

Msc Room AIPS HelpSheet version 0.2 (2/7/2004)

This document was compiled by Megan Argo. This is intended as a useful memory aid, not a user guide. If you are new to AIPS and want to do any serious imaging then it is highly recommended that you read through the relevant sections of the cookbook, available as hardcopy in any of the student offices, or online at the NRAO's website (www.nrao.edu/aips/). Some of the commands here are specific to interferometer data, if you have single dish data then consult chapter 10 of the cookbook.

Before starting AIPS

- setenv DATA '/some/dir' - set the environment variable DATA to point to /some/dir
- setenv RUNFIL '/some/dir' - set up the environment variable to where your runfiles are stored
- xdisplay - run this if you are running aips on another machine but still want a tv

Starting up

- aips** - start up aips on your machine
- aips tv=illapa:cluster8** - start up aips on cluster8 with a tv on illapa (assuming you are sat at illapa)
- aips da=aplu** - start up aips on your machine but make the data area on aplu available
- aips notv** - start aips without a tv

AIPS tasks, verbs, etc

Aips has a huge collection of commands. Some are called tasks, but there are also verbs, adverbs and procedures. Tasks are run in the background allowing you to continue typing other commands in aips. Verbs however are generally shorter programs which run in the foreground. Procedures are like scripts that run a series of commands. Adverbs set parameters that tasks, verbs and procedures use. Note that the names of AIPS commands can be shortened as much as you like, as long as the sequence is still unique. For example, tvinit can be shortened to tvin, but not to tv because there are other tasks such as tvstat and tvwin. To run tasks, verbs and procedures, type

- > go TASK
- > VERB
- > run PROCEDURE

When you start aips, another three windows open: a tv, a message server and a tek server. To make sure a command sends its output to the tv (rather than to a plot file) make sure you set

- > dotv 1
- or, for text based tasks, to make sure the output goes to the command window (rather than the printer or a file), set
- > doctrl 1

Getting help

- > help TASK - get help with the task TASK (or verb, adverb, procedure)
- > explain TASK - get help with the task TASK (or verb, etc...)

To check the inputs

- > inp TASK - get the parameters that were used last time the task was run
- > tget TASK - get the parameters currently set for task
- > tput TASK

Files

- > infil 'DATA:file'; go fitld - read in a fits file from disk (or tape)
- > outfil 'DATA:file'; go fitfp - write a fits file to disk (or tape)
- > pcat - list all the files in your catalogue
- > ucat - list just the uv files in your catalogue

- > mcat
- > getn n
- > imhead

Simple display commands

- > tvlod - load the selected image onto the tv display
- > tvinit - clear all graphics and images from the tv
- > tvwin - draw a window on the tv
- > tvfiddle - adjust the grey scale and zoom on the tv
- > tvpseudo - adjust the colour of the image on the tv
- > grcl - clear any graphics on the tv, does not clear images
- > imstat - report statistics from a window on the tv
- > tvlabel - put axes labels (RA, Dec) on the tv

Displaying uv data

- > go listr - display a table in the command window (or the "crt")
- > optype 'scan'; go listr - displays a scan listing in the command window
- > optype 'matx'; go listr - displays the visibilities as a matrix in the command window
- > go prtan - print the antenna table
- > go uvplt - plot visibilities on the tv (has lots of options for displaying different things)

Flagging commands

- > about editing - show a list of useful editing commands
- > go edita - interactive editing based on TY/SN/CL tables
- > go editr - interactive baseline based visibility editor
- > go tvflg - interactive flagging using the tv, very powerful program
- > go iblel - interactive baseline based visibility editor
- > go snedt - interactive SN/CL table editor using the TV
- > go rfi - look for evil RFI in uv data
- > go uvflg - flag uv data based on inputs (non-interactive)
- > go uvfnd - finds specific data based on inputs to look for problems

Some calibration commands

- > about calibrat - show a list of useful calibration commands
- > go setjy - set the flux of the main calibrator(s)
- > go getjy - determine other calibrator flux densities
- > go calib - determine complex gains
- > go clcal - merges and smooths SN tables to create a CL table
- > go fring - fringe fitting

Some imaging commands

- > about imaging - show a list of useful imaging commands
- > go imagr - performs cleaning/imaging of data (including cubes)
- > go apcln - deconvolve using the CLEAN algorithm
- > go horus - makes images from uv data applying calibration if required
- > go vtess - deconvolves using a MEM method
- > go regrd - regrid an image from one coordinate frame to another

Some spectral commands

- > about spectral - show a list of useful spectral commands
- > go ispec - plot the spectrum of the area boxed (e.g by tvwin)

- list all the image files in your catalogue
- select the file specified by n
- look at the fits header

- load the selected image onto the tv display
- clear all graphics and images from the tv
- draw a window on the tv
- adjust the grey scale and zoom on the tv
- adjust the colour of the image on the tv
- clear any graphics on the tv, does not clear images
- report statistics from a window on the tv
- put axes labels (RA, Dec) on the tv

- display a table in the command window (or the "crt")
- displays a scan listing in the command window
- displays the visibilities as a matrix in the command window
- print the antenna table
- plot visibilities on the tv (has lots of options for displaying different things)

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- set the flux of the main calibrator(s)
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- show a list of useful imaging commands
- performs cleaning/imaging of data (including cubes)
- deconvolve using the CLEAN algorithm
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- deconvolves using a MEM method
- regrid an image from one coordinate frame to another

- show a list of useful spectral commands
- plot the spectrum of the area boxed (e.g by tvwin)

- > **go tvmov**
 - > **go trans**
 - > **go uvlin**
 - > **go imlin**
- step through the cube on the tv like a movie (very cool!)
 - transpose a cube
 - remove the continuum from uv data cube
 - remove continuum from an image cube

Some plotting commands

- > **about plot**
 - > **go uvplt**
 - > **go cntr**
 - > **go kntr**
 - > **go snplt**
 - > **go tkpl**
- show a list of useful plotting commands
 - plots uv data
 - make a contour plot
 - make a contour/grey scale plot
 - plots SN/TY/CL tables
 - send a plot file to the TEK server

Output

- > **dotv -1; go TASK**
 - > **outfil'file.ps'; go lwpla**
 - > **outfil''; go lwpla**
 - > **outprint'file'; prtmsg**
 - > **clrmsg**
- make a plotfile using the output from TASK
 - send the last plotfile to a file specified by /tmp/file.ps
 - send the last plotfile to the printer
 - print the message buffer to the file specified by 'file'
 - clear the message buffer (aips will complain when it gets too full)

To quit

- > **exit**
 - > **kleenex**
- exit aips
 - quit aips and kill all windows