

## Writing command files:

A command file is a way to run a series of SRT commands on “automatic pilot” a method to run the SRT when you are not present, and a way to reduce errors which may occur when using manual input (command line) instructions.

Command files can be written using any word processing program. In naming a command file any name is useable for the first part of the name and the file must end in .cmd as a suffix for example, anyname.cmd will work as a file name and run the file command file called “anyname”. The file must be saved as a text file.

When you are finished writing your command file, it must be saved in the same folder as your SRT is operating out of. You tell the SRT to run a command file by clicking on the **Rcmdfl** button on the command toolbar with the mouse. The SRT will then ask you to type the name of the command file in the text input area. After you enter the name of the command file click the enter key. The SRT should acknowledge the command.

It is probably best to test your command file before actually running it on the SRT in real time. To do this, start the SRT up in simulation mode (Java srt 1 1 or Java srt 1 10 for the speeded up simulation mode). Then run the command file as described above and see if it works!

As the SRT runs the command file the line which is running will be displayed in green in the message board area below the text input area. The file that is being recorded will appear in red at the bottom of the information sidebar. You may name your output file; again any name will work, followed by .rad as the suffix (anyoutput.rad) otherwise the SRT will create a output file which will be named by date.

## Command file rules:

1) One line is read at a time. Blank lines and lines that start with an asterisk "\*" are skipped. Lines to be executed must start with a colon ":". There is a space after the colon for all commands except numeric commands (times & dates) which should not have a space after the colon.

2) The SRT will stop and execute any line that is a current or future time. If the time is in the future it will hold on that line until the appropriate time.

Time format:

- A) yyyy:ddd:hh:mm:ss command. Where the day is the numerical day of the year.  
(example 2002:198:12:24:00) or
- B) LST:hh:mm:ss When using Local Sidereal Time.

## Command Keywords:

Items shown in brackets [] are optional.

Sourcename: (any name in source catalog – ex. Sun, Moon, Cass, Orion, Crab)

mode: n (for 25 point n scan) or b (beamswitch)

**note:** the 25 point scan (n point) runs only once, beamswitching runs until the next command.

radec: hh:mm:ss [sign]dd:mm:ss [epoch]

azel: azimuth degrees elevation degrees, ex. 145 45

galactic: galactic latitude in degrees galactic longitude in degrees

offset: azimuth degrees elevation degrees

stow: return to stow position – always should end a file

record: [filename] [recordmode (0=normal, 1=short, 2=add vlsr, 3=special, 4=summary only)],  
file name is optional because the SRT will create a default file if no name is given.

roff: record off

freq: - for analog receiver give frequency number [followed by number of bins] ex. 1415.0 64

freq: - for digital receiver give frequency number [followed by mode] ex. 1415.0 1

calibrate: to calibrate a SRT which has a vane calibration set up.

noisecal: to calibrate a SRT with electronic calibration

**Command File Examples:**  
**Notes after the backslash (/) are explanations.**

Example #1

```
*moonman.cmd      /name of file
*command file to measure effective aperture
*using moon       /file notes not executed because of the *
2002:184:06:45:00  /starting date & time
: frequency 1415.0 1 /freq and mode for digital receiver
: record moonman1.rad /starts recording into file
: azel 130 20      /azimuth and elevation to go to
: calibrate       /calibrates SRT using vane
: Moon/using coordinates in source catalog, go to Moon & track
: mode b         /start beamswitching
:2000           /beamswitch for 2000 seconds
: roff           /turn recording off
```

```
2002:184:09:45:00      /starting date & time second run
: frequency 1415.0 1
: record moonman2.rad
: azel 130 40
: calibrate
: Moon
: mode b
:2000
: roff
```

```
2002:184:11:45:00     /starting date & time for third run
: frequency 1415.0 1
: record moonman3.rad
: azel 170 50
: calibrate
: Moon
: mode b
:2000
: roff
```

```
: stow           /returns SRT to stowed position
```

**Notice that date and the length of observation (2000) do not get a space after the colon. All other commands do get a space after the colon.**

A very basic command file to calibrate the SRT then measure output from Orion.

#### Example #2

```
*Calibrationtest.cmd    /name of command file
: stow                  /making sure the SRT was stowed
: record calibrationtest.rad /name of file to record into
: azel 140 40           /azimuth and elevation to move to
: frequency 1420.4 4    /freq and mode for digital receiver

: calibrate             /calibrate SRT using vane
: Orion                 /go to the source Orion & track it
:60                    /record data at Orion for 60 seconds
: roff                  /turn off file recording
: stow                  /return SRT to stowed position
```

**Since no date is entered into the command file, this program will run as soon as it is entered into the command line.**