	vlbiobs		
Wark30	156.62.231.134	oper	/raid1/etransfer/wa	`-nofilter` for obs.pl
Hart#2#	192.96.5.244	oper		
Katherine#1,3,4#	flexbuffke	observer		Supports realtime check
Yarragadee	mk5yg	oper	/data/fringtest	

#1# Log onto hovsi first then use `rtfc-tunnel` to ssh with appropriate tunnels setup

#2# RTFC does not work well to Hart directly. Try the following:

```
sshhartvdif
cd data
<Check out what files have been dumped>
sharethart <file>
```

On pam0

This is not quite right yet

```
cd /data/hart
gethart
hart
obs.pl
```

#3#

Flexbuf, with vbs tools installed - run obs.pl something like

```
 obs.pl -nofilter -flexbuf vt02as
```

Where vt02as is replaced with experiment name

#4#

Katherine DBBC3 is not supported by Sched. You will need to manually create vexfile to match setup. Note there are usually multiple independent streams of data. Usually it will be 2 streams, one for each pol. The bandwidth will probably not match other stations - e.g. probably 32 MHz channels. Also There is currently easy way to select which pol RtFC chooses.

Note that at Parkes we also record data onto pam-store-ext. In such cases you need to run `obs.pl` on the machine where the data is being recorded - see the note below.

Easy startup

The script `rtfc_obswin.csh` will start up 6 xterms and log into the recorder PCs. If you have ssh passphrases setup, you will not need passwords.

Environment settings

The following environment variables need to be set (or added to existing paths)

	Example
PERL5LIB	/home/vlbi/evlbi/RtFC
PATH	/home/vlbi/evlbi/RtFC
RTFC_CONTROL	Optional, defaults to localhost
RTFC_CORRELATOR	Optional, defaults to localhost
RTFC_ANTID	E.g. 'At', defaults to 'Tt'
RTFC_ANTNAME	'ATCA Phased array', defaults to 'Test Antenna'

Remote recording

If you are recording to a remote recorder you need to ensure RTFC_ANTID (and RTFC_ANTNAME) are set. For remote recorders which generally only record data from a single teleacope this will normally be setup in the login scripts. cave-store can record data from Mopra and ATCA. Aliases have been setup “mopra” and “atca” to setup the environment. E.g.:

```
> atca
> obs.pl
```

Inverted Spectrum

Normally if the telescope IF spectrum is inverted, a flipped DAS profile should be used. However for 64 MHz recording the spectrum cannot be “flipped”. If you know or suspect the band is inverted you can run obs.pl with the “-invert” option and it will flip the data for you.

```
> obs.pl -invert
```

Mark5b

`Obs.pl` supports Mark5B recording, as long as the “mark5access” library and utilities are installed and accessible. Note this depends on the VLBI schedule having had explicit fringe test times added. Transfer times from Hartebeesthoek are terrible slow - usually it is faster to transfer the file by some other means then run `obs.pl` on a local machine.

RTFC Software support

Please make sure the following are installed on all Mark5/flexbuf machines from which RTFC will be run

- up-to-date mark5access (ensure m5time and m5slice in path. Good to have m5spec and m5bstat also)
- subversion package (e.g, `apt-get install subversion`)
- RTFC installed from subversion in either `~/RtFC` or `~/evlbi/RtFC`
- `setup.sh` in `RtFC` directory and appropriately edited
- Optionally “source” RtFC `setup.sh` from login scripts

Installing RtFC

```
> svn co https://svn.atnf.csiro.au/evlbi/trunk evlbi
 (or svn co https://svn.atnf.csiro.au/evlbi/trunk/RtFC RtFC)
> cd evlbi/RtFC
> wget https://cpan.metacpan.org/authors/id/C/CP/CPHIL/Astro-0.78.tar.gz
```

```
> tar zxvf Astro-0.78.tar.gz
> mv Astro-0.78/Astro/ .
> cp setup-template.sh setup.sh
```

Edit setup.sh as appropriately. Add RtfC directory to PATH and PERL5LIB, Set RTFC_CORRELATOR and RTFC_CONTROL to localhost if using ssh tunneling or pam0 if directly connection. Set ANTNAME and ANTID appropriately (ANTNAME anything descriptive, ANTID has to match vexfile).